

catalog **K**



floor drains

roof drains

interceptors

backwater  
sewer valves

swimming pool  
fittings

shock absorbers

cleanouts and  
access covers

drainage  
specialties

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Phone: EX. 2-3143

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SERVING THE WEST

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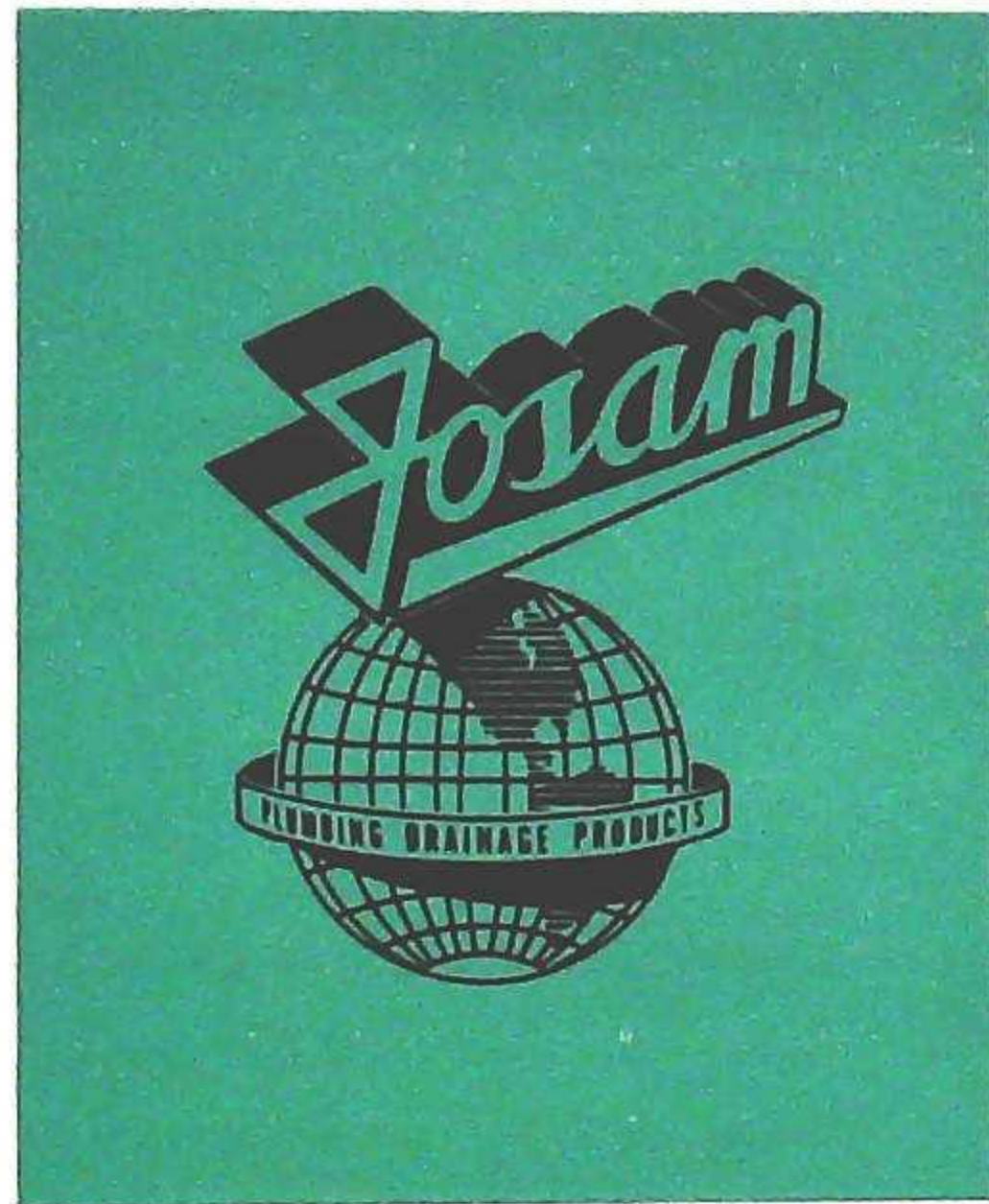
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**AUGUST 1958**

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## CATALOG K

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FEDERATION OF SEWAGE AND WATERWORKS ASSOCIATIONS

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Hy-Tech Products

# contents

easy ways to find what you want in plumbing drainage products

**1. ILLUSTRATED INDEX** — Pages 8-12 show everything in this catalog, classified under condensed headings, with illustrations, series number and page number. Those more or less familiar with the Josam line will find the illustrated index a great time-saver.

**2. ALPHABETICAL INDEX** — Starting on page 14, is the most complete and thoroughly cross-indexed listing of plumbing drainage products ever cataloged. This is the index to use if you're looking for a plumbing drainage product by name . . . or if you need something unusual.

**3. NUMERICAL INDEX** — Page 13 is primarily a quick reference for those users of Josam Products who know the products by catalog number and desire complete information . . . or for those who have no other information except the catalog number and desire complete information. Every product is listed here, giving the Series Number and the Page Number on which it is completely described.

**4. LOCATION CHART** — Page 18. For those responsible for the selection, installation and operation of plumbing drainage systems, this chart gives the various locations in all types of construction, where plumbing drainage products should be installed to provide sanitation and eliminate the possibilities of health, fire and water pollution hazards. Various types are listed as suggestions.

MANY OTHER FEATURES IN JOSAM CATALOG K

PRODUCTS OF SIMILAR DESIGN  
All standard products of similar design, together with various adaptations available, are illustrated and grouped for easy selection.

PAGE HEADINGS  
Outstanding features indicated for quick reference.

STANDARD AND OPTIONAL FEATURES  
Saves needless reading and affords a selection at a glance.

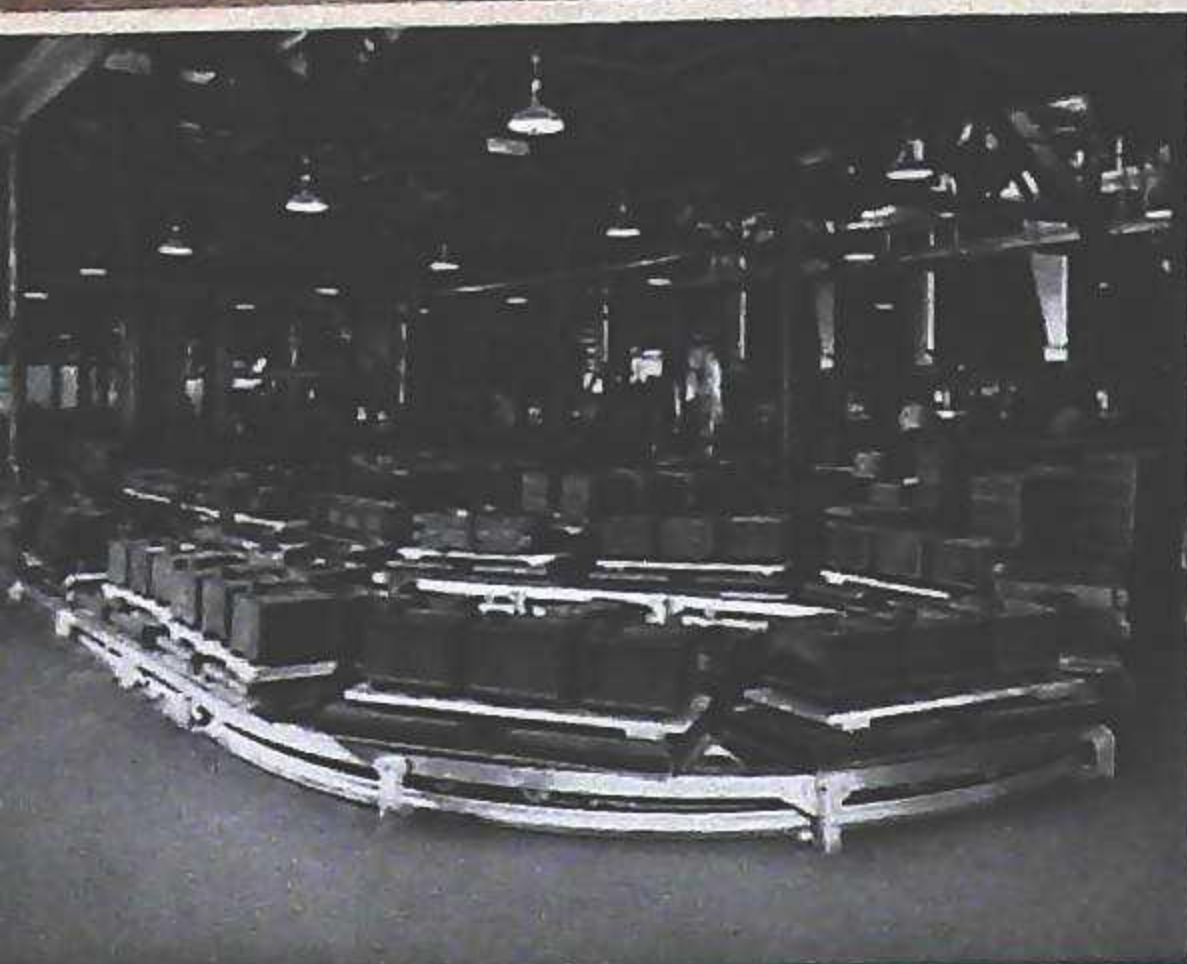
CROSS-SECTION DRAWINGS  
Roughing-in measurements and dimension data for every product illustrated.

# index to sections

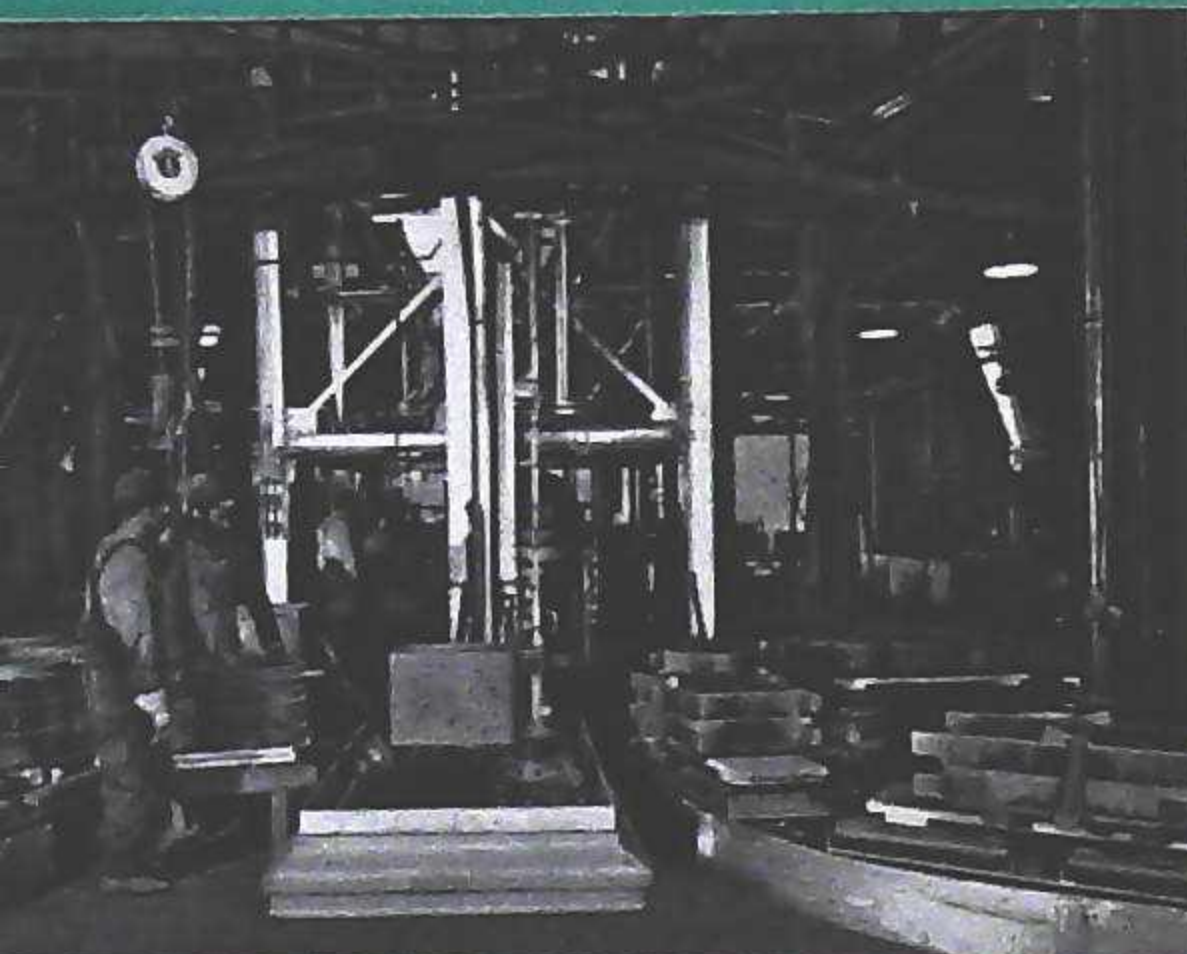
If the item desired does not readily fall into the classifications below, refer to the Alphabetical Index on page 14, or if you know the Series Number, refer to the Numerical Index on page 13.

PRODUCT	FEATURES	STARTING PAGE NO.
● FLOOR DRAINS		
WITH ADJUSTABLE STRAINERS	With and Without Traps With and Without Backwater Valves	20
WITH STANDARD AND TRACTOR GRATES	With and Without Traps With and Without Backwater Valves	34
WITH SEDIMENT BUCKETS	Leveleze Design With Adjustable Top	67
	Standard Design	48
	Non-clog Triple Drainage Design	59
LEVELEZE "ADJUSTABLE TOP"	With and Without Sediment Buckets	68
NON-CLOG TRIPLE DRAINAGE, WITH SEDIMENT BUCKETS	With and Without Traps and With Leveleze Adjustable Top	59
MISCELLANEOUS	For Areas, Roadways, Trenches, Special Requirements	74
● ROOF DRAINS		
WITH DOME OR PROMENADE TOP	High Dome and Sediment Cup Mushroom Type Removable Dome Flat Top for Promenade For Pitched Roof	124
LEVELEZE DESIGN	With Adjustable Top	132
WITH EXPANSION JOINT	Integral With Drain Body	136
WITH FLOODING WATER DAM	Schedule of Types	148
MISCELLANEOUS	For Scuppers, Sills, Parapets	152
● ROOF ACCESSORIES	Expansion Joints, Vent Stack Sleeves, Flashing Fittings	156
● BACKWATER VALVES	For Sewer and Terminal Service	88
● SWIMMING POOL FITTINGS	Outlets, Supply Fittings, Pit Drains, Scum Gutter Drains	158
● INTERCEPTORS	Grease, Oil, Plaster, Sediment and Hair	94
● MISCELLANEOUS DRAINAGE SPECIALTIES	Deep Seal Traps, Cleanouts, Connectors, Shock Absorbers, Wall Hydrants	114
● U. S. GOVERNMENT SPECIFICATIONS	Josam Products Complying with U. S. Govt. Specifications	185
● NEW YORK STATE SPECIFICATIONS	Josam Products Complying with N. Y. State Specifications	195
● MARINE PRODUCTS	For Shipbuilding	194
● ENGINEERING DATA	Roof Drain Sizing Schedule	126
	Grease Interceptor Sizing Schedule	95
	Swimming Pool Diagrams	181
	Pipe Data and Water Pressure Tables	206
● JOSAM REPRESENTATIVES	Names and Addresses	208
● CARRIERS AND CLOSET FITTINGS	For Wall-Hung Fixtures	121

# Hy-Tech Products



The Pouring Conveyor In The Foundry



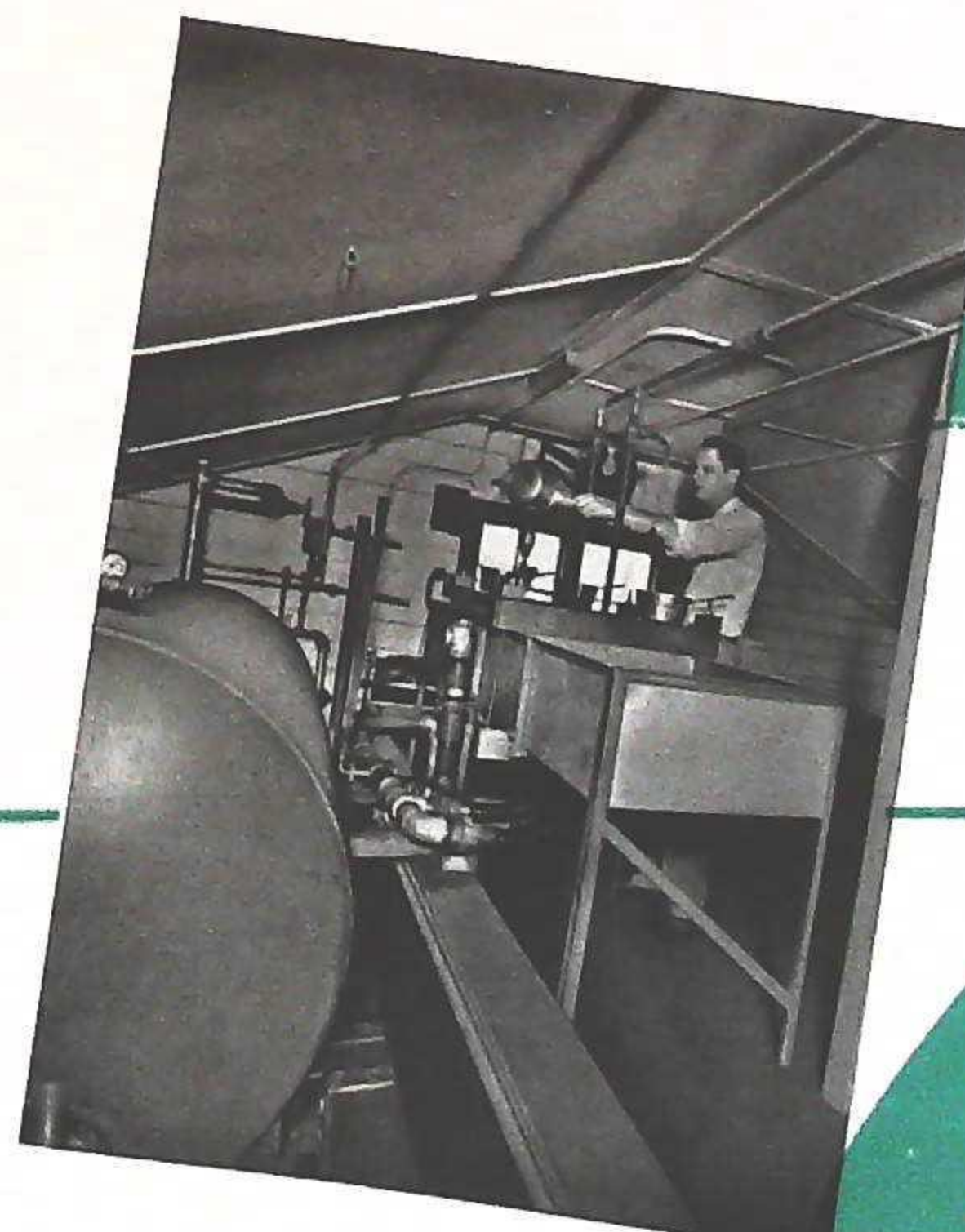
The Shakeout and The Automatic Dust Collecting System In The Foundry



A View Of One Section of The Machine Shop



The Tower Core Oven In The Foundry



The Research Laboratory

modern and efficient  
production equipment

engineering and  
research facilities

### ENGINEERING SERVICE

For 41 years, Josam has steadily built up a backlog of experience in the field of Plumbing Drainage, so that today, it has the greatest fund of engineering knowledge and manufacturing experience upon which to draw. Its leadership in this field has been maintained by steadily improving the design and efficiency of Josam Products.

Constant study in the trends of construction engineering and plumbing and building codes, has given us the answer to a wide variety of plumbing drainage problems. Through our research and production methods and our close contact with Architects, Engineers and Contractors on the application of Josam Products, we have kept abreast of demands and have gained invaluable experience in solving the most difficult drainage problems.

We offer the benefit of all our experience, to you, without obligation, whether your needs are for a single drain for a particular purpose or for a special unit which must be designed. Just write Josam Engineering Department K, Michigan City, Indiana, or contact any Josam Representative listed on page 208.

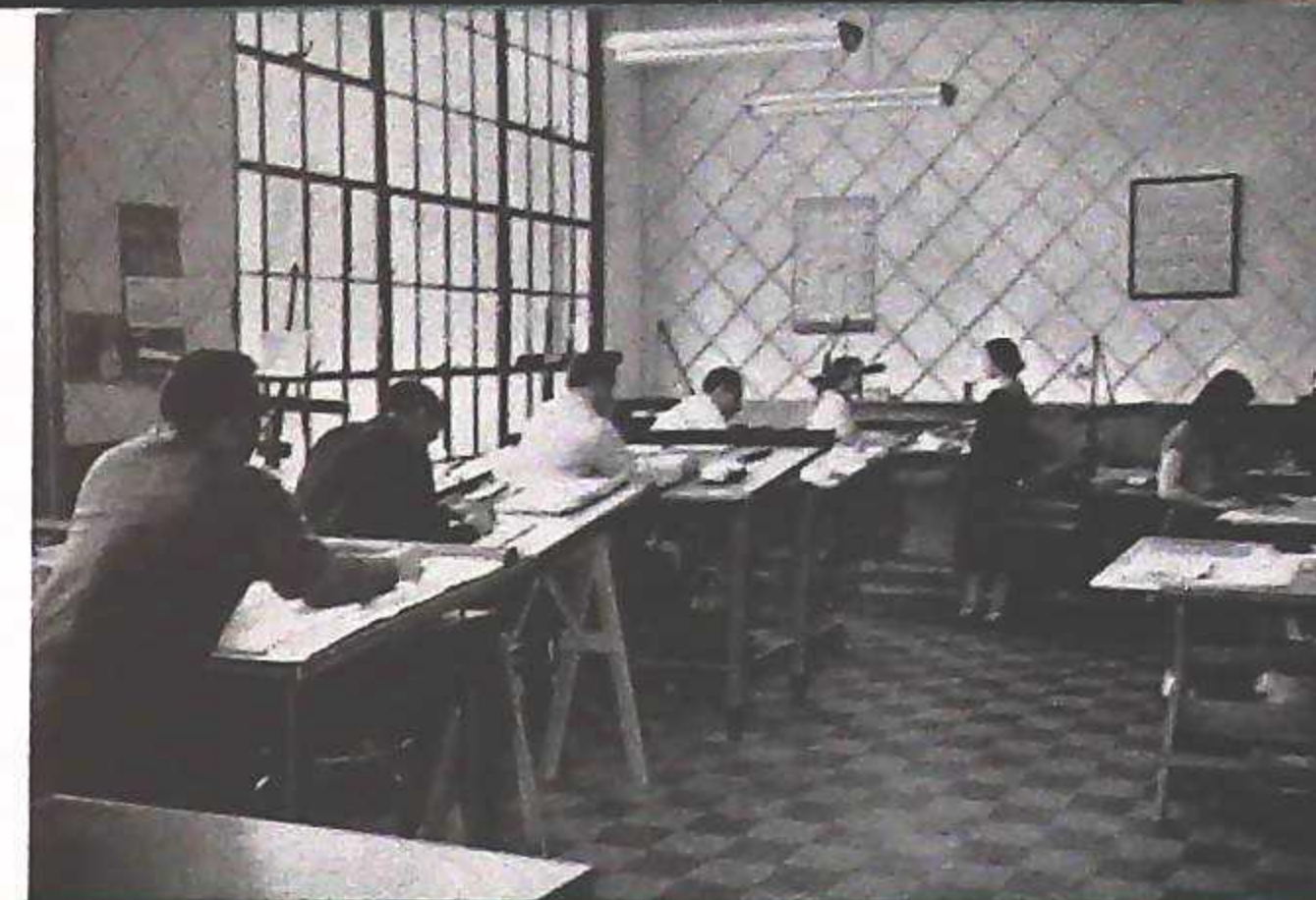
### OTHER HELPFUL SERVICES

MANUAL "SK" — Pages of standard details, specifications and roughing dimensions of Josam Products . . . a handy reference guide for use in the field or office.

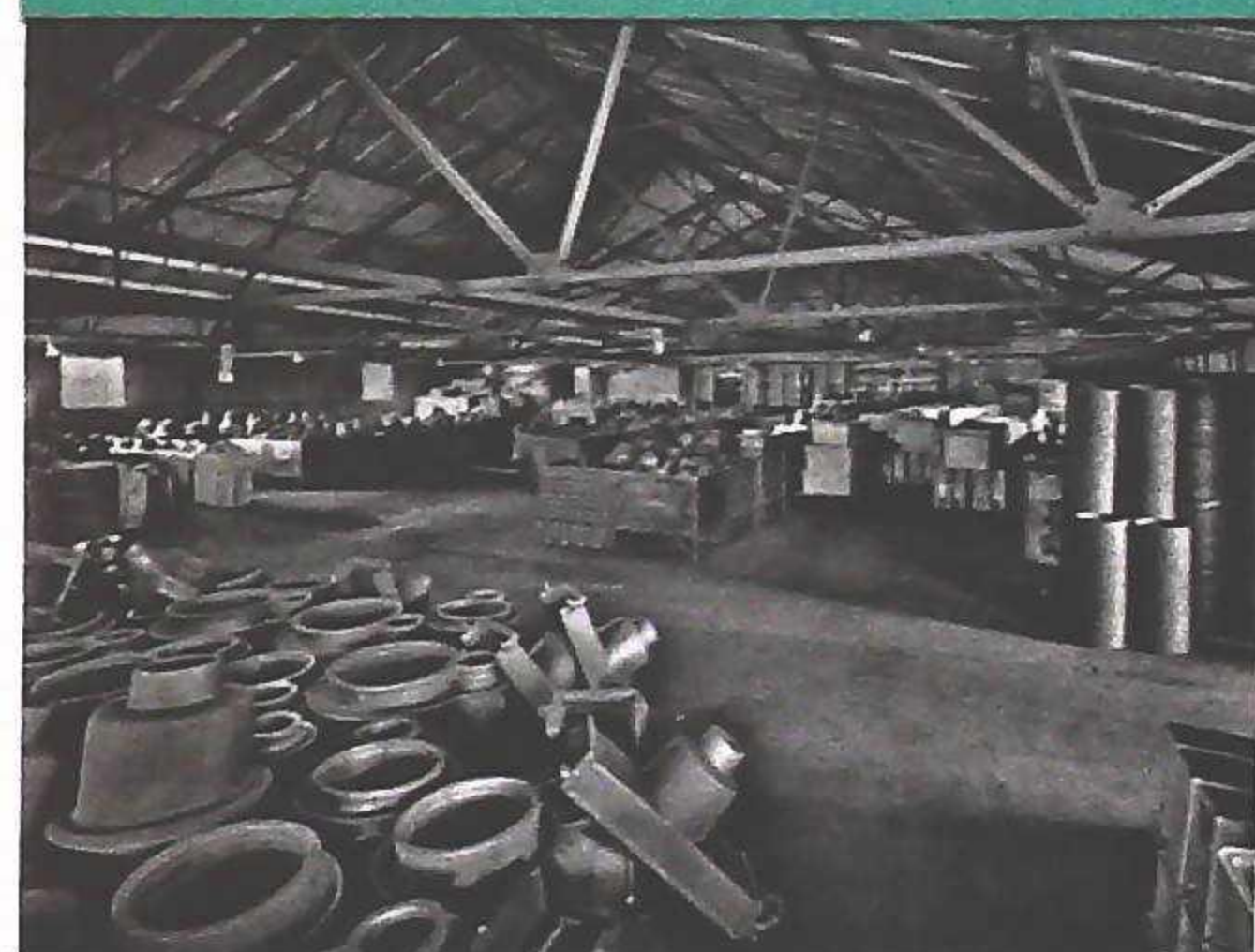
PRICE LIST — An easy-to-use reference for prices. Eliminates confusion and mistakes because it contains illustrations and prices of every Josam Product.

BROCHURES — Separate literature covering individual items such as Shock Absorbers, Levelize Floor and Roof Drains, Backwater Valves, Grease and Oil Interceptors, Swimming Pool Equipment.

CATALOG F — Carriers and Closet Fittings for Wall-Hung Fixtures.



Engineering Department



One Of Many Warehouses



Inspection Department

# Hy-Tech Products

list of JOSAM  
representatives on page 208



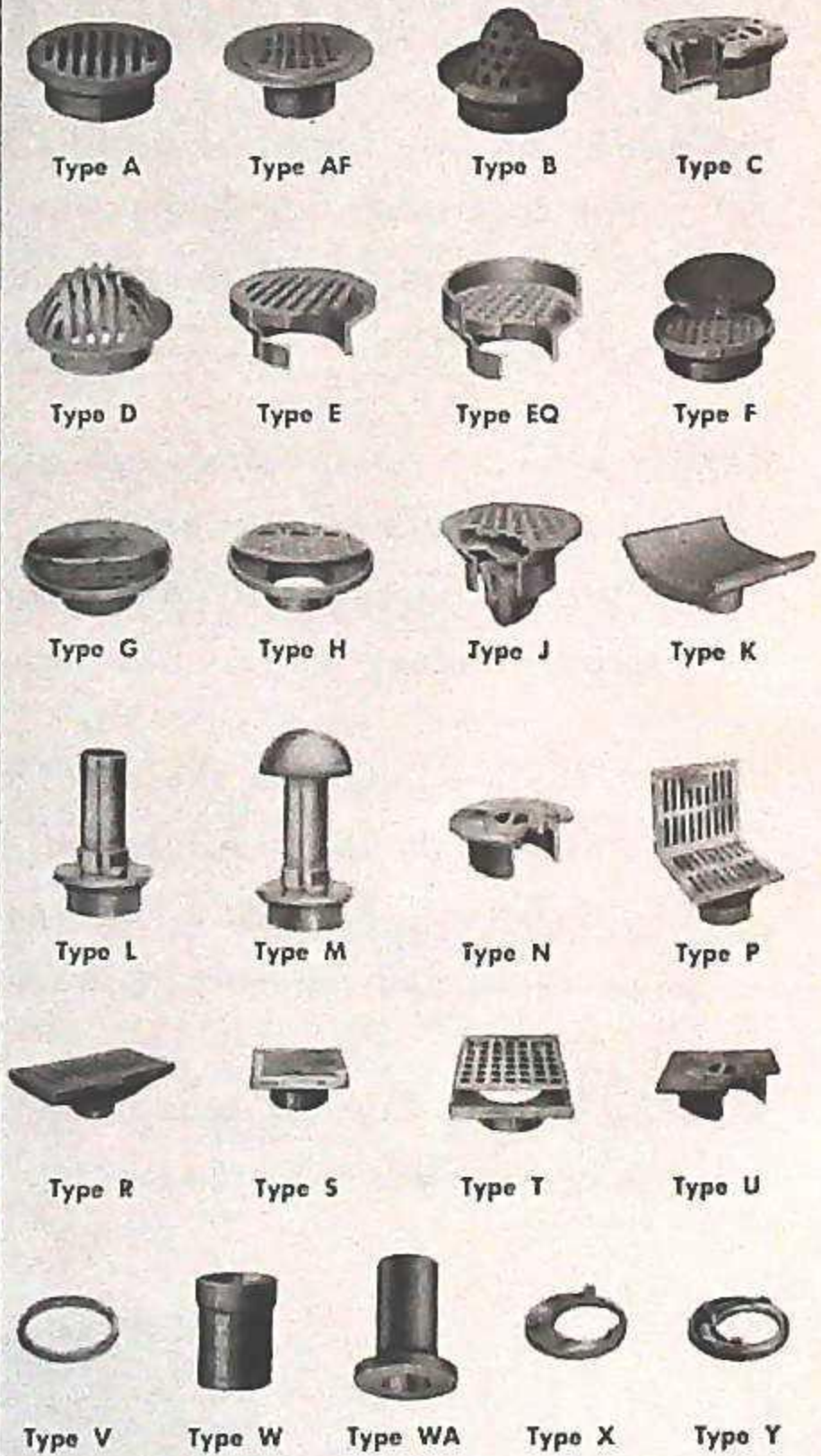
floor drains

FLOOR DRAINS WITH ADJUSTABLE STRAINERS



ADJUSTABLE STRAINERS AND AUXILIARY FITTINGS

The following adjustable brass strainers are interchangeable to fit any Josam Drain Body threaded to receive an adjustable strainer. Where a variation in diameter of threaded shank occurs, it is necessary to use a bushing when interchanging certain strainers. See pages 30 and 31 for complete information.



FLOOR DRAINS WITH STANDARD AND TRACTOR GRATES



floor drains

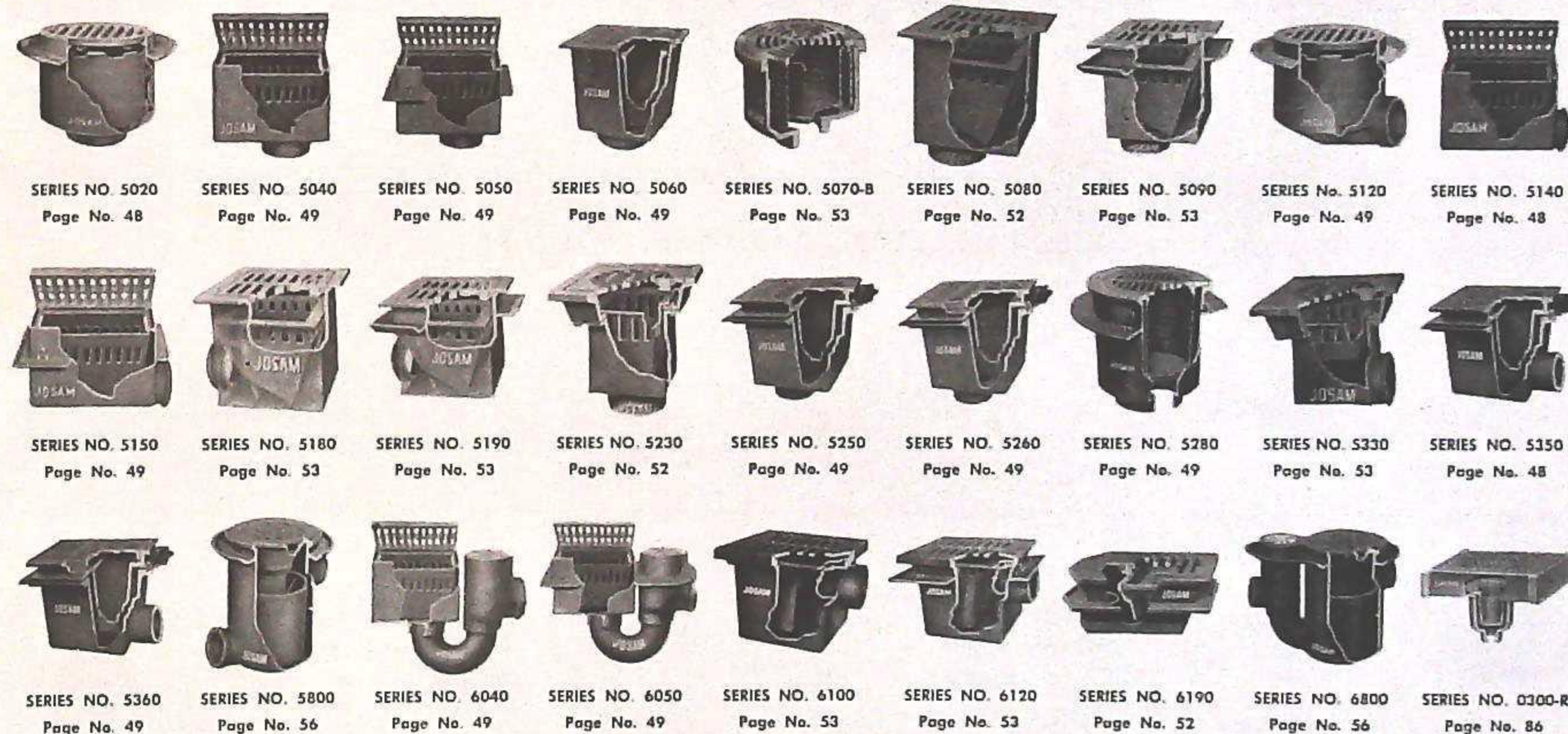


FLOOR DRAINS WITH TRAPS AND BACKWATER VALVES

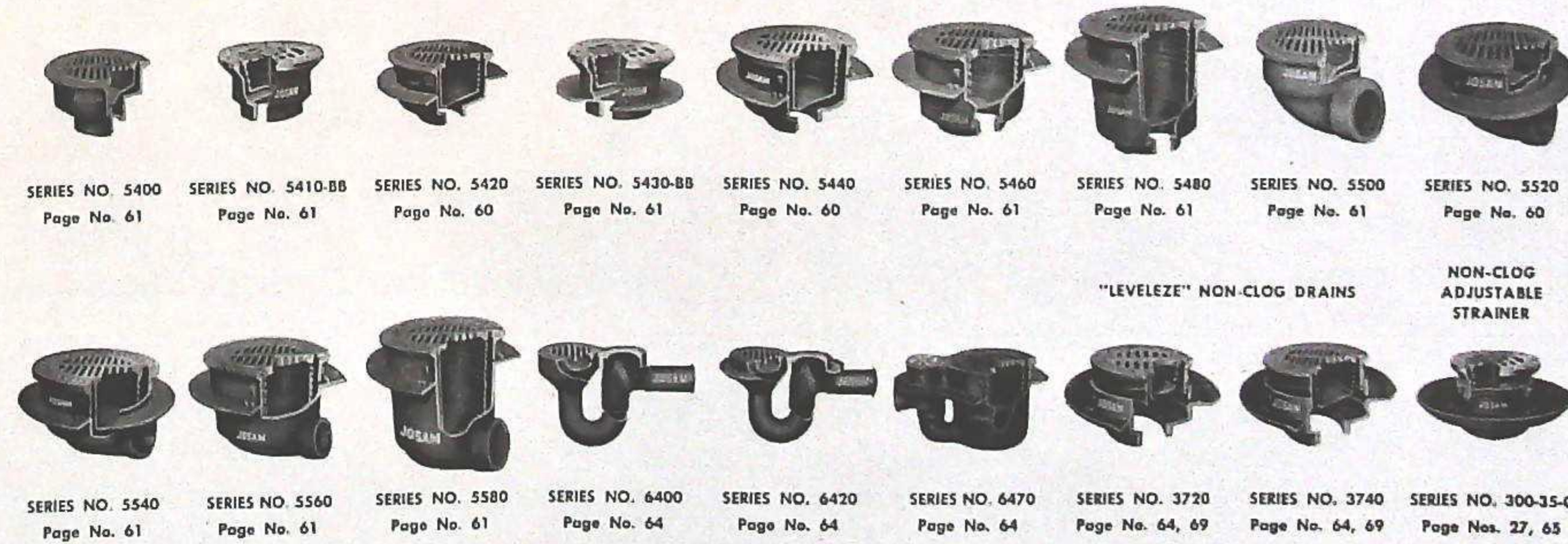


LEVELEZE FLOOR DRAINS ADJUSTABLE TOP

FLOOR DRAINS WITH SEDIMENT BUCKETS



NON-CLOG TRIPLE DRAINAGE FLOOR DRAINS WITH SEDIMENT BUCKETS

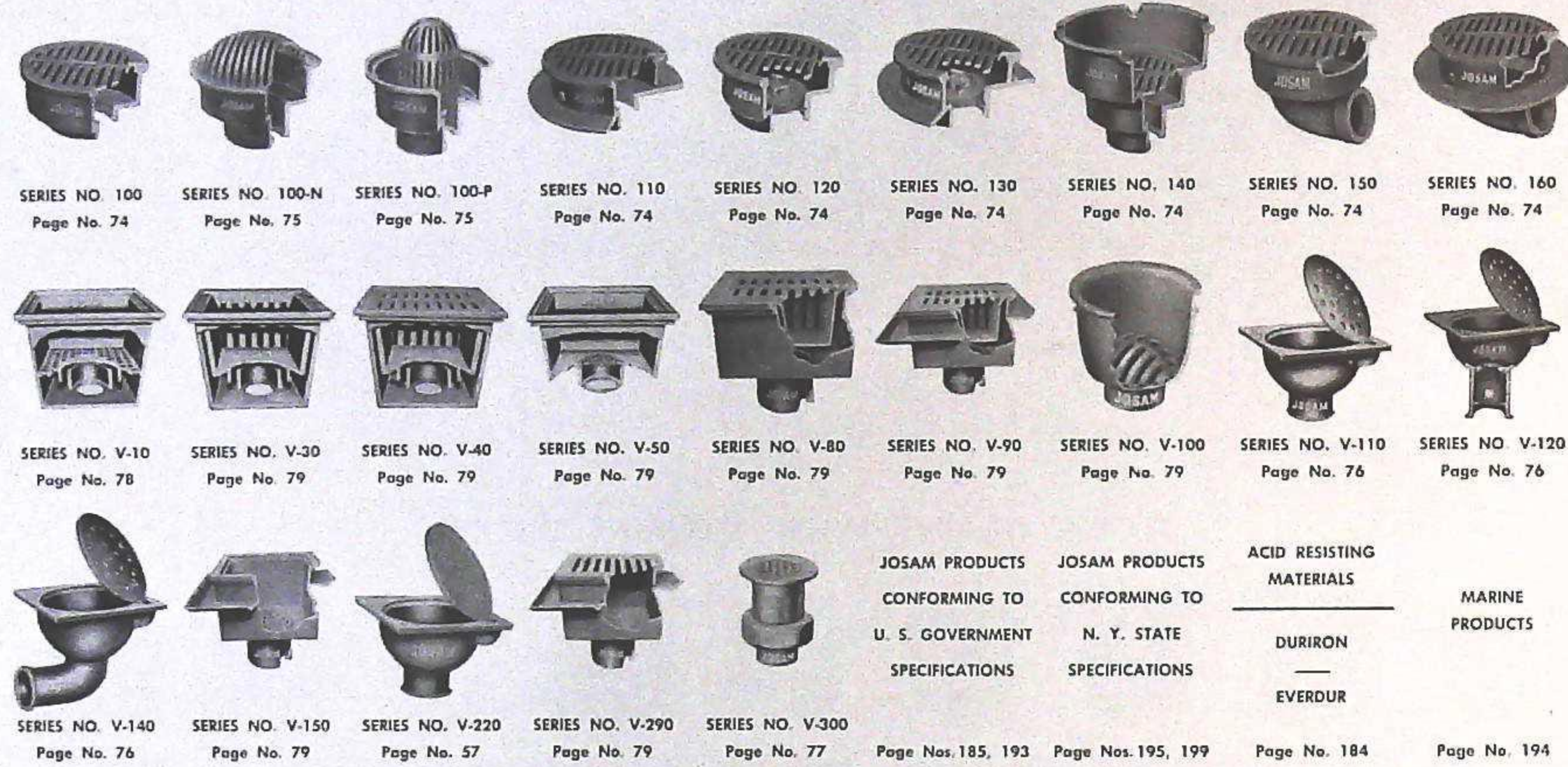


"LEVELEZE" NON-CLOG DRAINS

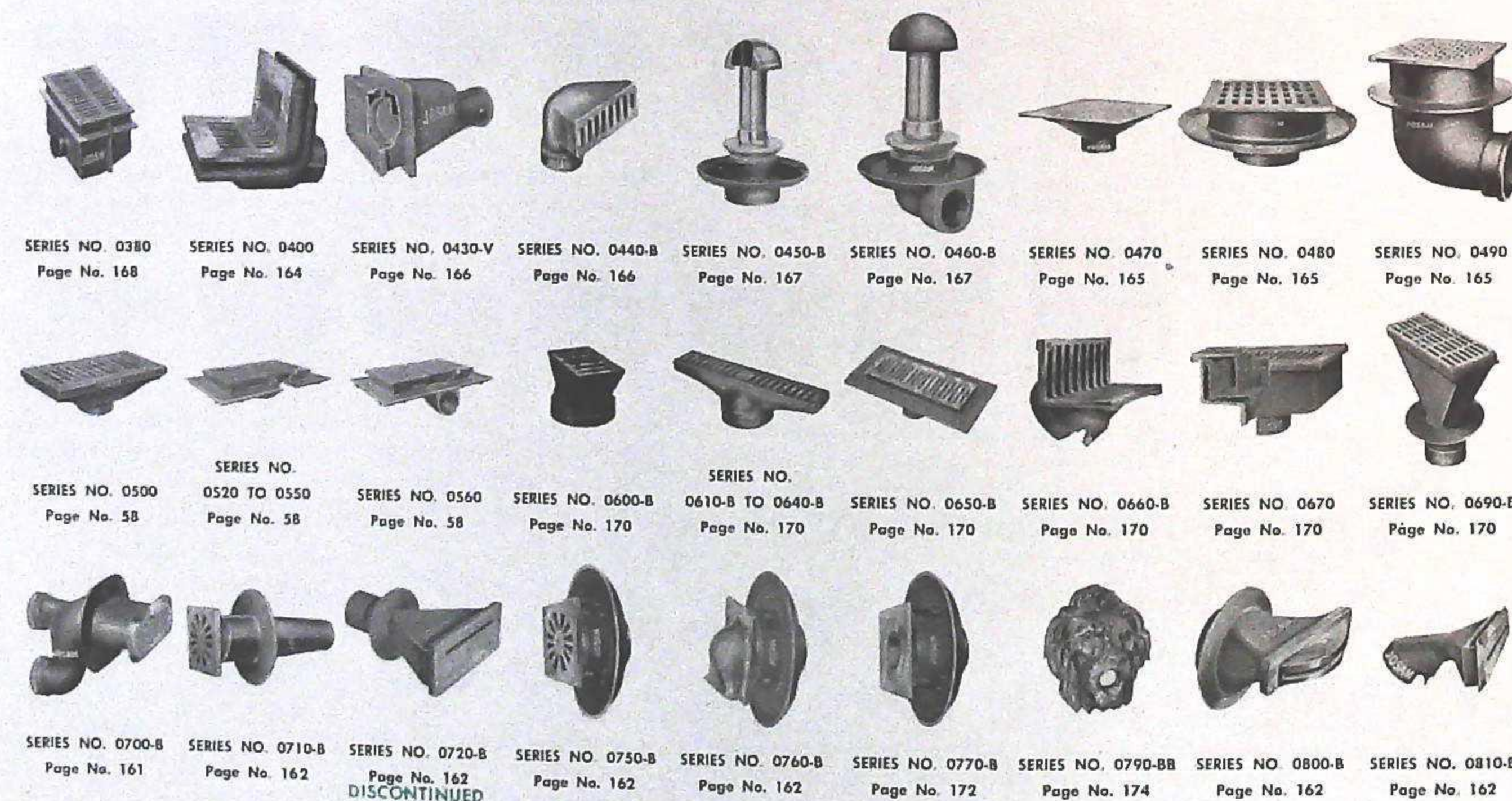
NON-CLOG ADJUSTABLE STRAINER

Hy-Tech Products

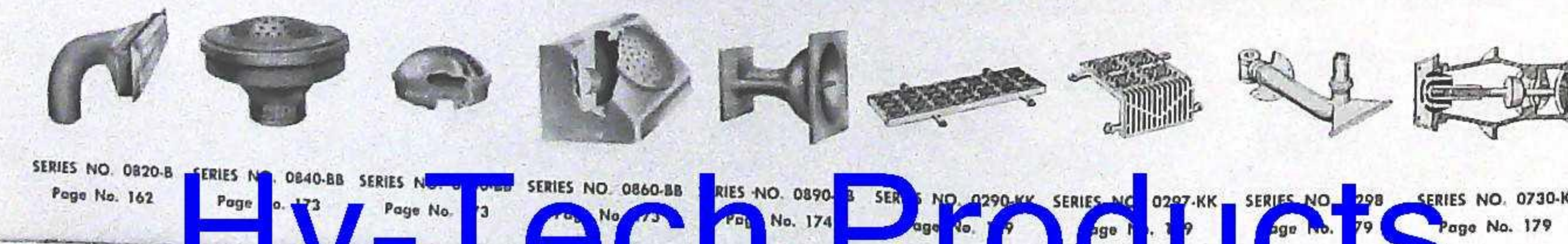
AREA DRAINS – CESSPOOLS – HOPPERS



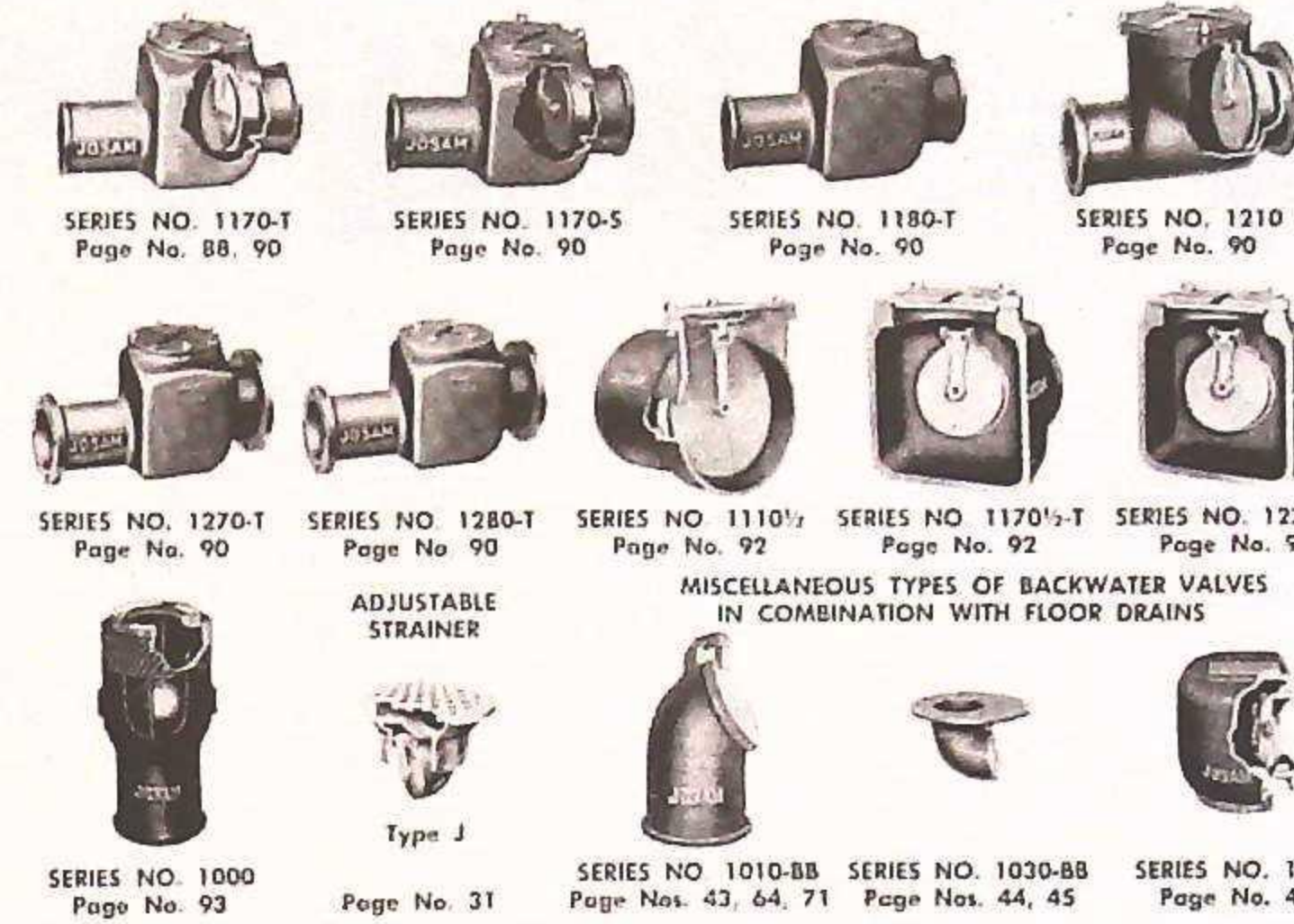
SWIMMING POOL DRAINAGE FITTINGS



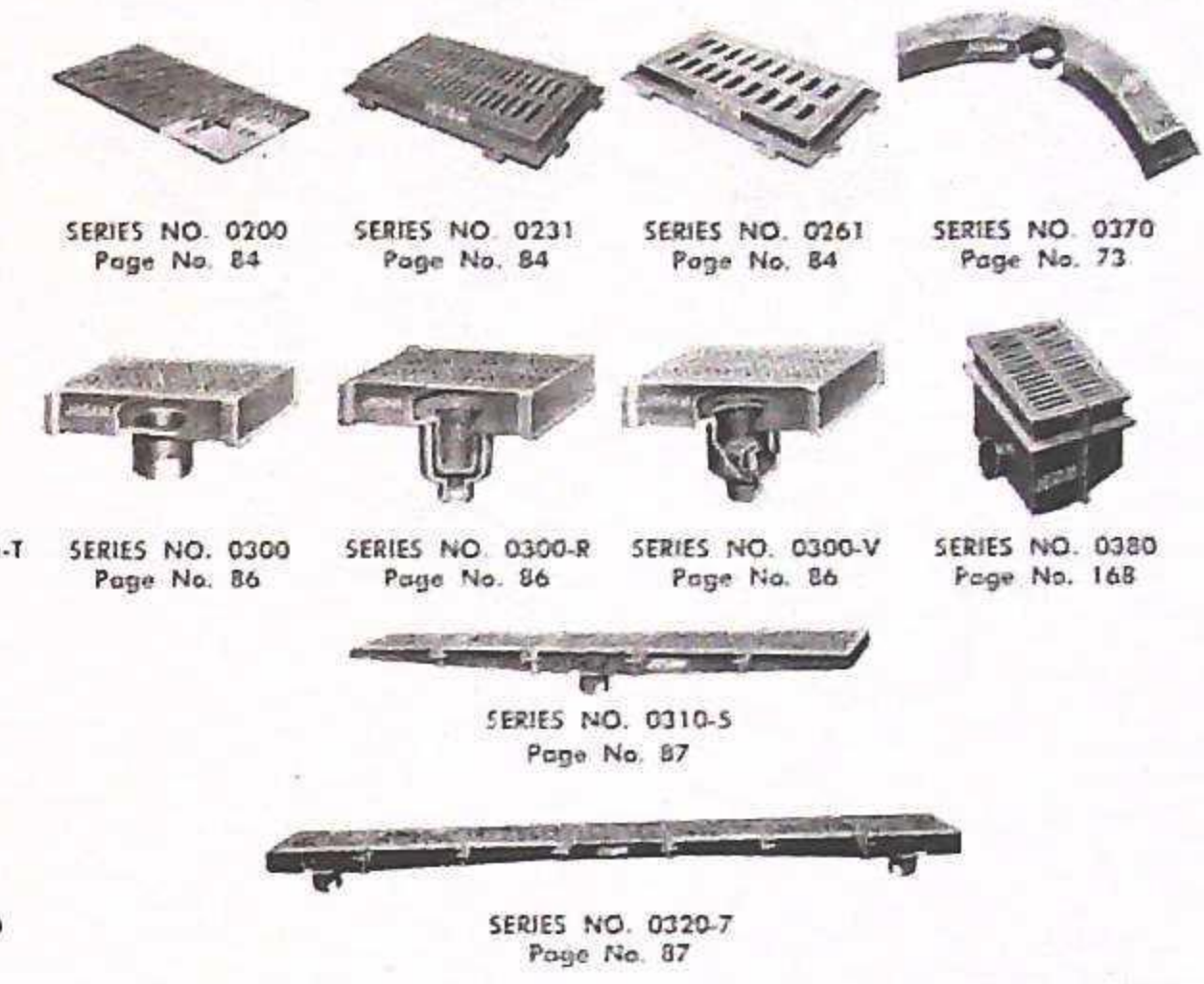
WATER LEVEL DECK POOL FITTINGS



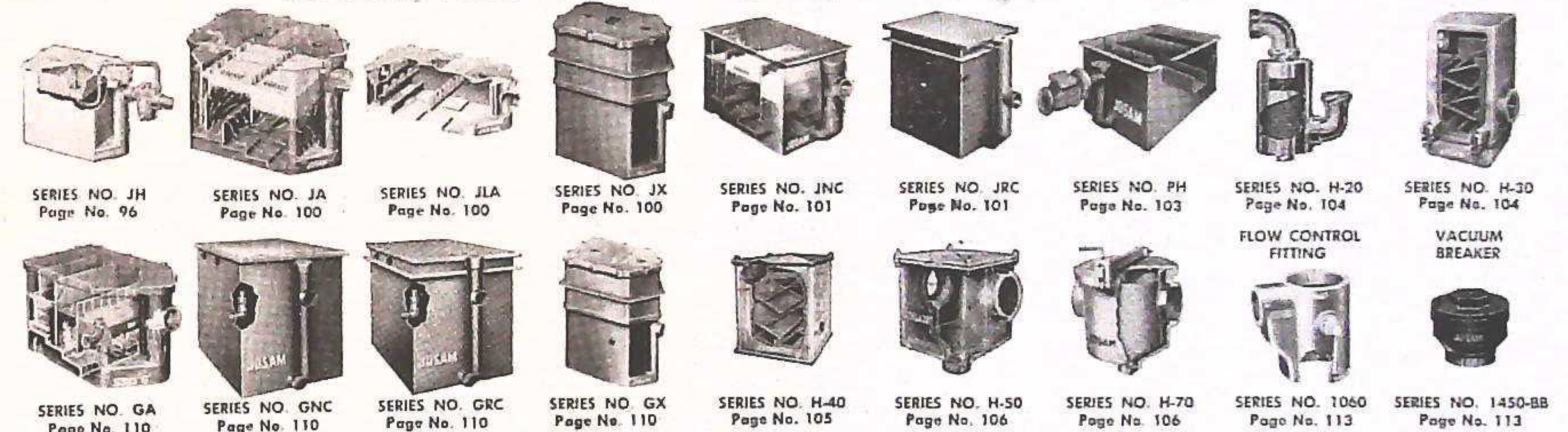
BACKWATER AND SEWER VALVES



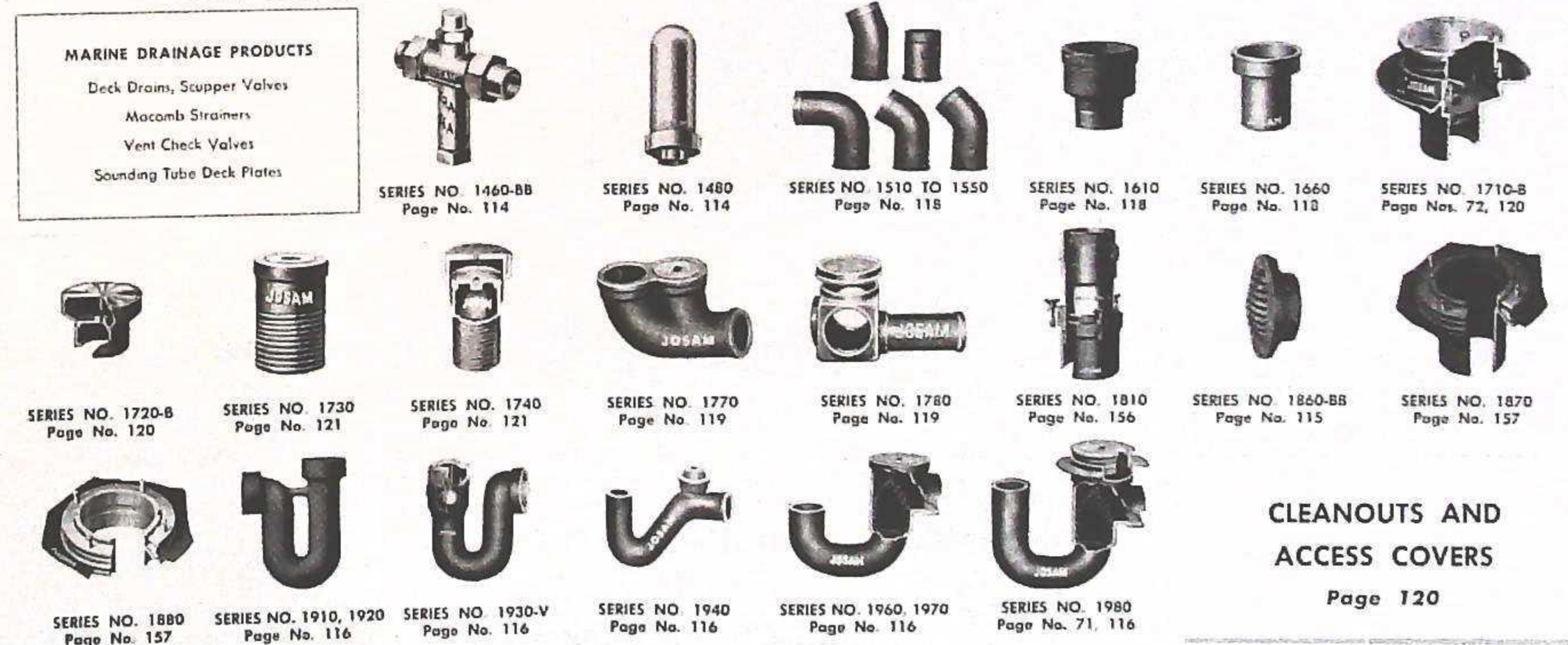
TRENCH DRAINS AND GRATES



INTERCEPTORS FOR GREASE, OIL, PLASTER, SEDIMENT, HAIR



DEEP SEAL TRAPS – CLEANOUTS – MISCELLANEOUS DRAINAGE FITTINGS



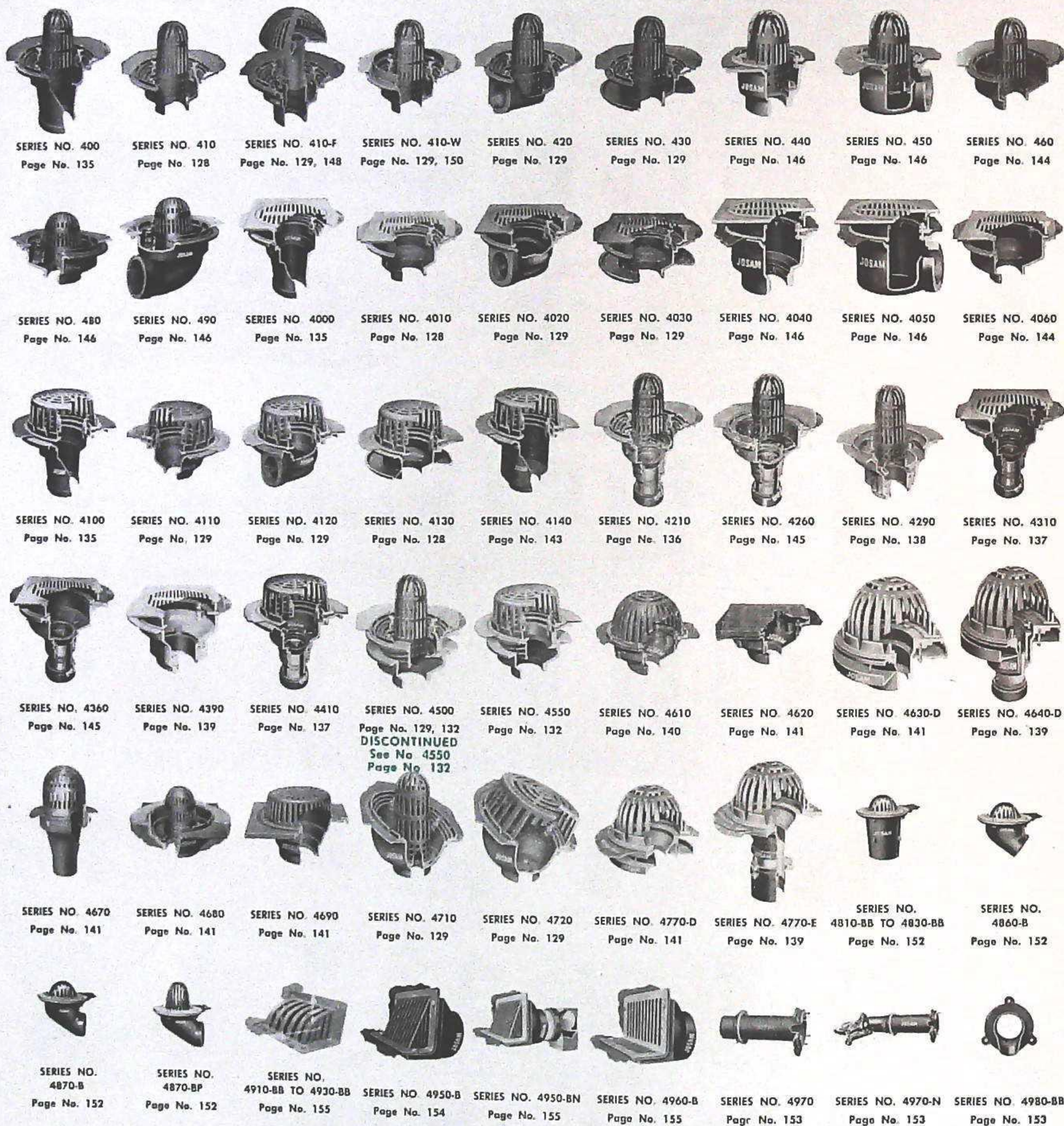
UNITRON CARRIERS AND CLOSET FITTINGS  
For Wall-Hung Fixtures  
CLOSETS • LAVATORIES • URINALS • SINKS • HOSPITAL FIXTURES  
PAGES 121-123



roof drains . highway drains

ILLUSTRATED INDEX

ROOF DRAINS



RAILROAD AND HIGHWAY DRAINS



NUMERICAL INDEX



NUMERICAL INDEX

Table with 10 columns: Series No., Page No., Series No., Page No., Series No., Page No., Series No., Page No., Series No., Page No. Lists product series and page numbers for roof, railroad, and highway drains.

Hy-Tech Products

(Continued on Page 14)

# features, materials and finishes

## standard and optional



# terms and conditions

To avoid lengthy explanations when specifying and ordering adaptations of standard items, we have established a letter suffix to designate the optional features. Illustrations and descriptions of every Josam Product in this catalog, indicate "Standard and Optional" features, materials and finishes.

For adaptations of standard items, the optional features or materials are indicated by adding the respective suffix letter to the type number of the product. For example . . . Type No. 353 when required with a flashing clamp device, would be designated as "Type No. 353-C"; or if this same item is required with a galvanized body and chrome plated strainer, it would be designated as

"Type No. 353-GGH"; or if required with separate backwater valve, it should be designated as "Type No. 353-V".

Where a suffix letter is part of a Series No., such as "Series No. 210-V", same indicates that the item is regularly furnished with a backwater valve, or whatever the suffix indicates.

Various optional features and materials may be combined by adding the respective suffix letter of each feature, to the type number of the product.

For complete information on all optional features applicable to any Josam Product, refer to the "Standard and Optional Features" listed on each product page.

### SCHEDULE OF SUFFIX LETTERS

#### OPTIONAL OUTLETS ★

- X — Inside Caulk
- Y — Hub Connector
- Z — Spigot Connector
- YY — Integral Hub
- ZZ — Integral Spigot

#### OPTIONAL FEATURES

##### FLOOR DRAINS

- A — Auxiliary Inlet
- C — Flashing Clamp Device
- L — Square Top ‡
- S — Inside Strainer
- V — Backwater Valve #

##### ROOF DRAINS

- D — Deck Clamp
- E — Expansion Joint
- F — Flooding Water Dam
- SW — Standing Water Collar

#### OPTIONAL MATERIALS

- B — Rough Brass §
- BB — All Brass
- G — Galvanized Top ‡
- GG — All Galvanized
- H — Chrome Plated Top
- J — Everdur Top
- JJ — All Everdur
- K — Nikaloy Top } ■
- KK — All Nikaloy } ■
- PB — Polished Brass Top §
- ◆ — Rezistan Iron and SR Steels are discontinued. White Metal, see ■ below.

#### NOTES

★ Where inside caulk, hub or spigot outlet is standard, suffix letter is not necessary when specifying or ordering.

‡ Except on drains with brass adjustable strainers.

# Several types of backwater valves are available. The type suitable for the drain specified, will be furnished.

• Only where indicated as an optional feature.

§ On roof drains, railroad drains, trench grates, etc., where tops can be furnished rough or polished brass, "B" indicates rough brass and "PB" indicates polished

brass. On all other products, polished brass is regularly furnished on items with suffix "B".

■ Josam "Nikaloy" furnished in place of white metal. "Nikaloy" is a new Josam alloy produced with a high nickel content which, when polished, has the same appearance as chrome plate. However, because it is a solid metal, the finish is permanent thereby eliminating the peeling, chipping and wearing which is characteristic of chrome plate. Josam "Nikaloy" is also superior to the "white metals" due to the additional tensile strength and greater resistance to surface wear.

**TERMS:** 2% ten days; accumulated invoices 10th of the month prox. Net 30 days. Interest chargeable at 6% per annum on unpaid accounts after net payment period has expired. Minimum invoice — \$2.50.

Material is subject to shipment in whole or in part, at our option, and each shipment is subject to immediate invoicing.

**FREIGHT ALLOWANCE:** All shipments are F.O.B. Michigan City, Indiana, with full freight allowed on shipments of 200 lbs. or more; except on shipments of Josam Duriron drains on which no freight is allowed. No freight allowance on shipments of less than 200 lbs.

**RETURNED GOODS:** No material will be accepted for return without our written permission and then only on the basis of 15% handling charge with transportation charges prepaid to our Factory, in addition to any charge necessary for reconditioning material. The return of any material not cataloged, will be accepted on credit basis of scrap metal prices as determined by us. Credit for returned material will be issued in the form of Merchandise Memo of credit only, to apply on invoices on future purchases.

**CLAIMS:** No claims for shortage will be allowed unless made within ten days after receipt of shipment.

**GUARANTEE:** We guarantee all Josam Products against defects, and all defective material will be replaced without charge, upon return to our Factory. We are not responsible for any damages or labor resulting therefrom.

**CANCELLATION:** Cancellation or change in specifications cannot be accepted without written notice, and the understanding that any expense incurred at the time such notice is received will be chargeable to the purchaser.

**DELAYS:** We shall not be liable for delays or defaults occasioned by strikes, fires or delays or defaults exercised by governmental authority, failure to obtain material, or by any cause unavoidable or beyond our control.

**TAXES:** Any sales or manufacturers' tax imposed under any existing or future statutes, will be added to the price herewith effective, and shall be paid by the purchaser.

**ILLUSTRATIONS:** The illustrations and detailed drawings in this catalog show standard features of each product but do not represent various adaptations available. The designs shown are subject to change without notice.

SUBJECT TO CHANGE WITHOUT NOTICE

# Hy-Tech Products





for plumbing drainage products

CHART OF LOCATIONS

The primary purpose of this chart is to indicate the various locations in buildings where plumbing drainage products are required, and to suggest suitable products to serve each specific requirement.

Table with columns: LOCATION, DRAIN OR FITTING, SUGGESTED PRODUCTS. Lists various building locations like ARTS AND CRAFTS ROOM, BACKWATER CONTROL, BARBER SHOP, etc., and their corresponding drain types and product numbers.

for plumbing drainage products



CHART OF LOCATIONS

Before specifying or ordering, check the Josam catalog description of the suggested products, as well as other similar types, to be sure that the product selected will serve your particular requirements.

Table with columns: LOCATION, DRAIN OR FITTING, SUGGESTED PRODUCTS. Lists various building locations like LAUNDRY, NOISE CONTROL, OILING PIT, etc., and their corresponding drain types and product numbers.

Hy-Tech Products

INSTALLATION DIAGRAMS ON PAGES 66, 151, 171, 180, 181, 200-206

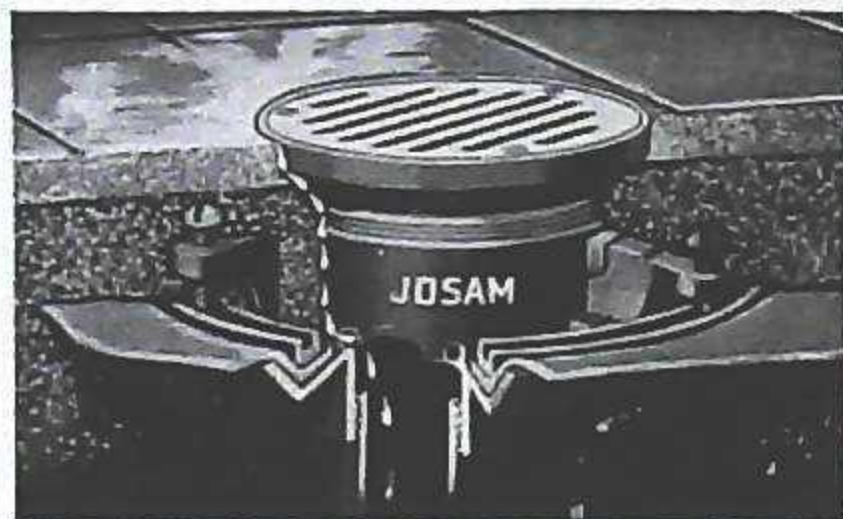
INSTALLATION DIAGRAMS ON PAGES 66, 151, 171, 180, 181, 200-206



## DOUBLE DRAINAGE FLOOR DRAIN FEATURES

The double drainage principle which embodies a flat or cup flange and weepholes at the base of the flange, was originated by Josam in 1914.

To protect ceiling and areas below the installation, any seepage which occurs around the drain at the floor level, or penetrates the waterproofing material when used, is directed through the weepholes at the base of the flange, into the drain body and waste line.



### DOUBLE DRAINAGE FLANGE AND WEEPHOLES



The flange, which is located below the floor or drainage level, also acts as an anchor in concrete construction. When waterproofing is used, the edge of the membrane is firmly supported by the flange and held in position by a flashing clamp device as explained below.

### FLASHING CLAMP DEVICE



The Josam Non-Puncturing Flashing Clamp Device consists of a ring which fits into the flanged cup of the drain body, and is fastened securely by clamping posts fitted with set screws. Lugs cast into the drain body hold the clamping posts in position. When the necessary pressure is exerted by tightening the screws, the membrane is held firmly in position without puncturing same. This insures an absolutely watertight and leak-proof connection around the drain.

## with adjustable strainers

### ADJUSTABLE STRAINERS

Made in a variety of styles and sizes, all interchangeable to fit any Josam drain body. The threaded shank permits vertical adjustment to meet variations in slab thickness or finished floor. Several styles of strainers furnished with single or double eccentric bushings to permit horizontal adjustment of strainer to meet off-center drillings. Complete information on page 30.

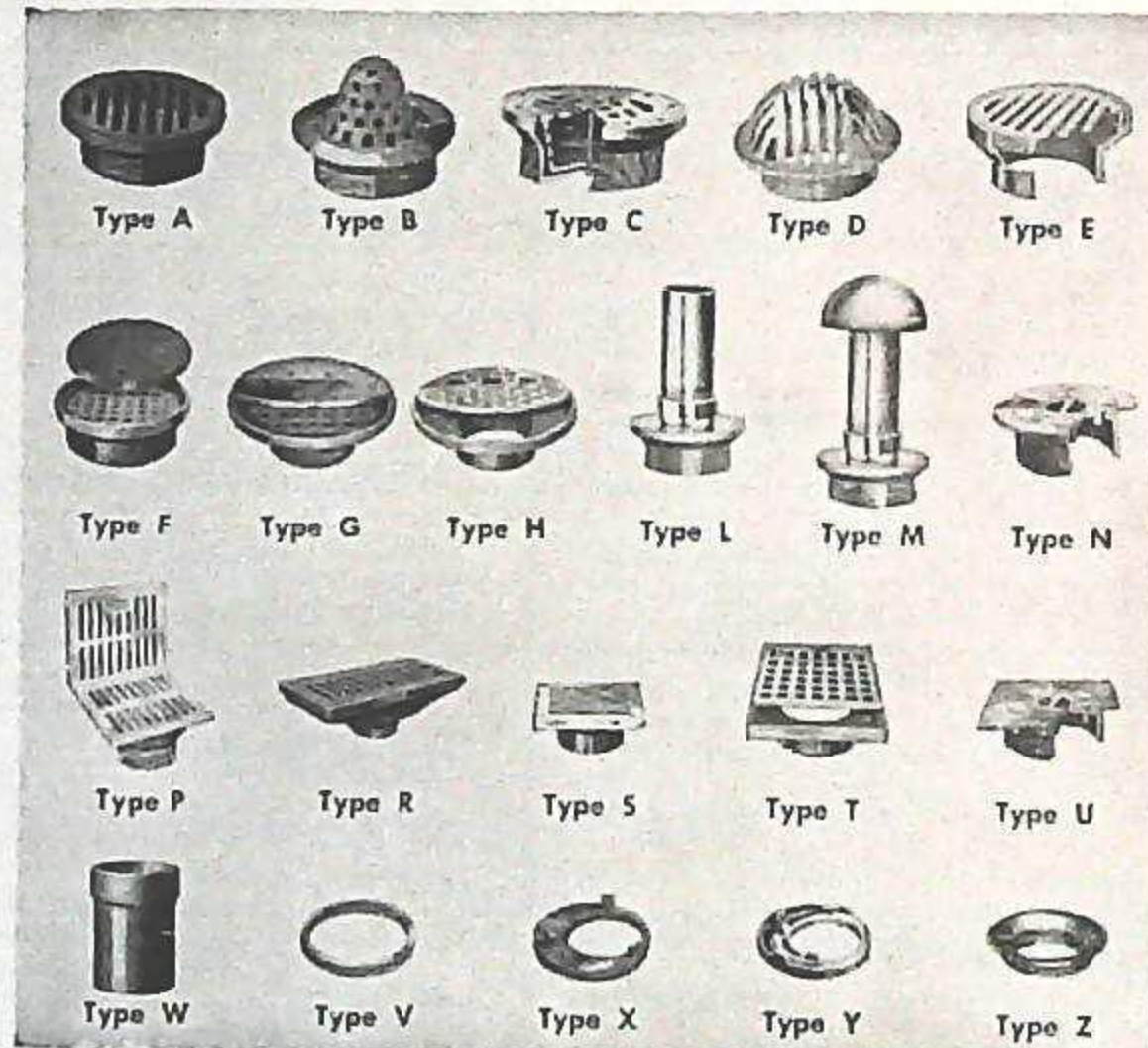
#### VERTICAL ADJUSTMENT



#### VERTICAL and HORIZONTAL ADJUSTMENT



The following are a few of the adjustable strainers interchangeable to fit various Josam Drain Bodies. See page 30 for complete information.



### DRAIN BODIES

#### With Integral Trap



#### Without Trap

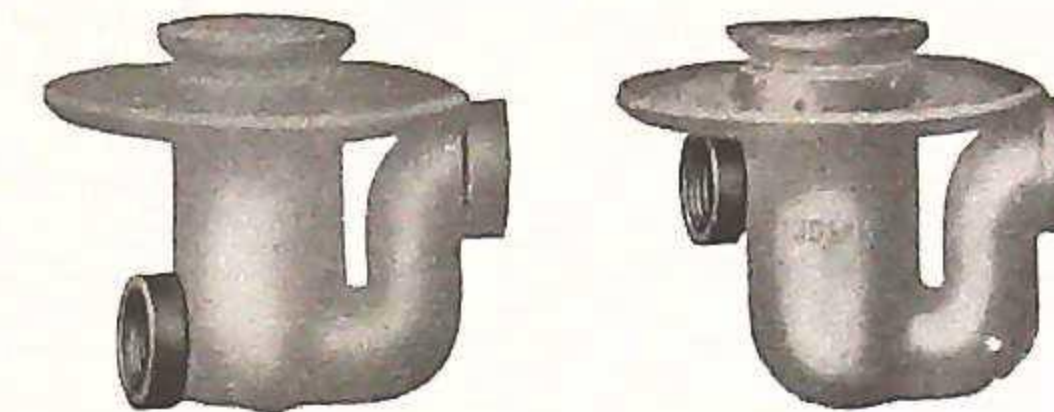


To meet every construction requirement, Josam drain bodies are designed with and without integral trap. For ease of installation and wherever construction permits, the drain with integral traps is recommended. However, for shallow roughing or where construction calls for an independent trap in the line, a drain without trap is recommended. See page 116 for separate traps.

## with adjustable strainers

### DRAIN BODIES (continued)

#### With Auxiliary Inlet



Several designs are available with high or low auxiliary inlets, for locations where drains are required with a direct vent connection or for use as a safe waste to take drainage from drinking fountains, coolers, built-in bath tub, shower or similar fixtures, or where code permits installations of a combination trap with auxiliary inlet.

#### With Backwater Valve

Where the danger of backflow from basement or sewer exists, Josam offers a choice of many styles of drain bodies with integral or separate backwater valves.



Backwater valve in the adjustable strainer. (Page No. 31.)



Ball type backwater valve as an integral part of drain body. (Page No. 23.)



Separate housing equipped with ball type backwater valve. (Page No. 93.)



## DOUBLE DRAINAGE FLOOR DRAIN FEATURES

### NON-CLOG TRIPLE DRAINAGE FEATURE



The Josam Non-Clog adjustable strainer in any Josam drain body threaded to receive an adjustable strainer, provides the same protection as Josam Non-Clog Triple Drainage Drains. See pages 23, 27, 30, 65.

### OUTLET CONNECTIONS

All bottom and side outlet drains are regularly furnished female threaded unless otherwise indicated in the standard specification or shown in the detail drawing.

**Bottom Outlet Drains** which are regularly furnished female threaded, can be furnished for inside caulk at no added cost, or with spigot adaptor at added cost.

**Side Outlet Drains** which are regularly furnished female threaded can be furnished with separate hub or spigot adaptor (except size 1 1/2") at added cost. Various styles of side outlet drains are also furnished with integral hub or spigot connection at no added cost, as mentioned under "Standard and Optional Features" of each group.

### MATERIALS AND FINISHES

**Drain Body** regularly furnished in cast iron lacquer finish, unless otherwise indicated in the specification. Can be furnished galvanized or malleable iron, brass, or Everdur, at added cost.

**Adjustable Strainers** are regularly furnished polished brass. Also furnished Chrome Plated, Nikaloy, or Everdur, at added cost.

Where constant scuffing of strainer surface is expected due to heavy pedestrian or wheel traffic, Nikaloy is recommended.

### ACID RESISTING MATERIALS

Where the strainer surface or the entire drain body is exposed to acids or other chemicals which will mar or deteriorate the drain body or top surface, we recommend Everdur Acid Resisting Metal. (See page 184.)

**Josam**  
**DOUBLE DRAINAGE**  
**FLOOR DRAINS**

with integral trap and adjustable strainer

● **APPLICATION:** For floors in Toilet and Shower Rooms, Shower Stalls, Urinal Receptors, Hallways and any location requiring a combined drain and trap where strainer must be adjusted to floor level after drain has been set in construction.

For features to suit additional requirements, see Adaptations of Series No. 200.

**STANDARD and OPTIONAL FEATURES**

The features below apply to drains in this group. The illustrations show the standard features applicable to each design.

- **Body** **Standard:** Cast iron lacquer finish, with integral trap.  
**Optional:** Cast iron galvanized, Resistan iron, brass, SR steels or Everdur, at added cost. (See ♦ — page 16).
- **Flange** **Standard:** Double drainage flange and weepholes drain off seepage around drain and protect areas below. Flange also serves as an anchor for concrete construction, or for attaching waterproofing when used.
- **Outlet** **Standard:** Female threaded.  
**Optional:** Integral spigot on Series No. 200, 210-V and 250 at no added cost. Integral hub on Series No. 200 and 260 at no added cost. Where not furnished integral, separate hub or spigot adaptor for caulking (except 1½") can be furnished at added cost.
- **Strainer** **Standard:** Polished brass in style and size indicated in table on page 25. (Dimension table indicates recommended size strainer for various drain outlets.)  
**Optional:** Polished brass in optional styles indicated in Adaptations or in Strainer Schedule on page 30-33. Chrome plated brass, SR steels, Everdur or White Metal in standard or optional styles, at added cost. (See ♦ — page 16).  
 Threaded shank permits vertical adjustment to meet variations in slab thickness or finished floor. Brass, double eccentric bushing on Series No. 280, permits horizontal adjustment of strainer to meet off-center drillings.
- **Auxiliary Inlet** **Standard:** Threaded, low inlet on Series No. 220-V; high inlet on Series No. 230-V.  
**Optional:** Hub or spigot adaptor for caulking (except 1½") at added cost.  
 Low auxiliary inlet takes waste from a built-in bath tub, shower or similar fixture where code permits a combination trap.  
 High auxiliary inlet permits installation of a direct vent or can be used as a safe waste to take drainage from drinking fountains, coolers, condensers and similar fixtures or equipment.
- **Backwater Valve** **Standard:** On Series No. 210-V, 220-V and 230-V, removable copper ball float in copper wire cage with rubber seat and brass seat housing.  
 Series No. 200-J has an adjustable strainer with internal flap type backwater valve.  
**Optional:** Furnished without backwater valve at reduced cost. Backwater valve provides protection against backflow in locations where an independent backwater valve cannot be installed in the line.
- **Cleanout** **Standard:** On Series No. 250 only. Brass bushing with threaded brass plug adjustable to set flush with floor, furnished in same material as strainer.
- **Flashing Clamp Device** **Standard:** On Series No. 200-C. Flashing clamp ring in same material as body, with non-puncturing clamps.  
**Optional:** Furnished on any drain in this group, at added cost. Clamp device firmly secures waterproofing when used, prevents caulking connection.

**SERIES No. 200**



**SPECIFICATION**

Josam Series No. 200, cast iron floor drain with integral drum type "P" trap, double drainage flange and weepholes, 1/2" threaded outlet and 1/2" polished brass adjustable strainer.

**NOTE:** The above specification covers Josam Series No. 200. Where optional features or materials are required, select style from illustrations shown, change Series Number and insert optional features or materials.



**SERIES No. 200-P**

**SPECIFICATION**

Same as Series No. 200 except with **ANGLE STRAINER** with eccentric bushing which simplifies piping problems. The vertical face of strainer provides continuous drainage.



**SERIES No. 250**

**SPECIFICATION**

Same as Series No. 200 except with **INTEGRAL CLEANOUT** flush with floor which permits easy access to waste line where frequent cleaning is required.

with integral trap and adjustable strainer

**Josam**  
**DOUBLE DRAINAGE**  
**FLOOR DRAINS**

**ADAPTATIONS OF JOSAM SERIES No. 200**

The following illustrations show the **SPECIAL FEATURES** of Adaptations of Series No. 200. Standard and Optional Features are listed on the opposite page.

Strainers shown in Adaptations are interchangeable and can be furnished with any drain body illustrated. For additional styles of Strainers, see page 30.

INSTALLATION DIAGRAMS ON PAGES 200, 201



**SERIES No. 200-C**  
**SPECIFICATION**

Same as Series No. 200 except with **FLASHING CLAMP DEVICE** which secures flashing or waterproofing when used. **Flashing Clamp Device** can be applied to any Josam Drain in this group.



**SERIES No. 200-35C**  
**SPECIFICATION**

Same as Series No. 200 except with **NON-CLOG STRAINER** having a removable sediment bucket. Eliminates clogging of line and prevents jewelry and other small objects being lost in waste line.



**SERIES No. 200-E-1**  
**SPECIFICATION**

Same as Series No. 200 except with **EXTENDED RIM ON STRAINER** to take drip or waste from ice box or similar fixture. Avoids splashing where faucet is located high above drain.



**SERIES No. 200-J**  
**SPECIFICATION**

Same as Series No. 200 except with **BACKWATER VALVE** in strainer. Prevents backflow from waste lines in locations where an independent backwater valve cannot be installed in the line.



**SERIES No. 200-R**  
**SPECIFICATION**

Same as Series No. 200 except with **RECTANGULAR STRAINER** which is adaptable in gutters, valleys or other locations where a round or square strainer will not conform to construction.



**SERIES No. 210-V**  
**SPECIFICATION**

Same as Series No. 200 except with **COPPER BALL BACKWATER VALVE** which prevents backflow from sewers in locations where an independent backwater valve cannot be installed in line.



**SERIES No. 220-V**  
**SPECIFICATION**

Same as Series No. 200 except with **LOW AUXILIARY INLET** to take waste from fixtures. Backwater valve prevents backflow from sewers.



**SERIES No. 230-V**  
**SPECIFICATION**

Same as Series No. 200 except with **HIGH AUXILIARY INLET** to take waste from fixtures, or inlet can be used as a direct vent. Backwater valve prevents backflow from sewers.



**SERIES No. 260**  
**SPECIFICATION**

Same as Series No. 200 except with **SHALLOW DRUM TRAP** for installation where construction will not permit a deep trap.



**SERIES No. 270**  
**SPECIFICATION**

Same as Series No. 200 except that design of trap induces **SELF-CLEANSING ACTION** with flow of water.



**SERIES No. 280**  
**SPECIFICATION**

Same as Series No. 200 except with **DOUBLE ECCENTRIC BUSHING** which assures positive location of strainer at fixture opening in installations of two or more stall urinals, receptors or similar fixtures.



**SERIES No. 290**  
**SPECIFICATION**

Same as Series No. 200 except with **INTEGRAL SINGLE WALL SHALLOW TRAP** with close roughing, for use where internal trap is permitted by local code.

Hy-Tech Products



**Josam**  
DOUBLE DRAINAGE  
FLOOR DRAINS

with adjustable strainer

● **APPLICATION:** For floors in Toilet and Shower Rooms, Shower Stalls, Urinal Receptors, Hallways, and any location requiring a drain without trap or with independent trap, and where strainer must be adjusted to floor level after drain has been set in construction.

For features to suit additional requirements, see Adaptations of Series No. 300.

**STANDARD and OPTIONAL FEATURES**

The features below apply to drains in this group. The illustrations show the standard features applicable to each design.

- **Body** **Standard:** Cast iron lacquer finish.  
**Optional:** Cast iron galvanized, Rezistan iron, brass, SR steels or Everdur, at added cost. (See ♦ — page 16).
- **Flange** **Standard:** Double drainage flange and weepholes drain off seepage around drain and protect areas below. Flange also serves as an anchor for concrete construction, or for attaching waterproofing when used.
- **Outlet** **Standard:** Female threaded bottom or side outlet, as indicated in illustrations.  
**Optional:** Inside caulk bottom outlet (except 1 1/2") at no added cost. Hub or spigot adaptor for caulking side outlet (except 1 1/2"), at added cost.
- **Strainer** **Standard:** Polished brass in style and size indicated in table on page 29. Dimension table indicates recommended size strainer for various size drain outlets.  
**Optional:** Polished brass in optional styles indicated in Adaptations, or in Strainer Schedule on page 30. Chrome plated brass, SR steels, Everdur or White Metal in standard or optional styles, at added cost. (See ♦ — page 16).  
Threaded shank permits vertical adjustment to meet variations in slab thickness or finished floor. Horizontal adjustment also available with eccentric bushings.
- **Flashing Clamp Device** **Standard:** On Series Nos. 300-C and 300-CE, flashing clamp ring in same material as body, with non-puncturing clamps.  
**Optional:** On all other drains in this group, flashing clamp ring in same material as body, with non-puncturing clamps, furnished at added cost.  
Clamp device firmly secures waterproofing to drain body, providing a tight connection.
- **Backwater Valve** **Optional:** Valve housing in same material as body, with copper ball in copper wire cage, furnished for threaded bottom outlet drains only, at added cost. See page 93.  
Adjustable strainer with internal flap type backwater valve furnished with any Josam Drain body threaded to receive an adjustable strainer, as illustrated for Series No. 380-J under Adaptations, at added cost.  
Backwater valve provides protection against backflow in locations where an independent backwater valve cannot be installed in the line.
- **Trap** **Optional:** Deep seal "P" trap in same material as drain body, with or without cleanout, and with or without backwater valve, furnished for bottom outlet drains only, at added cost. See page 111.

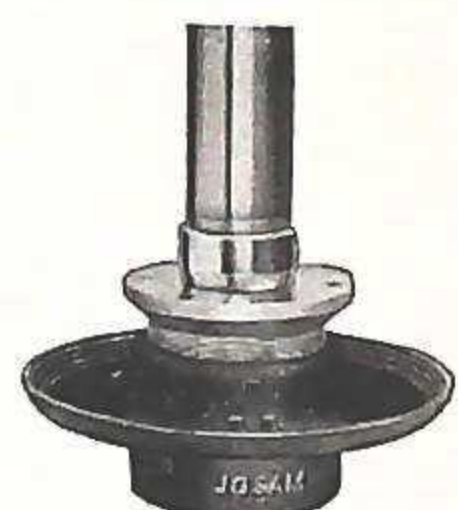
**SERIES No. 300**



**SPECIFICATION**

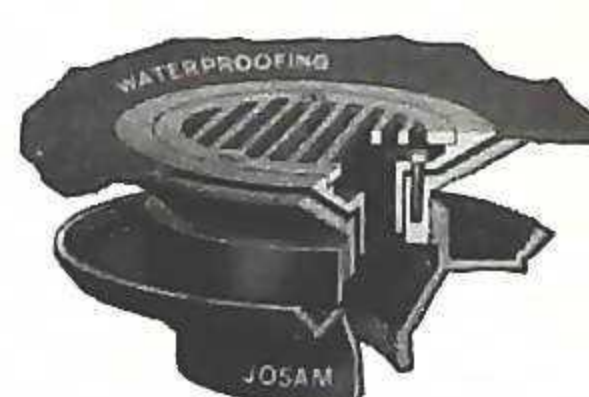
Josam Series No. 300, cast iron floor drain with double drainage flange and weepholes, "polished brass adjustable strainer.

**NOTE:** The above specification covers Josam Series No. 300. Where optional features or materials are required, select style from illustrations shown, change Series Number above, and insert optional features or materials.



**SERIES NO. 300-L  
SPECIFICATION**

Same as Series No. 300 except with **OVERFLOW STANDPIPE** for locations where an overflow or constant water level is required, with provision for complete drainage.



**SERIES NO. 360  
SPECIFICATION**

Same as Series No. 300 except with **ADJUSTABLE CLAMPING BUSHING** which permits clamping of finished floor covering, with or without backwater valve, with lead, stainless steel or other material.

without trap

**Josam**  
DOUBLE DRAINAGE  
FLOOR DRAINS

**ADAPTATIONS OF JOSAM SERIES No. 300**

The following illustrations show the **SPECIAL FEATURES** of Adaptations of Series No. 300. Standard and Optional Features are listed on the opposite page.

Strainers are interchangeable and can be furnished with any drain body illustrated. Additional styles of strainers on page 30.

INSTALLATION DIAGRAMS ON PAGES 200, 201



**SERIES NO. 300-C  
SPECIFICATION**

Same as Series No. 300 except with **FLASHING CLAMP DEVICE** which secures flashing or waterproofing when used. **Flashing Clamp Device can be applied to any Josam Drain in this group.**



**SERIES NO. 300-CE  
(Without clamping device,  
Series No. 300-E)  
SPECIFICATION**

Same as Series No. 300 except with **TRACTOR TYPE** strainer which is suitable in locations subjected to heavy traffic or where an adjustable strainer with a removable loose set grate is required for easy access to drain line. Clamping device is optional.



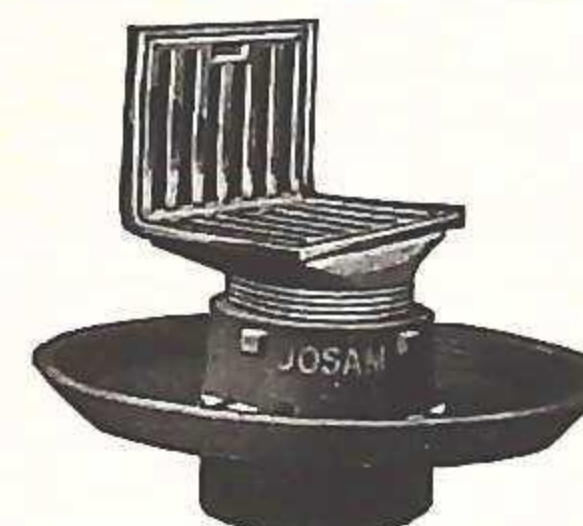
**SERIES NO. 300-35C  
SPECIFICATION**

Same as Series No. 300 except with **NON-CLOG STRAINER** having a removable sediment bucket. Particularly adaptable in public wash rooms, showers, laboratories and similar locations to eliminate clogging of line and to prevent jewelry and other small objects being lost in the waste line.



**SERIES NO. 300-E-1  
SPECIFICATION**

Same as Series No. 300 except with **EXTENDED RIM ON STRAINER** to take drip or other waste from ice box or similar fixtures. Avoids splashing where faucet is located high above drain.



**SERIES NO. 300-P  
SPECIFICATION**

Same as Series No. 300 except with **ANGLE STRAINER** with eccentric bushing which simplifies piping problems. The vertical face of strainer provides continuous drainage.



**SERIES NO. 300-R  
SPECIFICATION**

Same as Series No. 300 except with **RECTANGULAR STRAINER** which is adaptable in gutters, valleys or other locations where a round strainer will not conform to construction.



**SERIES NO. 310-NY  
SPECIFICATION**

Same as Series No. 300 except with **galvanized iron body, malleable iron flashing** clamping device bolted to flange, and 7" chrome plated Brass strainer. Conforms to New York State Specification Type "A" floor drain. See Page No. 196.



**SERIES NO. 320  
SPECIFICATION**

Same as Series No. 300 except with threaded **SIDE OUTLET**.



**SERIES NO. 380  
SPECIFICATION**

Same as Series No. 300 except with **double ECCENTRIC BUSHING** which assures positive location of strainer at fixture opening in installations of two or more stall urinals, receptors or similar fixtures.



**SERIES NO. 380-23C  
SPECIFICATION**

Same as Series No. 300 except with **double ECCENTRIC BUSHING** which assures positive location of strainer at fixture opening in installations of two or more stall urinals, receptors or similar fixtures, with non-clog strainer and sediment bucket as described under 300-35C.



**SERIES NO. 380-J  
SPECIFICATION**

Same as Series No. 300 except with **BACKWATER VALVE** in strainer. Prevents backflow from waste lines in locations where an independent backwater valve cannot be installed in the line.



**SERIES NO. 390  
SPECIFICATION**

Cast iron floor drain with bottom outlet, **CAULKED STRAINER ADAPTOR**, and brass adjustable strainer. Caulked adaptor permits metal flashing when used to be caulked into drain body. Flashing can be kept close to finished floor line.

Hy-Tech Products





## ADJUSTABLE STRAINERS AND AUXILIARY TRIMMINGS

### APPLICATION

For use with all Josam drain bodies threaded to receive an adjustable strainer, (Series No. 200, No. 300 and all variations of these series), in any location where the strainer must be adjusted to the level of tile, terrazo, cement, concrete or other type of construction, even after the drain has been set in the sub-floor.

### FEATURES

#### VERTICAL ADJUSTMENT

Every Josam Adjustable Strainer can be raised or lowered in the drain body, to meet the level of the finished floor. This eliminates costly adjustments and alterations after the drain body has been installed. Where the floor finish is higher than the threaded shank of the strainer, Type W extension is available to raise the strainer top to any desired height.

#### HORIZONTAL ADJUSTMENT

In batteries of Shower and Urinal Receptors, Stall type Urinals and wherever the installation calls for two or more fixtures, Josam provides several types of drain bodies with single and double eccentric bushing so that the strainer can be adjusted horizontally up to 1 3/8" in any direction. This assures positive connection at the fixture opening where off-center drillings occur.

#### FINISHES AND MATERIALS

All strainers are regularly furnished polished brass, unless otherwise specified. Can be furnished in chrome plated brass, Nikaloy or Everdur. Wherever traffic is heavy and constant scuffing of strainer surface is expected, Nikaloy is

recommended, see page 16. Where strainer surface or drain is exposed to acids or other chemicals which will mar or deteriorate the drain, Everdur acid resisting strainers and drain bodies are recommended. (See page 184).

#### STYLES AND SIZES

The following illustrations and descriptions cover the entire line of Josam Adjustable Strainers and auxiliary trimmings.

Strainers are interchangeable to fit any Josam drain body threaded to receive an adjustable strainer. Where a variation in diameter of threaded shank occurs, Type V bushing is necessary when interchanging strainers in certain drain bodies.

Josam Strainers are furnished with both vertical edge and feather edge. The vertical edge permits easy installation in all types of floor

finishes. The feather edge permits accurate installation in Urinals and Receptors where strainers are installed in fixtures.

When selecting strainer sizes, the free area of the strainer should be approximately 50% greater than the internal area of the drain line. This provides a safety factor in the event a portion of the strainer becomes obstructed. In the "Schedule of Dimension" on each Drain Series, where more than one size strainer is indicated with the same size drain outlet, a \* indicates the recommended size strainer for each drain outlet.

## for floor drains

### Brass Adjustable Strainers

#### TYPE A



**ROUND.** Standard type with flat top secured by countersunk screws.

#### TYPE AF



**FLANGED.** Lip on flange acts as a stop for asphalt tile flooring.

#### TYPE B



**BEEHIVE.** For use with stall or trough type urinals and similar fixtures where cigarette butts, soap and other debris could clog a portion of flat strainer area and prevent drainage to waste line.

#### TYPE C



**NON-CLOG.** Particularly adaptable in locations where it is desired to intercept debris to prevent drain lines from clogging, and to recover jewelry or other valuables which are caught in the removable strainer basket. The design of the strainer permits drainage through auxiliary holes, even after bucket is filled.

#### TYPE D



**DOMES.** For use in floors or fixtures where debris might clog a portion of the strainer area and prevent drainage to waste line.

#### TYPE E



**TRACTOR.** For locations subjected to heavy traffic and where an easily removed, loose set grate is required for frequent cleaning of waste line.

#### TYPE E-1



**SAFE WASTE.** Extended rim on strainer serves as a safe waste for drip or waste from ice box or similar fixture. Loose strainer plate is easily removed for cleaning of waste line.

## round, square, rectangle and angle tops

#### TYPE F



**SOLID TOP WITH INTERNAL STRAINER.** For locations where constant drainage is seldom required. Removal of solid cover makes the internal perforated strainer instantly available for drainage. Solid cover also retards evaporation of water in trap seal and prevents entry of sewer gases into room.

#### TYPE G



**SOLID HINGED TOP WITH INTERNAL STRAINER.** In public areas or other locations where constant drainage is not required but is easily available when hinged top is open. Internal perforated strainer permits flow of water to drainage lines. Solid cover prevents drain from being used as an open receptacle through which articles may be purposely or accidentally dropped.

#### TYPE H



**ROUND HINGED GRATE.** For locations subject to excessive flash flooding or where waste line must be cleaned frequently.

#### TYPE J



**INTERNAL BACKWATER VALVE.** Brass flap prevents backflow in locations where a separate backwater valve cannot be installed in the waste line. Also prevents circulation of air where air-conditioning is used, and retards evaporation of water in trap seal.

#### TYPE K



**CONCAVE TOP.** In tile floor or similar construction where square design permits easy installation, and where concave top is desired to more readily collect any debris floating in the waste water.

#### TYPE N



**ROUND TOP WITH PLUG.** For vacuum cleaner or hose connection. Plug is removed when hose connection is desired and fits flush with face plate when system is not in operation.

#### TYPE L



**OVERFLOW STANDPIPE.** Type L for use in wading pools, fountains, foot baths and other locations where it is desired to flood the area and maintain a certain water level.

#### TYPE M



**LIFT-OFF SOLID DOME ON STANDPIPE** prevents debris from entering and clogging standpipe and permits continuous overflow into line. Removal of standpipe on Type L and M permits complete discharge of water into waste line.

#### TYPE P



**ANGLE.** For use in public or gang showers to simplify piping problems. Vertical face provides continuous drainage and acts as an overflow if horizontal face becomes obstructed by towels and debris. Eccentric bushing permits installation so that vertical face parallels wall line at base, and horizontal face fits into floor.

#### TYPE R



**RECTANGULAR TOP.** In gutters and valleys where construction does not permit standard round or square strainer.

#### TYPE S



**SQUARE TOP.** In tile floor or similar construction where square design permits easy installation.

#### TYPE T



**SQUARE HINGE.** In tile floor or similar construction where square design permits easy installation and where frequent cleaning of waste line is required.

#### TYPE U



**SQUARE TOP WITH PLUG.** For vacuum or hose connection. Plug fits flush with face plate when system is not in operation. Square design permits easy installation in tile or similar construction.



## ADJUSTABLE STRAINERS AND AUXILIARY TRIMMINGS

### Brass Auxiliary Trimmings

#### TYPE V



**BUSHING.** Due to the difference in diameter of threaded shank of various strainers, it is often necessary to use a bushing when interchanging certain strainers in drain bodies.

#### TYPE W



**EXTENSION PIECE.** For use in extending adjustable strainer to meet finished floor level, where standard shank of strainer is not high enough.

#### TYPE WA



**STRAINER ADAPTOR.** Threaded inlet head of floor drain, with IPS spigot for caulking into outlet of strainer furnished with shower or urinal receptor.

#### TYPE X



**ECCENTRIC BUSHING.** For use where it is necessary to set strainer off center of drain body, to insure positive connection at fixture opening.

#### TYPE Y



**DOUBLE ECCENTRIC BUSHING.** Where two or more stall urinals or similar fixtures are installed, a slight variation in the first fixture outlet will change the roughing of the second and succeeding fixtures. The double eccentric bushing takes care of this variation at each fixture where the strainer can be adjusted horizontally up to 1 3/8" in any direction at each stall. This assures positive connection at fixture opening regardless of variations in roughing-in. (Standard on Series No. 280 and No. 380 drains).

#### NOTE

For application of auxiliary trimmings, see "Note" in schedule on page 33.

# Hy-Tech Products

DIMENSIONS IN INCHES

STYLE	TYPE NO.	TOP	OUTSIDE DIA. OF SHANK	LENGTH SHANK	OVER ALL HEIGHT	HEIGHT ABOVE TOP	INTERNAL STRAINER DIA.	FREE AREA SQ. IN. ‡
FLAT Type "A"	14-A	4	2½	¾	1¾	...	...	2.9
	34-A	4	3¾	1¼	1¾	...	...	3.0
	23-A	4½	3¾	2¾	2¾	...	...	3.0
	33-A	4½	3¾	1¾	1¾	...	...	3.0
	35-A	5	3¾	1	1¾	...	...	5.6
	36-A	6	3¾	1	2¼	...	...	7.4
	37-A	7	3¾	1	2¼	...	...	13.1
	37-A2	7	3¾	2	3¼	...	...	13.1
	38-A	8	3¾	¾	2¾	...	...	16.5
	39-A	9	3¾	1	2¼	...	...	21.1
	30-A	10	3¾	1	2¼	...	...	28.0
FLAT, WITH CLAMPING BUSHING Type "AD" (not illustrated)	59-AD	9	5½ *	1 *	2			16.5
FLAT, WITH FLANGE Type "AF"	36-AF	6	3¾	1	2¼			7.4
BEEHIVE Type "B"	14-B	4	2½	¾	1¾	2½		5.4
	34-B	4	3¾	1¼	1¾	2½		5.4
	23-B	4½	3¾	2¾	2¾	2½		5.4
NON-CLOG Type "C"	23-C	4½	3¾	2¾	2¾			2.0
	35-C	5	3¾	¾	1¾			3.4
DOME Type "D"	14-D	4	2½	¾	1¾	1½		4.4
	34-D	4	3¾	1¼	1¾	1½		4.4
	23-D	4½	3¾	2¾	2¾	1½		4.4
	35-D	5	3¾	1	1¾	2		8.1
	36-D	6	3¾	1	2¼	2		8.1
TRACTOR Type "E"	37-E	7	3¾	1	2¾			11.0
	39-E	8¾	3¾	¾	3¾			18.3
TRACTOR WITH EXTENDED RIM Type "E-1"	37-E-1	7	3¾	1	3¾			11.0
SOLID SCREWED TOP WITH INTERNAL STRAINER Type "F"	36-F	6¾	3¾	1	2¼		5¾	7.4‡
SOLID HINGED TOP WITH INTERNAL STRAINER Type "G"	35-G	5	3¾	1	2		3¾	3.0‡
	36-G	6	3¾	1	2¼		3¾	3.0‡
	37-G	7	3¾	1	2½		3¾	3.0‡
	37-G2	7	3¾	2	3½		3¾	3.0‡
	38-G	8	3¾	1½	3¼		5¾	7.4‡
FLAT HINGED Type "H"	14-H	4	2½	¾	1¾			2.6
	34-H	4	3¾	1¼	1¾			2.6
	23-H	4½	3¾	2¾	2¾			2.6
	35-H	5	3¾	1	1¾			6.0
	36-H	6	3¾	1	2¼			7.8
	37-H	7	3¾	1	2¼			12.2
	37-H2	7	3¾	2	3½			12.2
	38-H	8	3¾	¾	2¾			16.1
FLAT, WITH BACKWATER VALVE Type "J"	36-J	6	3¾	1	2¼			7.4
CONCAVE Type "K"	37-K	7½x6¾	3¾	¾	3½			8.7
	39-K	9½x9½	3¾	1	3¾			16.5
OVERFLOW STANDPIPE Type "L"	35-L2	5	3¾	1	1¾	6" Height Standard		3.1*
	35-L3	5	3¾	1¾	1¾			7.1*
OVERFLOW STANDPIPE WITH DOME Type "M"	35-M2	5	3¾	1	1¾	Any Other Height Optional		3.1*
	35-M3	5	3¾	1¾	1¾			7.1*

\* ON TYPE NO. 59-AD, DIMENSIONS INDICATED BY \* ARE FOR THREADED BUSHING  
‡ ON TYPES WITH SOLID TOP, FREE AREA OF INTERNAL STRAINER IS INDICATED. † FREE AREA OF STANDPIPE

DIMENSIONS IN INCHES (Continued)

STYLE	TYPE NO.	TOP DIA.	OUTSIDE DIA. OF SHANK	LENGTH SHANK	OVER ALL HEIGHT	FREE AREA SQ. IN.
ROUND PLUG TOP  Type "N"	1½" } Threaded Plug	35-N1	5	3¾	1	1.7
		35-N2	5	3¾	1	3.1
	1½" } Ground Jt. Plug	35-N3	5	3¾	1	1.7
		35-N4	5	3¾	1	3.1
ANGLE Type "P"	14-P	4¼x3¼	2½	1	5¾	8.9
	16-P	6¼x6¼	2½	1½	9¾	18.7
RECTANGLE Type "R"	34-R	8x4¾	3¾	1¼	2¾	11.3
	35-R	8¾x4¾	3¾	1¼	3½	14.9
	37-R	16¾x4¾	3¾	1½	3½	28.7
SQUARE Type "S"	14-S	4¼x4¼	2½	¾	1½	5.2
	34-S	4x4	3¾	1¼	2¾	6.1
	35-S	5x5	3¾	¾	1¾	7.3
	36-S	6x6	3¾	¾	1½	9.5
	38-S	8x8	3¾	1	2¾	19.7
	39-S	9x9	3¾	1	2¾	25.7
SQUARE HINGED Type "T"	35-T	4¾x4¾	3¾	¾	2	6.5
	36-T	6x6	3¾	¾	2	8.3
SQUARE TOP  Type "U"	1½" } Threaded Plug	35-U1	5x5	3¾	1¼	1.7
		35-U2	5x5	3¾	1¼	3.1
	1½" } Ground Jt. Plug	35-U3	5x5	3¾	1¼	1.7
		35-U4	5x5	3¾	1¼	3.1

NOTE: All adjustable strainers regularly furnished polished brass unless otherwise indicated. For suffix letter to be added to type number when optional material or finish is required, see page 16 for complete explanation.

AUXILIARY TRIMMINGS

ITEM	TYPE NO.	DIMENSIONS IN INCHES			NOTE
		Outside Diam.	Inside Diam.	Length	
EXTENSION PIECE Type "W"	W-12	2½	2½	2	To use Auxiliary Trimmings in connection with various adjustable strainers, the "Outside Dia. of Shank" in the strainer schedule must coincide with the "Inside Diameter" of the Auxiliary Trimming, and the "Outside Diameter" of the Auxiliary Trimming must coincide with the diameter of the tapping in the throat of the drain body.
	W-14	2½	2½	4	
	W-16	2½	2½	6	
	W-22	3¾	3¾	2	
	W-24	3¾	3¾	4	
	W-26	3¾	3¾	6	
	W-32	3¾	3¾	2	
	W-34	3¾	3¾	4	
W-36	3¾	3¾	6		
STRAINER ADAPTOR Type "WA"	WA-2	3¾	2	4*	
BUSHING Type "V"	V-3	3¾	3¾		
V-5	5½	3¾			
ECCENTRIC BUSHING Type "X"	X	3¾	2½		
DOUBLE ECC. BUSHING Type "Y"	Y	5½	3¾		

\* 4" is standard, cut in field to suit conditions.



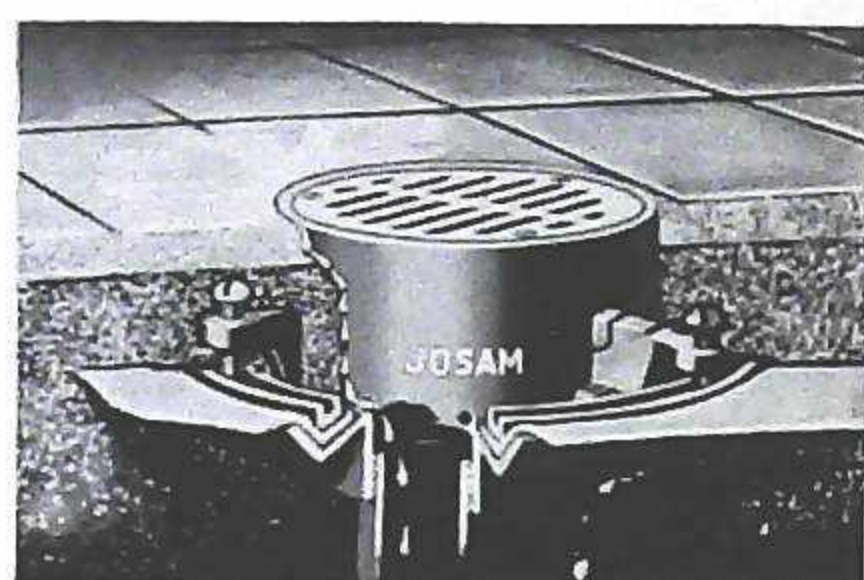


## FLOOR DRAIN FEATURES

with standard, heavy duty and tractor grates

The double drainage principle which embodies a flat or cup flange and weepholes at the base of the flange, was originated by Josam in 1914.

To protect ceilings and areas below the installation, any seepage which occurs around the drain at floor level, or penetrates the waterproofing material when used, is directed through the weepholes at the base of the flange, into the drain body and waste line.



### DOUBLE DRAINAGE FLANGE AND WEEPHOLES



The flange, which is located below the floor or drainage level, also acts as an anchor in concrete construction. When waterproofing is used, the edge of the membrane is firmly supported by the flange and held in position by a flashing clamp device as explained below.

### FLASHING CLAMP DEVICE



The Josam Non-Puncturing Flashing Clamp Device consists of a ring which fits into the flanged cup of the drain body and is fastened securely by clamping posts fitted with set screws. Lugs cast into the drain body hold the clamping posts in position. When the necessary pressure is exerted by tightening the screws, the membrane is held firmly in position without puncturing same. This insures an absolutely watertight and leak-proof connection around the drain.

### GRATES

A suitable type grate is available for every requirement — Standard Service, Heavy Duty Service and Extra Heavy Duty. All grates have ample free area to permit quick drainage to waste lines.

#### Standard or Heavy Duty

Anti-tilting; loose set; round, square or rectangular flat type; suitable for locations handling pedestrian traffic and light or heavy trucking.

Flat grates can be furnished hinged instead of loose set, or can be fastened to the rim with screws to prevent easy removal of grate.

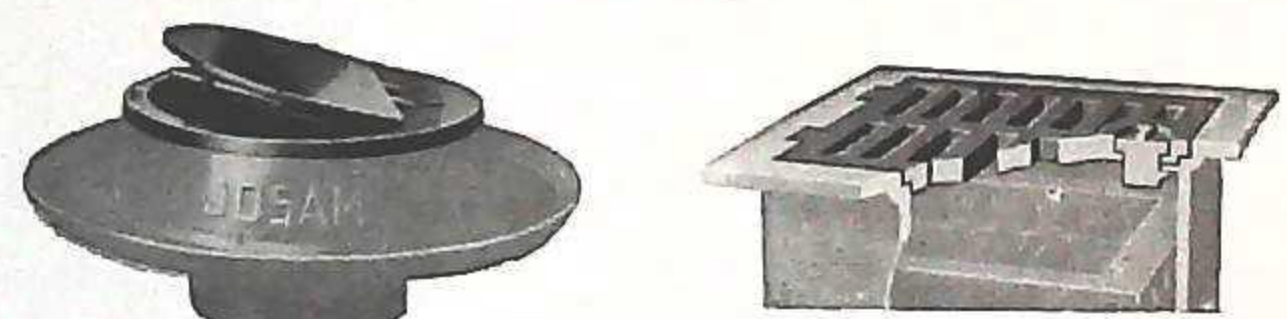


#### Tractor Type

Extra heavy, deep set grate, round or square, for constant heavy trucking or other heavy traffic.



#### Locked Type



With locking device; or grate fastened to body with tamper-proof screws; or solid top locked in position with removable key.

#### Dome

Loose set dome for locations where flat grate might become obstructed with debris or other waste material, preventing drainage to waste line.



#### SECONDARY STRAINER

Round, perforated flat strainer with lifting lug, fits over drain outlet and intercepts debris washed through grate openings.



#### SEDIMENT BUCKETS

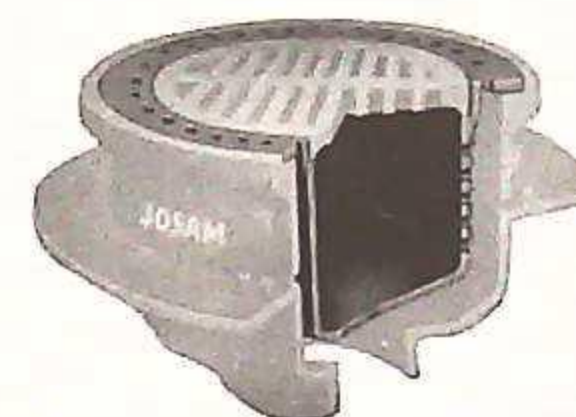
Many styles of sediment bucket drains are available with round solid bucket—square or rectangular slotted bucket—round or square perforated bucket; to suit every requirement where debris should be prevented from entering and logging drain lines. See "Illustrated Index" on page 9 for sediment bucket drains.

sediment bucket, backwater valve



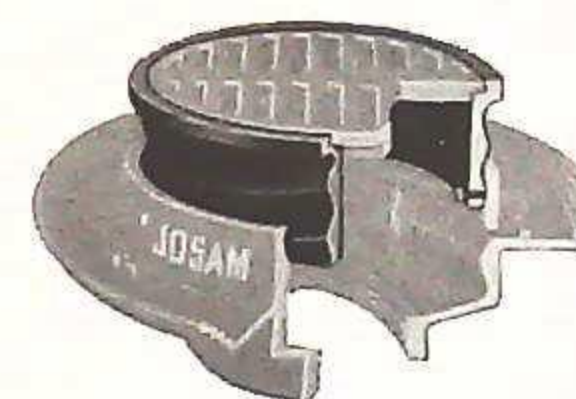
## FLOOR DRAIN FEATURES

### NON-CLOG TRIPLE DRAINAGE PATTERN



The original Non-clog Triple Drainage Drains designed by Josam, permit a continuous flow of waste water into the drainage line even after the sediment bucket is completely filled with debris. And, to guard against the human element of carelessness, the grate cannot be set in position unless and until the sediment bucket is in the drain body. Complete details on page 59.

### "LEVELEZE" ADJUSTABLE TOP PATTERN



The "Leveleze" adjustable top floor drain is another Josam development which solves the problem of variations in floor levels after the drain has been installed and the concrete or other flooring applied. The adjustable top permits lowering or raising the grate to meet the finished floor level, eliminating additional labor costs, tearing out floor construction and other costly inconveniences. Complete details on page 67.

### "SUPER-FLO" PATTERN



"Super-Flo" Drains provide greater flow rate . . . greater economy . . . greater interchangeability . . . for details see pages 58A to 58D.

### OUTLET CONNECTIONS

All bottom and side outlet drains are regularly furnished female threaded unless otherwise indicated in the standard specification or shown in the detail drawing.

Bottom outlet drains which are regularly furnished female threaded can be furnished for inside caulk at no added cost, or with spigot adaptor for caulking, at added cost.

Side outlet drains which are regularly furnished female threaded can be furnished with a hub or spigot adaptor for caulking, at added cost.

### BACKWATER VALVE

Where the danger of backflow from basement or sewer line exists, several types of combined drains and backwater valves, separate or integral with drain body are available.



Flap type backwater valve caulked into the trap.



Flap type valve screwed into drain head.



Flap type backwater valve fastened into the drain throat.



Removable copper ball float in the trap.



Threaded bottom outlet drains can be furnished with a separate housing which screws into the outlet of the drain body and is equipped with a copper ball valve in a copper cage.

Where an independent sewer backwater valve is desired for installation in sewer or drain line, see pages 88-93.

### MATERIALS AND FINISHES

Drain bodies and grates are regularly furnished cast iron lacquered, unless otherwise indicated in the specification. Can be furnished galvanized iron, malleable, all brass or Everdur bodies with galvanized iron, malleable, polished or chrome plated brass. Nikaloy or Everdur rim and grate, or grate only.

Where appearance of grate surface is a factor, polished brass, chrome plated brass or Nikaloy is recommended. Where constant scuffing of surface is expected due to heavy pedestrian or wheel traffic, Nikaloy is recommended.

### ACID RESISTING MATERIALS

Where the grate surface, or the entire drain is exposed to acids or other chemicals which will mar or deteriorate the drain or top surface, we recommend Everdur Acid Resisting Metal. See page 184.

with standard, heavy duty and tractor grates

● **APPLICATION:** For finished floors in Basements, Areaways, Elevator and Scale Pits, Refrigerator Rooms, Public Wash Rooms, Courtyards, Walkways and similar locations where drainage contains substantially clear water, and where construction requires a shallow drain without trap or with an independent trap.

For features to suit additional requirements, see Adaptations of Series No. 510.

**STANDARD and OPTIONAL FEATURES**

The features below apply to drains in this group. The illustrations show the standard features applicable to each design.

- **Body** **Standard:** Cast iron lacquer finish, with round or square top, as illustrated.  
**Optional:** Cast iron with square top, or galvanized iron, Rezistan iron, all brass, SR steels or Everdur with round or square top, at added cost. (See ♦ — page 16).
- **Flange** **Standard:** Double drainage flange and weepholes drain off seepage around drain and protect area below. Flange also serves as an anchor for concrete construction, or for attaching waterproofing when used.
- **Outlet** **Standard:** Female threaded bottom or side outlet, as shown in illustrations.  
**Optional:** Inside caulk bottom outlet at no added cost. Hub or spigot adaptor for caulking side outlet, at added cost.
- **Grate** **Standard:** Cast iron, round or square, loose set anti-tilting; or loose set tractor grate, as shown in illustrations.  
Deflector type grate on Series No. 510-RS prevents sticks or other long objects from being accidentally or purposely forced into the drain body, in school yards, public areas or similar locations.  
**Optional:** Cast iron galvanized, Rezistan iron, polished or chrome plated brass, SR steels, White Metal or Everdur grate only, or with rim to match at added cost. (See ♦ — page 16).
- **Secondary Strainer** **Standard:** On Series No. 510-RS and 730-S. Round, loose set, perforated, in same material as body.  
**Optional:** On all other types in this group, furnished at added cost. Intercepts debris washed through grate.
- **Flashing Clamp Device** **Optional:** Flashing clamp ring in same material as body, with non-puncturing clamps, furnished at added cost.  
Clamp device firmly secures waterproofing to drain body, providing a tight connection.
- **Backwater Valve** **Standard:** On Series No. 510-V. Valve housing in same material as body, with copper ball in wire cage.  
**Optional:** Furnished on all other threaded bottom outlet drains, at added cost. See page 93.  
Backwater valve provides protection against backflow in locations where an independent backwater valve cannot be installed in the line.
- **Trap** **Optional:** Deep seal "P" trap in same material as drain body, with or without cleanout, and with or without backwater valve, furnished for bottom outlet drains only, at added cost. See page 16.

for shallow construction, without trap

**SERIES No. 510  
and No. 520**



**SPECIFICATION**

Josam Series No. 510, cast iron floor drain with double drainage flange and weepholes, ..... female threaded outlet, ..... round top and loose set anti-tilting grate.

**NOTE:** The above specification covers Josam Series No. 510.

Where optional features or materials are required, select style from illustrations shown, change Series Number above, and insert optional features or materials.



**SERIES NO. 550 and NO. 560**

**SPECIFICATION**

Same as Series No. 510 except with **SIDE OUTLET**.



**SERIES NO. 650  
and NO. 660**

**SPECIFICATION**

Same as Series No. 510 except with **DEEP SET TRACTOR GRATE**.

**ADAPTATIONS OF JOSAM SERIES No. 510**

The following illustrations show the **SPECIAL FEATURES** of Adaptations of Series No. 510. Standard and Optional Features are listed on the opposite page.

INSTALLATION DIAGRAMS ON PAGE 66



**SERIES NO. 510-E**

**SPECIFICATION**

Same as Series No. 510 except with 1 1/4" (or higher) loose ring **RISER** for raising grate to meet finished floor level.



**SERIES NO. 510-RS**

**SPECIFICATION**

Same as Series No. 510 except with **DEFLECTOR GRATE** fastened to body with tamper-proof screws, and with perforated loose set, secondary strainer.



**SERIES NO. 510-V  
SPECIFICATION**

Same as Series No. 510 except with separate copper ball float type **BACKWATER VALVE** in cast iron housing, screwed into outlet of drain. Prevents backflow in locations where an independent backwater valve cannot be installed in the line. **Backwater valve is optional on any bottom outlet drain in this group.**



**SERIES NO. 530  
and NO. 540**

**SPECIFICATION**

Same as Series No. 510 except **EXTRA HEAVY PATTERN** with large top and up to 8" outlet.



**SERIES NO. 570**

**SPECIFICATION**

Same as Series No. 510 except with flat, **THICK FLANGE** which serves as a stop for insulation, mastic or similar material wherever subflooring is required in new or existing floors.



**SERIES NO. 580**

**SPECIFICATION**

Same as Series No. 510 except with **SQUARE FRAME** and loose set square grate, for floors of tile, brick or similar construction where square pattern permits easier installation.



**SERIES NO. 610  
and NO. 620**

**SPECIFICATION**

Same as Series No. 510 except with deep set **TRACTOR GRATE** for locations subjected to heavy trucking and traffic.



**SERIES NO. 630  
and NO. 640**

**SPECIFICATION**

Same as Series No. 510 except **EXTRA HEAVY PATTERN** with large deep set **TRACTOR GRATE** for exceptionally heavy trucking or other traffic.



**SERIES NO. 700**

**SPECIFICATION**

Same as Series No. 510 except larger body with **DEEP COLLAR** and **FLAT FLANGE**. Non-puncturing flashing clamp device on top flange for holding waterproofing, and bolted clamp ring on bottom flange for lead flashing, furnished at added cost.



**SERIES NO. 730-S**

**SPECIFICATION**

Same as Series No. 510 except extra heavy pattern with a **DEEP COLLAR** integral with flashing clamp device bolted to flange. Exceptionally **LARGE WEEPHOLES** surround collar, permitting drainage in locations where considerable water might penetrate below surface. Secondary strainer prevents debris from entering and clogging waste lines.



**SERIES NO. 2510**

**SPECIFICATION**

Same as Series No. 510 except with an **INTERNAL TRAP SEAL** which prevents the escape of odors or gases from drainage line into the room.



**SERIES NO. 2600**

**SPECIFICATION**

Same as Series No. 510 except with heavy duty grate and **NARROW FLANGE** for locations where construction will not permit drain with larger flange diameter.

Hy-Tech Products



**Josam**  
**DOUBLE DRAINAGE FLOOR DRAINS**

*flushing rim pattern with brass top*

● **APPLICATION:** For finished floors in Laboratories, Operating, Experimental and Seclusion Rooms, Prisons, Sanitariums, Hospitals, Mortuaries, and similar places where sanitation is an important factor and where a drain with the flushing rim or "Oriental Closet" feature is required.

For features to suit additional requirements, see Adaptations of Series No. 590-B.

**STANDARD and OPTIONAL FEATURES**

The features below apply to drains in this group. The illustrations show the standard features applicable to each design.

- **Body** **Standard:** Cast iron lacquer finish, with porcelain enamel interior, brass top flushing rim, round polished brass frame secured with tap screws, and tapping for flushing connection.  
**Optional:** Cast iron galvanized, Reztan iron, all brass, SR steels or Everdur, with porcelain enamel interior, or chrome plated, SR steels or Everdur top, at added cost. (See ♦ — page 16).
- **Flange** **Standard:** Double drainage flange and weepholes drain off seepage around drain and protect areas below. Flange also serves as an anchor for concrete construction, or for attaching waterproofing when used.
- **Flushing Connection** **Standard:** Body tapped for 3/4" pipe flushing connection to flushing rim. Series No. 890-B also tapped for 3/8" pipe connection at bottom of trap.
- **Outlet** **Standard:** Female threaded.  
**Optional:** Hub or spigot adaptor for caulking side outlet, at added cost.
- **Grate** **Standard:** Polished brass, round, hinged, perforated or "Oriental Closet" style as illustrated.  
**Optional:** Chrome plated brass, white metal, SR steels or Everdur with rim to match, at added cost. (See ♦ — page 16).
- **Flashing Clamp Device** **Optional:** Flashing clamp ring in same material as body, bolted to flange, at added cost.  
Ring is fastened to flange by tap bolts, and secures waterproofing to drain body providing a tight connection.
- **Backwater Valve** **Optional:** Valve housing in same material as body, with copper ball in copper wire cage, furnished for threaded bottom outlet drains only, at added cost. See page 93.  
Backwater valve provides protection against backflow in locations where an independent backwater valve cannot be installed in the line.
- **Trap** **Standard:** Series No. 890-B, No. 890-BP and No. 890-BR. Integral "P" trap in same material as body, tapped for 3/8" pipe flushing connection.  
**Optional:** Deep seal "P" trap in same material as drain body, with or without cleanout, and with or without backwater valve, furnished for bottom outlet drains only, at added cost. See page 116.

For drain with solid top locked in position, suitable for similar applications, see Series No. 3710-B, page 19.



**SPECIFICATION**

Same as Series No. 590-B except with integral DEEP SEAL "P" TRAP which is tapped for 3/8" flushing connection at bottom of trap.

With one piece top and wide bar grate, Series No. 890-BP. With loose set wide bar grate, Series No. 890-BR.

**SERIES No. 590-B**



**SPECIFICATION**

Josam Series No. 590-B, cast iron floor drain with porcelain enamel interior, brass flushing rim top, double drainage flange and weepholes, flushing rim tapped for flushing connection, 1/2" threaded outlet and round brass top with perforated hinged grate.

**NOTE:** The above specification covers Josam Series No. 590-B. Where optional features or materials are required, select style from illustrations shown, change Series Number above, and insert optional features or materials.

**ADAPTATIONS OF SERIES NO. 590-B**

The following illustrations show the SPECIAL FEATURES of Adaptations of Series No. 590-B.



**SERIES NO. 590-BR**

**SPECIFICATION**

Same as Series No. 590-B except with a brass, LOOSE SET WIDE BAR GRATE in frame secured to drain body by four screws, for Oriental Closet service. (With integral trap, Series No. 890-BR.)



**SERIES NO. 590-BP**

**SPECIFICATION**

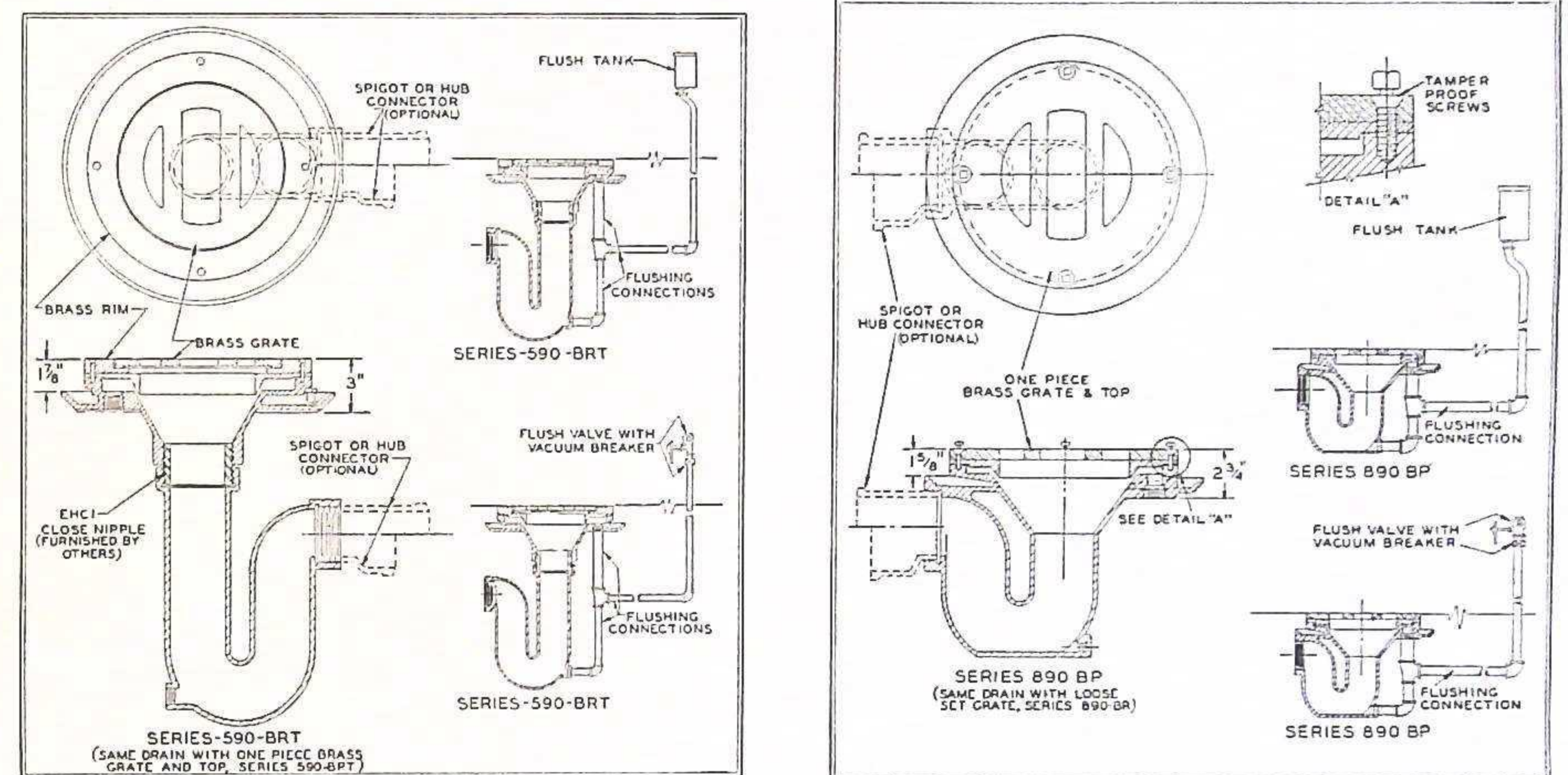
Same as Series No. 590-B except with a brass, ONE-PIECE, WIDE BAR GRATE AND FRAME secured to drain body by tamper proof screws, for Oriental Closet service. (With integral trap, Series No. 890-BP.)

*hinged or "oriental closet" grate*

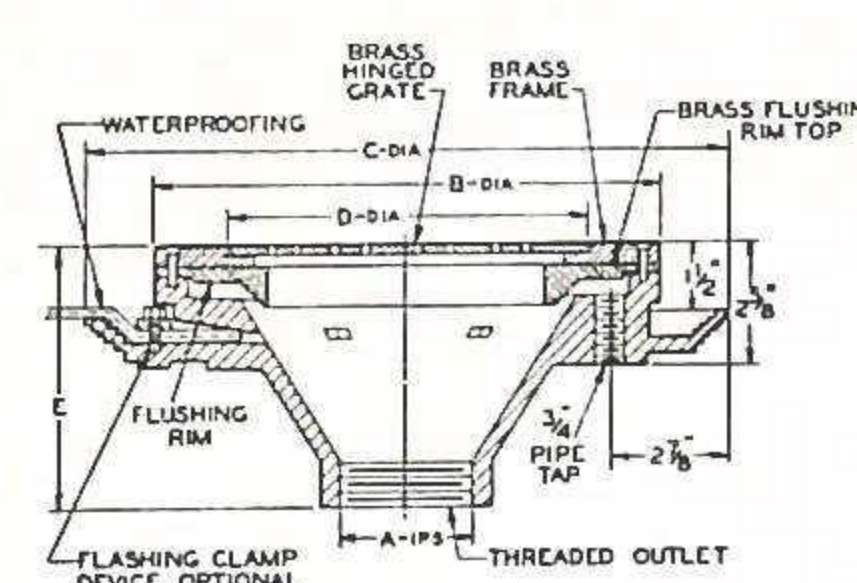
**Josam**  
**DOUBLE DRAINAGE FLOOR DRAINS**

**FLOOR DRAINS WITH "ORIENTAL CLOSET" FEATURE**

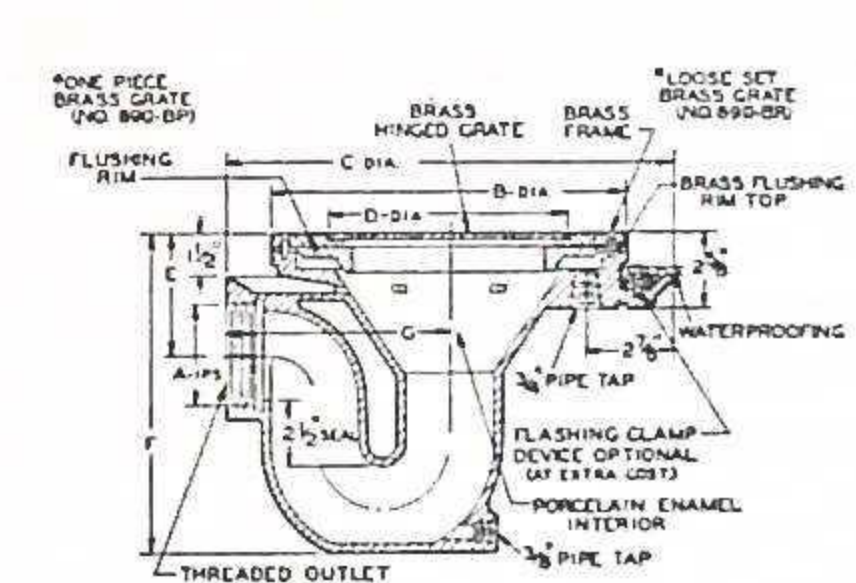
For floors in Jails, Brigs, Mental Institutions, Seclusion Rooms, Prison Wards, or similar places of confinement, it is often necessary to use a drain which must serve a dual purpose, both as a floor drain and "Oriental" water closet to pass waste and soil drainage with solids. Adaptations of Series No. 590-B serve this purpose.



The above typical diagrams show how Adaptations of Series No. 590-B and No. 890-B are installed with flushing connections from flush tank, to flushing rim and trap of drain.



**SERIES NO. 590-B**



**SERIES NO. 890-B**



Perforated hinged grate on Series No. 590-B and No. 890-B.

Loose set bar grate on Series No. 590-BR and No. 890-BR.

One piece top on Series No. 590-BP and No. 890-BP.

**DIMENSIONS IN INCHES**

SERIES NO.	TYPE NO.	OUT-LET A	TOP AND GRATE			C	E	F	G	WGT. LBS.
			B	D	FREE AREA SQ. IN.					
590-B	592-B	2	11 3/4	8	11.5	14 3/4	5 1/2			43
	593-B	3	11 3/4	8	11.5	14 3/4	5 1/2			43
	594-B	4	11 3/4	8	11.5	14 3/4	5 1/2			43
890-B	892-B	2	11 3/4	8	11.5	14 3/4	4 1/2	10 7/8	7 1/2	60
	893-B	3	11 3/4	8	11.5	14 3/4	4 1/2	10 7/8	7 1/2	60
590-BP	592-BP	2	same dimensions as Series No. 590-B							
590-BR	593-BP	3	same dimensions as Series No. 590-B							
	593-BR	3	same dimensions as Series No. 590-B							
890-BP	892-BP	2	same dimensions as Series No. 890-B							
	893-BP	3	same dimensions as Series No. 890-B							
890-BR	892-BR	2	same dimensions as Series No. 890-B							
	893-BR	3	same dimensions as Series No. 890-B							

**Josam**  
**FLOOR DRAINS**

with tractor grate and backwater valve

● **APPLICATION:** For installation in Basements, Areaways, Laundries, Storage Rooms and similar locations where backflow should be prevented, and where an auxiliary inlet is desired as a direct vent or safe waste to take drainage from drinking fountains, coolers, condensers, rinsing sinks and other fixtures.

For features to suit additional requirements, see optional features below.

**STANDARD and OPTIONAL FEATURES**

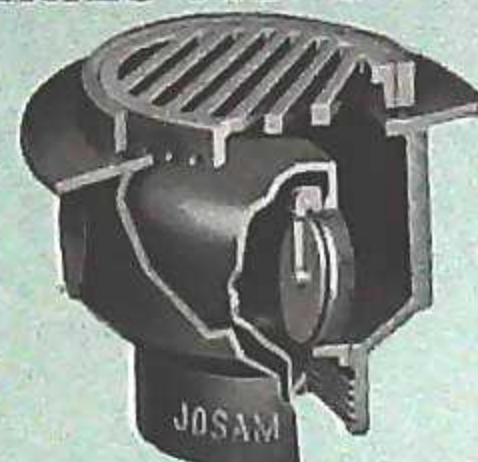
- **Body** **Standard:** Cast iron with round top, lacquer finish.  
**Optional:** Cast iron with square top; cast iron galvanized, Rezystan iron, all brass, SR steels or Everdur with round or square top, at added cost. (See ♦ — page 16).
- **Flange** **Standard:** On Series No. 680-V only, double drainage flange and weepholes drain off seepage and protect areas below. Flange also serves as an anchor for concrete construction, or for attaching waterproofing.
- **Outlet** **Standard:** Female threaded.  
**Optional:** Inside caulk at no added cost.
- **Grate** **Standard:** Cast iron, lacquer finish, deep set tractor.  
**Optional:** Cast iron galvanized, Rezystan iron, polished or chrome plated brass, white metal, SR steels or Everdur with rim to match, at added cost. (See ♦ — page 16).
- **Backwater Valve** **Standard:** Bronze, vertical swing disc and bronze pressed-in seat in cast iron housing which screws into drain head. Easily accessible through grate opening.  
**Optional:** Galvanized cast iron, Rezystan iron, SR steels or brass housing at added cost, or drain furnished without backwater valve at reduced cost.
- **Auxiliary Inlet** **Standard:** Four bosses on body, for auxiliary inlets, located 90° apart.  
**Optional:** 1, 2, 3 or 4 inlets, threaded or with hub or spigot adaptor, furnished at added cost. (Specify 1½" or 2").  
Auxiliary inlet permits installation of a direct vent or use as a safe waste to take drainage from drinking fountains, coolers, condensers and similar fixtures or equipment.
- **Sediment Bucket** **Optional:** Slotted or solid bucket, in same material as body, at added cost.
- **Flashing Clamp Device** **Optional:** On Series No. 680-V only. Ring in same material as body with non-puncturing clamps, furnished at added cost.  
Clamp device firmly secures waterproofing to drain body, providing a tight connection.
- **Trap** **Optional:** Deep Seal Trap in same material as drain body, with or without Flush Floor Cleanout, furnished at added cost. See page 116.

**DIMENSIONS IN INCHES**

SERIES NO.	TYPE NO.	OUT-LET A	TOP and GRATE		C	E *	F *	G	H	J	WGT. LBS.	
			B	D								FREE AREA SQ. IN.
670-V	673-V	3	9	8	16.7	9½	7¾	9	4¾	1½ or 2	1¾	43
	674-V	4	9	8	16.7	9½	8¼	9½	4¾	1½ or 2	1¾	43
680-V	683-V	3	9	8	16.7	12½	7¾	9	4¾	1½ or 2	1¾	48
	684-V	4	9	8	16.7	12½	8¼	9½	4¾	1½ or 2	1¾	48

\* ADD ¼" FOR BRASS TOP

**SERIES No. 680-V**



**SPECIFICATION**

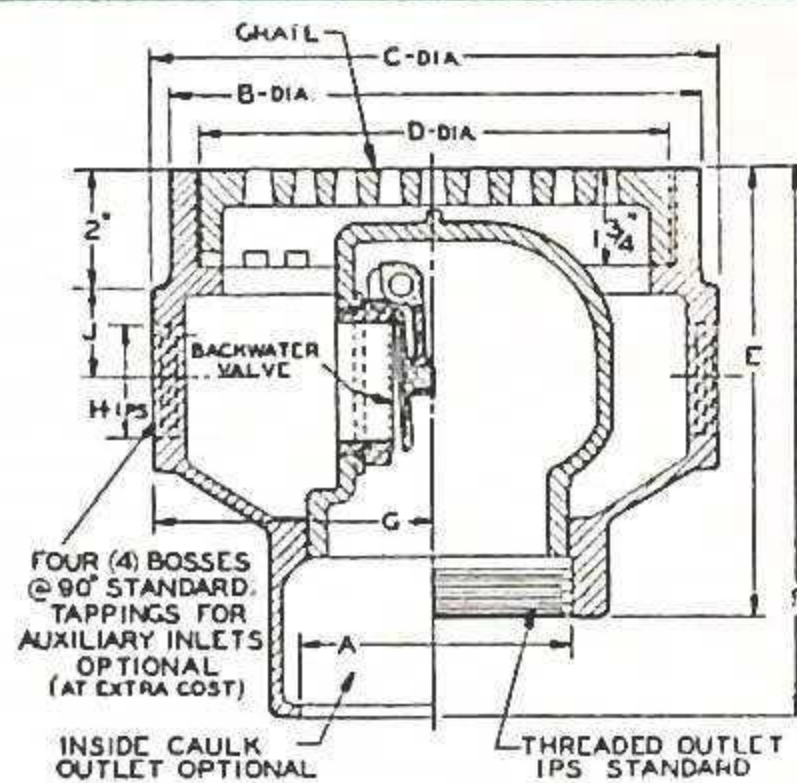
Josam Series No. 680-V cast iron floor drain with double drainage flange and weepholes, bottom outlet, deep set tractor grate, and brass, vertical swing backwater valve in drain head.

**NOTE:** Where optional materials or features are required, insert same in above specification.

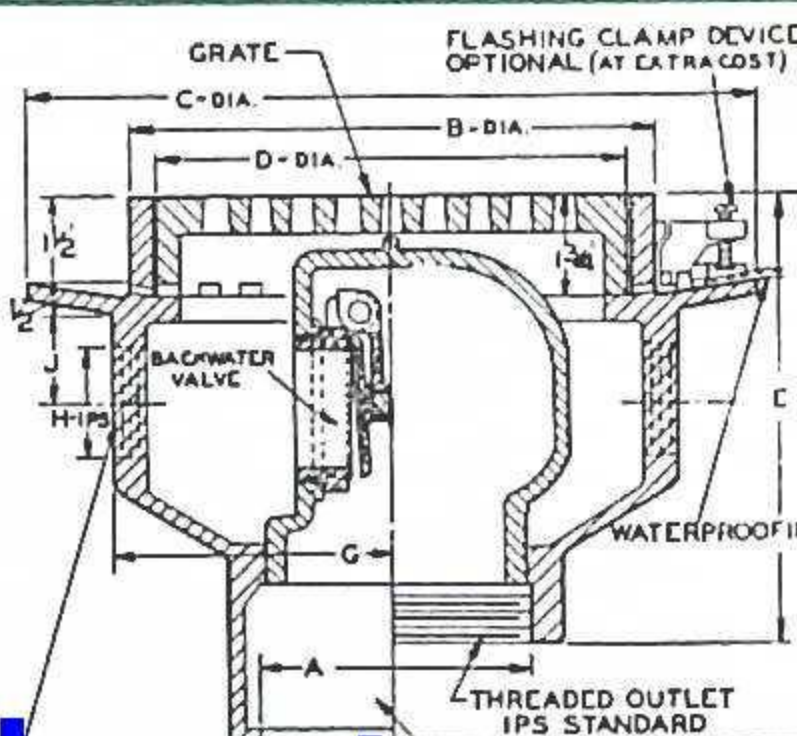


**SERIES NO. 670-V**

Same as Series No. 680-V except without double drainage flange and weepholes.



**SERIES NO. 670-V**



**SERIES NO. 680-V**

\* ADD ¼" FOR BRASS TOP

with deep seal trap, flush cleanout, backwater valve

**Josam**  
**FLOOR DRAINS**

**SERIES No. 850-V**



**SPECIFICATION**

Josam Series No. 850-V, cast iron floor drain with round top, loose set grate, threaded brass oversize flush with floor, spigot outlet and vertical swing brass backwater valve caulked into trap.

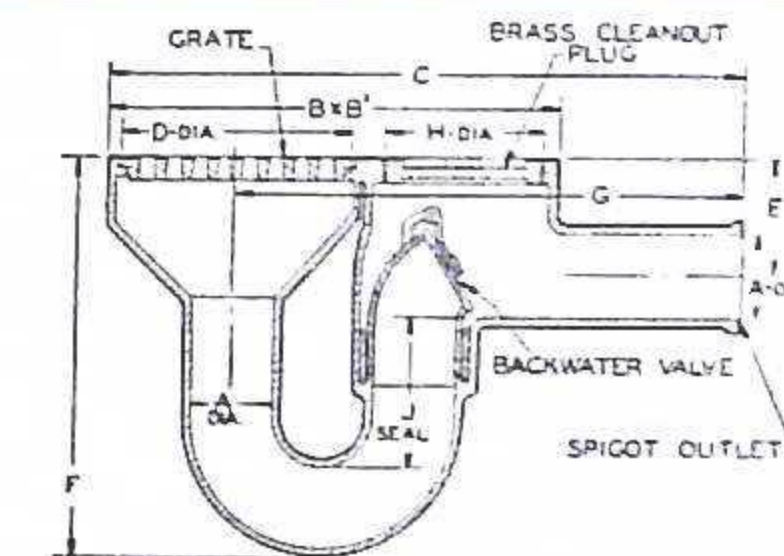
**NOTE:** The above specification covers Josam Series No. 850-V. Where optional features or materials are required, insert same in specification.



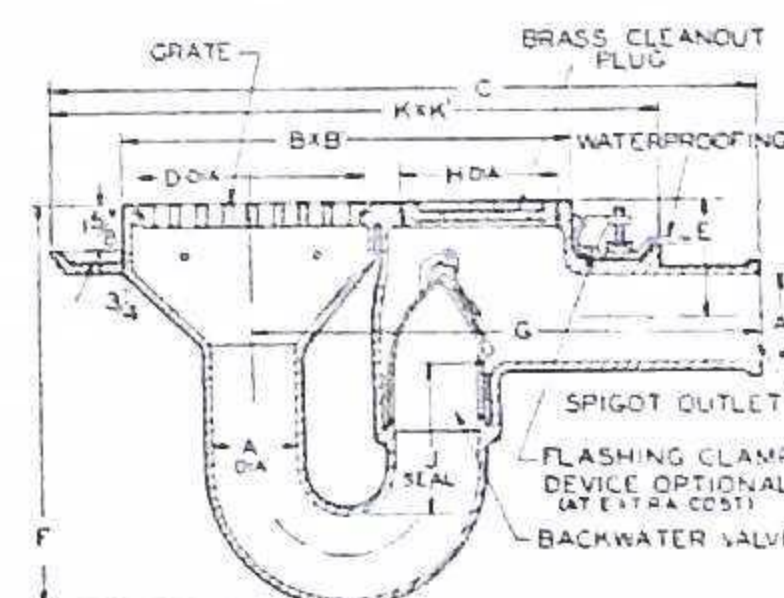
**SERIES NO. 860-V**

**SPECIFICATION**

Same as Series No. 850-V except with double drainage flange and weepholes.



**SERIES NO. 850-V**



**SERIES NO. 860-V**

● **APPLICATION:** For floors in Basements, Areaways, Storage Rooms, and similar spaces where drainage water is substantially clear and where protection is necessary against backflow from sewer. Oversized flush floor cleanout permits easy access to line from floor level.

For features to suit additional requirements, see other types on pages 44 and 45.

**STANDARD and OPTIONAL FEATURES**

- **Body** **Standard:** Cast iron lacquer finish, with integral trap.  
**Optional:** Cast iron galvanized, Rezystan iron, all brass, SR steels or Everdur at added cost. (See ♦ — page 16).
- **Flange** **Standard:** On Series No. 860-V only. Double drainage flange and weepholes drain off seepage and protect areas below. Flange also serves as an anchor for concrete construction, or for attaching waterproofing.
- **Outlet** **Standard:** Spigot.
- **Grate** **Standard:** Cast iron round, loose set, anti-tilting.  
**Optional:** Cast iron galvanized, Rezystan iron, polished or chrome plated brass, SR steels, White Metal or Everdur with rim to match at added cost. (See ♦ — page 16).
- **Cleanout** **Standard:** Removable, threaded rough brass plug 2" larger than trap size. Flush with floor to permit direct access to drain line.  
**Optional:** Polished or chrome plated brass, SR steels, White Metal or Everdur at added cost.
- **Secondary Strainer** **Optional:** Round, loose set, perforated, in same material as body, furnished at added cost.  
Intercepts debris washed through grate.
- **Backwater Valve** **Standard:** All brass housing, same diameter as outlet of drain, with brass, top hung vertical swing flap, caulked into trap. Backwater valve provides protection against backflow.  
**Optional:** Without backwater valve at reduced cost.
- **Flashing Clamp Device** **Optional:** On Series 860-V only. Ring in same material as body, with non-puncturing clamps furnished at added cost.  
Clamp device firmly secures waterproofing to drain body, providing a tight connection.
- **Sediment Bucket** **Optional:** Round, solid bucket in same material as body, furnished at added cost.

**DIMENSIONS IN INCHES**

Series No.	Type No.	Out-let A	TOP and GRATE		Free Area Sq. In.	C	E *	F *	G	H	J	K x K'	WGT LBS.
			B x B'	D									
850-V	852-V	2	14 x 9	8	17.7	20½	4¼	11¾	16½	4	4		40
	853-V	3	15 x 9	8	17.7	21¾	4	13¾	17¾	5	5		52
	854-V	4	16½ x 9	8	17.7	23¾	4½	15¾	19¾	6	5		70
860-V	862-V	2	14 x 9	8	17.7	23	4¼	11¾	16½	4	4	18¾ x 13¾	52
	863-V	3	15 x 9	8	17.7	24¼	4	13¾	17¾	5	5	19¾ x 13¾	65
	864-V	4	16½ x 9	8	17.7	26¼	4½	15¾	19¾	6	5	21¼ x 13¾	98

\* ADD ¼" FOR BRASS TOP



## FLOOR DRAINS

with internal or floor cleanout

- **APPLICATION:** For floors in Factory Areas, Storage Rooms, Basements, Area-ways, Laundries and similar locations where drainage does not carry debris, and where protection is desired against backflow from sewers or drainage lines. Clean-out permits direct access to line. Large body design permits quick drainage in breweries and laundries where foaming is a problem.

For optional features to suit additional requirements, see Adaptations of Series No. 810-V.

### STANDARD and OPTIONAL FEATURES

The features below apply to drains in this group. The illustrations show the standard features applicable to each design.

- **Body** **Standard:** Cast iron lacquer finish, integral deep seal trap, round top. (Series No. 880-V has rectangular top. Series No. 800-V, No. 800-VE and No. 900 have internal trap.)  
**Optional:** Cast iron galvanized, Rezistan iron, SR steels, all brass or Everdur, at added cost. (See ♦ — page 16).
- **Flange** **Standard:** On Series No. 880-V and No. 900 only, double drainage flange and weepholes drain off seepage and protect areas below. Flange also serves as an anchor for concrete construction or for attaching waterproofing.
- **Outlet** **Standard:** Spigot, (except Series No. 870-V, No. 880-V and No. 900, female threaded.) Spigot adaptor for threaded outlet, at added cost.
- **Grate** **Standard:** Cast iron, loose set.  
**Optional:** Cast iron galvanized, Rezistan iron, SR steels, polished or chrome plated brass, White Metal or Everdur, at added cost. (See ♦ — page 16).
- **Flashing Clamp Device** **Optional:** Series No. 880-V and No. 900. Ring in same material as body, furnished at added cost.  
Clamp device firmly secures waterproofing to drain body, providing a tight connection.
- **Cleanout** **Standard:** Threaded rough brass cleanout, internal or flush with floor, as shown in illustrations.  
**Optional:** Flush floor cleanouts can be furnished polished or chrome plated brass, SR steels, Everdur or White Metal. (See ♦ — page 16).
- **Backwater Valve** **Standard:** Removable copper ball, or brass flap type valve, as shown in illustrations.  
**Optional:** Without backwater valve, at reduced cost.
- **Closure Plug** **Optional:** On Series No. 830-V, No. 840-V, No. 870-V and No. 880-V. Brass "T" handle closure plug for use in Plenum chambers, air ducts and similar spaces requiring drainage facilities only when cleaning, and in areas subject to periodic heavy flood conditions. Easily removed to permit drainage when required.

### SERIES No. 810-V



#### SPECIFICATION

Josam Series No. 810-V, cast iron combined floor drain and integral trap with 1/2" side outlet, loose set grate, internal brass cleanout and ball type backwater valve.

**NOTE:** The above specification covers Josam Series No. 810-V. Where optional features or materials are required, select style from illustrations shown, change Series Number above, and insert optional features or materials.



#### SERIES No. 840-V SPECIFICATION

Same as Series No. 810-V except with brass FLAP TYPE BACKWATER VALVE fastened in drain throat and brass threaded CLEANOUT FLUSH WITH FLOOR.



#### SERIES No. 910-V SPECIFICATION

Same as Series No. 810-V except LIGHT WEIGHT PATTERN with ball type backwater valve.

with backwater valve



## FLOOR DRAINS

### ADAPTATIONS OF JOSAM SERIES No. 810-V

The following illustrations show the SPECIAL FEATURES of Adaptations of Series No. 810-V. Standard and Optional Features are listed on the opposite page.



#### SERIES No. 800-V SPECIFICATION

Cast iron drain with INTERNAL TRAP SEAL, submerged brass flap BACKWATER VALVE integral with trap, loose set grate fastened with screws, 1/2" spigot outlet, for installation where code permits internal seal trap.



#### SERIES No. 800-VE SPECIFICATION

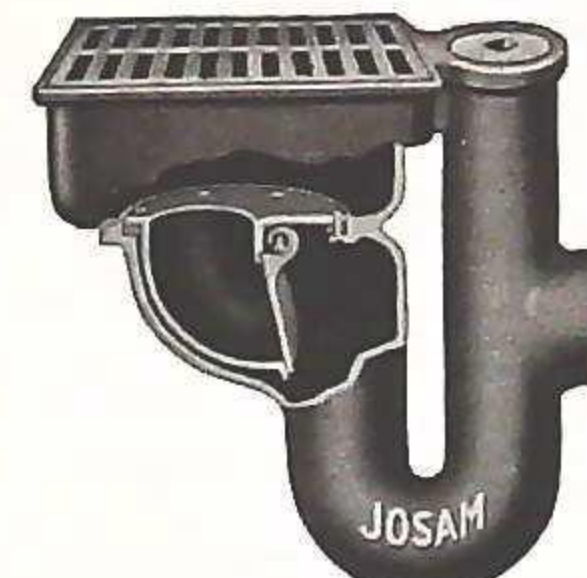
Same as Series No. 800-V except WITH EXTENSION collar to raise grate to floor level. Collar furnished with or without auxiliary inlet.



#### SERIES No. 830-V SPECIFICATION

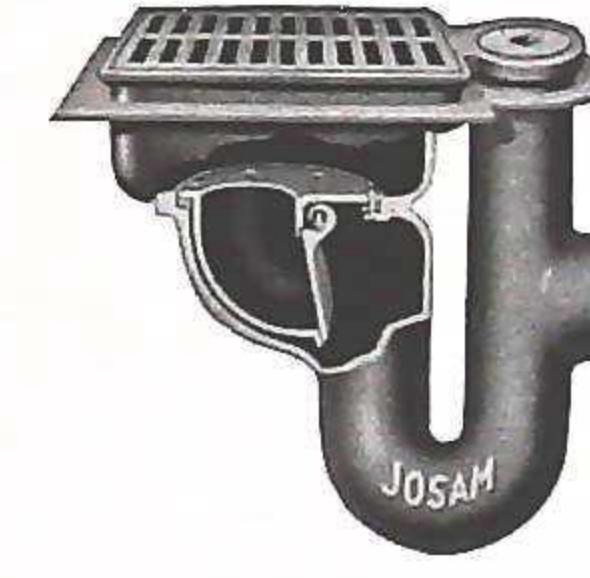
Same as Series No. 810-V except with brass FLAP TYPE BACKWATER VALVE fastened in drain throat.

Installation Diagram on page 66



#### SERIES No. 870-V SPECIFICATION

Cast iron LARGE RECTANGULAR BODY with loose set rectangular grate, brass flap type backwater valve fastened in drain throat, 1/2" female threaded outlet, brass cleanout flush with floor.



#### SERIES No. 880-V SPECIFICATION

Same as Series No. 870-V except WITH Double Drainage FLANGE and weepholes for attaching waterproofing or anchoring drain in construction.



#### SERIES No. 900 (Without Backwater Valve) SPECIFICATION

Cast iron, SINGLE WALL TRAP, internal seal pattern, extra deep body, double drainage flange and weepholes, 1/2" threaded outlet, 1 1/2" threaded brass internal cleanout.

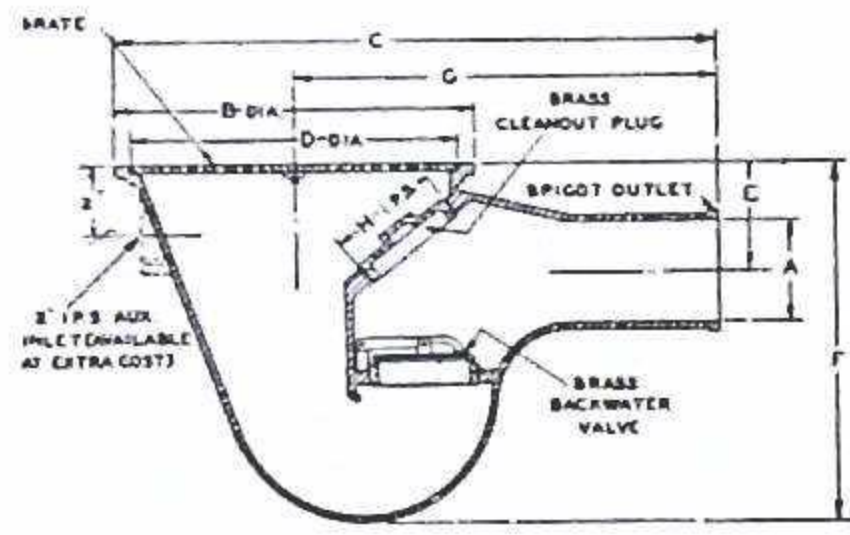
### ADDITIONAL FLOOR DRAINS WITH BACKWATER VALVES

In addition to the above, various other styles of drains with backwater valves are available where a combination drain and backwater valve is required as protection against backflow, and where an independent backwater valve cannot be installed in the line.

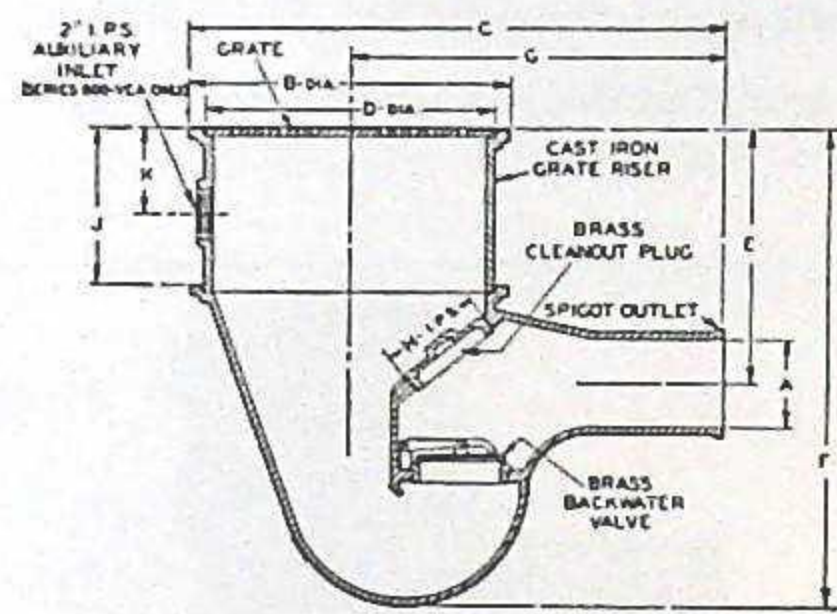
Refer to the following for additional styles.

Series No. 210-V, 220-V, 230-V	Page No. 23
Series No. 670-V, 680-V	Page No. 42
Series No. 850-V, 860-V	Page No. 43
Series No. 6040, 6050	Page No. 49
Series No. 6400, 6420	Page No. 64
Series No. 6470, 6480	Page No. 64
Series No. 6800	Page No. 56

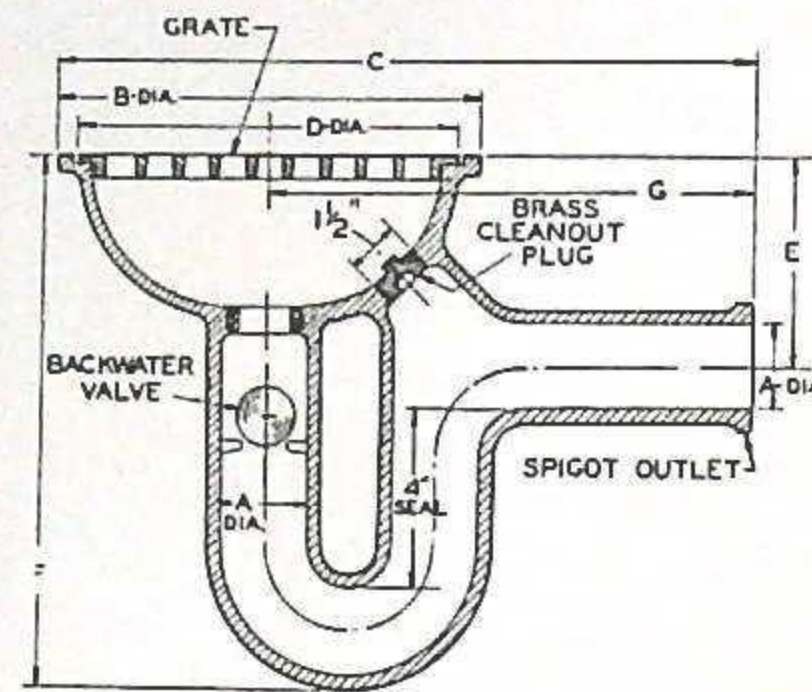
# Hy-Tech Products



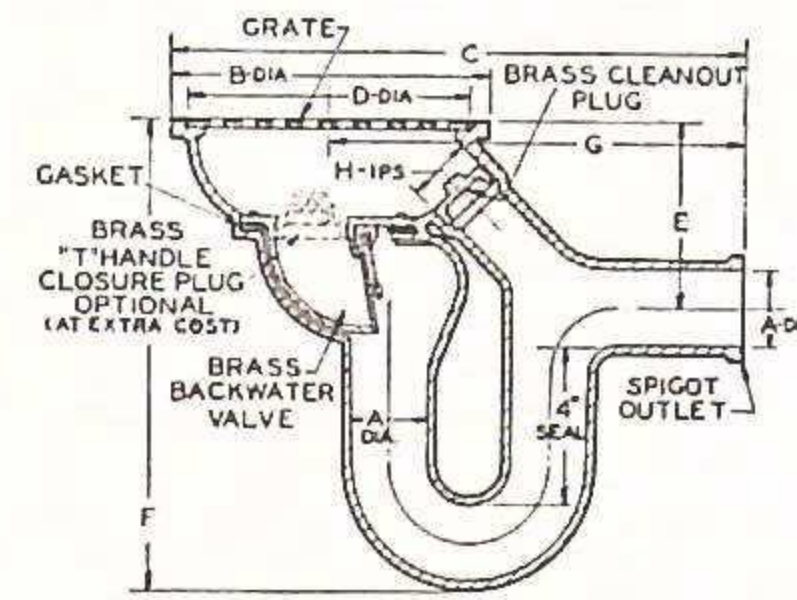
SERIES NO. 800-V



SERIES NO. 800-VE  
(NOTE: Dimensions for No. 800-VEA, on application)

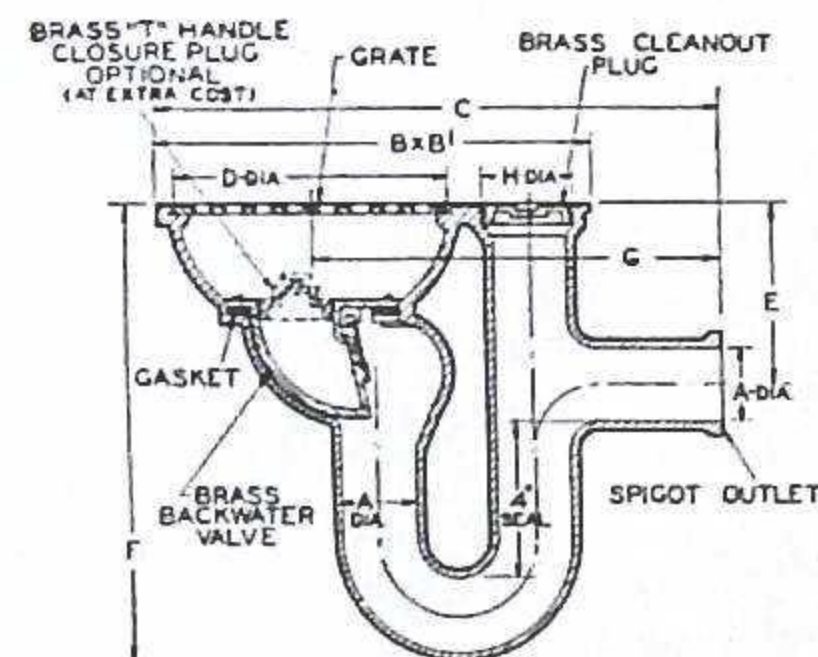


SERIES NO. 810-V

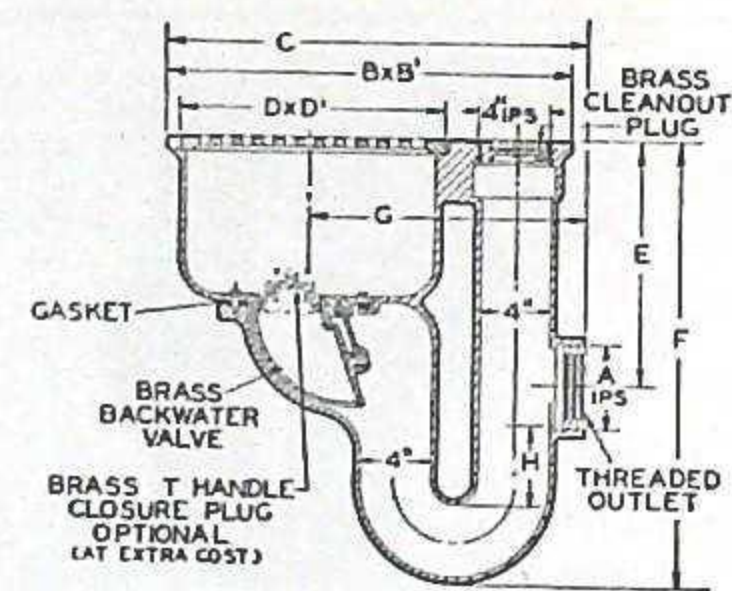


SERIES NO. 830-V

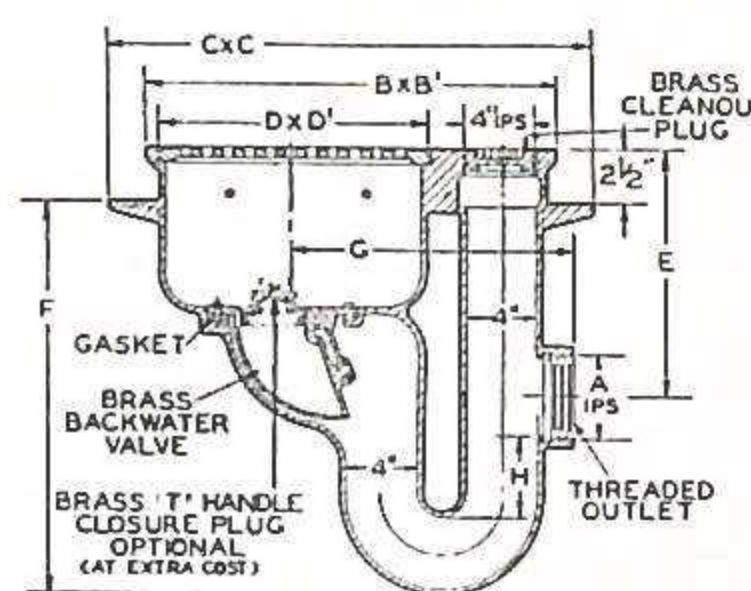
Installation Diagram on page 66



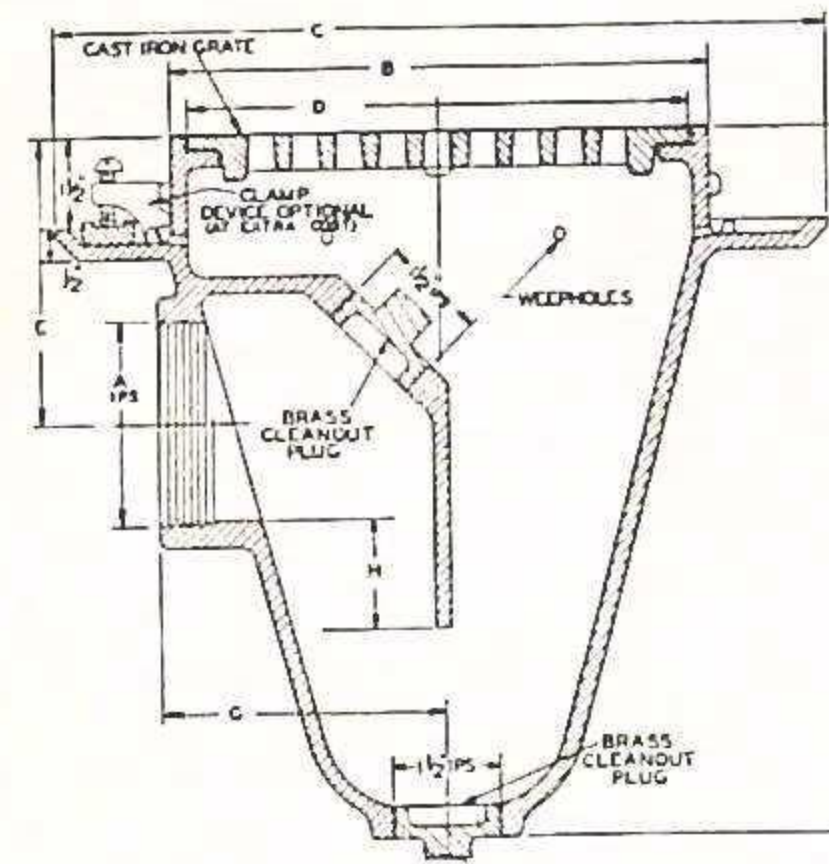
SERIES NO. 840-V



SERIES NO. 870-V

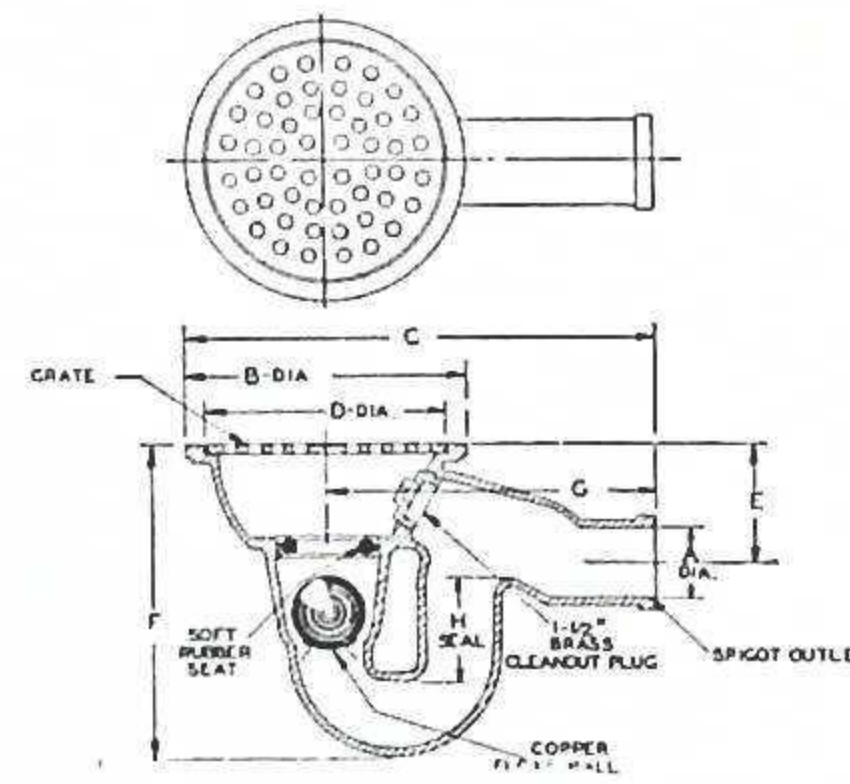


SERIES NO. 880-V



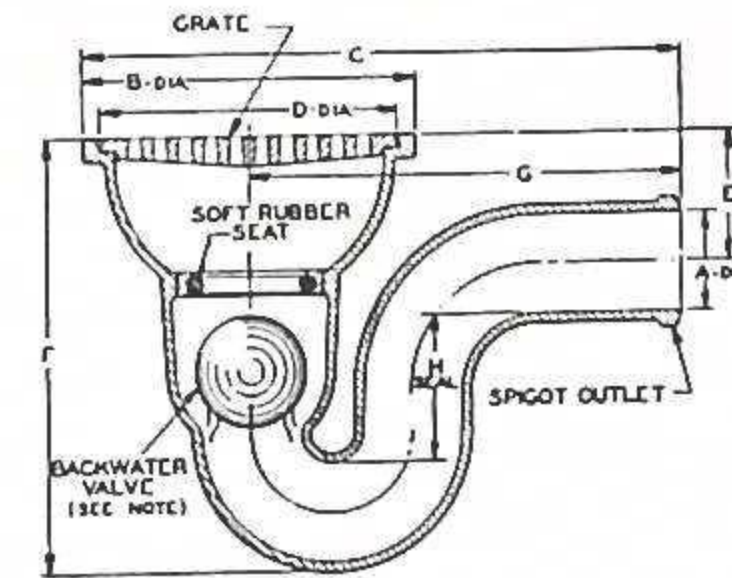
SERIES NO. 900

(Without Backwater Valve)



SERIES NO. 910-V

NOTE: 912-V, Perforated Grate  
913-V, Slotted Grate



SERIES NO. 920-V

NOTE: 922-V, Perforated Grate  
923-V, Slotted Grate

DIMENSIONS IN INCHES

SERIES NO.	TYPE NO.	OUT-LET A	TOP AND GRATE			C or CxC'	E *	F *	G	H	J	WGT. LBS.
			B or BxB'	D or DxD'	FREE AREA SQ. IN.							
800-V	802-V	2	8	7	7.2	13½	2¾	7¾	9½	2½		18
	803-V	3	13	11½	20.9	21½	4	13	15	3		41
	804-V	4	14¾	13	26.0	24¼	4¼	14	17	4		67
800-VE	802-VE	2	8	7	7.2	13½	7¼	12¼	9½	2½	4½	26
	803-VE	3	13	11½	20.9	21½	8½	17½	15	3	4½	55
	804-VE	4	14¾	13	26.0	24½	8¾	18½	17	4	4½	84
810-V	812-V	2	9	8	17.7	15	4½	11¾	10½			25
	813-V	3	10	9	18.3	18	4½	12¾	13			35
	814-V	4	12¼	11	29.4	21½	5½	15½	15			55
830-V	832-V	2	8	7½	7.8	16	4¾	11⅞	11¾	1½		23
	833-V	3	10½	9¾	8.4	21½	6½	15½	17¼	2		54
	834-V	4	12½	11½	14.4	25½	6¾	17	21¼	2		69
840-V	842-V	2	11½x8	7½	7.8	16	4¾	11⅞	11¾	2		25
	843-V	3	15x10½	9¾	8.4	21½	6½	15½	17¼	3		55
	844-V	4	18x12½	11½	14.4	25½	6¾	17	21¼	4		78
870-V	872-V	2	21x9½	14x7¾	36	21½	13¼	20	14	4		105
	873-V	3	21x9½	14x7¾	36	21½	12¾	20	14	4		105
	874-V	4	21x9½	14x7¾	36	21½	12¼	20	14	4		105
880-V	882-V	2	21x9½	14x7¾	36	25x13½	13¼	20	14	4		120
	883-V	3	21x9½	14x7¾	36	25x13½	12¾	20	14	4		120
	884-V	4	21x9½	14x7¾	36	25x13½	12¼	20	14	4		120
900	902	2	9	8½	17.7	13	4¾	11¾	4¾	2½		38
	903	3	9	8½	17.7	13	4¾	11¾	4¾	2		38
	904	4	9	8½	17.7	13	4¾	11¾	4¾	1½		38
910-V	912-V	2	7¾	7	7.8	13¾	3¼	8¾	9½	3		19
	913-V	3	10	9	18.3	18	3¾	13	13	4		35
920-V	922-V	2	7¾	7	7.8	13¾	3¾	10¾	10	4		20
	923-V	3	10	9	18.3	18	3¾	13	13	4		35

\* ADD ¼" FOR BRASS TOP

ADDITIONAL FLOOR DRAINS WITH BACKWATER VALVES

In addition to the above, various other styles of drains with backwater valves are available where a combination drain and backwater valve is required as protection against backflow, and where an independent backwater valve cannot be installed in the line.

Refer to the following for additional styles:

- Series No. 210-V, 220-V, 230-V ..... Page No. 23
- Series No. 670-V, 680-V ..... Page No. 42
- Series No. 850-V, 860-V ..... Page No. 43
- Series No. 6040, 6050 ..... Page No. 49
- Series No. 6400, 6420 ..... Page No. 64
- Series No. 6470, 6480 ..... Page No. 64
- Series No. 6800 ..... Page No. 56



## DOUBLE DRAINAGE FLOOR DRAINS

● **APPLICATION:** For installation in Boiler Rooms, Coal Bins, Ash Pits, Kitchens and similar locations where drainage carries debris or other waste which should be prevented from entering and clogging waste lines, or where debris which has a salvage or salable value can be intercepted.

For features to suit additional requirements, see variations of sediment bucket drains in this group and other types on pages 52-62.

### STANDARD and OPTIONAL FEATURES

The features below apply to drains in this group. The illustrations show the standard features applicable to each design.

- **Body** **Standard:** Cast iron lacquer finish, with round, rectangular or square top, as illustrated.  
**Optional:** Galvanized iron, Rezistan iron, all brass, SR steels or Everdur, at added cost. Round top drains can be furnished with square top, at added cost. (See ♦ — page 16).
- **Flange** **Standard:** Where shown in illustrations, double drainage flange and weepholes drain off seepage around drain and protect areas below. Flange also serves as an anchor for concrete construction, or for attaching waterproofing when used.
- **Outlet** **Standard:** Female threaded bottom, or threaded or hub side outlet, as shown in illustrations.  
**Optional:** Inside caulk bottom outlet furnished in place of threaded, at no added cost. Hub or spigot adaptor for threaded side outlet, at added cost.
- **Grate** **Standard:** Cast iron lacquer finish, as follows:  
Loose set round grate on Series Nos. 5020, 5030, 5120, 5130 and 5280. Grate on Series No. 5280 is so designed that it cannot be set in place unless the bucket is in position.  
Loose set square grate on Series No. 5060.  
Loose set rectangular, standard or tractor grate on Series Nos. 5250, 5260, 5350 and 5360.  
Hinged type rectangular grate on Series Nos. 5040, 5050, 5140, 5150 and 5160.  
**Optional:** Galvanized iron, Rezistan iron, polished or chrome plated brass, SR steels, White Metal or Everdur with rim to match, at added cost. (See ♦ — page 16).
- **Sediment Bucket** **Standard:** Removable, in same material as body, with solid, perforated or slotted bucket, in round, square or rectangular design as illustrated. Series No. 5280 has perforated sheet bronze bucket fastened to cast iron flange supported on rim of drain body.
- **Flashing Clamp Device** **Standard:** On Series Nos. 5250, 5260, 5350 and 5360. The drain body is designed in two sections, bolted together, providing an arrangement for fastening waterproofing when used.  
**Optional:** On all types with double drainage flange, ring in same material as body, with non-puncturing clamps, furnished at added cost.
- **Backwater Valve** **Optional:** On Series Nos. 6040 and 6050, all brass housing with vertical swing brass flap caulked into trap, at added cost.  
On threaded bottom outlet drains only, valve housing in same material as body can be furnished with copper ball in copper wire cage, at added cost. See page 93.
- **Trap** **Standard:** On Series Nos. 6040 and 6050, deep seal "P" trap with brass, oversize flush floor cleanout.  
**Optional:** Deep seal "P" trap in same material as drain body, with or without cleanout, and with or without backwater valve, furnished for bottom outlet drains only, at added cost. See page 116.
- **Cleanout** **Standard:** On Series Nos. 6040 and 6050. Oversize flush with floor, brass threaded cleanout is removable to permit access to drain line.

with sediment bucket

### SPECIFICATION

See "Specification" under each illustration.

Where optional features or materials are required, insert the options in the "Specification" under the illustration.



SERIES NOS. 5020, 5030

### SPECIFICATION

Josam Series No. 5020 (or No. 5030), cast iron floor drain with double drainage flange and weepholes, round top with loose set heavy duty grate, solid removable sediment bucket with lift grips, and threaded bottom outlet.

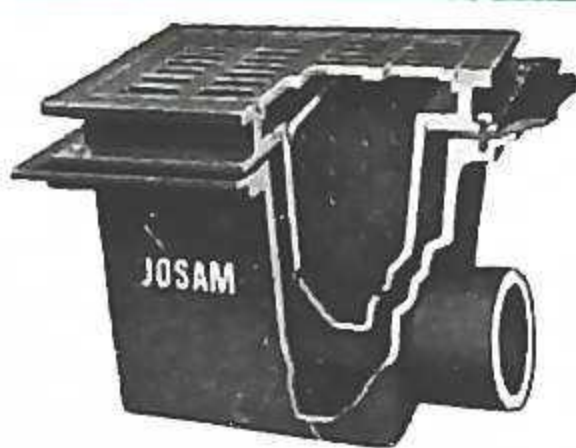


SERIES NO. 5140

### SPECIFICATION

Same as Series No. 5040 except with hub SIDE OUTLET.

(Installation Diagram on page 202)



SERIES NO. 5350

### SPECIFICATION

Same as Series No. 5250 except with hub SIDE OUTLET.

round, square, rectangular

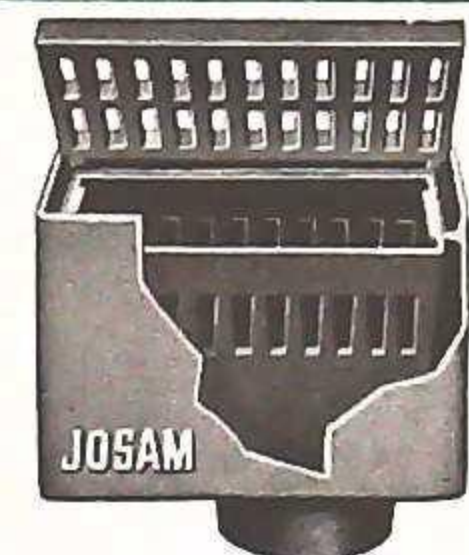


## DOUBLE DRAINAGE FLOOR DRAINS

### VARIATIONS OF SEDIMENT BUCKET DRAINS

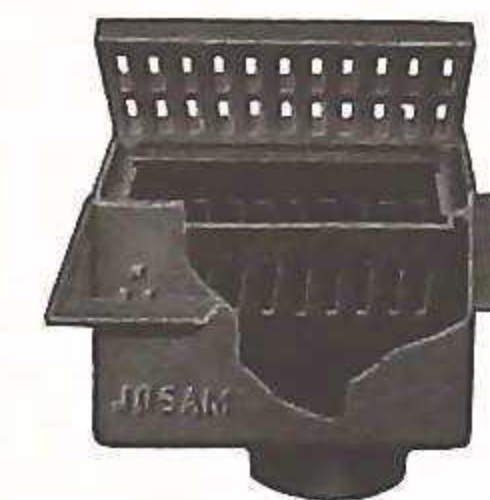
The following illustrations show special features of drains in this group. Standard and Optional features are listed on the opposite page.

Installation Diagrams on pages 202, 203



SERIES NO. 5040  
SPECIFICATION

Josam Series No. 5040, cast iron rectangular floor drain with rectangular hinged grate, threaded bottom outlet and removable slotted sediment bucket.



SERIES NO. 5050  
SPECIFICATION

Same as Series No. 5040 except WITH double drainage FLANGE and weepholes, for attaching waterproofing or anchoring in concrete construction.



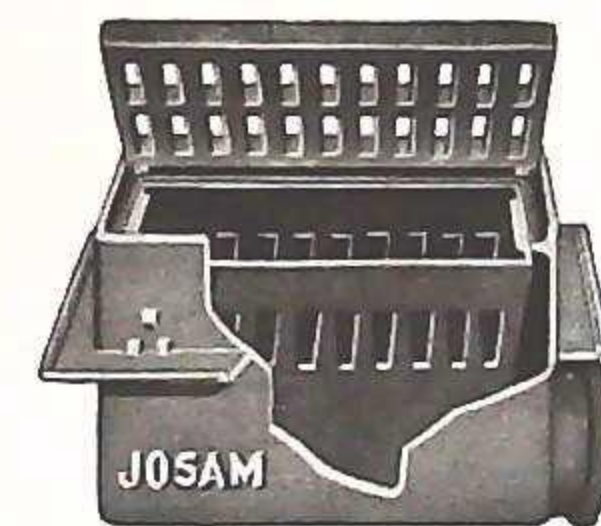
SERIES NO. 5060  
SPECIFICATION

Same as Series No. 5020 except with SQUARE BODY and grate, and WITHOUT FLANGE.



SERIES NOS. 5120, 5130  
SPECIFICATION

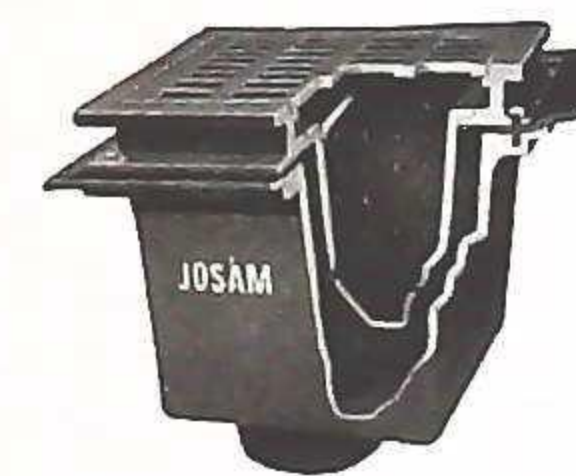
Same as Series No. 5020 and No. 5030 except with hub SIDE OUTLET.



SERIES NOS. 5150, 5160

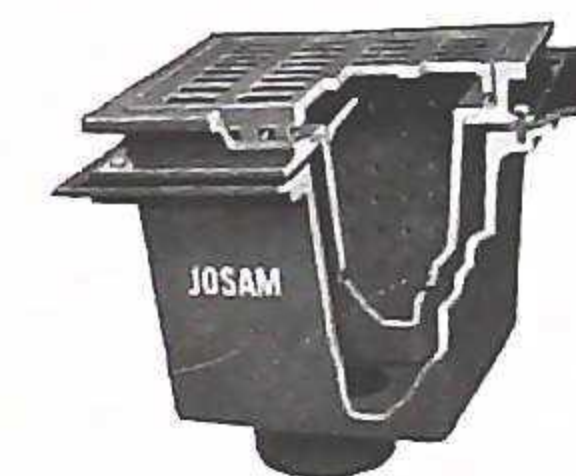
### SPECIFICATION

Same as Series No. 5040 except WITH double drainage FLANGE and hub SIDE OUTLET.



SERIES NO. 5250  
SPECIFICATION

Josam Series No. 5250, cast iron rectangular sectional floor drain with top section bolted to flange and serving as a flashing clamp device, threaded bottom outlet, heavy duty loose set grate and removable perforated sediment bucket with lifting lugs.



SERIES NO. 5260

### SPECIFICATION

Same as Series No. 5250 except with heavy duty loose set TRACTOR grate.



SERIES NO. 5280

### SPECIFICATION

Same as Series No. 5250 except with EXTRA DEEP sheet bronze sediment bucket fastened to cast iron rim so designed that grate cannot be set in place unless bucket is in position.

This drain is particularly suitable for large kitchens and other locations where refuse from potato peelers, garbage cans and similar equipment is washed into the drains and should be intercepted to prevent clogging.

### POSITIVE PROTECTION AGAINST CARELESSNESS



Grate cannot be returned to proper position, unless bucket has been set in place.

Hy-Tech Products







## FLOOR DRAINS

with sediment buckets

● **APPLICATION:** For installation in Boiler Rooms, Coal Bins, Ash Pits, Kitchens and similar locations where drainage carries debris or other waste which should be prevented from entering and clogging waste lines, or where debris which has a salvage or salable value can be intercepted.

For features to suit additional requirements, see variations of sediment bucket drains in this group, and other types on pages 48-69.

### STANDARD and OPTIONAL FEATURES

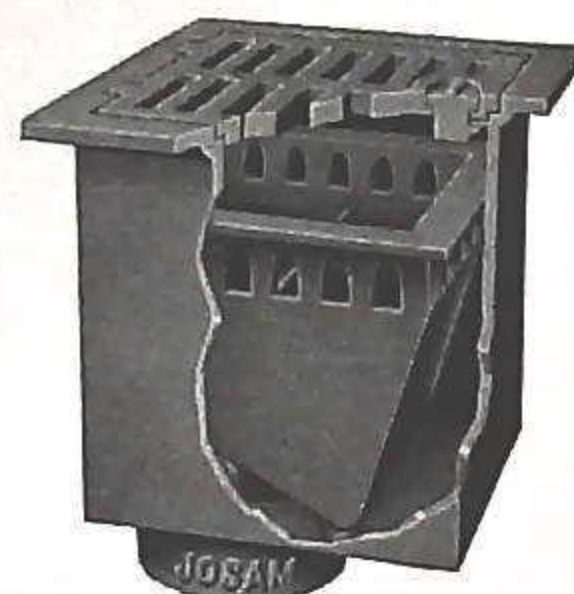
The features below apply to drains in this group. The illustrations show the standard features applicable to each design.

- **Body** **Standard:** Cast iron lacquer finish, with round, square or rectangular top as illustrated.  
Series No. 5070-B has brass rim fastened to body by screws.
- **Flange** **Standard:** On Series Nos. 5090, 5190, 6120 and 6190, double drainage flange and weepholes drain off seepage and protect areas below. Flange also serves as an anchor for concrete construction or for attaching waterproofing.  
Series Nos. 5230, 5240, 5330 and 5340 are designed in two sections, bolted together to provide an arrangement for fastening waterproofing when used.
- **Outlet** **Standard:** Inside caulk or female threaded bottom outlet or hub side outlet as shown in illustrations.
- **Grate** **Standard:** Cast iron lacquer finish (except Series No. 5070-B), as follows:  
Square, locking grate on Series Nos. 5080, 5090, 5180, 5190, 5230, 5240, 5330, 5340.  
Square, loose set grate on Series No. 6190.  
Rectangular, hinged grate on Series Nos. 6100, 6110 and 6120.  
Brass, loose set round grate in brass frame, on Series No. 5070-B.  
**Optional:** Galvanized iron, Rezistan iron, polished or chrome plated brass, SR steels, White Metal or Everdur with rim to match, at added cost. (See — page 16).
- **Sediment Bucket** **Standard:** Series No. 5070-B, round, perforated #16 U.S.S. Ga. steel with lift handle. All other types in same material as drain body, square or rectangular, slotted or perforated, as illustrated.
- **Flashing Clamp Device** **Standard:** On Series Nos. 5230, 5240, 5330, 5340, body designed in two sections, bolted together, providing an arrangement for fastening waterproofing.  
**Optional:** On Series Nos. 5090 and 5190, ring in same material as body, bolted to flange at added cost. Ring with non-puncturing clamps, on Series No. 6120, at added cost.
- **Trap** **Standard:** On Series Nos. 6100, 6110, 6120 and 6190. Internal trap seal permits use in shallow construction where internal trap is permitted by code.  
**Optional:** Deep seal "P" trap in same material as drain body, with or without cleanout, and with or without back-water valve, furnished for bottom outlet drains only, at added cost. See page 116.
- **Cleanout** **Standard:** Cast iron, bolted flush with floor cleanout on Series No. 6190.  
Internal, threaded brass cleanout with square head on Series Nos. 6100, 6110 and 6120.  
Cast iron removable to permit direct access to drain lines.

### SPECIFICATION

See "Specification" under each illustration.

Where optional features or materials are required, insert the options in the "Specification" under the illustration.



SERIES NO. 5080

#### SPECIFICATION

Josam Series No. 5080, cast iron square floor drain with 1/2" bottom inside caulk outlet, heavy duty hinged grate with locking device, and removable slotted sediment bucket.

loose set or locked grate

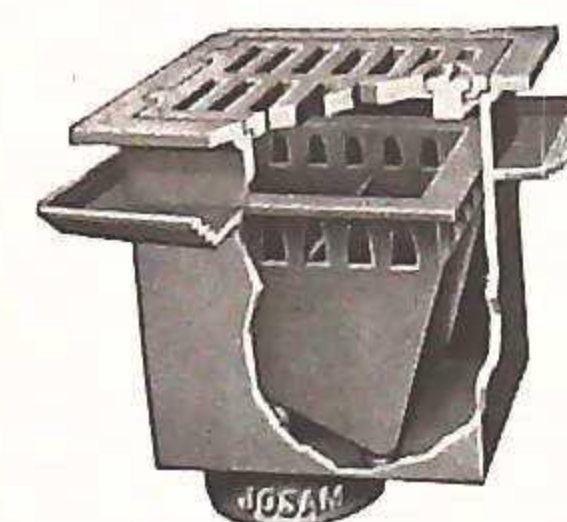


## FLOOR DRAINS

### VARIATIONS OF SEDIMENT BUCKET DRAINS

The following illustrations show the SPECIAL FEATURES of drains in this group. Standard and Optional Features are listed on the opposite page.

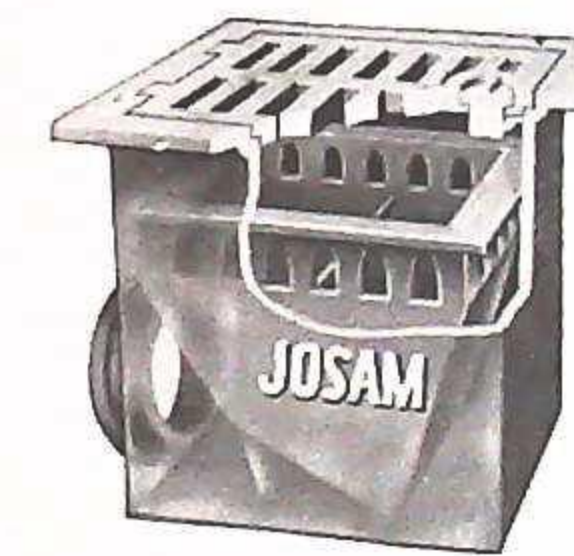
Installation Diagrams on page 202



SERIES NO. 5090

#### SPECIFICATION

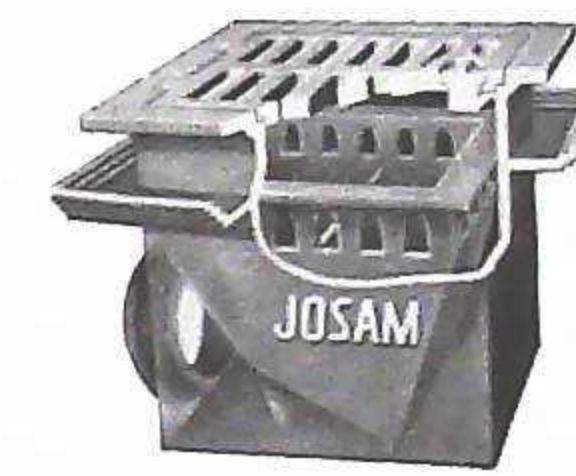
Same as Series No. 5080 except with double drainage FLANGE and weepholes. Bolted clamping device is optional.



SERIES NO. 5180

#### SPECIFICATION

Same as Series No. 5080 except with hub SIDE OUTLET.



SERIES NO. 5190

#### SPECIFICATION

Same as Series No. 5080 except with double drainage FLANGE and weepholes, and hub SIDE OUTLET.



SERIES NOS. 5230, 5240

#### SPECIFICATION

Josam Series No. 5230 (or 5240), cast iron, square sectional floor drain with bolted top section serving as a flashing clamp device, 1/2" bottom inside caulk outlet, heavy duty locking type grate and removable slotted sediment bucket.



SERIES NOS. 5330, 5340

#### SPECIFICATION

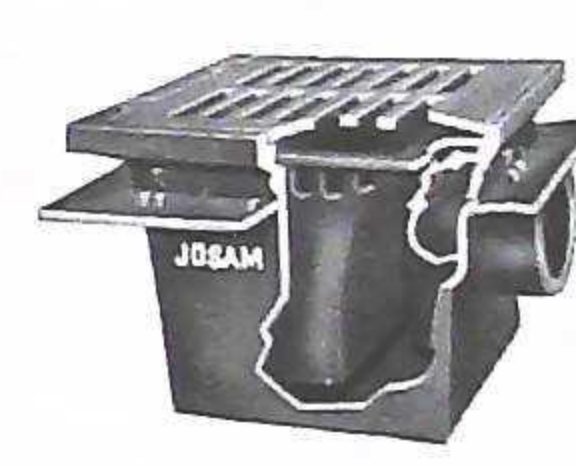
Same as Series Nos. 5230 and 5240 except without SIDE OUTLET.



SERIES NOS. 6100, 6110

#### SPECIFICATION

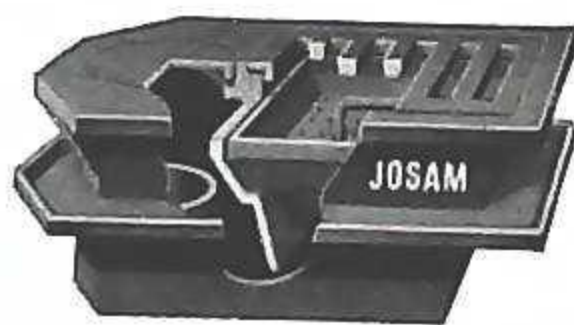
Josam Series No. 6100 (or 6110), cast iron rectangular floor drain with internal trap seal, 1/2" hub side outlet, threaded brass internal cleanout, heavy duty hinged grate and removable slotted sediment bucket.



SERIES NOS. 6120, 6130

#### SPECIFICATION

Same as Series No. 6100 except with double drainage FLANGE and weepholes.



SERIES NO. 6190

#### SPECIFICATION

Josam Series No. 6190, cast iron, rectangular floor drain with internal trap seal, double drainage flange, 1/2" bottom inside caulk outlet, bolted, flush with floor cleanout, heavy duty loose set grate and removable slotted sediment bucket.

### FLOOR DRAIN WITH AUXILIARY DRAINAGE COLLAR

#### SPECIFICATION

Josam Series No. 5070-B, cast iron round body, brass rim fastened to perforated steel auxiliary drainage collar, loose set brass grate, 1/2" threaded bottom outlet and perforated steel sediment bucket.



SERIES NO. 5070-B

This drain is particularly adaptable in swimming pool promenades where drainage system and mechanical equipment must be protected from clogging by debris. Drainage is maintained while bucket is being emptied.

Grate and collar can be raised above floor level to provide auxiliary drainage through perforated collar when bucket is filled with debris. Grate is then removed to provide access to bucket. Collar is held in raised position until bucket is emptied, and then lowered to normal drainage position.

# Hy-Tech Products



FLOOR DRAINS

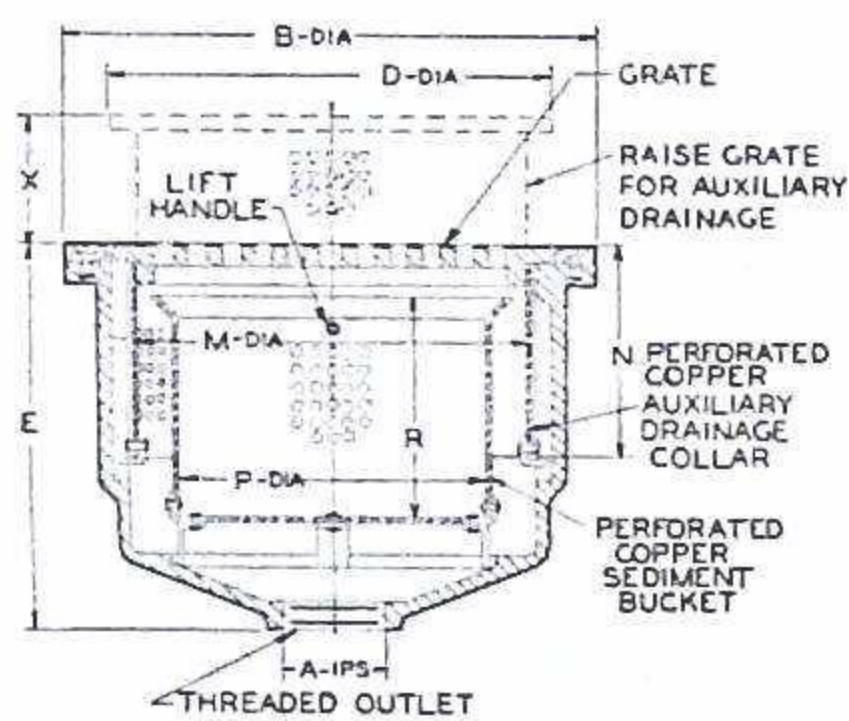
with sediment buckets

(Illustrations on pages 52, 53)

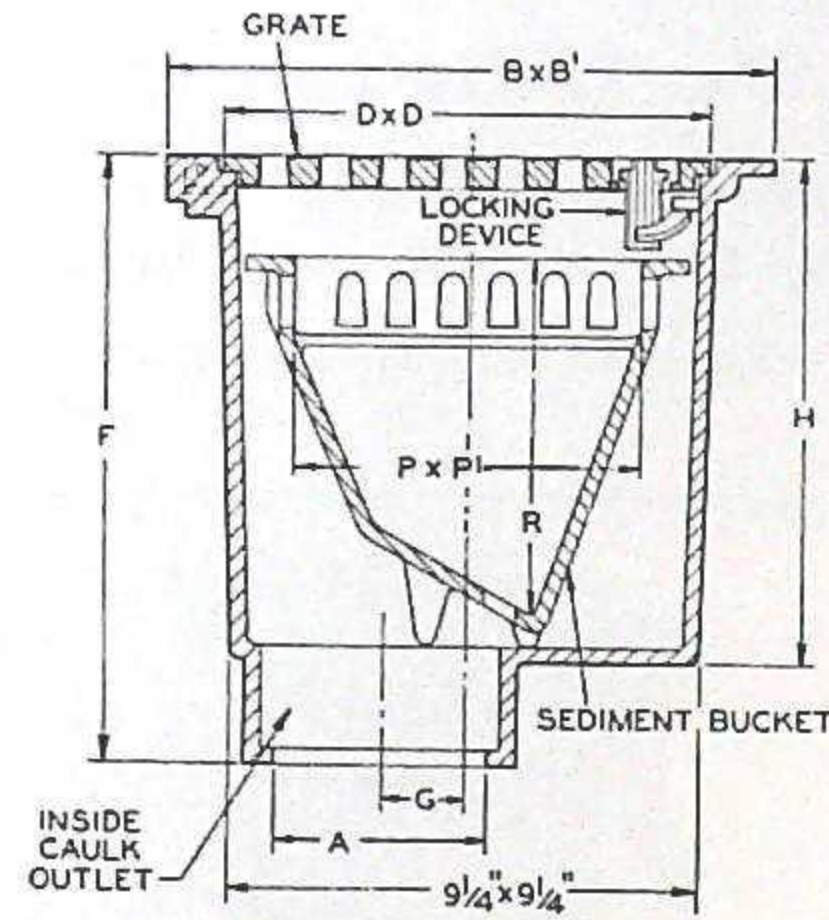
details and dimensions



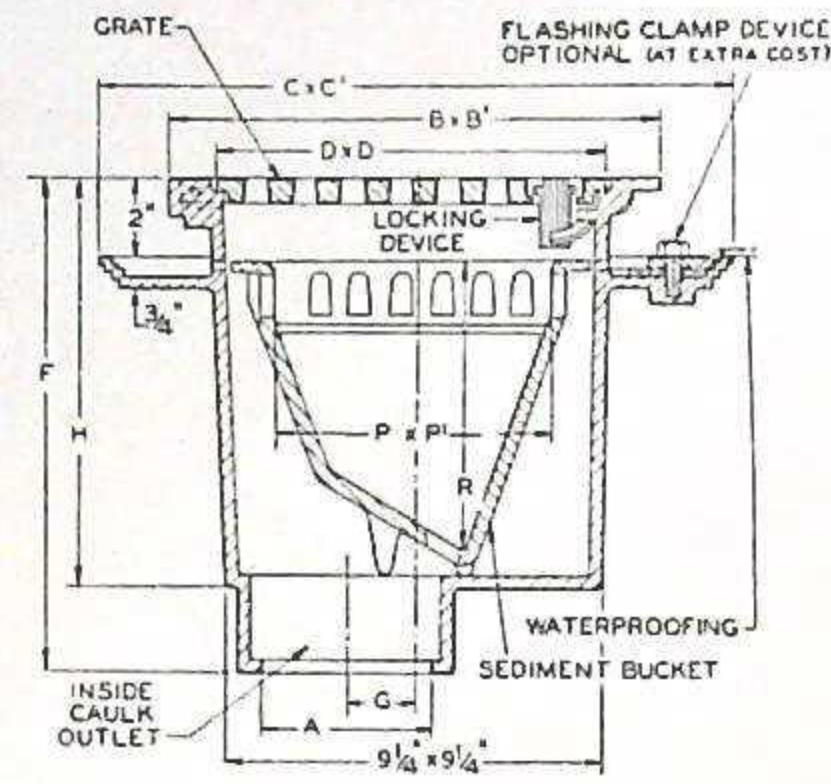
FLOOR DRAINS



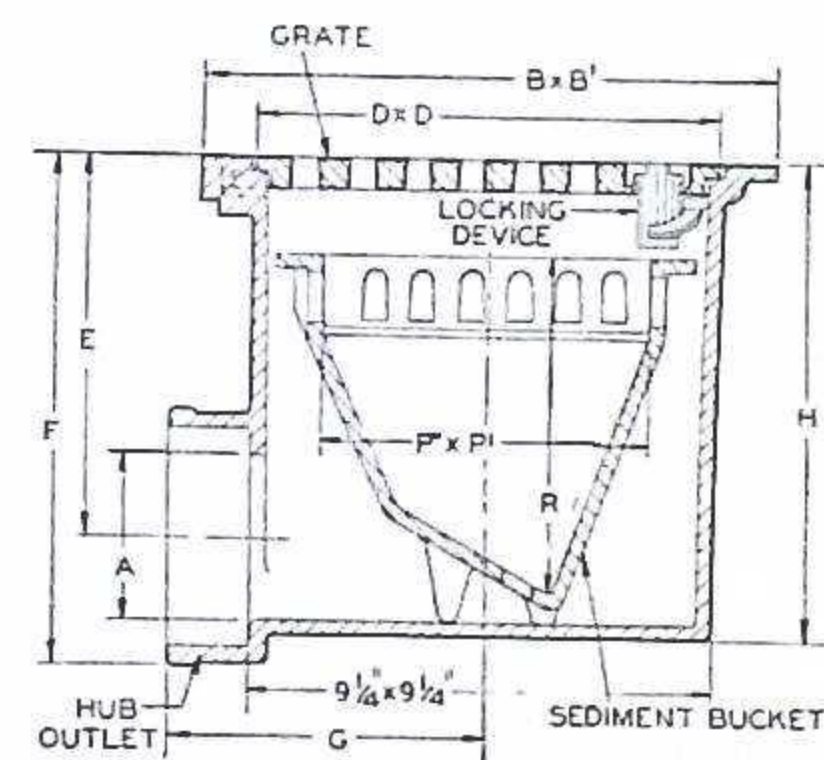
SERIES NO. 5070-B



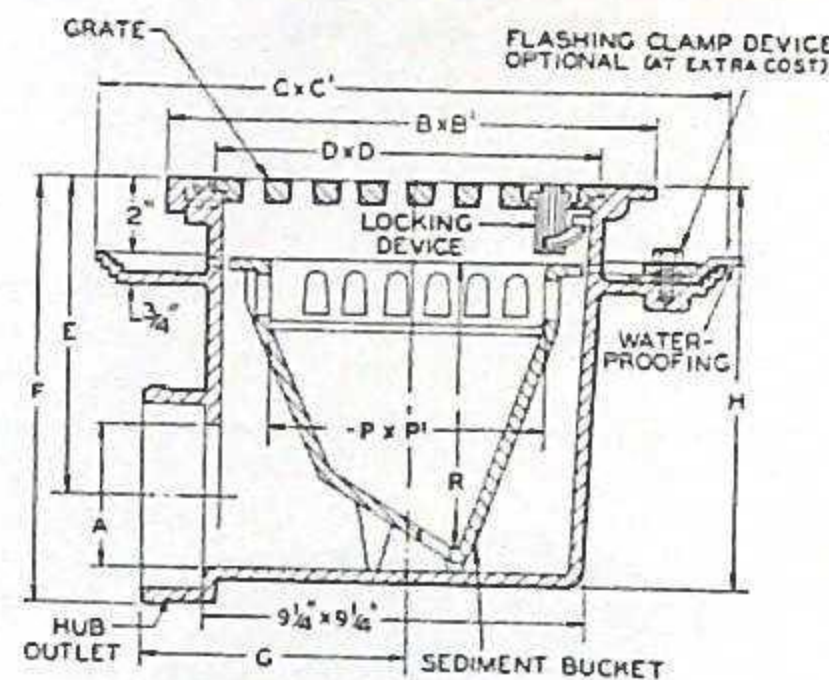
SERIES NO. 5080



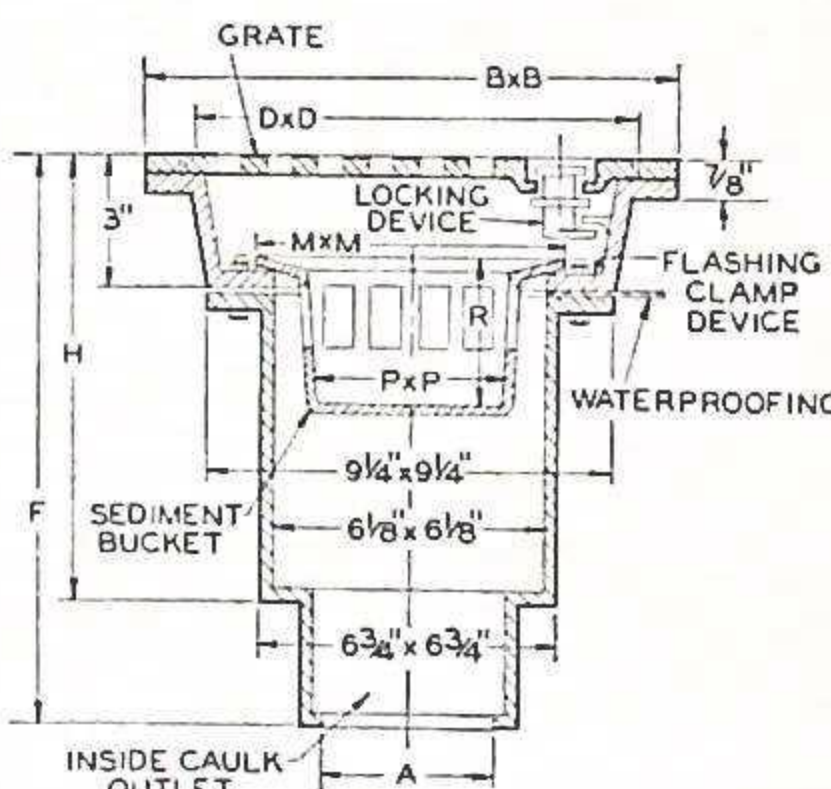
SERIES NO. 5090



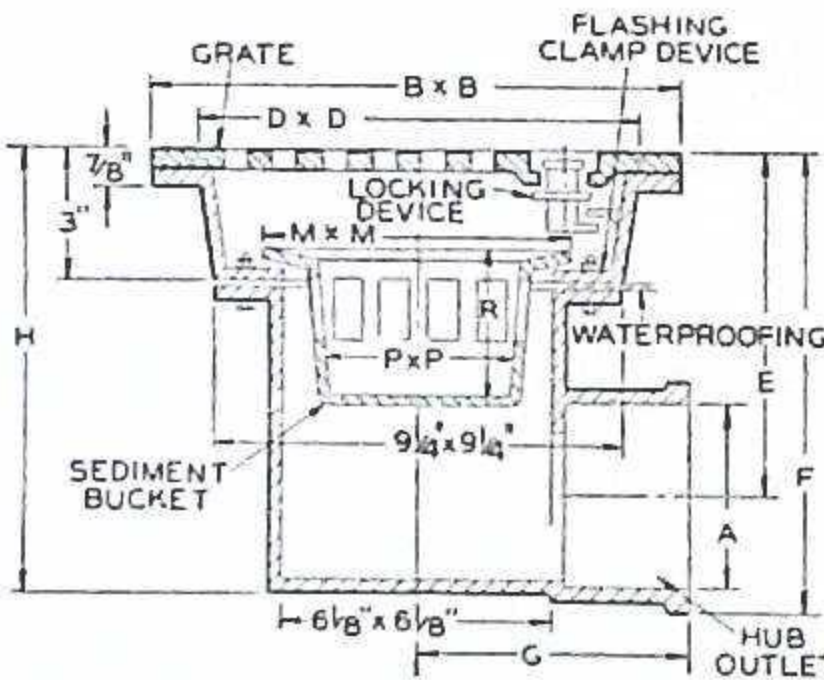
SERIES NO. 5180



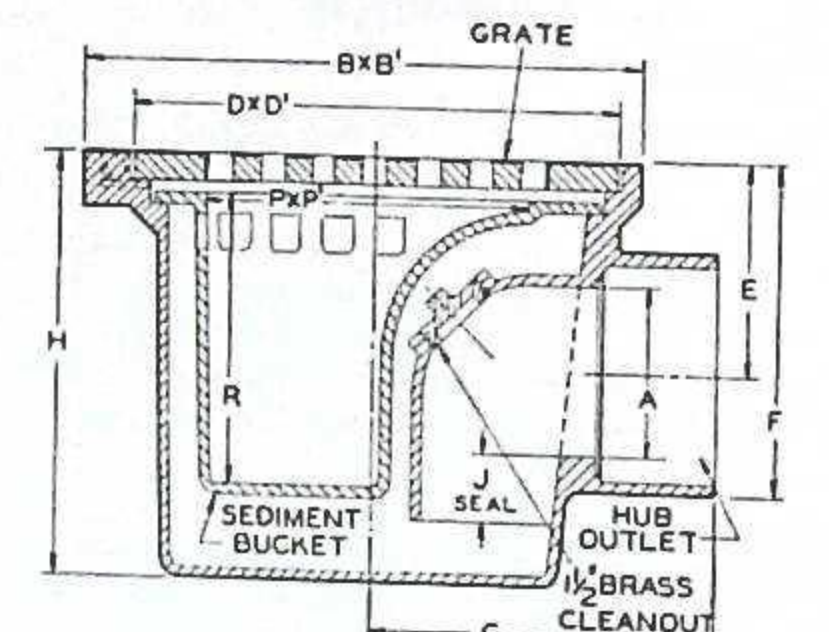
SERIES NO. 5190



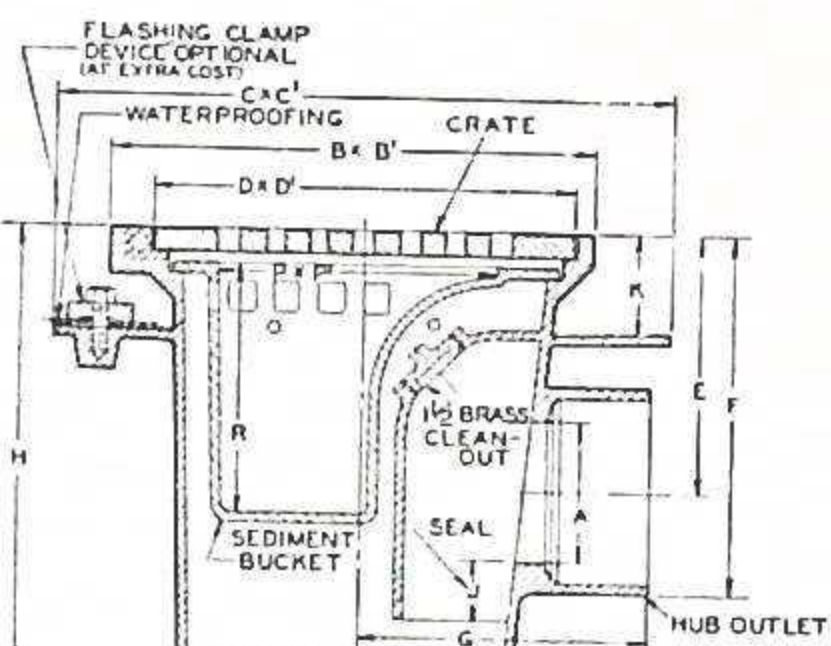
SERIES NOS. 5230, 5240



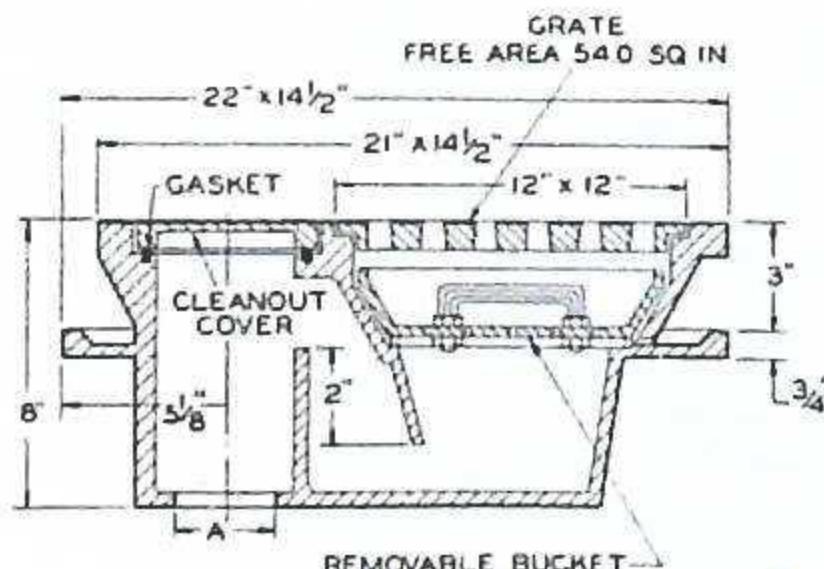
SERIES NOS. 5330, 5340



SERIES NOS. 6100, 6110



SERIES NO. 6120, 6130



SERIES NO. 180

OTHER TYPES OF FLOOR DRAINS WITH SEDIMENT BUCKETS

In addition to the above, various other styles of drains with sediment buckets are available for protection against clogging of lines. For complete information, refer to the following:

- Series No. 3720 and No. 3740 Page 64
Series No. 5020 to No. 6050 Page 48
Series No. 5400 to No. 5580 Page 59
Series No. 6400 to No. 6480 Page 64

DIMENSIONS IN INCHES

Table with columns: SERIES NO., TYPE NO., OUTLET, TOP AND GRATE (B, D, FREE AREA), E, ADJUSTMENT X, AUXILIARY COLLAR (M, N, FREE AREA), SEDIMENT BUCKET (P, R, FREE AREA), WGT. LBS.

Large table with columns: SERIES NO., TYPE NO., OUTLET, TOP AND GRATE (B or BxB', D or Dx D', FREE AREA), CxC', E, F, G, H, J, SEDIMENT BUCKET (M, P or Px P', R, FREE AREA), WGT. LBS.

\* ADD 1/4" FOR BRASS TOP



## FLOOR DRAINS

● **APPLICATION:** For the interception of oils, gasoline and other volatile liquids. In Garages, Service Stations, Cleaning and Dyeing Establishments, Airports, Transportation Buildings and similar locations where drainage carries volatile wastes which should be prevented from entering lines and causing fires, explosions and water pollution.

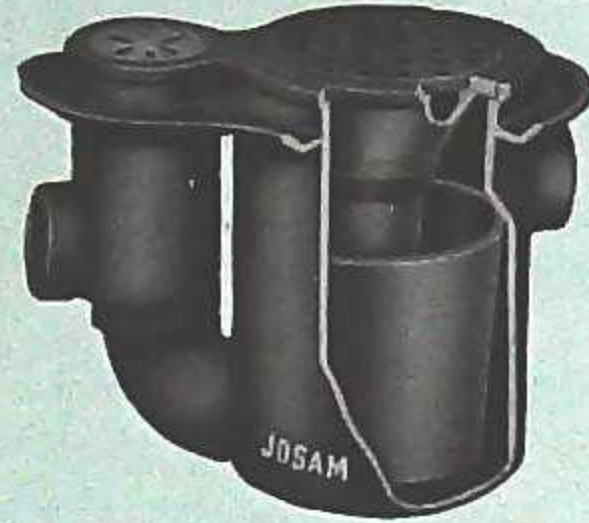
For features to suit additional requirements, see variations of sediment bucket drains in this group, and other types on pages 48-54 and 59-64.

### STANDARD and OPTIONAL FEATURES

- **Body** **Standard:** Cast iron lacquer finish, round top, anchor flange and with or without integral deep seal trap.  
**Optional:** Galvanized iron, Rezistan iron, brass, SR steels or Everdur, at added cost. (See ♦ — page 16).
- **Outlet** **Standard:** 4" hub, side.
- **Grate** **Standard:** Cast iron lacquer finish, round, loose set.  
**Optional:** Galvanized iron, Rezistan iron, polished or chrome plated brass, SR steels, White Metal or Everdur with rim to match, at added cost. (See ♦ page 16).
- **Sediment Bucket** **Standard:** Same material as drain body, round, solid bucket with lift bar. Bucket catches sediment and debris passing through grate and protects drain line from clogging.
- **Flashing Clamp Device** **Optional:** Flashing clamp ring in same material as body, with non-puncturing clamps, furnished at added cost.  
Clamp device firmly secures waterproofing to drain body, providing a tight connection.
- **Backwater Valve** **Optional:** On Series No. 6800 only. All brass housing with vertical swing brass flap caulked into trap, at added cost.  
Backwater valve provides protection against backflow in locations where an independent backwater valve cannot be installed in the line.
- **Trap** **Standard:** On Series No. 6800, integral deep seal "P" trap in same material as drain body, with threaded brass, flush floor cleanout.
- **Cleanout** **Standard:** On Series No. 6800, threaded brass, flush with floor, oversize cleanout.  
Cleanout is removable to permit easy access to drain line.
- **Auxiliary Vent** **Standard:** 4" hub auxiliary vent connection. Provides intermediate vent to relieve double trapping.
- **Internal Seal** **Standard:** Cast iron removable seal, funnel shaped, with round top and integral recessed rim into which grate sets.  
Funnel acts as an internal trap to seal off obnoxious odors and gases. Grate cannot be returned to drain body unless funnel seal is in place.
- **Solids Retainer** **Optional:** Same material as body, round, perforated, attached to funnel and bucket, at added cost.  
Retainer prevents floating solids escaping from bucket and clogging drain line.

for intercepting volatile liquids

### SERIES No. 6800



#### SPECIFICATION

Josam Series No. 6800, cast iron, extra deep floor drain, with anchor flange, 4" hub side outlet and auxiliary vent, removable solid sediment bucket, funnel shaped internal seal with integral recessed rim fitted with loose set heavy duty grate, integral deep seal "P" trap and oversize, flush floor, threaded brass cleanout. Grate cannot be set in place unless seal is in position.

**NOTE:** Where optional features or materials are required, insert same in the above specification.



SERIES NO. 5800

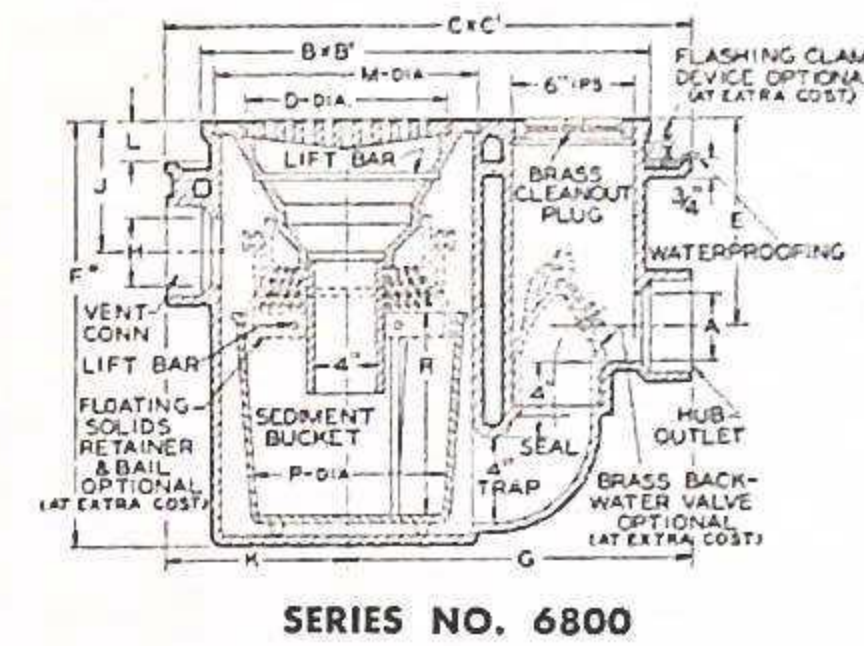
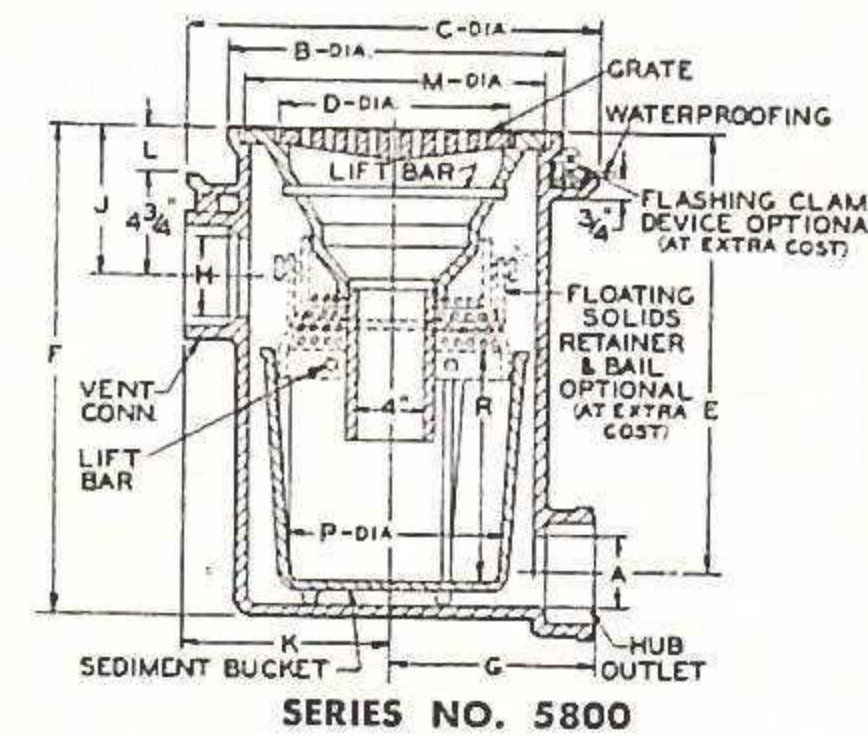
#### SPECIFICATION

Same as Series No. 6800 except WITH-OUT integral deep seal "P" TRAP and brass cleanout.

with gas seal and sediment bucket



## FLOOR DRAINS



### NOTE

Type Nos. 5804 and 5824, less vent, but with auxiliary drainage holes in funnel rim for venting oil fumes, suitable for slab thickness up to 12".

Series No. 6800 less vent, but with auxiliary drainage holes in funnel rim for venting oil fumes, suitable for slab thickness 2" greater than indicated in dimension table.

### DIMENSIONS IN INCHES

SERIES NO.	TYPE NO.	SLAB THICK.	OUT-LET A	TOP AND GRATE				C or CxC'	E	F	G	H	J	K	L	SEDIMENT BUCKET				WGT. LBS.
				B or BxB'	D	FREE AREA SQ. IN.	M									P	R			
5800	5804	4	4	16	10 <sup>3</sup> / <sub>4</sub>	21.4	21	19 <sup>3</sup> / <sub>4</sub>	22	10	4	6 <sup>3</sup> / <sub>4</sub>	10 <sup>1</sup> / <sub>2</sub>	2	14	11	10 <sup>3</sup> / <sub>4</sub>	253		
	5806	6	4	16	10 <sup>3</sup> / <sub>4</sub>	21.4	21	21 <sup>3</sup> / <sub>4</sub>	24	10	4	8 <sup>3</sup> / <sub>4</sub>	10 <sup>1</sup> / <sub>2</sub>	4	14	11	10 <sup>3</sup> / <sub>4</sub>	258		
	5808	8	4	16	10 <sup>3</sup> / <sub>4</sub>	21.4	21	23 <sup>3</sup> / <sub>4</sub>	26	10	4	10 <sup>3</sup> / <sub>4</sub>	10 <sup>1</sup> / <sub>2</sub>	6	14	11	10 <sup>3</sup> / <sub>4</sub>	263		
	5812	12	4	16	10 <sup>3</sup> / <sub>4</sub>	21.4	21	27 <sup>3</sup> / <sub>4</sub>	30	10	4	14 <sup>3</sup> / <sub>4</sub>	10 <sup>1</sup> / <sub>2</sub>	10	14	11	10 <sup>3</sup> / <sub>4</sub>	268		
	5824	4	4	21	14	50.6	27	19 <sup>3</sup> / <sub>4</sub>	22	12 <sup>1</sup> / <sub>2</sub>	4	6 <sup>3</sup> / <sub>4</sub>	13	2	18	14	10 <sup>3</sup> / <sub>4</sub>	350		
	5826	6	4	21	14	50.6	27	21 <sup>3</sup> / <sub>4</sub>	24	12 <sup>1</sup> / <sub>2</sub>	4	8 <sup>3</sup> / <sub>4</sub>	13	4	18	14	10 <sup>3</sup> / <sub>4</sub>	356		
	5828	8	4	21	14	50.6	27	23 <sup>3</sup> / <sub>4</sub>	26	12 <sup>1</sup> / <sub>2</sub>	4	10 <sup>3</sup> / <sub>4</sub>	13	6	18	14	10 <sup>3</sup> / <sub>4</sub>	362		
6800	5832	12	4	21	14	50.6	27	27 <sup>3</sup> / <sub>4</sub>	30	12 <sup>1</sup> / <sub>2</sub>	4	14 <sup>3</sup> / <sub>4</sub>	13	10	18	14	10 <sup>3</sup> / <sub>4</sub>	368		
	6804	4	4	24x16	10 <sup>3</sup> / <sub>4</sub>	21.4	28x20	10 <sup>3</sup> / <sub>4</sub>	22	18 <sup>1</sup> / <sub>2</sub>	4	6 <sup>3</sup> / <sub>4</sub>	10 <sup>1</sup> / <sub>2</sub>	2	14	11	10 <sup>3</sup> / <sub>4</sub>	307		
	6806	6	4	24x16	10 <sup>3</sup> / <sub>4</sub>	21.4	28x20	12 <sup>3</sup> / <sub>4</sub>	24	18 <sup>1</sup> / <sub>2</sub>	4	8 <sup>3</sup> / <sub>4</sub>	10 <sup>1</sup> / <sub>2</sub>	4	14	11	10 <sup>3</sup> / <sub>4</sub>	314		
	6808	8	4	24x16	10 <sup>3</sup> / <sub>4</sub>	21.4	28x20	14 <sup>3</sup> / <sub>4</sub>	26	18 <sup>1</sup> / <sub>2</sub>	4	10 <sup>3</sup> / <sub>4</sub>	10 <sup>1</sup> / <sub>2</sub>	6	14	11	10 <sup>3</sup> / <sub>4</sub>	320		
	6812	12	4	24x16	10 <sup>3</sup> / <sub>4</sub>	21.4	28x20	18 <sup>3</sup> / <sub>4</sub>	30	18 <sup>1</sup> / <sub>2</sub>	4	14 <sup>3</sup> / <sub>4</sub>	10 <sup>1</sup> / <sub>2</sub>	10	14	11	10 <sup>3</sup> / <sub>4</sub>	338		
	6824	4	4	28x21	14	50.6	34x27	10 <sup>3</sup> / <sub>4</sub>	22	20 <sup>1</sup> / <sub>2</sub>	4	6 <sup>3</sup> / <sub>4</sub>	13	2	18	14	10 <sup>3</sup> / <sub>4</sub>	404		
	6826	6	4	28x21	14	50.6	34x27	12 <sup>3</sup> / <sub>4</sub>	24	20 <sup>1</sup> / <sub>2</sub>	4	8 <sup>3</sup> / <sub>4</sub>	13	2	18	14	10 <sup>3</sup> / <sub>4</sub>	412		
6828	8	4	28x21	14	50.6	34x27	14 <sup>3</sup> / <sub>4</sub>	26	20 <sup>1</sup> / <sub>2</sub>	4	10 <sup>3</sup> / <sub>4</sub>	13	2	18	14	10 <sup>3</sup> / <sub>4</sub>	420			
6832	12	4	28x21	14	50.6	34x27	18 <sup>3</sup> / <sub>4</sub>	30	20 <sup>1</sup> / <sub>2</sub>	4	14 <sup>3</sup> / <sub>4</sub>	13	2	18	14	10 <sup>3</sup> / <sub>4</sub>	428			

square top, solid round cover

● **APPLICATION:** For installation in floors of garages, service stations, repair shops and similar establishments, as a connection to a gravity or mechanical exhaust system to the roof, to take a portable connection from exhaust pipe of gasoline or similar engines.

● **SPECIFICATION:** Josam Series No. V-220 cast iron lacquer finish gas exhaust floor fitting with " " spigot outlet, square top and solid round hinged cover.

### STANDARD and OPTIONAL FEATURES

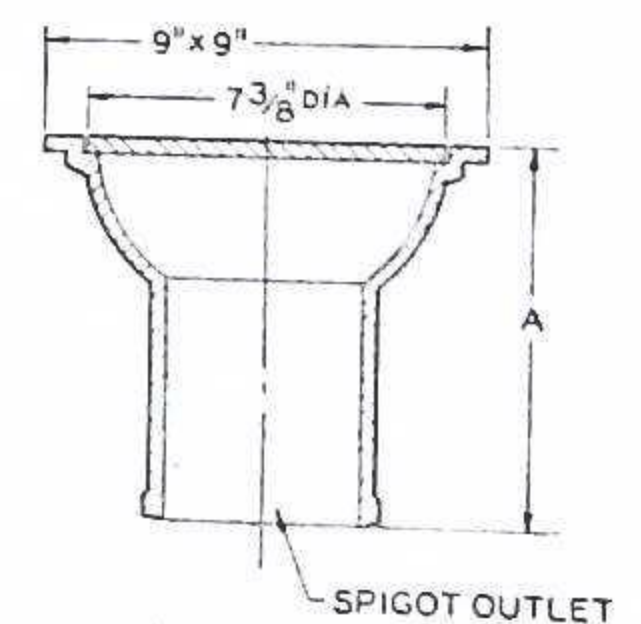
- **Body** **Standard:** Cast iron, round body with square flange.  
**Optional:** Galvanized iron, Rezistan iron, brass, SR steels or Everdur, at added cost. (See ♦ — page 16).
- **Outlet** **Standard:** Spigot bottom.
- **Cover** **Standard:** Cast iron round, solid, hinged.

**Optional:** Cast iron perforated cover, or galvanized iron, Rezistan iron, Brass, SR steels or Everdur solid or perforated cover or complete top.  
(See ♦ — page 16).

TYPE NO.	OUT-LET SIZE	A	WGT. LBS.
V-223	3"	7 <sup>3</sup> / <sub>4</sub> "	15
V-224	4"	8 <sup>1</sup> / <sub>2</sub> "	20

## GAS EXHAUST FITTING

### SERIES No. V-220



Hy-Tech Products



# GUTTER DRAINS

● **APPLICATION:** In Laundries, Dairies, Shower Rooms, Locker Rooms, and similar areas in floors and gutters where large drainage area is required and where rectangular drain in trenches is more adaptable due to limited space.

## STANDARD and OPTIONAL FEATURES

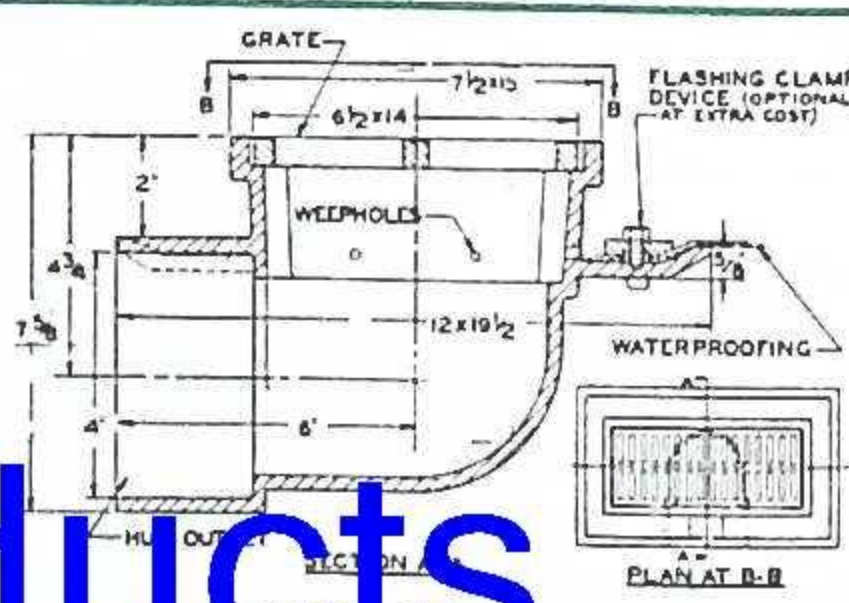
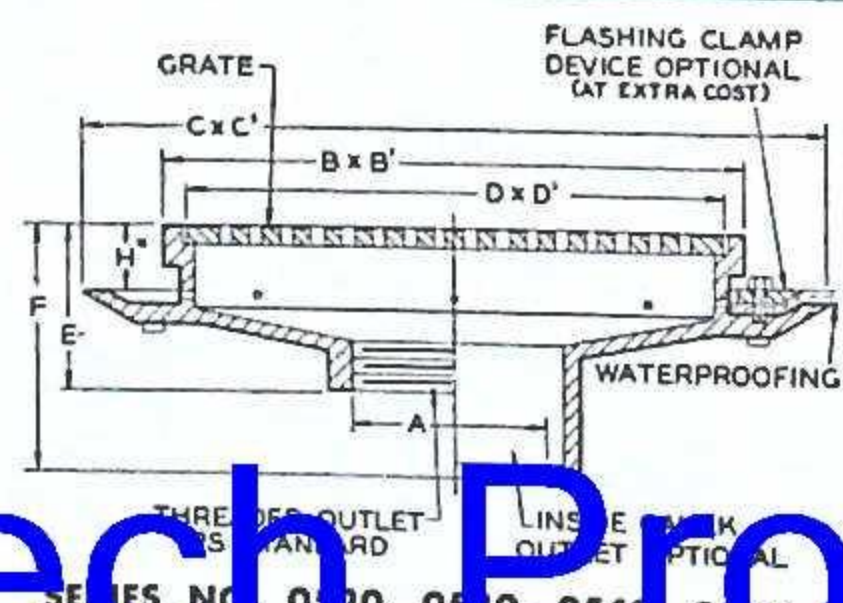
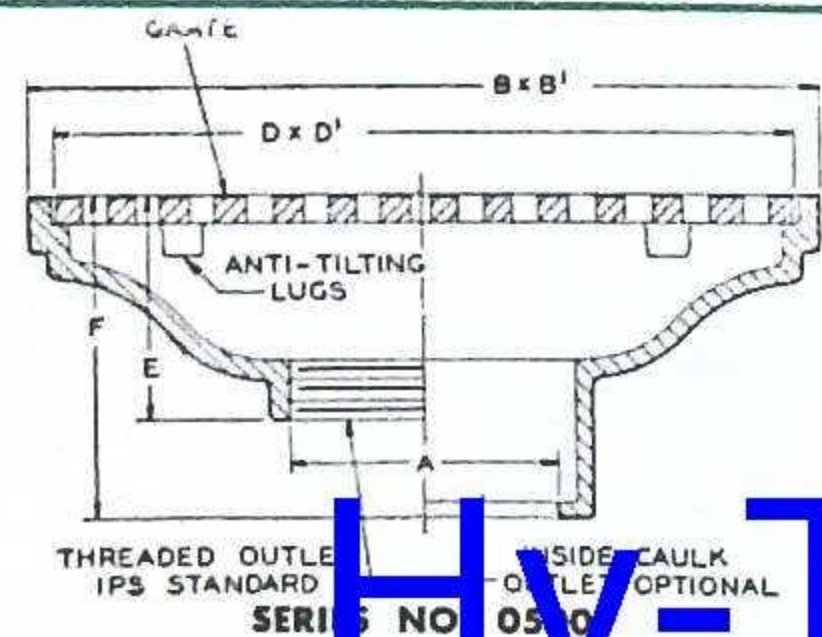
The features below apply to all drains in this group. The specification under the illustrations indicate the standard features applicable to each drain.

- **Body** **Standard:** Cast iron lacquer finish, rectangular.  
**Optional:** Galvanized iron, Rezistan iron, brass, SR steels or Everdur, at added cost. (See ♦ — page 16).
- **Flange** **Standard:** Where shown in illustrations, double drainage flange and weepholes drain off seepage around drain and protect areas below. Flange also serves as an anchor for concrete construction, or for attaching waterproofing when used.
- **Outlet** **Standard:** Female threaded bottom or hub side outlet as illustrated.  
**Optional:** Inside caulk bottom outlet, at no added cost.
- **Grate** **Standard:** Cast iron lacquer finish, rectangular, loose set.  
**Optional:** Galvanized iron, Rezistan iron, polished or chrome plated brass, SR steels, Everdur or White Metal with rim to match, at added cost. (See ♦ — page 16).
- **Flashing Clamp Device** **Optional:** On Series No. 0520 and 0560, at added cost. Ring is bolted to flange and secures waterproofing when used.
- **Backwater Valve** **Optional:** Valve housing in same material as body, with copper ball in copper wire cage, furnished for threaded bottom outlet drains only, at added cost. See page 93. Backwater valve provides protection against backflow in locations where an independent backwater valve cannot be installed in the line.
- **Trap** **Optional:** Deep seal "P" trap in same material as drain body, furnished for bottom outlet drains only, at added cost. See page 116.

### DIMENSIONS IN INCHES

SERIES NO.	TYPE NO.	OUT-LET A	TOP AND GRATE			FREE AREA SQ. IN.	Cx C'	* E	* F	H	WGT. LBS.
			Bx B'	Dx D'							
0500	0502	2	13x5½	12x4½	20.1		3¼	5¼		18	
	0503	3	13x5½	12x4½	20.1		3¼	5¼		18	
	0504	4	13x5½	12x4½	20.1		3¼	5¼		18	
0520	0522	2	24x6	23x5	27.7	28½x10½	4	5½	2	45	
	0523	3	24x6	23x5	27.7	28½x10½	4	5½	2	45	
	0524	4	24x6	23x5	27.7	28½x10½	4	5½	2	45	
0530	0532	2	32x6	31x5	37.7	36½x10½	4	5½	2	55	
	0533	3	32x6	31x5	37.7	36½x10½	4	5½	2	55	
	0534	4	32x6	31x5	37.7	36½x10½	4	5½	2	55	
0540	0544	4	15x7½	14x6½	33.5	19½x12	3½	5¼	1¾	45	
	0545	5	15x7½	14x6½	33.5	19½x12	3½	6	1¾	45	
	0546	6	15x7½	14x6½	33.5	19½x12	3½	6½	1¾	45	
0550	0552	2	13x5½	12x4½	20.1	16½x9	3¼	5¼	1½	25	
	0553	3	13x5½	12x4½	20.1	16½x9	3¼	5¼	1½	25	
	0554	4	13x5½	12x4½	20.1	16½x9	3¼	5¼	1½	25	
0560	See dimensions on detail drawing				33.5					48	

\* Add ¼" for Brass Top



## rectangular pattern

### SERIES No. 0520



#### SPECIFICATION

Josam Series No. 0520, cast iron rectangular gutter drain with double drainage flange and weepholes, 1" outlet and 24" x 6" top with loose set grate.

Series No. 0530, 32"x6" top  
Series No. 0540, 15"x7½" top  
Series No. 0550, 13"x6½" top

**NOTE:** The above specification covers Josam Series No. 0520.

Where optional features or materials are required, select style from illustrations shown, change Series Number above and insert optional features or materials.

#### ADAPTATIONS OF SERIES NO. 0520

The following illustrations show the SPECIAL FEATURES of Adaptations of Series No. 0520.



#### SERIES NO. 0500

##### SPECIFICATION

Same as Series No. 0520 except WITHOUT FLANGE and with 13½" x 5½" top.



#### SERIES NO. 0560

##### SPECIFICATION

Same as Series No. 0520 except with 4" hub SIDE OUTLET and 15" x 7½" top.

greater flow rate . . . greater economy  
greater sanitation . . . greater interchangeability



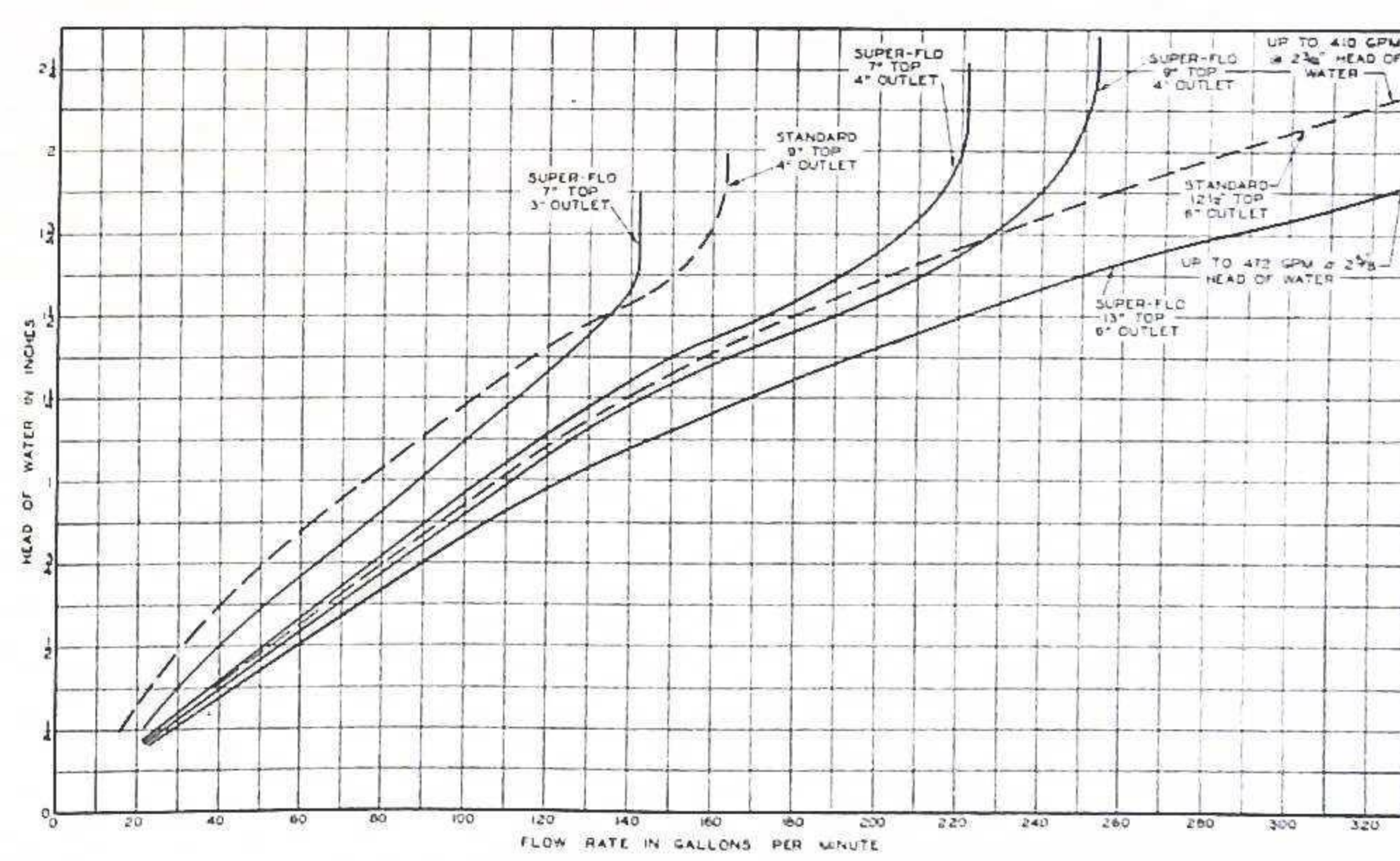
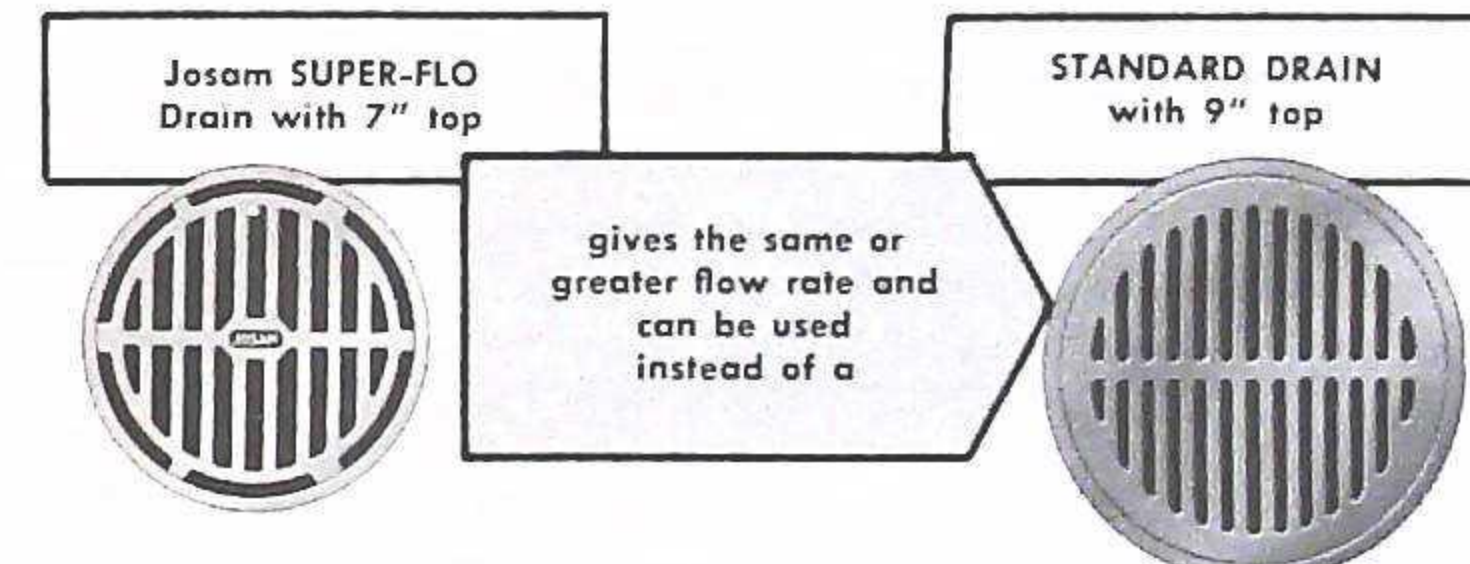
## "SUPER-FLO" FLOOR DRAINS

- **APPLICATION:** For installation in areas where the following features are important:
- Greater economy because of increased flow rate through smaller tops
- Greater interchangeability of features without construction alterations
- Greater sanitation
- Extra strength grates to withstand heavy traffic



### Greater Flow Rate

Josam SUPER-FLO Floor Drains are designed with perimeter slots around the grate. These additional slots increase the free drainage area of the top permitting greater flow rate (GPM) into the drain body at any head. In SUPER-FLO Floor Drains, the waste water enters the drain body at the very edge of the drain top instead of flowing over the wide section generally surrounding slots or holes in standard type drains. Since the waste water enters the perimeter slots first, the friction loss is greatly reduced and the flow rate into the drain is greater than the flow rate into a standard drain of the same size top.



Comparison of Flow Rates of Josam Super-Flo Floor Drains with 7", 9", and 13" Tops and a Standard Drain with 9" and 12½" Tops

**ONLY**   
**"SUPER-FLO" FLOOR DRAINS**

provide these exclusive features . . .  
 plus . . . design for greater economy

**GREATER FLOW RATE**

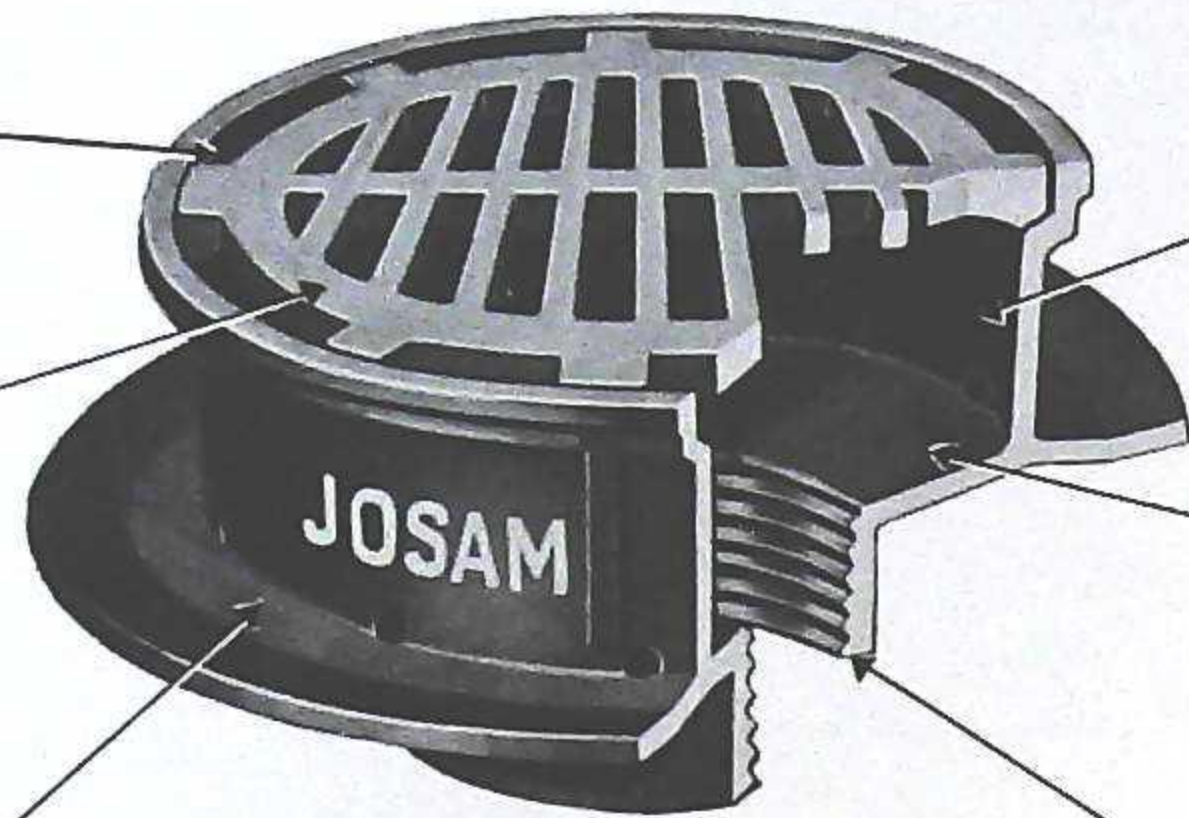
Perimeter slots increase free area of top and permit greatly increased flow rate (GPM).

**OPTIONAL GRATES AND TOPS**

Grates can be interchanged from standard to extra heavy or secured to drain body. Round or square brass tops can be added.

**DOUBLE DRAINAGE FLANGE**

Flat surface of shallow sloped flange eliminates bending or pre-forming water-proofing. Flashing clamp device, optional. Size and number of weep-holes provide positive double drainage action.



**OPTIONAL FEATURES**  
 For other optional features, materials and finishes see page 58C.

**GREATER SANITATION**

Constant flushing is obtained by drainage flowing over inside surface of body.

**INTERCHANGEABILITY**

Standardized bodies permit interchangeability of extra heavy grates, sediment bucket, round or square brass tops, etc.

**OUTLET**

Female threaded outlet, standard. Inside caulk, optional.

**FEATURES**

**GREATER FLOW RATE**

Josam SUPER-FLO Floor Drains are designed with perimeter slots around the grate. These additional slots increase the free drainage area of the top permitting greater flow rate (GPM) into the drain body at any head. In SUPER-FLO Floor Drains, the waste water enters the drain body at the very edge of the drain top instead of flowing over the wide section generally surrounding slots or holes in standard type drains. Since the waste water enters the perimeter slots first, the friction loss is greatly reduced and the flow rate into the drain is greater than the flow rate into a standard drain of the same size top.

**GREATER INTERCHANGEABILITY AND ECONOMY**

All Josam SUPER-FLO Drain bodies are designed so that standard grates, extra heavy grates, sediment buckets, round or square brass tops, and other features can be added or substituted after the drain body has been ordered and on the job. In some instances these changes can be made after the drain has been installed and the floor laid or in completed installations where a change of service requires substitution or addition of various features.

In cases where specifications are changed before the drain is installed, or future remodeling requires the addition of a sediment bucket or an extra heavy cast iron or heavy brass grate, these features can be added immediately without alterations.

This feature of interchanging grates, buckets and brass tops to meet specific requirements, also effects an inventory economy by permitting a diversified assortment of extra heavy grates, brass tops and sediment buckets to be stocked for whatever combination is required, in place of carrying a large stock of complete drains to perform various services.

**GREATER SANITATION**

During all drainage periods, even at a minimum flow of water, the waste water enters the very edge of the drain through the perimeter slots. The water therefore, must flow over the inside surface of the drain body, thereby constantly flushing the walls of the drain body and keeping the interior free from an accumulation of foreign deposits.

**EXTRA STRENGTH GRATES**

SUPER-FLO Floor Drains are available with cast iron or brass grates, both designed to meet the demand for maximum strength.

Additional strength is provided on both cast iron and brass grates through the increased thickness of bars. Greater protection against tilting is also provided because the grates rest on grate supporting lugs in a deep grate recess. This tends to seat the grate tightly against the rim of the body and avoids upsetting or tilting.

**NON-CLOG TRIPLE DRAINAGE FEATURE**

The Josam Non-Clog Triple Drainage designs have been incorporated in the SUPER-FLO Floor Drains with sediment bucket. In addition to the features above, the NON-CLOG feature permits drainage into the waste line through the perimeter openings between the outer rim and the grate, and in the outer edge of the sediment bucket, EVEN AFTER THE SEDIMENT BUCKET BECOMES FILLED WITH DEBRIS preventing normal drainage through the bucket.

See page 58C for standard and non-clog triple drainage drains.

with or without sediment bucket

  
**"SUPER-FLO" FLOOR DRAINS**



SERIES NO. 7000 and NO. 7020

**SPECIFICATION**

Josam Series No. 7000, cast iron "Super-Flo" floor drain with double drainage flange and weepholes, threaded bottom outlet, 7" round top and heavy anti-tilting grate with perimeter drainage slots having a free drainage area of 17 sq. in.

Josam Series No. 7020, same as above with 9" round top having a free drainage area of 27 sq. in.



SERIES NO. 7040 and NO. 7050

**SPECIFICATION**

Josam Series No. 7040, cast iron "Super-Flo" floor drain with double drainage flange and weepholes, threaded bottom outlet, 13" round top and heavy anti-tilting grate with perimeter drainage slots having a free drainage area of 61 sq. in.

Josam Series No. 7050, same as above with deeper body.



SERIES NO. 7300 and NO. 7320

**SPECIFICATION**

Josam Series No. 7300, cast iron "Super-Flo" area drain with threaded bottom outlet, 7" round top and heavy anti-tilting grate with perimeter drainage slots having a free drainage area of 17 sq. in.

Josam Series 7320, same as above with 9" round top having a free drainage area of 27 sq. in.



SERIES NO. 7500 and NO. 7520

**SPECIFICATION**

Josam Series No. 7500, cast iron "Super-Flo", Non-clog Triple Drainage floor drain with double drainage flange and weepholes, threaded bottom outlet, 7" round top and removable sediment bucket supporting heavy anti-tilting grate with perimeter drainage slots having a free drainage area of 11 sq. in.

Josam Series No. 7520, same as above with 9" round top having a free drainage area of 16 sq. in.



SERIES NO. 7540 and NO. 7550

**SPECIFICATION**

Josam Series No. 7540, cast iron "Super-Flo" Non-clog Triple Drainage floor drain with double drainage flange and weepholes, threaded bottom outlet, 13" round top and removable sediment bucket supporting heavy anti-tilting grate with perimeter drainage slots having a free drainage area of 29 sq. in.

Josam Series No. 7550, same as above with deeper body and sediment bucket which permits 31 sq. in. of free drainage area.



SERIES NO. 7700 and NO. 7720

**SPECIFICATION**

Josam Series No. 7700, cast iron "Super-Flo", Non-clog area drain with 7" round top and removable sediment bucket supporting heavy anti-tilting grate with perimeter drainage slots having a free drainage area of 11 sq. in.

Josam Series No. 7720, same as above with 9" round top having a free drainage area of 16 sq. in.

**OPTIONAL FEATURES AND MATERIALS**

Illustrations of Josam SUPER-FLO Drains indicate the standard product as regularly furnished, in cast iron lacquer finish. For optional features or materials, the following schedule shows the respective suffix letter to be added to the type number of the standard product. For example . . . Type No. 7023 when required with a flashing clamp device, would be designated as "Type No. 7023-C". All optional features and materials are at added cost except where indicated "at no added cost".

**OPTIONAL FEATURES**

- L — Square Top
- C — Lug type clamping device
- C2 — Bolted type clamping device
- F — Extra heavy grate \*
- R — Bolted grate
- M — Grate anchored with brass chain
- N — Dome grate \*
- V — Backwater Valve

**OPTIONAL MATERIALS**

- B — Polished brass top
- BB — All brass body with polished top
- GG — All Galvanized
- H — Chrome Plated Top
- J — Everdur top
- JJ — All Everdur
- K — Nikaloy Top §
- KK — All Nikaloy §
- OPTIONAL OUTLETS**
- X — Inside Caulk (at no added cost)
- Z — Spigot Connector

\* Except on drains with sediment buckets.

§ "Nikaloy" is a new Josam alloy produced with a high nickel content which, when polished, has the same appearance as chrome plate. However, because it is a solid metal, the finish is permanent thereby eliminating the peeling, chipping and wearing which is characteristic of chrome plate. Josam "Nikaloy" is also superior to the "white metals" due to the additional tensile strength and greater resistance to surface wear.

Hy-Tech Products

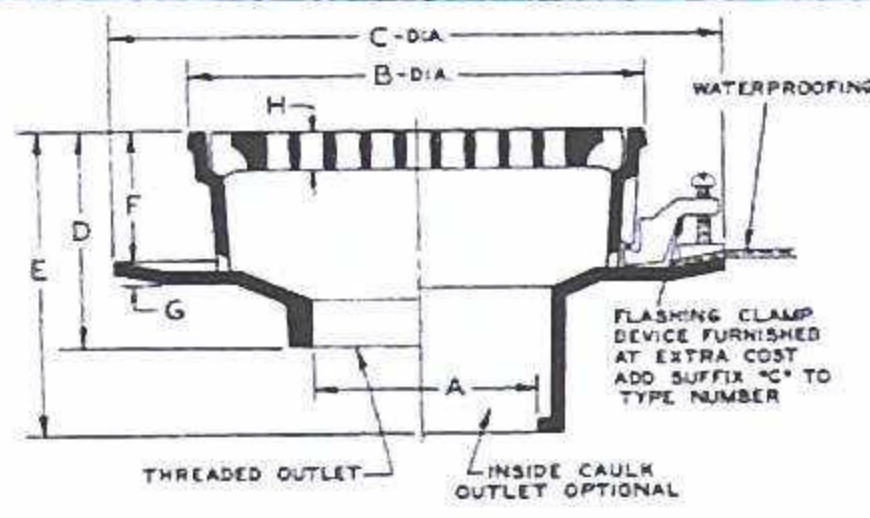


## details and dimensions

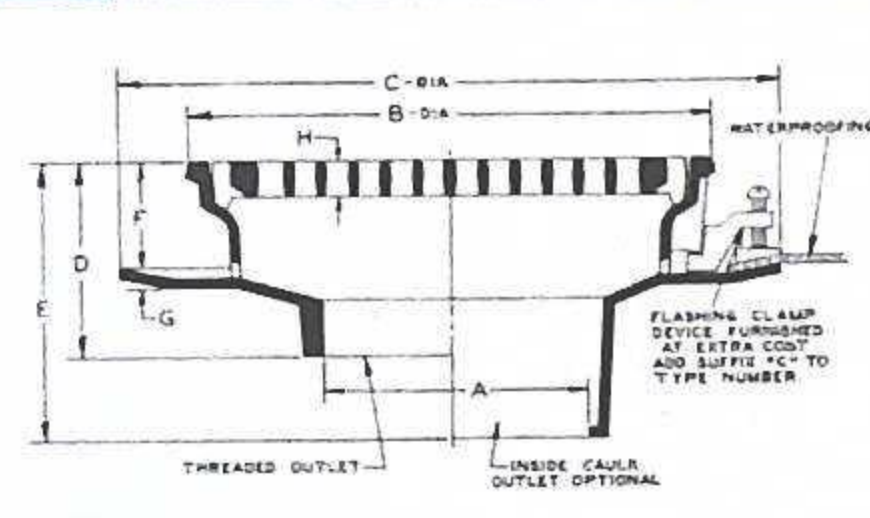
## features

# Josam NON-CLOG TRIPLE DRAINAGE FLOOR DRAINS

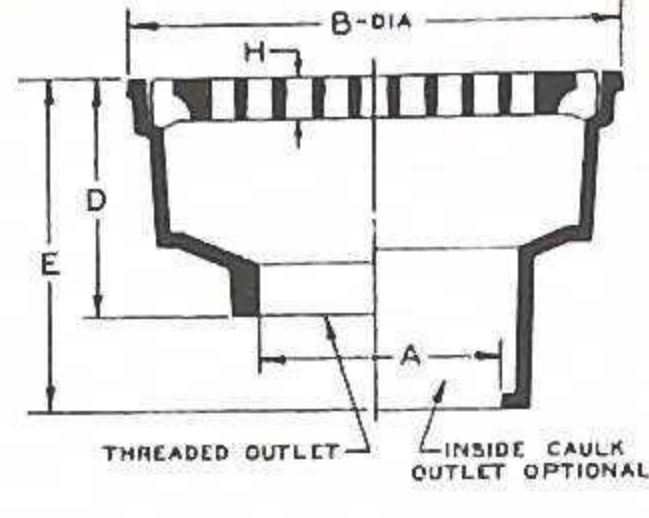
### "SUPER-FLO" FLOOR DRAINS



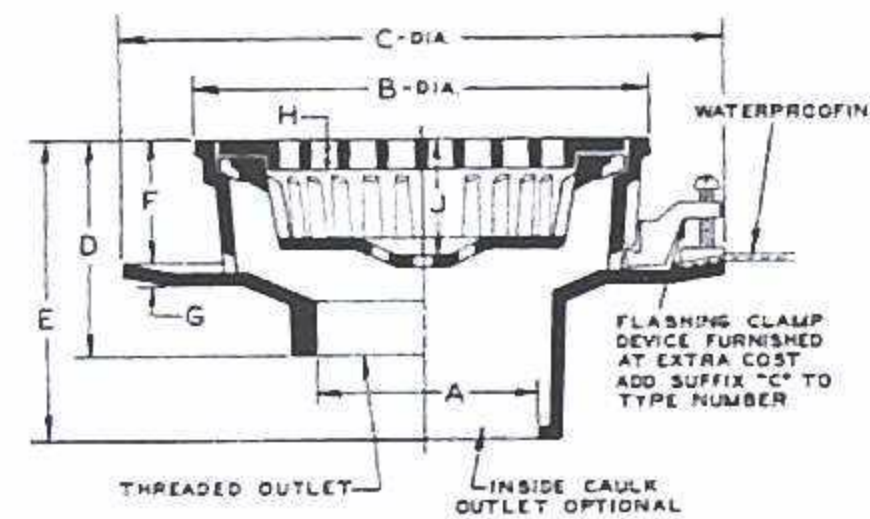
SERIES NO. 7000 and NO. 7020



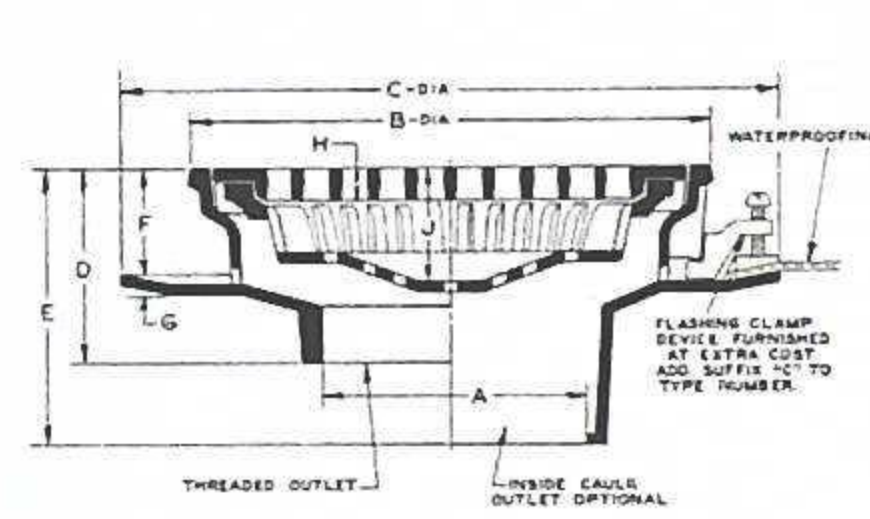
SERIES NO. 7040 and NO. 7050



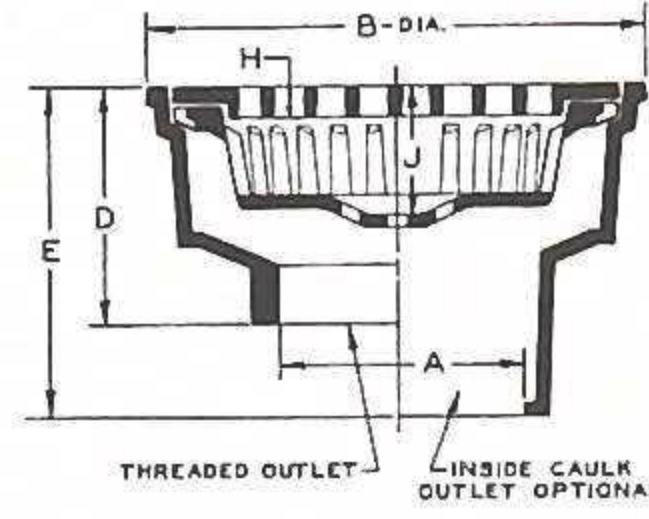
SERIES NO. 7300 and NO. 7320



SERIES NO. 7500 and NO. 7520



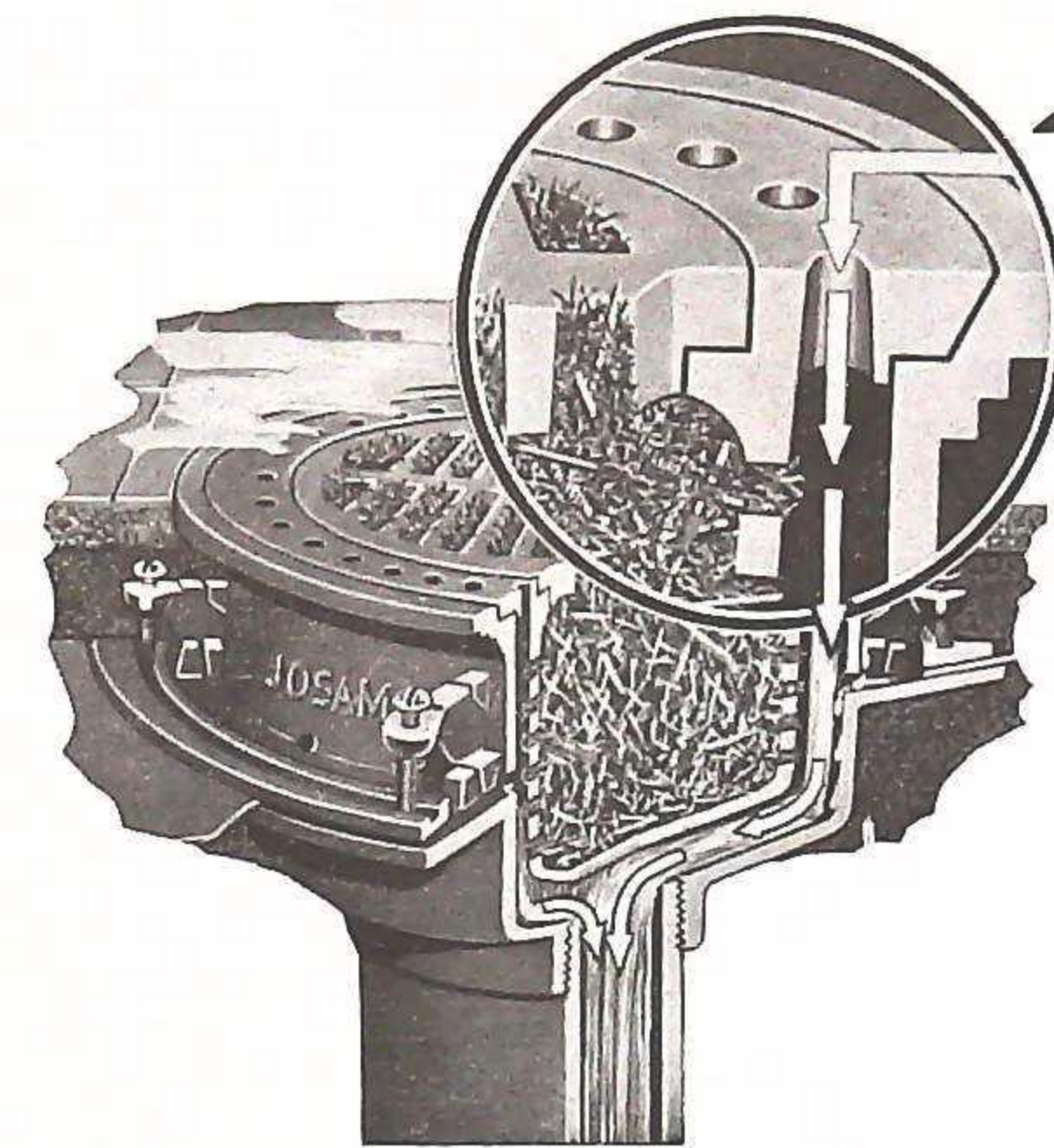
SERIES NO. 7540 and NO. 7550



SERIES NO. 7700 and NO. 7720

Series No.	Type No.	Top				FLOW RATE			DIMENSIONS IN INCHES							Bucket Depth J	App. Wgt. Lbs.
		Dimensions in Inches				Flow Rate (GPM) at 1" Head	Max. Flow Rate at head indicated		C	D*	E*	F*	G	H*			
		Nom. Size Outlet A	C.I. B-Dia. or Square	Brass B-Dia. or Square	Free Drainage Area Sq. In.		Flow Rate (GPM)	Head									
7000	7002	2	7	7 3/8	17	50	3/4"	10	3 3/8	5 3/8	2 3/8	3/8	1/2	10			
	7003	3	7	7 3/8	17	90	1 1/8"	10	3 3/8	5 3/8	2 3/8	3/8	1/2	11			
	7004	4	7	7 3/8	17	105	2"	10	3 3/8	5 3/8	2 3/8	3/8	1/2	12			
7020	7022	2	9	9 1/2	27	55	3/4"	12	4 1/4	6	2 3/8	3/8	5/8	18			
	7023	3	9	9 1/2	27	95	1 1/8"	12	4 1/4	6	2 3/8	3/8	5/8	20			
	7024	4	9	9 1/2	27	115	2 1/8"	12	4 1/4	6	2 3/8	3/8	5/8	21			
7040	7044	4	13	13 1/2	61	125	1 3/8"	16 1/2	4 3/4	6 7/8	2 3/8	1/2	7/8	37			
	7045	5	13	13 1/2	61	130	2 1/8"	16 1/2	4 3/4	6 7/8	2 3/8	1/2	7/8	39			
	7046	6	13	13 1/2	61	135	2 5/8"	16 1/2	4 3/4	6 7/8	2 3/8	1/2	7/8	41			
7050	7054	4	13	13 1/2	61	125	1 3/8"	16 1/2	7 1/4	9 1/4	2 3/8	1/2	7/8	44			
	7055	5	13	13 1/2	61	130	2 1/8"	16 1/2	7 1/4	9 1/4	2 3/8	1/2	7/8	46			
	7056	6	13	13 1/2	61	135	2 5/8"	16 1/2	7 1/4	9 1/4	2 3/8	1/2	7/8	48			
7300	7302	2	7	7 3/8	17	50	3/4"	10	3 3/8	5 3/8	2 3/8	3/8	1/2	7			
	7303	3	7	7 3/8	17	90	1 1/8"	10	3 3/8	5 3/8	2 3/8	3/8	1/2	8			
	7304	4	7	7 3/8	17	105	2"	10	3 3/8	5 3/8	2 3/8	3/8	1/2	9			
7320	7322	2	9	9 1/2	27	55	3/4"	12	4 1/4	6	2 3/8	3/8	5/8	13			
	7323	3	9	9 1/2	27	95	1 1/8"	12	4 1/4	6	2 3/8	3/8	5/8	15			
	7324	4	9	9 1/2	27	115	2 1/8"	12	4 1/4	6	2 3/8	3/8	5/8	16			
7500	7502	2	7	7 3/8	11	35	1/2"	10	3 3/8	5 3/8	2 3/8	3/8	1/2	12			
	7503	3	7	7 3/8	11	75	1 1/8"	10	3 3/8	5 3/8	2 3/8	3/8	1/2	13			
	7504	4	7	7 3/8	11	85	1 1/2"	10	3 3/8	5 3/8	2 3/8	3/8	1/2	14			
7520	7522	2	9	9 1/2	16	45	3/4"	12	4 1/4	6	2 3/8	3/8	5/8	22			
	7523	3	9	9 1/2	16	90	1 1/4"	12	4 1/4	6	2 3/8	3/8	5/8	24			
	7524	4	9	9 1/2	16	90	1 5/8"	12	4 1/4	6	2 3/8	3/8	5/8	25			
7540	7544	4	13	13 1/2	29	125	1 3/8"	16 1/2	4 3/4	6 7/8	2 3/8	1/2	7/8	44			
	7545	5	13	13 1/2	29	125	2 1/8"	16 1/2	4 3/4	6 7/8	2 3/8	1/2	7/8	46			
	7546	6	13	13 1/2	29	135	2 5/8"	16 1/2	4 3/4	6 7/8	2 3/8	1/2	7/8	48			
7550	7554	4	13	13 1/2	31	130	1 3/8"	16 1/2	7 1/4	9 1/4	2 3/8	1/2	7/8	51			
	7555	5	13	13 1/2	31	130	2 1/8"	16 1/2	7 1/4	9 1/4	2 3/8	1/2	7/8	54			
	7556	6	13	13 1/2	31	140	2 5/8"	16 1/2	7 1/4	9 1/4	2 3/8	1/2	7/8	57			
7700	7702	2	7	7 3/8	11	35	1/2"	10	3 3/8	5 3/8	2 3/8	3/8	1/2	9			
	7703	3	7	7 3/8	11	75	1 1/8"	10	3 3/8	5 3/8	2 3/8	3/8	1/2	10			
	7704	4	7	7 3/8	11	85	1 1/2"	10	3 3/8	5 3/8	2 3/8	3/8	1/2	11			
7720	7722	2	9	9 1/2	16	45	3/4"	12	4 1/4	6	2 3/8	3/8	5/8	17			
	7723	3	9	9 1/2	16	90	1 1/4"	12	4 1/4	6	2 3/8	3/8	5/8	19			
	7724	4	9	9 1/2	16	90	1 5/8"	12	4 1/4	6	2 3/8	3/8	5/8	20			

\* Standard cast iron grate thickness indicated. Extra heavy grates available in cast iron and brass.  
\* Add 1/4" when furnished with brass top.



AUXILIARY DRAINAGE PERMITS LIMITED FLOW WHEN SEDIMENT BUCKET IS COMPLETELY FILLED WITH DEBRIS, A VISIBLE SIGNAL THAT BUCKET NEEDS ATTENTION.

JOSAM NON-CLOG Triple Drainage Floor Drains are a long step forward in floor drain design. The auxiliary surface drainage consists of drainage holes so located in the top rim surface of the drain that they afford a by-pass for draining surface water when the sediment bucket becomes clogged with debris, preventing normal drainage.

### TRIPLE DRAINAGE . . . AN EXCLUSIVE JOSAM DEVELOPMENT

Triple Drainage is found only in floor drains having a sediment bucket for the interception of debris from waste water, and auxiliary surface drainage combined with the well-known double drainage feature of Josam Drains.

### TRIPLE DRAINAGE . . . IN OPERATION

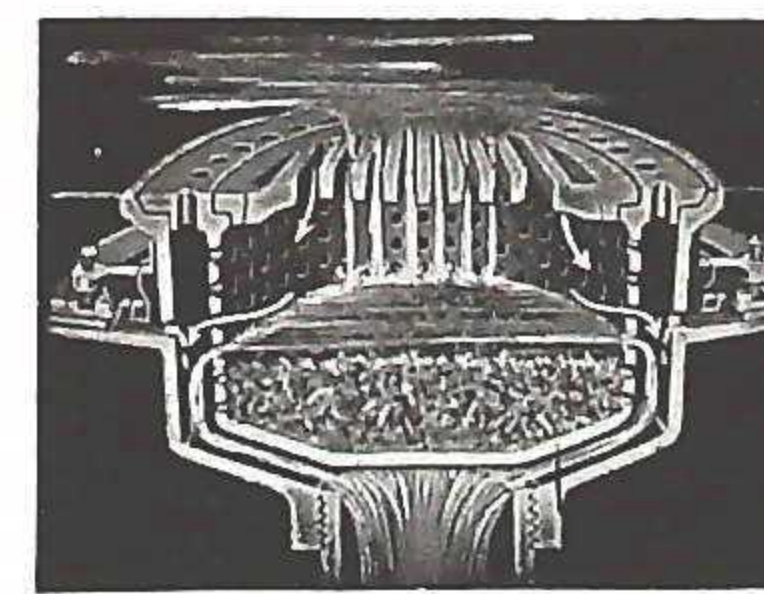
The auxiliary surface drainage holes are so located in the top rim surface of the drain, that they afford a by-pass for draining surface water when the sediment container becomes clogged with debris, preventing normal drainage.

When the sediment container becomes completely filled, the flow of water is visibly curtailed and signals a need for emptying container. However, after disposing of debris, the sediment container must be replaced in the body of the drain before the grate can be replaced on top of the drain. Only Josam Non-Clog Triple Drainage Drains provide this feature which assures positive protection against carelessness!

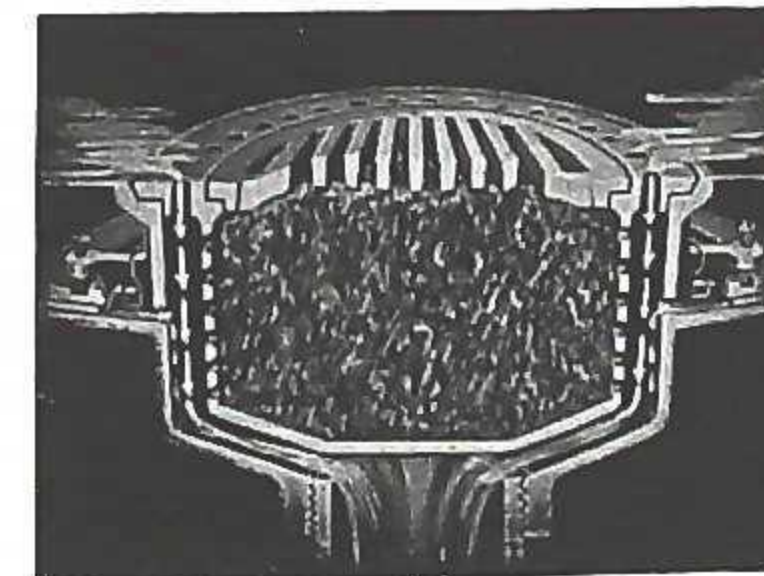
### JOSAM NON-CLOG DRAINS PREVENT

- Clogged drains, traps or pipe lines
- Flooded floors
- Damage to building and contents
- Unsanitary conditions
- Inconvenience and expense
- Rodding traps and drain lines

### A POSITIVE GUARD AGAINST CARELESSNESS!



Sediment container partly filled with debris.



Sediment container is completely filled, BUT—drainage is maintained through the auxiliary holes in the rim.



A positive guard against the human element of carelessness—grate cannot be returned to proper position, unless, and until, the sediment container has been set in place in drain body. Only Josam Non-Clog Triple Drainage Floor Drains embody this protective feature.



Sediment container and grate returned to proper position in drain body. Drain now ready to provide unobstructed, continuous drainage. Only Josam Non-Clog Triple Drainage Floor Drains provide this complete protection.

# Hy-Tech Products



## NON-CLOG TRIPLE DRAINAGE FLOOR DRAINS

● **APPLICATION:** In Industrial Plants to collect and salvage materials discharged with waste water . . . in Dairies and Bottling Plants, to intercept bottle caps, glass, etc. . . . in large Kitchens to intercept roughage from garbage receptacles . . . in Areaways, Ramps, Garage Floors, Storage Rooms, Boiler and Coal Rooms and wherever sediment and debris accumulate and should be prevented from entering and clogging drain lines.

For optional features to suit additional requirements, see Adaptations of Non-Clog Triple Drainage Drains in this group and on pages 48-56.

### STANDARD and OPTIONAL FEATURES

The features below apply to drains in this group. The illustrations show the standard features applicable to each design.

- **Body** **Standard:** Cast iron lacquer finish, with round top, (except Series No. 5410-BB and 5430-BB, all brass body).  
**Optional:** Galvanized iron, Rezistan iron, brass, SR steels or Everdur; or with square top, at added cost. (See ♦ — page 16).
- **Flange** **Standard:** Where shown in illustrations, double drainage flange and weepholes drain off seepage around drain and protect areas below. Flange also serves as an anchor for concrete construction, or for attaching waterproofing when used.
- **Outlet** **Standard:** Female threaded bottom, or threaded or hub side outlet, as show in illustrations.  
**Optional:** Inside caulk bottom outlet in place of threaded, at no added cost. Hub or spigot adaptor for threaded side outlet, at added cost.
- **Grate** **Standard:** Cast iron, round loose-set. On Series No. 5410-BB and 5430-BB, polished brass round grate fastened to rib in body by countersunk screw.  
**Optional:** Cast iron galvanized, Rezistan iron, polished or chrome plated brass, SR steels, White Metal or Everdur, with auxiliary drainage rim and rim of body to match. (See ♦ — page 16).  
Grate fits into auxiliary drainage rim of sediment bucket and cannot be set in place unless bucket is in position.
- **Sediment Bucket** **Standard:** Removable, perforated, with auxiliary drainage rim, in same material as drain body.  
Bucket catches sediment passing through grate and protects drain line from clogging. The auxiliary drainage rim permits limited drainage through holes when bucket is filled with sediment. Grate cannot be put in body unless bucket is in position.
- **Flashing Clamp Device** **Optional:** Flashing clamp ring in same material as body, with non-puncturing clamps, furnished at added cost.  
Clamp device firmly secures waterproofing to drain body, providing a tight connection.
- **Backwater Valve** **Optional:** Valve housing in same material as body, with copper ball in copper wire cage, furnished for threaded bottom outlet drains only, at added cost. See Page 93.

Backwater valve provides protection against backflow in locations where an independent backwater valve cannot be installed in the line.

with shallow, medium or deep buckets

### SERIES No. 5440 and No. 5450



#### SPECIFICATION

Josam Series No. 5440, (or 5450), cast iron Non-Clog Triple Drainage floor drain with double drainage flange and weepholes, " " bottom outlet, round top and grate, removable perforated sediment bucket with auxiliary drainage rim so designed that grate cannot be set in place unless bucket is in position.

**NOTE:** The above specification covers Josam Series No. 5440 or 5450.

Where optional features or materials are required, select style from illustrations shown, change Series Number above, and insert optional features or materials.



#### SERIES NO. 5420

##### SPECIFICATION

Same as Series No. 5440 except smaller body with SHALLOW sediment BUCKET.



#### SERIES NO. 5520

##### SPECIFICATION

Same as Series No. 5440 except smaller body WITH SIDE OUTLET and shallow sediment bucket.

types and sizes to meet every requirement



## NON-CLOG TRIPLE DRAINAGE FLOOR DRAINS

### ADAPTATIONS OF JOSAM SERIES No. 5440

The following illustrations show the SPECIAL FEATURES of Adaptations of Series No. 5440. Standard and Optional Features are listed on the opposite page.

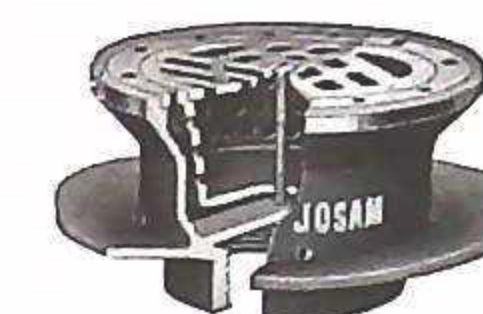
Installation Diagrams on pages 203, 204



#### SERIES NO. 5400

##### SPECIFICATION

Same as Series No. 5440 except WITHOUT double drainage FLANGE and with shallow bucket.



#### SERIES NO. 5430-BB

##### SPECIFICATION

Cast brass Non-clog floor drain with " " bottom outlet, double drainage flange and weepholes, round top and strainer, small perforated sediment bucket with integral auxiliary drainage rim so designed that grate cannot be set in place unless bucket is in position. Grate and bucket fastened to rib cast integral with body, by countersunk screw.



#### SERIES NO. 5410-BB

##### SPECIFICATION

Same as Series No. 5430-BB except WITHOUT double drainage FLANGE.



#### SERIES NO. 5460 and NO. 5470

##### SPECIFICATION

Same as Series No. 5440 except with DEEP BODY and sediment bucket, for HEAVY DUTY service.



#### SERIES NO. 5480

##### SPECIFICATION

Same as Series No. 5440 except with EXTRA LARGE BODY and top, and deep sediment bucket for exceptionally heavy duty.



#### SERIES NO. 5500

##### SPECIFICATION

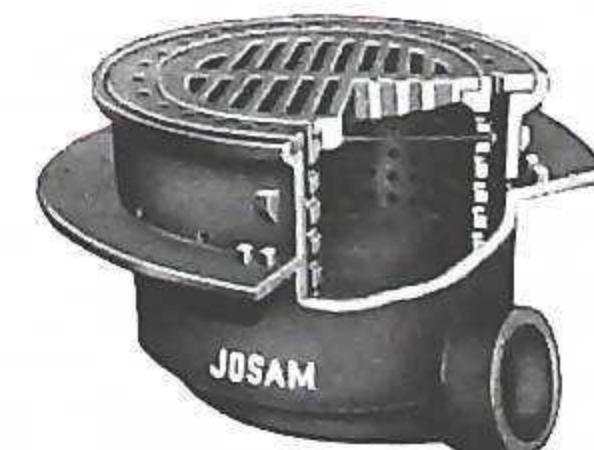
Same as Series No. 5440 except WITHOUT FLANGE, with SIDE OUTLET, and shallow bucket.



#### SERIES NO. 5540 and NO. 5550

##### SPECIFICATION

Same as Series No. 5440 and 5450 except with threaded SIDE OUTLET.



#### SERIES NO. 5560 and NO. 5570

##### SPECIFICATION

Same as Series No. 5440 except with DEEP BODY and sediment bucket and hub SIDE OUTLET for heavy duty service.



#### SERIES NO. 5580

##### SPECIFICATION

Same as Series No. 5440 except with EXTRA LARGE BODY and top, hub SIDE OUTLET and deep sediment bucket, for exceptionally heavy service.

Hy-Tech Products







types and sizes to meet every requirement

details and dimensions



NON-CLOG TRIPLE DRAINAGE FLOOR DRAINS

NON-CLOG TRIPLE DRAINAGE FLOOR DRAINS

**APPLICATION:** In Industrial Plants to collect and salvage materials discharged with waste water . . . in Dairies and Bottling Plants, to intercept bottle caps, glass, etc. . . . in large Kitchens to intercept roughage from garbage receptacles . . . in Areaways, Ramps, Garage Floors, Storage Rooms, Boiler and Coal Rooms and wherever sediment and debris accumulate and should be prevented from entering and clogging drain lines.

For optional features to suit additional requirements, see Adaptations of Non-Clog Triple Drainage Drains on pages 59-61.

**STANDARD and OPTIONAL FEATURES**

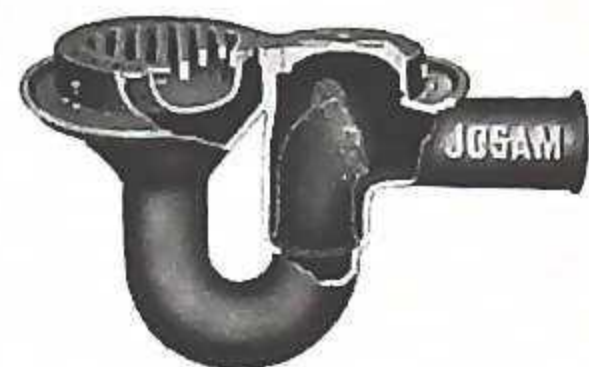
The features below apply to all drains in this group. The specification under the illustrations indicate the standard features applicable to each drain.

- **Body**     **Standard:** Cast iron lacquer finish, with round top.  
**Optional:** Galvanized iron, Rezinatan iron, SR steels or Everdur, at added cost. (See ♦—page 16).
- **Flange**     **Standard:** Where shown in illustrations, double drainage flange and weepholes drain off seepage around drain and protect areas below. Flange also serves as an anchor for concrete construction, or for attaching waterproofing when used.
- **Outlet**     **Standard:** Female threaded bottom, or spigot or hub side outlet as shown in illustrations.  
**Optional:** Inside caulk bottom outlet, at no added cost.
- **Grate**       **Standard:** Cast iron, round loose set.  
**Optional:** Cast iron galvanized, Rezinatan iron, polished or chrome plated brass, SR steels, White Metal or Everdur, with auxiliary drainage rim to match. (See ♦—page 16).  
 Grate fits into auxiliary drainage rim of sediment bucket and cannot be set in place unless bucket is in position.
- **Sediment Bucket**     **Standard:** Removable, perforated, with auxiliary drainage rim, in same material as drain body.  
 Bucket catches sediment passing through grate and protects drain line from clogging. The auxiliary drainage rim permits limited drainage through holes when bucket is filled with sediment.
- **Flashing Clamp Device**     **Optional:** Flashing clamp ring in same material as body, with non-puncturing clamps, furnished at added cost.  
 Clamp device firmly secures waterproofing to drain body, providing a tight connection.
- **Backwater Valve**     **Optional:** On Series Nos. 6400, 6420, 6470 and 6480, all brass housing same diameter as outlet of drain, with brass, top hung vertical swing flap caulked into trap, at added cost. See page 35.  
 On Series No. 3720 and No. 3740 drains only, valve housing in same material as drain body, with copper ball, furnished at added cost. See page 93.  
 Backwater valve provides protection against backflow in locations where an independent backwater valve cannot be installed in the line.
- **Cleanout**     **Standard:** As shown in illustrations, threaded rough brass, oversize cleanout flush with floor.  
**Optional:** Polished or chrome plated brass, SR steels, White Metal or Everdur, at added cost. (See ♦—page 16).
- **Trap**         **Standard:** As shown in illustrations, integral deep seal trap.  
**Optional:** Deep seal "P" trap in same material as drain body, with or without cleanout, and with or without backwater valve, furnished for bottom outlet drains only, at added cost. See page 116.
- **Leveleze Adjustable Top**     **Standard:** On Series Nos. 3720 and 3740. The rolled thread adjustable top permits lowering or raising grate to meet finished floor level. Adjustment can be made after drain has been set in new or old construction. See page 67.

**SPECIFICATION**

See "Specifications" under each illustration.

Where optional features or materials are required, insert same in specification.



**SERIES NO. 6420 SPECIFICATION**

Josam Series No. 6420, cast iron lacquer, Non-clog triple drainage floor drain with integral deep seal trap, " " spigot side outlet, double drainage flange and weepholes, brass oversize flush floor cleanout, loose set round grate, perforated shallow sediment bucket with auxiliary drainage rim so designed that grate cannot be set in place unless bucket is in position.

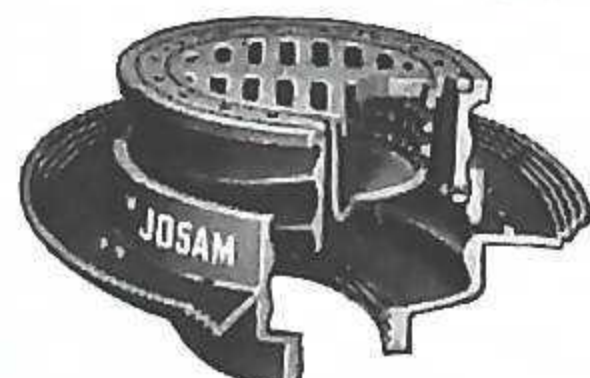
**SERIES NO. 6400**

Same as Series No. 6420 except WITH-OUT FLANGE.



**SERIES NO. 6470 and NO. 6480 SPECIFICATION**

Josam Series No. 6470 (or 6480), cast iron lacquer, Non-clog triple drainage floor drain with integral deep seal trap, " " hub side outlet, double drainage flange and weepholes, brass oversize flush floor cleanout, heavy loose set round grate, extra large sediment bucket with auxiliary drainage rim so designed that grate cannot be set in place unless bucket is in position.



**SERIES NO. 3720 and NO. 3740 SPECIFICATION**

Josam Series No. 3720 (or 3740) LEVELEZE Non-clog triple drainage floor drain, cast iron lacquer finish with " " threaded bottom outlet, round adjustable top with rolled thread, loose set grate, perforated sediment bucket with auxiliary drainage rim so designed that grate cannot be set in place unless bucket is in position.

For complete information on "Leveleze" top, see page 67.

**JOSAM FLOOR DRAINS WITH NON-CLOG ADJUSTABLE STRAINER**



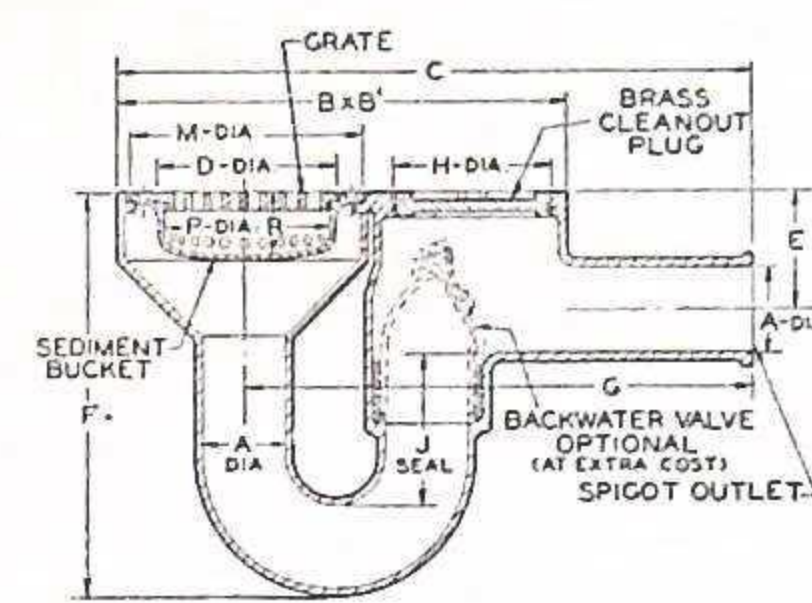
Josam Non-clog adjustable brass strainer, Type No. 35-C, can be used with any Josam drain body threaded to receive an adjustable strainer. Vertical adjustability in the threaded shank takes care of any thicknesses of floor finish.

For installation in any type of floor construction where strainer may have to be adjusted to meet finished floor level.

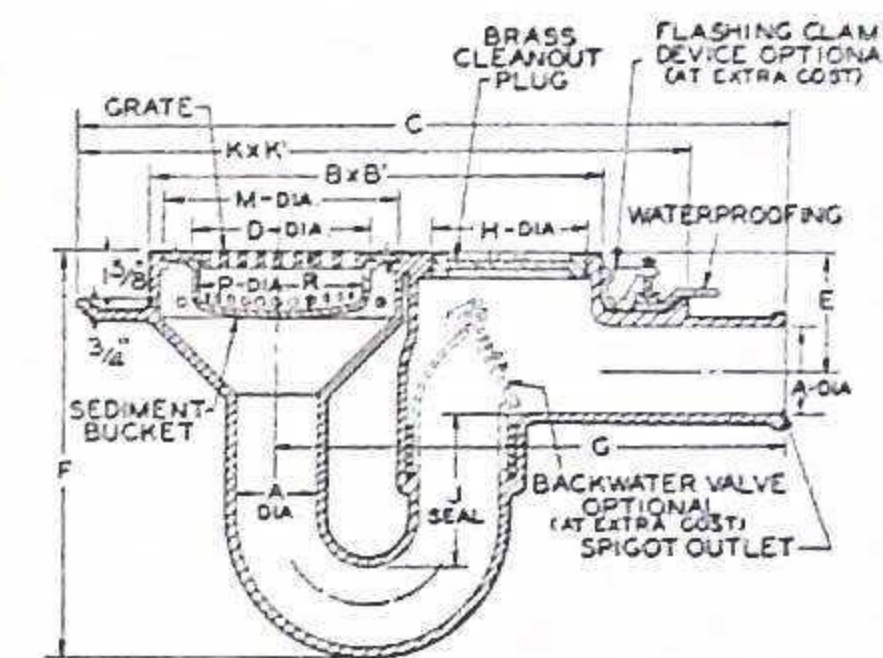
The sediment container is fastened with a flat-head brass screw to an integral rib in the strainer. Josam Non-clog strainers provide the same protection as any Josam Non-clog drain. For complete information, see pages 27 and 30.

**NOTE**

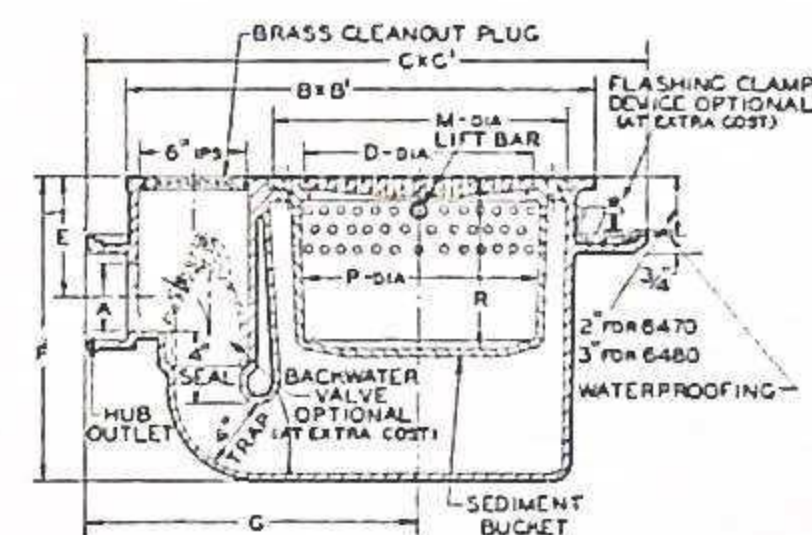
For other styles of Non-clog triple drainage drains, see pages 59-61.



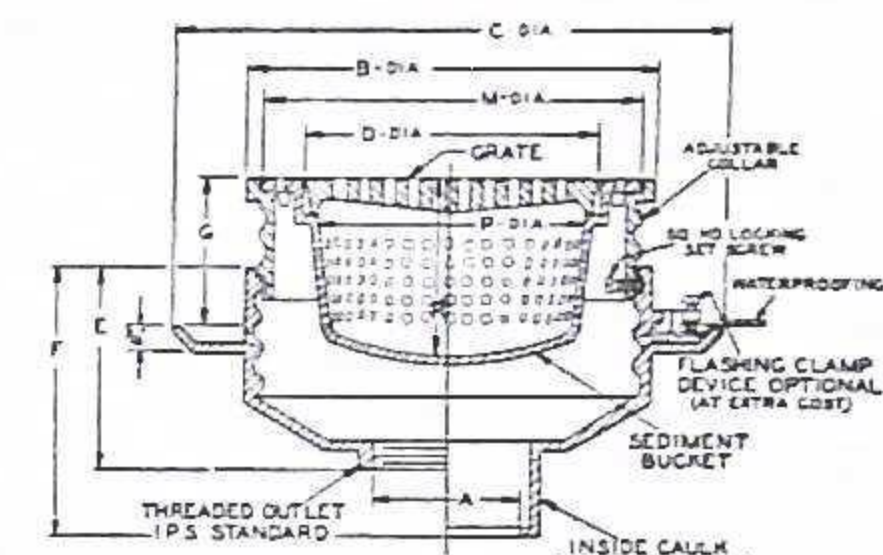
**SERIES NO. 6400**



**SERIES NO. 6420**



**SERIES NO. 6470 and NO. 6480 (Installation Diagram on page 203)**



**SERIES NO. 3720 and NO. 3740**

**DIMENSIONS IN INCHES**

Series No.	Type No.	Outlet A	TOP AND GRATE			C or Cx <sup>1</sup>	E *	F *	G	SERIES NO. 3720 & 3740 G*		H	J	KxK <sup>1</sup>	SEDIMENT BUCKET			Free Area Sq. In.	Wgt. Lbs.
			B or BxB <sup>1</sup>	D	Free Area Sq. In.					Min.	Max.				M	P	R		
3720	3722	2	8 3/4	6 1/4	11.7	13 1/2	4 1/2	6 1/4	1 1/2	3 1/2	4	4	8	5 1/2	2 1/2	7.6	34		
	3723	3	8 3/4	6 1/4	11.7	13 1/2	4 1/2	6 1/4	1 1/2	3 1/2	5	5	8	5 1/2	2 1/2	7.6	34		
	3724	4	8 3/4	6 1/4	11.7	13 1/2	4 1/2	6 1/4	1 1/2	3 1/2	6	5	8	5 1/2	2 1/2	7.6	34		
3740	3743	3	12 1/2	8 7/8	18.3	17	6 1/4	8 3/8	2 1/2	5	11 1/2	8	5 1/2	11 1/2	8	5 1/2	21.6	63	
	3744	4	12 1/2	8 7/8	18.3	17	6 1/4	8 3/8	2 1/2	5	11 1/2	8	5 1/2	11 1/2	8	5 1/2	21.6	63	
	3745	5	12 1/2	8 7/8	18.3	17	6 1/4	8 3/8	2 1/2	5	11 1/2	8	5 1/2	11 1/2	8	5 1/2	21.6	63	
	3746	6	12 1/2	8 7/8	18.3	17	6 1/4	8 3/8	2 1/2	5	11 1/2	8	5 1/2	11 1/2	8	5 1/2	21.6	63	
6400	6402	2	14x9	6 1/4	11.7	20 1/2	4 1/4	11 3/4	16 1/8		4	4	8	5 1/2	2 1/2	7.6	40		
	6403	3	15x9	6 1/4	11.7	21 3/4	4	13 3/4	17 3/8		5	5	8	5 1/2	2 1/2	7.6	52		
	6404	4	16 1/2x9	6 1/4	11.7	23 3/4	4 5/8	15 3/4	19 3/8		6	5	8	5 1/2	2 1/2	7.6	67		
6420	6422	2	14x9	6 1/4	11.7	23	4 1/4	11 3/4	16 1/8		4	4	18 3/4x13 3/4	8	5 1/2	2 1/2	7.6	52	
	6423	3	15x9	6 1/4	11.7	24 1/4	4	13 3/4	17 3/8		5	5	19 3/4x13 3/4	8	5 1/2	2 1/2	7.6	65	
	6424	4	16 1/2x9	6 1/4	11.7	26 1/4	4 5/8	15 3/4	19 3/8		6	5	21 1/4x13 3/4	8	5 1/2	2 1/2	7.6	94	
6470	6472	2	24x16	10 3/4	21.4	28x20	10 3/4	22	18 1/2				14	10	10	34.2	270		
	6473	3	24x16	10 3/4	21.4	28x20	10 3/4	22	18 1/2				14	10	10	34.2	270		
	6474	4	24x16	10 3/4	21.4	28x20	10 3/4	22	18 1/2				14	10	10	34.2	270		
6480	6482	2	28x21	14	50.6	34x27	6 7/8	18	20 1/2				18	13 3/4	11	45.0	364		
	6483	3	28x21	14	50.6	34x27	6 7/8	18	20 1/2				18	13 3/4	11	45.0	364		
	6484	4	28x21	14	50.6	34x27	6 7/8	18	20 1/2				18	13 3/4	11	45.0	364		

\* ADD 1/4" FOR BRASS TOP

Hy-Tech Products



# FLOOR DRAINS

## installation diagrams

The installations shown herewith are typical for any Josam Drain installed in any construction illustrated, subject to modification of construction details to accord with drain features.

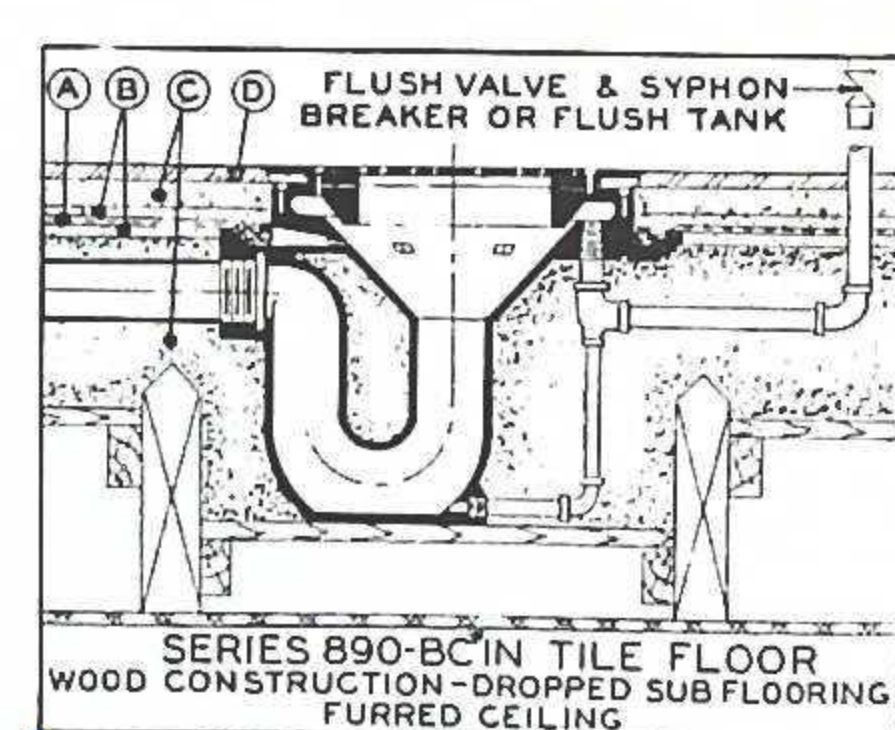
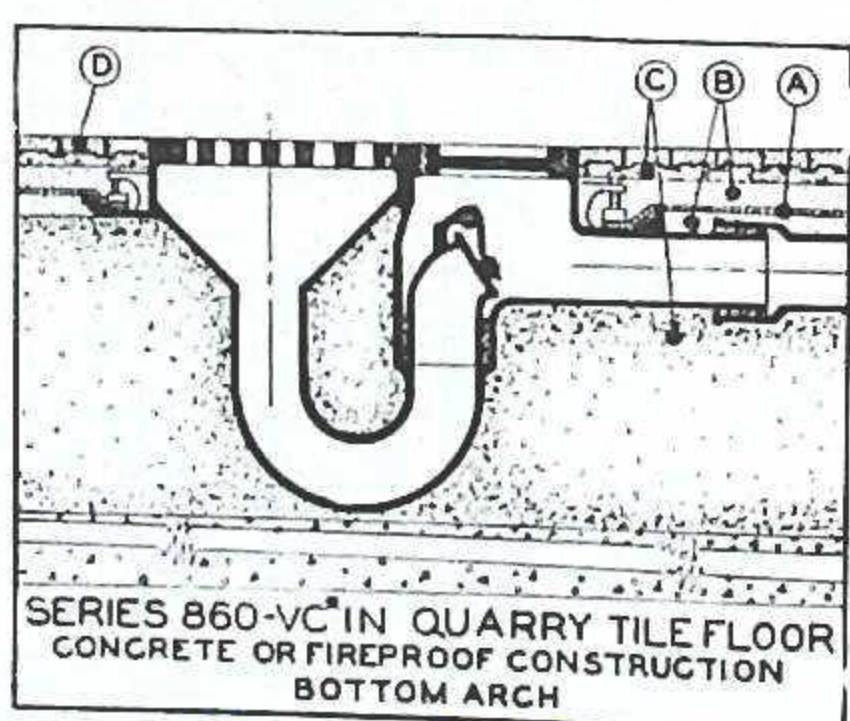
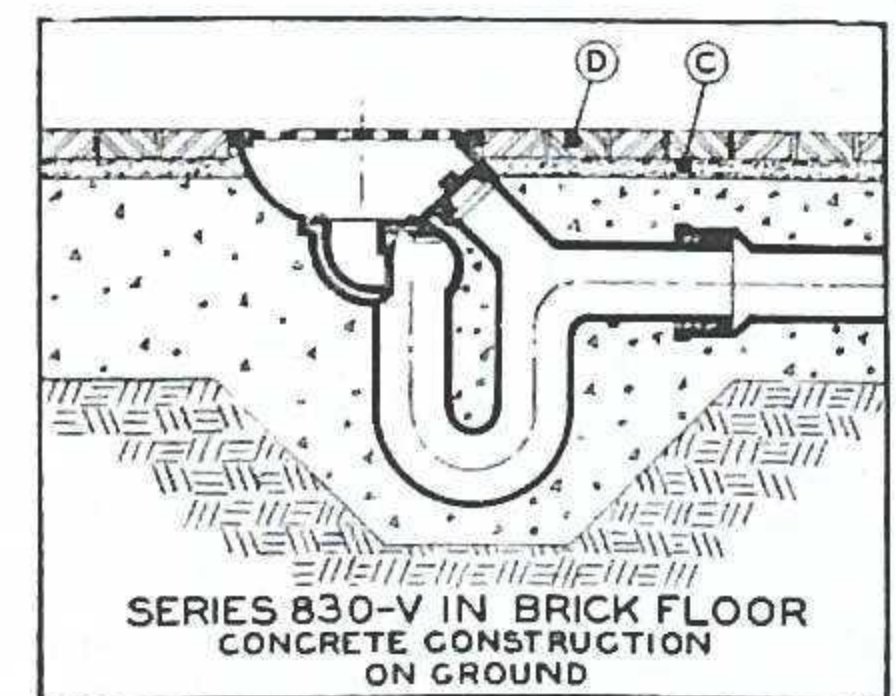
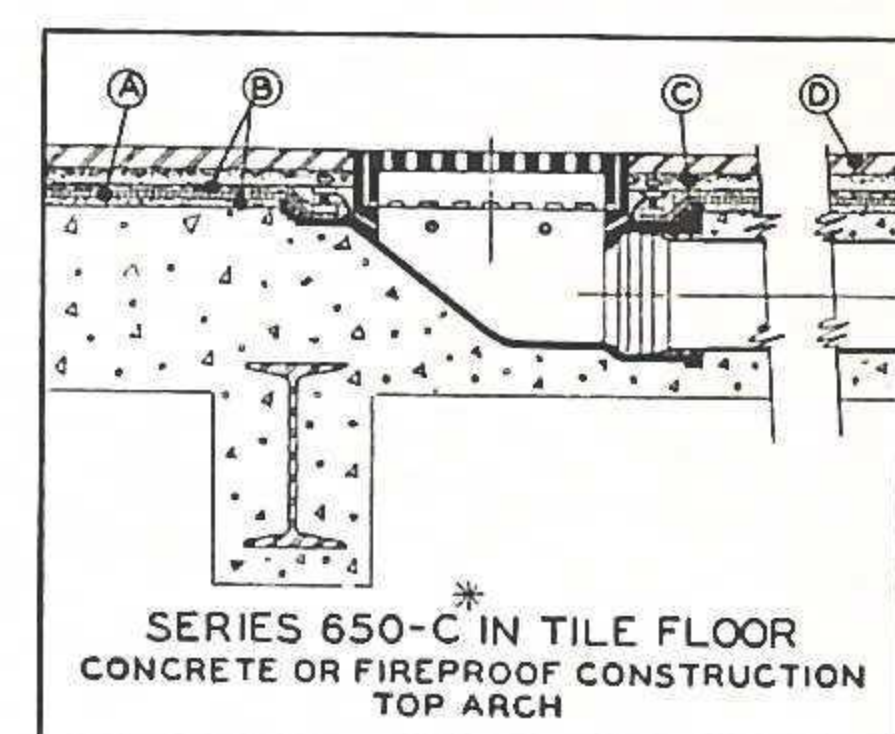
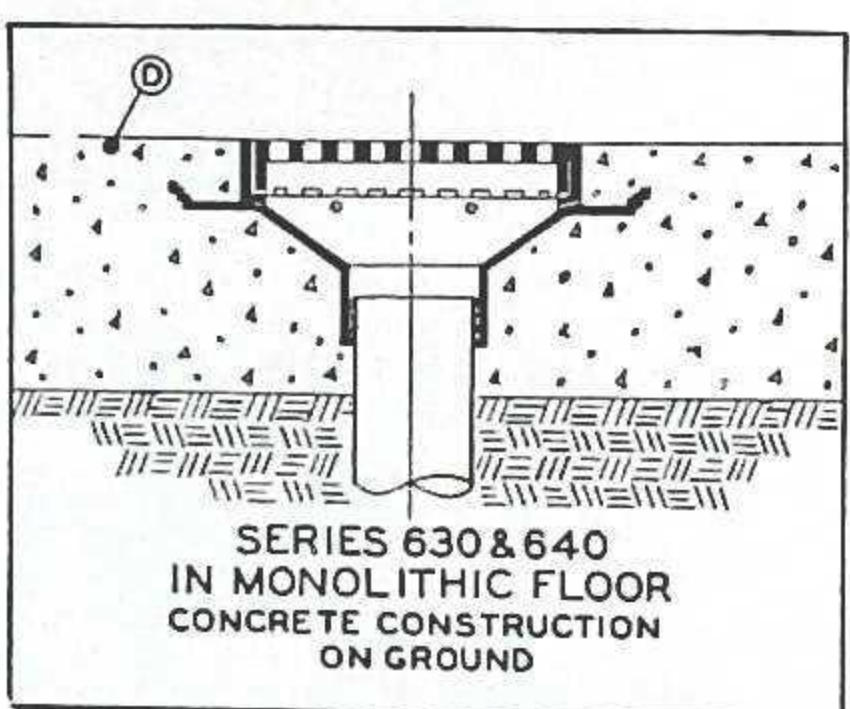
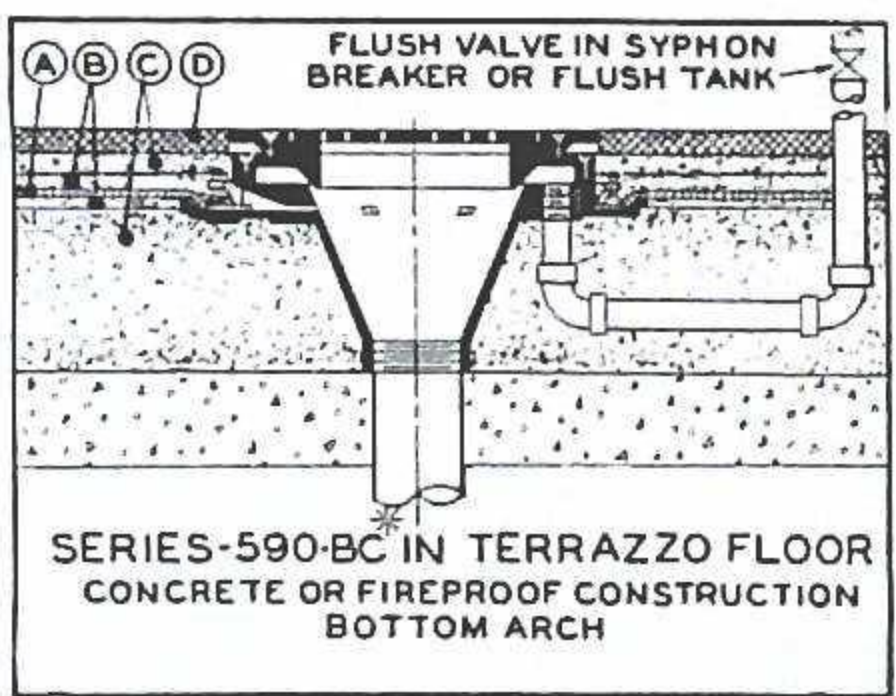
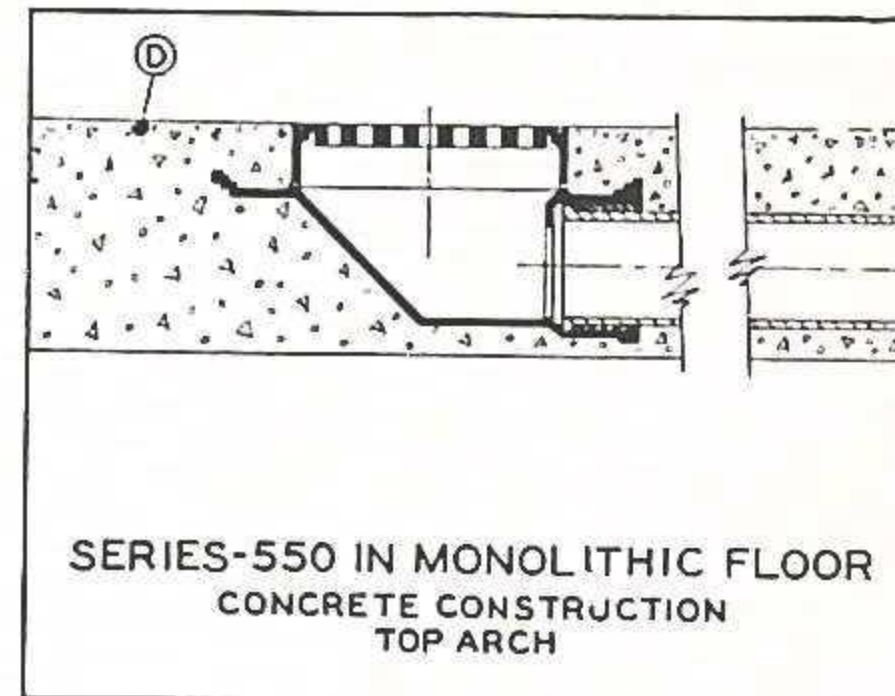
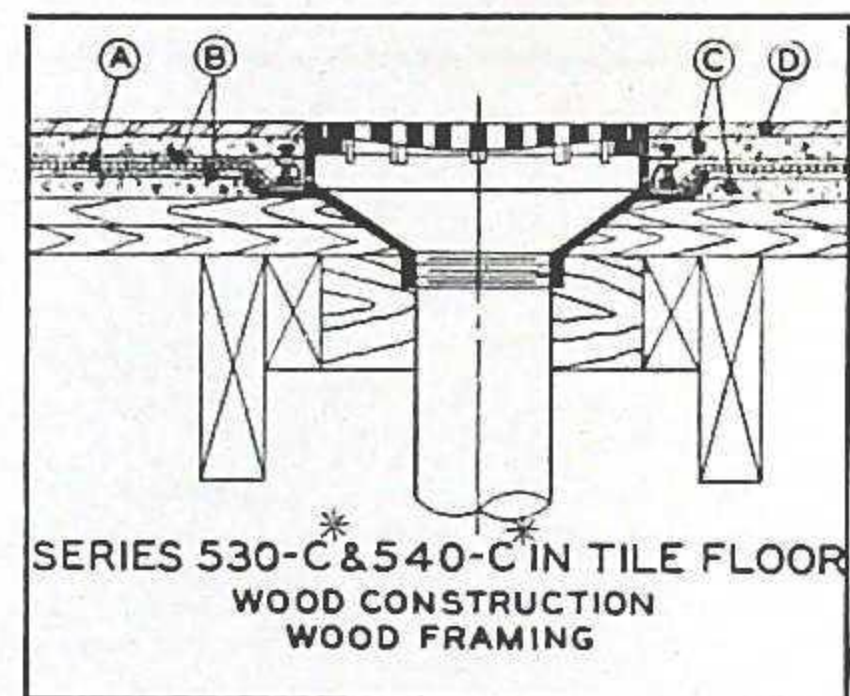
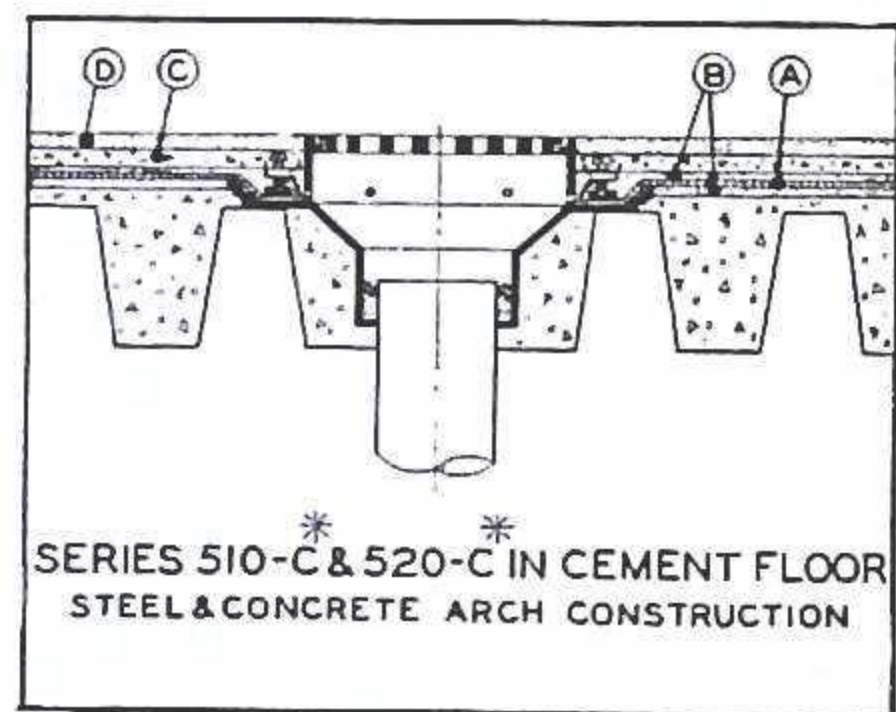
CODE: (A) — Waterproofing, optional. Requires Flashing Clamp when used.

(B) — Bed of finely screened sand well tamped.

\* When Flashing Clamp is not required, omit suffix "C" from type number.

(C) — Fill and Grout.

(D) — Floor Finish.



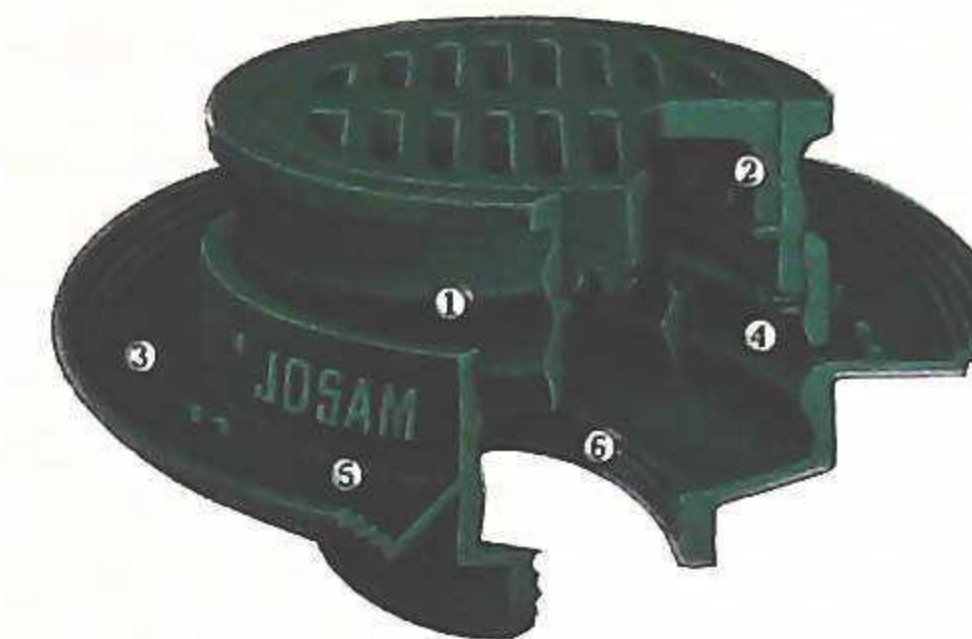
## features



# LEVELEZE FLOOR DRAINS

only the **Josam Adjustable Top LEVELEZE FLOOR DRAINS** with the rolled thread provide these exclusive features

1. Adjustable Collar with rolled thread is completely detachable from the drain body and permits lowering or raising top to meet finished floor level, before or after the drain is set.
2. Deep set tractor grate (Anti-tilting grate or Non-clog sediment bucket, optional).
3. Double Drainage Flange serves as an anchor in concrete construction or for attaching water-proofing.



4. Set screw holds adjustable top in position while floor construction is applied.
5. Weepholes provide a safety factor by directing any seepage which might leak through floor around grate, back into the drain body.
6. Threaded outlet (inside caulk bottom outlet or hub side outlet, optional).

When pouring concrete or similar floors, it is very difficult to obtain the proper pitch to the floor drain. As a consequence, shallow, high or low spots result. Frequently, the drain is at a high point and only the water at this height will drain off, leaving small pools in the hollows of the floor.

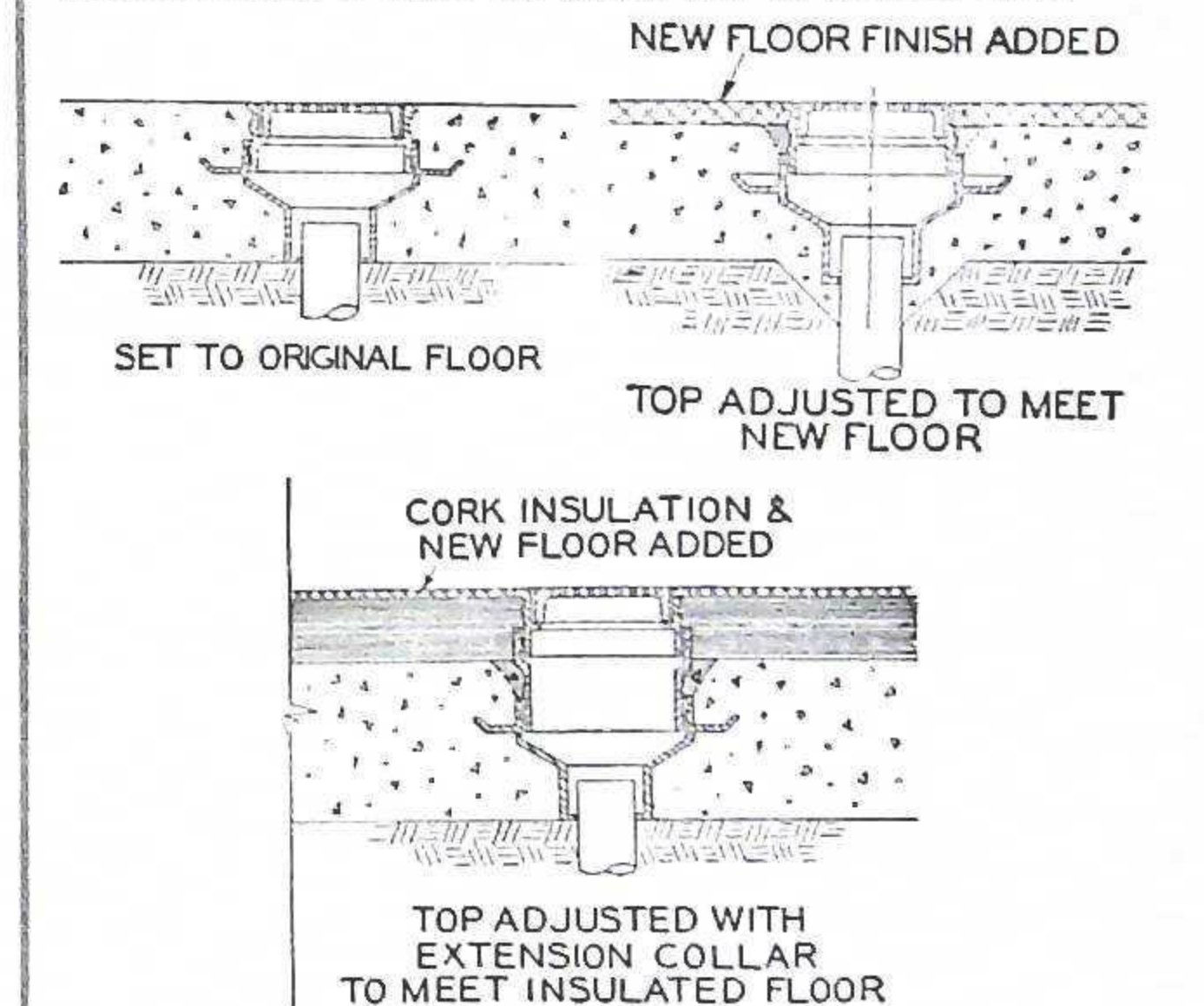
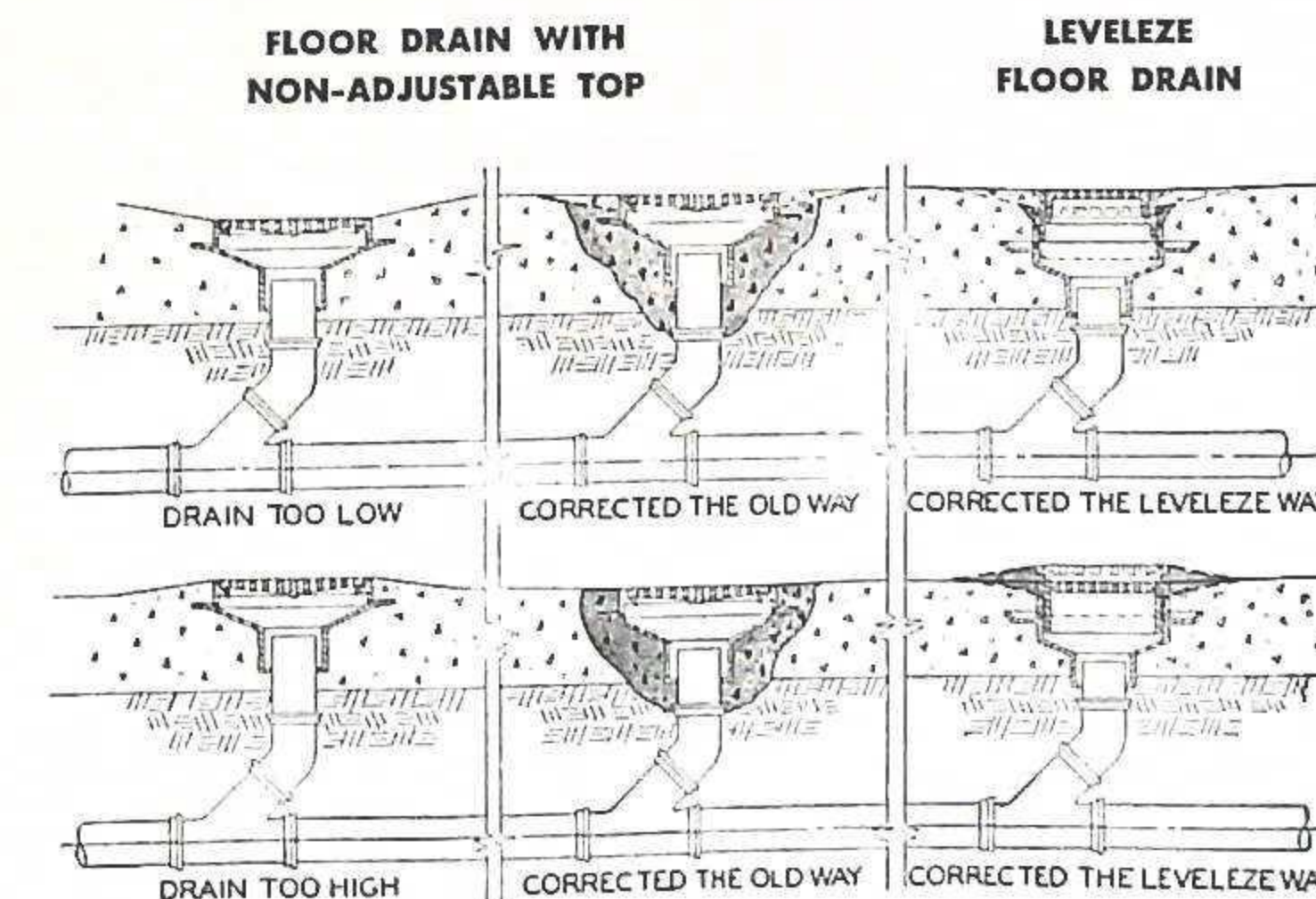
A reverse situation might exist where the floor drain has been installed too low. In such instances, the pitch of the floor is frequently excessive and leads to accidents by slipping on a wet floor, hand trucks tipping over, or small tools and other small articles rolling into the drain.

Under the old method, in changing the elevation of stationary top floor drains, it is necessary to cut the structural slab, disconnect drain, remove nipple, install new nipple, reconnect drain at proper level and patch slab and floor, impairing structural strength, and resulting in additional labor costs.

With the Josam Leveleze drain, there is no need to make extensive alterations and repairs, and incur additional expense because of miscalculations in floor level. Simply chip out floor finish, raise or lower the adjustable top on the Josam Leveleze Drain to the proper elevation and patch finish. The correct level is met, drain body and arch are not disturbed, structural strength is not affected, and the time and cost of the adjustment is negligible.

In the same easy method, where a Josam Leveleze Drain has been in construction for some time, and the old floor is to be refinished with new covering of tile, terrazzo, linoleum, wood block or other finish, the Leveleze Drain can be adjusted to the new elevation by chipping out the old finish, adjusting top to new level and applying new finish.

The solution to any of the above conditions which exist in approximately 99% of concrete floors, is to raise or lower the adjustable top of the Leveleze Floor Drain to the proper elevation, rework floor finish while still green, or rough-up the floor and apply additional finish to attain the proper pitch to the floor drain.



# Hy-Tech Products



## LEVELEZE FLOOR DRAINS

with adjustable rolled thread top,  
bottom or side outlet

- **APPLICATION:** In Factory Areas, Storage Rooms, Basements, Laundries, Promenades and similar locations, in old or new construction, where an adjustable top drain will permit raising or lowering grate to meet finished floor level, even after the drain is installed.

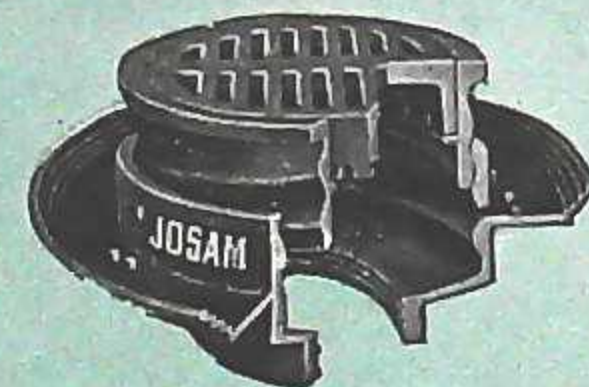
For optional features to suit additional requirements, see Adaptations of Series No. 3610.

### STANDARD and OPTIONAL FEATURES

The features below apply to drains in this group. The illustrations show the standard features applicable to each design.

- **Body** **Standard:** Cast iron lacquer finish, with round top.  
**Optional:** Galvanized iron, Rezistan iron, all brass, SR steels or Everdur, at added cost. (See ♦ — page 16).
- **Flange** **Standard:** Double drainage flange and weepholes drain off seepage around drain and protect areas below. Flange also serves as an anchor for concrete construction, or for attaching waterproofing when used.
- **Outlet** **Standard:** Female threaded bottom or hub side, as illustrated.  
**Optional:** Inside caulk bottom outlet in place of threaded, at no added cost.
- **Grate** **Standard:** Series Nos. 3510, 3520, 3550, cast iron, round, anti-filling grate.  
Series Nos. 3610, 3620, 3650, cast iron, round deep set tractor grate.  
Series Nos. 3720, 3740, cast iron round, non-clog grate which cannot be set in place unless sediment bucket is in position.  
Series No. 3710-B, polished brass round top with solid brass hinged grate locked in position with removable key.  
**Optional:** Galvanized iron, Rezistan iron, polished or chrome plated brass, SR steels, Everdur or White Metal with rim to match, in place of cast iron lacquer top, at added cost. Series No. 3710-B furnished chrome plated brass, Everdur, SR steels or White Metal, at added cost. (See ♦ — page 16).
- **Adjustable Top** **Standard:** Rolled thread adjustable top in same material as body, with adjustment from 1½" to 5" (depending on style of drain).  
Top can be raised or lowered even after drain is in construction, and set screw on inside of collar holds adjustable top in position while floor construction is applied.
- **Sediment Bucket** **Standard:** On Series Nos. 3720 and 3740 only. Same material as drain body, removable, perforated, with auxiliary drainage rim which permits limited drainage through holes to waste line when bucket is filled. Grate cannot be put in body unless bucket is in position. See page 59 for information on Non-Clog drains.
- **Internal Strainer** **Standard:** On Series No. 3710-B. Round, loose set perforated strainer with lifting lug, in same material as body. Strainer permits flow of waste to drain line when hinged top is open.  
**Optional:** Same strainer furnished on other drains in this group, without sediment bucket, at added cost. Intercepts debris washed through grate.

### SERIES No. 3610



#### SPECIFICATION

Josam Series No. 3610, cast iron Leveleze Floor Drain with double drainage flange, weepholes, " threaded bottom outlet, adjustable collar with rolled thread and round top with deep set tractor grate.

**NOTE:** The above specification covers Josam Series No. 3610.

Where optional features or materials are required, select style from illustrations shown, change Series Number above, and insert optional features or materials.

### ADAPTATIONS OF SERIES NO. 3610

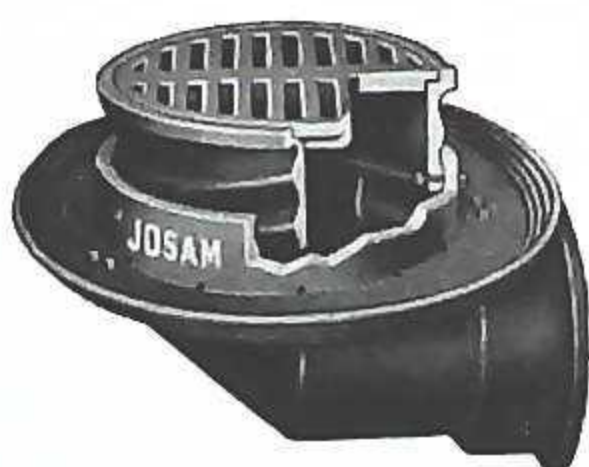
The following illustrations show the SPECIAL FEATURES of Adaptations of Series No. 3610.



#### SERIES NOS. 3510 and 3520

##### SPECIFICATION

Same as Series No. 3610 except with loose set ANTI-TILTING grate.



#### SERIES NO. 3550

##### SPECIFICATION

Same as Series No. 3610 except with loose set ANTI-TILTING GRATE and hub SIDE OUTLET.

with standard or tractor grate,  
with or without sediment bucket

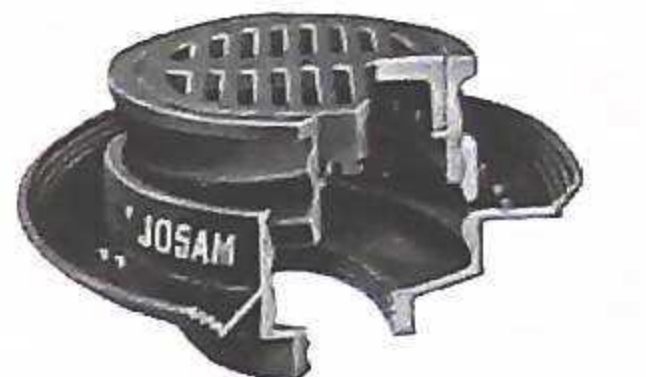


## LEVELEZE FLOOR DRAINS

### Standard and Optional Features (continued)

- **Extension Collar** **Optional:** Adjustable extension collar with rolled thread, in same material as drain body, at added cost.  
Each extension collar permits an additional 2" maximum extension of grate to floor level. Any number of extension collars can be fitted into each other to meet the required height of the finished floor level. See page 72.
- **Flashing Clamp Device** **Optional:** Flashing clamp ring in same material as body, with non-puncturing clamps, furnished at added cost.  
Clamp device firmly secures waterproofing to drain body, providing a tight connection.
- **Backwater Valve** **Optional:** Valve housing in same material as body, with copper ball in copper wire cage, furnished for threaded bottom outlet drains only, at added cost. See page 93.  
Backwater valve provides protection against backflow in locations where an independent backwater valve cannot be installed in the line.
- **Trap** **Optional:** Leveleze Deep Seal "P" trap in same material as drain body, with top inlet for inside caulk bottom outlet drain, threaded side outlet, brass oversize flush floor cleanout, with or without backwater valve, furnished at added cost. See Series No. 1980, page 71.
- **Installation** All Josam Leveleze Drains are installed with the adjustable top in "neutral" position. This permits top to be raised or lowered to meet proper floor level.

### ADAPTATIONS (continued)



#### SERIES NO. 3620

##### SPECIFICATION

Same as Series No. 3610 except with LARGE TOP and up to 6" outlet.



#### SERIES NO. 3650

##### SPECIFICATION

Same as Series No. 3610 except with hub SIDE OUTLET.

### JOSAM KEY-LOCKED LEVELEZE FLOOR DRAIN

#### Tamper - proof

Conforms to U. S. Veterans Administration Hospital Specification, Type K Drain

For Mental Institutions, Seclusion Rooms, Prison Wards, Public Areas, Halls, Entrances and similar locations where a floor drain with the top locked in position, is required.

In addition to the regular Leveleze features described herein, the Josam Key-locked floor drain has a solid brass, hinged top which can be locked into closed position with a removable key.

In the locked position, the top of the drain becomes tamper-proof and cannot be used as an open receptacle in seclusion rooms and public areaways, through which articles may be purposely or accidentally dropped. When the hinged top is open, the internal perforated strainer permits the flow of waste water to the drainage lines.



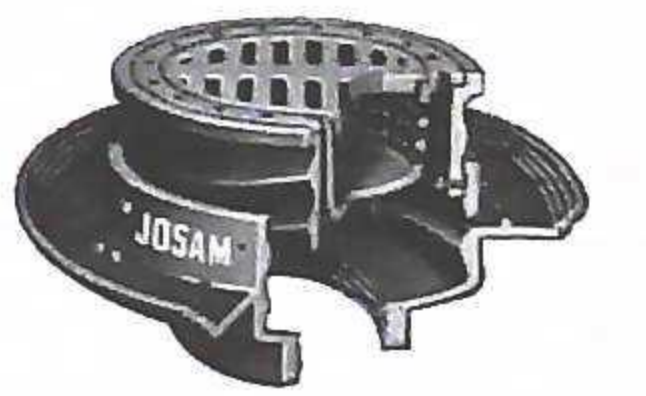
#### SERIES NO. 3710-B

##### SPECIFICATION

Josam Series No. 3710-B, cast iron Leveleze drain with double drainage flange, weepholes, " threaded bottom outlet, rolled thread adjustable top, polished brass round rim and solid hinged top with key type locking mechanism\* attached underneath, and cast iron internal perforated strainer with lifting lug.

##### NOTE

\* Grate is furnished complete with locking mechanism and key.  
When required in accordance with Type K drain for Veterans Administration Hospitals, see page 190.



#### SERIES NO. 3720 With Shallow Bucket



#### SERIES NO. 3740 With Medium Bucket

##### SPECIFICATION SERIES NO. 3720, 3740

Same as Series No. 3610 except with Non-clog triple drainage feature which includes a perforated SEDIMENT BUCKET with auxiliary drainage rim so designed that grate cannot be set in place unless bucket is in position. See page 59 for complete information.

# Hy-Tech Products

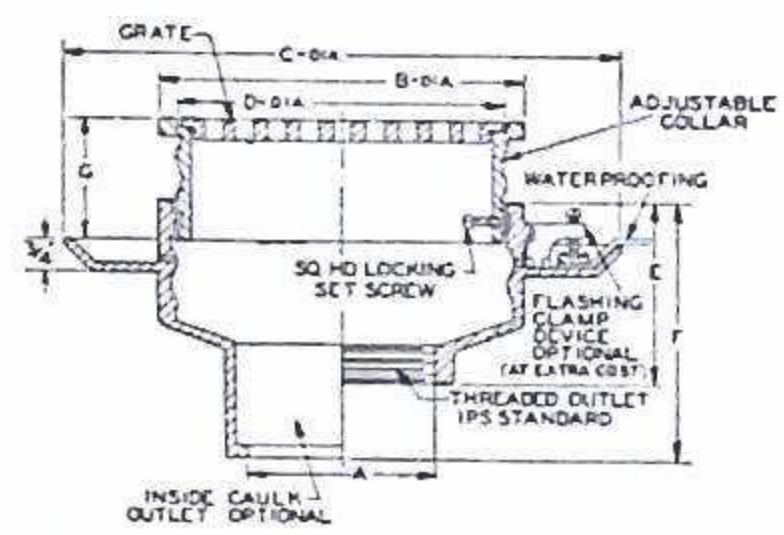
continued on next page



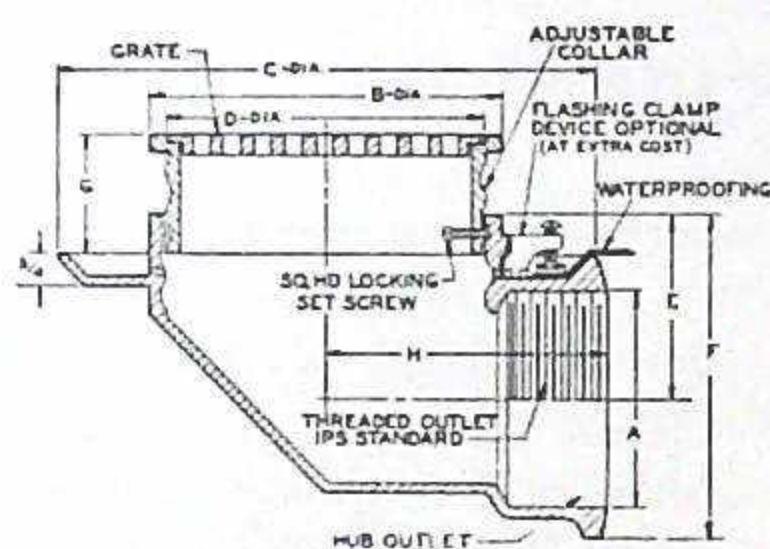
# LEVEZE FLOOR DRAINS

## details and dimensions

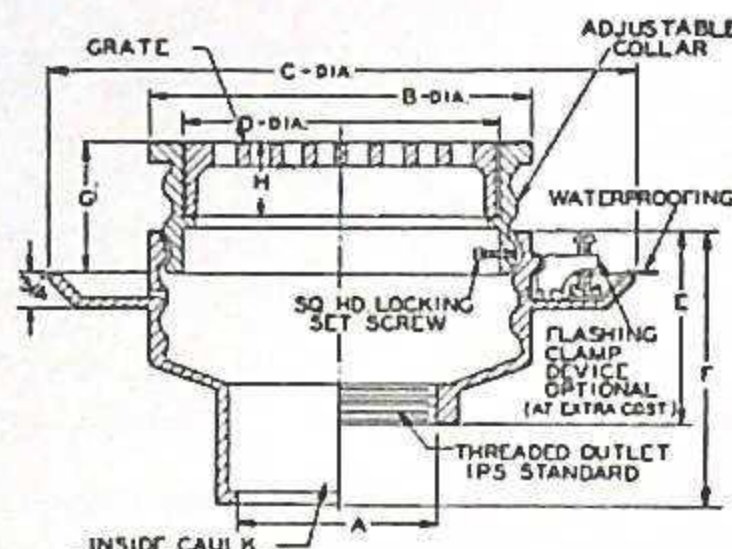
(Illustrations on pages 68, 69)



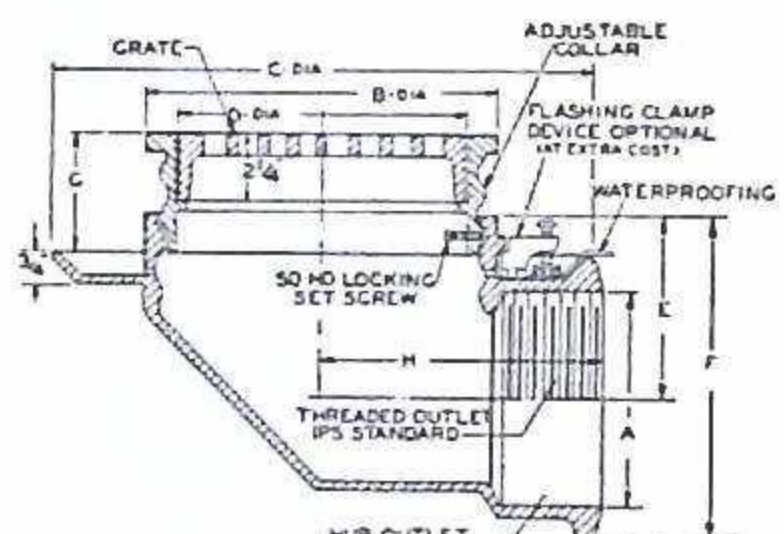
SERIES NO. 3510 and 3520



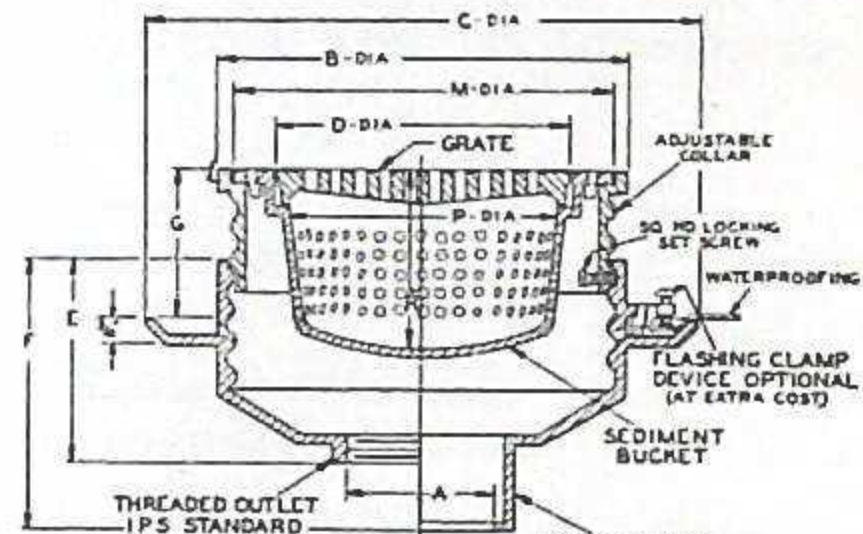
SERIES NO. 3550



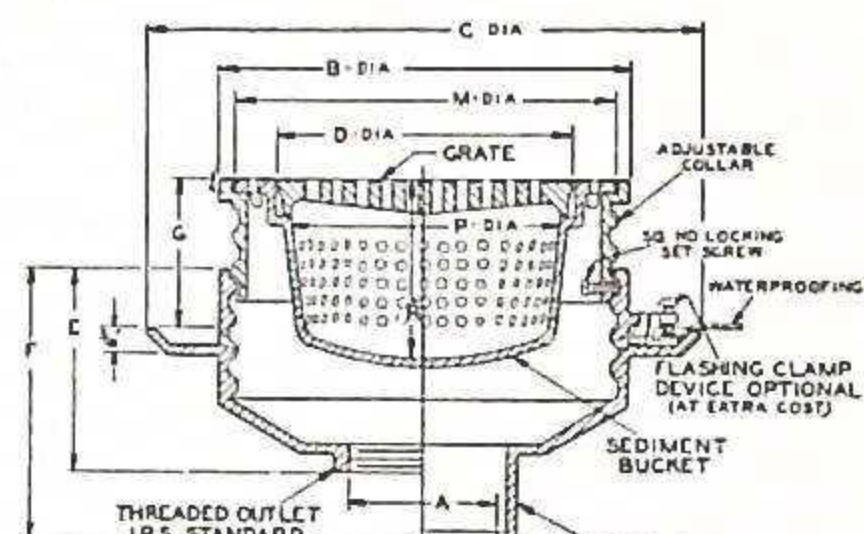
SERIES NO. 3610 and 3620



SERIES NO. 3650



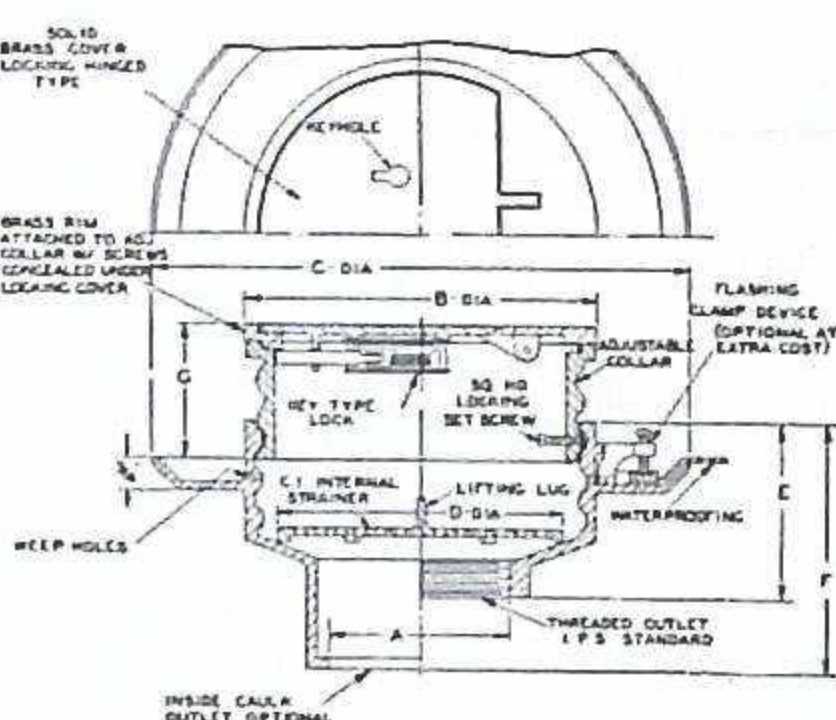
SERIES NO. 3720



SERIES NO. 3740

### DIMENSIONS IN INCHES

SERIES NO.	TYPE NO.	OUT-LET A	TOP AND GRATE			FREE AREA SQ. IN.	C	E	F	G ADJUSTMENT		H	WGT. LBS.
			B	D						Min.	Max.		
3510	3512	2	9	8	17.7	13½	4½	6¼	1¾	3½		32	
	3513	3	9	8	17.7	13½	4½	6¼	1¾	3½		32	
	3514	4	9	8	17.7	13½	4½	6¼	1¾	3½		32	
3520	3524	4	11½	11	29.4	17	5½	7¼	2½	4¾		72	
	3525	5	11½	11	29.4	17	5½	7¼	2½	4¾		72	
	3526	6	11½	11	29.4	17	5½	7¼	2½	4¾		72	
3550	3554	4	11½	11	29.4	17	5½	8¾	2½	4¾	9	93	
	3555	5	11½	11	29.4	17	5¾	9¾	2½	4¾	9	93	
	3556	6	11½	11	29.4	17	6¼	10¾	2½	4¾	9	93	
3610	3612	2	9	7¼	14.5	13½	4½	6¼	1¾	3½	1¾	35	
	3613	3	9	7¼	14.5	13½	4½	6¼	1¾	3½	1¾	35	
	3614	4	9	7¼	14.5	13½	4½	6¼	1¾	3½	1¾	35	
3620	3624	4	11½	10	28.0	17	5½	7¼	2½	4¾	2¼	75	
	3625	5	11½	10	28.0	17	5½	7¼	2½	4¾	2¼	75	
	3626	6	11½	10	28.0	17	5½	7¼	2½	4¾	2¼	75	
3650	3654	4	11½	10	28.0	17	5¼	8¾	2½	4¾	9	96	
	3655	5	11½	10	28.0	17	5¾	9¾	2½	4¾	9	96	
	3656	6	11½	10	28.0	17	6¼	10¾	2½	4¾	9	96	
3710-B	3712-B	2	9	7½	9.5		4½	6¼	1¾	3¾		37	
	3713-B	3	9	7½	9.5		4½	6¼	1¾	3¾		37	
	3714-B	4	9	7½	9.5		4½	6¼	1¾	3¾		37	



SERIES NO. 3710-B

SERIES NO.	TYPE NO.	OUT-LET A	TOP AND GRATE			FREE AREA SQ. IN.	C	E	F	G ADJUSTMENT		SEDIMENT BUCKET			WGT. LBS.
			B	D						MIN.	MAX.	M	P	R	
3720	3722	2	8¾	6¼	11.7	13½	4½	6¼	1½	3½	8	5½	2½	7.6	34
	3723	3	8¾	6¼	11.7	13½	4½	6¼	1½	3½	8	5½	2½	7.6	34
	3724	4	8¾	6¼	11.7	13½	4½	6¼	1½	3½	8	5½	2½	7.6	34
3740	3743	3	12½	8¾	18.3	17	6¼	8¾	2½	5	11½	8	5½	21.6	63
	3744	4	12½	8¾	18.3	17	6¼	8¾	2½	5	11½	8	5½	21.6	63
	3745	5	12½	8¾	18.3	17	6¼	8¾	2½	5	11½	8	5½	21.6	63
	3746	6	12½	8¾	18.3	17	6¼	8¾	2½	5	11½	8	5½	21.6	63

\* ADD ¼" FOR BRASS TYPE

## with adjustable top cleanout

● **APPLICATION:** On bottom outlet drains where an independent trap and access to drain line is required, where cleanout cover can be raised or lowered to meet the finished floor level, or where it is necessary to set the drain top and the cleanout cover, at different floor levels.

For features to suit additional requirements, see variations of Deep Seal Traps on page 116.

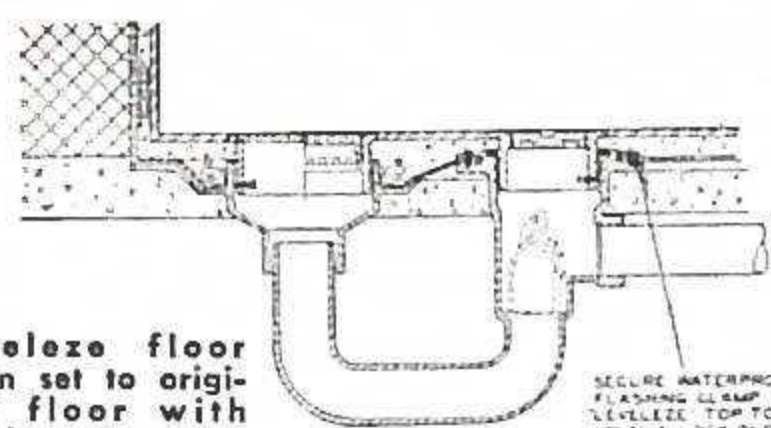
### STANDARD and OPTIONAL FEATURES

- **Body** **Standard:** Cast iron lacquer finish, deep seal "P" trap. **Optional:** Galvanized iron, Reztan iron, brass, SR steels or Everdur, at added cost. (See ♦—page 16).
- **Flange** **Standard:** Cast iron round flange secures waterproofing when used. Flashing clamp device is optional at added cost.
- **Inlet** **Standard:** Top inlet for inside caulk drain outlet, with seven ½" cut-off sections.
- **Outlet** **Standard:** Female threaded side outlet. **Optional:** Spigot outlet at added cost.
- **Adjustable Top Cleanout** **Standard:** Cast iron Leveze adjustable head with brass, threaded countersunk plug cleanout flush with floor. Adjustable top permits cleanout to be raised or lowered to meet floor level, or drain top and cleanout plug can be set at different levels.
- **Backwater Valve** **Optional:** Brass housing, same diameter as outlet of trap, with top hung vertical swing flap caulked into trap, at added cost. Backwater valve provides protection against backflow in locations where an independent backwater valve cannot be installed in the line.

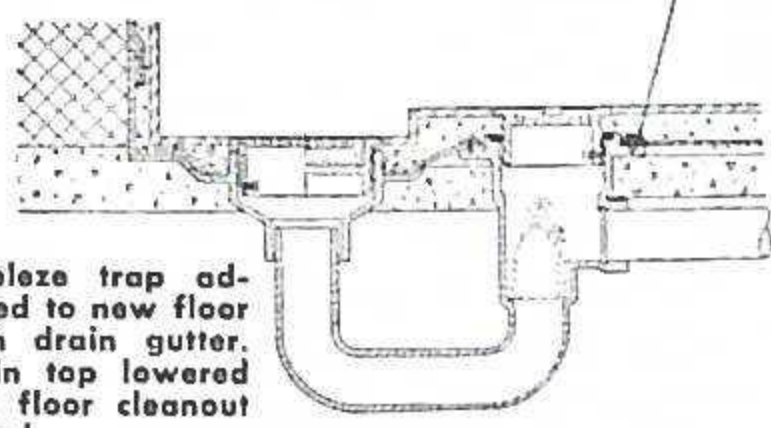
TYPE NO.	DIMENSIONS IN INCHES											WGT. LBS.	
	A	B	C	D	E	F	G	H	J	K	L		M
1983	3	3	13¾	19½	6½	16	5½	5	11½	7½	1¾	14	55
1984	4	4	14¾	20½	7	17¾	4¾	6	12¾	9	1¾	15¾	70

Any Josam Leveze Floor Drain can be furnished with a Josam Leveze Deep Seal "P" trap with top inlet for inside caulk drain outlet, threaded side outlet, oversize brass flush floor cleanout with adjustable top, with or without backwater valve.

The adjustable cleanout can be raised or lowered in the same manner as the Leveze Drain. This permits the plug to be set at the same level as the drain top, or the drain top and cleanout plug can be set at different levels.



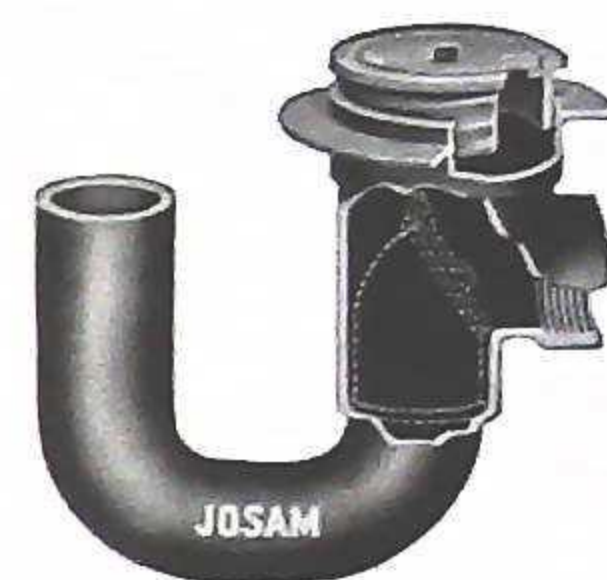
Levelze floor drain set to original floor with Levelze deep seal trap and floor cleanout.



Levelze trap adjusted to new floor with drain gutter. Drain top lowered and floor cleanout raised.

# LEVEZE DEEP SEAL TRAP

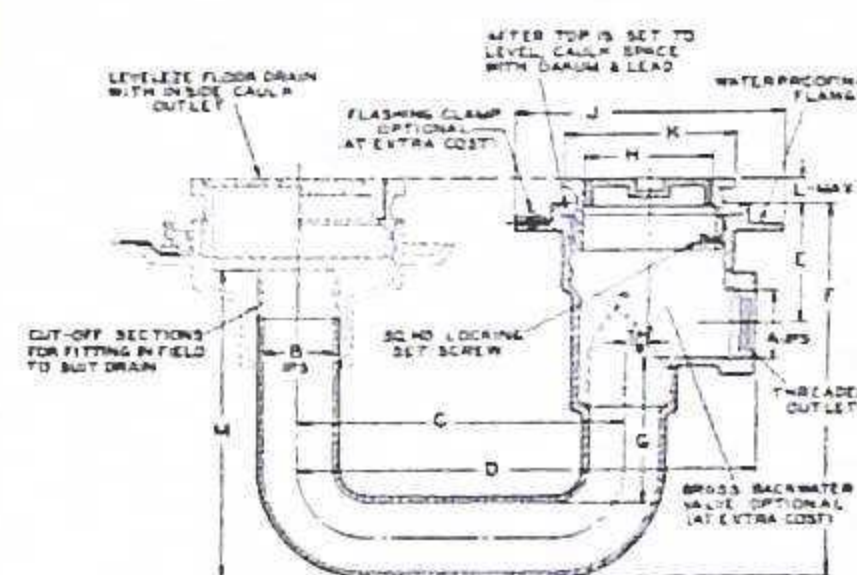
## SERIES No. 1980



### SPECIFICATION

Josam Series No. 1980, cast iron Leveze deep seal "P" trap with top inlet for inside caulk drain outlet, threaded side outlet, waterproofing flange, and oversize threaded brass flush floor cleanout in cast iron adjustable top.

(With brass flap type backwater valve caulked into trap leg, Series No. 1980-V).



After the adjustable top is set level with the floor line, the space between the rolled thread and body of the trap, is caulked with oakum and lead to provide a water-tight connection and prevent escape of gases into room.



## LEVEZE FLOOR CLEANOUT AND EXTENSION COLLAR

floor cleanout with adjustable top

- **APPLICATION:** On cleanout risers, with access cover flush with floor. The adjustable top with rolled thread permits the floor plate to be raised or lowered to meet the finished floor level.

For floor cleanouts to suit other requirements, see page 120.

### STANDARD and OPTIONAL FEATURES

- **Body** **Standard:** Cast iron lacquer finish with polished brass rim secured to adjustable collar by countersunk screws.  
**Optional:** Galvanized iron, Rezistan iron, brass, Everdur or White Metal with polished brass rim, at added cost. (See ♦ — page 16).
- **Flange** **Standard:** Double drainage flange and weepholes drain off seepage around drain and protect areas below. Flange also serves as an anchor for concrete construction, or for attaching waterproofing when used.
- **Floor Plate** **Standard:** Polished brass, scoriated, with "C-O" cast in plate and fastened to brass rim by countersunk screws.  
**Optional:** Chrome plated brass, SR steels, Everdur or White Metal at added cost. (See ♦ — page 16).
- **Connection** **Standard:** Inside caulk.
- **Adjustable Top** **Standard:** Rolled thread adjustable top in same material as body, permits up to 2" adjustment to bring top to floor level. Top can be raised or lowered after the cleanout is in construction, and set screw on inside of collar holds the adjustable top in position while floor construction is applied.
- **Internal Plug** **Standard:** Brass "T" handle closure plug screwed into body.  
**Optional:** SR steels, Everdur or White Metal. (See ♦ — page 16). Provides protection against backflow from sewers in areas subject to periodic heavy floods, and is easily removed to permit drainage.
- **Flashing Clamp Device** **Optional:** Flashing clamp ring in same material as body, with non-puncturing clamps, furnished at added cost.

TYPE NO	DIMENSIONS IN INCHES					WGT. LBS
	A	B	C	D	E	
Y-712	2	9	13½	3	6¼	37
Y-713	3	9	13½	4	6¼	37
Y-714	4	9	13½	5	6¼	37

## leveze extension collar

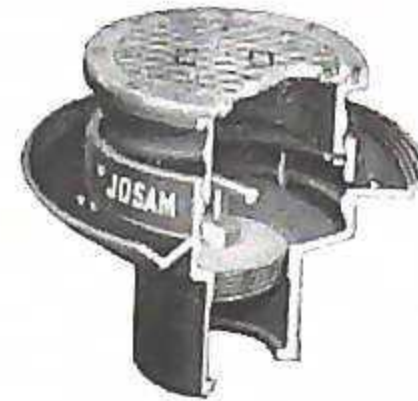
- **APPLICATION:** For use in combination with any Josam Leveze Floor Drain where extra thick floor slabs are installed, or where an additional floor is applied to an old floor.
- **Body** **Standard:** Cast iron lacquer finish with rolled thread inside and outside, to take adjustable collar of floor drain and to screw into drain body or another extension collar. Locking set screw holds adjustable collar in position while floor construction is applied.  
**Optional:** Galvanized iron, Rezistan iron, brass, Everdur or White Metal, at added cost. (See ♦ — page 16).

NOTES: Any number of extension collars can be fitted into each other to meet the required height for the finished floor level. To specify or order a Leveze Floor Drain with extension collars, add Suffix "E" and number of collars to type number of drain. For example, Type 3512 with two extension collars should be designated as "Type 3512-E2."

For collars without drain body, designate type number of drain and quantity of collars required. For example, "Two extension collars for Type No. 3512."

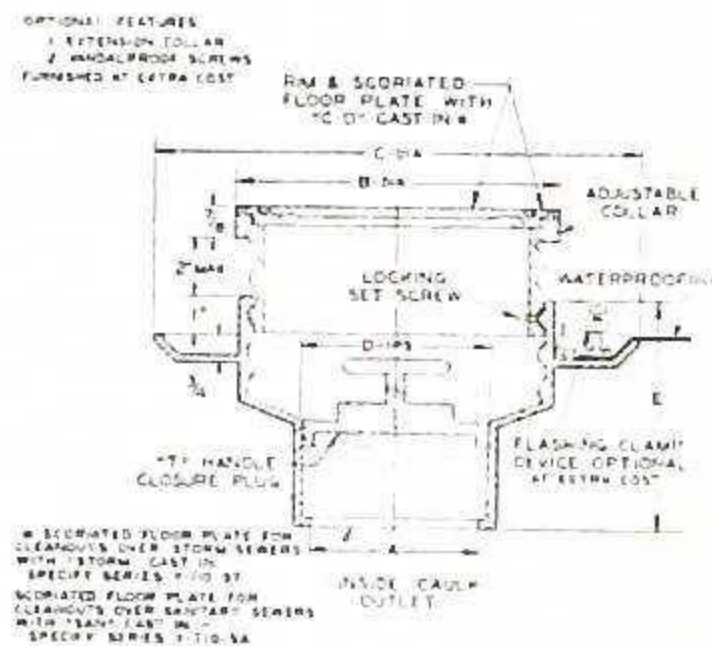
DRAIN SERIES NO.	DIMENSIONS IN INCHES		"G" PER COLLAR	
	B	D	Min.	Max.
	3510	9	8	3¼
3520	11½	11	3¼	6
3530	11½	10	3¼	6
3550	11½	11	3¼	6
3610	9	7¼	3¼	5
3620	11½	10	3¼	6
3650	11½	10	3¼	6
3720	9	6¼	3¼	6
374	12½	8¾	3¼	6

## SERIES No. Y-710



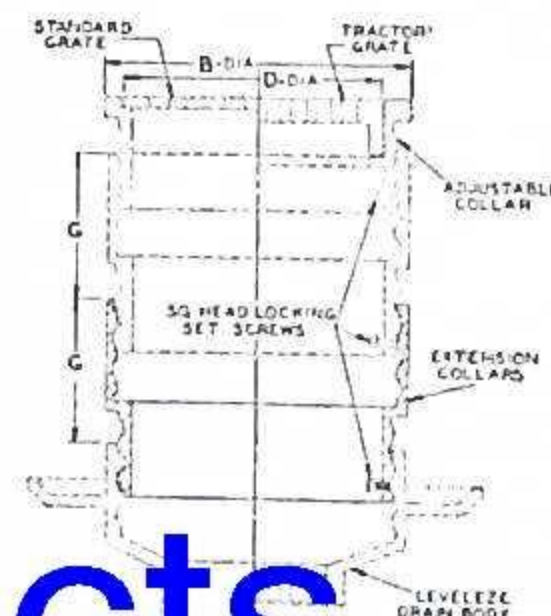
### SPECIFICATION

Josam Series No. Y-710, cast iron Leveze Floor Cleanout with polished brass rim and scoriated floor plate, adjustable collar with rolled thread, " inside caulk connection, double drainage flange and weepholes, and threaded brass internal "T" handle closure plug.



### SPECIFICATION

1 (2 or 3) Josam cast iron Leveze Extension Collar(s) with rolled thread and brass locking set screw, for use with Josam Series No. Leveze Floor Drain.

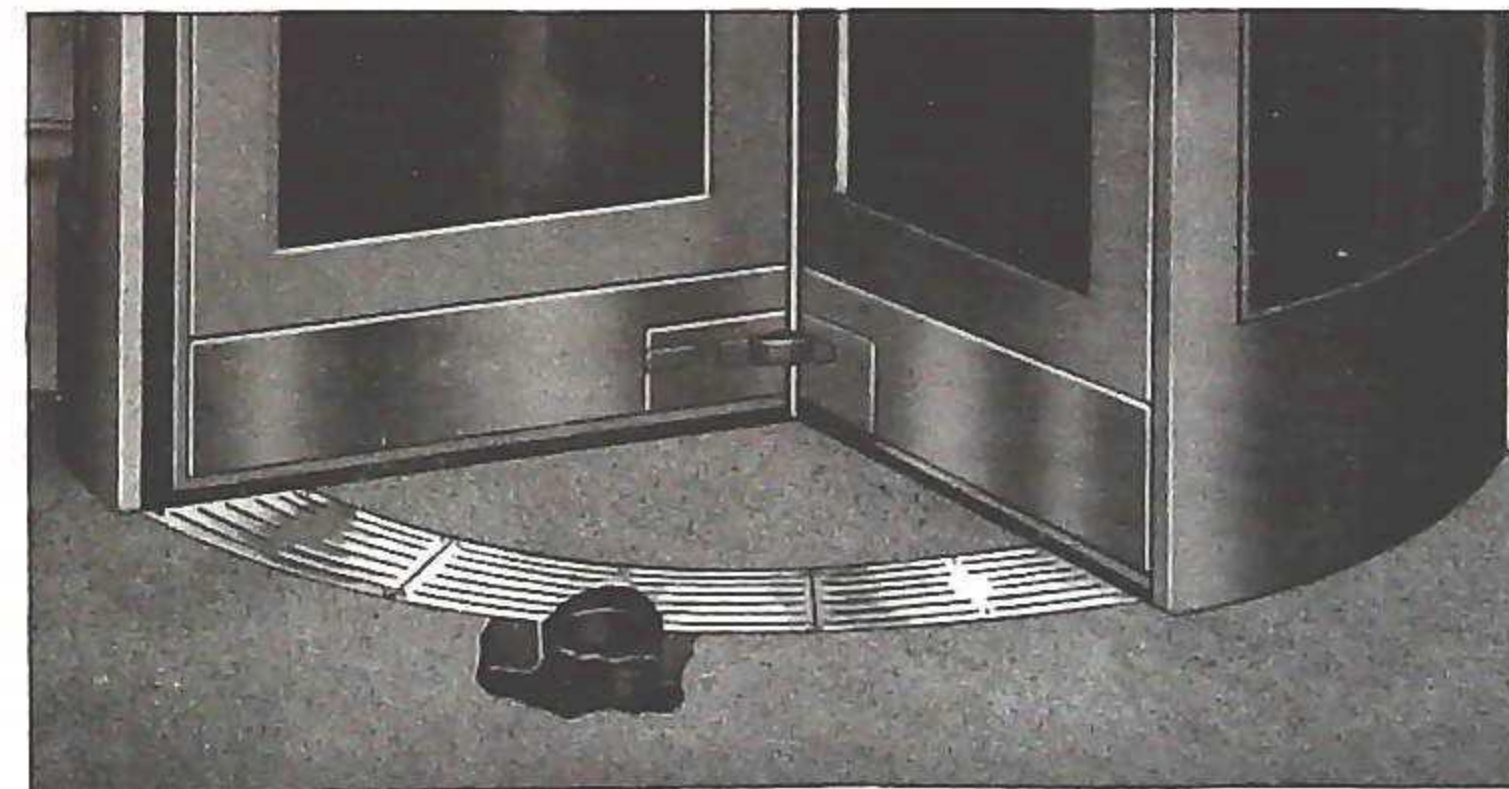


for revolving doors

- **APPLICATION:** For installation at the entrance of revolving doors to drain excess water and slush due to heavy rains and snowfalls. Suitable for revolving doors 6'6" or larger.

### STANDARD and OPTIONAL FEATURES

- **Body** **Standard:** Cast iron lacquer finish with double drainage flange and weepholes.
- **Flange** **Standard:** Double drainage flange and weepholes drain off seepage around drain and protect areas below. Flange also serves as an anchor for concrete construction, or for attaching waterproofing when used.
- **Outlet** **Standard:** 3" inside caulk, bottom outlet.
- **Top** **Standard:** Non-skid Nicalun, with 6" wide frame and grate fastened to body by screws. Grate is on a 3'3" radius suitable for 6'6" or larger revolving door.



Josam Revolving Door Drain

Solves the problem of snow, slush and muddy waters being tracked into building entrances through revolving doors.

The slush and dirty water are washed into the grate openings as the rubber stripping on the bottom of the revolving door wings passes over the grating.



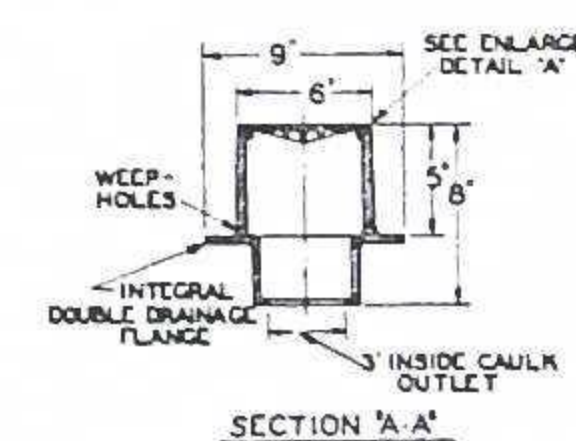
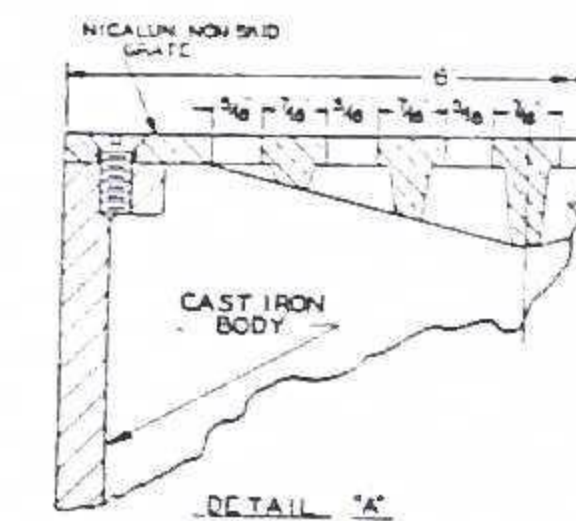
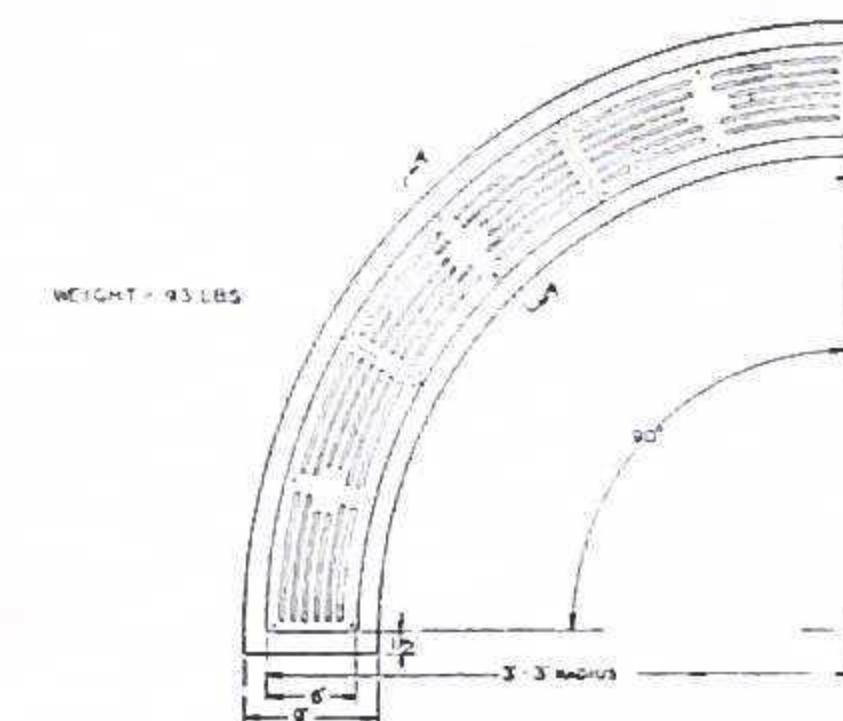
## FLOOR DRAIN

## SERIES No. 0370



### SPECIFICATION

Josam Series No. 0370, cast iron revolving door drain with double drainage flange and weepholes, 90° segment, 6" wide non-skid Nicalun top, with 3" inside caulk bottom outlet.





## AREA DRAINS

with flat, dome or beehive grate

- **APPLICATION:** For installation in protected Areaways, Basements, Laundry troughs and similar locations not subject to traffic and where waste water does not carry debris.

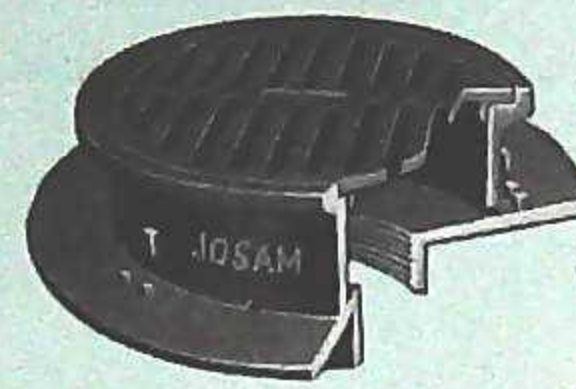
For optional features to suit requirements, see Adaptations of Josam Series No. 110.

### STANDARD and OPTIONAL FEATURES

The features below apply to drains in this group. The illustrations show the standard features applicable to each design.

- **Body** **Standard:** Cast iron lacquer finish, with round top. Series No. 140 has stirrups in surface rim to take hose or drain lines.  
**Optional:** Cast iron with square top; cast iron galvanized, Rezystan iron, all brass, SR steels or Everdur with round or square top, at added cost. (See — page 16).
- **Flange** **Standard:** Where shown in illustrations, double drainage flange and weepholes drain off seepage around drain and protects areas below. Flange also serves as an anchor for concrete construction, or for attaching waterproofing when used.
- **Outlet** **Standard:** Female threaded bottom or side outlet as illustrated, except Series No. 140 which has inside caulk bottom outlet only.  
**Optional:** Inside caulk bottom outlet in place of threaded, at no added cost. Hub or spigot adaptor for side outlet, at added cost.
- **Grate** **Standard:** Cast iron round, flat, loose set.  
**Optional:** Cast iron dome or beehive, or cast iron galvanized, Rezystan iron, polished or chrome plated brass, SR steels, White Metal or Everdur, flat, dome or beehive. (See — page 16).
- **Flashing Clamp Device** **Optional:** On Series Nos. 110, 130 and 160 only. Ring in same material as body, with non-puncturing clamps, at added cost. Clamp device firmly secures waterproofing to drain body, providing a tight connection.
- **Internal Plug** **Standard:** On Series Nos. 120 and 130 only. Brass "T" handle, threaded plug.  
For use in Plenum Chambers, Air Ducts and similar spaces requiring drainage facilities only when cleaning, and in areas subject to periodic heavy flood conditions, or to prevent escape of sewer gas into room. Easily removed to permit drainage when required.
- **Backwater Valve** **Optional:** Valve housing in same material as body, with copper ball in copper wire cage, furnished for threaded bottom outlet drains only, at added cost. See page 93.
- **Trap** **Optional:** Deep seal "P" trap in same material as drain body, with or without cleanout, and with or without backwater valve, furnished for bottom outlet drains only, at added cost. See page 116.

### SERIES No. 110



#### SPECIFICATION

Josam Series No. 110, cast iron area drain with double drainage flange and weepholes, round top, loose set grate and " " threaded outlet.

**NOTE:** The above specification covers Josam Series No. 110.

Where optional features or materials are required, select style from illustrations shown, change Series Number above, and insert optional features or materials.

### ADAPTATIONS OF SERIES NO. 110

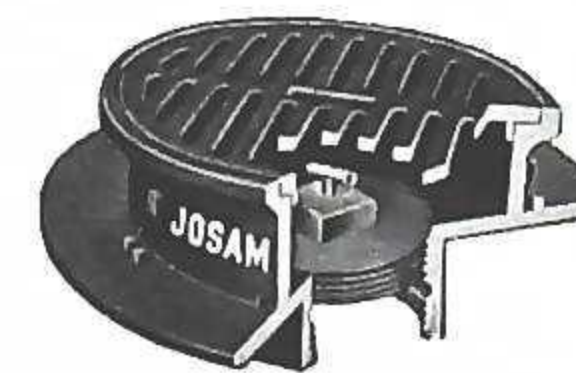
The following illustrations show the SPECIAL FEATURES of Adaptations of Series No. 110.



#### SERIES NO. 100

#### SPECIFICATION

Same as Series No. 110 except WITHOUT FLANGE.



#### SERIES NO. 130

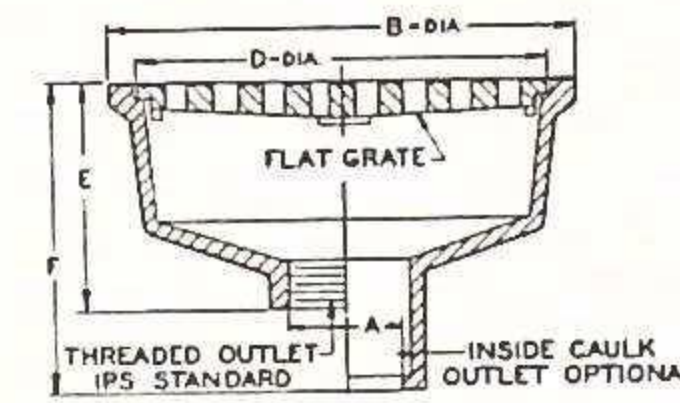
#### SPECIFICATION

Same as Series No. 110 except with brass, internal "T" handle CLOSURE PLUG. Same design without flange, Series No. 100.

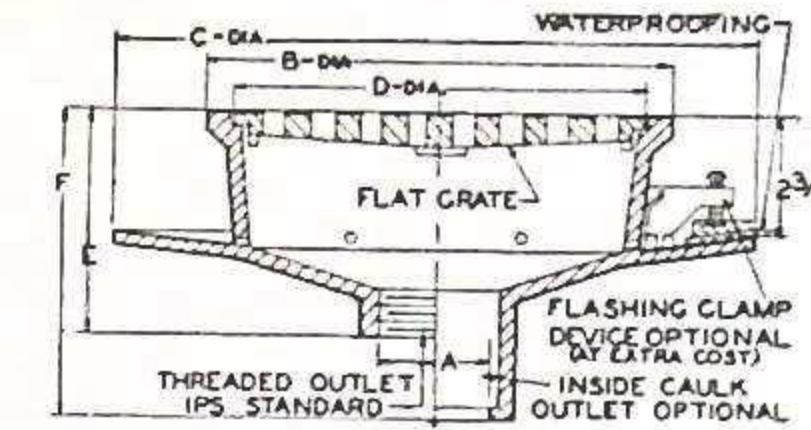
with flat, dome or beehive grate



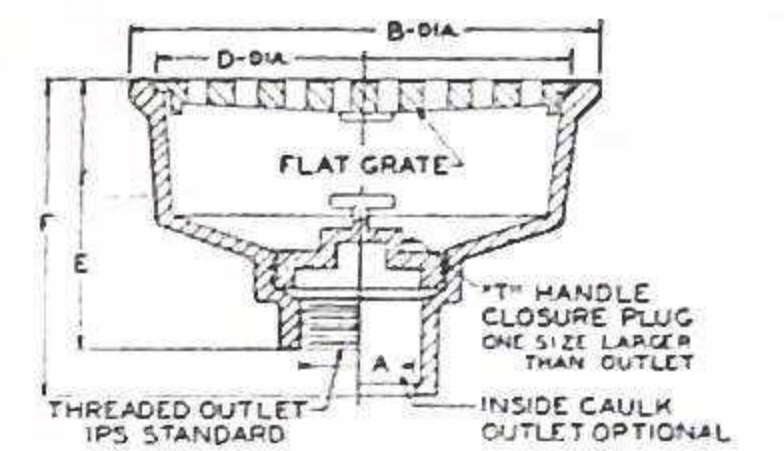
## AREA DRAINS



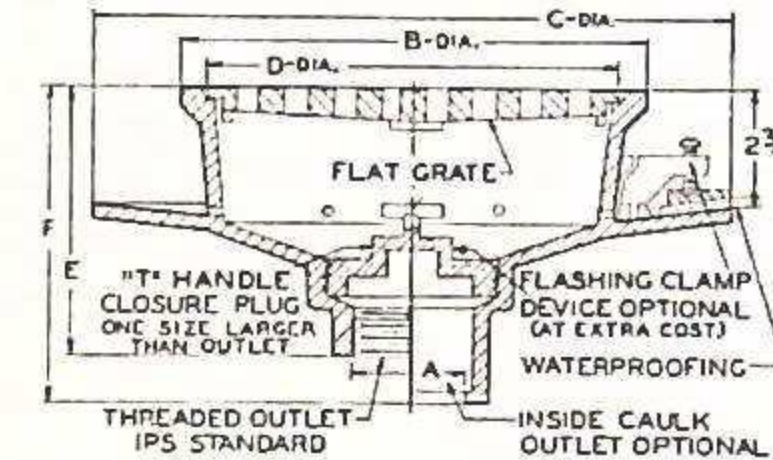
#### SERIES NO. 100



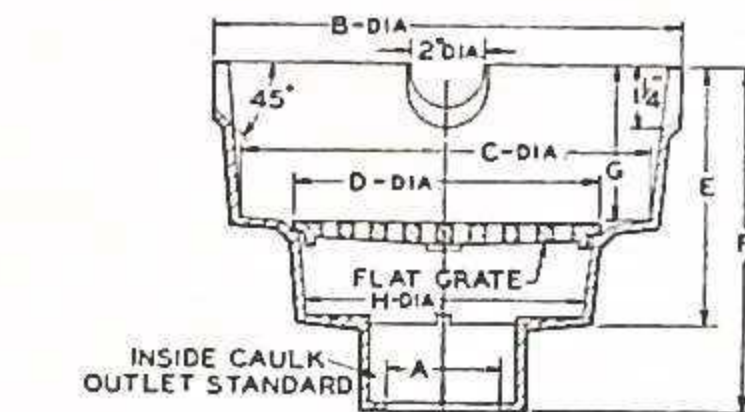
#### SERIES NO. 110



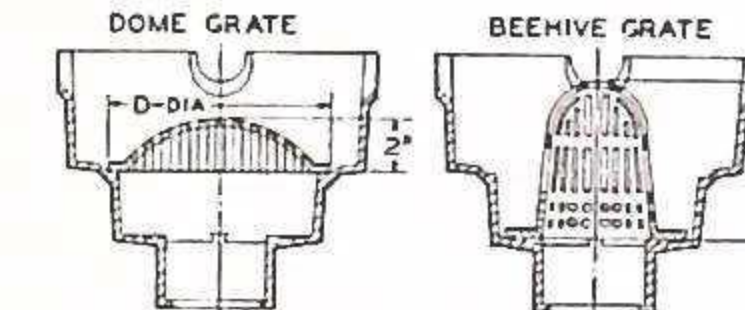
#### SERIES NO. 120



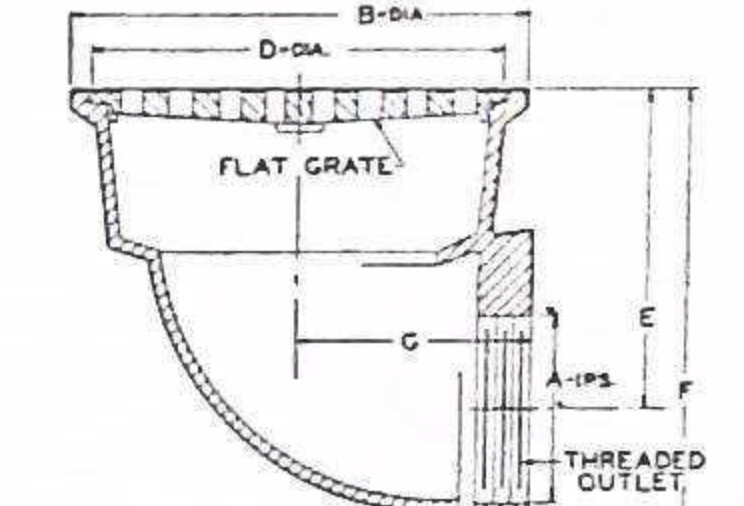
#### SERIES NO. 130



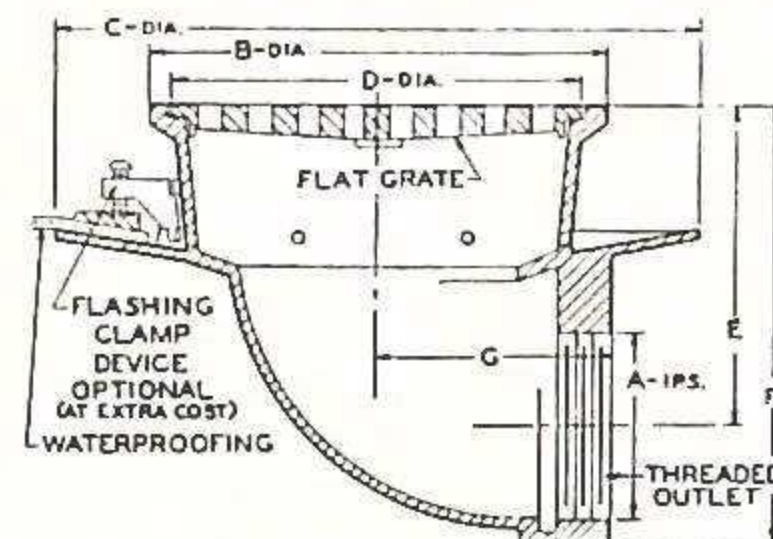
#### SERIES NO. 140



#### SERIES NO. 140-N SERIES NO. 140-P



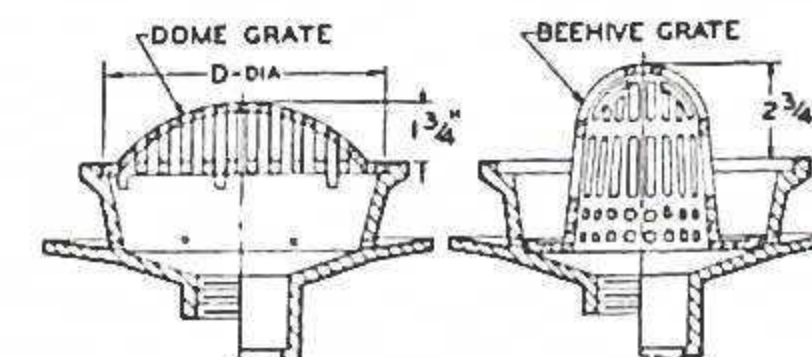
#### SERIES NO. 150



#### SERIES NO. 160

#### NOTE:

Dome or beehive grate can be furnished in place of flat grate, on any drain in this group.



### DIMENSIONS IN INCHES

Series No.	TYPE NO.			OUT-LET A	TOP AND GRATE			C	E	F	G	H	WGT. LBS.
	With Flat Grate	With Dome Grate	With Beehive Grate		B	D	Free* Area Sq. In.						
100	102	102-N	102-P	2	9	8	18.5	3 3/8	5 3/4				13
	103	103-N	103-P	3	9	8	18.5	4	5 3/4				13
	104	104-N	104-P	4	9	8	18.5	4 1/8	5 3/4				13
110	112	112-N	112-P	2	9	8	18.5	12 1/2	3 7/8	5 3/4			20
	113	113-N	113-P	3	9	8	18.5	12 1/2	4	5 3/4			20
	114	114-N	114-P	4	9	8	18.5	12 1/2	4 1/8	5 3/4			20
120	122	122-N	122-P	2	9	8	18.5	4 3/4	6 3/8				20
	123	123-N	123-P	3	9	8	18.5	5 1/4	6 3/8				20
	124	124-N	124-P	4	9	8	18.5	5 3/8	7				20
130	132	132-N	132-P	2	9	8	18.5	12 1/2	4 3/4	6 3/8			27
	133	133-N	133-P	3	9	8	18.5	12 1/2	5 1/4	6 3/8			27
	134	134-N	134-P	4	9	8	18.5	12 1/2	5 3/8	7			27
140	142	142-N	142-P	2	12 1/8	8	18.5	10 3/8	6 7/8	9 1/8	4	7	22
	143	143-N	143-P	3	12 1/8	8	18.5	10 3/8	6 7/8	9 1/8	4	7	23
	144	144-N	144-P	4	12 1/8	8	18.5	10 3/8	6 7/8	9 1/8	4	7	24
150	152	152-N	152-P	2	9	8	18.5	6 3/4	8 1/2	4 1/2			22
	153	153-N	153-P	3	9	8	18.5	6 3/4	8 1/2	4 1/2			22
	154	154-N	154-P	4	9	8	18.5	5 3/4	8 1/2	4 1/2			22
160	162	162-N	162-P	2	9	8	18.5	12 1/2	6 3/4	8 1/2	4 1/2		27
	163	163-N	163-P	3	9	8	18.5	12 1/2	6 1/4	8 1/2	4 1/2		27
	164	164-N	164-P	4	9	8	18.5	12 1/2	5 3/4	8 1/2	4 1/2		27

**NOTE\*** Free Area of Flat Grate Is Given  
Free Area of Dome Grate = 16.1  
Free Area of Beehive Grate = 23.0  
• Add 1/4" for brass flat top.



#### SERIES NO. 140 SPECIFICATION

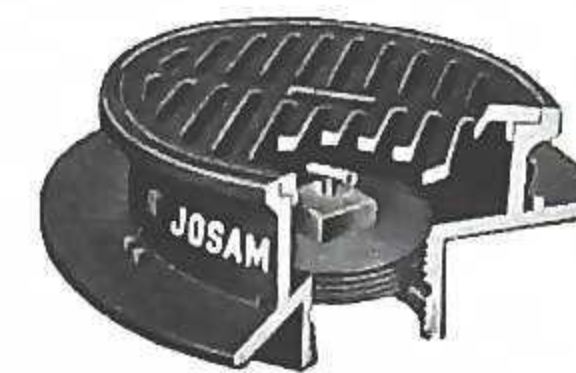
Josam Series No. 140, cast iron drain with " " inside caulk bottom outlet, flat grate in recessed sump, and stirrups in top rim of drain to take hose or surface lines.

Surface line or trench is formed in concrete to direct flow into sump. In flood conditions in laundry floor wash basins and similar locations.



#### SERIES NO. 160 SPECIFICATION

Same as Series No. 110 except with threaded side outlet. Same design without flange, Series No. 150.



#### SERIES NO. 130 SPECIFICATION

Same as Series No. 110 except with brass, internal "T" handle CLOSURE PLUG. Same design without flange, Series No. 100.

# Hy-Tech Products

bottom or side outlet, bell trap, backwater valve

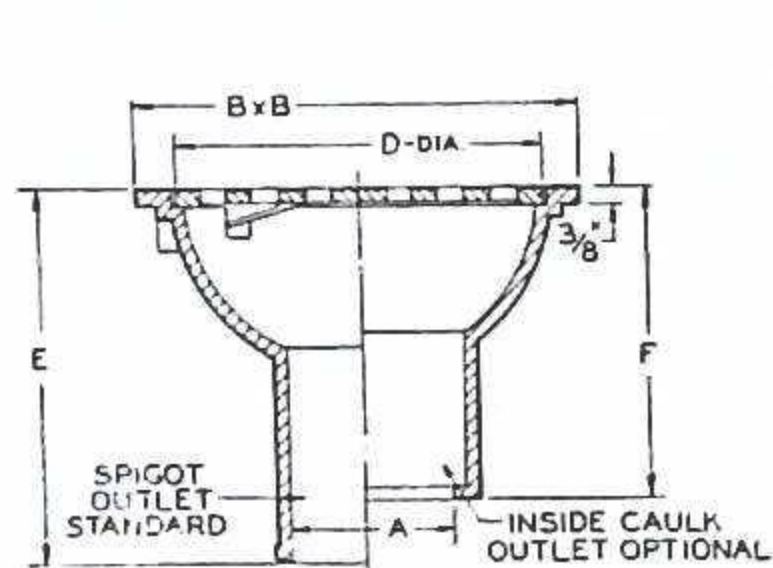
● **APPLICATION:** For installation in Basements, Areaways or any location where code permits drain of this design.

For features to suit additional requirements, see Adaptations of Series No. V-110 and other styles on pages 74-79.

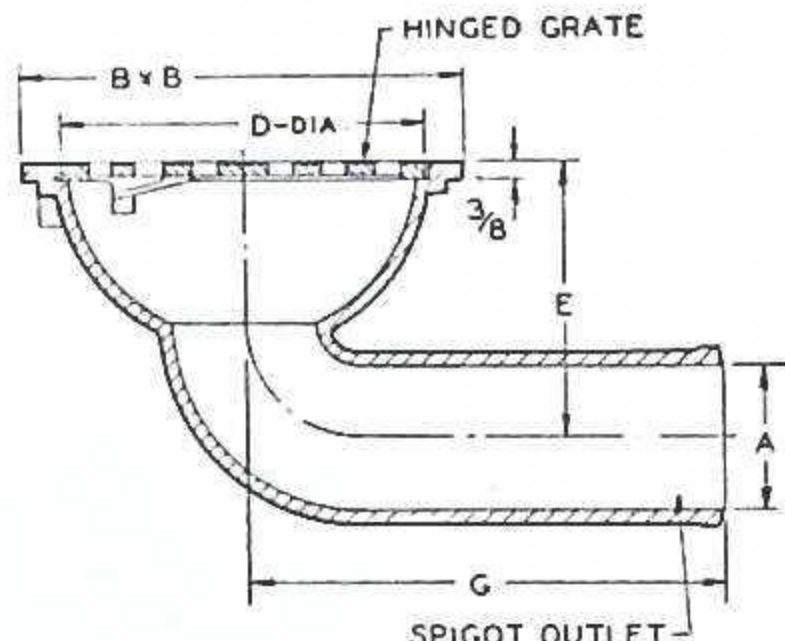
**STANDARD and OPTIONAL FEATURES**

The features below apply to drains in this group. The illustrations show the standard features applicable to each design.

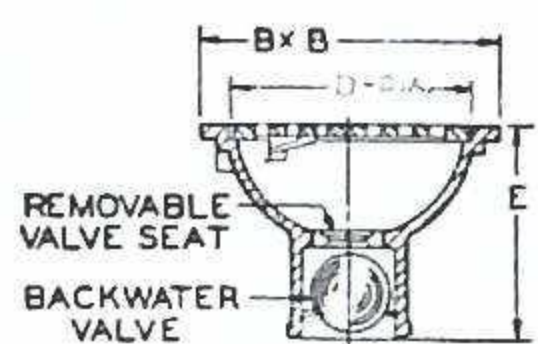
- **Body** **Standard:** Cast iron lacquer finish, round, with square frame.  
**Optional:** Galvanized iron or Rezistan iron. (See ♦ — page 16).
- **Outlet** **Standard:** Spigot or inside caulk bottom or spigot side outlet as illustrated.  
**Optional:** Inside caulk instead of spigot bottom outlet, at no added cost.
- **Grate** **Standard:** Cast iron, round, perforated, hinged.  
**Optional:** Galvanized iron, Rezistan iron, polished or chrome plated brass, SR steels, Everdur or White Metal with frame to match, at added cost. (See ♦ — page 16).
- **Bell Trap** **Standard:** Series No. 130, with inside caulk bottom outlet only. Bell trap is attached to grate and seal is formed by drain pipe.
- **Backwater Valve** **Standard:** On Series No. 120, for 3" and 4" bottom spigot outlet only. Copper ball float with brass seat, removable through grate opening, provides protection against backflow.



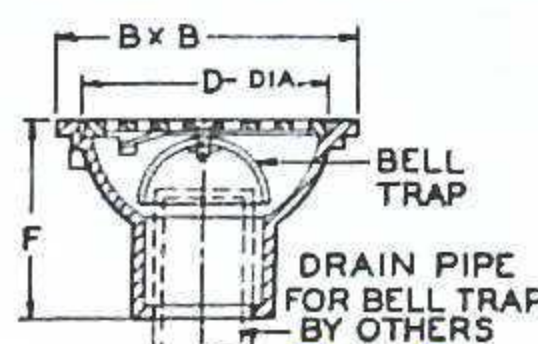
SERIES NO. V-110



SERIES NO. V-140



SERIES NO. V-120



SERIES NO. V-130

**DIMENSIONS IN INCHES**

Series No.	Type No.	Outlet A	TOP AND GRATE				* E	* F	WGT. LBS.
			B	D	Free Area Sq. In.				
V-110	V-112	2	6	4 7/8	3.0	6 1/2	4 1/2	6	
	V-113	3	9	7 3/8	6.6	7 1/8	6 1/8	14	
	V-114	4	12	10 1/8	11.4	10	7	20	
V-120	V-123	3	9	7 3/8	6.6	7 1/8	6 1/8	15	
	V-124	4	12	10 1/8	11.4	10	7	21	
V-130	V-132	2	6	4 7/8	3.0	6 1/2	4 1/2	7	
	V-133	3	9	7 3/8	6.6	7 1/8	6 1/8	15	
	V-134	4	12	10 1/8	11.4	10	7	21	
V-140	V-142	2	6	4 7/8	3.0	3 3/4	5 3/4	9	
	V-143	3	9	7 3/8	6.6	5 3/8	10	20	
	V-144	4	12	10 1/8	11.4	8 3/8	11	33	

\* Add 1/4" for brass top.

**SERIES No. V-110**



**SPECIFICATION**

Josam Series No. V-110, cast iron round cesspool with 3" bottom spigot outlet, square frame and round perforated hinged grate.

**NOTE:** The above specification covers Josam Series No. V-110. Where optional features or materials are required, select style from illustrations shown, change Series Number above, and insert optional features or materials.

**ADAPTATIONS OF SERIES NO. V-110**

The following illustrations show the SPECIAL FEATURES of Adaptations of Series No. V-110.



**SERIES NO. V-120**

Same as Series No. V-110 except with copper ball float backwater valve for 3" and 4" spigot bottom outlet.

**SERIES NO. V-130**

Same as Series No. V-110 except with bell trap attached to grate, with seal formed by drain pipe.



Same as Series No. V-110 except with spigot side outlet.

all brass with adjustable strainer

● **APPLICATION:** For shower and urinal receptors where strainer must be adjusted to floor level after drain has been set in construction.

**STANDARD and OPTIONAL FEATURES**

- **Body** **Standard:** Cast brass with round flange at floor line.  
**Optional:** Everdur or SR steels. (See ♦ — page 16).
- **Outlet** **Standard:** Female threaded.
- **Strainer** **Standard:** Polished brass, adjustable, 4 1/4" diameter with concave face plate.  
**Optional:** Chrome plated brass, SR steels, Everdur or White Metal, at added cost. (See ♦ — page 16). Threaded shank permits vertical adjustment to meet variation in slab thickness or finished floor.
- **Gasket** Leather gasket for forming tight connection between receptor and drain body, furnished by others.
- **Trap** **Optional:** Deep Seal Trap furnished at added cost. See page 116.

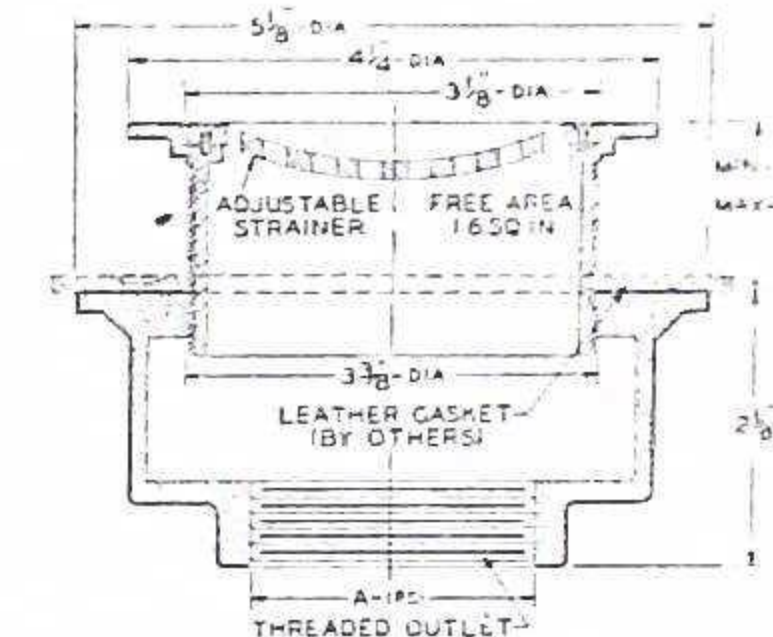
TYPE NO.	OUTLET A	WGT. LBS.
V-182-BB	2"	6
V-183-BB	3"	6

**SERIES No. V-180-BB**



**SPECIFICATION**

Josam Series No. V-180-BB, cast brass shower or urinal drain with 1/2" threaded bottom outlet, round flange and 4 1/4" polished brass adjustable strainer.



for alberene, stone or slate sinks

● **APPLICATION:** For installation in sinks of Alberene, Stone, Slate and other non-absorbent material, in Chemical Laboratories, Hospitals, Morgues and similar locations, where a locknut can be used to permit a tight connection between the sink and waste line.

Where waste connection must withstand certain acids, see Acid Resisting materials, page 184.

**STANDARD and OPTIONAL FEATURES**

- **Body** **Standard:** Cast iron lacquer finish, with round flange.  
3" I.P.S. hexagon locknut to clamp drain in slab, furnished by others.
- **Outlet** **Standard:** Female threaded tail piece.
- **Strainer** **Standard:** Cast iron perforated strainer with ground joint connection.
- **Plug** **Standard:** Ground joint plug with lift bar, in same material as strainer, for use in place of strainer when drainage is not required.
- **Collar** **Standard:** Hexagon collar in same material as body, to connect drain with waste pipe after drain is installed.

**DIMENSIONS IN INCHES**

TYPE NO.	A	WGT. LBS.
V-301 1/2	1 1/2	10 1/2
V-302	2	11

**Optional:** Galvanized iron, Rezistan iron, brass, SR steels, White Metal or Everdur, at added cost. (See ♦ — page 16).

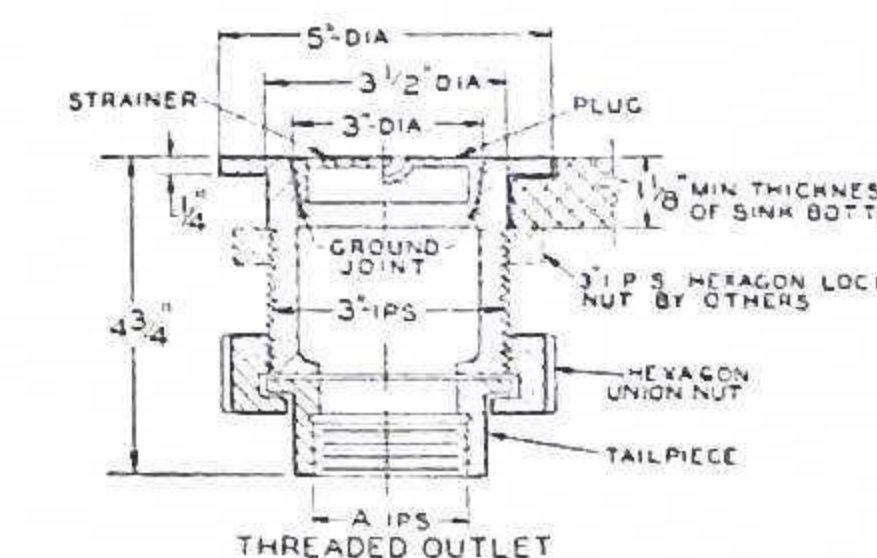
**SINK DRAINS**

**SERIES No. V-300**



**SPECIFICATION**

Josam Series No. V-300, cast iron, stone sink drain with round flange, female threaded tail piece with 1/2" outlet, ground joint perforated strainer, and ground joint plug with lift bar.





● **APPLICATION:** For installation in Areaways, Slop Sinks, Open Drip Sinks or wherever a recessed type cesspool is required. Design with internal bell trap seal, for use where permitted by code.

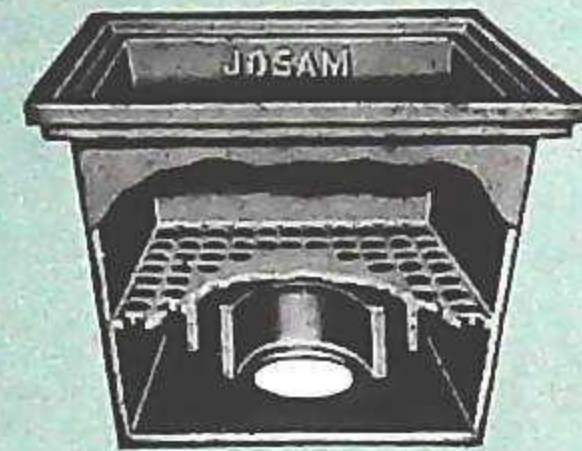
For optional features to suit additional requirements, see Adaptations of Series No. V-10.

**STANDARD and OPTIONAL FEATURES**

The features below apply to drains in this group. The illustrations show the standard features applicable to each design.

- **Body**     **Standard:** Cast iron lacquer finish.  
**Optional:** Galvanized iron, Rezistan iron, brass, SR steels or Everdur, at added cost. (See ♦ — page 16).
- **Flange**   **Standard:** Where shown in illustrations, double drainage flange and weepholes drain off seepage around drain and protect areas below. Flange also serves as an anchor for concrete construction, or for attaching waterproofing when used.
- **Outlet**   **Standard:** Inside caulk or threaded, as illustrated.
- **Bell Trap** **Standard:** On Series Nos. V-10, V-20, V-30 and V-40 only. Bell trap fits over outlet of drain. When drain is furnished with sediment bucket, bell trap is cast integral with bucket.
- **Grate**     **Standard:** Square or rectangular, slotted, loose set, in same material as body, as shown in illustrations.  
On Series No. V-100, anti-splash dome.  
**Optional:** Galvanized iron, Rezistan iron, brass, SR steels or Everdur, at added cost. (See ♦ — page 16).
- **Sediment Bucket** **Standard:** Square or rectangular, with slotted openings, in same material as body, as shown in illustrations.  
Removable sediment bucket catches debris washed into drain and prevents line from clogging.  
Drain with sediment bucket and grate is designed so that grate fits into recess in rim of bucket and cannot be set in place unless bucket is in position.  
Drain with bell trap and bucket, has bucket cast integral with bell trap.
- **Internal Strainer** **Standard:** Round, perforated, in same material as body, where shown in illustrations.

**SERIES No. V-10**



**SPECIFICATION**

Josam Series No. V-10, cast iron square hopper cesspool with " " inside caulk bottom outlet and internal bell trap seal.

(With loose set square grate, Series No. V-20).

**NOTE:** The above specification covers Josam Series No. V-10.

Where optional features or materials are required, select style from illustrations shown, change Series Number above, and insert optional features or materials.

**ADAPTATIONS OF SERIES NO. V-10**

The following illustrations show the SPECIAL FEATURES of Adaptations of Series No. V-10. Standard and Optional Features are listed on the opposite page.



**SERIES NO. V-30**

**SPECIFICATION**

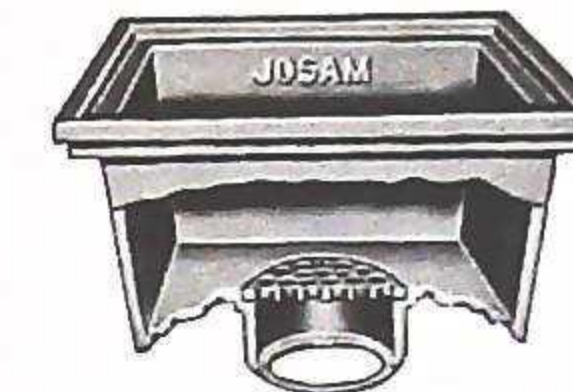
Same as Series No. V-10 except with removable slotted SEDIMENT BUCKET.



**SERIES NO. V-40**

**SPECIFICATION**

Same as Series No. V-10 except with SEDIMENT BUCKET and loose set GRATE designed so that grate cannot be set in place unless bucket is in position.

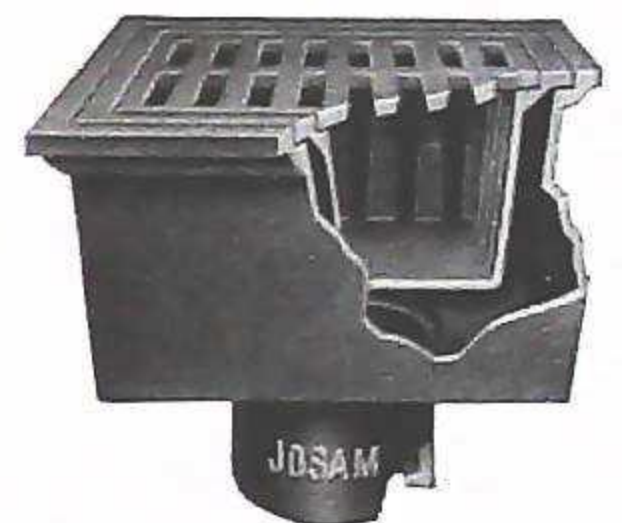


**SERIES NO. V-50**

**SPECIFICATION**

Same as Series No. V-10 except without bell trap and with INTERNAL loose set perforated STRAINER.

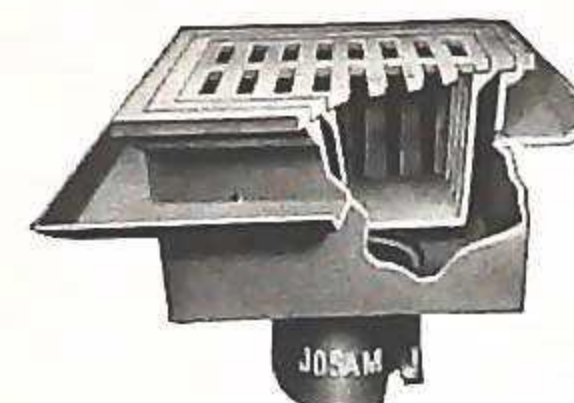
(With loose set square grate, Series No. V-60).



**SERIES NO. V-80**

**SPECIFICATION**

Same as Series No. V-10 except without bell trap and with removable slotted SEDIMENT BUCKET and loose set square grate so designed that grate cannot be set in place unless bucket is in position. (Without grate, Series No. V-70.)



**SERIES NO. V-90**

**SPECIFICATION**

Josam Series No. V-90, cast iron, square mop sink drain with " " inside caulk bottom outlet, double drainage flange, slotted removable sediment bucket and loose set square grate so designed that grate cannot be set in place unless bucket is in position. Bolted flashing clamp device is optional, at added cost.



**SERIES NO. V-100**

**SPECIFICATION**

Josam Series No. V-100, cast iron, round, sanitary sink drain, " " threaded bottom outlet, anchor lugs, anti-splash slotted dome recessed in body. Primer tapping, optional at added cost.

Porcelain enamel inside, at added cost.



**SERIES NO. V-150**

**SPECIFICATION**

Josam Series No. V-150, cast iron square hopper drain with double drainage flange, " " inside caulk bottom outlet, and loose set, internal, perforated strainer.

Porcelain enamel inside, at added cost.



**SERIES NO. V-290**

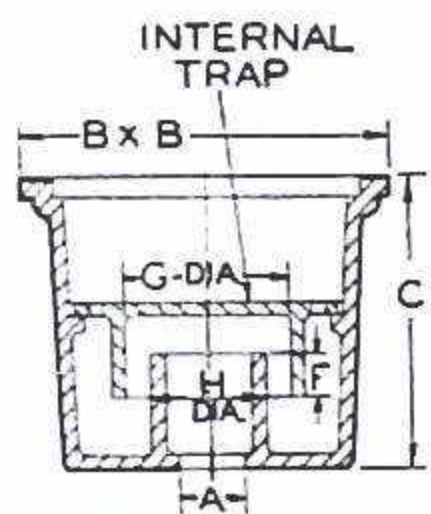
**SPECIFICATION**

Josam Series No. V-290, cast iron rectangular hopper drain with double drainage flange, weepholes, loose set internal perforated strainer, 2" inside caulk outlet and loose set grate.

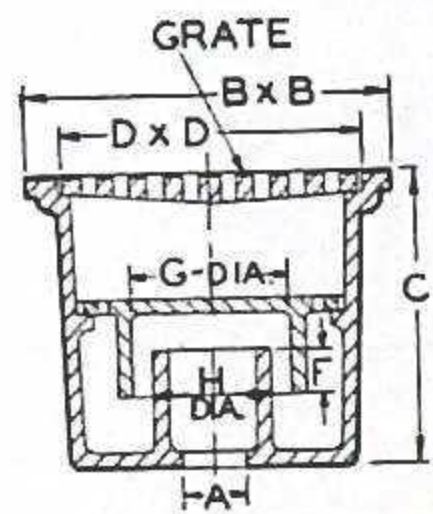
*details and dimensions*

(Illustrations on pages 78, 79)

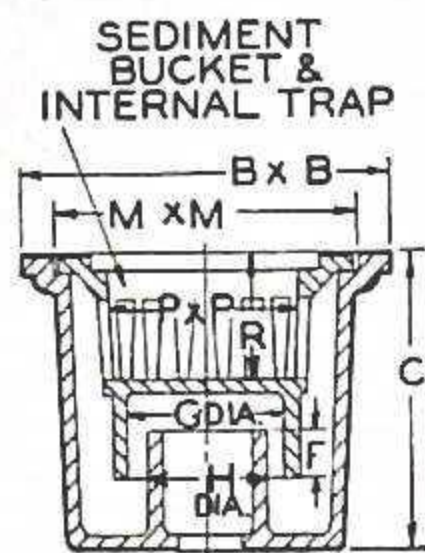
*details and dimensions*



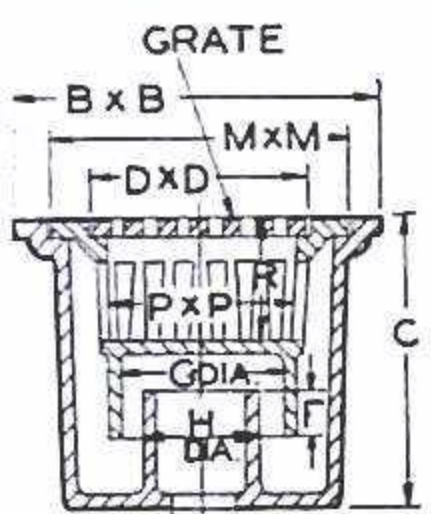
Series No. V-10



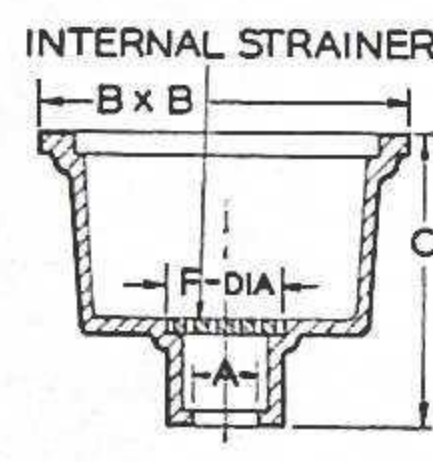
Series No. V-20



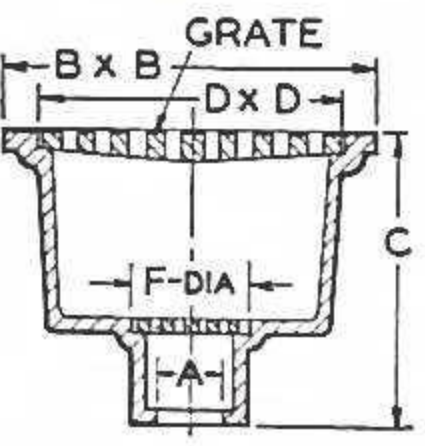
Series No. V-30



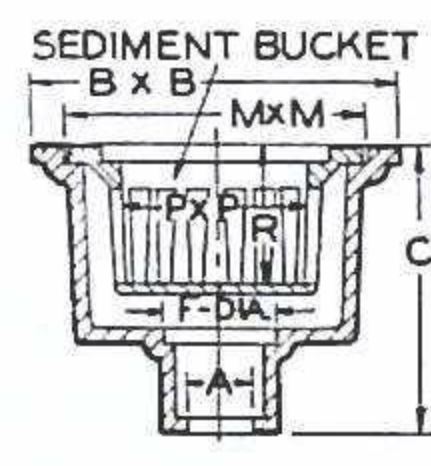
Series No. V-40



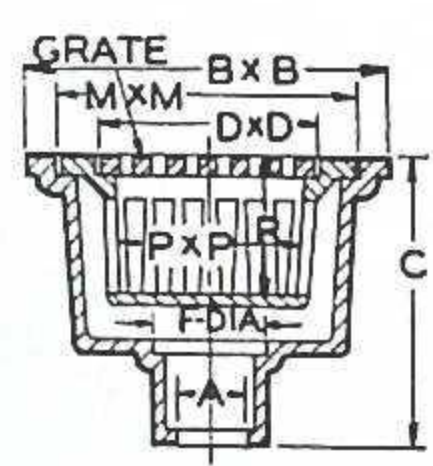
Series No. V-50



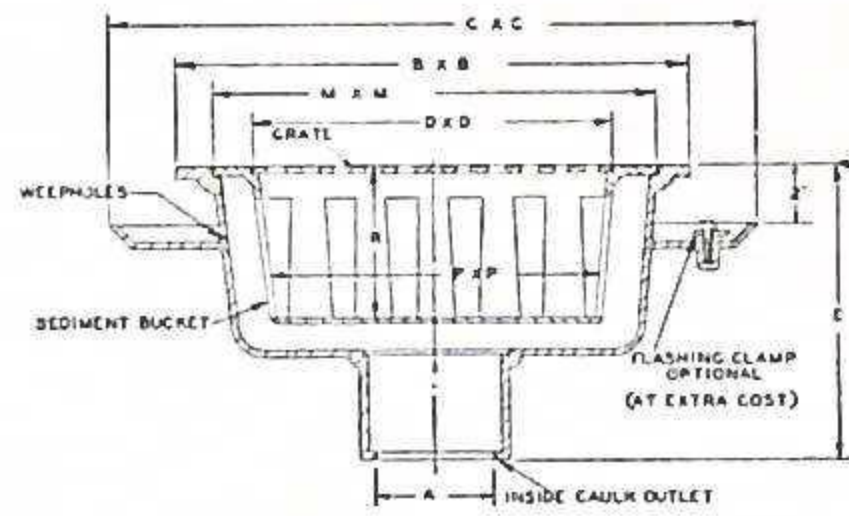
Series No. V-60



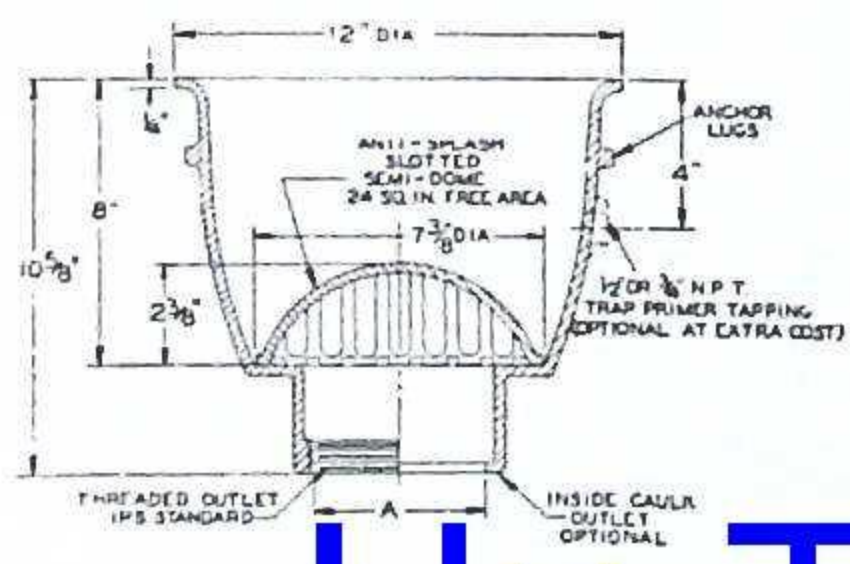
Series No. V-70



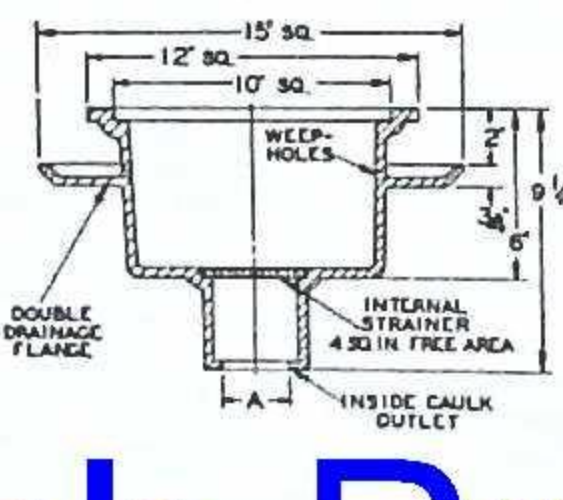
Series No. V-80



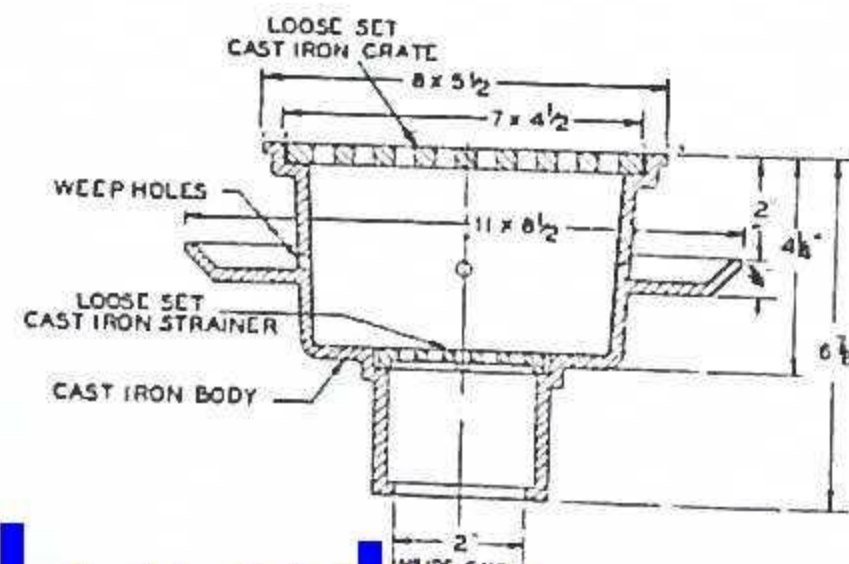
SERIES NO. V-90



SERIES NO. V-100



SERIES NO. V-150



SERIES NO. V-290

**DIMENSIONS IN INCHES**

SERIES NO.	TYPE NO.	OUT-LET A	TOP AND GRATE			C	E	F	G	H	INTERNAL STRAINER		SEDIMENT BUCKET			WGT. LBS.
			B	D	FREE AREA SQ. IN.						FREE AREA SQ. IN.	M	P	R	FREE AREA SQ. IN.	
V-10	V-12	2	12			8 1/2		1 1/2	4 1/2	3 1/2	13.2					44
	V-13	3	14			9		1 1/2	5 3/4	4 3/8	20.4					63
	V-14	4	16			10		2	7 1/4	5 5/8	21.6					89
V-20	V-22	2	12	10	35.0	8 1/2		1 1/2	4 1/2	3 1/2	13.2					51
	V-23	3	14	12	66.0	9		1 1/2	5 3/4	4 3/8	20.4					76
	V-24	4	16	14	79.0	10		2	7 1/4	5 5/8	21.6					101
V-30	V-32	2	12			8 1/2		1 1/2	4 1/2	3 1/2		10	5 3/4	4 1/4	29.5	52
	V-33	3	14			9		1 1/2	5 3/4	4 3/8		12	8 3/8	4 1/4	42.5	76
	V-34	4	16			10		2	7 1/4	5 5/8		14	10 1/8	5	60.0	109
V-40	V-42	2	12	7 1/4	24.0	8 1/2		1 1/2	4 1/2	3 1/2		10	5 3/4	4 1/4	29.5	56
	V-43	3	14	9 1/4	53.5	9		1 1/2	5 3/4	4 3/8		12	8 3/8	4 1/4	42.5	82
	V-44	4	16	11 1/4	58.0	10		2	7 1/4	5 5/8		14	10 1/8	5	60.0	117
V-50	V-52	2	12			9 1/4		6			4.0					34
	V-53	3	12			9 1/4		6			4.0					34
	V-54	4	12			9 1/4		6			4.0					34
V-55	V-55	5	16			9 1/4		8 3/4			15.0					64
	V-56	6	16			9 1/4		8 3/4			15.0					64
	V-60	V-62	2	12	10	35.0	9 1/4		6		4.0					41
V-60	V-63	3	12	10	35.0	9 1/4		6		4.0						41
	V-64	4	12	10	35.0	9 1/4		6		4.0						41
	V-65	5	16	14	79.0	9 1/4		8 3/4		15.0						76
V-60	V-66	6	16	14	79.0	9 1/4		8 3/4		15.0						76
	V-70	V-72	2	12		9 1/4						10	5 3/4	4 1/4	29.5	45
	V-73	3	12			9 1/4						10	5 3/4	4 1/4	29.5	45
V-70	V-74	4	12			9 1/4						10	5 3/4	4 1/4	29.5	45
	V-75	5	16			9 1/4						14	10 1/8	5	60.0	91
	V-76	6	16			9 1/4						14	10 1/8	5	60.0	91
V-80	V-82	2	12	7 1/4	24.0	9 1/4						10	5 3/4	4 1/4	29.5	49
	V-83	3	12	7 1/4	24.0	9 1/4						10	5 3/4	4 1/4	29.5	49
	V-84	4	12	7 1/4	24.0	9 1/4						10	5 3/4	4 1/4	29.5	49
V-80	V-85	5	16	11 1/4	58.0	9 1/4						14	10 1/8	5	60.0	96
	V-86	6	16	11 1/4	58.0	9 1/4						14	10 1/8	5	60.0	96
	V-90	V-93	3	16	11 1/4	58.0	20	9 1/4				14	10 1/8	5	60.0	116
V-90	V-94	4	16	11 1/4	58.0	20	9 1/4					14	10 1/8	5	60.0	116
	V-95	5	16	11 1/4	58.0	20	9 1/4					14	10 1/8	5	60.0	116
	V-96	6	16	11 1/4	58.0	20	9 1/4					14	10 1/8	5	60.0	116
V-100	V-102	2														25
	V-103	3														25
	V-104	4														26
V-150	V-152	2														46
	V-153	3														46
	V-154	4														46
V-290	V-292	2														17

See detail drawing for additional dimensions

● **APPLICATION:** For Roadways, Tracks, Grass Plots, Roadbeds, and other areas in Highways, Viaducts, Bridges, Parking Lots, Railroad Tracks, in or out of direct line of traffic.

Ballast guard on various designs, prevents ballast and other foreign material from being washed into the drain line.

All designs illustrated are of exceptionally rugged construction to withstand vibration and ballast movement to which railroad and highway construction is subjected.

Double drainage flange and weepholes, where illustrated, take care of both surface and sub-surface drainage above the waterproofing, by directing the seepage into the drain body.



SERIES NO. 030-S

**SERIES NO. 030-S**

**SPECIFICATION**

Josam Series No. 030-S, cast iron track drain with double drainage flange, weepholes, round top, loose set dome grate, internal perforated strainer, threaded outlet. Inside caulk outlet at no added cost. Flashing Clamp Device, at added cost.

**SERIES NO. 040-C**

**SPECIFICATION**

Josam Series No. 040-C, cast iron heavy duty track drain with double drainage flange, weepholes, round top, loose set dome grate, bolted flashing clamp device for waterproofing, and threaded outlet. Inside caulk outlet at no added cost.

**SERIES NO. 060**

**SPECIFICATION**

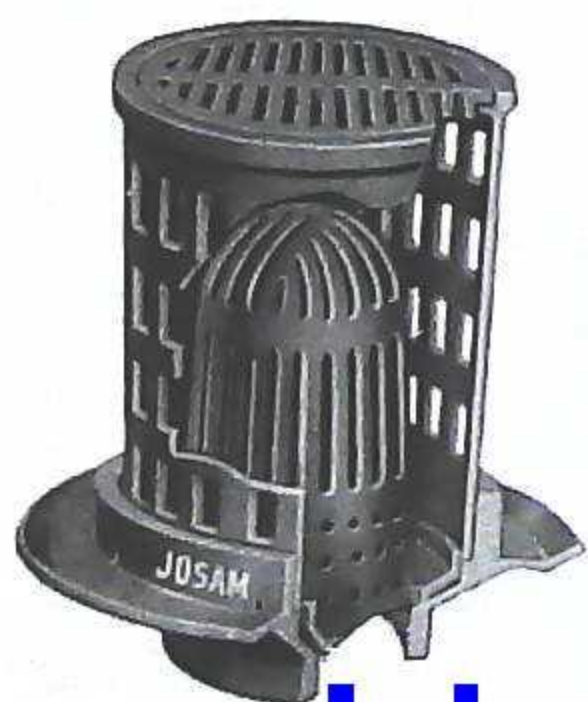
Josam Series No. 060, cast iron track drain with double drainage flange and weepholes, round body, internal removable high dome with sediment cup, round slotted ballast guard with loose set round grate, threaded outlet. Inside caulk outlet at no added cost. Flashing clamp device, at added cost.

**OPTIONAL MATERIALS**

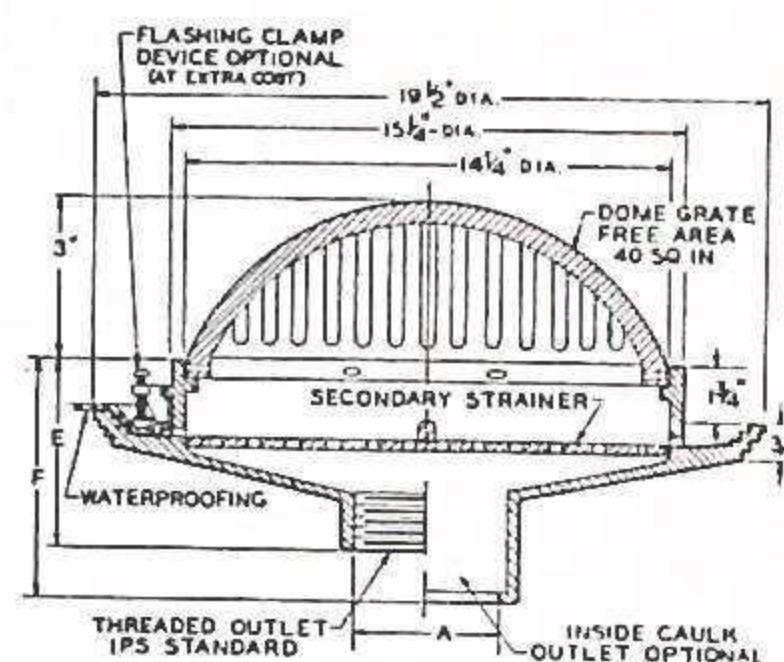
Galvanized or malleable cast iron, at added cost.

**DIMENSIONS IN INCHES**

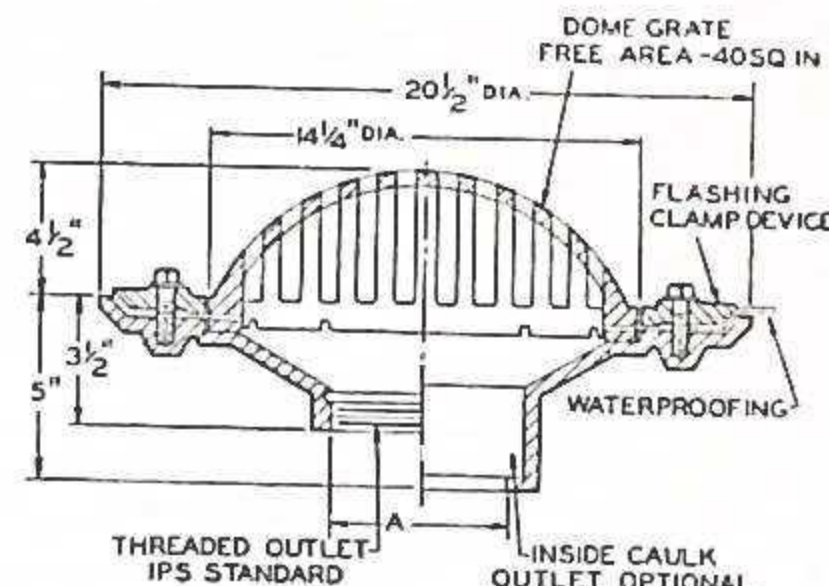
Series No.	Type No.	Out-let A	B	C	D	E	F	G	H	Wgt Lbs.
030-S	034-S	4				5 3/8	6 3/8			75
	035-S	5				5 1/4	6 3/4			76
	036-S	6				5 1/4	6 3/8			72
	038-S	8				5 1/4	6 3/8			72
040-C	044-C	4								85
	045-C	5								90
	046-C	6								93
	048-C	8								95
060	062	2	11	15 1/2	8	5	6 1/2	11 3/4	9	65
	063	3	11	15 1/2	8	5	6 1/2	11 3/4	9	65
	064	4	11	15 1/2	8	5	6 1/2	11 3/4	9	65
	064 1/2	4	12 1/4	17	12	4 1/2	6 1/2	21 3/4	13	151
	065	5	12 1/4	17	12	4 1/2	6 1/4	21 3/4	12	151
	066	5	12 1/4	17	12	4 1/2	6 1/4	21 3/4	12	151



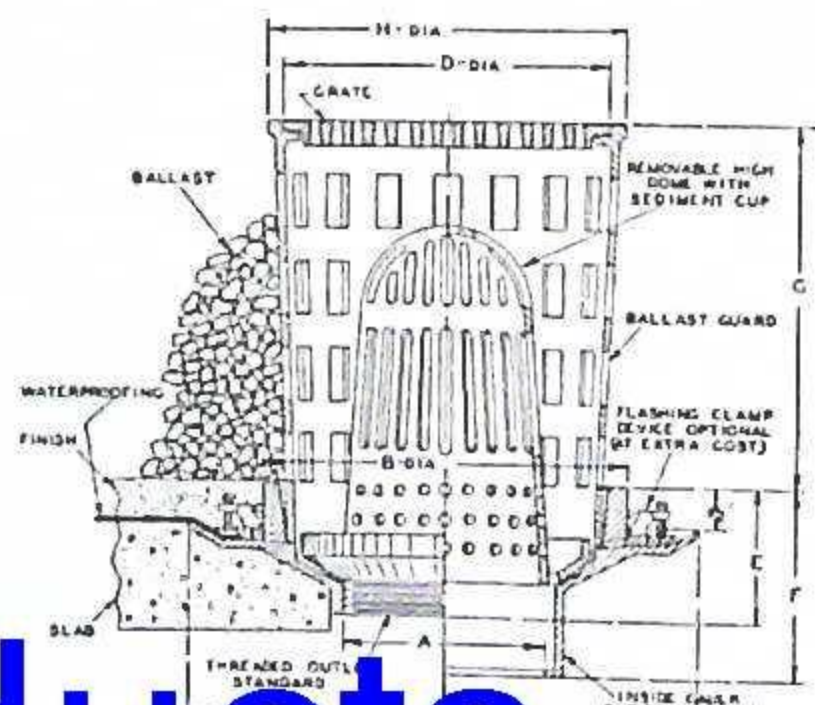
SERIES NO. 060



SERIES NO. 030-S



SERIES NO. 040-C



SERIES NO. 060

(APPLICATION: SEE OPPOSITE PAGE)



SERIES NO. 070-S

**SERIES NO. 070-S**

**SPECIFICATION**

Josam Series No. 070-S, cast iron, extra heavy track and highway drain, rectangular pattern, loose set heavy duty grate, removable internal beehive strainer and threaded outlet. Inside caulk outlet, at no added cost.

**SERIES NO. 080**

**SPECIFICATION**

Josam Series No. 080, extra heavy cast iron viaduct curb drain with heavy loose set rectangular grate and 6" bottom outlet. Upright angle of drain can be furnished at various degrees to suit conditions.

**SERIES NO. 0100**

**SPECIFICATION**

Josam Series No. 0100, cast iron extra heavy track drain with double drainage flange and weepholes, round body, internal removable high dome with sediment cup, 14" high loose set ballast guard with loose set round grate, 6" threaded outlet. Screwed down clamping ring for attaching waterproofing, optional, at added cost. Height of ballast guard may be increased by stacking standard height ballast guards. Solid cover in place of bar grate, optional, at added cost.

**SERIES NO. 0110**

**SPECIFICATION**

Josam Series No. 0110, cast iron extra heavy track drain with deep body, double drainage flange and weepholes, internal removable high dome and sediment cup, extra thick loose set grate, leveling bolts, and 6" threaded outlet. Bolted flashing clamp ring for attaching waterproofing, optional, at added cost.

**OPTIONAL MATERIALS**

Galvanized or malleable cast iron, at added cost.

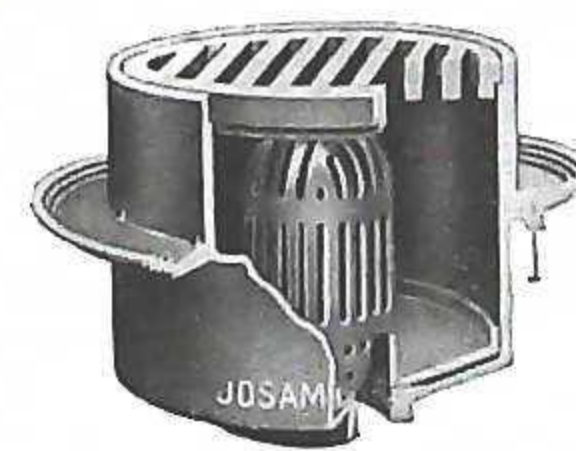
Series No.	Type No.	Out-let A	Wgt. Lbs.
070-S	073-S	3"	240
	074-S	4"	242
	075-S	5"	245
	076-S	6"	246
080	086	6"	410
0100	0106	6"	276
0110	0116	6"	353



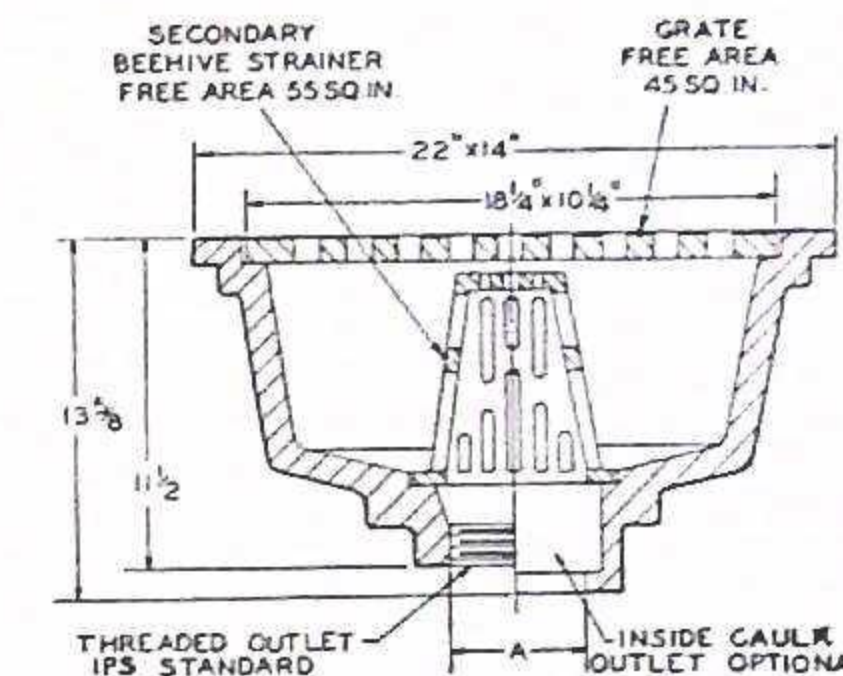
SERIES NO. 080



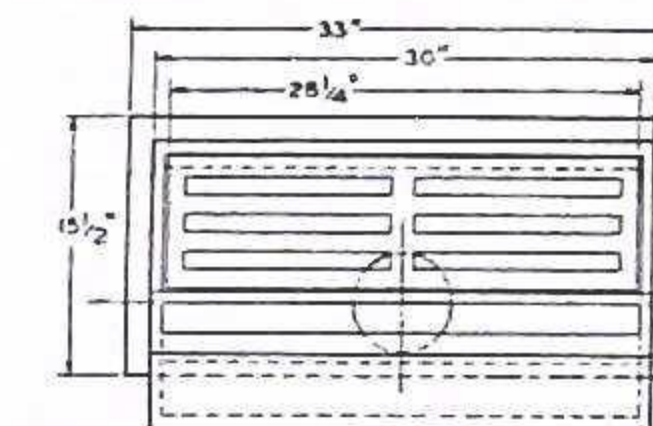
SERIES NO. 0100



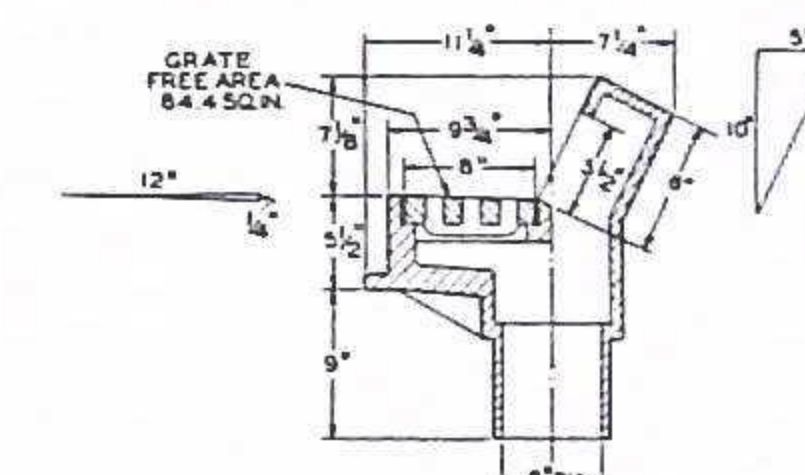
SERIES NO. 0110



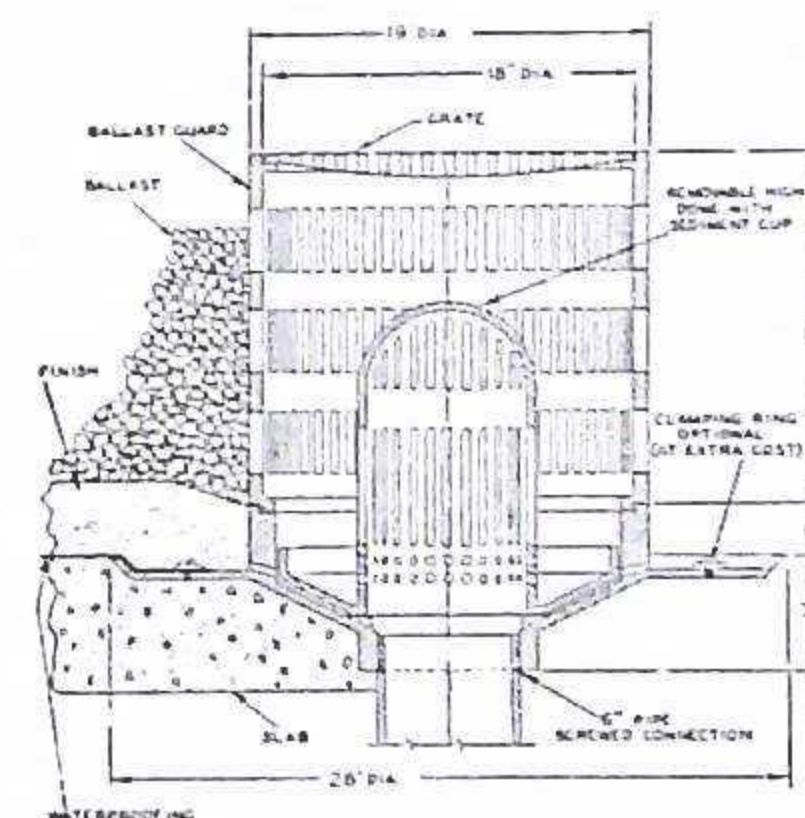
SERIES NO. 070-S



SERIES NO. 080

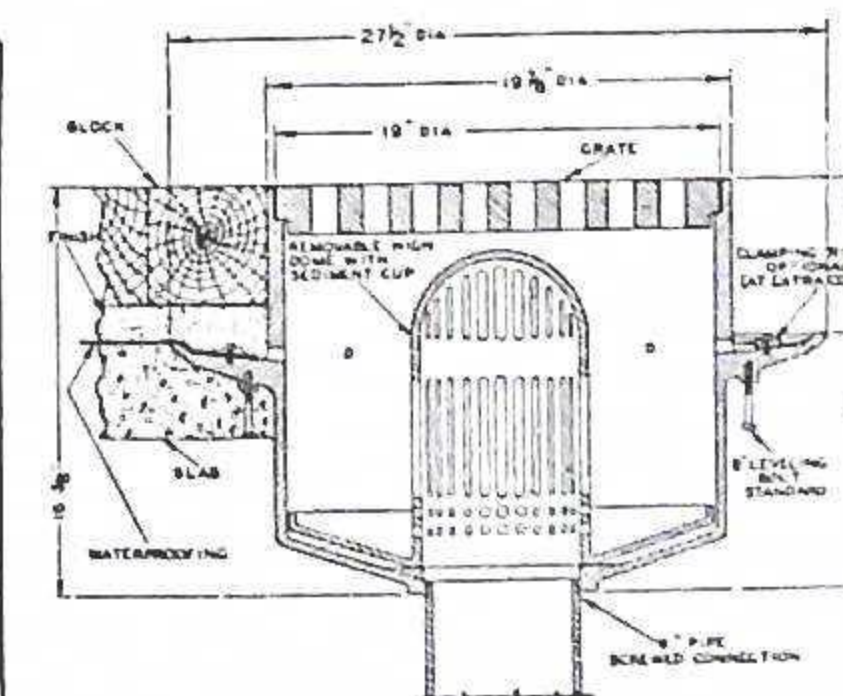


SERIES NO. 080



SERIES NO. 0100

NOTE: The 14" & 19 3/8" dimensions are standard. Other heights may be furnished on special order to meet requirements. Ballast guard male end fits female end so may be stacked to provide any desired increased ballast guard. Heights in 14" increments using standard ballast guards.



SERIES NO. 0110

*rectangular bar pattern*

● **APPLICATION:** For installation in drainage trenches in Garages, Laundries, Packing Houses, Kitchens, Areaways, Bottling Plants and other locations where large free drainage area is required. Standard or heavy duty grates available to withstand pedestrian or heavy wheel traffic. Design with large openings in grate permits bottle caps, broken glass and similar debris to fall into receptacle or trench below.

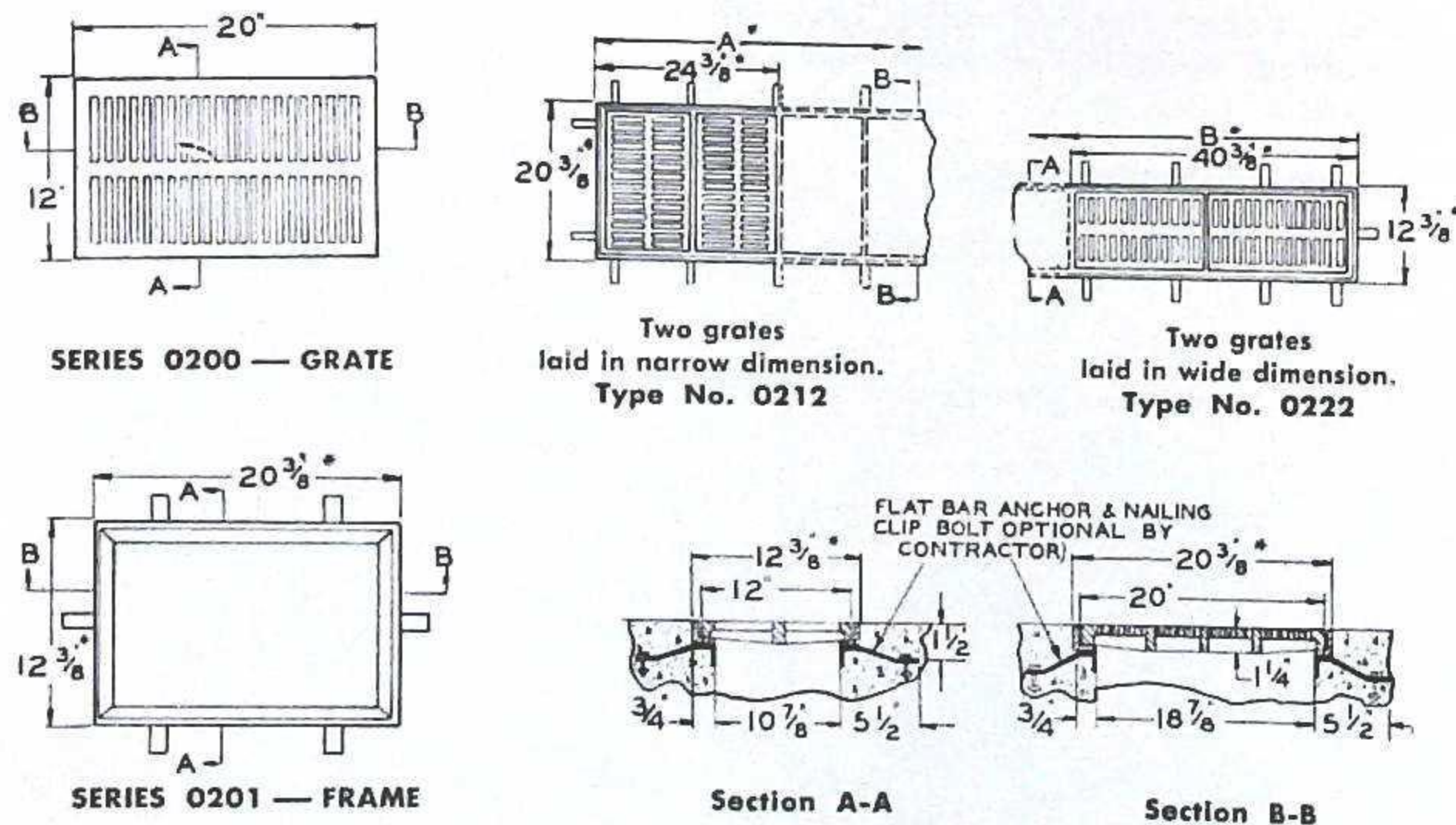
Continuous sections of grates can be furnished to suit any length trench.

**STANDARD and OPTIONAL FEATURES**

The features below apply to the trench grates and frames in this group. The illustrations show the standard features applicable to each design.

- **Grate** **Standard:** Cast iron lacquer finish, rectangular pattern. Series No. 0200 to 0220, 12"x20". Series No. 0230 to 0260, 12"x24".  
**Optional:** Galvanized iron, Rezistan iron, rough, polished or chrome plated brass, SR steels, white metal or Everdur. (See page 16).
- **Frame (For Single or Multiple Grates)** **Standard:** Fabricated of rolled steel angle with steel flat bar anchors.  
**Optional:** Brass or Everdur, at added cost.  
One piece frame as shown below for Series 0201, 0212, 0231, 0242, 0261 and 0272. All other types furnished with two end sections and one or more straight sections on each side.
- **Bearing Load** Bearing load indicated in table is the maximum safe load per grate, distributed over an area of 3" diameter.

**SERIES NO. 0200 TO 0220**



SERIES 0201 — FRAME  
Frames for multiple grates furnished with two end sections and one or more straight sections on each side.

Section A-A Section B-B  
\* Dimension given is back to back of 1 3/4" x 1 1/4" x 1/4" angle frame.

**SERIES No. 0200**

(LIGHT DUTY SERVICE)



**SPECIFICATION**

Josam Series No. 0200, Type No. ...., 12"x20" cast iron trench grate(s) with rectangular bar pattern, laid in fabricated steel frame with anchor lugs.

**NOTE:** The above specification covers Josam Series No. 0200.

Where optional features or materials are required, select style from illustrations shown and insert optional features or materials.

**ADAPTATIONS OF SERIES No. 0200**

The following illustrations show SPECIAL FEATURES of Adaptations of Series No. 0200.

(MEDIUM DUTY SERVICE)



**SERIES NO. 0230, 0240, 0250 SPECIFICATION**

Same as Series No. 0200 except 12"x24" heavy duty grate laid in fabricated steel frame with anchor lugs.

(HEAVY DUTY SERVICE)

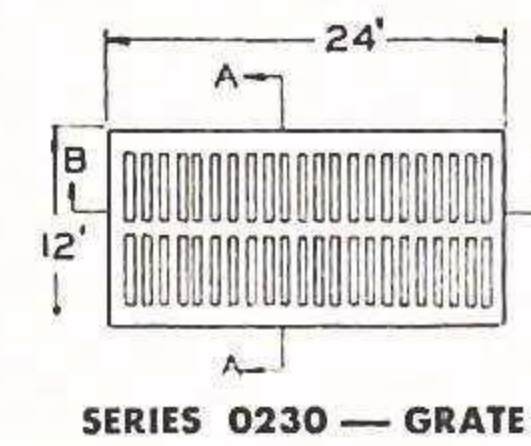


**SERIES NO. 0260, 0270, 0280 SPECIFICATION**

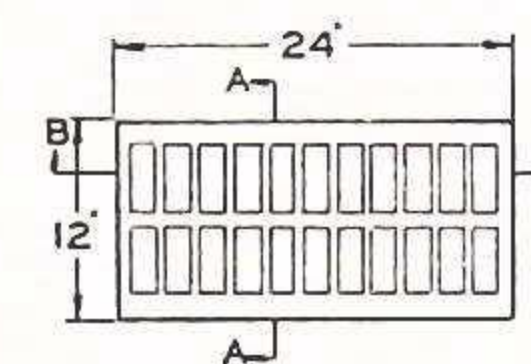
Same as Series No. 0200 except with 12"x24" extra heavy duty grate with large bar openings, laid in fabricated steel frame with anchor lugs.

*standard and heavy duty service*

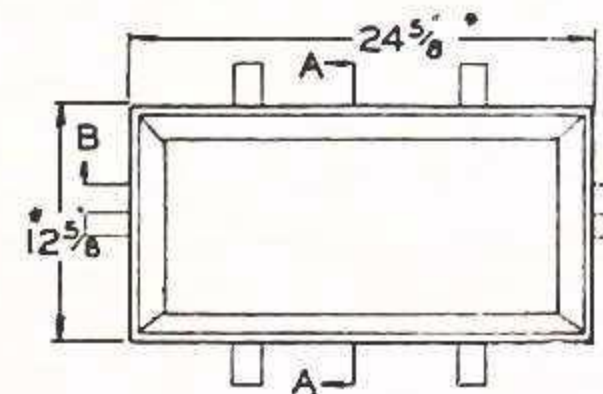
**SERIES NO. 0230 TO 0280**



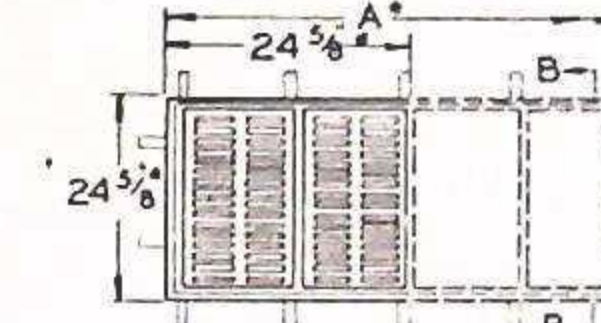
SERIES 0230 — GRATE



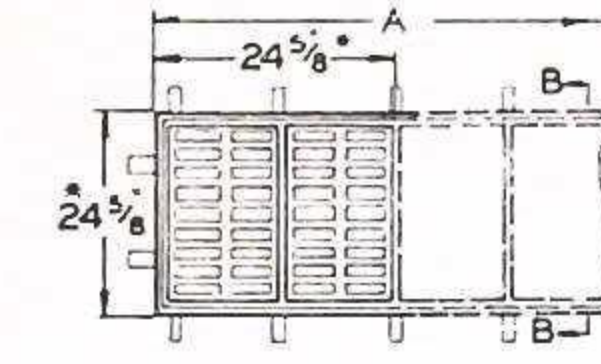
SERIES 0260 — GRATE



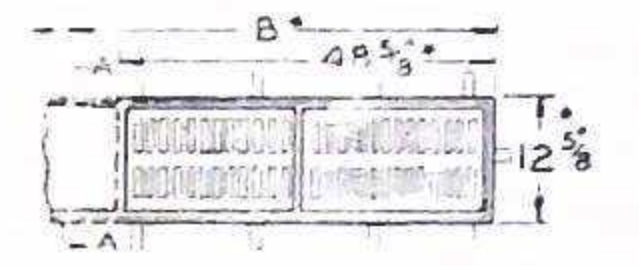
TYPE No. 0231, 0242, 0261 and 0272—FRAME  
See Standard Features on opposite page



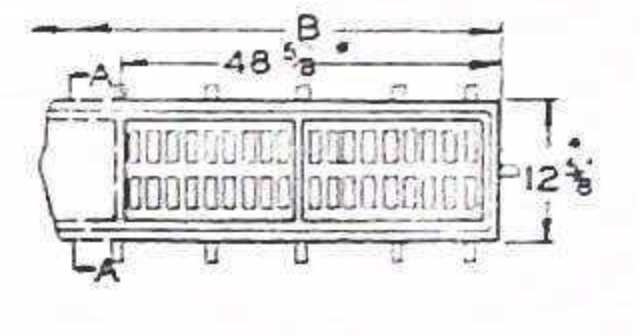
Two grates laid in narrow dimension.  
Type No. 0242



Two grates laid in narrow dimension.  
Type No. 0272

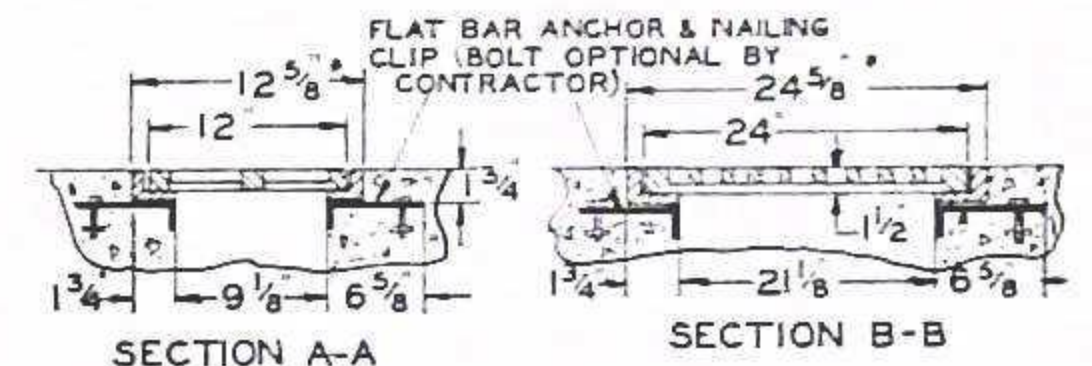


Two grates laid in wide dimension.  
Type No. 0252



Two grates laid in wide dimension.  
Type No. 0282

Frames for multiple grates furnished with two end sections and one or more straight sections on each side.



\* Dimension given is back to back of 1 3/4" x 1 1/4" x 1/4" angle frame.

**DIMENSIONS IN INCHES**

SERIES NO.	TYPE NO.		NO. OF GRATES	FREE AREA SQ. IN.	DIM. OF FRAME WITH GRATES LAID IN		TRENCH DIMENSION		WGT. LBS.	MAX. STATIC LOAD PER 3" DIA. AREA
	GRATE ONLY	SINGLE GRATE AND FRAME			NARROW DIM.	WIDE DIM.	NARROW DIM.	WIDE DIM.		
0200	0200	0201	1	110					20	2000# PEDESTRIAN TRAFFIC
		0212	2	220	24 3/8		22 7/8 x 18 7/8		59	
0210		0213	3	330	36 3/8		34 7/8 x 18 7/8		84	4800# LIGHT DUTY
		0214	4	440	48 3/8		46 7/8 x 18 7/8		105	
		0222	2	220	40 3/8		38 7/8 x 10 7/8		64	
0220		0223	3	330	60 3/8		58 7/8 x 10 7/8		90	4800# LIGHT DUTY
		0224	4	440	80 3/8		78 7/8 x 10 7/8		114	
		0230	1	90					40	
0230	0230	0231	1	90					70	4000# MEDIUM DUTY
			0242	2	180	24 3/8		21 1/8 x 21 1/8		
0240			3	270	36 3/8		33 1/8 x 21 1/8		155	10000# HEAVY DUTY
			4	360	48 3/8		45 1/8 x 21 1/8		200	
			0252	2	180	48 3/8		45 1/8 x 9 1/8		
0250			3	270	72 3/8		69 1/8 x 9 1/8		165	12000# HEAVY DUTY
			4	360	96 3/8		93 1/8 x 9 1/8		220	
			0260	1	100					
0260	0260	0261	1	100					60	7500# MEDIUM DUTY
			0272	2	200	24 3/8		21 1/8 x 21 1/8		
0270			3	300	36 3/8		33 1/8 x 21 1/8		155	12000# HEAVY DUTY
			4	400	48 3/8		45 1/8 x 21 1/8		200	
			0282	2	200	48 3/8		45 1/8 x 9 1/8		
0280			3	300	72 3/8		69 1/8 x 9 1/8		165	12000# HEAVY DUTY
			4	400	96 3/8		93 1/8 x 9 1/8		215	



standard and heavy duty service

TRENCH DRAINS

● APPLICATION: For installation in Ramps, Driveways, Tunnels, Subways, Docks, Markets and similar areas subjected to heavy traffic. Sediment bucket is available where waste water carries debris which should be prevented from entering and clogging lines. In locations subjected to sewer or drainage backflow, backwater valve can be furnished in drain body.

STANDARD and OPTIONAL FEATURES

- Series No. 0300 Standard: Cast iron lacquer, rectangular body with pitched bottom, inside caulk outlet and bolting lugs for attaching side sections. (Referred to as outlet section No. 0 below.)
Optional: Galvanized iron, Rezistan iron, SR steels or Everdur, or with sediment bucket or backwater valve. (See page 16).
● Grate Standard: Cast iron rectangular, 30"x11" loose set, lacquer finish.
Optional: Galvanized iron, Rezistan iron, brass, SR steels or Everdur with rim to match, at added cost. (See page 16).
● Closure Plates Standard: Multiple unit drains are shipped in sections to be assembled by purchaser. All sections are furnished with bolting lugs for fastening sections together. End sections are furnished with gasketed closure plates in same material as sections, and fit into the recess of the end sections.
● Bearing Load Bearing load indicated in table is the maximum safe load per grate, distributed over an area of 3" diameter.
● Sediment Bucket Optional: Round, perforated, with bale handle, in same material as body, at added cost.
● Backwater Valve Optional: Bronze, top hung vertical swing flap and bronze pressed in seat, in cast iron housing for 3" or 4" outlet, at added cost.
● Series No. 0310 Standard: One No. 0 outlet section combined with two or more side sections, using sections Nos. 1, 2 and 3.
● Series No. 0320 Standard: Two No. 0 outlet sections combined with any number of side sections, using sections Nos. 1, 2, 3 and 4. Two outlets and five side sections is the minimum assembly with outlets spaced 15' center to center as minimum. Greater C to C, optional by addition of side sections.
● Series No. 0330 Standard: Two No. 0 outlet sections combined with any number of side sections using sections Nos. 1, 2, 3 and 5. Two outlets are spaced 5' center to center.

- Outlet Section No. 0 As described under Series No. 0300. Sediment Bucket or Backwater Valve, optional at added cost. One or two No. 0 sections can be furnished in units as described under Series No. 0310, No. 0320 and No. 0330.
Side Section No. 1 Pitched bottom. Fits into either end of outlet section.
Side Section No. 2 Pitched bottom, fits into Section No. 1. Used as a connection between Sections No. 1 and No. 4.
Side Section No. 3 Level bottom, male and female ends, fits into Section No. 2. Any number of these sections may be added to attain desired length.
Side Section No. 4 Level bottom, male ends, suitable only between female ends of Sections No. 2 and No. 3.
Side Section No. 5 Pitched from center to ends each way, with male ends to fit into female ends of No. 2 Section. This section is applicable to Series No. 0300 assembly.

SERIES No. 0300



SPECIFICATION

Josam Series No. 0300 cast iron rectangular trench drain with 1/2" inside caulk bottom outlet and loose set rectangular grate.

NOTE: The above specification covers Josam Series No. 0300. Where optional features or materials are required, select style from illustrations shown, change Series Number above, and insert optional features or materials.

ADAPTATIONS OF SERIES NO. 0300

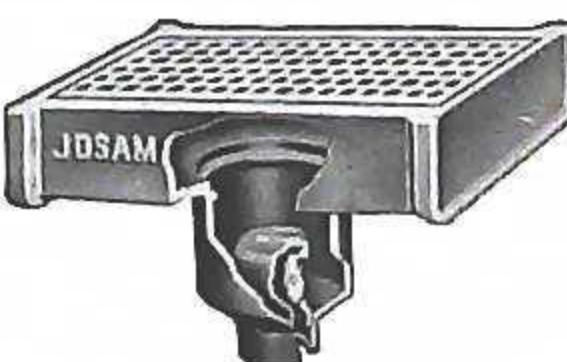
The following illustrations show the SPECIAL FEATURES of Adaptations of Series No. 0300.



SERIES NO. 0300-R

SPECIFICATION

Same as Series No. 0300, except with removable, round, perforated sediment bucket with bale handle.



SERIES NO. 0300-V

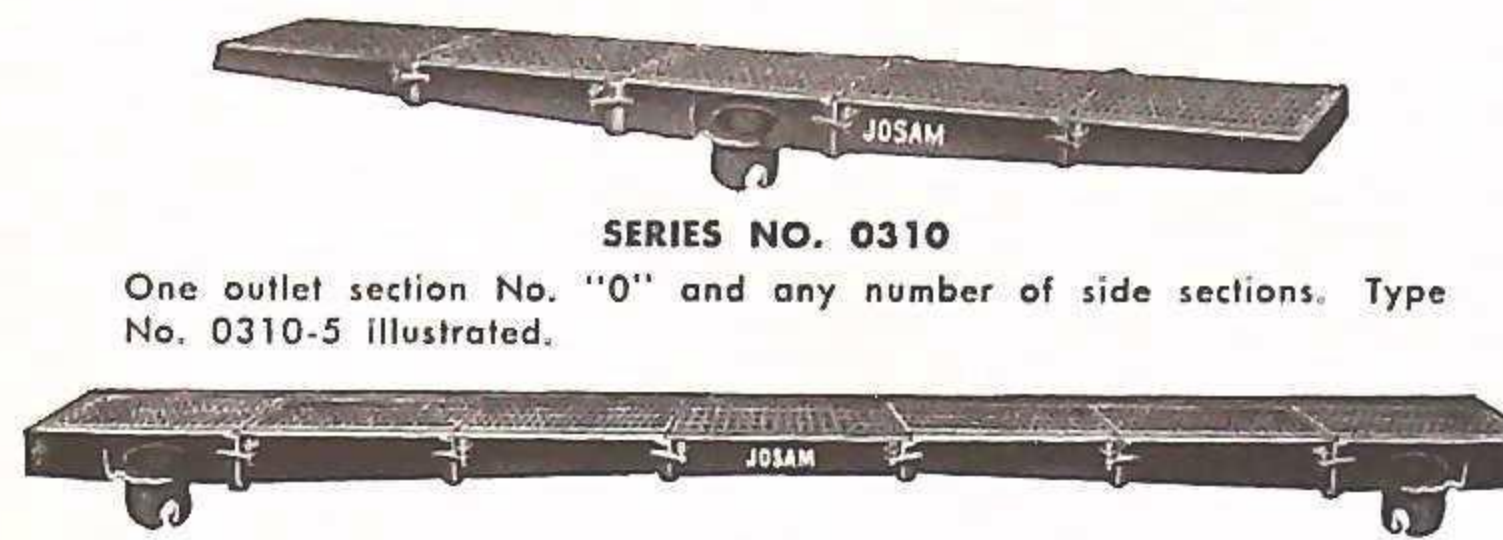
SPECIFICATION

Same as Series No. 0300, except with bronze, top hung vertical swing backwater valve in cast iron housing.

details and dimensions



TRENCH DRAINS



SERIES NO. 0310

One outlet section No. "0" and any number of side sections. Type No. 0310-5 illustrated.

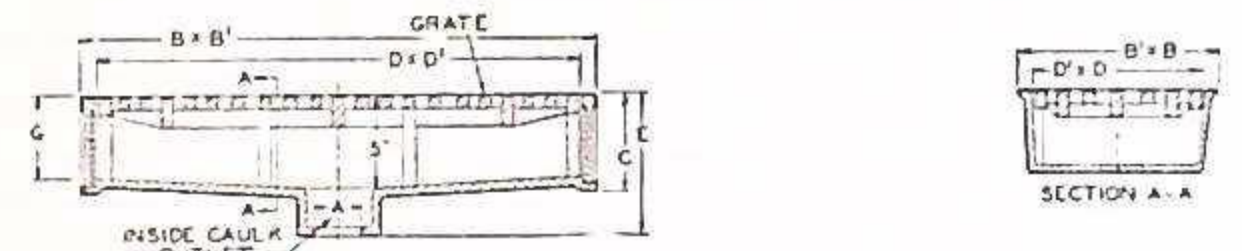


SERIES NO. 0320

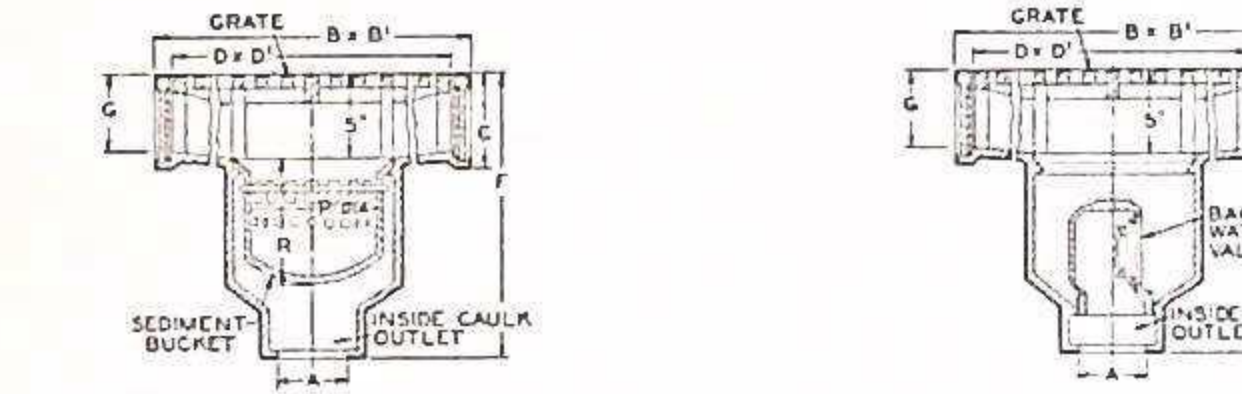
Two outlet sections No. "0" with 5 side sections is the smallest assembly available for Series No. 0320. Type No. 0320-7 illustrated. Outlets on 15' min. C to C. Any number of side sections can be combined, as indicated in detail of No. 0320-13 below.

SERIES NO. 0330

Two outlet sections No. "0" bolted to one No. 5 center section with outlets on 5' min. C to C and any number of side sections as indicated in detail below.

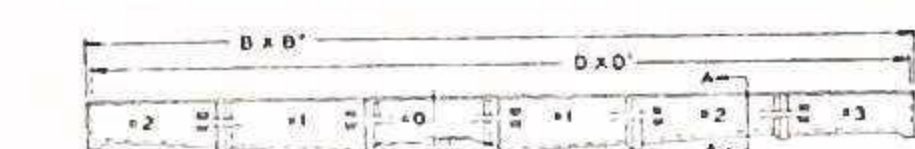


SERIES NO. 0300

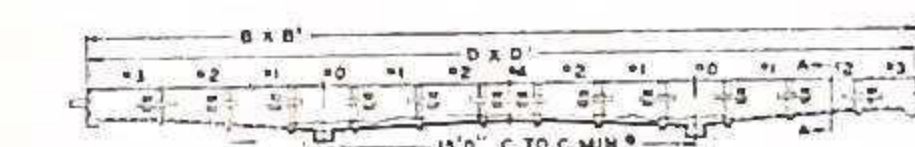


SERIES NO. 0300-R

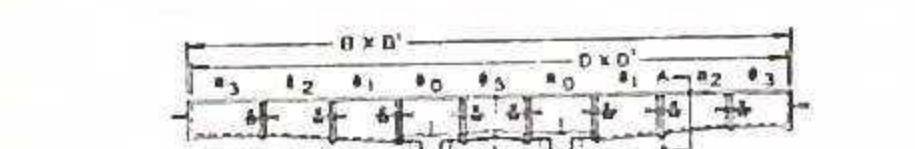
SERIES NO. 0300-V



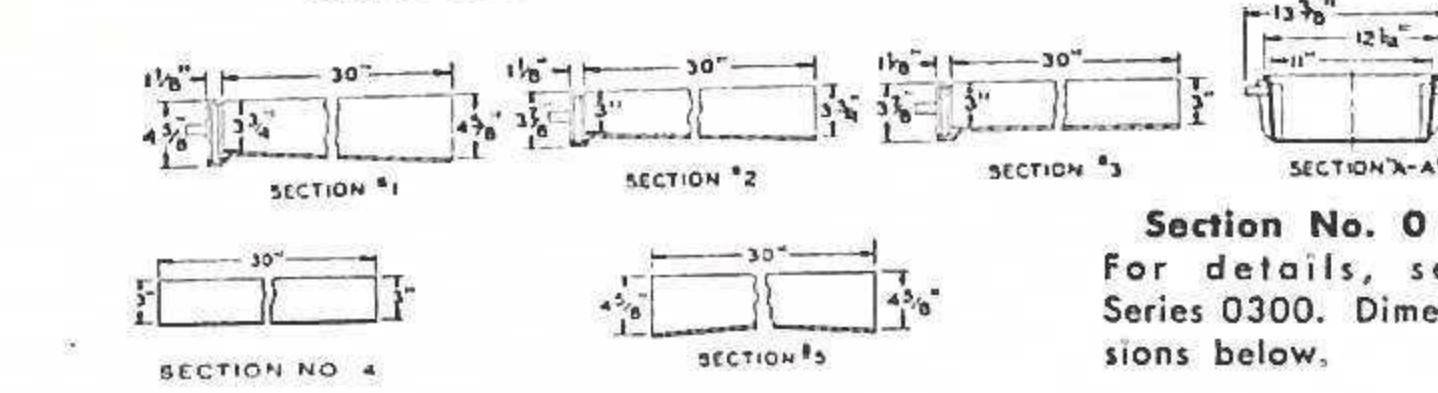
SERIES NO. 0310-6



SERIES NO. 0320-13



SERIES NO. 0330-9



Section No. 0 For details, see Series 0300. Dimensions below.

DIMENSIONS IN INCHES

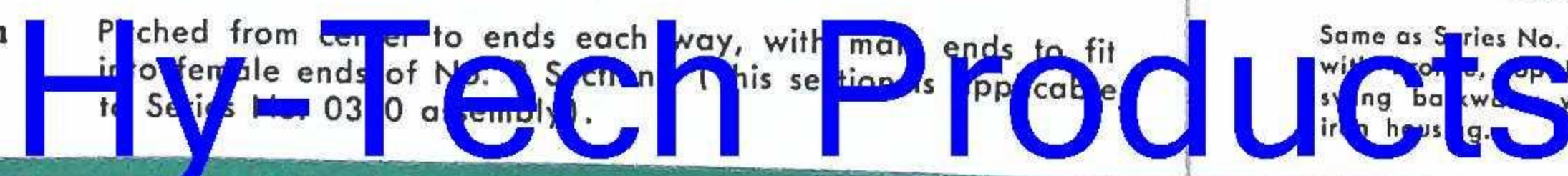
Table with columns: STANDARD TYPE, WITH SEDIMENT BUCKET, WITH BACKWATER VALVE, OUT-LET, TOP and GRATE, SEDIMENT BUCKET, WGT. LBS. Rows include series numbers 0300, 0303, 0304, 0305, 0306 and their dimensions.

Bearing load, cast iron grates: Maximum safe bearing load per grate, distributed over an area of 3" diameter, is 12,000 lbs.

DIMENSIONS IN INCHES

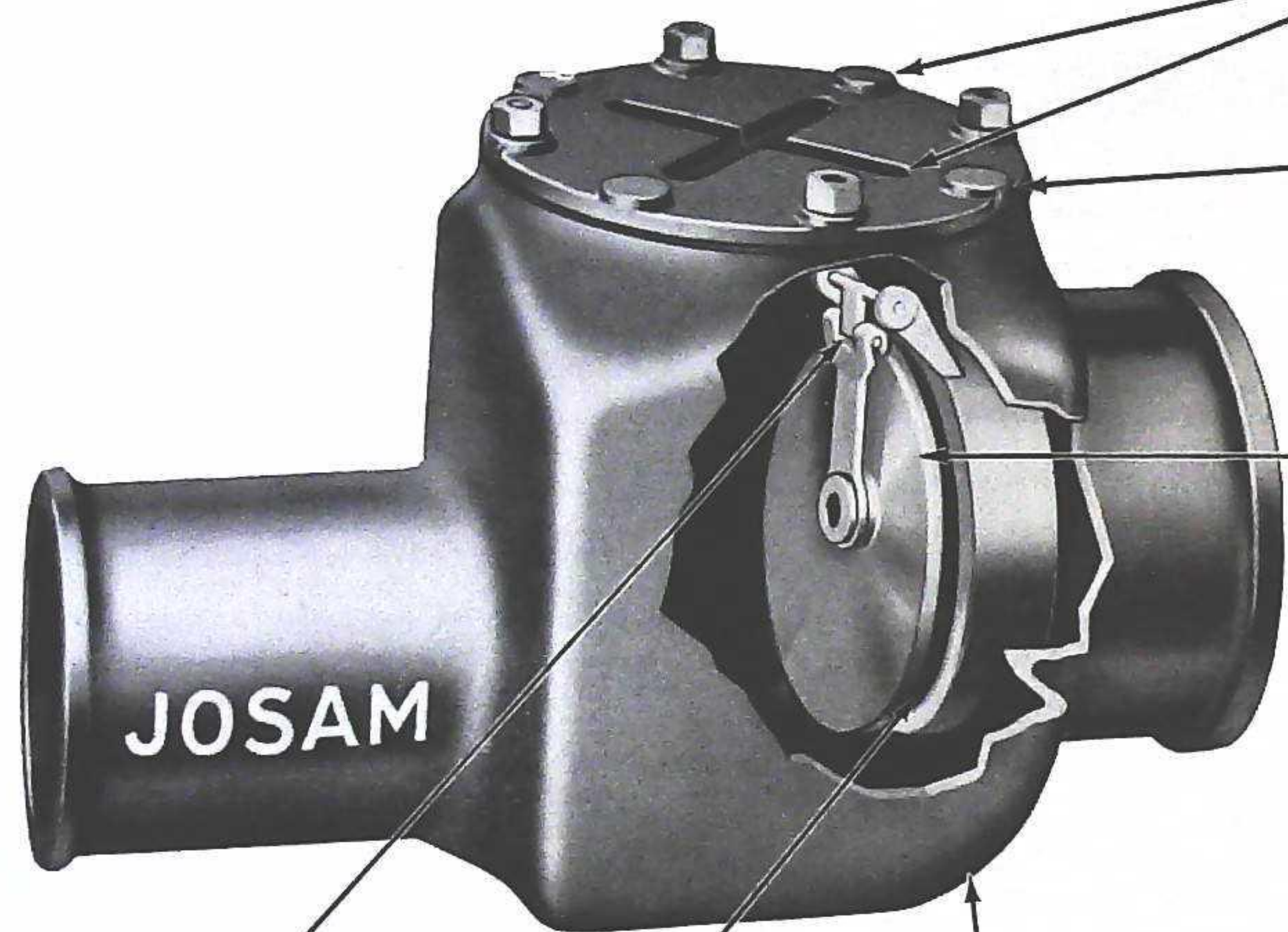
Large table with columns: SERIES NO., TYPE NO., A, SECT. NOS., TOP AND GRATE (B x B', D x D', FREE AREA SQ. IN.), WGT. LBS. Rows list various series and types with their dimensions and weights.

\* The section numbers indicate the assembly sequence of the various sections. Bearing load, cast iron grates: Maximum safe bearing load per grate, distributed over an area of 3" diameter, is 12,000 lbs.





# SEWER AND TERMINAL BACKWATER VALVES



SERIES NO. 1170-T

Double fulcrum hanger is supported on bronze posts and holds flap in position. Will not corrode or foul.

Bronze to bronze seat.

Valve body is offset below seat to prevent fouling of flap or opening.

Leveling pads and leveling water trough permit easy and accurate leveling of valve in construction.

Furnished with either cast iron bolted, or bronze threaded access cover, easily removed for cleaning. Covers are gasketed to prevent escape of sewer gas.

FLAP

Closes with slightest backflow, preventing entry of backwater or sewage into drain lines and basement.

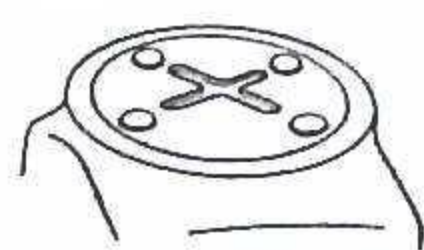
Revolves, eliminating uneven wear. This assures proper closing of flap.

Opens up to size of pipe for which it was designed, to permit full waterway to sewer.

Top hung vertical swing flap is designed to maintain a normally open position. This permits continuous air circulation through vent stack. Optional counterweight permits adjustment of flap to closed position where required by code.

ALL VALVES ARE FACTORY TESTED AND INSPECTED

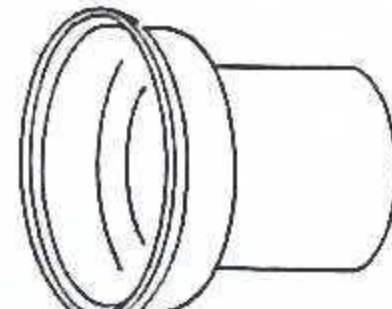
## OPTIONAL FEATURES



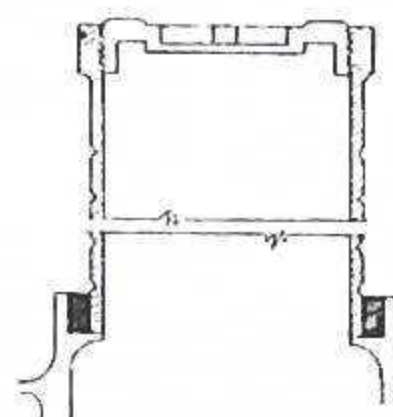
Bronze Threaded Access Cover



Flanged Ends



Tile Sewer Pipe Connection



Extension Fitting

# Hy-Tech Products

## PROVIDE POSITIVE PROTECTION *against* BACKWATER

Water damage due to flooded sewers is not coverable by insurance

The force of backwater from sewers has broken basement floors, and sub-foundations have been weakened by water forced through foundation drainage tile, to a point where a settlement of the building walls occurs.

A drain line or sewer which becomes flooded because of excessive rain, tidewater or inadequate capacity, often becomes an inlet instead of an outlet. Water and sewage backs up from the street into the drain line and floods basements through floor drains or plumbing fixtures.

A flooded basement is a serious problem. Whenever this happens, damage to property, equipment and merchandise results . . . foundations are undermined, equipment is ruined, and supplies are

destroyed. In addition, the sediment and other deposits which spread over the floors, develop an unwholesome, unsanitary condition which is a hazard to the health of the occupants.

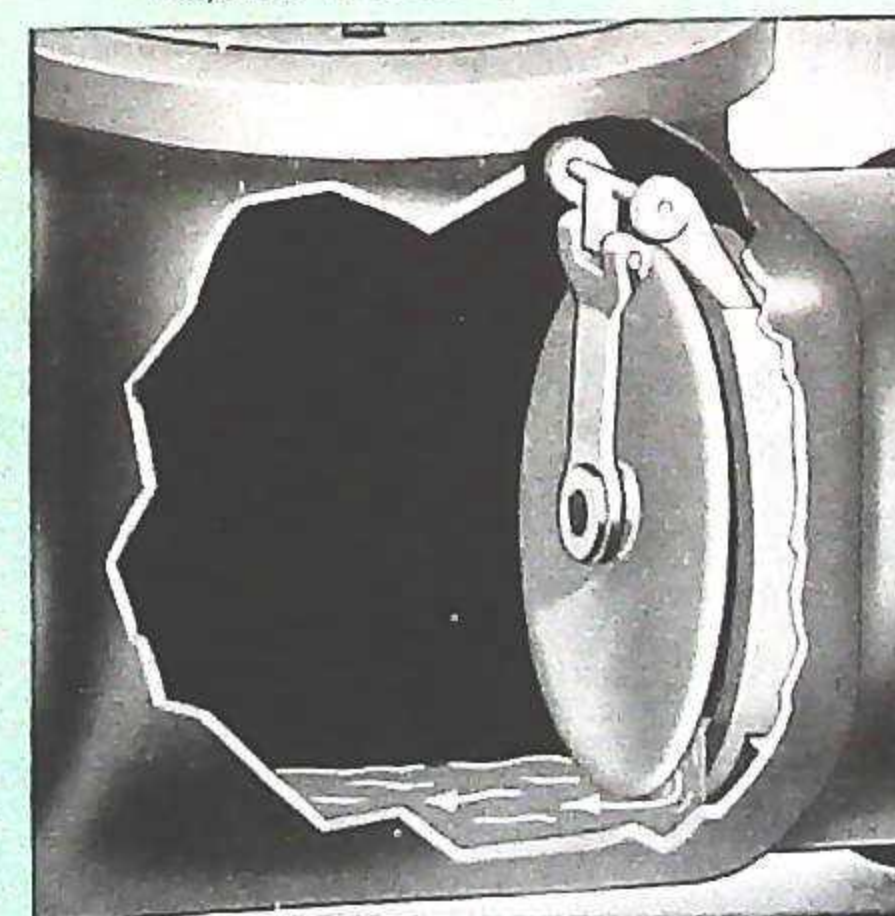
Josam Backwater Valves are designed to provide positive protection by preventing water and sewage from backing up through drain lines. Once installed, they are always on guard for the life of the building. Their cost is repaid many times in the years of service they give. No building or home should be without this protection.

The installation of a Josam Backwater Valve by a competent plumbing contractor, forestalls the inconvenience and costly damage caused by backwater from sewers.

*Because of the super-sensitivity of the valve flap, it is not necessary that a head of water be built up or any reserve force accumulated in order to swing open the flap, as is often true with other types of backwater valves. The construction of the flap mechanism is such that the flap is permitted to swing wide open to the full extent of the pipe area so that there is no retarding of flow into the sewer. However, as the flow is reduced, the flap will drop to its normal position and will CLOSE INSTANTLY AT THE SLIGHTEST BACK-FLOW preventing any water or sewage from flooding the basement.*

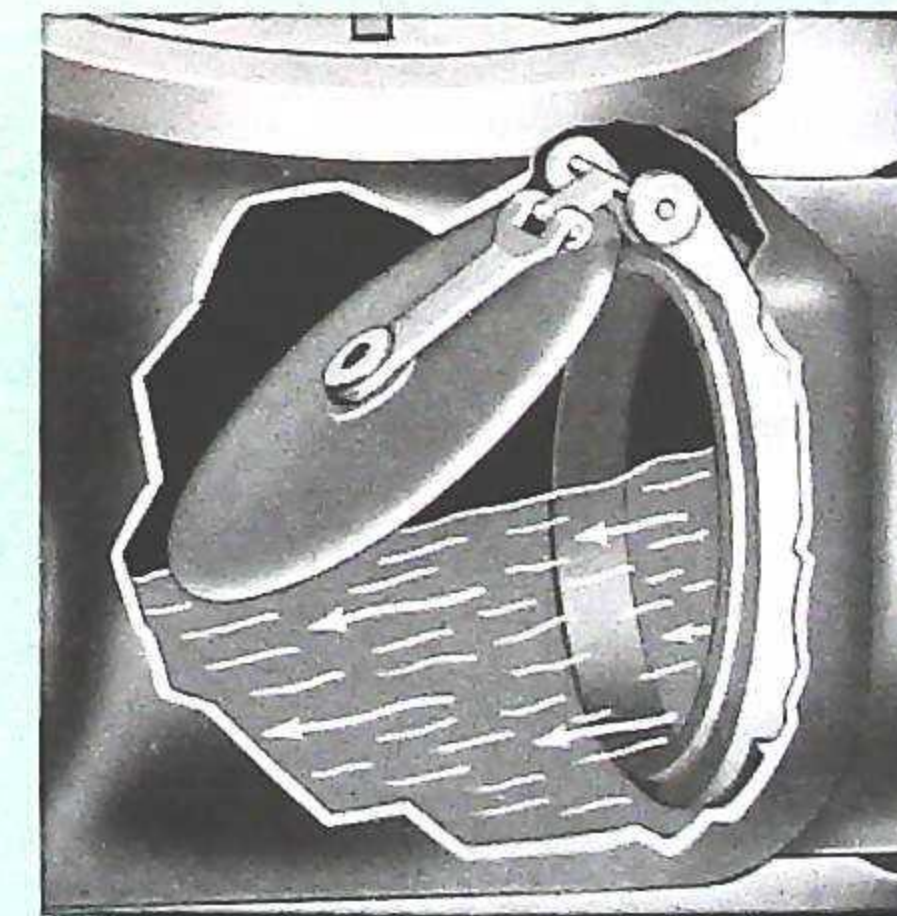
NORMAL OPENING

Flap is normally open to allow continuous air circulation. Can be adjusted to closed position.



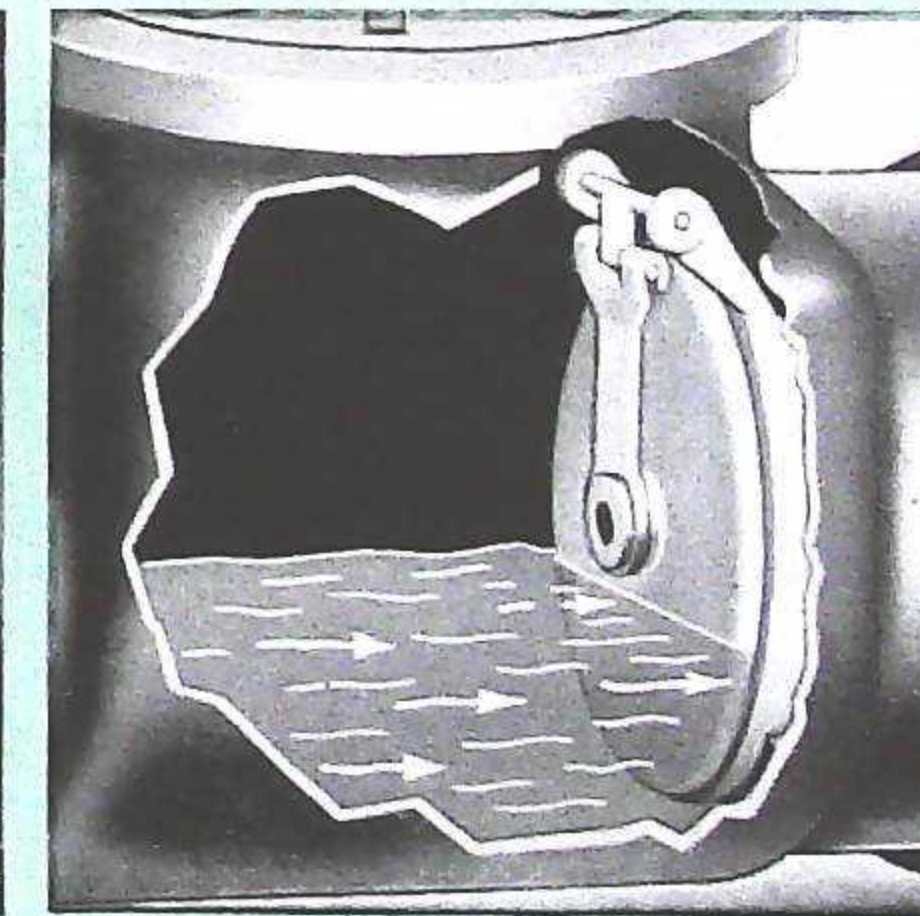
FULL OPENING

Flap opens wide to permit full waterway for drainage to sewers.



INSTANT CLOSING

Flap closes instantly and tightly with the slightest backflow.





for sewer and terminal service

**BACKWATER VALVES**

**APPLICATION:** In main sewer line, branches or waste lines, to prevent backing up of water and sewage from street into the drain line, and flooding basements through floor drains or plumbing fixtures.

The Sewer Terminal Valve (page 92) is a safeguard against sewage backflow when installed at the discharge end of sewer lines, in a manhole or as sluice for river or tide water outlets, or between settling basins in sewage disposal plants.

**STANDARD and OPTIONAL FEATURES**

The features below apply to all valves in this group. The illustrations show the standard features applicable to each design.

- Body** **Standard:** Cast iron lacquer finish.  
**Optional:** Galvanized iron at added cost.  
Inside of valve body is offset below the valve seat to prevent fouling of flap.
- Inlet and Outlet** **Standard:** Bell inlet and spigot outlet, or flanged inlet and outlet in accordance with 125 lbs. A.S.A. Std., as shown in illustrations.  
**Optional:** Cast iron connector for caulking vitreous tile sewer pipe, at added cost.
- Cover** **Standard:** Cast iron, bolted to body with four bolts and water-tight gasket, or bronze countersunk screwed plug, as illustrated.  
Leveling pads and leveling water trough on cover, permit easy and accurate leveling of valve in construction. Gasketed iron cover and threaded bronze cover are sufficiently tight to prevent escape of sewer gas into rooms.
- Valve Flap** **Standard:** Top hung, vertical swing, bronze revolving flap in a normally open position to permit continuous air circulation through vent stack.  
Bronze flap is held in position by a double fulcrum hanger supported on bronze posts. Flap is normally open, but can be adjusted to closed seat where required by code.
- Valve Seat** **Standard:** Bronze seat pressed into cast iron body.
- Extension** **Optional:** On valves with bronze access cover. Cast iron extension fitting in any height, furnished at added cost.  
Extension caulks into cover opening and extends cover to desired level.



SERIES NO. 1210  
SPECIFICATION

Same as Series No. 1170-T except in sizes from 10" to 30" with FLANGED INLET AND OUTLET.  
(With bell inlet and spigot outlet, Series No. 1170-T.)



SERIES NO. 1280-T  
SPECIFICATION

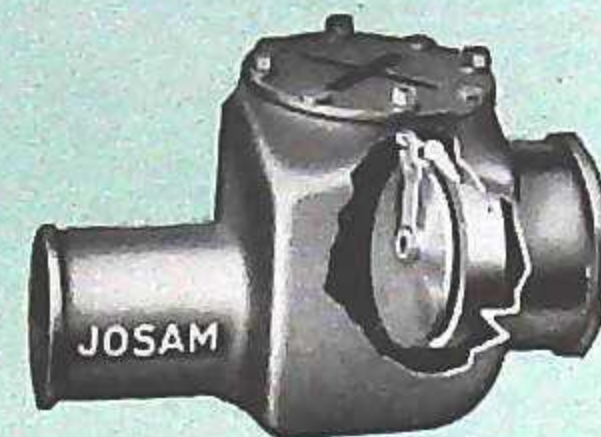
Same as Series No. 1170-T except with threaded BRONZE COVER and FLANGED INLET AND OUTLET.



SERIES NO. 1270-T  
SPECIFICATION

Same as Series No. 1170-T except with FLANGED INLET AND OUTLET.

**SERIES No. 1170-T**



**SPECIFICATION**

Josam Series No. 1170-T, cast iron sewer backwater valve, with bell inlet and spigot outlet, bronze vertical swing revolving flap, bronze valve seat and cast iron bolted access cover with leveling pads.

**NOTE:** The above specification covers Josam Series No. 1170-T.

Where optional features or materials are required, select style from illustrations shown, change Series Number above, and insert optional features or materials.

**ADAPTATIONS OF SERIES NO. 1170-T**

The following illustrations show the SPECIAL FEATURES of Adaptations of Series No. 1170-T.



SERIES NO. 1180-T

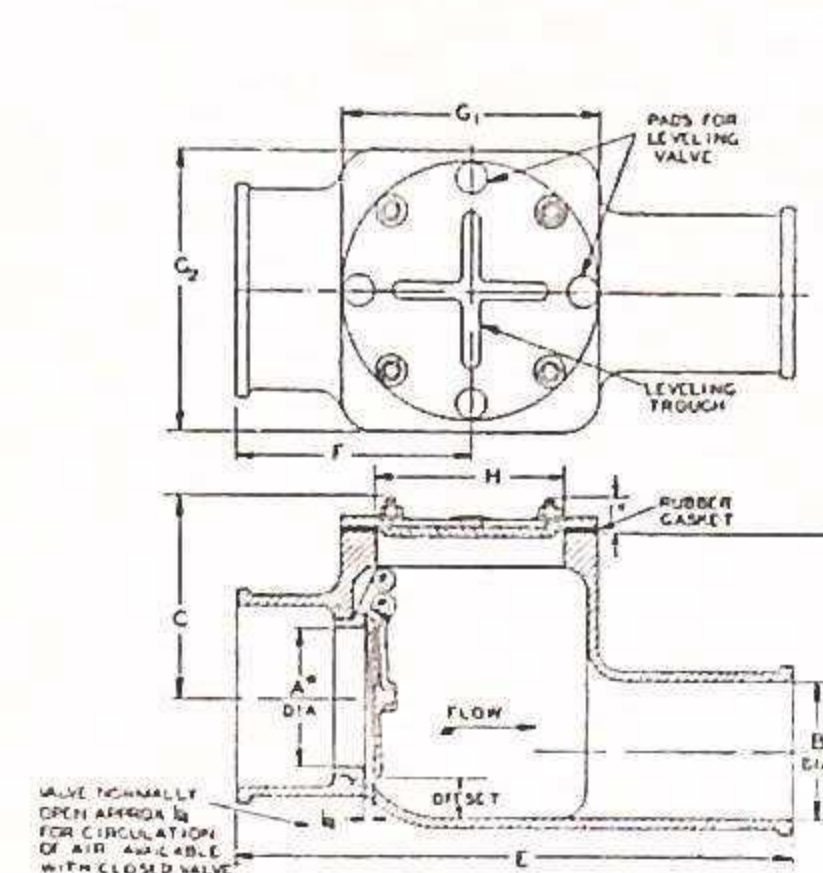
**SPECIFICATION**

Same as Series No. 1170-T except with threaded BRONZE access COVER.

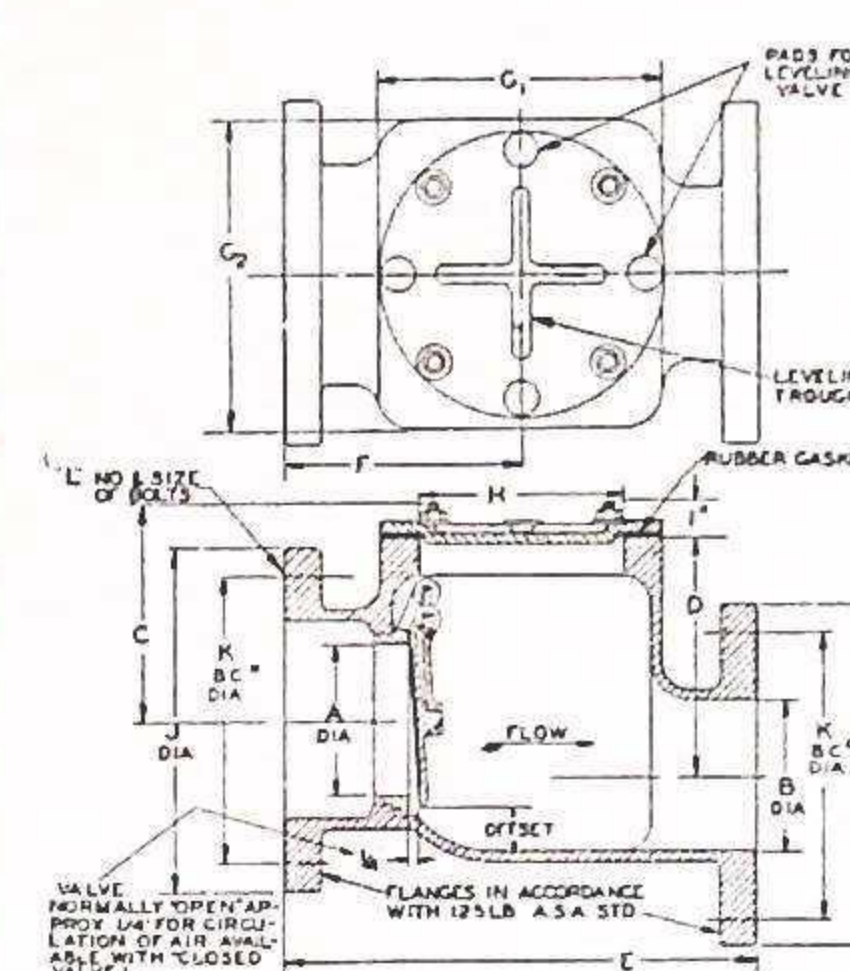
details and dimensions



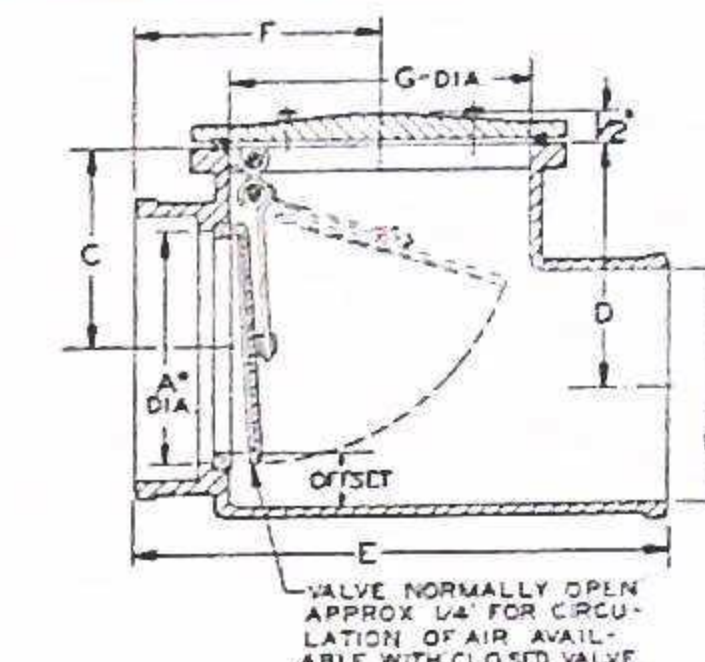
**BACKWATER VALVES**



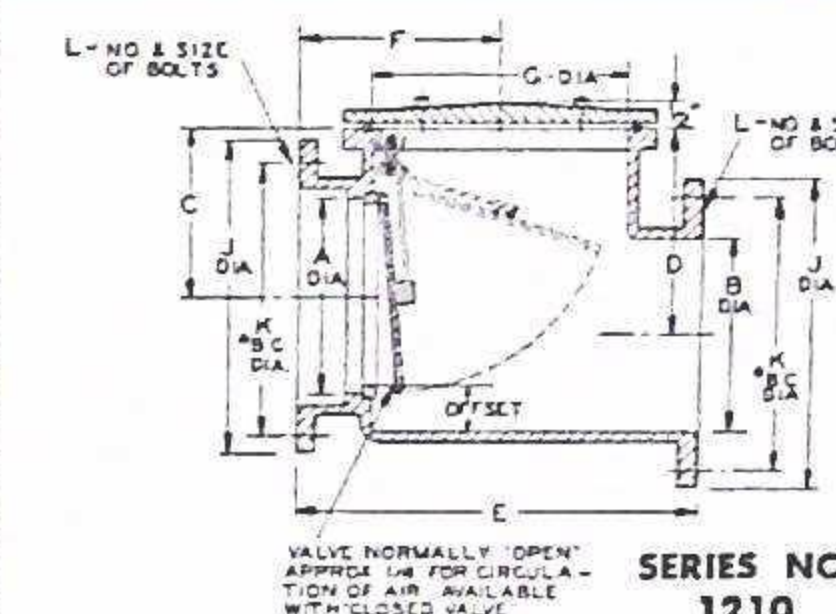
SERIES NO. 1170-T



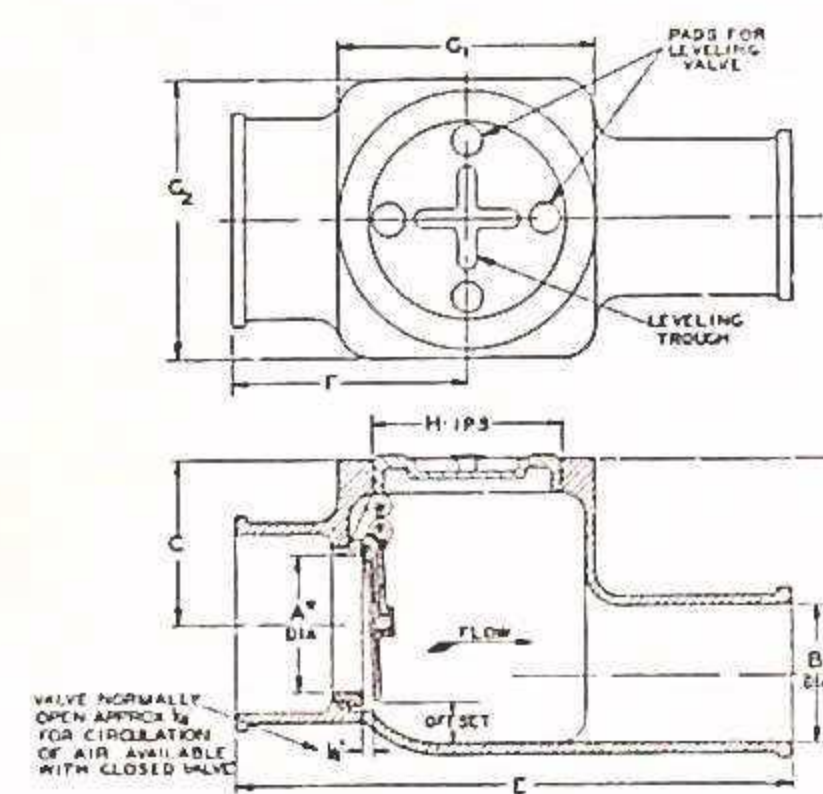
SERIES NO. 1270-T



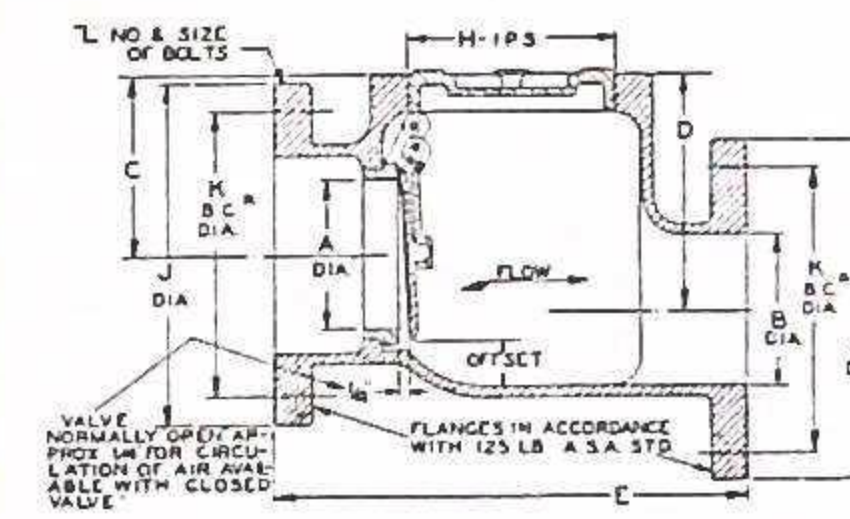
SERIES NO. 1110



SERIES NO. 1210

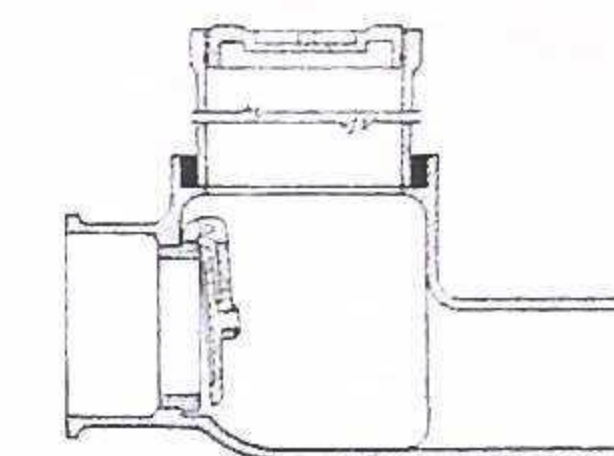


SERIES NO. 1180-T



SERIES NO. 1280-T

Top and cover for Series No. 1280-T, same design and dimensions as Series No. 1180-T.



Backwater valve showing cast iron Extension Fitting with bronze screwed access cover.

**DIMENSIONS IN INCHES**

SERIES NO.	TYPE NO.	INLET A* OUTLET B*	OFF-SET	C	D	E	F	G or G1	G2	H	FLANGE			WGT. LBS.
											J	K	L	
1110	1110	10	2	8 1/2	10 1/2	23	10 1/2	13						216
	1112	12	2	9 1/4	11 1/4	25 3/4	12	15						277
	1115	15	3	12 1/4	15 1/4	32 1/4	14 1/2	18 3/8						603
	1118	18	3 1/8	13 3/4	16 7/8	36 1/2	16 3/4	22						725
	1124	24	3 1/4	19 1/4	22 1/2	44 1/4	20 1/2	30						1550
1170-T	1170-T	10	2	8 1/2	10 1/2	23	10 1/2	13						216
	1172-T	12	2	9 1/4	11 1/4	25 3/4	12	15						277
	1173-T	15	3	12 1/4	15 1/4	32 1/4	14 1/2	18 3/8						603
	1174-T	18	3 1/8	13 3/4	16 7/8	36 1/2	16 3/4	22						725
	1175-T	24	3 1/4	19 1/4	22 1/2	44 1/4	20 1/2	30						1550
1180-T	1180-T	10	2	8 1/2	10 1/2	23	10 1/2	13						216
	1182-T	12	2	9 1/4	11 1/4	25 3/4	12	15						277
	1183-T	15	3	12 1/4	15 1/4	32 1/4	14 1/2	18 3/8						603
	1184-T	18	3 1/8	13 3/4	16 7/8	36 1/2	16 3/4	22						725
	1185-T	24	3 1/4	19 1/4	22 1/2	44 1/4	20 1/2	30						1550
1270-T	1270-T	10	2	8 1/2	10 1/2	23	10 1/2	13						216
	1272-T	12	2	9 1/4	11 1/4	25 3/4	12	15						277
	1273-T	15	3	12 1/4	15 1/4	32 1/4	14 1/2	18 3/8						603
	1274-T	18	3 1/8	13 3/4	16 7/8	36 1/2	16 3/4	22						725
	1275-T	24	3 1/4	19 1/4	22 1/2	44 1/4	20 1/2	30						1550
1280-T	1280-T	10	2	8 1/2	10 1/2	23	10 1/2	13						216
	1282-T	12	2	9 1/4	11 1/4	25 3/4	12	15						277
	1283-T	15	3	12 1/4	15 1/4	32 1/4	14 1/2	18 3/8						603
	1284-T	18	3 1/8	13 3/4	16 7/8	36 1/2	16 3/4	22						725
	1285-T	24	3 1/4	19 1/4	22 1/2	44 1/4	20 1/2	30						1550

**NOTE:** \* Dimensions indicated, as well as bell and spigot, accord with E.H.C.I. Soil Pipe Standard.

◆ No and size of bolts.

Hy-Tech Products



## BACKWATER VALVES

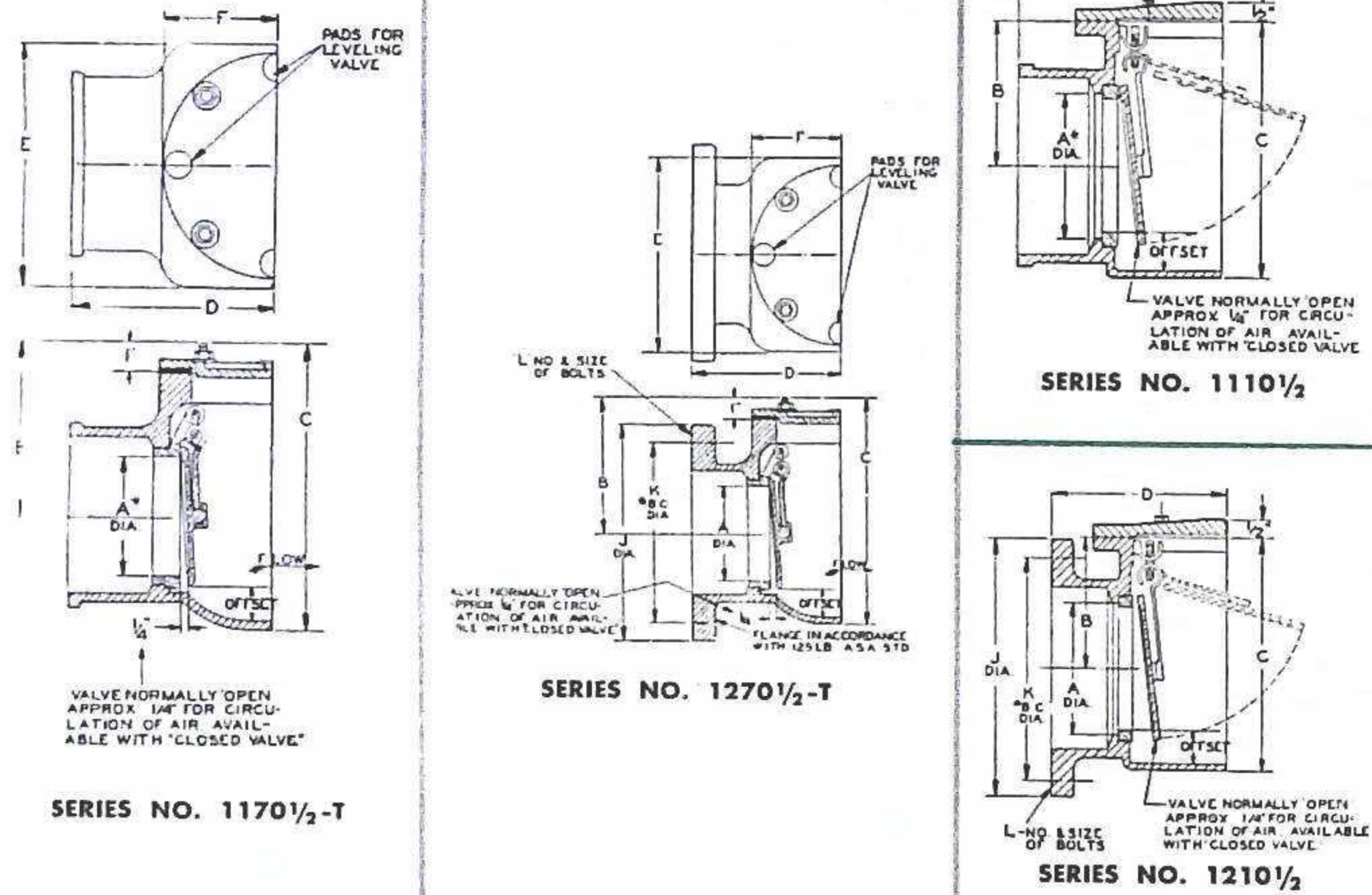
for terminal service

- **APPLICATION:** For installation in a manhole, or as a sluice, or for river or tidewater outlets, or between settling basins in sewage disposal plants.

The Josam Sewer Terminal Valve is a safeguard against sewage backflow, when installed at the discharge end of sewer lines.

### STANDARD and OPTIONAL FEATURES

The flap mechanism of Josam Sewer Terminal Valves, is identical in design, construction and operation to the regular Josam Backwater Valves. The body is the inlet half of the full valve.



SERIES NO. 1170 1/2-T

SERIES NO. 1270 1/2-T

SERIES NO. 1110 1/2

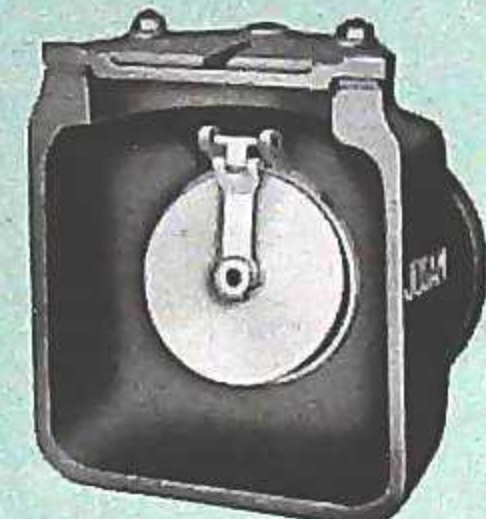
SERIES NO. 1210 1/2

### DIMENSIONS IN INCHES

SERIES NO.	TYPE NO.	IN-LET A*	OFF-SET	B	C	D	E	F	FLANGE			WGT. LBS.
									J	K	L	
1110 1/2	1110 1/2	10	2	8 1/2	15 3/4	10 1/2						129
	1112 1/2	12	2	9 1/4	17 1/2	12						174
	1115 1/2	15	3	12 1/4	23	14 1/2						340
	1118 1/2	18	3 1/8	13 3/4	26	16 3/4						400
	1124 1/2	24	3 1/4	19 1/4	34 3/4	20 1/2						1010
	1130 1/2	30	3 1/2	22 1/2	40 1/2	22 1/2						1575
1170 1/2-T	1172 1/2-T	2	1	4 3/4	7 1/4	5	6	2 1/2				13
	1173 1/2-T	3	1	5 1/4	8 1/4	6	7	3 1/8				15
	1174 1/2-T	4	1	5 3/4	9 1/2	6 3/4	8	3 3/4				22
	1175 1/2-T	5	1 3/8	6 1/2	11	7 3/8	9 1/2	4 1/4				33
	1176 1/2-T	6	1 1/2	7 1/2	12 3/4	8 3/8	11 1/4	5 1/4				41
	1178 1/2-T	8	2 3/8	9	15 3/8	11 1/4	14 3/8	6 3/8				74
1210 1/2	1210 1/2	10	2	8 1/2	15 3/4	11 3/4			16	14 1/4	12-7/8	153
	1212 1/2	12	2	9 1/4	17 1/2	12 3/4			19	17	12-7/8	229
1270 1/2-T	1272 1/2-T	2	1	4 3/4	7 1/4	4 3/8	6	2 1/2	6	4 3/4	4-5/8	18
	1273 1/2-T	3	1	5 1/4	8 1/4	5 3/8	7	3 1/8	7 1/2	6	4-5/8	25
	1274 1/2-T	4	1	5 3/4	9 1/2	6 1/2	8	3 3/4	9	7 1/2	8-5/8	34
	1275 1/2-T	5	1 3/8	6 1/2	11	7 1/4	9 1/2	4 1/4	10	8 1/2	8-3/4	42
	1276 1/2-T	6	1 1/2	7 1/2	12 3/4	8 1/2	11 1/4	5 1/4	11	9 1/2	8-3/4	60
	1278 1/2-T	8	2 3/8	9	15 3/8	11 1/4	14 3/8	6 3/8	13 1/2	11 1/2	8-3/4	96

\*Note: To Suit E.H.C. Soil Pipe Standard. No. and size of bolts as shown in illustration.

### SERIES No. 1170 1/2-T



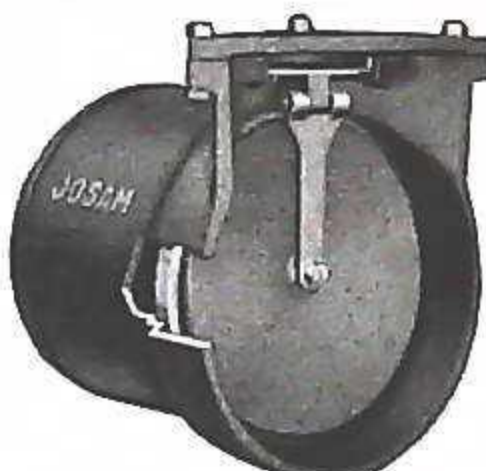
#### SPECIFICATION

Josam Series No. 1170 1/2-T, cast iron Sewer Terminal Valve with " " bell inlet, bronze vertical swing revolving flap, bronze valve seat and cast iron bolted access cover with leveling pads.

Where optional features or materials are required, select style from illustrations shown, change Series Number and insert optional features or materials in above specification.

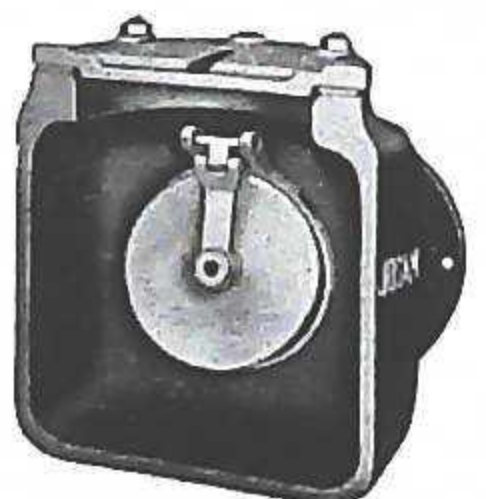
#### ADAPTATIONS OF SERIES NO. 1170 1/2-T

The following illustrations show the SPECIAL FEATURES of Adaptations of Series No. 1170 1/2-T.



SERIES NO. 1110 1/2 SPECIFICATION

Same as Series No. 1170 1/2-T except in sizes from 10" to 30". With flanged connection, Series No. 1210 1/2.



SERIES NO. 1270 1/2-T SPECIFICATION

Same as Series No. 1170 1/2-T except with flanged inlet.

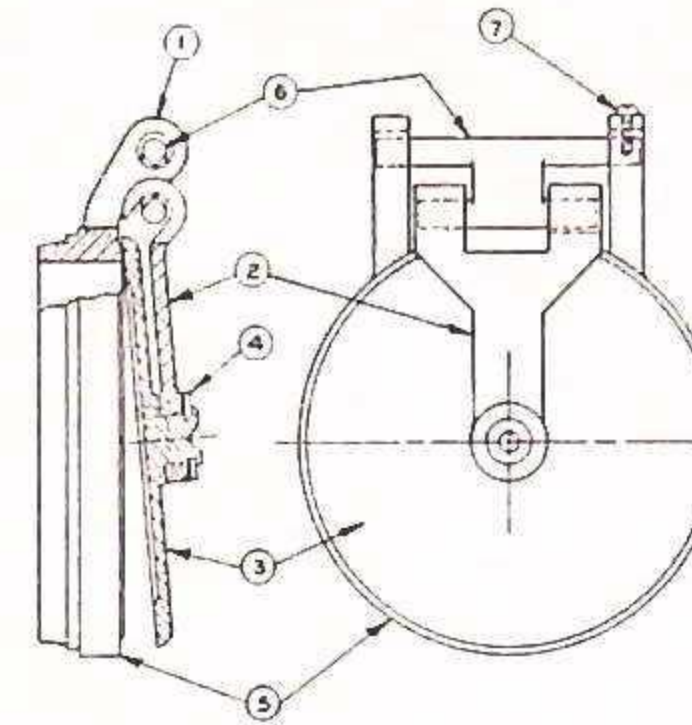
prevent sewer back flow . . . protect property, equipment and supplies



## BACKWATER VALVES

### CONSTRUCTION DETAIL

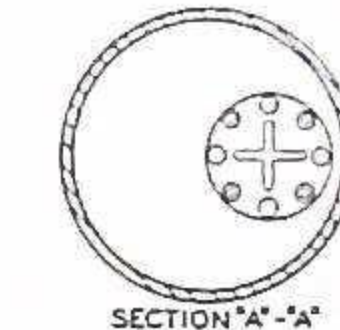
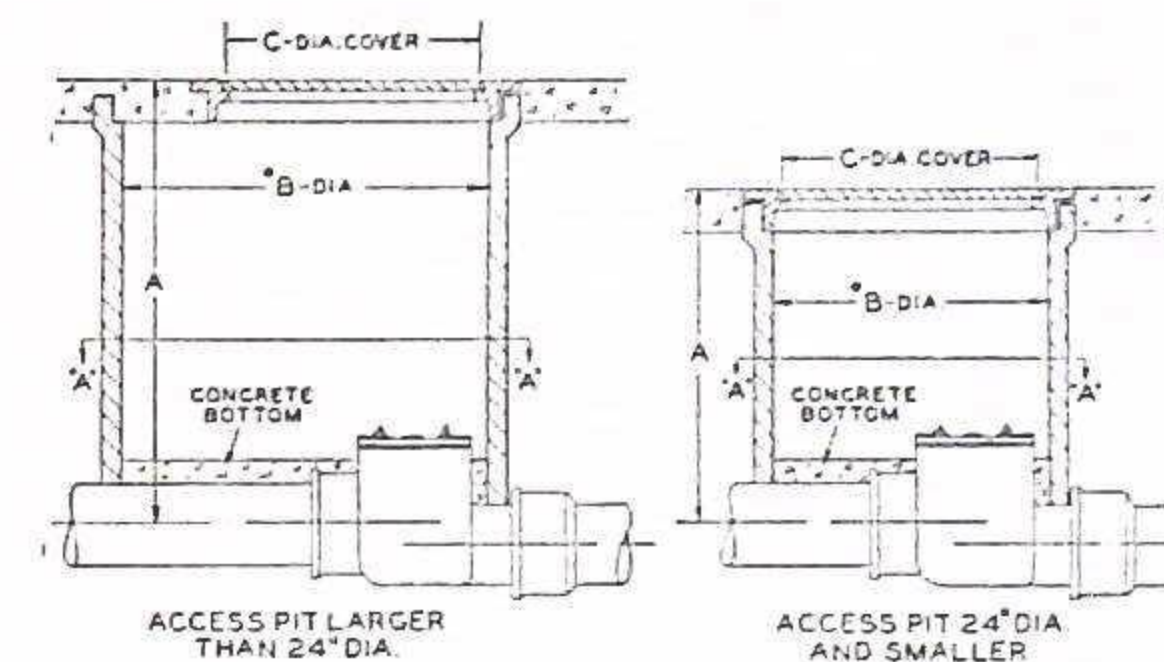
The following detail of the vertical swing bronze flap, applies to all Josam Sewer and Terminal Backwater Valves. Each discharge of water revolves disc producing even wear and a clean valve. Disc closes under slightest back flow.



KEY	PARTS
1	BRONZE HINGE POSTS - CAST INTEGRAL WITH SEAT
2	BRONZE DISC ARM
3	BRONZE VALVE DISC
4	BRONZE WASHER
5	BRONZE SEAT (SEE ALSO KEY NO. 1)
6	BRONZE DOUBLE FULCRUM KNIFE EDGE HANGER
7	BRASS HINGE LOCKING SCREW - 3/8" LONG R.H.M.S.

### INSTALLATION DIAGRAM

Installation diagram showing Josam Backwater Valve installed in a vitreous tile access pit with a cast iron manhole cover.



DIMENSIONS IN INCHES			
DEPTH	PIT SIZE #B	A	C
6-18	18	19 1/2	
19-30	24	26 1/4	
31-60	36	26 1/2	
61+	48	26 1/4	

\*VITREOUS TILE SEWER PIPE STANDARD

### copper ball float

- **APPLICATION:** For installation in 4" or 6" female threaded bottom outlet floor drain, to prevent backflow from drain or sewer lines in locations where an independent backwater valve cannot be installed in the line.

### STANDARD and OPTIONAL FEATURES

- **Body** **Standard:** Cast iron housing with male threaded inlet and female threaded outlet.  
**Optional:** Spigot outlet at no added cost. 1/2" priming connection, at added cost.
- **Outlet** **Standard:** 2", 3" or 4" female threaded outlet with male threaded inlet to fit into any 4" female threaded bottom outlet drain.  
**Optional:** 5" or 6" female threaded outlet with male threaded inlet to fit into any 6" female threaded bottom outlet drain.  
**Optional:** 3" or 4" spigot outlet, at no added cost.
- **Backwater Valve** **Standard:** Removable copper ball float in copper wire cage with brass seat.
- **Valve Seat** **Standard:** Renewable rubber seat in brass seat ring, threaded into housing.  
For floor drains with integral backwater valve, see illustrated index.

### DIMENSIONS IN INCHES

TYPE NO.	A	B	C	D	WGT. LBS.
1002	2	4	6 1/4		6
1003	3	4	6 1/4		7
1004	4	4	6 1/4	6 1/4	7 1/2
1005	5	6	10		20
1006	6	6	10		23

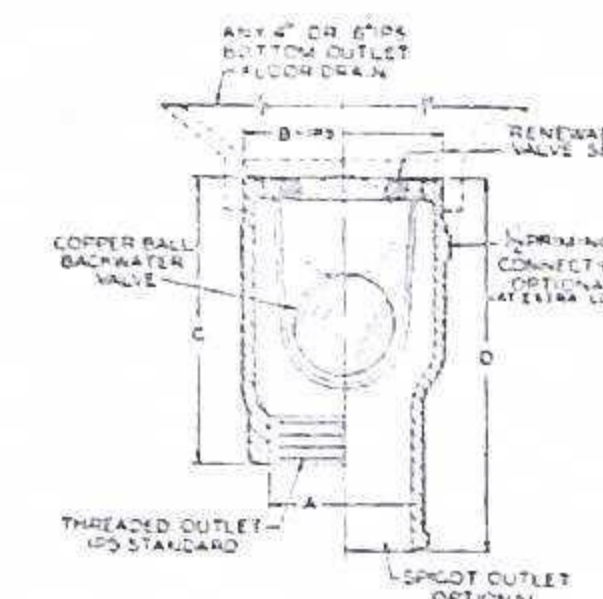
## BACKWATER VALVE

### SERIES No. 1000



#### SPECIFICATION

Josam Series No. 1000, cast iron housing with float type copper ball backwater valve with renewable rubber seat, brass seat ring, copper wire cage, " " male threaded inlet and " " female threaded outlet.







## GREASE INTERCEPTORS

scientifically designed for highest efficiency  
WITH OR WITHOUT AUTOMATIC GREASE DRAW-OFF

### JOSAM PIONEERED

Since 1926, when Josam pioneered and produced the first Cascade Grease Interceptor, the Josam Engineering Department has worked ceaselessly to achieve improvement in the operation and application of grease interceptors for all conditions. Research tests and experiments conducted in the Josam laboratory not only solved many problems but established the necessity of having a standardized method of sizing and rating. Tests in several cities showed that many grease interceptors had been incorrectly sized for their purpose, with the result that the performance was inefficient due to the fact that a small interceptor was being overloaded or cost of installation increased because a size larger than required had been installed. Based on testing procedures developed to simulate actual operating conditions, Josam was the first to publish a Selection Chart of Interceptors to be used with various types and sizes of sinks and fixtures. This Selection Chart, in its present form is printed on the following page.

### AUTOMATIC GREASE EVACUATION another Josam achievement!

Ever since Josam pioneered the first modern grease interceptor to eliminate the problem of grease-clogged pipe lines, the industry has awaited the final development—a grease interceptor that would AUTOMATICALLY discharge the grease, and thereby eliminate the inconvenience of removing the cover of the interceptor and cleaning out the grease by hand. After years of experimenting and testing, Josam now offers this new revolutionary type grease interceptor which not only has a higher grease retention efficiency than any other on the market, but automatically discharges the collected grease. There is no other unit like it. See pages 96-99 for complete details.

### CASCADE DESIGN

An exclusive feature of all Josam Grease Interceptors is the Cascade Design, based on the principle of the waterfall. Due to the tumbling of the grease-laden water over four levels, the grease is separated from the waste water regardless of the waste water temperature. Solids and sediment are evacuated through the channel on bottom of interceptor, reducing the possibility of decomposition of solids which cause foul odors. The first baffle, which is hooded, is designed to deflect solids to the evacuating channel. The tumbling action augmented by baffles, scientifically placed with relation to each other, causes the proper degree of agitation below grease level, thus retarding the velocity of the flow of water and forcing the grease to separate and rise to the surface. With each discharge of water into the interceptor, solids are forced into the channel separating the cascades, and are evacuated from the interceptor.

It is this combined action of cascade bottom, baffles, channel and easement to trap leg that causes efficient separation of grease, fats, and oils, and the evacuation of solids from waste water.

### INTERNAL AIR RELIEF, HOODED TYPE

This feature on all Josam grease interceptors eliminates the need for a vent from the intercepting chamber. Its function is to allow the entrained air when it becomes compressed to pass from the intercepting chamber to the sewer and sewer vents, thereby preventing the possibility of causing syphonic action.

This new and exclusive Hooded Type Internal Air Relief makes the air relief passage readily accessible for inspection and permits cleaning if necessary. Removal of cover exposes the entire air relief passage.

### NO COLD WATER CONNECTIONS

No cold water connections to congeal the grease are required with Josam Cascade Grease Interceptors. Grease accumulates in the grease chambers regardless of water temperature, and separated grease is easily removed.

### FLOW CONTROL

The link between Flow Rate and Installation to produce satisfactory operation is a FLOW CONTROL FITTING. Through exhaustive tests and experiments, JOSAM discovered that maximum grease interceptor efficiency depends on the proper rate of flow for the interceptor connected. As a result a Josam Flow Control Fitting is included with all Josam Grease Interceptors at no extra cost. The Flow Control Fitting should be installed to prevent overloading the interceptor and to maintain a rate of at least 97% grease retention efficiency. Full details on Josam Flow Control Fitting on page 99.

### FLOW RATE AND GREASE CAPACITY

Drainage period in combination with the service required and the quantity of waste water involved, establishes the rate of flow through the interceptor. Flow rate therefore is the primary gauge; and flow rate establishes interceptor size or capacity.

Cleaning period is determined by grease capacity; and it is dependent on the amount of grease in the waste water. That is a factor very difficult to determine for ordinary sinks; and one that varies from day to day, and even from period to period in the same day, determined by the operation of the establishment served.

Flow rate and grease capacity of any interceptor determines efficiency.

\*The most desirable time for removing grease from Series JH interceptors with automatic draw-off, is IMMEDIATELY AFTER the interceptor has been put to its heaviest use.

### INSTALLATION

Ordinarily no consideration is given to the installation of the interceptor with respect to the items to be served, the floor or grade on which it is to be located and the sewer to which it is to discharge.

Josam has given consideration to the above conditions; and to adequately meet same, has developed nine (9) types of Cascade Grease Interceptors for services as outlined on following pages.

### A JOSAM CASCADE GREASE INTERCEPTOR FOR ANY SERVICE

Type numbers in green indicate grease interceptors with automatic grease draw-off.

#### Domestic and Commercial Service

For installation on floor  
Series JA, JH, JLA

For installation partially recessed in floor  
Series JA, JHX

For installation recessed flush with floor  
With standard roughing—Series JA  
With deep roughing—Series JX, JHR

For installation in pit below floor  
Series JA, JHX

#### Dishwashers and Other Low Outlet Fixtures

For installation on floor  
Types JLA, JHL

#### Industrial Service

For installation on floor  
Types JA-6, JH-6, JH-7, JNC (all sizes) and PH (all sizes)

For installation partially recessed in floor  
Types JA-6, JHX-6, JHX-7, JNC (all sizes) and PH (all sizes)

For installation recessed flush with floor  
With standard roughing—Types JA-6, JNC-11, JNC-12, JRC (all sizes)

With deep roughing—Types JX-6, JHX-6, JHX-7, JNC-13 to JNC-17  
JHR-6, JHR-7, JRC (all sizes), PH (all sizes)

For installation in pit below floor  
Series JHX-6, JHX-7, JNC (all sizes), PH (all sizes)

NOTE: For roughing dimensions on the above types, see pages 99 and 102.

#### Packing House Service

Packing plants, abattoirs, sausage manufacturing plants, rendering, food processing and industrial plants, for installation on floor or in a pit easily accessible for observation and regular periodic skimming, Series PH without cover or Series JHX, JHR with automatic grease draw-off. For installation on floor, partial recessed or fully recessed in floor, the interceptors for industrial service apply.

## selection chart and sizing formula

### SELECTION CHART

For Domestic and Commercial Service

RECOMMENDED JOSAM INTERCEPTORS FOR USE WITH VARIOUS TYPES AND SIZES OF SINKS AND FIXTURES BASED ON DRAINAGE PERIOD OF APPROXIMATELY ONE MINUTE\*

TYPE OF FIXTURE	SIZE OF FIXTURE		Drainage Load In Gals. 75% of Cubic Capacity **	METHOD OF INSTALLATION				In Pit Below Floor
	Size of tailpiece or combined waste should not exceed size of interceptor inlet.	Drainage Load In Gals. 75% of Cubic Capacity **		On Floor	Partially Recessed In Floor	Recessed Flush With Floor		
						Std. Roughing	Deep Roughing	
Residential and Apartment Sinks	12x18x6		4.2	JA-00	JA-00	JA-00	JA-00	
	16x14x8		5.8	JA-0 JH-0	JA-0 JHX-0	JA-0	JA-0 JHX-0	
	20x18x8		9.4	JA-1 JH-1	JA-1	JA-1 JHX-1	JA-1 JHX-1	
		18x16x8 Each Compt.	15.0	JA-2 JH-2	JA-2	JA-2 JHX-2	JA-2 JHX-2	
		20x18x8 Each Compt.	18.7	JA-3 JH-3	JA-3	JA-3 JHX-3	JA-3 JHX-3	
Commercial Pot, Pan and Scullery Sinks; Soup Kettles or other Kitchen or Pantry Equipment of these dimensions or other sizes having same capacities.	20x30x8		15.5	JA-2 JH-2	JA-2 JHX-2	JA-2	JHR-2 JA-2 JHX-2	
	20x24x12	18x20x8 Each Compt.	18.7	JA-3 JH-3	JA-3 JHX-3	JA-3	JHR-3 JA-3 JHX-3	
		20x22x8 Each Compt.	23.0	JA-4 JH-4	JA-4 JHX-4	JA-4	JHR-4 JA-4 JHX-4	
		20x22x12 Each Compt.	34.0	JA-5 JH-5	JA-5 JHX-5	JA-5	JHR-5 JA-5 JHX-5	
		24x24x12 Each Compt. or 60 Gal. Kettle	45.0	JA-6 JH-6	JA-6 JHX-6	JA-6	JHR-6 JA-6 JHX-6	
This also applies to Apartment and Residential Sinks of these dimensions or capacities.		24x32x12 Each Compt.	60.0	JH-7	JHX-7		JHR-7 JHX-7	
	Up to 20 Gal. Tank			JLA-3 JHL-3	JA-3 JHX-3	JA-3	JHR-3 JA-3 JHX-3	
	20 to 35 Gal. Tank			JLA-5 JHL-5	JA-5 JHX-5	JA-5	JHR-5 JA-5 JHX-5	
Dishwasher	35 to 50 Gal. Tank			JLA-3 JLA-5	JA-6 JHX-6	JA-6	JHR-6 JA-6 JHX-6	

### SIZING FORMULA

The "Selection Chart" above indicates various size sinks commonly used in residences, apartment houses, restaurants, hotel or club kitchens, or similar institutions where food is served.

Where size of sinks or fixtures vary from those in "Selection Chart", we recommend the following Sizing Formula to determine the correct size Josam Grease Interceptor.

CUBIC CONTENT of a fixture = LENGTH x WIDTH x DEPTH. For example, a sink 44" x 24" x 14" has 14,784 Cubic Inches Content.

CONTENT IN CUBIC INCHES DIVIDED BY 231 = CAPACITY IN GALLONS. In above example, Capacity is approximately 65 gallons.

No fixture is ever filled to capacity. Pots, pans and other items being washed displace a certain amount of water, estimated at 25%. Consequently 75% of CAPACITY = DRAINAGE LOAD.

In above example, Drainage Load is 48.8 Gallons.

Recommended DRAINAGE PERIOD is ONE MINUTE but conditions may exist whereby a longer drainage period would be satisfactory. In consequence, FLOW RATES for previous example would be:



## GREASE INTERCEPTORS

### IMPORTANT

NOTE: Series JH, JHL, JHR and JHX are interceptors with automatic grease draw-off.

WHEN ORDERING JOSAM CASCADE GREASE INTERCEPTORS, always give type number of Interceptor. If that cannot be determined by use of the "Selection Chart", or by following "Sizing Formula" below, specify with order — size and number of fixtures to be served and proposed location of interceptor with relation to fixtures.

### NOTES

\* If a drainage period longer than one minute must be used, thereby decreasing the flow rate, use the selection formula below for determining the correct size interceptor.

\*\* No fixture is ever filled to capacity. Pots, pans and other items being washed displace a certain amount of water, estimated at 25%. Consequently 75% of CAPACITY = DRAINAGE LOAD.

• Multiple Fixture Installations.

Interceptors should be placed as close as practical to the fixtures they serve, so that there is no possibility of grease collecting and clogging the run of waste line between the fixtures and the interceptor.

One interceptor to serve multiple fixtures is recommended only where fixtures are located close together to avoid long runs of pipe into the interceptor.

The installation of one interceptor into which a number of fixtures empty is generally impractical. The interceptor may become overloaded so that its grease retention efficiency is reduced, or it may be too large for the requirements, since all of the fixtures may never empty into the interceptor at the same time. See reference below.

When wastes of two or more sinks or fixtures are combined to be served by one interceptor a SINGLE FLOW CONTROL fitting should be used.

For additional information and recommendations on Multiple Fixture installations, consult our Engineering Department "K", Michigan City, Indiana.

Based on the foregoing FLOW RATES, the proper size Grease Interceptor would be as follows:

FLOW RATE (GPM)	TYPE GREASE INTERCEPTOR	RATED AT (GPM)	FAT CAP. (LBS.)	DRAINAGE PERIOD
48.8	Josam No. JH-6 or JA-6	50	100	1 min.
24.4	Josam No. JH-4 or JA-4	25	50	2 min.

The flow rate for any given drainage period can be determined by using the following formula:

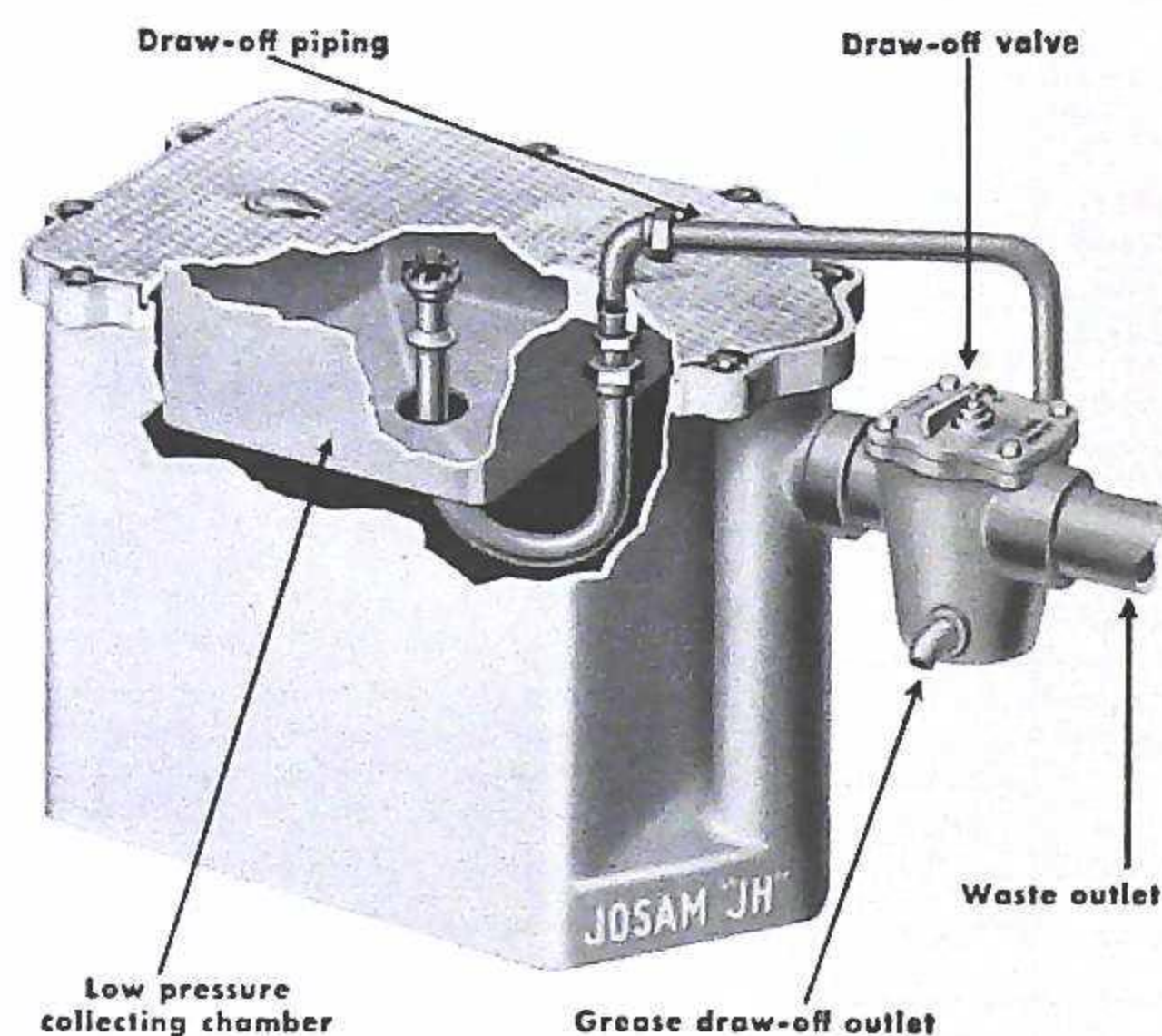
$$\frac{\text{Drainage load in gallons}}{\text{Drainage period in minutes}} = \text{Flow Rate in GPM}$$

Multiple Fixture Installations — In the event the installation is to consist of more than one fixture, all served by a single interceptor, calculate the total capacity of all fixtures, establish the maximum number of fixtures that may be drained simultaneously and apply this factor to the total capacity to determine maximum simultaneous capacity. To this result apply the factor of 75% to determine the drainage load; and then proceed on the same basis as above. See Note • above.

with automatic grease draw-off  
for domestic, commercial and industrial service



**SERIES "JH" GREASE INTERCEPTOR**



- the only grease interceptor that automatically discharges the grease from the interceptor at the turn of a valve!
- no longer necessary to take off cover to remove grease . . . no odors . . . no mess!
- no longer necessary to remove grease by hand . . . grease flows out of nozzle!

**AUTOMATIC GREASE EVACUATION . . . another Josam achievement!**

Ever since Josam pioneered the first modern grease interceptor to eliminate the problem of grease-clogged pipe lines, the industry has awaited the final development — a grease interceptor that would AUTOMATICALLY discharge the grease, and thereby eliminate the inconvenience of removing the cover of the interceptor and cleaning out the grease by hand. Josam now offers this new revolutionary type grease interceptor which not only has a higher grease separation efficiency than any other on the market, but automatically discharges the collected grease at the turn of a valve. This is a Josam "exclusive" — there is no other unit like it.

**A PROVED DESIGN WITH A NEW PRINCIPLE**

Using the basic design of the Josam Cascade Interceptor which for 30 years has been accepted as the Standard of the Industry, Josam has applied a new principle called "low pressure" or partial vacuum. The standard principle of gravity separates grease from water because grease is lighter and floats to the top. In the "low pressure" chamber found only in the new Josam Series "JH" interceptor, the grease continues to collect in this chamber where it can be drawn off at any time . . . without removing the cover.

**GREASE POURS OUT OF DISCHARGE LINE AT THE TURN OF A VALVE**

The grease collecting chamber may be emptied at any time simply by turning handle of control valve at outlet end of interceptor to the "draw-off" position. This closes the waste line and automatically opens the grease discharge line adjacent to which is placed a container to catch the liquid grease flowing out of the collecting chamber.

To start the grease flowing from the collecting or "low pressure" chamber into the draw-off line, a moderate flow of hot water is discharged into the interceptor and this flow forces the grease out of the collecting chamber into the draw-off line. When the grease is completely discharged (indicated by a flow of clear water with the last of the grease), the valve is turned to "on" position which automatically closes the grease discharge line and opens the waste line at the outlet, permitting a continuation of the grease interception.

Complete instructions for priming the low pressure chamber and for the removal of the grease are tagged on all Josam Series JH Interceptors.

**NO ODORS . . . NO MESSY GREASE REMOVAL**

The intercepted grease in the collecting or "low pressure" chamber in Josam interceptors is relatively pure and can remain in the collecting chamber without bacterial or decomposable action since these processes do not take place in a "low pressure" or partial vacuum area.

As a result, the unpleasant odors and messy cleaning associated with grease interceptors which require the removal of the cover for cleaning, are now positively eliminated!

This is the interceptor that solves most grease problems — collects over 95% of the grease . . . evacuates heavier-than-water solids and sediments . . . and discharges clean grease at the turn of a handle!

**GREASE DRAW-OFF VALVE**

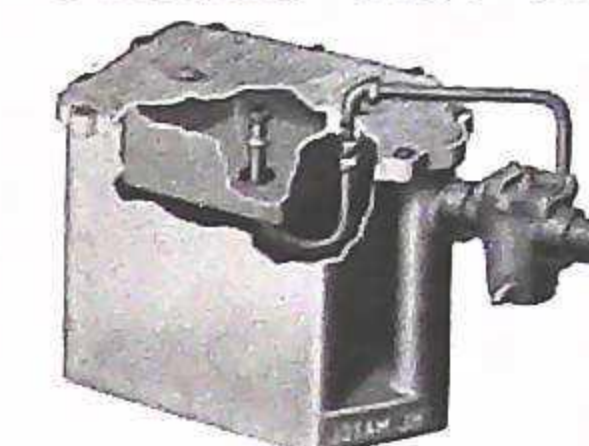
The draw-off valve is an integral part of every "JH" interceptor. This draw-off valve can be operated from either left hand or right hand installation by reversing the positions of the draw-off piping and the draw-off nozzle.

**FLOW CONTROL**

Maximum grease interceptor efficiency depends on the proper rate of flow through the interceptor. A Josam Flow Control Fitting is included with all Josam Grease Interceptors at no extra cost. The Flow Control Fitting should be installed to prevent overloading the interceptor and to maintain a rate of at least 95% grease retention efficiency. See page 113.

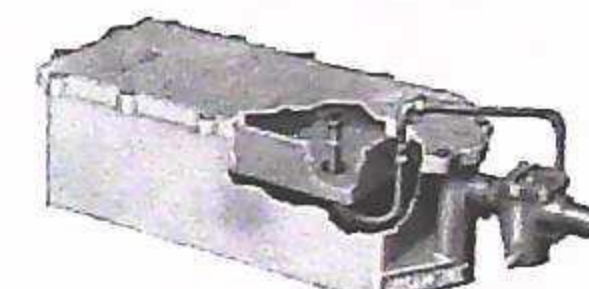
with automatic grease draw-off  
for floor and recessed installations

**SERIES No. JH**



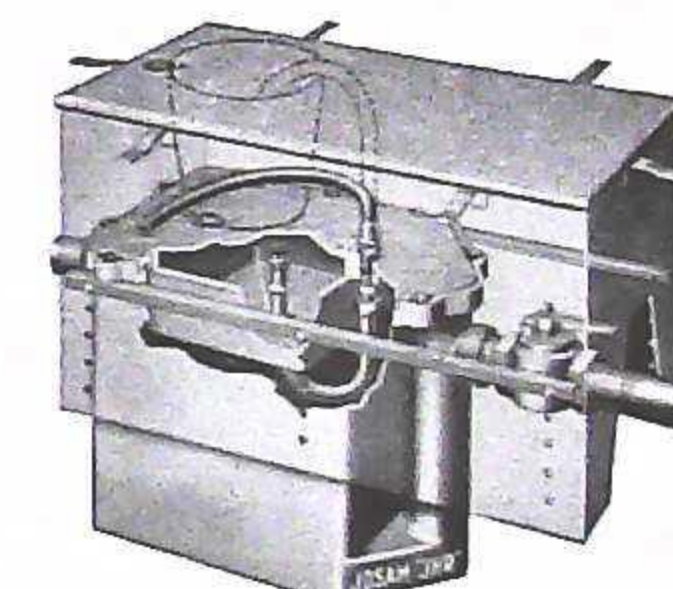
**SERIES NO. JH SPECIFICATION**

Josam Series JH cast iron grease interceptor having a rating of \_\_\_\_\_ GPM and grease capacity of \_\_\_\_\_ lbs., for installation on floor, with non-submerged \_\_\_\_\_ inlet and \_\_\_\_\_ outlet, cascade bottom, center solids evacuating channel, internal air relief, visible double wall deep seal code trap, baffles, gasketed cover with low pressure chamber, copper pipe grease draw-off, two-way draw-off valve, and flow control fitting.



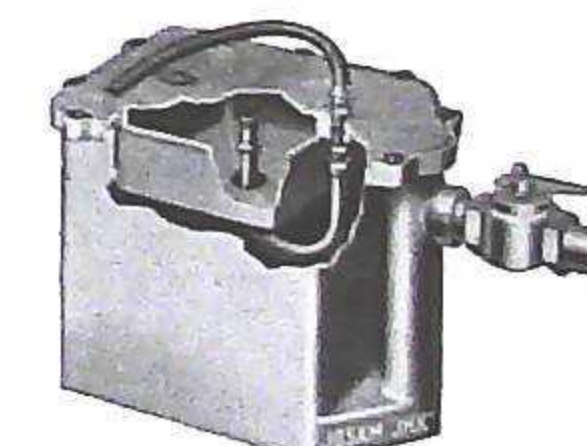
**SERIES JHL SPECIFICATION**

Josam Series JHL, same as Series JH except low-boy type for dishwashing machines or other low outlet fixtures. For installation on floor.



**SERIES NO. JHR SPECIFICATION**

Same as Series JH except with adjustable steel carrier bracket and steel frame, non-skid steel cover with recessed lift ring, flexible hose for drawing off grease and a full water-way quick opening draw-off valve, for recessed installation flush with floor.



**SERIES NO. JHX SPECIFICATION**

Same as Series JH except with flexible rubber hose for drawing off grease, and a full water-way quick opening draw-off valve, for installation partially recessed in floor or in a pit below floor.

• APPLICATION: Wherever grease and fats are present in waste water and should be intercepted before entering and clogging lines and sewers and where it is desirable to automatically draw-off the grease instead of removing the cover to scoop out grease.

**DOMESTIC AND COMMERCIAL SERVICE**

Private Residences, Apartments, Restaurants, Hotels, Clubs, Institutions and similar kitchen and pantry service.

**INDUSTRIAL SERVICE**

Kitchen and pantry service in Restaurants, Hotels, Clubs, Institutions and in Dairies, Creameries, Food Processing Plants, Cheese and Butter Factories, Sausage and Rendering Rooms and similar establishments.

**STANDARD FEATURES AND MATERIALS**

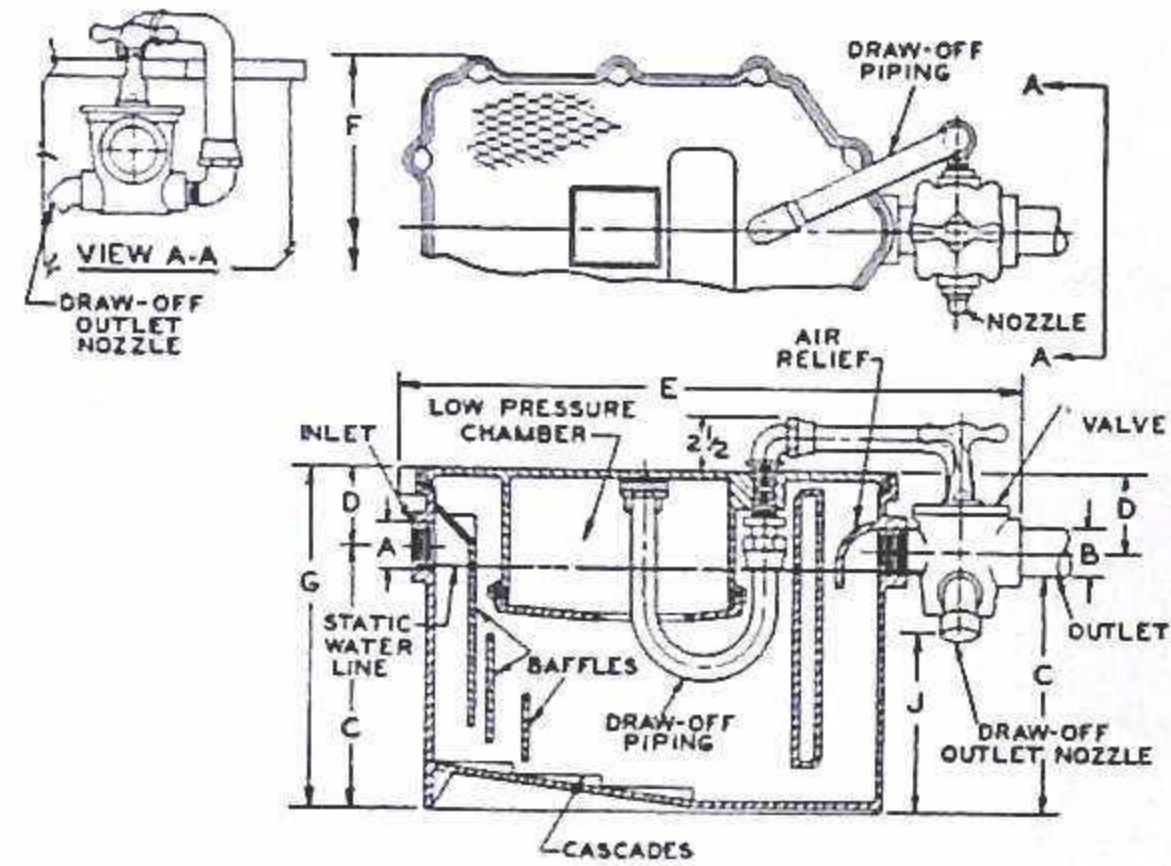
- Body Cast iron lacquer finish inside and outside, with full apron to floor, cascade bottom, center channel, internal air relief, easement to trap leg, visible double wall deep seal trap.
- Low Pressure Collecting Chamber Cast iron lacquer finish, integral with interceptor cover, for storing grease.
- Draw-Off Piping Copper tube draw-off piping for drawing off grease from low pressure chamber through draw-off nozzle into container. On Series JHR and JHX, a flexible rubber hose is furnished for drawing off the grease into a container.
- Draw-Off Valve Cast iron two-way draw-off valve with grease draw-off nozzle. Draw-off nozzle may be interchanged to make unit right or left hand by reversing position of the nozzle. On Series JHR and JHX, a full water-way, quick opening draw-off valve is furnished in place of the two-way draw-off valve with nozzle.
- Internal Air Relief Hooded design air relief eliminates the need for a vent from the intercepting chamber.
- Cover Cast iron lacquer finish, gasketed, integral with low pressure chamber. On Series JHR and JHX, a brass cap which is chained to the cover is screwed to the draw-off pipe when flexible hose is not used for drawing off the grease.
- Baffles Cast iron lacquer finish. First baffle is hooded which deflects the solids to evacuating channel.
- Inlet and Outlet Female threaded, non-submerged.
- Carrier Bracket and Cover On Series JHR only. Steel carrier bracket with steel frame and non-skid steel cover with recessed lift ring. Carrier bracket is adjustable for varying depths of floor construction. Interceptor may be lowered on carrier bracket at intervals of 1/4" but a 13" minimum height must be maintained from the top of the interceptor to the bottom of the fixture served.
- Flow Control Fitting Furnished as standard equipment at no extra cost. Flow control fitting limits the rate of flow into the interceptor to assure 95% or more efficiency.

**OPTIONAL MATERIALS**

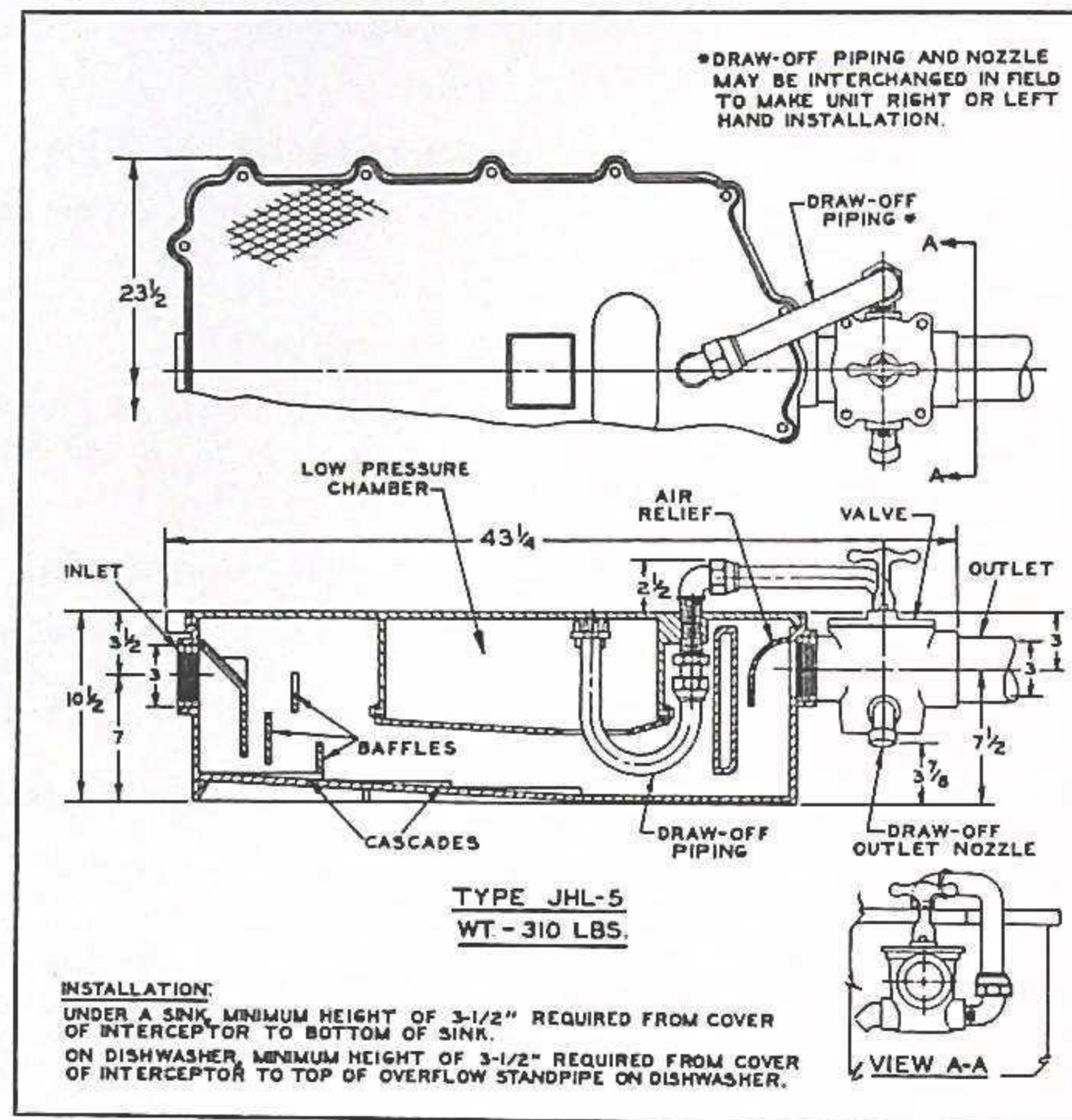
Porcelain enamel or acid resisting finish, inside, outside, or both inside and outside, at extra cost.

Hy-Tech Products

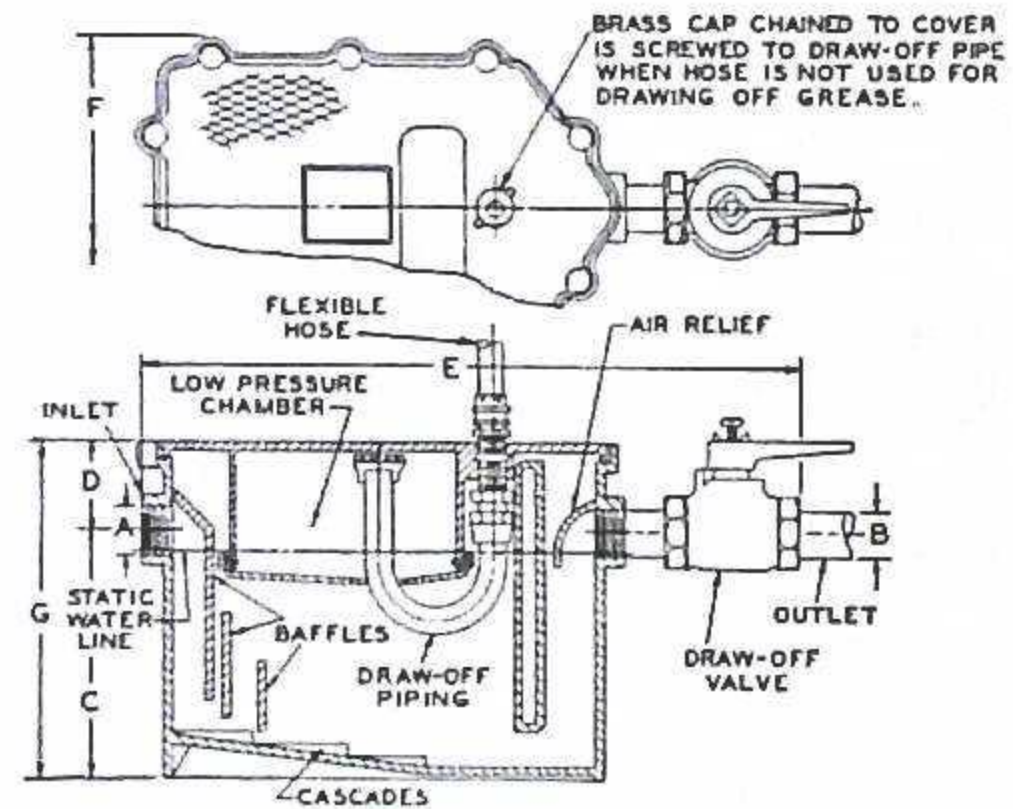
ILLUSTRATIONS ON PAGES 96, 97



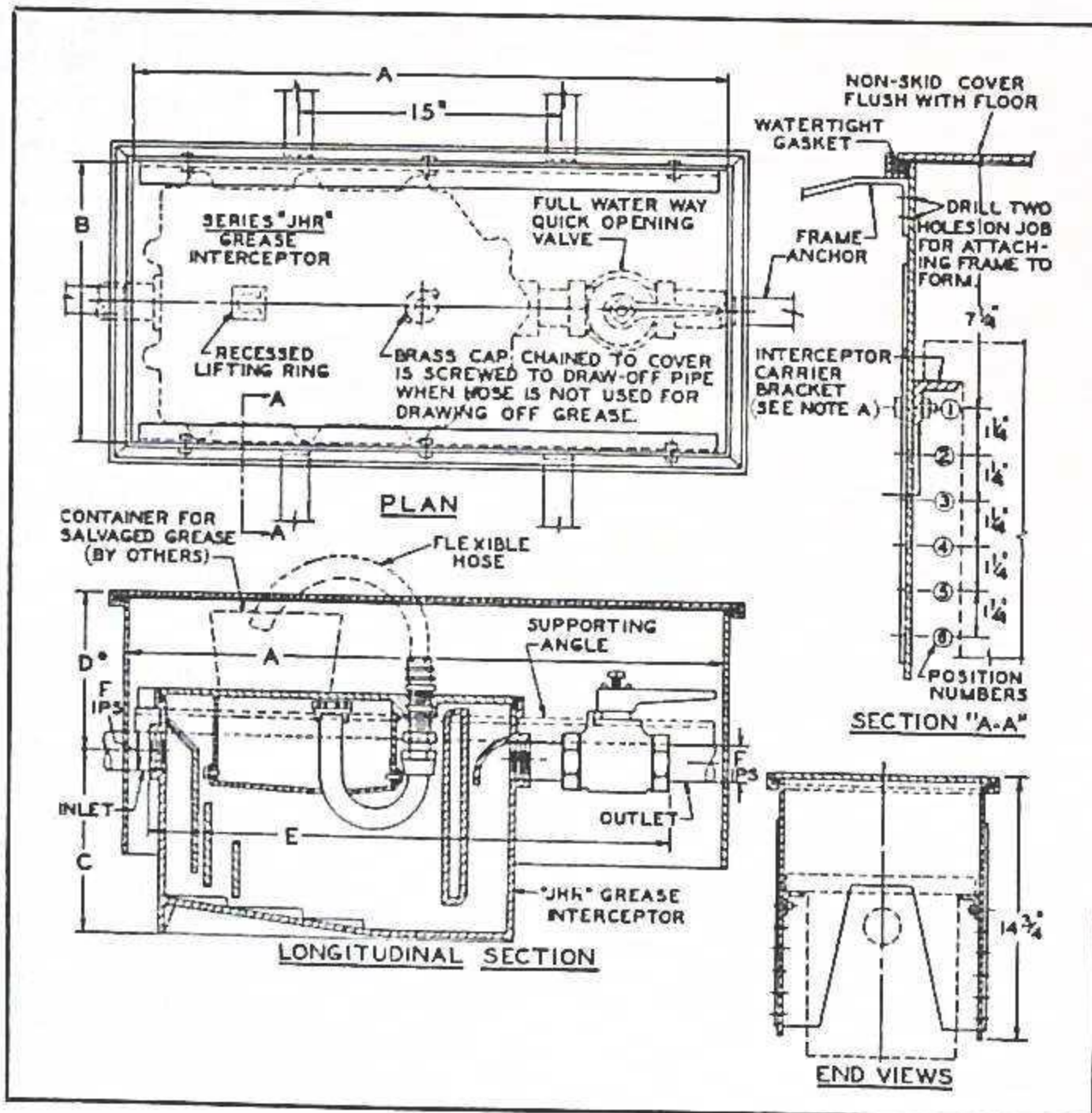
SERIES JH



SERIES JHL



SERIES JHX



SERIES JHR

**FLOW CONTROL FITTING**

All Josam Grease Interceptors are equipped with a Flow Control fitting to limit the rate of flow into the interceptor, thereby preventing overloading and insuring 95% or more grease retention efficiency. The Flow Control Fitting must be installed as directed to attain proper efficiency. See page 13.

**ENGINEERING**

For recommendations covering unusual installation problems, or where conditions will not permit installation in accordance with minimum height required, as indicated on next page, write Josam Engineering, Department "K", Michigan City, Ind., or contact the Josam representative in your territory.

INSTALLATION DIAGRAMS ON PAGE 205

**DIMENSIONS IN INCHES**

SERIES NO.	TYPE NO.	FLOW RATE G.P.M.	GREASE CAP LBS.	IN-LET A	OUT-LET B	ROUGHING CENTERS		LENGTH E	WIDTH F	HEIGHT G	J	WGT. LBS.	NOTES
						C	D						
JH	JH-0	7	14	2	2	7 3/8	3 1/8	20 1/2	10 3/8	10 1/2	4 1/4	85	Minimum height of 3 1/2" required from cover of interceptor to bottom of fixture served.  Draw-off piping and nozzle may be interchanged in field to make unit right or left hand installation.
	JH-1	10	20	2	2	8 3/8	3 3/8	22 1/8	12	11 3/4	5 1/4	125	
	JH-2	15	30	2	2	9 1/2	3 1/2	24 1/4	13 1/2	13	6 3/8	139	
	JH-3	20	40	2	2	11 1/2	3 1/2	27	15 1/4	15	8 3/8	202	
	JH-4	25	50	3	3	13	4 3/8	32 1/2	16 7/8	17 3/8	9 3/8	250	
	JH-5	35	70	3	3	14 1/2	4	34 1/8	18	18 1/2	10 7/8	280	
	JH-6	50	100	3	3	15 1/2	4 7/8	37 3/4	19 3/4	20 3/8	11 7/8	365	
JH-7	75	150	3	3	17	6	41 1/2	22	23	13 3/8	460		
JHL	JHL-5	35	70	See dimensions and detail - opposite page									
JHX	JHX-0	7	14	2	2	7 3/8	3 1/8	21 1/2	10 3/8	10 1/2		83	Minimum height of 13" is required from top of interceptor to bottom of fixture.
	JHX-1	10	20	2	2	8 3/8	3 3/8	23	12	11 3/4		120	
	JHX-2	15	30	2	2	9 1/2	3 1/2	25 1/4	13 1/2	13		136	
	JHX-3	20	40	2	2	11 1/2	3 1/2	28	15 1/4	15		200	
	JHX-4	25	50	3	3	13	4 3/8	32 1/2	16 7/8	17 3/8		247	
	JHX-5	35	70	3	3	14 1/2	4	34 1/4	18	18 1/2		276	
	JHX-6	50	100	3	3	15 1/2	4 7/8	37 3/4	19 3/4	20 3/8		360	
JHX-7	75	150	3	3	17	6	41 1/2	22	23		455		
	TYPE NO.			INLET	OUTLET	A	B	C	D*	E			Adjust carrier bracket to obtain a 13" minimum height from top of interceptor to bottom of fixture.
JHR	JHR-0			2	2	27 1/2	11	7 3/8		8 1/2		21 1/2	* Based on interceptor in Position #1. Add 1 1/4" when lowering interceptor to succeeding positions.  Interceptor carrier bracket adjustable for varying depths of floor construction.
	JHR-1			2	2	29	12 3/8	8 3/8		8 3/4		23	
	JHR-2			2	2	31 1/4	14 1/4	9 1/2		8 7/8		25 1/4	
	JHR-3			2	2	34	16	11 1/2		8 7/8		28	
	JHR-4			3	3	38	17 1/2	13		9 3/4		32 1/2	
	JHR-5			3	3	39 1/2	18 1/2	14 1/2		9 3/8		34 1/4	
	JHR-6			3	3	43 1/8	20 1/4	15 1/2		10 1/4		37 3/4	
JHR-7			3	3	46 3/4	22 3/8	17		11 3/8		41 1/2		

**OPERATING INSTRUCTIONS**

**JOSAM GREASE INTERCEPTORS WITH AUTOMATIC GREASE DRAW-OFF**

**LOW PRESSURE CHAMBER ON SERIES JH, JHR and JHX MUST BE PRIMED**

The following instructions cover Series JH, JHR and JHX. Priming and grease removal on Series JHR and JHX is similar to JH except where indicated "On Series JHR and JHX" in the procedure below.

**INSTRUCTIONS FOR PRIMING**

- "On Series JHR and JHX" remove brass cap from draw-off outlet and attach hose.
- Turn two-way valve to "Grease Draw-off" position.
- "On Series JHR and JHX" place bucket under hose connection and run water into interceptor until FULL STREAM of water flows out of hose.
- Run water into interceptor until FULL STREAM of water flows out of "Draw-off" nozzle or hose.
- Turn valve handle to "Grease Draw-off" position.
- Shut off water supply to the interceptor and the unit is ready for operation.
- "On Series JHR and JHX" remove hose, replace brass cap and unit is ready for normal operation.

**Instructions for Priming When Installed On a Dishwasher**

- Dishwasher must be in operation and overflow standpipe in position.
- With water running into dishwasher overflow standpipe, turn valve to "Grease draw-off position."
- When full stream of water flows out of draw-off nozzle turn valve to "on" position.
- Unit is ready for operation.

**Instructions for Grease Removal from Dishwasher**

Remove grease once a week or oftener. The most desirable time is when

**INSTRUCTIONS FOR GREASE REMOVAL**

- "On Series JHR and JHX" remove brass cap from draw-off outlet and attach hose.
- Allow a full stream of hot water (140°F. or hotter) to run into the interceptor for approximately 1 1/2 minutes.
- Turn off hot water and let interceptor remain unused for approximately 5 minutes.
- Place container for salvaged grease under the draw-off nozzle or hose.
- Turn valve handle to "Grease Draw-off" position.
- Turn on hot water to flow into interceptor at a rate NOT EXCEEDING 2 GALLONS PER MINUTE.
- Permit grease to flow from draw-off nozzle or hose until clear water begins to flow, at which time turn valve handle to "ON" position.
- "On Series JHR and JHX" raise hose to full vertical position to empty hose and fittings.
- Shut off flow of hot water into interceptor and the unit is again ready for normal operation.
- "On Series JHR and JHX" remove hose, replace brass cap and unit is again ready for normal operation.

**NOTE**

Remove grease once a week or oftener. The most desirable time for grease removal is immediately after the unit has been put to its heaviest use

**SERIES JHL**

all dishes have been washed but before dishwasher is shut down.

- Place container for salvaged grease under the draw-off nozzle.
- With the water running into the overflow tube, turn draw-off valve to draw-off position.
- Permit grease to flow from draw-off nozzle until clear water begins to flow, at which time turn valve handle to "ON" position.
- Unit is again ready for operation.

When installed under sink or other fixture, follow same directions for Priming and Grease Removal as for Series JH.



## GREASE INTERCEPTORS

*cascade design  
for domestic, commercial and industrial service*

- **APPLICATION:** Wherever grease, fats and oils are present in waste water and should be intercepted before entering and clogging lines and sewer.

### Domestic and Commercial Service

SERIES JA, JLA, JX — Private Residences, Apartments, Restaurants, Hotels, Clubs, Institutions and similar kitchen and pantry service, where flow rate does not exceed 50 GPM, and where the flow is continuous or where operation is intermittent for short duration at long intervals.

### Industrial Service

SERIES JNC AND JRC — Restaurants, Hotels, Clubs, Institutions and similar kitchen and pantry service, Dairies, Creameries, Food Processing Plants, Cheese and Butter Factories, Sausage and Rendering Rooms and similar establishments, and where operation is intermittent but for long periods.

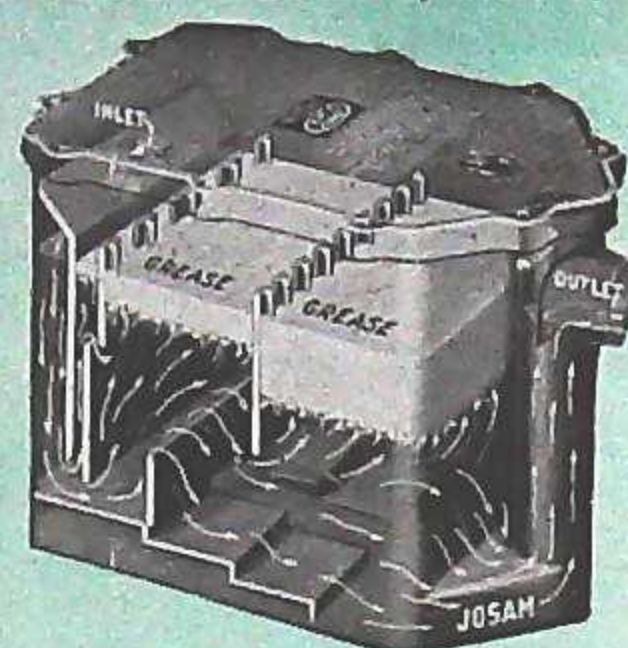
*For Grease Interceptors with Automatic Grease Draw-off, see pages 96-99.*

### STANDARD and OPTIONAL FEATURES

- **Body** **Standard:** SERIES JA AND JLA — Cast iron lacquer finish inside and outside, with full apron to floor, cascade bottom, center channel, internal air relief, easement to trap leg, visible double wall deep seal trap.  
SERIES JX — Same as Series JA except with steel extension with steel flashing flange, and cast iron top flange to receive cover and serve as a concrete stop.  
SERIES JNC—Steel, all welded, rectangular shape with full apron to floor, cascade bottom and center channel, internal air relief, visible double wall deep seal trap, cast iron cap cleanout. Permakote finish inside and outside.  
SERIES JRC—Same as Series JNC except with angle flashing or anchor flange and threaded flush cleanout.
- **Internal Air Relief** **Standard:** Hooded design makes air relief passage readily accessible for inspection and permits cleaning if necessary. Eliminates the need for a vent from the intercepting chamber.
- **Cover** **Standard:** SERIES JA, JLA, JX — Cast iron lacquer finish, ribbed, flush, field tight; with lift rings, gasket, bolts, nuts and washers. When fully recessed, cover is suitable as a floor plate.  
SERIES JNC AND JRC — Steel, all welded, field-tight non-skid cover with bolts and gasket, suitable as a floor plate. On sizes larger than JNC-15 and JRC-15, two-piece cover furnished.

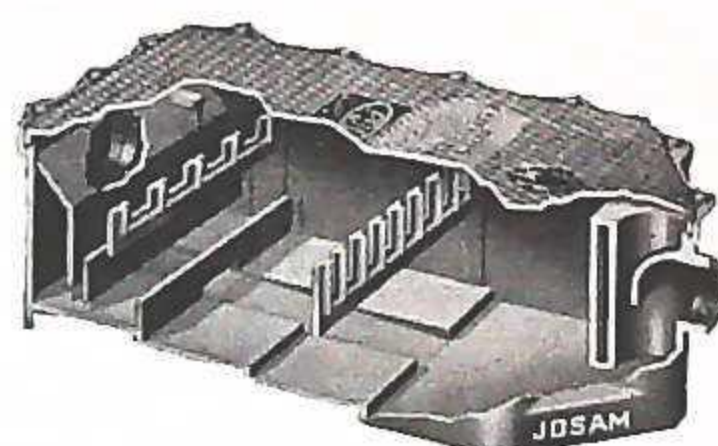
(Continued On Next Page)

### SERIES No. JA, JLA, JX



#### SERIES JA SPECIFICATION

Josam Series No. JA, cast iron grease interceptor with a rating of \_\_\_\_\_ GPM, and grease capacity of \_\_\_\_\_ pounds minimum efficiency, for installation on floor (or partially or fully recessed), "non-submerged inlet and outlet connection, cascade bottom, center channel, internal hooded air relief, visible double wall deep seal code trap, removable baffles and gasketed, flush non-skid cover with recessed lift rings, flow control fitting.



#### SERIES JLA SPECIFICATION

Josam Series No. JLA, same as Series JA except Low-boy type for dishwashing machines or other low outlet fixtures. Eliminates trapping the inlet or holding water in basin of dishwasher.



#### SERIES JX SPECIFICATION

Josam Series No. JX, same as Series JA except with steel extension and flashing flange. Deep roughing for recessed installation.

*floor or recessed installation  
shallow or deep roughing*

### STANDARD and OPTIONAL FEATURES (continued)

- **Baffles** SERIES JA, JLA, JX — Cast iron lacquer finish, plain and slotted. First baffle is hooded.  
SERIES JNC and JRC — Welded steel, flanged, plain and slotted, with first baffle hooded.  
Hooded baffle deflects solids to evacuating channel and also prevents odors from recirculating back through inlet.
- **Inlet and Outlet** **Standard:** IPS female threaded.
- **Extension** **Standard:** Series JX only. Steel extension with steel flashing flange bolted to cast iron body, and cast iron top flange to receive cover.  
4" extension is minimum.  
Any height extension can be furnished. Be sure to specify "H" measurement, in detail on page 102.
- **Flow Control Fitting** **Standard:** Size and type indicated in schedule of dimensions on page 102, furnished as standard equipment, at no extra cost.  
Flow control fitting limits the rate of flow to assure 90% or better efficiency. Flow control fitting must be installed as directed. See page 113.

### OPTIONAL MATERIALS

SERIES JA, JLA, JX — Porcelain enamel finish, inside, outside, or both inside and outside, at extra cost.  
With flashing flange and clamp ring, at extra cost.  
SERIES JNC, JRC — Acid resisting enamel finish, inside, outside or both inside and outside at extra cost.

### TURN GREASE PROBLEMS INTO GREASE PROFITS

**PROOF** in every case that Josam Grease Interceptors pay for themselves.

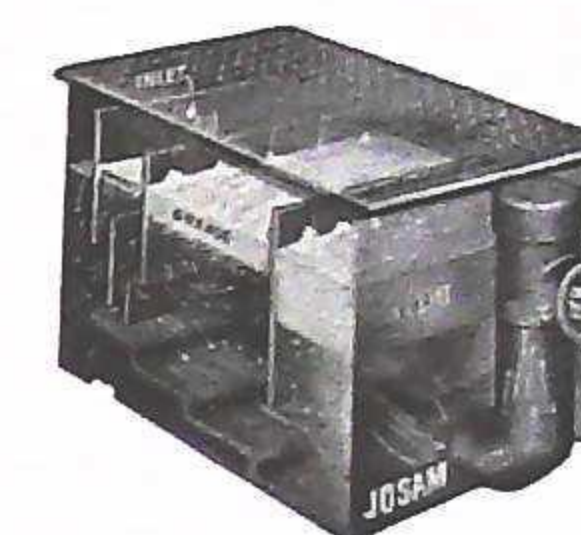
Here's what a few users of Josam Grease Interceptors report . . .

- **Sausage Plant —** "Interceptor cleaned every four weeks. Over 200 pounds of grease salvaged and sold."
- **Institution —** "Interceptor cleaned every two weeks. From 15 to 20 pounds of grease salvaged."
- **Meat Packing Plant —** "Interceptor cleaned once daily. Several hundred pounds of grease taken from interceptor for disposal."
- **College Dining Hall —** "Interceptor cleaned daily. Fifty to ninety pounds of grease salvaged and sold."
- **Department Store —** "Interceptor cleaned weekly. One hundred fifty pounds of grease salvaged."
- **Restaurant —** "Interceptor cleaned once a week. Four hundred pounds of grease salvaged for disposal."
- **Food Processing Plant —** "Three hundred pounds of grease taken from interceptor daily for sale. Paid for itself in less than a year."
- **Hospital —** "Interceptor cleaned once every two months. Approximately 10 pounds of grease removed for disposal."



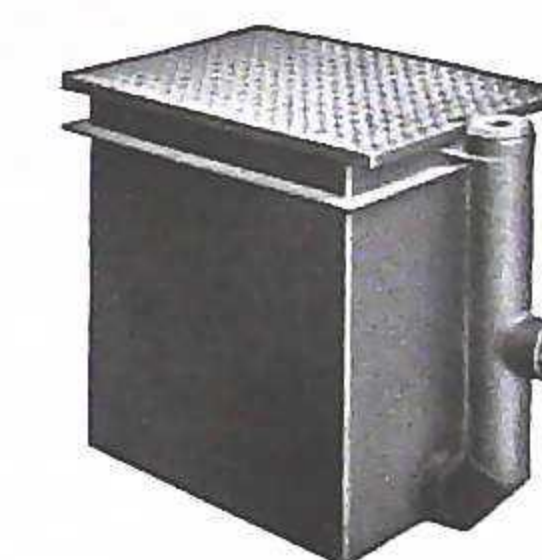
## GREASE INTERCEPTORS

### SERIES No. JNC, JRC



#### SERIES JNC SPECIFICATION

Josam Series No. JNC, welded steel grease interceptor having a rating of \_\_\_\_\_ GPM and a grease capacity of \_\_\_\_\_ lbs. at 90% minimum efficiency by PDI test, for installation on floor (or partially recessed). Interceptor to have "non-submerged inlet and outlet connections, cascade bottom, center channel, internal air relief, visible double wall deep seal code trap, removable baffles, bolted and gasketed non-skid cover with lifting rings, cleanout cap, flow control fitting, and Permakote acid-resisting finish inside and outside.



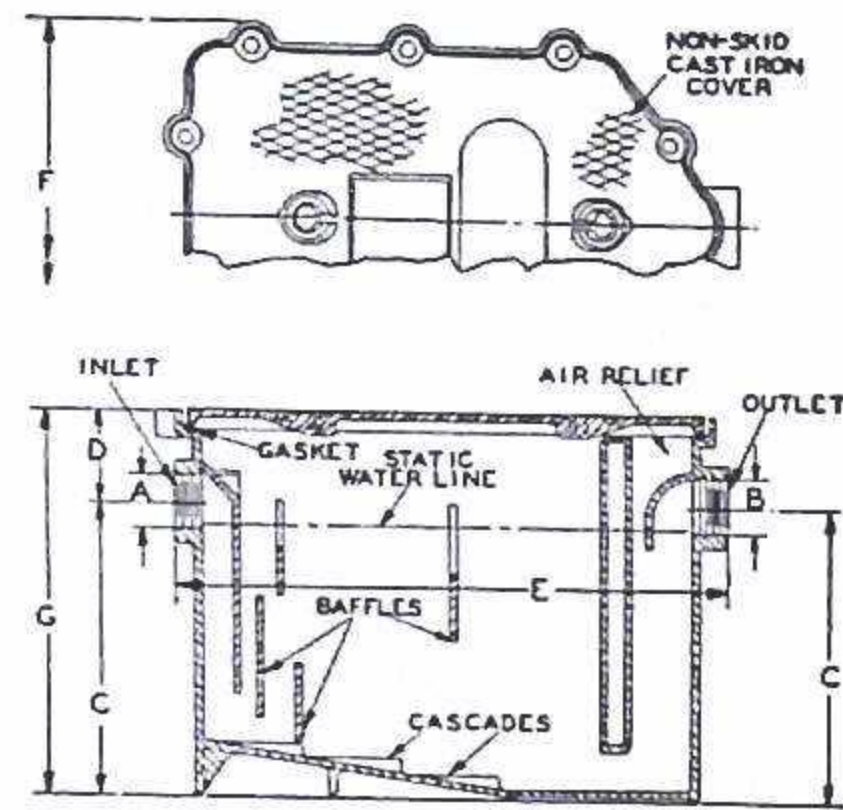
#### SERIES JRC SPECIFICATION

Josam Series No. JRC, same as Series No. JNC except with anchor or flashing flange, threaded flush cleanout, with deep roughing for recessed installation.

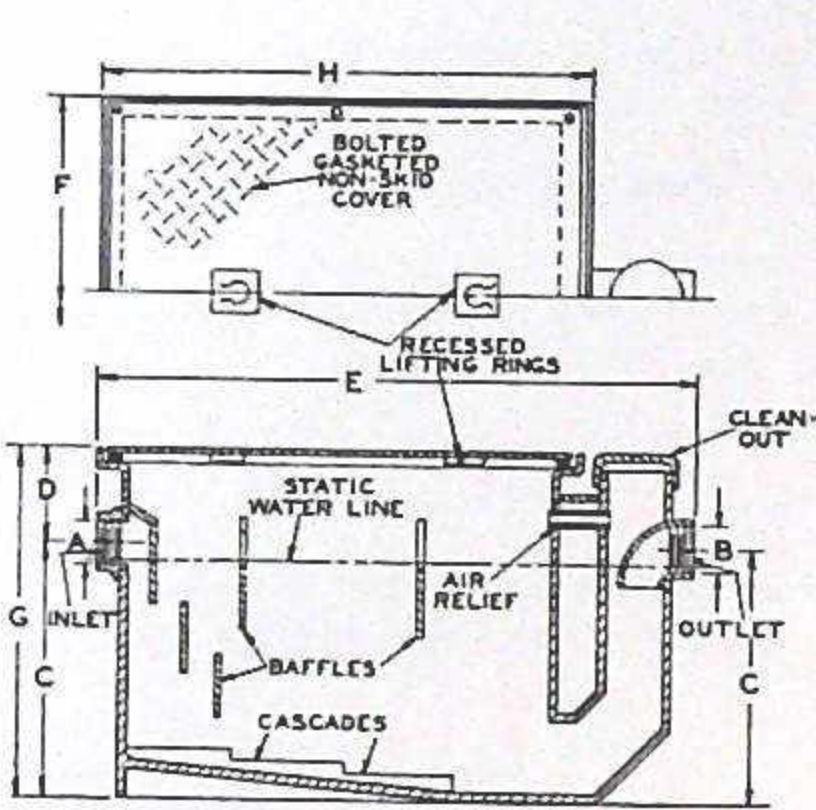
# Hy-Tech Products

**details and dimensions**

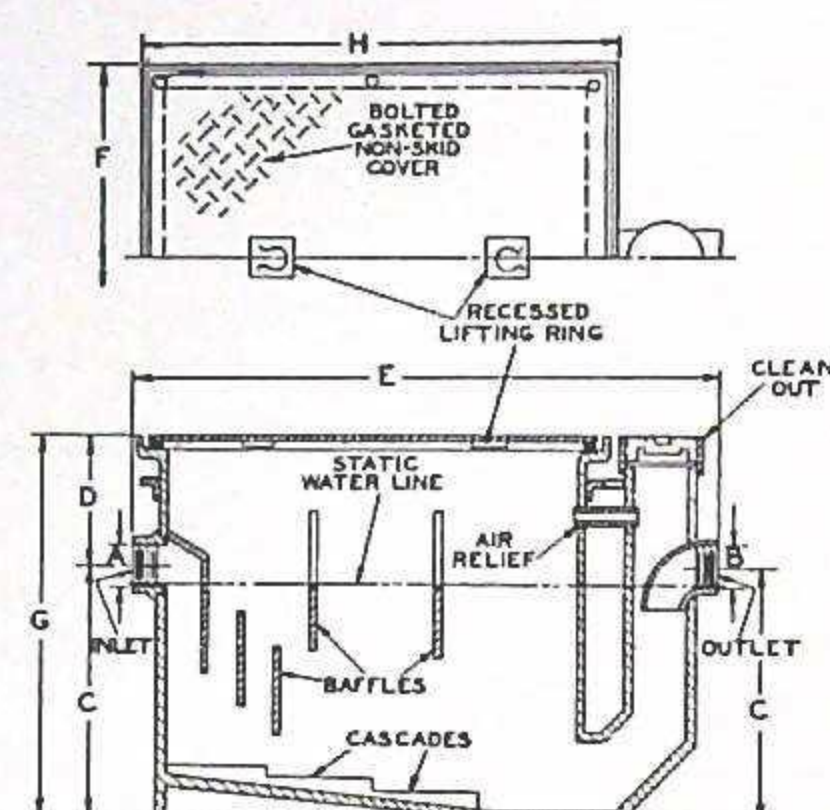
(ILLUSTRATIONS ON PAGES 10, 11)



**SERIES JA and JLA**



**SERIES JNC**



**SERIES JRC**

**DIMENSIONS IN INCHES**

Type	Flow Rate G.P.M.	Grease Cap. Lbs.	Inlet		Outlet		Roughing Centers		Length	Width	Height	WGT. LBS.	Flow Control *
			A	B	C	D	E	F					
JA-00	4	8	2	2	7 1/2	3 1/4	15 1/2	10 1/2	10 1/2	50	104 1/2		
JA-0	7	14	2	2	8 1/2	3 3/4	16 1/2	12	11 1/2	76	104 1/2		
JA-1	10	20	2	2	9 1/2	3 1/2	17 1/2	13 1/2	13	104	104 1/2		
JA-2	15	30	2	2	11 1/2	3 1/2	21 1/2	15 1/2	15	152	1062		
JA-3	20	40	3	3	13	4 1/4	24 1/2	16 1/2	17 1/2	200	1063		
JA-4	25	50	3	3	14 1/2	4	26 1/2	18	18 1/2	230	1063		
JA-5	35	70	3	3	15 1/2	4 1/4	30	19 1/2	20 1/2	300	1063		
JA-6	50	100	3	3	17	6	33 1/2	22	23	395	1063		
JLA-3	20	40	2	2	7	3 1/2	35 1/2	23 1/2	10 1/2	245	1062		
JX-2	15	30	2	2	11 1/2	3 1/2	21 1/2	15 1/2	15	152 1/2	1062		
JX-3	20	40	3	3	13	4 1/4	24 1/2	16 1/2	17 1/2	200 1/2	1063		
JX-4	25	50	3	3	14 1/2	4	26 1/2	18	18 1/2	230 1/2	1063		
JX-5	35	70	3	3	15 1/2	4 1/4	30	19 1/2	20 1/2	300 1/2	1063		
JX-6	50	100	3	3	17	6	33 1/2	22	23	395 1/2	1063		

Type	COMMERCIAL		INDUSTRIAL		Inlet		Outlet		Roughing Centers		Length	Width	Height	WGT. LBS.	Flow Control *
	Rating G.P.M.	Grease Cap. Lbs.	Rating G.P.M.	Grease Cap. Lbs.	A	B	C	D	E	F					
JNC-11	75	150	50	165	3	3	21	8	47	31	29	41	425	1063	
JNC-12	100	200	70	230	4	4	23	8	54	35	31	47	575	1064	
JNC-13	150	300	100	330	4	4	27	10	60	39	37	53	725	1064	
JNC-14	200	400	140	460	5	5	31 1/2	17 1/2	67	42 1/2	49	58 1/2	1150	1065	
JNC-15	250	500	175	580	5	5	35 1/2	15 1/2	72	46 1/2	51	63 1/2	1425	1065	
JNC-16	350	700	250	830	5	5	39 1/2	15 1/2	80	52 1/2	55	71 1/2	1800	1065	
JNC-17	500	1000	350	1160	5	5	43 1/2	17 1/2	91	59 1/2	61	82 1/2	2300	1065	
JRC-11	75	150	50	165	3	3	21	16 1/2	47	31	37 1/2	41	580	1063	
JRC-12	100	200	70	230	4	4	23	15 1/2	54	35	38 1/2	47	745	1064	
JRC-13	150	300	100	330	4	4	27	16 1/2	60	39	43 1/2	53	935	1064	
JRC-14	200	400	140	460	5	5	31 1/2	17 1/2	67	42 1/2	49	58 1/2	1150	1065	
JRC-15	250	500	175	580	5	5	35 1/2	15 1/2	72	46 1/2	51	63 1/2	1425	1065	
JRC-16	350	700	250	830	5	5	39 1/2	15 1/2	80	52 1/2	55	71 1/2	1800	1065	
JRC-17	500	1000	350	1160	5	5	43 1/2	17 1/2	91	59 1/2	61	82 1/2	2300	1065	

- ▲ Extension furnished from 4" minimum to any height required. When ordering extension, specify "H" measurement to obtain correct height.
- \* Flow Control as listed furnished as standard equipment.
- ‡ Weight Less extensions.

**CONVERSION UNITS**

All types and sizes of Series JA interceptors installed on the floor can be converted to Series JH interceptor with the automatic grease draw-off, by substituting a new cover with the low pressure chamber, copper grease draw-off piping and a draw-off valve. Complete information in rec.

**bolted cover, removable screen basket**

● **APPLICATION:** Sinks in Hospitals, Dental Laboratories, Jewelry and Optical Shops, Glass and Rubber Grinding Shops and similar establishments, to intercept plaster, hair, lint, cotton, gauze, precious metals, glass grindings, rubber grindings, rouge and other compounds. Provides easy access for recovery of materials, cleaning and maintenance. For installation on floor on waste line. Replaces regulation code trap.

For features to suit other requirements, see interceptors on pages 94-111.

**STANDARD and OPTIONAL FEATURES**

- **Body and Cover** **Standard:** Cast iron white lacquer inside and outside, with low side inlet, high side outlet, 1/2" brass cleanout plug, square cover with water-tight gasket, bolts and wing nuts.  
**Optional:** Porcelain enamel body inside, or outside, or both inside and outside, at extra cost.
- **Sediment Basket and Screens** **Standard:** Galvanized iron, rectangular body with two open sides and lift bars, solid bottom with integral baffles, guides and supports for bronze removable screens and cast iron inlet baffle.
- **Inlet and Outlet** **Standard:** 2" low sealed inlet and 2" high outlet fitted with hood seal, female threaded.

**SERIES No. H-40, H-90**



**SPECIFICATION**

Josam Series No. H-40 (or H-90), cast iron sediment interceptor, white lacquer inside and outside, 2" threaded side inlet, 2" threaded side outlet with hooded seal, brass cleanout plug, removable water-tight bolted cover, removable galvanized basket with lift bars, cast iron removable inlet baffle and removable bronze screens.

**SERIES NO. H-10**

**SERIES NO. H-20**

**SERIES NO. H-30**

**SERIES NO. H-40 and H-90**

**NOTE:** Minimum of 5" is required on either side of pipe center line, for hinge bolt clearance.

**DIMENSIONS IN INCHES**

SERIES NO.	TYPE NO.	INLET A	OUTLET B	WGT. LBS.
H-10	H-11 1/4	1 1/4"	1 1/2"	6
	H-11 1/2	1 1/2"	1 1/2"	6
H-20	H-21 1/4	1 1/4"	1 1/2"	9
	H-21 1/2	1 1/2"	1 1/2"	9
H-30	H-31 1/2	1 1/2"	1 1/2"	9

**NOTE:** 6" minimum clearance required below cover for the removal of screen.  
NOTE: 7" minimum clearance required below bottom for removal of bucket and screens.

SERIES NO.	TYPE NO.	IN-LET A	OUT-LET B	C	D	E	F	G	H	J	K	L	M	N	SCREEN FREE AREA SQ. IN.	WGT. LBS.
H-40	H-42	2	2	4 1/2	13 1/2	17 1/4	18 1/2	16 1/2	32	13 3/8	14 1/2	12 1/2	7 3/8	7 3/8	110	139
H-90	H-92	2	2	3	10 1/2	18 3/8	14 7/8	12 3/4	26	15 1/2	12	13 3/8	8 3/4	8 1/2	140	145

\* Minimum clearance required for removal of basket.

**INSTALLATION**

**SERIES JA** — Shallow roughing. Permits installation on floor, partially or fully recessed in floor.

**SERIES JLA** — Low-boy type, for dishwashers or similar fixtures. Eliminates trapping inlet or holding water in dishwasher. For installation on floor or recessed.

**SERIES JX** — Deep roughing, for recessed installation.

**SERIES JNC** — Shallow roughing. On floor, or partially recessed.

**SERIES JRC** — Deep roughing. Fully recessed with cover and cleanout flush, serving as a floor plate.

**NOTE:** All Josam interceptors include a Flow Control Fitting as standard equipment.



# HAIR AND LINT INTERCEPTORS

*bolted or clamped cover, removable screen basket*

● **APPLICATION:** On Pump suction for Swimming Pools, Filters, Water Softeners, Bleaching Tanks and similar water supply systems and on waste lines from Mechanical Laundry Equipment. Intercepts hair, lint, sand, gravel and similar sediment and protects equipment and lines from clogging. For installation on pipe standard or hung with piping.

For features to suit other requirements, see interceptors on pages 94-111.

### STANDARD and OPTIONAL FEATURES

● **Body** **Standard:** Cast iron lacquer, with shaped bottom, side inlet with saddle support for screen inlet, side outlet and threaded bottom blow-off or drain connection.

● **Cover** **Standard:** Series No. H-50 and H-60. Same material as body, square, ribbed, with bolt lugs, gasket, brass bolts and hex nuts.

Series No. H-70 and H-80. Same material as body.

● **Sediment Basket** **Standard:** Series No. H-50 and H-60. Perforated removable bronze screen basket with brass square frame with corner posts, solid brass bottom with blow-off opening and flanged inlet connection.

**Standard:** Series No. H-70 and H-80. Perforated copper screen, removable round sediment basket with solid copper, shaped bottom and blow-off connection, and fastened to cast iron rim which supports cover.

**Optional:** Basket with flat, solid copper bottom, at no extra cost.

● **Inlet, Outlet and Blow-Off** **Standard:** Series No. H-50, H-70 and H-80, female threaded. Series No. H-60, flanged inlet and outlet, female threaded blow-off or drain connection.

**Optional:** Flanged connections on Series H-70 and H-80 (except Type No. H-84), at added cost.

Drain or blow-off also serves as a support standard

### SERIES No. H-50

(Series No. H-50 and H-60 furnished on special order only. Series No. H-70 and H-80 recommended for all applications.)



### SPECIFICATION

Josam Series No. H-50, cast iron white lacquer sediment interceptor with 1/2" threaded (or flanged) side inlet and outlet, bolted removable water-tight cover, 2" bottom drain connection and removable bronze screen basket with solid bottom.

### SERIES NO. H-60

### SPECIFICATION

Same as Series No. H-50 except with flanged inlet and outlet connections in sizes from 6" to 10".

### SERIES H-70 and H-80



### SERIES NO. H-70 and H-80

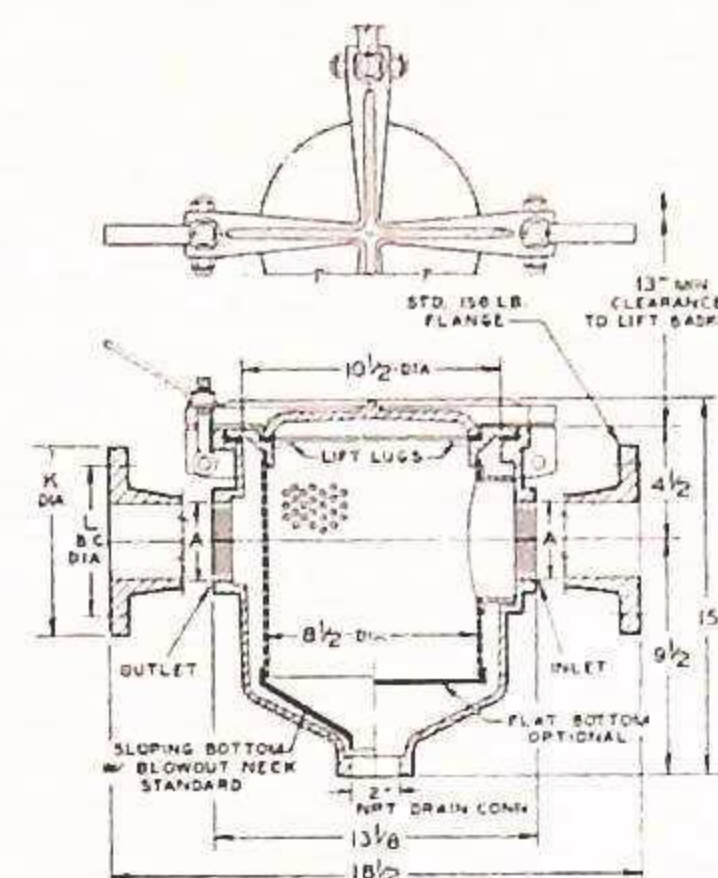
### SPECIFICATION

Josam Series No. H-70 (or H-80), cast iron white lacquer sediment interceptor with 1/2" threaded side inlet and outlet, 2" bottom drain connection, removable perforated copper basket with sloping solid bottom fastened to cast iron rim with lifting lugs, and gasketed water-tight cover secured by cross bar and nuts. A rigid flat cover cannot be in place unless basket is in position.

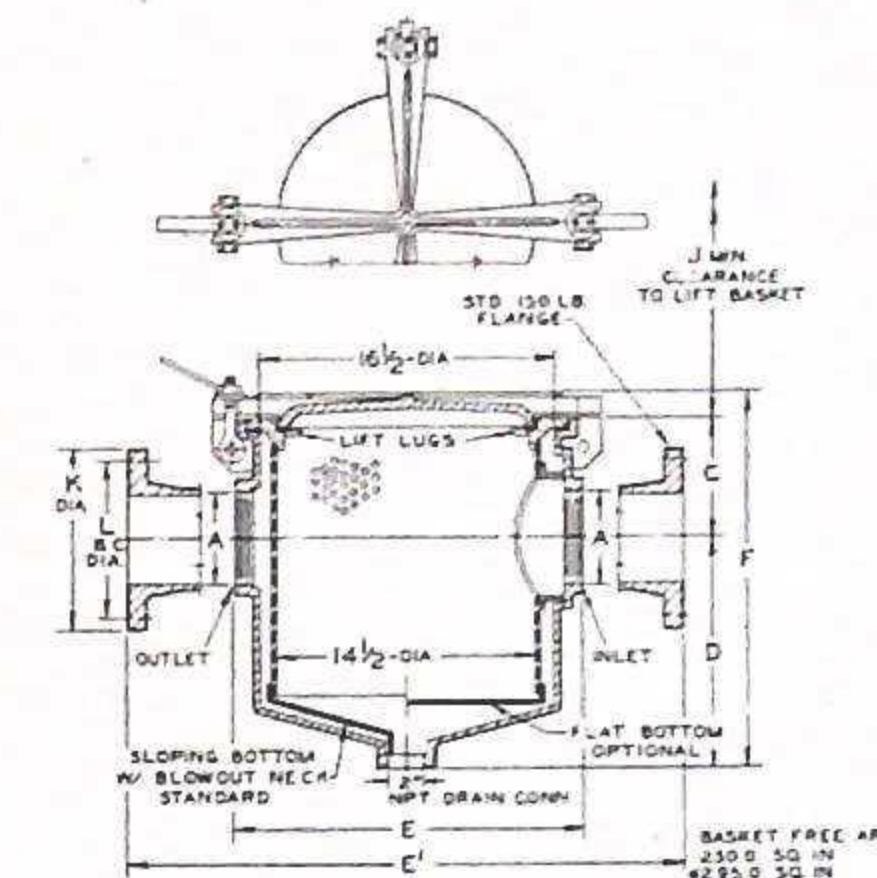
## details and dimensions



# HAIR AND LINT INTERCEPTORS



SERIES NO. H-70



SERIES NO. H-80

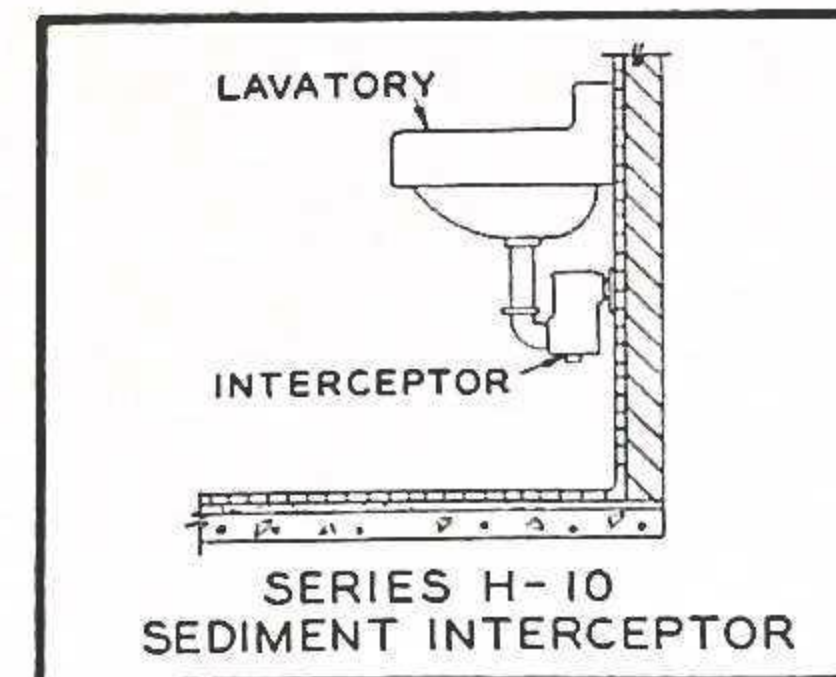
### DIMENSIONS IN INCHES

SERIES NO.	TYPE NO.	A	C	D	E	E'	F	J	K	L	WGT. LBS.
H-70	H-72	2									65
	H-73	3									65
	H-74	4									65
H-70-F	H-72-F	2							6	4 1/4	65
	H-73-F	3							7 1/2	6	65
	H-74-F	4							9	7 1/2	65
H-80	H-84	4	6 5/8	12 7/8	19 3/8		20 3/4	16			175
	H-85	5	6 5/8	12 7/8	19 3/8		20 3/4	16			175
	H-86	6	6 5/8	12 7/8	19 3/8		20 3/4	16			175
H-80-F	H-85-F	5	6 3/4	12 3/4		26	20 3/4	16	10	8 1/2	202
	H-86-F	6	6 3/4	12 3/4		26	20 3/4	16	11	9 1/2	212
	H-88-F	8	8 3/4	13 1/4		26	23 1/4	19	13 1/2	11 3/4	247

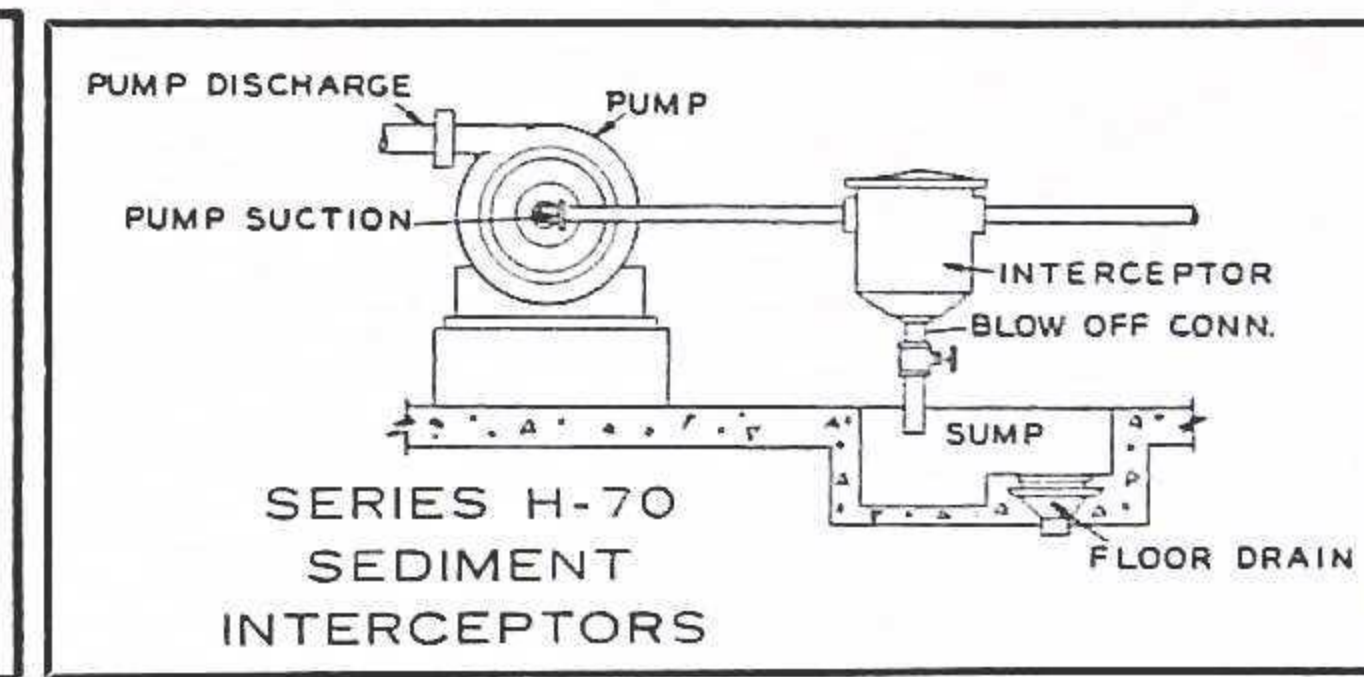
### installation diagrams

Series H-10, H-20 and H-30 are trapped and serve as the fixture trap, subject to approval of local authorities. Applicable to any type of lavatory or sink.

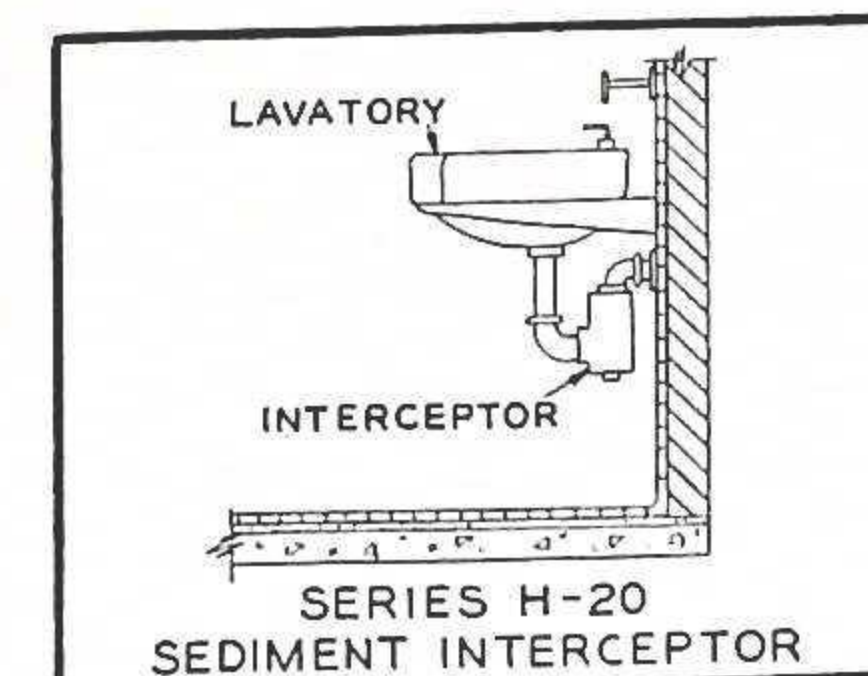
Series H-40, for installation on floor, on waste line; replaces regulation code trap. Series H-70 and H-80 for installation on suction lines of recirculating pump or ahead of filters.



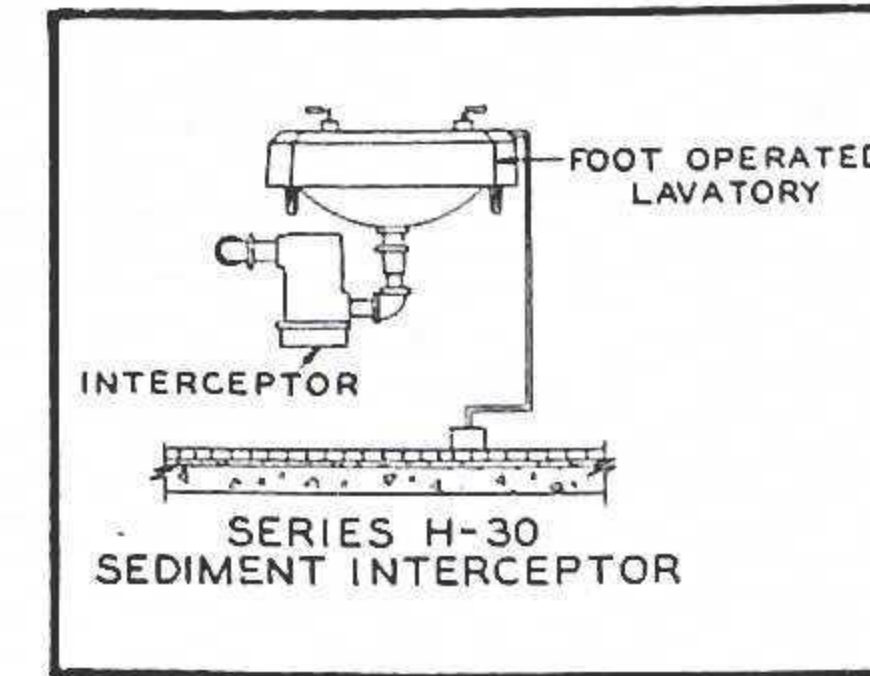
SERIES H-10 SEDIMENT INTERCEPTOR



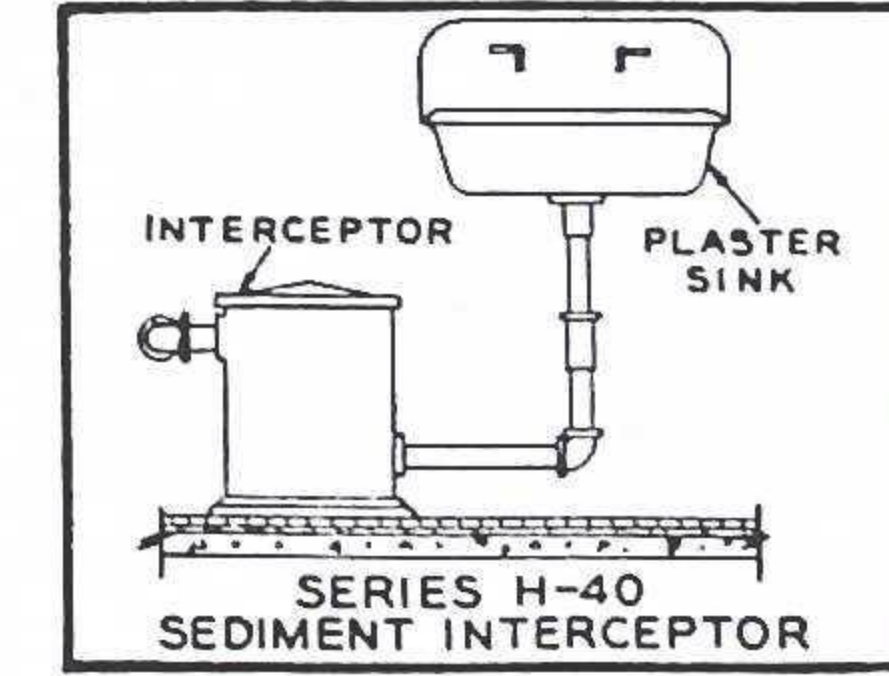
SERIES H-70 SEDIMENT INTERCEPTORS



SERIES H-20 SEDIMENT INTERCEPTOR



SERIES H-30 SEDIMENT INTERCEPTOR



SERIES H-40 SEDIMENT INTERCEPTOR



*automatically intercept and discharge oil, gasoline and naphtha from drainage lines*

Establishments which use oil, gasoline, cleaning fluids or similar volatile liquids as a basic material, or where it is a by-product of their manufacturing process, face serious problems today when the waste of these explosive liquids is emptied into building drain or waste lines.

Such waste is dangerous and a prime source of fire and explosion inside the building. That danger multiplies many times when the building drainage laden with such impurities empties into public sewers, ponds, streams, rivers and lakes. It becomes a public nuisance, increases operating costs, is a menace to public health, recreation and vegetation.

As a consequence, Federal, State and Municipal authorities have adopted regulations and ordinances prohibiting such drainage under penalty of law, and the custom is spreading. Many authorities are working together to rigorously enforce such rules, regulations and ordinances.

At the municipal level, the enforcement of those regulations to control such hazardous and unsanitary conditions, devolves upon the Fire and Health Departments. As a result of their co-operation, many municipalities have adopted codes and ordinances which, when enforced, mean shut-downs of plant operations with incidental loss in production and increased costs of operation.

**APPLICATION**

Josam Oil Interceptors as illustrated on page 110 are made for the following applications:

- **Commercial service** — in garages, hangars, filling and service stations, repair shops, laundries, dry cleaning plants and similar establishments.
- **Industrial service** — in machine shops, chip bins, sheet and plate mills, refineries, stills and similar plants where oil, gasoline, kerosene, naphtha, benzine and other light density or volatile substances are present in waste water as a basic material or by-product of the industrial process.

**The Sources of Hazardous Industrial Wastes**

Serious fires along river banks, and the pollution of water in streams and lakes have been traced by municipalities to the flammable oils and other volatile liquids which have been discharged into these waters.

As a result, in many localities, industrial concerns which have emptied wastes directly to storm sewers, have been

The prime offenders introducing such dangerous and unsanitary wastes to the sewers, sewage disposal plants or public bodies of water, are: **garages, hangars, filling and service stations, repair shops, laundries, dry cleaning plants, machine shops, sheet and plate mills, refineries, stills and similar plants.** The wastes from these establishments contain explosive gases or hazardous elements resulting from decomposition of organic matter, or from the discharge of gasoline or lubricating oils, benzine, naphtha or similar solvents used in manufacturing or servicing processes.

Where drain lines or sewers carry these hazardous wastes, positive protection must be provided. The quickest, easiest and most economical way to do so is:

1. Install an approved type and size of gasoline and oil interceptor at all recommended points.
2. Keep all floor drains free and clean. Clogged drains and waste lines create pools of water, oil, etc., on the floor, causing unsanitary and dangerous conditions.

cited by Health and Fire Departments seeking to control contamination and fire hazards.

Some of the sources of contamination and fire hazards are:

- Galvanizing departments** having quench oil drippings.
- Wash machines** in tapping departments where drainage generally consists of kerosene and paraffin, in addition to sodium tasilicate, lubricating oil and soluble oil.
- Turret Lathe department** drippings from hot wash tanks in which the solution is generally trisodium phosphate.
- Laboratories** where oils and other solubles are tested.
- Tool Departments, Assembly Departments, Power Departments,** and other departments where kerosene, machine drippings, emulsified lubricating oils, etc., are poured into floor drains and empty into sewers.
- Chip Bins** where mixtures of kerosene, lubricating and cutting oils are constantly dripping into catch basins and emptying into sewer.

*cascade design with gravity draw-off*



**FEATURES**

**CASCADE DESIGN**

JOSAM OIL INTERCEPTORS are based on the exclusive feature of the CASCADE bottom which incorporates the hydraulic principle of the waterfall. The tumbling action of the oil-laden waters over four levels, augmented by sediment bucket and baffles, scientifically located with relation to each other, causes proper agitation in the stream and separates the oil or other light density substances and solids from the water.

The combination of cascades, bucket and baffles, all within a body of definite size and proportion, retards water flow, reduces velocity and retains the waste water in the intercepting chamber for a definite period. These complementary features permit gravity to become effective. The gravity forces the oils or other light density substances to rise to the surface while the solids settle.

The bulk of solids and sediments in the waste water is trapped in the sediment bucket and held there for removal. Those that are carried through, settle on the cascades and in the channel between. With each flush of water through the interceptor, solids deposited in the channel are evacuated from the interceptor by the accelerated flow (increased velocity) established therein.

The net result is efficient interception of oils and other light density substances and the evacuation of solids from waste water.

**SELECTION OF THE INTERCEPTOR**

To secure maximum efficiency and economy, the selection of the proper interceptor to provide the service expected is vitally important; and proper selection must be based on Flow Rate, Flow Control and Installation.

**FLOW RATE**

The proper size of an interceptor is dependent upon the service required, the quantity of waste water involved and the drainage period required. The foregoing combination establishes the rate of flow. Flow rate is the primary gauge; and flow rate establishes interceptor size or capacity. However, the characteristic of the oil or other light density substance to be separated from the water has a very marked effect on capacity or flow rate and on efficiency. In consequence, to eliminate doubt, Josam has standardized on a rating for Oil Interceptors based on Lubricating Oil at 90% efficiency.

For intercepting devices handling other waste products, see pages 94-107. For recommendations covering any waste interception problem, contact the nearest Josam Representative, or write Josam Mfg. Co., Engineering Department K, Michigan City, Ind.

**GRAVITY DRAW-OFF**

The separated oil and similar light density substances float to the surface where they remain until removed.

As the quantity of intercepted oil, etc., at the surface increases, the water capacity decreases and interception efficiency drops. To prevent accumulation of oils, etc., and thereby maintain maximum efficiency, all Josam Interceptors are fitted with a GRAVITY DRAW-OFF having an adjustable tail-piece on the inside of the intercepting chamber and a pipe connection through the shell for oil drain line from the interceptor to an oil storage tank. The adjustable tail-piece can be set to the operating "surge or water level" after the oil drain line has been connected and the interceptor is in operation.

This arrangement eliminates the need to manually remove the oil from the interceptor at any time. The oil drains off by gravity when the draw-off is properly adjusted and set. The interceptor operates at highest efficiency and the intercepted oil is stored for re-use. See "Setting Gravity Draw-Off" on page 112.

**DOUBLE VENT CONNECTIONS**

Waste water entering an interceptor contains entrapped air which is released in the intercepting chamber. Unless that freed air is carried off, air pressure will build up to a point that will eventually "blow" the trap seal (syphon the trap). JOSAM OIL INTERCEPTORS are provided with DOUBLE VENT CONNECTIONS to the intercepting chamber. These double vent connections are intended for the installation of two vents to the outer air; one to extend at least 12" above the terminal point of the other, and higher if possible, to take advantage of any difference in atmospheric density and thereby produce a recirculation effect in the interceptor. Coincidentally the double vents provide a safety factor against fouling and clogging of a single vent which could result in building up air pressure in the interceptor.

**INSTALLATION**

Ordinarily no consideration is given to the installation of the interceptor with respect to the items to be served, the floor or grade on which it is to be located and the sewer to which it is to discharge. Josam has taken the foregoing conditions into consideration; and to adequately meet same has developed four (4) types of Cascade Oil Interceptors for services as outlined on the following pages.

**Hy-Tech Products**



for commercial and industrial service

OIL INTERCEPTORS

APPLICATION: COMMERCIAL SERVICE — Garages, hangers, filling and service stations, repair shops, automobile and aeroplane laundries, dry cleaning plants and similar establishments. INDUSTRIAL SERVICE — Machine shops, chip bins, sheet and plate mills, refineries and similar plants where oil, gasoline, kerosene, naphtha, benzol and other light density and/or volatile substances are present in waste water as a basic or by-product of the industrial process.

STANDARD and OPTIONAL FEATURES

- Body: Standard: SERIES GA — Cast iron lacquer finish inside and outside, rectangular, with full apron to floor, cascade bottom and center channel, double vent connections, draw-off connection, visible double wall deep seal trap. SERIES GX — Same as Series GA except with steel extension with flashing flange, and cast iron flange to receive cover. SERIES GNC — Same as Series GA except welded steel body and with cleanout at floor. SERIES GRC — Same as Series GA except welded steel body with anchor or waterproofing flange, with deep roughing and with cleanout at floor. Cover: Standard: SERIES GA and GX — Cast iron, lacquer, ribbed, bolted, with lift rings. When fully recessed, cover is suitable as a floor plate. SERIES GNC and GRC — Steel, non-skid cover with lift rings, bolted to body, suitable as floor plate for standard traffic. Sediment Bucket: Standard: SERIES GA and GX — Cast iron with perforated front plate. SERIES GNC and GRC — Steel, removable, with perforated front plate. The bulk of solids and sediment in waste water is trapped in the bucket and held there until removed. Baffles: Standard: Cast iron lacquer finish for Series G and GX. Steel, Permakote finish for Series GNC and GRC. Gravity Draw-Off: Standard: Cast iron lacquer finish with adjustable brass tube, brass slip nut and packing. For connecting oil drain line from interceptor to oil storage tank. One draw-off connection on each side. Inlet and Outlet: Standard: IPS female threaded. Partially recessed: Inlet and outlet above floor. Fully recessed: Inlet and outlet below floor. Vent Connections: Standard: 2 vent connections on each side, IPS female threaded. Two vent connections on each side produce recirculation effect and provide a safety factor against fouling and clogging of a single vent.

(continued on next page)

FLOW CONTROL FITTINGS

Every Josam Oil Interceptor is furnished with a flow control fitting at no extra cost. See page 113.

SYPHON BREAKER

Where a vent connection on the sewer connection is not feasible or practical — Josam can furnish a Syphon Breaker subject to Approval by Local Code Authorities. See page 113.

PERMAKOTE FINISH

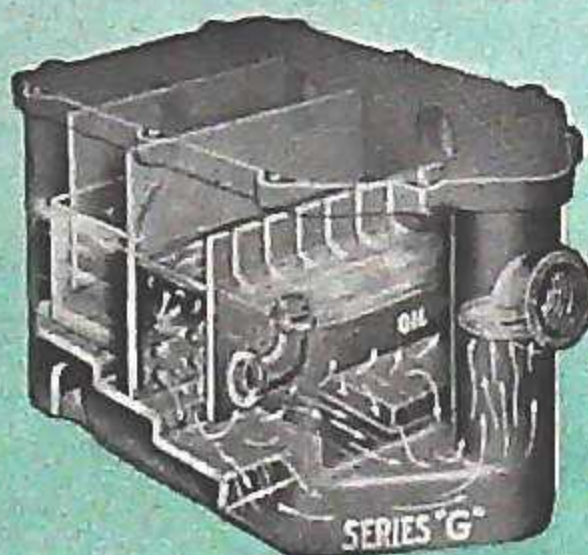
All Josam Steel Oil Interceptors are finished inside and outside with "Permakote" protective coating which is resistant to abrasion, acid, alkali, acid, salt spray, solvent, gas, fire and all weather conditions.



SERIES NO. GRC SPECIFICATION

Same as Series GNC, except with anchor or flashing flange or waterproofing flange on each side, non-skid gasketed and bolted cover with recessed lift ring, non-submerged inlet and outlet, cast iron threaded cleanout cap, flow control fitting and Permakote and syphon breaker inside and outside.

SERIES Nos. GA, GX, GNC, GRC



SERIES NO. GA SPECIFICATION

Josam Series No. GA cast iron Oil Interceptor with a rating of GPM based on lubricating oil at 90% minimum efficiency, for installation on floor (or partially or fully recessed) — non-submerged inlet and outlet, cascade bottom, center channel, visible double wall deep seal code trap, adjustable gravity draw-off, double vent connections on each side, removable sediment bucket and baffles, gasketed cover with recessed lift rings, and flow control fitting.



SERIES NO. GX SPECIFICATION

Same as Series GA except with steel extension with steel flashing flange, and cast iron flange on extension to receive cover and serve as a concrete step. (Extra height extensions can be furnished to meet special depth conditions).



SERIES NO. GNC SPECIFICATION

Josam Series No. GNC welded steel oil interceptor with cascade bottom, center channel, visible double wall deep seal code trap, adjustable draw-off and double vent connections on each side, removable sediment bucket and baffles, non-skid gasketed and bolted cover with recessed lift ring, non-submerged inlet and outlet, cast iron threaded cleanout cap, flow control fitting and Permakote and syphon breaker inside and outside.

floor or recessed installation shallow or deep roughing



OIL INTERCEPTORS

STANDARD and OPTIONAL FEATURES (continued)

- Cleanout: Standard: Series GNC — Cast iron threaded cap. Series GRC — Cast iron threaded cleanout, flush with cover. Flow Control: Standard: Size and type fitting indicated in Schedule below, furnished as standard equipment at no extra cost. Flow Control Fitting limits rate of flow to assure 90% or better efficiency, and must be installed as directed. See page 113 for complete details and correct installation.

INSTALLATION

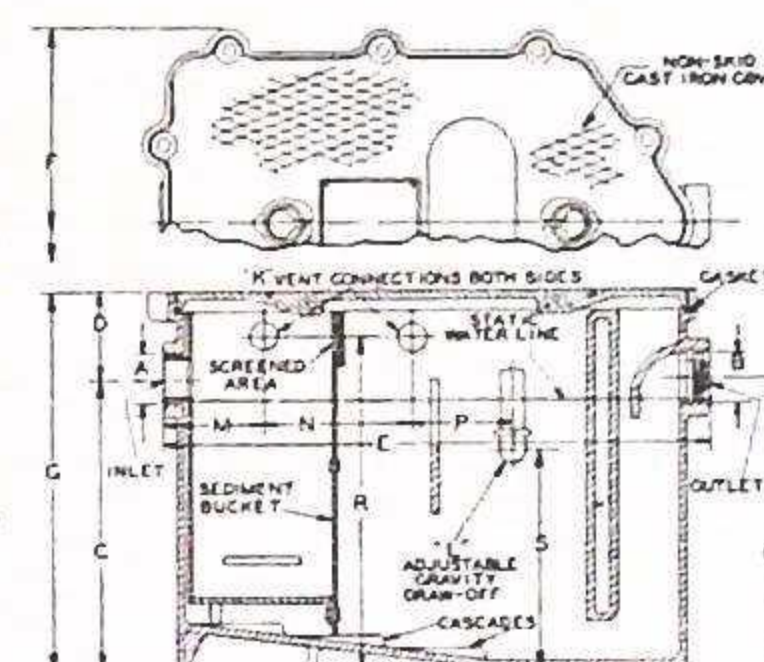
With a Josam Oil Interceptor located at the proper point, the dangerous liquids are intercepted from the waste water and are safely drawn off.

SERIES GA — On floor, partially recessed or fully recessed in floor. Shallow roughing. When fully recessed, cover is suitable as a floor plate for light trucking and pedestrian traffic.

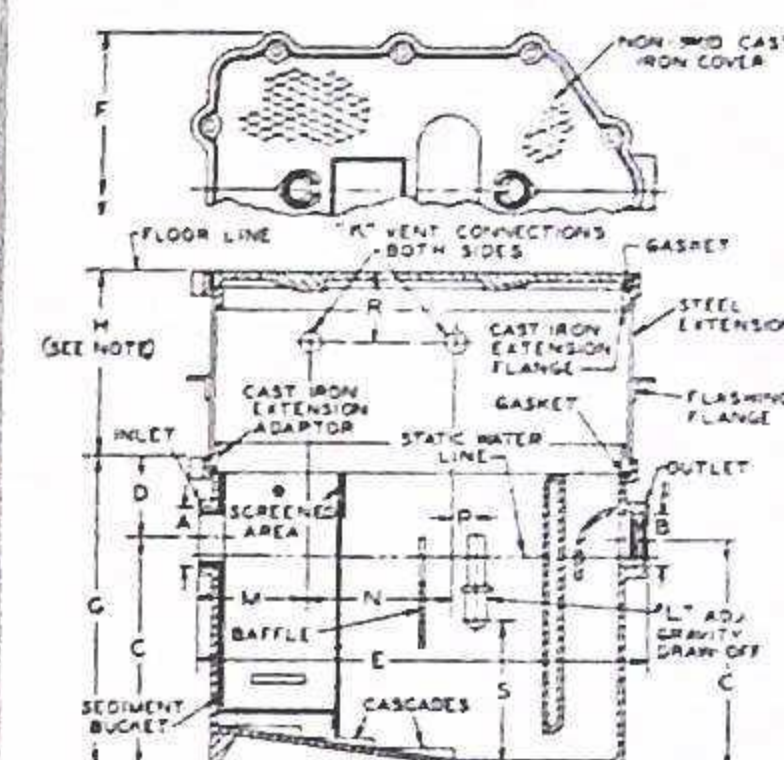
SERIES GX — With deep roughing for fully recessed installation. Cover suitable as a floor plate for light trucking and pedestrian traffic.

SERIES GNC — On floor or partially recessed in floor. SERIES GRC — Deep roughing, for fully recessed installations. Cover and cleanout flush at finished floor. Cover is suitable as a floor plate for light trucking and pedestrian traffic.

NOTE: Where required for heavy traffic loads, reinforced covers will be furnished at added cost.

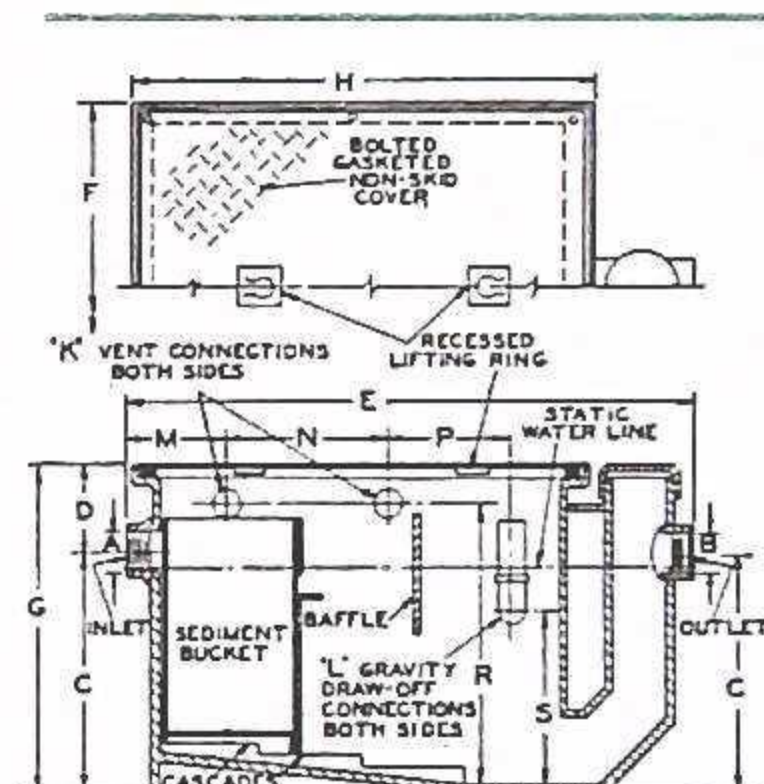


SERIES NO. GA

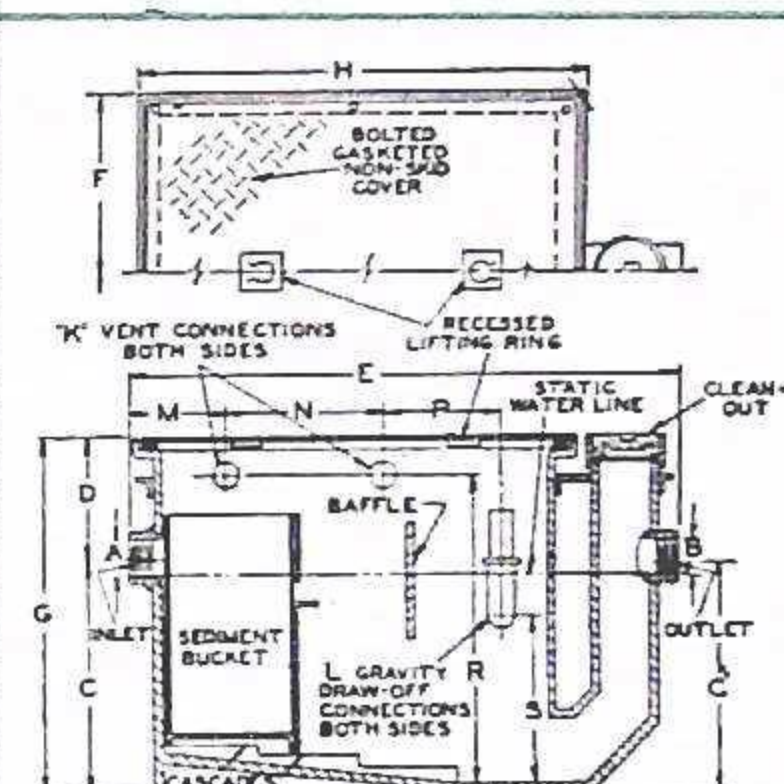


SERIES NO. GX

NOTE: Extension furnished from 6" minimum to any height required. When ordering extension specify "H" measurement to obtain correct height.



SERIES NO. GNC



SERIES NO. GRC

DIMENSIONS IN INCHES

Table with columns: Series No., Type No., Flow Rate G.P.M. (U.S. Gal.), Inlet, Outlet, Roughing Centers (C, D), Length (E, F), Width (G), Height (H), Cover, Vents, Draw-Off (L), Vent and Draw-Off Roughing (M, N, P, R, S), Wgt. Lbs., Flow Control No. The table lists specifications for models GA, GX, GNC, and GRC in various sizes.

\* Flow Control As Listed Furnished As Standard Equipment. See Page 113.

† Furnished with Two-Piece Cover

‡ Weight, Less Extension





## OIL INTERCEPTORS

### GRAVITY DRAW-OFF

**GRAVITY DRAW-OFF:** Every Josam Oil Interceptor is fitted with an internal GRAVITY DRAW-OFF having an adjustable tail-piece and a pipe connection through the shell. Draw-off is intended for connection to a salvage oil storage tank; and tail-piece for adjustment to oil level when interceptor is operating at rated capacity.

**SETTING GRAVITY DRAW-OFF:** After Interceptor has been fully connected up — including installation of Gravity Draw-Off — run clean water through interceptor at a rate not to exceed rating of unit, and mark the operating water level. Set adjustable tube of gravity draw-off with TOP 1/8" ABOVE operating water level. During normal operation, a film of oil will be carried at surface and all excess oil drained off through tube and draw-off to storage tank. When tube is properly set, no water will drain off with oil.

**AIR INTAKE:** Air intake for flow control should intersect a vent or vent stack not lower than flow level of highest unit served or terminate in a return bend at same height and on outside of building, all subject to approval of Authorities.

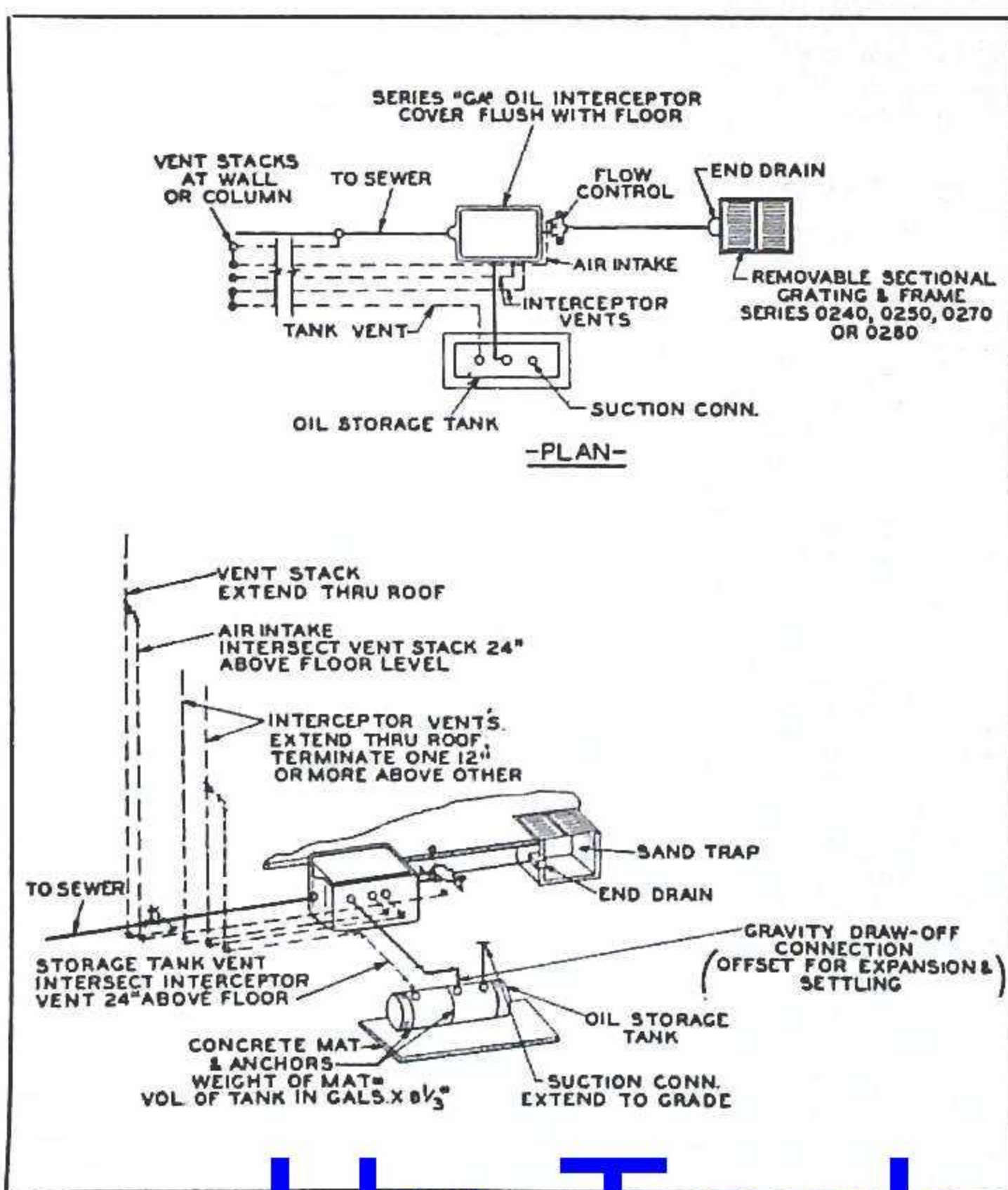
**VENTING:** The intercepting chamber of all oil interceptors should be vented (on upstream side of trap) as required for oil storage tanks, utilizing double vent connections to carry off volatile gases; and the discharge or sewer connection should be vented (on downstream side of trap) as required for plumbing fixtures to prevent trap syphonage and to retain water seal. Josam Oil Interceptors are provided with connections for venting.

### CONTROLLED RATE OF FLOW ESSENTIAL TO 90% OR MORE EFFICIENCY

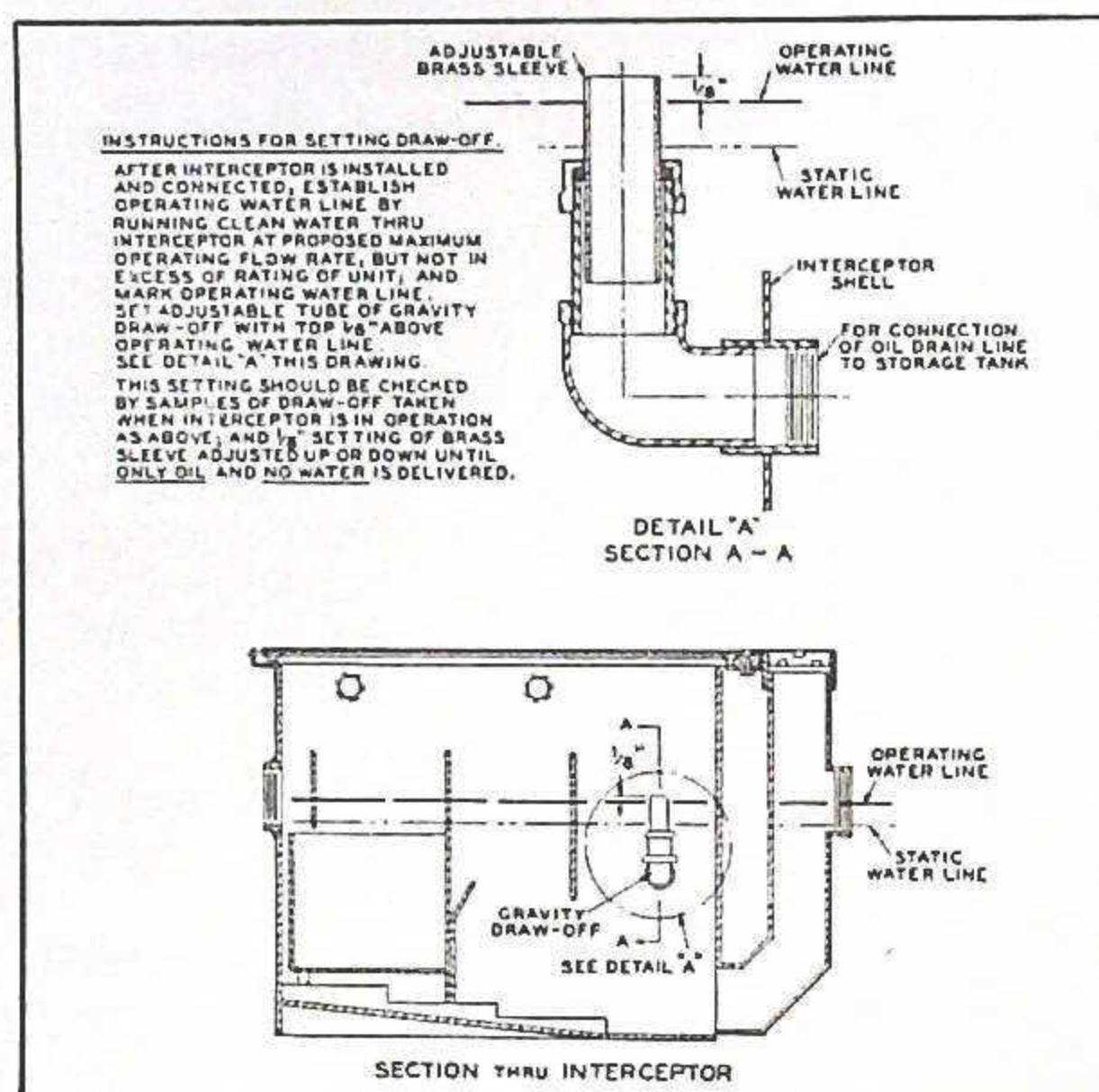
Every Josam Oil Interceptor is furnished with a flow control fitting at no extra cost, which governs the rate of flow to the interceptor, prevents overloading and assures 90% or more efficiency. The FLOW CONTROL MUST BE INSTALLED AS DIRECTED to attain proper efficiency.

When the flow is controlled so that it can never exceed the maximum rating of the Interceptor, and the Interceptor is cleaned regularly, maximum oil intercepting efficiency results.

### INSTALLATION DIAGRAMS



### correct installation



**OIL STORAGE TANK:** Tank may be any size or type to suit conditions of the job and desired frequency of cleaning. However, a standard fuel oil storage tank, capacity approximately 250 gal., is recommended. Oil storage tank should be buried under-ground and anchored to a concrete mat having sufficient weight to counteract buoyancy of tank when empty and submerged in water. A safe formula for mat is:  
$$\text{Tank Capacity (in gal.)} \times 62.5 = \text{Weight of Mat (in lbs.)}$$
  
7.48

Oil tank should be fitted with anchors, drain, vent suction connections and with access manhole where conditions permit. Venting and access should comply with code requirements.

### controlled rate of flow for grease and oil interceptors

### ESSENTIAL TO 90% OR MORE EFFICIENCY

The FLOW CONTROL fittings illustrated herewith have been designed after many years of tests and experiments with grease interceptor installations under various conditions to insure 90% or more grease retention efficiency of the Interceptor.

When no consideration is given to the Flow Rate of the waste to be handled, generally the actual flow rate through the Interceptor exceeds the rated maximum.

For example, consider that an ordinary kitchen sink installation required an Interceptor having a rating of 7 gallons per minute, and a maximum grease holding capacity of 14 pounds; and that an Interceptor of that size had been installed.

If the kitchen sink has an 1 1/2" tailpiece or spud, the flow through the Interceptor could be as much as 28 gallons per minute. With such a flow rate, the grease Interceptor would be greatly overloaded. The result would be low efficiency, the excessive grease in the waste water would pass through the Interceptor, and eventually the waste lines would clog, causing expense and inconvenience.

When the flow from this kitchen sink is controlled so that it can never exceed the maximum rating of the Interceptor, and the Interceptor is cleaned regularly, maximum grease retention efficiency results.



SERIES NO. 1040      SERIES NO. 1050      SERIES NO. 1060

Flow control fitting meets any roughing condition and should be installed on the horizontal waste beyond the last connection and as close as possible to the underside of lowest fixture.

### disc type

• **APPLICATION:** Where Plumbing Codes require or permit its use, the Josam Syphon Breaker serves as a vent where standard vent connection to vent stack is not feasible or practical. Permits air to enter sewer connection when vacuum forms, dissipating vacuum and preventing trap syphonage.

When installed on trap leg or sewer connection of grease or oil interceptors, a vacuum or syphon breaker should not be confused with the internal air relief. It should be used only where a standard vent connection on the waste from the interceptor is not possible, or where local plumbing code will permit its use.

### STANDARD and OPTIONAL FEATURES

- **Body**      **Standard:** All brass body in two sections, screwed together. Male IPS threaded connection.
- **Disc**      **Optional:** SR steels or Everdur, at added cost. (See page 16).
- **Disc**      Light weight copper-plate disc is responsive to low vacuum or pressure.



## FLOW CONTROL FITTINGS

FOR ANY STYLE INSTALLATION OF GREASE & OIL INTERCEPTORS

**FLOW CONTROL**  
SERIES 1040,  
1050 & 1060

**SPECIFICATION:** CAST IRON FLOW CONTROL WITH ORIFICE, AIR INTAKE AND PACKED NUT, SLIP-JOINT INLET & THREADED OUTLET (SERIES 1040) OR DOUBLE THREADED INLET & OUTLET (SERIES 1050) OR THREADED INLET & OUTLET WITH ORIFICE CLEANING DEVICE (SERIES 1060)

\* ORIFICE CLEANING DEVICE REGULARLY FURNISHED WITH OPERATING LEVER ON SIDE SHOWN LEVER CAN BE REVERSED TO FIELD ON IN SHOP OR SPECIFIC ORDER

TYPE	DIMENSIONS IN INCHES											WGT. LBS.
	A	B	C	D	E	F	G	H	J	K	L	
1041	1 1/2	2	1/2	—	1 1/2	1 1/2	2 1/2	—	3 1/2	—	2	
1052	2	2	1 1/2	2 1/2	2	1 1/2	2	3 1/2	3 1/2	6 1/2	3	7
1053	3	3	1 1/2	3	2 1/2	1 1/2	2 1/2	4 1/2	4 1/2	8 1/2	4 1/2	14
1054	4	4	2 1/2	3 1/2	4 1/2	1 1/2	4 1/2	6 1/2	6 1/2	12	6 1/2	52
1055	5	5	2 1/2	3 1/2	4 1/2	1 1/2	4 1/2	6 1/2	6 1/2	12	6 1/2	54
1056	6	6	3	4 1/2	5 1/2	2 1/2	4 1/2	7 1/2	8	14 1/2	8	85
1062	2	2	1 1/2	—	1 1/2	1 1/2	2 1/2	—	4	3	4	
1063	3	3	1 1/2	—	1 1/2	2 1/2	3 1/2	—	6	4 1/2	8	

### FLOW CONTROL CLEANING DEVICE

Orifice cleaning device on Series No. 1060 permits easy cleaning of orifice in the event opening becomes clogged. Turning the handle in either direction cleans orifice without the necessity of removing plugs, rodding or interrupting flow.



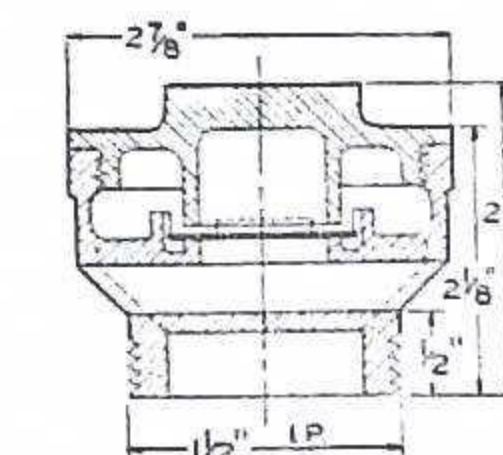
## SYPHON BREAKER

### SERIES No. 1450-BB



### SPECIFICATION

Josam Series No. 1450-BB, all brass, disc type syphon breaker with threaded raised head and IPS male connection.



# HyTech Products

**Josam**  
**SHOCK ABSORBERS**

*positively and permanently  
eliminate water hammer in pipe lines*

Water hammer, generally caused by a sudden change of flow in the pipe line, may be the result of a rapid closing of a valve or faucet, the stopping of a pump action, or any other operation that arrests the normal flow.

The danger of water hammer is that the incessant hammering noises and series of shocks, thrusts and impacts cause destructive vibration of the pipe line at every bend and elbow.

This destructive vibration can be present in pipe lines even where its presence is not indicated by noisy hammering. Breakdowns of coils in heaters — power equipment — washing machines — pumps and similar equipment — loosened hangers and failure of joints, pipe fittings, meters, gauges and valves, are all evidence of destructive vibration caused by water hammer.



SERIES NO. 1480

**THE SOLUTION AND THE CURE**

The Josam Shock Absorber is the simple solution to a problem that can become serious, especially in Hospitals, Schools, Institutions, Theatres, Churches, Apartments and other structures where "QUIET" is essential and where irritating noises, destructive hammering, and breakdowns in equipment must be avoided **POSITIVELY AND PERMANENTLY**.

The Josam Shock Absorber contains an ABSORBO tube and insert unit. The ABSORBO tube is specially milled, compression molded and constructed of an entirely new synthetic rubber compound—

Formula No. 460—specifically designed for this service. The ABSORBO insert is compression molded, synthetic sponge. The thrust and impact of the water entering the tube expands it against the insert until the energy caused by the pressure is dissipated. As the shock recedes, the ABSORBO tube and insert regain their original form, ready to receive the next shock impulse.

The Josam Shock Absorber, which is absolutely leak-proof, cannot wear out. You have permanent protection against the destruction and annoyance of water hammer. You avoid expensive shut-downs and repairs.

**APPLICATION**

Josam Shock Absorbers are recommended for installation in new or old construction wherever there is a constant turning "on"

and shutting "off" of the water flow in Schools, Laundries, Theatres, Industrial Plants, Apartments, Hotels, Office Buildings, etc.

- PUMPS AND FILTERS IN SWIMMING POOLS
- LAUNDRY MECHANICAL EQUIPMENT
- DRINKING FOUNTAINS
- QUICK-CLOSING SHOWER VALVES AND MIXERS
- BATTERIES OF CLOSETS AND URINALS
- GROUP FIXTURES SUCH AS SINKS, DISHWASHERS
- STEAM COOKERS
- HOSPITAL STERILIZERS
- PUMP DISCHARGE LINES

WRITE FOR MANUAL 5 (INSTALLATION DIAGRAMS ON PAGE 204)

**SERIES No. 1480**  
**SERIES No. 1480-DP**

**SPECIFICATION**

Josam Type No. — Shock Absorber with metal shell housing a specially milled, compression molded ABSORBO tube and insert, with threaded connection.

**SERIES No. 1480-DP \***

For installation on supply lines having static water pressures up to 125 p.s.i.

The steel shell around the expansible tube is pre-loaded with Nitrogen through the loading valve at the top, to the point where the Nitrogen pressure equals the specified water pressure in the line.

Although these units are particularly adaptable to industrial installation, they have been tremendously successful in eliminating water hammer in laundries, laundrettes, hospitals, bottling plants, and other locations where high water pressures are utilized.

Type	Connection Size	Weight Pounds	Displacement Cu. In.
1480-A	1/2"	6	12
1480-B	3/4"	10	40
1480-C	1"	17	73
1480-D	1"	25	137
1480-DP	1"	25	*

\*When specifying or ordering Series No. 1480-DP indicate correct static (working) pressure in system, as unit will be pre-loaded at this pressure.

**INSTALLATION**

It is important that the shock absorbers be installed as close as possible to the valve or fixture which is the source of the water hammer in order to dissipate as much energy as possible in the shock absorber before this energy enters the line. Additional information and sizing schedule, on request.

*non-freeze type — key handle*

● **APPLICATION:** For installation through wall, for outside hose connection, to permit drainage of residual water through nozzle when valve is closed and to prevent freezing or tampering with valve. For flush type installation, wall box enclosure furnished with Series Nos. 1410 and 1420.

**FEATURES**

Large waterway around the valve disc holder permits full flow at 1/4 turn of the key.

Positive leak-proof head through use of "O" ring water seal. Eliminates leaking around the stuffing box when back pressure is created at outlet or hose.

Swivel valve disc holder is non-rotating and is compressed, not turned, against seat closing. This reduces wear on seat and washer resulting from grinding action,

and assures a positive seal at all times. Metal-to-metal ground joint union connection.

Rugged one-piece stem — all bronze working parts.

Adjustable locknut to hold installation tight in construction.

Three types of connections:

- 3/4" I.P.S. female union elbow
- 3/4" solder joint union elbow
- 1" I.P.S. male straight type union

**DIMENSIONS IN INCHES**

Series No.	Type No. and Connection			A	B	Appr Wgt. Lbs.
	3/4" IPS Inside Thread	3/4" Solder Joint	1" IPS Male Thread			
1400	1401-S	1402-S	1403-S	3 3/8"	7 3/8"	4
	1401	1402	1403	7 3/8"	11 3/4"	4
	1401-A	1402-A	1403-A	11	15 3/8"	5
	1401-B	1402-B	1403-B	14	18 3/8"	5
	1401-C	1402-C	1403-C	17	21 3/8"	6
	1401-D	1402-D	1403-D	20	24 3/8"	7
1410	1411-S	1412-S	1413-S	4 1/2"	8 3/8"	8
	1411	1412	1413	8 1/2"	13	8
	1411-A	1412-A	1413-A	11	15 3/8"	9
	1411-B	1412-B	1413-B	14	18 3/8"	9
	1411-C	1412-C	1413-C	17	21 3/8"	10
	1411-D	1412-D	1413-D	20	24 3/8"	11
1420	1421	3/4"			5 1/2"	7
	1424	1"			5 1/2"	7

NOTE: \* This dimension is obtained by eliminating locknut and substituting a short nipple for standard wall casing.

**PARTS LIST**

Part No.	ITEM
1	ELBOW VALVE BODY
2	VALVE DISC SCREW, 1/4-20 - 1/2 L'G
3	VALVE DISC
7	RIVET, 1/8 x 3/4 L'G
4	VALVE PLUNGER
5	VALVE ROD
6	VALVE GUIDE SCREW
8A	HEADNUT
8B	"O" RING
	RETAINER HEADNUT
9	HYDRANT HEAD
10	"O" RING
11	SCREWS, 1/4-20 - 1/2 L'G
12	ENCLOSURE FRAME
13	OUTER GASKET
14	DRIVE SCREW
15	LATCH
16	FACE PLATE
17	LOCK STEM
18	BRASS CHAIN
19	HYDRANT KEY
20	FACE PLATE
21	ENCLOSURE FRAME
22	SCREWS, 1/4-20 - 1/2 L'G
23	BRASS CHAIN
24	DRIVE SCREW
25	LOCK STEM
26	LATCH

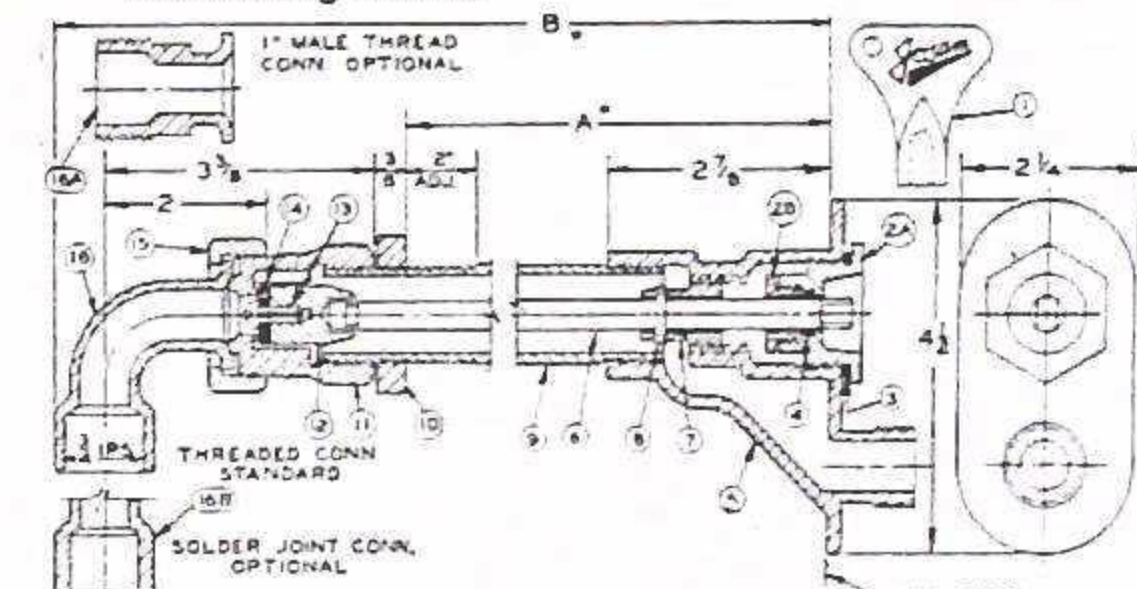
**Josam**  
**WALL HYDRANTS**

**SERIES Nos. 1400, 1410, 1420**

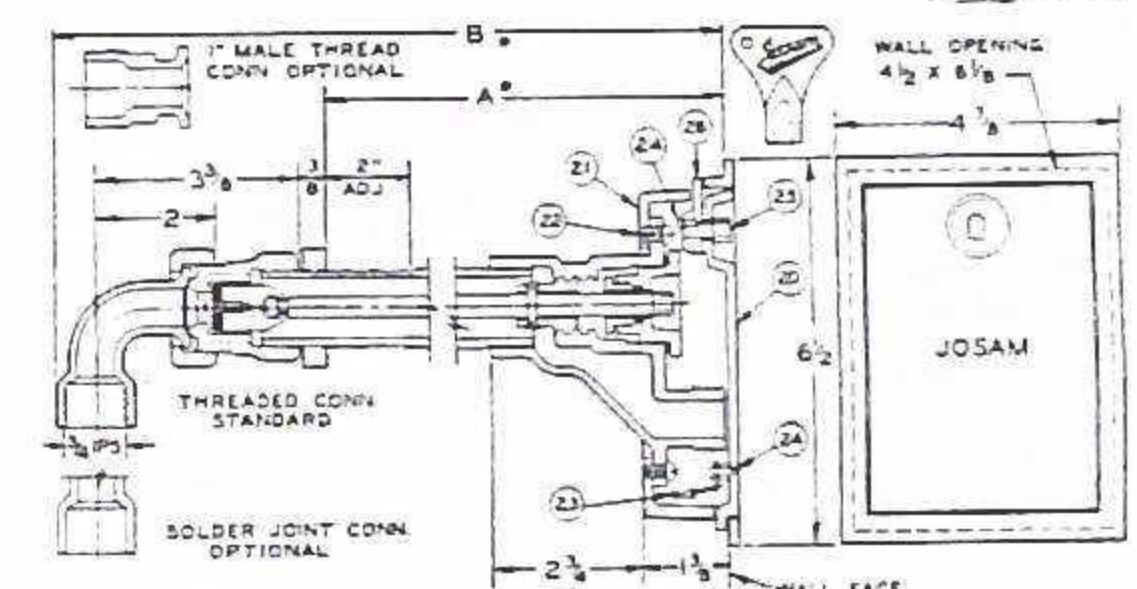


**SPECIFICATION**

Josam Series No. 1400 cast brass, non-freeze wall hydrant with 3/4" straight nozzle hose connection, key handle, polished face, galvanized wall sleeve, swivel valve disc holder, and ground joint union elbow adaptor with " connection. Series No. 1410 same as above with cast brass flush type wall box enclosure with polished face and locking device.



SERIES No. 1400



SERIES No. 1410

SERIES NO. 1420, same as Series No. 1410, except without adjustable wall casing.

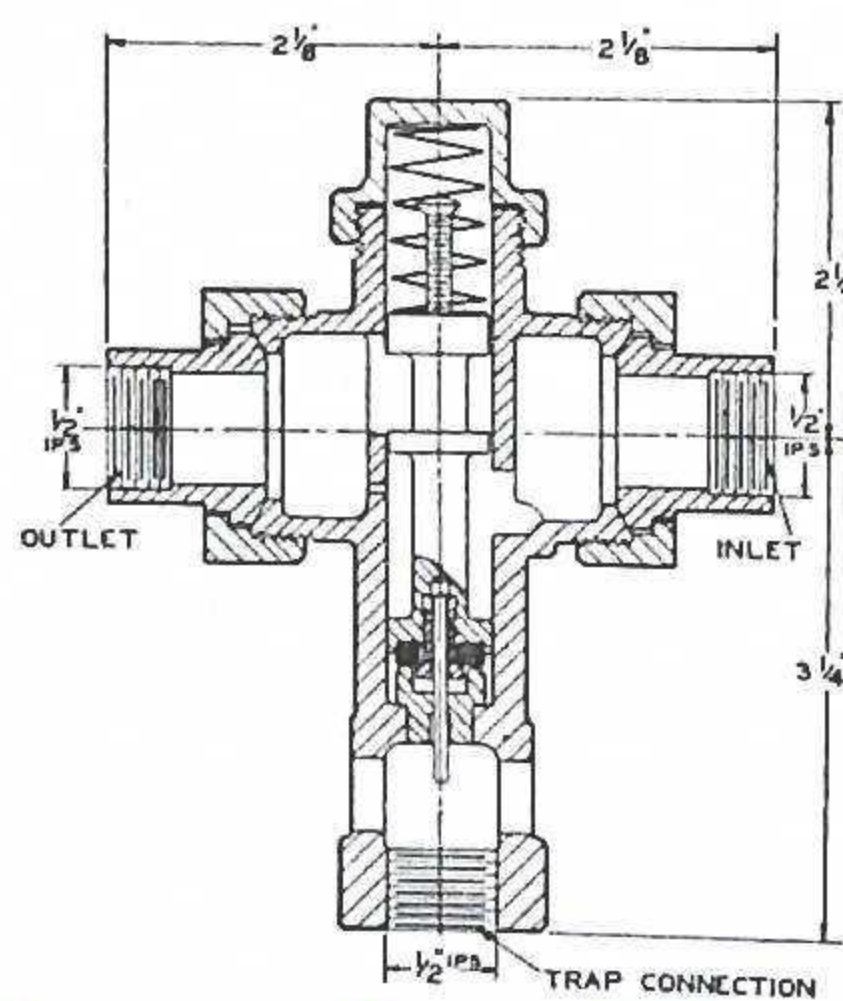
*with vacuum breaker*

● **APPLICATION:** For installation on cold water supply lines to kitchen sinks, toilets, drinking fountains and similar fixtures, with connection to trap on infrequently used waste line.

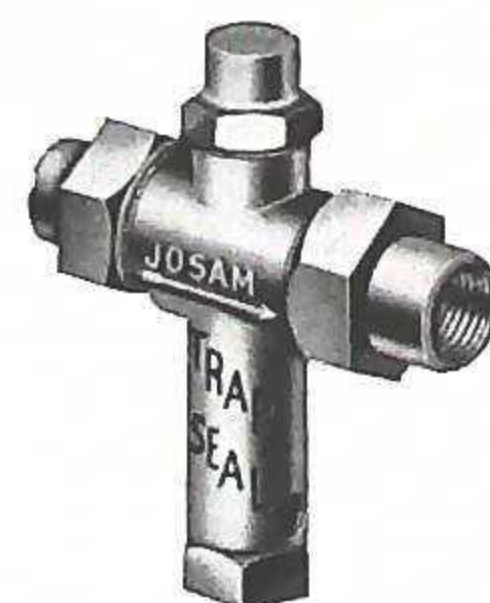
The automatic trap seal valve prevents the evaporation of water in the trap seal and the escape of sewer gases into the room, from traps on infrequently used waste lines.

When the water is drawn at the fixture, the automatic trap seal valve permits an amount of water to be discharged into a pipe extending to the trap on the waste line. This keeps the trap filled and sealed.

The vacuum breaker prevents back siphonage.



**SERIES No. 1460-BB**



**SPECIFICATION**

Josam Series No. 1460-BB, cast brass automatic trap seal valve with 1/2" union connections and vacuum breaker.

*with convex grille*

● **APPLICATION:** For installation on fresh air inlets to sewer connection where house traps are required by code, and for covering outside vent pipes.

**STANDARD and OPTIONAL FEATURES**

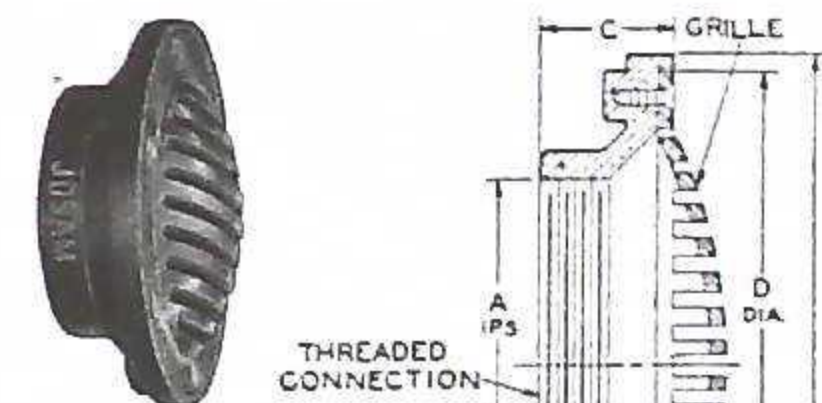
- **Body** Standard: Cast brass with threaded connection. Optional: SR steel or Everdur. (See — page 16).
- **Grille** Standard: Polished brass, fastened to body by screws. Optional: Chrome plated brass, SR steel, Everdur or White Metal, at added cost. (See — page 16).

**DIMENSIONS IN INCHES**

TYPE NO.	TOP AND GRILLE				C	WGT. LBS.
	A	B	D	FREE AREA SQ. IN.		
1864-BB	4	6	5 1/2	9	1 1/8	3
1865-BB	5	7	6 1/2	14	1 1/4	4

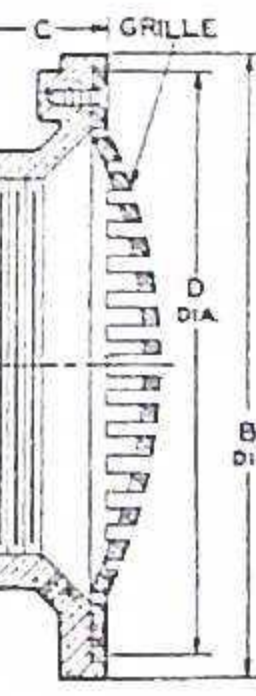
**Josam**  
**FRESH AIR INLET**

**SERIES No. 1860-BB**



**SPECIFICATION**

Josam Series No. 1860-BB, cast brass fresh air inlet with " threaded connection and extra heavy polished brass convex grille.



**Hy-Tech Products**

**Josam**

**DEEP SEAL TRAPS**

with and without cleanout and backwater valve

details and dimensions

**Josam**

**DEEP SEAL TRAPS**

● **APPLICATION:** For installation on bottom outlet drains where an independent trap is required. Cleanout provides access to drain line for frequent cleaning or rodding.

For features to suit additional requirements, see variations of Deep Seal Traps in this group.

**STANDARD and OPTIONAL FEATURES**

The features below apply to all traps in this group. In addition to the standard and optional features below, special features are indicated under the illustrations.

- **Body** **Standard:** Cast iron lacquer finish, deep seal "P" trap. **Optional:** Galvanized iron, Rezistan iron, brass, SR steels or Everdur, at added cost. (See ♦ — page 16).
- **Inlet and Outlet** **Standard:** Series No. 1910, female threaded inlet and outlet. Series No. 1920, male threaded inlet and female threaded outlet. Series No. 1930-V, 4" male inlet and 2", 3" or 4" female outlet. Series No. 1940, top inlet for inside caulk drain outlet, and spigot side outlet. For variable outlet roughing. Series Nos. 1960, 1970 and 1980, top inlet for inside caulk drain outlet, and female threaded side outlet. **Optional:** Female threaded outlet can be furnished with hub or spigot adaptor, at added cost.
- **Cleanout** **Standard:** Series No. 1940, 3" cast brass with countersunk plug with tapered body for caulking into soil pipe hub. (See Type Nos. Y-43, Y-613 or Y-633 on pages (120)10 and 11. Series Nos. 1960 and 1970, brass countersunk plug, 2" larger than trap outlet. Permits installation of backwater valve in trap outlet. Series No. 1980, "Leveleze" cast iron adjustable head with rolled thread and brass countersunk threaded cleanout flush with floor. Adjustable top permits cleanout to be raised or lowered to meet floor level, or drain top and cleanout plug can be set at different levels. For information on "Leveleze" floor drains, see page 67. **Optional:** Rough brass cleanouts can be furnished polished or chrome plated brass, SR steels, White Metal or Everdur, at added cost. (See ♦ — page 16). Series Nos. 1910 and 1920, brass raised head plug in bottom of trap, at added cost.
- **Backwater Valve** **Standard:** Series No. 1930-V. Copper ball in copper wire cage, with brass seat ring and renewable rubber valve seat. **Optional:** Series Nos. 1960, 1970 and 1980. Brass housing same diameter as outlet of trap, with top hung vertical swing flap, caulked into trap, at added cost.

**SPECIFICATION**

See "Specification" under each illustration.

Where optional features or materials are required, insert same in specification.



**SERIES NO. 1910**

**SPECIFICATION**

Josam Series No. 1910, cast iron deep seal "P" trap with female threaded inlet and outlet.

**SERIES NO. 1920**

**SPECIFICATION**

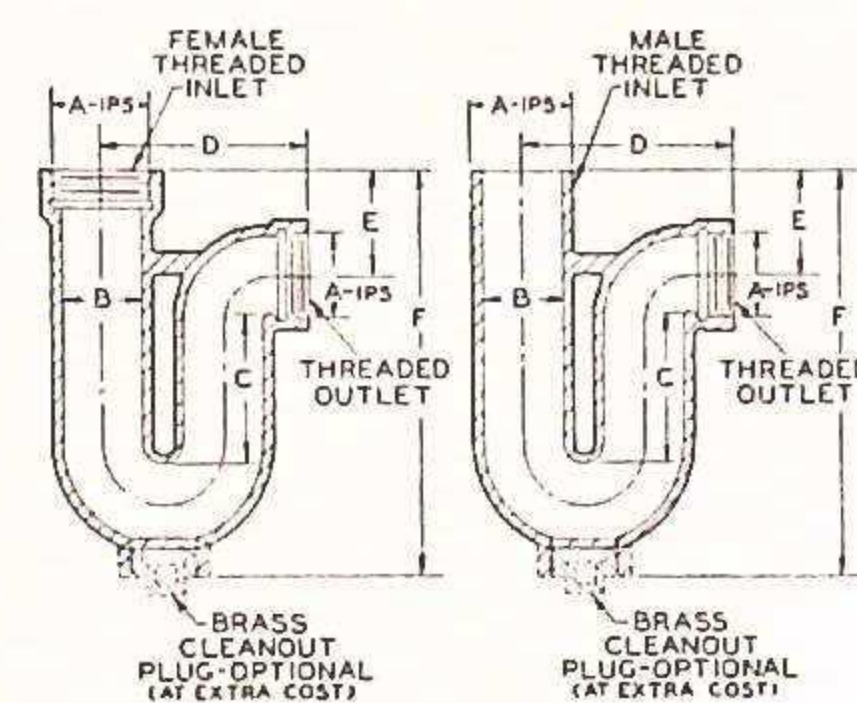
Same as Series No. 1910, except with male threaded inlet and female threaded outlet.



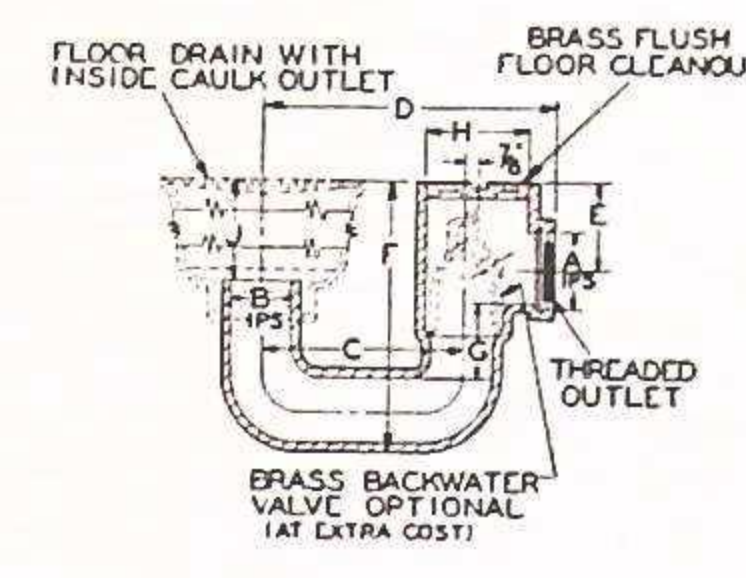
**SERIES NO. 1960 and 1970**

**SPECIFICATION**

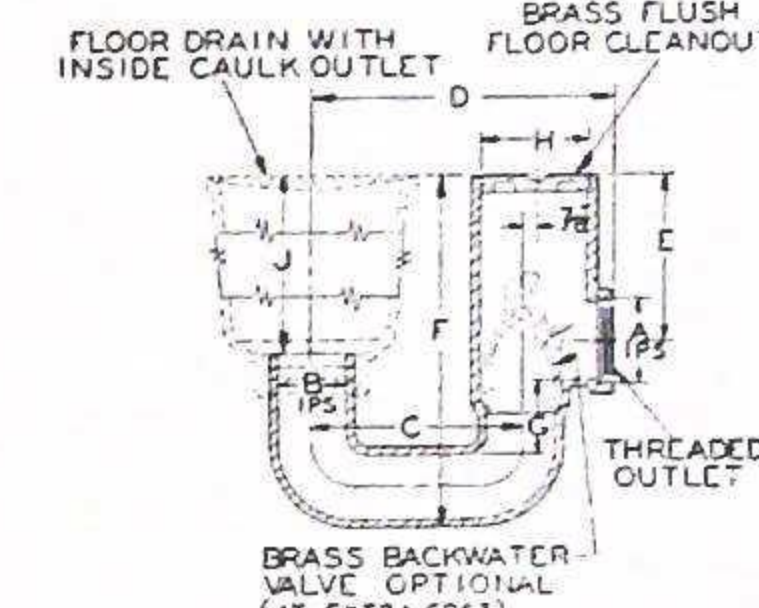
Josam Series No. 1960 (or 1970), cast iron deep seal "P" trap with top inlet for inside caulk drain outlet, female threaded side outlet, and brass flush floor oversize cleanout.



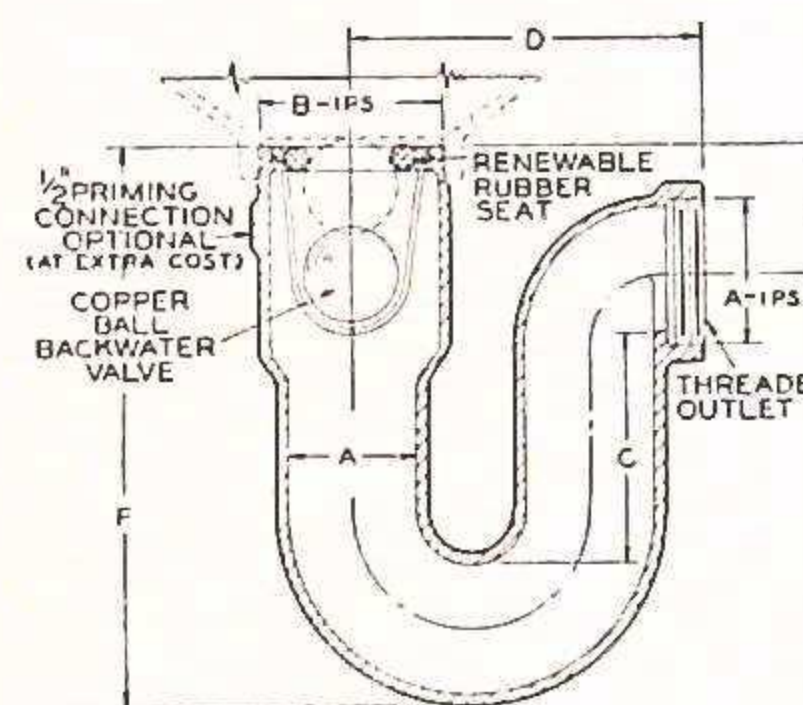
**SERIES NO. 1910 SERIES NO. 1920**



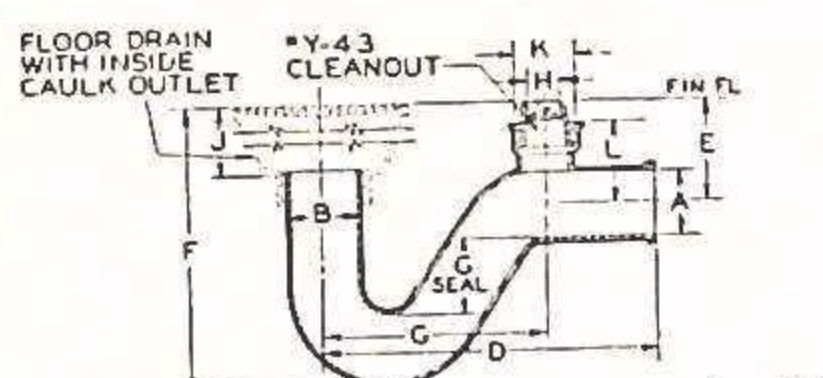
**SERIES NO. 1960**



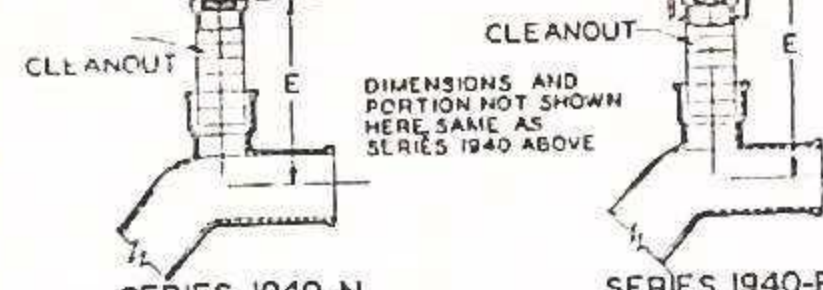
**SERIES NO. 1970**



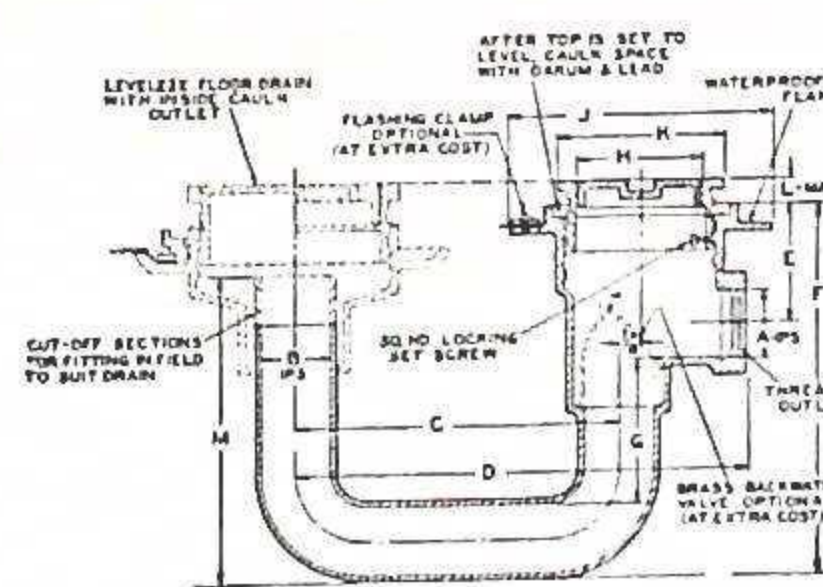
**SERIES NO. 1930-V**



**SERIES NO. 1940**



**SERIES NO. 1940**



**SERIES NO. 1980**

(INSTALLATION DIAGRAMS ON PAGE 71)

**DIMENSIONS IN INCHES**

Series No.	Type No.	A	B	C	D	E	F	G	H	J	K	L	M	Wgt. Lbs.
1910	1911 1/2	1 1/2	2	4	6	2 1/2	10 1/2							9
	1912	2	2	4	6	2 1/2	10 1/2							9
	1913	3	3	4 1/2	7 1/2	3 3/4	14							19
	1914	4	3 3/4	5	9	4 1/4	16							32
	1916	6	6	5	12 3/4	7	21 3/4							73
1920	1922	2	2	4	6	2 1/2	10 1/2							9
	1923	3	3	4 1/2	7 1/2	3 3/4	14							19
	1924	4	3 3/4	5	9	4 1/4	16							32
1930-V	1932-V	2	4	4	6 1/2	2 3/4	10							13
	1933-V	3	4	5	8	3	12 3/4							19
	1934-V	4	4	5	9 5/8	3	14 1/4							28
1940	1943	3	3	14 1/2	21 1/2	6 5/8	16 1/8	4 3/4	2	4 3/8	3	5 1/2		37
	1944	4	4	14 1/2	21 1/2	7 1/8	18 3/8	4 3/4	2	4 7/8	3	6		42
	1943-N	3	3	14 1/2	21 1/2	11	20 1/2	4 3/4	2 1/2	8 3/4	3	5 1/2		43
	1944-N	4	4	14 1/2	21 1/2	11 1/2	22 1/2	4 3/4	2 1/2	9 1/4	3	6		47
	1943-P	3	3	14 1/2	21 1/2	16	25 1/2	4 3/4	2 1/2	13 3/4	3	5 1/2		56
	1944-P	4	4	14 1/2	21 1/2	16 1/2	27 1/2	4 3/4	2 1/2	14 1/4	3	6		58
1960	1962	2	2	10 1/8	15	5 3/8	12 3/4	4	4	3 7/8				25
	1963	3	3	10 3/8	16 3/8	5	14 7/8	5	5	3 3/4				33
	1964	4	4	11 1/8	17	4 1/2	15 3/4	5	6	3 3/4				42
	1966	6	6	14 3/8	22 1/4	5 1/8	21 1/4	6 7/8	8	4 1/4				90
	1970	1972	2	2	13 1/8	15	11 3/4	19 1/8	4	4	8 5/8			
1973		3	3	13 3/8	16 3/8	11 1/4	21 1/8	5	5	8 5/8				52
1974		4	4	14 1/8	17	10 3/4	22	5	6	8 1/2				57
1976		6	6	14 3/4	22 1/8	14 1/8	30 1/2	6 7/8	8	11 7/8				125
1980		1983	3	3	13 7/8	19 1/8	6 1/8	16	5 1/8	5	11 1/8	7 1/8	1 1/4	14
	1984	4	4	14 3/8	20 1/2	7	17 1/8	4 5/8	6	12 3/4	9	1 7/8	15 3/4	70

\* "E" on Series No. 1940-N and 1940-P is maximum. May be reduced by cutting sections from cleanout. "J" is minimum but may be increased to suit drain dimensions and installation conditions by cutting off sections of trap inlet.

† H - Nominal size cleanout plug.

‡ K - C.I. soil pipe standard hub on Series No. 1940.

TRAPS ILLUSTRATED IN THIS SECTION ARE APPLICABLE TO JOSAM DRAIN BODIES LISTED BELOW.

TRAP NO. 1940 Applicable to Following Drains			TRAP NO. 1940-N Applicable to Following Drains			TRAP NO. 1940-P Applicable to Following Drains			TRAP NO. 1960 Applicable to Following Drains					TRAP NO. 1970 Applicable to Following Drains		
Series No.	Series No.	Series No.	Series No.	Series No.	Series No.	Series No.					Series No.					
0480	120	610	140	5040	5030	5260	0470	100	530	640	5440	5020	5240			
0500	130	620	670	5050	5080	5280	0480	110	540	670	5460	5040	5250			
0520	510	630	680	5060	5090	5450	0500	120	570	680	V-50	5050	5260			
0530	520	640	730	5440	5230	5460	0520	130	580	700	V-60	5060	5450			
0540	530	700	5020		5240	5470	0530	140	610	730	V-70	5080	5460			
0550	540	2600			5250	5480	0540	510	620	2600	V-80	5090	V-100			
100	570	5400					0550	520	630	5420	V-90	5230				
110	580	5420														

Series No. 1910 - Suitable for any 1 1/2" to 6" male threaded bottom outlet drain.  
 Series No. 1920 - Suitable for any 2", 3" or 4" female threaded bottom outlet drain.  
 Series No. 1930-V - Suitable for any 4" female threaded bottom outlet drain. Trap outlet varies.  
 Series No. 1980 - Suitable for any 3" or 4" inside caulk bottom outlet Leveleze Floor Drain.



**SERIES NO. 1930-V**

**SPECIFICATION**

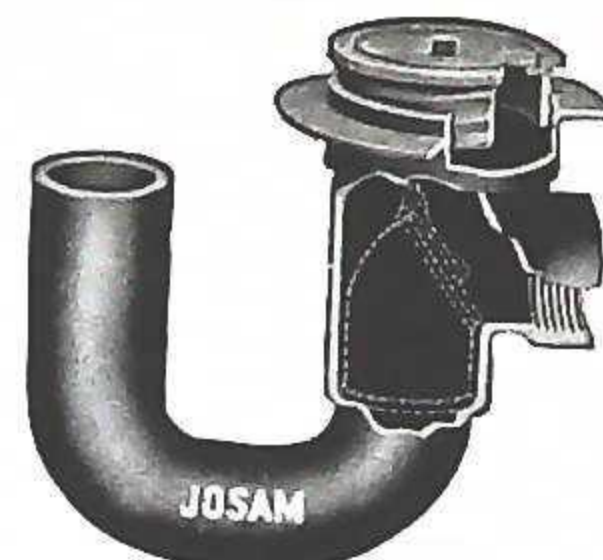
Josam Series No. 1930-V, cast iron deep seal "P" trap with inlet for 4" bottom outlet drain, female threaded outlet, copper ball backwater valve in wire cage with brass seat ring and rubber seat.



**SERIES NO. 1940**

**SPECIFICATION**

Josam Series No. 1940, cast iron deep seal "P" trap with top inlet for inside caulk drain outlet, spigot side outlet, and Josam type Y-43 cleanout or caulking into hub.



**SERIES NO. 1980**

**SPECIFICATION**

Josam Series No. 1980, cast iron Leveleze deep seal "P" trap with top inlet for inside caulk drain outlet, female threaded side outlet, and brass flush floor oversize cleanout threaded into adjustable top.

Hy-Tech Products

**Josam**  
SOIL PIPE CONNECTORS  
HUB CONNECTORS

straight or angle soil pipe connectors

- **APPLICATION:** To connect IPS threaded pipe to cast iron soil pipe opening.
- **SPECIFICATION:** Josam Series No. \_\_\_\_\_, cast iron soil pipe connector with \_\_\_\_\_" spigot and IPS male threaded ends.

**STANDARD and OPTIONAL FEATURES**

**Standard:** Cast iron lacquer finish, with spigot and IPS male threaded ends, in straight or angle body, as illustrated.  
**Optional:** Galvanized iron, Reztistan iron, all brass, SR steels or Everdur, at added cost. (See — page 16).

STR.	TYPE NO.				A IN.	B* IN.	WGT.—LBS.				
	22½°	45°	60°	90°			STR.	22½°	45°	60°	90°
1512	1522	1532	1542	1552	2	2¾	2	2½	3	4	5½
1513	1523	1533	1543	1553	3	3¾	4½	6	6½	7½	7½
1514	1524	1534	1544	1554	4	4¾	5	8½	9	9½	10
1515	1525	1535	1545	1555	5	5¾	7½	10	9	11½	14
1516	1526	1536	1546	1556	6	6¾	8	11½	11½	14½	15
1518					8	8¾	12				

\* Nominal size same as "A" in table.  
Actual size as given in table, in accord with E.H.C.I. Soil Pipe Standard.

standard or reducing pattern hub connectors

- **APPLICATION:** To connect cast iron soil pipe to IPS threaded or tile pipe.

Standard or Reducing Pattern



**SERIES NO. 1610, 1620**  
**SPECIFICATION**  
Josam Series No. 1610, cast iron lacquer finish hub connector with soil pipe hub and \_\_\_\_\_" male thread connection.

**Optional:** Galvanized iron, Reztistan iron, brass, SR steels or Everdur, at added cost. (See — page 16).

Tile Connector

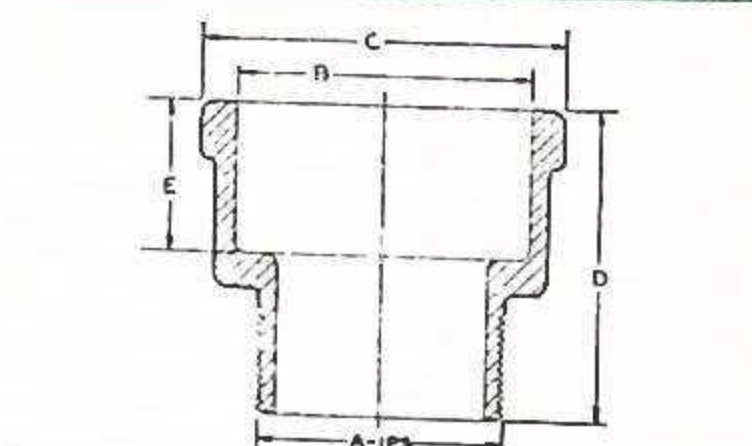
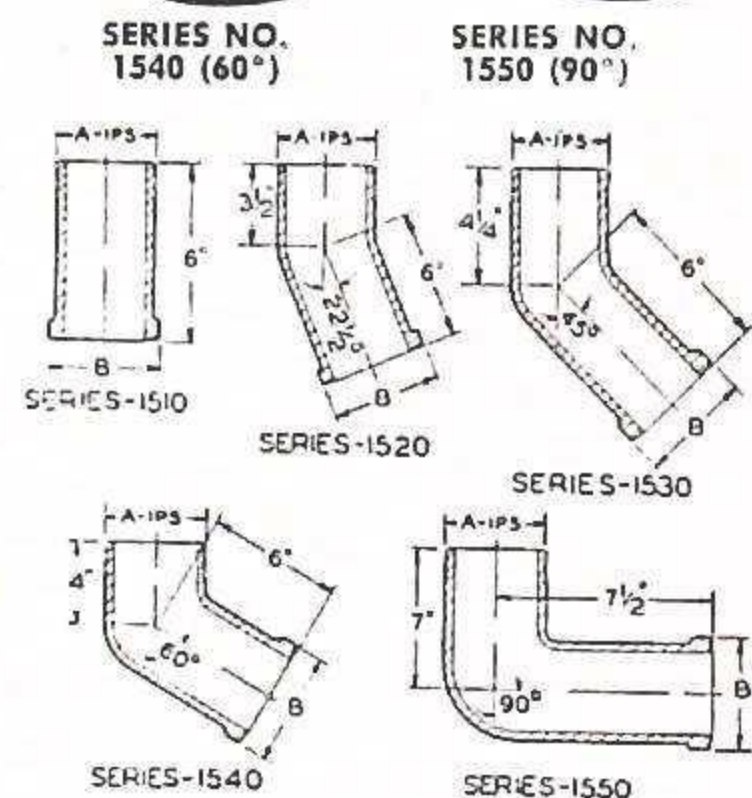


**SERIES NO. 1660, 1670**  
**SPECIFICATION**  
Josam Series No. 1660 (or 1670), cast iron lacquer finish connector with hub connection for caulking tile sewer pipe spigot; and \_\_\_\_\_" spigot connection for caulking cast iron soil pipe hub.

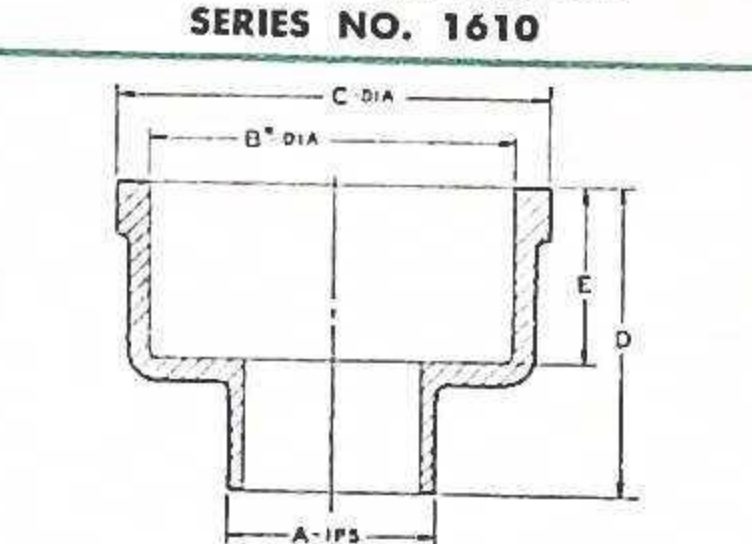
DIMENSIONS IN INCHES

SERIES NO.	TYPE NO.	A	B	C	D	E	WGT. LBS.	
1610	1612	2	3	3¾	4	2½	3½	
	1613	3	4¼	5½	4¼	2¾	4½	
	1614	4	5¼	6½	4¾	2¾	6¼	
	1615	5	6¼	7½	4¾	2¾	6½	
	1616	6	7¼	8	4¾	2¾	8¼	
	1618	8	9¼	10½	4¾	2¼	10½	
SERIES NO.	TYPE NO.	A	B¹	B²	C	D	E	WGT. LBS.
1620	1622-1½	1½	2	3	3¾	3½	2	3
	1623-2	2	3	4¼	4¾	2¼	4¾	4¾
	1623-2½	2½	3	4	4¾	3¾	2¼	4¾
	1624-2	2	4	5¼	6	4¾	2¼	5½
	1624-2½	2½	4	5¼	6	4¾	2¼	5¼
	1624-3	3	4	5¼	6	4¾	2¼	5¾
	1626-4	4	6	7¼	8	4¾	2¼	8¾
SERIES NO.	TYPE NO.	A	A¹	B	C	D	E	WGT. LBS.
1660	1664	4	4½	5¾	6¾	8½	1¾	12½
	1666	6	6½	8¾	9¾	9½	2¼	20
	1668	8	8½	10¾	11¾	11½	2	27
1670	1671	10	10½	13	14	13½	2	34
	1672	12	12½	15¾	16¾	16½	2	56

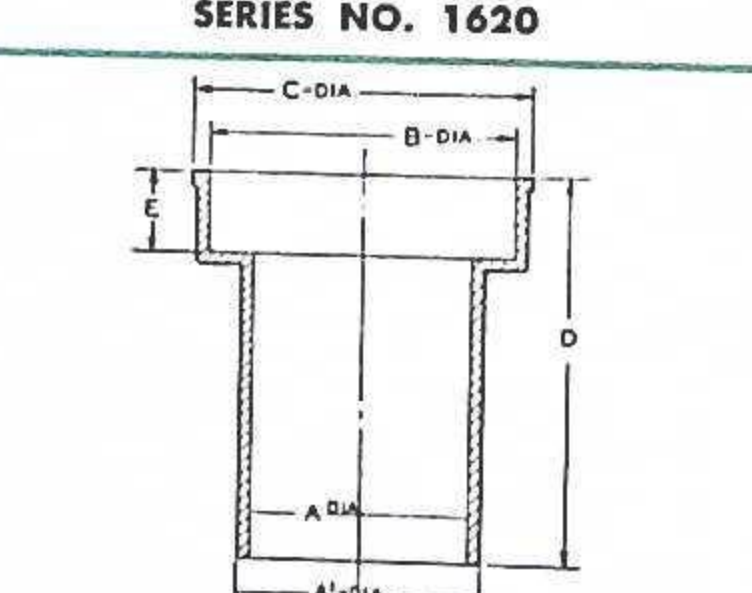
SERIES NO. 1510 (Straight)    SERIES NO. 1520 (22½°)    SERIES NO. 1530 (45°)



B—Nominal size same as "A" in table. Actual size as given in table, in accord with E.H.C.I. Soil Pipe Standard.



B¹—Nominal size. B²—Actual size in accord with E.H.C.I. Soil Pipe Standard.



A—Nominal size as given in table. A¹—Actual size in accord with E.H.C.I. Soil Pipe Standard. B—Actual size in accord with standard trench tile pipe standard.

with or without cleanout

- **APPLICATION:** For installation at base of leaders or conductors, soil, waste or vent pipes, with cleanout for rodding purposes.

**STANDARD and OPTIONAL FEATURES**

- **Body**    **Standard:** Cast iron lacquer finish.  
              **Optional:** Galvanized iron, at added cost.
- **Cleanout Plug**    **Standard:** Threaded brass, countersunk plug.  
                          **Optional:** Brass raised head plug, at no added cost, or chrome plated brass or white metal, at added cost. Without plug, at reduced cost. (See — page 16).
- **Outlet**    **Standard:** Spigot.
- **Inlet**    **Standard:** One hub inlet.  
              **Optional:** Two hub inlets in place of one hub inlet and one plug, at reduced cost.

DIMENSIONS IN INCHES

TYPE NO.	A	B	C	D	E	F	G	H	J	WGT. LBS.
1773	3	4¼	10½	5¼	11¾	13¾	18	3½	3	46
1774	4	5¼	12½	6¼	12½	14¾	19	4	4	50
1775	5	6¼	14½	7¼	13	16	20	4½	4	65
1776	6	7¼	16½	8¼	13¾	17¼	22½	5	4	75
1778	8	9¼	20¾	10	14¾	18¾	27½	5½	4	150
1779	10	11¾	25¾	12¾	16¾	21¾	33½	7¾	5	225

with multiple inlets

- **APPLICATION:** For connecting foundation drainage tile to main building drainage system or to sewer.
- **SPECIFICATION:** Josam Series No. 1780, cast iron drain tile sump with three 4" drain tile connections, 4" spigot outlet and adjustable scoriated cleanout cover and frame.

**STANDARD and OPTIONAL FEATURES**

- **Body**    **Standard:** Cast iron lacquer finish.  
              **Optional:** Galvanized iron, at added cost.
- **Cover and Frame**    **Standard:** Cast iron frame with loose set scoriated cover.  
                          **Optional:** Galvanized iron, at added cost.  
Cleanout cover and frame can be set at any elevation with a soil pipe riser to sump body.
- **Outlet**    **Standard:** 4" spigot.
- **Inlet**    **Standard:** Three, 4" drain tile connections.
- **Weight**    40 lbs.

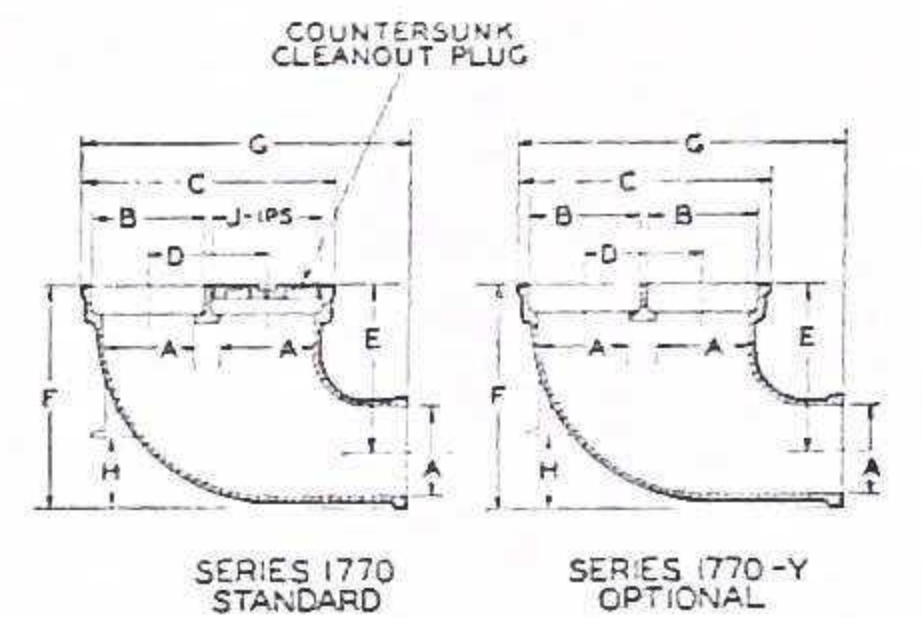
**Josam**  
STACK BASE FITTINGS

**SERIES No. 1770**



**SPECIFICATION**

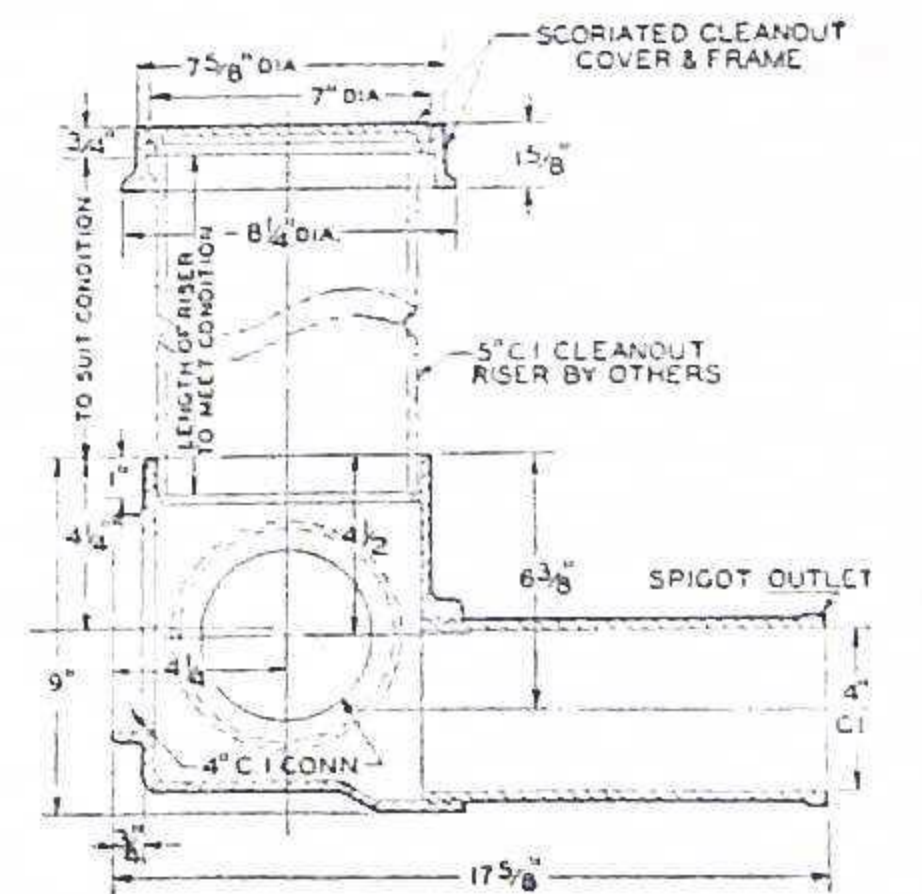
Josam Series No. 1770, cast iron stack base fitting with hub top inlet, top threaded cleanout opening with countersunk brass plug, and \_\_\_\_\_" spigot side outlet. (With two hub inlets, Series No. 1770-Y).



SERIES 1770 STANDARD    SERIES 1770-Y OPTIONAL

**Josam**  
DRAIN TILE SUMP

**SERIES No. 1780**





## cleanouts and access covers

### MATERIALS AND FINISHES

All Josam Cleanout Plugs, either separate or in combination with ferrules or tees, are regularly furnished in **CAST BRASS**.

Cast iron plugs are not recommended because of the difficulty in removing the plug due to rust and freezing when exposed to weather conditions.

The Specification under each illustration indicates the standard materials furnished.

Cast iron which is regularly furnished lacquered, can be furnished galvanized, all brass, or all Nikaloy, at added cost.

Brass tops, scoriated or plain, are furnished either rough or polished, as indicated in the specification. They can also be furnished chrome plated, or rough or polished Nikaloy, at added cost.

### "NIKALOY" — A NEW JOSAM METAL WITH UNUSUAL ADVANTAGES

SOLID METAL — PERMANENT FINISH — NO CHIPPING  
NO PEELING — CORROSION-RESISTANT

Because of the characteristics and unusual advantages of Josam Nikaloy, those concerned with specifying or buying Cleanouts and Access Covers will want to consider this perfect metal for every condition.

Generally, "white metal" is a term used to describe any "white appearing" metal of many different analyses, very often an inferior metal.

- Josam "NIKALOY" is produced with a higher nickel content than any of the so-called white metals, German silver, nickel bronze, etc., giving increased strength and greater resistance to damage.
- Josam "NIKALOY" is a solid metal alloy which has a satin finish when unpolished, and when polished has the same appearance as chrome plate.
- Josam "NIKALOY," either polished or satin finish will not peel, crack, or wear off and expose another metal.
- Josam "NIKALOY" because of its high resistance to the corrosive action of many common acids and oxidizing agents, is an ideal metal in applications where more expensive material such as monel metal, stainless steel, etc., are generally required or where it is necessary to have the exposed surface of the fittings conform to the appearance of the surrounding fixtures.

## ILLUSTRATED INDEX

CLEANOUT PLUGS	ACCESS COVERS AND BOXES	CUT-OFF FERRULE CLEANOUTS	TEE BRANCH CLEANOUTS
 SERIES NO. Y-0 Page (120) 5	 SERIES NO. Y-70 Page (120) 7	 SERIES NO. Y-300 Page (120) 10	 SERIES NO. Y-150 Page (120) 14
 SERIES NO. Y-10 Page (120) 5	 SERIES NO. Y-80 Page (120) 7	 SERIES NO. Y-310 Page (120) 10	 SERIES NO. Y-1510 Page (120) 14
 SERIES NO. Y-20 Page (120) 5	 SERIES NO. Y-140 Page (120) 6	 SERIES NO. Y-330 Page (120) 10	 SERIES NO. Y-1520 Page (120) 15
 SERIES NO. Y-30 Page (120) 5	 SERIES NO. Y-180 Page (120) 7	 SERIES NO. Y-350 Page (120) 10	 SERIES NO. Y-1540 Page (120) 15
 SERIES NO. Y-40 Page (120) 5	 SERIES NO. Y-190 Page (120) 7	 SERIES NO. Y-600 Page (120) 10	 SERIES NO. Y-1550 Page (120) 15
 SERIES NO. Y-50 Page (120) 6	 SERIES NO. Y-1080 Page (120) 7	 SERIES NO. Y-1750 Page (120) 10	 SERIES NO. Y-1560 Page (120) 15
 SERIES NO. Y-60 Page (120) 6	 SERIES NO. Y-1190 Page (120) 7	 SERIES NO. Y-1770 Page (120) 10	 SERIES NO. Y-1580 Page (120) 14
MISCELLANEOUS COVERS WITH AND WITHOUT CLEANOUTS		ADJUSTABLE HEAD CLEANOUTS	INDEX AND MISCELLANEOUS INFORMATION
 SERIES NO. Y-100 Page (120) 6	 SERIES NO. Y-1350 Page (120) 8	 SERIES NO. Y-620 Page (120) 11	ALPHABETICAL AND NUMERICAL INDEX Page (120) 4
 SERIES NO. Y-110 Page (120) 8	 SERIES NO. Y-1420 Page (120) 9	 SERIES NO. Y-670 Page (120) 11	CHART OF LOCATIONS Page (120) 16
 SERIES NO. Y-120 Page (120) 8	 SERIES NO. Y-1450 Page (120) 9	 SERIES NO. Y-710 Page (120) 13	CODE REQUIREMENTS Page 119
 SERIES NO. Y-130 Page (120) 6	 SERIES NO. Y-1460 Page (120) 9	 SERIES NO. Y-730 Page (120) 13	INSTALLATION DETAILS Page (120) 2-3
 SERIES NO. Y-1320 Page (120) 8	 SERIES NO. Y-1850 Page (120) 9	 SERIES NO. Y-1610 Page (120) 11	

The main purpose for installing a cleanout in the drainage system is to provide means of access into the piping for rodding and clearing stoppages that may occur during the operation and life of the building.

Cleanouts should be so designed that the plugs or covers can be readily removed, and clearances provided so that there is ample space in which to apply and use the necessary tools.

Access covers can be installed as a means of gaining entry to valves and other fittings which must be concealed. Code requirements in relation to placement of cleanouts vary in every city, but generally, they represent minimum requirements.

### TYPICAL CODE REQUIREMENTS

The following represents minimum plumbing code requirements generally found in the average ordinances, some of which are included in THE NATIONAL PLUMBING CODE ASA A40.8-1955.

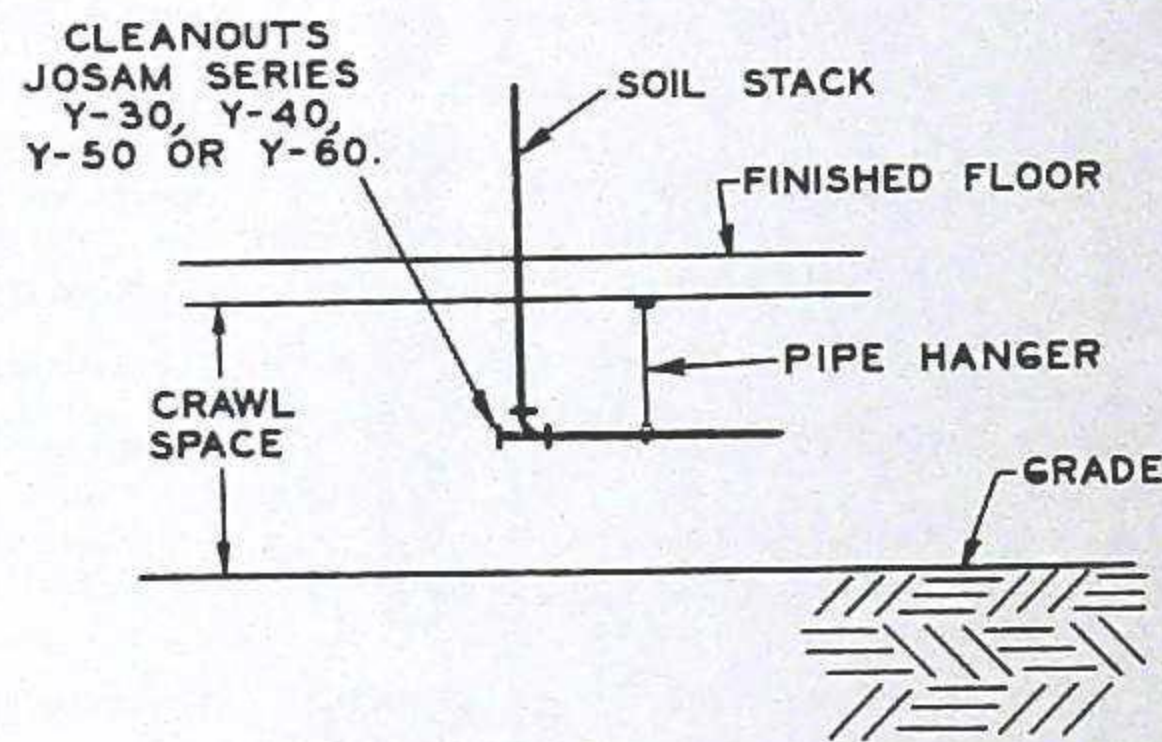
- Cleanouts shall be of the same nominal size as the pipes to which they are connected up to 4" in diameter; and not less than 4" for larger pipes.
- Cleanouts shall be provided at not more than 50 feet apart in horizontal drainage lines of 4" nominal diameter, and at not more than 100 feet apart for larger diameter pipe.
- Cleanouts shall be provided at each change of direction of the building drain when the angle of change is 90°.
- Cleanouts shall be provided at or near the base of each vertical stack.
- A cleanout shall be provided at junction of the building drain and the building sewer, or if accessible, at the point where the building drains leave the building.
- For buildings with a concrete floor slab, cleanouts shall be extended so as to terminate flush with the floor, or be easily accessible through an access box or cover.
- Cleanouts extended flush with the finished floor shall be provided with countersunk heads, to eliminate pedestrian hazards and prevent damage to equipment or piping.
- All cleanouts shall be installed so that the cleanout opens in a direction opposite to the flow of the drainage line, or at right angle to the line.
- Concealed cleanouts in wall shall be provided with a removable access panel or shall be brought flush with finished wall line.
- Where access cleanout boxes or covers are installed in the floor, the top surface shall be concealed and the cover secured, but removable when necessary.



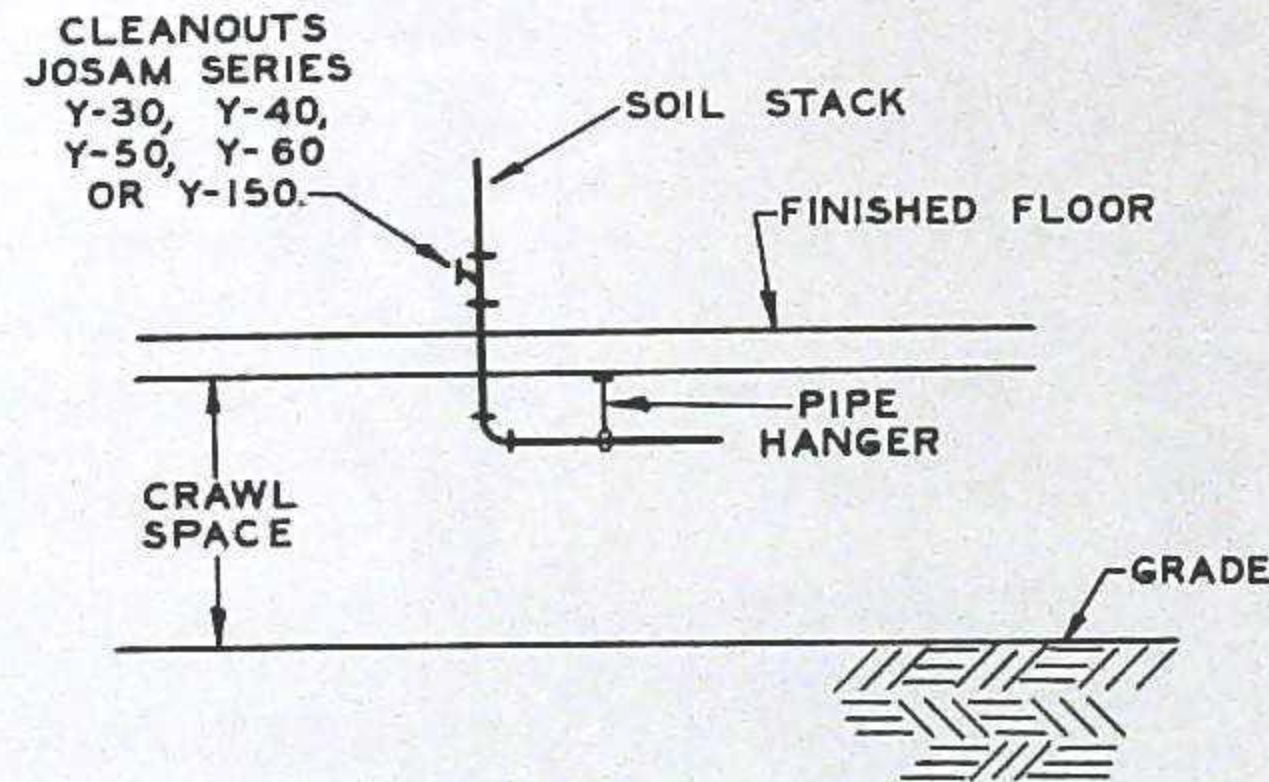
# TYPICAL INSTALLATION METHODS

The following illustrations show general practices and typical methods used in the installation of cleanouts.

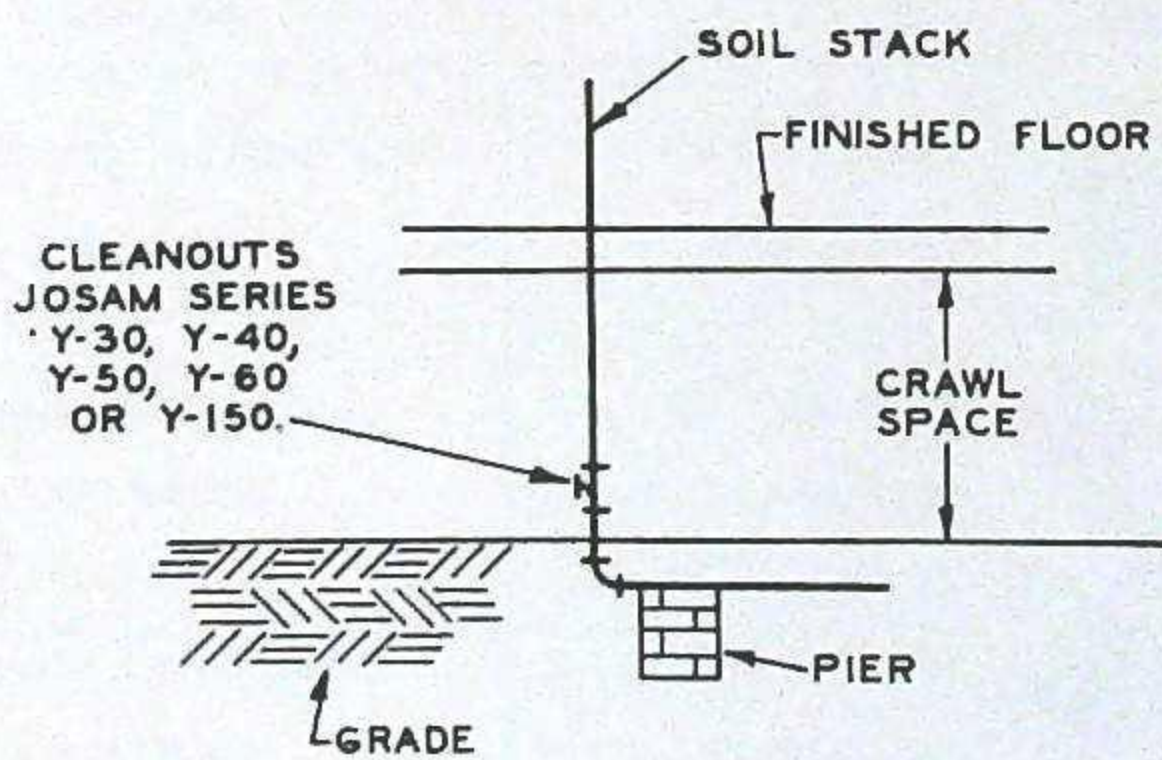
Figure 1 (a, b, and c) below illustrates cleanout location and types selected at various points in a crawl space.



1a. The space under the building should be not less than 18" and the area around the cleanout should be free of obstructions so that a mechanic can remove the plug and use a rod or snake to advantage.

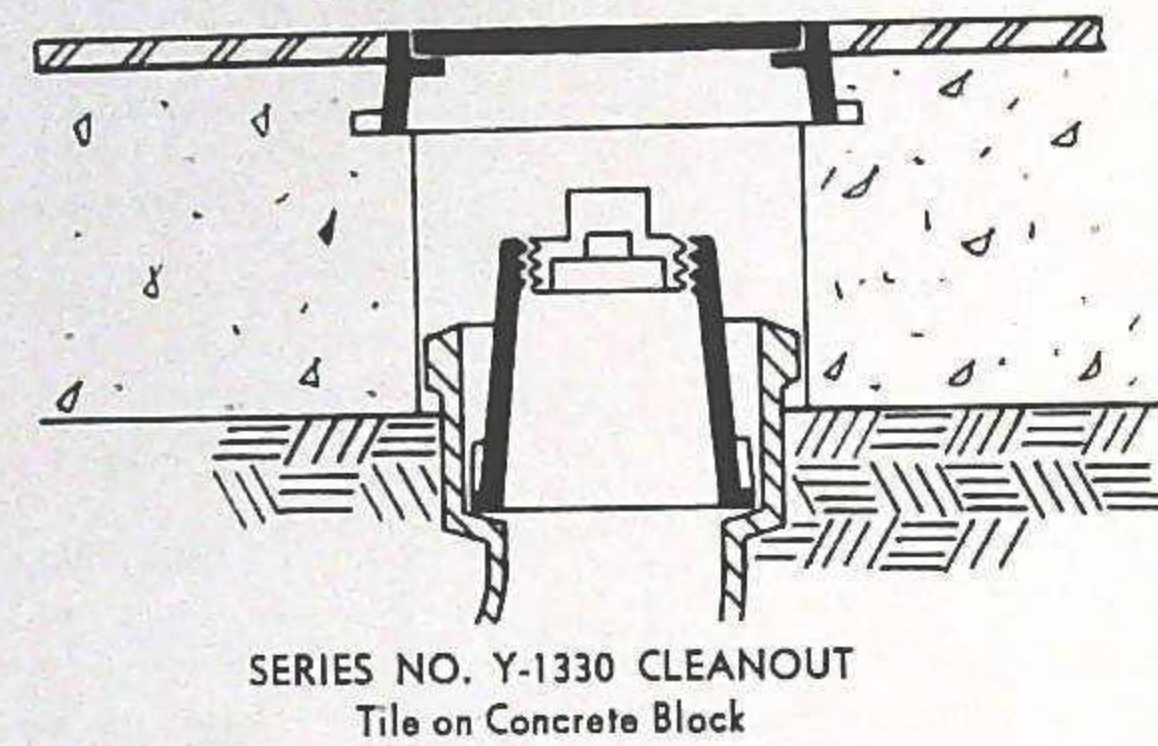


1b. If cleanout plug cannot be located as indicated under 1a, it should be installed above the floor.



1c. If drains drop underground, the cleanout shall be installed in an accessible area, free of obstacles.

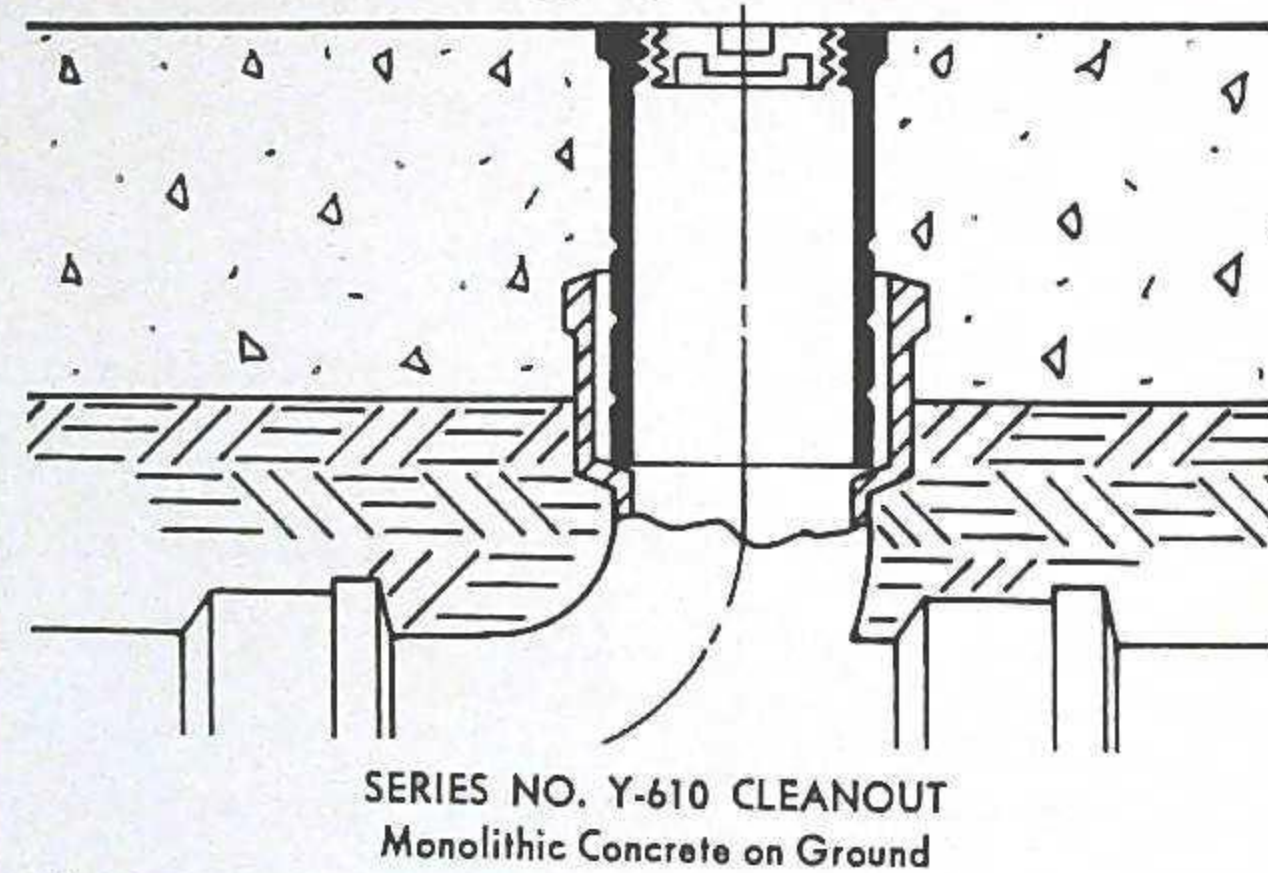
Figure 2 (a and b) below illustrates two suggested methods of installing a cleanout for an underground building drain.



2a. An underground drain at a depth of more than 18" should be brought up near the surface within a concrete pit, top of pit to have a frame and cover. The concrete pit should be independent of the underground drain, especially when heavy traffic such as large trucks is maintained on the surface of the floor. As little as possible of the weight of the vehicles should be transferred to the pipe below.

The cover on the pit should be of the type secured to the frame by means of screws or by any other method to keep it permanently in place, and removable when necessary.

Covers should be scoriated to prevent pedestrian hazards due to slipping.



2b. When a cleanout is placed on an underground drain and is 18" or less below the finished floor, or when the traffic is relatively light, the plug is brought to the finished floor and the plug head countersunk to prevent pedestrian tripping, damage to rolling equipment, or the transfer of shock to the piping below.



# CLEANOUTS AND ACCESS COVERS

Figures 3 and 4 illustrate other locations of cleanouts when piping is underground.

If a building drain is above the ground, a cleanout is required when the change of direction is 90°. A cleanout is optional in a 45° offset or change of direction. If the building drain is underground, the cleanout must be brought up to the surface, similar to those cleanouts shown in Figures 2a and 2b.

Figure 5 illustrates a cleanout installed on the main run of an underground building drain. The distance for cleanouts should not exceed 50 feet for drainage lines 4" diameter and smaller, and not more than 100 feet for drainage lines 4" in diameter.

Cleanout types are shown in Figures 2a and 2b.

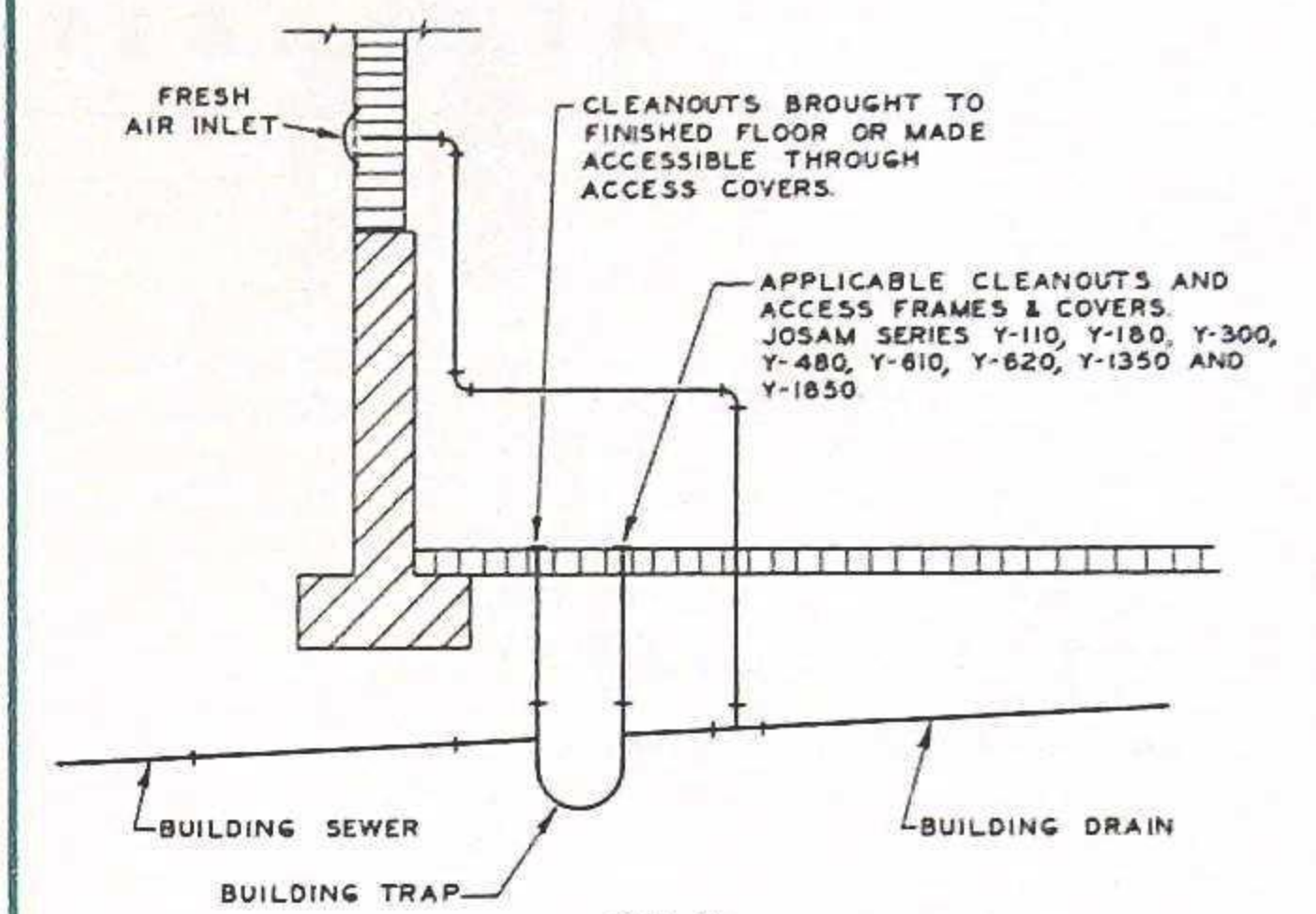


FIG. 3

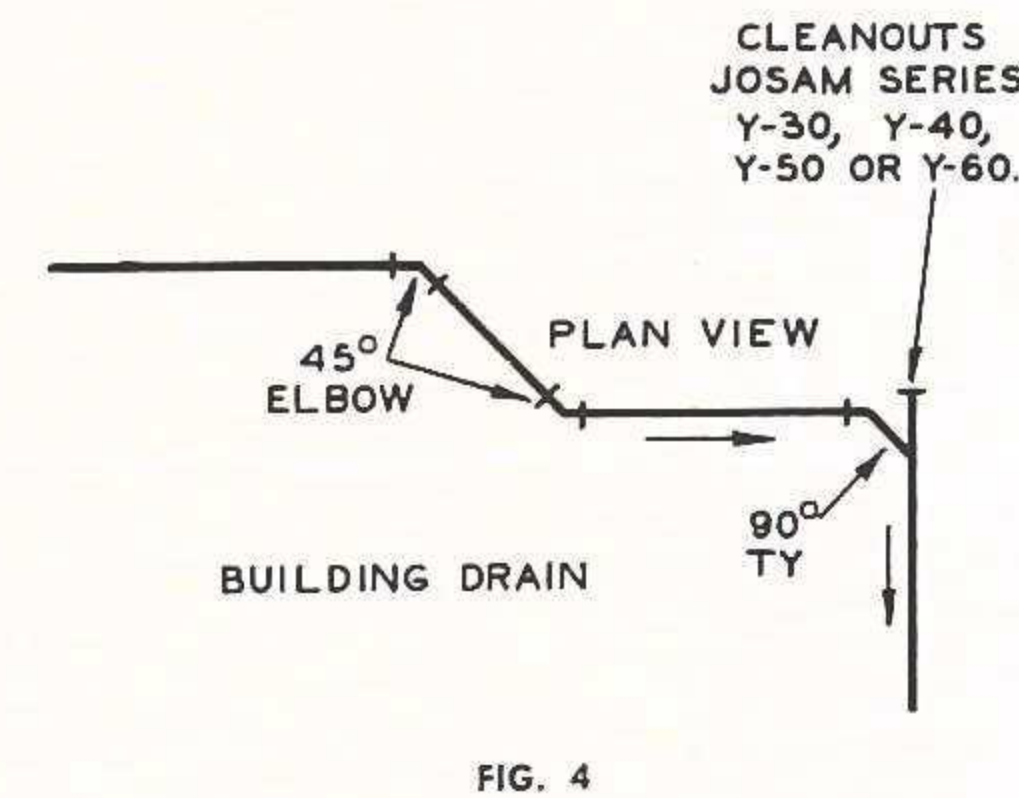


FIG. 4

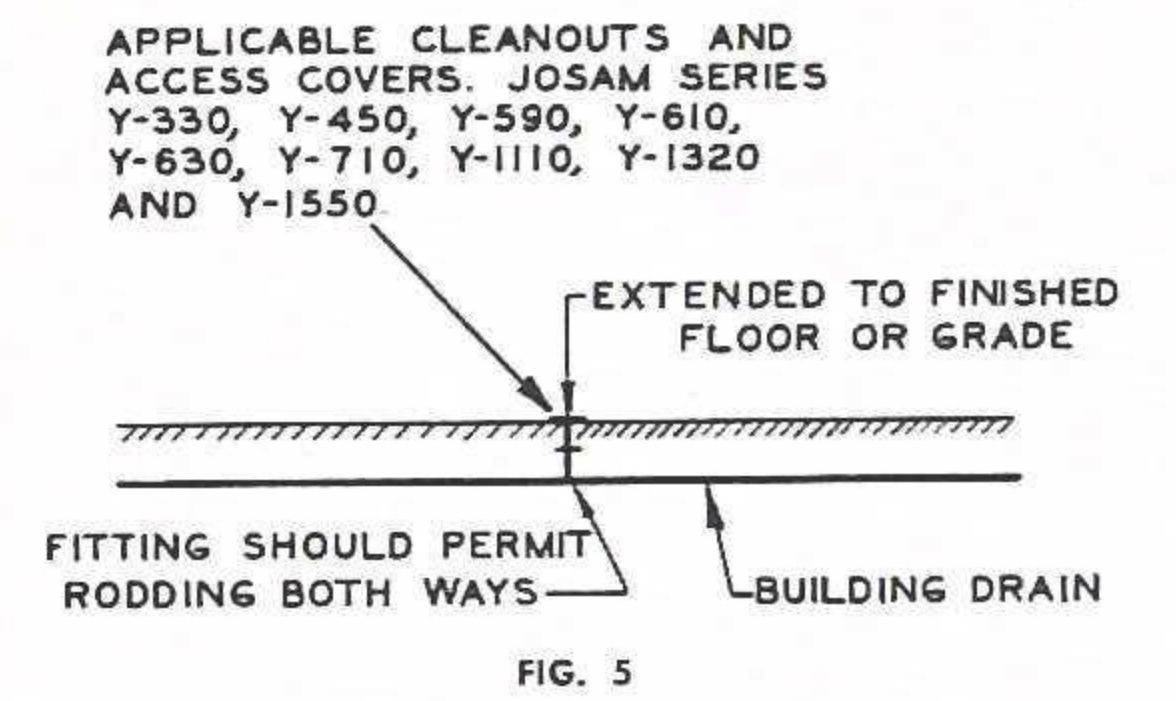


FIG. 5

Figure 6 illustrates cleanouts when the piping is concealed in chases or pipe spaces.

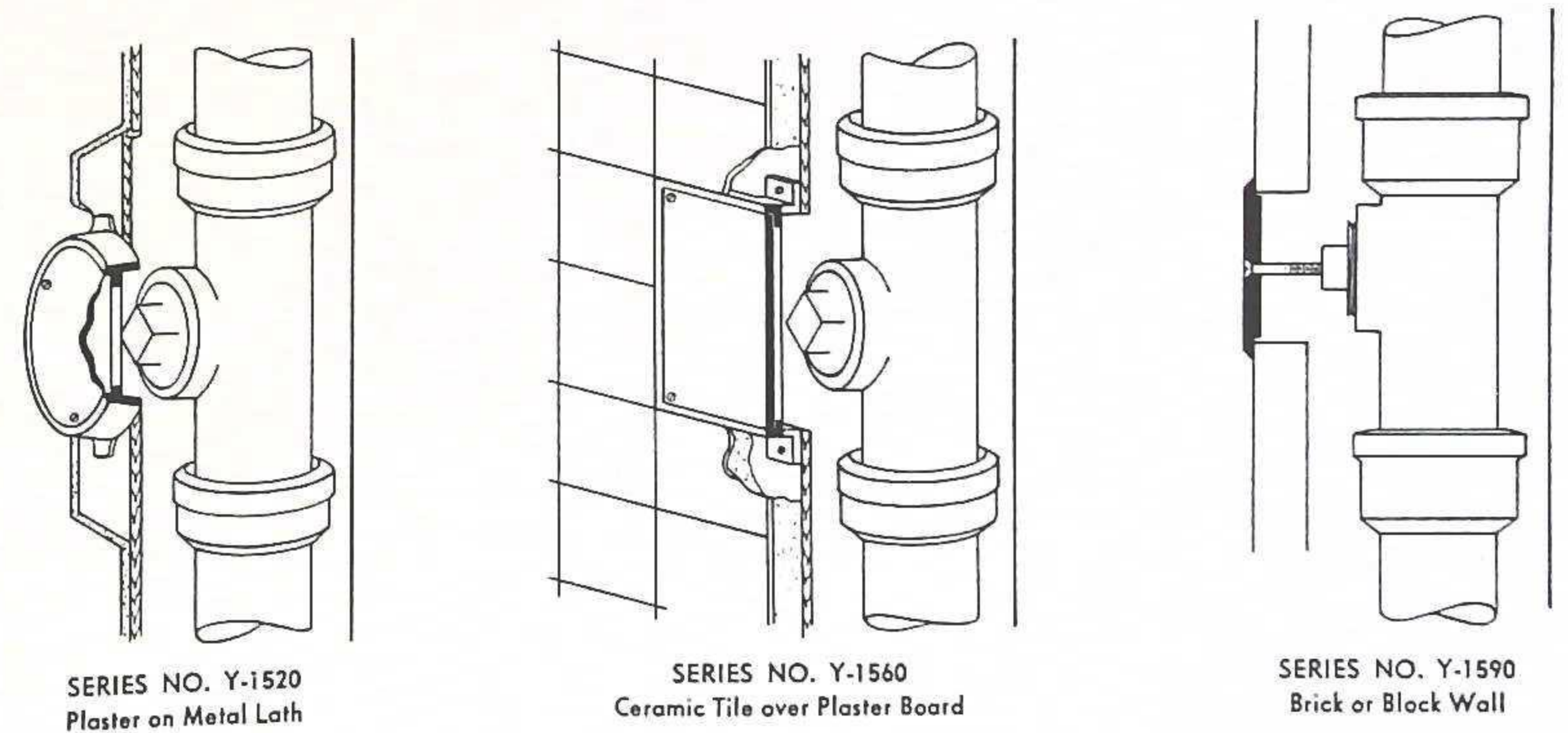


FIG. 6

SELECTION CHART OF OTHER CLEANOUTS FOR SPECIFIC LOCATIONS, SEE PAGE (120) 16

# Hy-Tech Products

SELECTION CHART OF OTHER CLEANOUTS FOR SPECIFIC LOCATIONS, SEE PAGE (120) 16





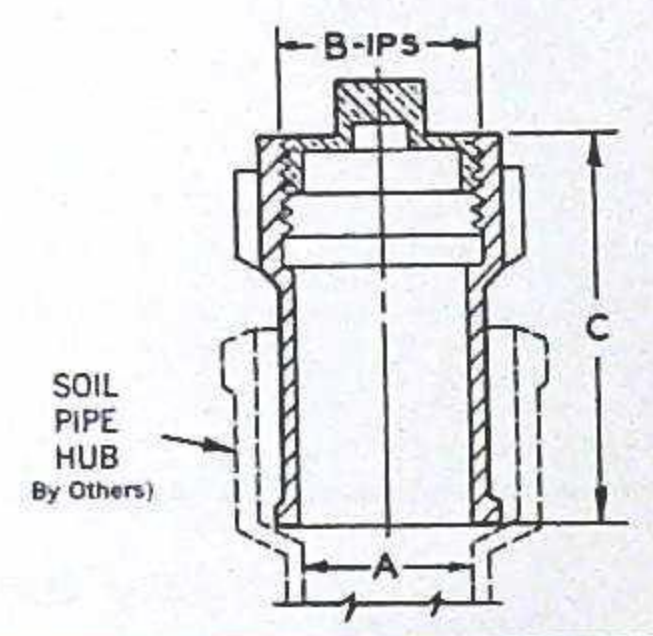
## CAULKING TYPE PLUGS.. ACCESS COVERS

### FULL CALIBRE BODY — RAISED HEAD PLUG



**SERIES NO. Y-50 SPECIFICATION**  
 Josam Series No. Y-50, cast iron lacquered cleanout with straight body for caulk into 2" to 8" soil pipe hub, and with raised head rough brass plug same size as soil pipe.

U. S. Govt. Type  
 Conforms to Par. 65(A)  
 Standard Plumbing Specification  
 Public Buildings Service  
 and Fig. 27 WW-P-401



### ACCESS COVERS

Access covers can be installed as a means of gaining entry to valves and other fittings which must be concealed. It is of equal importance that cleanouts and access covers be located where they are readily accessible.

For buildings with a concrete floor slab, cleanouts shall be extended so as to terminate flush with the floor, or be easily accessible through an access box or cover. See pages (120) 7-15.

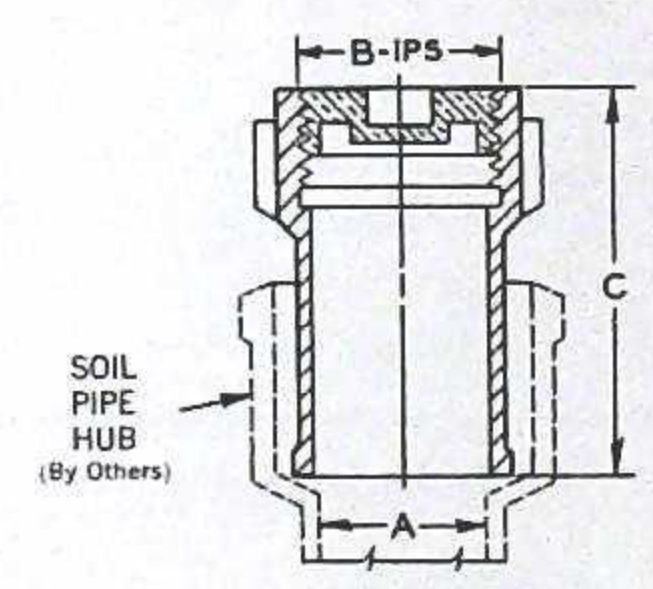
Concealed cleanouts in walls shall be provided with a removable access panel or shall be brought flush with finished wall line. For wall cleanouts and covers other than those shown below, see pages (120) 7, 8, 14, 15.

### FULL CALIBRE BODY — COUNTERSUNK HEAD PLUG



**SERIES NO. Y-60 SPECIFICATION**  
 Josam Series No. Y-60, cast iron lacquered cleanout with straight body for caulk into 2" to 8" soil pipe hub, and with countersunk rough brass plug same size as soil pipe.

U. S. Govt. Type  
 Conforms to Par. 65(A)  
 Standard Plumbing Specification  
 Public Buildings Service

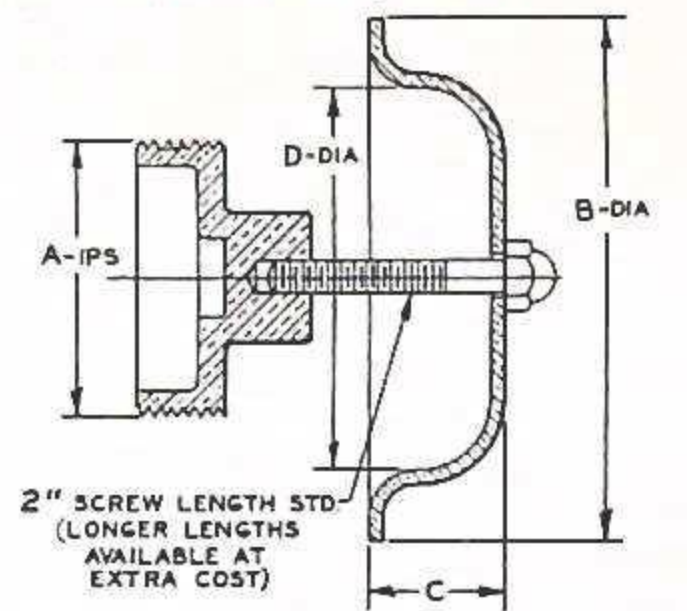


### UPSET SURFACE PLATE



**SERIES NO. Y-100 SPECIFICATION**  
 Josam Series No. Y-100, rough cast brass raised head 1 1/2" to 6" plug tapped for machine screw, and polished brass, round upset surface plate cover secured to plug with cap screw.

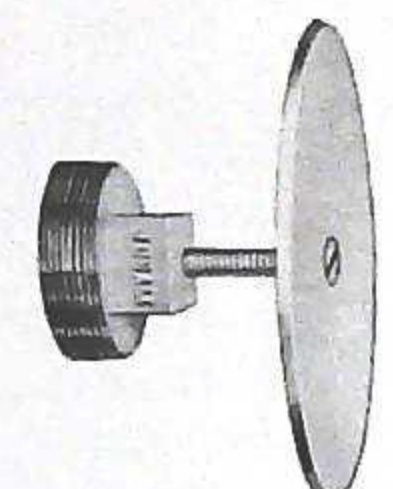
U. S. Govt. Type  
 Conforms to Fig. 212  
 Federal Specification WW-P-541b  
 and Par. 68, Standard Plumbing Specification  
 Public Buildings Service



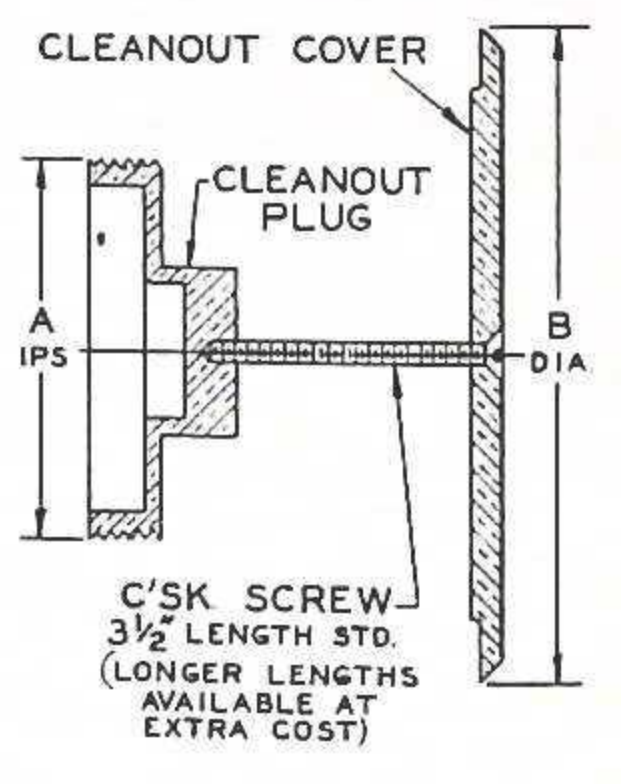
### DIMENSIONS IN INCHES

Series No.	Type No.	A	B	C	D	Approx. Wgt. Lbs.
Y-50	Y-52	2	2	4 1/2	.....	3
	Y-53	3	3	4 3/4	.....	5 1/2
	Y-54	4	4	5	.....	7 1/4
	Y-55	5	5	5	.....	10 1/2
	Y-56	6	6	5	.....	14
	Y-58	8	8	5 3/4	.....	23
Y-60	Y-62	2	2	4 1/2	.....	3
	Y-63	3	3	4 3/4	.....	5 1/2
	Y-64	4	4	5	.....	7 1/4
	Y-65	5	5	5	.....	10 1/2
	Y-66	6	6	5	.....	14
	Y-68	8	8	5 3/4	.....	23
	Y-100	Y-101 1/2	1 1/2	3 3/4	7/8	2 3/4
Y-102		2	3 3/4	1	2 3/8	1 1/2
Y-103		3	4 3/8	1 1/8	4	3
Y-104		4	6	1 1/4	5 1/2	4
Y-105		5	7 1/8	1 3/8	6 1/8	6
Y-106		6	8	1 3/8	7	9
Y-130		Y-131 1/2	1 1/2	5 1/2	.....	.....
	Y-132	2	5 1/2	.....	.....	2 3/4
	Y-133	3	5 1/2	.....	.....	3 1/4
	Y-134	4	7 3/4	.....	.....	6
	Y-135	5	7 3/4	.....	.....	7
	Y-136	6	10 3/8	.....	.....	12
	Y-138	8	10 3/8	.....	.....	14 1/2
	Y-140	Y-144	5 1/2	.....	.....	.....
Y-144		7 3/4	.....	.....	.....	4
Y-144		8 3/4	.....	.....	.....	7

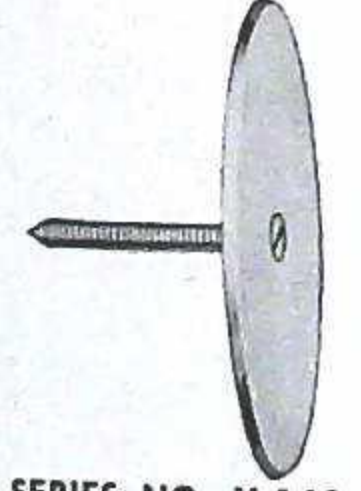
### THREADED PLUG AND ACCESS COVER PLATE



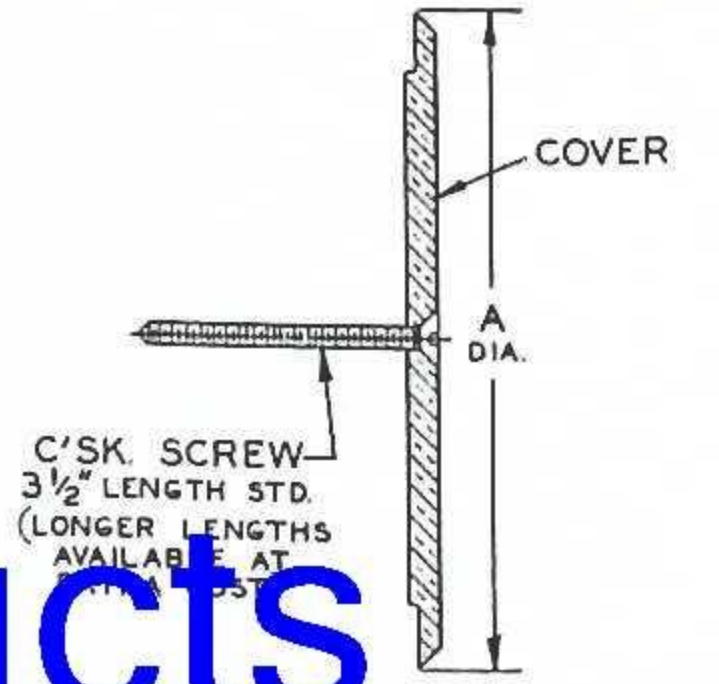
**SERIES NO. Y-130 SPECIFICATION**  
 Josam Series No. Y-130, rough cast brass raised head plug with 1 1/2" to 8" IPS external thread and polished brass round cover plate secured to plug with countersunk brass screw.



### ACCESS COVER PLATE — WALL TYPE WITH SECURING SCREW



**SERIES NO. Y-140 SPECIFICATION**  
 Josam Series No. Y-140, polished cast brass round access cover plate with countersunk brass screw.

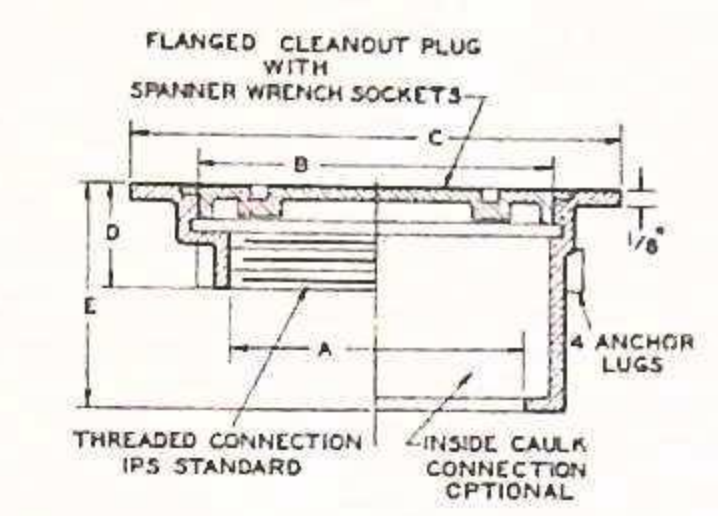


## BRASS ACCESS COVERS AND BOXES

### SCORIATED COVER DRILLED FOR SPANNER WRENCH



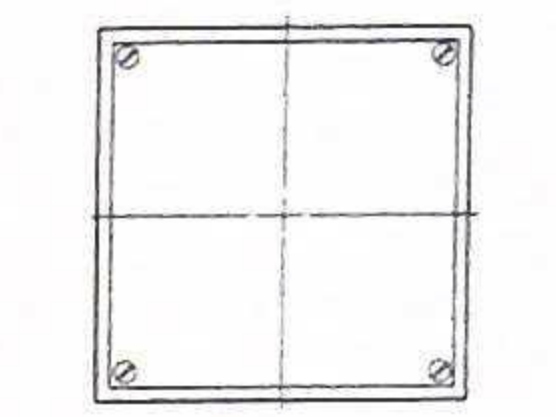
**SERIES NO. Y-70 SPECIFICATION**  
 Josam Series No. Y-70, rough cast brass, round flush cleanout with flanged rim, scoriated spanner type flanged screw plug, anchor lugs and 2" to 6" internal threaded connection.



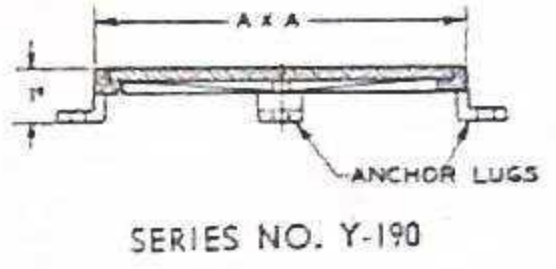
### COVER AND FRAME WITH ANCHOR LUGS



**SERIES NO. Y-190 SPECIFICATION**  
 Josam Series No. Y-190, cast brass, 7", 9", or 10" square cover with anchor lugs, and polished top secured with screws.



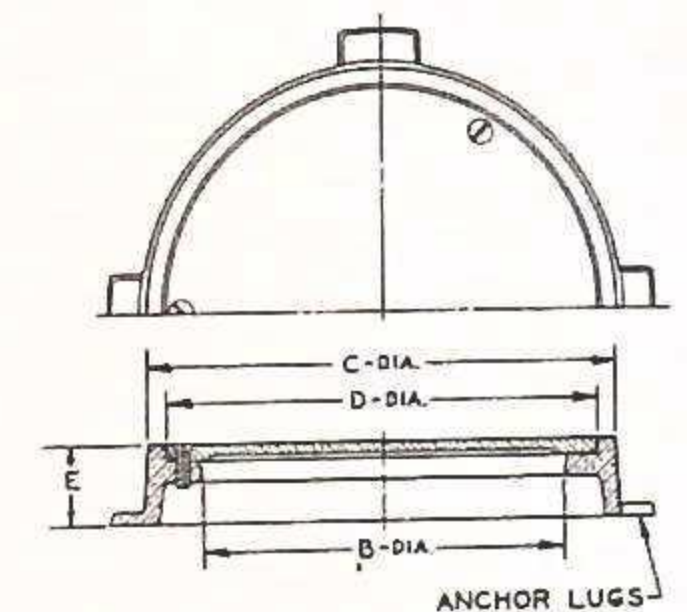
**SERIES NO. Y-1190 SPECIFICATION**  
 Josam Series No. Y-1190, same as Series No. Y-190 except with polished brass scoriated cover plate.



### SCREWED DOWN POLISHED COVER



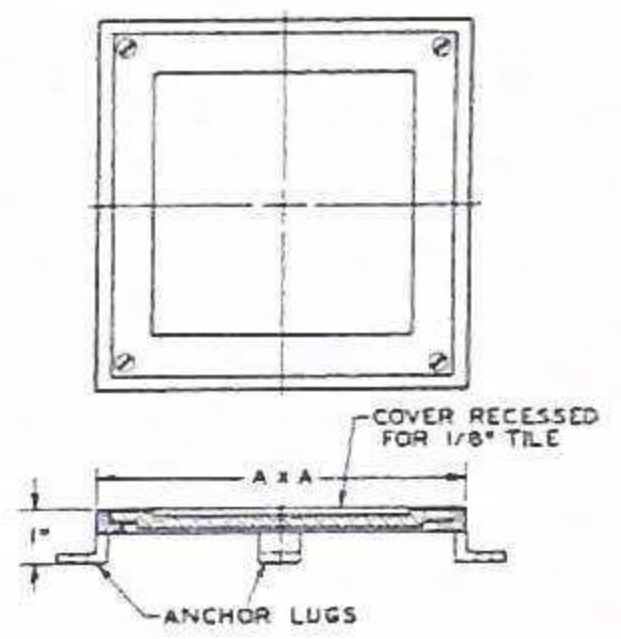
**SERIES NO. Y-80 SPECIFICATION**  
 Josam Series No. Y-80, cast brass 2" to 8" round flush access cover with anchor lugs, polished top and cover plate secured with machine screws. Hinged cover, optional at added cost.



### RECESSED PLATE FOR FLOOR COVERING



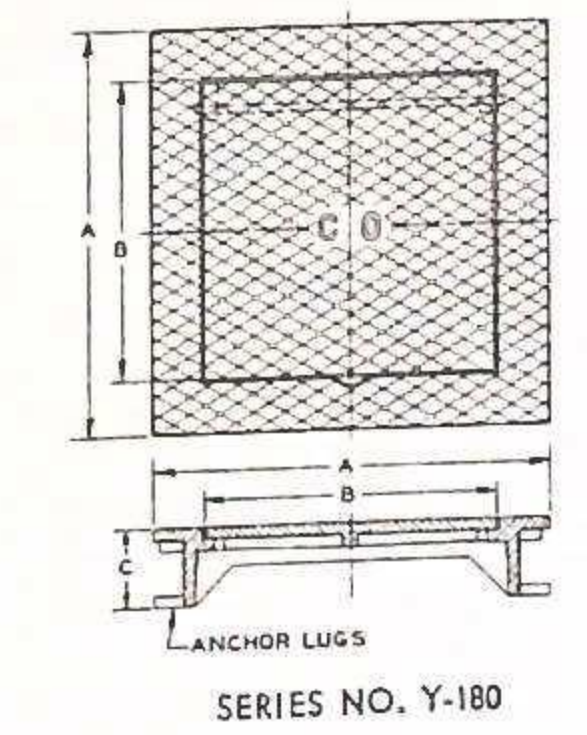
**SERIES NO. Y-190-R SPECIFICATION**  
 Josam Series No. Y-190-R, cast brass, 7", 9", or 10" square access cover with anchor lugs, and polished brass cover plate recessed for floor covering.



### HINGED COVER ACCESS BOX



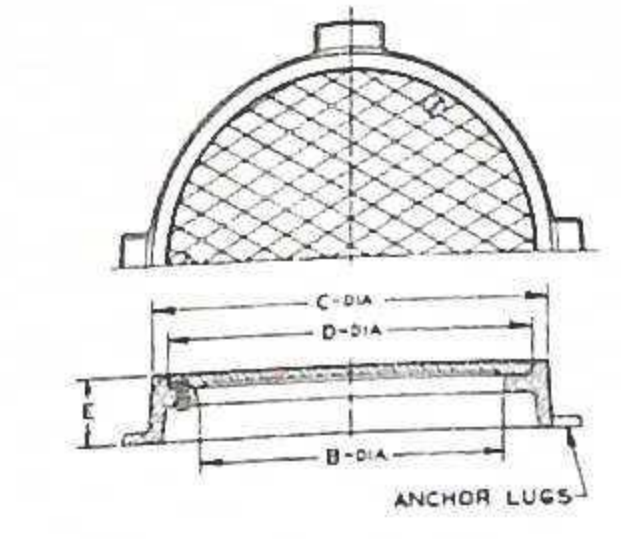
**SERIES NO. Y-180 SPECIFICATION**  
 Josam Series No. Y-180, cast brass 8" or 12" square access box with anchor lugs, and polished scoriated top with hinged cover.



### SCREWED DOWN SCORIATED COVER

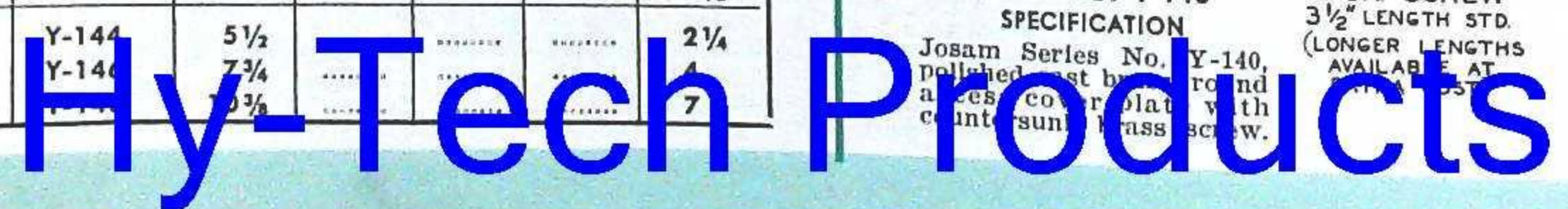


**SERIES NO. Y-1080 SPECIFICATION**  
 Josam Series No. Y-1080, cast brass round flush access cover with anchor lugs, 2" to 8" pipe size, and polished scoriated top with cover plate secured with screws. Chained cover, optional at added cost.



### DIMENSIONS IN INCHES

Series No.	Type No.	A	B	C	D	E	Appr. Wgt. Lbs.
Y-70	Y-72	2	2 3/8	4	1 3/8	.....	2
	Y-72-X	2	3 3/8	5 3/8	.....	3 1/4	2 3/4
	Y-73	3	5 1/2	7 3/8	1 1/2	3 1/4	6
	Y-74	4	5 1/2	7 3/8	1 1/2	3 1/4	6
	Y-75	5	7 3/4	9 3/8	1 5/8	3 1/2	9
	Y-76	6	7 3/4	9 3/8	1 5/8	3 1/2	10
Series No.	Type No.	Pipe Size	B	C	D	E	Appr. Wgt. Lbs.
Y-80	Y-84	2, 3, 4	4 5/8	6	5 1/2	1	4
	Y-86	5, 6	6 3/4	8 1/4	7 3/4	1	7
	Y-88	8	9 3/4	10 7/8	10 3/8	1	10
Series No.	Type No.	A x A	B x B	C	D	E	Appr. Wgt. Lbs.
Y-180	Y-181	8x8	6x6	1 1/2	.....	.....	7
	Y-182	12x12	10x10	1 1/2	.....	.....	12
Y-190	Y-192	7x7	.....	.....	.....	.....	5
	Y-194	9x9	.....	.....	.....	.....	8
	Y-196	10x10	.....	.....	.....	.....	10
Y-190-R	Y-192-R	7x7	.....	.....	.....	.....	5
	Y-194-R	9x9	.....	.....	.....	.....	8
	Y-196-R	10x10	.....	.....	.....	.....	10
Series No.	Type No.	Pipe Size	B	C	D	E	Appr. Wgt. Lbs.
Y-1080	Y-1084	2, 3, 4	4 5/8	6	5 1/2	1	4
	Y-1086	5, 6	6 3/4	8 1/4	7 3/4	1	7
	Y-1088	8	9 3/4	10 7/8	10 3/8	1	10







## ACCESS COVERS AND BOXES WITH CAULKING FERRULES

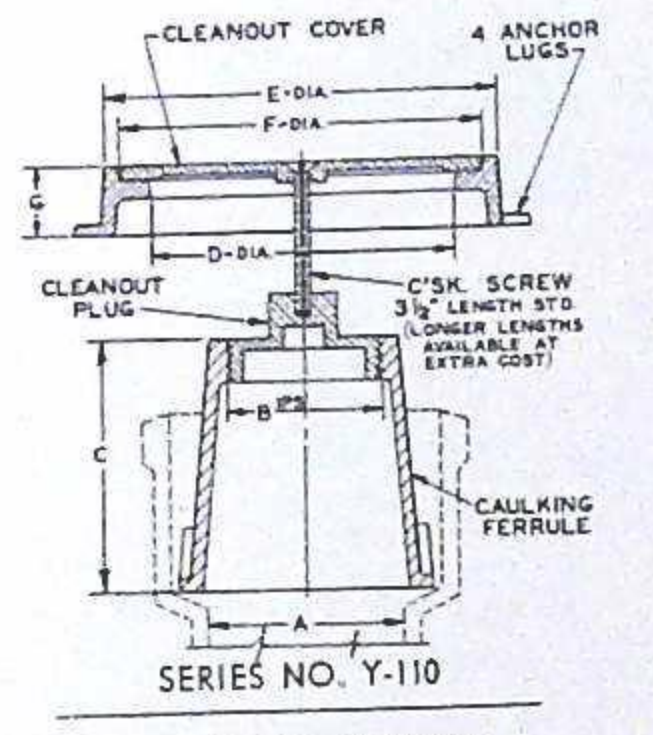


## ACCESS COVERS AND BOXES WITH CAULKING FERRULES

### COVER AND FRAME WITH TAPERED FERRULE

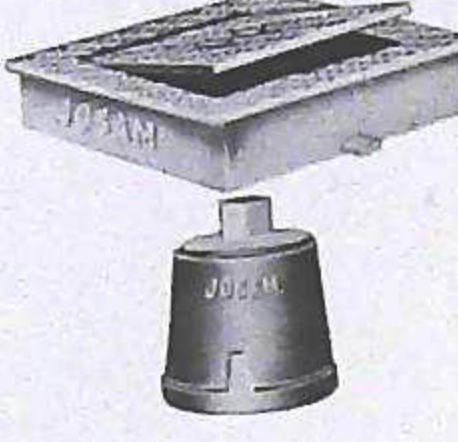


**SERIES NO. Y-110 SPECIFICATION**  
Josam Series No. Y-110, cast iron laquered caulk-ing ferrule for 2" to 8" soil pipe hub, rough brass raised head plug tapped for machine screw, and polished brass round flush access cover secured to plug by countersunk brass screw.

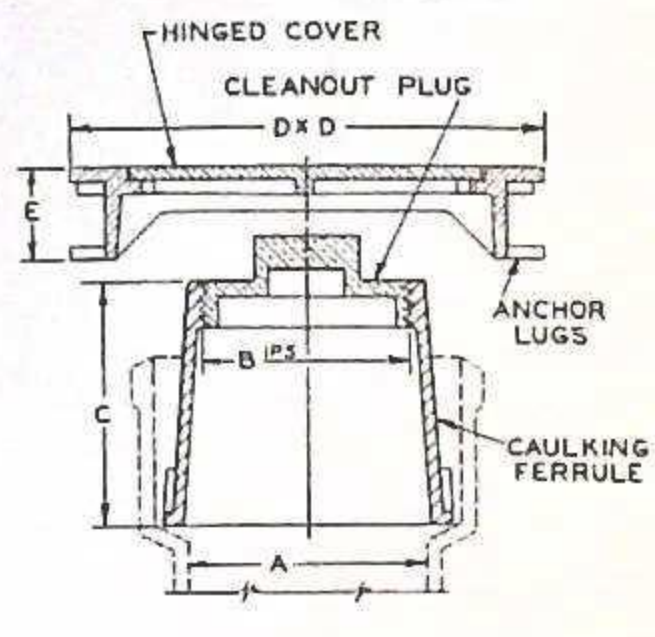


**SERIES NO. Y-1110**  
Josam Series No. Y-1110, same as Series No. Y-110 except with polished scoriated access cover.

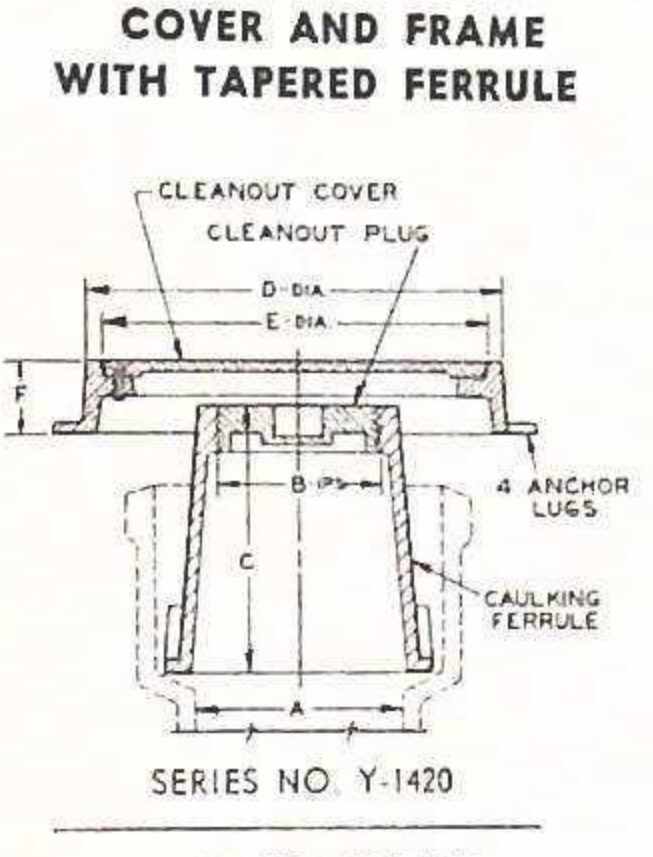
### BOX WITH SCORIATED HINGED COVER AND TAPERED FERRULE



**SERIES NO. Y-1350 SPECIFICATION**  
Josam Series No. Y-1350, cast iron laquered clean-out with tapered body for caulk-ing into 2" to 8" soil pipe hub, raised head rough brass plug, cast brass square access box with anchor lugs and polished scoriated top with hinged cover.



**SERIES NO. Y-1420 SPECIFICATION**  
Josam Series No. Y-1420, cast iron laquered clean-out with tapered body for caulk-ing into 2" to 8" soil pipe hub, countersunk rough brass plug, and polished brass round flush access cover secured with screws. Chained cover, optional at added cost.

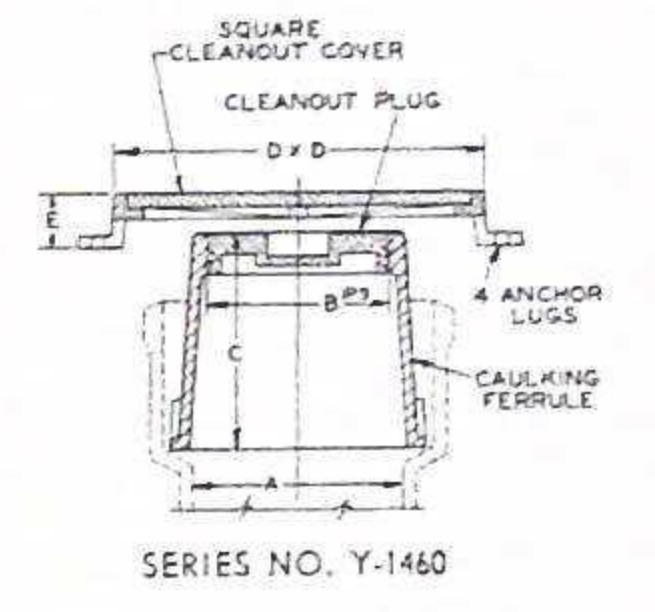


**SERIES NO. Y-1430**  
Josam Series No. Y-1430, same as Series No. Y-1420 except with scoriated cover plate.

### COVER WITH TAPERED FERRULE

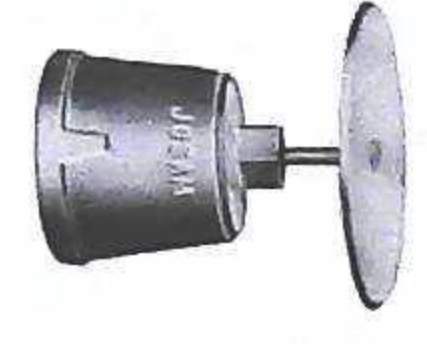


**SERIES NO. Y-1460 SPECIFICATION**  
Josam Series No. Y-1460, cast iron laquered clean-out with tapered body for caulk-ing into 2" to 8" soil pipe hub, countersunk rough brass plug, and polished brass square access cover with anchor lugs.

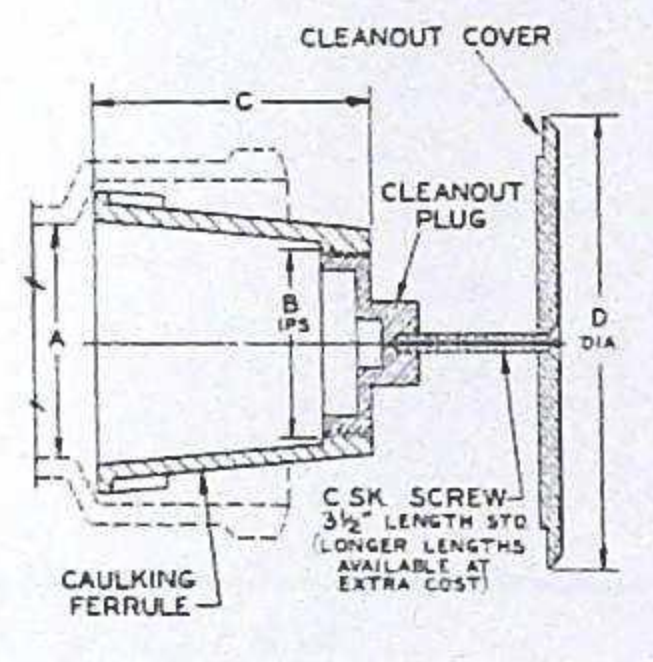


**SERIES NO. Y-1470**  
Josam Series No. Y-1470, same as Series No. Y-1460 except with polished scoriated cover.

### WALL PLATE WITH TAPERED FERRULE



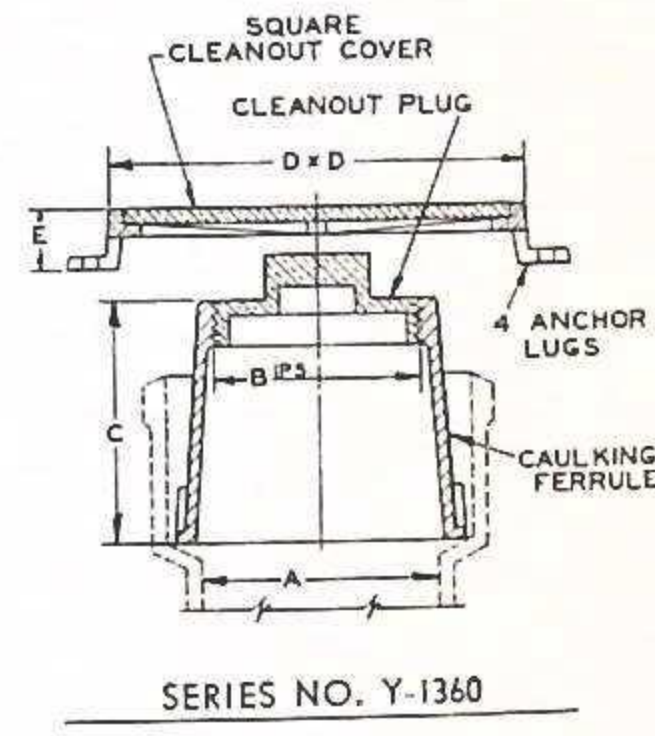
**SERIES NO. Y-120 SPECIFICATION**  
Josam Series No. Y-120, cast iron laquered caulk-ing ferrule for 2" to 8" soil pipe hub, rough brass raised head plug tapped for machine screw, and polished brass round access plate secured to plug with countersunk brass screw.



### FRAME AND COVER WITH TAPERED FERRULE



**SERIES NO. Y-1360 SPECIFICATION**  
Josam Series No. Y-1360, cast iron laquered clean-out with tapered body for caulk-ing into 2" to 8" soil pipe hub, raised head rough brass plug, and polished brass square access cover with anchor lugs.

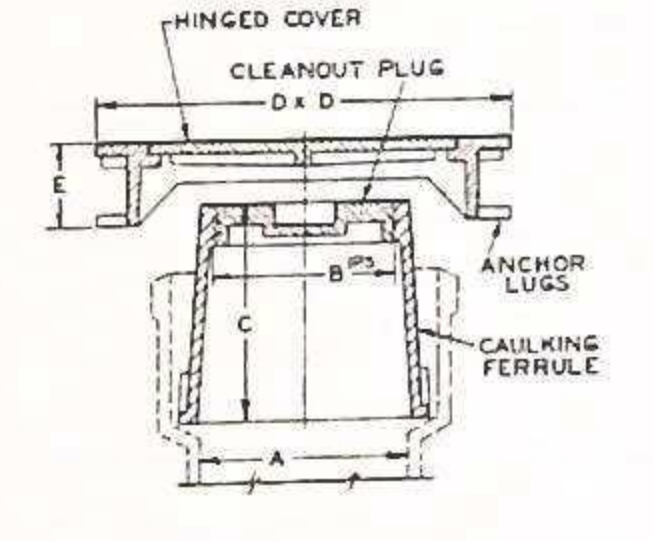


**SERIES NO. Y-1370**  
Josam Series No. Y-1370, same as Series No. Y-1360 except with polished scoriated cover.

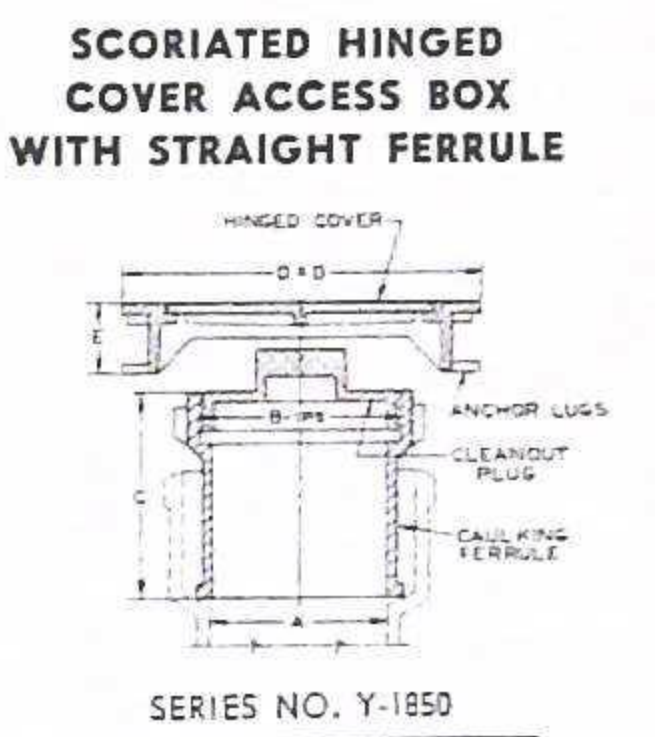
### SCORIATED HINGED COVER ACCESS BOX WITH TAPERED FERRULE



**SERIES NO. Y-1450 SPECIFICATION**  
Josam Series No. Y-1450, cast iron laquered clean-out with tapered body for caulk-ing into 2" to 8" soil pipe hub, countersunk rough brass plug, and brass square access box with anchor lugs and polished scoriated top with hinged cover.



**SERIES NO. Y-1850 SPECIFICATION**  
Josam Series No. Y-1850, cast iron laquered clean-out with straight body for caulk-ing into 2" to 8" soil pipe hub, raised head rough brass plug, and cast brass square access box with anchor lugs and polished scoriated top with hinged cover.

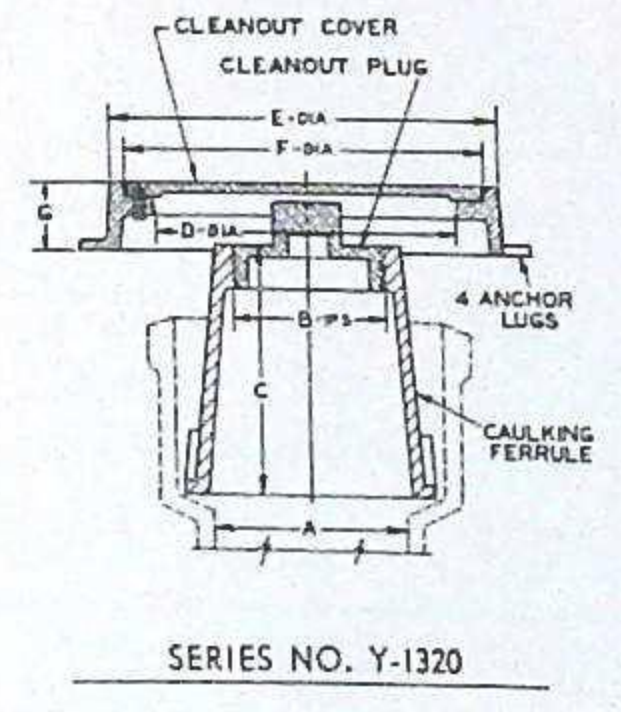


**SERIES NO. Y-1950**  
Josam Series No. Y-1950, same as Series No. Y-1850 except with countersunk screwed plug.

### COVER AND FRAME WITH TAPERED FERRULE



**SERIES NO. Y-1320 SPECIFICATION**  
Josam Series No. Y-1320, cast iron laquered caulk-ing ferrule for 2" to 8" soil pipe hub, rough brass raised head plug, and cast brass round flush access cover with polished screw down top, and anchor lugs. Chained cover, optional at added cost.



**SERIES NO. Y-1330**  
Josam Series No. Y-1330, same as Series No. Y-1320 except with scoriated cover plate.

**SERIES NO. Y-1340**  
Josam Series No. Y-1340, same as Series No. Y-1320 except with polished cover plate recessed for tile.

### ACCESS COVERS

For buildings with a concrete floor slab, cleanouts shall be extended so as to terminate flush with the floor, or be easily accessible through an access box or cover.  
Concealed cleanouts in walls shall be provided with a removable access panel or shall be brought to the finished wall line. Where access cleanout boxes or covers are installed in the finished top surface shall be decorated and the cover secured.

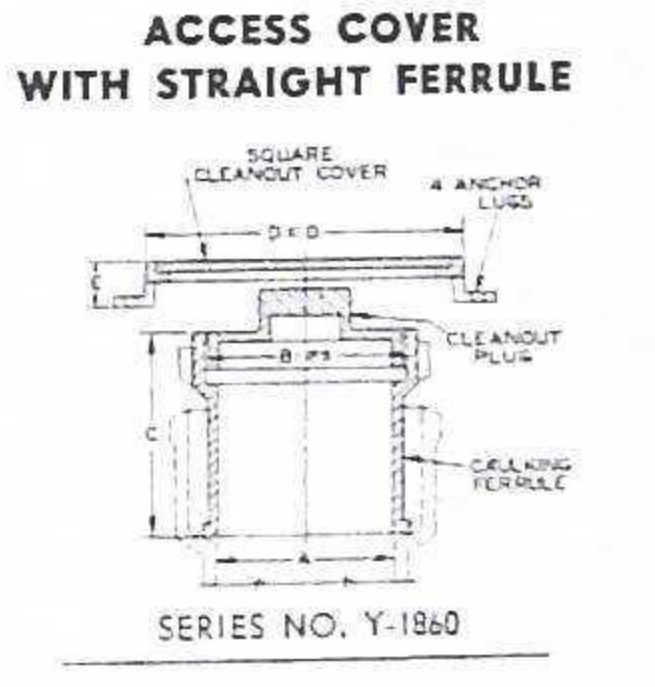
# Hy-Tech Products

Series No.	Type No.	DIMENSIONS IN INCHES							Appr. Wgt. Lbs.	
		A	B	C	D or DxD	E	F	G		
Y-110	Y-112	2	1 1/2	3	4 3/8	6	5 1/2	1	6	
	Y-113	3	2	3 3/8	4 3/8	6	5 1/2	1	6 1/2	
	Y-114	4	3	4	4 3/8	6	5 1/2	1	8 1/2	
	Y-115	5	4	4	6 3/4	8 1/4	7 3/4	1	13	
	Y-116	6	5	4	6 3/4	8 1/4	7 3/4	1	15	
	Y-118	8	6	4 7/8	9 3/8	10 7/8	10 7/8	1	22	
	Y-120	Y-122	2	1 1/2	3	5 1/2	.....	.....	..	4 1/4
		Y-123	3	2	3 3/8	5 1/2	.....	.....	..	4 3/4
Y-124		4	3	4	5 1/2	.....	.....	..	8	
Y-125		5	4	4	7 3/4	.....	.....	..	10	
Y-126		6	5	4	7 3/4	.....	.....	..	11 1/2	
Y-128		8	6	4 7/8	10 3/8	.....	.....	..	19	
Y-1320		Y-1322	2	1 1/2	3	4 3/8	6	5 1/2	1	6
		Y-1323	3	2	3 3/8	4 3/8	6	5 1/2	1	7
	Y-1324	4	3	4	4 3/8	6	5 1/2	1	9	
	Y-1325	5	4	4	6 3/4	8 1/4	7 3/4	1	13	
	Y-1326	6	5	4	6 3/4	8 1/4	7 3/4	1	15	
	Y-1328	8	6	4 7/8	9 3/8	10 7/8	10 7/8	1	22	
	Y-1350	Y-1352	2	1 1/2	3	8x8	1 1/2	.....	..	9
		Y-1353	3	2	3 3/8	8x8	1 1/2	.....	..	9
Y-1354		4	3	4	8x8	1 1/2	.....	..	11	
Y-1355		5	4	4	8x8	1 1/2	.....	..	18	
Y-1356		6	5	4	12x12	1 1/2	.....	..	20	
Y-1358		8	6	4 7/8	12x12	1 1/2	.....	..	24	
Y-1360		Y-1362	2	1 1/2	3	7x7	1	.....	..	7
		Y-1363	3	2	3 3/8	7x7	1	.....	..	8
	Y-1364	4	3	4	7x7	1	.....	..	10	
	Y-1365	5	4	4	9x9	1	.....	..	14	
	Y-1366	6	5	4	9x9	1	.....	..	16	
	Y-1368	8	6	4 7/8	12x12	1 1/2	.....	..	21	

Series No.	Type No.	DIMENSIONS IN INCHES						Appr. Wgt. Lbs.	
		A	B	C	D or DxD	E	F		
Y-1420	Y-1422	2	1 1/2	3	6	5 1/2	1	6	
	Y-1423	3	2	3 3/8	6	5 1/2	1	7	
	Y-1424	4	3	4	6	5 1/2	1	9	
	Y-1425	5	4	4	8 1/4	7 3/4	1	13	
	Y-1426	6	5	4	8 1/4	7 3/4	1	15	
	Y-1428	8	6	4 7/8	10 7/8	10 7/8	1	22	
	Y-1450	Y-1452	2	1 1/2	3	8x8	1 1/2	..	9
		Y-1453	3	2	3 3/8	8x8	1 1/2	..	9
Y-1454		4	3	4	8x8	1 1/2	..	11	
Y-1455		5	4	4	8x8	1 1/2	..	18	
Y-1456		6	5	4	12x12	1 1/2	..	20	
Y-1458		8	6	4 7/8	12x12	1 1/2	..	24	
Y-1460		Y-1462	2	1 1/2	3	7x7	1	..	7
		Y-1463	3	2	3 3/8	7x7	1	..	8
	Y-1464	4	3	4	7x7	1	..	10	
	Y-1465	5	4	4	9x9	1	..	14	
	Y-1466	6	5	4	9x9	1	..	16	
	Y-1468	8	6	4 7/8	10x10	1	..	21	
	Y-1850	Y-1852	2	2	4 1/2	8x8	1 1/2	..	10
		Y-1853	3	3	4 3/8	8x8	1 1/2	..	12
Y-1854		4	4	5	8x8	1 1/2	..	14	
Y-1855		5	5	5	12x12	1 1/2	..	23	
Y-1856		6	6	5	12x12	1 1/2	..	26	
Y-1858		8	8	5 3/8	12x12	1 1/2	..	35	
Y-1860		Y-1862	2	2	4 1/2	7x7	1	..	8
		Y-1863	3	3	4 3/4	7x7	1	..	11
	Y-1864	4	4	5	7x7	1	..	13	
	Y-1865	5	5	5	9x9	1	..	19	
	Y-1866	6	6	5	9x9	1	..	22	
	Y-1868	8	8	5 3/8	10x10	1	..	33	



**SERIES NO. Y-1860 SPECIFICATION**  
Josam Series No. Y-1860, cast iron laquered clean-out with straight body for caulk-ing into 2" to 8" soil pipe hub, raised head rough brass plug, and polished brass access cover, anchor lugs, and top plate secured with screws.



**SERIES NO. Y-1960**  
Josam Series No. Y-1960, same as Series No. Y-1860 except with countersunk screwed plug.

**SERIES NO. Y-1870**  
Josam Series No. Y-1870, same as Series No. Y-1860 except with polished scoriated top.

**SERIES NO. Y-1970**  
Josam Series No. Y-1970, same as Series No. Y-1860 except with polished scoriated cover and countersunk screwed plug.

**UNDERGROUND PIPING**  
When the access cover or box is independent of the cleanout ferrule or piping, no strain is placed on the piping itself. Sufficient space should also be provided between the cleanout plug and the access cover or box to compensate for the maximum amount of settlement of the ground surface.



## CUT-OFF FERRULE CLEANOUTS WITH AND WITHOUT ACCESS COVERS

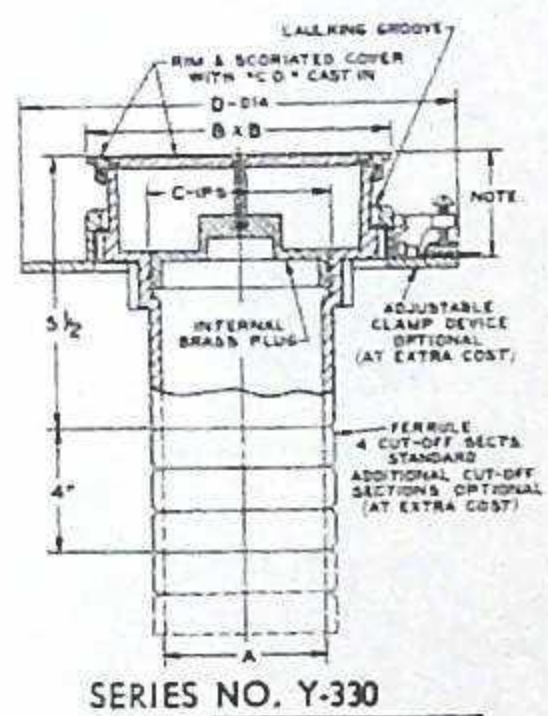


SCREWED DOWN BRASS SQUARE COVER

SERIES NO. Y-330 SPECIFICATION

Josam Series No. Y-330, cast iron floor cleanout with seriated cut-off sections, 2" to 6" connection, brass raised head internal plug same size as ferrule, and polished brass square top with seriated round cover plate secured to plug with countersunk screw.

SERIES NO. Y-310  
Josam Series No. Y-310, same as Series No. Y-330 except with round top.



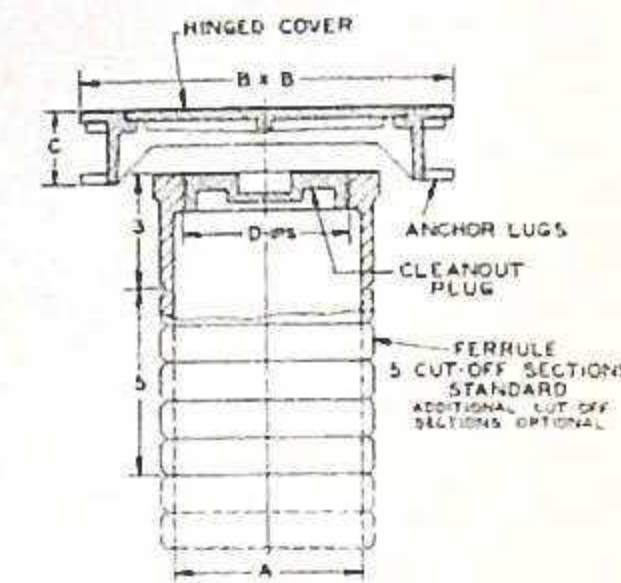
SERIES NO. Y-350

Josam Series No. Y-350, same as Series No. Y-330 except with polished brass cover plate recessed for tile.



SERIES NO. Y-1750 SPECIFICATION

Josam Series No. Y-1750, cast iron lacquered cleanout with seriated cut-off ferrule, 2" to 8" connection, brass countersunk head screwed plug, and brass square access box with anchor lugs and polished seriated top with hinged cover.



SERIES NO. Y-1650

Josam Series No. Y-1650, same as Series No. Y-1750 except with raised head plug.



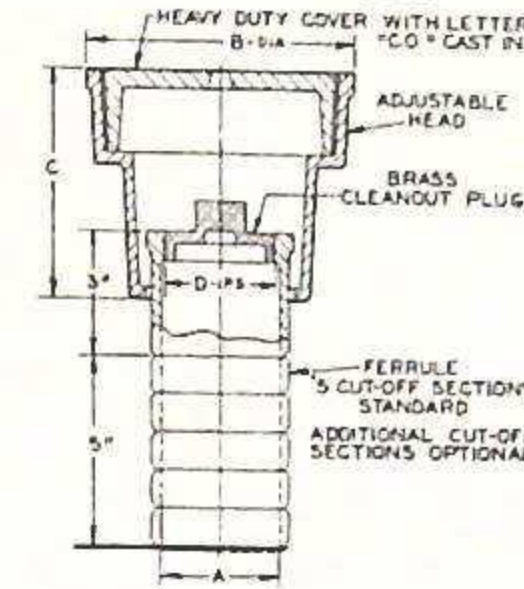
## CUT-OFF FERRULE CLEANOUTS WITH ADJUSTABLE HEADS

HEAVY DUTY CAST IRON TRACTOR COVER



SERIES NO. Y-620 SPECIFICATION

Josam Series No. Y-620, cast iron lacquered floor cleanout with seriated cut-off ferrule, 2" to 6" connection, rough brass raised head screwed internal plug, and cast iron lacquered adjustable head with heavy duty tractor type seriated cover.



SERIES NO. Y-620-B

Josam Series No. Y-620-B, same as Series No. Y-620 except with polished brass seriated cover.

SERIES NO. Y-640

Josam Series No. Y-640, same as Series No. Y-620, except with all brass adjustable head and brass seriated cover.

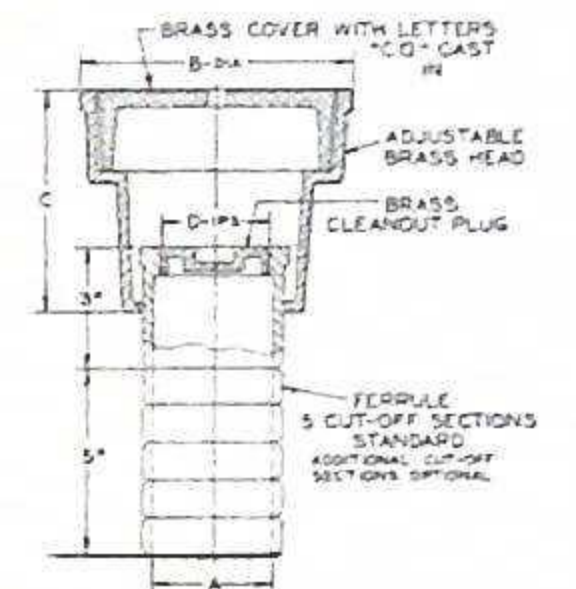


SERIES NO. Y-650 SPECIFICATION

Josam Series No. Y-650, cast iron floor cleanout with seriated cut-off ferrule, 2" to 6" connection, brass countersunk internal plug, and all brass adjustable head with heavy duty tractor type seriated cover.

SERIES NO. Y-630

Josam Series No. Y-630, same as Series No. Y-650 except with all iron adjustable head and iron seriated cover.



SERIES NO. Y-630-B

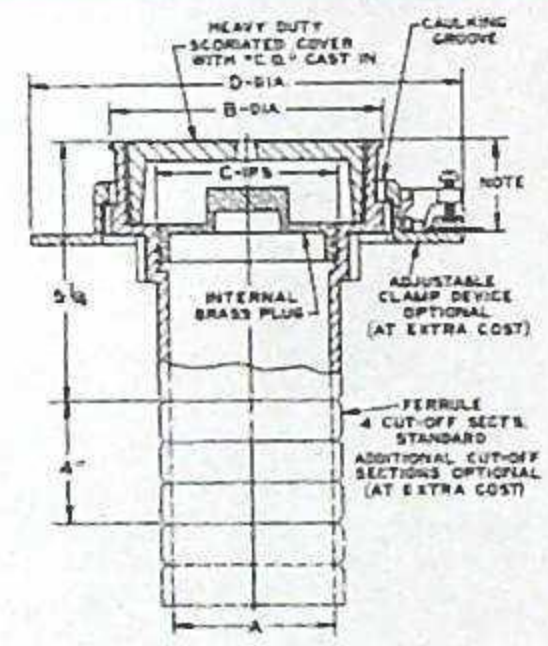
Josam Series No. Y-630-B, same as Series No. Y-650 except with polished brass seriated cover in cast iron adjustable head.

HEAVY DUTY TRACTOR COVER



SERIES NO. Y-300 SPECIFICATION

Josam Series No. Y-300, cast iron lacquered floor cleanout with seriated cut-off sections, 2" to 6" connection, rough brass raised head internal plug same size as ferrule, and cast iron heavy duty, loose set lacquered seriated tractor cover.



SERIES NO. Y-300-B

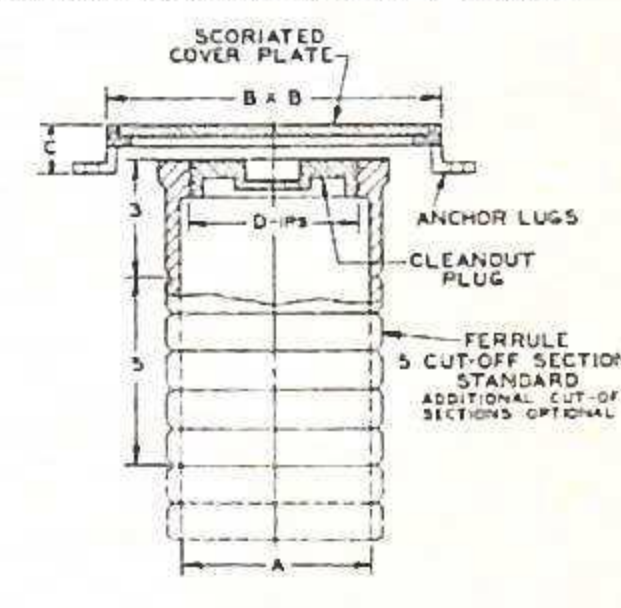
Josam Series No. Y-300-B, same as Series No. Y-300 except with polished brass seriated cover.



SERIES NO. Y-1770 SPECIFICATION

Josam Series No. Y-1770, cast iron lacquered cleanout with seriated cut-off ferrule, 2" to 8" connection, rough brass countersunk screwed plug and brass square access cover with anchor lugs and polished seriated cover secured with screws.

ACCESS COVER AND FRAME



SERIES NO. Y-1670

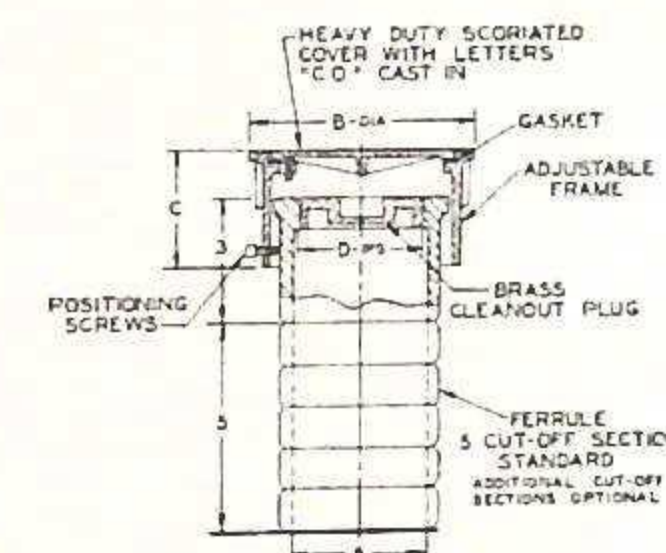
Josam Series No. Y-1670, same as Series No. Y-1770 except with raised head plug.

GASKETED ROUND TOP



SERIES NO. Y-670 SPECIFICATION

Josam Series No. Y-670, cast iron lacquered floor cleanout with seriated cut-off ferrule, 2" to 6" connection, rough brass countersunk screwed plug, and 5" or 6" cast brass round access cover with anchor lugs, polished top and seriated gasketed cover with three set screws for holding top in position.



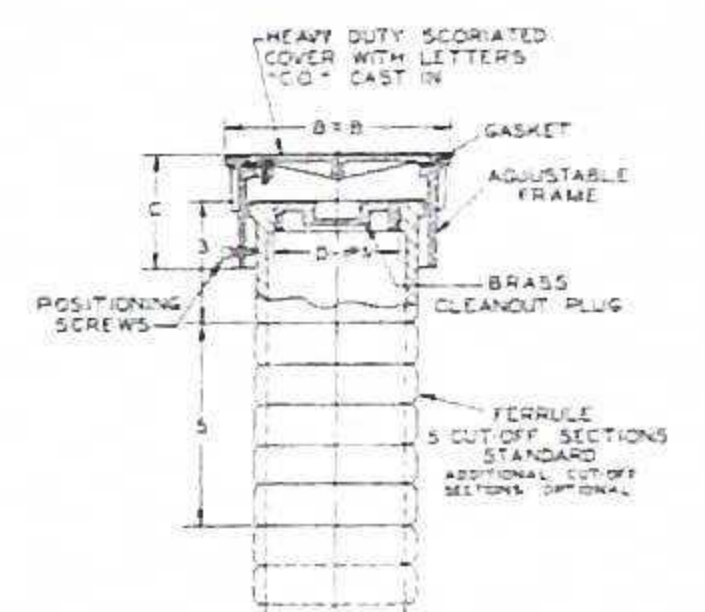
round access cover with anchor lugs, polished top and seriated gasketed cover with three set screws for holding top in position.

GASKETED SQUARE TOP



SERIES NO. Y-680 SPECIFICATION

Josam Series No. Y-680, cast iron lacquered floor cleanout with seriated cut-off ferrule, 2" to 6" connection, rough brass countersunk screwed plug, and 5" or 6" cast brass square access cover with polished top and seriated gasketed round cover with three set screws for holding top in position.



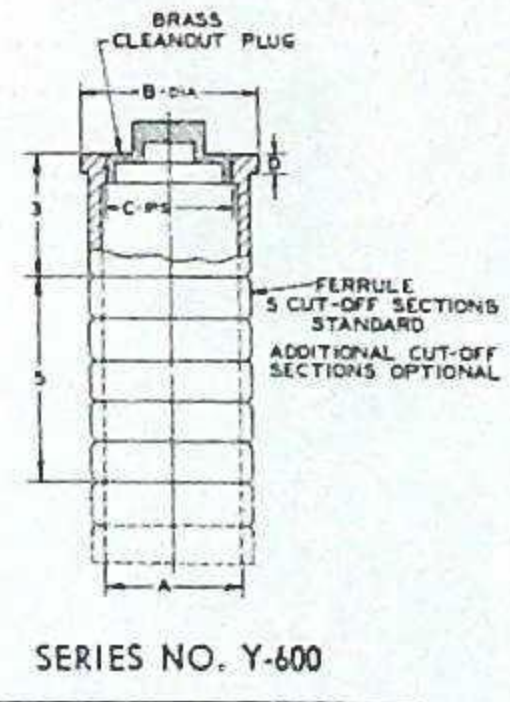
RAISED HEAD PLUG



SERIES NO. Y-600 SPECIFICATION

Josam Series No. Y-600, cast iron lacquered floor cleanout with seriated cut-off ferrule, 2" to 8" connection and rough brass raised head screwed plug.

Additional length ferrule, optional at added cost.



SERIES NO. Y-610

Josam Series No. Y-610, same as Series No. Y-600 except with countersunk screwed plug.

FERRULE ADJUSTMENT

Grooves in the ferrule permit adjustment during installation to meet varying depth or height requirements. Five 1" cut-off sections are standard. Additional cut-off sections optional at added cost.

DIMENSIONS IN INCHES

Series No.	Type No.	A	B or BxB	C	D	Appr. Wgt. Lbs.
Y-300	Y-302	2	4 1/4	2	8 3/4	12
	Y-303	3	6 3/4	3	10 3/4	16
	Y-304	4	6 3/4	4	10 3/4	19
	Y-305	5	8 3/4	5	12 3/4	26
	Y-306	6	8 3/4	6	12 3/4	30
Y-330	Y-332	2	5 3/8	2	8 3/4	11
	Y-333	3	7 3/8	3	10 3/4	15
	Y-334	4	7 3/8	4	10 3/4	17
	Y-335	5	9 3/8	5	12 3/4	24
	Y-336	6	9 3/8	6	12 3/4	25
Y-600	Y-602	2	2 7/8	1 1/2	3/8	5
	Y-603	3	3 7/8	2 1/2	3/8	8
	Y-604	4	4 7/8	3	1/2	9
	Y-605	5	5 7/8	4	1/2	13
	Y-606	6	6 7/8	5	1/2	17
Y-1750	Y-1752	2	8x8	1 1/2	1 1/2	12
	Y-1753	3	8x8	1 1/2	2 1/2	15
	Y-1754	4	8x8	1 1/2	3	16
	Y-1755	5	8x8	1 1/2	4	25
	Y-1756	6	12x12	1 1/2	5	29
Y-1770	Y-1772	2	7x7	1	1 1/2	10
	Y-1773	3	7x7	1	2 1/2	13
	Y-1774	4	7x7	1	3	14
	Y-1775	5	9x9	1	4	21
	Y-1776	6	9x9	1	5	25
Y-1770	Y-1777	7	10x10	1	6	35
	Y-1778	8	10x10	1	6	35

DIMENSIONS IN INCHES

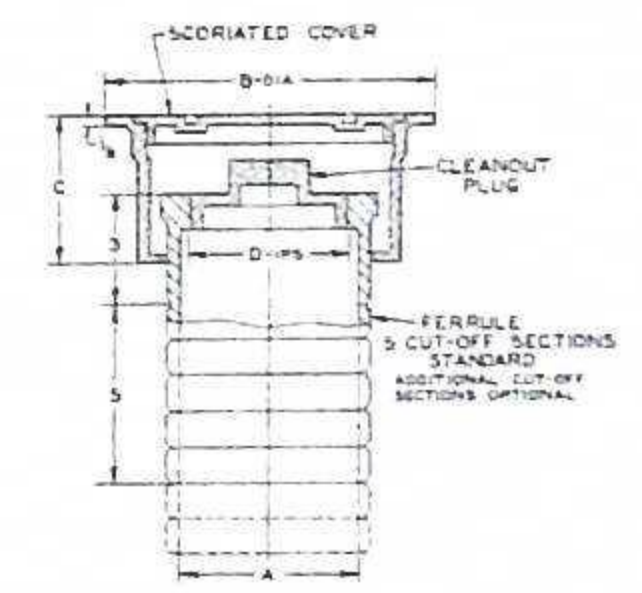
Series No.	Type No.	A	B	C	D	Appr. Wgt. Lbs.
Y-620	Y-622	2	6 3/4	5 1/2	1 1/2	16
	Y-623	3	6 3/4	5 1/2	2 1/2	19
	Y-624	4	6 3/4	5 1/2	3	20
	Y-625	5	8 3/4	5 1/2	4	34
	Y-626	6	8 3/4	5 1/2	5	35
Y-650	Y-652	2	6 3/4	5 1/2	1 1/2	16
	Y-653	3	6 3/4	5 1/2	2 1/2	19
	Y-654	4	6 3/4	5 1/2	3	20
	Y-655	5	8 3/4	5 1/2	4	34
	Y-656	6	8 3/4	5 1/2	5	35
Y-670	Y-672	2	4	2 1/2	1 1/2	8
	Y-673	3	5	2 1/2	2 1/2	13
	Y-674	4	6	2 1/2	3	15
Y-680	Y-682	2	4x4	2 1/2	1 1/2	9
	Y-683	3	5x5	2 1/2	2 1/2	14
	Y-684	4	6x6	2 1/2	3	16
Y-1610	Y-1612	2	5 3/8	3 1/4	1 1/2	8
	Y-1613	3	7 3/8	3 1/4	2 1/2	13
	Y-1614	4	7 3/8	3 1/4	3	15
	Y-1615	5	9 3/8	3 1/4	4	22
	Y-1616	6	9 3/8	3 1/4	5	27

SPANNER TYPE COVER



SERIES NO. Y-1610 SPECIFICATION

Josam Series No. Y-1610, cast iron lacquered cleanout with seriated cut-off ferrule, 2" to 6" connection, rough brass raised head screwed plug, and head screwed plug, and rough cast brass round adjustable head with flanged rim and seriated spanner type flanged screw plug.



SERIES NO. Y-1710

Josam Series No. Y-1710, same as Series No. Y-1610 except with countersunk screwed plug.

OPTIONAL AT ADDED COST  
Series No. Y-620 to Y-650  
Regular or vandal proof screws for securing cover.  
All Series  
Additional 1" cut-off sections on ferrule.



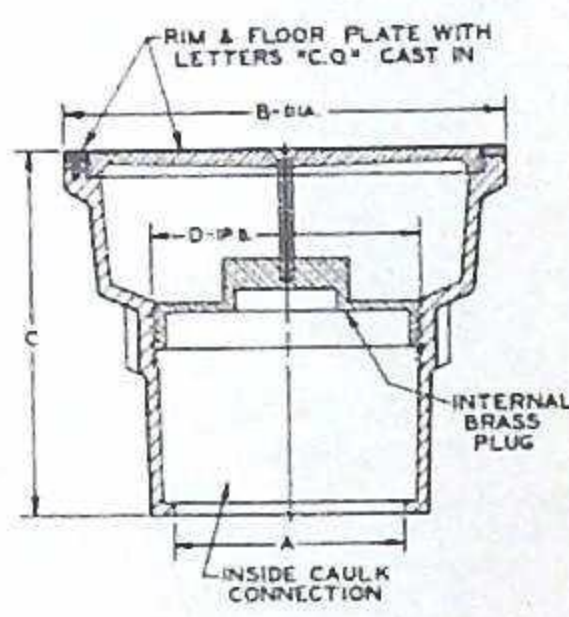
## CLEANOUTS WITH INTERNAL CLOSURE PLUG

### SCORIATED BRASS COVER



#### SERIES NO. Y-410 SPECIFICATION

Josam Series No. Y-410, cast iron lacquered floor cleanout with 2", 3" or 4" inside caulk connection, polished brass rim and scoriated cover secured with countersunk screw to rough brass raised head internal plug. Vandal-proof screws, optional at added cost.



SERIES NO. Y-410

#### SERIES NO. Y-430

Josam Series No. Y-430, same as Series No. Y-410 except with square rim and round cover.

#### SERIES NO. Y-450

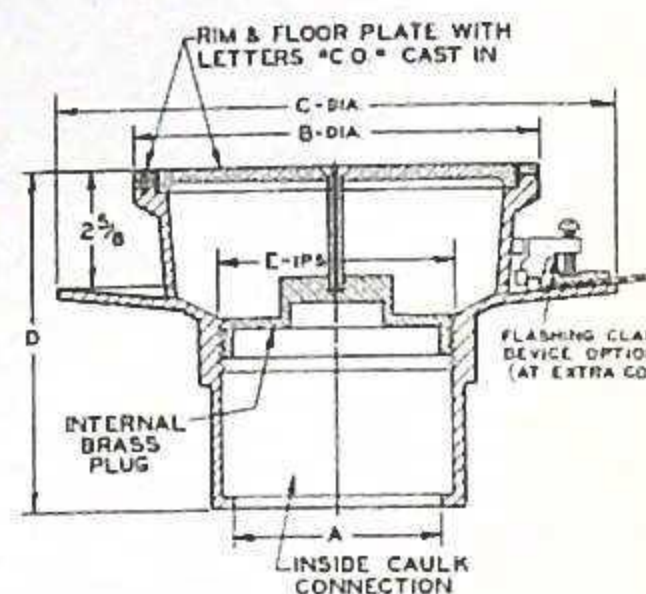
Josam Series No. Y-450, same as Series No. Y-410 except with polished cover recessed for tile.



#### SERIES NO. Y-510 SPECIFICATION

Josam Series No. Y-510, cast iron lacquered floor cleanout with double drainage flange and weepholes, 2", 3", 4" inside caulk connection, polished brass rim and scoriated cover secured with countersunk screw to rough brass raised head internal plug. Optional at added cost; Flashing clamp device; Vandal-proof screw.

### SCORIATED BRASS COVER — DOUBLE DRAINAGE FLANGE



SERIES NO. Y-510

#### SERIES NO. Y-530

Josam Series No. Y-530, same as Series No. Y-510 except with square rim and round cover.

#### SERIES NO. Y-550

Josam Series No. Y-550, same as Series No. Y-510 except with polished brass cover recessed for tile.

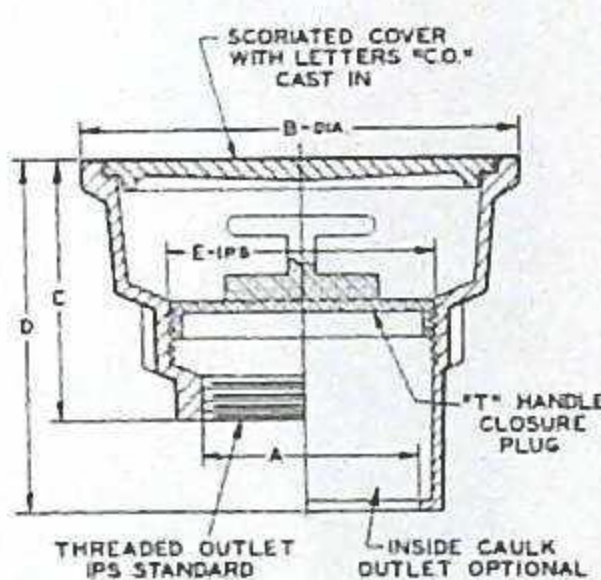
### SCORIATED IRON COVER



#### SERIES NO. Y-480

#### SPECIFICATION

Josam Series No. Y-480, cast iron lacquered floor cleanout with 2", 3", or 4" threaded connection, round top with heavy duty, scoriated loose cover and threaded rough brass "T" handle internal closure plug. Optional at added cost, screwed down grate with regular or Vandal-proof screws.



SERIES NO. Y-480

#### SERIES NO. Y-480-B

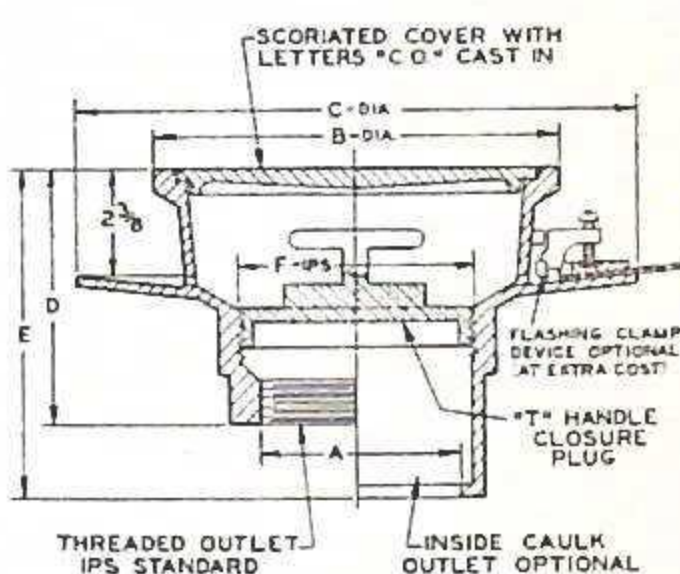
Josam Series No. Y-480-B, same as Series No. Y-480 except with polished brass rim and scoriated cover.

### SCORIATED IRON COVER — DOUBLE DRAINAGE FLANGE



#### SERIES NO. Y-580 SPECIFICATION

Josam Series No. Y-580, cast iron lacquered floor cleanout with double drainage flange and weepholes, 2", 3", or 4" threaded connection, round top with heavy duty scoriated, loose cover and threaded rough brass "T" handle internal closure plug. Optional at added cost; flashing clamp device; screwed down grate.



SERIES NO. Y-580

#### SERIES NO. Y-590

Josam Series No. Y-590, same as Series No. Y-580 except with square rim and round cover.

#### SERIES NO. Y-590-B

Josam Series No. Y-590-B, same as Series No. Y-580 except with polished brass square rim and scoriated round cover.

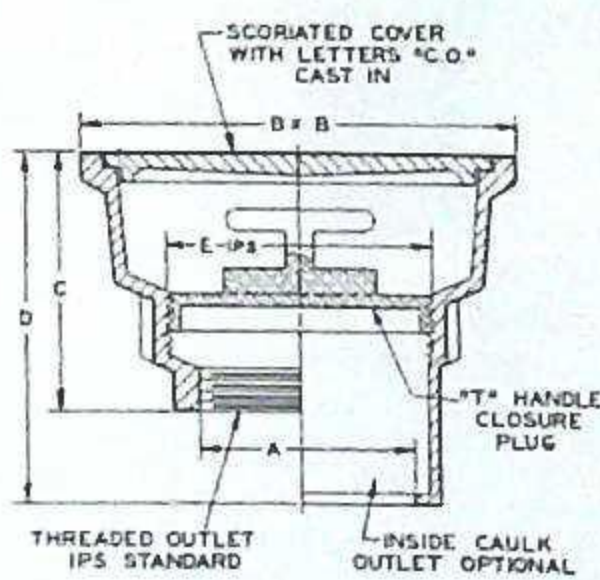
### SCORIATED IRON COVER



#### SERIES NO. Y-490

#### SPECIFICATION

Josam Series No. Y-490, cast iron lacquered floor cleanout with 2", 3", or 4" threaded connection, square top with heavy duty, scoriated loose set round cover and threaded rough brass "T" handle internal closure plug. Optional, see Series No. Y-480.



SERIES NO. Y-490

#### SERIES NO. Y-490-B

Josam Series No. Y-490-B, same as Series No. Y-490 except with polished brass square rim and scoriated round cover.

### DIMENSIONS IN INCHES

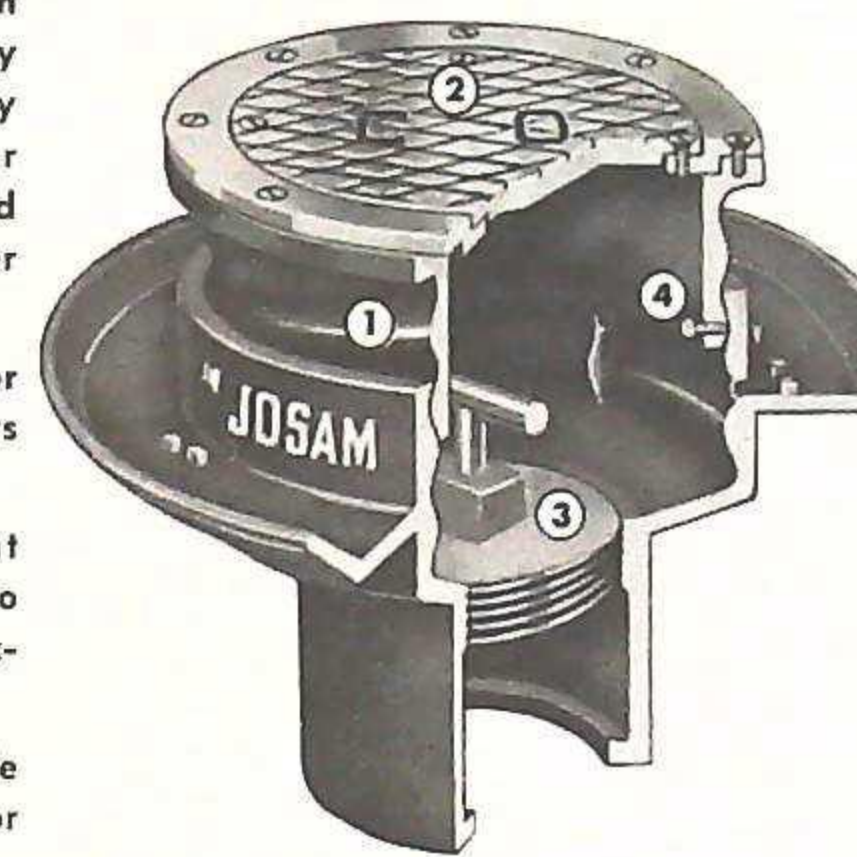
Series No.	Type No.	A	B	C	D	E	F	Appr. Wgt. Lbs.
Y-410	Y-412	2	9	7	4	.....	..	21
	Y-413	3	9	7	4	.....	..	22
	Y-414	4	9	7 3/8	5	.....	..	24
	Y-415	5	10 1/8	7 3/8	6	.....	..	33
	Y-416	6	10 1/8	8 1/4	8	.....	..	41
Y-480	Y-482	2	9	5	6 3/4	4	..	21
	Y-483	3	9	5	6 3/4	4	..	22
	Y-484	4	9	5 1/4	7 1/8	5	..	25
	Y-490	Y-492	2	9 1/4 x 9 1/4	5	6 3/4	4	..
Y-490	Y-493	3	9 1/4 x 9 1/4	5	6 3/4	4	..	24
	Y-494	4	9 1/4 x 9 1/4	5 1/4	7 1/8	5	..	27
	Y-510	Y-512	2	9	12 1/2	7 1/8	4	..
Y-513		3	9	12 1/2	7 1/4	4	..	26
Y-514		4	9	12 1/2	7 1/2	5	..	28
Y-580		Y-582	2	9	12 1/2	5 3/8	6 3/8	4
	Y-583	3	9	12 1/2	5 1/2	7	4	26
	Y-584	4	9	12 1/2	5 3/4	7 3/8	5	29



## LEVEZE CLEANOUTS WITH ADJUSTABLE TOPS

Only the **Josam** adjustable top **LEVEZE** floor cleanouts with the rolled thread provide these features!

1. Adjustable Collar with rolled thread is completely detachable from the body and permits lowering or raising top to meet finished floor level, before or after the cleanout is set.
2. Scoriated (or Polished) Floor Plate fastened with screws for access to line.
3. Closure Plug to prevent escape of sewer gas into room, in addition to back-water protection.
4. Set screw holds adjustable top in position while floor construction is applied.



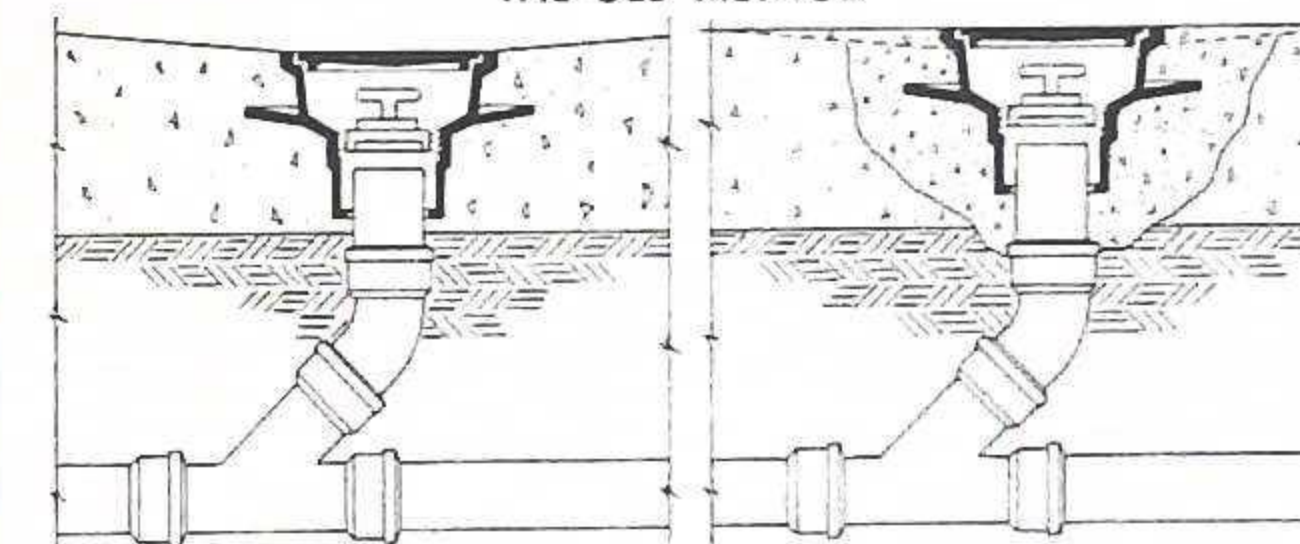
In the Levelze floor cleanouts, Josam provides an amazing design which solves construction problems caused by variations in floor levels.

When pouring concrete or similar flooring, it is often difficult to obtain the proper pitch to the cleanout. As a consequence high or low spots result and leave pools of water in the hollows of the floor.

To eliminate this condition the adjustable top of the cleanout can be raised or lowered to the proper elevation of the floor finish while the finish is still "green", reworked toward the cleanout top, or roughed up and additional finish applied.

A great saving of labor cost is effected by using Josam Levelze floor cleanouts.

### THE OLD METHOD



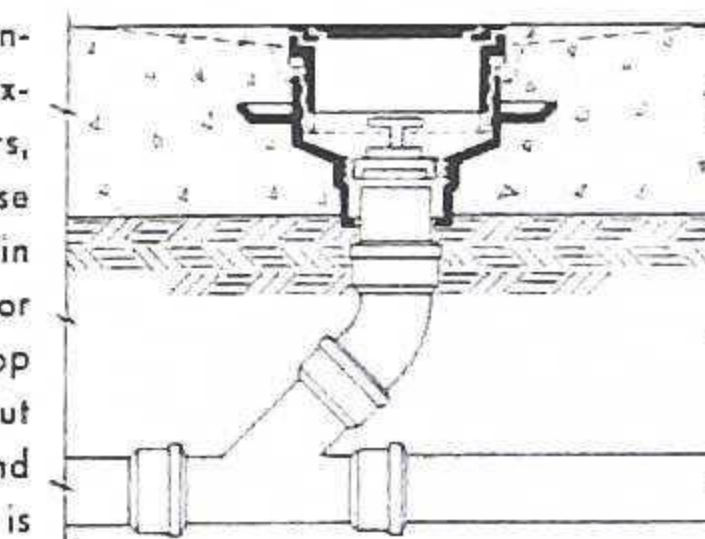
CLEANOUT WITH NON-ADJUSTABLE TOP INSTALLED TOO LOW

CLEANOUT WITH NON-ADJUSTABLE TOP RAISED TO FLOOR LEVEL

Under the old method, in changing the elevation of stationary top cleanouts, it is necessary to cut the structural slab, disconnect cleanout, remove nipple, install new nipple, reconnect cleanout at proper level and patch slab and floor, impairing structural strength and resulting in additional labor costs.

### LEVEZE ADJUSTABLE TOP CLEANOUT RAISED TO FLOOR LEVEL

With the Josam Levelze cleanout, there is no need to make extensive alterations and repairs, and incur additional expense because of miscalculations in floor level. Simply chip out floor finish, raise the adjustable top on the Josam Levelze cleanout to the proper elevation and patch finish. The correct level is met, cleanout body and arch are not disturbed, structural strength is not affected, and the time and cost of the adjustment is negligible. If cleanout is installed too high same method applies by lowering the adjustable top.



CORRECTED THE LEVEZE WAY

### SCORIATED BRASS TOP

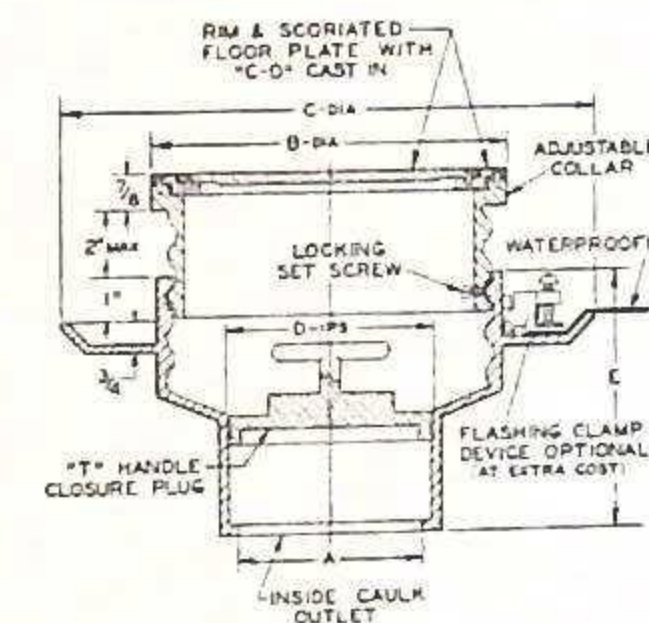


#### SERIES NO. Y-710 SPECIFICATION

Josam Series No. Y-710, cast iron lacquered Levelze floor cleanout with double drainage flange and weepholes, 2", 3", or 4" inside caulk connection, rough brass "T" handle internal closure plug and polished brass rim with scoriated cover plate fastened with screws to cast iron adjustable collar with rolled thread.

#### SERIES NO. Y-750

Josam Series No. Y-750, same as Series No. Y-710 except with polished brass floor plate recessed for tile.



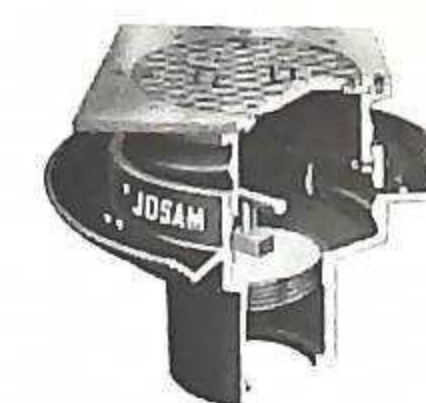
SERIES NO. Y-710

#### SERIES NO. Y-710-NY

Complies with N. Y. State Specification

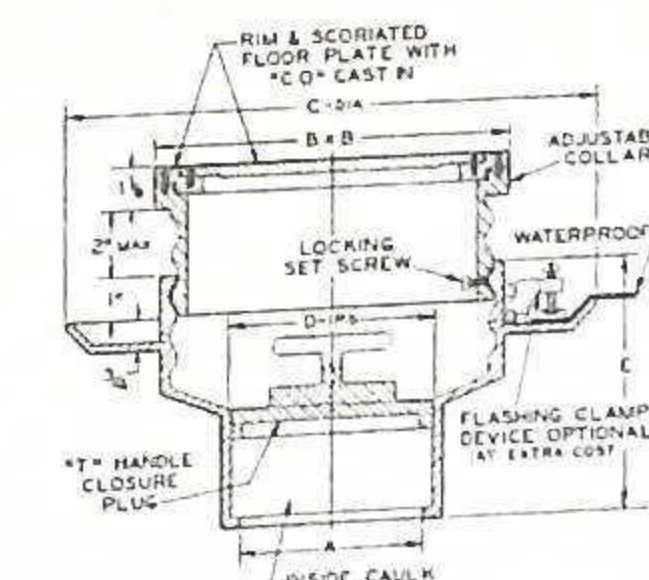
Josam Series No. Y-710-NY, same as Series No. Y-710 except with galvanized body and adjustable collar.

### SCORIATED BRASS TOP, SQUARE RIM



#### SERIES NO. Y-730 SPECIFICATION

Josam Series No. Y-730, cast iron lacquered Levelze floor cleanout with double drainage flange and weepholes, 2", 3", or 4" inside caulk connection, rough brass "T" handle internal closure plug and polished brass square rim with scoriated round cover plate fastened with screws to cast iron adjustable collar with rolled thread.



OPTIONAL AT ADDED COST  
On All Levelze Cleanouts  
Flashing Clamp Device  
Extension Collars  
Vandal-proof Screws

### DIMENSIONS IN INCHES

Series No.	Type No.	A	B	C	D	E	Approx. Wgt. Lbs.
Y-710	Y-712	2	9	13 1/2	3	6 1/4	37
	Y-713	3	9	13 1/2	4	6 1/4	37
	Y-714	4	9	13 1/2	5	6 1/4	37
Y-730	Y-732	2	9	13 1/2	3	6 1/4	39
	Y-733	3	9	13 1/2	4	6 1/4	39
	Y-734	4	9	13 1/2	5	6 1/4	39

Hy-Tech Products



## CLEANOUT TEES FOR ACCESS THROUGH WALLS

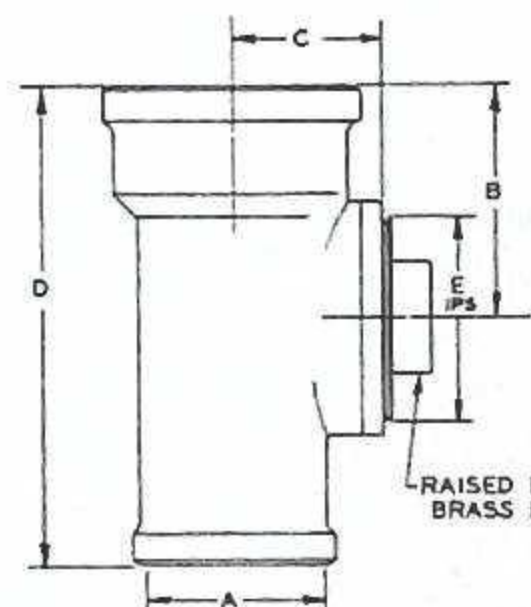
### TEE BRANCH FOR HORIZONTAL OR VERTICAL DRAINAGE LINES



SERIES NO. Y-150

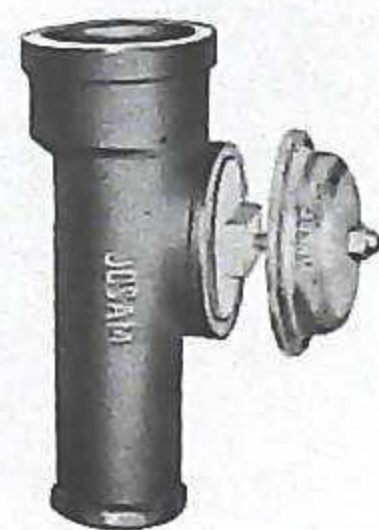
#### SPECIFICATION

Josam Series No. Y-150, cast iron lacquered Tee branch cleanout with 2" to 6" connection and rough brass raised head plug tapped for machine screw to secure access cover.



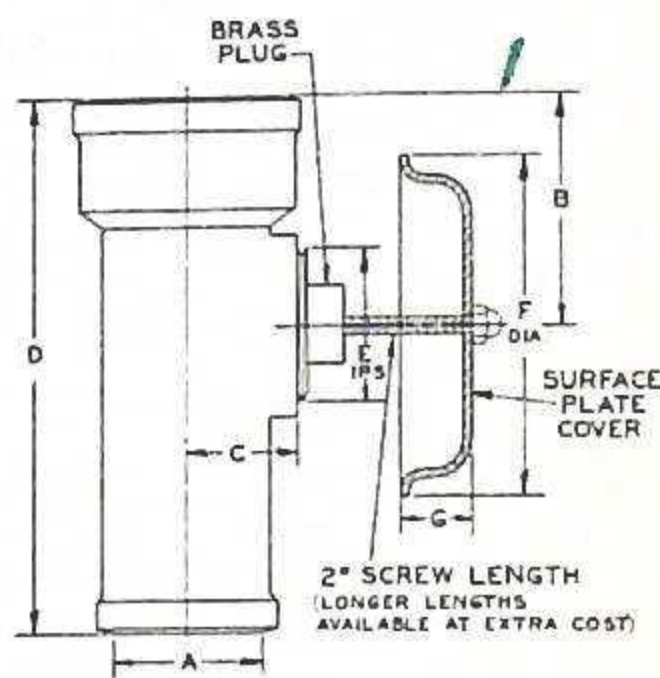
For installation in vertical or horizontal position.

### TEE BRANCH WITH SURFACE PLATE COVER



SERIES NO. Y-1580  
SPECIFICATION

Josam Series No. Y-1580, cast iron lacquered Tee branch cleanout with 2" to 6" connection, rough brass raised head plug and polished brass round upset surface plate cover secured to plug with cap screw.



For installation in vertical position with removable cover serving as a wall plate for access to lines.



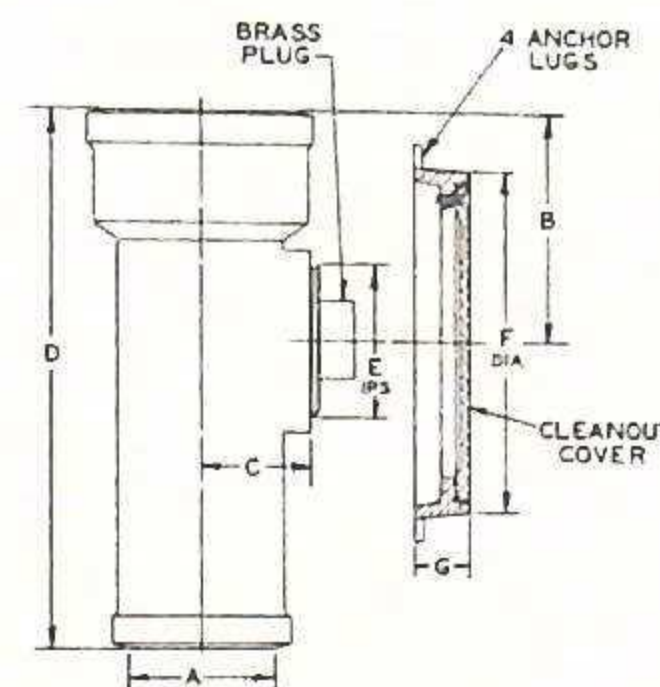
## CLEANOUT TEES FOR ACCESS THROUGH WALLS OR FLOORS

### TEE BRANCH WITH FLUSH WALL COVER



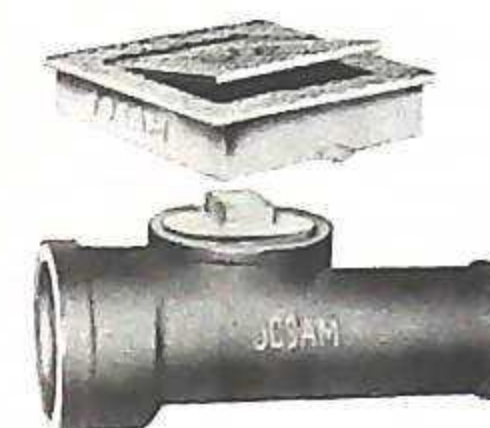
SERIES NO. Y-1520  
SPECIFICATION

Josam Series No. Y-1520, cast iron lacquered Tee branch cleanout with 2" to 6" connection, rough brass raised head plug, polished brass round access cover with anchor lugs, and cover plate secured with screws. Chained cover, optional at added cost.



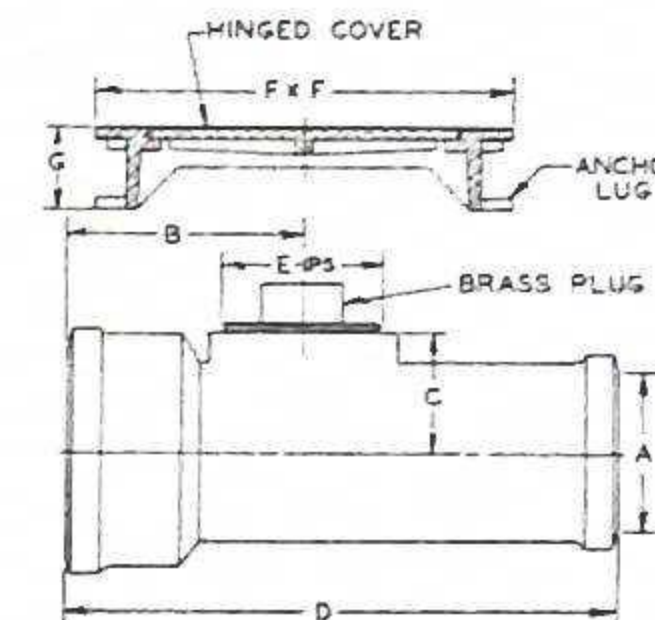
For installation in vertical position with removable cover serving as a wall plate for access to lines.

### TEE BRANCH WITH ACCESS BOX — HINGED COVER



SERIES NO. Y-1550  
SPECIFICATION

Josam Series No. Y-1550, cast iron lacquered Tee branch cleanout with 2" to 6" connection, rough brass raised head plug, cast brass square access box with anchor lugs and polished scoriated top with hinged cover.



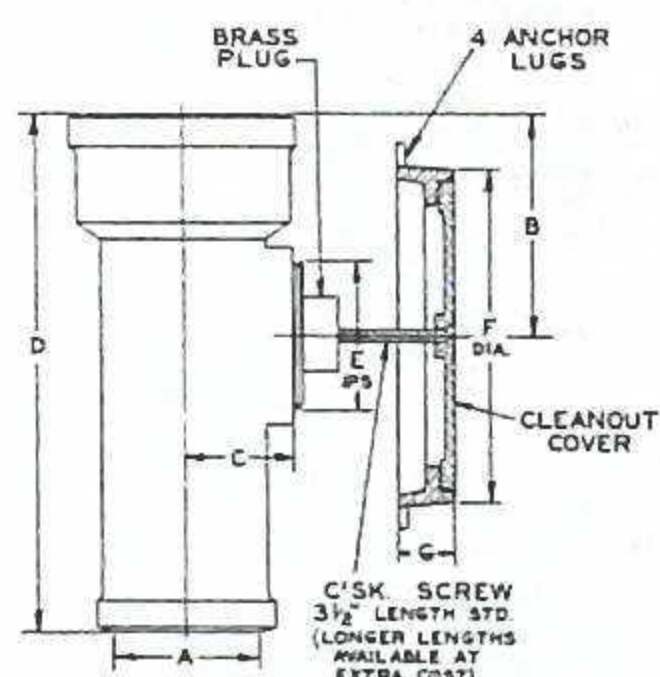
For installation in horizontal position with cover flush with floor.

### TEE BRANCH WITH COVER FOR FINISHED WALL



SERIES NO. Y-1510  
SPECIFICATION

Josam Series No. Y-1510, cast iron lacquered Tee branch cleanout with 2" to 6" connection, rough brass raised head plug, polished brass round access cover with anchor lugs, cover plate secured to plug with countersunk screw. Chained cover, optional at added cost.



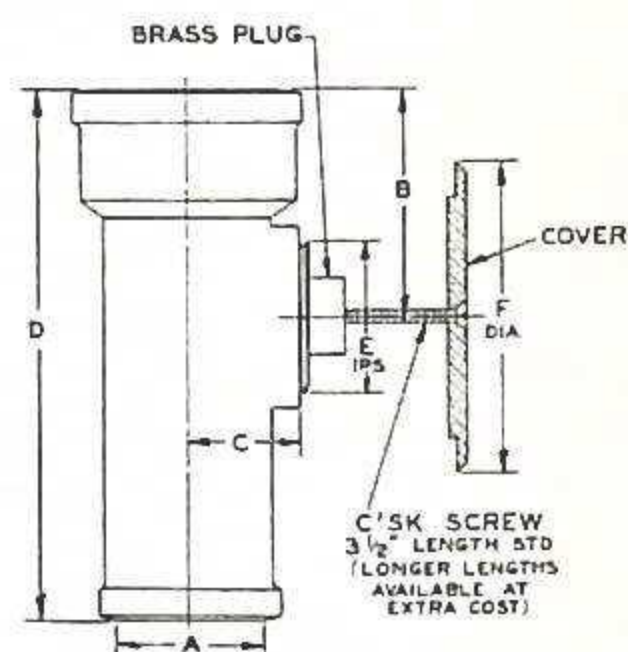
For installation in vertical position with removable cover serving as a wall plate for access to lines.

### TEE BRANCH WITH FACE-OF-WALL COVER



SERIES NO. Y-1590  
SPECIFICATION

Josam Series No. Y-1590, cast iron lacquered Tee branch cleanout with 2" to 6" connection, rough brass raised head plug and polished brass round access cover secured to plug with counter sunk screw.



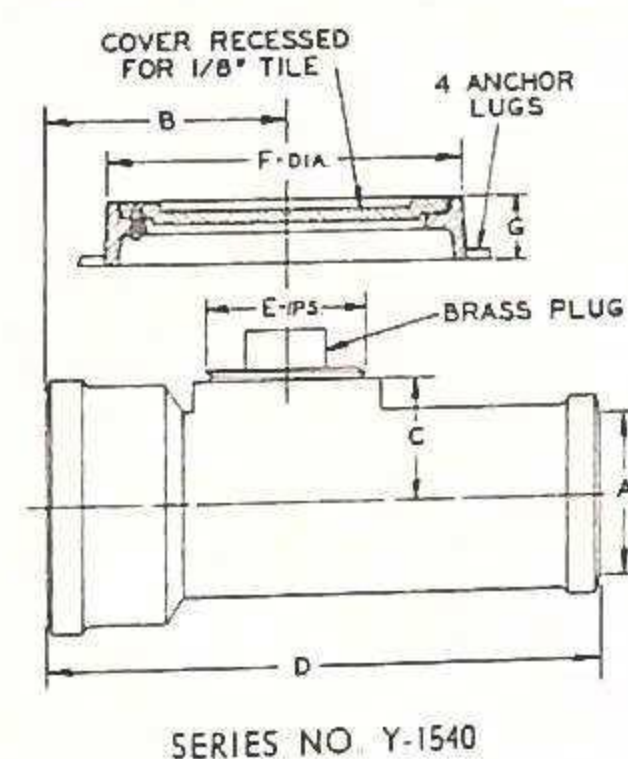
For installation in vertical position with removable cover serving as a wall plate for access to lines.

### TEE BRANCH WITH COVER PLATE RECESSED FOR TILE



SERIES NO. Y-1540  
SPECIFICATION

Josam Series No. Y-1540, cast iron lacquered Tee branch cleanout with 2" to 6" connection, rough brass raised head plug, polished brass round access cover with anchor lugs and screwed down cover plate recessed for tile.



SERIES NO. Y-1540

For installation in horizontal position with cover flush with floor.

#### SERIES NO. Y-1530

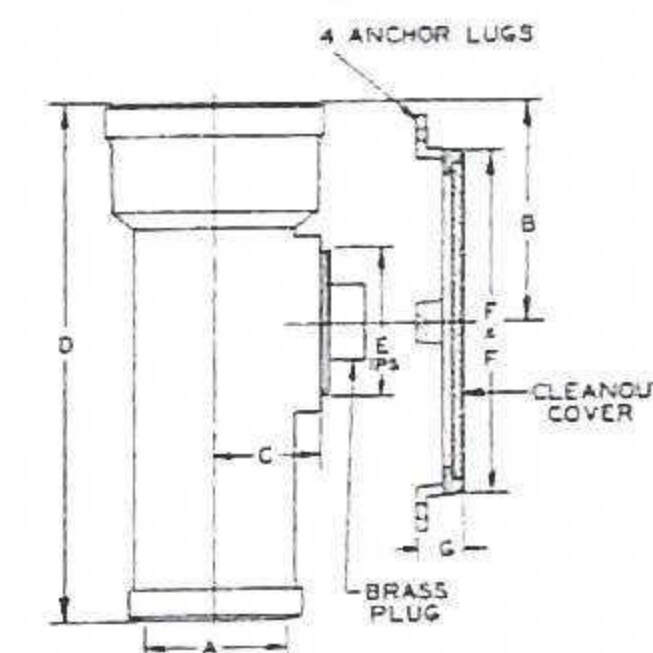
Josam Series No. Y-1530, same as Series No. Y-1540, except with polished brass scoriated flush access cover.

### TEE BRANCH WITH FLUSH WALL COVER



SERIES NO. Y-1560  
SPECIFICATION

Josam Series No. Y-1560, cast iron lacquered Tee branch cleanout with 2" to 6" connection, rough brass raised head plug, polished brass square access cover with anchor lugs, and cover plate secured with screws.



SERIES NO. Y-1560

For installation in vertical position with removable cover plate serving as a wall plate for access to lines.

#### SERIES NO. Y-1570

Josam Series No. Y-1570, same as Series No. Y-1560 except with scoriated cover for installation in horizontal position with cover flush with floor.

#### DIMENSIONS IN INCHES

Series No.	Type No.	A	B	C	D	E	F	G	Appr. Wgt. Lbs.
Y-150	Y-152	2	4 1/4	1 3/4	10 1/4	2	.....	.....	9
	Y-153	3	5 1/4	2 1/2	11 1/2	3	.....	.....	12
	Y-154	4	6	3 1/2	14	4	.....	.....	18
	Y-155	5	6 1/2	3 3/4	14 3/4	5	.....	.....	24
	Y-156	6	7	4 1/2	15 3/4	6	.....	.....	30
Y-1510	Y-1512	2	4 1/4	1 3/4	10 1/4	2	6	1	13
	Y-1513	3	5 1/4	2 1/2	11 1/2	3	6	1	16
	Y-1514	4	6	3 1/2	14	4	6	1	22
	Y-1515	5	6 1/2	3 3/4	14 3/4	5	8 1/4	1	31
	Y-1516	6	7	4 1/2	15 3/4	6	8 1/4	1	37

#### DIMENSIONS IN INCHES

Series No.	Type No.	A	B	C	D	E	F	G	Appr. Wgt. Lbs.
Y-1580	Y-1582	2	4 1/4	1 3/4	10 1/4	2	3 3/4	1	10
	Y-1583	3	5 1/4	2 1/2	11 1/2	3	4 7/8	1 1/8	13
	Y-1584	4	6	3 1/2	14	4	6	1 1/4	20
	Y-1585	5	6 1/2	3 3/4	14 3/4	5	7 1/8	1 1/2	27
	Y-1586	6	7	4 1/2	15 3/4	6	8	1 5/8	34
	Y-1590	Y-1592	2	4 1/4	1 3/4	10 1/4	2	5 1/2	.....
Y-1593		3	5 1/4	2 1/2	11 1/2	3	5 1/2	.....	14
Y-1594		4	6	3 1/2	14	4	5 1/2	.....	20
Y-1595		5	6 1/2	3 3/4	14 3/4	5	7 3/4	.....	28
Y-1596		6	7	4 1/2	15 3/4	6	8 3/4	.....	34

#### DIMENSIONS IN INCHES

Series No.	Type No.	A	B	C	D	E	For Fx F	G	Appr. Wgt. Lbs.
Y-1520	Y-1522	2	4 1/4	1 3/4	10 1/4	2	6	1	13
	Y-1523	3	5 1/4	2 1/2	11 1/2	3	6	1	16
	Y-1524	4	6	3 1/2	14	4	6	1	22
	Y-1525	5	6 1/2	3 3/4	14 3/4	5	8 1/4	1	31
	Y-1526	6	7	4 1/2	15 3/4	6	8 1/4	1	37
	Y-1540	Y-1542	2	4 1/4	1 3/4	10 1/4	2	6	1
Y-1543		3	5 1/4	2 1/2	11 1/2	3	6	1	16
Y-1544		4	6	3 1/2	14	4	6	1	22
Y-1545		5	6 1/2	3 3/4	14 3/4	5	8 1/4	1	31
Y-1546		6	7	4 1/2	15 3/4	6	8 1/4	1	37

#### DIMENSIONS IN INCHES

Series No.	Type No.	A	B	C	D	E	For Fx F	G	Appr. Wgt. Lbs.
Y-1550	Y-1552	2	4 1/4	1 3/4	10 1/4	2	8x8	1 1/2	16
	Y-1553	3	5 1/4	2 1/2	11 1/2	3	8x8	1 1/2	19
	Y-1554	4	6	3 1/2	14	4	8x8	1 1/2	25
	Y-1555	5	6 1/2	3 3/4	14 3/4	5	12x12	1 1/2	36
	Y-1556	6	7	4 1/2	15 3/4	6	12x12	1 1/2	42
Y-1560	Y-1562	2	4 1/4	1 3/4	10 1/4	2	7x7	1	14
	Y-1563	3	5 1/4	2 1/2	11 1/2	3	7x7	1	17
	Y-1564	4	6	3 1/2	14	4	7x7	1	23
	Y-1565	5	6 1/2	3 3/4	14 3/4	5	9x9	1	32
	Y-1566	6	7	4 1/2	15 3/4	6	9x9	1	38

Hy-Tech Products



## CHART OF LOCATIONS WHERE SUPERSEAL CLEANOUTS SHOULD BE INSTALLED

APARTMENTS BARBER SHOPS BEAUTY PARLORS CAFETERIAS CANNERIES CHEESE FACTORIES	DAIRIES DRY CLEANING PLANTS FOOD PROC. PLANTS GARAGES HANGARS HOSPITALS	HOTELS LABORATORIES LAUNDRIES MACHINE SHOPS PACKING HOUSES PLATE MILLS	REFINERIES RENDERING PLANTS REPAIR SHOPS RESTAURANTS SAUSAGE MFG. SWIMMING POOLS
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The purpose of this chart is to indicate the various locations in buildings where Josam Superseal Cleanouts should be installed, and to recommend the right cleanout to meet each requirement.

Inasmuch as the cleanouts suggested are based on experience, it is advisable to check the specifications and details in this catalog to be sure that the product you select will meet your requirements.

For special or unusual requirements not covered in this Chart, write Josam Mfg. Company, Department CL, Michigan City, Indiana. There is no obligation.

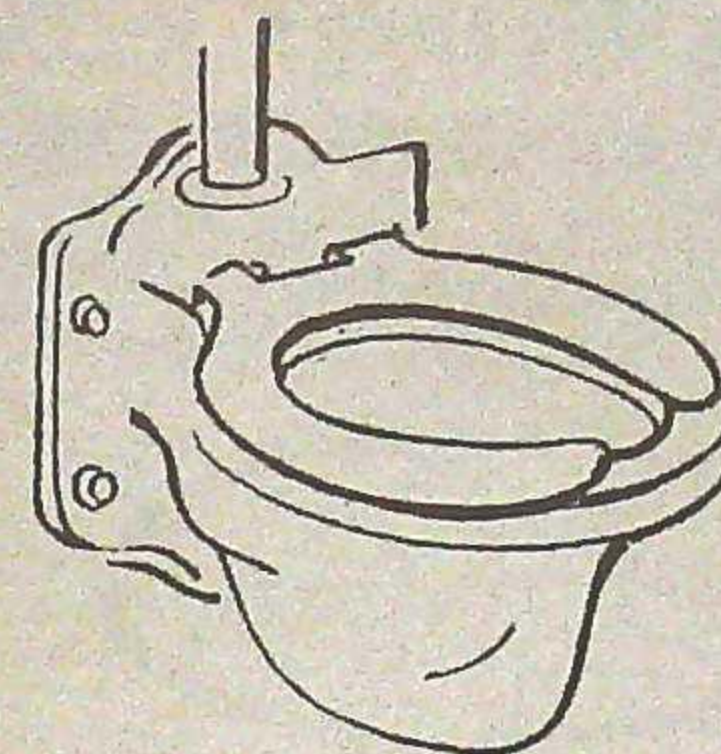
### EXPLANATION OF SYMBOLS:

To quickly determine whether the suggested cleanout will meet the requirements, the symbol after the number indicates a specific type cleanout.

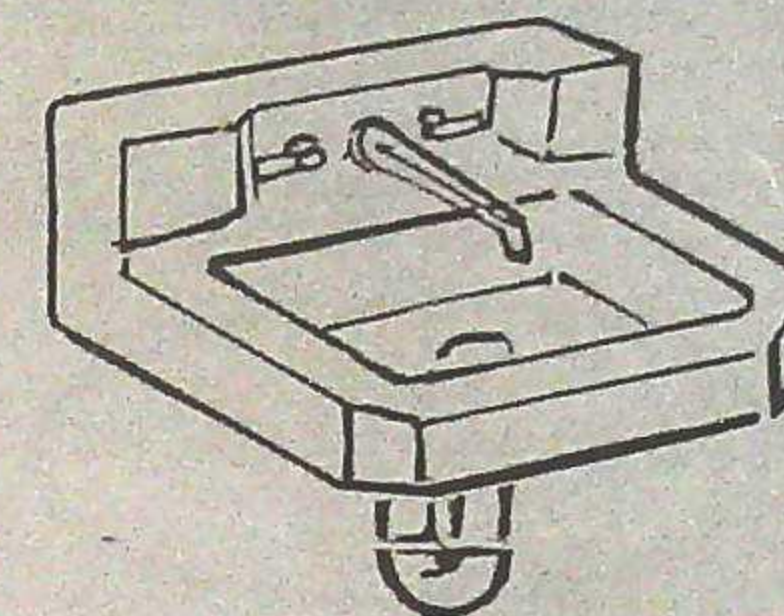
- Combination ferrule with access cover or box
- ▼ Cleanout T with access cover or box
- ★ Access cover or box only

LOCATION	FOR FINISHED FLOORS	FOR FINISHED WALLS	FOR HEAVY DUTY UNFINISHED AREAS	FOR LINOLEUM OR TILE FLOORS
BARBER SHOP	Y-1080★, Y-1110●, Y-1650●			Y-90★, Y-750, Y-1540▼
BEAUTY PARLOR	Y-180★, Y-1110●, Y-1750●	Y-180-P★, Y-1420●, Y-1360●		Y-90★, Y-750, Y-1440●
BASEMENT	Y-70★, Y-300-B, Y-620-B●		Y-300, Y-620●, Y-630●	
BOILER ROOM	Y-70★, Y-300-B, Y-630-B●		Y-300, Y-490, Y-590	
CAFETERIA	Y-70★, Y-640●	Y-120, Y-190★, Y-1520▼		Y-450, Y-550, Y-1340●
CORRIDOR and HALLWAY	Y-650●, Y-1610●	Y-180-P★, Y-1420●, Y-1460●	Y-300, Y-620●, Y-630●	Y-190-R★, Y-750, Y-1440●
LABORATORY	Y-350, Y-1190★, Y-1550▼	Y-190★, Y-1360●, Y-1520▼		Y-350, Y-1340●
DETENTION CELL	Y-640●, Y-1710●		Y-300, Y-620●, Y-630●	
DISPENSARY	Y-710, Y-1370●, Y-1670●	Y-190★, Y-1320●, Y-1560▼		Y-350, Y-1440●
DOCTOR'S OFFICE	Y-730, Y-1430●	Y-190★, Y-1320●, Y-1960●		Y-450, Y-550
DRIVEWAY and RAMP			Y-300, Y-620●, Y-630●	
ASH PITS — OILING PITS ELEVATOR PITS			Y-300, Y-480, Y-580, Y-620●, Y-630●	
GARAGE AND PARKING AREAS			Y-300, Y-490, Y-590, Y-620●, Y-630●	
HOSPITAL SECLUSION ROOM	Y-650●, Y-1610●	Y-180-P★, Y-1520▼, Y-1460●		
KITCHEN AND DINING AREAS — MESS HALLS	Y-330, Y-1350●, Y-1530▼	Y-190★, Y-1420●, Y-1560▼		Y-190-R★, Y-750, Y-1540▼
LAUNDRY	Y-410, Y-430, Y-510	Y-180★, Y-1360●, Y-1520▼		
REFRIGERATOR ROOM	Y-480, Y-490, Y-590		Y-490, Y-590	
SHOWER ROOMS	Y-710, Y-1450●	Y-190★, Y-1320●, Y-1460●		
STACK FITTINGS, UNFINISHED ROOMS		Y-150, Y-1580▼, Y-1590▼		
STORAGE ROOMS	Y-70★, Y-300-B, Y-620-B●			
SWIMMING POOLS	Y-710, Y-1470●, Y-1770●			
TOILET AND WASH ROOMS	Y-410, Y-430, Y-530	Y-80★, Y-1420●, Y-1960●		Y-550, Y-1340●, Y-1540▼
UTILITY ROOM — JANITOR'S CLOSET	Y-410, Y-430, Y-510, Y-530	Y-110, Y-180-P★, Y-1510▼	Y-300, Y-480, Y-580, Y-620●, Y-630●	
YARDS AND WALK			Y-490, Y-620-B●, Y-630-B●	

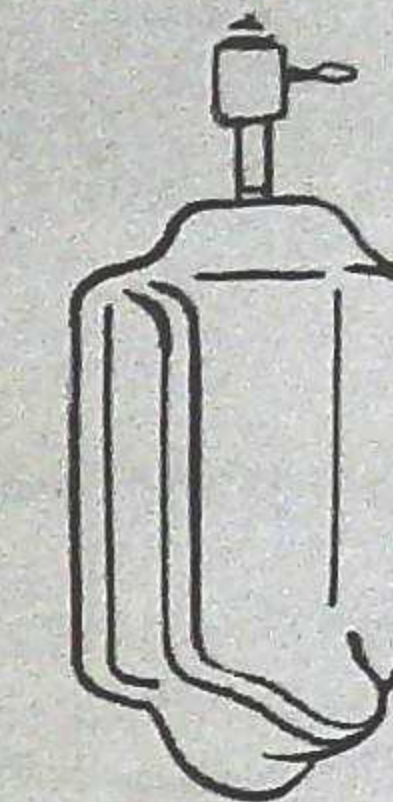
# Hy-Tech Products



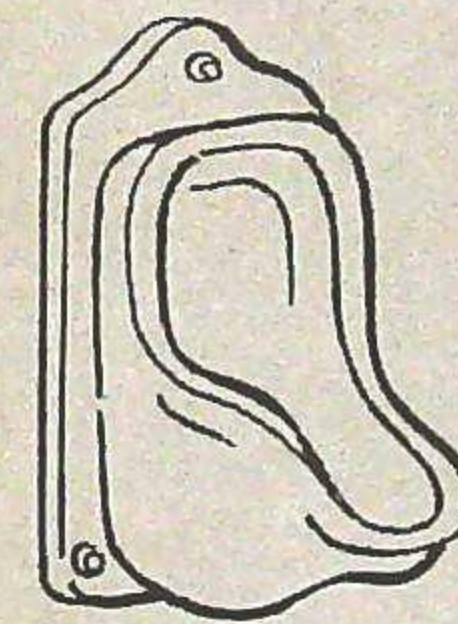
CLOSETS



LAVATORIES



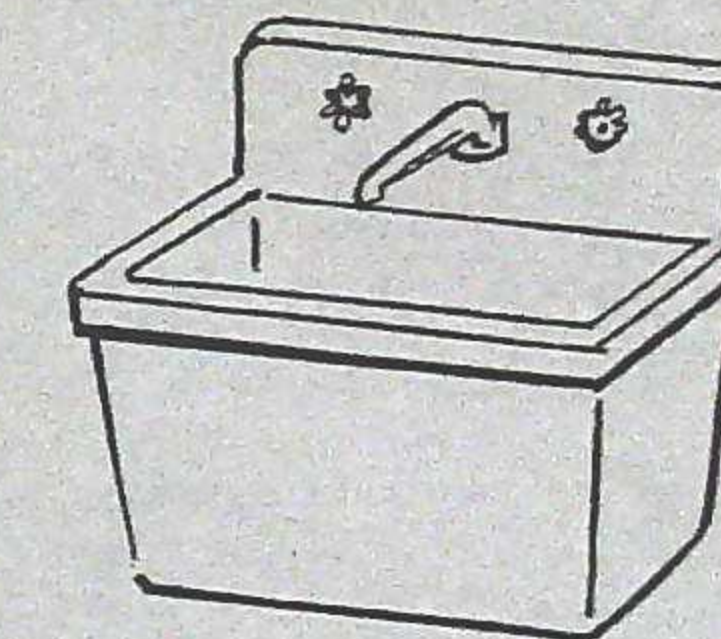
URINALS



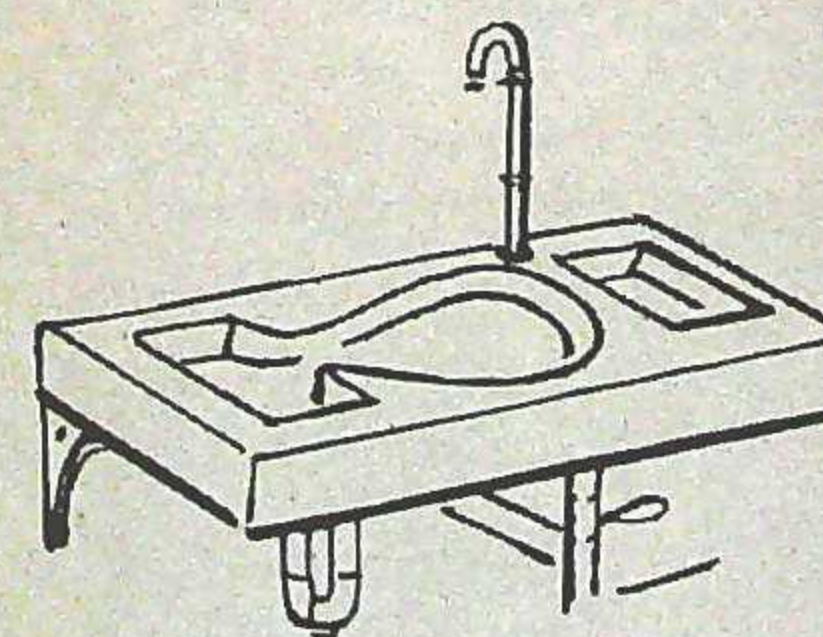
WOMEN'S URINALS

**UNITRON  
CARRIERS  
AND  
CLOSET  
FITTINGS**  
FOR  
**WALL-HUNG FIXTURES**

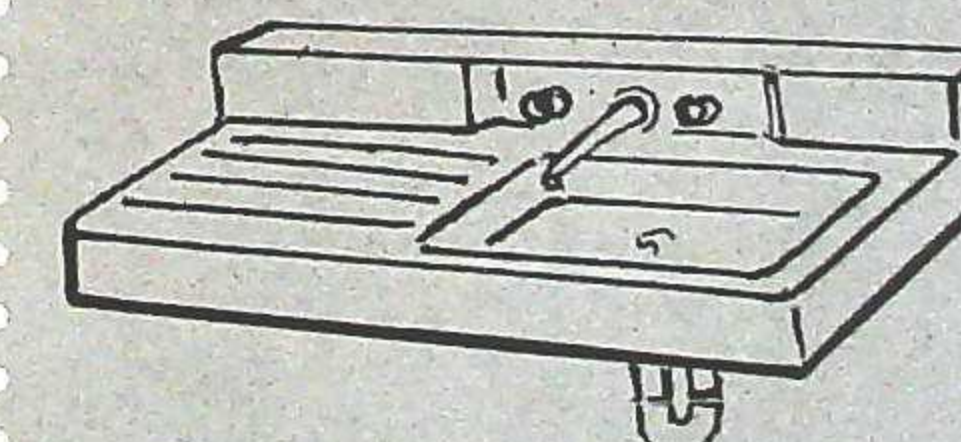
Horizontal Closet Fittings  
Vertical Closet Fittings  
Closet Carriers  
Urinal Carriers  
Lavatory Carriers  
Sink and Slab Carriers  
Hospital Carriers



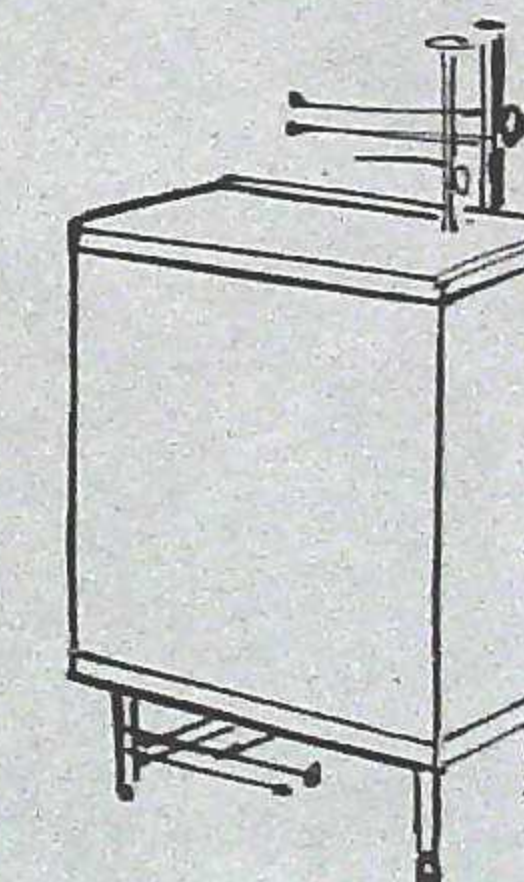
SINKS



WASH UP SINKS



DRAINBOARD SINKS



STERILIZERS

FOR COMPLETE INFORMATION ON  
**UNITRON CARRIERS AND CLOSET FITTINGS**  
WRITE FOR  
CATALOG F — Illustrations and Details of Unitron Carriers and Fittings.  
MANUAL FD — Selection Chart Listing Recommended Unitron Carriers for Wall-Hung Fixtures of Various Manufacturers.

designed to meet all requirements  
for wall-hung fixtures

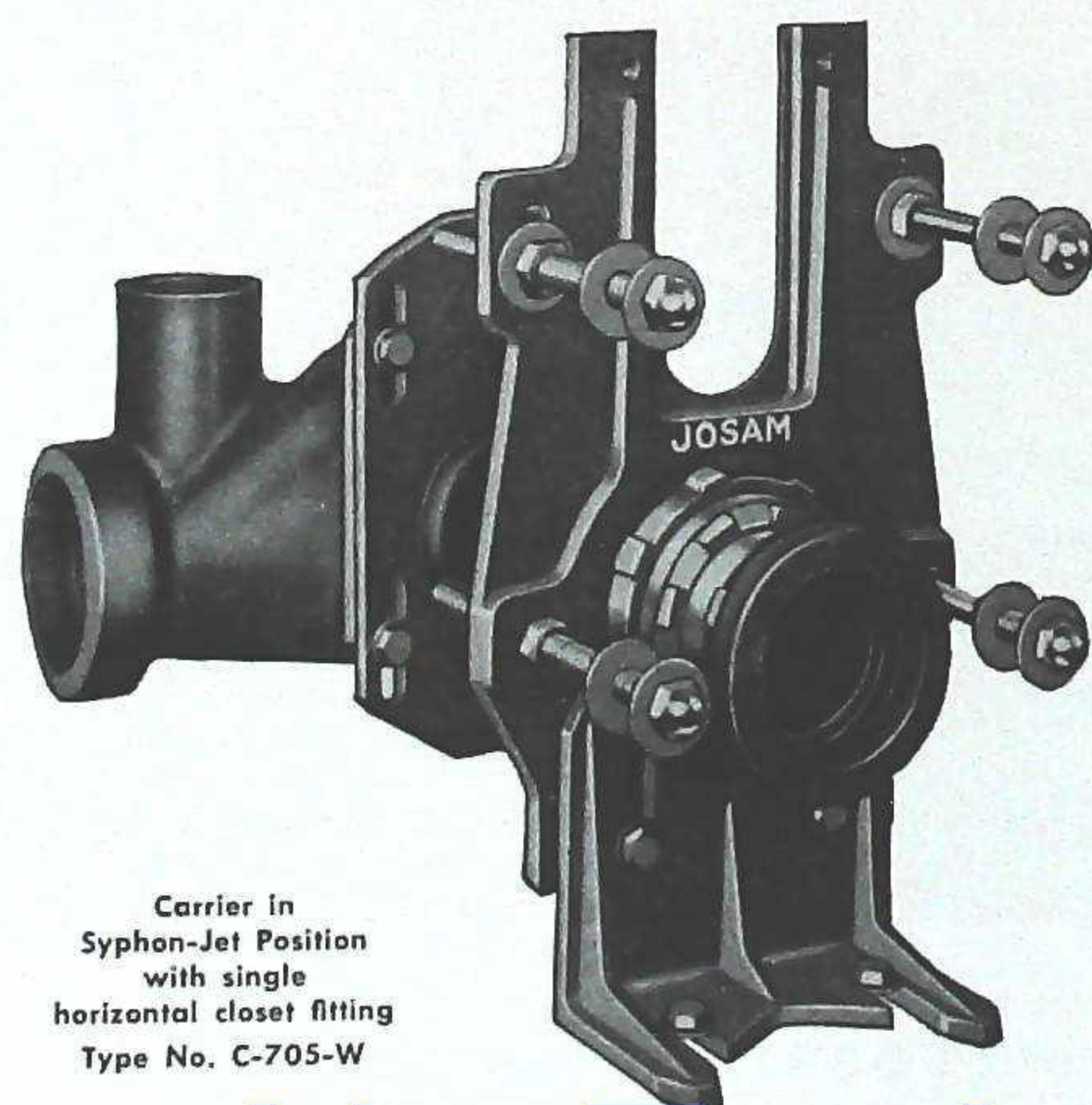
**GREATER ADAPTABILITY**

**GREATER ADJUSTABILITY**

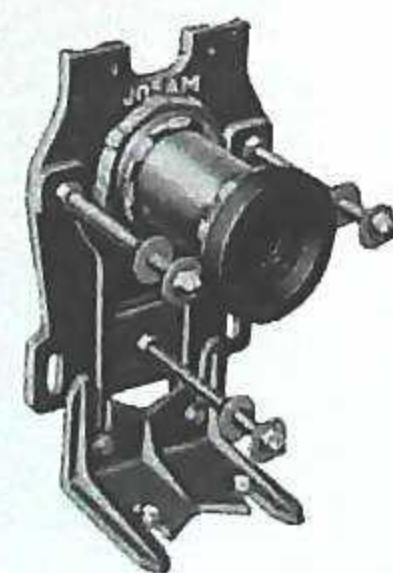
**GREATER SAVINGS**

1. The reversible closet carrier fits all types of closet fixtures, blow-out or syphon jet, and women's urinals, regardless of the manufacturer.
2. The reversible foot of the carrier provides vertical adjustment from  $\frac{3}{4}$ " to  $4\frac{7}{8}$ " to accommodate floor fill.
3. Instead of the closet carrier being attached directly onto the fitting as with other units, the Josam UNITRON Carrier is INDEPENDENT OF THE FITTING and therefore can be placed at any distance from the fitting. This arrangement provides for greater cantilever balance, and more flexible structural design.
4. Universal Closet Connection assembly permits an adjustment of 4" between face of fixture carrier and finished wall line.
5. Adjustable reversible face plate on the closet fitting provides vertical adjustment of  $4\frac{1}{4}$ " to allow for slope of lines.
6. Double fittings are provided with a COMMON VENT which is more efficient and provides more flexibility of installation.

The Josam UNITRON Closet Carrier is so designed that ONE CARRIER is adjustable to support all wall-hung water closets and women's urinals. This eliminates using a different carrier for every blow-out or syphon jet closet bowl or women's urinal, or a different carrier for each manufacturer of such fixtures.



Carrier in Syphon-Jet Position with single horizontal closet fitting  
Type No. C-705-W



Carrier in Blow-Out Position  
Type No. C-100

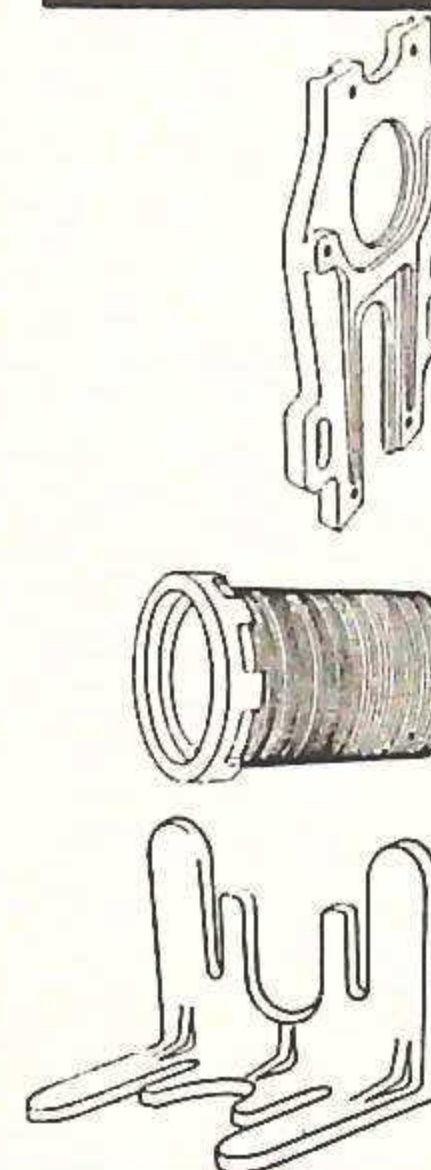


Carrier with adapter for women's urinal  
Type No. C-200

**Hy-Tech Products**

features of closet carriers and fittings

**CLOSET CARRIER FEATURES**



**REVERSIBLE CARRIER BODY**

Reversing carrier body from top to bottom position permits connection for blow-out or syphon jet bowls of any manufacturer.

**ADJUSTABLE EXTENSION**

The Adjustable Extension on the closet connection assembly, permits an adjustment of 4" between the face of the fixture carrier and the finished wall line. Adjustment can be made from the front of the unit at any time before or after the wall has been built.

**REVERSIBLE FOOT**

The Reversible Foot on the Carrier provides vertical adjustment from  $\frac{3}{4}$ " minimum to  $4\frac{7}{8}$ " maximum. This is accomplished by reversing the foot support.

**INTEGRAL UNIT**

The coupling is rigidly attached to the Closet Carrier and thereby provides an integral unit between the fitting, the fixture support, and the fixture itself.

**SIMPLIFIED PACKAGED UNIT**

Packaging is simplified. The Josam UNITRON Carrier for any type (blow-out or syphon jet) or make of fixture, is packed in a box together with adjustable extension, gaskets, coupling, and necessary nuts, studs, washers and caps.

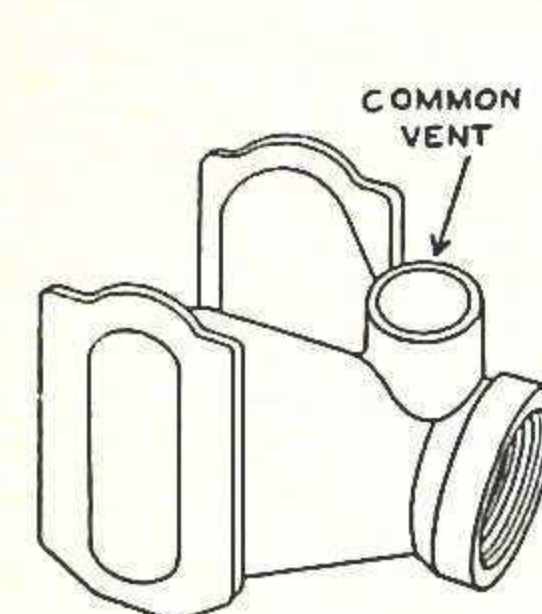
**SIMPLIFIED ORDERING**

When a plumbing contractor orders Josam Unitron Carriers and closet fittings he needs only to state in his order:

1. Total number of chair carriers needed.
2. Quantity of each fitting required, based on series numbers shown on drawings.

**CLOSET FITTING FEATURES**

The interior contour of the Josam Unitron Closet fitting provides a more direct flow in the direction of the main branch. Even where back-to-back fixtures are installed there is no effect on the water seal of the opposite fixture.



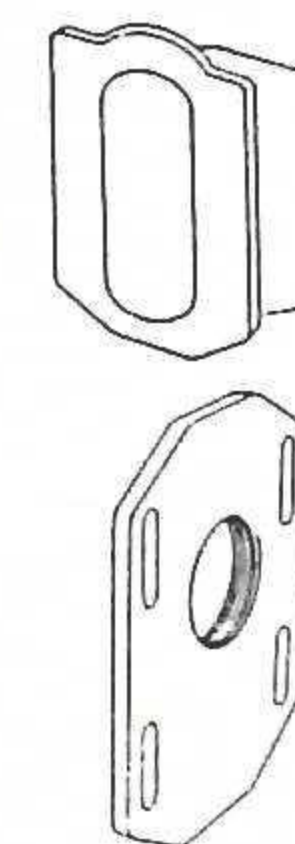
**VENT**

The vent in the Josam Fitting will remain clear inasmuch as there is less possibility of the closet discharge rising into the vent openings. For the same reason, the new vent location acts both as a positive as well as a negative pressure relief for both the fixture and the horizontal branch.

Because of locating the vent in the center, the Josam fitting can be placed closer to the wall and even partly built into the wall, thereby reducing pipe shaft width.

**COMMON VENT**

A single or common vent is provided for a double fitting and it is so located that it will afford more effective air circulation for the fixture and branch. The single vent is also so designed that a group or row of water closets can be loop or circuit vented.



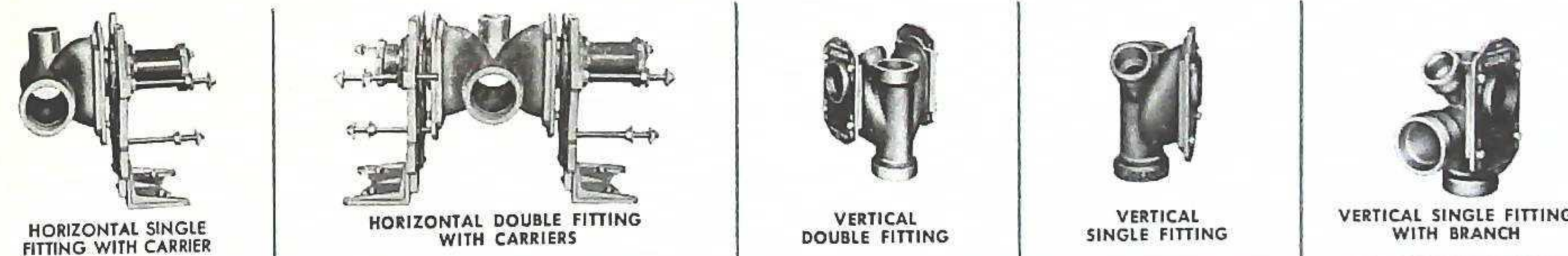
**VERTICAL ADJUSTMENT**

The oval opening in the Josam closet fitting provides a vertical adjustment of  $4\frac{1}{4}$ " from top to bottom.

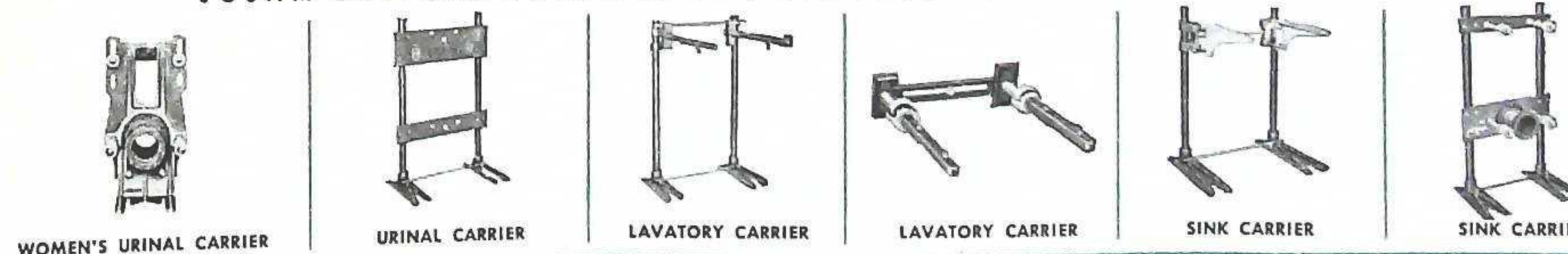
**REVERSIBLE FACE PLATE**

The reversible face plate on Josam UNITRON fittings is engineered so that by reversing the plate within a travel of only  $2\frac{1}{8}$ ", one actually can have an adjustment of  $4\frac{1}{4}$ ". It reduces space requirement on the down position, thereby meeting construction conditions which are prevalent today, that of monolithic floor construction or minimum floor fill.

**JOSAM UNITRON CLOSET FITTINGS FOR ALL TYPES OF INSTALLATIONS**



**JOSAM UNITRON CARRIERS FOR ALL TYPES OF WALL-HUNG FIXTURES**





## ROOF DRAINS

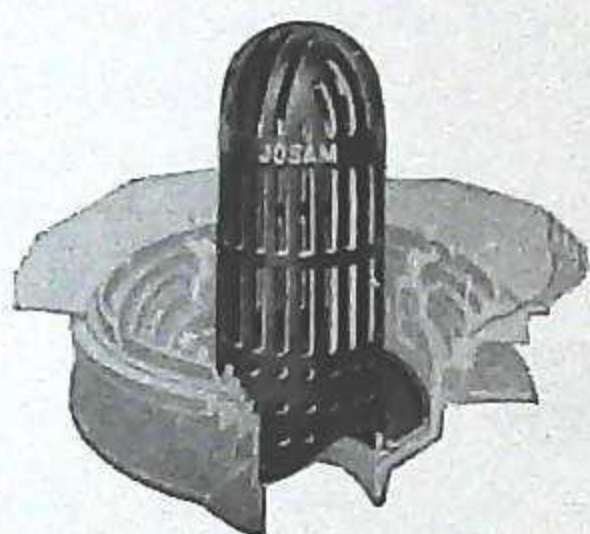
The exclusive Josam roof drain features illustrated below were originated by Josam because experience indicated the need for these features to solve various roof drainage problems.

These features are standard on many types of Josam Roof Drains, or optional on other styles where construction calls for specific requirements.

For complete information on Roof Drains with the following features, see pages 128-150.

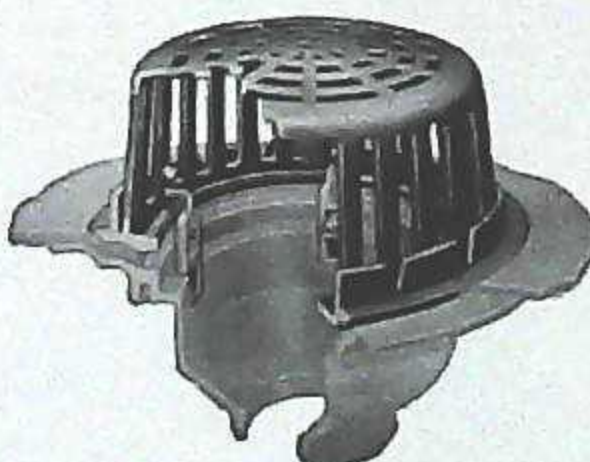
### COMBINED DOME STRAINER AND SEDIMENT CUP

The sediment cup which is integral with the dome, is fitted into the drain body below the roof level. This provides sufficient space for the accumulation of debris, preventing it from entering and clogging leader lines, and permitting flow of water through dome strainer. Debris is easily removed by lifting dome.



### LARGE ROOF DOME

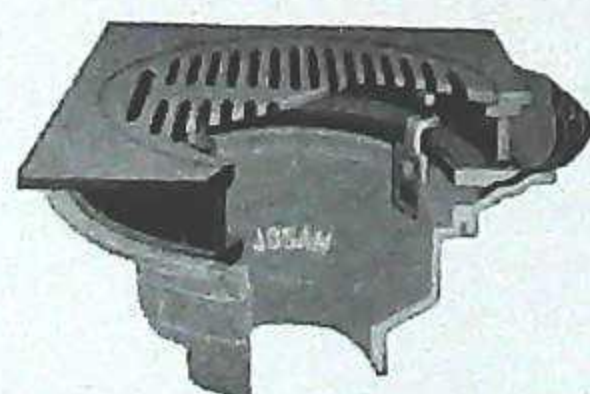
Roof drains with extra large mushroom type domes are available for conditions where excess waterway is necessary in order to permit free drainage if a portion of dome becomes clogged with leaves, paper and other debris. Dome fits into gravel stop and is easily removed for access to line.



### PROMENADE TOP WITH NON-PUNCTURING FLASHING CLAMP DEVICE AND COLLAR

Promenade tops are available for roofs with tile or similar finish, for service as a promenade deck.

The bottom portion of the collar which supports the frame and grate, acts as a non-puncturing flashing clamp device with double reverse wedge as explained herein. The clamping collar is secured to the top frame by bolts, and can be furnished in various heights to take care of any depth of roof fill or finish.

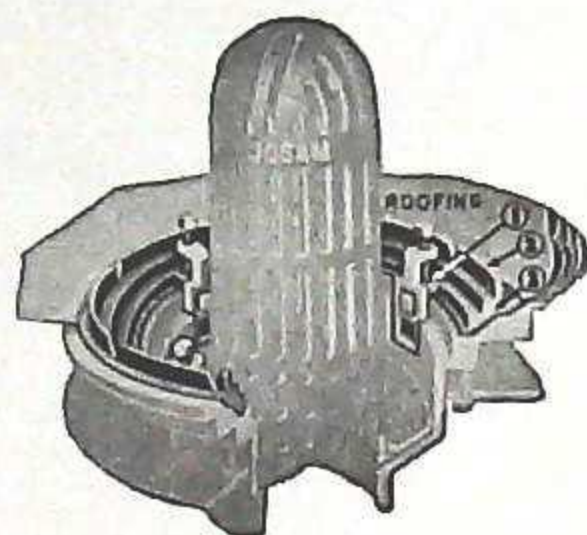


## exclusive features

### NON-PUNCTURING FLASHING CLAMP DEVICE WITH INTEGRAL GRAVEL STOP

#### 1—Clamping Ring

The non-puncturing flashing clamp device with double reverse wedge, integral with the gravel stop, is an exclusive Josam design. The four clamping posts have two adjustments to accommodate any thickness of roofing felts which are secured to the drain body without puncturing felts. This provides a water-tight, leak-proof connection, and renders metal flashing unnecessary.



#### 2—Gravel Stop

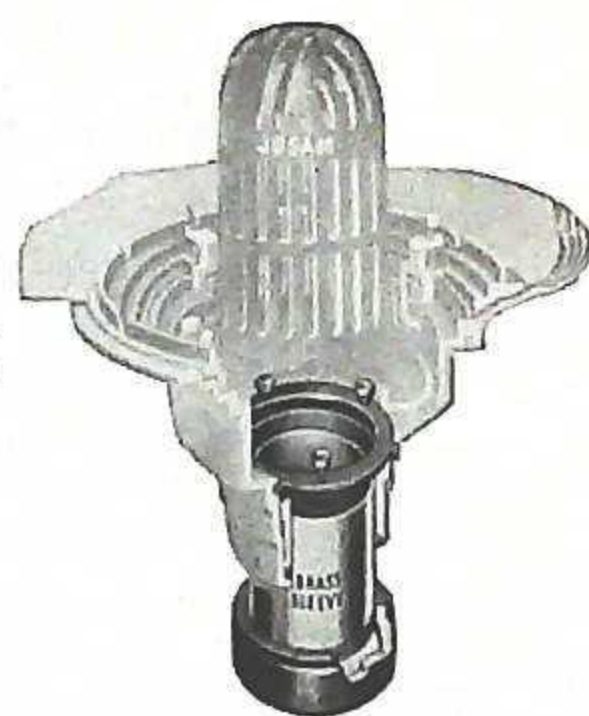
The gravel stop which is integral with the clamping ring, prevents roof finish from being washed into drain body and leader. The notches in the gravel stop permit drainage from roof into drain body.

#### 3—Double Reverse Wedge

When pressure is applied to the set screws in the clamping posts, the wedge on the bottom of the clamping ring meshes with the wedge on the flange of the drain body, equalizing the spread and thickness of the roofing material. This double reverse wedge principle provides a tight joint and prevents seepage between the roof drain body and the roofing material.

### INTEGRAL EXPANSION JOINT

Prevents leaks due to rupture of roofing in installations where connecting leader does not provide for adequate expansion and contraction. Roof drain with integral expansion joint provides easy access at roof level for adjustment and maintenance. Designed to permit contraction or expansion up to 1 3/4" each way in the line or a total of 3 1/2"; occupies less space than a separate joint; eliminates extra fitting and is easily accessible through roof drain opening for maintenance.



Heavy gauge brass sleeve has a smooth non-corrosive surface and works freely against a graphited gasket. Pressure ring and packing gland maintains a water-tight joint around the brass sleeve while permitting movement.

### FREE AREA

Free area of all domes and promenade tops on Josam Roof Drains, is 50% or more in excess of internal area of leader to which it is connected. This provides a safety factor in the event a portion of dome or top becomes obstructed by leaves, paper or other debris.

## exclusive features

### ADJUSTABLE FLOODING WATER DAM

For installation on flat roofs on cold storage houses, even temperature rooms, refrigerated buildings, or other structures where standing water on roof is required for the purpose of insulation against the transfer of heat from the sun to the interior of the building. Also for air conditioning purposes, or as a cooling pond. Brass standpipe with cast iron dome strainer, is adjustable to any depth of water on roof, from 3/4" to 4 1/2". Fits into any Josam sump type roof drain.



Roof can be drained completely by lowering standpipe. In lowered position, the dome renders the same service as a regular dome and remains in that position until roof is ready for flooding. See page 148.

### STANDING WATER COLLAR

Standing water collar for same purposes as Flooding Water Dam, is a cast iron ring which fits into the gravel stop of the roof drain and forms a tight seal by means of a graphited gasket. Standard collar holds 2" of water on roof but can be furnished for any depth of water. Easily removed for completely draining roof. See page 150.

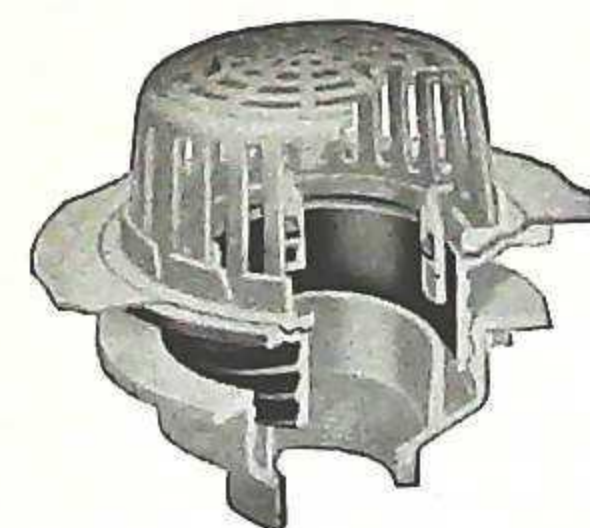


### DECK CLAMP

A two-piece ring with 2" high bearing flange, fastened to drain body by bolts, provides a positive anchor for roof drain to deck, thereby preventing rupture of roofing caused by movement of drain due to expansion of leader. If deck clamp is not used, roof drain must be securely anchored to roof structure by other means.



## Josam "Leveleze" Roof Drains with Rolled Thread Adjustable Top



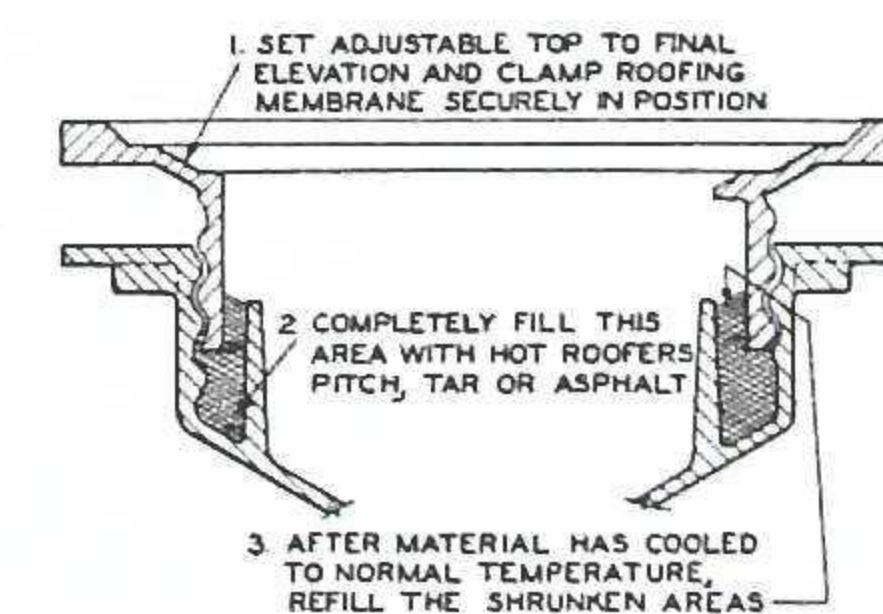
The adjustable top of the Josam Leveleze Roof Drain permits raising or lowering the roof flange to meet the required insulation thickness, even after the leader has been installed and the roof laid.

Where a finished roof level must be raised or lowered for any reason, with the stationary top drain it is necessary to cut the roof finish, disturb the drain body and leader connection, thereby undermining the strength of the roof deck.

With the Leveleze Adjustable Top roof drain, all that is necessary is to cut the roof finish, raise or lower the adjustable collar to the desired height, and apply the new roof finish.

The body of the drain, without the clamp ring and gravel stop, can be installed in the roof slab or deck

and connected to the conductor to serve as a roof drain during construction. When the roof construction has progressed to the insulation stage, the following diagram indicates how the adjustable top is held in position at the proper roof level while the roofing is applied.



Complete information on page 132.

# Hy-Tech Products

1. Check with local authorities for a code or schedule establishing sizes for roof drains and leaders. If there is such a schedule, size the drains and leaders to accord.
2. If there is no such schedule, determine whether the local code stipulates a rainfall for sizing roof drains and leaders. In the event there is such a requirement, obtain approval from local authorities to use the National Plumbing Code for sizing. With that approval refer to Table No. 2. Under the rainfall stipulated in the code, establish allowable roof areas. Size roof drains and leaders accordingly.
3. If the local code has neither sizing schedule nor rainfall provisions, check with local authorities for approval of the U. S. Weather Bureau "Maximum Recorded Hourly Rainfall" and the National Plumbing Code. With that approval determine from Table No. 1, Column "C" the rainfall record for your locality. Then refer to Table No. 2, and in the column for rainfall that is the next higher even quantity to the record determined, obtain allowable areas. Then size roof drains and leaders accordingly.
4. In the event local authorities approve use of the National Plumbing Code for sizing but based on flash flood or cloudburst rainfall conditions, refer to Table No. 1, Column "B" and proceed as per Par. 3 above.
5. To determine rainfall for a community not shown on Table No. 1, establish the Weather Bureau recorded rainfall nearest to the community in question, as listed in Table No. 1.
6. The following examples are offered for further clarification of the above:

- (a) On a job in Thomasville, Georgia, assume that Thomasville authorities will approve procedure per Par. 3 above. From Table No. 1, Column "C", 60 minute record for Thomasville is 4.15 inches. From Table No. 2 (using the next higher rainfall), under 5" rainfall, we find:
  - 2" leader suitable for 575 sq. ft.
  - 3" leader suitable for 1760 sq. ft.
  - 4" leader suitable for 3680 sq. ft., etc.
- (b) As another example — a job in Milwaukee, Wisconsin. Assume Milwaukee has no code requirements and that approval is granted for procedure as per Par. 3 above. In Table No. 1, Column "C", 60 minute record for rainfall is 2.22 inches. In Table No. 2 under 3" rainfall the following allowable areas are indicated:
  - 2" leader suitable for 960 sq. ft.
  - 3" leader suitable for 2930 sq. ft.
  - 4" leader suitable for 6130 sq. ft., etc.
- (c) Now, on a job in Auburn, New York, based on Auburn having no code and assuming approval will be given on basis of Par. 4 above. Auburn is close to Syracuse, so it is fair to assume that weather conditions in Auburn and Syracuse will be approximately the same. Reference to Table No. 1, Column "B" shows that the "hourly rate" for Syracuse is 7.32 inches. From Table No. 2 under 8" rainfall, drain and leader capacities are:
  - 2" leader suitable for 360 sq. ft.
  - 3" leader suitable for 1100 sq. ft.
  - 4" leader suitable for 2300 sq. ft., etc.

**Adjustment of Actual Horizontal Projected Roof Area for Various Building and Roof Construction**

- Table No. 2 is based on "Roof Areas" having no vertical walls projecting above roof. Where vertical walls do project above roof in such a manner that storm water striking those walls falls on the roof, the "Roof Areas" should be adjusted as per the following schedule to establish "Adjusted Roof Areas"; and "Adjusted Roof Areas" should be used to determine size of leader from Table. For such adjustment add to "Roof Area" as follows:
- (a) For one (1) wall add 50% of wall area.
  - (b) For two (2) adjacent walls of same height, add 35% of total wall area (sum of each wall area).
  - (c) For two (2) adjacent walls of different heights, add 35% of total area below the top of lower wall plus 50% of wall area above top of lower wall.
  - (d) For two (2) opposite walls of same height no additional area.

- (e) For two (2) opposite walls of different height, add 50% of wall area above top of lower wall.
  - (f) For walls on three (3) sides, add 50% of area of the inner wall below top of lowest wall, plus allowance for area of walls above top of lowest wall as per (b), (c) and (e) above.
  - (g) For walls on four (4) sides, no allowance for wall areas below top of lowest wall, but add for areas above top of lowest wall in accordance with (a), (b), (c), (e) and (f) above.
- All of the foregoing, as well as Table No. 2, is based on a conventional roof designed with a slope and having in gravel or slag roofing.

**Hy-Tech Products**

TABLE NO. 1

MAXIMUM RECORDED RAINFALL THROUGHOUT UNITED STATES

SEE NOTES BELOW

STATE & CITY	RAINFALL IN INCHES			STATE & CITY	RAINFALL IN INCHES			STATE & CITY	RAINFALL IN INCHES			STATE & CITY	RAINFALL IN INCHES		
	5 MINUTE PERIOD	HOURLY EQUIV. OF 5 MIN. PERIOD	60 MINUTE PERIOD		5 MINUTE PERIOD	HOURLY EQUIV. OF 5 MIN. PERIOD	60 MINUTE PERIOD		5 MINUTE PERIOD	HOURLY EQUIV. OF 5 MIN. PERIOD	60 MINUTE PERIOD		5 MINUTE PERIOD	HOURLY EQUIV. OF 5 MIN. PERIOD	60 MINUTE PERIOD
ALABAMA Anniston Birmingham Mobile Montgomery	0.66 0.67 0.89 0.65	7.92 8.04 10.68 7.80	3.62 3.89 3.83 3.81	ALABAMA Anniston Birmingham Mobile Montgomery	0.66 0.67 0.89 0.65	7.92 8.04 10.68 7.80	3.62 3.89 3.83 3.81	ALABAMA Anniston Birmingham Mobile Montgomery	0.66 0.67 0.89 0.65	7.92 8.04 10.68 7.80	3.62 3.89 3.83 3.81	ALABAMA Anniston Birmingham Mobile Montgomery	0.66 0.67 0.89 0.65	7.92 8.04 10.68 7.80	3.62 3.89 3.83 3.81

NOTES: Columns "A" and "C" are excerpts from Technical Paper No. 2, issue of April, 1947 by the Weather Bureau, U. S. Department of Commerce. Quantities given are total rainfall for periods stipulated for 10 years or more extending thru 1945. Column "C" is "Maximum Recorded Hourly Rainfall", Column "B" is the hourly equivalent of Column "A", and the quantities are theoretical total for one hour at the rate recorded for 5 minutes. Column "B" is "Maximum Hourly Rate of Rainfall".

TABLE NO. 2

SIZING OF ROOF DRAINS AND LEADERS FOR VARYING RAINFALL BASED ON NATIONAL PLUMBING CODE QUANTITIES ARE HORIZONTAL PROJECTED ROOF AREAS IN SQUARE FEET

Size of Drain or Leader in Inches	RAIN FALL IN INCHES											
	1	2	3	4	5	6	7	8	9	10	11	12
	Roof Area in Square Feet *											
2	2880	1440	960	720	575	480	410	360	320	290	260	240
3	8800	4400	2930	2200	1760	1470	1260	1100	980	880	800	730
4	18400	9200	6130	4600	3680	3070	2630	2300	2045	1840	1675	1530
5	34400	17300	11330	8650	6920	5765	4945	4325	3845	3460	3145	2880
6	54000	27000	17995	13500	10800	9000	7715	6750	6000	5400	4910	4500
8	116000	58000	38660	29000	23200	19315	16570	14500	12890	11600	10545	9660

\* Areas given are to nearest 5 Sq. Ft.



● **APPLICATION:** For installation on flat roofs of any construction, where ample free drainage area must be provided for quick drainage, and where roofing must be tightly secured to drain without puncturing roofing material.  
Flashing is not necessary but can be used when required.

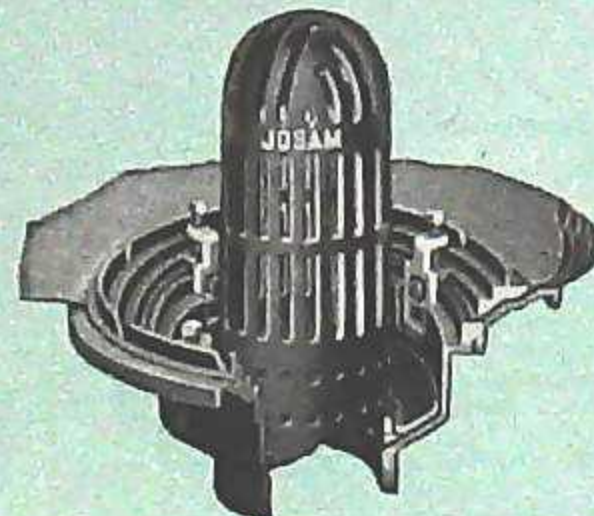
For features to suit additional requirements, see Adaptations of Series No. 410.

**STANDARD and OPTIONAL FEATURES**

The features below apply to drains in this group. The illustrations show the standard features applicable to each design.

- **Body** **Standard:** Cast iron lacquer finish, with large round flange. **Optional:** Galvanized iron, all brass, or Everdur, at added cost. Large roof flange provides oversize bearing surface for roofing felts. Integral increaser on Series No. 4550 only, provides added drainage capacity without increasing drain size.
- **Pitched Flange** **Standard:** On Series Nos. 4710 and 4720 only. Pitched sump and flange is designed for roofs having slopes of 2 1/2" to 8" per foot. Slope of roof must be specified.
- **Double Drainage Flange** **Standard:** On Series Nos. 430, 4030 and 4130 only. Double Drainage Flange and weepholes provide added protection against seepage around drain body. Seepage is directed into drain body and protects areas below.
- **Outlet** **Standard:** Female threaded bottom or side outlet as shown. **Optional:** Inside caulk bottom outlet, at no added cost. Hub or spigot adaptor for side outlet, at added cost.
- **Dome and Sediment Cup** **Standard:** Where shown in illustrations, cast iron removable combined high dome and sediment cup. **Optional:** Galvanized iron, rough, polished or chrome plated brass, or Everdur, at added cost.
- **Mushroom Type Dome** **Standard:** Where shown in illustrations, cast iron removable dome fits into gravel stop clamping device. **Optional:** Galvanized iron, rough or polished or chrome plated brass, or Everdur, at added cost.
- **Promenade Top** **Standard:** Where shown in illustrations, cast iron square top combined with flashing clamp collar, and loose-set round grate. Collar secured to top frame by bolts. Higher collar, optional. **Optional:** Galvanized iron, polished or chrome plated brass, or Everdur, at added cost.
- **Flashing Clamp Device** **Standard:** Same material as body. Double reverse wedge clamp ring is integral with gravel stop and is fitted with four clamps and brass screws, adjustable to accommodate any thickness of roofing felts without puncturing roofing. On promenade top drains, clamp device is integral with 2" high collar secured to top frame by bolts.
- **Deck Clamp** **Optional:** Two piece ring with 2" high bearing flange, in same material as body, for bottom outlet drains only, at added cost. Ring is fastened to body by bolts, anchoring roof drain to deck, and preventing rupture of roofing due to expansion of leader.
- **Flooding Water Dam** **Optional:** Brass standpipe of varying heights, with cast iron dome, furnished for any sump type roof drain, at added cost. Maintains up to 4 1/2" depth of water on the roof. When roof is drained, dome renders same service as a regular dome. See page 148.
- **Standing Water Collar** **Optional:** Collar, 2" or higher, in same material as body, furnished for any sump type roof drain, at added cost. Collar maintains a desired depth of water on roof and is removable for draining roof. See page 150.
- **Expansion Joint** **Optional:** Separable cast iron joint with brass sleeve, furnished at added cost. See Series No. 1810, page 156. Takes up movement in lining and prevents rupture of roofing material. For roof drains with integral expansion joint, see pages 146, 139.

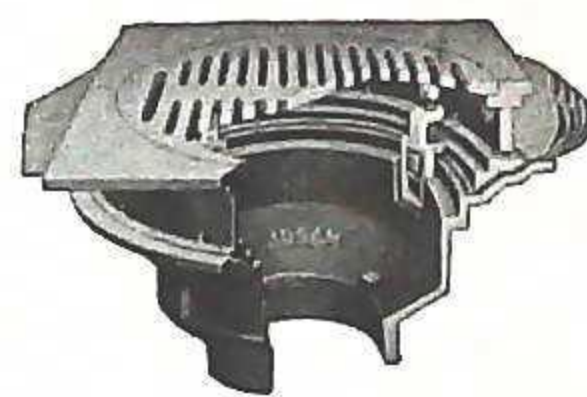
**SERIES No. 410**



**SPECIFICATION**

Josam Series No. 410, cast iron roof drain with large sump and flange, 1/2" threaded bottom outlet, removable combined high dome and sediment cup, and double reverse wedge non-puncturing flashing clamp device with integral gravel stop.

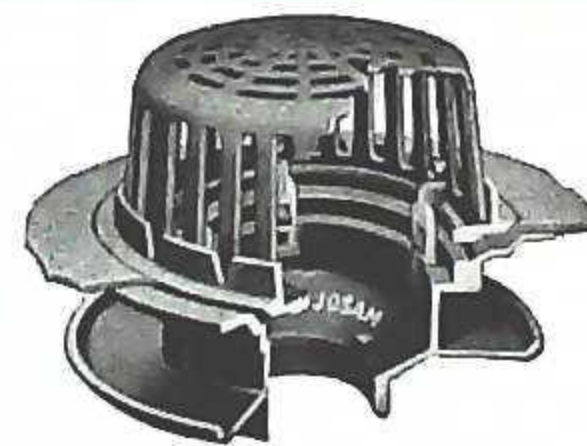
**NOTE:** The above specification covers Josam Series No. 410. Where optional features or materials are required, select style from illustrations shown, change Series Number above, and insert optional features or materials.



**SERIES NO. 4010**

**SPECIFICATION**

Same as Series No. 410 except with square top fastened to clamping collar, and loose set round flat grate, for PROMENADE DECK.



**SERIES NO. 4130**

**SPECIFICATION**

Same as Series No. 410 except with DOUBLE DRAINAGE FLANGE and weepholes and removable MUSHROOM TYPE DOME.

**ADAPTATIONS OF JOSAM SERIES No. 410**

The following illustrations show the SPECIAL FEATURES of Adaptations of Series No. 410. Standard and Optional features are listed on the opposite page.

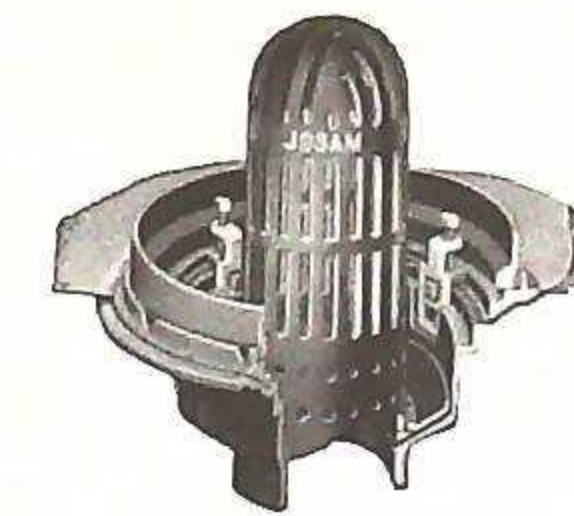
INSTALLATION DIAGRAMS ON PAGE 151



**SERIES NO. 410-F**

**SPECIFICATION**

Same as Series No. 410 except with FLOODING WATER DAM for flat roofs where a flooded roof with 3/4" to 4 1/2" depth of water is desired for air conditioning purposes, a cooling pond or similar service. Flooding Water Dam can be used with any sump type roof drain. See page 148 for complete details.



**SERIES NO. 410-SW**

**SPECIFICATION**

Same as Series No. 410 except with STANDING WATER GUARD for flat roofs where a predetermined depth of water on roof is desired for air conditioning or similar purposes. Can be used with any sump type roof drain. See page 150 for complete details.



**SERIES NO. 420**

**SPECIFICATION**

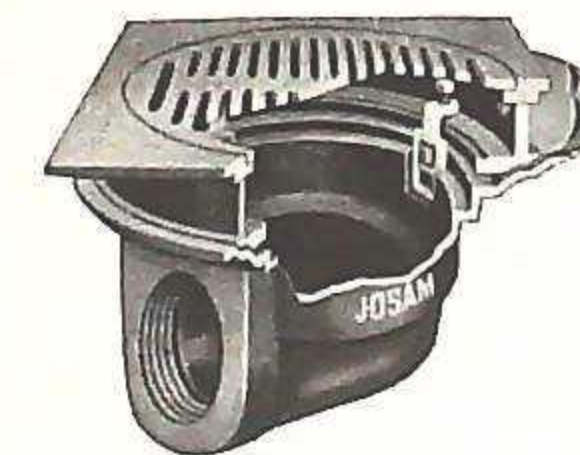
Same as Series No. 410 except with threaded SIDE OUTLET.



**SERIES NO. 430**

**SPECIFICATION**

Same as Series No. 410 except with DOUBLE DRAINAGE FLANGE and weepholes for attaching waterproofing or for anchoring drain in concrete deck.



**SERIES NO. 4020**

**SPECIFICATION**

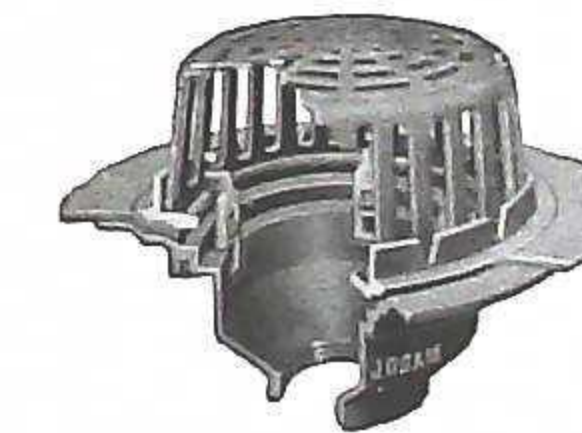
Same as Series No. 410 except with threaded SIDE OUTLET, square top fastened to clamping collar and loose set round flat grate, for PROMENADE DECK.



**SERIES NO. 4030**

**SPECIFICATION**

Same as Series No. 410 except with DOUBLE DRAINAGE FLANGE and weepholes, square top fastened to clamping collar, and loose set, round flat grate, for PROMENADE DECK.



**SERIES NO. 4110**

**SPECIFICATION**

Same as Series No. 410 except with removable MUSHROOM TYPE DOME for exceptionally large drainage areas.



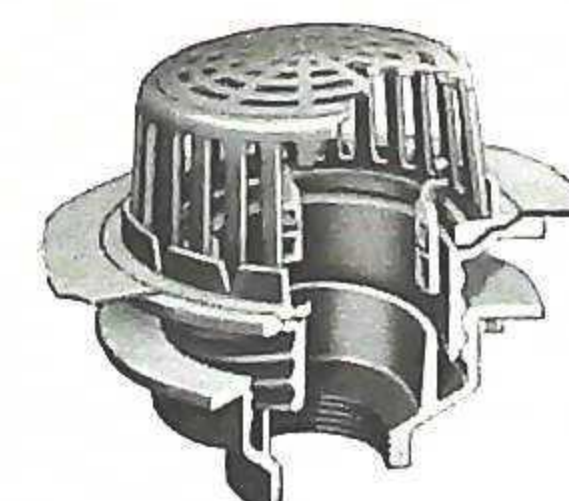
**SERIES NO. 4120**

**SPECIFICATION**

Same as Series No. 410 except with removable MUSHROOM TYPE DOME and threaded SIDE OUTLET.

**JOSAM LEVELEZE ROOF DRAIN**

With Adjustable Top

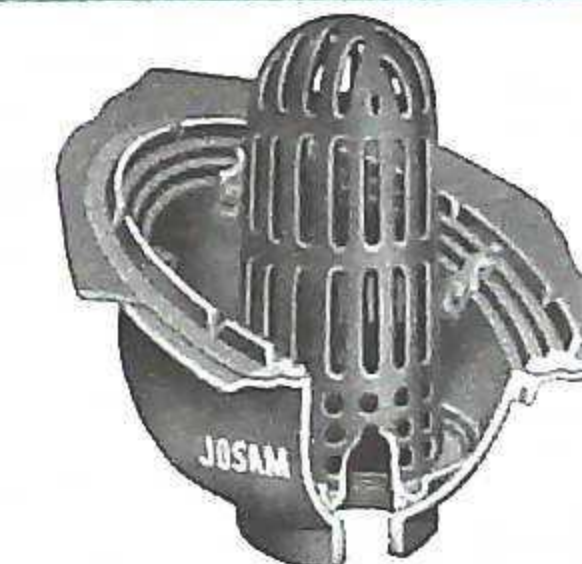


**SERIES NO. 4550**

The same adjustable top design of Josam Leveleze Floor Drains, has been incorporated in this roof drain. The body of the roof drain can be installed in the rough slab to serve as a drain for rainfall during construction.

The adjustable collar can be threaded into the drain body when the insulation or finish is applied.

For Specifications and complete details, see page 132.



**SERIES NO. 4710**

**SPECIFICATION**

Same as Series No. 410 except with PITCHED SUMP and flange for roofs having slopes of 2 1/2" to 8" per foot. (Slope of roof must be specified.)



**SERIES NO. 4720**

**SPECIFICATION**

Same as Series No. 410 except with PITCHED SUMP and flange and removable MUSHROOM TYPE DOME, for roofs having slopes of 2 1/2" to 8" per foot. (Slope of roof must be specified.)





large sump and adjustable flange with rolled thread,

### LEVEZE ROOF DRAINS

● **APPLICATION:** For installation in insulated flat roofs of any construction, where an adjustable top drain will permit raising or lowering the roof flange to meet the required insulation thickness, even after the leaders have been installed and the roof laid. Integral increaser provides added drainage capacity without increasing drain size, due to easier venting of air trapped in the leader. Roofing can be tightly secured to drain, without puncturing roofing material. Flashing is not necessary, but can be used where required.

#### ADJUSTABLE COLLAR

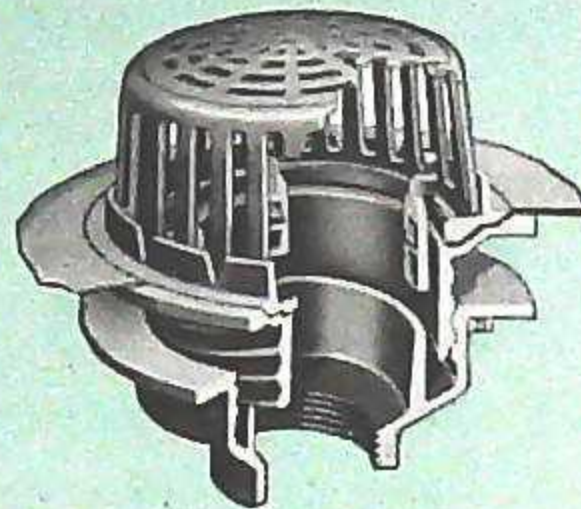
The body of the drain, without the clamp ring and gravel stop, can be installed in the roof slab or deck and connected to the conductor to serve as a roof drain during construction. When the roof construction has progressed to the insulation stage, the adjustable top collar with the integral clamp ring and gravel stop, is installed and set to the proper height for insulation and roofing. See detail below.

Also, where a finished roof level must be raised or lowered for any reason, formerly it was necessary to cut the roof finish, disturb the drain body and leader connection, undermining the strength of the roof deck. With the Leveze Roof Drain, all that is necessary is to cut the roof finish, raise or lower the adjustable collar to the desired height, and apply the new roof finish.

#### STANDARD and OPTIONAL FEATURES

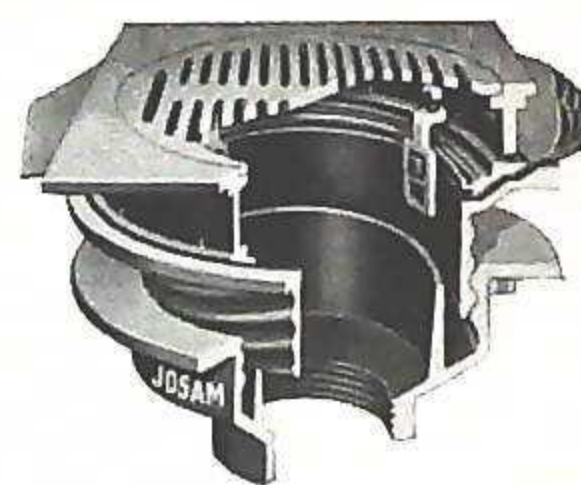
- **Body** **Standard:** Cast iron lacquer finish with large round roof flange integral with adjustable collar with rolled thread.  
**Optional:** Galvanized iron, all brass, or Everdur, at added cost.  
Large roof flange provides oversize bearing surface for roofing felts.
- **Adjustable Top** **Standard:** Rolled thread adjustable flange, in same material as body, permits lowering or raising the roof flange to meet the required insulation thickness. Adjustment of 1 1/4" to 3 1/4" can be made, even after leader is in construction and roof laid.
- **Outlet** **Standard:** Female threaded.  
**Optional:** Inside caulk bottom outlet, at no added cost.
- **Anchor Flange** **Standard:** Same material as body. Serves as an anchor in roof construction, or as a temporary roof flange during construction and before insulation and finished roof is applied.
- **Dome and Promenade Top** **Standard:** Series Nos. 4550 and 4570. Cast iron removable mushroom type dome which fits into gravel stop clamping device.  
Series No. 4580. Cast iron square top combined with flashing clamp collar and loose set round grate.  
**Optional:** Galvanized iron, rough brass, or Everdur, at added cost.

### SERIES No. 4550



#### SPECIFICATION

Josam Series No. 4550, cast iron Leveze Roof Drain with large sump and roof flange integral with adjustable collar with rolled thread, 1/2" threaded bottom outlet, removable mushroom dome, anchor flange, double reverse wedge non-puncturing flashing clamp device with integral gravel stop, adjustable clamping posts with brass screws and integral increaser having a length at least twice the diameter of the downspout.



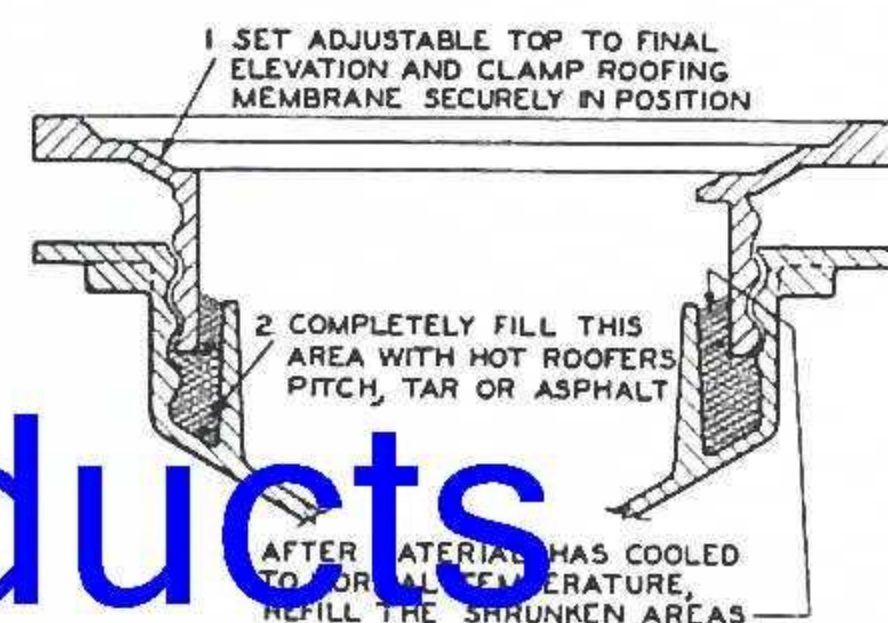
### SERIES NO. 4580

#### SPECIFICATION

Josam Series No. 4580, same as Series No. 4550 except with square promenade top and loose-set round grate.

#### INSTALLATION

To properly install Josam "Leveze" Roof Drains, follow instructions on the diagram below.



integral increaser, flashing clamp device

#### STANDARD and OPTIONAL FEATURES (continued)

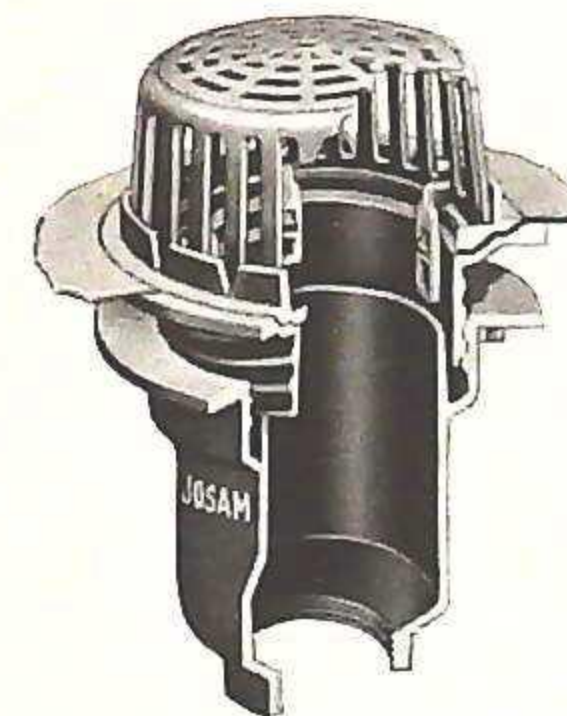
- **Flashing Clamp Device** **Standard:** Same material as body. Double reverse wedge clamp ring is integral with gravel stop and is fitted with four clamps and brass screws, adjustable to accommodate any thickness of roofing felts without puncturing roofing.
- **Expansion Joint** **Optional:** Separate cast iron joint with brass sleeve, furnished at added cost. See Series No. 1810, page 156.  
Takes up movement in line and prevents rupture of roofing material.

### TORRENTIAL TYPE LEVEZE ROOF DRAIN SERIES NO. 4570

For installation on flat roofs of any construction, in localities subject to heavy rains and torrential storms.

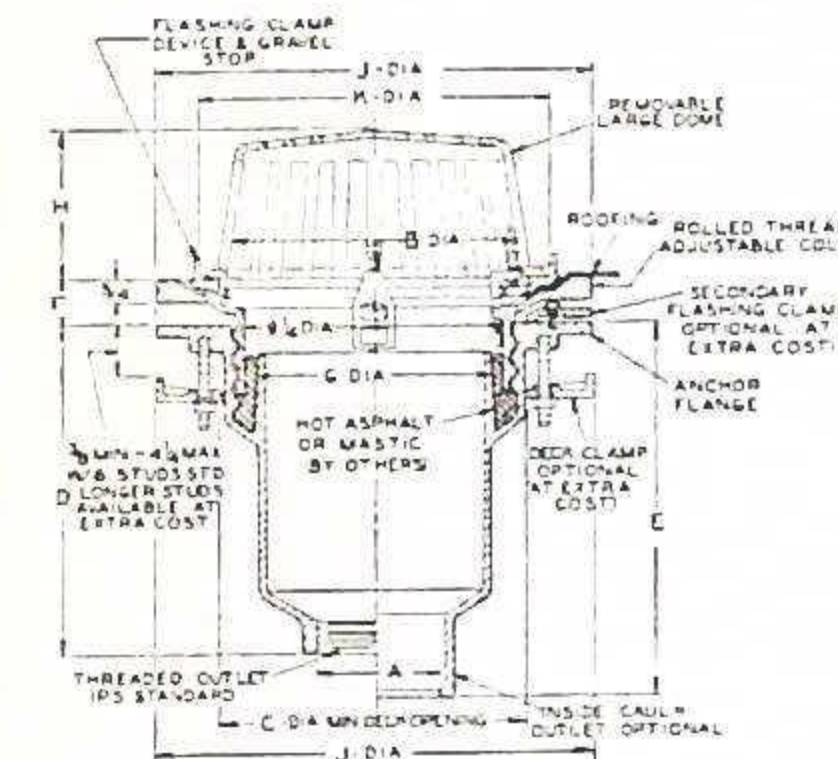
Same as Series No. 4550 except

with excessive holding capacity in sump which permits large quantities of water to be drained off roof and held in sump before entering the leader.

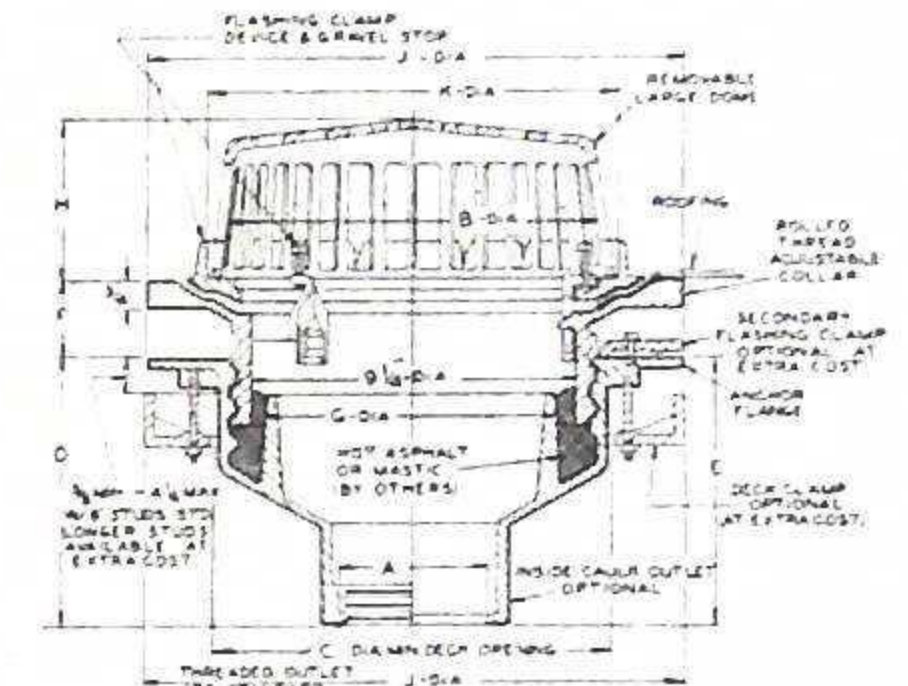


### SERIES NO. 4570

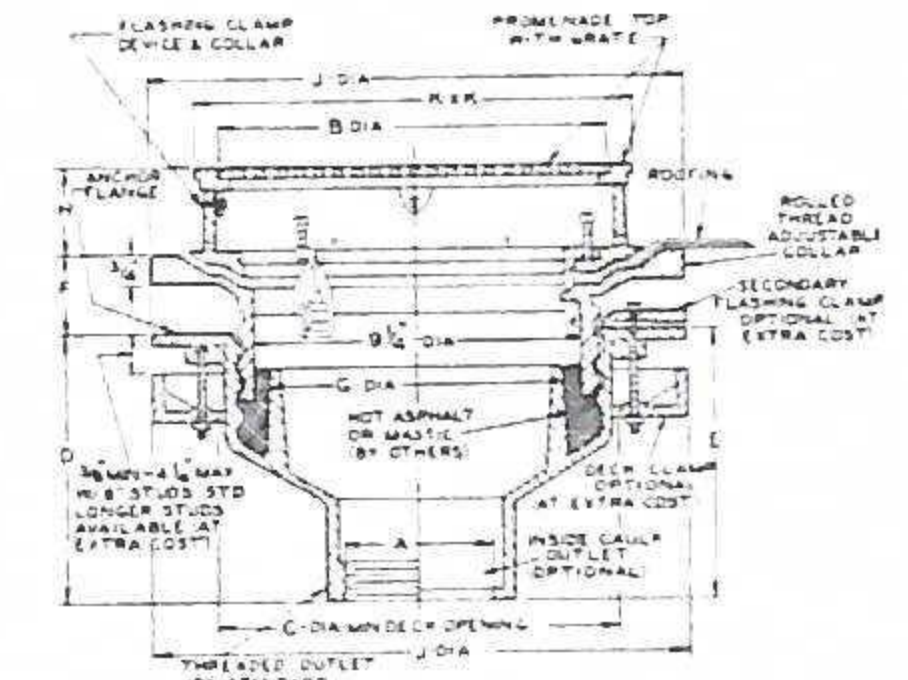
FOR OTHER TORRENTIAL TYPE ROOF DRAINS, SEE PAGE 143



### LEVEZE ROOF DRAINS



### SERIES NO. 4550



### SERIES NO. 4580

#### DIMENSIONS IN INCHES

SERIES NO.	TYPE NO.	OUT-LET A	DOME		C	D	E	COLLAR ADJUSTMENT		G	H	J	K or K x K	WGT. LBS.
			FREE AREA SQ. IN.	B				MAX.	MIN.					
	4553	3	103.0	11	11 1/2	8	8	2 3/4	1 1/4	8 1/2	5 1/4	16	12 1/2	92
	4554	4	103.0	11	11 1/2	8	8	2 3/4	1 1/4	8 1/2	5 1/4	16	12 1/2	93
	4555	5	103.0	11	11 1/2	8	8	2 3/4	1 1/4	8 1/2	5 1/4	16	12 1/2	95
	4556	6	103.0	11	11 1/2	8	8	2 3/4	1 1/4	8 1/2	5 1/4	16	12 1/2	96
	4570	2	103.0	11	11 1/2	12	14	2 3/4	1 1/4	8 1/2	5 1/4	16	12 1/2	100
	4573	3	103.0	11	11 1/2	12	14	2 3/4	1 1/4	8 1/2	5 1/4	16	12 1/2	100
	4574	4	103.0	11	11 1/2	12	14	2 3/4	1 1/4	8 1/2	5 1/4	16	12 1/2	101
	4575	5	103.0	11	11 1/2	12	14	2 3/4	1 1/4	8 1/2	5 1/4	16	12 1/2	103
	4576	6	103.0	11	11 1/2	12	14	2 3/4	1 1/4	8 1/2	5 1/4	16	12 1/2	104
	4580	2	37.8	11 3/4	11 1/2	8	8	2 3/4	1 1/4	8 1/2	2	16	13 1/4	94
	4583	3	37.8	11 3/4	11 1/2	8	8	2 3/4	1 1/4	8 1/2	2	16	13 1/4	98
	4584	4	37.8	11 3/4	11 1/2	8	8	2 3/4	1 1/4	8 1/2	2	16	13 1/4	99
	4585	5	37.8	11 3/4	11 1/2	8	8	2 3/4	1 1/4	8 1/2	2	16	13 1/4	101
	4586	6	37.8	11 3/4	11 1/2	8	8	2 3/4	1 1/4	8 1/2	2	16	13 1/4	102

# Hy-Tech Products

(features continued on next page)

with integral increaser

● **APPLICATION:** For use in Chicago, Illinois and other localities where code permits increased drainage area on downspouts or leaders connected to roof drain. Length of the integral increaser is at least twice the diameter of the connecting downspout.

Integral increaser provides added drainage capacity without increasing drain size, due to easier venting of air trapped in the leader.

For features to suit additional requirements, see Adaptations of Series No. 400

For installation on flat roofs of any construction where ample free drainage area must be provided for quick storm drainage, and where roofing must be tightly secured to drain without puncturing roofing material.

Flashing is not necessary but can be used when required.

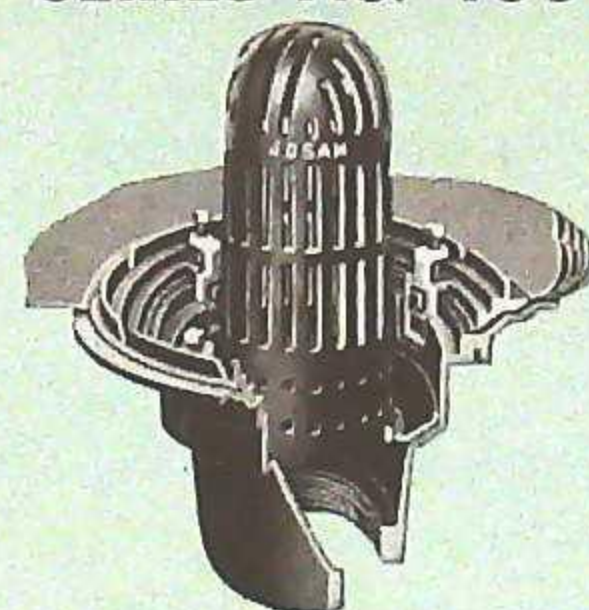
**STANDARD and OPTIONAL FEATURES**

The features below apply to drains in this group. The illustrations show the standard features applicable to each design.

- **Body** **Standard:** Cast iron lacquer finish, with round flange.  
**Optional:** Galvanized iron, all brass, or Everdur at added cost.  
Integral increaser provides added drainage capacity without increasing drain size. Large roof flange provides oversize bearing surface for roofing felts.
- **Outlet** **Standard:** Female threaded.  
**Optional:** Inside caulk, at no added cost.
- **Dome or Promenade Top** **Standard:** Cast iron lacquer finish, as follows:  
Series No. 400. Combined high dome and sediment cup.  
Series No. 4000. Loose set round grate in square top bolted to 2" high collar integral with flashing clamp device, for promenade roof.  
Series No. 4100. Removable mushroom type dome which fits into gravel stop.  
**Optional:** Galvanized iron, rough brass or Everdur, at added cost. Series No. 4000 also furnished with polished or chrome plated top, at added cost.
- **Flashing Clamp Device** **Standard:** Same material as body. Double reverse wedge clamp ring is integral with gravel stop and is fitted with four clamps and brass screws, adjustable to accommodate any thickness of roofing felts without puncturing roofing.  
On Series No. 4000, clamp device is integral with 2" high collar secured to the top frame by bolts.
- **Flooding Water Dam** **Optional:** Brass standpipe of varying heights, with cast iron dome, furnished for any sump type roof drain, at added cost.  
Maintains a desired depth of water on the roof. See page 148.
- **Standing Water Collar** **Optional:** Collar, 2" or higher, in same material as body, furnished for any sump type roof drain, at added cost.  
Collar maintains a desired depth of water on roof and is removable for draining roof. See page 150.
- **Deck Clamp** **Optional:** Two piece ring with 2" high bearing flange, in same material as body, at added cost.  
Ring is fastened to body by bolts, anchoring roof drain to deck, and preventing rupture of roofing due to expansion of leader.
- **Expansion Joint** **Optional:** Separate cast iron joint with brass sleeve, furnished at added cost. See Series No. 1810, page 156.

Chicago code type

**SERIES No. 400**



**SPECIFICATION**

Josam Series No. 400, cast iron roof drain with large sump and round flange, 1/2" bottom outlet, integral increaser having a length at least twice the diameter of downspout, removable high dome and sediment cup, and double reverse wedge non-puncturing flashing clamp device integral with gravel stop.

**NOTE:** The above specification covers Josam Series No. 400. Where optional features or materials are required, select style from illustrations shown, change Series Number above, and insert optional features or materials.

**ADAPTATIONS OF JOSAM SERIES NO. 400**

The following illustrations show the SPECIAL FEATURES of Adaptations of Series No. 400. Standard and Optional Features are listed on the opposite page.

(For other styles of drains with integral increaser, see pages 132-133)



**SERIES NO. 4000**

**SPECIFICATION**

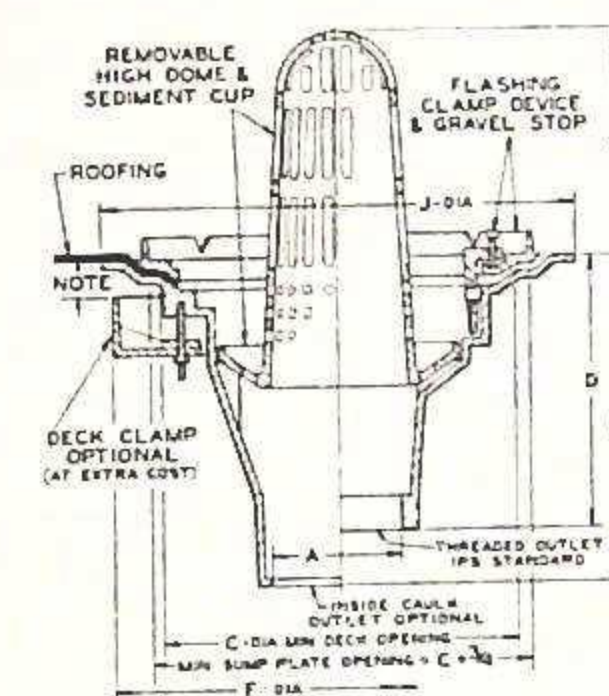
Same as Series No. 400 except with square top and loose set round grate, for PROMENADE deck.



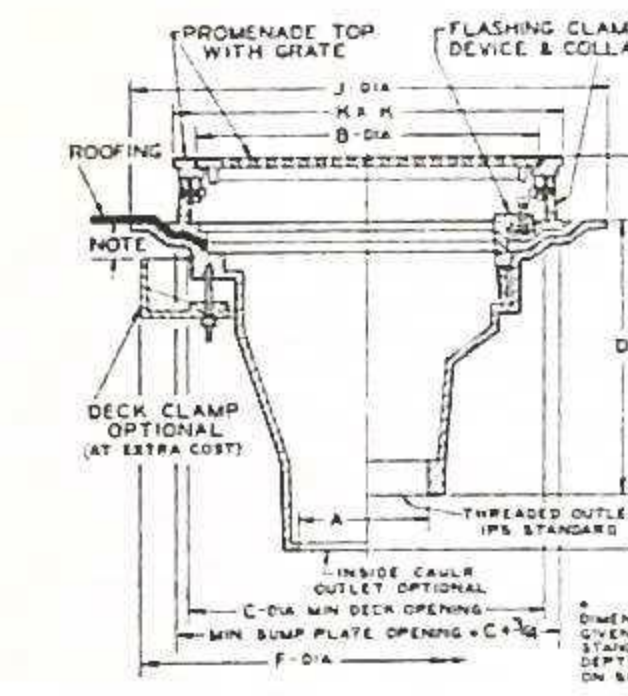
**SERIES NO. 4100**

**SPECIFICATION**

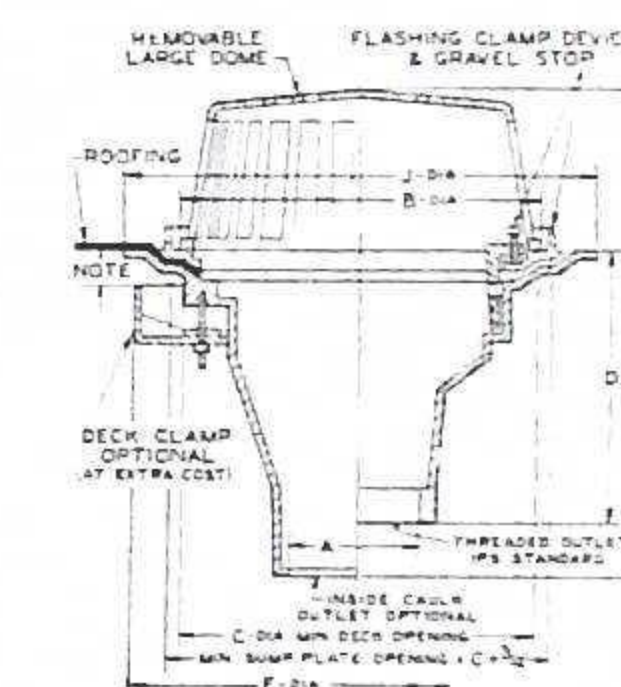
Same as Series No. 400 except with removable MUSHROOM TYPE DOME for exceptionally heavy drainage areas.



**SERIES NO. 400**



**SERIES NO. 4000**



**SERIES NO. 4100**

**DIMENSIONS IN INCHES**

SERIES NO.	TYPE NO.	A IN.	DOME OR GRATE		C	D	E	F	H	J**	K	WGT. LBS.
			B IN.	FREE AREA SQ. IN.								
400	403	3		42.7	12	7	8 3/4	15 1/4	7 1/2	16		41
	404	4		42.7	12	9 1/8	11	15 1/4	7 3/4	16		44
	405	5		53.2	13	11 1/4	13 1/4	16 3/8	7 3/8	17 1/4		67
	406	6		73.7	14 3/8	13 3/8	15 3/8	17 1/2	7 3/8	18 1/2		71
4000	4003	3	11 1/2	37.8	12	7	8 3/4	15 1/4	2*	16	13	47
	4004	4	11 1/2	37.8	12	9 1/8	11	15 1/4	2*	16	13	50
	4005	5	12 3/4	41.6	13	11 1/4	13 1/4	16 3/8	2*	17 1/4	14 1/4	69
	4006	6	13 1/2	42.1	14 3/8	13 3/8	15 3/8	17 1/2	2*	18 1/2	15 1/8	76
4100	4103	3	12 1/4	103.0	12	7	8 3/4	15 1/4	5 3/8	16		43
	4104	4	12 1/4	103.0	12	9 1/8	11	15 1/4	5 3/8	16		46
	4105	5	14 1/8	130.0	13	11 1/4	13 1/4	16 3/8	5 3/8	17 1/4		67
	4106	6	14 1/8	130.0	14 3/8	13 3/8	15 3/8	17 1/2	5 3/8	18 1/2		72

\* GREATER DEPTH OPTIONAL

\*\* Square flange optional on Series Nos. 400 and 4100, at added cost.

Hy-Tech Products



## ROOF DRAINS

● **APPLICATION:** For installation on flat roofs of any construction, where connecting leader does not provide for adequate expansion or contraction, and where ample free drainage area must be provided for quick storm drainage. Integral expansion joint provides easy access through roof drain, for maintenance and adjustment.

Flashing is not necessary but can be used when required.

For features to suit additional requirements, see Adaptations of Series No. 4210 and other Roof Drains with Integral Expansion Joints on pages 138, 139.

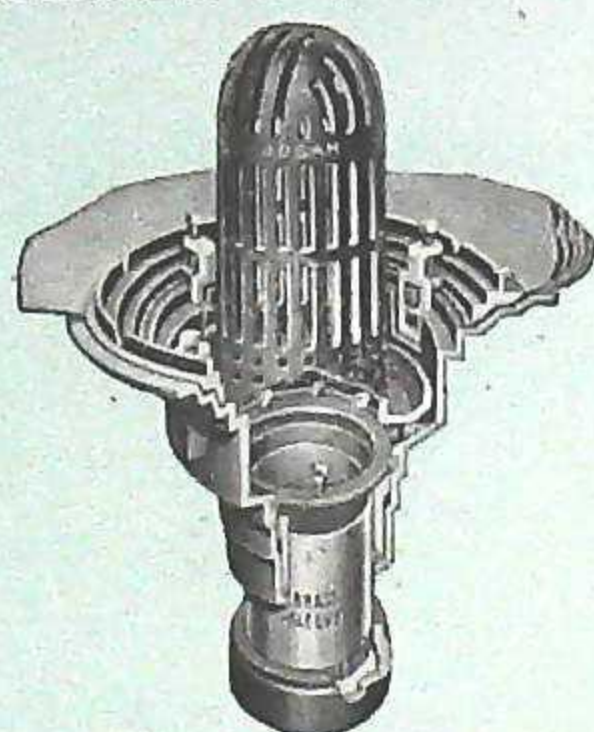
### STANDARD and OPTIONAL FEATURES

The features below apply to drains in this group. The illustrations show the standard features applicable to each design.

- **Body** **Standard:** Cast iron lacquer finish, with large round flange.  
**Optional:** Galvanized iron, all brass, or Everdur, at added cost.  
Large roof flange provides oversize bearing surface for roofing felts.
- **Expansion Joint** **Standard:** Cast iron expansion joint integral with drain body, with brass sleeve, pressure ring, packing gland and graphited gasket.  
**Optional:** Galvanized iron, all brass, or Everdur, with brass sleeve, at added cost.  
Permits contraction or expansion up to 1 3/4" each way in the line or a total of 3 1/2". Occupies less space than a separate expansion joint, eliminates extra fittings, and is easily accessible through roof drain opening for maintenance and adjustment.
- **Outlet** **Standard:** Female threaded.
- **Dome or Promenade Top** **Standard:** Cast iron lacquer finish, as follows: Series No. 4210, combined high dome and sediment cup. Series No. 4310, loose set round grate in square frame fastened to 2" high collar which is integral with flashing clamp device. Series No. 4410, large removable mushroom type dome which fits into gravel stop.  
**Optional:** Galvanized iron, rough brass or Everdur, at added cost. Promenade top also furnished polished or chrome plated brass, at added cost.
- **Flashing Clamp Device** **Standard:** Same material as body. Double reverse wedge clamp ring is integral with gravel stop and is fitted with four clamps and brass screws, adjustable to accommodate any thickness of roofing felts without puncturing roofing.
- **Deck Clamp** **Optional:** Two piece ring with 2" high bearing flange, in same material as body, at added cost.  
Ring is fastened to body by bolts, anchoring roof drain to deck, and preventing rupture of roofing due to expansion of leader.
- **Flooding Water Dam** **Optional:** Brass standpipe of varying heights, with cast iron dome, furnished for any sump type roof drain, at added cost. Maintains a desired depth of water on the roof. See page 148.
- **Standing Water Collar** **Optional:** Collar, 2" or higher, in same material as body, furnished for any sump type roof drain, at added cost.  
Collar maintains a desired depth of water on roof and is removable for draining roof. See page 150.

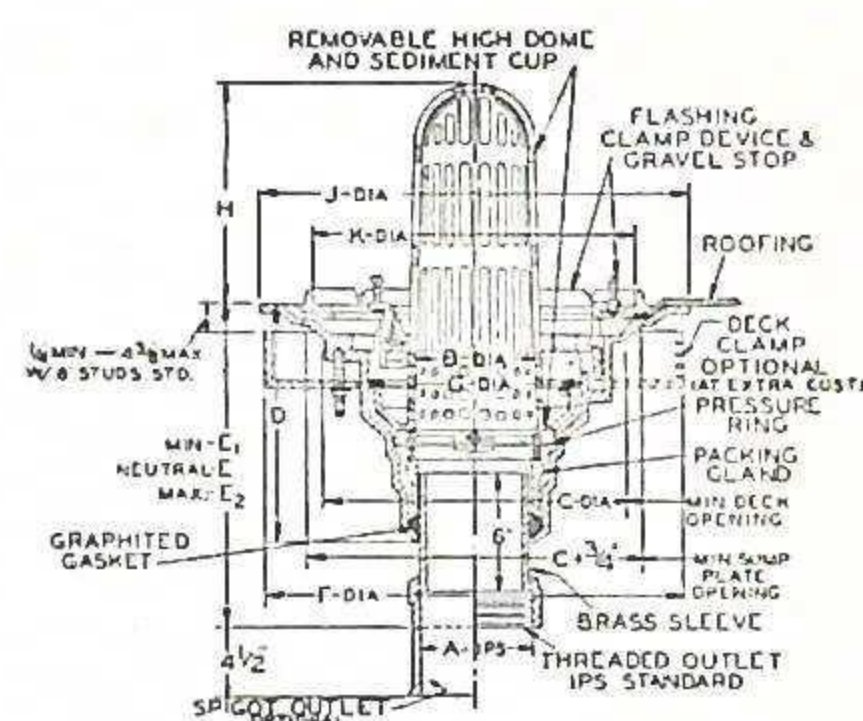
with integral expansion joint

### SERIES No. 4210



#### SPECIFICATION

Josam Series No. 4210, cast iron roof drain with large sump and flange 1/2" threaded outlet, removable combined high dome and sediment cup, double reverse wedge non-puncturing flashing clamp device integral with gravel stop, and cast iron integral expansion joint with brass sleeve.



SERIES NO. 4210

**NOTE:** The above specification covers Josam Series No. 4210. Where optional features or materials are required, select style from illustrations shown, change Series Number above, and insert optional features or materials.

dome or promenade top



## ROOF DRAINS

### ADAPTATIONS OF JOSAM SERIES No. 4210

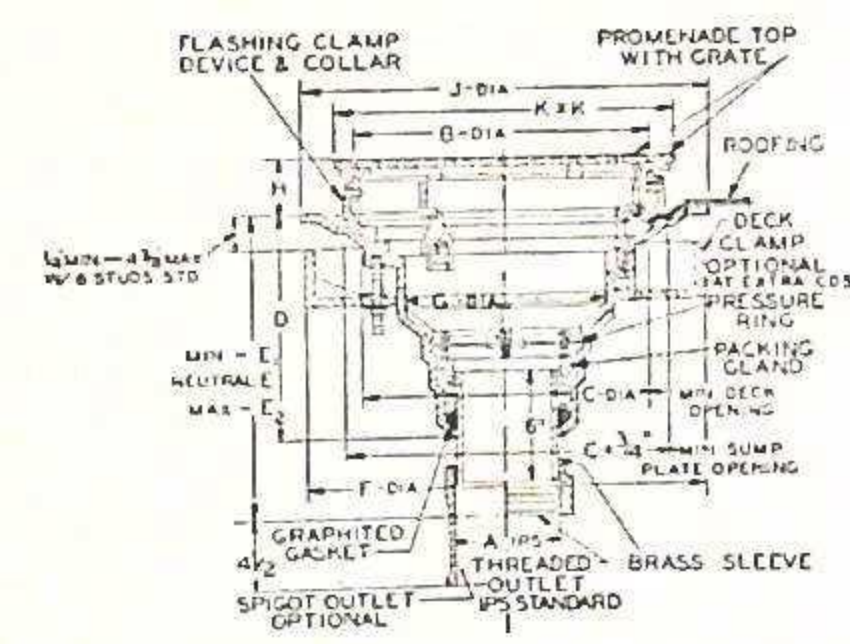
The following illustrations show the SPECIAL FEATURES of Adaptations of Series No. 4210. Standard and Optional Features are listed on the opposite page.



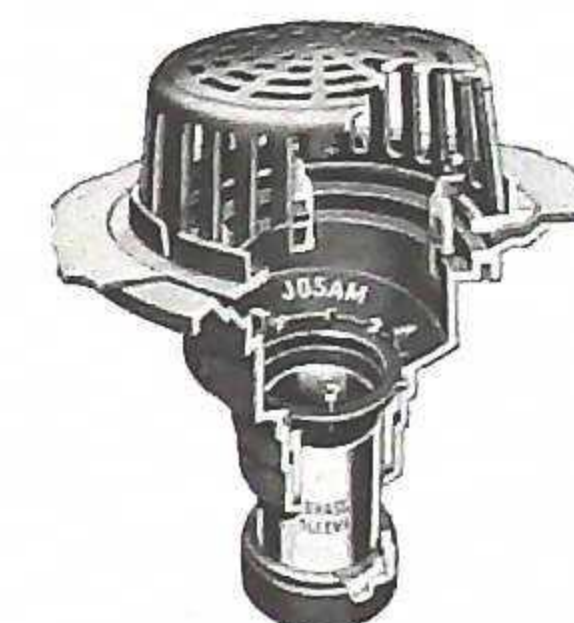
SERIES NO. 4310

#### SPECIFICATION

Same as Series No. 4210 except with PROMENADE square top and loose grate. Collar is integral with clamp device and is bolted to top frame.



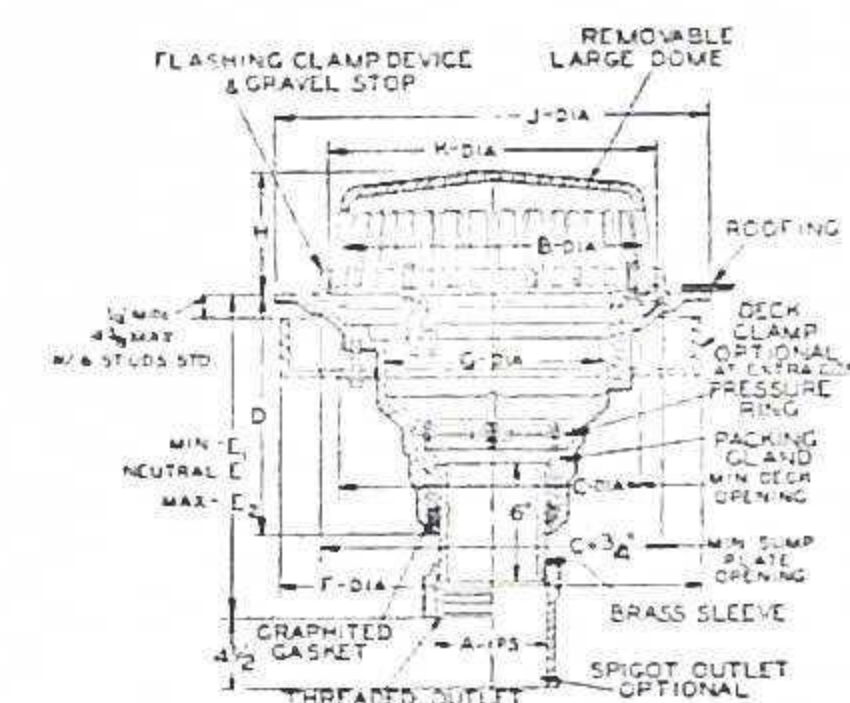
SERIES NO. 4310



SERIES NO. 4410

#### SPECIFICATION

Same as Series No. 4210 except with removable MUSHROOM TYPE DOME which fits into gravel stop clamping device.



SERIES NO. 4410

### DIMENSIONS IN INCHES

SERIES NO.	TYPE NO.	OUT-LET A	DOME or GRATE		C	D	E'	E	E'	F	G	H	J**	K	WGT. LBS.
			FREE AREA SQ. IN.	B											
4210	4212	2	42.7	4 3/8	12	9	11	12 3/4	14 1/2	15 1/4	8 3/8	7 3/4	16	12 1/2	45
	4213	3	42.7	4 3/8	12	9	11	12 3/4	14 1/2	15 1/4	8 3/8	7 3/4	16	12 1/2	45
	4214	4	42.7	4 3/8	12	9	11	12 3/4	14 1/2	15 1/4	8 3/8	7 3/4	16	12 1/2	50
	4215	5	53.2	5 3/4	13	9 1/2	12 1/4	14	15 3/4	16 1/2	9 3/8	7 3/4	17 1/4	13 1/2	61
	4216	6	73.7	6 1/2	14	9 1/2	11 3/4	13 1/2	15 1/4	17 1/2	10 3/8	8	18 1/4	14 1/2	75
	4218	8	79.0	8 1/4	16	10	12	13 3/4	15 1/2	19 1/2	12 3/8	8	20 3/8	16 1/2	100
4310	4312	2	37.8	11 3/4	12	9	11	12 3/4	14 1/2	15 1/4	8 3/8	2*	16	13 1/4	48
	4313	3	37.8	11 3/4	12	9	11	12 3/4	14 1/2	15 1/4	8 3/8	2*	16	13 1/4	52
	4314	4	37.8	11 3/4	12	9	11	12 3/4	14 1/2	15 1/4	8 3/8	2*	16	13 1/4	53
	4315	5	41.6	12 3/4	13	9 1/2	12 1/4	14	15 3/4	16 1/2	9 3/8	2*	17 1/4	14 1/2	70
	4316	6	42.1	13 1/2	14	9 1/2	11 3/4	13 1/2	15 1/4	17 1/2	10 3/8	2*	18 1/4	15 3/8	80
	4410	4412	2	103.0	11	12	9	11	12 3/4	14 1/2	15 1/4	8 3/8	5 1/4	16	12 1/2
4413		3	103.0	11	12	9	11	12 3/4	14 1/2	15 1/4	8 3/8	5 1/4	16	12 1/2	48
4414		4	103.0	11	12	9	11	12 3/4	14 1/2	15 1/4	8 3/8	5 1/4	16	12 1/2	49
4415		5	130.0	13	13	9 1/2	12 1/4	14	15 3/4	16 1/2	9 3/8	5 1/4	17 1/4	14 1/2	72
4416		5	130.0	13	14	9 1/2	11 3/4	13 1/2	15 1/4	17 1/2	10 3/8	5 1/4	18 1/4	14 1/2	80

\* Greater depth optional, at added cost

\*\* Square flange optional on Series Nos. 4210 and 4410, at added cost.

Hy-Tech Products

**Josam**  
MISCELLANEOUS  
ROOF DRAINS

with integral expansion joint

● **APPLICATION:** For installation on flat roofs of any construction where ample free drainage area is necessary for quick storm drainage, and where connecting leader does not provide for adequate expansion and contraction. Integral expansion joint provides easy access at roof level for adjustment and maintenance.

Flashing is not necessary but can be used when required.  
For features to suit additional requirements, see variations in this group and other types on page 136.

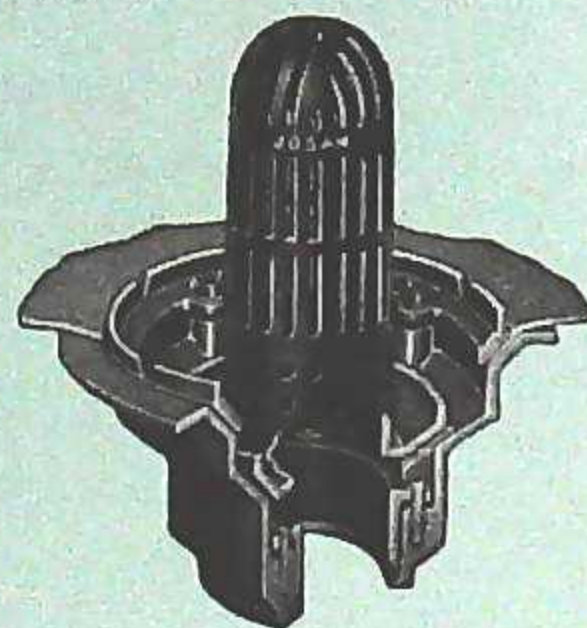
**STANDARD and OPTIONAL FEATURES**

The features below apply to drains in this group. The illustrations show the standard features applicable to each design.

- **Body** **Standard:** Cast iron lacquer finish, with round flange.  
**Optional:** Galvanized iron, all brass, or Everdur, at added cost.  
On Series No. 4770-E, cast iron flange for bolting or braze welding to steel deck or sump plate, fastened to body with steel studs to accommodate various thicknesses of flashing or roofing material. For steel deck, flange must be brazed to deck or gasketed to eliminate possibility of leakage.
- **Outlet** **Standard:** Female threaded (except Series Nos. 4290 and 4390, for standard weight wrought iron or steel pipe, or extra heavy cast iron soil pipe).
- **Dome or Promenade Top** **Standard:** Cast iron lacquer finish, as follows:  
Series No. 4640-D and 4770-E, removable beehive dome.  
Series No. 4290, combined high dome and sediment cup.  
Series No. 4390, promenade square top with loose set round grate.  
**Optional:** Galvanized iron, rough or polished or chrome plated brass, or Everdur, at added cost.
- **Flashing Clamp Device and Gravel Stop** **Standard:** Same material as body, integral with gravel stop and bolted to body. On Series No. 4390, the clamping device is integral with collar bolted to body for 1 1/2" roof fill.  
**Optional:** Galvanized iron, all brass, or Everdur, at added cost.  
Gravel stop prevents roof finish from being washed into drain body and leader.
- **Deck Clamp** **Standard:** On Series No. 4640-D, two piece ring with 2" high bearing flange in same material as body, at added cost.  
**Optional:** On Series No. 4770-E, at added cost.  
Ring is fastened to body by bolts, anchoring roof drain to deck, and preventing rupture of roofing due to expansion of leader.
- **Expansion Joint** **Standard:** Series Nos. 4290 and 4390. Cast iron internal expansion joint with packing gland and graphited gasket, bolted to drain body.  
Series No. 4640-D. Cast iron, integral with drain body, with internal packing gland, pressure ring and heavy gauge brass sleeve with graphited gasket.  
Series No. 4770-E. Cast iron, with outside packed brass sleeve, bolted pressure ring and graphited gasket. Total movement of sleeve is 3 1/2".

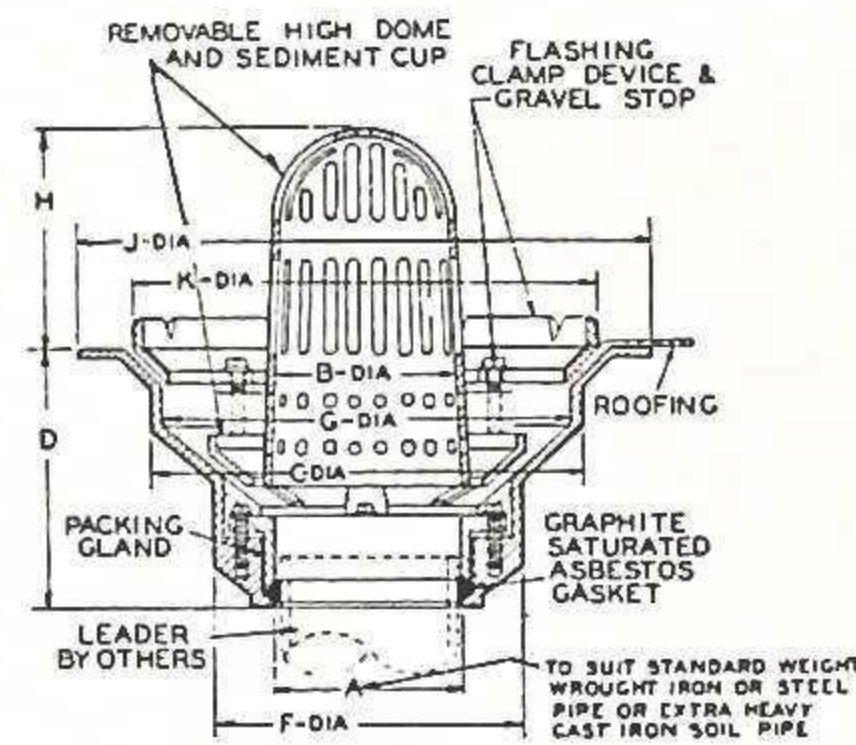
**SPECIFICATION**

See "Specification" under each illustration.



**SERIES NO. 4290**  
**SPECIFICATION**

Josam Series No. 4290, C.I. roof drain, medium sump and round flange, bottom outlet for wrought iron, (steel or extra heavy cast iron soil pipe), removable combined high dome strainer and sediment cup, bolted flashing clamp device integral with gravel stop and integral internal expansion joint with packing gland.



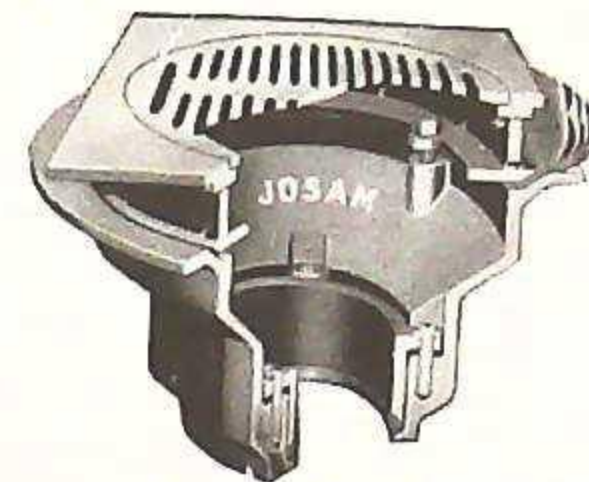
**SERIES NO. 4290**

**NOTE**

The "Specifications" cover standard features. Where optional features or materials are required, insert optional features or materials in the specifications.

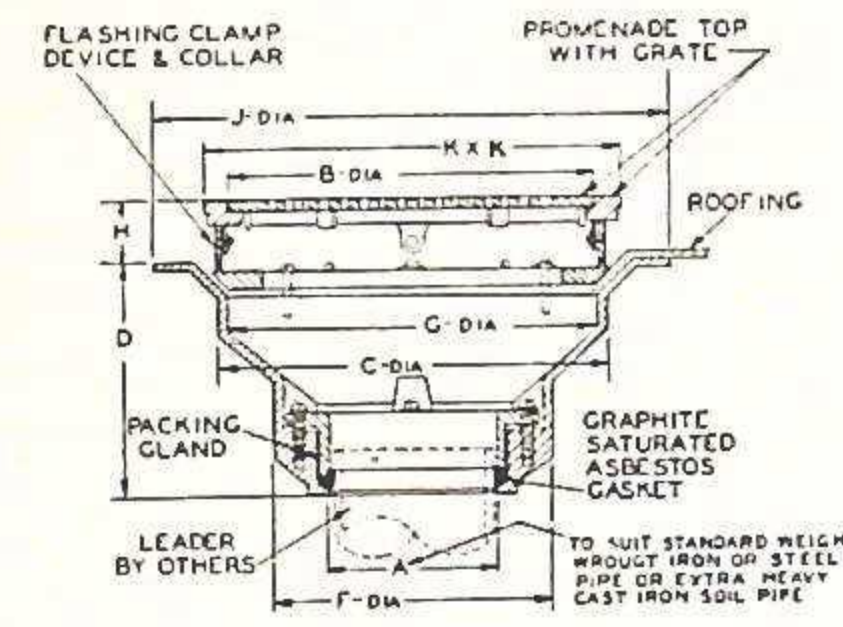
with integral expansion joint

**Josam**  
MISCELLANEOUS  
ROOF DRAINS

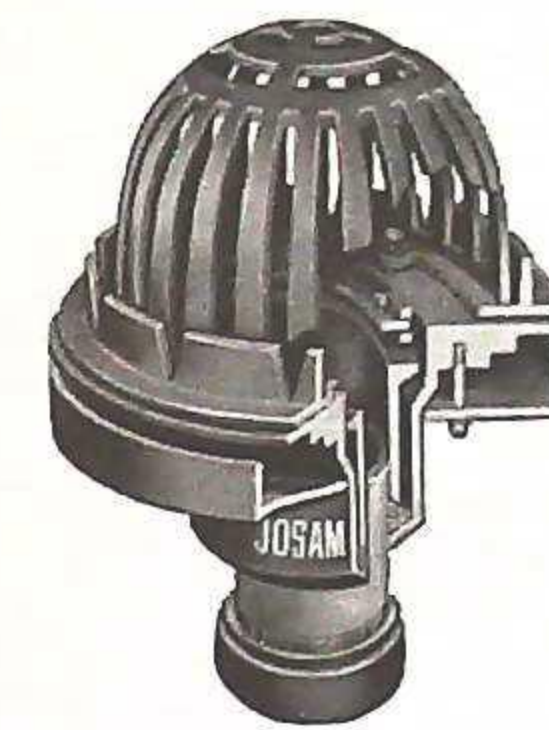


**SERIES NO. 4390**  
**SPECIFICATION**

Same as Series No. 4290 except with square, PROMENADE TOP bolted to 1 1/2" high collar integral with flashing clamp device, and removable loose set round grate.

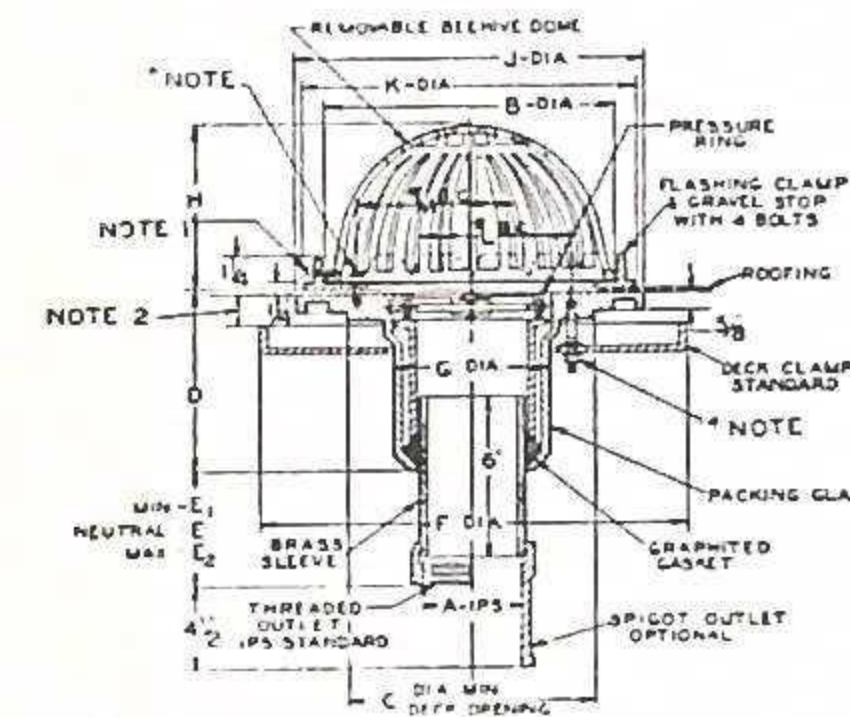


**SERIES NO. 4390**



**SERIES NO. 4640-D**  
**SPECIFICATION**

Josam Series No. 4640-D, C.I. roof drain, round flange, threaded bottom outlet, bolted flashing clamp device integral with gravel stop, removable non-filling beehive dome, deck clamp fastened to drain body by studs, and integral expansion joint with brass sleeve, pressure ring and internal packing gland.



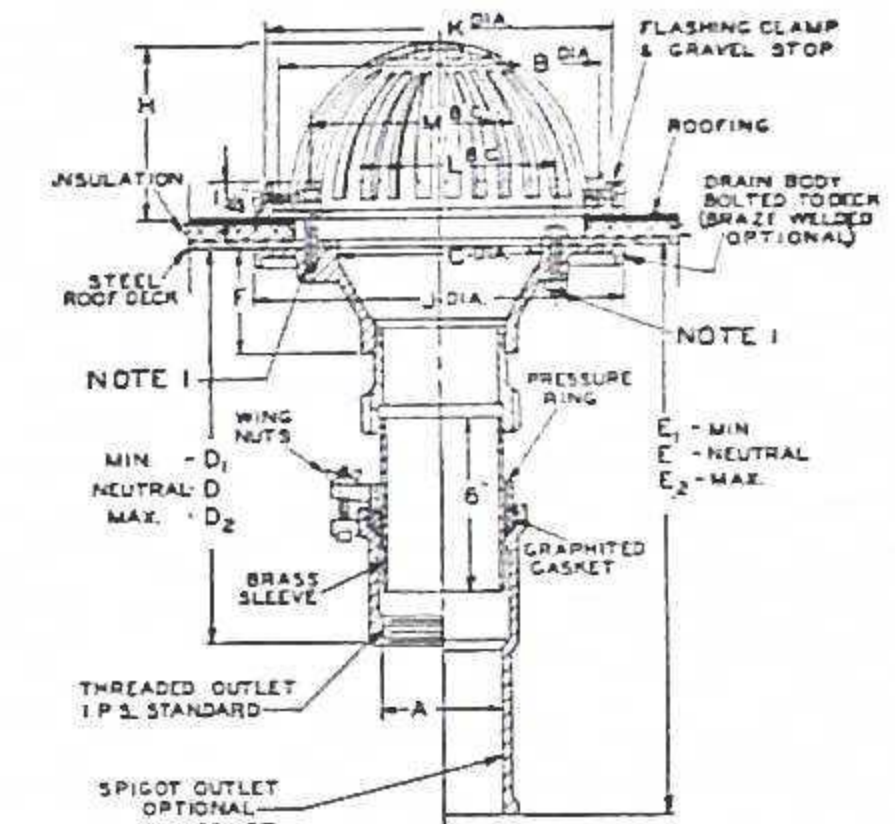
**SERIES NO. 4640-D**

NOTE: "Bolts on "L" and "M" B.C. are staggered.  
NOTE 1: 2 brass screws to secure dome, optional at extra cost.  
NOTE 2: 5/8" Min. - 5" Max. roof construction with 6" studs, standard. Longer studs optional at extra cost.



**SERIES NO. 4770-E**  
**SPECIFICATION**

Josam Series No. 4770-E, C.I. roof drain, round flange, threaded bottom outlet, bolted flashing clamp device integral with gravel stop, removable beehive dome secured to gravel stop, cast iron deck flange for bolting or braze welding to steel deck or sump plate, and cast iron expansion joint with pressure ring and outside packed brass sleeve.



**SERIES NO. 4770-E**

NOTE: Four 3/8" - 16 N.C. bolts spaced equally on "L" and "M" bolt circles.

SERIES NO.	TYPE NO.	OUT-LET A	DOME OR GRATE		DIMENSIONS IN INCHES													WGT. LBS.			
			FREE AREA SQ. IN.	B	C	D'	D	D'	E'	E	E'	F	G	H	J	K	L		M		
4290	4293	3	31.3	4	10 3/4		6 3/8						6 3/4	10 1/8	4 3/4	14	11 1/2				30
	4294	4	31.3	4	10 3/4		6 3/8						7 3/4	10 1/8	4 3/4	14	11 1/2				30
	4295	5	31.3	4	10 3/4		6 3/8						9 1/8	10 1/8	4 3/4	14	11 1/2				33
	4296	6	31.3	4	10 3/4		6 3/8						10	10 1/8	4 3/4	14	11 1/2				35
4390	4393	3	32.5	10	10 3/4		6 3/8						6 3/4	10 1/8	1 1/2	14	11 3/8				30
	4394	4	32.5	10	10 3/4		6 3/8						7 3/4	10 1/8	1 1/2	14	11 3/8				32
	4395	5	32.5	10	10 3/4		6 3/8						9 1/8	10 1/8	1 1/2	14	11 3/8				33
	4396	6	32.5	10	10 3/4		6 3/8						10	10 1/8	1 1/2	14	11 3/8				34
4640-D	4642-D	2	37.6	7 7/8	7 1/2		6 1/2		2 1/4	4	5 3/4	12	3 3/8	5 3/8	11	10	6 5/8	6 1/2			40
	4643-D	3	37.6	7 7/8	7 1/2		6 1/2		2 1/4	4	5 3/4	12	4 3/8	5 3/8	11	10	6 5/8	6 1/2			46
	4644-D	4	61.2	11	9 3/4		6 1/2		2 3/8	4	6	15	5 3/4	6	13	12 3/8	8 3/8	8 3/8			55
	4645-D	5	61.2	11	9 3/4		6 1/2		2 3/8	4 1/4	6	15	6 3/4	6	13	12 3/8	8 3/8	8 3/8			55
4770-E	4646-D	6	71.5	14 3/8	13 3/8		7		2 3/8	4 1/4	6	18 1/2	7 3/4	7 1/2	16 3/8	16 1/4	12 1/4	12 1/4			73
	4648-D	8	71.5	14 3/8	13 3/8		6 1/4		2 3/4	4 1/2	6 1/4	18 1/2	9 5/8	7 1/2	16 3/8	16 1/4	12 1/4	12 1/4			78
	4772-E	2	37.6	7 7/8	4 3/8	12 3/8	14 1/8	15 3/8	17 3/8	19 1/8	20 3/8	2 3/8		5 3/8	10	8 1/2	6 5/8	6 1/2			29
	4773-E	3	37.6	7 7/8	4 3/8	12 3/8	13 3/8	15 3/8	17 3/8	18 3/8	20 3/8	2 3/8		5 3/8	10	8 1/2	6 5/8	6 1/2			29
4770-E	4774-E	4	61.2	11	7	12 3/4	14 3/4	15 3/4	17 3/4	19 3/4	20 3/4	3 1/2		6	12 3/8	11 3/4	8 3/8	8 3/8			40
	4775-E	5	61.2	11	7	12 3/4	14 3/4	15 3/4	17 3/4	19 3/4	20 3/4	3 1/2		6	12 3/8	11 3/4	8 3/8	8 3/8			42
	4776-E	6	71.5	14 3/8	11 3/8	13 1/8	14 3/8	16 1/8	18 1/8	19 3/8	21 1/8	4		7 1/2	16 1/4	15 3/8	12 1/4	12 1/4			58
	4778-E	8	71.5	14 3/8	11 3/8	13 1/8	14 3/8	16 1/8	18 1/8	19 3/8	21 1/8	4		7 1/2	16 1/4	15 3/8	12 1/4	12 1/4			58

INSTALL DRAIN WITH EXPANSION JOINT AT "E" DIMENSION.

Hy-Tech Products

● **APPLICATION:** For installation on flat roofs of any construction, where free ample drainage area is required, and where excess waterway is necessary to permit drainage in the event a portion of dome or grate becomes obstructed by leaves, paper or other debris.

Flashing is not necessary but can be used when required.

For features to suit additional requirements, see variations of drains in this group, and additional styles on pages 128-155.

**STANDARD and OPTIONAL FEATURES**

The features below apply to drains in this group. The illustrations show the standard features applicable to each design.

- **Body** **Standard:** Cast iron lacquer finish, as follows:  
Round flange on Series Nos. 4610, 4630-D, and 4770-D.  
Square frame on Series No. 4620. Square flange with integral caulking groove on Series Nos. 4680 and 4690.  
Round body with caulking ring on Series No. 4670.  
**Optional:** Galvanized iron, all brass, or Everdur, at added cost.
- **Outlet** **Standard:** Female threaded bottom outlet on all types except Series No. 4690 which is inside caulk.  
**Optional:** Inside caulk in place of threaded bottom outlet, at no added cost.
- **Dome or Grate** **Standard:** Cast iron lacquer finish, as follows:  
Locking type beehive dome on Series No. 4610.  
Square grate in square frame integral with bolted flashing clamp and tile stop on Series No. 4620.  
Removable non-tilting beehive dome on Series Nos. 4630-D and 4770-D.  
High dome secured to roofing ring by screws, on Series No. 4670.  
Removable combined high dome and sediment cup on Series No. 4680.  
Large beehive dome bolted to caulking flange on Series No. 4690.  
**Optional:** Galvanized iron, rough or polished or chrome plated brass, or Everdur, at added cost.
- **Flashing Clamp Device and Gravel Stop** **Standard:** Ring in same material as body, as follows:  
Bolted type integral with gravel stop on Series Nos. 4610, 4630-D and 4770-D.  
Bolted type integral with tile stop for 1 1/2" or more roof fill, on Series No. 4620.  
Roofing ring with caulking groove for flashing, on Series No. 4670.  
Caulking groove integral with drain body, on Series Nos. 4680 and 4690.
- **Deck Clamp** **Standard:** On Series No. 4630-D and 4770-D.  
**Optional:** Two piece ring with 2" high bearing flange, in same material as body, for bottom outlet drains only, at added cost.  
**Optional:** On Series Nos. 4610 and 4620.  
Ring is fastened to body by bolts, anchoring roof drain to deck, and preventing rupture of roofing due to expansion of leader.
- **Expansion Joint** **Optional:** Separate cast iron joint with brass sleeve, furnished at added cost. See Series No. 1810, page 156.

**SPECIFICATION**

See "Specification" under each illustration.

Where optional features or materials are required, insert same in specification.



SERIES NO. 4610

**SPECIFICATION**

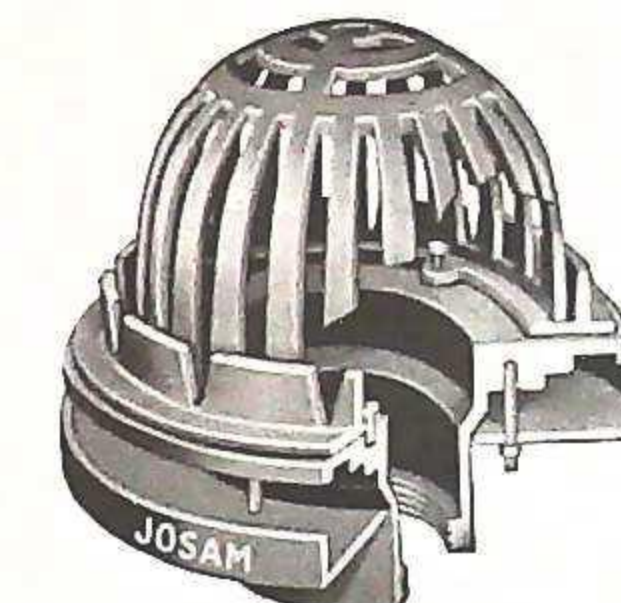
Josam Series No. 4610, cast iron roof drain with medium sump and round flange, 1/2" bottom threaded outlet, anchor lugs, removable locking type beehive dome and bolted flashing clamp device integral with gravel stop.



SERIES NO. 4620

**SPECIFICATION**

Josam Series No. 4620, cast iron roof drain with round sump, square flange, 1/2" bottom threaded outlet, anchor lugs, loose set square grate in square frame which serves as a flashing clamp device and tile stop collar for 1 1/2" roof fill



SERIES NO. 4630-D

**SPECIFICATION**

Josam Series No. 4630-D, cast iron roof drain with round deck flange, 1/2" threaded bottom outlet, bolted flashing clamp device integral with gravel stop, removable non-tilting beehive dome and deck clamp fastened with studs.



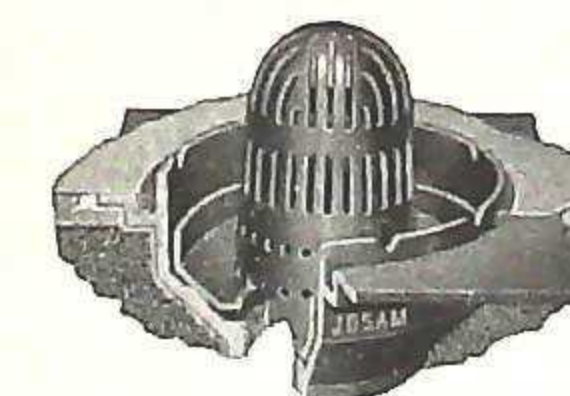
SERIES NO. 4670

**SPECIFICATION**

Josam Series No. 4670, cast iron roof drain with long body, anchor lugs, 1/2" threaded bottom outlet, roofing ring for caulking with flashing, and high dome strainer secured to roofing ring by screws.

**NOTE**

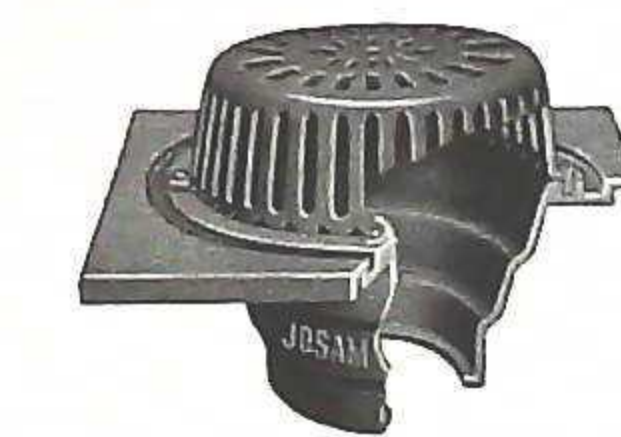
The specifications cover standard features. Where optional features or materials are required, insert same in the specification.



SERIES NO. 4680

**SPECIFICATION**

Josam Series No. 4680, cast iron roof drain with large round sump and square flange with integral caulking groove and gravel stop, 1/2" threaded bottom outlet and removable combined high dome strainer and sediment cup.



SERIES NO. 4690

**SPECIFICATION**

Josam Series No. 4690, cast iron roof drain with large round sump and square flange with integral caulking groove, 1/2" threaded bottom outlet and large beehive dome bolted to flange.



SERIES NO. 4770-D

**SPECIFICATION**

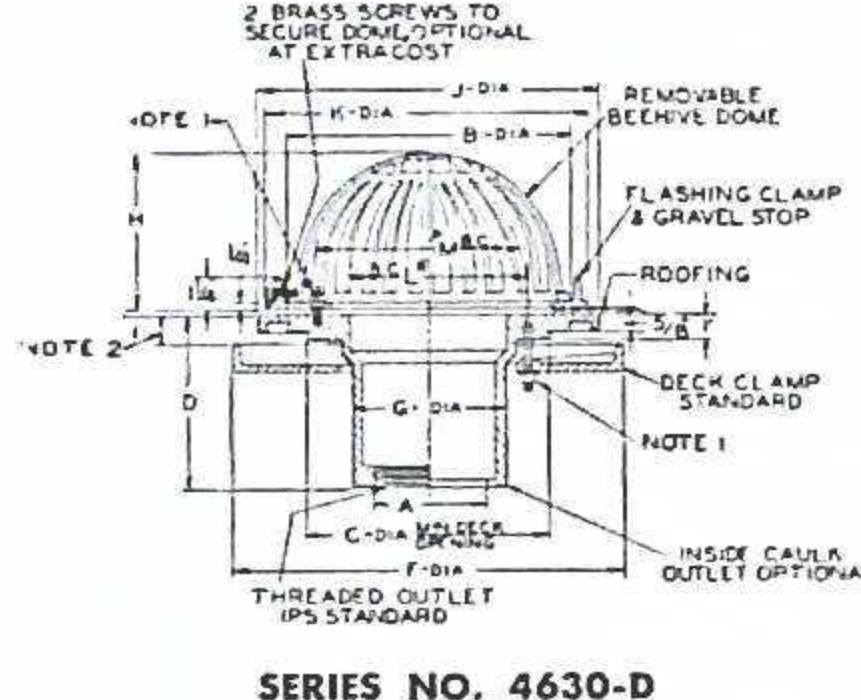
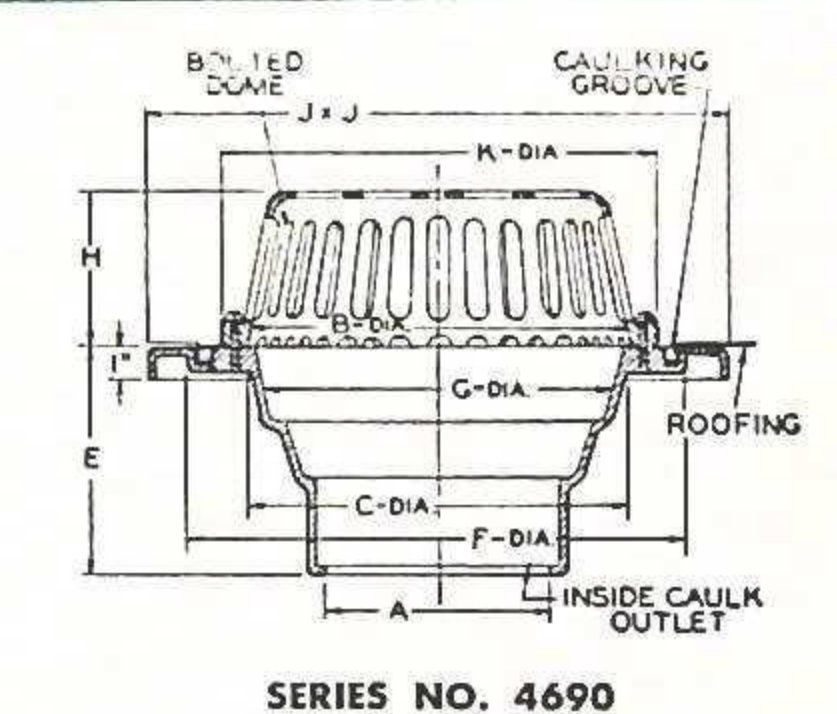
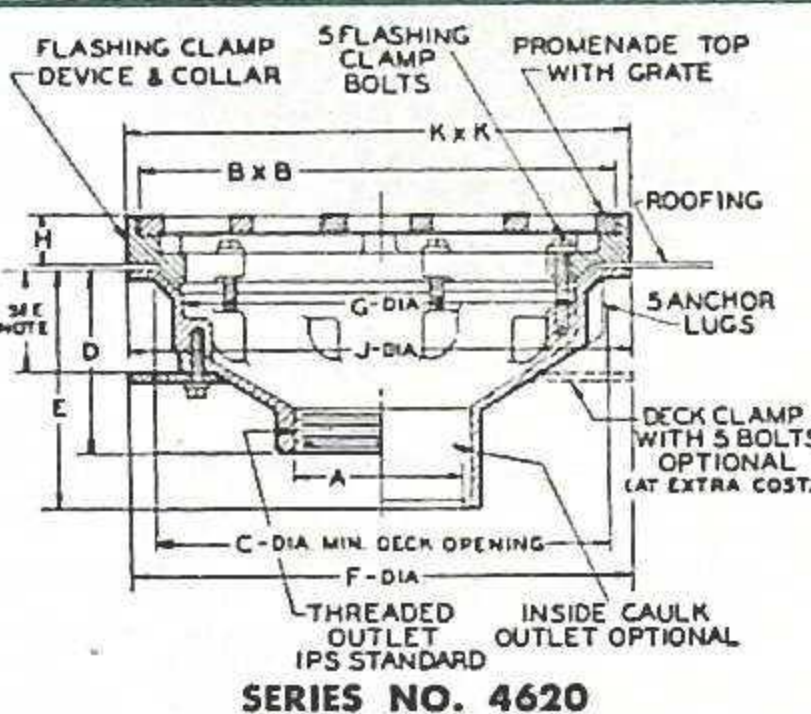
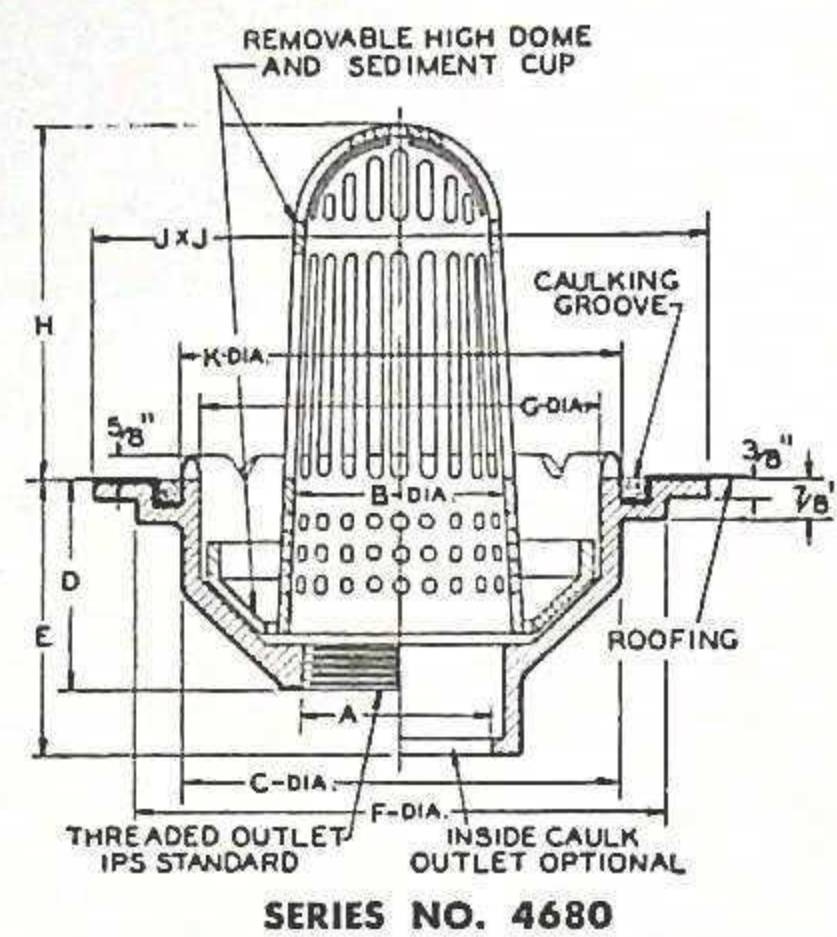
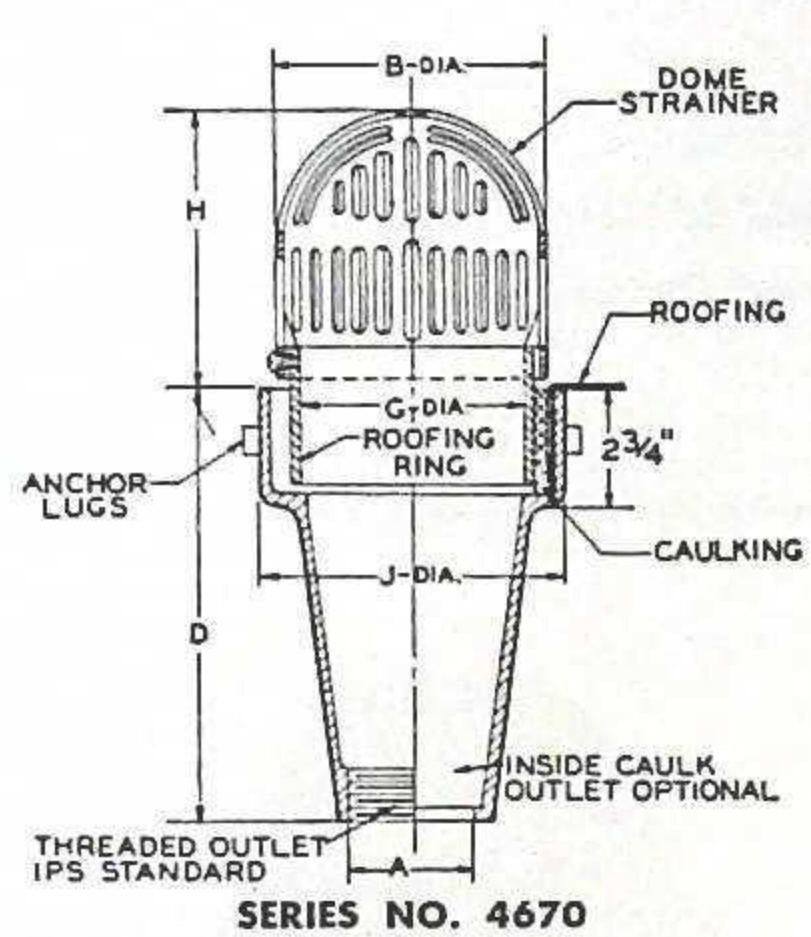
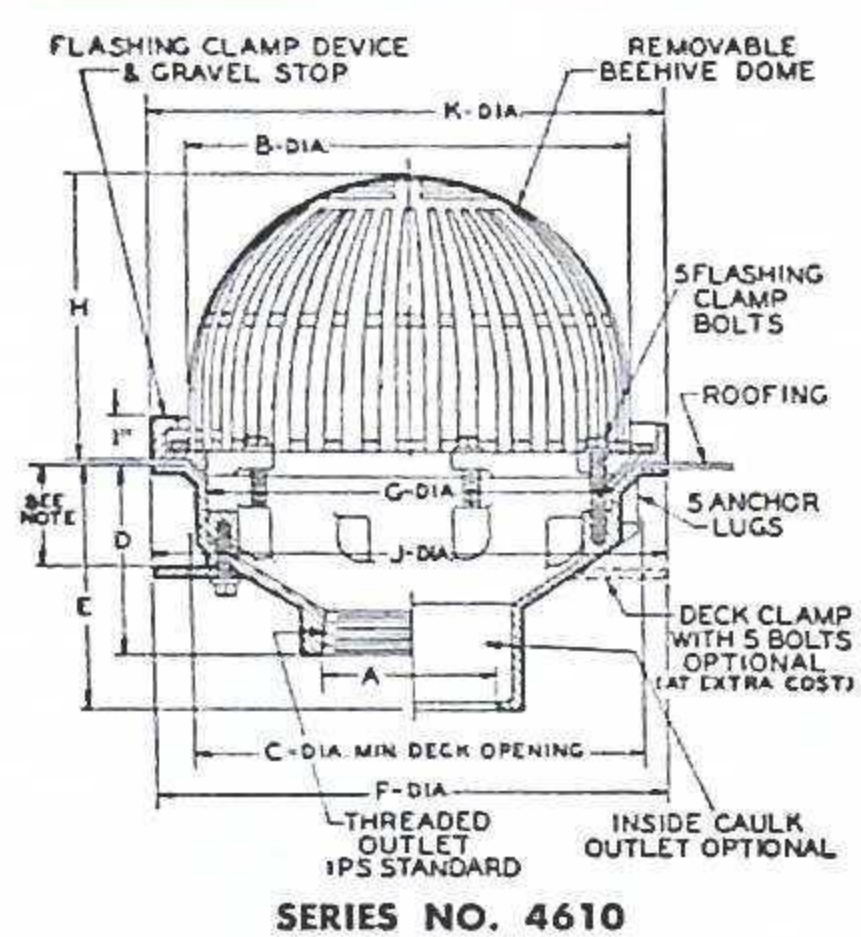
Josam Series No. 4770-D, cast iron roof drain with 1/2" threaded bottom outlet, bolted flashing clamp device integral with gravel stop, deck clamp fastened by bolts, and removable beehive dome secured to gravel stop by brass bolts.

The illustrations show the SPECIAL FEATURES of miscellaneous roof drains in this section. Standard and Optional Features are listed on the opposite page.

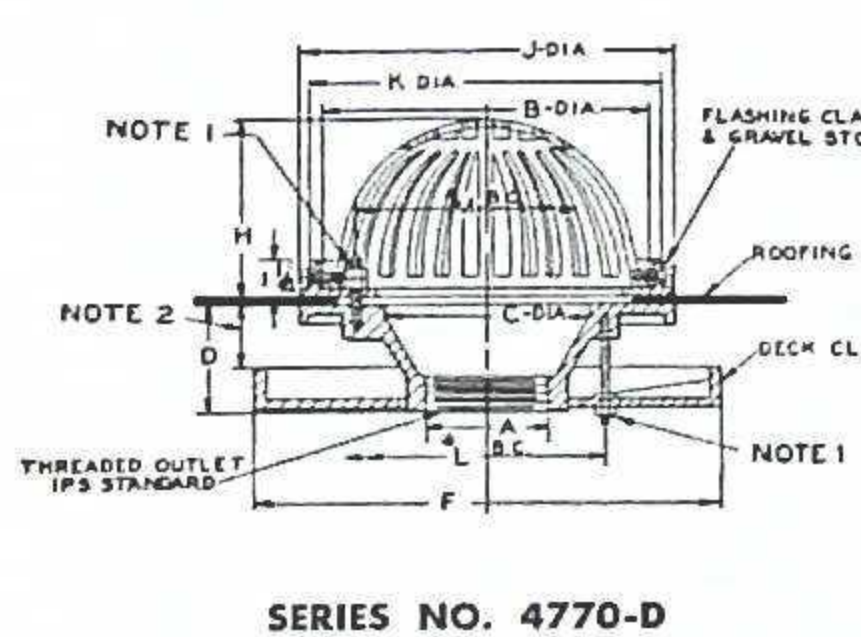
# Josam MISCELLANEOUS ROOF DRAINS

## details and dimensions

(Illustrations on pages 140, 141)



NOTE 1: Four 3/8" — 16 N.C. bolts equally spaced on staggered "L" and "M" bolt circles.  
NOTE 2: 5/8" Min. — 5" Max. roof construction, with 6" studs, standard. Longer studs available at extra cost.



NOTE 1: Four 3/8" — 16 N.C. bolts, equally spaced on staggered "L" and "M" bolt circles.  
NOTE 2: 5/8" Min. — 5" Max. roof construction, with 6" studs, standard. Longer studs available at extra cost.

# Josam ROOF DRAINS

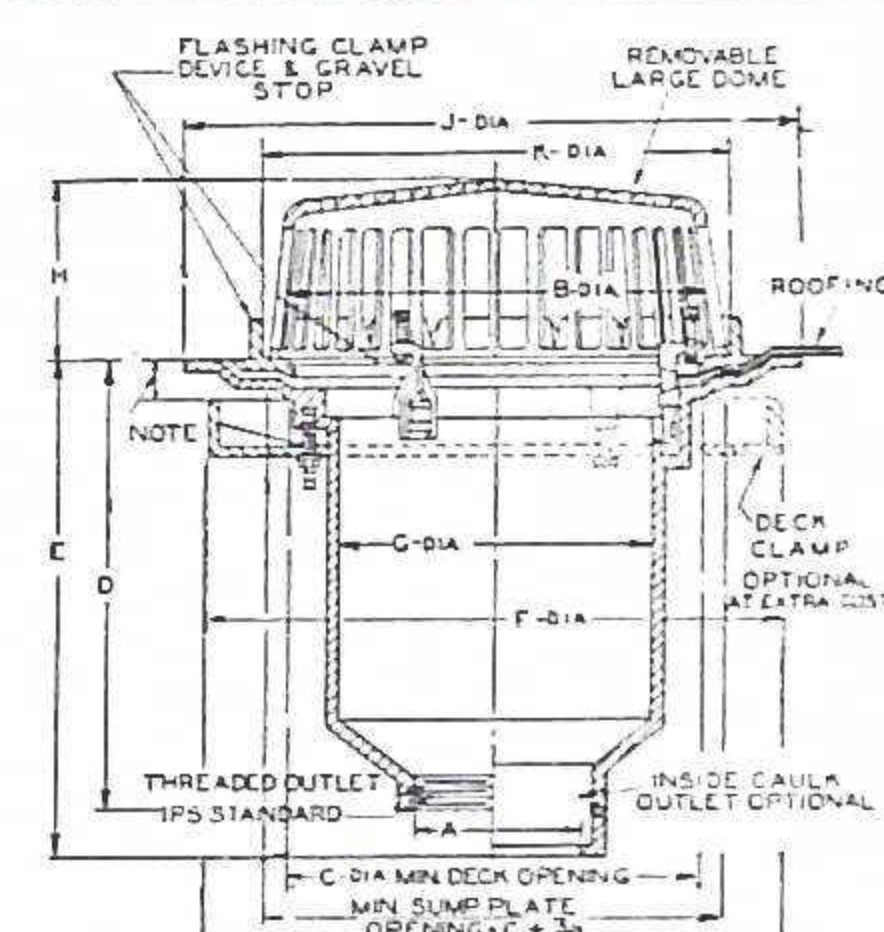
## SERIES No. 4140



### SPECIFICATION

Josam Series No. 4140, cast iron torrential type roof drain with deep sump and round flange, 1/2" bottom outlet, double reverse wedge non-puncturing flashing clamp device integral with gravel stop, and removable mushroom type dome.

NOTE: Where optional features or materials are required, insert same in above specification.



NOTE: 1/4" Min., 4 3/8" Max. with 6" studs, standard. Longer studs available at extra cost.

● APPLICATION: For installation on flat roofs of any construction in localities subject to heavy rains and torrential storms, where free ample drainage area is required for quick storm drainage and where deep sump is necessary to hold excess water before entering leaders.

Flashing is not necessary but can be used when required.  
For other torrential type roof drains, see page 133.

### STANDARD and OPTIONAL FEATURES

- Body  
**Standard:** Cast iron lacquer finish, deep sump with round flange.  
**Optional:** Galvanized iron, all brass, or Everdur, at added cost.
- The excessive holding capacity of the deep sump permits large quantities of water to be drained off the roof and held in the sump before entering the leader.  
Large roof flange provides oversize bearing surface for roofing felts.
- Outlet  
**Standard:** Female threaded.  
**Optional:** Inside caulk bottom outlet, at no added cost. Female threaded side outlet, at added cost.
- Dome  
**Standard:** Cast iron, mushroom type dome fits into gravel stop and is easily removed for access to line.  
**Optional:** Galvanized iron, rough or polished or chrome plated brass, or Everdur, at added cost.
- Flashing Clamp Device  
**Standard:** Same material as body. Double reverse wedge clamp ring is integral with gravel stop and is fitted with four clamps and brass screws, adjustable to accommodate any thickness of roofing felts without puncturing roofing.  
Gravel stop prevents roof finish from being washed into drain body and leader.
- Deck Clamp  
**Optional:** Two piece ring with 2" high bearing flange in same material as body, at added cost.  
Ring is fastened to body by bolts, anchoring roof drain to deck, and preventing rupture of roofing due to expansion of leader.
- Expansion Joint  
**Optional:** Separate cast iron joint with brass sleeve, furnished at added cost. See Series No. 1810, page 156.  
Takes up movement in line and prevents rupture of roofing material.

### DIMENSIONS IN INCHES

TYPE NO.	OUT-LET A	DOME		C	D	E	F	G	H	J*	K	WGT. LBS.
		FREE AREA SQ. IN.	B									
4142	2	103.0	11	12	12	14	15 1/4	8 3/8	5 1/4	16	12 1/2	57
4143	3	103.0	11	12	12	14	15 1/4	8 3/8	5 1/4	16	12 1/2	57
4144	4	103.0	11	12	12	14	15 1/4	8 3/8	5 1/4	16	12 1/2	57
4145	5	130.0	13	14	12	14	17 1/2	10 3/8	5 1/4	18 1/4	14 1/2	84
4146	6	130.0	13	14	12	14	17 1/2	10 3/8	5 1/4	18 1/4	14 1/2	84

\* Square flange optional at added cost.

Series No.	Type No.	Outlet A	DOME or GRATE Free Area Sq. In.	B	C	D	E	F	G	H	J	K	L and M	Wgt Lbs.
	4613	3	85.0	11 1/2	12	4 1/4	6	13	10 1/4	7 3/8	13	13		33
	4614	4	85.0	11 1/2	12	4 1/4	6	13	10 1/4	7 3/8	13	13		33
	4615	5	120.0	13 3/4	14	4 3/4	6	15	12 1/4	8 1/8	15	15		44
	4616	6	120.0	13 3/4	14	4 3/4	6	15	12 1/4	8 1/8	15	15		46
4620	4622	2	49.0	12 1/2	12	4 1/4	6	13	10 1/4	1 1/2	13	13		35
	4623	3	49.0	12 1/2	12	4 1/4	6	13	10 1/4	1 1/2	13	13		37
	4624	4	49.0	12 1/2	12	4 1/4	6	13	10 1/4	1 1/2	13	13		37
	4625	5	56.0	14 1/2	14	4 3/4	6	15	12 1/4	1 1/2	15	15		50
	4626	6	56.0	14 1/2	14	4 3/4	6	15	12 1/4	1 1/2	15	15		52
4630-D	4632-D	2	37.6	7 7/8	7 1/2	6 1/2		12	3 3/8	5 3/8	11	10	6 3/8	37
	4633-D	3	37.6	7 7/8	7 1/2	6 1/2		12	4 3/8	5 3/8	11	10	6 3/8	37
	4634-D	4	61.2	11	9 3/4	6 1/2		15	5 3/8	6	13	12 3/8	8 3/8	50
	4635-D	5	61.2	11	9 3/4	6 1/2		15	6 3/8	6	13	12 3/8	8 3/8	50
	4636-D	6	71.5	14 3/8	13 3/8	6 3/4		18 1/2	7 7/8	7 1/2	16 3/8	16 1/4	12 1/4	65
	4638-D	8	71.5	14 3/8	13 3/8	6 3/4		18 1/2	10	7 1/2	16 3/8	16 1/4	12 1/4	65
4670	4672	2	36.0	6 1/4	.....	12	.....	5	6 1/2	7 1/8	.....	.....	.....	25
	4673	3	36.0	6 1/4	.....	12	.....	5	6 1/2	7 1/8	.....	.....	.....	25
	4674	4	71.0	9	.....	12	.....	7 3/8	9 1/8	10 1/8	.....	.....	.....	40
	4675	5	71.0	9	.....	12	.....	7 3/8	9 1/8	10 1/8	.....	.....	.....	40
	4676	6	71.0	9	.....	12	.....	7 3/8	9 1/8	10 1/8	.....	.....	.....	40
4680	4682	2	53.2	5 1/4	10 1/4	5 1/4	6 7/8	12	9 3/4	8 1/2	15	10 3/8		50
	4683	3	53.2	5 1/4	10 1/4	5 1/4	6 7/8	12	9 3/4	8 1/2	15	10 3/8		50
	4684	4	53.2	5 1/4	10 1/4	5 1/4	6 7/8	12	9 3/4	8 1/2	15	10 3/8		50
	4685	5	53.2	5 1/4	10 1/4	5 1/4	6 7/8	12	9 3/4	8 1/2	15	10 3/8		50
	4686	6	53.2	5 1/4	10 1/4	5 1/4	6 7/8	12	9 3/4	8 1/2	15	10 3/8		50
4690	4692	2	64.2	11 7/8	12	.....	7	15 1/2	10 1/4	4 3/8	18	13 3/4		60
	4693	3	64.2	11 7/8	12	.....	7	15 1/2	10 1/4	4 3/8	18	13 3/4		60
	4694	4	64.2	11 7/8	12	.....	7	15 1/2	10 1/4	4 3/8	18	13 3/4		60
	4695	5	64.2	11 7/8	12	.....	7	15 1/2	10 1/4	4 3/8	18	13 3/4		60
	4696	6	64.2	11 7/8	12	.....	7	15 1/2	10 1/4	4 3/8	18	13 3/4		60
4770-D	4772-D	2	37.6	7 7/8	4 3/8	2 7/8	.....	12	5 1/8	10	8 1/2	6 3/8		28
	4773-D	3	37.6	7 7/8	4 3/8	2 7/8	.....	12	5 5/8	10	8 1/2	6 3/8		27
	4774-D	4	11.2	1	7	3 1/2	.....	15	.....	10 3/8	11 3/4	8 3/8		40
	4775-D	5	11.2	1	7	3 1/2	.....	15	.....	10 3/8	11 3/4	8 3/8		40
	4776-D	6	11.5	1 1/4	7 1/8	4	.....	18 1/2	7 1/2	16 1/2	15 3/8	12 1/4		53
	4777-D	8	11.5	1 1/4	7 1/8	4	.....	18 1/2	7 1/2	16 1/2	15 3/8	12 1/4		56

# Hy-Tech Products





## ROOF DRAINS

medium sump and flange, flashing clamp device

● **APPLICATION:** For installation on flat roofs and medium width valleys formed by pitched, sawtooth or monitor roofs, where ample free drainage area must be provided in a limited space, and where roofing must be tightly secured to drain. For medium width tiled valleys, promenade type drain is recommended.

Flashing is not necessary but can be used when required.

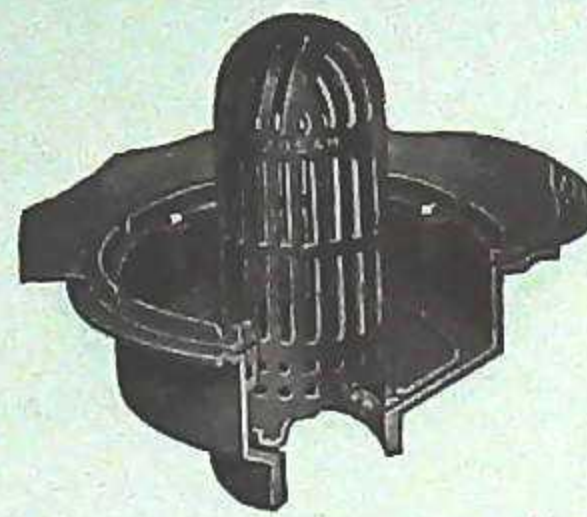
For features to suit additional requirements, see Adaptations of Series No. 460

### STANDARD and OPTIONAL FEATURES

The features below apply to drains in this group. The illustrations show the standard features applicable to each design.

- **Body** **Standard:** Cast iron lacquer finish, with round flange.  
**Optional:** Galvanized iron, all brass, or Everdur, at added cost.
- **Outlet** **Standard:** Female threaded.  
**Optional:** Inside caulk bottom outlet, at no added cost.
- **Dome Strainer and Sediment Cup** **Standard:** On Series Nos. 460 and 4260, cast iron combined high dome and sediment cup.  
**Optional:** Galvanized iron, rough, polished or chrome plated brass, or Everdur, at added cost.
- **Top and Grate** **Standard:** On Series No. 4060 and No. 4360, cast iron, round, flat loose-set grate in square frame.  
**Optional:** Galvanized iron, rough, polished or chrome plated brass, or Everdur, at added cost.
- **Flashing Clamp Device and Gravel Stop** **Standard:** Clamp device in same material as body, integral with gravel stop.  
Ring is secured to body by bolts, holding roof felts to drain body. Metal flashing unnecessary.  
Gravel stop prevents roof finish from being washed into drain body and leader.  
On Series Nos. 4060 and 4360, clamping collar with weep-holes, for 2" (or deeper) roof fill, is bolted to top frame.
- **Integral Expansion Joint** **Standard:** On Series Nos. 4260 and 4360. Cast iron body, gland ring and follower, with brass sleeve.  
**Optional:** Galvanized iron, all brass, or Everdur, at added cost.  
Permits contraction or expansion up to 1 3/4" each way in the line, or a total of 3 1/2". Occupies less space than a separate expansion joint, eliminates extra fittings and is easily accessible through drain opening for maintenance and adjustment.
- **Separate Expansion Joint** **Optional:** On Series Nos. 460 and 4060 furnished at added cost. See Series No. 1810, page 156.
- **Deck Clamp** **Optional:** Two-piece ring with 2" high bearing flange, in same material as body, furnished at added cost.  
Ring is fastened to body by bolts, anchoring roof drain to deck, and preventing rupture of roofing due to expansion of leader.
- **Flooding Water Dam** **Optional:** On Series No. 460 and No. 4260 only. Brass standpipe of varying heights with cast iron cap furnished at added cost.  
Maintains a desired depth of water on the roof. See page 148.

### SERIES No. 460

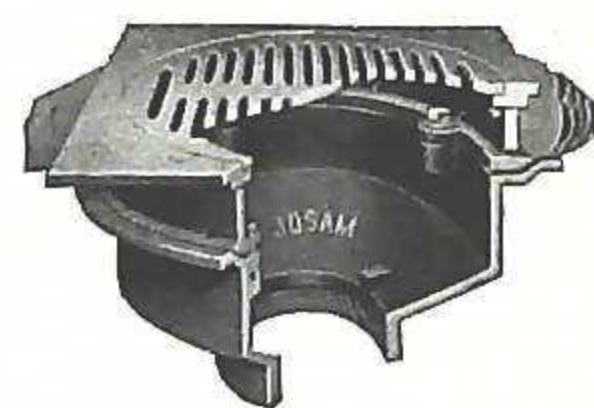


#### SPECIFICATION

Josam Series No. 460, cast iron roof drain with medium sump and flange, female threaded bottom outlet, removable combined high dome and sediment cup, and bolted flashing clamp device integral with gravel stop.

**NOTE:** The above specification covers Josam Series No. 460.

Where optional features or materials are required, select style from illustrations shown, change Series Number above, and insert optional features or materials.



SERIES NO. 4060

#### SPECIFICATION

Same as Series No. 460 except with loose set round grate in square frame secured to a 2" (or deeper) flashing clamp collar for PROMENADE DECK.

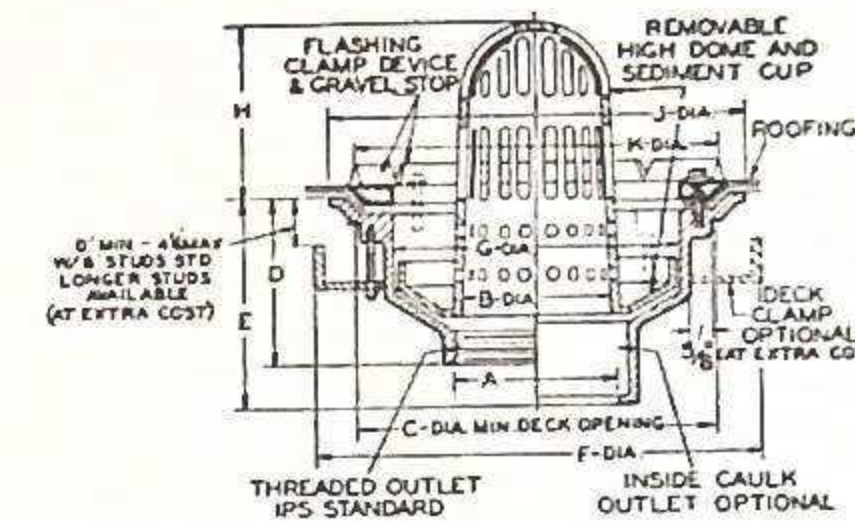
dome or promenade top, expansion joint



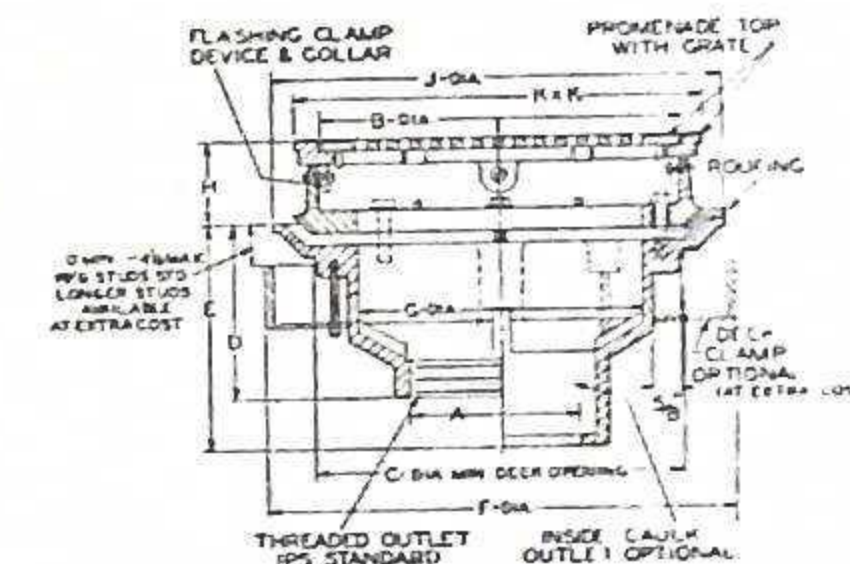
## ROOF DRAINS

### ADAPTATIONS OF JOSAM SERIES No. 460

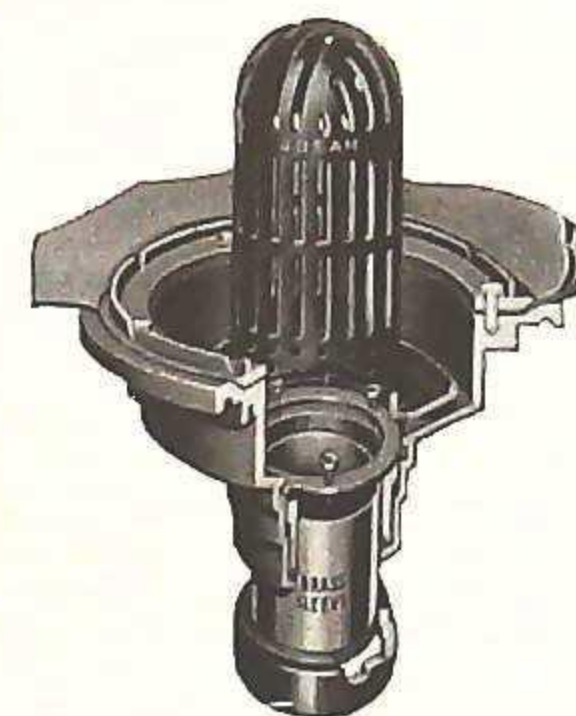
The following illustrations show the SPECIAL FEATURES of Adaptations of Series No. 460. Standard and Optional Features are listed on the opposite page.



SERIES NO. 460



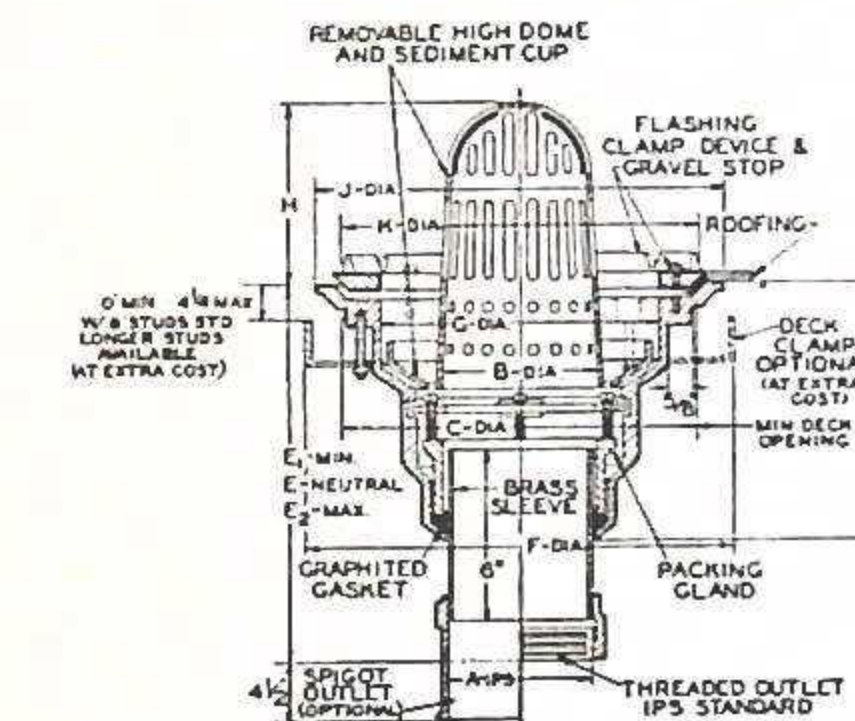
SERIES NO. 4060



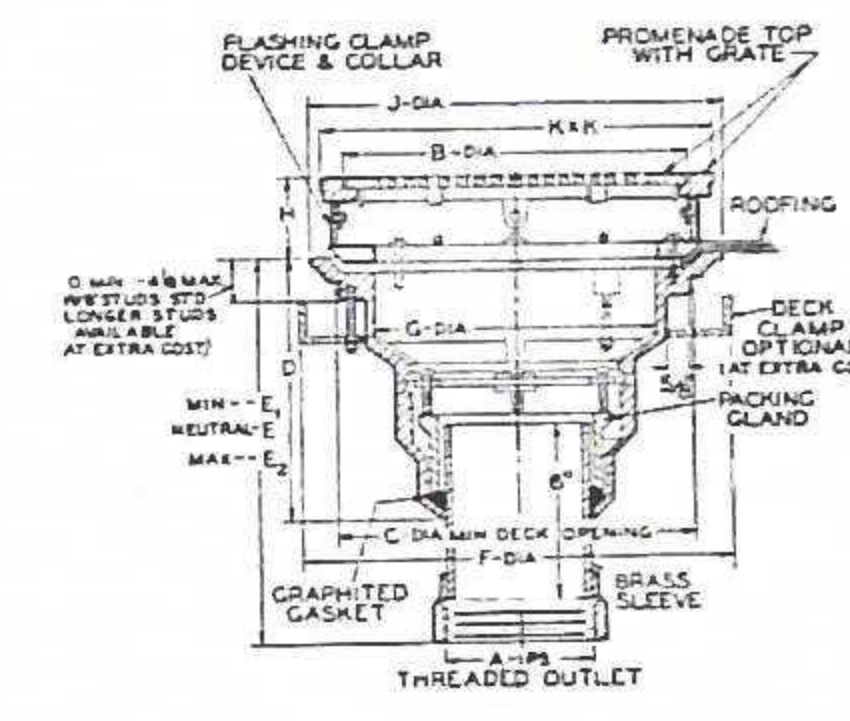
SERIES NO. 4260

#### SPECIFICATION

Same as Series No. 460 except with cast iron INTEGRAL EXPANSION JOINT with brass sleeve. Integral joint is designed to permit contraction or expansion up to 1 3/4" each way in the line or a total of 3 1/2".



SERIES NO. 4260



SERIES NO. 4360

### DIMENSIONS IN INCHES

Series No.	Type No.	Out-let A	Dome or Grate		C	D	E <sub>1</sub>	E	E <sub>2</sub>	F	G	H	J	K	Wgt. Lbs.
			Free Area Sq. In.	B											
460	462	2	30.0	4	10 1/2	4 3/4		6 1/4		13	8 1/4	5 1/4	12	10 1/4	32
	463	3	30.0	4	10 1/2	4 3/4		6 1/4		13	8 1/4	5 1/4	12	10 1/4	32
	464	4	30.0	4	10 1/2	4 3/4		6 1/4		13	8 1/4	5 1/4	12	10 1/4	32
	465	5	30.0	4	10 1/2	4 3/4		6 1/4		13	8 1/4	5 1/4	12	10 1/4	32
	466	6	30.0	4	10 1/2	4 3/4		6 1/4		13	8 1/4	5 1/4	12	10 1/4	32
4060	4062	2	32.5	10	10 1/2	4 3/4		6 1/4		13	8 1/4	2*	12	11 3/8	30
	4063	3	32.5	10	10 1/2	4 3/4		6 1/4		13	8 1/4	2*	12	11 3/8	32
	4064	4	32.5	10	10 1/2	4 3/4		6 1/4		13	8 1/4	2*	12	11 3/8	32
	4065	5	32.5	10	10 1/2	4 3/4		6 1/4		13	8 1/4	2*	12	11 3/8	32
	4066	6	32.5	10	10 1/2	4 3/4		6 1/4		13	8 1/4	2*	12	11 3/8	36
	4260	4262	2	30.0	4	10 1/2	7 1/2	9 3/4	11 1/4	12 3/4	13	8 1/4	5 1/4	12	10 1/4
4263		3	30.0	4	10 1/2	7 3/4	9 3/4	11 1/4	12 3/4	13	8 1/4	5 1/4	12	10 1/4	39
4264		4	30.0	4	10 1/2	7 3/4	9 3/4	11 1/4	12 3/4	13	8 1/4	5 1/4	12	10 1/4	39
4265		5	30.0	4	10 1/2	8 1/2	9 3/4	11 1/4	12 3/4	13	8 1/4	5 1/4	12	10 1/4	46
4266		6	30.0	4	10 1/2	8 1/2	9 3/4	11 1/4	12 3/4	13	8 1/4	5 1/4	12	10 1/4	48
4360		4362	2	32.5	10	10 1/2	7 1/2	9 3/4	11 1/4	12 3/4	13	8 1/4	2*	12	11 3/8
	4363	3	32.5	10	10 1/2	7 3/4	9 3/4	11 1/4	12 3/4	13	8 1/4	2*	12	11 3/8	44
	4364	4	32.5	10	10 1/2	7 3/4	9 3/4	11 1/4	12 3/4	13	8 1/4	2*	12	11 3/8	44
	4365	5	32.5	10	10 1/2	8 1/2	9 3/4	11 1/4	12 3/4	13	8 1/4	2*	12	11 3/8	52
	4366	6	32.5	10	10 1/2	8 1/2	9 3/4	11 1/4	12 3/4	13	8 1/4	2*	12	11 3/8	54

\*Greater Depth, Optional

# Hy-Tech Products



# ROOF DRAINS

for narrow valleys and small roof areas

details and dimensions



● **APPLICATION:** For installation on flat roofs and narrow valleys between pitched, sawtooth and monitor roofs, where drainage of roof must be provided for in limited areas.

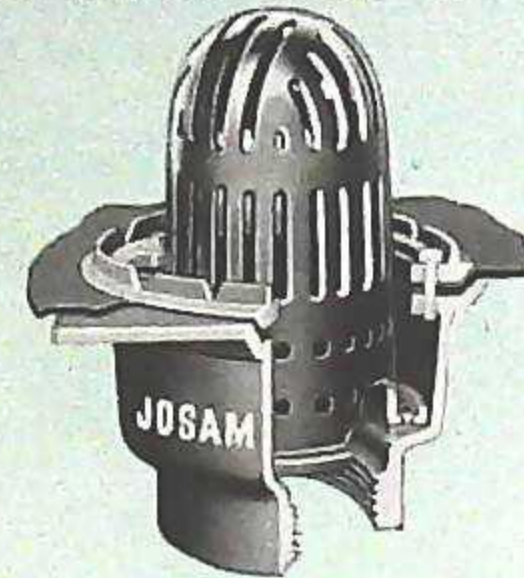
Flashing is not necessary but can be used when required.

For features to suit additional requirements, see Adaptations of Series No. 440.

### STANDARD and OPTIONAL FEATURES

- **Body** **Standard:** Cast iron lacquer finish, with narrow square flange on Series Nos. 440, 450, 4040 and 4050. Round flange on Series Nos. 480 and 490. **Optional:** Galvanized iron, all brass, or Everdur, at added cost. Square flange provides added bearing surface for roofing felts.
- **Outlet** **Standard:** Female threaded bottom or side, as illustrated. **Optional:** Inside caulk bottom outlet, at no added cost. Hub or spigot adaptor for side outlet, at added cost.
- **Dome** **Standard:** On Series Nos. 440 and 450, cast iron combined dome and sediment cup. On Series No. 480 and No. 490, adjustable dome and sediment cup is designed to permit adjustment to high or low position. **Optional:** Galvanized iron, rough, polished or chrome plated brass, or Everdur, at added cost.
- **Promenade Top** **Standard:** On Series Nos. 4040 and 4050, cast iron round, flat loose-set grate in square frame. **Optional:** Galvanized iron, rough, polished or chrome plated brass, or Everdur, at added cost.
- **Flashing Clamp Device and Gravel Stop** **Standard:** On Series Nos. 440, 450, 480 and 490, clamp device in same material as body is integral with gravel stop. Roofing material is held in place by ring secured to body by bolts. Gravel stop prevents roof finish from being washed into drain body and leader. On Series Nos. 4040 and 4050, clamping collar with weepholes, for 2 1/4" (or deeper), roof fill, is bolted to top frame.
- **Standing Water Guard** **Optional:** On Series Nos. 440, 450, 480 and 490, loose collar 2" or higher, fitted into gravel stop, furnished at added cost. Collar maintains a desired depth of water on roof and is removable for draining roof. See page 150.
- **Joint Expansion** **Optional:** Separate cast iron joint with brass sleeve, furnished at added cost, on bottom outlet drains. See Series No. 1810, page 156. Takes up movement in line and prevents rupture of roofing material.

### SERIES No. 440



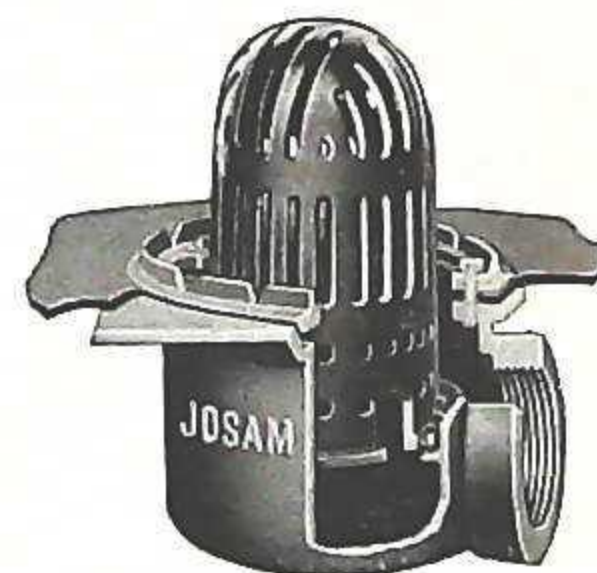
#### SPECIFICATION

Josam Series No. 440, cast iron roof drain with small sump and narrow square flange, 1" threaded bottom outlet, removable combined high dome and sediment cup, and bolted flashing clamp device integral with gravel stop.

**NOTE:** The above specification covers Josam Series No. 440. Where optional features or materials are required, select style from illustrations shown, change Series Number above, and insert optional features or materials.

#### ADAPTATIONS OF SERIES NO. 440

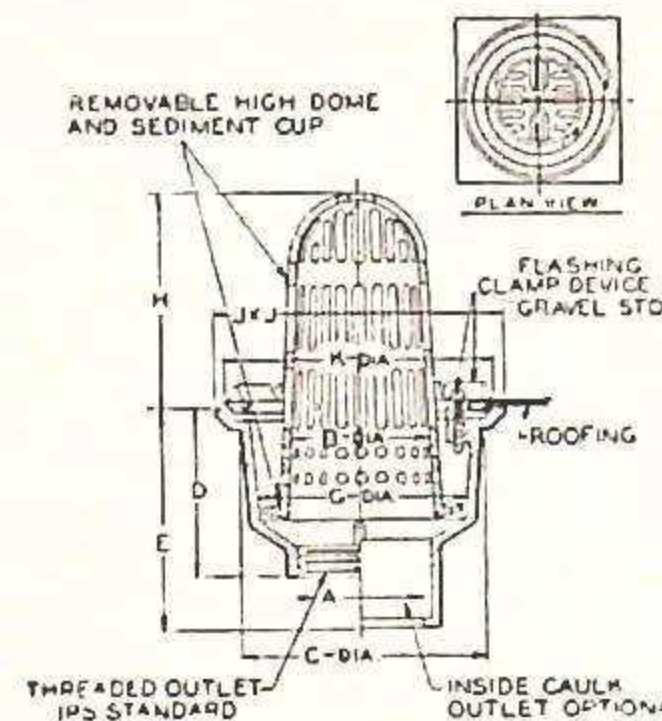
The following illustrations show the SPECIAL FEATURES of Adaptations of Series No. 440.



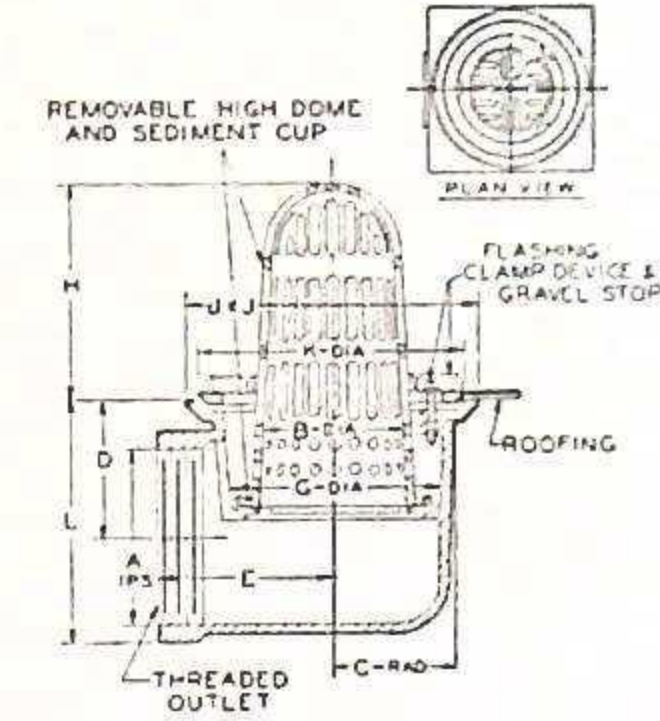
### SERIES NO. 450

#### SPECIFICATION

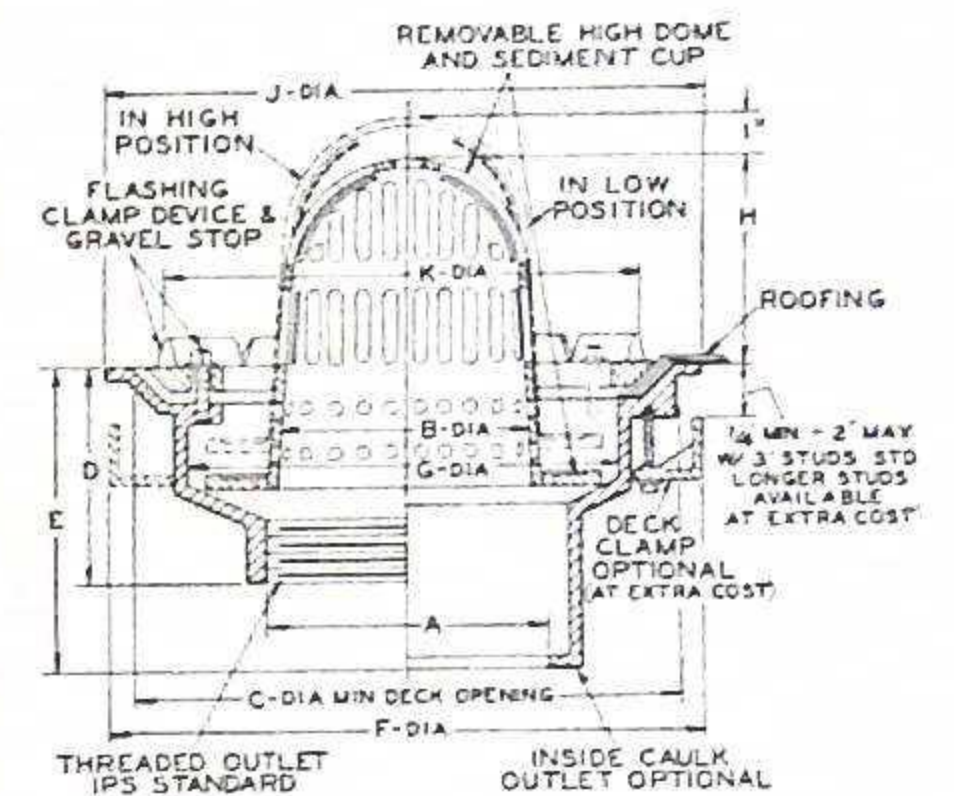
Same as Series No. 440 except with threaded SIDE OUTLET.



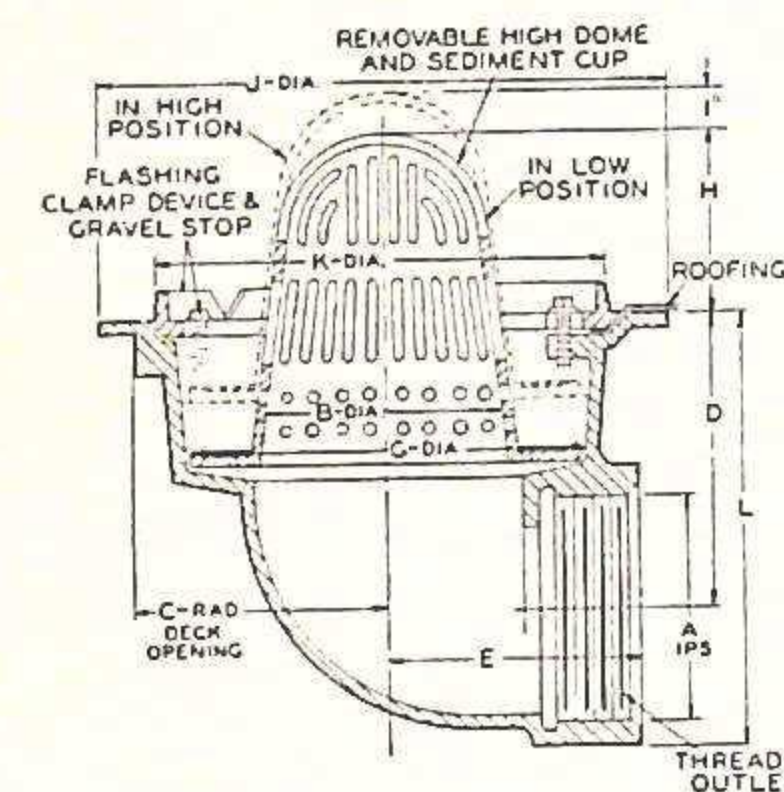
SERIES NO. 440



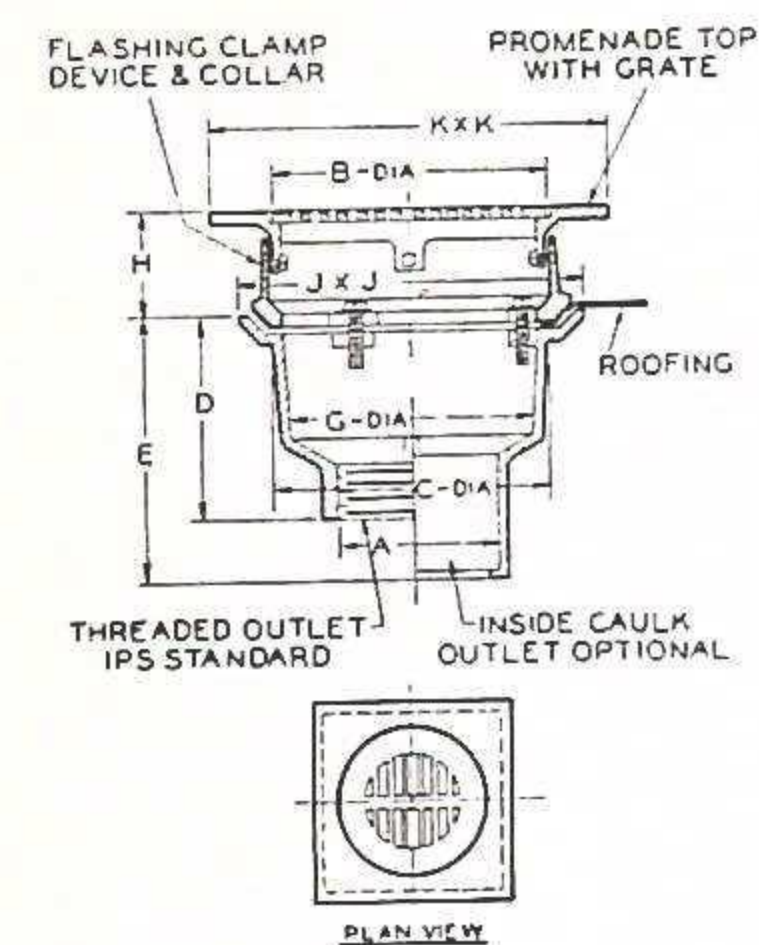
SERIES NO. 450



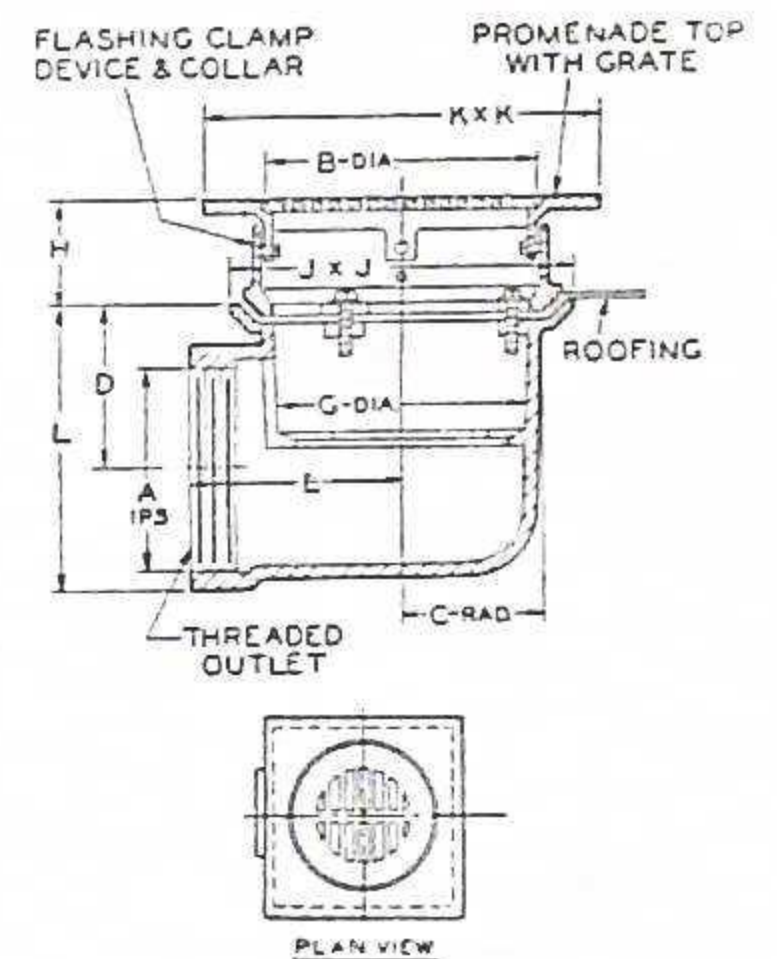
SERIES NO. 480



SERIES NO. 490



SERIES NO. 4040

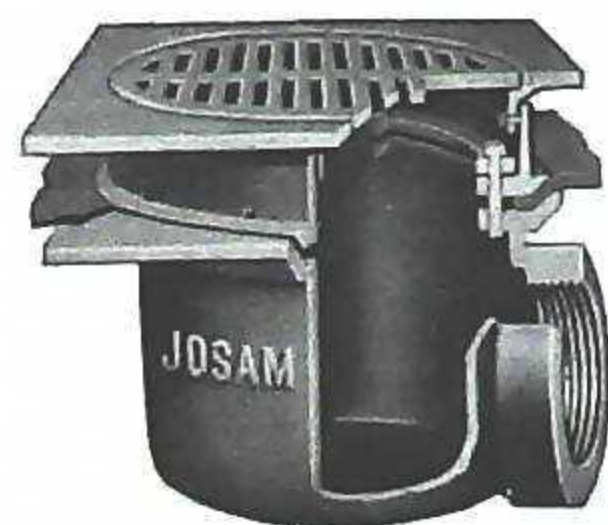


SERIES NO. 4050

### DIMENSIONS IN INCHES

SERIES NO.	TYPE NO	OUT-LET A	DOME or GRATE		C	D	E	F	G	H	J	K	L	WGT. LBS.	
			FREE AREA SQ. IN.	B											
440	442	2	29.2	3 3/4	6 1/2	4 5/8	6		6	5 7/8	8 1/4	6 7/8		17	
	443	3	29.2	3 3/4	6 1/2	4 5/8	6		6	5 7/8	8 1/4	6 7/8		17	
	444	4	29.2	3 3/4	6 1/2	4 5/8	6		6	5 7/8	8 1/4	6 7/8		17	
450	452	2	29.2	3 3/4	3 1/4	4 1/2	4 1/2		6	5 7/8	8 1/4	6 7/8	6 1/4	21	
	453	3	29.2	3 3/4	3 1/4	4	4 1/2		6	5 7/8	8 1/4	6 7/8	6 1/4	19	
	454	4	29.2	3 3/4	3 1/4	3 1/2	4 1/2		6	5 7/8	8 1/4	6 7/8	6 1/4	19	
480	482	2	18.8	4 1/8	9	4	5 1/2	11	7 1/4	3 1/4	10	8		16	
	483	3	18.8	4 1/8	9	4	5 1/2	11	7 1/4	3 1/4	10	8		17	
	484	4	18.8	4 1/8	9	4	5 1/2	11	7 1/4	3 1/4	10	8		17	
	485	5	18.8	4 1/8	9	3 3/4	5 3/4	11	7 1/4	3 1/4	10	8		18	
490	492	2	18.8	4 1/8	4 1/2	6 1/4	3 3/4		7 1/4	3 1/4	10	8	8	22	
	493	3	18.8	4 1/8	4 1/2	5 3/4	3 3/4		7 1/4	3 1/4	10	8	8	22	
	494	4	18.8	4 1/8	4 1/2	5 1/4	3 3/4		7 1/4	3 1/4	10	8	8	22	
4040	4042	2	11.7	6 1/4	6 1/2	4 5/8	6		6	2 1/4 *	8 x 8	9		19	
	4043	3	11.7	6 1/4	6 1/2	4 5/8	6		6	2 1/4 *	8 x 8	9		19	
	4044	4	11.7	6 1/4	6 1/2	4 5/8	6		6	2 1/4 *	8 x 8	9		19	
4050	4052	2	11.7	6 1/4	3 1/4	4 1/2	4 1/2		6	2 1/4 *	8 x 8	9	6 1/4	25	
	4053	3	11.7	6 1/4	3 1/4	4	4 1/2		6	2 1/4 *	8 x 8	9	6 1/4	25	
	4054	4	11.7	6 1/4	3 1/4	3 1/2	4 1/2	4 1/2		6	2 1/4 *	8 x 8	9	6 1/4	25

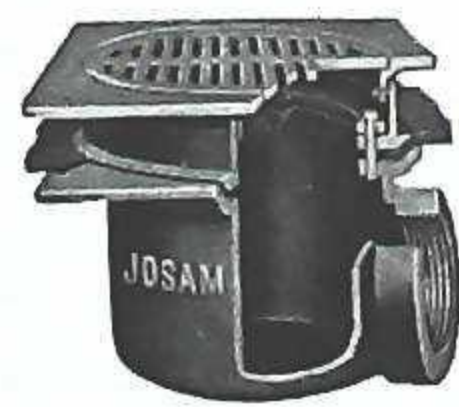
\* GREATER DEPTH, OPTIONAL



### SERIES NO. 4050

#### SPECIFICATION

Same as Series No. 440 except with threaded SIDE OUTLET and loose set round grate.



### SERIES NO. 4040

#### SPECIFICATION

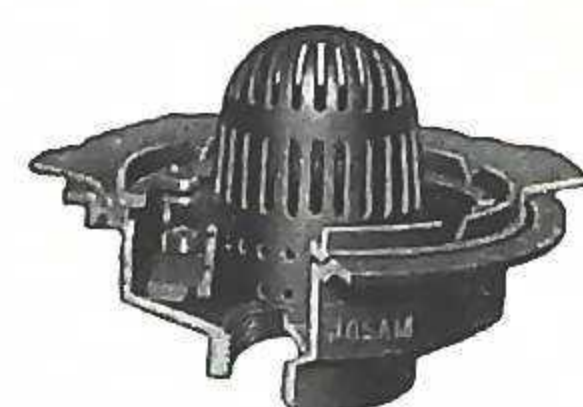
Same as Series No. 440 except with square PROMENADE TOP and loose set round grate.



### SERIES NO. 490

#### SPECIFICATION

Same as Series No. 440 except with round large DOME and ADJUSTABLE to high or low position in drain body and threaded SIDE OUTLET.



### SERIES NO. 480

#### SPECIFICATION

Same as Series No. 440 except with round flange and with DOME STRAINER ADJUSTABLE to high or low position in drain body.

*with flooding water dam*

● **APPLICATION:** For use with any Josam sump type roof drain shown in Schedule No. 1. For installation on buildings with flat roof where a flooded roof is required for insulating or air conditioning purposes, or as a cooling pond.

*For other types of roof drains for similar service, see page 150.*

**STANDARD and OPTIONAL FEATURES**

● **Sediment Cup** **Standard:** Cast iron lacquer finish, with integral gland, pressure ring and graphited gasket fastened to standpipe by three stud bolts.

**Optional:** Galvanized cast iron, brass or Everdur, at added cost.

Sediment cup is set in mastic in roof drain sump and provides a water-tight connection. Shape of cup rim forms a "V" groove with drain body, permitting caulking and additional sealing, when necessary. Sediment cup catches the accumulated leaves, paper and other debris.

● **Dome** **Standard:** Cast iron lacquer finish, threaded to fit on standpipe.

**Optional:** Galvanized iron, brass, or Everdur, at added cost.

Dome prevents leaves, paper and other debris from entering standpipe and leader. When standpipe is lowered to permit complete drainage of roof area, the dome renders the same service as a regular roof drain dome.

● **Standpipe** **Standard:** 6" high brass, tubular, threaded on top to take dome.

**Optional:** Other heights, at added cost.

Standpipe is adjustable from 3/4" to 4 1/2" depth of water on roof.

Adjustment is attained by loosening bolts on pressure ring, setting standpipe to desired height and tightening bolts.

Standpipe fits loosely into gland until packing is compressed by pressure ring and bolts. Compressed packing holds standpipe in position and seals joint around standpipe.

To completely drain roof, loosen bolts on pressure ring, and lower standpipe until dome strikes the top of pressure ring. In that position the dome renders the same service as a regular dome and is suitable to remain in that position until the roof is ready for flooding.



**SPECIFICATION**

(For complete drain body and Flooding Water Dam Assembly) . . .

Josam Series No. . . . roof drain with . . . " outlet and Flooding Water Dam Assembly with cast iron sediment cup and integral gland, pressure ring, 6" high brass standpipe and cast iron dome.

(For Flooding Water Dam Assembly only) . . .

Josam Type No. . . . Flooding Water Dam Assembly with cast iron sediment cup and integral gland, pressure ring, 6" high brass standpipe and cast iron dome.

Where optional features or materials are required, insert same in specification.

**NOTE:** If Flooding Water Dam assembly is required after roof drain is in construction, be sure to refer to Schedule No. 1 to locate the type roof drain installed, and specify or order the Flooding Water Dam Assembly as indicated.

*for flat roofs*

SCHEDULE NO. 1

**JOSAM DRAIN BODY WITH FLOODING WATER DAM**

Flooding Water Dam assembly is designated by Suffix "F" after type number. When specifying or ordering complete drain body with water dam, indicate the type number of complete drain and water dam as given below.

When specifying or ordering water dam without drain body, check schedule below to determine the correct assembly number for the particular type drain body, and specify or order the assembly as indicated after the drain type number.

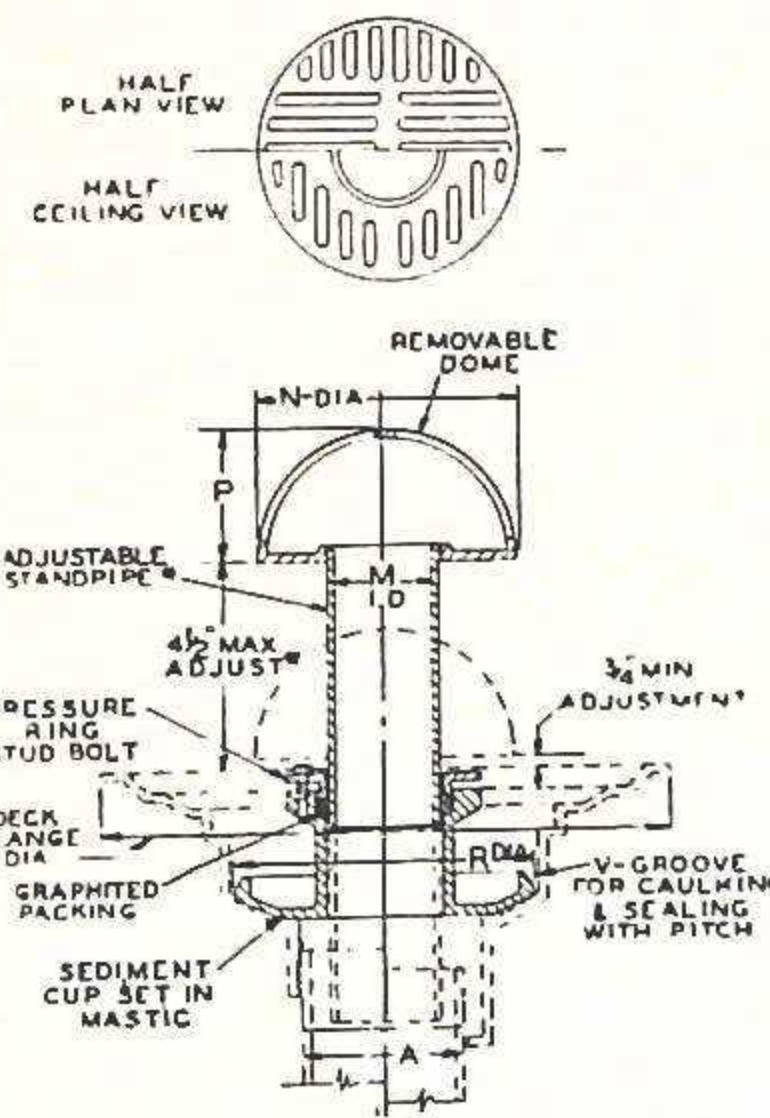
DRAIN OUT-LET SIZE	SERIES NUMBERS											
	400-F	410-F	420-F	430-F	460-F	4100-F	4110-F	4120-F	4130-F	4210-F	4260-F	4410-F
	TYPE NUMBERS											
2"		412-F1	422-F1	432-F1	462-F1		4112-F1	4122-F1	4132-F1	4212-F1	4262-F1	4412-F1
3"	403-F3	413-F2	423-F2	433-F2	463-F2	4103-F3	4113-F2	4123-F2	4133-F2	4213-F2	4263-F2	4413-F2
4"	404-F4	414-F3	424-F3	434-F3	464-F3	4104-F4	4114-F3	4124-F3	4134-F3	4214-F3	4264-F3	4414-F3
5"	405-F5	415-F5	425-F5	435-F5	465-F4	4105-F5	4115-F5	4125-F5	4135-F5	4215-F5	4265-F4	4415-F5
6"	406-F6	416-F6	426-F5	436-F6	466-F4	4106-F6	4116-F5	4126-F5	4136-F6	4216-F6	4266-F4	4416-F6
8"		418-F8		438-F6					4138-F6	4218-F8		
10"		419-F8										
*DRAIN BODY SERIES No.	400	410	420	430	460	4100	4110	4120	4130	4210	4260	4410
PAGE No.	134	128	129	129	144	135	129	129	128	136	145	137

\* Standard Drain without Flooding Water Dam. For complete information, see page number indicated.

SCHEDULE NO. 2

**FLOODING WATER DAM ASSEMBLY**  
(Dome, Standpipe and Sediment Cup)

ASSEMBLY TYPE NO.	DIMENSIONS IN INCHES				FREE AREA SQ. IN.	WGT. LBS.
	M	N	P	R		
F-1	1 1/2	6	3	8 1/8	22	13
F-2	2	6	3	8 1/8	22	13
F-3	3	7	3 1/2	8 1/8	30	16
F-4	4	8	4	8 1/8	45	16
F-5	4	8	4	9 1/8	45	16
F-6	4	8	4	10 1/8	45	17
F-8	6	9	4 1/2	12 1/8	55	19



SERIES NO. 410F

Illustration shows the Josam Flooding Water Dam assembly installed in Series No. 410 Roof Drain.

The brass standpipe with cast iron dome, is adjustable to any depth of water on the roof, from 3/4" to 4 1/2" and fits into any Josam sump type roof drain as indicated in Schedule No. 1 above.

The roof can be drained completely by lowering the standpipe. In the lowered position, the dome renders the same service as a regular roof drain dome, and can remain in that position until the roof is ready for flooding.

● **APPLICATION:** For use with any Josam sump type roof drain shown in Schedule below. For installation on buildings with flat roof where a pre-determined height of water on roof is required for insulating or air conditioning purposes, or as a cooling pond.

For other types of roof drains for similar service, see page 148.

**STANDARD and OPTIONAL FEATURES**

- **Collar** **Standard:** Cast iron lacquer finish, round collar 2" high, which fits into the gravel stop clamping ring of Josam sump type roof drains listed in the schedule below.  
**Optional:** Galvanized iron, brass, or Everdur; or higher collars up to 6" as indicated in schedule below, at added cost.  
Collar can be removed when it is desired to drain the roof. The gravel stop then acts as a stop for gravel, roofing material, etc., preventing same from being washed into the drain body and leader.  
When it is desired to again flood the roof, the collar and gasket is pressed into place.
- **Gasket** **Standard:** Graphited asbestos gasket forms a water-tight seal between the gravel stop and water collar.
- **Drain Body** Any sump type roof drain with high dome strainer, as indicated in Schedule No. 1 below.

**SCHEDULE OF JOSAM STANDING WATER COLLARS**  
**For Roof Drains with High Dome Strainer**

Standing Water Collar for Josam Roof Drains with high dome strainer, is designated by suffix "SW" after the standard type roof drain. 2" high collar is regularly furnished. Other heights are optional, (Schedule No. 2).

When specifying or ordering a complete **DRAIN BODY WITH 2" HIGH COLLAR**, see Schedule No. 1, select the style drain according to Series No., determine the outlet size, and designate the Type No. listed under the Series. For example: 3" outlet of Series No. 410-SW, would be designated as "Type No. 413-SW23".

To specify or order a 2" high standing water **COLLAR WITHOUT DRAIN** body, if the style and size drain has been established, check Schedule No. 1 to determine the correct assembly number of the collar as indicated after the Type No. of the drain. For example: A 2" high collar for Josam Type No. 413 standard roof drain would be designated as "Type No. SW-23".

If a standing water collar is required after the drain body has been ordered or is in construction, see Schedule No. 2. After establishing the I.D. of the gravel stop or the diameter of the deck flange on the drain body on hand, determine the height collar required and specify the collar suitable for the "J" or "K" dimension. For example: A 4" high collar for a Josam Roof Drain having a 14 1/2" I.D. gravel stop, would be designated as "Type No. SW-44".

**SCHEDULE NO. 1**

Outlet Size of Drain A - In.	SERIES NO. OF JOSAM ROOF DRAINS WITH 2" HIGH STANDING WATER COLLAR							
	400-SW	410-SW	420-SW	430-SW	440-SW	450-SW	460-SW	470-SW
2		412-SW23	422-SW23	432-SW23	442-SW23	452-SW23	462-SW23	472-SW23
3	403-SW23	413-SW23	423-SW23	433-SW23	443-SW23	453-SW23	463-SW23	473-SW23
4	404-SW23	414-SW23	424-SW23	434-SW23	444-SW23	454-SW23	464-SW23	474-SW23
5	405-SW23	415-SW23	425-SW23	435-SW23	445-SW23	455-SW23	465-SW23	475-SW23
6	406-SW23	416-SW23	426-SW23	436-SW23	446-SW23	456-SW23	466-SW23	476-SW23
8	408-SW23	418-SW23	428-SW23	438-SW23	448-SW23	458-SW23	468-SW23	478-SW23
10	410-SW23	420-SW23	430-SW23	440-SW23	450-SW23	460-SW23	470-SW23	480-SW23



**SPECIFICATION**

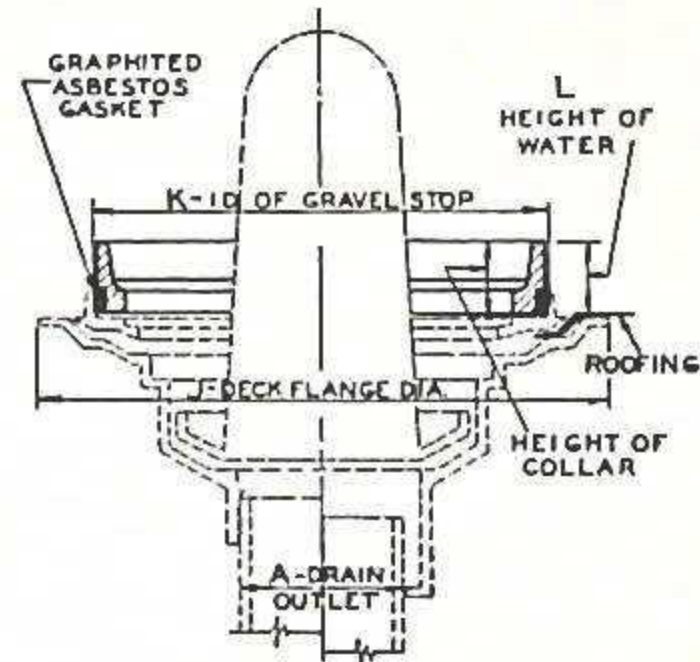
(For complete drain body with Standing Water Collar. See Schedule No. 1).

Josam Series No. .... cast iron roof drain with " " outlet and 2" high (or higher) cast iron standing water collar with graphited asbestos gasket fitted into roof drain gravel stop.

(For Standing Water Collar only. See Schedule No. 2).

Josam Type No. .... Standing Water Collar, cast iron, 2" high (or higher), with graphited asbestos gasket to fit into gravel stop of roof drain.

**NOTE:** Where optional materials are required, insert same in above specifications.

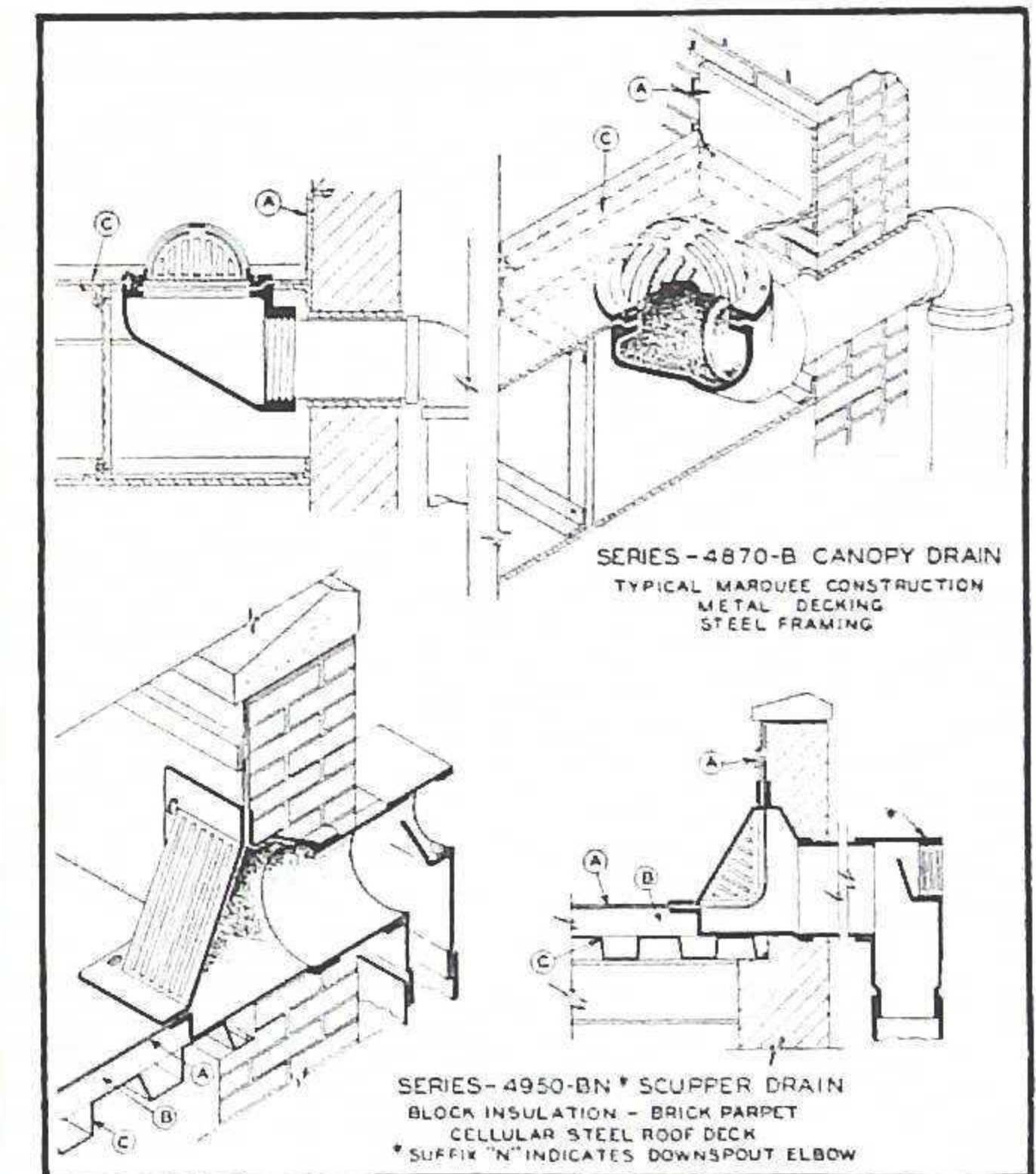
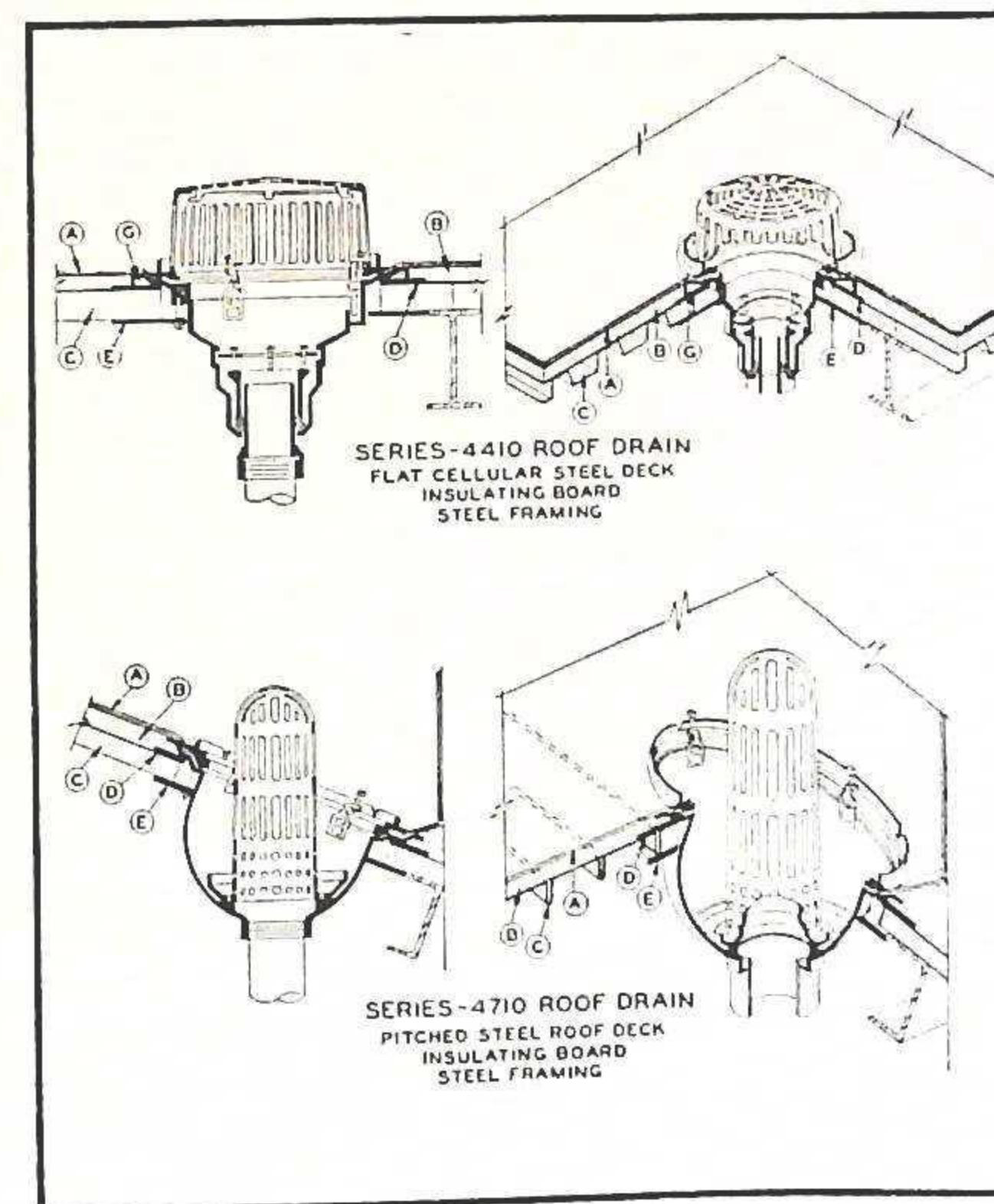
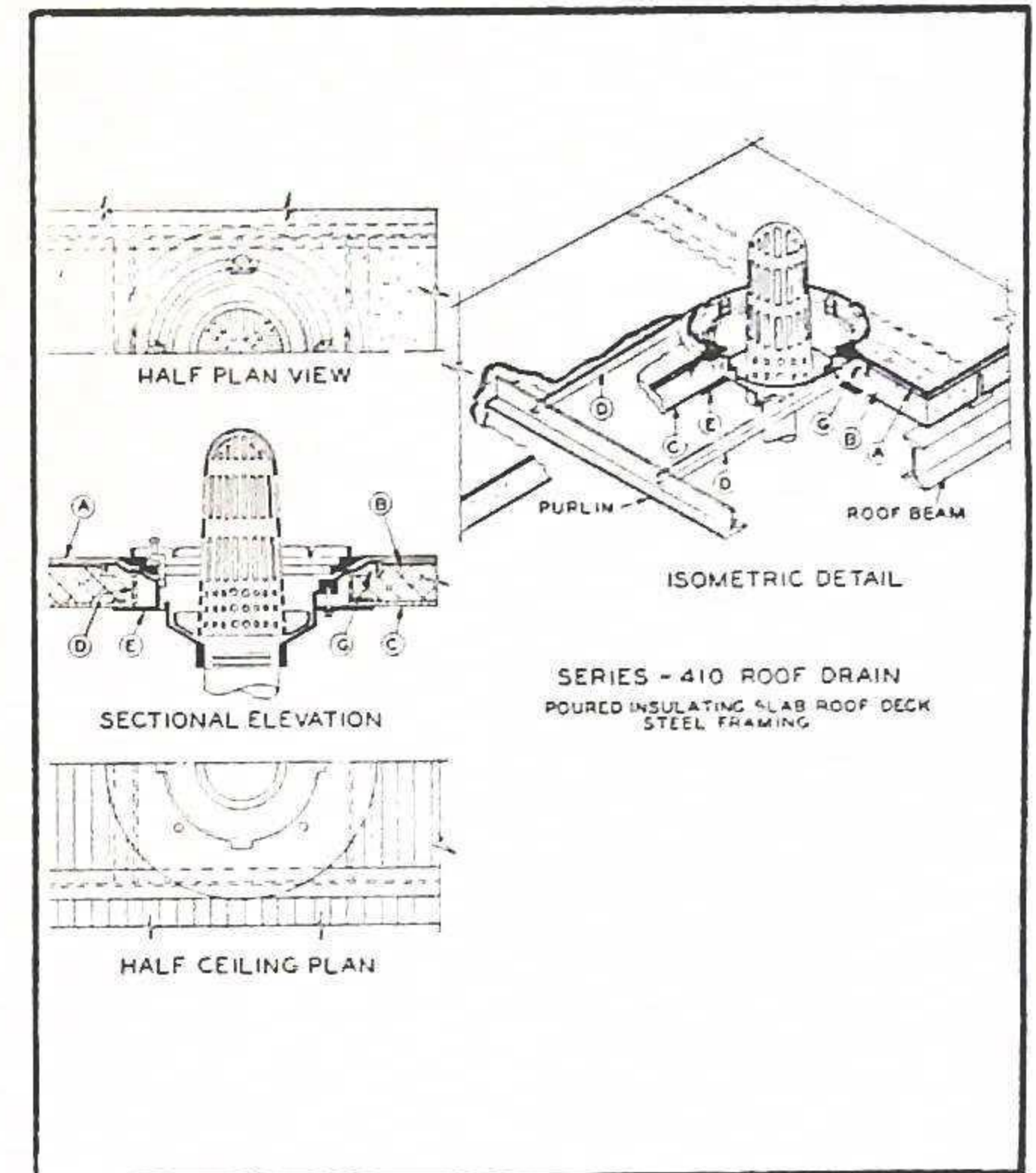


**SCHEDULE NO. 2**  
**DIMENSIONS IN INCHES**

WATER COLLAR Type No.	Height	K Dia.	J Dia.	L Approx. Height of Water On Deck
SW-21	2	6 1/2	8	2
SW-22	2	10 1/2	12	2
SW-23	2	13	16	2
SW-24	2	14 1/2	17 1/4	2
SW-25	2	14 3/4	18 1/2	2
SW-26	2	16 3/4	20	2
SW-41	4	6 1/2	8	4
SW-42	4	10 1/2	12	4
SW-43	4	13	16	4
SW-44	4	14 1/2	17 1/4	4
SW-45	4	14 3/4	18 1/2	4
SW-46	4	16 3/4	20	4
SW-61	6	6 1/2	8	6
SW-62	6	10 1/2	12	6
SW-63	6	13	16	6
SW-64	6	14 1/2	17 1/4	6
SW-65	6	14 3/4	18 1/2	6
SW-66	6	16 3/4	20	6

The installations shown are typical for any Josam Roof Drain installed in any construction illustrated, subject to modification of construction to accord with drain features.

- CODE:** (A) — Roofing membrane or flashing.  
(B) — Insulation, optional.  
(C) — Roof Deck.  
(D) — Framing at drain opening or equivalent sump plate.  
(E) — Deck Clamp or equivalent anchor. (For drain with deck clamp add suffix "D" to Series Number indicated).  
(G) — Elastic Cement.





### SILL DRAINS

with high or low dome, bottom or side outlet

for parapet walls



### SCUPPER DRAINS

#### SERIES No. 4970



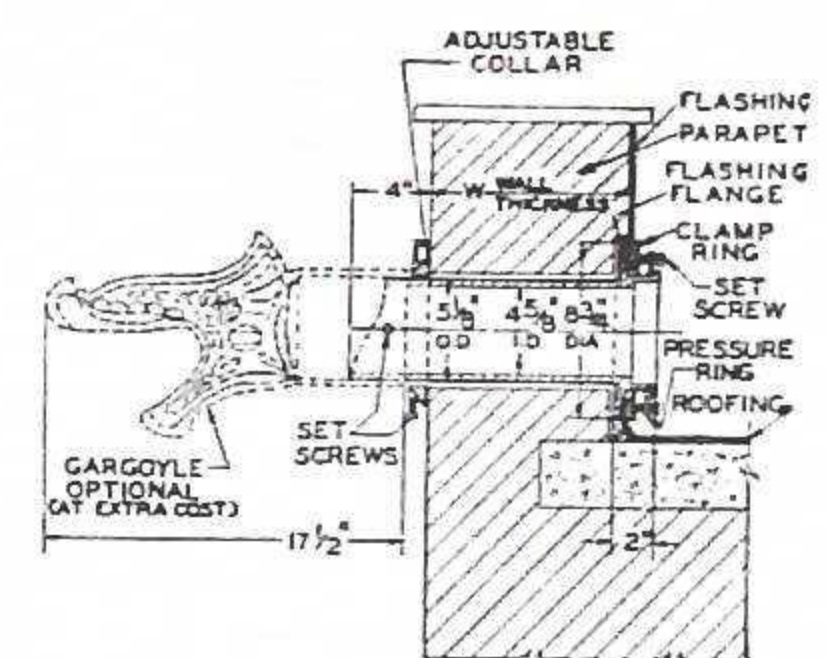
SERIES NO. 4970



SERIES NO. 4970-N

#### SPECIFICATION

Josam Series No. 4970, cast iron scupper drain with flashing clamp ring, pressure ring and adjustable wall flange held by brass set screws, for 1/2" wall thickness. (With gargoyle, Josam Series No. 4970-N).



SERIES NOS. 4970 and 4970-N



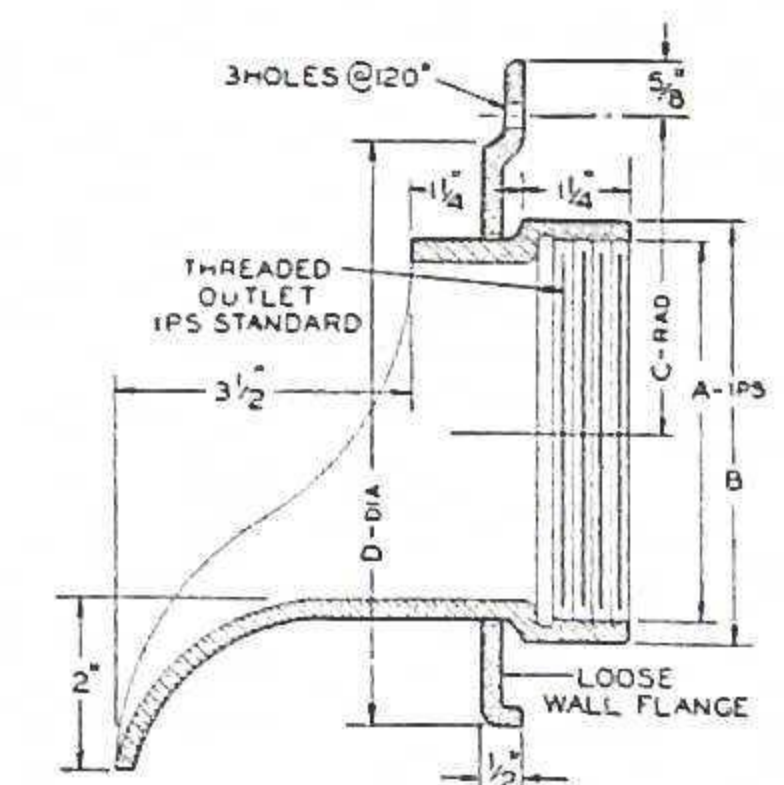
### DOWNSPOUT NOZZLE

#### SERIES No. 4980-BB



#### SPECIFICATION

Josam Series No. 4980-BB, cast rough brass downspout nozzle with threaded connection and loose wall flange with bolt holes.



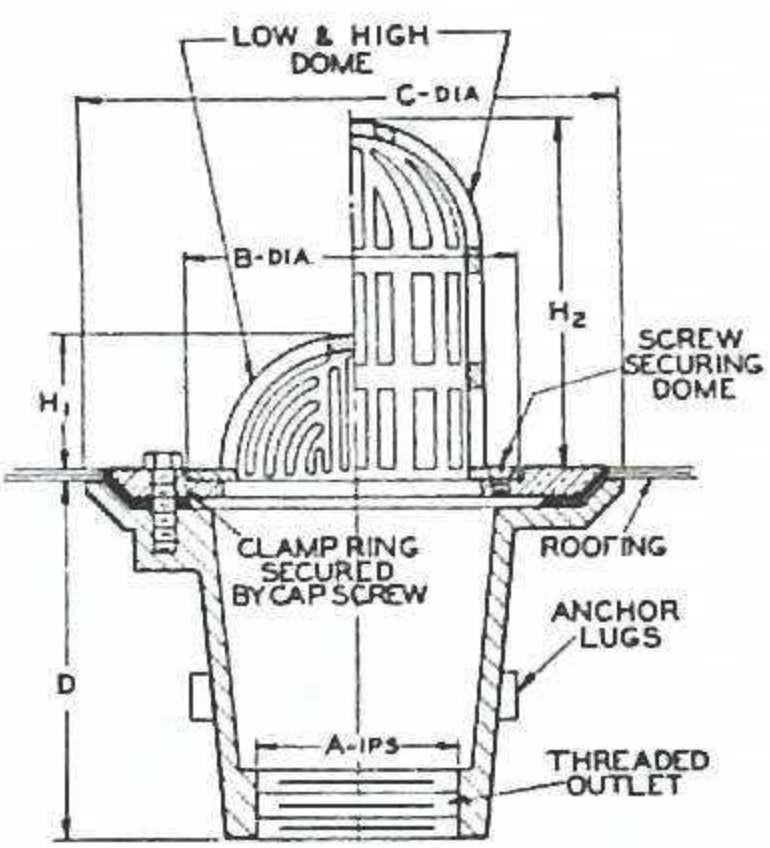
● APPLICATION: For Sills, Cornices, Balconies, Parapets, Set Back Gutters, Marquees, Canopies and similar overhanging construction to prevent dripping to areas below.

For features to suit additional requirements, see Adaptations of Series No. 4810-B.

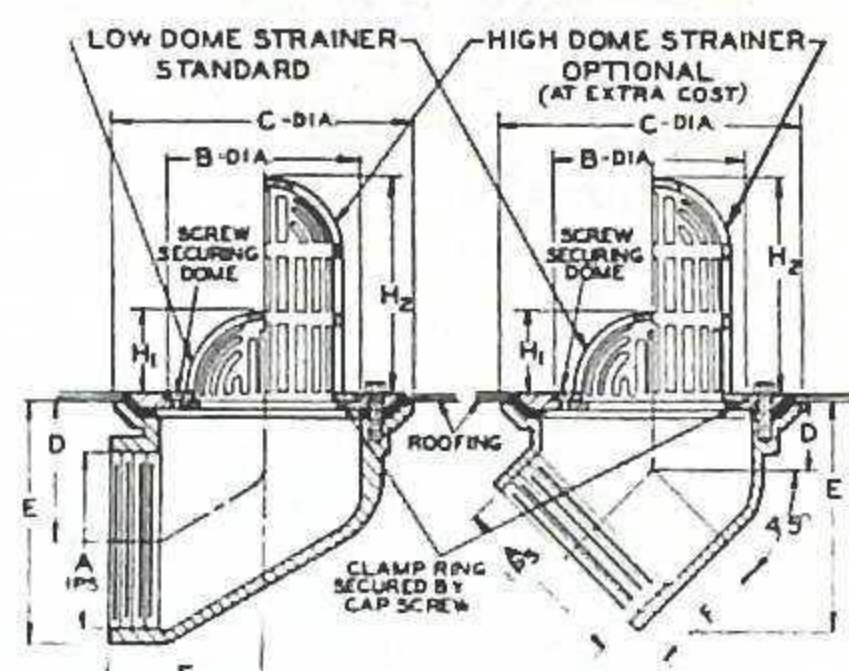
#### STANDARD and OPTIONAL FEATURES

The features below apply to drains in this group. The illustrations show the standard features applicable to each design.

- Body **Standard:** Cast iron lacquer finish, with round flange, available in three lengths to meet varying thicknesses of roofing. **Optional:** Galvanized iron, all brass, or Everdur, at added cost.
- Outlet **Standard:** Female threaded bottom outlet on Series Nos. 4810-B, 4820-B and 4830-B. Female threaded 45° outlet on Series No. 4860-B. Female threaded side outlet on Series No. 4870-B.
- Dome **Standard:** Rough brass, low or high dome, as illustrated, secured to clamping ring by screws. **Optional:** Polished or chrome plated brass, Everdur or White Metal low or high dome, at added cost. (See page 16).
- Clamping Ring **Standard:** Rough brass, secured to body by screws. **Optional:** Polished or chrome plated brass, Everdur or White Metal low or high dome, at added cost. (See page 16). Clamping ring firmly secures roofing material to drain body.



SERIES NO. 4810-B, 4820-B, 4830-B



SERIES NO. 4870-B, 4870-BP 4860-B, 4860-BP

#### SERIES No. 4810-B, 4820-B, 4830-B



#### SPECIFICATION

Josam Series No. 4810-B cast iron sill drain, 2" deep body, with 1/2" bottom outlet, rough brass dome and clamping ring secured by screws.

(4" deep body, Series No. 4820-B; 8" deep body, Series No. 4830-B).

NOTE: The above specification covers Josam Series No. 4810-B.

Where optional features or materials are required, select style from illustrations shown, change Series Number above, and insert optional features or materials.

#### ADAPTATIONS OF SERIES NO. 4810-B

The following illustrations show the SPECIAL FEATURES of Adaptations of Series No. 4810-B.



SERIES NO. 4860-B

Same as Series No. 4810-B except with 45° THREADED OUTLET. With high dome strainer, Series No. 4860-BP.



SERIES NO. 4870-B

Same as Series No. 4810-B except with female threaded SIDE OUTLET.



SERIES NO. 4870-BP

Same as Series No. 4810-B except with female threaded SIDE OUTLET and HIGH DOME strainer.

● APPLICATION: For installation through parapet wall where roof drain with vertical connection is not feasible, and where overflow of roof drainage to lower level, is desired.

#### STANDARD and OPTIONAL FEATURES

- Body **Standard:** Cast iron lacquer finish, with round flange. **Optional:** Galvanized iron, all brass, or Everdur, at added cost. Available in lengths to meet varying wall thicknesses. Integral flange provides adequate bearing surface for parapet flashing.
- Outlet **Standard:** Shaped end. Ornamental gargoyle on Series No. 4970-N.
- Flashing Clamp **Standard:** Same material as body. Flashing and roofing material is secured by clamp and pressure rings.
- Wall Flange **Standard:** Same material as body. Flange is fitted on outside of parapet wall and serves as a closure ring around drain body. Can be adjusted to any wall thickness.
- Gargoyle **Standard:** On Series No. 4970-N. Same material as scupper. Gargoyle is bolted to scupper for ornamental purposes and to extend length of scupper beyond parapet wall.

SERIES NO.		TYPE NO.		W WALL THICK. IN.	WGT. LBS.	
PLAIN	WITH GARGOYLE	PLAIN	WITH GARGOYLE		PLAIN	WITH GARGOYLE
4970	4970-N	4971	4971-N	9	26	49
		4972	4972-N	13	32	55
		4973	4973-N	17	38	61
		4974	4974-N	21	45	68

### overflow

● APPLICATION: For installation through parapet wall to permit overflow of roof drainage to lower level.

#### STANDARD and OPTIONAL FEATURES

- Body **Standard:** Cast rough brass nozzle. **Optional:** Polished or chrome plated brass, Everdur or White Metal, at added cost.
- Connection **Standard:** Threaded.
- Flange **Standard:** Loose flange in same material as body with three bolt holes for fastening nozzle to wall.

#### DIMENSIONS IN INCHES

SERIES NO.	TYPE NO.	A	B	C	D	WGT. LBS.
4980-BB	4982-BB	2	4	3 3/4	6	6
	4983-BB	3	4	3 3/4	6	5 1/2
	4984-BB	4	5	3 3/4	7	8
	4985-BB	5	9	5 3/4	11	17
	4986-BB	6	9	5 3/4	11	16

#### DIMENSIONS IN INCHES

SERIES NO.	TYPE NO.	Outlet	DOME STRAINER								WGT. LBS.		
			A	Low Dome	High Dome	B	H1	H2	C	D		E	F
4810-B	4810-BP	2	4.4	11.5	3 3/4	1 1/2	3 7/8	6	2				4
	4813-B	3	4.4	11.5	3 3/4	1 1/2	3 7/8	6	2				4
4820-B	4820-BP	2	4.4	11.5	3 3/4	1 1/2	3 7/8	6	4				8
	4823-B	3	4.4	11.5	3 3/4	1 1/2	3 7/8	6	4				8
4830-B	4830-BP	2	4.4	11.5	3 3/4	1 1/2	3 7/8	6	8				11
	4833-B	3	4.4	11.5	3 3/4	1 1/2	3 7/8	6	8				11
4860-B	4860-BP	2	4.4	11.5	3 3/4	1 1/2	3 7/8	6	1 1/2	4 1/2	2 3/4		8
	4863-B	3	7.3	15.4	4 3/4	1 7/8	5	7 1/4	1 1/2				11
4870-B	4870-BP	2	4.4	11.5	3 3/4	1 1/2	3 7/8	6	2 1/2	4 1/2	2 3/4		11
	4873-B	3	7.3	15.4	4 3/4	1 7/8	5	7 1/4	3				11
4870-B	4874-B	4	7.3	15.4	4 3/4	1 7/8	5	7 1/4	3 1/2	6	3 1/2		11
	4874-BP	4	7.3	15.4	4 3/4	1 7/8	5	7 1/4	3 1/2	6	3 1/2		11

Hy-Tech Products

**Josam**  
SCUPPER, PARAPET  
AND CORNICE DRAINS

● **APPLICATION:** For installation in Scupper, acute or obtuse Cornice, Parapet, or for roof drainage at junction of roof and parapet where drainage must go through walls to leader or conductor on outside, and where roofing must be securely fastened to drain body.  
Downspout elbow provides wall outlet drainage to exterior downspout conductors.

For features to suit additional requirements, see Adaptations of Series No. 4950-B.

**STANDARD and OPTIONAL FEATURES**

The features below apply to drains in this group. The illustrations show the standard features applicable to each design.

● **Body** **Standard:** Series Nos. 4950-B and 4960-B. Cast iron lacquer finish, with angle flashing flange.

Series Nos. 4910-BB, 4920-BB, 4930-BB. Rough brass with angle flashing flange in three different angles to meet varying roof and parapet construction.

**Optional:** Galvanized iron, rough or polished brass, or Everdur, at added cost.

Large roof and parapet flange provides ample bearing for roofing felts and parapet flashing.

● **Outlet** **Standard:** Female threaded.

**Optional:** Hub or spigot adaptor, at added cost.

● **Grate and Flashing Clamp Device** **Standard:** Series Nos. 4910-BB, 4920-BB, 4930-BB. Rough brass convex grate integral with flashing clamp device, bolted to drain body.

Series No. 4950-B. Rough brass, removable loose set sloping grate, and cast iron bolted flashing clamp device.

Series No. 4960-B. Rough brass angle grate with integral flashing flange bolted to drain body.

**Optional:** Polished or chrome plated brass, Everdur or White Metal, at added cost. (See ♦ — page 16).

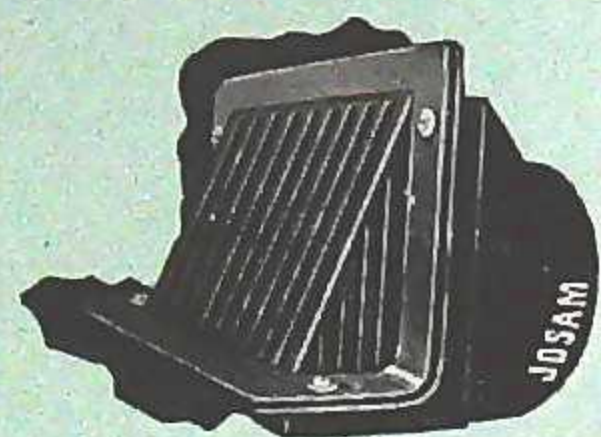
Bolted flashing flange holds roofing felts and parapet flashing to drain body. Metal flashing is unnecessary. On Series Nos. 4950-B and 4960-B, slotted holes in flange permit use of varying thicknesses of roofing material.

● **Downspout Elbow** **Standard:** On Series Nos. 4950-BN and 4960-BN. Cast iron downspout elbow with 3" overflow connection. Elbow connects sleeve through wall to downspout and provides an overflow connection in the event downspout is clogged by debris.

Nipple to suit wall thickness for connecting drain and downspout elbow, furnished by others.

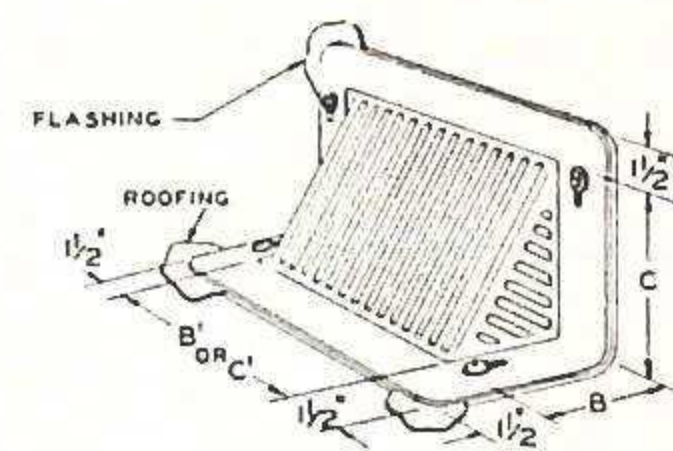
*sloping, convex or angle grate*

**SERIES No. 4950-B**



**SPECIFICATION**

Josam Series No. 4950-B, cast iron scupper drain with flashing flange, 1/2" female threaded side outlet, removable loose set sloping brass grate, and cast iron flashing clamp device with slotted holes, bolted to flange.



SERIES No. 4950-B

**NOTE:** The above specification covers Josam Series No. 4950-B.

Where optional features or materials are required, select style from illustrations shown, along with number above, and insert optional features or materials.

*sloping, convex or angle grate*

**ADAPTATIONS OF SERIES NO. 4950-B**

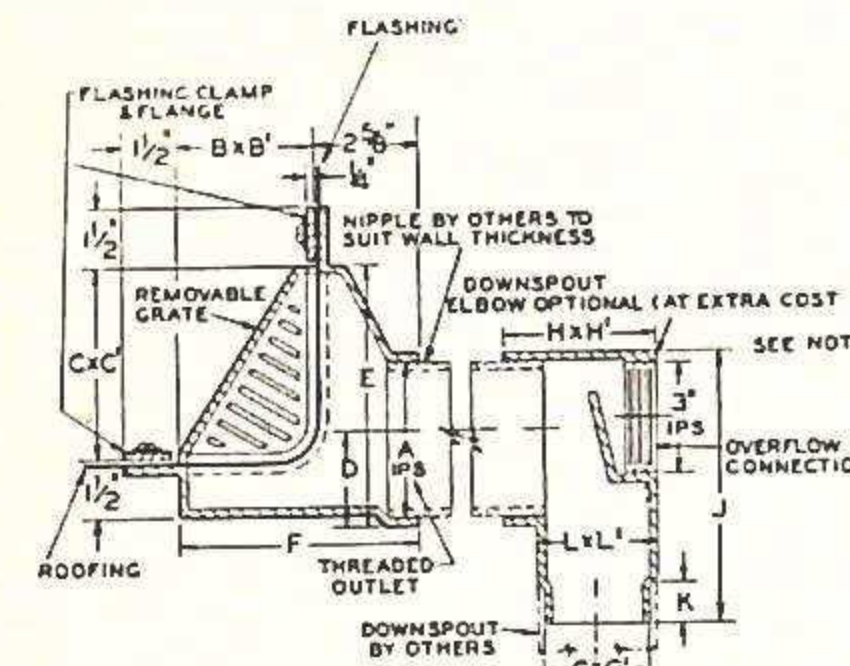
The following illustrations show the SPECIAL FEATURES of Adaptations of Series No. 4950-B. Standard and Optional Features are listed on the opposite page.



SERIES NO. 4950-BN

**SPECIFICATION**

Same as Series No. 4950-B except with cast iron DOWNSPOUT ELBOW with 3" overflow connection and dam. Nipple to suit wall thickness, for connecting drain and downspout elbow, furnished by others.



SERIES NO. 4950-BN



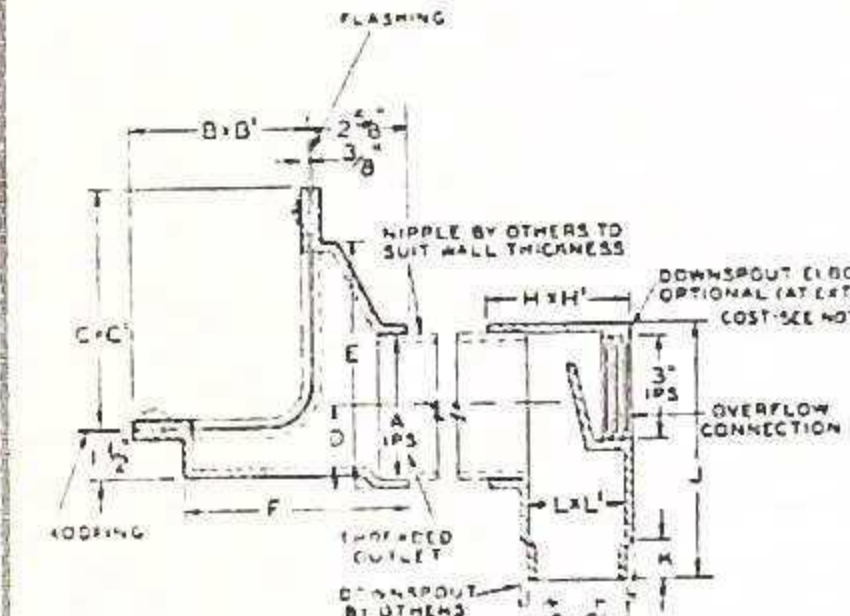
SERIES NO. 4960-B

**SPECIFICATION**

Same as Series No. 4950-B except with brass ANGLE GRATE integral with flashing flange bolted to drain body.

**NOTE**

Series No. 4960-BN, same as Series No. 4960-B except with downspout elbow as shown on Series No. 4950-BN.



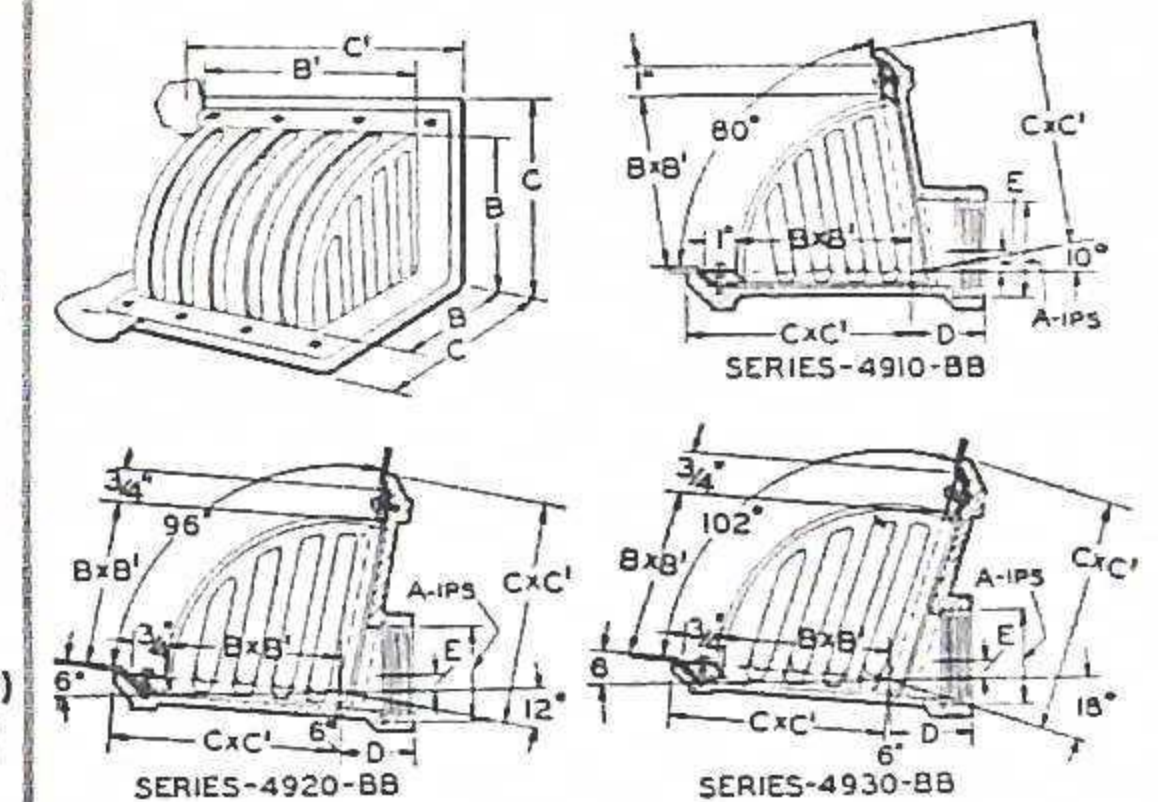
SERIES NO. 4960-B (WITHOUT OVERFLOW)  
SERIES NO. 4960-BN (WITH OVERFLOW)



SERIES NOS. 4910-BB,  
4920-BB, 4930-BB

**SPECIFICATION**

Josam Series No. 4910-BB (4920-BB or 4930-BB), all brass scupper drain with flashing flange, 1/2" threaded outlet and convex grate with integral flashing clamp bolted to flange.



**DIMENSIONS IN INCHES**

SERIES NO.	TYPE NO.	OUTLET A	GRATE		Cx C'	D	E	F	DOWNSPOUT ELBOW						WGT. LBS.	
			BxB'	FREE AREA SQ. IN.					G	G'	H	H'	J	K		LxL'
4910-BB	4912-BB	2	3 3/4 x 5 1/2	20.0	5 3/8 x 8 1/2	2 1/8	3/4									16
	4913-BB	3	3 3/4 x 5 1/2	20.0	5 3/8 x 8 1/2	2 1/8	1 1/4									16
	4914-BB	4	3 3/4 x 5 1/2	20.0	5 3/8 x 8 1/2	2 1/8	1 3/4									17
	4922-BB	2	3 3/4 x 5 1/2	23.0	5 x 8 1/2	1 5/8	3/4									14
	4923-BB	3	3 3/4 x 5 1/2	23.0	5 x 8 1/2	2 1/4	1 1/4									15
	4924-BB	4	3 3/4 x 5 1/2	23.0	5 x 8 1/2	2 1/4	1 3/4									15
4950-B	4952-B	2	3x8	19.5	5x8	1 1/2	6 3/4	5 1/4								22
	4953-B	3	3x8	19.5	5x8	2 1/4	6 3/4	5 1/4								22
	4954-B	4	3x8	19.5	5x8	2 1/2	6 3/4	5 1/4								22
	4955-B	5	4x10	34.3	6x10	3 1/2	8	6 3/4								28
	4956-B	6	4x10	34.3	6x10	3 3/4	8	6 3/4								28
	4950-BN	4952-BN	2	3x8	19.5	5x8	1 1/2	6 3/4	5 1/4	3	5 1/2	4 1/2	5 1/4	7 3/8	1 1/4	3 1/4 x 5 1/4
4953-BN		3	3x8	19.5	5x8	2 1/4	6 3/4	5 1/4	3	5 1/2	4 1/2	5 1/4	7 3/8	1 1/4	3 1/4 x 5 1/4	24
4954-BN		4	3x8	19.5	5x8	2 1/2	6 3/4	5 1/4	3	5 1/2	4 1/2	5 1/4	7 3/8	1 1/4	3 1/4 x 5 1/4	24
4955-BN		5	4x10	34.3	6x10	3 1/2	8	6 3/4	4	6 1/2	5	7 1/2	10 3/4	1 3/4	4 1/4 x 7 1/2	31
4956-BN		6	4x10	34.3	6x10	3 3/4	8	6 3/4	4	6 1/2	5	7 1/2	10 3/4	1 3/4	4 1/4 x 7 1/2	31
4960-B		4962-B	2	4 1/2 x 10 7/8	25.9	6 1/2 x 10 7/8	1 5/8	6 3/4	5 3/4							
	4963-B	3	4 1/2 x 10 7/8	25.9	6 1/2 x 10 7/8	2 1/4	6 3/4	5 3/4								26
	4964-B	4	4 1/2 x 10 7/8	25.9	6 1/2 x 10 7/8	2 1/2	6 3/4	5 3/4								26
	4965-B	5	5 1/2 x 13	41.3	7 1/2 x 13	3 1/2	8	6 3/4								34
	4966-B	6	5 1/2 x 13	41.3	7 1/2 x 13	3 3/4	8	6 3/4								34
	4960-BN	Same dimensions as 4960-B for drain body, and 4950-BN for downspout elbow.														



## EXPANSION JOINT

● **APPLICATION:** For use on conductors, leaders, soil, waste or vent stacks, or any drain line to take up movement in line. Prevents leaks due to rupture of roofing caused by movement in the line transmitted to the drain, if the drain is securely anchored in construction.

(For roof drains with integral expansion joint, see pages 136-138)

### STANDARD and OPTIONAL FEATURES

- **Top and Bottom Sections** **Standard:** Cast iron lacquer finish, male threaded top section and female threaded bottom section.  
**Optional:** Integral spigot bottom section on 4", 5", 6" and 10" and spigot adaptor on 2", 3" and 8", at no added cost. Galvanized iron, all brass or Everdur top and bottom section, at added cost.
- **Expansion Sleeve** **Standard:** Brass, 6" long.  
Brass sleeve has threaded top section and fits as a slip joint through packing gland, to bottom section. Total movement of sleeve is 3 1/2" which permits movement of 1 3/4" either way from neutral position.
- **Packing Gland** **Standard:** Cast iron pressure ring with lugs, wing nuts and graphited gasket.  
Maintains a water-tight joint around brass sleeve while permitting movement.

TYPE NO.	A IN.	WGT. LBS.
1812	2	9
1813	3	11
1814	4	12
1815	5	16
1816	6	20
1818	8	37
1819	10	70

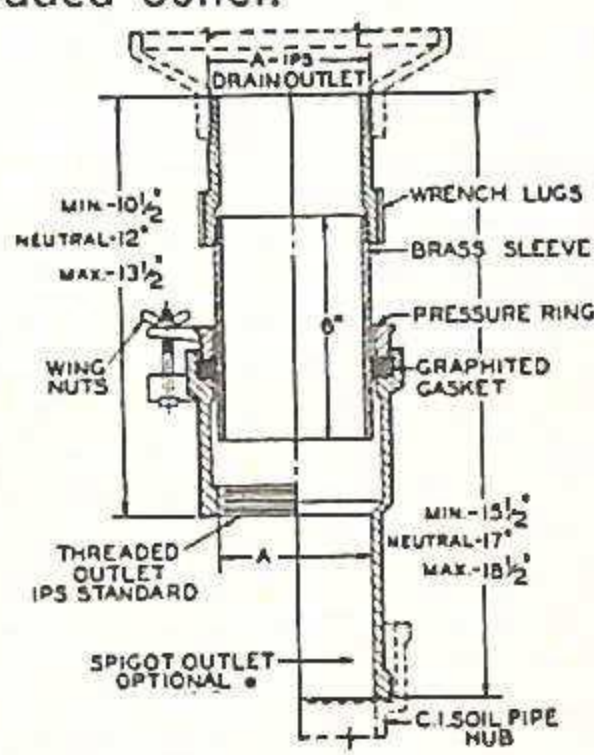
## with brass sleeve

### SERIES No. 1810



#### SPECIFICATION

Josam Series No. 1810, cast iron expansion joint with brass sleeve, bolted packing gland, male threaded inlet and female threaded outlet.



## with flashing clamp

● **APPLICATION:** For installation on stacks or other pipe lines where pipe, tank support and similar fixtures are carried through roof deck, to secure roofing.

Stack sleeve, when anchored in roof construction, insures a watertight connection at the roof and prevents leakage due to rupture of roofing caused by movement of stack or pipe passing through roof.

### STANDARD and OPTIONAL FEATURES

- **Body** **Standard:** Cast iron lacquer finish sleeve with caulking space at top, flashing flange and anchor lugs.  
**Optional:** Galvanized iron, all brass or Everdur, at added cost. The space between the stack and the sleeve is filled with roofers elastic cement or oakum and poured lead joint, to insure a tight connection. Flange can be used for attaching flashing or roofing to sleeve body.
- **Clamp Ring and Pressure Ring** **Standard:** Same material as body, with brass bolts. Flashing or waterproofing is securely held to sleeve by pressure on the clamp ring formed by tightening bolts in the pressure ring.

TYPE NO.	DIMENSIONS IN INCHES			WGT. LBS.
	A	B	C	
1871 1/2	1 1/2	2 3/4	6	8
1872	2	3 1/4	6 3/4	8
1872 1/2	2 1/2	3 3/4	7	10
1873	3	4 1/4	7 1/2	11
1874	4	5 1/4	8 3/4	14
1875	5	6 1/4	9 3/4	17
1876	6	7 1/4	10 3/4	18
1878	8	9 1/2	13	24
1879	10	Dimensions on application		



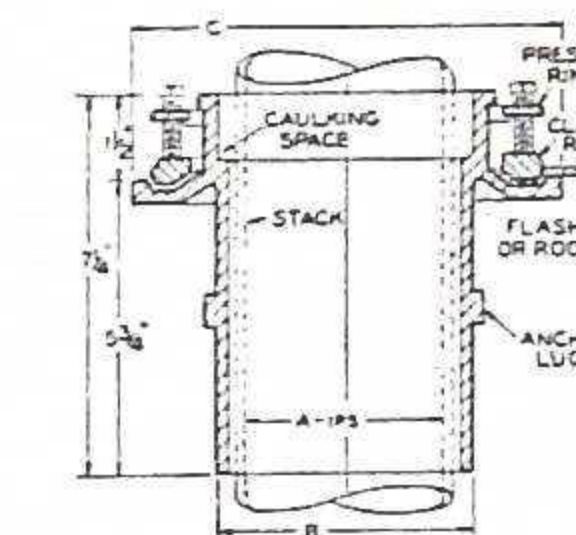
## STACK SLEEVE

### SERIES No. 1870



#### SPECIFICATION

Josam Series No. 1870, cast iron vent stack sleeve with caulking recess, anchor lugs, flashing clamp device, pressure ring with brass bolts, for " " stack.



## STACK FLASHING FITTING

● **APPLICATION:** For use where code permits, as a coupling to fit above roof to secure flashing sleeve on stack, counterflash and connect stack extension.

Double thread fitting acts as a coupling to secure flashing on vent stacks and other pipes above roof.

### DIMENSIONS IN INCHES

TYPE NO.	A	B	C	WGT. LBS.
1831 1/2	1 1/2	3 1/4	5 3/8	4 1/2
1832	2	3 3/4	5 3/8	3 1/2
1833	3	4 1/4	5 3/8	4
1834	4	5 1/4	5 3/8	5
1835	5	6 1/4	5 3/8	7
1836	6	7 1/2	5 3/8	10 1/2

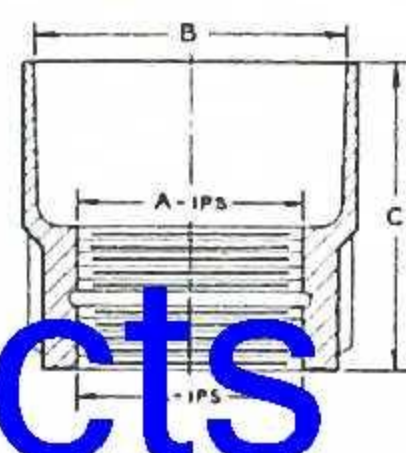
## double threaded type

### SERIES No. 1830



#### SPECIFICATION

Josam Series No. 1830, cast iron recessed stack fitting with " " double IPS threads.



## for interior construction

● **APPLICATION:** For installation as a riser sleeve to meet Underwriter's requirements for a water dam around risers passing through floors. Prevents water damage to floors below.

### STANDARD and OPTIONAL FEATURES

- **Body** **Standard:** Cast iron lacquer finish riser, with anchor lugs and flashing flange.  
**Optional:** Galvanized iron, brass or Everdur, at added cost. Flange holds the waterproofing material to the sleeve and when pressure is exerted by the bolts on the pressure ring, a water-tight connection is formed.
- **Clamp Ring and Pressure Ring** **Standard:** Same material as body, with brass bolts. Flashing or waterproofing is securely held to riser by pressure on the clamp ring, formed by tightening bolts in the pressure ring.

TYPE NO.	DIMENSIONS IN INCHES						WGT. LBS.
	RISER SIZE A	PIPE SLEEVE B	C	D	E	F	
1881 1/2	1 1/2	2 1/2	3 3/8	6 3/4	2 1/2	3/4	10
1882	2	3	4 1/2	7 1/2	2 1/2	1	11
1882 1/2	2 1/2	4	5 1/8	8 3/4	3	1 1/8	16
1883	3	4	5 3/8	9 3/4	3	1 1/8	16
1884	4	5	6 3/8	10 3/4	3 1/2	1 1/4	18
1885	5	6	7 3/8	11 3/4	3 1/2	1 1/4	21
1886	6	8	9 3/8	13	4	1 3/8	31
1888	8	10	12 1/4	16 1/2	4	1 3/8	46



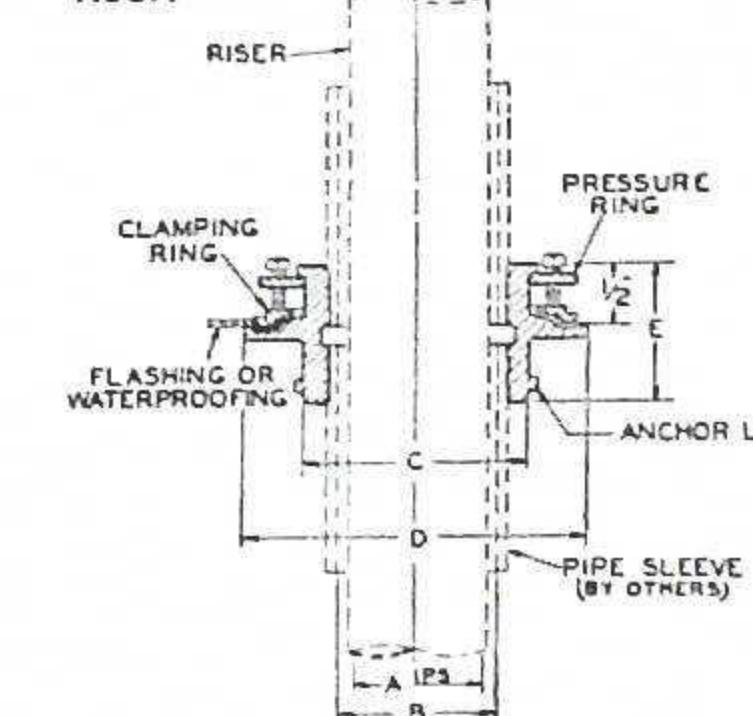
## RISER SLEEVE

### SERIES No. 1880



#### SPECIFICATION

Josam Series No. 1880, cast iron riser sleeve with anchor lugs, flashing clamp device, pressure ring with brass bolts, for " " riser.



# Hy-Tech Products

The work of the "Joint Committee Report of the Joint Bathing Place Committee of the State Sanitary Engineers and American Public Health Association" has been of the greatest value in furthering the cause of uniform and adequate regulations, and the Joint Committee Report may well be used as a guide in localities where no regulations yet exist.

Swimming Pools are generally classified into two groups—those designed for mass recreation, social swimming and diving, and those intended for instruction and competitive swimming. In outlining the various factors herein, an attempt is made to present facilities which will meet the requirements of both of these groups.

The size of a mass recreation pool should be determined only after careful study of many factors affecting its operation and expected patronage. A community is usually better served by several strategically located pools of moderate size than by a single very large pool. Its shape, and the level at which it should be placed to relate it to landscape, water and sewer facilities, must be considered.

#### WATER SUPPLY

Swimming pool water should meet the same standards of purity as drinking water. All water and sewer connections must be designed so that there is no possible surcharge or reverse flow of swimming pool water into the water supply system or from the sewer to the swimming pool water.

Two general arrangements of inlets and outlets are in use. In what may be called the "downward system," the supplies are placed in the walls of the shallower parts of the pool, and the outlets at the deepest points. In the other, the "overflow system," the water is admitted near or through the pool bottom, overflows the gutter rim and returns to the pumps through the gutter drains.

The first is by far the more common, but the second has the obvious advantage of the immediate removal of any floating scum or debris.

#### WATER CIRCULATION

Without proper circulation, it is impossible to maintain good sanitary conditions at all times, even though the pool is completely emptied, cleaned and refilled each day.

Water purity standards should be the same in every part of the pool at all times. Immediate purification of water can only be obtained if incoming purified water containing enough free disinfectant to destroy disease bacteria, is continuously and thoroughly mixed with every portion of water already in the pool. To accomplish this, the water supply fittings and outlet fittings should be arranged so as to cause a complete mixing of the entering fresh water with all of the pool content.

#### DOUBLE RECIRCULATING SYSTEM

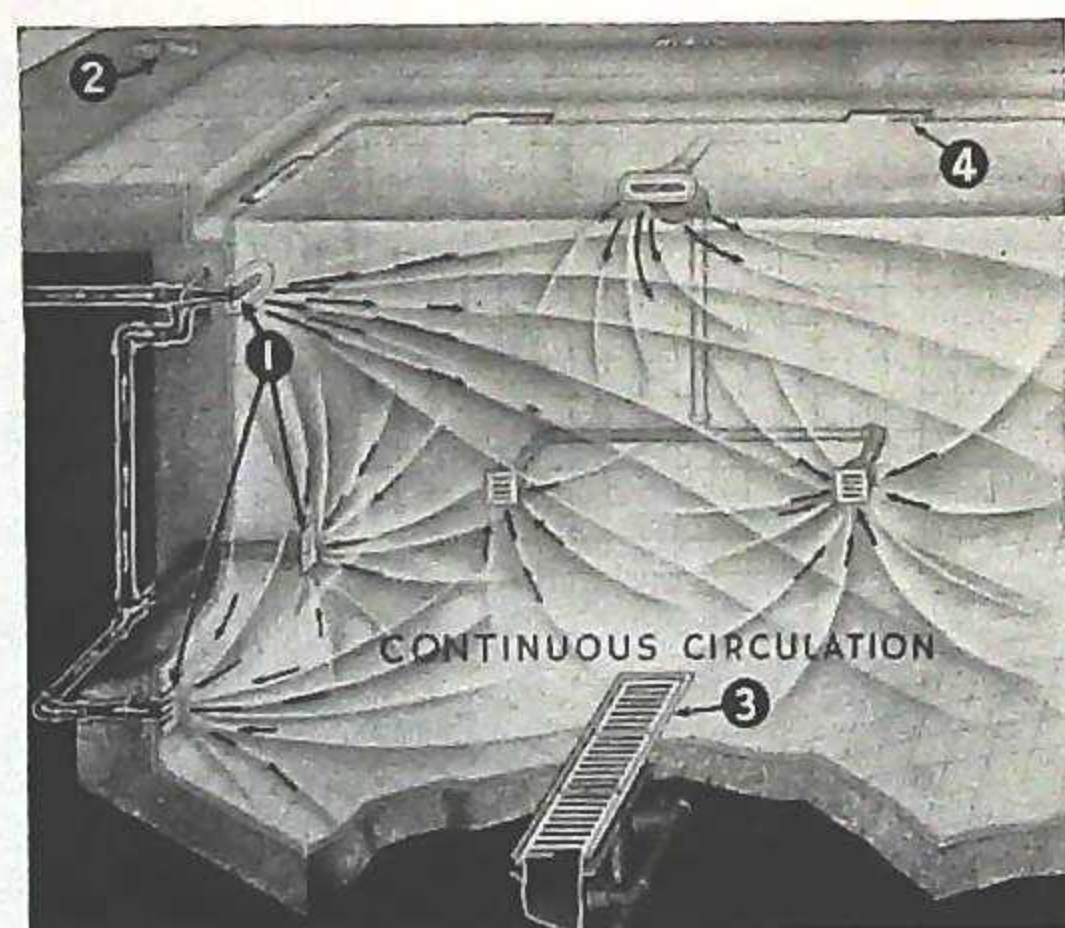
To meet the highest possible standards of hygiene, the Josam Injector System of water recirculation was designed.

The Injector System affords double recirculation of pool water due to the fact that the water is drawn from the pool through the outlet drains, sterilized, filtered and returned through the Injector Supply at the same time that the water from the pool which enters the recirculating fittings at the bottom of the pool wall, is drawn through the line to the Injector Fitting. The complete mixing of the entering fresh water with the water already in the pool, causes a secondary circulation of water in the pool and thereby reduces the possibility of any "dead spots."

Type "A" Pool on Page 160, shows the Injector System of recirculation. This embodies Josam Series No. 0700-B Injector Nozzle with two Josam Series No. 0710-B recirculating or auxiliary inlets. Due to the syphonic action within the Injector Nozzle, the incoming fresh water through the supply connection, and the water from the pool which enters the Injector through the auxiliary inlets, is thoroughly mixed before it enters the pool. This secondary circulation keeps all the water in the pool in constant motion, reducing the possibility of "dead spots" and sluggish circulation between and below inlets.

#### OVER 90% OF POOL WATER CONTINUOUSLY RE-CIRCULATED

Illustration shows Injector System of recirculation which maintains a completely circulated body of water within the pool.



With the Josam Injector Supply Series No. 0700-B and Recirculating Connections, Series No. 0710-B, continuous circulation of pool content is assured, due to the syphonic action within the Josam Injector supply, which also effects a secondary circulation within the pool.

1. Josam Injector, Series No. 0700-B and Recirculating Fitting, Series No. 0710-B, pages 161, 162.
2. Josam Promenade Drain, Series No. 5070-B, page 53.
3. Josam Promenade Gutter Drain, Series No. 0670-B, page 168.
4. Josam Gutter Drain, Series No. 0670-B, page 170.

#### GUTTERS

Overflow gutters, formerly called scum gutters, were considered more or less as sewers inasmuch as the water and other material which entered the gutters was wasted directly to the sewer. However, inasmuch as in a well operated pool there is very little collection of scum on the surface, there is a growing tendency to recirculate the overflow water. Some designers feel that it is better to carry the pool water level just above the gutter lip and to connect the gutters to their drain piping into the recirculating system. This promotes the general circulation of pool water, particularly the surface water in the shallow areas.

Overflow gutters are made in many designs, classified as the open or roll-out type and the deep or recessed type.

With the open type gutter, any drainage from the walk will be intercepted before reaching the pool proper. If the walk is pitched to drain away from the pool as it should be in all outdoor pools, the slight amount of water which would drain into the overflow would not be serious, regardless of whether the water is recirculated or drained into the sewer.

The Joint Committee Report suggests that overflow outlets should be provided at least every 10 feet and the gutter bottom should pitch slightly to these outlets which should be of generous size to permit rapid carrying off of water during surface flushing or reversed flow. Several designs of overflow gutter drains are shown on page 170.

#### INLETS

Inlets for fresh or repurified water should be located to produce, as far as possible, uniform circulation of water throughout the entire pool, without the existence of "dead spots." In the "downward system" they are best placed a few inches and not over one foot, below the water level.

The supply inlet with the adjustable type face permits the water volume delivered at each inlet, to be accurately determined and locked so that the desired volume will be permanently delivered. Or, in lieu of the adjustable type face, individual gate valves should be provided to proportion the volume of water required at the particular point to obtain the best circulation.

The Joint Committee Report advocates "Where the distance across the shallow portion of the pool is more than 15 feet, multiple inlets must be provided, so spaced that each inlet will serve a linear distance of not more than 15 feet. In spoon-shaped rectangular pools where the outlets are located more than 5 feet from the end wall, inlets should be placed at both ends of the pool. In large pools with outlets near the center, the inlets should be placed at the specified intervals entirely around the perimeter of the pool."

#### OUTLETS

All pools should be provided with an outlet drain or drains at the deepest points of the pool, large enough to completely empty the pool in not more than four hours. Grate openings should be at least four times the area of the discharge pipe to reduce suction at those points. In the case of large pools or those located where the sewers are small or laid on unusually flat grades, connection to more than one sewer may be necessary to avoid sewer flooding and possible backing up of water into neighboring basements.

In rectangular pools with deep water at or near one end, multiple outlets should be provided where the width of the pool is more than 20 feet.

#### TYPES AND SIZES

The whole problem of size and location is intricate, and a satisfactory solution can only be reached by careful and professionally competent analysis. In every case, the experience of architects and engineers who specialize in swimming pool construction, should be utilized to assure satisfactory and economical performance of pools.

Pools of rectangular design are the most common and generally the most satisfactory. They are simple to design and construct and are the most practical and efficient to operate and maintain. They provide straight uniform racing lanes and flat walls for turns when conducting swimming meets. If meets are held in oval or circular pools, temporary bulkheads for which provision should be made in the original design, must be erected for starting and turning.

Modifications of the rectangular pool are often-times used and have been found practical. These modifications are the T and L shaped pools. The oval pool and other irregular shapes may be particularly desirable for private or club use, but as explained above they have limited possibilities for instruction or competition.

The width should provide at least four lanes; the minimum width of racing lanes is 6 ft.

There are certain convenient lengths which provide an even number of laps for recognized contests. The actual length of the completed pool must be the full nominal length or records made therein will not be recognized. It is therefore wise to build the pool 1" or 2" longer than the nominal length.

Typical pool layouts on pages 181-183.

#### WATER LEVEL DECK POOLS

For information on water level deck pools, see pages 178 and 179.

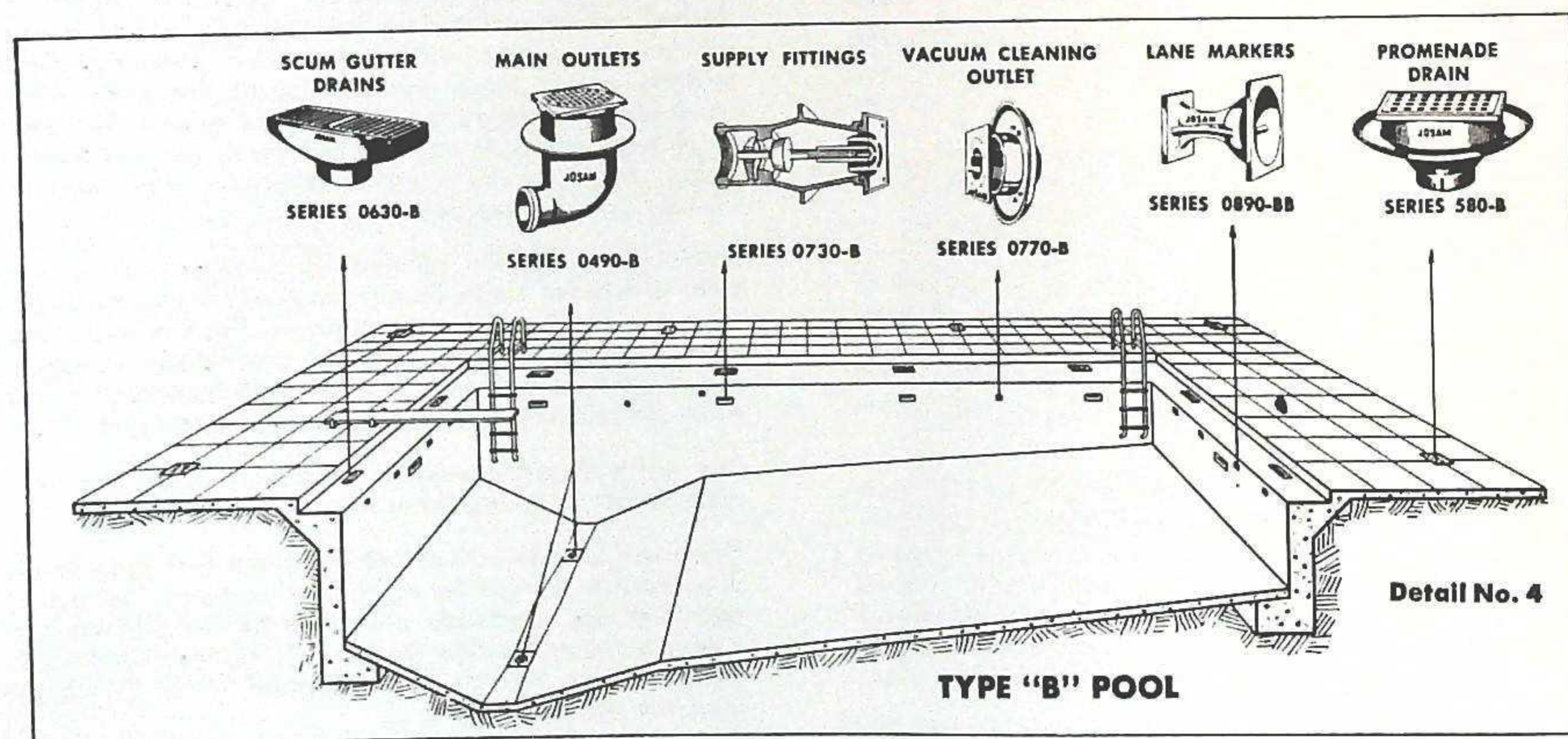
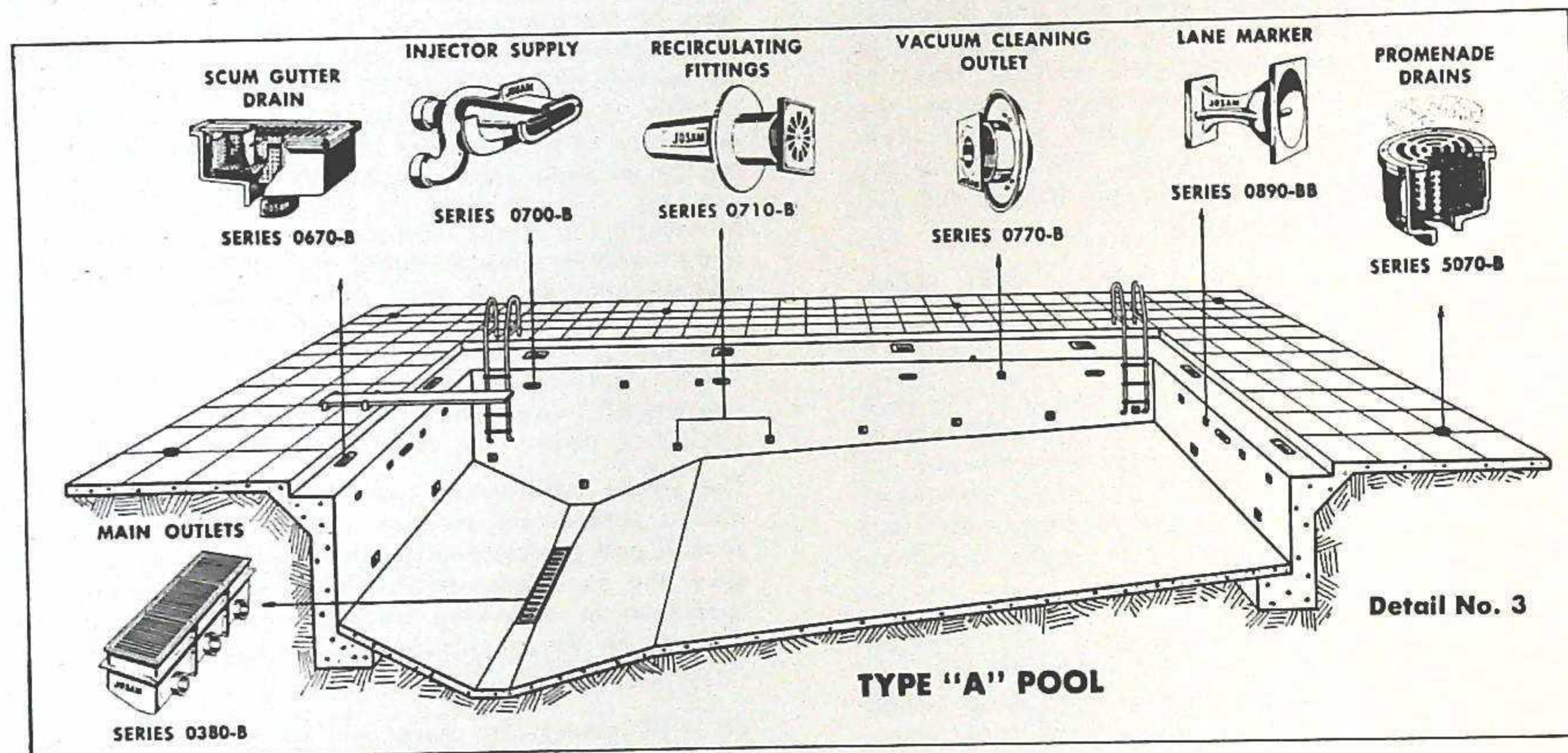


## TYPICAL RECIRCULATING SYSTEMS

### type "a" and type "b" pools

Type "A" pool is a typical design of swimming pool which permits double recirculation of more than 90% of pool water at all times. It embodies the Josam Injector Nozzle and Recirculating Fittings, explained on Page 161. Type "B" pool shows the recirculating type which is

identical to Type "A" pool except that it does not embody the Injector System. In Type "B" pool the water is pumped continuously from the pool through the purification system and back into the pool through the supply fittings, causing recirculation of water in the pool.



NOTE: Suffix Letter after Series Number indicates: B—Brass Top, BB—All Brass

The following pages illustrate various types of alternate fittings which can be used in place of those indicated in the above details. Where the Injector Nozzle and Recirculating fittings are not used, several types of supply inlets with adjustability in the orifice, are available. With the adjustability feature, such as Series

No. 0710-B and 0730-B, the volume of water desired at any location in the pool, can be regulated and permanently delivered. Wherever possible, it is desirable to install valves or supply fitting branches to balance volume of entering water.

### with supply and recirculating connections

● **APPLICATION:** For installation in Swimming Pools, Wading Pools, Ponds and similar structures to permit entry of fresh water where a recirculating supply fitting is required, and to prevent stagnant water or "dead spots" in the pool.

With the Josam Injector Fitting Series No. 0070-B, two recirculating fittings, Series No. 0710-B are required. See diagram on page 158.

#### STANDARD and OPTIONAL FEATURES

● **Body**

**Standard:** Cast iron lacquer finish with anchor flange.

**Optional:** Cast iron galvanized with brass face, all brass or Everdur at added cost.

Stream of fresh water through nozzle induces circulation of water direct from the pool through the recirculation fittings and connecting piping to recirculating connection.

Anchor flange holds fitting in position in concrete or other construction, or for attaching waterproofing.

● **Face**

**Standard:** Polished brass rim with nozzle plate, molded closure edge and bronze screen fastened to rim with tap screws.

**Optional:** Chrome plated brass, Everdur or white metal at added cost. (See ♦—page 16).

● **Supply Connection**

**Standard:** Female threaded.

Supply of incoming fresh water through the supply connection, is thoroughly mixed with water from the recirculating inlets before entering the pool.

● **Recirculating Connection**

**Standard:** Female threaded.

Two recirculating fittings, Series No. 0710-B, are required with each Injector supply fitting as explained on page 158.

For information on Series No. 0710-B recirculating fitting, see page 162.

#### DIMENSIONS IN INCHES

TYPE	A	FREE AREA SQ. IN.		B	C	D	E	F	G	H	J	K	WGT. LBS.
		Face Plate	Screen										
0701-B	1	3.2	1.8	3	6½	2½	1¾	5½	2¼	6¼	4½	6½	7
0701½-B	1½	3.4	2.2	4½	9¼	3½	2¾	7½	2¾	7¾	5½	7½	14
0702½-B	2½	7.8	4.9	6	12½	5	2¾	8¾	3¾	9¾	7¾	10¾	28

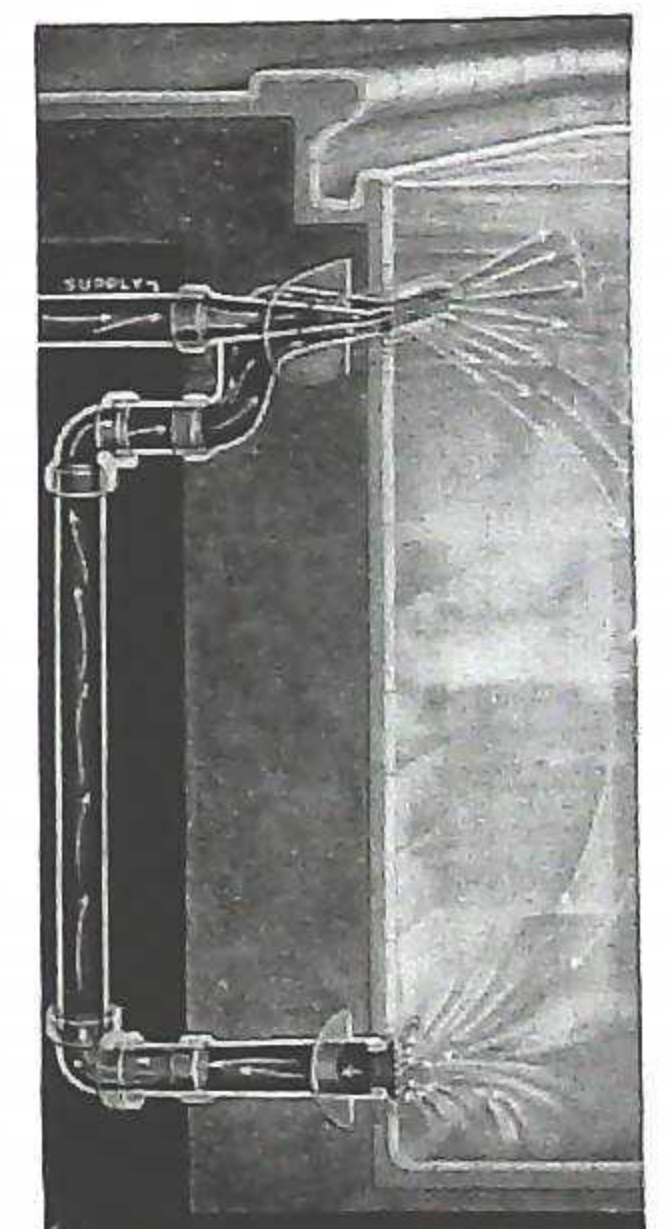
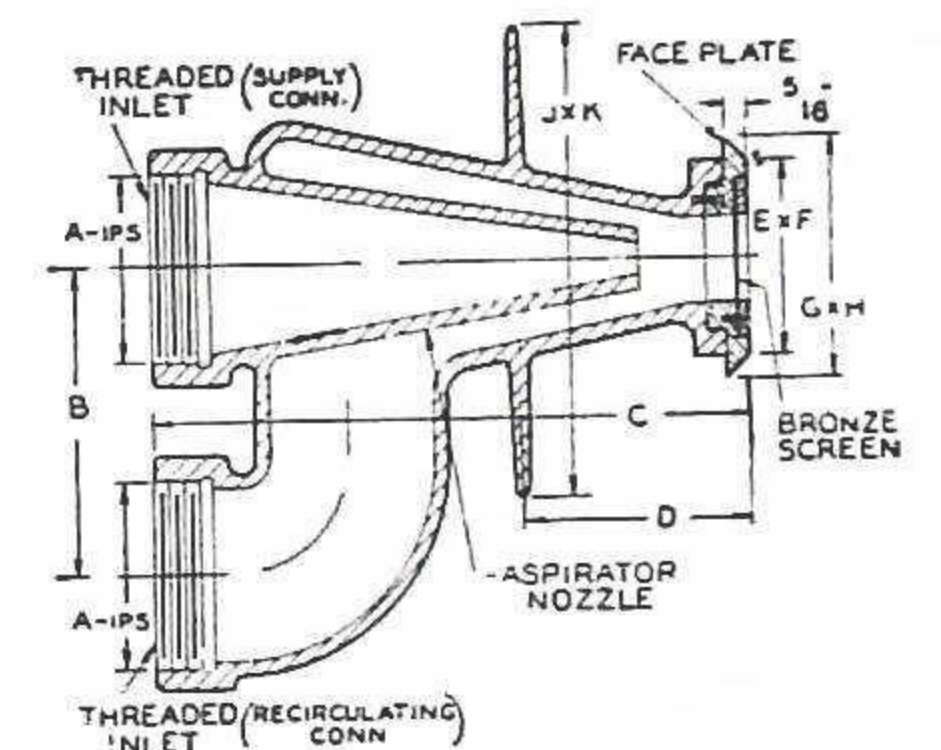
## Josam INJECTOR SUPPLY FITTING

### SERIES No. 0700-B



#### SPECIFICATION

Josam Series No. 0700-B, cast iron fan shaped Injector Nozzle with aspirator inlet nozzle surrounded by a suction chamber, threaded supply and recirculating connections, anchor flange and polished brass face plate with bronze screen, and two Josam Series No. 0710-B cast iron recirculating fittings with each Series No. 0700-B nozzle, with brass adjustable square head and polished brass strainer, anchor flange and threaded connection.



skimmer or adjustable flow types

details and dimensions

● **APPLICATION:** For installation in Swimming and Wading Pools, Ponds, Tanks and similar structures requiring supply fittings for fresh water, or wherever a supply with surface skimming feature is required as an aid to circulation, or where it is necessary to regulate the flow of water into the pool.

For features to suit additional requirements, see variations of supply fittings in this group.

**SPECIFICATION**

See "Specification" under each illustration. Where optional features or materials are required, insert optional materials or features in the "Specification".

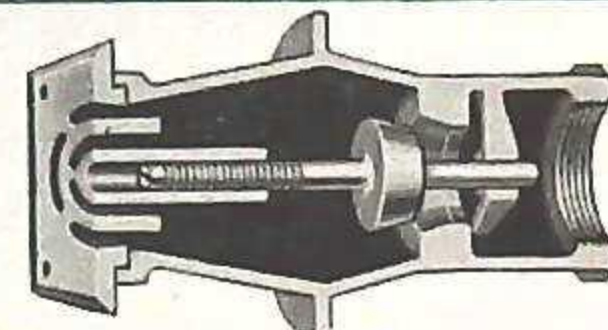
**STANDARD and OPTIONAL FEATURES**

The features below apply to drains in this group. The illustrations show the standard features applicable to each design.

- **Body** **Standard:** Cast iron lacquer finish, down supply or skimmer pattern, as illustrated.  
**Optional:** Galvanized iron, Rezinan iron, all brass, SR steels or Everdur, at added cost. (See ♦ — page 16).
- **Flange** **Standard:** Where shown in illustrations, flange serves as an anchor for concrete construction or for attaching waterproofing when used.
- **Connection** **Standard:** Female threaded straight, 45° or 90°, as illustrated.
- **Supply Nozzle or Strainer** **Standard:** Series No. 0760-B, polished brass down supply, fan shaped nozzle with square face adjustable head and threaded shank. Series No. 0710-B and 0750-B, polished brass adjustable head with threaded shank and strainer plate fastened to frame with screws. Adjustable head allows for variation in wall thickness to meet pool finish. Series No. 0800-B, 0810-B and 0820-B, polished brass fan shaped skimmer pattern with molded closure edge face secured to body by screws. Series No. 0800-B and 0810-B with slotted face. Series No. 0820-B with perforated face.  
**Optional:** Chrome plated brass, SR steels, Everdur or White Metal, at added cost. (See ♦ — page 16).
- **Adjustable Shutter** **Standard:** Series No. 0710-B and 0750-B. Brass shutter fastened with screw to inside of strainer plate. Shutter can be adjusted to control volume of water into pool.



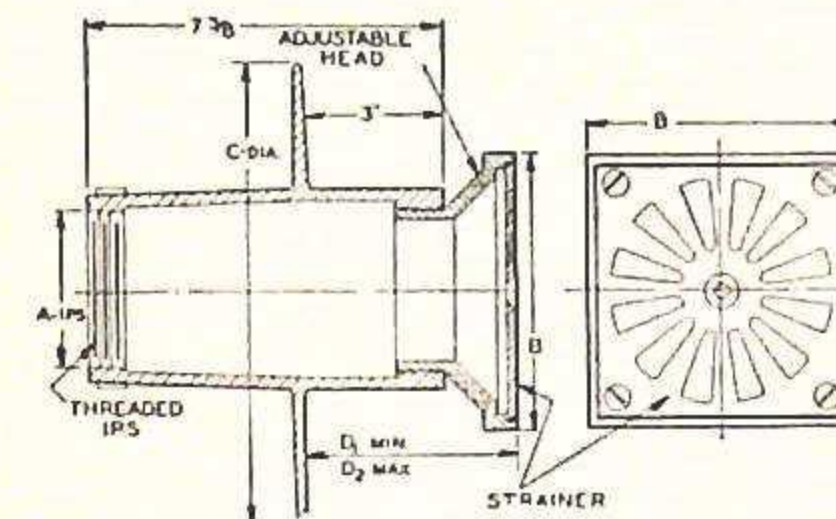
**SERIES NO. 0710-B SPECIFICATION**  
Josam Series No. 0710-B, cast iron supply fitting with anchor flange, anchor lugs, brass adjustable square head with brass strainer and " " connection. (Series No. 0710-B, with adjustable shutter.)



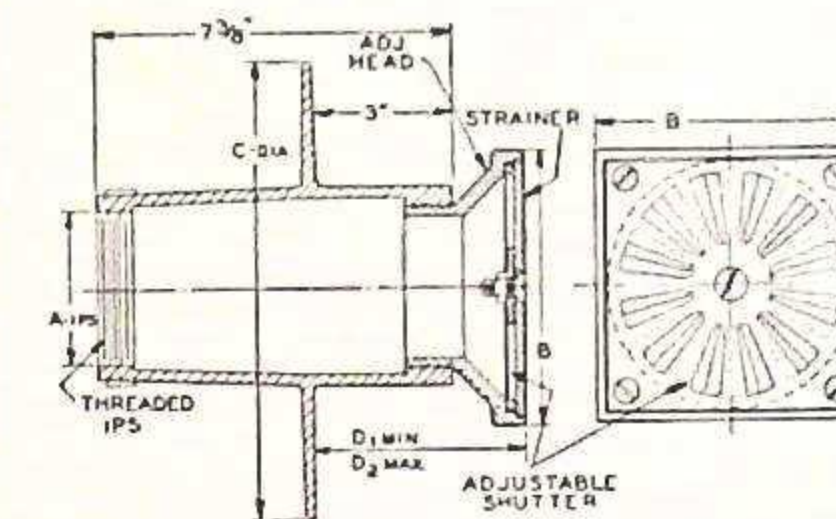
**SERIES NO. 0730-B SPECIFICATIONS**  
Josam Series No. 0730-B, cast iron swimming pool supply fitting with anchor flange, brass integral control valve with housed stem operable from pool and brass diffuser head integral with face plate. Grate can be set to regulate the flow of water by turning adjusting screw.



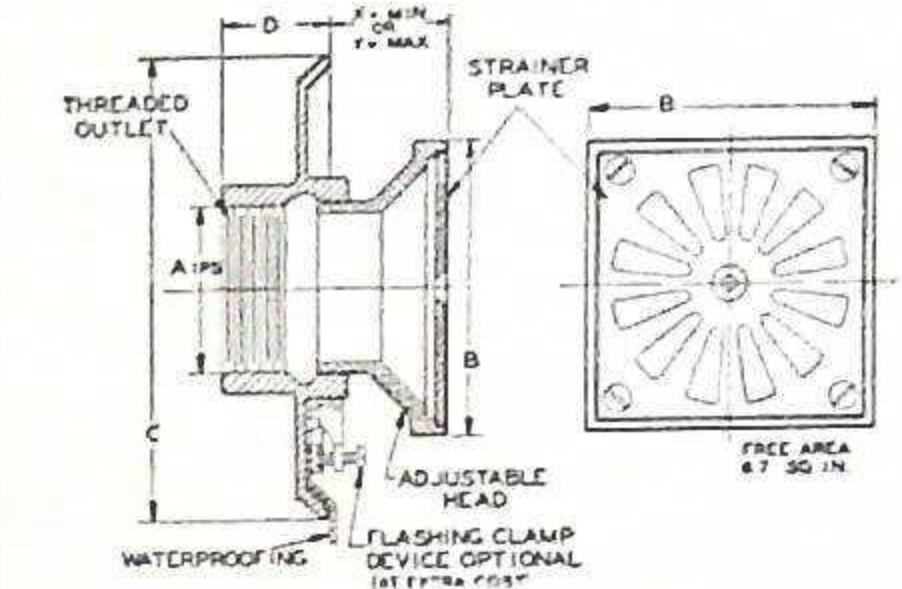
**SERIES NO. 0750-B SPECIFICATION**  
Same as Series No. 0710-B except with short body and anchor or waterproofing flange. (Series No. 0750-B is same as Series No. 0750-B except with internal adjustable shutter as shown in detail drawing of No. 0710-B.)



SERIES NO. 0710-B

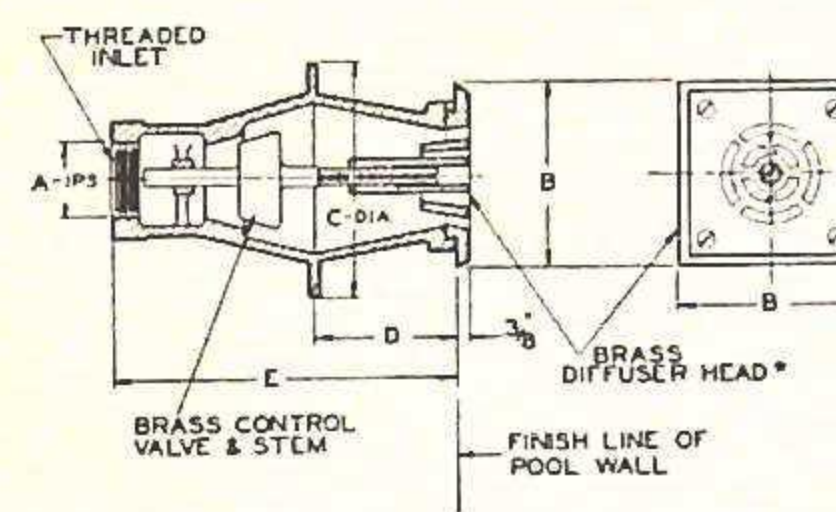


SERIES NO. 0710-B

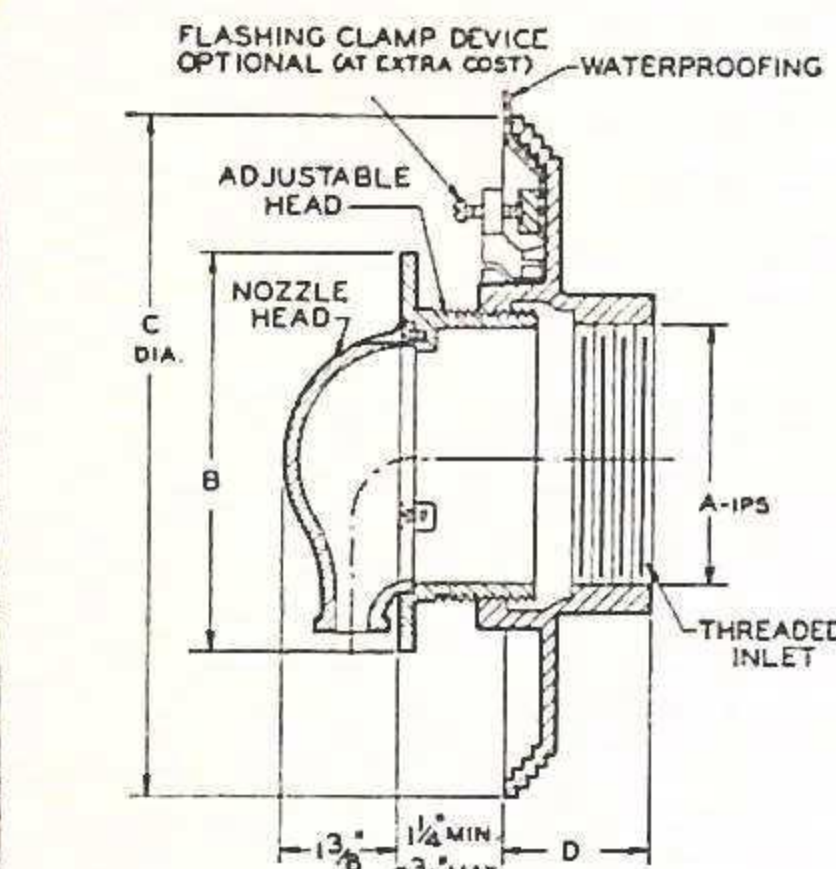


SERIES NO. 0750-B

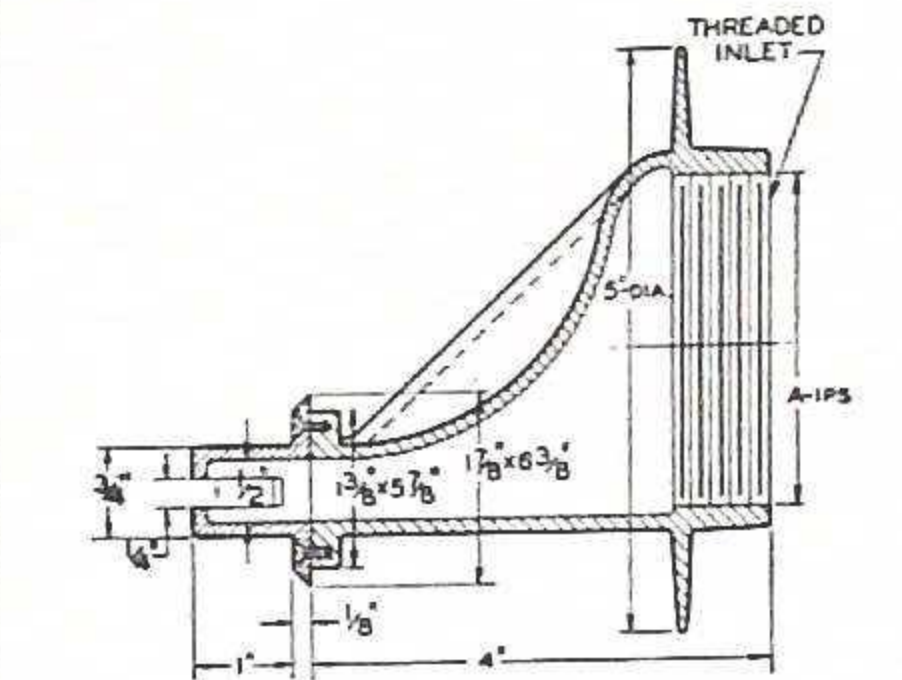
**NOTE:** Series No. 0750-B, same as Series No. 0750-B except with internal adjustable shutter in strainer, for regulating flow of water.



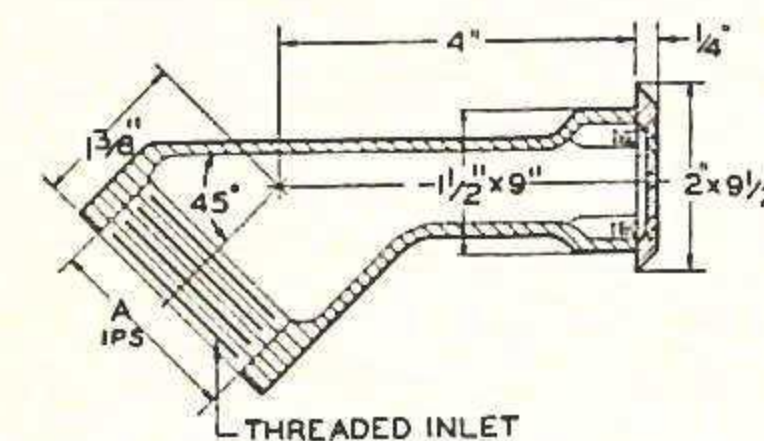
SERIES NO. 0730-B



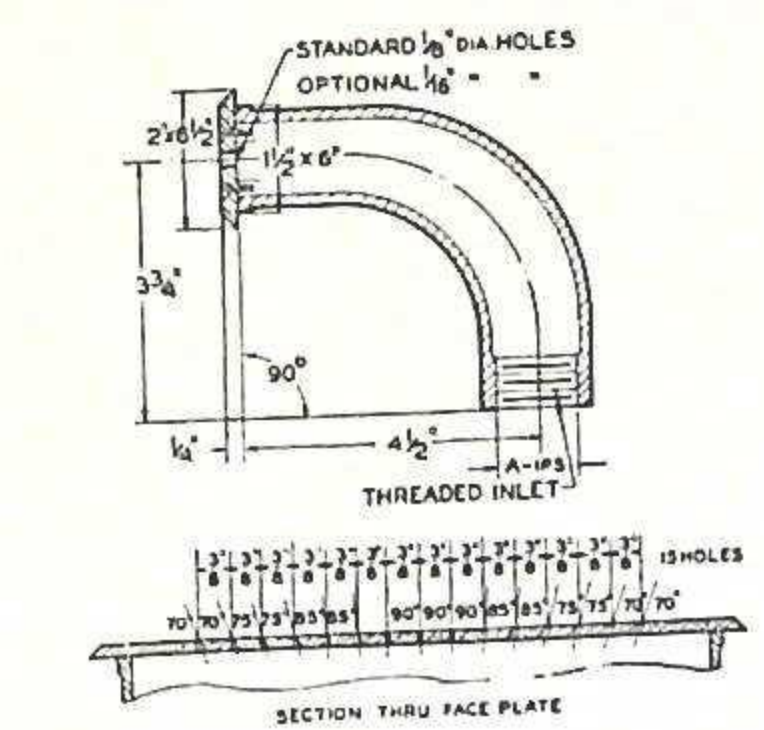
SERIES NO. 0760-B



SERIES NO. 0800-B



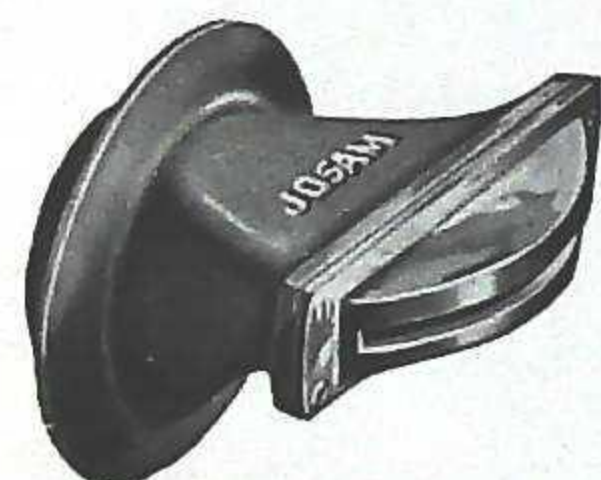
SERIES NO. 0810-B



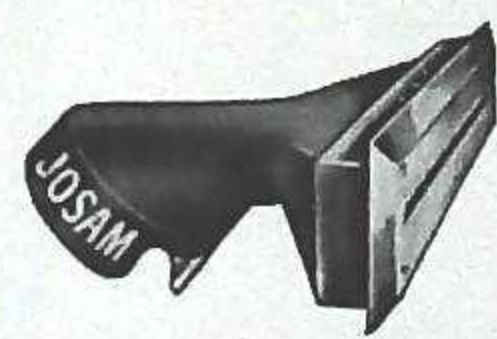
SERIES NO. 0820-B

**DIMENSIONS IN INCHES**

Series No.	Type No.	(With Adj. Shutter)		Conn.	STRAINER				STRAINER ADJUSTMENT				Wgt. Lbs.
		Series No.	Type No.		A	B	Free Area Sq. In.	C	D	D' Min.	D' Max.	X Min.	
0710-B	0710¼-B	0710-B	0710¼-B	¾	4¼x4¼	4.2	6½	4½	4½				8
	0711-B		0711-B	1	4¼x4¼	4.2	6½	4½	4½				8
	0711¼-B		0711¼-B	1¼	4¼x4¼	4.2	6½	4½	4½				8
	0711½-B		0711½-B	1½	4¼x4¼	4.2	6½	4½	4½				8
	0712-B		0712-B	2	5x5	6.7	8¼	3¾	4½				12
	0713-B		0713-B	3	5x5	6.7	8¼	3¾	4½				13
	0714-B		0714-B	4	5x5	6.7	8¼	3¾	4½				14
0730-B	0730¼-B			¾	4¼		6	3¼	8½				14
	0731-B			1	4¼		6	3¼	8½				14
	0731¼-B			1¼	4¼		6	3¼	8½				14
	0731½-B			1½	4¼		6	3¼	8½				14
	0732-B			2	4¼		6	3¼	8½				14
0750-B	0751½-B	0750-B	0751½-B	1½	5x5	6.7	9¼	1½			1¾	2½	9
	0752-B		0752-B	2	5x5	6.7	9¼	1½			1¾	2½	10
	0753-B		0753-B	3	5x5	6.7	9¼	1½			1¾	2½	10
	0754-B		0754-B	4	5x5	6.7	10¼	2			1¾	1¾	12
	0760-B		0761½-B			1½	5x5		9¼	1½			
	0762-B			2	5x5		9¼	1½				11	
	0763-B			3	5x5		9¼	1½				11	
	0764-B			4	5x5		10¼	1½				12	
0800-B	0802-B			2								5	
	0802½-B			2½								5	
0810-B	0811½-B			1½								7	
	0812-B			2								7	
0820-B	0820¼-B			¾								5	
	0821-B			1								5	



SERIES NO. 0800-B



SERIES NO. 0810-B



SERIES NO. 0820-B



SERIES NO. 0760-B SPECIFICATION

Josam Series No. 0800-B, cast iron fan shaped skimmer pattern supply, with brass slotted face and " " threaded connection.

Josam Series No. 0810-B, cast iron fan shaped skimmer pattern supply nozzle, with brass slotted face and " " threaded connection.

Josam Series No. 0820-B, cast iron fan shaped skimmer pattern supply nozzle, with brass perforated face and " " threaded connection.

Josam Series No. 0760-B, cast iron supply fitting with waterproofing flange, brass fan shaped down supply nozzle with square face adjustable head, and " " threaded connection.

**Josam**  
PIT AND  
POOL DRAINS

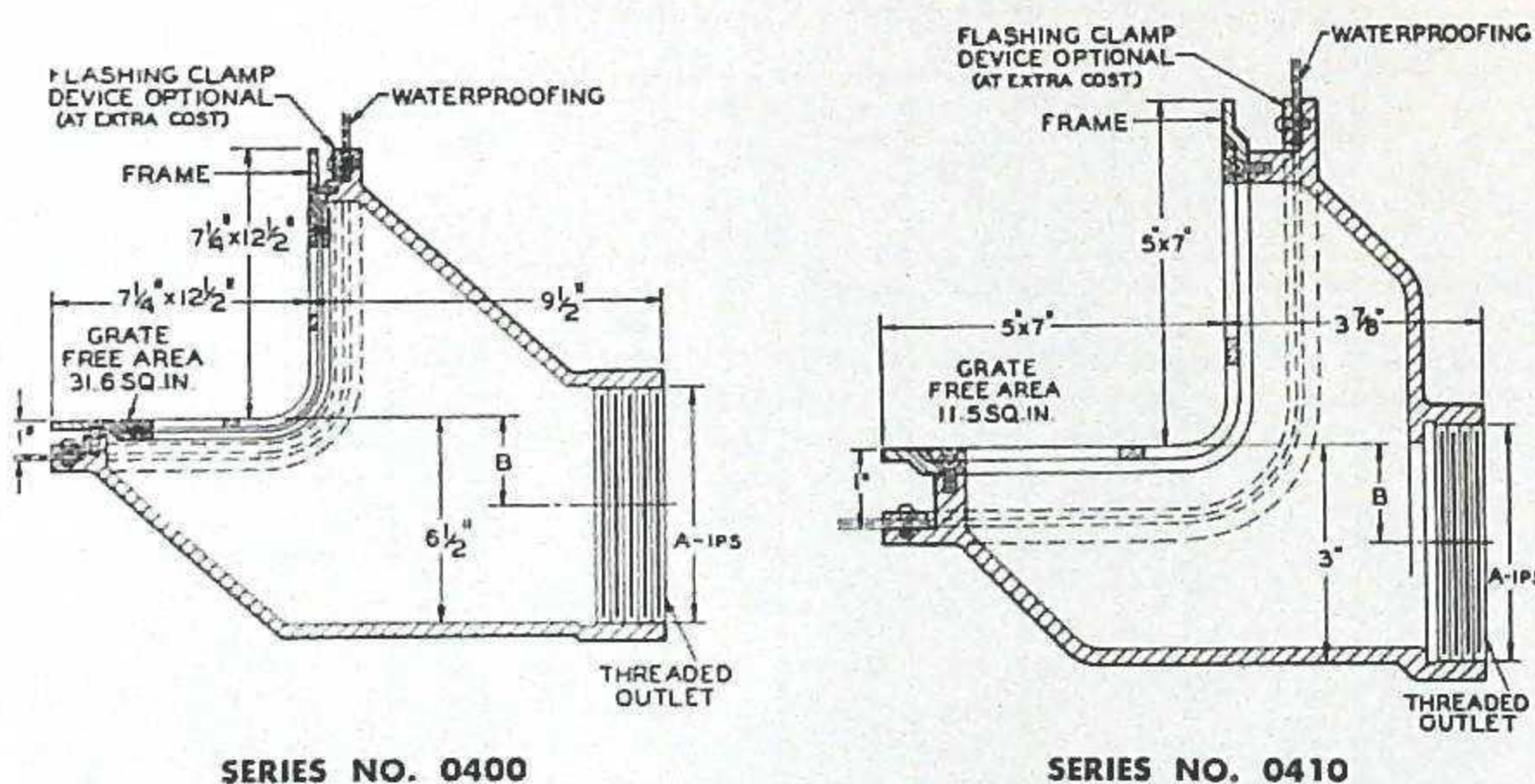
angle type — reversible outlet

● **APPLICATION:** In Elevator, Conduit and Meter Pits, Transformer Vaults, Manholes, Sumps, Trenches, Swimming Pools and other low spaces requiring drainage with close roughing. Drainage continues through vertical face in the event horizontal drainage surface becomes obstructed.

For features to suit additional requirements, see other designs on pages 165-167.

**STANDARD and OPTIONAL FEATURES**

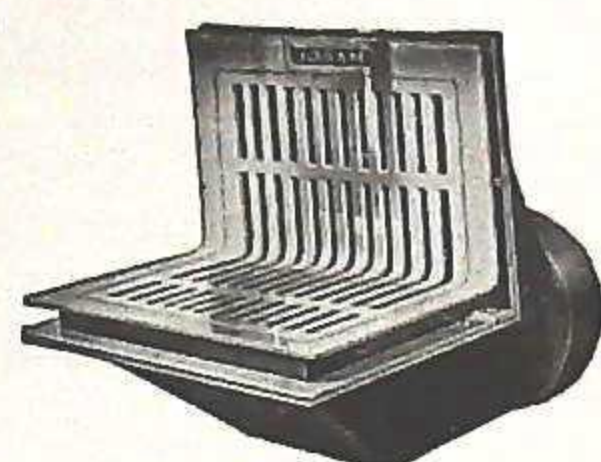
- **Body** **Standard:** Cast iron lacquer finish.  
**Optional:** Galvanized iron, Rezistan iron, all brass, SR steels or Everdur, at added cost. (See ♦ — page 16).  
Flange holds drain in position in construction, or can be used with clamp device to secure waterproofing.
- **Outlet** **Standard:** Female threaded. Reversible for either bottom or side outlet.  
**Optional:** Hub or spigot adaptor, at added cost.
- **Grate and Frame** **Standard:** Cast iron angle grate and frame.  
Series No. 0400, 7 1/4" x 12 1/2" angle frame.  
Series No. 0410, 5" x 7" angle frame.  
**Optional:** Galvanized iron, Rezistan iron, polished or chrome plated brass, SR steels, Everdur or White Metal grate and frame, at added cost. (See ♦ — page 16).  
Grate and frame fastened to drain body by screws.
- **Flashing Clamp Device** **Optional:** Ring in same material as body, bolted to flange, at added cost.  
Clamp ring secures waterproofing when used.



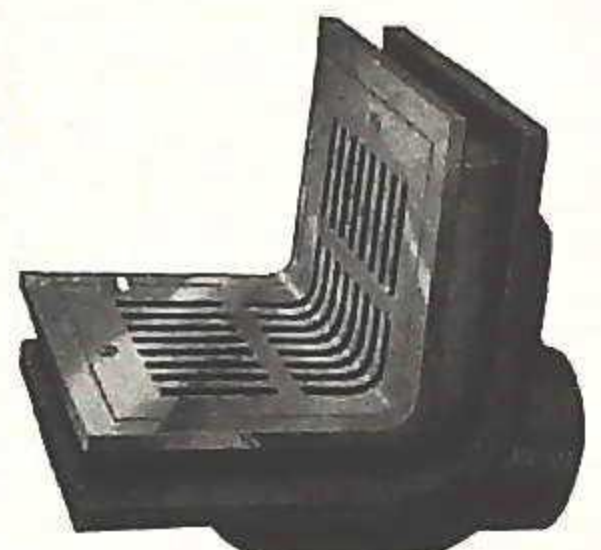
**DIMENSIONS IN INCHES**

SERIES NO.	TYPE NO.	A	B	WGT. LBS.
0400	0404	4	4 1/4	60
	0405	5	3 3/4	60
	0406	6	3 1/2	60
0410	0411	2	3 1/4	16
	0412	3	1 1/4	16
	0413	3	3 1/4	16
	0414	4	3 1/4	16

**SERIES No. 0400  
and No. 0410**



SERIES NO. 0400



SERIES NO. 0410

**SPECIFICATION**

Josam Series No. 0400 (or 0410), cast iron rectangular pattern end drain with reversible threaded outlet, removable angle frame and grate, and anchor flange.

Series No. 0400—7 1/4" x 12 1/2" angle frame

Series No. 0410—5" x 7" angle frame

**NOTE:** The specification covers standard features. Where optional features or materials are required, insert optional features or materials in the specification.

for shallow or deep roughing

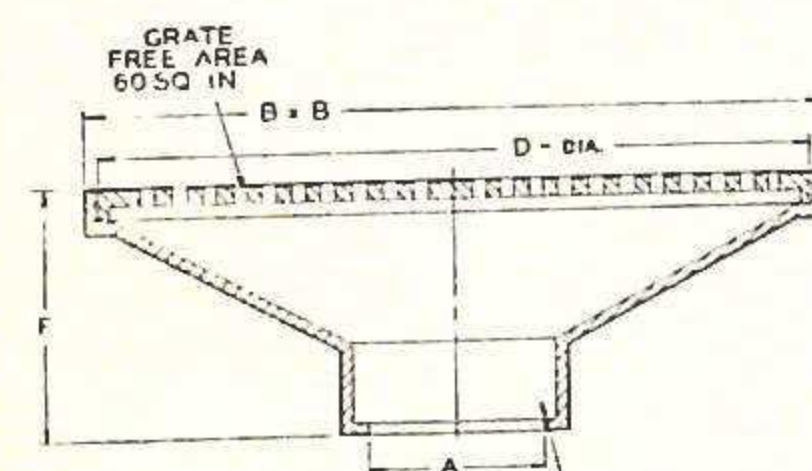
● **APPLICATION:** In Wading, Swimming and Diving Pools, Pits, Manholes, Sumps and other low areas requiring a drain with large drainage area, and with shallow or deep roughing.

For features to suit additional requirements, see other designs on pages 164-167.

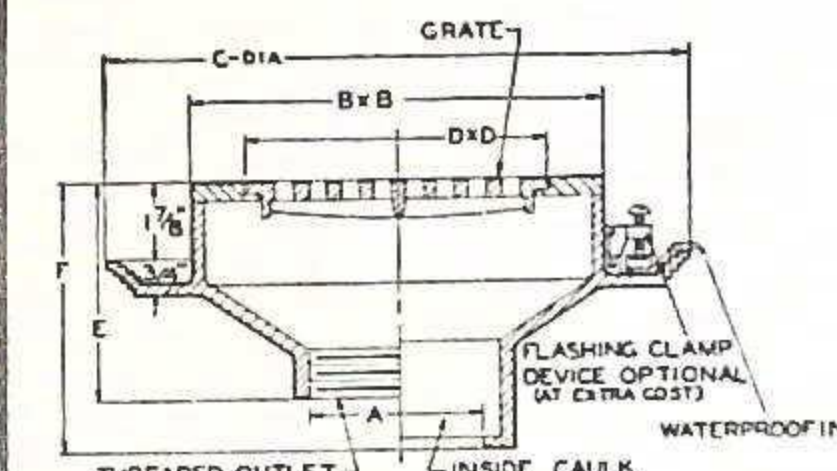
**STANDARD and OPTIONAL FEATURES**

The features below apply to drains in this group. The illustrations show the standard features applicable to each design.

- **Body** **Standard:** Cast iron lacquer finish, with square frame.  
**Optional:** Galvanized iron, Rezistan iron, all brass or Everdur, at added cost. (See ♦ — page 16).
- **Flange** **Standard:** On Series Nos. 0480 and 0490, flange serves as an anchor in concrete construction or can be used for attaching waterproofing.
- **Outlet** **Standard:** Series No. 0470, inside caulk bottom. Series No. 0480, female threaded bottom. Inside caulk at no added cost. Series No. 0490, hub side, for deep roughing.
- **Grate** **Standard:** Cast iron, loose set.  
**Optional:** Galvanized iron, Rezistan iron, polished or chrome plated brass, SR steels, Everdur or White Metal with frame to match, at added cost. (See ♦ — page 16).
- **Flashing Clamp Device** **Optional:** On Series No. 0480, ring in same material as body, with non-puncturing clamps, furnished at added cost. Clamp device firmly secures waterproofing to drain body, providing a tight connection.



SERIES NO. 0470



SERIES NO. 0480

**DIMENSIONS IN INCHES**

SERIES NO.	TYPE NO.	TOP AND GRATE							WGT. LBS.	
		A	B	D	FREE AREA SQ. IN.	C	* E	* F		G
0470	0474	4	24 3/4 x 24 3/4	24	60	8 1/2	.....	.....	.....	100
	0475	5	24 3/4 x 24 3/4	24	60	8 1/2	.....	.....	.....	100
	0476	6	24 3/4 x 24 3/4	24	60	8 1/2	.....	.....	.....	105
	0478	8	24 3/4 x 24 3/4	24	60	8 1/2	.....	.....	.....	105
0480	0482	2	10	8	18.3	14 1/4	5 1/4	6 1/2	.....	32
	0483	3	10	8	18.3	14 1/4	5 1/4	6 1/2	.....	32
	0484	4	10	8	18.3	14 1/4	5 1/4	6 1/2	.....	32
	0490	0494	4	12 1/4	11	41.8	17	14 1/2	17 3/4	8 1/2
	0495	5	12 1/4	11	41.8	17	14 1/2	17 3/4	8 1/2	70
	0496	6	12 1/4	11	41.8	17	13 1/2	17 3/4	8 1/2	70
	0498	8	15 1/2	14	47.7	21 3/4	22	28	10 7/8	170
	0499	10	15 1/2	14	47.7	21 3/4	21	28	10 7/8	175

\* Add 1/4" for brass top.

**Josam**  
PIT AND  
POOL DRAINS

**SPECIFICATION**

See "Specification" under each illustration.

**NOTE:** The specification covers standard features. Where optional features or materials are required, insert optional features or materials in the specification.



SERIES NO. 0470

**SPECIFICATION**

Josam Series No. 0470, cast iron drain with 1/2" inside caulk bottom outlet, square top and 24" diameter, perforated loose set round grate.



SERIES NO. 0480

**SPECIFICATION**

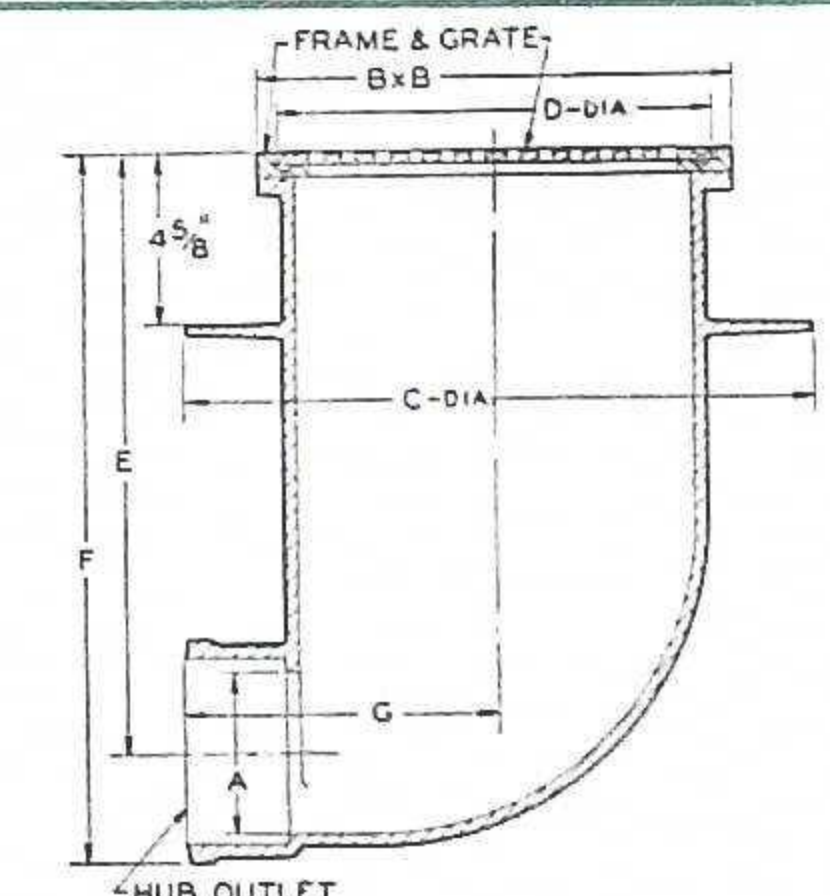
Josam Series No. 0480, cast iron drain with 1/2" threaded bottom outlet, waterproofing flange, 10" square top and loose set square grate.



SERIES NO. 0490

**SPECIFICATION**

Josam Series No. 0490, cast iron drain with square top, loose set round grate, anchor flange and 1/2" hub side outlet.



SERIES NO. 0490

Hy-Tech Products

*end type with backwater valve*

● **APPLICATION:** In Elevator Pits, Conduit and Meter Pits, Transformer Vaults, Manholes, Sumps, Trenches, Swimming Pools and other low spaces requiring drainage with close roughing, and where protection from backflow is desired.

For features to suit additional requirements, see various types of Pit and Pool Drains on pages 164-167.

**STANDARD and OPTIONAL FEATURES**

- **Body** **Standard:** Cast iron lacquer finish, rectangular face.  
**Optional:** Galvanized iron or Rezistan iron. (See — page 16).
- **Flange** **Standard:** Flange anchors drain in concrete construction, or can be used with flashing clamp device to secure waterproofing.
- **Outlet** **Standard:** Spigot.
- **Grate** **Standard:** Cast iron, rectangular, slotted.  
**Optional:** Galvanized iron, Rezistan iron, polished or chrome plated brass, SR steels, Everdur or White Metal with rim to match, at added cost. (See — page 16).  
Grate is secured to body by screws.
- **Backwater Valve** **Standard:** Brass, top hung vertical flap, with pressed-in seat. Offset in body prevents debris lodging under seat and fouling valve.
- **Flashing Clamp Device** **Optional:** Ring in same material as body, furnished at added cost. Ring is bolted to anchor flange and secures waterproofing when used.

(Dimension Table, Below)

*overflow — side wall type*

● **APPLICATION:** For installation as an overflow or constant water level drain in a vertical wall where a 90° outlet is required.

For features to suit additional requirements, see various types of Pit and Pool Drains on pages 164-167.

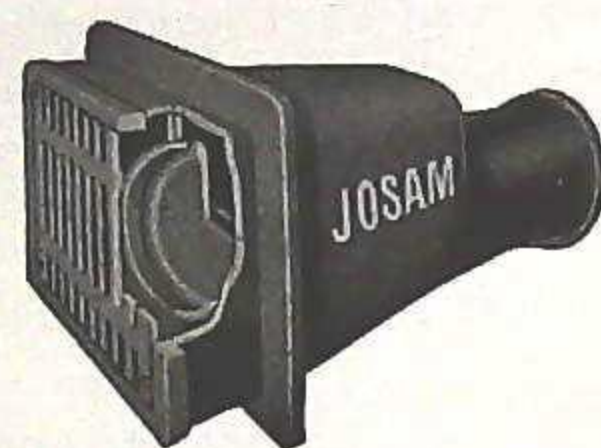
**STANDARD and OPTIONAL FEATURES**

- **Body** **Standard:** Cast iron lacquer finish.  
**Optional:** Galvanized iron, Rezistan iron, all brass, SR steels or Everdur, at added cost. (See — page 16).
- **Outlet** **Standard:** Female threaded, 90°.
- **Strainer** **Standard:** Polished brass, rectangular, with molded closure edge secured to body by screws.  
**Optional:** Chrome plated brass, SR steels, Everdur or White Metal, at added cost. (See — page 16).

**DIMENSIONS IN INCHES**

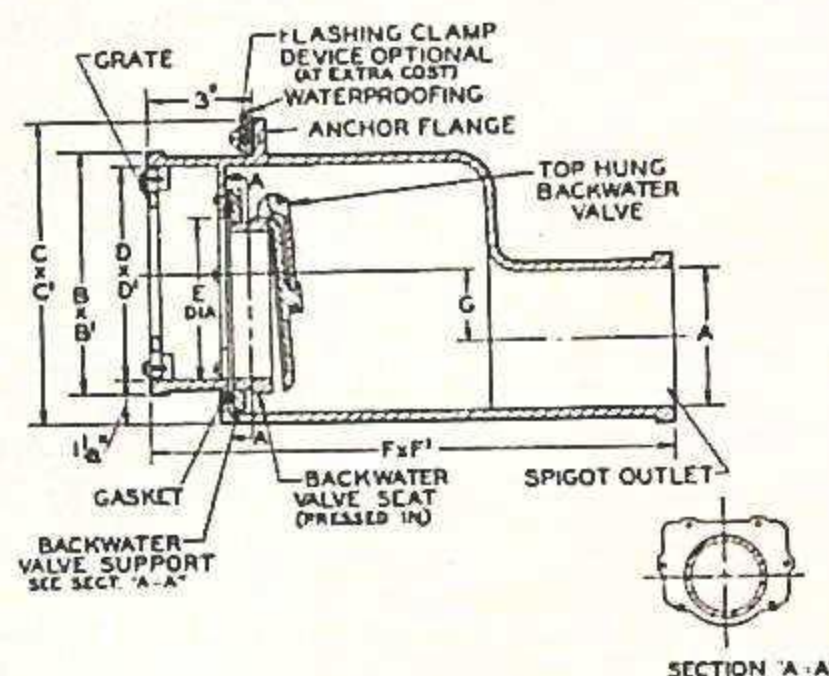
Series No.	Type No.	A	END and GRATE				E	Fx <sup>F</sup>	G	WGT. LBS.
			BxB <sup>1</sup>	DxD <sup>1</sup>	Free Area Sq. In.	CxC <sup>1</sup>				
0430-V	0433	3	6 7/8 x 8 7/8	6 x 8	19	8 7/8 x 10 3/8	4	1 1/4 x 8 3/8	2 1/2	43
	0434	3	6 7/8 x 8 7/8	6 x 8	19	8 7/8 x 10 3/8	4	1 5/8 x 8 3/8	2 1/2	43
	0436	3	8 x 11	7 1/2 x 10 1/2	18	1 1/2 x 10 3/8	6	1 7/8 x 10 3/8	2 1/2	70
0440-B	0441	2	8 x 11	7 1/2 x 10 1/2	18	1 1/2 x 10 3/8	6	1 7/8 x 10 3/8	2 1/2	70
	0442	2	8 x 11	7 1/2 x 10 1/2	18	1 1/2 x 10 3/8	6	1 7/8 x 10 3/8	2 1/2	70

**SERIES No. 0430-V**



**SPECIFICATION**

Josam Series No. 0430-V, cast iron end type drain with " " spigot side outlet, vertical grate, anchor flange and brass flap type backwater valve.

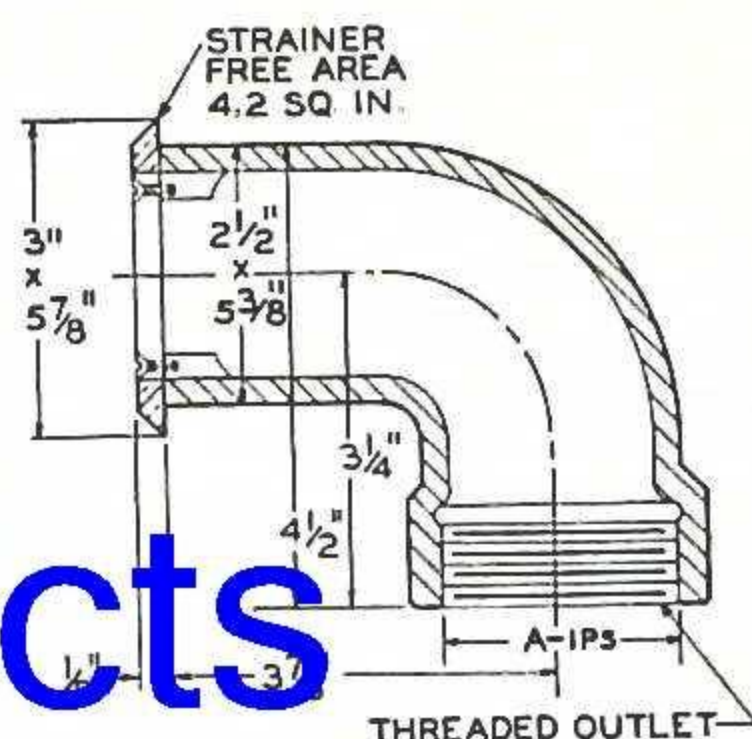


**SERIES No. 0440-B**



**SPECIFICATION**

Josam Series No. 0440-B, cast iron vertical wall overflow fitting with polished brass rectangular face and " " 90° threaded outlet.



*overflow*

● **APPLICATION:** In Wading Pools, Foot Baths, Compulsory Lanes, Fish and Lily Ponds, Fountains and similar locations requiring an overflow or constant water level drain, where complete drainage may be required.

For features to suit additional requirements, see various types of Pit and Pool Drains on pages 166-168

**STANDARD and OPTIONAL FEATURES**

- **Body** **Standard:** Cast iron lacquer finish.  
**Optional:** Galvanized iron, Rezistan iron, all brass, SR steels, or Everdur, at added cost. (See — page 16).
- **Flange** **Standard:** Double drainage flange and weepholes drain off seepage around drain and protect areas below. Flange also serves as an anchor for concrete construction, or for attaching waterproofing when used.
- **Outlet** **Standard:** Female threaded bottom or side outlet.  
**Optional:** Inside caulk bottom outlet except for 1 1/2", at no added cost. Hub or spigot adaptor for caulking, for side outlet except 1 1/2", at added cost.
- **Collar** **Standard:** Polished brass, adjustable, with threaded shank and ground joint socket for standpipe.  
**Optional:** Chrome plated brass, SR steels, Everdur or White Metal, at added cost. (See — page 16).
- **Standpipe and Ground Joint Adaptor** **Standard:** Polished brass, 6" high nipple screwed into ground joint brass adaptor.  
**Optional:** Heights up to 24" in polished or chrome plated brass, SR steels, White Metal or Everdur, at added cost. (See — page 16).  
To completely drain area, standpipe and ground joint adaptor can be easily removed from adjustable collar.
- **Dome** **Standard:** Polished brass, pressed fit, "lift-off" type.  
**Optional:** Chrome plated brass, SR steels, Everdur or White Metal, at added cost. (See — page 16).
- **Plug** **Optional:** Polished or chrome plated brass, SR steels, Everdur or White Metal with ground joint to fit into adjustable collar, at added cost. (See — page 16).  
Plug serves as a "stop valve" when no overflow or drainage is required.
- **Flashing Clamp Device** **Optional:** Flashing clamp ring in same material as body, with non-puncturing clamps, furnished at added cost.  
Clamp device firmly secures waterproofing to drain body, providing a tight connection.
- **Backwater Valve** **Optional:** Valve housing in same material as body, with copper ball in copper wire cage, furnished for threaded bottom outlet drains only, at added cost. See page 93.  
Backwater valve provides protection against backflow in locations where an independent backwater valve cannot be installed in the line.

**DIMENSIONS IN INCHES**

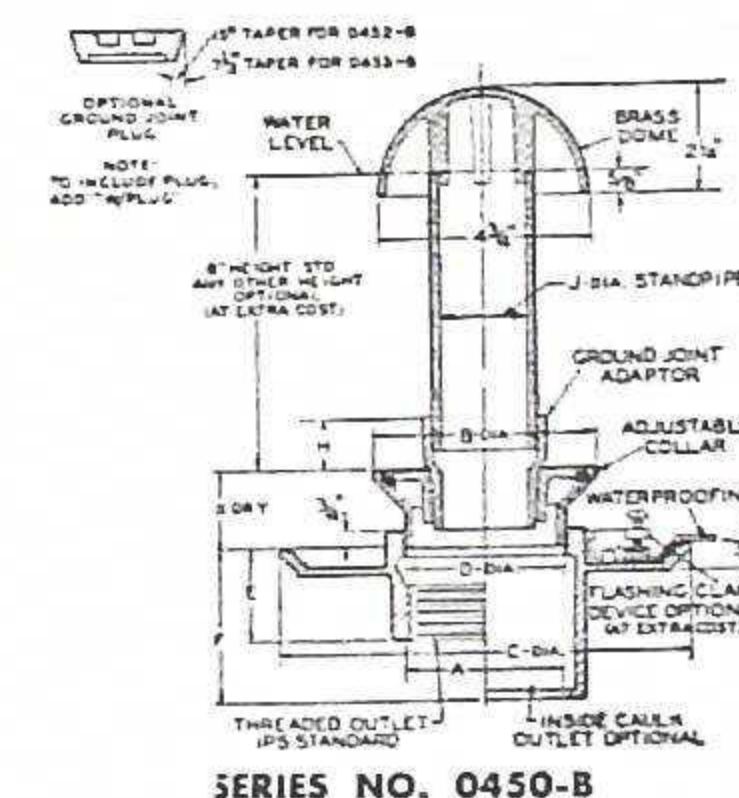
Series No.	Type No.	A	Collar No.	B	C	D	E	F	G	H	Collar Adjustment		WGT. LBS.	
											X	Y		
0450-B	0452-B	2	35M-2	5	9 1/4	3 3/4	1 7/8	2 1/2	2	1 3/8	1 1/4	2 1/4	14	
	0453-B	3	35M-3	5	9 1/4	3 3/4	1 7/8	2 1/2	3	2 1/2	1	2 1/4	15	
0460-B	0462-B	2	35M-2	5	9 1/4	3 3/4	3	4 3/8	4 1/4	1 3/8	2	1 1/4	2 1/4	20
	0463-B	3	35M-3	5	9 1/4	3 3/4	2 1/2	4 3/8	4 1/4	2 1/4	3	1	2 1/4	22

**SERIES No. 0450-B**

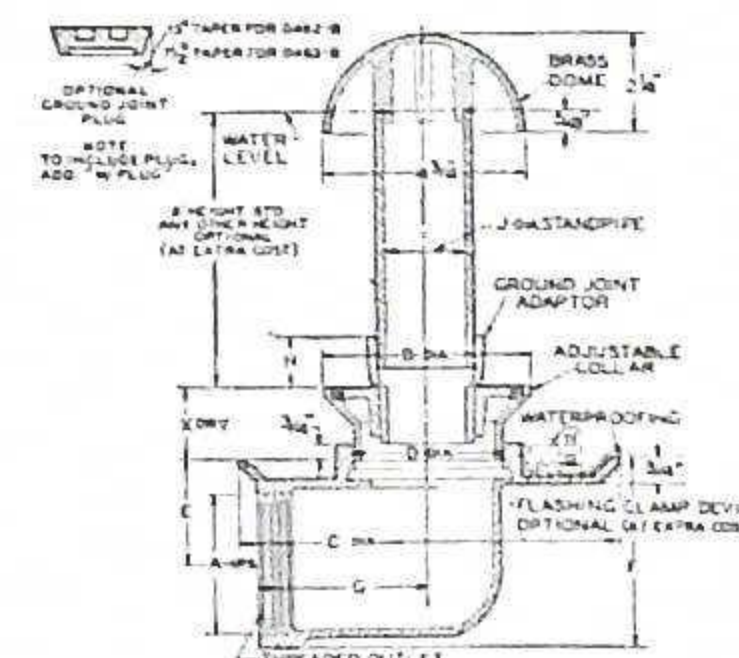


**SPECIFICATION**

Josam Series No. 0450-B, cast iron overflow drain with waterproofing flange, " " outlet, brass " " high standpipe threaded into ground joint adaptor which fits into brass adjustable collar, and brass lift-off dome. (Series No. 0460-B, with threaded side outlet).



SERIES NO. 0450-B



SERIES NO. 0460-B

Hy-Tech Products

**Josam**  
**MAIN OUTLET DRAIN**

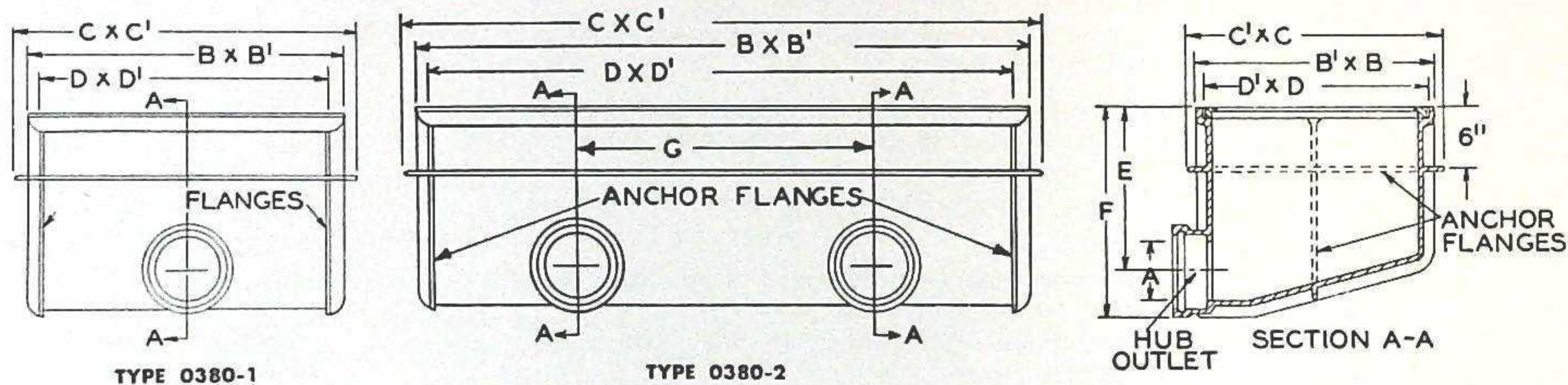
*single or double outlet*

● **APPLICATION:** For installation as an outlet drain in Swimming Pools where the discharge velocity of the grate area should be reduced to a minimum to insure safety of bathers. Also for use in Ramps, Driveways, Tunnels and Subways where a single or multiple outlet drain with exceptionally large drainage area is required.

For features to suit additional requirements, see other types of Main Outlet Drains on pages 164, 165.

**STANDARD and OPTIONAL FEATURES**

- **Body** **Standard:** Cast iron lacquer finish, rectangular.  
**Optional:** Galvanized iron or Rezistan iron. (See ♦ — page 16).
- **Flange** **Standard:** Horizontal and vertical flanges anchor drain in concrete construction.
- **Outlet** **Standard:** Single unit, one 6" hub. Double unit, two 6" hubs.
- **Grate** **Standard:** Cast iron, heavy duty bar pattern. Series No. 0380-1 in two sections, and Series No. 0380-2 in four sections.  
**Optional:** Galvanized iron, Rezistan iron, polished or chrome plated brass, SR steels or Everdur, with rim to match. (See ♦ — page 16).  
Brass or other non-ferrous grates for swimming pool main outlet drains, are light weight with 1/4" wide openings. Heavy duty furnished for other services.



**DIMENSIONS IN INCHES**

TYPE NO.	OUTLET		TOP and GRATE				C x C'	E*	F*	G	WGT. LBS.
	NO.	SIZE A	B x B'	NO. OF GRATES	DIMEN. EACH GRATE	RECESS D x D'					
0386-1	1	6	31 1/2 x 24 1/4	2	14 7/8 x 22 1/2	30 x 22 3/4	258	34 3/8 x 25 3/4	16 5/8	21 3/8	410
0386-2	2	6	61 3/4 x 24 1/4	4	14 7/8 x 22 1/2	60 1/4 x 22 3/4	516	63 1/2 x 25 3/4	17 1/4	22	870
0388-1	1	8	31 1/2 x 24 1/4	2	14 7/8 x 22 1/2	30 x 22 3/4	258	34 3/8 x 25 3/4	15 5/8	21 3/8	410
0388-2	2	8	61 3/4 x 24 1/4	4	14 7/8 x 22 1/2	60 1/4 x 22 3/4	516	63 1/2 x 25 3/4	16 1/4	22	870

\* Add 3/8" for brass top.

**SERIES No. 0380**



TYPE NO. 0380-1



TYPE NO. 0380-2

**SPECIFICATION**

Josam Series No. 0380-1, (or 0380-2), cast iron drain with 6" hub side outlet, horizontal and vertical flanges, and loose set bar type grates.

**trench grates**

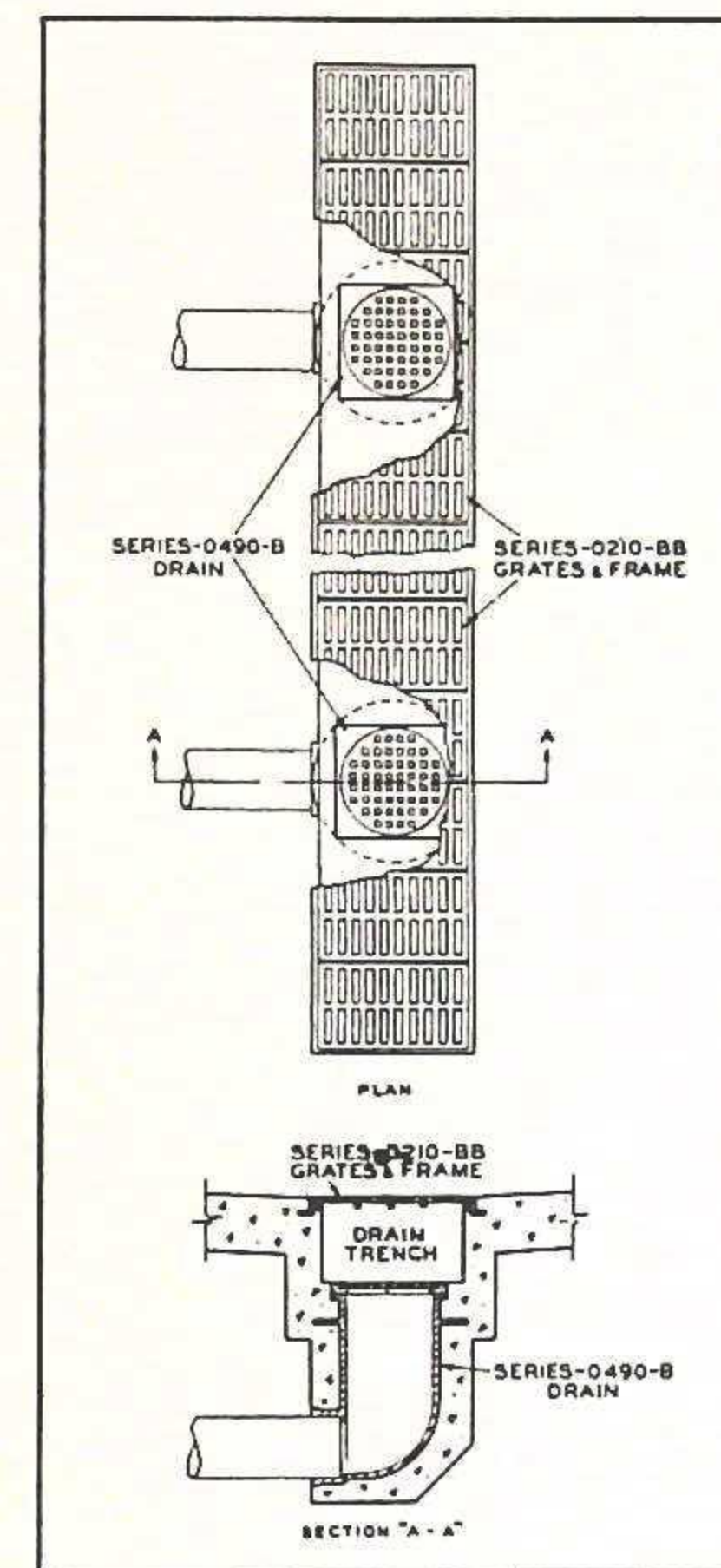
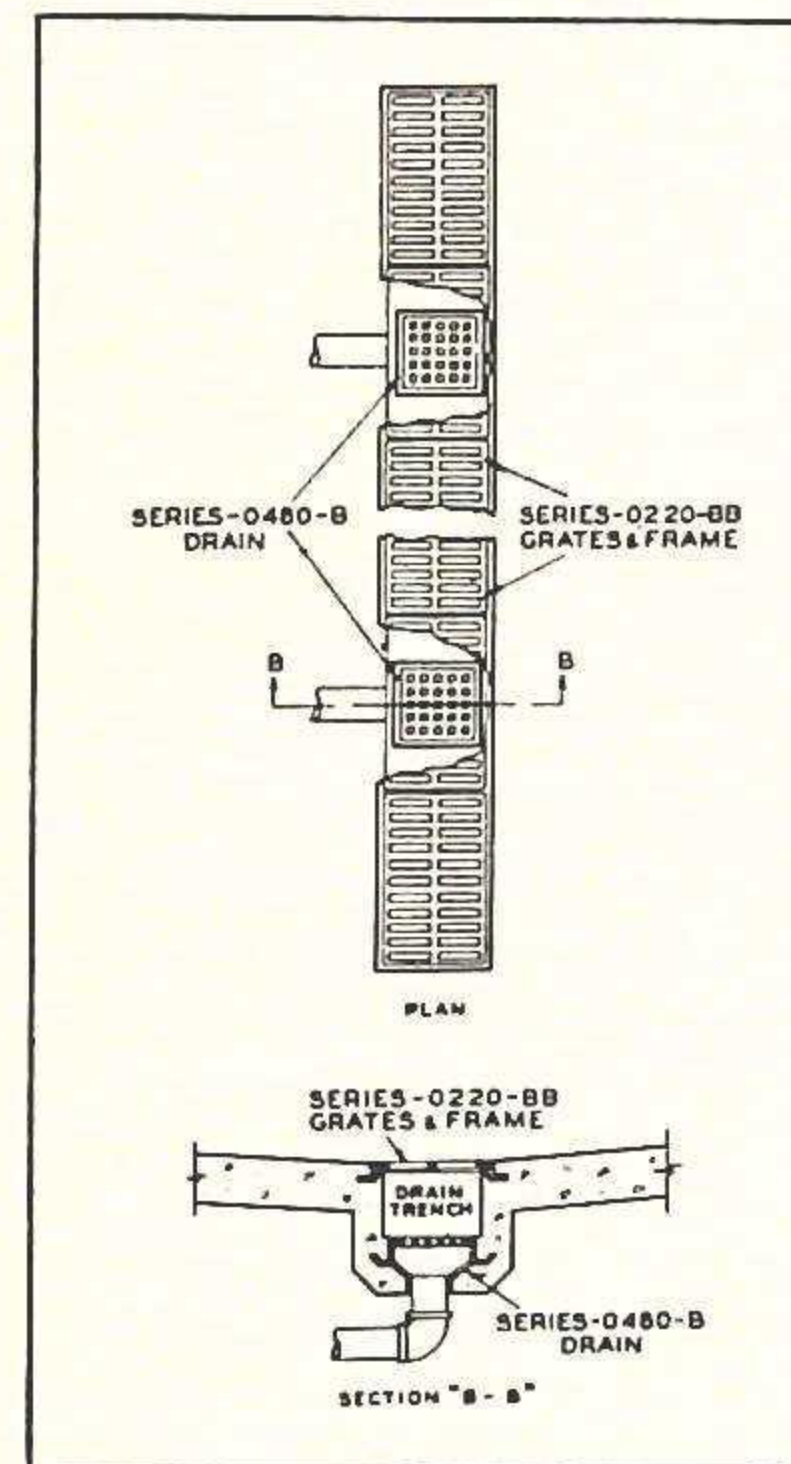
**Josam**  
**INSTALLATION DIAGRAMS**

**INSTALLATION DIAGRAMS**

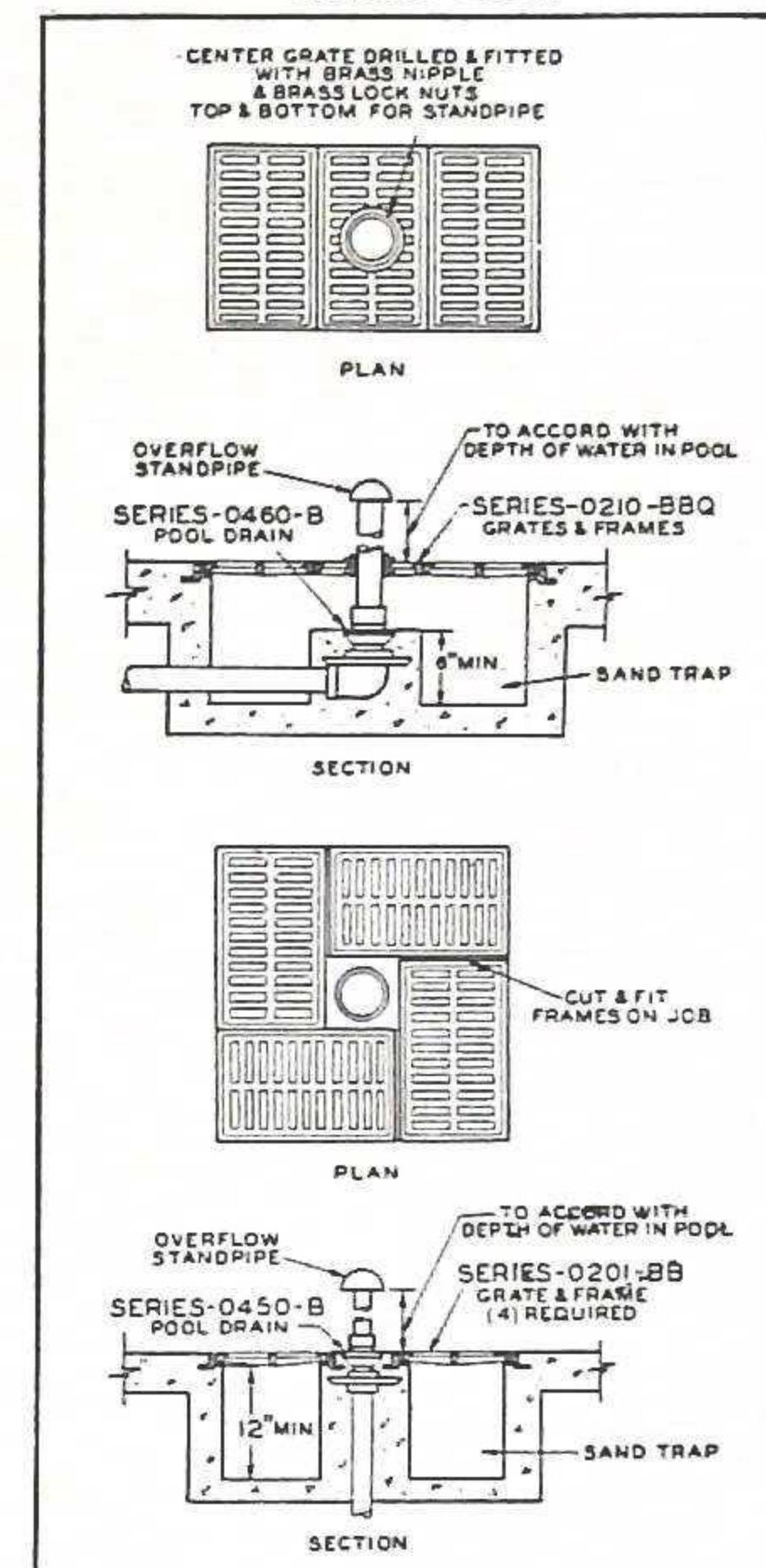
The following are typical installations of the many adaptations available, indicated in concrete with cement finish but applicable to any other construction or finish.

**MULTIPLE MAIN DRAINS IN DRAIN TRENCH**

Trench grates, rectangular bar pattern, in both standard and heavy duty are recommended for installation in drain trench over single or multiple main drains in swimming pools and over main drains, sand traps in wading pools. Many adaptations are available to suit specific requirements as indicated.



**MAIN DRAINS & SAND TRAPS FOR WADING POOLS**



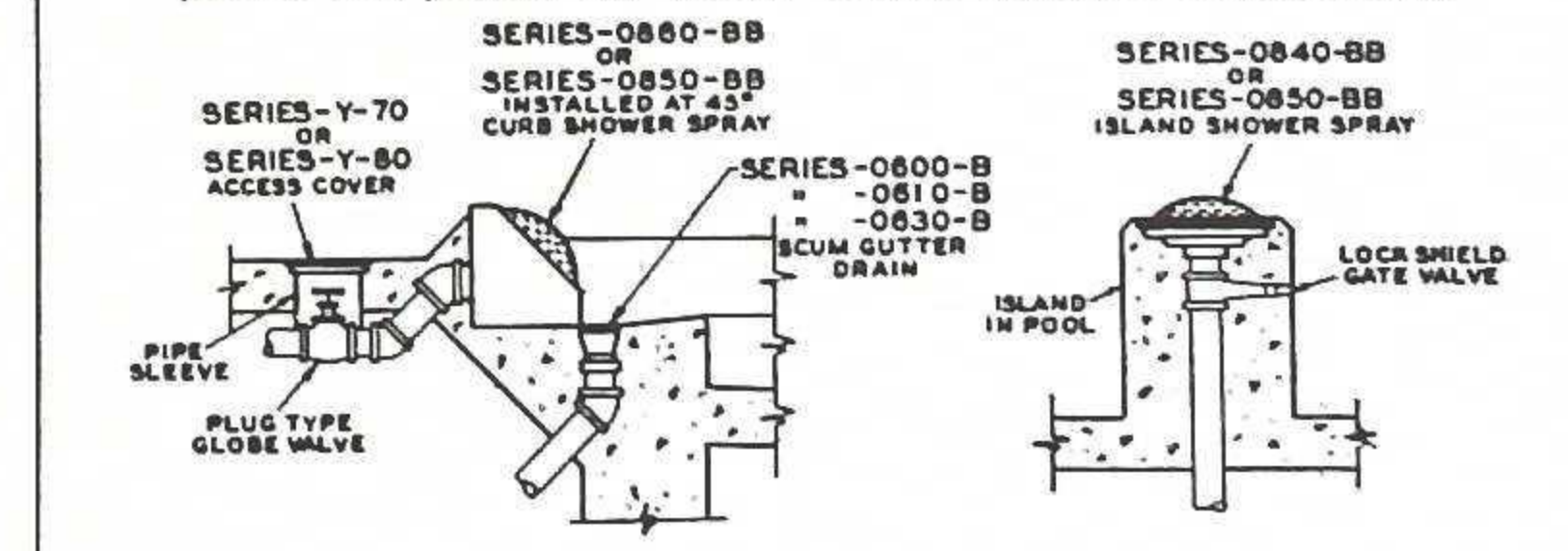
**SUPPLY AND SHOWER SPRAY FITTINGS**

For Wading Pools, Fish Ponds, Lily Ponds

To aid in the aeration of water around swimming, wading and ornamental pools, several types of inlets were designed to permit a gentle spray of water to be thrown upward. In wading pools, these inlets not only act as a shower and furnish amusement, but the spray causes a marked cooling in air. The openings in the domes are so designed that the streams of water break up into fine mist if considerable water pressure is used.

For details on fittings, see page 173.

The diagrams show installation of shower spray in wading pools, fish ponds, lily ponds, etc., in concrete construction.



**Hy-Tech Products**

rectangular or angle pattern, brass top

details and dimensions

● **APPLICATION:** In Swimming Pool Scum Gutters and other locations requiring a narrow drain with ample free drainage area.

For features to suit additional requirements, see Adaptations of Series No. 0600-B.

**STANDARD and OPTIONAL FEATURES**

The features below apply to all drains in this group. Additional features are indicated under each illustration.

- **Body**     **Standard:** Cast iron lacquer finish, rectangular or angle type.  
               **Optional:** Galvanized iron, Rezistan iron, all brass, SR steels or Everdur, at added cost. (See ♦ — page 16).
- **Outlet**   **Standard:** Female threaded.
- **Grate**     **Standard:** Polished brass or iron as indicated in specification.  
               Series No. 0670. Iron, non-skid removable grate with solid portion of grate over secondary bucket as explained under "Sediment Bucket".  
               Series No. 0660-B. Angle strainer permits drainage through vertical face in the event horizontal face becomes obstructed.  
               **Optional:** Chrome plated brass, SR steels, Everdur or White Metal, at added cost. (See ♦ — page 16).
- **Sediment Bucket**   **Standard:** Series No. 0670 only. Perforated copper with two compartments for primary and secondary drainage.  
                               **Optional:** Perforated sheet brass, at added cost.  
               Primary chamber catches sediment passing through slotted portion of grate and prevents drain line from clogging. Solid portion of grate prevents debris from entering secondary chamber. When primary chamber is filled, grate can be raised to permit auxiliary drainage through secondary chamber while debris is removed from primary chamber.

**SERIES No. 0600-B**



**SPECIFICATION**

Josam Series No. 0600-B, cast iron rectangular gutter drain with 1/2" threaded bottom outlet and removable brass strainer.

**NOTE:** The above specification covers Josam Series No. 0600-B.

Where optional features or materials are required, select style from illustrations shown, change Series Number above, and insert optional features or materials.



**SERIES NO. 0610-B**

Same as Series No. 0600-B except with 9" x 1 1/2" top.

**SERIES NO. 0620-B**

Same as Series No. 0600-B except with 10" x 2 3/4" top.

**SERIES NO. 0630-B**

Same as Series No. 0600-B except with 9" x 3" top.



**SERIES NO. 0640-B SPECIFICATION**

Same as Series No. 0600-B except with 12" x 4" top.

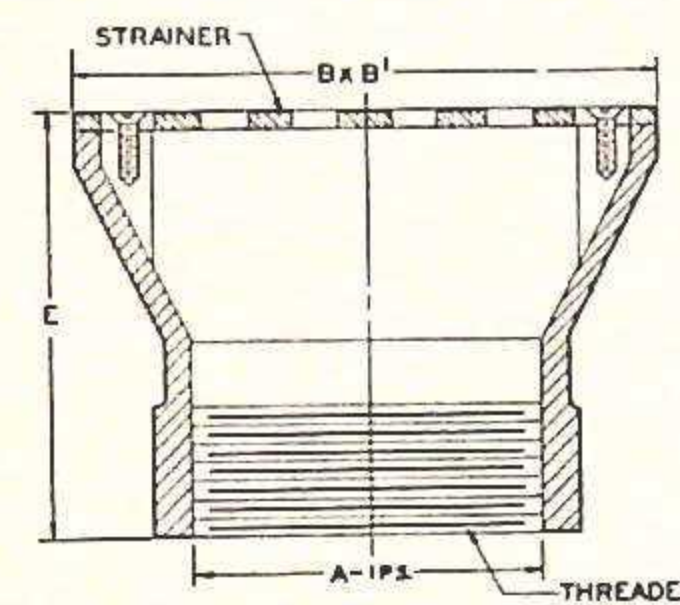


**SERIES NO. 0650-B SPECIFICATION**

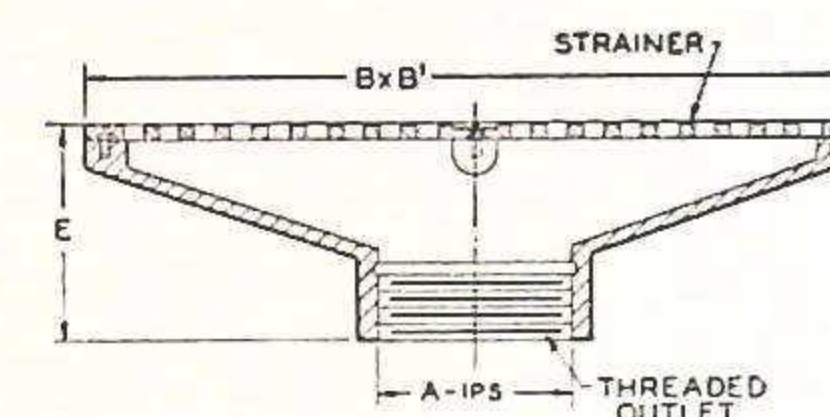
Same as Series No. 0600-B except with 9" x 3" top, and an anchor flange for attaching waterproofing.

**ADAPTATIONS OF SERIES NO. 0600-B**

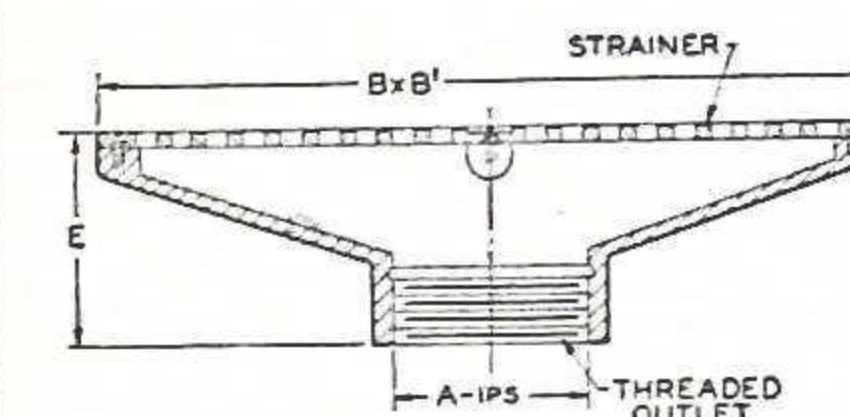
The following illustrations show the SPECIAL FEATURES of Adaptations of Series No. 0600-B. Standard and Optional Features are listed on the opposite page.



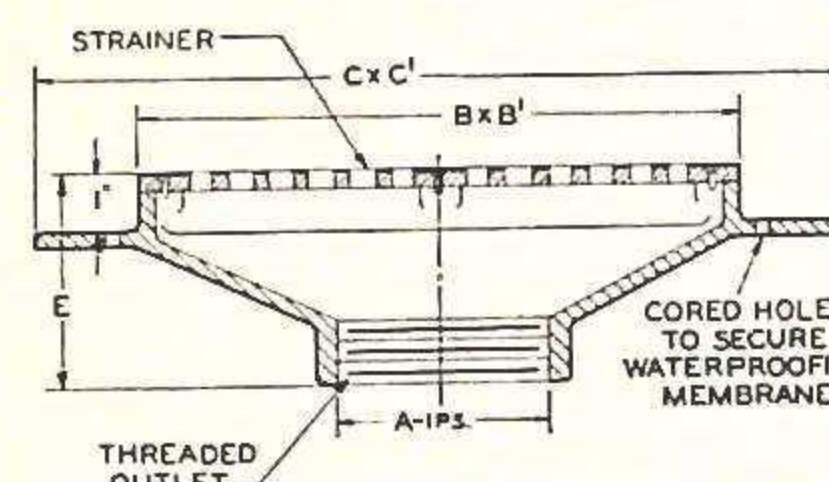
**SERIES NO. 0600-B**



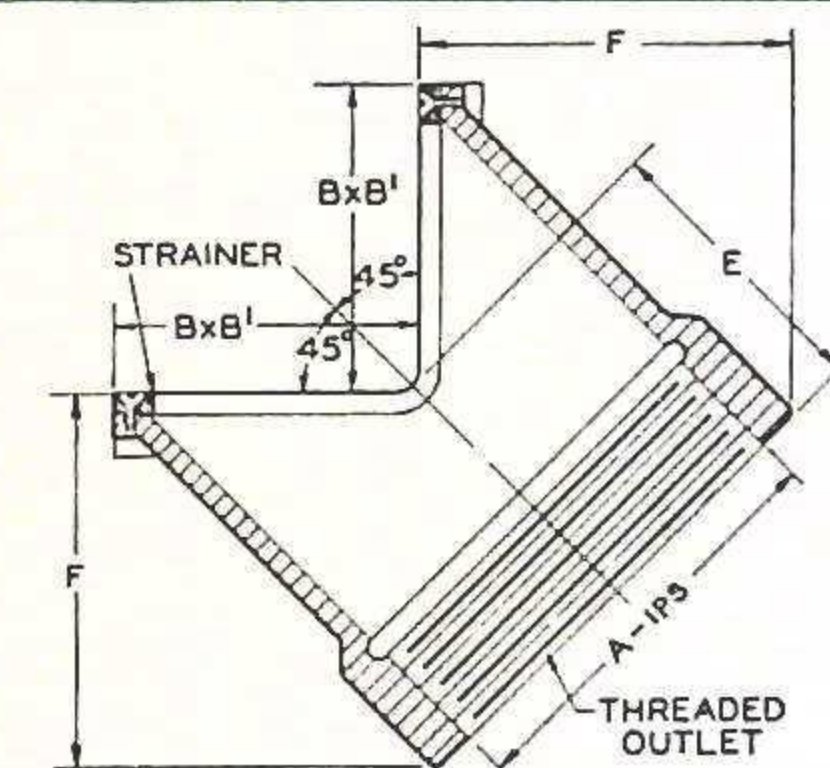
**SERIES NO. 0610-B, 0620-B, 0630-B**



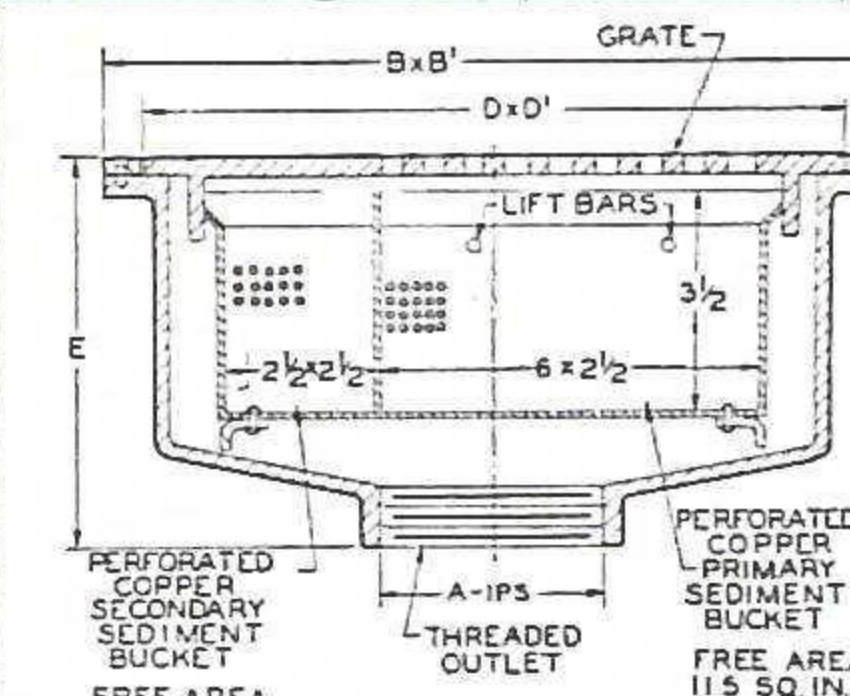
**SERIES NO. 0640-B**



**SERIES NO. 0650-B**



**SERIES NO. 0660-B**



**SERIES NO. 0670**

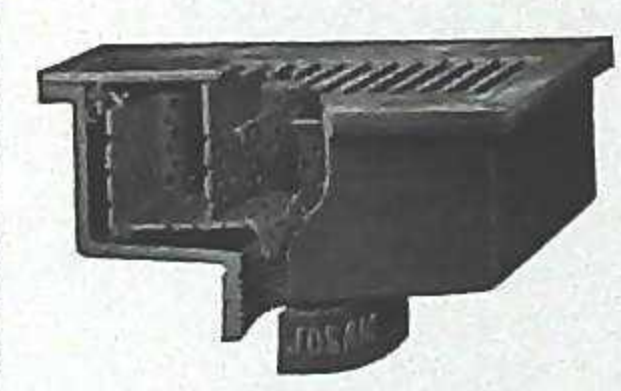
**DIMENSIONS IN INCHES**

SERIES NO.	TYPE NO.	A	TOP and STRAINER			CxC'	E	F	WGT. LBS.
			BxB'	DxD'	FREE AREA SQ. IN.				
0600-B	0601 1/2-B	1 1/2	3 3/4 x 2 1/4	.....	2.3	.....	2 3/4	.....	2
	0602-B	2	3 3/4 x 2 1/4	.....	2.3	.....	2 3/4	.....	2
	0602 1/2-B	2 1/2	5 3/8 x 2 1/2	.....	4.1	.....	2 3/4	.....	3
	0603-B	3	5 3/8 x 2 1/2	.....	4.1	.....	2 3/4	.....	3
0610-B	0611 1/2-B	1 1/2	9 x 1 1/2	.....	3.6	.....	2 1/2	.....	3
	0612-B	2	9 x 1 1/2	.....	3.6	.....	2 1/2	.....	3
0620-B	0621 1/2-B	1 1/2	10 x 2 3/8	.....	10.2	.....	2 3/4	.....	4 1/2
	0622-B	2	10 x 2 3/8	.....	10.2	.....	2 3/4	.....	4 1/2
	0622 1/2-B	2 1/2	10 x 2 3/8	.....	10.2	.....	2 3/4	.....	4 1/2
0630-B	0631 1/2-B	1 1/2	9 x 3	.....	13.3	.....	3 1/8	.....	5 1/2
	0632-B	2	9 x 3	.....	13.3	.....	3 1/8	.....	5 1/2
	0632 1/2-B	2 1/2	9 x 3	.....	13.3	.....	3 1/8	.....	5 1/2
0640-B	0642-B	2	12 x 4	.....	20.0	.....	2 3/8	.....	8 1/2
	0642 1/2-B	2 1/2	12 x 4	.....	20.0	.....	2 3/8	.....	8 1/2
	0643-B	3	12 x 4	.....	20.0	.....	2 3/8	.....	8 1/2
0650-B	0651 1/2-B	1 1/2	9 x 3	.....	7.8	12 x 6	3 1/8	.....	8
	0652-B	2	9 x 3	.....	7.8	12 x 6	3 1/8	.....	8
	0652 1/2-B	2 1/2	9 x 3	.....	7.8	12 x 6	3 1/8	.....	8
0660-B	0661 1/2-B	1 1/2	2 x 5 1/4	.....	5.7	.....	1 3/4	2 5/8	3
	0662-B	2	2 x 5 1/4	.....	5.7	.....	1 3/4	2 5/8	3
	0662 1/2-B	2 1/2	2 x 5 1/4	.....	5.7	.....	1 3/4	2 5/8	3
0670	0672	2	12 x 6	5 x 11	14.8	.....	6	.....	22
	0673	3	12 x 6	5 x 11	14.8	.....	6	.....	22
0690-B	(See Detail)								



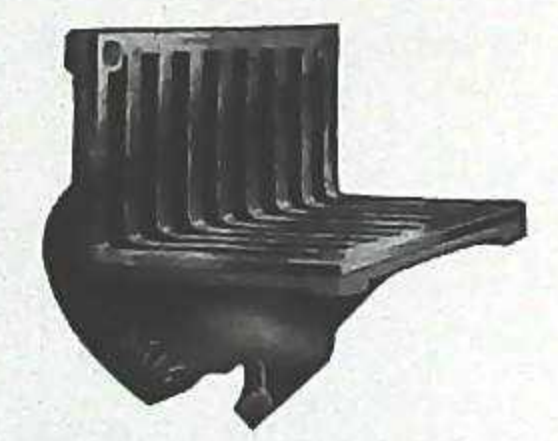
**SERIES NO. 0690-B SPECIFICATION**

Josam Series No. 0690-B cast iron rectangular drain with anchor flange, 12" x 6" removable non-skid top and grate, and removable perforated copper sediment bucket with primary and secondary chambers for continuous drainage.



**SERIES NO. 0670 SPECIFICATION**

Josam Series No. 0670, cast iron rectangular drain with 1/2" threaded bottom outlet, 12" x 6" removable non-skid top and grate, and removable perforated copper sediment bucket with primary and secondary chambers for continuous drainage.



**SERIES NO. 0660-B SPECIFICATION**

Same as Series No. 0600-B except with 2" x 5 1/4" angle strainer and 1 1/2" outlet.

**Hy-Tech Products**

with adjustable head

● **APPLICATION:** For installation in Swimming, Wading and Diving Pools for attaching vacuum cleaning hose.

**STANDARD and OPTIONAL FEATURES**

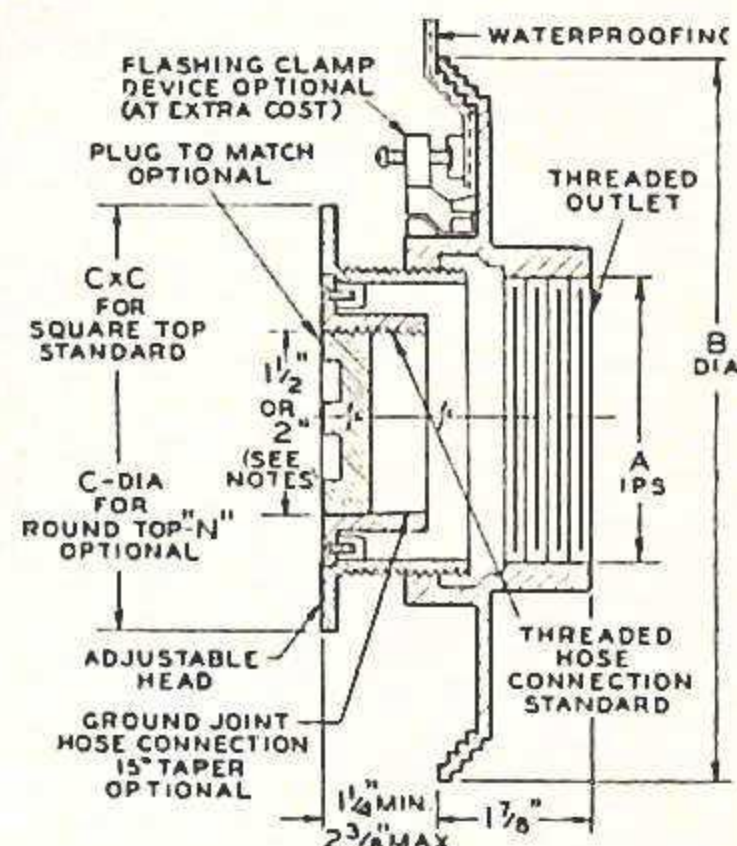
- **Body** **Standard:** Cast iron lacquer finish.  
**Optional:** Galvanized iron, Rezanon iron, all brass, SR steels or Everdur, at added cost. (See ♦ — page 16).
- **Flange** **Standard:** Double drainage flange and weepholes drain off seepage around drain and protect areas below. Flange also serves as an anchor for concrete construction, or for attaching waterproofing when used.
- **Connection** **Standard:** Female threaded.
- **Adjustable Head** **Standard:** Polished brass with square face, threaded shank, and 1 1/2" I.P.S. connection for vacuum line.  
**Optional:** Polished brass round face or chrome plated brass, Everdur, SR steels or White Metal square or round face, with 1 1/2" or 2" I.P.S. or ground joint hose connection. (See ♦ — page 16).  
Adjustable head allows for variation in wall thickness to meet pool finish.
- **Plug** **Optional:** Polished brass round plug with threaded or ground joint connection, at added cost. Plug fits flush with face plate for use when vacuum system is not in operation.

**SERIES No. 0770-B**



**SPECIFICATION**

Josam Series No. 0770-B, cast iron vacuum fitting with anchor or waterproofing flange, adjustable brass head with square face plate, 1 1/2" threaded waste connection and 2" threaded (or ground joint) hose nipple connection.



**NOTE:** 1 1/2" threaded hose connection, standard. 2" threaded or 1 1/2" or 2" ground joint, optional.

SERIES NO.		TYPE NO.				DIMENSIONS IN INCHES				WGT. LBS.
WITH SQUARE TOP	WITH ROUND TOP	THREADED HOSE CONNECTION		GROUND JOINT HOSE CONNECTION		OUTLET A	B	C	D	
		1 1/2"	2"	1 1/2"	2"					
0770-B		0771 1/2-B	0771 1/2-B2	0771 1/2-B3	0771 1/2-B4	1 1/2	9 1/4	5x5	1 7/8	10 1/2
		0772-B	0772-B2	0772-B3	0772-B4	2	9 1/4	5x5	1 7/8	10 1/2
		0773-B	0773-B2	0773-B3	0773-B4	3	9 1/4	5x5	1 7/8	11
		0774-B	0774-B2	0774-B3	0774-B4	4	10 1/4	5x5	1 7/8	12 1/2
	0770-BN	0771 1/2-BN	0771 1/2-BN2	0771 1/2-BN3	0771 1/2-BN4	1 1/2	9 1/4	5	1 7/8	10 1/2
		0772-BN	0772-BN2	0772-BN3	0772-BN4	2	9 1/4	5	1 7/8	10 1/2
		0773-BN	0773-BN2	0773-BN3	0773-BN4	3	9 1/4	5	1 7/8	11
		0774-BN	0774-BN2	0774-BN3	0774-BN4	4	10 1/4	5	1 7/8	12 1/2

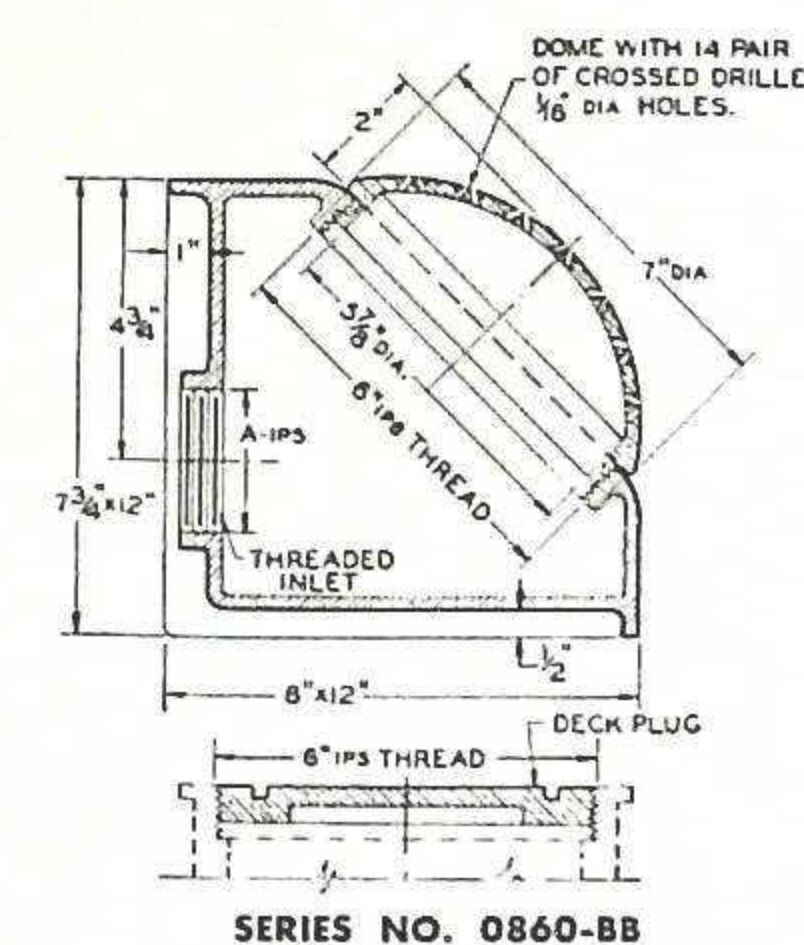
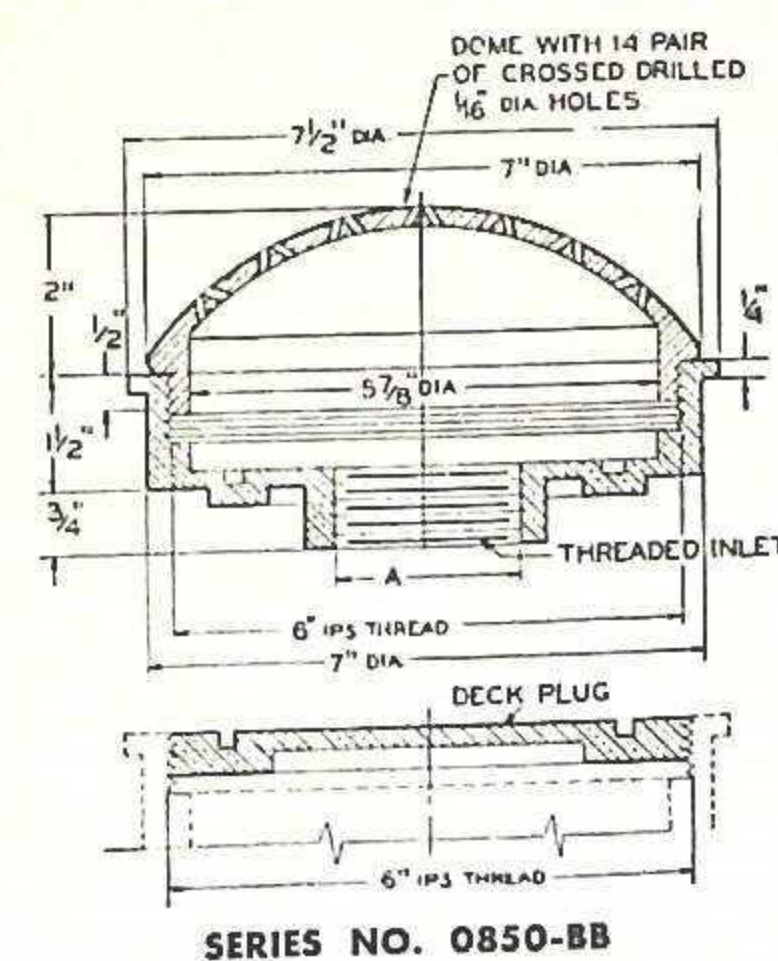
dome pattern

● **APPLICATION:** For Swimming and Wading Pools, Fish and Lily Ponds, Tanks, Cooling Ponds and similar locations where a shower spray effect is desired as an ornament or for cooling purposes.

**STANDARD and OPTIONAL FEATURES**

- **Body** **Standard:** Cast brass, vertical or angle body, as illustrated. Series No. 0860-BB, polished brass exposed surface.  
**Optional:** Chrome plated brass, SR steels, Everdur or White Metal, at added cost. (See ♦ — page 16).
- **Dome** **Standard:** Polished brass, round perforated. Series No. 0840-BB fastened to body by screws. Series Nos. 0850-BB and 0860-BB, with threaded shank screwed into body.  
**Optional:** Chrome plated brass, SR steels, Everdur or White Metal, at added cost. (See ♦ — page 16).
- **Connection** **Standard:** Female threaded.
- **Deck Plug** **Standard:** On Series Nos. 0850-BB and 0860-BB. Brass, 6" dia. plug with spanner wrench holes, threaded to fit flush with top. Dome is removed and plug inserted when spray is not desired.

SERIES NO.	TYPE NO.	A IN.	WGT. LBS.
0840-BB	0841 1/2-BB	1 1/2	7
0850-BB	0852-BB	2	10 1/4
0860-BB	0862-BB	2	40



**SERIES No. 0850-BB**



**SPECIFICATION**

Josam Series No. 0850-BB, cast brass vertical type shower spray with perforated brass dome, 1 1/2" connection, and threaded brass plug.  
**NOTE:** The above specification covers Josam Series No. 0850-BB. Where optional features or materials are required, select style from illustrations shown, change Series Number above, and insert optional features or materials.

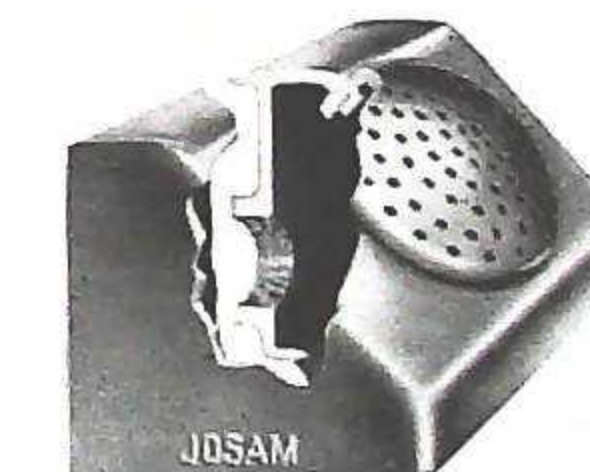
**ADAPTATIONS OF SERIES NO. 0850-BB**

The following illustrations show the Special Features of Adaptations of Series No. 0850-BB.



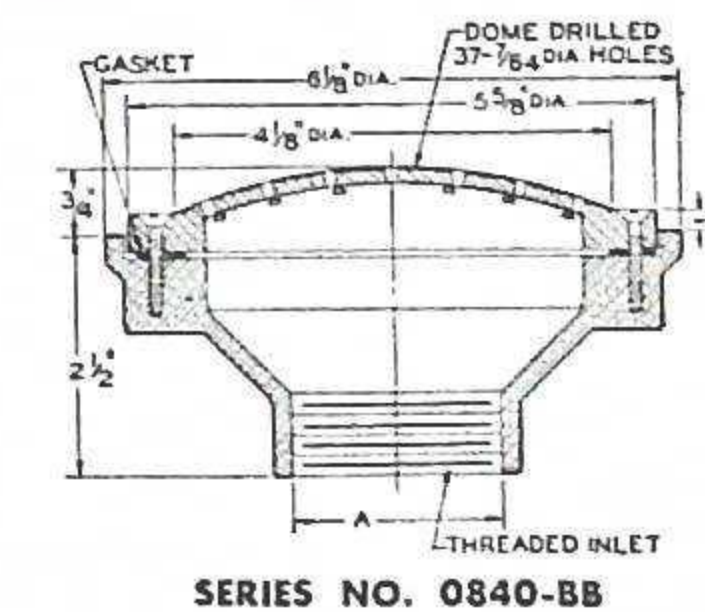
**SERIES NO. 0840-BB**

Same as Series No. 0850-BB except with dome strainer fastened to body by screws.



**SERIES NO. 0860-BB**

Same as Series No. 0850-BB except angle type, for installation on curb of pool.





# SWIMMING POOL MISCELLANEOUS FITTINGS

## ornamental type

## installation diagrams



# SWIMMING POOL FITTINGS

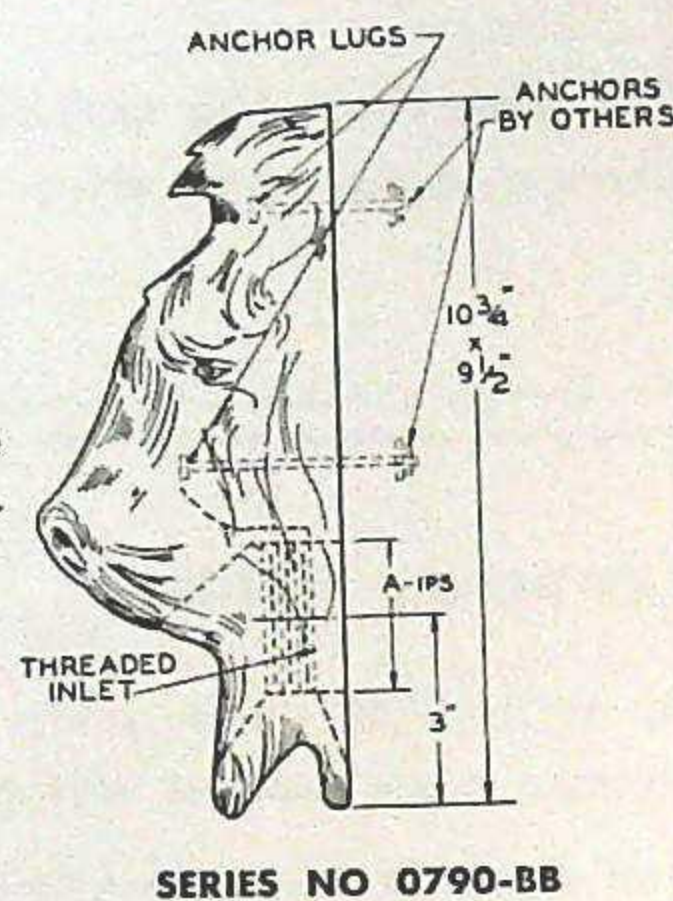
● **APPLICATION:** For Fountains, Pools, Ponds and similar locations where an ornamental fitting is desired as a supply.

### STANDARD and OPTIONAL FEATURES

- **Body** **Standard:** Cast brass.  
**Optional:** SR steels, Everdur or White Metal, at added cost. (See page 16).
- **Connection** **Standard:** Female threaded.

### DIMENSIONS IN INCHES

TYPE NO.	A	WGT. LBS.
0792-BB	2	14



### SERIES No. 0790-BB



#### SPECIFICATION

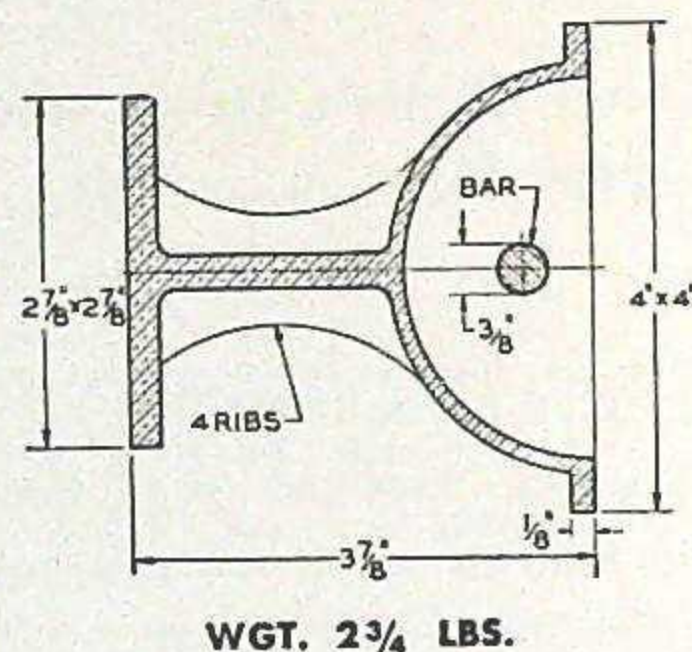
Josam Series No. 0790-BB, cast brass ornamental supply, lion head pattern, with 2" threaded inlet and anchor lugs.

## lane marker

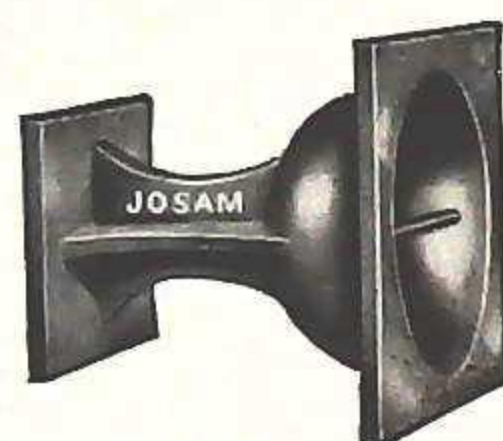
● **APPLICATION:** For walls in Swimming, Wading and Diving Pools for attaching lane cables or nets during swimming meets.

**Standard:** Cast brass lane marker with polished brass square face, anchor flange and 3/8" bar for attaching lane cable.

**Optional:** Chrome plated brass, SR steels, Everdur or White Metal, at added cost. (See page 16).



### SERIES No. 0890-BB



#### SPECIFICATION

Josam Series No. 0890-BB, cast brass swimming pool lane marker with polished brass square face, anchor flange and 3/8" bar.

## SWIMMING POOL INSTALLATION DIAGRAMS

The installations shown on this and the following pages are typical for any Josam Drain installed in any construction illustrated, subject to modification of construction to accord with drain features.

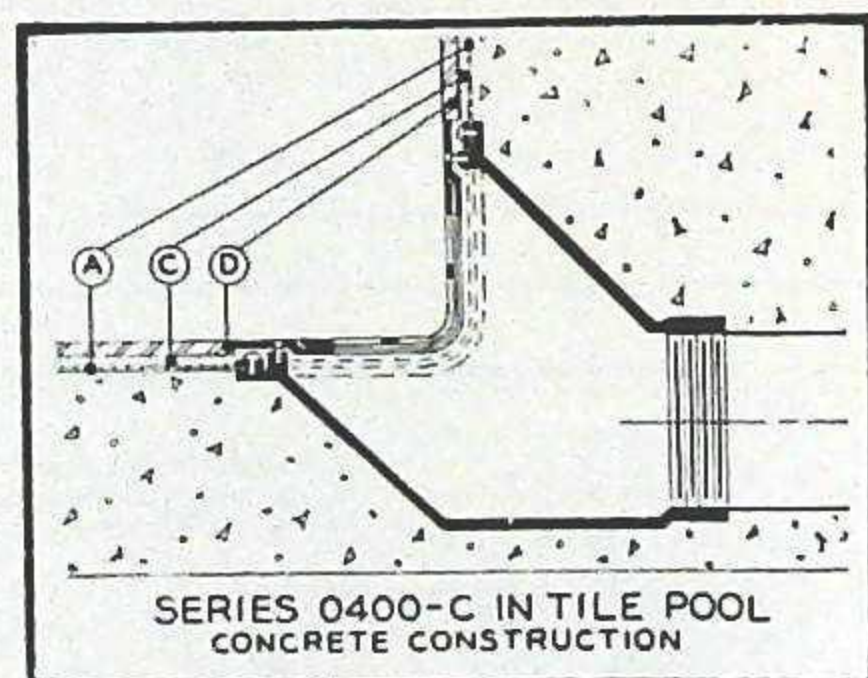
**CODE:** (A)—Waterproofing, optional. Requires Flashing Clamp when used.

When Flashing Clamp is not required, omit suffix "C" from type number.

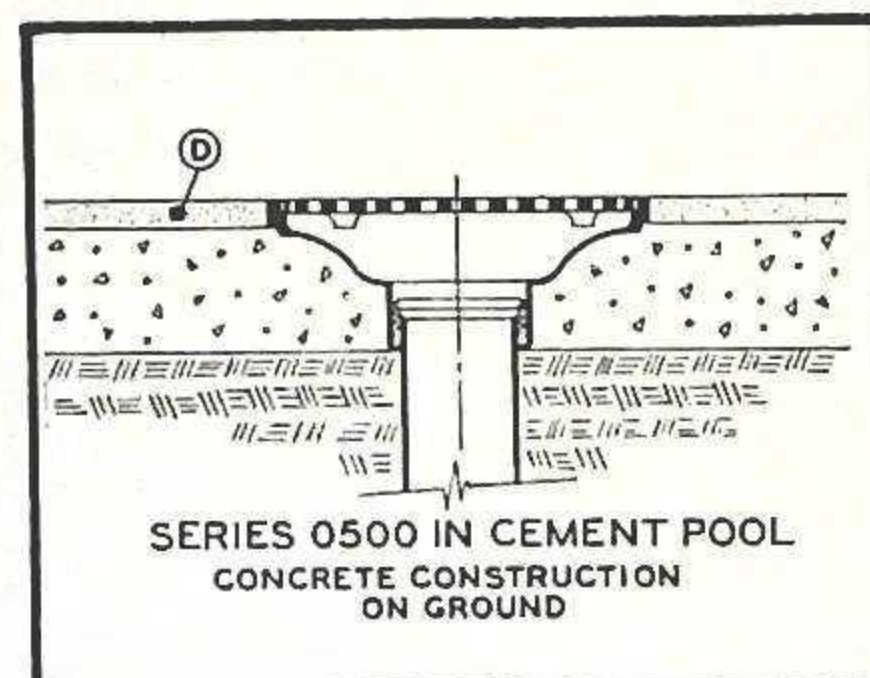
(B)—Bed of finely screened sand, well tamped under and on top of waterproofing where used.

(C)—Fill and Grout. (Lathe or mesh where membrane is used.)

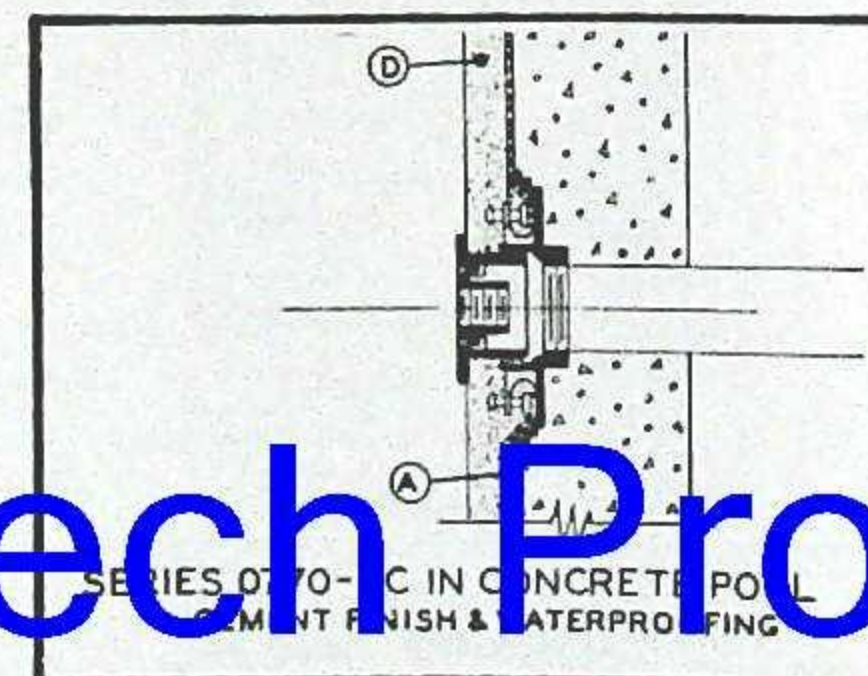
(D)—Finish.



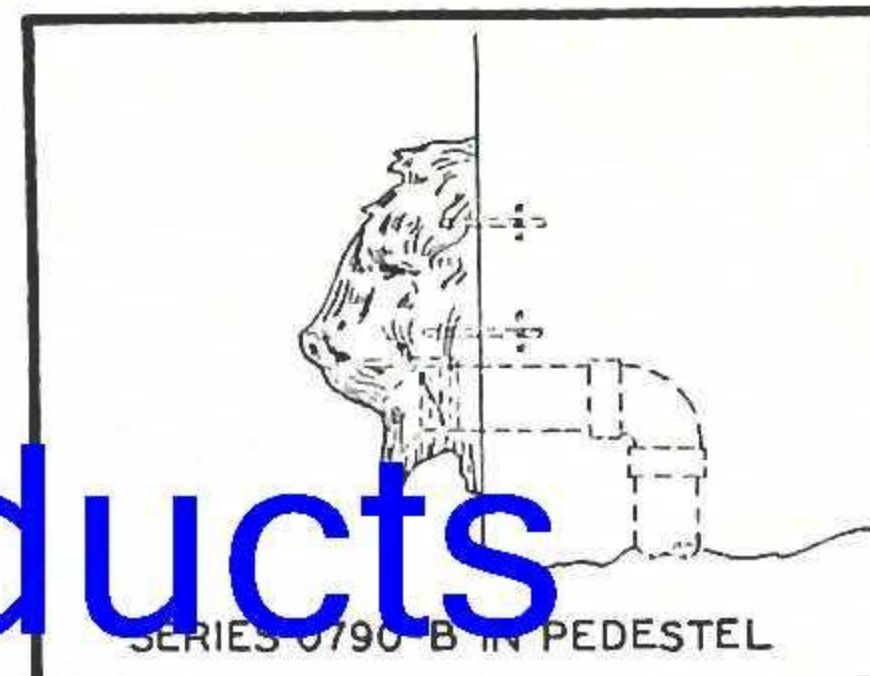
SERIES 0400-C IN TILE POOL CONCRETE CONSTRUCTION



SERIES 0500 IN CEMENT POOL CONCRETE CONSTRUCTION ON GROUND



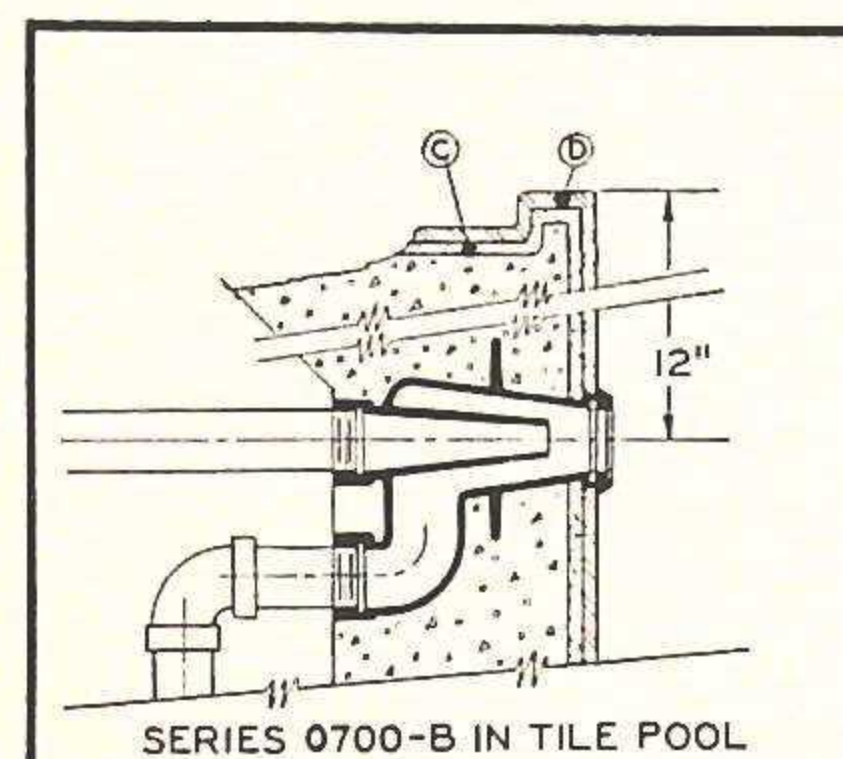
SERIES 0700-C IN CONCRETE POOL CEMENT FINISH & WATERPROOFING



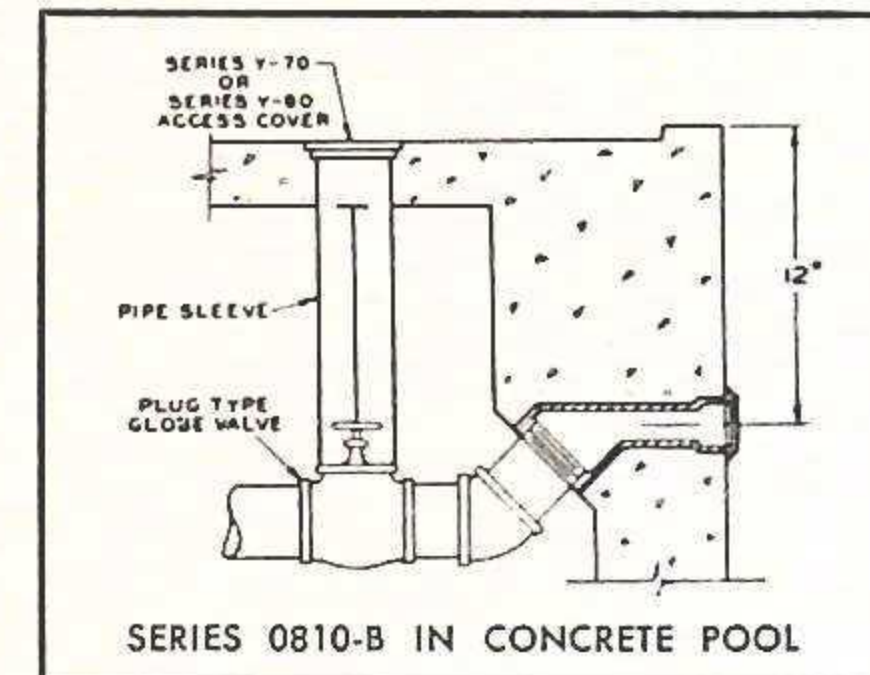
SERIES 0790-B IN PEDESTAL

CODE—See Opposite Page

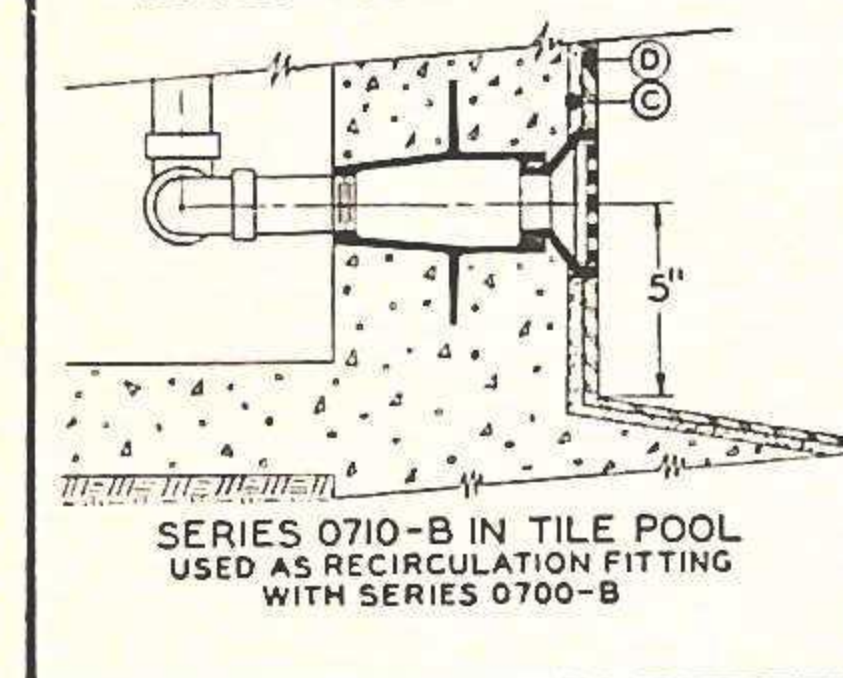
### SUPPLY FITTINGS



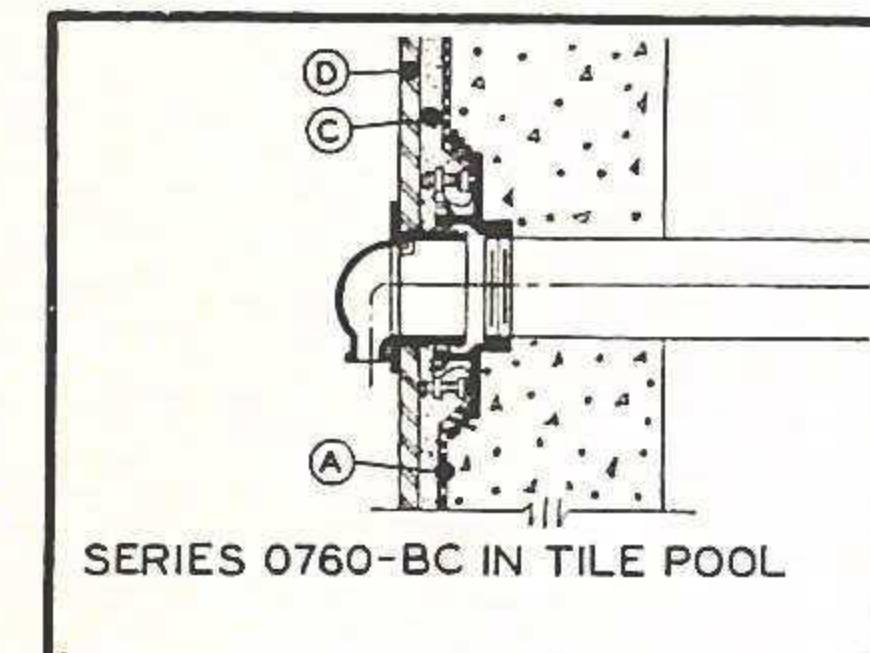
SERIES 0700-B IN TILE POOL



SERIES 0810-B IN CONCRETE POOL

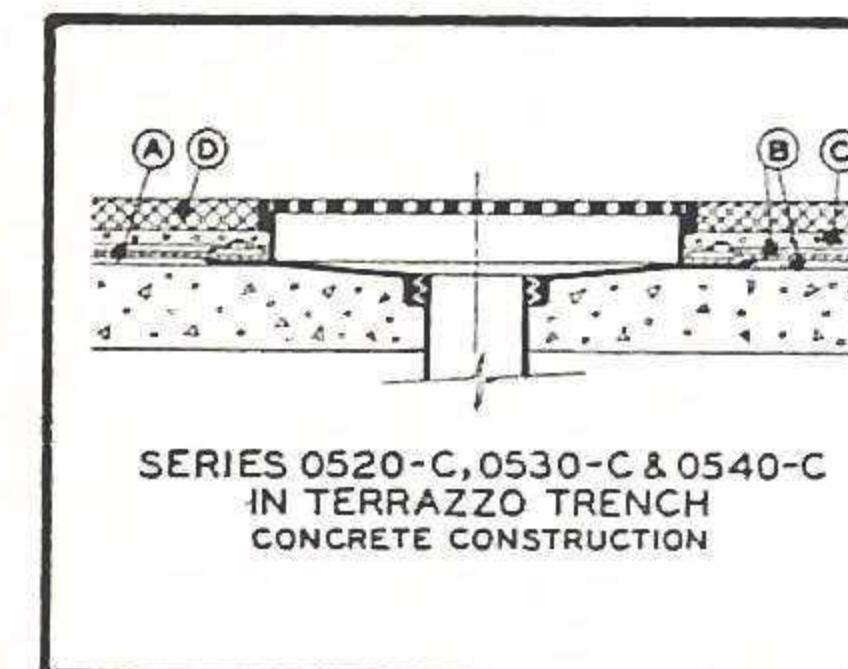


SERIES 0710-B IN TILE POOL USED AS RECIRCULATION FITTING WITH SERIES 0700-B

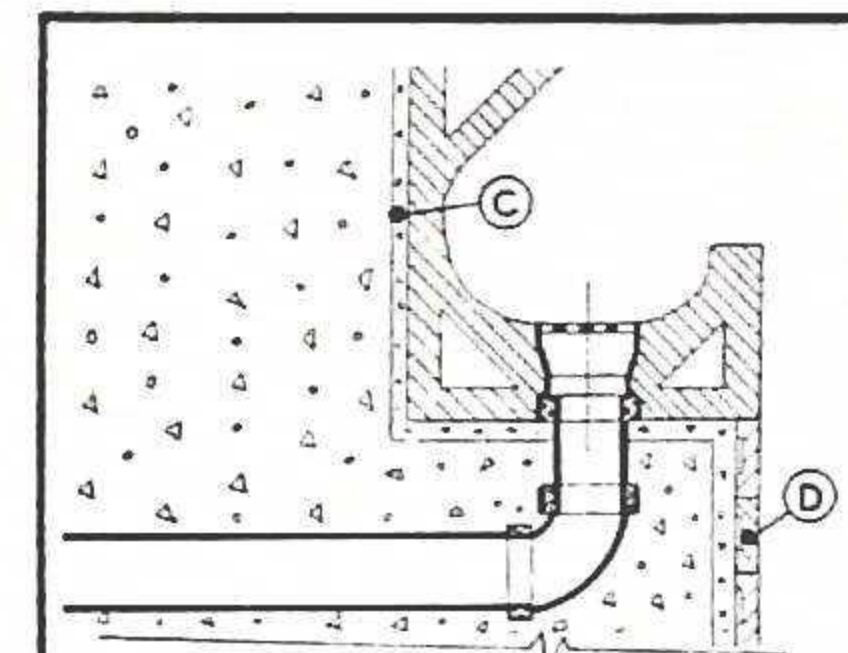


SERIES 0760-BC IN TILE POOL

### GUTTER DRAINS

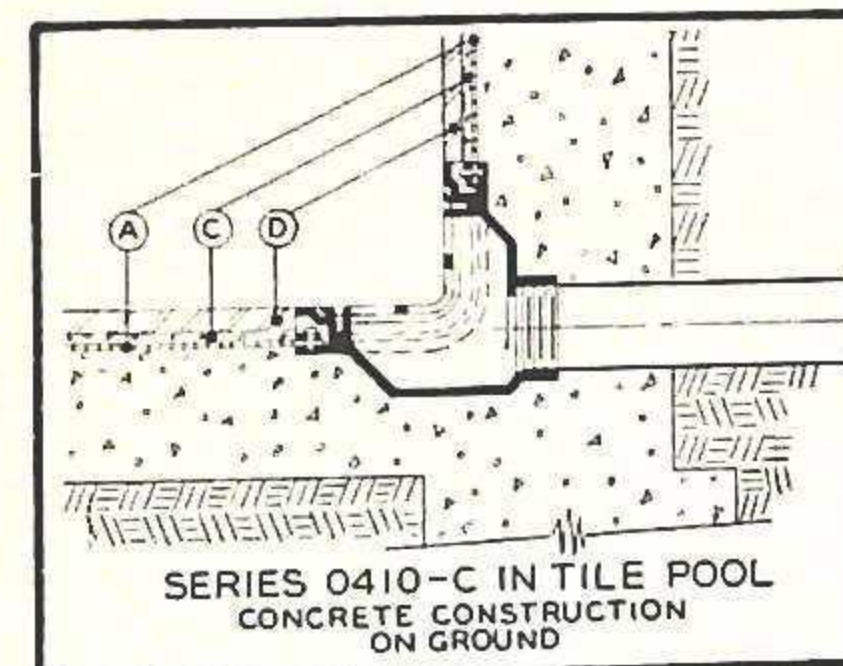


SERIES 0520-C, 0530-C & 0540-C IN TERRAZZO TRENCH CONCRETE CONSTRUCTION

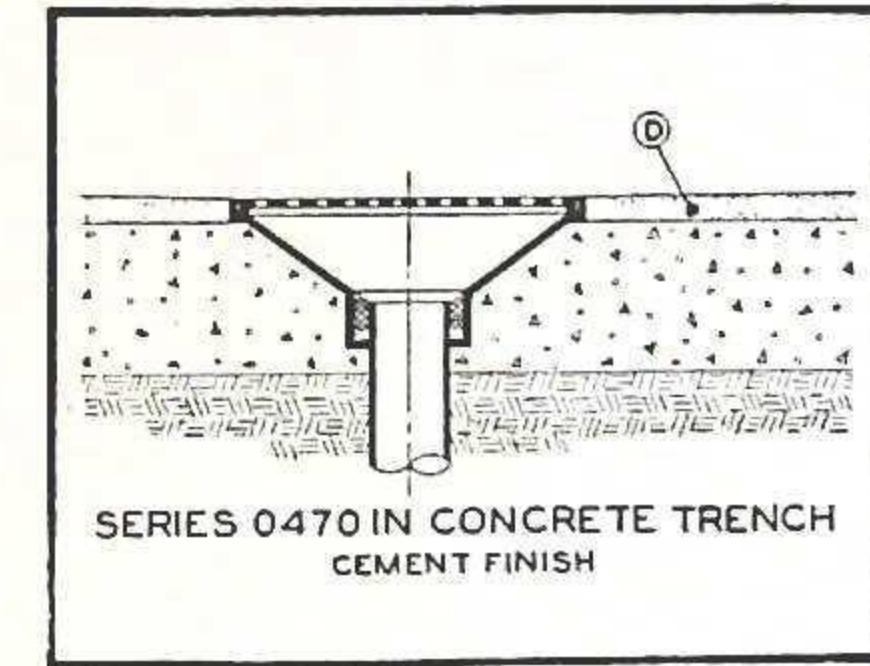


SERIES 0600-B IN TERRAZZO TILE GUTTER CONCRETE POOL CONSTRUCTION

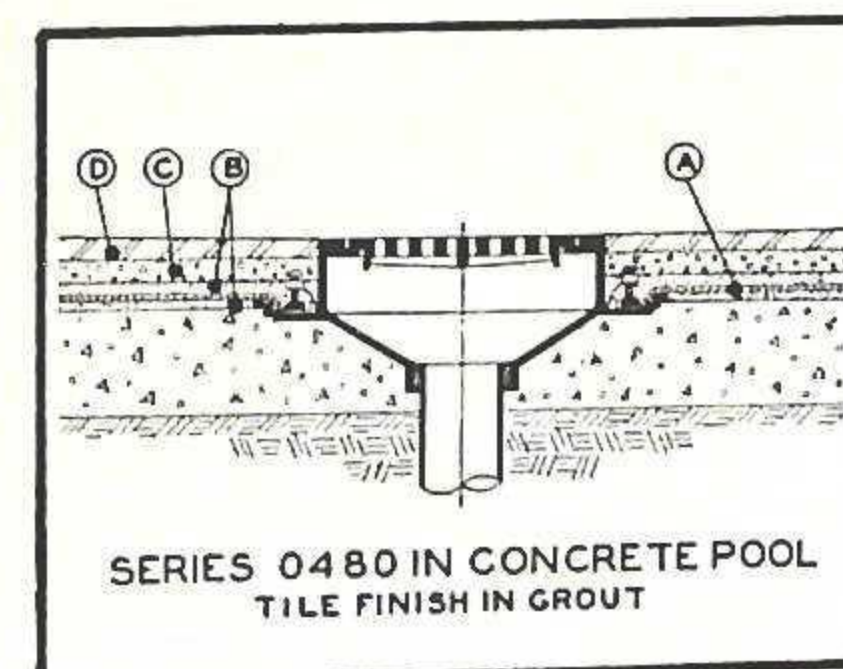
### MAIN OUTLET DRAINS



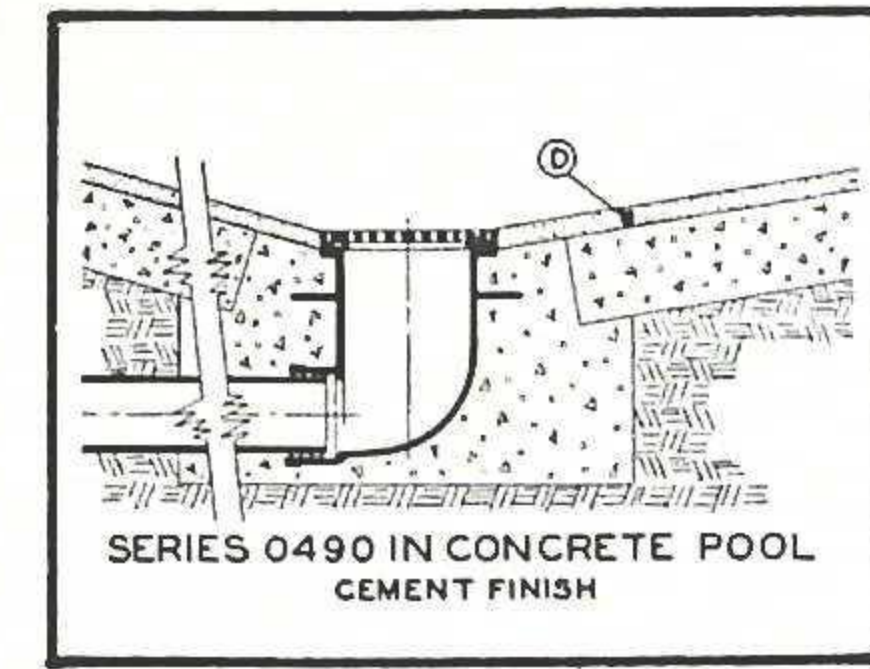
SERIES 0410-C IN TILE POOL CONCRETE CONSTRUCTION ON GROUND



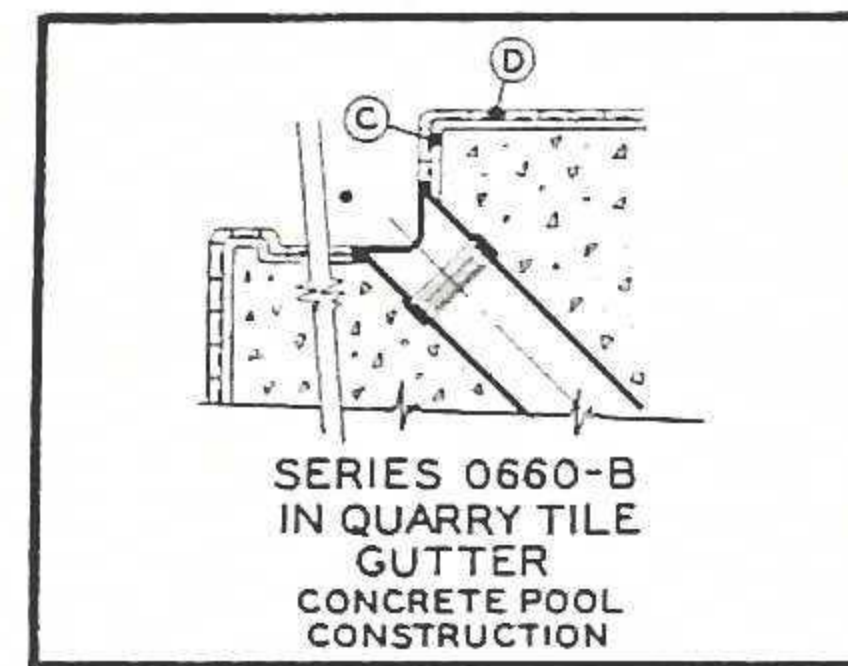
SERIES 0470 IN CONCRETE TRENCH CEMENT FINISH



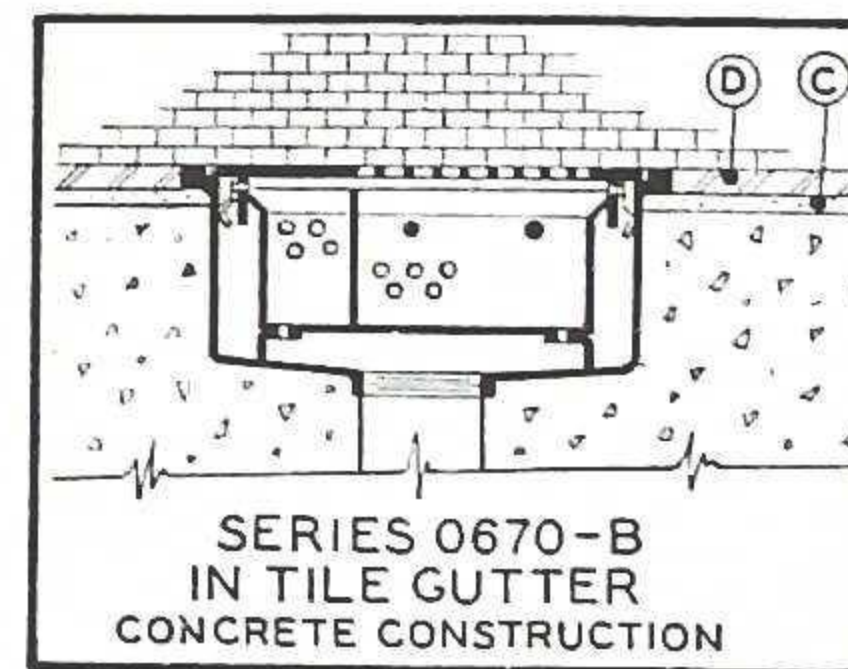
SERIES 0480 IN CONCRETE POOL TILE FINISH IN GROUT



SERIES 0490 IN CONCRETE POOL CEMENT FINISH



SERIES 0660-B IN QUARRY TILE GUTTER CONCRETE POOL CONSTRUCTION



SERIES 0670-B IN TILE GUTTER CONCRETE CONSTRUCTION

# Hy-Tech Products



The walk areas around a pool are an important part of the development. They should extend completely around the pool and the surface should be non-absorbent, reasonably non-slip and easily cleaned.

All deck areas should slope at least 1/4" per foot either toward the pool and into the gutter surrounding the pool, or away from the pool to properly designed drains connecting to the sewer.

In indoor pools where the only water on the walks is that from the pool, the drainage may be into the overflow. In outdoor pools, where walks generally contain debris and other foreign matter, the drainage should be away from the pool. This keeps the debris out of

the pool and prevents an accumulation which might clog screens, hair catchers, filters, etc. Where the overflow is not recirculated, the walks are sometimes permitted to drain into the overflow gutters.

The width of the walks depends upon the size of the pool; from 4 ft. wide for indoor pools to 12 ft. wide for outdoor pools. From an operating standpoint, the width of the walks in outdoor pools will never be too great, particularly when the attendance is large.

Hose connections from the raw water supply should be provided at the outer edge of the pool deck area at intervals of not more than 100 feet, for hosing down the deck areas and washing out the pool gutters.

Several designs of drains suitable for installation in walks, are shown below. For complete information, refer to page number under each illustration.



**SERIES NO. 300**  
Page No. 26



**SERIES NO. 260**  
Page No. 23



**SERIES NO. 230-V**  
Page No. 23



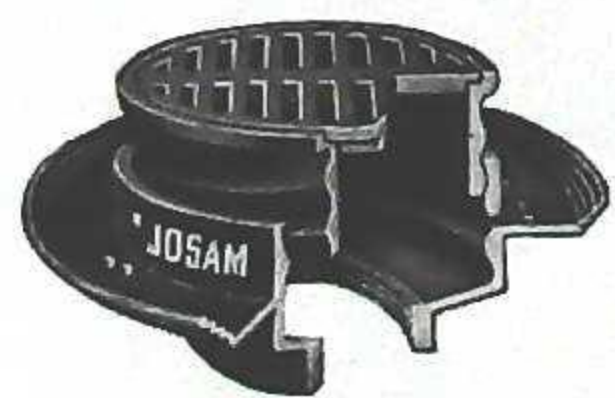
**SERIES NO. 7020**  
Page No. 58-C



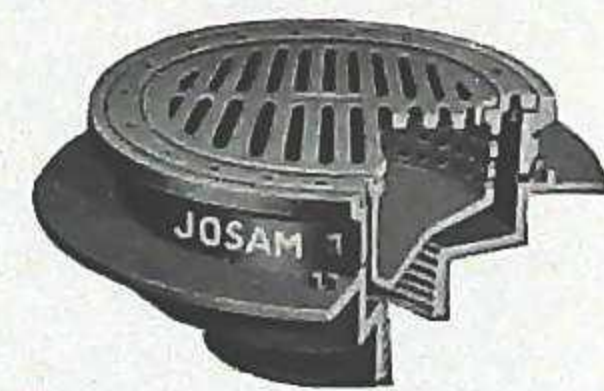
**SERIES NO. 580-B**  
Page No. 37



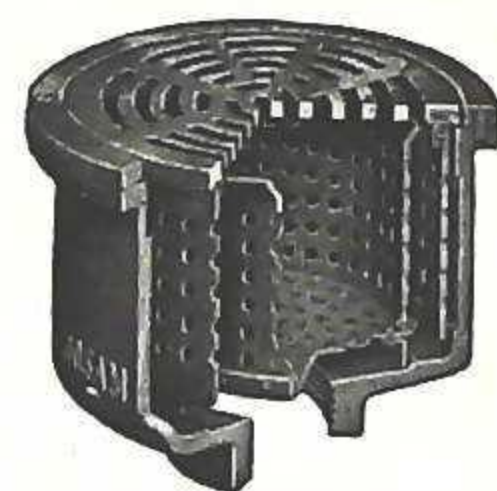
**SERIES NO. 850-V**  
Page No. 43



**SERIES NO. 3510**  
Page No. 68



**SERIES NO. 5420**  
Page No. 60



**SERIES NO. 5070-B**  
Page No. 53

**CLEANOUTS AND ACCESS COVERS**

As an access to cleanout plug or valve on lines concealed in construction.

**SERIES Y-70**—Cast brass round flush cleanout with flanged ring and scoriated spanner type flanged screw plug for threaded or inside caulk connection to iron pipe.

**SERIES Y-80**—Cast brass round flush cleanout cover with flanged ring and cover plate secured by machine screw.

Complete details on page (120)7



**SERIES NO. Y-70**      **SERIES NO. Y-80**

**FOOT BATHS**

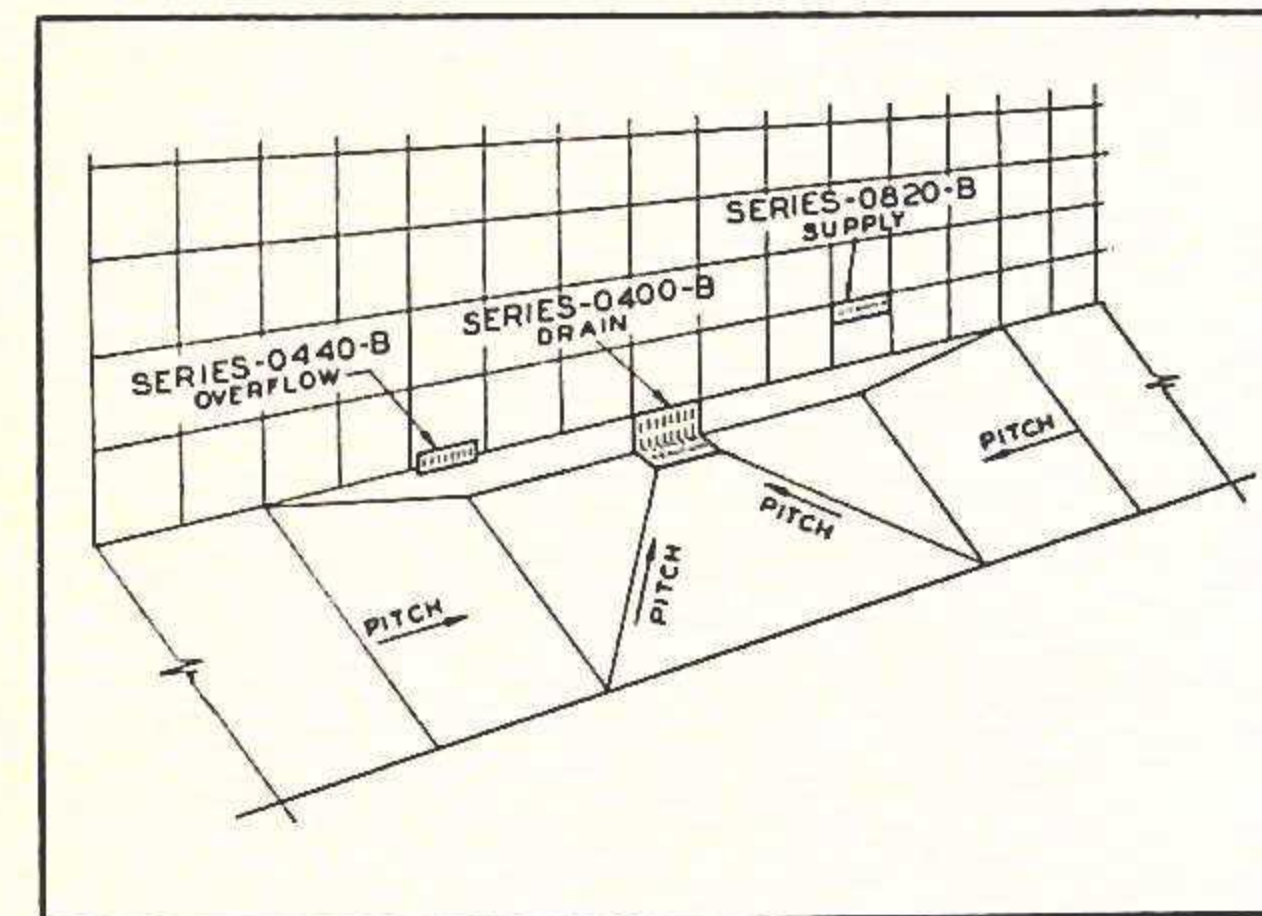
One of the most common and perplexing problems which face pool operators, is algae control. General sanitation and floor cleanliness are of great importance. Floors of all dressing rooms, shower and wash rooms should be disinfected daily.

Foot baths should be placed at every entrance and exit of the pool and every person should be required to step into the foot baths upon entering and leaving the pool.

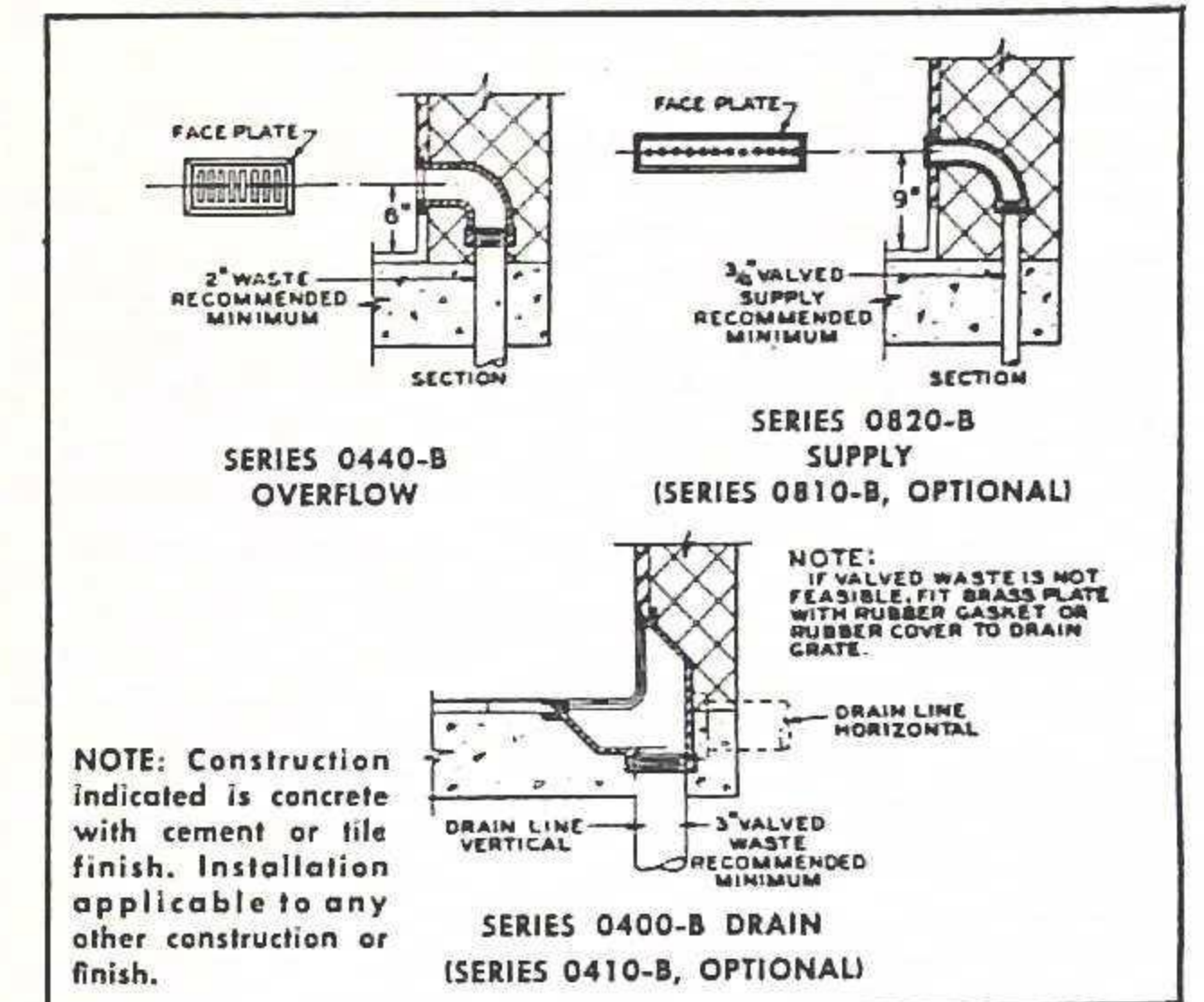
There are many commercial foot bath solutions recognized by various State Board of Health Agencies, and a germi-

cide of such quality and strength as approved by various agencies, should be used.

Foot Baths should be too wide to be easily jumped, and the disinfectant solution should be about 4" deep so that the feet will be well covered. In all new pools, foot baths should form an integral part of the construction. With some types of sterilizers, the foot baths may be automatically supplied and kept filled with a solution of proper strength, by the same mechanism used for disinfecting the pool water.



The isometric detail of a typical foot bath, shows the installation of overflow, supply and outlet drains illustrated on pages 162, 164, 166.



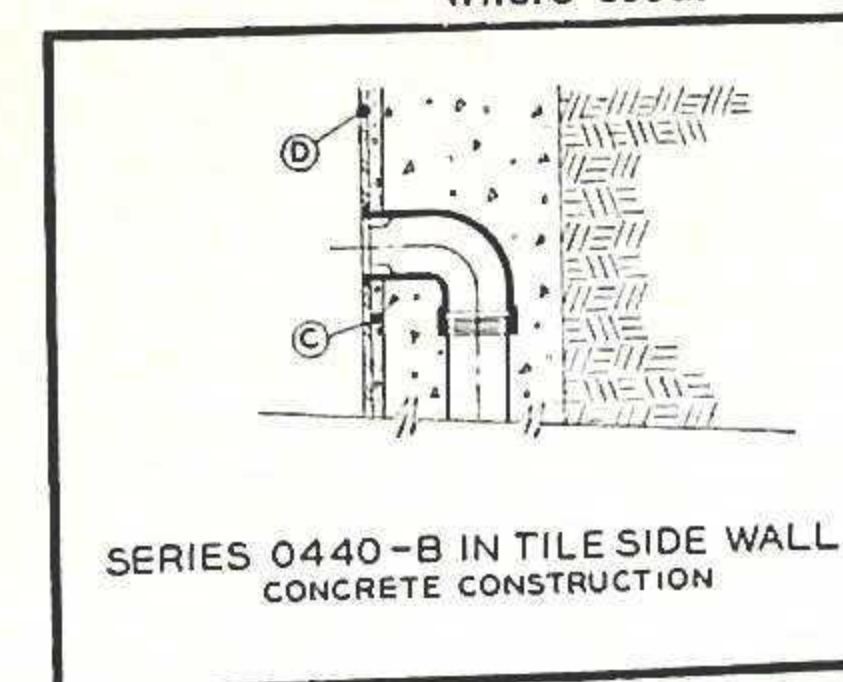
NOTE: Construction indicated is concrete with cement or tile finish. Installation applicable to any other construction or finish.

**PIT AND POOL DRAINS**

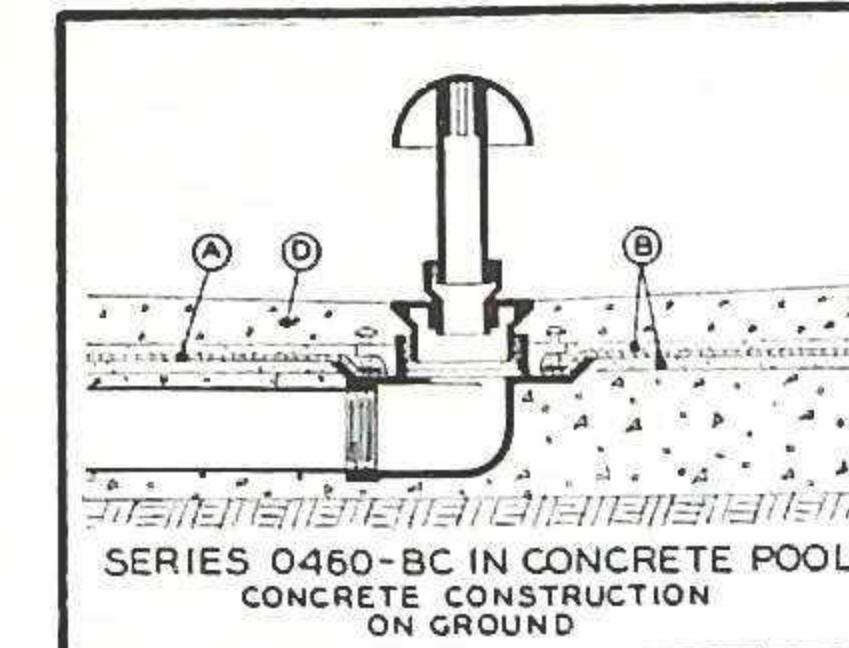
The installations shown below are typical for any Josam Drain installed in any construction illustrated, subject to modification of construction to accord with drain features.

**CODE:** (A) — Waterproofing, optional. Requires Flashing Clamp when used. When Flashing Clamp is not required, omit suffix "C" from type number.  
(B) — Bed of finely screened sand, well tamped under and on top of waterproofing where used.

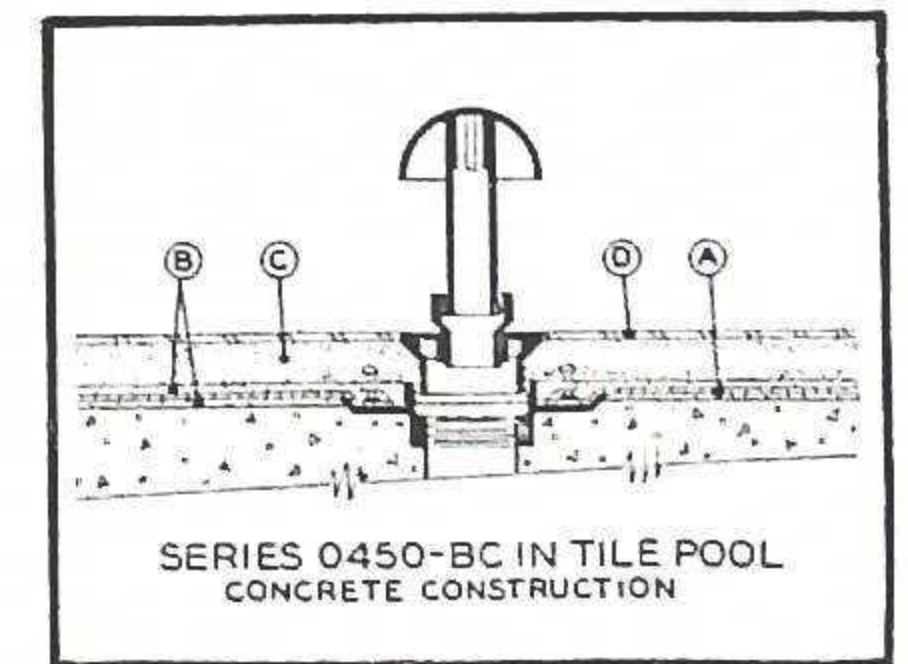
(C) — Fill and Grout. (Lathe or mesh where membrane is used).  
(D) — Finish.



**SERIES 0440-B IN TILE SIDE WALL CONCRETE CONSTRUCTION**

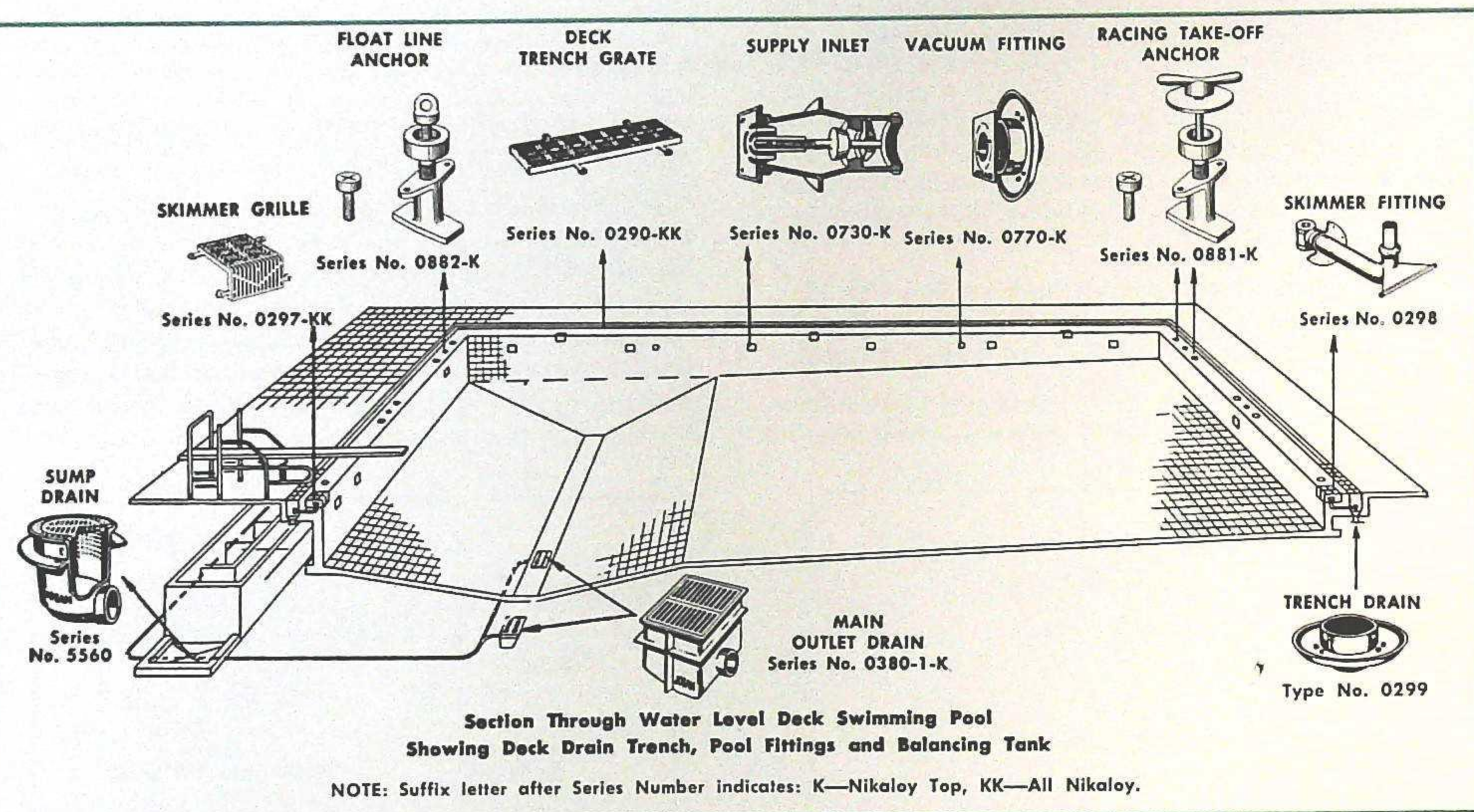


**SERIES 0460-BC IN CONCRETE POOL CONCRETE CONSTRUCTION ON GROUND**



**SERIES 0450-BC IN TILE POOL CONCRETE CONSTRUCTION**

water level deck pools



The Water Level Deck Pool differs in construction and operation from the conventional side wall gutter pool in the following manner:

1. Location of overflow gutter
2. Difference in height of pool walls
3. Addition of skimmers
4. Elimination of steps and ladders
5. Use of a balancing tank

**OVERFLOW GUTTER OR DECK TRENCH**

In the Water Level Deck Pool, the overflow gutter is located in a depressed section of the deck surrounding the pool instead of in the pool walls. The deck is pitched to the overflow gutter from both sides—the lip of the pool and the enclosing wall. This gutter or deck drain trench is continuous all around the pool and covered with a non-ferrous grille or grating at deck level, so designed that any water overflowing the pool is trapped directly into the gutter, with no chance of dirty water returning directly to the pool. At the low points of the gutter, drains are installed with connections to the balancing tank, or to the sewer, as conditions may require.

**DECK**

The deck at the pool edge is 1/2" above normal water level and is pitched to the overflow trench grating which is exactly at water level. This permits easy egress from the pool, due to the natural buoyancy of the body; and as a consequence, eliminates the need for ladders, hand-rails, steps or other means of entrance or exit. The ability to leave the pool at any point without dependence on ladders, rails, etc., is a valuable feature for instruction of children, paraplegics and other non-swimmers. Ladders from

the pool is always available at any point along the edge by merely rolling the body on to the deck without traversing a distance of the pool to a ladder or steps.

**SKIMMER UNIT**

The skimmers spaced at intervals around the pool perimeter, are fitted with wall grille, access grate, adjustable overflow for establishing water level, and a control fitting to limit the flow through the skimmer. When the overflow is set to the desired level, there is a constant flow across the skimmers at the pool surface, which carries with it all surface accumulation of body oils, lint, dust and other flotsam so that the pool is always clean and devoid of surface scum. Any water passing over the skimmers or into trench, continues to the balancing tank or to the sewer, but in no case can it re-enter the pool until it has been fully filtered and processed.

**BALANCING TANK**

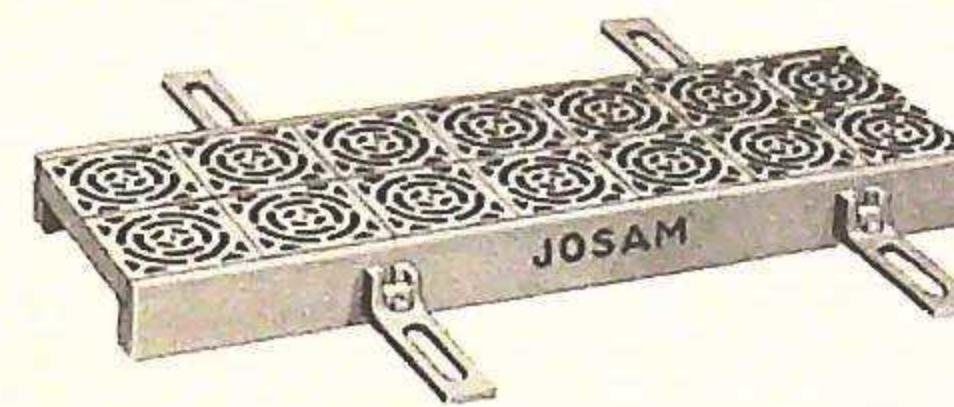
The balancing tank is an inherent part of a Water Level Pool and is equally applicable to any other type pool. The balancing tank serves primarily as a reservoir or surge tank to hold water drained off or displaced from the pool until it can be filtered and processed for return to the pool. The tank is fitted with two screens for the removal of hair, lint and other foreign matter, and so arranged that one screen is in operating position while the other screen is out of the tank for cleaning. The balancing tank is fitted with surface skimming connections to the sump for the removal of surface scum. The tank also serves as a reservoir for pool supplies, such as filters and heaters; for the application of necessary chemicals, in filtration or sterilization, and for backwashing of filters.

water level deck pools

**POOL FITTINGS**

**DECK TRENCH GRATES**

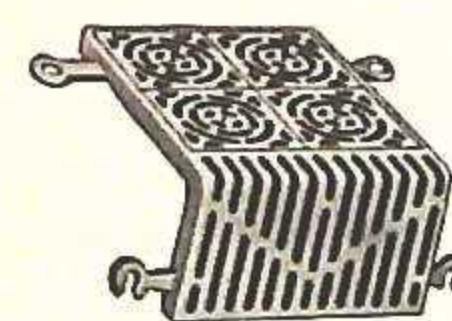
Josam Series No. 0290-KK, Nikaloy trench grates set in Nikaloy angle frames with anchor lugs.



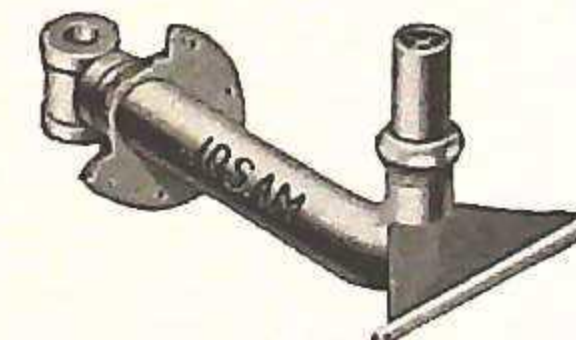
Type No. 0291-KK, 12"x6 1/2"  
Type No. 0292-KK, 24"x6 1/2"

**SKIMMERS**

Josam Type No. 0297-KK, Nikaloy Skimmer grille and frame with anchor lugs, Leveloc anchors and recessed grate; and Josam Type 0298 Skimmer fitting with adjustable overflow tube and flow control. Drainage openings through grates are limited to 1/4" maximum which provides a safety factor against injury to bare feet and fingers; and the pattern is designed to permit continuous and quick drainage at any level from normal level to 3" below.



Type No. 0297-KK



Type No. 0298

**DECK TRENCH DRAINS**

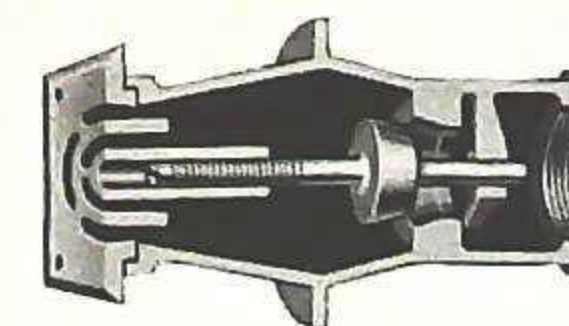


Type No. 0299

Josam Type No. 0299, cast iron trench drain with anchor flange, open top and 3" connection to trench drain line.

**SUPPLY INLETS**

Josam Series No. 0730-K Balanceze supply fitting. Cast iron body with Nikaloy diffuser head and integral face plate. The Balanceze supply fitting includes an integral valve operated by a screwdriver stem through the diffuser grille at the pool wall. Due to this design, supply to the pool can be balanced at all fittings and the diffuser grille aids in mixing fresh supply with water in pool.



Alternate supply fittings, see pages 161, 162.

**MAIN OUTLET DRAINS**

Josam Series No. 0380 with Nikaloy top (Type No. 0380-K) is indicated in the section detail on the opposite page. See page 168 for information.

For alternate types of Main Outlet Drains, see pages 164, 165.

**VACUUM FITTINGS**

Josam Series No. 0770-K with Nikaloy face is indicated in the section detail on the opposite page. See Series No. 0770-B, page 172 for information.

**SPLASH CURTAIN SUPPORTS**



Type No. 0885-B



Type No. 0886-B

For supporting splash curtain on swimming pool deck. Josam Type No. 0885-B Splash curtain support consists of brass socket, pipe, eyelet and plug, and No. 0886-B is brass socket and combination plug and hook. When supports are not in use, pipe support is removed and replaced with a flush plug in the socket. The hook of the rope support socket is reversed and used as a flush plug.

**RACING TAKE-OFF ANCHORS**

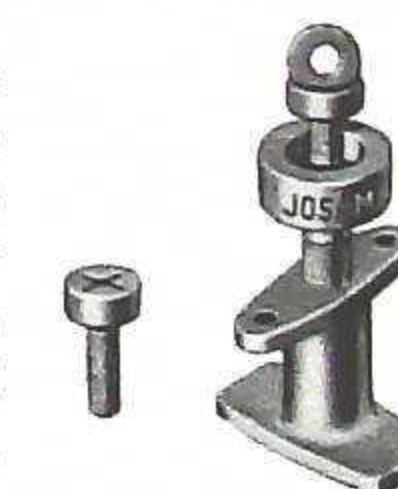
Josam Racing Take-Off Anchor, Type No. 0881-K consists of a cast iron insert fitted with a Nikaloy Deck Plug adjustable to finished deck level. During swimming meets, Nikaloy Wing Bolts with Nikaloy Washers secure the wood Racing Take-Off blocks to the deck. When starting blocks are removed, Nikaloy Plug Bolts fitted into the Deck Plugs provide a flush deck.



Type No. 0881-K

**FLOAT LINE OR LANE MARKER ANCHORS**

Josam Float Line Anchor, Type No. 0882-K consists of a Nikaloy Eye Bolt which fits into a Nikaloy Deck Plug, secured in deck construction by a cast iron Insert. Eye bolt which is adjustable to finished deck level provides an anchor for float line, lane marker or net during swimming meets or instruction periods. When Eye Bolts are removed, Nikaloy Plug Bolts are fitted into Deck Plugs to provide a flush deck.

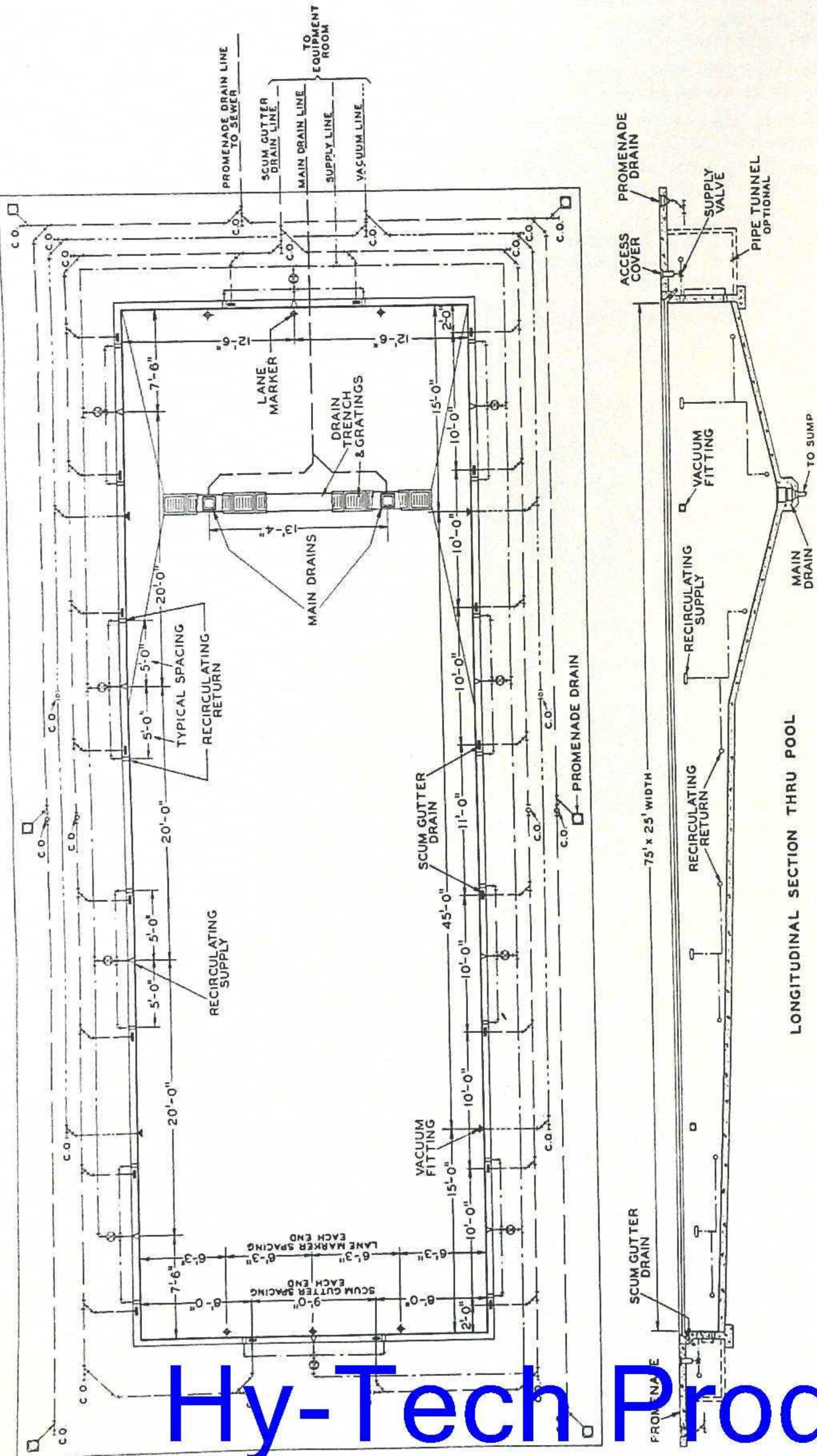


Type No. 0882-K



**typical layout of fittings**  
FOR 75'x25' SWIMMING POOL—TYPE "A" CIRCULATION

FOR 75'x25' SWIMMING POOL—TYPE "A" CIRCULATION



For complete information and details on items listed in the "Schedule of Material", refer to pages 160 to 174.

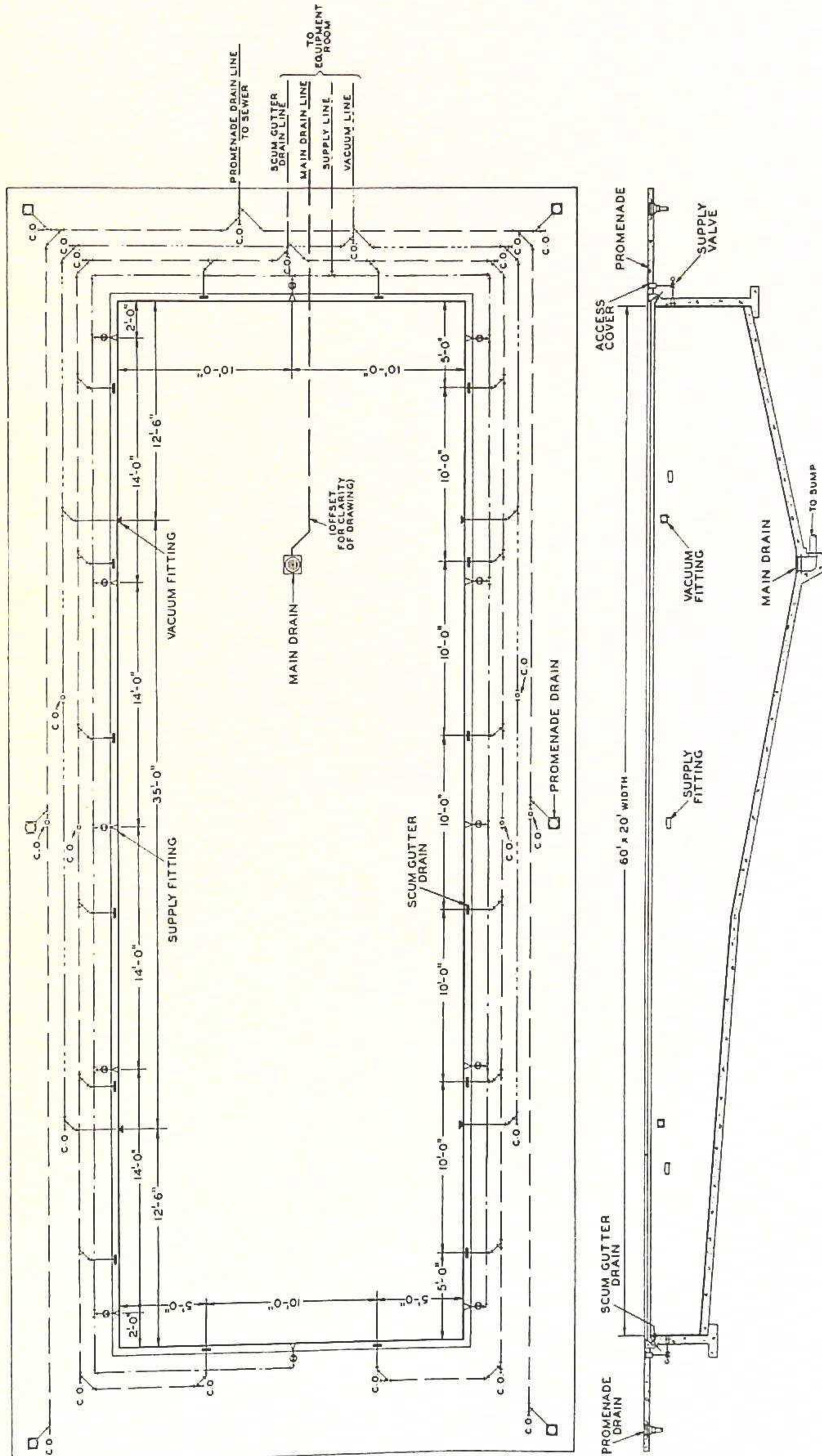
For information on Water Level Deck Pools, refer to pages 178, 179.

**SCHEDULE OF MATERIAL**

ITEM	QUANTITY	TYPE	REMARKS
MAIN DRAIN	2	0381-B	RECTANGULAR BRASS TOP
SCUM GUTTER DRAIN	2	0381-B	RECTANGULAR BRASS TOP
PROMENADE DRAIN	2	0381-B	RECTANGULAR BRASS TOP
VACUUM FITTING	2	0381-B	RECTANGULAR BRASS TOP
RECIRCULATING SUPPLY FITTING	2	0381-B	RECTANGULAR BRASS TOP
RECIRCULATING RETURN FITTING	2	0381-B	RECTANGULAR BRASS TOP
ACCESS COVER	2	0381-B	RECTANGULAR BRASS TOP
PIPE TUNNEL (OPTIONAL)	1	0381-B	RECTANGULAR BRASS TOP
LANE MARKER	1	0381-B	RECTANGULAR BRASS TOP
DRAIN TRENCH & GRATINGS	1	0381-B	RECTANGULAR BRASS TOP
SUPPLY LINE	1	0381-B	RECTANGULAR BRASS TOP
VACUUM LINE	1	0381-B	RECTANGULAR BRASS TOP
RECIRCULATING SUPPLY LINE	1	0381-B	RECTANGULAR BRASS TOP
RECIRCULATING RETURN LINE	1	0381-B	RECTANGULAR BRASS TOP
DESIGN DATA:			
CAPACITY 8000 GALS.±			
GRAVITY DRAINAGE TO SEWER, 4" HRSS ± 350 GPM			
TURNOVER 8 HRSS ± 225 GPM			

**typical layout of fittings**  
FOR 60'x20' SWIMMING POOL—TYPE "B" CIRCULATION

FOR 60'x20' SWIMMING POOL—TYPE "B" CIRCULATION



For complete information and details on items listed in the "Schedule of Material", refer to pages 160 to 174.

For information on Water Level Deck Pools, refer to pages 178, 179.

**SCHEDULE OF MATERIAL**

ITEM	QUANTITY	TYPE	REMARKS
MAIN DRAIN	1	0411-B	SQUARE BRASS TOP
SCUM GUTTER DRAIN	1	0411-B	SQUARE BRASS TOP
PROMENADE DRAIN	1	0411-B	SQUARE BRASS TOP
VACUUM FITTING	1	0411-B	SQUARE BRASS TOP
RECIRCULATING SUPPLY FITTING	1	0411-B	SQUARE BRASS TOP
RECIRCULATING RETURN FITTING	1	0411-B	SQUARE BRASS TOP
ACCESS COVER	1	0411-B	SQUARE BRASS TOP
DESIGN DATA:			
CAPACITY 8000 GALS.±			
GRAVITY DRAINAGE TO SEWER, 4" HRSS ± 350 GPM			
TURNOVER 8 HRSS ± 225 GPM			



*duriron - everdur*

*index*

**U. S. GOVERNMENT SPECIFICATIONS**

**ACID-RESISTING DRAINS**

**DURIRON**

Josam Duriron Drains constructed of high silicon iron without lining, glazing or coating, are extremely resistant to corrosion by acid drainage, and resist abrasion and scouring.

For installation wherever drainage includes corrosive liquids or gases in chemical, electroplating, photo-engraving and metal production plants, laboratories, paper mills, battery manufacturing plants and similar structures where corrosive wastes enter drainage lines.

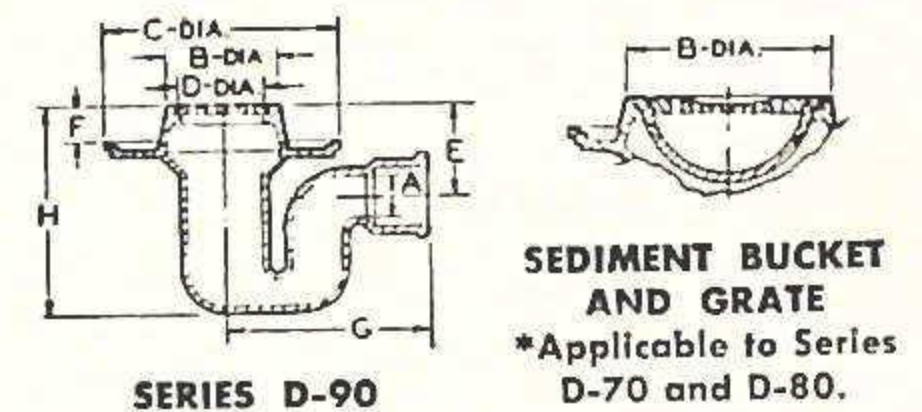
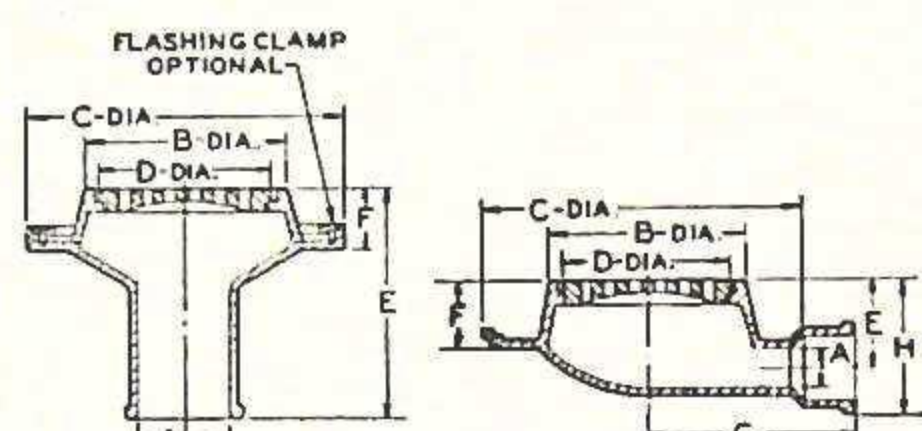
**DIMENSIONS IN INCHES**

TYPE NO.	OUT-LET		TOP	GRATE					ADAPTATIONS		Wgt. Lbs. *
	A	B		C	D	E	F	G	H	With Flashing Clamp Device	
D-72	2	8 3/4	14	7 3/4	10	2 1/2			D-72-C	D-72-R	45
73	3	8 3/4	14	7 3/4	10	2 1/2			D-73-C	D-73-R	45
74	4	8 3/4	14	7 3/4	10	2 1/2			D-74-C	D-74-R	45
76	6	8 3/4	14	7 3/4	10	2 1/2			D-76-C	D-76-R	45
D-82	2	8 3/4	14	7 3/4	3 3/8	3	9 3/8	6		D-82-R	37
D-91 1/2	1 1/2	5	10 3/8	4	3 3/8	1 1/2	8 3/8	9			35
92	2	5	10 3/8	4	3 3/8	1 1/2	9	9			37
93	3	9	14 1/2	8	5 7/8	1 1/2	11 3/4	14 1/2			70
94	4	9	14 1/2	8	6 1/8	1 1/2	12	14 1/2			73

\* Add 8 Lbs. to Series D-70 and D-80 when furnished with Sediment Bucket.



SERIES D-70



**JOSAM PRODUCTS COMPLYING WITH U. S. GOVERNMENT SPECIFICATIONS**

All Josam Products illustrated on pages 186 to 193 are approved for use in all United States Government buildings in accordance with the specifications listed below. Illustrations and descriptions cover Josam Products as mentioned, refer to page indicated under illustration, for complete information.

In addition to the standard products shown, Josam can produce many special adaptations in metals such as cast iron, galvanized iron, Rezystan iron, steel, Everdur, bronze, malleable iron, SR steel, white metal, etc. (See — page 16).

**INDEX OF JOSAM PRODUCTS COMPLYING WITH U. S. GOVERNMENT SPECIFICATIONS**

For quick reference, Josam Products are grouped in sections under the U. S. Government Specification with which they comply, together with the Government Specification number, Josam Series number and page number in this section. (For complete information, detail drawing and dimensions, refer to the page number indicated under each illustration.)

WW-P-541b				WW-P-541a				CONSTRUCTION AND COMPLETION OF STANDARD SWIMMING POOLS AND BATH HOUSES		
Type No.	Par. No.	Josam Series No.	Page No. This Section	Figure No.	Josam Series No.	Page No. This Section	Figure No.	Josam Series No.	Page No. This Section	
95	17.32	180-BB	186	E-34f, Fig. 95	V-180-BB	186	Par. 6-17	0220	192	
216	19.6	300-USH	186	E-39b, Fig. 103	1400-H	186	Par. 23-10c	H-70, H-80	192	
217	19.6.1	270-USH	186	E-39d, Fig. 105	Y-100	186	Par. 24-17	300	192	
220	19.7	510, 520	186	E-39e, Fig. 106	300	186	Par. 24-17b	670-TVGG	192	
224	19.9	V-110-X	186	E-39e, Fig. 107	270	186	Par. 24-17c	840-VGG	192	
228	19.10	V-140	186	E-39f, Fig. 108	510, 520	186	Par. 24-17d	510, 520	192	
205	19.2	1400-H	186	E-39f, Fig. 109	V-110-X	186	Par. 24-17e	0660-BH	192	
212	19.5	Y-100-H	186	E-39f, Fig. 110	V-140	186	Par. 24-18	0220	192	
231	19.12	4980-BB	186	E39g, Fig. 111	4980-BB	186	Par. 24-19	0710-B5	192	
				<b>VETERANS ADM. HOSPITAL BASE SPEC.</b>						
<b>STANDARD PLUMBING SPECIFICATIONS</b>								<b>GUIDE SPECIFICATION FOR WAR DEPT. CONSTRUCTION</b>		
Figure No.	Josam Series No.	Page No. This Section	Figure No.	Josam Series No.	Page No. This Section	Figure No.	Josam Series No.	Page No. This Section		
Par. 63	Y-10, Y-20	188	Type A	V-110-X, V-140	190	Par. 25a (1)	300	187		
Par. 65 (A)	Y-50, Y-60	188	Type B	510, 520	190	Par. 25a (2)	6040-V	187		
Par. 68	Y-100	188	Type C	300	190	Par. 25b	510, 520	187		
Par. 70 & 71	Y-30, Y-40	188	Type E	5440	190		0530-B	187		
Par. 76	V-110-X, V-140	188	Type F	530-CS	190	Par. 25c	300	187		
Par. 77	1000	188	Type G	5420-BH	190	Par. 24d	V-70	187		
Par. 78	5420-B	188	Type H	V-50	190	Par. 25e	410, 4010, 4210, 4310, 4830-B	187		
Par. 79	1170-T	188	Type I	0520-BHC	190	Par. 26	JA, JLA, JX	187		
Par. 84 & 86	460, 4060	189	Type K	3710-BH	190	Par. 32	1400-BB	187		
Par. 88 & 89	4860-B	189	Roof Drains	410, 440, 4950-B	191	Par. 38e	H-40	187		
Par. 91	1810	189	Expansion Joints	1810	191	<b>MILITARY SPECIFICATION</b>				
Par. 92	4980-BB	189	Backwater Valves	1180-T	191	Mil-D-3156		189		
Par. 93 & 94 (B)	1830	189	Wall Hydrants	1400-BB	191	Mil-T-18361 Docks		189		
Par. 131	1400-BB	188	Interceptors for Grease	JA, JLA, JX	191	<b>MARINE DRAINAGE PRODUCTS FOR SHIPBUILDING</b>				
				<b>GUIDE SPEC. FOR MILITARY CONSTRUCTION</b>						
Conforms to Federal Specification WW-P-541a				Item P-13 Barber Lavatory Hair Interceptor H-10, H-20				189		
				<b>EMERGENCY TYPE CONSTRUCTION</b>						

**EVERDUR**

Practically all JOSAM Drains and other products are available in Cast EVERDUR on special order.

EVERDUR offers excellent resistance to corrosion or disintegration by certain acid or alkaline drainage and/or atmospheres, except under certain conditions.

In general, EVERDUR has corrosive resistance similar to, but somewhat better than, pure copper; but that resistance is greatly reduced by the presence of oxidizing agents.

The wide range of conditions and characteristics . . . concentration, temperature, velocity, period of contact, etc. . . existing in corrosive drainage renders it unsafe to stipulate EVERDUR drains without complete knowledge of all pertinent conditions existing.

To better evaluate the suitability of EVERDUR for corrosive drainage, the more common corroding wastes are classified below, based on the effect on EVERDUR.

**EVERDUR Drains are SUITABLE for the following:**

Alcohols	Chlorides, generally, (should be checked for specific solution)	Dulite Solution	Oxalic Acid
Aldehydes	Chrome Acid Rinse	Ebonal	Solvent from Detric Machine
Alkalis, Concentrated, Cold	Chromak Rinse	Electrolytic Caustic Cleanser	Sulphates, generally (should be checked for specific solution)
Alkalis, Diluted, Hot and Cold	Citric Acid	Gold Esters Solution	Sulphuric Acid, Concentrated, Cold
Aluminum Cleanser	Commercial Oleic Acid	Hot Water plus Borax	Sulphuric Acid, Diluted, Hot or Cold
Black Nickel Solution	Copper Plating Solution	Hydrocarbons	Tin Plating Solution
Bonderizing Solution	Copper Sulphate	Hydrochloric Acid, Diluted, Cold	Water Dip Lacquer
Cadmium Plating Solution	Depaint Caustic	Iridate Rinse	Zinc Plating Solution
		Nickel Plating Ketones Solution	

**EVERDUR DRAINS are also SUITABLE for the following but considerable corrosion will occur:**

Acetic Acid	Ammonium Chloride	Aluminum Anodize	Hydrochloric Acid, Concentrated, Hot or Cold	Muriatic Acid	Phosphoric Acid	Sulphuric Acid
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**EVERDUR is NOT SUITABLE for the following due to rapid corrosion:**

Acid Chromates	Ammonium Hydroxide	Chromic Acid	Chromak Solution	Ferric Chloride	Ferric Sulphate	Iridate Solution	Nitric Acid	Nitric Acid—Bright Dip	Nitric Aluminum—(Nitric Acid Dip for Aluminum)	Picric Acid	Sulphides, Hot or Cold
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EVERDUR is SUITABLE, for use in all atmospheres — industrial, marine and rural, and for fresh or sea water drainage.

When EVERDUR drains are subject to atmospheric exposure, they may be connected to other softer alloy piping with the danger of serious galvanic action.

EVERDUR drains of large areas connected to iron, zinc, or aluminum piping of small area will accelerate galvanic corrosion of the piping unless the piping is insulated from the drain.

EVERDUR drains connected to "high-zinc content brass" piping accelerate galvanic corrosion of the drain piping unless piping is insulated from drain.

**Hy-Tech Products**

FOR INFORMATION ON JOSAM "NIKALOY" AND OTHER OPTIONAL MATERIALS, SEE PAGE 16

FOR NUMERICAL INDEX, REFER TO PAGE 13

**DRAINS**

**Stall Urinal or Shower Drain**  
 Conforms to E-34f, Fig. 95 (WW-P-541a)  
 and Par. 17.32, Type 95 (WW-P-541b)



Series No. V-180-BB  
 Page No. 77

**SPECIFICATION**

Josam Series No. V-180-BB, cast brass stall urinal (or shower) drain with 2" (or 3") threaded bottom outlet and polished brass chrome plated adjustable strainer.

**Floor or Shower Stall Drain**  
 Conforms to E-39e, Fig. 106 (WW-P-541a)  
 and Par. 19.6, Type 216 (WW-P-541b)

**SPECIFICATION**

Josam Series No. 300, cast iron floor (or shower stall) drain with double drainage flange, weepholes, adjustable polished (or chrome plated) brass strainer, threaded (or caulk) outlet as follows:

2" outlet with 6" dia. strainer  
 3" outlet with 8" dia. strainer  
 4" outlet with 10" dia. strainer  
 (Flashing clamp device furnished when specified).



Series No. 300-US  
 Page No. 26

Conforms to E-39e, Fig. 107 (WW-P-541a)  
 and Par. 19.6.1, Type 217 (WW-P-541b)

**SPECIFICATION**

Josam Series No. 270-US, cast iron double drainage floor drain with integral self cleaning trap, adjustable polished or chrome plated brass strainer, threaded outlet, as follows.

2" outlet with 6" dia. strainer  
 3" outlet with 8" dia. strainer  
 4" outlet with 10" dia. strainer  
 (Flashing clamp device furnished when specified).



Series No. 270-US  
 Page No. 23

**Floor Drains**  
 Conforms to E-39f, Fig. 108  
 and Par. 19.7, Type 220 (WW-P-541b)

**SPECIFICATION**

Josam Series No. 510 (or 520) cast iron floor drain with double drainage flange, weepholes, anti-tilting grate, and threaded (or caulk) outlet, as follows:

Josam Series No. 510 — 2" or 3" outlet with 8" dia. grate.  
 Josam Series No. 520 — 4" outlet with 11" dia. grate.  
 (Flashing clamp device furnished when specified).



Series No. 510, 520  
 Page No. 36



Series No. V-110-X  
 Page No. 76

**Area Drains**

Conforms to E-39f, Fig. 109  
 and Par. 19.9,  
 Type 224 (WW-P-541b)

**SPECIFICATION**

Josam Series No. V-110-X, cast iron area drain with 9" x 9" square top, perforated round hinged grate and 3" inside caulk bottom outlet.



Series No. V-140  
 Page No. 76

Conforms to E-39f, Fig. 110  
 and Par. 19.10,  
 Type 228 (WW-P-541b)

**SPECIFICATION**

Josam Series No. V-140, cast iron area drain with 9" x 9" square top, perforated round hinged grate and spigot side outlet.

**WALL HYDRANT**

Conforms to E-39b, Fig. 103  
 and Par. 19.2, Type 205 (WW-P-541b)

**SPECIFICATION**

Josam Series No. 1400-H, cast brass non-freeze wall hydrant with straight nozzle, 3/4" hose connection, key handle, chrome face, brass wall casing and brass lock nut. (Galvanized casing furnished when specified.)



Series No. 1400-H  
 Page No. 115

**CLEANOUTS**

Conforms to E-39d, Fig. 105  
 and Par. 19.5, Type 212 (WW-P-541b)

**SPECIFICATION**

Josam Series No. Y-100-H, cast brass cleanout and access cover with raised head plug tapped for machine screw, and chrome plated raised surface plate secured to plug by cap screw.



Series No. Y-100  
 Page (120) 6

**DOWNSPOUT NOZZLE**

Conforms to E-39g, Fig. 111  
 and Par. 19-12, Type 231 (WW-P-541b)

**SPECIFICATION**

Josam Series No. 4980-BB, cast brass downspout nozzle with 1 1/2" diameter, threaded for pipe connection into drainage elbow.



Series No. 4980-BB  
 Page No. 153

**DRAINS**

**Floor and Shower Drains**  
 Conforms to Par. 25a(1) and 25(c)

**SPECIFICATION**

Josam Series No. 300, cast iron floor (or shower stall) drain with double drainage flange, weepholes, adjustable polished (or chrome plated) brass strainer, threaded (or caulk) outlet as follows:  
 2" outlet with 6" dia. strainer  
 3" outlet with 8" dia. strainer  
 4" outlet with 10" dia. strainer  
 (Flashing clamp device furnished when specified).

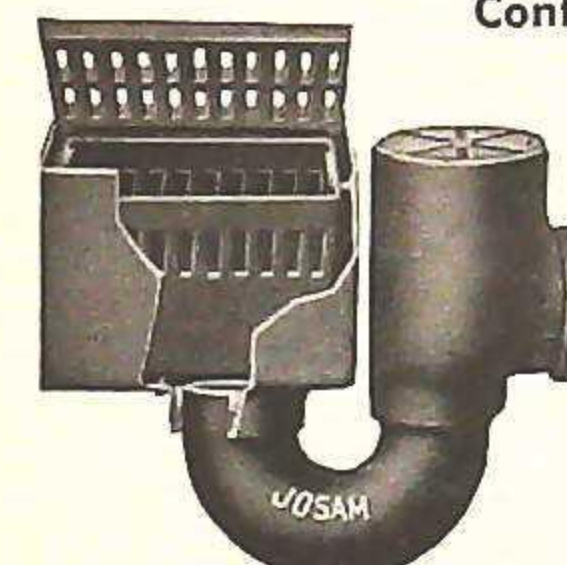


Series No. 300  
 Page No. 26

Conforms to Par. 25a(2)

**SPECIFICATION**

Josam Series No. 6040-V, cast iron combined floor drain and trap with 4" seal, brass hinged flap backwater valve, threaded brass cleanout plug, 100 sq. in. heavy duty hinged grate, removable sediment bucket with hand grip and side outlet.  
 (Without backwater valve, Series No. 6040).



Series No. 6040-V  
 Page No. 49

**Area and Pit Drains**

Conforms to Par. 25b

**SPECIFICATION**

Josam Series No. 510 (or 520), cast iron floor drain with double drainage flange and weepholes, anti-tilting grate, and threaded (or caulk) outlet, as follows:

Josam Series No. 510 — 2" or 3" outlet with 8" dia. grate.  
 Josam Series No. 520 — 4" outlet with 11" dia. grate.  
 (Flashing clamp device furnished when specified).



Series No. 510, 520  
 Page No. 36

**Hydrotherapy Room Drains**

**SPECIFICATION**

Josam Series No. 0530-B, cast iron rectangular drain with double drainage flange, bottom outlet and 32" x 6" polished (or chrome plated) brass top. (With 24" x 6" top, Josam Series No. 0520-B.)

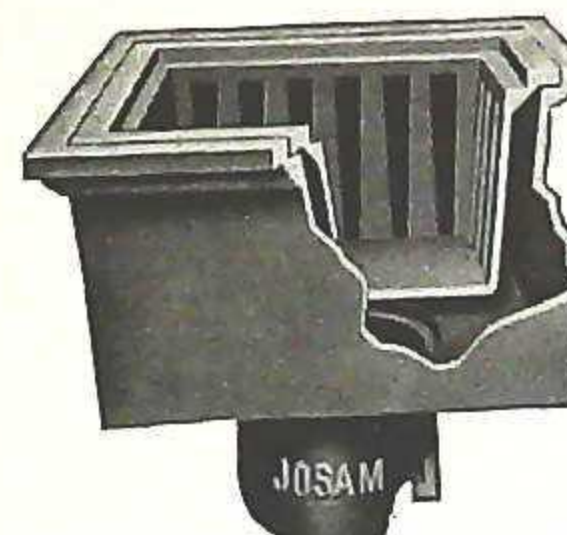


Series No. 0530-B  
 Page No. 58

**CESSPOOLS**

Conforms to Par. 25d  
**SPECIFICATION**

Josam Series No. V-70, cast iron square cesspool with removable sediment bucket, square top and inside caulk bottom outlet as follows:  
 2" and 3" outlet with 12" x 12" top.  
 4" and 6" outlet with 16" x 16" top.



Series No. V-70  
 Page No. 79

**ROOF DRAINS**

Conforms to Par. 25e

**SPECIFICATION**

Josam Series No. 410, cast iron roof drain with removable high dome strainer and sediment cup, threaded bottom outlet and non-puncturing flashing clamp device with integral gravel stop.

(With large dome, Josam Series No. 4110, page 129).



Series No. 410  
 Page No. 128

**Promenade Roof**

**SPECIFICATION**

Josam Series No. 4010, cast iron promenade roof drain with large sump and threaded bottom outlet, removable loose-set, round, flat grate in square frame secured to non-puncturing flashing clamp collar.



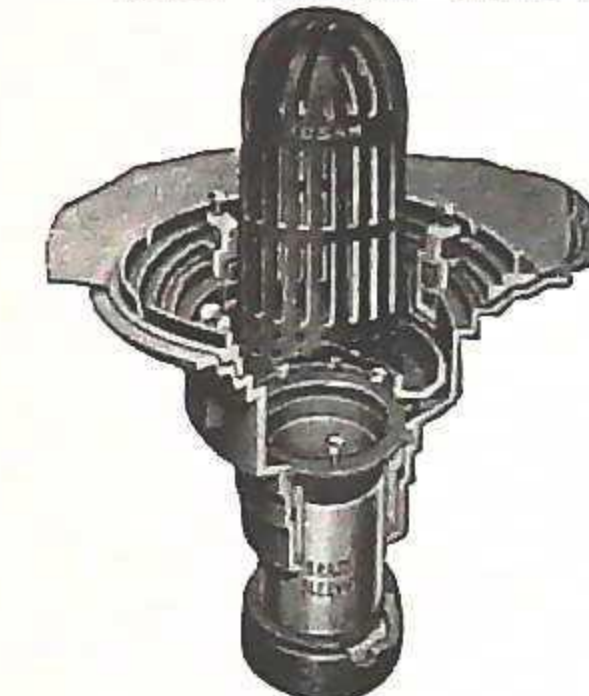
Series No. 4010  
 Page No. 128

**Roof Drains with Integral Expansion Joint**

**SPECIFICATION**

Series No. 4210. Same as Series No. 410 except with integral expansion joint with brass sleeve.

Series No. 4310. Same as Series No. 4010 except with integral expansion joint with brass sleeve.



Series No. 4210  
 Page No. 136

**Sill Drains**

**SPECIFICATION**

Josam Series No. 4830-B, cast iron sill drain with threaded bottom outlet, brass dome and clamping ring secured by screws.



Series No. 4830-B  
 Page No. 152

**WALL HYDRANT**

Conforms to Par. 32

**SPECIFICATION**

Josam Series No. 1400-BB, cast brass non-freeze wall hydrant with straight nozzle, 3/4" hose connection, key handle, polished face, brass wall casing and brass locknut. (Galvanized casing furnished when specified.)



Series No. 1400-BB  
 Page No. 115

**GREASE INTERCEPTORS**

Conforms to Par. 26

Josam Series No. JA  
 See page 100

**PLASTER SINK INTERCEPTOR**

Conforms to Par. 38e

Josam Series No. H-40  
 See page 105

**CLEANOUTS**

Conforms to Par. 63

**SPECIFICATION**

Josam Series No. Y-10, cast brass raised head, iron pipe size threaded plug. (With counter-sunk head, Josam Series No. Y-20.)



Series No. Y-10  
Page (120) 5

**Underground Sewer Cleanout**

Conforms to Par. 65(A)

**SPECIFICATION**

Josam Series No. Y-50, cast brass cleanout with straight body for caulking into soil pipe hub and fitted with raised head. (With counter-sunk head, Josam Series No. Y-60.)



Series No. Y-50  
Page (120) 6

Conforms to Par. 68

**SPECIFICATION**

Josam Series No. Y-100, cast brass cleanout and access cover with raised head plug tapped for machine screw, with cast brass raised surface plate secured to plug by cap screw.



Series No. Y-100  
Page (120) 6

Conforms to Par. 70 & 71

**SPECIFICATION**

Josam Series No. Y-30, cast brass cleanout with tapered body for caulking into soil pipe head. (With counter-sunk hub and fitted with raised head, Josam Series No. Y-40.)



Series No. Y-30  
Page (120) 5

**FLOOR DRAINS**

Conforms to Par. 78

**SPECIFICATION**

Josam Series No. 5420-B, cast iron Non-clog Triple Drainage floor drain with double drainage flange, weepholes, auxiliary drainage rim, 4" over-all depth, 9" dia. polished brass round top and grate, bottom outlet.



Series No. 5420-B  
Page No. 6

Grate cannot be returned to proper position unless the sediment bucket has been set in place in drain body. (Flashing clamp device furnished when specified.)

**AREA DRAINS**

Conforms to Par. 76

**SPECIFICATION**

Josam Series No. V-110-X, cast iron area drain with 9" x 9" square top, perforated round hinged grate and 3" inside caulk bottom outlet. (With ball type backwater valve where noted on drawings, Josam Series No. V-120.)



Series No. V-110-X  
Page No. 76

**SPECIFICATION**

Josam Series No. V-140, cast iron area drain with 9" x 9" square top, perforated round hinged grate and spigot side outlet.



Series No. V-140  
Page No. 76

**BACKWATER DRAINS**

Conforms to Par. 77

**SPECIFICATION**

Josam Series No. 1000, ball type backwater valve with cast iron housing, copper ball float in brass wire cage. Renewable rubber seat, brass seat ring, male threaded inlet and female threaded outlet.



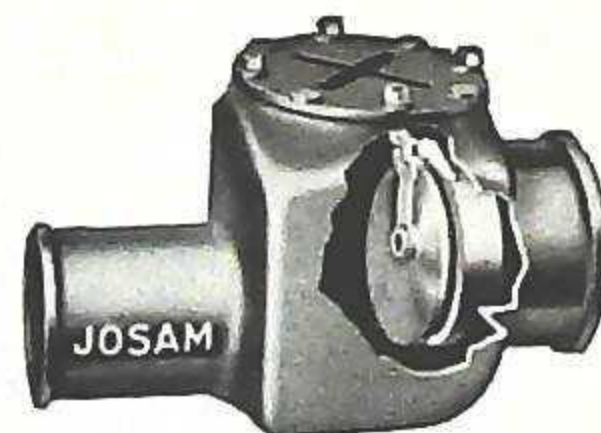
Series No. 1000  
screwed into drain outlet  
Page No. 93

**BACKWATER SEWER VALVE**

Conforms to Par. 79

**SPECIFICATION**

Josam Series No. 1170-T, cast iron backwater valve with bell inlet, spigot outlet, bronze top hung, vertical swing revolving flap, bronze valve seat and cast iron bolted (or threaded brass) access cover.



Series No. 1170-T  
Page No. 90

**WALL HYDRANTS**

Conforms to Par. 131

**SPECIFICATION**

Josam Series No. 1400-BB, cast brass non-freeze wall hydrant with straight nozzle, 3/4" hose connection, key handle, polished face, brass wall cast and brass locknut. (Casing furnished when specified.)



Series No. 1400-BB  
Page No. 15

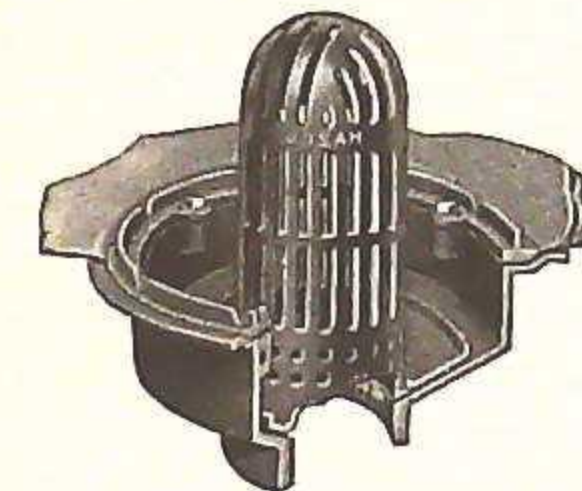
**ROOF DRAINS AND ROOF ACCESSORIES**

**Roof Drains**

Conforms to Par. 84 & 86

**SPECIFICATION**

Josam Series No. 460, cast iron roof drain with 12" minimum dia. flange, removable combined high dome and sediment cup, bolted flashing clamp device integral with gravel stop threaded bottom outlet.

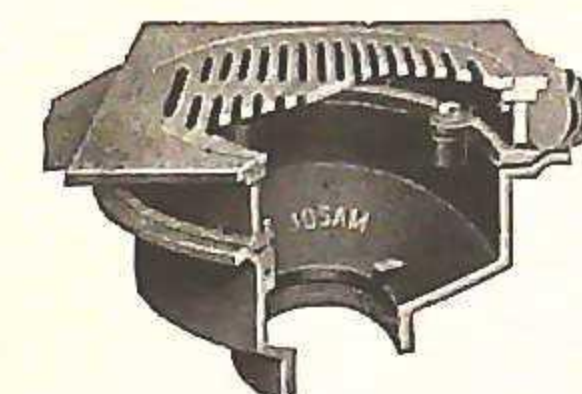


Series No. 460  
Page No. 144

**Promenade Roofs**

**SPECIFICATION**

Josam Series No. 4060, cast iron promenade roof drain with large sump, removable loose-set, round, flat grate in square frame secured to non-puncturing flashing clamp collar, threaded bottom outlet.



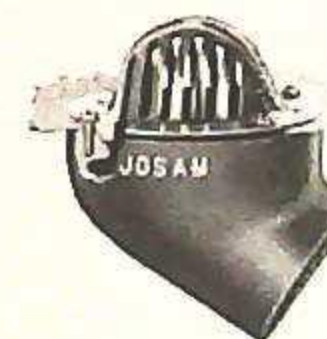
Series No. 4060  
Page No. 145

**Gutter and Cornice Drains**

Conforms to Par. 88 & 89

**SPECIFICATION**

Josam Series No. 4860-B, cast iron drain with brass dome and clamping ring secured by screws, threaded 45° outlet. (With high dome, Josam Series No. 4860-BP. With side outlet, Josam Series No. 4870-B.)



Series No. 4860-B  
Page No. 152

**EMERGENCY TYPE CONSTRUCTION**

Office, Chief of Engineers  
Washington, D. C.

Conforms to Federal Specifications WW-P-541a)  
Item P-13, Barber Lavatory Hair Interceptor



Series No. H-10  
Page No. 104

**Expansion Joints for Downspouts**

Conforms to Par. 91

**SPECIFICATION**

Josam Series No. 1810, cast iron expansion joint with brass sleeve, bolted packing gland, male threaded inlet and female threaded (or spigot) outlet.



Series No. 1810  
Page No. 156

**Vent Pipe Flashing**

Conforms to Par. 93 & 94(B)

**SPECIFICATION**

Josam Series No. 1830, cast iron recessed flashing fitting with double tapped threads designed to secure flashing on vent stacks and other pipe above roof.



Series No. 1830  
Page No. 156

**Downspout Discharges**

Conforms to Par. 92

**SPECIFICATION**

Josam Series No. 4980-BB, cast brass downspout nozzle with wall flange, threaded for pipe connection into drainage elbow.



Series No. 4980-BB  
Page No. 153

**MILITARY SPECIFICATION**

Mil - D - 3156

Dated 20 March 1950

**Drains**

**SPECIFICATION**

Josam Series No. MIL-D-3156, cast iron drain, for use in temporary overseas construction, in the type of buildings outlined in War Department Technical Manual TM-5-280, Construction in the Theatre of Operations.

**DETAILS ON APPLICATION**

FOR MIL-T-18361 (DOCKS) GREASE INTERCEPTORS SEE PAGE 193

**FLOOR DRAINS**

**TYPE "A"  
Area Drains**



Series No. V-110-X  
Page No. 76

**SPECIFICATION**  
Josam Series No. V-110-X, cast iron area drain with 9" x 9" square top, perforated round hinged grate and 3" inside caulk bottom outlet.

**SPECIFICATION**  
Josam Series No. V-140, same as above except with spigot side outlet. (Page No. 76).

**TYPE "B"**



Series No. 510, 520  
Page No. 36

**SPECIFICATION**  
Josam Series No. 510 (or 520), cast iron floor drain with double drainage flange and weepholes, anti-tilting grate, and threaded (or caulk) outlet, as follows:  
Series No. 510 — 2" or 3" outlet with 8" dia. grate.  
Series No. 520 — 4" outlet with 11" dia. grate.  
(Flashing clamp device furnished when specified.)

**TYPE "C"**



Series No. 300  
Page No. 26

**SPECIFICATION**  
Josam Series No. 300, cast iron floor (or shower stall) drain with double drainage flange and weepholes, adjustable polished (or chrome plated) brass strainer, threaded (or caulk) outlet, as follows:  
2" outlet with 6" dia. strainer  
3" outlet with 8" dia. strainer  
4" outlet with 10" dia. strainer  
(Flashing clamp device furnished when specified.)

**TYPE "E"  
Boiler House Drains**



Series No. 5440  
Page No. 60

**SPECIFICATION**  
Josam Series No. 5440, cast iron Non-Clog Triple Drainage floor drain with 12 1/2" dia. top, heavy anti-tilting grate, removable sediment bucket, 3" deep with grip for easy removal, threaded bottom outlet.

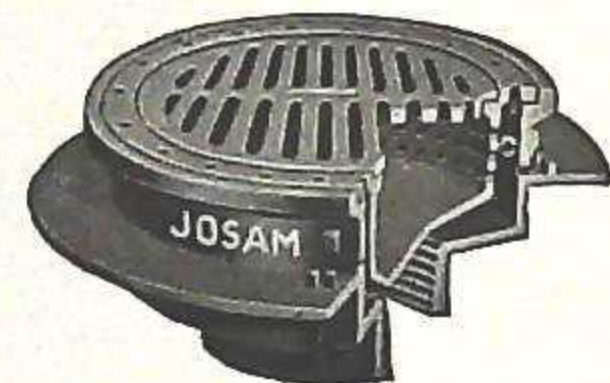
**TYPE "F"  
Laundry Trench Drains**



Series No. 530-CS  
Page No. 37

**SPECIFICATION**  
Josam Series No. 530-CS, heavy cast iron floor drain with double drainage flange and weepholes, 10" dia. heavy anti-tilting grate, supplementary strainer, flashing clamp device and threaded bottom outlet.

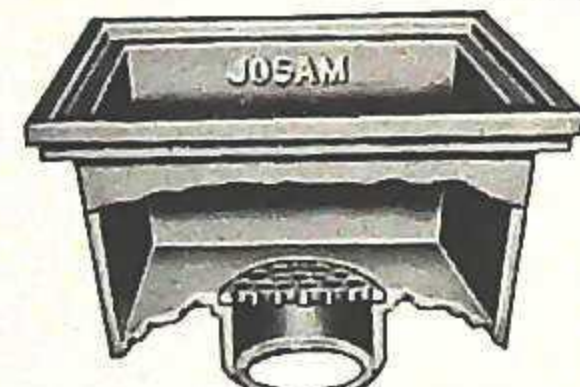
**TYPE "G"  
Main Kitchen at Kettles**



Series No. 5420-BH  
Page No. 60

**SPECIFICATION**  
Josam Series No. 5420-BH, cast iron Non-Clog Triple Drainage floor drain with removable sediment bucket with grips for easy handling, 9" dia. chrome plated brass top and grate, and threaded bottom outlet.  
Grate cannot be returned to proper position unless the sediment bucket has been set in place in drain body.

**TYPE "H"**



Series No. V-50  
Page No. 79

**SPECIFICATION**  
Josam Series No. V-50, cast iron square cesspool with inside caulk bottom outlet and removable internal strainer, as follows:  
3" outlet with 12" x 12" top.  
4" outlet with 16" x 16" top.

**TYPE "I"**



Series No. 0520-BHC  
Page No. 58

**SPECIFICATION**  
Josam Series No. 0520-BHC, cast iron rectangular drain with double drainage flange and weepholes, flashing clamp device, 6" x 24" polished chrome plated brass top frame and grate, and threaded bottom outlet. (With 6" x 32" top, Josam Series No. 0530-BHC.)

**TYPE "K"  
Seclusion Room Drains**

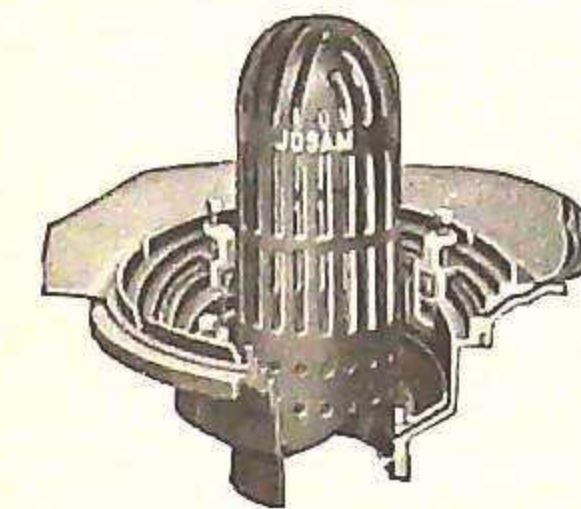


Series No. 3710-BH  
Page No. 59

**SPECIFICATION**  
Josam Series No. 3710-BH, cast iron, Leveleze, key-locked floor drain with double drainage flange and weepholes, threaded bottom outlet, adjustable collar with rolled thread, round, polished chrome plated brass rim and solid hinged top with locking mechanism attached underneath, and with cast iron internal perforated strainer with lifting lug.

**ROOF DRAINS**

**Flat Roofs**

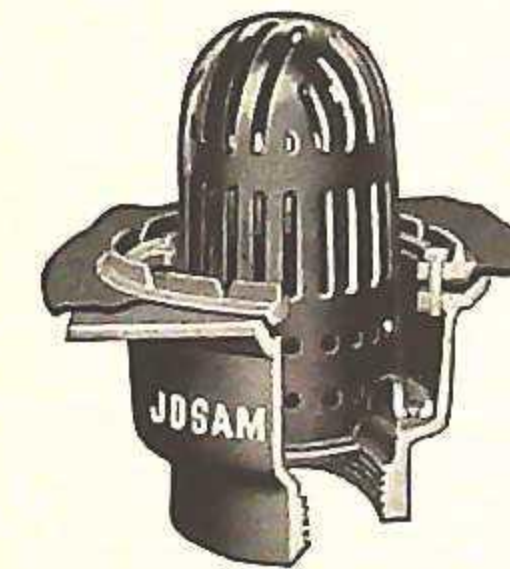


Series No. 410  
Page No. 128

**SPECIFICATION**  
Josam Series No. 410, cast iron roof drain with 16" minimum dia. flange, removable high dome strainer and sediment cup and non-puncturing flashing clamp device with integral gravel stop, threaded bottom outlet.

(With integral expansion joint, Josam Series No. 4210. With extra large dome, Josam Series No. 4110).

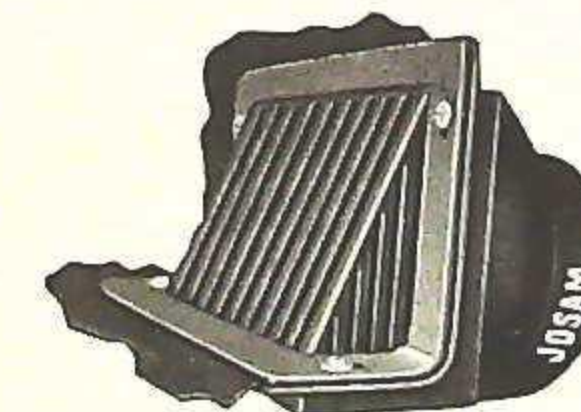
**Metal Canopy Roofs**



Series No. 440  
Page No. 146

**SPECIFICATION**  
Josam Series No. 440, cast iron roof drain with small sump and 8" square flange, removable combined high dome strainer and sediment cup, flashing clamp ring integral with gravel stop, and threaded bottom outlet.

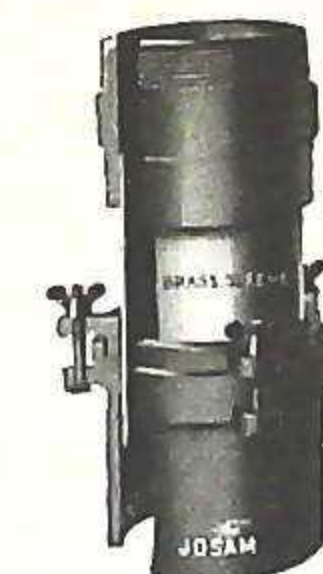
**Gutters and Porticos**



Series No. 4950-B  
Page No. 154

**SPECIFICATION**  
Josam Series No. 4950-B, cast iron parapet type drain with flashing flange, side outlet, removable sloping brass grate and bolted cast iron flashing clamp device.

**Expansion Joints**



Series No. 1810  
Page No. 156

**SPECIFICATION**  
Josam Series No. 1810, cast iron expansion joint with brass sleeve, bolted packing gland, threaded inlet and threaded (or spigot) outlet.

**WALL HYDRANTS**

**SPECIFICATION**



Series No. 1400-BB  
Page No. 115

Josam Series No. 1400-BB, cast brass non-freeze wall hydrant with straight nozzle, 3/4" hose connection, key handle, polished face, brass wall casing and brass locknut. (Galvanized casing furnished when specified.)

**BACKWATER VALVES**

**SPECIFICATION**



Series No. 1180-T  
Page No. 90

Josam Series No. 1180-T, cast iron sewer backwater valve with bell inlet, spigot outlet, bronze top hung vertical swing revolving flap, bronze valve seat and bronze threaded access cover.

**PLASTER TRAP**



Series No. H-40  
Page No. 105

On Plaster Sink (P-19) and where indicated on drawings.

**HAIR INTERCEPTOR**

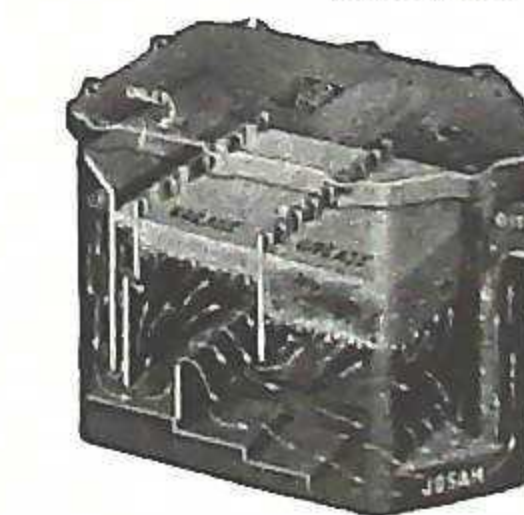
On Barbers' Lavatories and beauty cases with cut-out lavatories in lieu of traps.



Series No. H-10-H  
Page No. 104

**SPECIFICATION**  
Josam Series No. H-10-H, chrome plated brass hair interceptor with top slip joint inlet, threaded side outlet, screwed gasketed watertight cover and removable perforated cylindrical screen, for installation on sink or lavatory roughing. (With swing elbow outlet, Josam Series H-20-H).

**GREASE INTERCEPTOR**



Series JA  
Page No. 100

To receive waste from kitchens.  
Josam Series JA, JLA or JX —  
See Page 100.



# U. S. GOVERNMENT SPECIFICATIONS

**SPECIFICATIONS FOR CONSTRUCTION AND COMPLETION OF STANDARD SWIMMING POOLS AND BATH HOUSES**  
Corps of the Army, Dept. of Engineers  
Spec. No. 14-27-05-48-CE and 31-10-05-48-CE and Amendment No. 1 dated May, 1948

## CAST IRON GRATING AND FRAME FOR POOL DRAIN

Conforms to Par. 6-17 and Par. 24-18

### SPECIFICATION

Josam Series No. 0200, cast iron rectangular, standard bar pattern trench grate, 12"x20", laid (in short or long dimension) in steel frame with concrete anchors.



Series No. 0200  
Page No. 84

## HAIR AND LINT CATCHER

Conforms to Par. 23-10c

### SPECIFICATION

Josam Series No. H-50, cast iron sediment and hair interceptor with side inlet and outlet, bolted removable gasketed watertight cover, bottom drain and removable bronze basket screen, for installation on pipe standard. (No. H-60, with flanged ends).



Series No. H-50  
Page No. 106

## DRAINS

### Bath House Floor and Shower

Conforms to Par. 24-17

### SPECIFICATION

Josam Series No. 300, cast iron floor (or shower stall) drain with double drainage flange, weepholes, adjustable polished (or chrome plated) brass strainer, threaded (or caulk) outlet as follows:

2" outlet with 6" dia. strainer  
3" outlet with 8" dia. strainer  
4" outlet with 10" dia. strainer  
(Flashing clamp device furnished when specified).



Series No. 300  
Page No. 26

### Filter Room

Conforms to Par. 24-17b

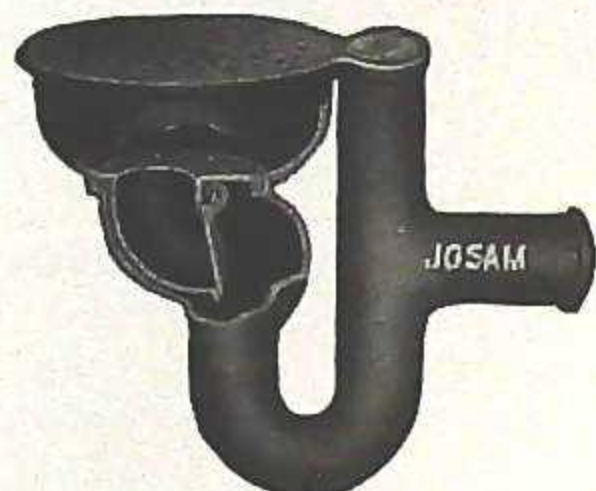
### SPECIFICATION

Josam Series No. 670-TVGG, with cast iron galvanized coated, deep pattern floor drain with round top, deep set tractor grate, deep seal "P" trap with copper ball float backwater valve in brass wire cage.



Series No. 670-TVGG  
(No. 670-GG Drain with No. 1930-VGG Trap)  
Page Nos. 42 and 116

### Chlorine Room Conforms to Par. 24-17c



Series No. 840-VGG  
Page No. 44

### SPECIFICATION

Josam Series No. 840-VGG, cast iron galvanized coated, combined floor drain and integral deep seal trap, spigot side outlet, round top, loose set grate, brass cleanout flush with floor, and brass top hung backwater valve.

### Area Drains Conforms to Par. 24-17d



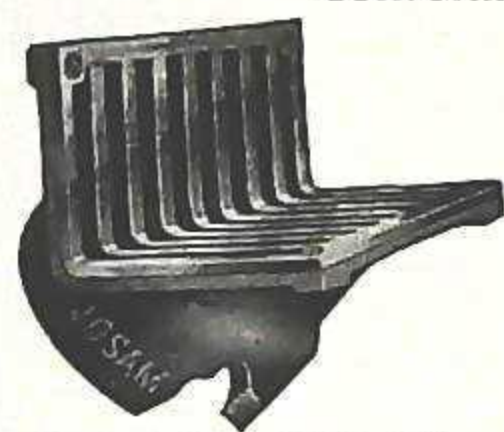
Series No. 510, 520  
Page No. 36

### SPECIFICATION

Josam Series No. 510 (or 520), cast iron floor drain with double drainage flange, weepholes, anti-tilting grate, and threaded (or caulk) outlet, as follows:

Josam Series No. 510 — 2" or 3" outlet with 8" dia. grate.  
Josam Series No. 520 — 4" outlet with 11" dia. grate.  
(Flashing clamp device furnished when specified).

### Scum Gutter Drains Conforms to Par. 24-17e



Series No. 0660-BH  
Page No. 172

### SPECIFICATION

Josam Series No. 0660-BH, cast iron scum gutter angle drain with 45°, 2" threaded outlet, and removable 2" x 5 1/4" brass chrome plated angle strainer.

### Pool Inlets Conforms to Par. 24-19



Series No. 0710-B  
Page No. 164

### SPECIFICATION

Josam Series No. 0710-B, cast iron swimming pool fitting with anchor flange and brass adjustable square head with flow regulating brass strainer.

### WALL HYDRANTS Conforms to Par. 24-24



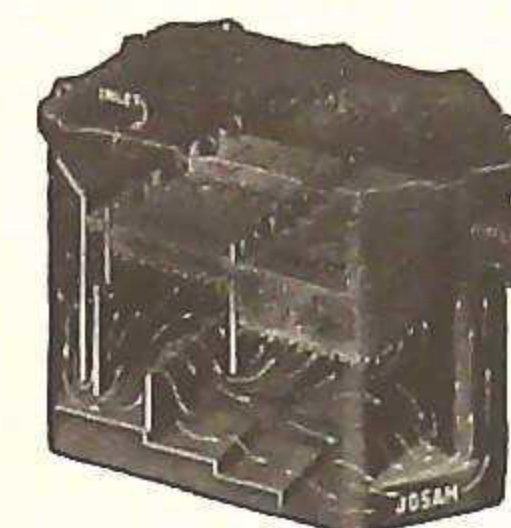
Series No. 1400-BB  
Page No. 116

### SPECIFICATION

Josam Series No. 1400-BB, cast brass non-freeze wall hydrant with straight nozzle, 3/4" hose connection, key handle polished face, brass w/casing and brass locknut. (Galvanized casing furnished when specified.)

## grease, plaster, sediment and hair interceptors

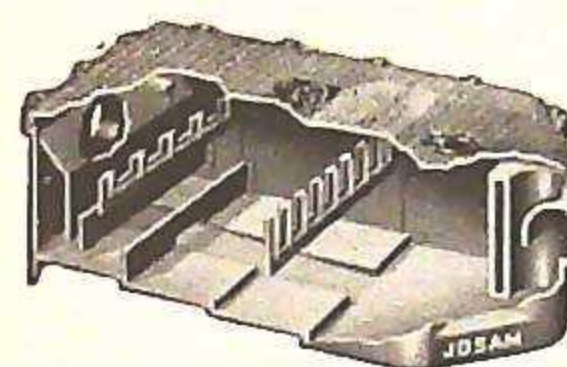
### SERIES JA STANDARD TYPE



Series "JA", Josam Grease Interceptor — for installation on floor, partially recessed in floor, or fully recessed with cover flush at floor, with shallow roughing.

See Page No. 100

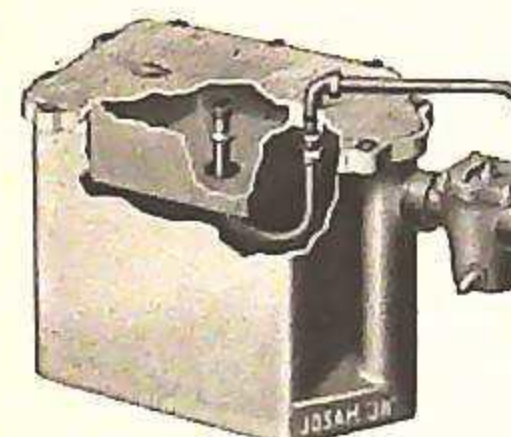
### SERIES JLA LOWBOY TYPE



Series "JLA" permits installation on floor next to dishwashing machine or other low outlet fixtures without trapping the inlet or holding water in basin of dishwasher.

See Page No. 100

### SERIES JH GREASE INTERCEPTOR



With Automatic Grease Draw-Off Feature.

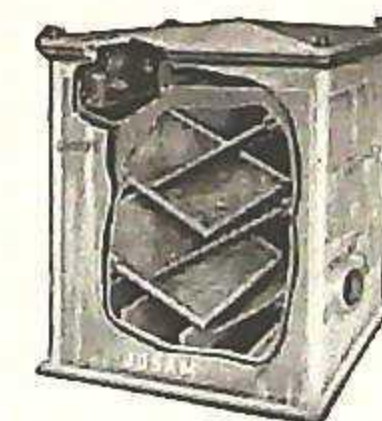
See Pages 96-98

MILITARY SPECIFICATION MIL-T-18361 (Docks) Josam Grease Interceptors shown above, Series JA, JH, JLA and JX conform to the above specification and must be furnished in all cast iron with porcelain enamel inside.

Here is the grease interceptor the industry has long awaited — a grease interceptor that AUTOMATICALLY discharges the grease AT THE TURN OF A VALVE, eliminating the inconvenience of removing the cover of the interceptor and cleaning out the grease by hand. No mess, no odor — grease flows out of draw-off nozzle.

## SEDIMENT AND HAIR INTERCEPTORS

### Plaster Sink Interceptor



Series H-40  
Page No. 105

Conforms to Veterans Administration Hospital Base Specifications

### Plaster Trap

On Plaster Sink (P-19) and where indicated on drawings.

Conforms to Par. 38e  
GUIDE SPECIFICATIONS FOR  
WAR DEPT. CONSTRUCTION  
Plumbing, Hospital  
Corps of Engineers  
CE 300.02 (INT)  
7 April 47

### SPECIFICATION

Josam Series H-40, cast iron sediment interceptor with side inlet, side outlet with hood seal, bolted removable, gasketed watertight cover, removable heavy galvanized basket with lift bars, cast iron removable inlet baffle, removable bronze screens and cleanout at bottom.

### Hair and Lint Catcher



Series H-70  
Page No. 106

Conforms to Par. 23-10c

SPECIFICATIONS FOR THE  
CONSTRUCTION AND COMPLETION  
OF STANDARD SWIMMING POOLS  
AND BATH HOUSES

Dept. of the Army—Corps. of Engineers  
Specifications No. 14-27-05-48-CE  
Specifications No. 31-10-05-48-CE  
and Amendment No. 1 dated May, 1948

### SPECIFICATION

Josam Series No. H-70, cast iron sediment and hair interceptor with threaded side inlet and outlet, bolted, removable gasketed watertight cover, bottom drain and blow-off and removable bronze basket screen.

# U. S. GOVERNMENT SPECIFICATIONS

## JOSAM CASCADE GREASE INTERCEPTORS

Conforming to  
VETERANS ADMINISTRATION HOSPITAL BASE SPECIFICATIONS  
MILITARY SPECIFICATION MIL-T-18361 (DOCKS) —  
PAR. 26 — GUIDE SPECIFICATIONS FOR WAR DEPT. CONSTRUCTION  
Plumbing, Hospital — Corps. of Engineers  
CE — 300.02 (INT) 7 April 47  
TO RECEIVE WASTE FROM KITCHENS

### DESIGN AND FEATURES

#### SERIES JA, JLA, JX

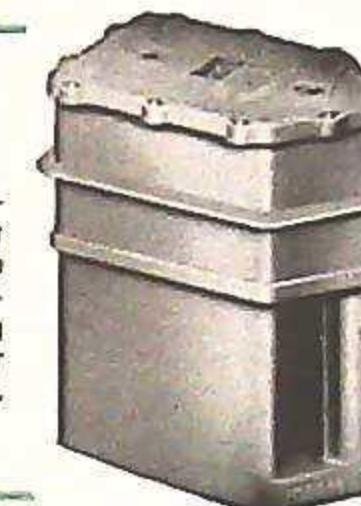
CONSTRUCTION: Interceptor body is made of heavy cast iron lacquered inside and outside, with cast iron removable baffles, gasketed flush cover with lift handles, cascade bottom with solids, evacuating channel, internal air relief, visible double wall deep seal code trap, female threaded connections for shallow roughing and with flow control fitting.

CASCADE DESIGN: An exclusive feature of all Josam Grease Interceptors is the cascade design based on the principle of the waterfall. Grease is separated from the waste water regardless of waste water temperature. Solids and sediment are evacuated through the evacuating channel, reducing the possibility of decomposition which causes foul odors.

INTERNAL AIR RELIEF: This feature on all Josam Grease Interceptors eliminates the need for a vent from the intercepting chamber. Its function is to relieve the entrained air to the sewer and sewer vents, thereby preventing the possibility of syphonic action.

FLOW CONTROL: A Josam Flow Control Fitting is included with all Josam Grease Interceptors at no extra cost.

NO COLD WATER CONNECTIONS REQUIRED



### SERIES JX EXTENSION TYPE

Series "JX" is identical in design to Series "JA" except with steel extension and flashing flange, with deep roughing, for recessed installation.

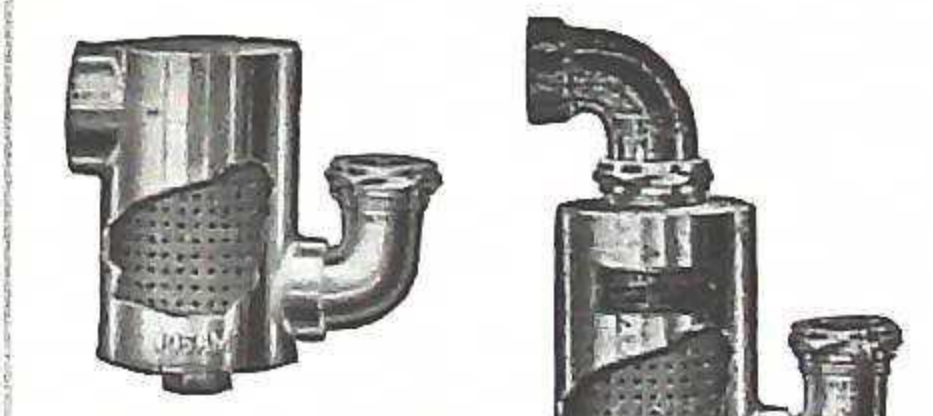
See Page No. 100

Type	Flow Rate G.P.M.	Grease Cap. Lbs.	Inlet and Outlet	Weight Lbs.
J-00A	4	8	2"	50
J-0A	7	14	2"	75
J-1A	10	20	2"	105
J-2A	15	30	2"	152
J-3A	20	40	3"	200
J-4A	25	50	3"	230
J-5A	35	70	3"	300
J-6A	50	100	3"	395
JL-3A	20	40	2"	245
JL-5A	35	70	3"	450
JX-2	15	30	2"	152
JX-3	20	40	3"	200
JX-4	25	50	3"	230
JX-5	35	70	3"	300
JX-6	50	100	3"	395

\* On JX Series, weight is less extension

### Barber Lavatory Hair Interceptor

On Barbers' Lavatories and beauty cases with cut-out lavatories in lieu of "P" traps.



Series H-10-H  
Page No. 104  
Series H-20-H  
Page No. 104

Conforms to  
EMERGENCY TYPE CONSTRUCTION  
Office, Chief of Engineers  
Washington, D. C.

### Item P-13

### SPECIFICATION

Josam Series No. H-10-H, chrome plated brass hair interceptor with top slip joint inlet, threaded side outlet, screwed gasketed watertight cover and removable perforated cylindrical screen, for installation on sink or lavatory roughing. (With swing elbow outlet, Josam Series H-20-H).

The Josam Shipbuilding Products illustrated below have the general acceptance by leading Marine Engineers and Superintendents, Naval Architects, U.S. Maritime Commission, U.S. Transportation Division, U.S. Coast Guard and the American Bureau of Shipbuilding. Special

adaptations of all standard products are available in cast iron, steel, Everdur, bronze, malleable iron, Nikaloy, etc. Complete details for roughing-in and installation purposes, furnished on request. Write for Manual MP.

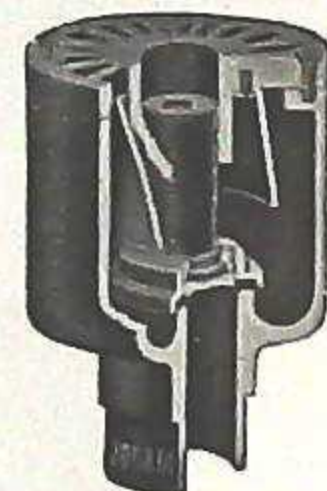
**DECK DRAINS**



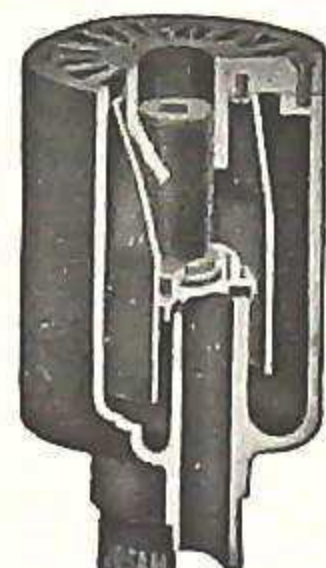
U. S. Navy Type "C"  
Series M-10



Series M-30  
Medium Duty  
Series M-20  
Heavy Duty



U. S. Navy Type "B"  
Series M-40



U. S. Navy Type "A"  
Series M-50



Series M-70



Series MG5-100



Series MG5-130



Series M-160



Series M-510



Series M-520,  
M-530, M-540, M-550



Series M-600



Series M-750

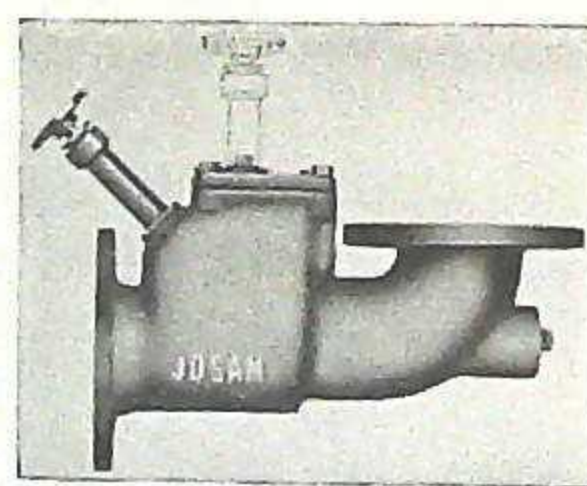
**SCUPPER VALVES**



Series M-4200  
With Flanged Outlet



Series M-4250  
With Spigot Outlet



Series M-6200



Series M-6000

**VENT TERMINAL**



Series M-45C

**DECK PLATES**



Series M-1800



Series M-1900

**MACOMB STRAINERS**



Series M-2600

**INVERTED VENT CHECK VALVES**



Series M-400-AC

*index*

**STATE OF NEW YORK**  
**Department Of Public Works — Division Of Construction**

3-12-51-3000 (1 OMO-128) SANITARY

**STANDARD SPECIFICATION SECTION 29 — ROUGHING**

The Josam Products illustrated on the following pages, meet the requirements of New York State Standard Specifications. The information listed can be used as a ready reference guide by Architects, Engineers, Plumbing Supply Wholesalers, Plumbing Contractors, New York State Agencies and others responsible for the efficient operation of plumbing drainage products for New York State construction.

throughout this catalog, meet the requirements, and have been used extensively on New York State construction.

In addition to the products listed in this section, hundreds of other Josam plumbing drainage products illustrated

For quick reference, Josam Products are listed under the Article Number and Paragraph Number with which they comply, in accordance with New York State specifications. For complete information and details on each product, refer to the page number indicated under each illustration.

ITEM	ARTICLE NO.	PAR. NO.	JOSAM SERIES NO.	PAGE NO. THIS SECTION
AREA DRAINS	2921	128	100-NY	195
		128	100-NYL	195
CLEANOUTS	2918	111	Y-30	198
		111	Y-40	198
		112	Y-70	198
			Y-710-NY	198
CLEANOUTS (LEVELEZE)				
EXPANSION JOINT	2908	50	1810	197
FRESH AIR INLET	2915	101	1860-BB	198
FLOOR AND SHOWER DRAINS	2920	122 to 127		
		122 to 125	310-NY	196
		126	3740-NY	196
		127	330-NY	196
GREASE INTERCEPTORS	2916	102 to 105	JA and JLA	199
ROOF DRAINS	2922	129, 130, 132	4610-NY	197
		131	4620-NY	197

*area drains*

**SERIES NO. 100-NY  
SPECIFICATION**

Josam Series No. 100-NY, cast iron galvanized area drain with round top, round flat grate secured to body by four 1/4" F.H. screws, and " female threaded bottom outlet.

**SERIES NO. 100-NYL  
SPECIFICATION**

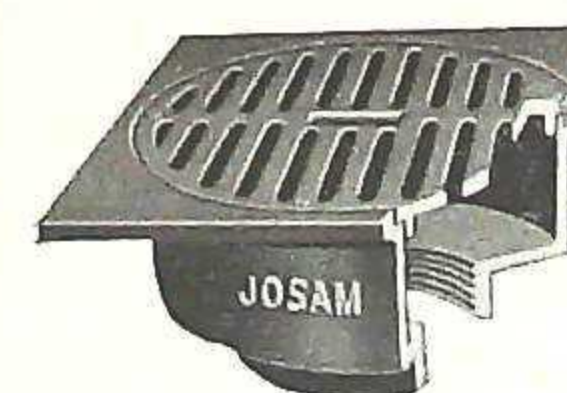
Josam Series No. 100-NYL, cast iron galvanized area drain with square top, round flat grate secured to body by four 1/4" F.H. screws, and " female threaded bottom outlet.

**DIMENSIONS IN INCHES**

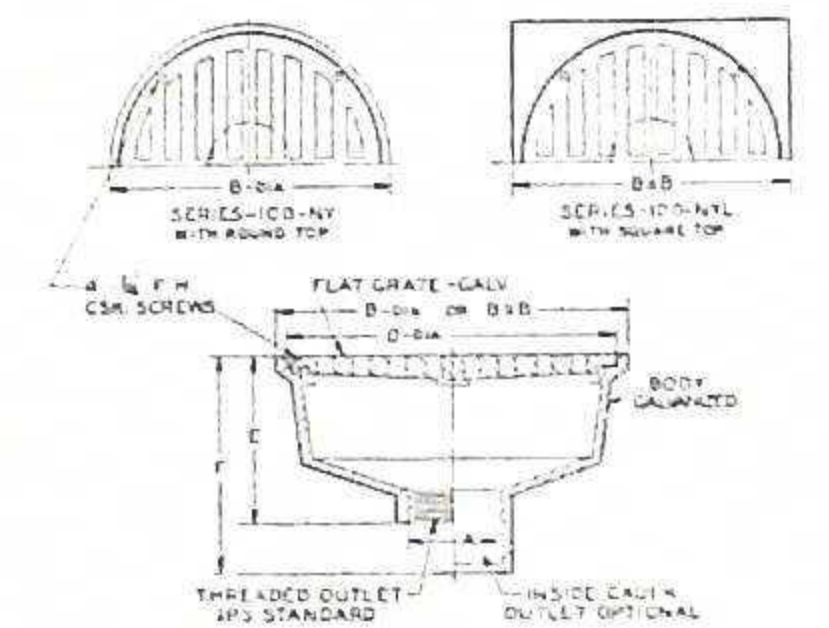
SERIES NO.	TYPE NO.	OUT-LET A	TOP			WGT. LBS.		
			B	D	FREE AREA SQ. IN.			
100-NY	102-NY	2	9	8	18.5	3 3/8	5 3/4	15
	103-NY	3	9	8	18.5	4	5 3/4	15
	104-NY	4	9	8	18.5	4 1/8	5 3/4	15
100-NYL	102-NYL	2	9x9	8	18.5	3 3/8	5 3/4	17
	103-NYL	3	9x9	8	18.5	4	5 3/4	17
	104-NYL	4	9x9	8	18.5	4 1/8	5 3/4	17



Series No. 100-NY  
See Page No. 74



Series No. 100-NYL  
See Page No. 74



Series No. 100-NY and 100-NYL

**Hy-Tech Products**



PRODUCTS COMPLYING WITH N. Y. STATE SPECIFICATIONS

floor and shower drains

FLOOR AND SHOWER DRAINS

TYPE "A"

SERIES NO. 310-NY

SPECIFICATION

Josam Series No. 310-NY, cast iron galvanized drain with double drainage flange, weepholes, 1 1/2" female threaded bottom outlet and 7" chrome plated brass adjustable strainer. Optional: Bolted galvanized malleable iron flashing clamp device, at extra cost.

TYPE "B"

SERIES NO. 3740-NY

SPECIFICATION

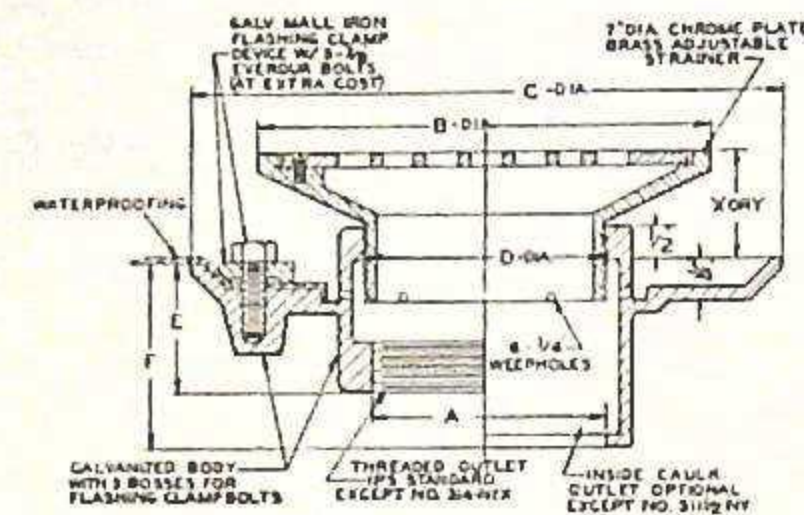
Josam Series No. 3740-NY, cast iron galvanized, Levelze Non-clog triple drainage floor drain with double drainage flange, weepholes, 1 1/2" threaded bottom outlet, round adjustable top with rolled thread, round grate, perforated sediment bucket with auxiliary drainage rim so designed that grate cannot be set in place unless bucket is in position. Optional: With separate galvanized cast iron deep seal "P" trap at extra cost, Josam Series No. 3740-NYT. Bolted galvanized malleable iron flashing clamp device, at extra cost.

TYPE "C"

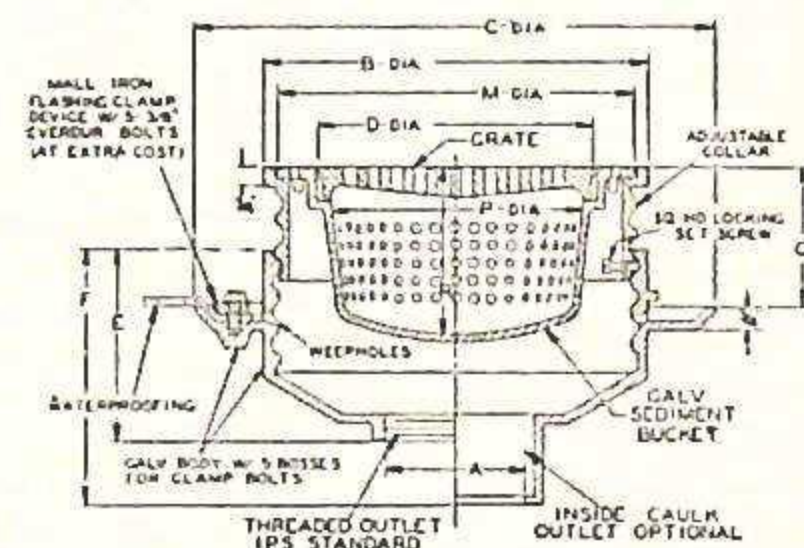
SERIES NO. 330-NY

SPECIFICATION

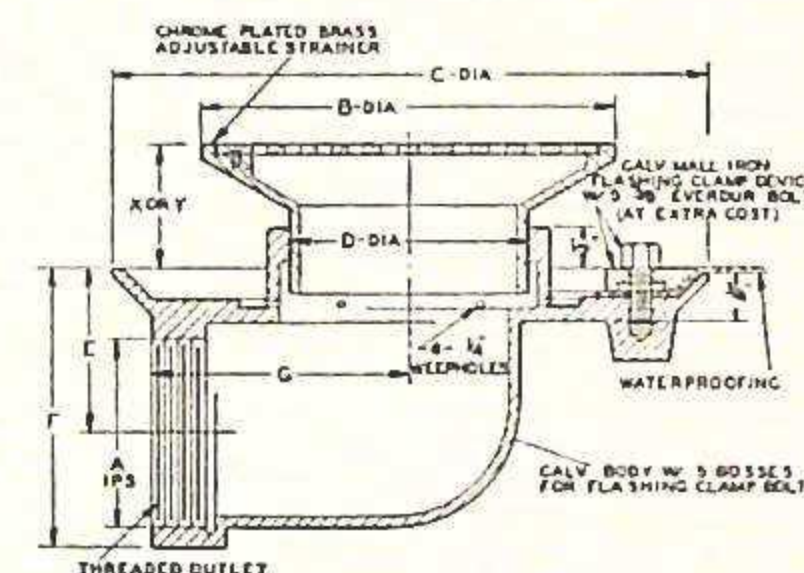
Josam Series No. 330-NY, cast iron galvanized drain with double drainage flange, weepholes, 1 1/2" female threaded side outlet and chrome plated brass adjustable strainer. Optional: Bolted galvanized malleable iron flashing clamp device, at extra cost.



Series No. 310-NY



Series No. 3740-NY



Series No. 330-NY



Series No. 310-NY

See Page No. 27



Series No. 3740-NY

See Page No. 69



Series No. 330-NY

Details on Request

DIMENSIONS IN INCHES

SERIES NO.	TYPE NO.	OUT-LET A	STRAINER			C	D	E	F	G	STRAINER ADJUSTMENT		WGT. LBS.
			NO.	B	FREE AREA SQ. IN.						X MIN.	Y	
310-NY	311 1/2-NY	1 1/2	37A2H	7	13.1	9 1/4	3 3/4	1 7/8			1 3/4	3 1/2	13
	312-NY	2	37A2H	7	13.1	9 1/4	3 3/4	1 7/8	3 1/2		1 3/4	3 1/2	14
	313-NY	3	37A2H	7	13.1	9 1/4	3 3/4	1 7/8	3 1/2		1 3/4	3 1/2	13
	314-NY	4	37A2H	7	13.1	10 1/4	3 3/4	2			1 3/4	3 1/2	13
	314-NYX	4	37A2HV	7	13.1	11 1/4	5 1/2		4 1/8		1 3/4	3 1/2	16
330-NY	331 1/2-NY	1 1/2	34AH	4	3.0	9 1/4	3 3/4	3 1/2	4 5/8	4 1/4	1 1/8	2 1/4	15
	332-NY	2	35AH	5	5.7	9 1/4	3 3/4	3	4 3/8	4 1/4	1 3/8	2 1/4	16
	333-NY	3	37AH	7	13.1	9 1/4	3 3/4	2 1/2	4 5/8	4 1/4	2	3 1/4	18
	334-NY	4	38AH	8	18.5	9 1/4	3 3/4	3 1/8	5 3/4	5	2 1/4	2 3/4	20

SERIES NO.	TYPE NO.	OUT-LET A	TOP AND GRATE			C	E	F	M	P	R	FREE AREA SQ. IN.	WGT. LBS.
			B	D	FREE AREA SQ. IN.								
3740-NY	3743-NY	3	12 1/2	8 7/8	18.3	17	6 1/4	8 3/8	11 1/2	8	6	21.6	65
	3744-N	4	2 1/2	8 7/8	18.3		6 1/4	8 3/8	11	8	6	21.6	65
	3745-N	5	2 1/2	8 7/8	18		6 1/4	8 3/8	11	8	6	21.6	65
	3746-N	6	2 1/2	8 7/8	18		6 1/4	8 3/8	11	8	6	21.6	65

roof drains - expansion joints

PRODUCTS COMPLYING WITH N. Y. STATE SPECIFICATIONS

ROOF DRAINS

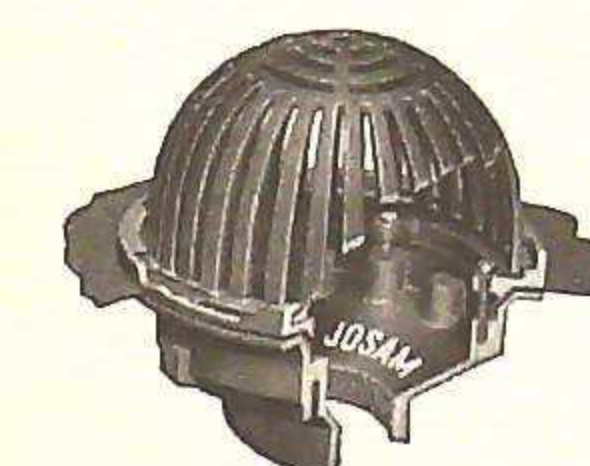
FOR BUILT-UP ROOFING

SERIES NO. 4610-NY

SPECIFICATION

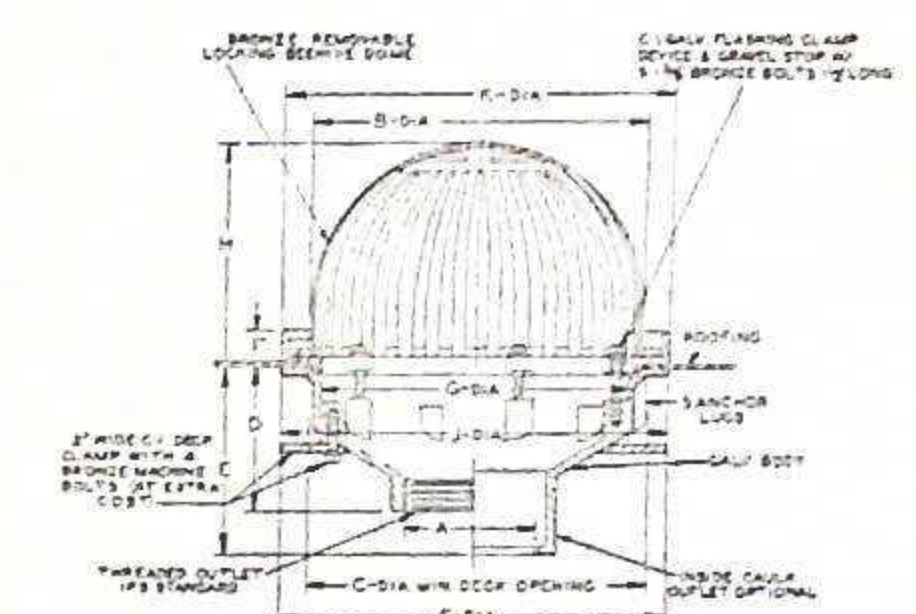
Josam Series No. 4610-NY, cast iron galvanized finish roof drain with round sump and flange, 1 1/2" bottom threaded outlet, bronze removable locking type beehive dome and cast iron bolted flashing clamp ring integral with gravel stop.

NOTE: For installation in wood, precast concrete plank or haydite construction, use same drain with cast iron deck clamp, Josam Series No. 4610-NYD.



Series No. 4610-NY

See Page No. 140



Series No. 4610-NY

PROMENADE ROOF DRAIN

SERIES NO. 4620-NY

SPECIFICATION

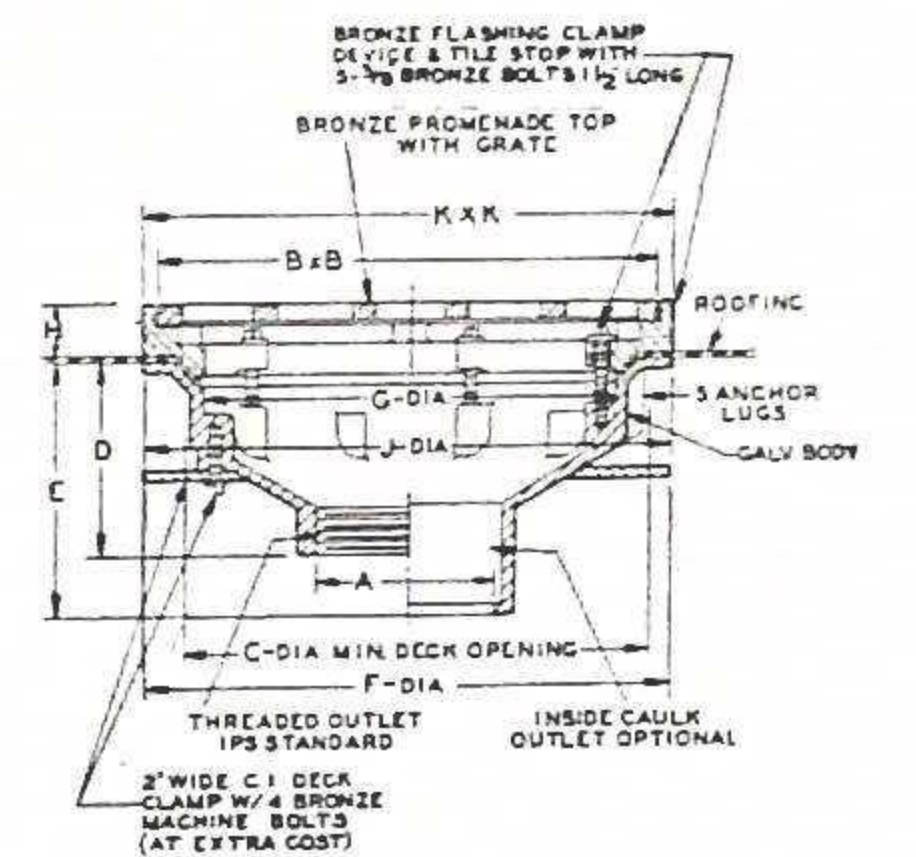
Josam Series No. 4620-NY, cast iron galvanized finish roof drain with round sump, 1 1/2" bottom threaded outlet, bronze square frame integral with flashing clamp ring and collar for 1 1/2" roof fill or finish bolted to body by five bronze clamp bolts, and bronze promenade grate screwed to collar.

NOTE: For installation in wood, precast concrete plank or haydite construction, use same drain with cast iron deck clamp, Josam Series No. 4620-NYD.



Series No. 4620-NY

See Page No. 141



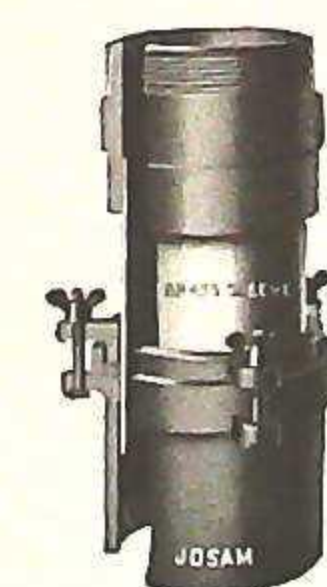
Series No. 4620-NY

EXPANSION JOINT

SERIES NO. 1810

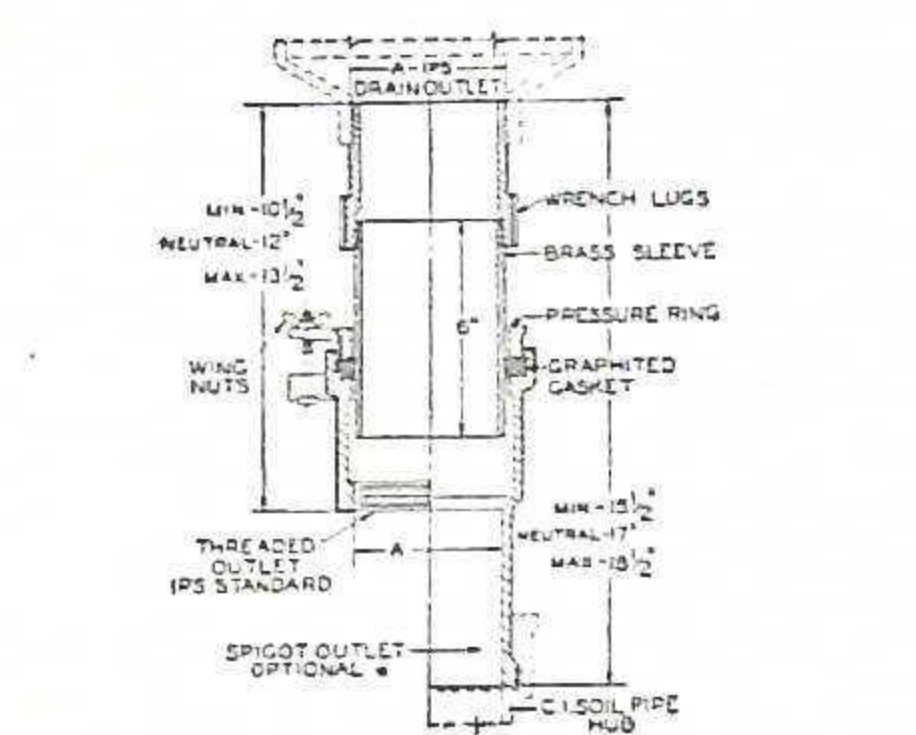
SPECIFICATION

Josam Series No. 1810, cast iron expansion joint with brass sleeve, bolted packing gland, pressure ring, 1 1/2" male threaded inlet and female threaded outlet.



Series No. 1810

See Page No. 156



Series No. 1810

DIMENSIONS IN INCHES

SERIES NO.	TYPE NO.	A	GRATE			C	D	E	F	G	H	J	K	WGT. LBS.
			FREE AREA SQ. IN.	B										
4610-NY	4612-NY	2	85.0	11 1/2	12	4 3/4	6	13	10 1/4	7 3/8	13	13	33	
	4613-NY	3	85.0	11 1/2	12	4 3/4	6	13	10 1/4	7 3/8	13	13	35	
	4614-NY	4	85.0	11 1/2	12	4 3/4	6	13	10 1/4	7 3/8	13	13	35	
	4615-NY	5	120.0	13 3/4	14	4 3/4	6	15	12 1/4	8 1/8	15	15	47	
	4616-NY	6	120.0	13 3/4	14	4 3/4	6	15	12 1/4	8 1/8	15	15	49	
4620-NY	4622-NY	2	49.0	12 1/2	12	4 3/4	6	13	10 1/4	1 1/2	13	13	39	
	4623-NY	3	49.0	12 1/2	12	4 3/4	6	13	10 1/4	1 1/2	13	13	41	
	4624-NY	4	49.0	12 1/2	12	4 3/4	6	13	10 1/4	1 1/2	13	13	41	
	4625-NY	5	56.0	14 1/2	14	4 3/4	6	15	12 1/4	1 1/2	15	15	55	
	4626-NY	6	56.0	14 1/2	14	4 3/4	6	15	12 1/4	1 1/2	15	15	57	

SERIES NO.	TYPE NO.	A IN.	WGT. LBS.
1810	1812	2	9
	1813	3	11
	1814	4	12
	1815	5	16
	1816	6	20
	1818	8	37
	1819	10	70

FOR COMPLETE INFORMATION, REFER TO PAGE NUMBER UNDER ILLUSTRATIONS

FOR COMPLETE INFORMATION, REFER TO PAGE NUMBER UNDER ILLUSTRATION

Hy-Tech Products



PRODUCTS COMPLYING WITH N. Y. STATE SPECIFICATIONS

area drains - cleanouts

CLEANOUTS

SERIES NO. Y-30 SPECIFICATION

Josam Series No. Y-30, cast brass cleanout with tapered body for caulking into soil pipe hub, threaded raised head brass plug one size smaller than soil pipe, for " connection.



Series No. Y-30 See Page (120) 5

SERIES NO. Y-40 SPECIFICATION

Same as Series No. Y-30 except with countersunk brass plug.



Series No. Y-40 See Page (120) 5

SERIES NO.	TYPE NO.	SERIES NO.	TYPE NO.	DIMENSIONS IN INCHES			WGT. LBS.
				A	B	C	
Y-30	Y-32	Y-40	Y-42	2	1 1/2	3	1 1/2
	Y-33		Y-43	3	2	3 3/8	2 1/2
	Y-34		Y-44	4	3	4	4 1/4
	Y-35		Y-45	5	4	4	6
	Y-36		Y-46	6	5	4	7 1/2

SERIES NO. Y-70 SPECIFICATION

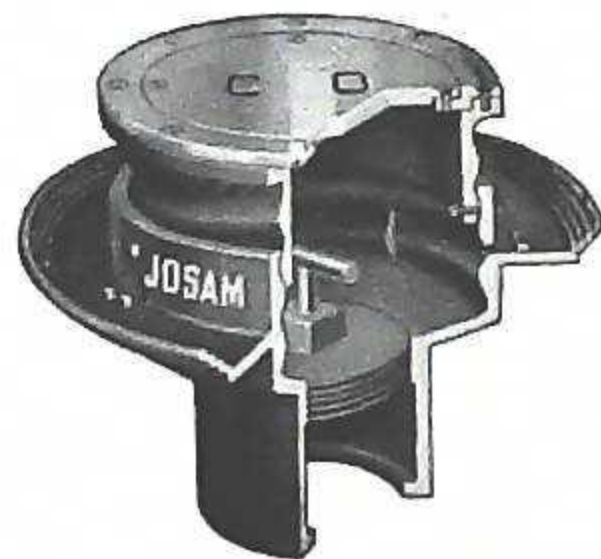
Josam Series No. Y-70, cast brass floor cleanout, round flush top with flanged ring, spanner type flanged screw plug, " threaded (or inside caulk) connection.



Series No. Y-70 See Page (120) 7

SERIES NO. Y-710-NY SPECIFICATION

Josam Series No. Y-710-NY Levelze floor cleanout, cast iron galvanized body with double drainage flange, weepholes, adjustable round top with rolled thread and cast brass frame secured to adjustable top by screws, cast brass floor plate with "C-O" cast in plate and secured to frame by screws, threaded brass "T" handle closure plug, and " inside caulk connection.



Series No. Y-710-NY See Page (120) 13

SERIES NO.	TYPE NO.	DIMENSIONS IN INCHES					WGT. LBS.
		A	B	C	D	E	
Y-70	Y-72	2	2 3/8	4	1 3/8		2
	Y-72-X	2	3 3/8	5 3/8		3 1/4	2 3/4
	Y-73	3	5 1/2	7 3/8	1 1/2	3 1/4	6
	Y-74	4	5 1/2	7 3/8	1 1/2	3 1/4	6
	Y-75	5	7 3/4	9 3/8	1 3/8	3 1/4	9
	Y-76	6	7 3/4	9 3/8	1 3/8	3 1/4	10
Y-710-NY	Y-712-NY	2	9	13 1/2	3	6 1/4	37
	Y-713-NY	3	9	13 1/2	4	6 1/4	37
	Y-714-NY	4	9	13 1/2	5	6 1/4	37

FRESH AIR INLET

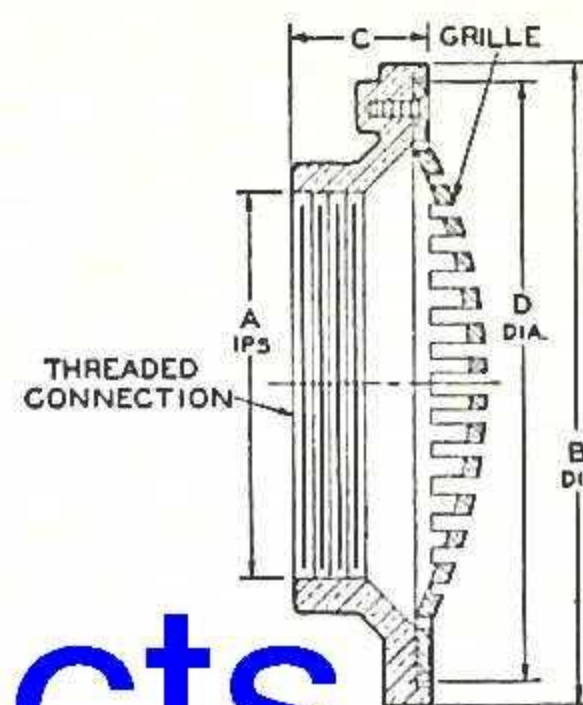
SERIES NO. 1860-BB SPECIFICATION

Josam Series No. 1860-BB, cast brass fresh air inlet, with extra heavy polished brass convex grille and " threaded connection.

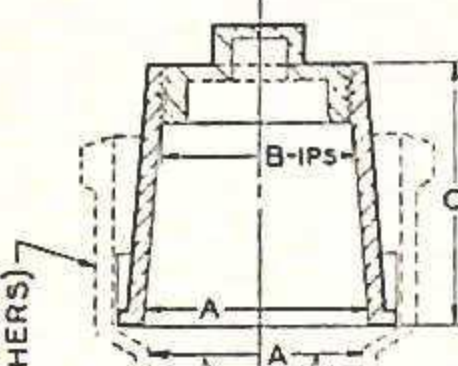


Series No. 1860-BB See Page N. 115

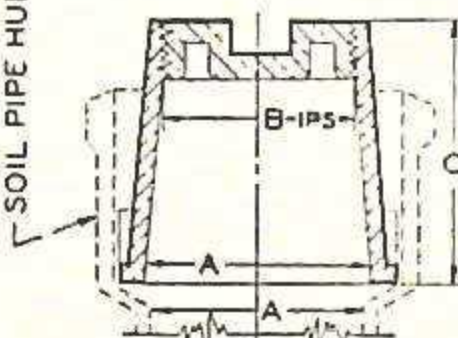
SERIES NO.	TYPE NO.	A	TOP AND GRILLE			WGT. LBS.
			B	D	FREE AREA SQ. IN.	
1860-BB	1864-BB	4	6	1 1/2	9	3
	1865-BB	5	7	1 1/2	11	4



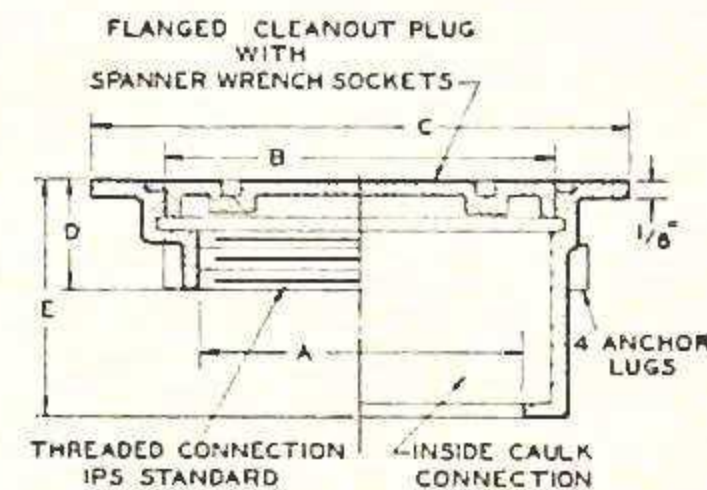
Series No. 1860-BB



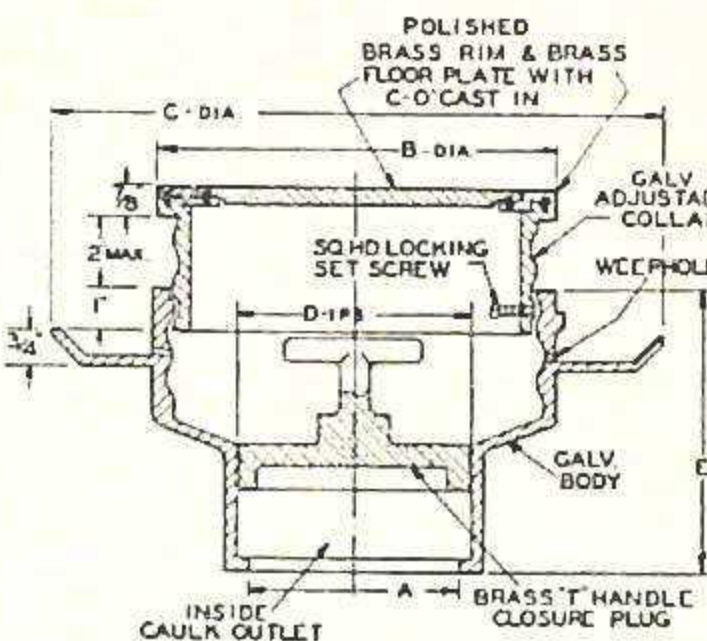
Series No. Y-30



Series No. Y-40



Series No. Y-70



Series No. Y-710-NY

grease interceptors - shock absorbers



PRODUCTS COMPLYING WITH N. Y. STATE SPECIFICATIONS

GREASE INTERCEPTORS FOR DOMESTIC AND COMMERCIAL SERVICE

APPLICATION

For installation on floor, partially recessed in floor or fully recessed with cover flush at floor, with shallow roughing.

A Josam Flow Control Fitting is included with all Josam Grease Interceptors and should be installed as directed, to prevent overloading the interceptor and to maintain a rate of at least 90% grease retention efficiency. For information on Josam Series JH Grease Interceptor with Automatic Grease Draw-off, see pages 96-99.

SERIES NO. JA SPECIFICATION

Josam Series No. JA, cast iron grease interceptor, white lacquer finish, GPM flow rate and Lbs. grease capacity, cast iron removable baffles, gasketed flush cover with lift handles, cascade bottom with solids evacuating channel, internal air relief, visible double wall deep seal code trap, " female threaded connections, cast iron flow control fitting.

SERIES NO. JLA SPECIFICATION

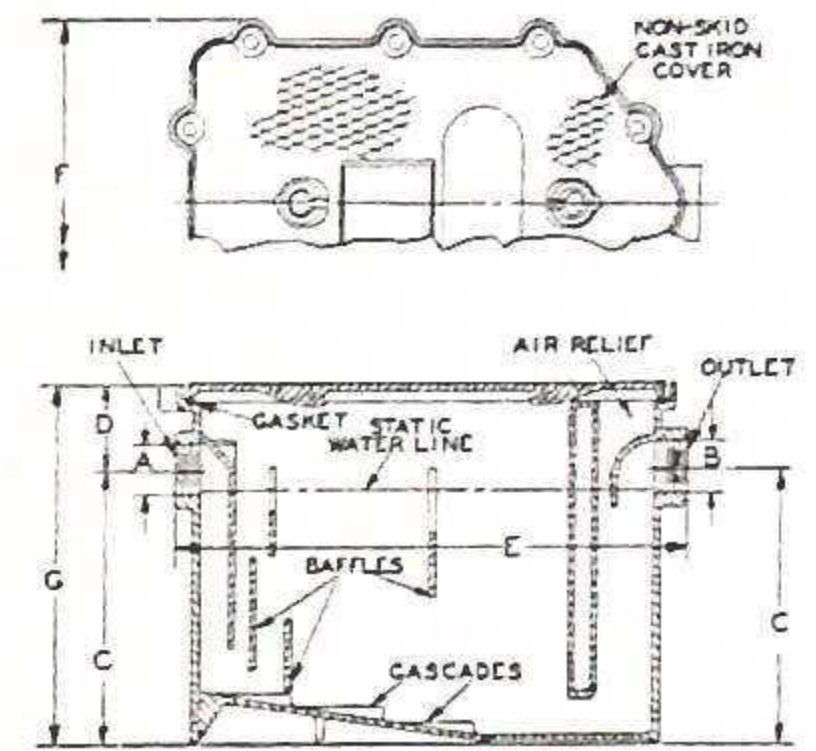
Same as Series No. JA except designed for installation next to dishwashing machine or other low outlet fixtures. Eliminates trapping waste line to the interceptor or holding water in basin of dishwasher.

JOSAM SHOCK ABSORBERS positively eliminate water hammer

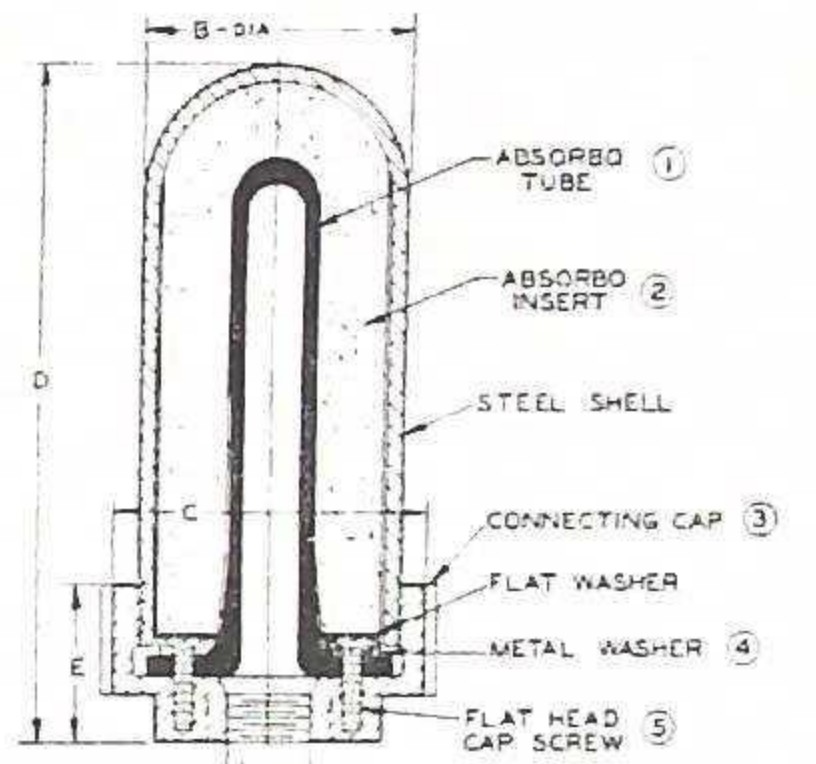
Here is a simple solution to a problem that can become serious, especially in Hospitals, Schools, Institutions, Theatres, Churches, Apartments and other structures where "QUIET" is essential and where irritating noises, destructive hammering, and breakdowns in equipment must be avoided POSITIVELY AND PERMANENTLY.

SPECIFICATION

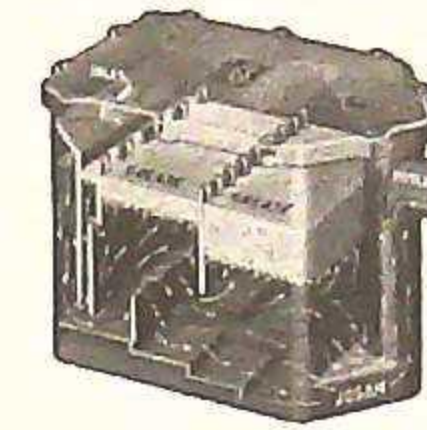
Josam Series No. 1480 Shock Absorber with steel shell housing a specially milled compression molded ABSORBO tube and insert, " threaded connection.



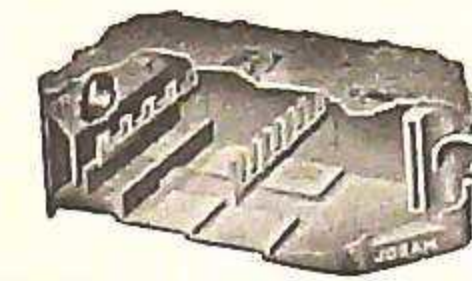
Series Nos. JA and JLA



Aluminum alloy shell on Type No. 1480-A SERIES NO. 1480



Series No. JA See Page 100



Series No. JLA See Page 100



SERIES NO. 1480 See Page No. 114

DIMENSIONS IN INCHES

SERIES NO.	TYPE NO.	± FLOW G.P.M. RATE (U.S. Gal.)	GREASE CAP. LBS.	IN-LET A	OUT-LET B	ROUGHING CENTERS		LENGTH E	WIDTH F	HEIGHT G	WGT. LBS. ♦	FLOW CONTROL Type No. *
						C	D					
JA	JA-00	4	8	2	2	7 3/8	3 3/8	15 1/8	10 3/8	10 1/2	50	1041 1/2
	JA-0	7	14	2	2	8 3/8	3 3/8	16 3/4	12	11 3/4	76	1041 1/2
	JA-1	10	20	2	2	9 1/2	3 1/2	18 7/8	13 1/2	13	104	1041 1/2
	JA-2	15	30	2	2	11 1/2	3 1/2	21 5/8	15 1/4	15	152	1062
	JA-3	20	40	3	3	13	4 3/8	24 3/4	16 7/8	17 3/8	200	1063
	JA-4	25	50	3	3	14 1/2	4	26 3/8	18	18 1/2	230	1063
JLA	JA-5	35	70	3	3	15 1/2	4 7/8	30	19 3/4	20 3/8	300	1063
	JA-6	50	100	3	3	17	6	33 3/8	22	23	395	1063
JLA	JLA-3	20	40	2	2	7	3 1/2	35 1/4	23 1/2	10 1/2	245	1062
	JLA-5	35	70	3	3	7	4 1/2	48 1/8	29 1/2	11 1/2	452	1063

Series No.	Type No.	A	B	C	D	Displacement Cu. In.	WGT. LBS.
1480	1480-A	1/2	3	3 3/8	6 1/8	12	6
	1480-B	3/4	3 1/2	4	8 7/8	40	10
	1480-C	1	4	4 1/2	14	73	17
	1480-D	1	4 1/2	5	19 1/2	137	25

\* Flow control, as listed, furnished as standard equipment.

Hy-Tech Products

*floor drains with adjustable strainers*

The installations shown on this and the following page are typical for any Josam Drain installed in any construction illustrated, subject to modification of construction to accord with drain features.

CODE: (A) — Waterproofing, optional — except in shower. Requires Flashing Clamp when used.

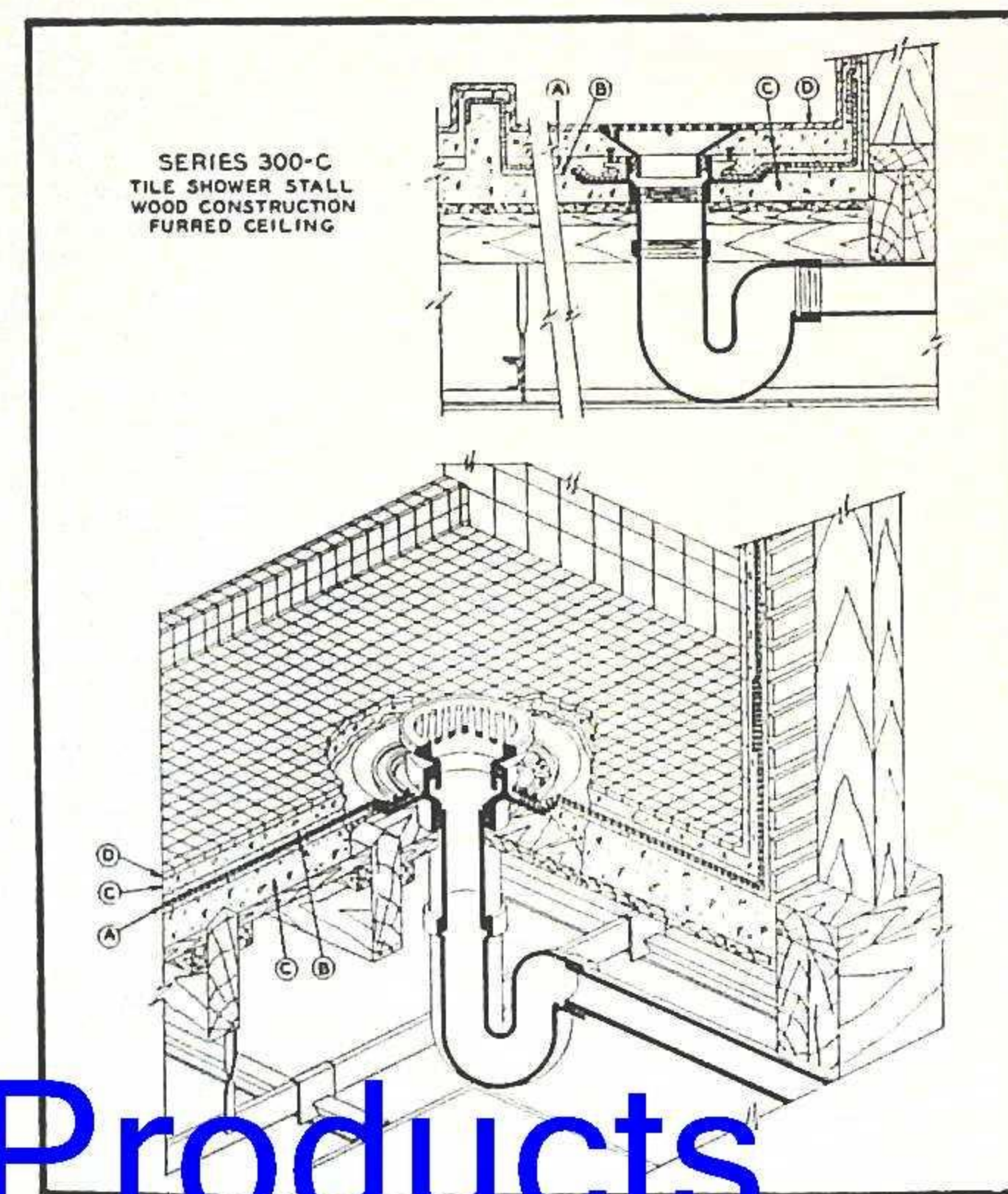
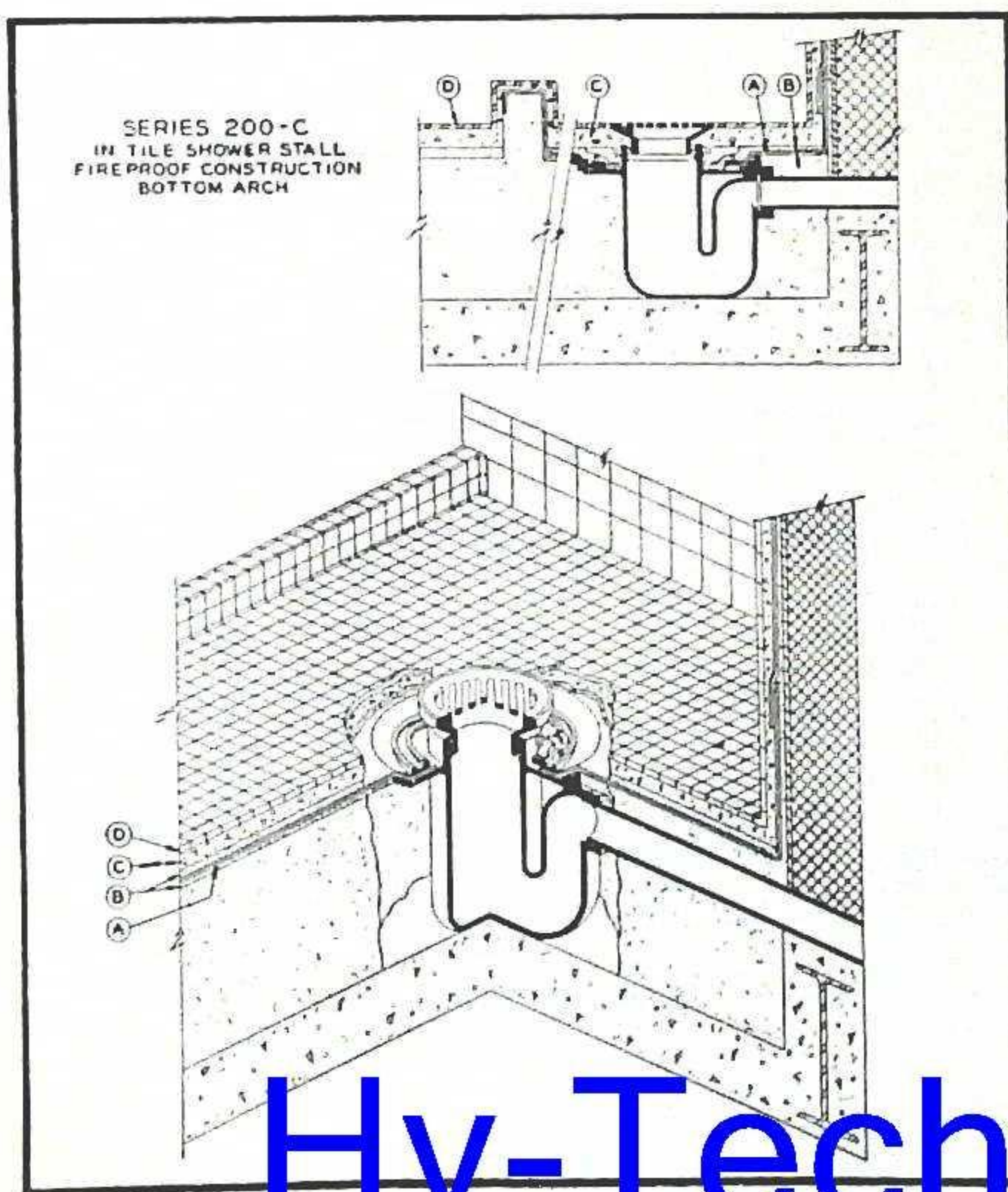
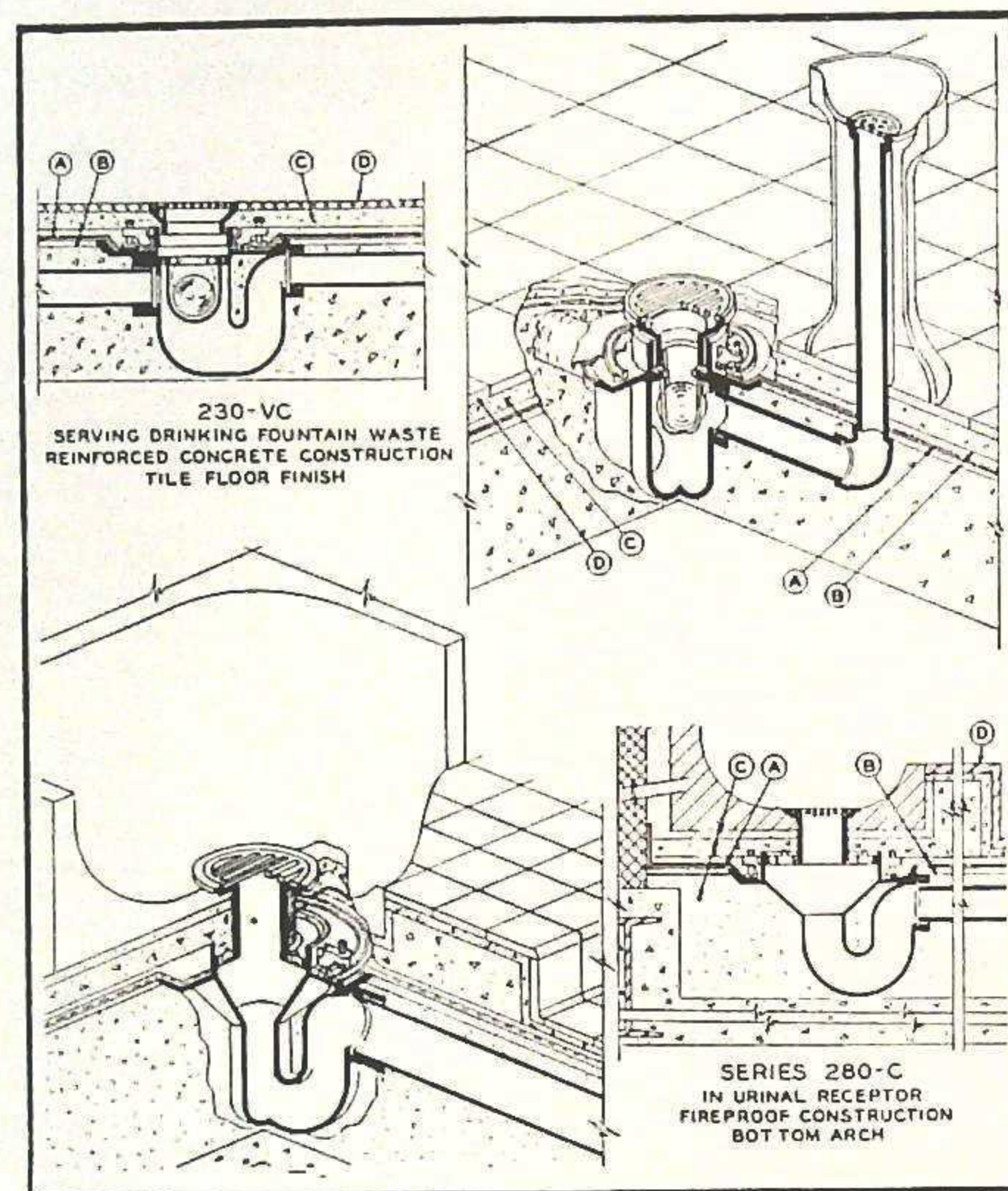
In shower, flash up sides and over curb.

When Flashing Clamp is not required, omit suffix "C" from type number.

(B) — Bed of finely screened sand, well tamped under and on top of waterproofing where used.

(C) — Fill and Grout.

(D) — Floor Finish.



*floor drains with adjustable strainers*

The installations shown on this and the following pages are typical for any Josam Drain installed in any construction illustrated, subject to modification of construction to accord with drain features.

CODE: (A) — Waterproofing, optional — except in shower.

Requires Flashing Clamp when used. In

shower, flash up sides and over curb. When

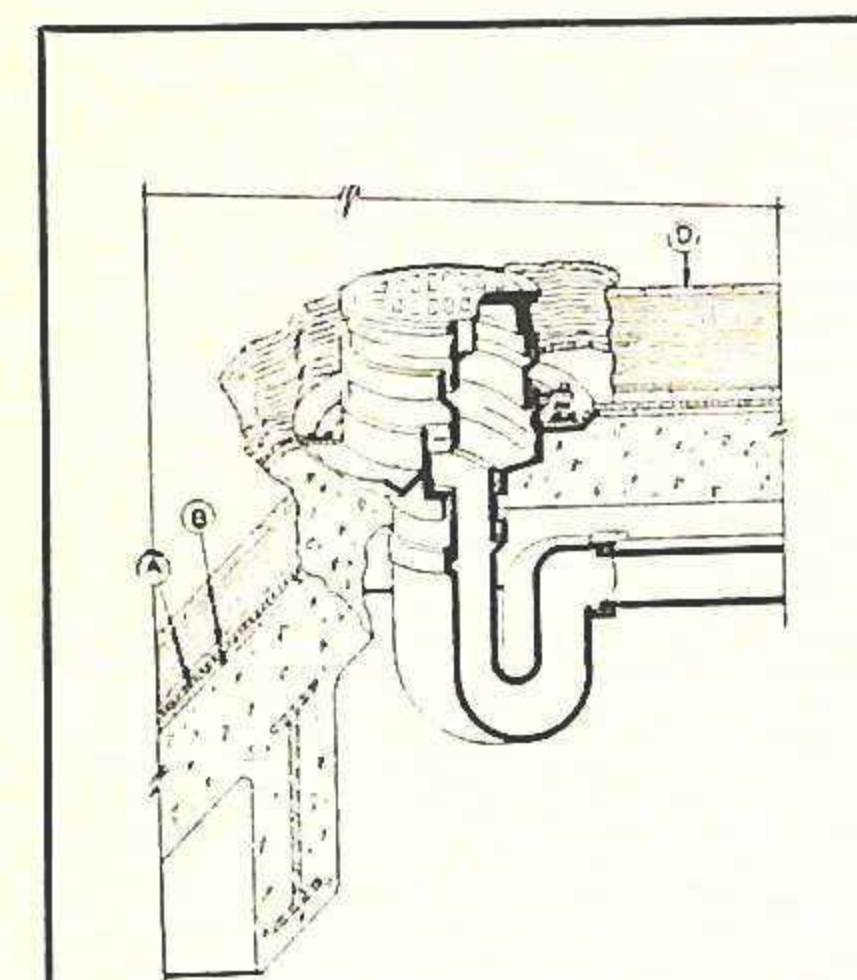
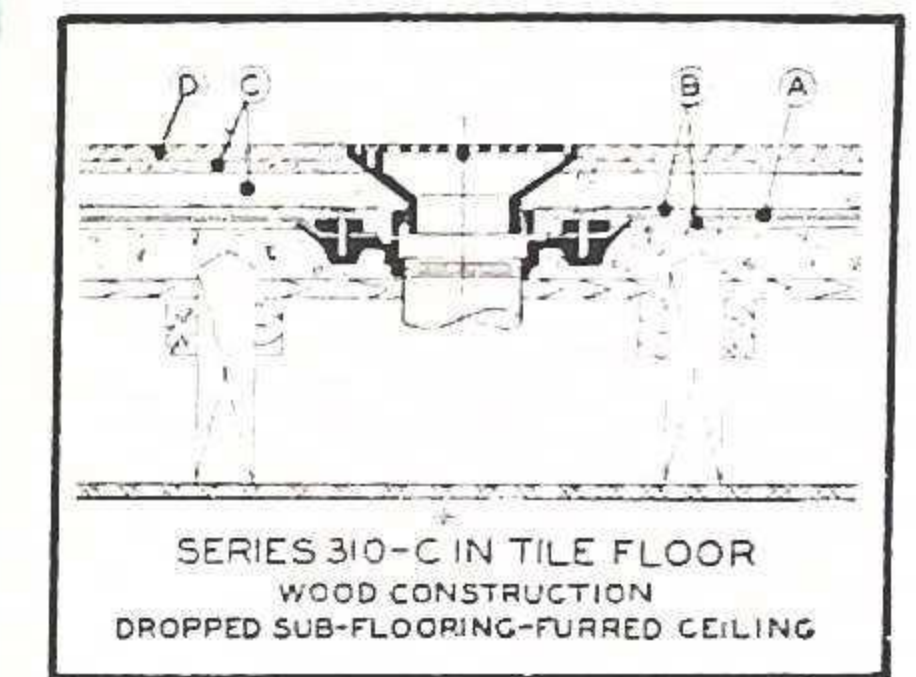
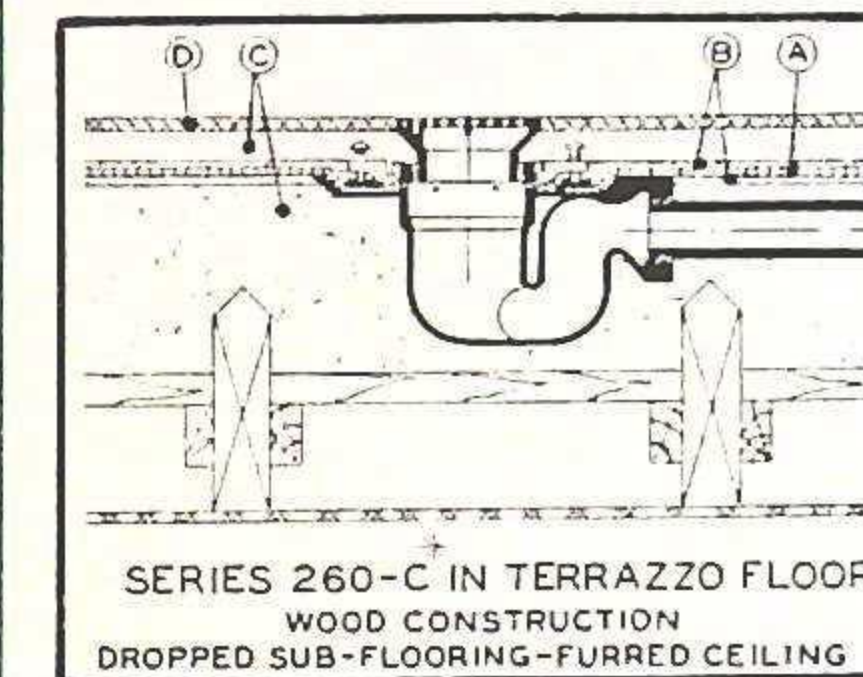
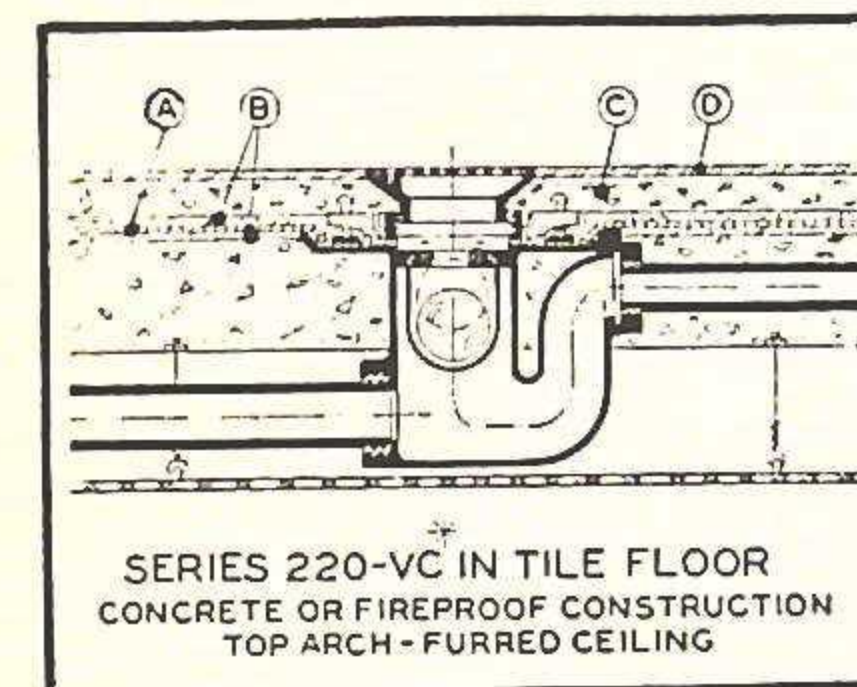
Flashing Clamp is not required, omit suffix

"C" from type number.

(B) — Bed of finely screened sand, well tamped under and on top of waterproofing where used.

(C) — Fill and Grout.

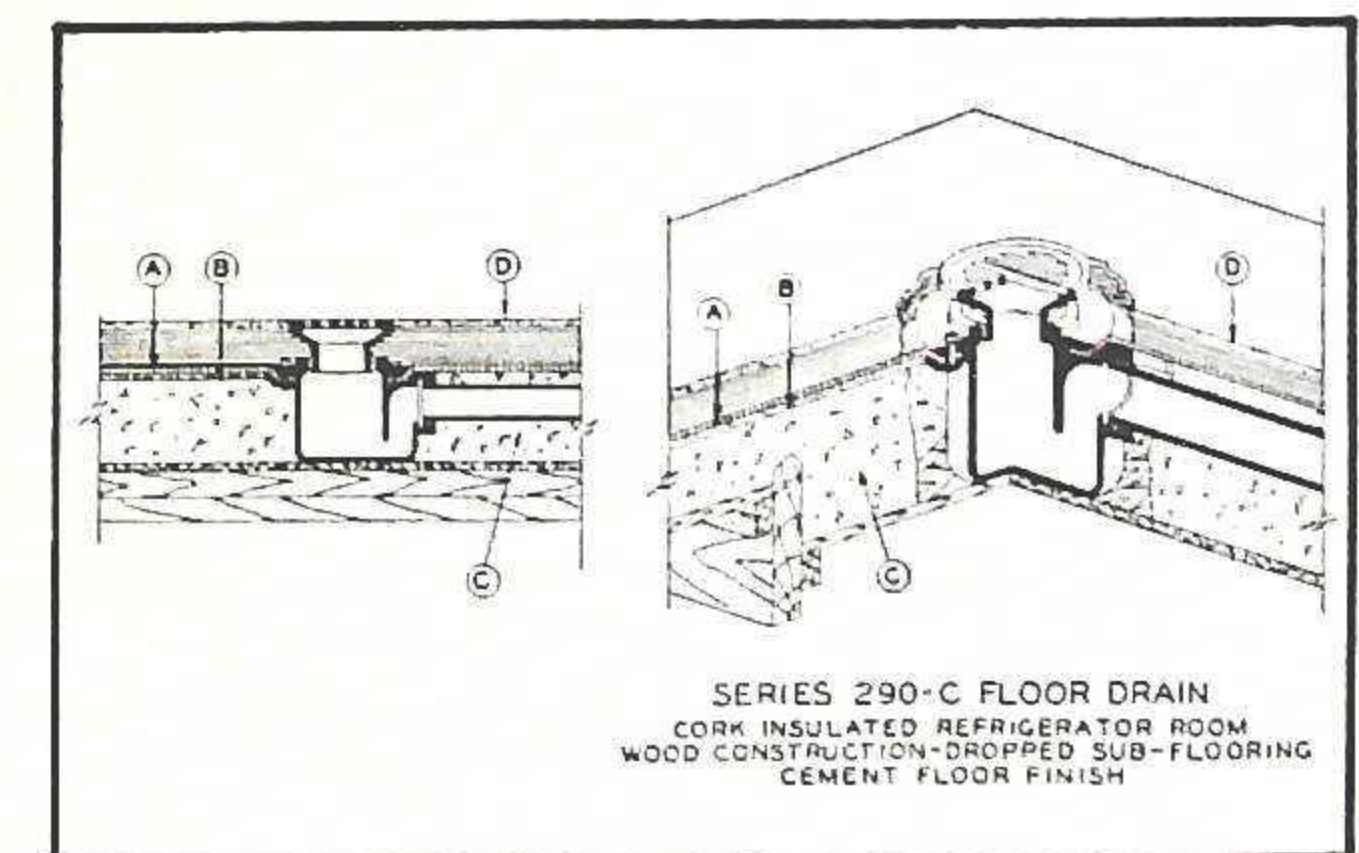
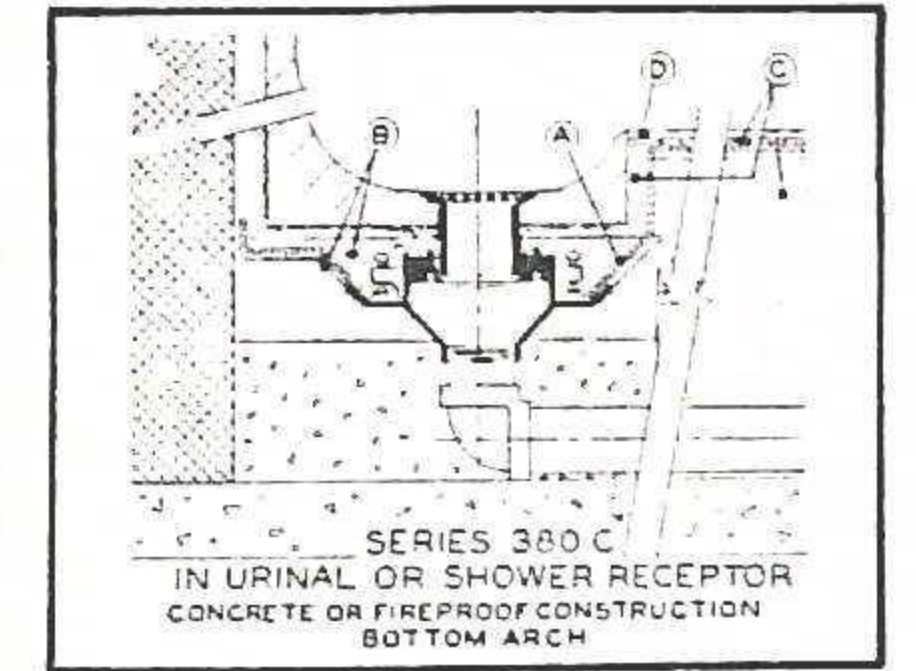
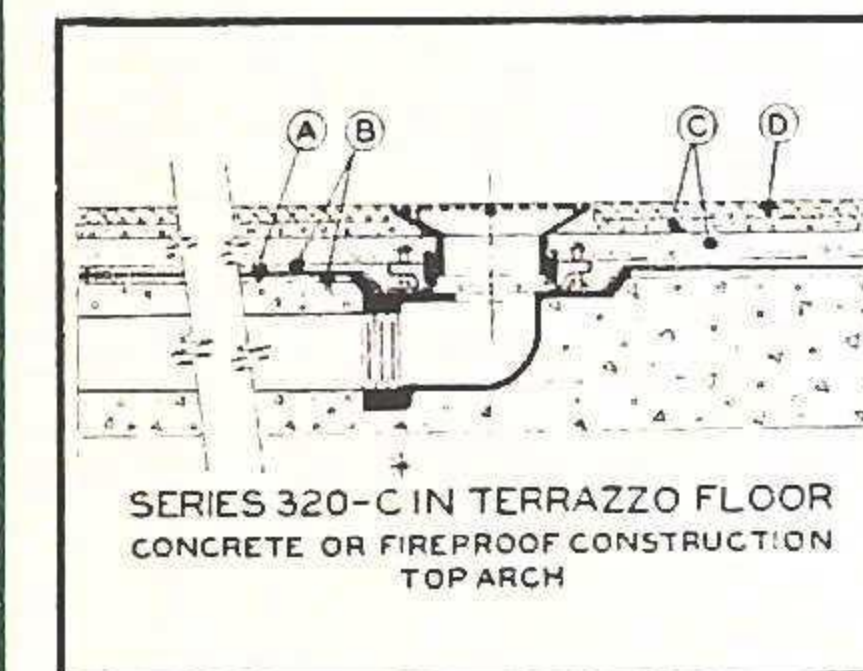
(D) — Floor Finish.



**LEVELEZE FLOOR DRAINS**

The adjustable top with rolled thread is completely detachable from the drain body and permits lowering or raising top to meet finished floor level, before or after the drain is set . . . a maximum adjustment of 2" can be made. For greater heights, one or more Leveleze Extension Collars can be used.

See pages 68 and 69 for complete details.

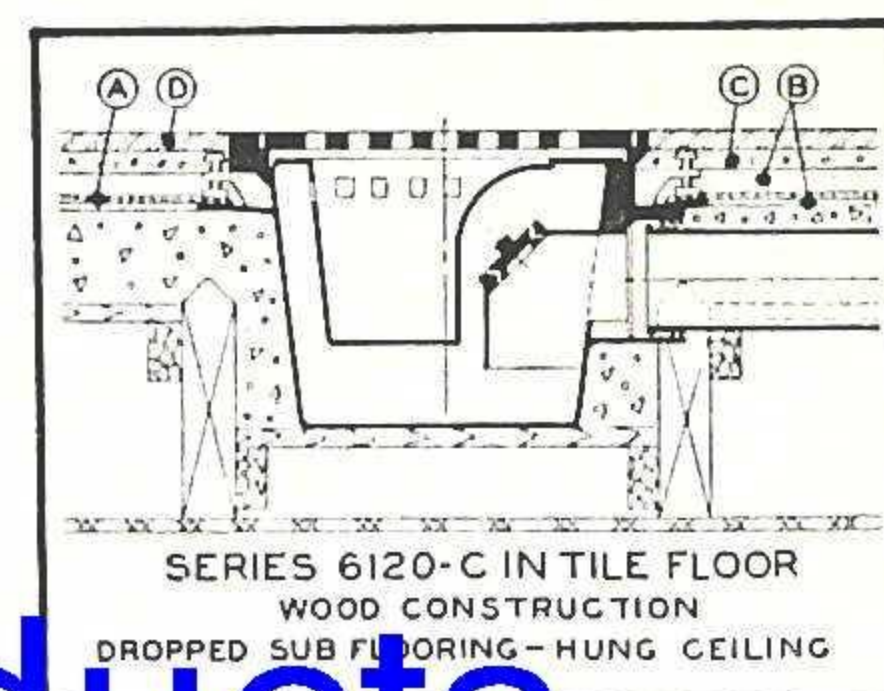
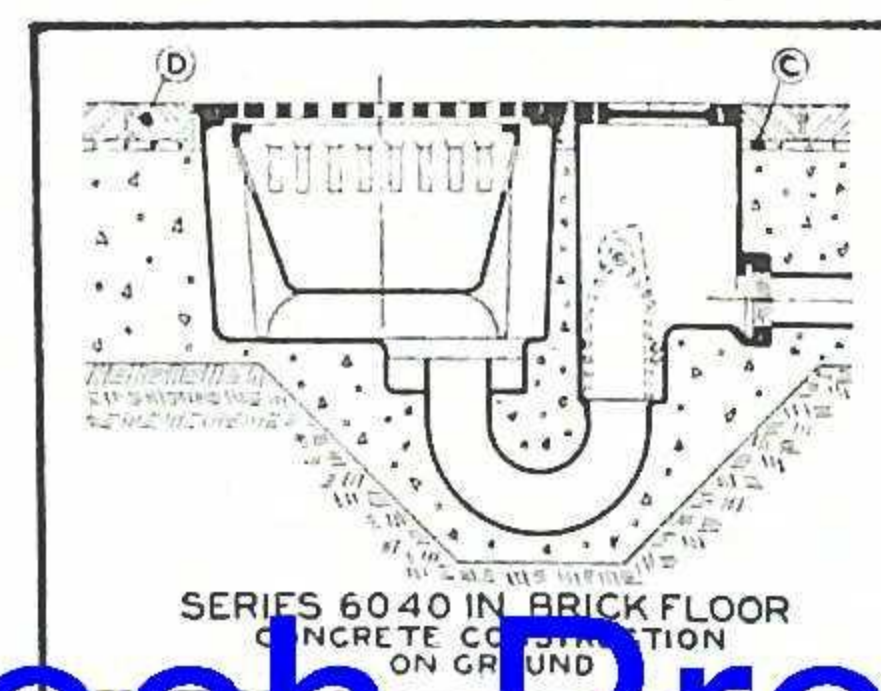
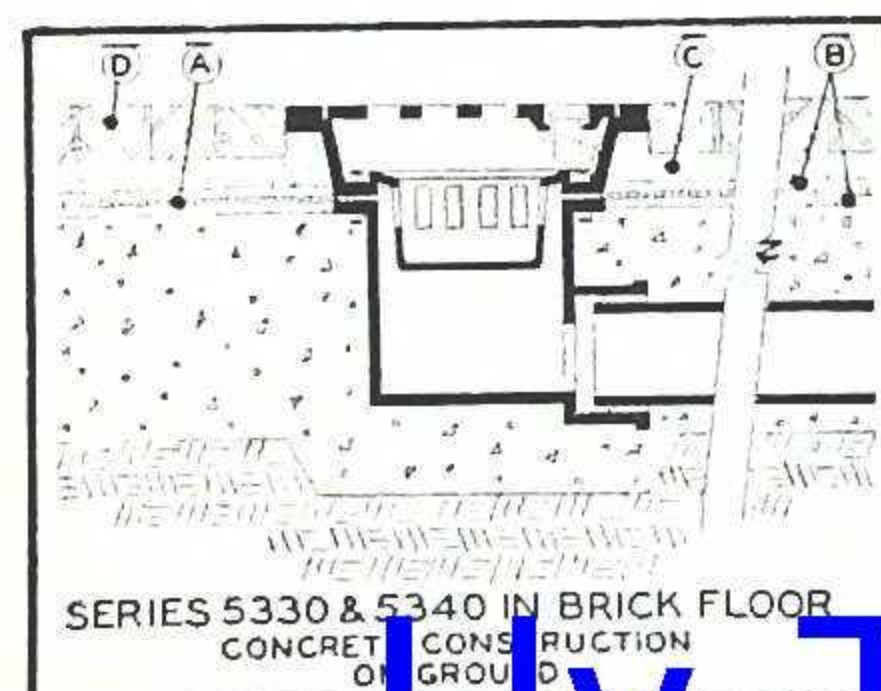
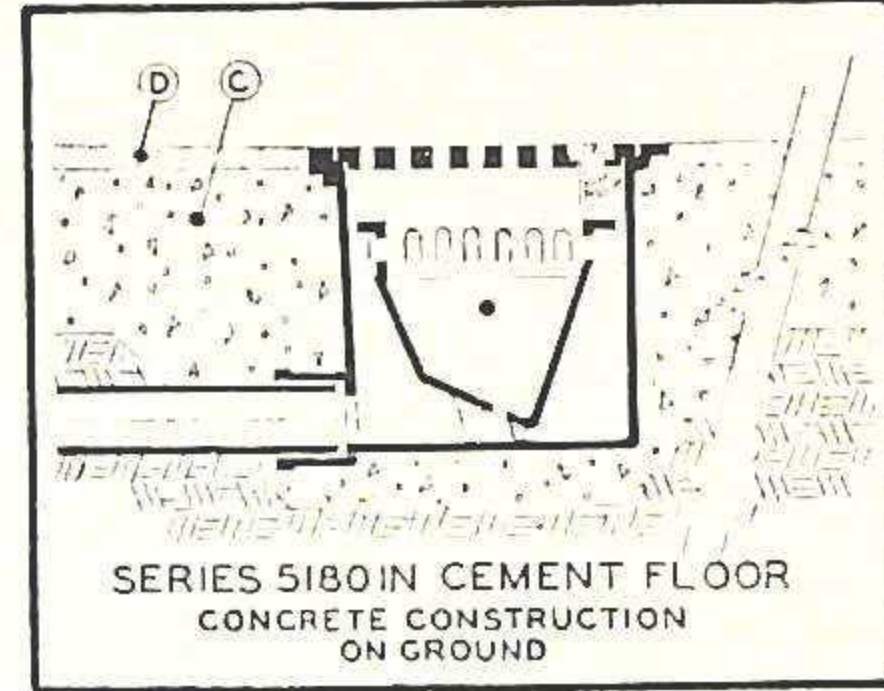
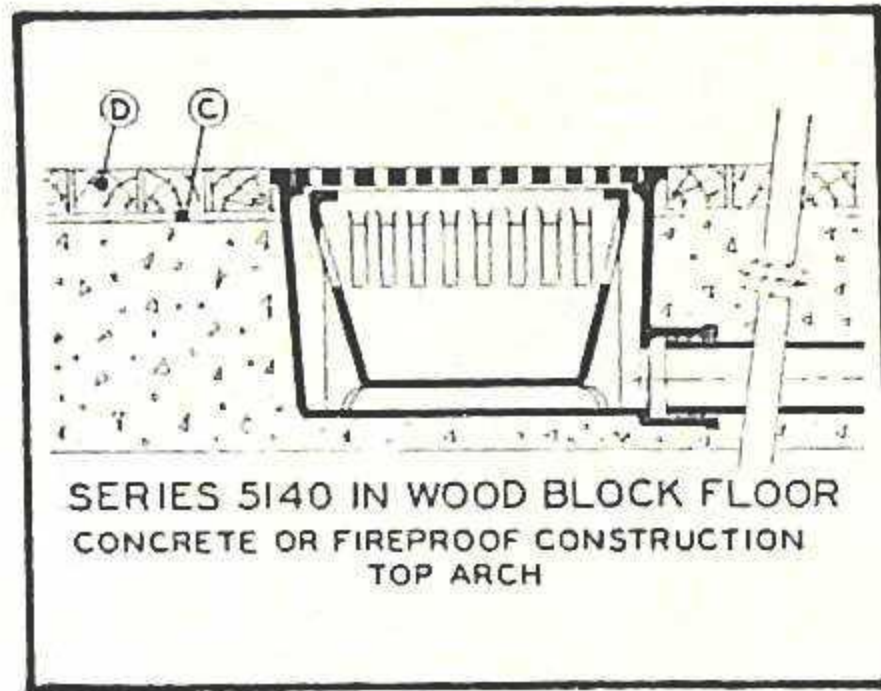
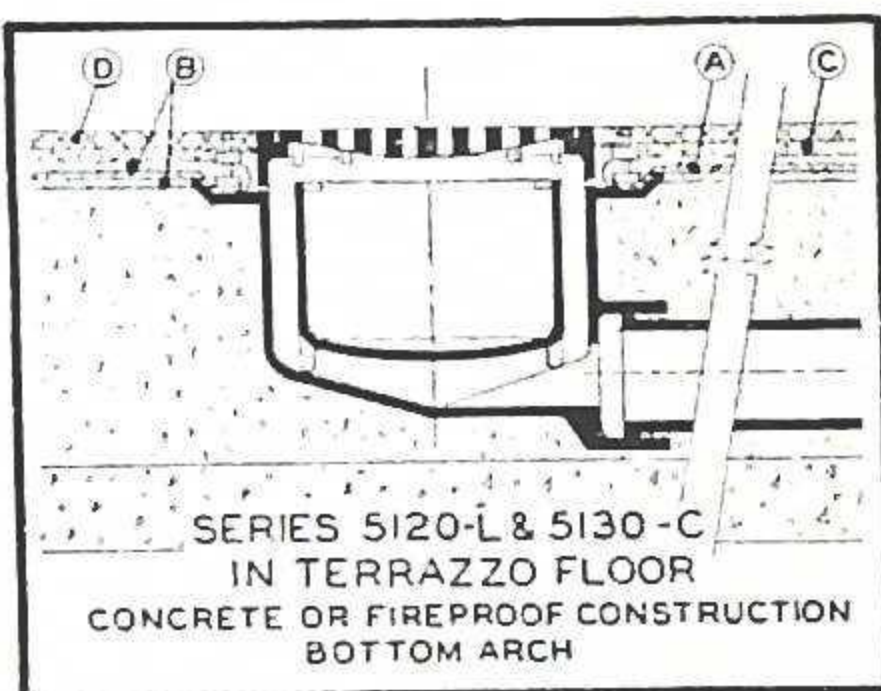
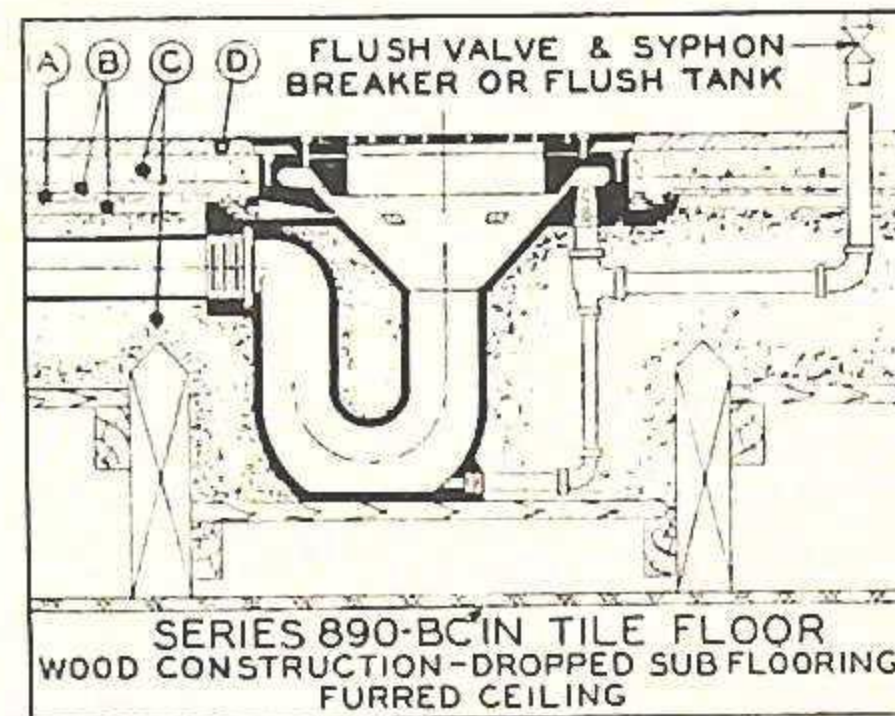
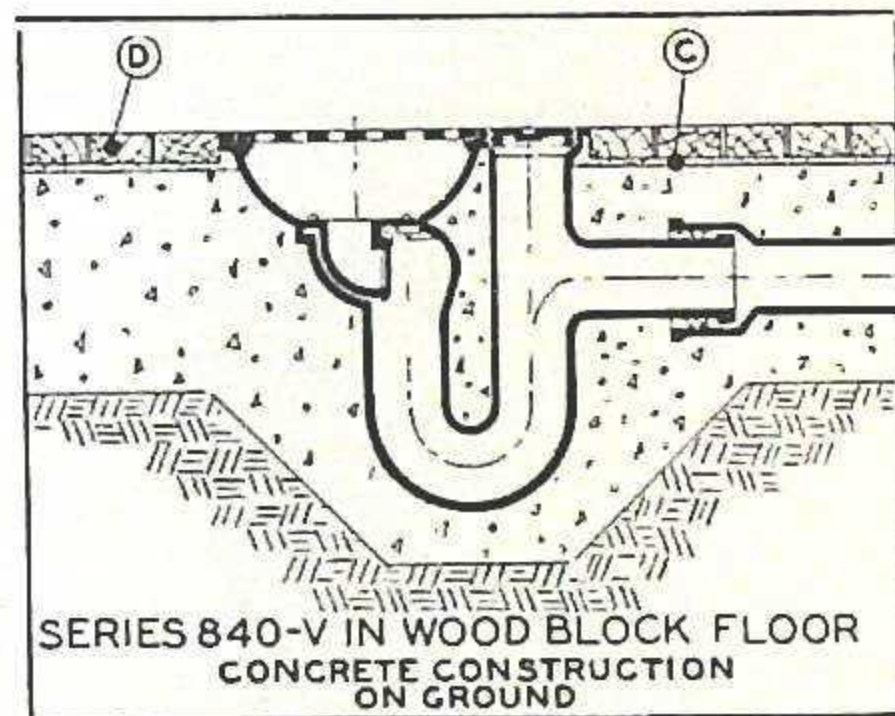


Hy-Tech Products

*miscellaneous floor drains*

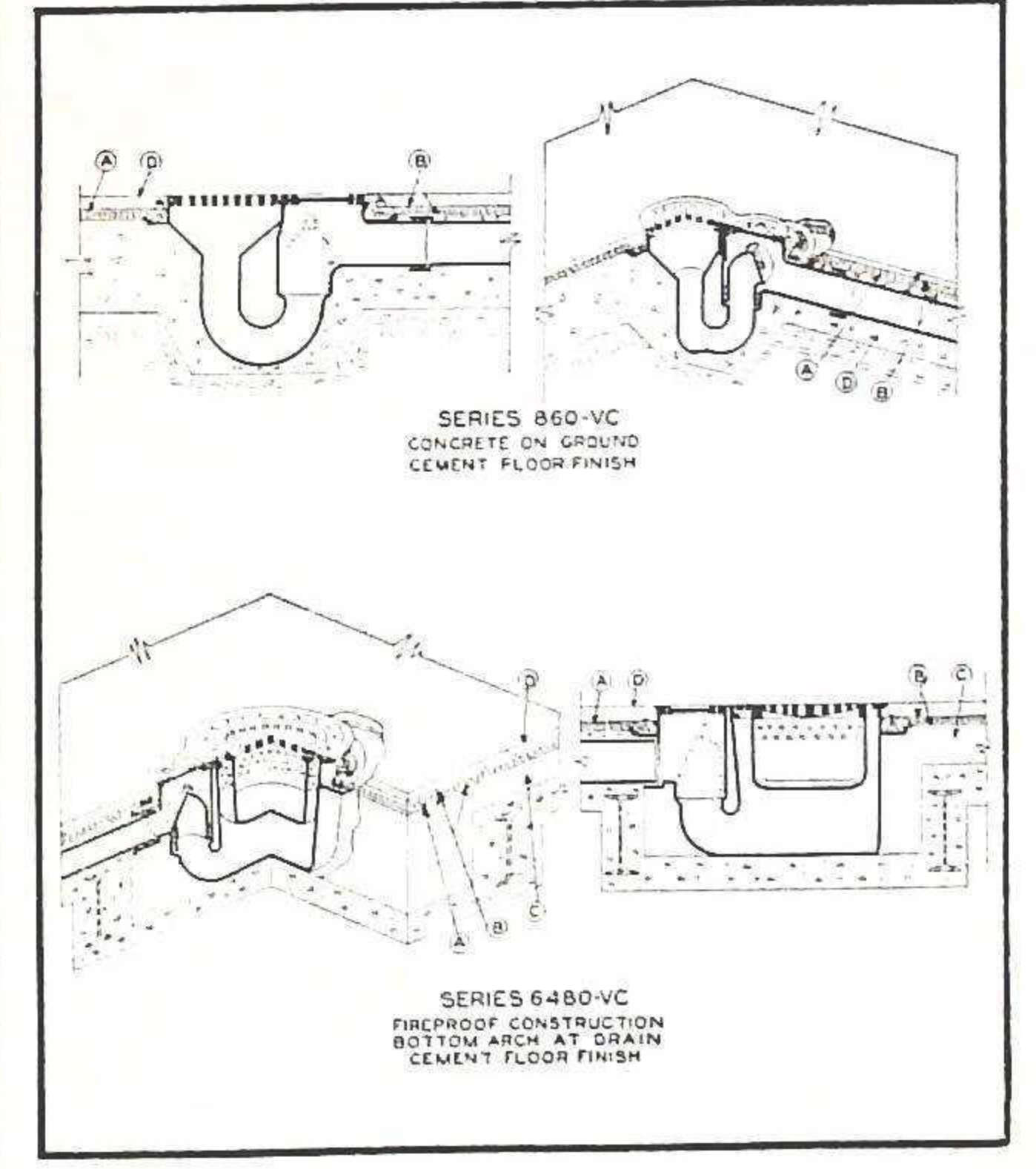
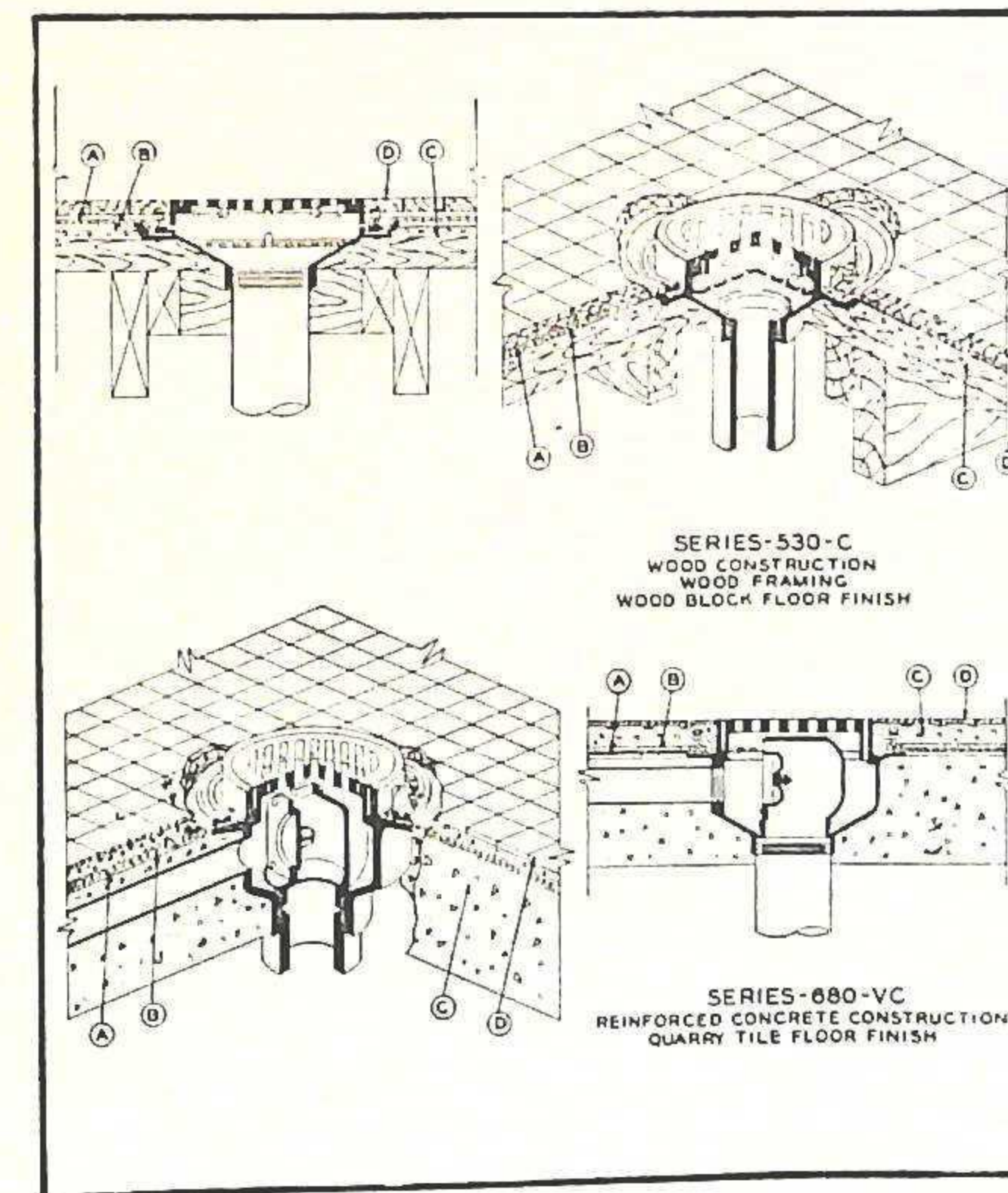
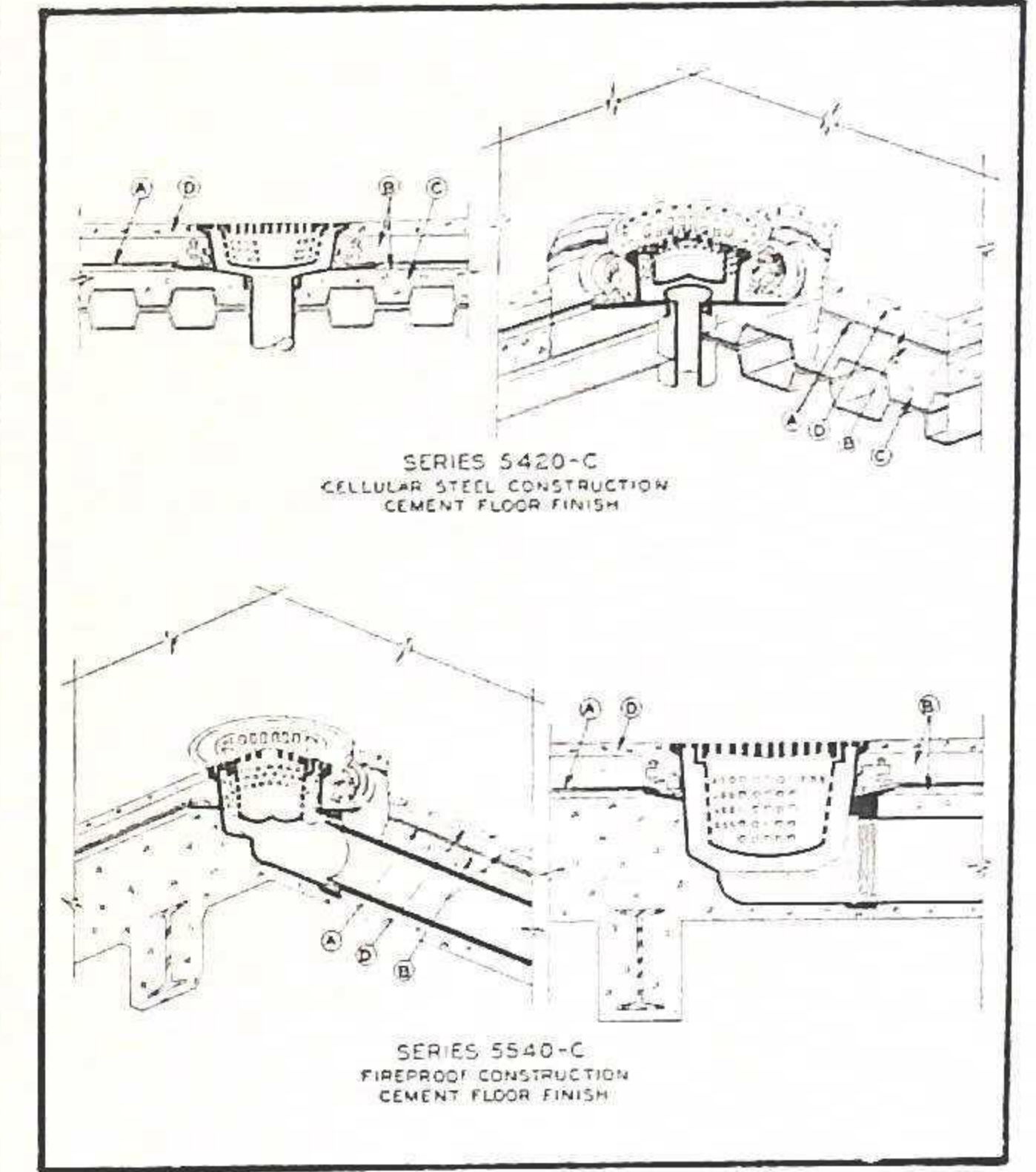
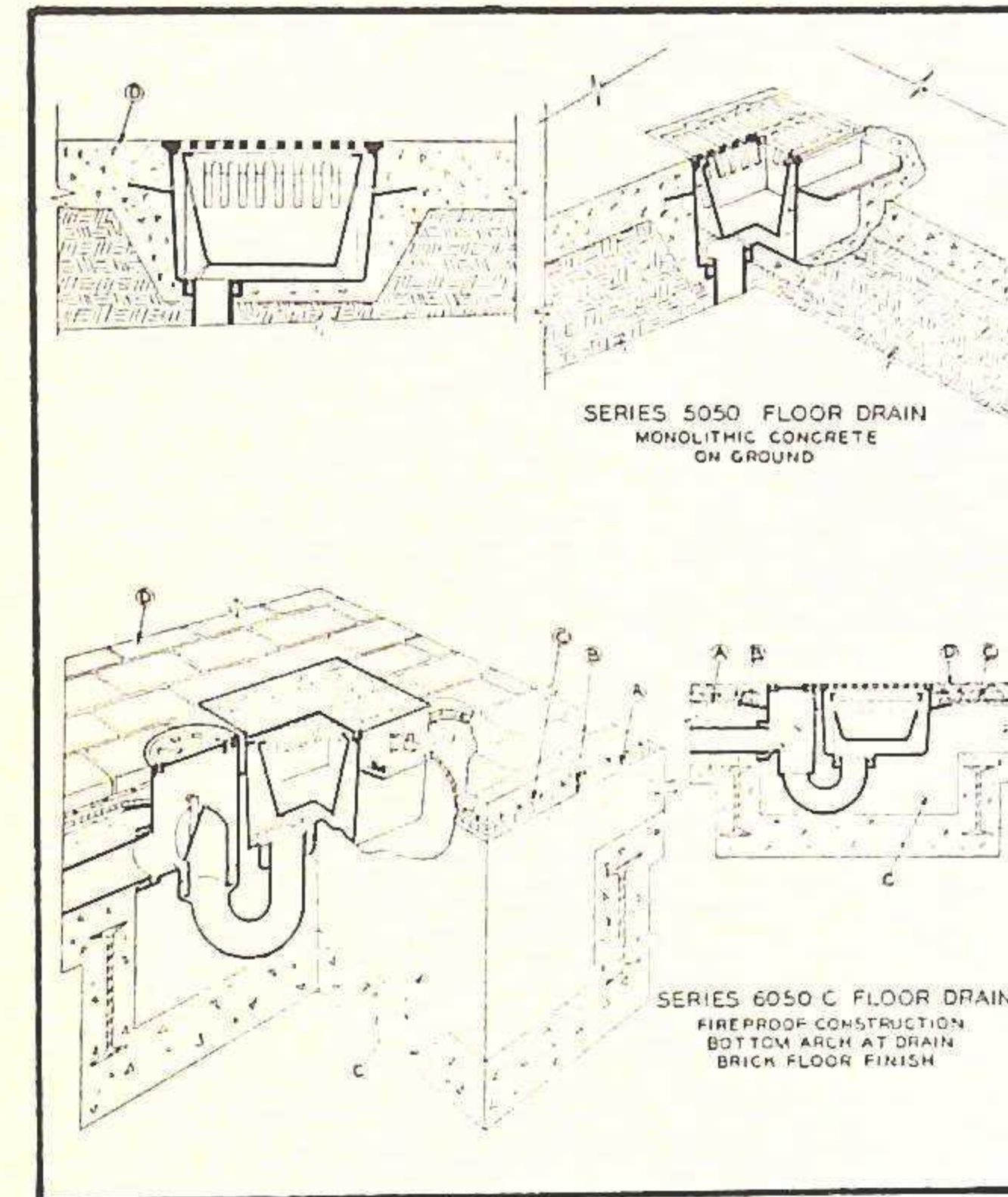
The installations shown on this and the following page are typical for any Josam Drain installed in any construction illustrated, subject to modification of construction to accord with drain features.

CODE: (A) — Waterproofing, optional — except in shower. Requires Flashing Clamp when used. In shower, flash up sides and over curb. When Flashing Clamp is not required, omit suffix "C" from type number.  
 (B) — Bed of finely screened sand, well tamped under and on top of waterproofing where used.  
 (C) — Fill and Grout.  
 (D) — Floor Finish.



*miscellaneous floor drains*

EXPLANATION OF CODE: SEE PREVIOUS PAGE



Hy-Tech Products

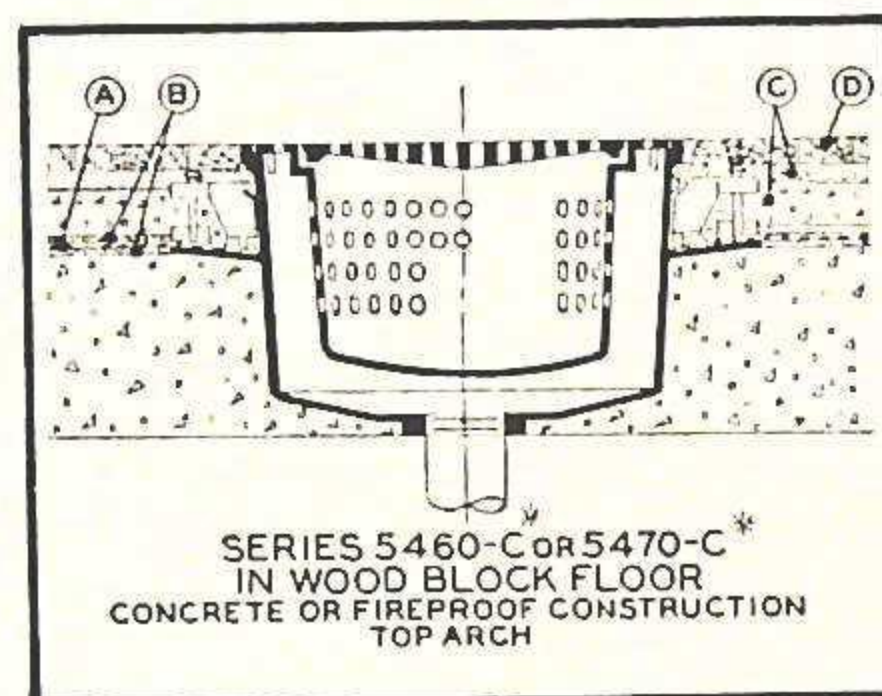
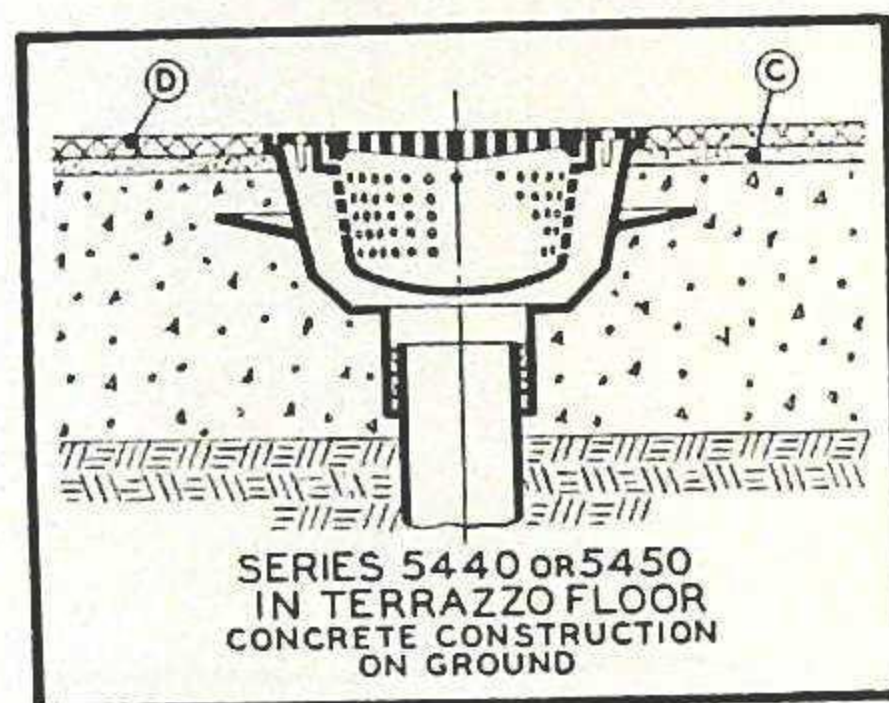
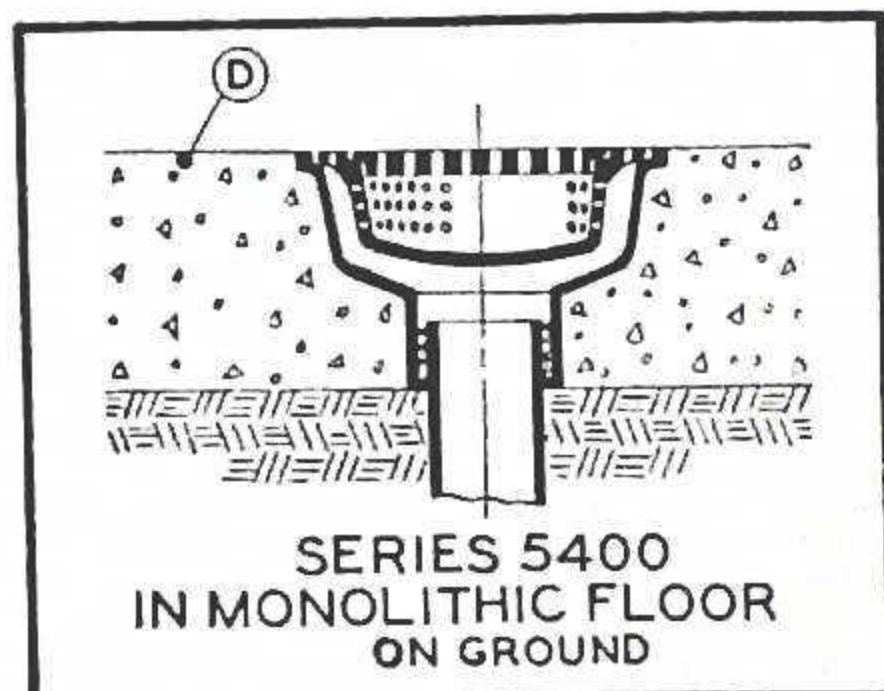
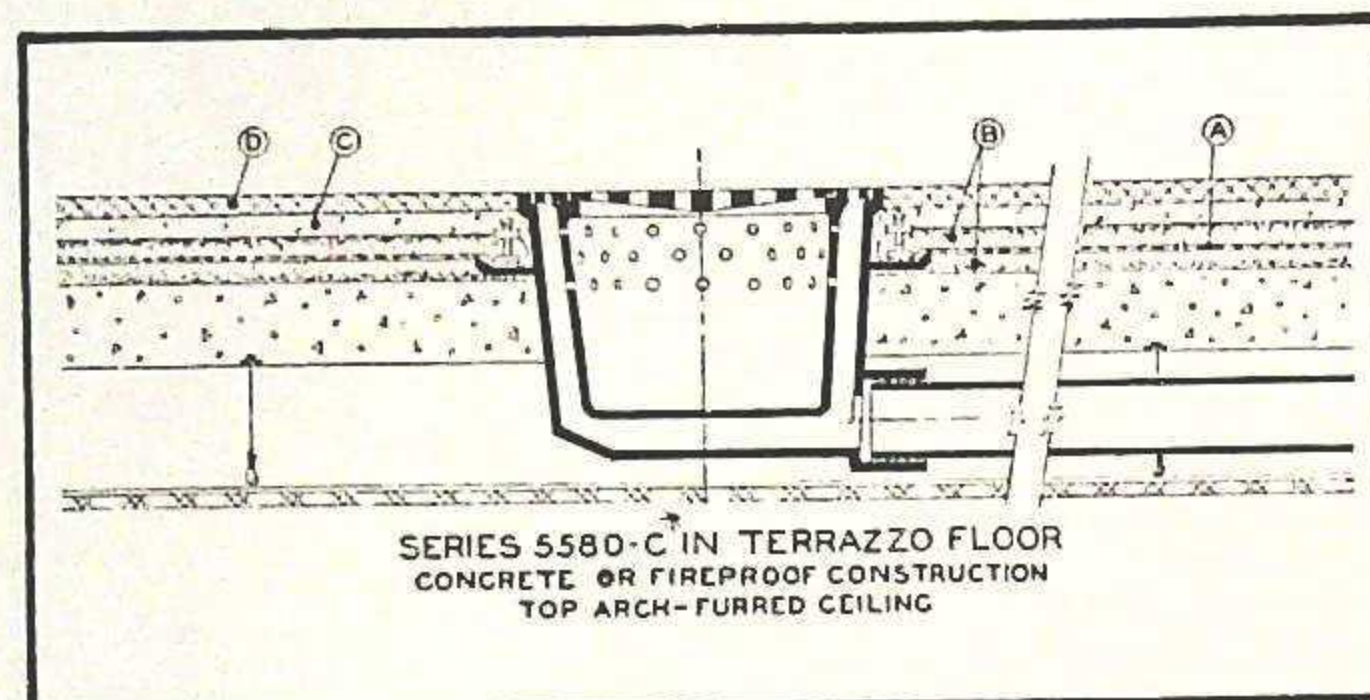
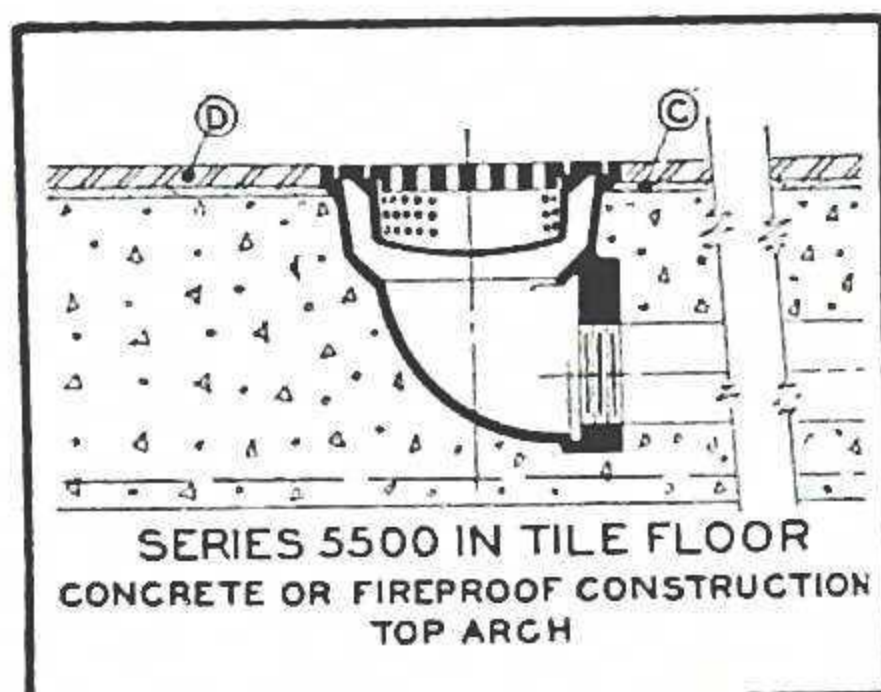
**Josam**  
INSTALLATION  
DIAGRAMS

*non-clog floor drains*

The installations shown below are typical for any Josam Drain installed in any construction illustrated, subject to modification of construction to accord with drain features.

CODE: (A) — Waterproofing, optional — except in shower. Requires Flashing Clamp when used. In shower, flash up sides and over curb. When Flashing Clamp is not required, omit suffix "C" from type number.

(B) — Bed of finely screened sand, well tamped under and on top of waterproofing where used.  
(C) — Fill and Grout.  
(D) — Floor Finish.

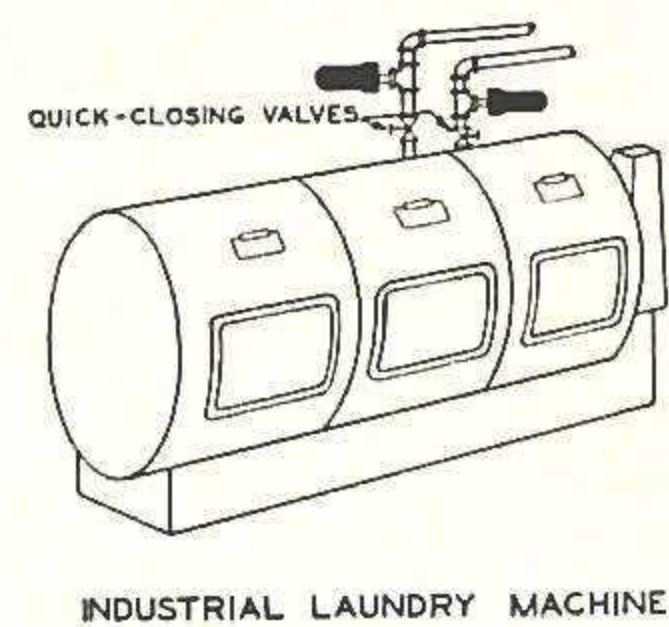
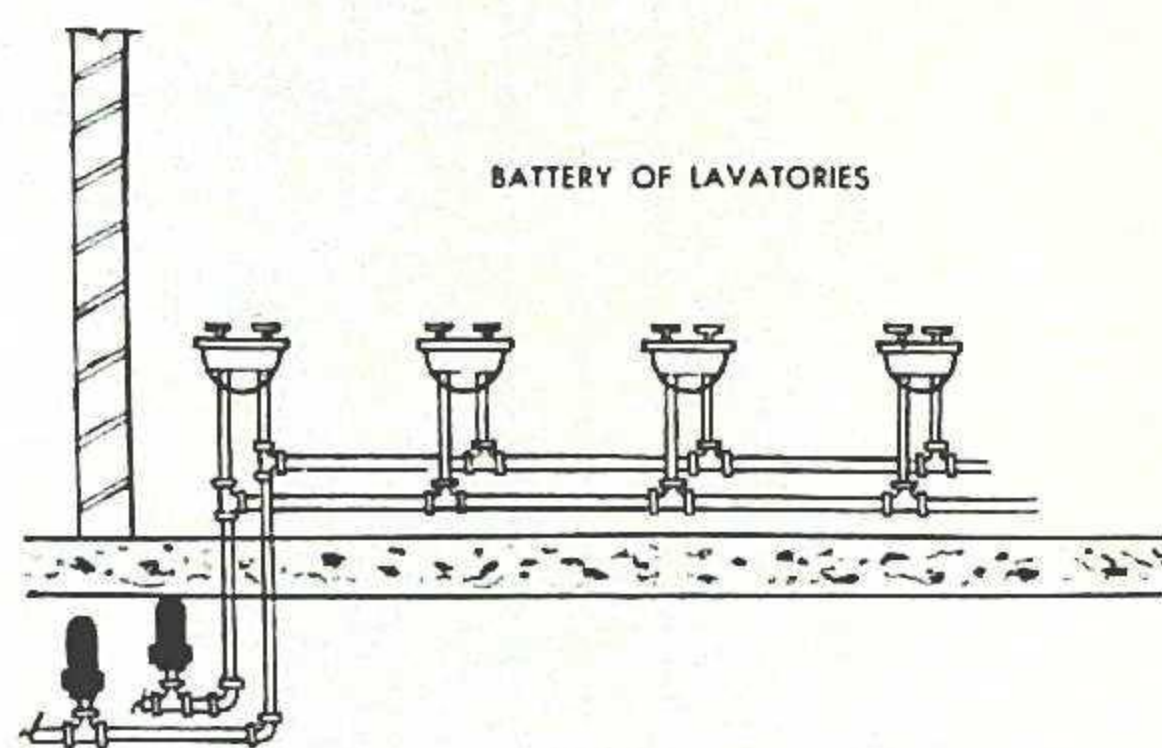


*shock absorbers*

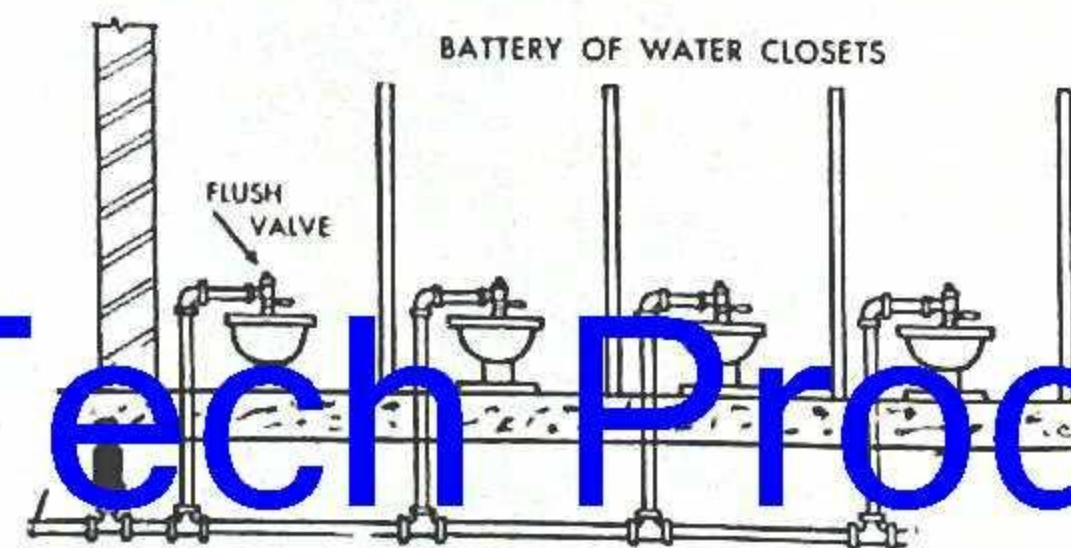
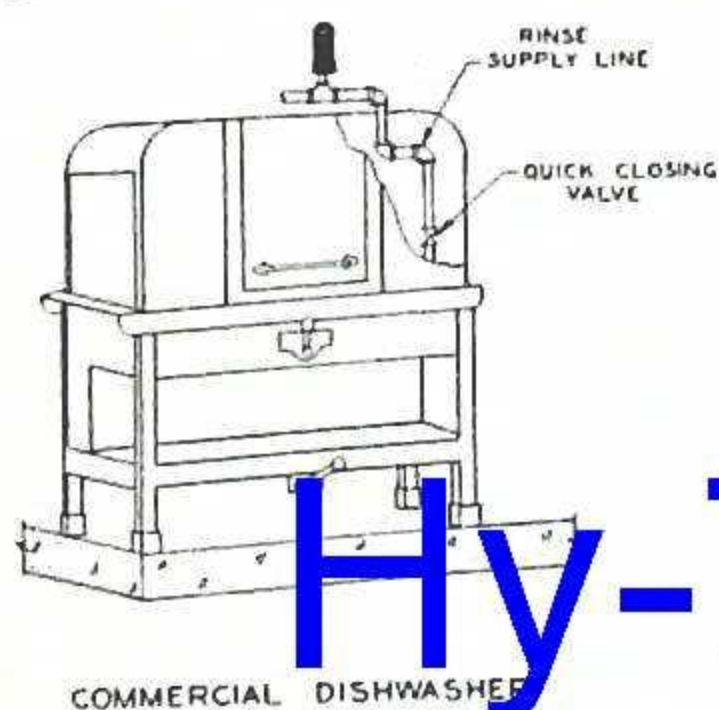
**APPLICATION**

Josam Shock Absorbers are recommended for installation in new or old construction, on:

- PUMPS AND FILTERS IN SWIMMING POOLS • LAUNDRY MECHANICAL EQUIPMENT • DRINKING FOUNTAINS • QUICK-CLOSING SHOWER VALVES AND MIXERS • BATTERIES OF CLOSETS AND URINALS • GROUP FIXTURES SUCH AS SINKS, DISHWASHERS • STEAM COOKERS • HOSPITAL STERILIZERS • PUMP DISCHARGE LINES • WATER SOFTENERS • DOUGH MIXING MACHINES

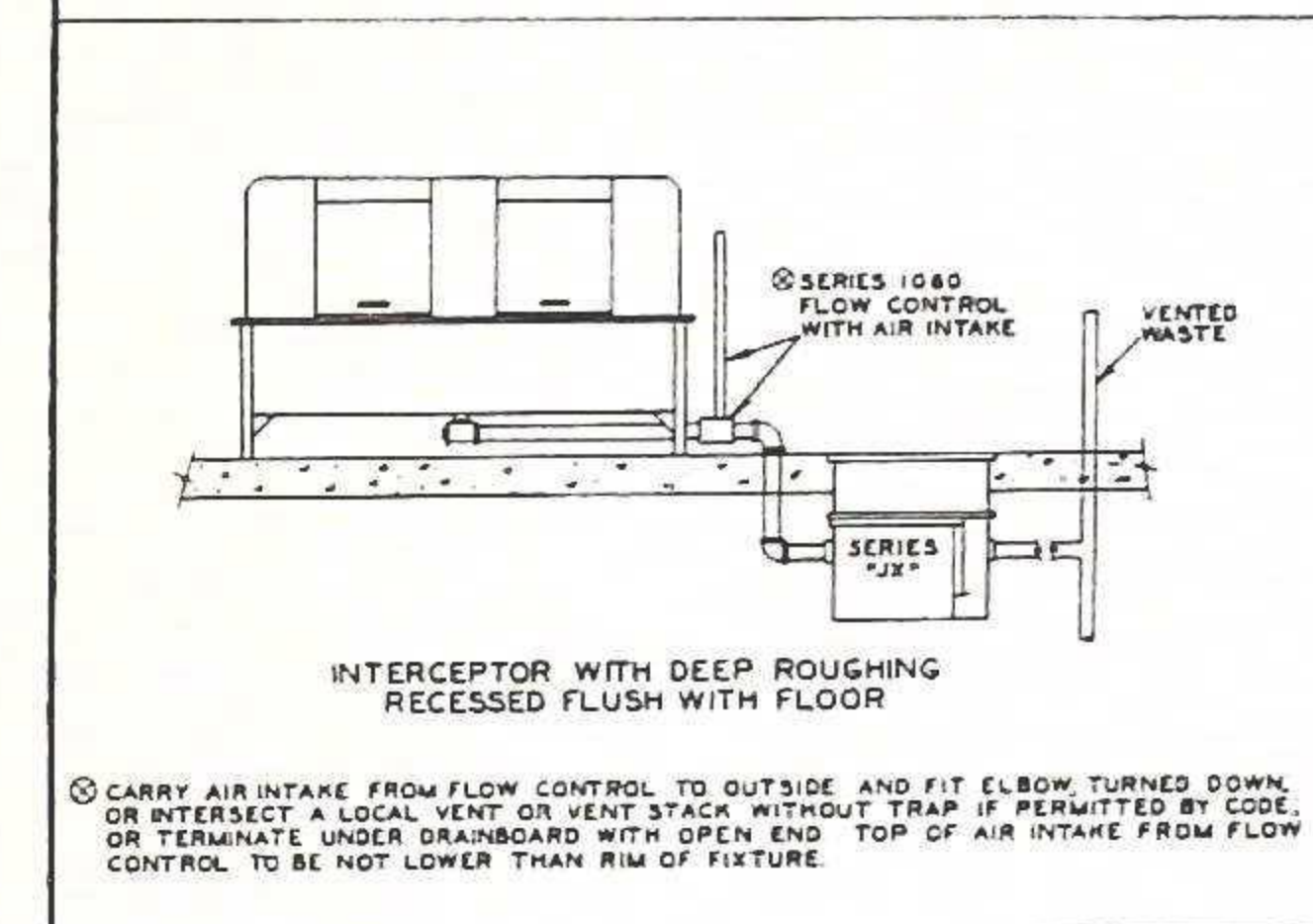
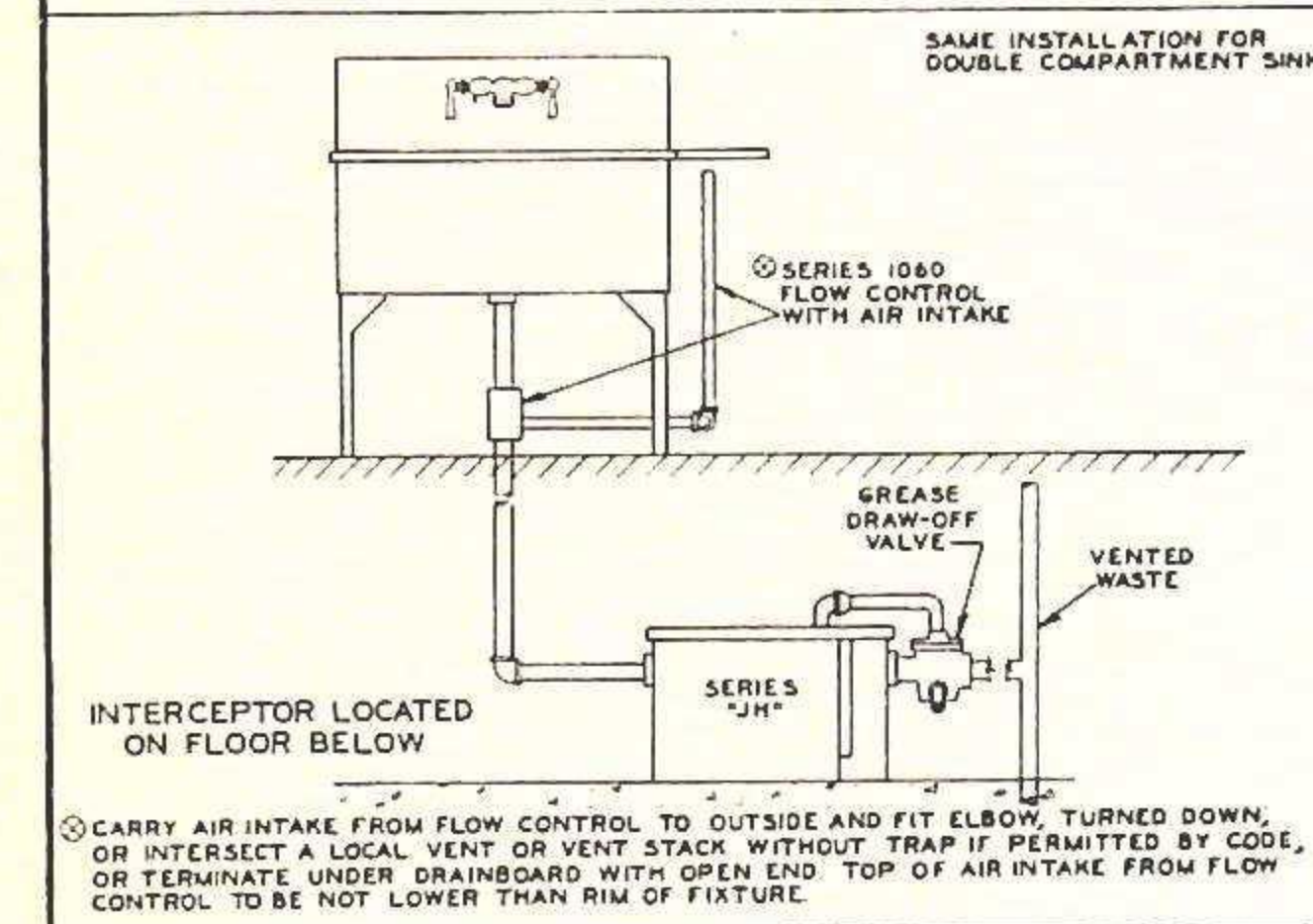
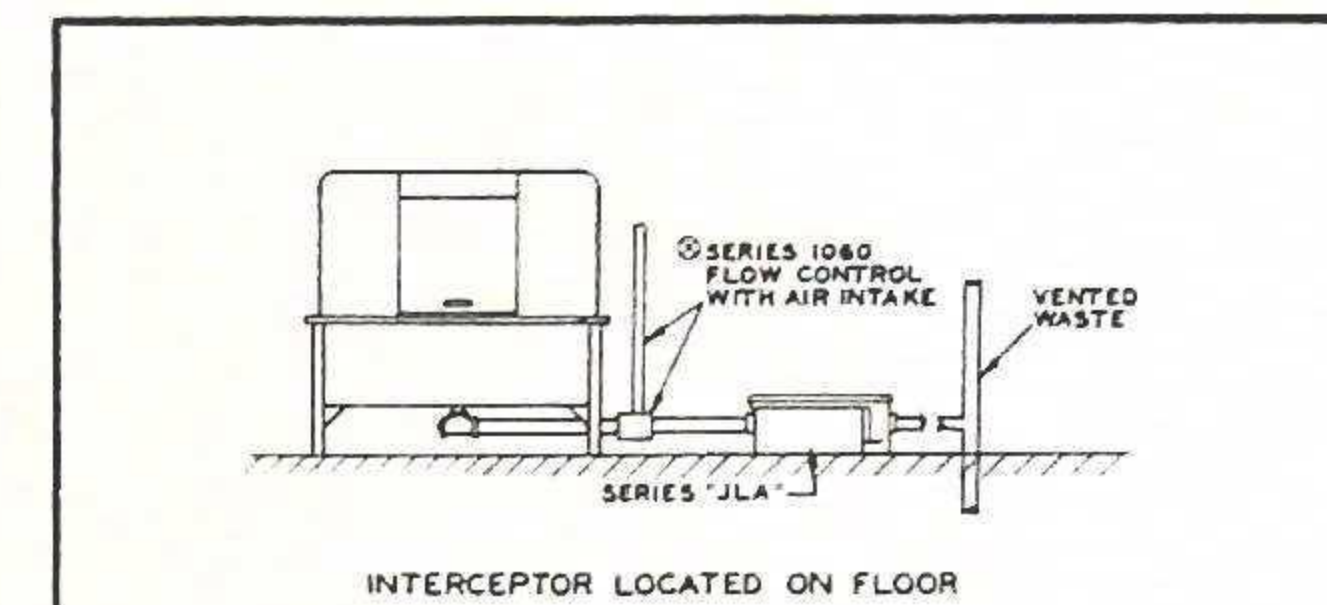
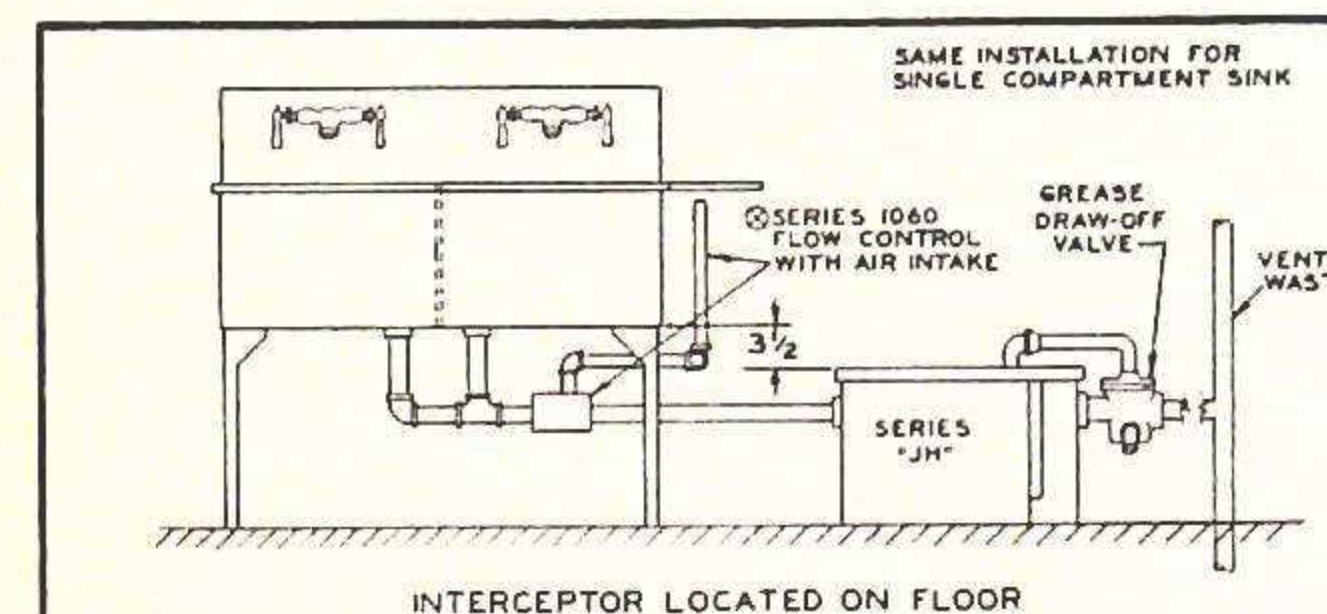


In these sketches, we have indicated suggested locations for shock absorbers on various fixtures. However, the location on these fixtures is only problematical and merely indicates that a shock absorber should be installed as close as possible to the valve or faucet causing the water hammer.



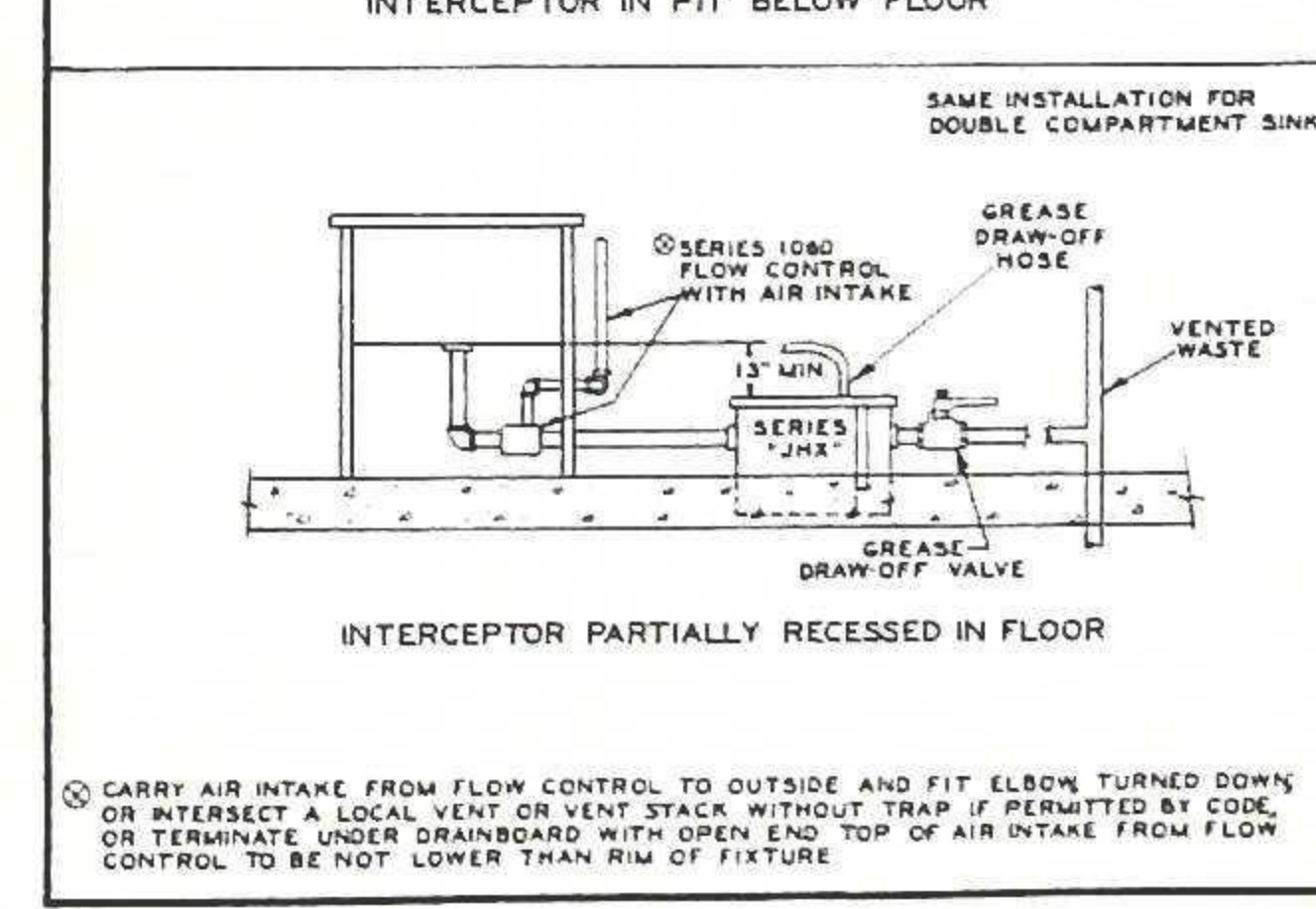
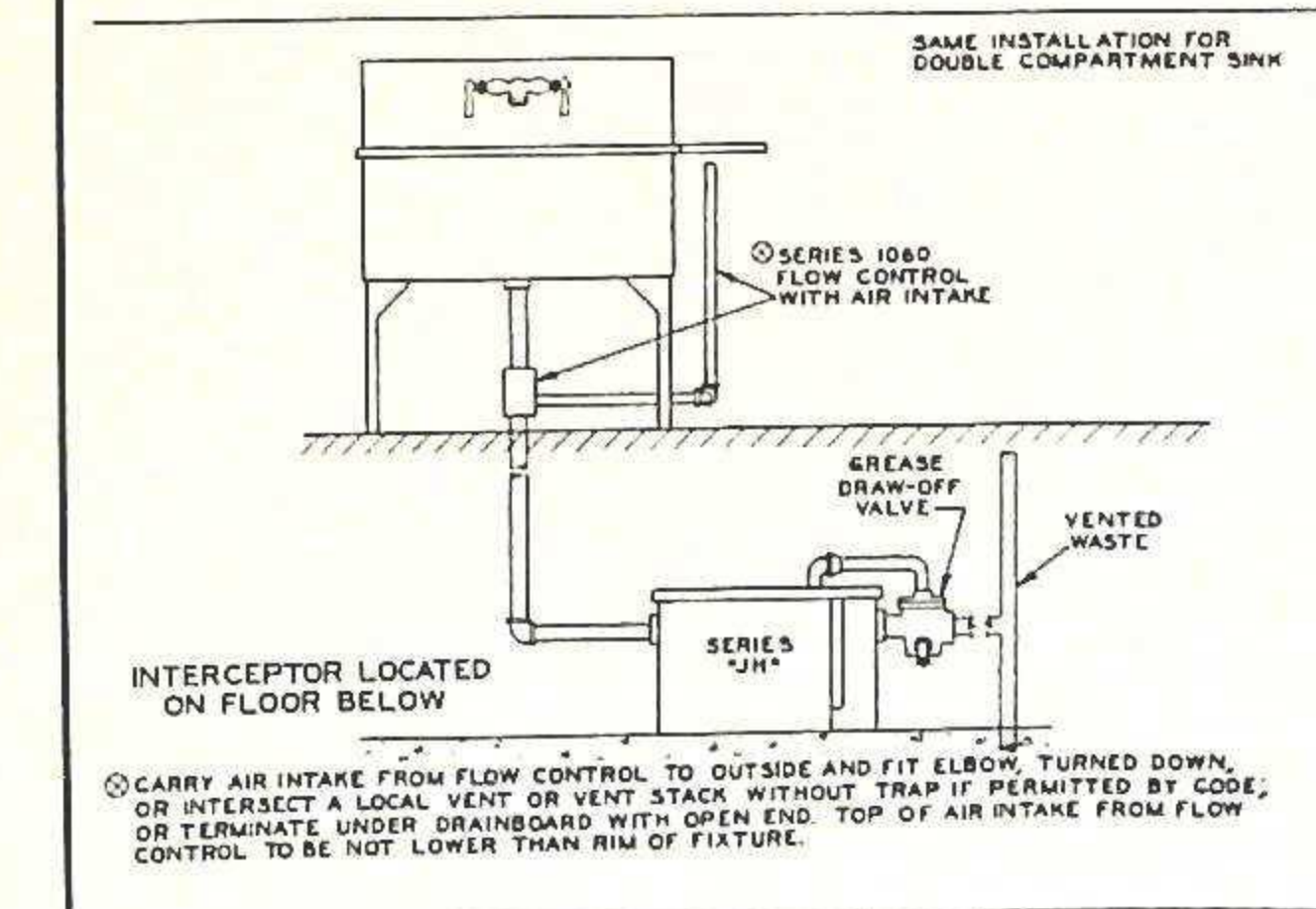
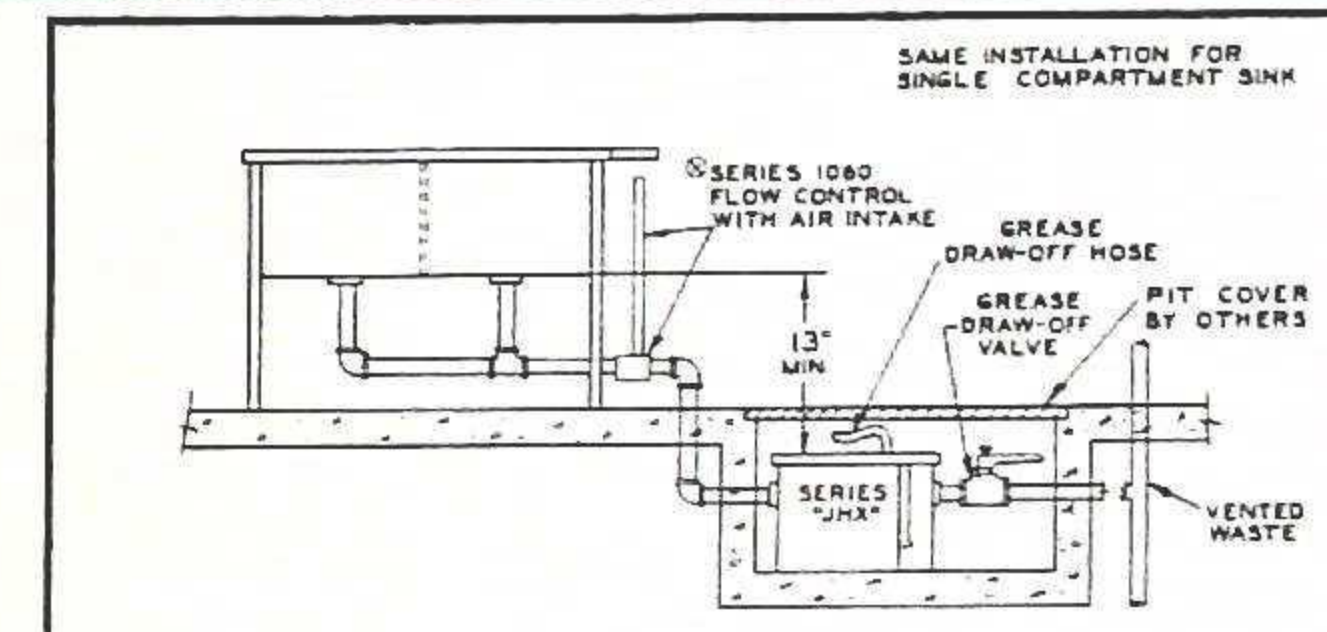
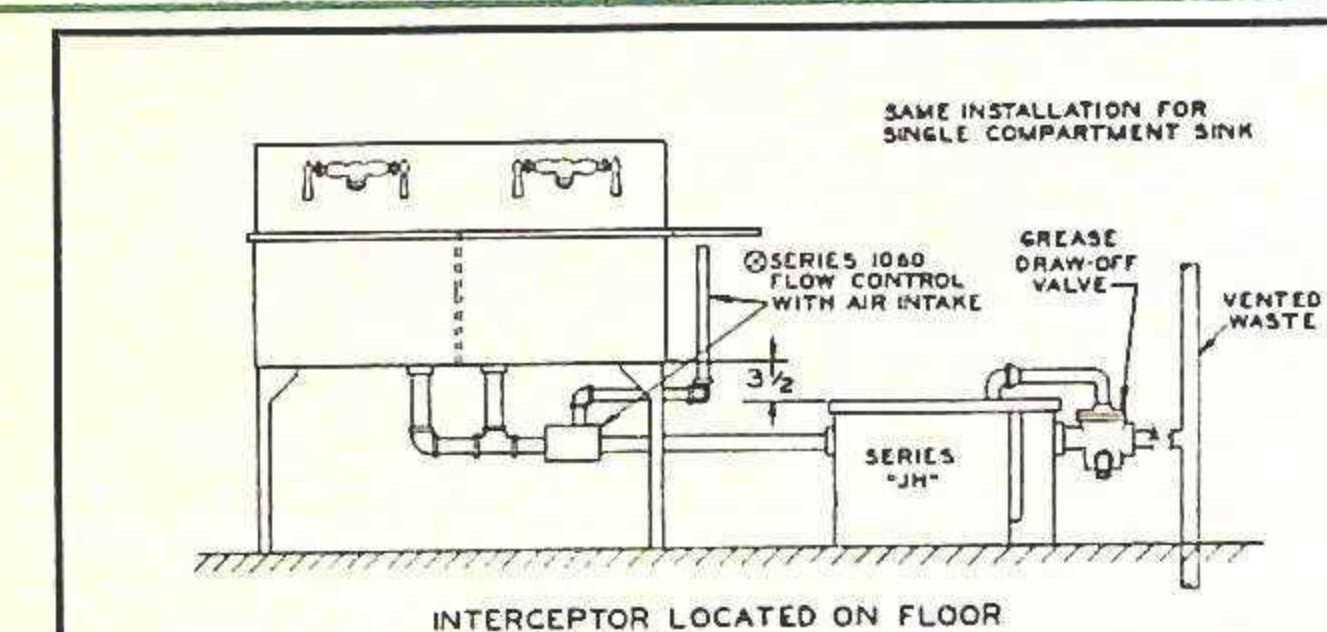
*grease interceptors*

**Josam**  
INSTALLATION  
DIAGRAMS



**SINGLE OR DOUBLE COMPARTMENT SINK**  
Series JH Interceptor with Grease Draw-Off  
Installed on same floor or floor below fixture served

**DISHWASHING MACHINES**  
Series JLA or JX Interceptor  
Installed on same or recessed in same floor



**SINGLE OR DOUBLE COMPARTMENT SINK**  
Series JH Interceptor with Grease Draw-Off  
Installed on same floor or floor below fixture served

**SINGLE OR DOUBLE COMPARTMENT SINK**  
Series JHX Interceptor  
Partially recessed in floor or in pit below floor



miscellaneous tables and formulae

LINEAR MEASURE

- 1 Ft. = 12 In.
1 Yd. = 3 Ft. = 36 In.
1 Furlong = 220 Yds. = 660 Ft.
1 Mile = 8 Furlongs = 5280 Ft.
1 Fathom = 6 Ft.
1 Nautical Mile = 1 Knot = 6080 Ft.

SQUARE MEASURE

- 1 Sq. Ft. = 144 Sq. In.
1 Sq. Yd. = 9 Sq. Ft. = 1296 Sq. In.
1 Sq. Rod = 30 1/4 Sq. Yds. = 272 1/4 Sq. Ft.
1 Acre = 160 Sq. Rods = 43,560 Sq. Ft.
1 Sq. Mile = 640 Acres

LIQUID MEASURE

- 1 Qt. = 2 Pts.
1 Gal. = 4 Qts. = 8 Pts.
1 Bbl. = 31 1/2 Gallons = 126 Qts.
1 Bbl. (U. S. - Standard Oil Co.) = 42 Gallons
1 Hogshead = 2 Bbls. = 63 Gallons = 252 Qts. = 504 Pts.

DRY MEASURE

- 1 Qt. = 2 Pts.
1 Peck = 8 Qts. = 16 Pts.
1 Bushel = 4 Pecks = 32 Qts.

CUBIC MEASURE

- 1 Cu. Ft. = 1728 Cu. In.
1 Cu. Yd. = 27 Cu. Ft.

WEIGHT

- 1 Lb. = 16 Oz.
1 Short Ton = 2000 Lbs.
1 Long Ton = 2240 Lbs.

MISCELLANEOUS FORMULAE

Circumference of Circle = pi D = Diameter multiplied by pi (3.1416).

Area of Circle = (pi D^2) / 4 = Square of Diameter multiplied by pi (3.1416) divided by 4.

Surface of Sphere = 4piR^2 = Square of radius multiplied by pi (3.1416) multiplied by 4.

Volume of Sphere = (pi D^3) / 6 = Cube of Diameter multiplied by pi (3.1416) divided by 6.

WEIGHT OF PURE (FRESH) WATER

- General Standard = 62.50 Lbs. per Cu. Ft. = 8-1/3 Lbs. per U. S. Gal.
At Temperature of 32° Fahrenheit = 62.42 Lbs. per Cu. Ft. = 8.345 Lbs. per U. S. Gal.
At Temperature of 60° Fahrenheit = 62.34 Lbs. per Cu. Ft. = 8.334 Lbs. per U. S. Gal.
At Temperature of 100° Fahrenheit = 62.00 Lbs. per Cu. Ft. = 8.239 Lbs. per U. S. Gal.
At Temperature of 150° Fahrenheit = 61.20 Lbs. per Cu. Ft. = 8.182 Lbs. per U. S. Gal.
At Temperature of 210° Fahrenheit = 59.88 Lbs. per Cu. Ft. = 8.005 Lbs. per U. S. Gal.

MISCELLANEOUS WATER FLOW CONSTANTS

- 1 U. S. Gallon = 231 Cu. In. = 0.134 Cu. Ft. Approximately.
1 Cu. Ft. = 7.48 U. S. Gallons; generally used as 7 1/2 Gallons per Cu. Ft.
1 CFS (Cubic Feet per Second) = 60 x 7.48 = 448.8 GPM (U. S. Gallons Per Minute); generally used at 450 GPM.
1 Miner's Inch of Water = 8.976 GPM in Arizona, Idaho, Nevada, and Utah. = 11.2 GPM in California and Montana. = 11.7 GPM in Colorado.
1 Common Water Pail contains 19 pounds, or 2.27 U. S. gallons of water, approximately.
Barrels per day (42 gal.) X .02917 = gals. per min.
Barrels per day (31 1/2 gal.) X .02187 = gals. per min.
Barrels per day (45 gal.) X .03125 = gals. per min.

- Grade of 1/2% = 6" per 100 ft. = 1/16" per ft. approx.
Grade of 1% = 12" per 100 ft. = 1/8" per ft. approx.
Grade of 2% = 24" per 100 ft. = 1/4" per ft. approx.

SPECIFIC GRAVITY OF WATER is usually taken as 1.0 for density of 62.34 pounds per cubic feet at 60° F. but for certain purposes it is taken as 1.0 at 39.2° F., the point of maximum density which is 62.425 pounds per cubic feet.

VISCOSITY OF WATER at 60° F. is 1.15 SSU (seconds by Saybolt Universal).

VELOCITY OF FLOW in a pipe in Feet per Second = (GPM) / (0.408 (Diameter in Inches)^2)

pipe data - water pressure



COMMERCIAL STANDARD WROUGHT STEEL PIPE DATA

All data given herein is nominal

Table with columns: DIMENSIONS IN INCHES (Diameter, Thickness, Circumference), INTERNAL VOLUME (Per Foot of Length), LENGTH IN FEET (Per Sq. Ft. Surface, Per Volume in), WEIGHT IN LBS. PER FOOT OF LENGTH (Pipe\*, Water). Rows include pipe sizes from 1/2 to 12 inches.

\* Plain ends.

WATER PRESSURE CONVERSION TABLE

Table with columns: Head in Feet, Pounds per Sq. In., Pounds per Sq. In., Head in Feet. Rows show conversion from feet to PSI and vice versa.

For heads or pressures intermediate to those given in opposite table, combine proper quantities, thus:

Head of 236 Ft. = 6 Ft. = 2.60 PSI
30 Ft. = 12.99 PSI
100 Ft. = 43.30 PSI
100 Ft. = 43.30 PSI
Total 236 Ft. = 102.19 PSI

Pressure of 173 PSI = 3 PSI = 6.93 Ft.
70 PSI = 161.67 Ft.
100 PSI = 230.95 Ft.
Total 173 PSI = 399.55 Ft.

The above table is based on Water at 39.2° F. or 62.425 Pounds Per Cu. Ft. maximum density

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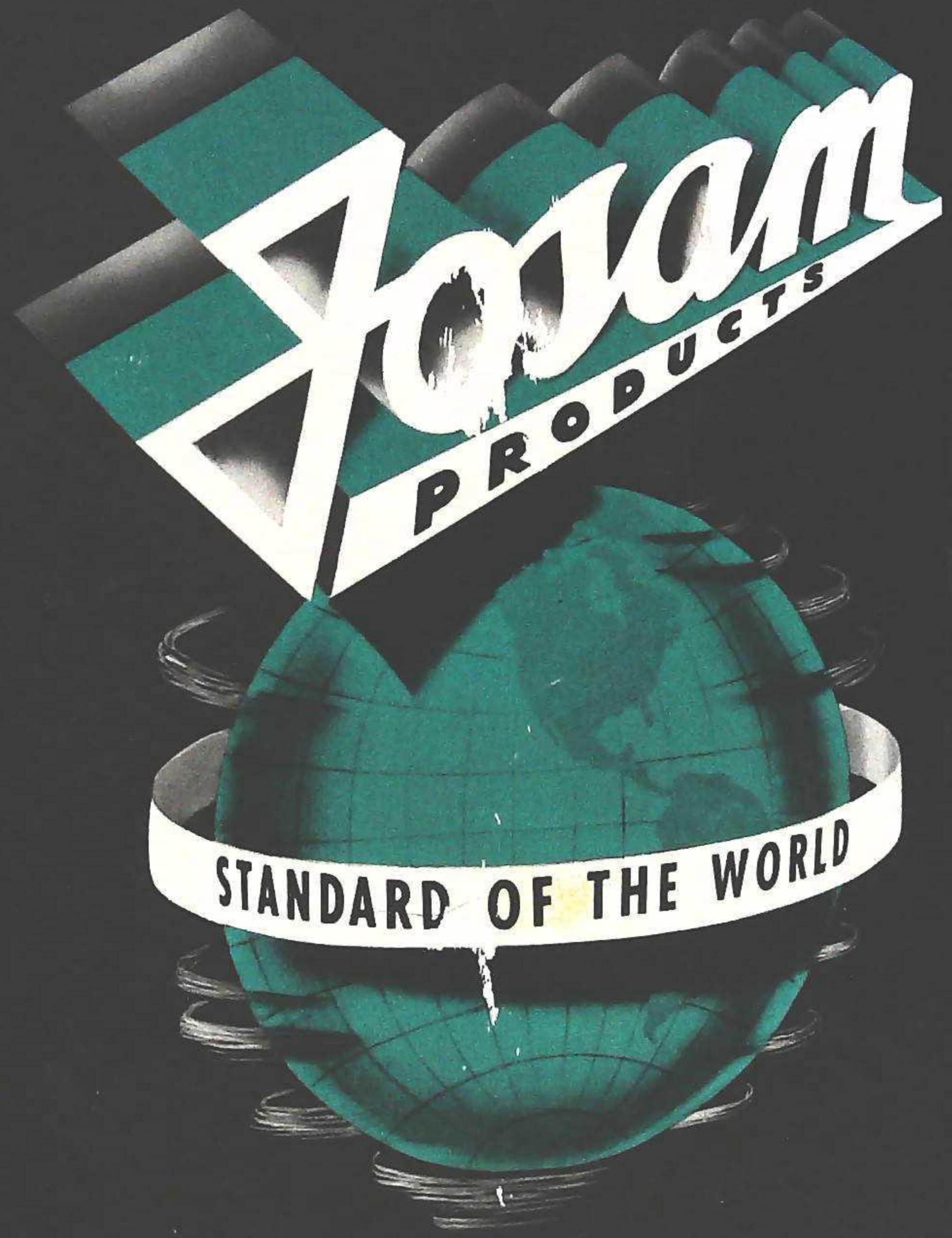
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