

*Duriron
Mechanical
Joint
Pipe and
Fittings*

Duriron Mechanical Joint ("MJ") Piping

For over 85 years Duriron has been providing a durable and reliable means to transport corrosive chemicals safely. Now, Duriron Mechanical Joint, or "MJ", piping combines the corrosion resistance of Duriron high silicon iron with the quick and easy installation of a mechanical joint. Additionally, Duriron Mechanical Joint requires little maintenance and often outlasts the life of the building or system in which it is used.

Duriron Mechanical Joint pipe and fittings provide a myriad of advantages other corrosion resistant piping do not. Among these are the following:

- Nearly universal corrosion resistance
- Safe above and below ground
- Longevity – Life of the building installation
- Can be mechanically or chemically cleaned
- Suitable to 500°F (260°C)
- Safe to use in return air plenums
- Fire and smoke proof
- No intumescent firestops
- Outstanding abrasion resistance
- Solids will not cling to the walls

Fig. 1
"MJ" Coupling

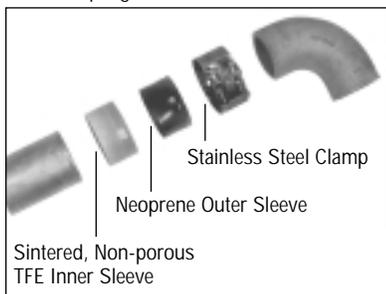
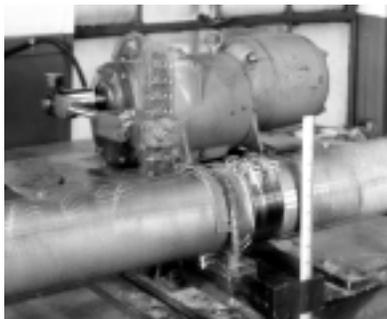


Fig. 2
Combination Heat Cycle & Angular Movement Test



The Duriron Mechanical Joint consists of an inner sleeve of PTFE, more commonly known as Teflon[®], surrounded by an outer sleeve of Neoprene[®] rubber. The two sleeves are held in place by a 300 series stainless steel coupling. (See Fig. 1.) This simple, but extremely effective design allows for highly compact installations that can be accomplished more quickly and more economically without sacrificing quality.

The mechanical joint's PTFE inner sleeve possesses corrosion resistance equal to or greater than that of Duriron itself, thereby maintaining superior corrosion resistance even at the joints. The Neoprene outer sleeve provides strength to the member and allows for the coupling to be tightly assembled without damaging the critical PTFE sleeve. The two-bolt coupling is resistant to corrosion by organic and inorganic acids and their salts.

This mechanical joint has been subjected to every conceivable test simulating the most severe conditions encountered by drainage pipe. One of these tests was a pressure test of unrestrained 3 inch (80 mm) pipe. Using maximum diameter piping joined to minimum diameter field cut pipe, the average pressure required for leakage to occur was 80 psi (550 kPa). Another test subjected the joint coupling two lengths of 3 inch (80 mm) pipe that were restrained at each end to continuous up and down motion at 390 cycles per minute. (See Fig. 2.) Total movement of the joint was 0.363 inches (9.22 mm). While the joint was cycled, water was circulated through the pipe, alternating hot and cold temperatures of 54°F (14°C) to 240°F (116°C). All joints completed this test without leakage. *Note: This information is not provided to suggest Duriron "MJ" pipe is recommended or suitable for use as a pressure piping system. Duriron "MJ" pipe is designed and intended for use as a gravity flow system. The above information was provided only to illustrate the superior material quality and safety factors to which Duriron products are designed.*

*Products of E.I. duPont de Nemours and Company

Applications

Anywhere you find acids, solvents, bleaches, detergents, or other aggressive fluids, Duriron pipe and fittings can be used. Duriron is the best-engineered solution for handling traditional acid waste services and other tough applications.

Following is a partial list of applications for which Duriron pipe is ideally suited.

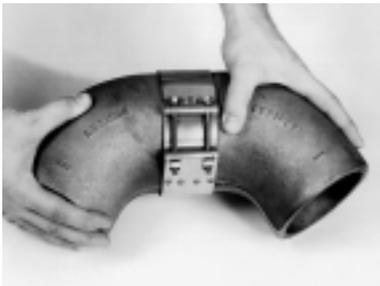
- **Laboratories**
 - Schools
 - Forensic
- **Medical Facilities**
 - Hospitals
 - Dialysis centers
- **Film Production/Processing**
- **Waste Water Treatment**
- **Pharmaceutical Plants**
- **Correctional Facilities**
- **Food & Beverage**
 - Institutional kitchens
 - Soda fountains
 - Beverage plants
 - Confectioners
- **Commercial Operations**
 - Duriron is a high silicon

Installation of “MJ” Piping

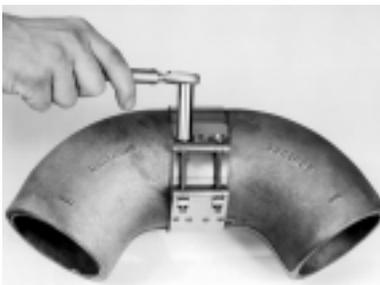
Fig. 3



Step 1. Slide three-piece coupling assembly over end of piping to the positioning lug, or about one (1) inch on field cut pieces.



Step 2. Slide mating pipe or fitting into the other end of the coupling up to the positioning lug or about one inch on field cut pieces.



Step 3. Alternately tighten nuts to 9-11 ft-lbs (108-132 in-lbs or 13 Nm) of torque, 24 hours prior to testing the line.

Method of Installation

Duriron “MJ” Piping is designed for fast and easy assembly or disassembly through the use of the two-bolt mechanical coupling. An ordinary ratchet (7/16 in or 11 mm long socket) is the only tool necessary to complete the joint.

Installation steps are illustrated in Figure 3. First, ease the three-piece coupling assembly over the end of the pipe or fitting up to the positioning lug. Next, slip the mating pipe or fitting into the other end of the coupling, again up to the positioning lug, or about one (1) inch on field cut pieces. Be sure to leave a space (about 0.125 in) between the pipe ends to avoid metal-to-metal contact and the resulting stress caused by thermal expansion. Do not use electric or pneumatic speed wrenches as doing so may result in bolt breakage. Lastly, alternately tighten the nuts to a minimum of 9 ft-lbs and a maximum of 11 ft-lbs (12-15 Nm) torque at least 24 hours prior to testing.

Hanging

In a horizontal run of pipe, Flowserve recommends supporting each length of Duriron “MJ” pipe by a hanger. If the line consists in part of fittings, supports must be placed no further than seven feet apart. P-Traps must be supported individually. Supports must be placed directly beneath horizontal fittings that connect to the stack. Supports should not clasp the pipe so tightly as to prevent normal lateral movement due to expansion. Vertical lines of pipe must be supported at intervals not to exceed fourteen feet. Hangers may be any type and do not have to be padded.

Testing

Test the line in accordance with local plumbing codes. Flowserve recommends waiting 24 hours after installation before testing the line. Due to relaxation caused by the normal and necessary creeping of the PTFE sleeve, the bolts may be retightened to the aforementioned torques *once* before testing. However, to prevent the bolts from snapping they should be retightened only once.

Cutting

Due to its hardness, Duriron high silicon iron cannot be cut with a blade. Instead, Duriron can be cut in the field using a “chain” or “snap” cutter, either manual or hydraulic. These devices are made by such companies as Springload, Reed, Ridgid, Beaver, and Wheeler and do an excellent job of cutting high silicon iron. Using a snap cutter, Duriron can be cut as quickly and as easily as cast iron.

Field cut pipe requires no additional work to be installed. Reasonably smooth field cut pipe may be used with our mechanical joint and will make a leak-proof joint, regardless of whether it is coupled with a fitting bead or another piece of cut pipe. Waste from field cutting is practically eliminated since every cut piece is a usable length of pipe.

Burying Underground or in Concrete

Duriron “MJ” piping can be buried underground or set in concrete. The first few inches of fill should be rock free, but no other special precautions need to be observed due to the remarkable range of deflection permitted by this joint. Couplings may be coated with any type of asphalt mastic should specifications require it. The pipe does not have to be coated.

Painting

Duriron piping may be painted. There is no coating to be removed or special preparation required other than that normally observed when painting other types of metallic piping.

Cleaning

Duriron “MJ” piping may be cleaned using a mechanical sewer auger or chemicals without fear of damaging the pipe or coupling.

**Duriron
High Silicon Iron**

iron alloy that is resistant to practically all commonly used process chemicals and is recognized by architects, engineers, and plumbing contractors throughout the country as the superior material for handling acid waste.

Duriron conforms to ASTM specifications A518 and A861 and is approved by all plumbing codes. It obtains its outstanding corrosion resistance from the 14.5% silicon present in its composition. Duriron has unexcelled resistance to sulfuric, nitric, hydrochloric, and acetic acids. It is resistant to both oxidizing and reducing solutions and is not appreciably affected by either concentration or temperature. Duriron also is extremely abrasion and erosion resistant. Furthermore, Duriron pipe and fittings are cast with solid wall sections, meaning abrasion and corrosion resistance are not dependent upon a thin lining or coating, but are consistent throughout the wall thickness.

While the strength of Duriron is considerably greater than that of almost all non-metallic piping, the tensile strength of this material is less than most metals, including normal cast iron. Consequently, during handling caution should be exercised not to subject the pipe to undue mechanical stress or thermal shock.

Crushing Loads, lbs/ft (N/m)		Material and Mechanical Properties of Duriron	
Duriron	15,700 (22,912)	Density, lb/cu in	0.255
Borosilicate Glass	1,200 (1,751)	Hardness, Brinell	520
Vitrified Tile	1,560 (2,277)	Thermal conductivity, cgs	0.125
		Tensile Strength (1/2 inch dia. bar), psi	20,000

Specifications

**Long Form:
Chemical Waste Drain and Vent Piping System**

I. General

- A. Contractor shall furnish and install a chemical waste piping system as indicated herein. This system shall consist of extra heavy weight, high silicon iron pipe and fittings conforming to the most recent revision of ASTM Specifications A518 and A861, as manufactured under the trade name of "Duriron" by the Flowserve Corporation, to be used for above and below grade construction.
- B. This chemical waste piping system shall include high silicon iron pipe and fittings of the Bell & Spigot or Mechanical Joint type. It may also include acid-resistant, asbestos-free rope packing or mechanical joint couplings, as manufactured by Flowserve Corporation for use with Duriron Bell & Spigot piping and Duriron Mechanical Joint piping, respectively. Where Duriron Bell & Spigot piping is to be used, virgin lead also is required for proper installation.
- C. All materials shall comply with the requirements and referenced standards listed in the International Plumbing Code and all applicable local codes.

II. Joints

- A. Duriron Bell & Spigot joints shall be made using virgin lead and Red Stripe Sealite A312 acid-resistant rope packing.
- B. Duriron Mechanical Joint piping shall be installed using a two-bolt, mechanical joint coupling, as manufactured by Flowserve Corporation. The Duriron mechanical joint coupling consists of an inner sleeve of PTFE, an outer sleeve of Neoprene rubber (a product of the DuPont DeNemours Company), and an outer band of 300-series stainless steel. Mechanical Joint couplings shall be installed by alternately tightening the nuts to a minimum of 9 ft-lbs and a maximum of 11 ft-lbs torque.
- C. Duriron may be joined to other types of piping by using adapters made by Flowserve Corporation or the other manufacturer. Glass and other metallic piping systems may be joined to Duriron using a Duriron hub fitting and caulking the joint with Red Stripe Sealite A312 rope packing and virgin lead.

Specifications*Cont'd***III. Sink Connections**

Sink outlets, tailpieces, traps, and trap adapters shall be high silicon iron or PTFE, as manufactured under the trade name Duriron by the Flowserve Corporation.

IV. Installation & Testing

- A. All material shall be installed in accordance with the manufacturer's instructions and in compliance with the International Plumbing Code and all applicable local codes.
- B. Each length of pipe in a horizontal run shall be supported by a hanger. If the line consists in part of fittings, supports shall be placed no further than seven feet apart. P-Traps must be supported individually. Supports shall be placed directly beneath horizontal fittings that connect to the stack. Vertical lines of pipe shall be supported at intervals not to exceed fourteen feet. Hangers shall not clasp the pipe so tightly as to prevent normal lateral movement due to expansion.
- C. Test in accordance with all applicable code requirements. Prior to testing, Duriron Bell & Spigot and Mechanical Joint piping shall be filled with water and allowed to sit for 24 hours.

V. Above Grade Piping

Piping and fittings located in air plenums shall be smoke-proof and non-combustible, in compliance with the flame and smoke spread ratings of ASTM E84.

VI. Below Grade Piping

- A. A trench shall be excavated so as to provide adequate room to make joints, align, and grade the pipe. The trench bottom shall be properly compacted and rock-free and shall support the pipe throughout its entire length.
- B. Fill material shall be applied in layers not exceeding 6 inches loose depth and each layer shall be thoroughly compacted. The first 6 inches of fill material shall be rock-free.

Short Form:**Chemical Waste Drain and Vent Piping System**

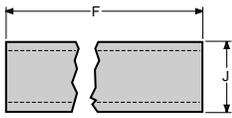
This system shall consist of high silicon iron pipe and fittings conforming to the most recent revision of ASTM Specifications A518 and A861, as manufactured under the trade name of "Duriron" by the Flowserve Corporation. Pipe and fittings shall be of the Bell & Spigot or Mechanical Joint type installations and be suitable for above and below grade construction.

Where used, Bell & Spigot type joints shall be made using virgin lead and Red Stripe Sealite A312 acid-resistant rope packing. Duriron Mechanical Joint piping shall be installed using a two-bolt, mechanical joint coupling, as manufactured by Flowserve Corporation. The mechanical joint coupling shall consist of an inner sleeve of PTFE, an outer sleeve of Neoprene rubber (a product of The DuPont DeNemours Company), and an outer band of 300-series stainless steel. Mechanical joint couplings shall be installed by alternately tightening the nuts to a minimum of 9 ft-lbs and a maximum of 11 ft-lbs torque.

For systems being installed underground, a trench shall be excavated so as to provide adequate room to make joints, align, and grade the pipe. The trench bottom shall be properly compacted and rock-free and shall support the pipe throughout its entire length. Fill material shall be applied in layers not exceeding 6 inches loose depth and each layer shall be thoroughly compacted. The first 6 inches of fill material shall be rock-free.

The system shall be installed and tested in accordance with the manufacturer's instructions and all governing plumbing codes.

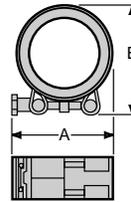
Type "MJ" Pipe



Size in (mm)	Part No.	J in (mm)	F in (mm)
1 1/2 (40)	AS30196A	2 ³ / ₁₆ (56)	84 (2134)
2 (50)	AS30196B	2 ⁵ / ₈ (67)	84 (2134)
3 (80)	AS30196C	3 ³ / ₄ (95)	84 (2134)
4 (100)	AS30196D	4 ³ / ₄ (121)	84 (2134)

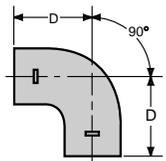
Coupling

Tighten nuts to a minimum of 9 ft.-lbs (98 in.-lbs) (12 N-m) torque before testing.



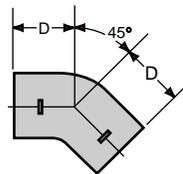
Size in (mm)	Part No.	A in (mm)	B in (mm)
1 1/2 (40)	MJ-1 1/2A	3 ³ / ₈ (86)	2 ⁷ / ₈ (73)
2 (50)	MJ-2A	4 (102)	3 ³ / ₈ (86)
3 (80)	MJ-3A	4 ⁷ / ₁₆ (113)	4 ³ / ₁₆ (106)
4 (100)	MJ-4A	4 ¹⁵ / ₁₆ (125)	5 ³ / ₁₆ (132)

Quarter Bends



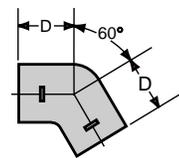
Size in (mm)	Part No.	D in (mm)
1 1/2 (40)	BS27571AB	4 1/4 (108)
2 (50)	BS25756AB	4 1/2 (114)
2x1 1/2 (50x40)	BS32679AB	4 ³ / ₁₆ x 4 1/2 (106 x 114)
3 (80)	BS24786AB	5 (127)
4 (100)	BS24787AB	5 1/2 (140)

Eighth Bends



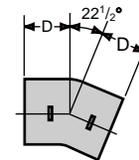
Size in (mm)	Part No.	D in (mm)
1 1/2 (40)	BS27574AB	2 1/2 (64)
2 (50)	BS25762AB	2 3/4 (70)
3 (80)	BS24788AB	3 (76)
4 (100)	BS24789AB	3 1/4 (83)

Sixth Bends



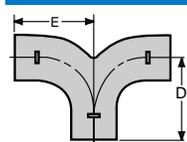
Size in (mm)	Part No.	D in (mm)
1 1/2 (40)	BS27573AB	3 (76)
2 (50)	BS25759AB	3 1/4 (83)
3 (80)	BS25327AB	3 1/2 (89)
4 (100)	BS25329AB	3 3/4 (95)

Sixteenth Bends



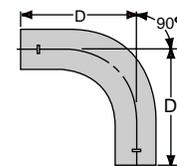
Size in (mm)	Part No.	D in (mm)
1 1/2 (40)	BS27572AB	2 (50)
2 (50)	BS25768AB	2 1/8 (54)
3 (80)	BS25332AB	2 1/4 (57)
4 (100)	BS25333AB	2 3/8 (60)

Double Branch Quarter Bends



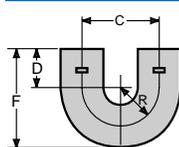
Size in (mm)	Part No.	D in (mm)	E in (mm)
1 1/2 (40)	BS36157AB	3 ⁷ / ₈ (98)	3 ³ / ₄ (95)

Long Sweep Quarter Bends



Size in (mm)	Part No.	D in (mm)
1 1/2 (40)	CS27578AB	9 1/4 (235)
2 (50)	CS25773AB	9 1/2 (241)
3 (80)	CS24790AB	10 (254)
4 (100)	CS24791AB	10 1/2 (267)

Return Bend



Size in (mm)	Part No.	C in (mm)	D in (mm)	F in (mm)	R in (mm)
1 1/2 (40)	BS27689AB	4 (102)	2 (51)	5 ³ / ₃₂ (132)	2 (51)
2 (50)	BS34749AB	4 ³ / ₄ (121)	2 (51)	5 ¹¹ / ₁₆ (144)	2 ³ / ₈ (60)

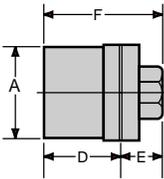
Pipe Plugs



Size in (mm)	Part No.	F in (mm)
1 1/2 (40)	AS27570AB	2 (50)
2 (50)	AS25786AB	2 1/2 (64)
3 (80)	AS24819AB	2 1/2 (64)
4 (100)	BS24820AB	2 1/2 (64)

Cleanout Plugs

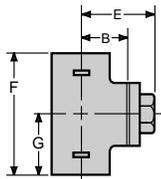
Countersunk heads also available.



Size in (mm)	Part No.	A in (mm)	D in (mm)	E in (mm)	F in (mm)
1 1/2 (40)	SA3457	2 3/16 (56)	2 1/4 (57)	1 5/16 (33)	3 9/16 (90)
2 (50)	SA3337	2 21/32 (67)	2 1/4 (57)	1 5/16 (33)	3 9/16 (90)
3 (80)	SA3338	3 3/4 (95)	2 1/2 (64)	1 3/8 (35)	3 7/8 (98)
4 (100)	SA3339	4 3/4 (121)	2 3/4 (70)	1 7/16 (37)	4 3/16 (106)

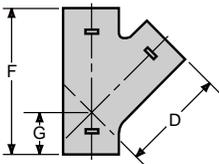
Combination Cleanout & Test

Countersunk heads also available.



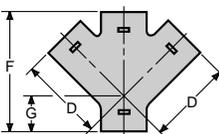
Size in (mm)	Part No.	B in (mm)	E in (mm)	F in (mm)	G in (mm)
2 (50)	SA3334	2 7/16 (62)	3 3/4 (95)	6 7/8 (175)	3 7/16 (87)
3 (80)	SA3335	3 3/8 (86)	4 11/16 (119)	8 3/8 (213)	4 3/16 (106)
4 (100)	SA3336	3 7/8 (98)	5 7/16 (138)	9 3/8 (238)	4 11/16 (119)

Sanitary Y Branches



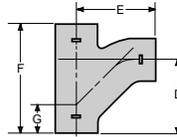
Size in (mm)	Part No.	D in (mm)	F in (mm)	G in (mm)
1 1/2 x 1 1/2 (40 x 40)	BS27577AB	4 5/8 (117)	6 1/2 (165)	1 7/8 (48)
2 x 1 1/2 (50 x 40)	BS27495AB	4 7/8 (124)	6 1/2 (165)	1 5/8 (41)
2 x 2 (50 x 50)	BS25760AB	4 5/8 (117)	6 3/8 (162)	2 (50)
3 x 1 1/2 (80 x 40)	BS24803AB	5 5/8 (143)	6 1/2 (165)	1 1/4 (32)
3 x 2 (80 x 50)	BS24804AB	5 7/8 (149)	7 1/8 (181)	1 1/2 (38)
3 x 3 (80 x 80)	BS24805AB	6 3/8 (162)	8 5/8 (219)	2 1/4 (57)
4 x 1 1/2 (100 x 40)	BS32535AB	6 5/8 (168)	7 1/2 (190)	1 3/8 (35)
4 x 2 (100 x 50)	CS24806AB	6 5/8 (168)	7 1/2 (190)	1 3/8 (35)
4 x 3 (100 x 80)	CS24807AB	7 1/8 (181)	8 3/4 (222)	1 3/4 (44)
4 x 4 (100 x 100)	CS24808AB	7 5/8 (194)	10 1/4 (260)	2 5/8 (62)

Double Branch Sanitary Y



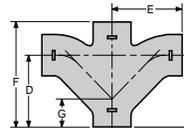
Size in (mm)	Part No.	D in (mm)	F in (mm)	G in (mm)
1 1/2 x 1 1/2 (40 x 40)	BS27577BB	4 5/8 (117)	6 1/2 (165)	1 7/8 (48)
2 x 1 1/2 (50 x 40)	BS27495BB	4 7/8 (124)	6 1/2 (165)	1 5/8 (41)
2 x 2 (50 x 50)	BS25760BB	4 5/8 (117)	6 3/8 (162)	2 (50)
3 x 1 1/2 (80 x 40)	BS24803BB	5 5/8 (143)	6 1/2 (165)	1 1/4 (32)
3 x 2 (80 x 50)	BS24804BB	5 7/8 (149)	7 1/8 (181)	1 1/2 (38)
3 x 3 (80 x 80)	CS24809AB	6 3/8 (162)	6 5/8 (168)	2 1/4 (57)
4 x 2 (100 x 50)	CS24806BB	6 5/8 (168)	7 1/2 (190)	1 3/8 (35)
4 x 3 (100 x 80)	CS25300AB	7 1/8 (181)	8 3/4 (222)	1 3/4 (44)
4 x 4 (100 x 100)	CS24810AB	7 5/8 (194)	10 1/4 (260)	2 5/8 (67)

Sanitary Combination Y and 1/8 Bend



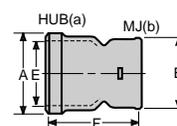
Size in (mm)	Part No.	D in (mm)	E in (mm)	F in (mm)	G in (mm)
1 1/2 x 1 1/2 (40 x 40)	CS27581AB	4 3/4 (121)	5 3/8 (137)	6 1/2 (165)	1 7/8 (48)
2 x 1 1/2 (50 x 40)	CS27582AB	4 3/4 (121)	5 3/4 (146)	6 1/2 (165)	1 5/8 (41)
2 x 2 (50 x 50)	BS25765AB	5 (127)	5 7/8 (149)	6 5/8 (168)	1 7/8 (48)
3 x 1 1/2 (80 x 40)	CS24811AB	4 1/4 (108)	5 1/4 (133)	6 1/2 (165)	1 5/8 (41)
3 x 2 (80 x 50)	CS24812AB	5 (127)	6 1/4 (159)	7 1/8 (181)	1 1/2 (38)
3 x 3 (80 x 80)	CS24813AB	6 1/4 (159)	7 (178)	8 1/2 (216)	2 1/4 (57)
4 x 1 1/2 (100 x 40)	CS32632AB	4 5/16 (110)	6 1/8 (156)	6 5/8 (168)	1 3/8 (35)
4 x 2 (100 x 50)	CS24814AB	5 (127)	6 3/8 (162)	7 3/8 (187)	1 3/8 (35)
4 x 3 (100 x 80)	CS24815AB	6 (152)	7 1/4 (184)	8 3/4 (222)	1 3/4 (44)
4 x 4 (100 x 100)	CS24816AB	7 3/8 (187)	8 (203)	10 1/4 (260)	2 5/8 (67)

Double Branch Sanitary Combination Y and 1/8 Bend

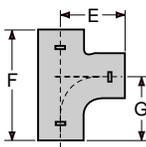


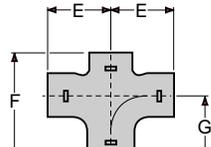
Size in (mm)	Part No.	D in (mm)	E in (mm)	F in (mm)	G in (mm)
1 1/2 x 1 1/2 (40 x 40)	CS27581BB	4 3/4 (121)	5 3/8 (137)	6 1/2 (165)	1 7/8 (48)
2 x 1 1/2 (50 x 40)	CS27582BB	4 3/4 (121)	5 3/4 (146)	6 1/2 (165)	1 5/8 (41)
2 x 2 (50 x 50)	BS25765BB	5 (127)	5 7/8 (149)	6 5/8 (168)	1 5/8 (41)
3 x 1 1/2 (80 x 40)	CS24811BB	4 1/4 (108)	5 1/4 (133)	6 1/2 (165)	1 5/8 (41)
3 x 2 (80 x 50)	CS24812BB	5 (127)	6 1/4 (159)	7 1/8 (181)	1 1/2 (38)
3 x 3 (80 x 80)	CS25319AB	6 1/4 (159)	7 (178)	8 1/2 (216)	2 1/4 (57)
4 x 2 (100 x 50)	CS24814BB	5 (127)	6 3/8 (162)	7 3/8 (187)	1 3/8 (35)
4 x 3 (100 x 80)	DS25325AB	6 (152)	7 1/4 (184)	8 3/4 (222)	1 3/4 (44)
4 x 4 (100 x 100)	DS25323AB	7 3/8 (187)	8 (203)	10 1/4 (260)	2 5/8 (67)

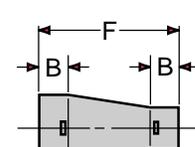
Adapter/Hub to "MJ" Duriron



Size in (mm)	Part No.	A in (mm)	B in (mm)	E in (mm)	F in (mm)
1 1/2 x 1 1/2 (40 x 40)	BS32635AB	3 23/32 (94)	2 1/4 (57)	2 3/4 (70)	4 5/8 (117)
1 1/2 x 2 (40 x 50)	BS26346AB	3 13/16 (97)	2 21/32 (67)	2 3/4 (70)	4 5/8 (117)
1 1/2 x 3 (40 x 80)	BS25446AB	3 13/16 (97)	3 13/16 (97)	2 3/4 (70)	4 5/8 (117)
1 1/2 x 4 (40 x 100)	BS25451AB	3 13/16 (97)	4 13/16 (122)	2 3/4 (70)	4 7/8 (124)
2 x 2 (50 x 50)	BS32554AB	4 5/16 (110)	2 23/32 (69)	3 1/8 (80)	5 1/8 (130)
2 x 3 (50 x 80)	BS25448AB	4 5/16 (110)	3 13/16 (97)	3 1/8 (80)	4 3/4 (121)
2 x 4 (50 x 100)	BS25449AB	4 5/16 (110)	4 13/16 (122)	3 1/8 (80)	5 (127)
3 x 3 (80 x 80)	BS32555AB	5 5/16 (135)	3 13/16 (97)	4 1/8 (105)	5 3/8 (137)
4 x 4 (100 x 100)	BS32556AB	6 9/32 (160)	4 7/8 (124)	5 1/8 (130)	4 9/16 (141)

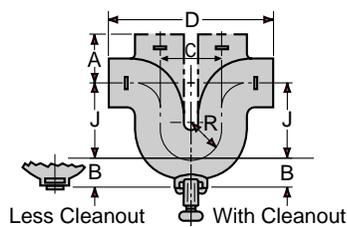
Sanitary T Branches	Size in (mm)	Part No.	E in (mm)	F in (mm)	G in (mm)
	1 1/2 x 1 1/2 (40 x 40)	BS27576AB	4 1/4 (108)	6 3/4 (171)	4 1/4 (108)
	2 x 1 1/2 (50 x 40)	CS27583AB	4 1/2 (114)	6 3/4 (171)	4 1/4 (108)
	2 x 1 1/2 x 1 1/2 (50 x 40 x 40)	CS29045AB	4 1/2 (114)	6 3/4 (171)	4 1/4 (108)
	2 x 2 (50 x 50)	BS25757AB	4 1/2 (114)	6 7/8 (175)	4 1/2 (114)
	3 x 1 1/2 (80 x 40)	BS24797AB	5 (127)	6 3/4 (171)	4 1/4 (108)
	3 x 2 (80 x 50)	BS24798AB	5 (127)	7 1/4 (184)	4 1/2 (114)
	3 x 3 (80 x 80)	BS24799AB	5 (127)	8 3/8 (213)	5 (127)
	4 x 1 1/2 (100 x 40)	AS32530B	5 9/16 (141)	6 7/8 (175)	4 7/32 (107)
	4 x 2 (100 x 50)	CS24800AB	5 1/2 (140)	7 1/4 (184)	4 1/2 (114)
	4 x 3 (100 x 80)	CS24801AB	5 1/2 (140)	8 1/4 (210)	5 (127)
	4 x 4 (100 x 100)	CS24802AB	5 1/2 (140)	9 3/8 (238)	5 1/2 (140)

Double Branch Sanitary T	Size in (mm)	Part No.	E in (mm)	F in (mm)	G in (mm)
	1 1/2 x 1 1/2 (40 x 40)	BS27576BB	4 1/4 (108)	6 3/4 (171)	4 1/4 (108)
	2 x 1 1/2 (50 x 40)	CS27583BB	4 1/2 (114)	6 3/4 (171)	4 1/4 (108)
	2 x 2 (50 x 50)	AS32531AB	4 1/2 (114)	6 7/8 (175)	4 1/2 (114)
	3 x 1 1/2 (80 x 40)	BS32629AB	5 (127)	6 3/4 (171)	4 1/4 (108)
	3 x 2 (80 x 50)	BS32533AB	5 (127)	7 1/4 (184)	4 1/2 (114)
	3 x 3 (80 x 80)	AS32532AB	5 (127)	8 3/8 (213)	5 (127)
	4 x 2 (100 x 50)	CS32630AB	5 1/2 (140)	7 1/4 (184)	4 1/2 (114)
	4 x 3 (100 x 80)	CS32631AB	5 1/2 (140)	8 1/4 (210)	5 (127)
	4 x 4 (100 x 100)	CS32627AB	5 1/2 (140)	9 3/8 (238)	5 1/2 (140)

Reducers-Increasers	Size in (mm)	Part No.	B in (mm)	F in (mm)
	2 x 1 1/2 (50 x 40)	BS25782AB	1 1/2 (40)	8 (203)
	3 x 1 1/2 (80 x 40)	BS25307AC	1 1/2 (40)	8 (203)
	3 x 2 (80 x 50)	BS25331AC	1 1/2 (40)	8 (203)
	4 x 1 1/2 (100 x 40)	BS27575AB	1 1/2 (40)	8 (203)
	4 x 2 (100 x 50)	BS24794AB	1 1/2 (40)	8 (203)
	4 x 3 (100 x 80)	BS24795AB	1 1/2 (40)	8 (203)

Sanitary Running Traps*

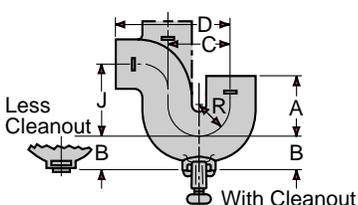
Minimum depth of seal on any trap is 2 1/2 in (64 mm).
 *Details of cleanout shown on page 8.



Size in (mm)	With Cleanout Part No.			Less Cleanout Part No.	A in (mm)	B in (mm)	C in (mm)	D in (mm)	J in (mm)	R in (mm)
	No Vent	Single Vent	Double Vent							
1 1/2 (40)	SA3450	SA3451	SA3452	BY27840T	2 3/4 (70)	1 5/8 (41)	5 (127)	10 (254)	4 (102)	1 3/4 (44)
2 (50)	SA3438	SA3439	SA3440	BY27840G	3 1/2 (89)	1 15/16 (49)	5 1/2 (140)	11 (279)	4 (102)	2 (51)
3 (80)	SA3441	SA3442	SA3443	BY27840K	4 (100)	2 5/16 (59)	6 1/2 (165)	13 (330)	5 1/2 (140)	2 1/2 (64)
4 (100)	SA3444	SA3445	SA3446	BY27840N	4 1/2 (114)	3 (76)	7 1/2 (190)	15 (381)	6 1/2 (165)	3 (76)

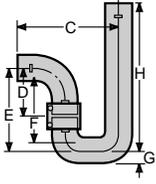
Sanitary P Traps*

*Details of cleanout shown on page 8.



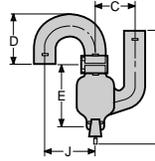
Size in (mm)	With Cleanout Part No.		Less Cleanout Part No.	A in (mm)	B in (mm)	C in (mm)	D in (mm)	J in (mm)	R in (mm)
	No Vent	Single Vent							
1 1/2 (40)	SA3448	SA3449	BY27840R	3 3/4 (95)	1 5/8 (41)	3 1/2 (89)	6 3/4 (171)	4 (102)	1 3/4 (44)
2 (50)	SA3432	SA3433	BY27840A	4 (102)	1 15/16 (49)	4 (102)	7 1/2 (190)	4 (102)	2 (51)
3 (80)	SA3434	SA3435	BY27840C	4 1/2 (114)	2 5/16 (65)	5 (127)	9 (229)	5 1/2 (140)	2 1/2 (64)
4 (100)	SA3436	SA3437	BY27840E	5 (127)	3 (76)	6 (152)	10 1/2 (267)	6 1/2 (165)	3 (76)

Swivel Trap P Style Short	Size in (mm)	Part No.	C in (mm)	D in (mm)	E in (mm)	F in (mm)	G in (mm)	H* in (mm)
	1 1/2 (40)	CY36465A	8 3/4 (222)	4 (100)	6 15/16 (176)	5 7/16 (138)	1 3/32 (28)	12 1/2 (318)
	2 (50)	CY36466A	9 3/4 (248)	4 1/2 (114)	7 3/4 (197)	5 3/4 (146)	1 3/8 (35)	12 (305)

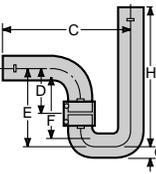


*For shorter "H" dimension Snap-Cut to desired length.

Centrifugal Drum Trap S Swivel Type	Size in (mm)	Part No.	C in (mm)	D in (mm)	E in (mm)	F in (mm)	J in (mm)
	1 1/2 (40)	CY36821A	4 (100)	5 3/32 (129)	6 3/4 (171)	12 3/4 (324)	4 (100)
	1 1/2 (40)	SA3486	4 (100)	15 15/32 (393)	6 3/4 (171)	12 3/4 (324)	4 (100)
	2 (50)	SA3863	4 3/4 (121)	5 11/16 (144)	7 9/16 (192)	14 1/4 (362)	4 3/4 (121)

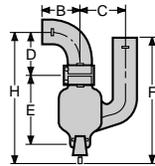


Swivel Trap P Style Long	Size in (mm)	Part No.	C* in (mm)	D in (mm)	E in (mm)	F in (mm)	G in (mm)	H* in (mm)
	1 1/2 (40)	CY36464A	12 3/4 (324)	4 (100)	6 15/16 (176)	5 7/16 (138)	1 3/32 (28)	12 1/2 (318)

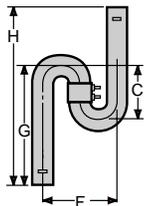


*For shorter "C" or "H" dimensions Snap-Cut to desired length.

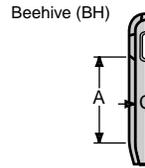
Centrifugal Drum Trap P Swivel Type	Size in (mm)	Part No.	B in (mm)	C in (mm)	D in (mm)	E in (mm)	F in (mm)	H in (mm)
	1 1/2 (40)	SA3485	4 (100)	4 (100)	4 (100)	6 3/4 (171)	12 3/4 (324)	12 15/16 (329)
	2 (50)	SA3862	4 1/2 (114)	4 3/4 (121)	4 1/2 (114)	7 9/16 (192)	14 1/4 (362)	14 1/4 (362)



Swivel Trap S Style Long	Size in (mm)	Part No.	C in (mm)	F in (mm)	G in (mm)	H in (mm)
	1 1/2 (40)	SA3539	6 (150)	8 (203)	14 3/8 (365)	22 3/4 (578)
	2 (50)	CY36467A	6 3/8 (162)	10 1/2 (267)	12 (305)	17 7/8 (448)



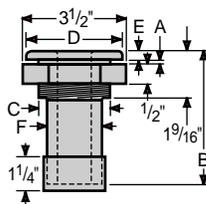
Sink Overflows*	Part No.	A** in (mm)	B** in (mm)	C in (mm)
Beehive (BH)	AY13983A	4 (100)	6 1/8 (156)	1 (25)
	AY13983B	6 (150)	8 1/8 (206)	1 (25)
	AY13983C	8 (200)	10 1/8 (257)	1 (25)
	AY13983D	2 (50)	4 1/8 (105)	1 (25)



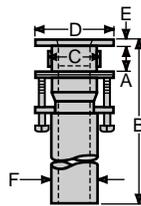
*Compatible with sink outlets 11713A and FE1108.

**Dimensions A and B will vary depending upon the sink strainer in which overflow is placed, depth of counterbore, etc. B dimension is given only as a guide.

Duriron Sink Outlets**



FE1108



11713A

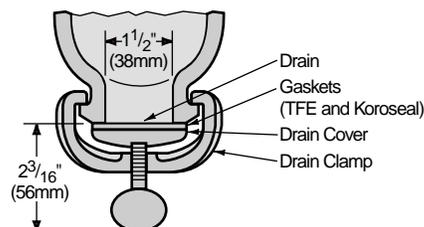
Size in (mm)	Type	A in (mm)	B in (mm)	C in (mm)	D in (mm)	E in (mm)	F in (mm)	Adapter
2 (50)	FE1108A	1/16-1 (1-25)	5 (127)	2 5/8 (62)	3 5/16 (84)	1/4 (6)	1 7/8 (48)	FE1105†
1 1/2 (40)	FE1108B	1/16-1 (1-25)	5 (127)	2 5/8 (62)	3 5/16 (84)	1/4 (6)	1 7/8 (48)	FE1106†
1 1/2 (40)	11713A*	0-2 (0-51)	10 1/4 (260)	1 7/8 (48)	3 5/16 (84)	1/4 (6)	2 3/16 (56)	—

*Do not cut 11713A to Shorten "B" dimension. Cut trap instead.

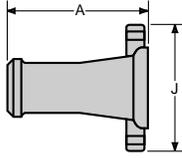
**AY12178A stopper and AX49679A strainer compatible with FE1108 and 11713A outlets.

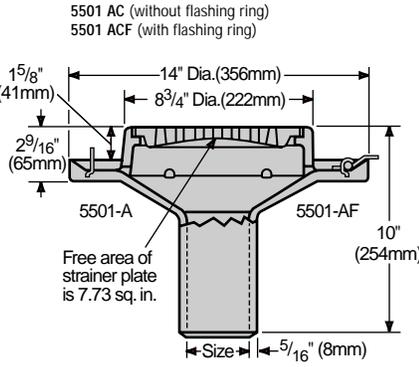
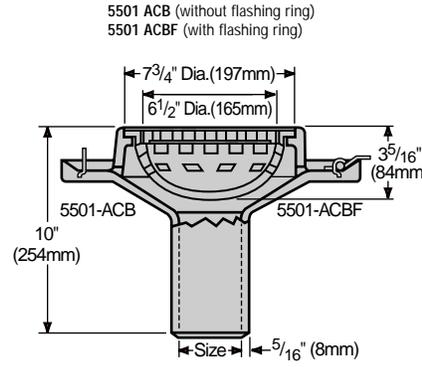
†FE1105 and FE1106 are made of PTFE.

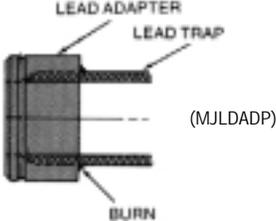
Trap Cleanout Details

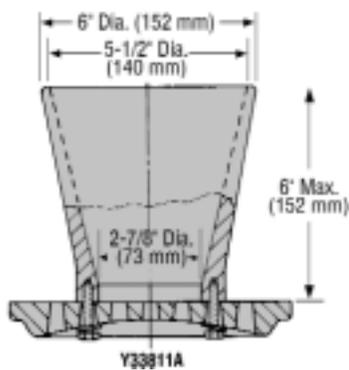


Threaded Adapters	Type	Size in (mm)	Pattern No.
Durcon Sink Outlet or Cup Sink to Duriron "MJ" Traps.  NPSM Threads (National Pipe Straight Mechanical)	AD-7	1 1/2 in Outlet to 1 1/2 in MJ (40 mm Outlet to 40 mm MJ)	AY28315A
	AD-8	1 1/2 in Outlet to 2 in MJ (40 mm Outlet to 50 mm MJ)	AY27085A
	AD-10	2 in Outlet to 2 in MJ (50 mm Outlet to 50 mm MJ)	AY24570AA

Adapter/"MJ" and Split Flange	Size in (mm)	Wt. lbs (kg)	A in (mm)	J in (mm)
	2 (50)	5 (2.3)	5 3/4 (146)	6 (152)
	3 (80)	11 (5.0)	7 (178)	7 1/2 (190)
	4 (100)	12 (5.4)	8 (203)	9 (229)
	6 (150)	22 (10.0)	9 1/2 (241)	11 (279)
	8 (200)	44 (20.0)	10 3/4 (273)	13 1/2 (343)

Floor Drains	Plate No.	Outlet Size in (mm)	Weight lbs (kg)
 5501 AC (without flashing ring) 5501 ACF (with flashing ring)	5501-AC	2, 3, 4 and 6 (50, 80, 100 and 150)	45 (20.4)
	5501-ACF	2, 3, 4 and 6 (50, 80, 100 and 150)	45 (20.4)
 5501 ACB (without flashing ring) 5501 ACFB (with flashing ring)	5501-ACB	2, 3, 4 and 6 (50, 80, 100 and 150)	53 (24.1)
	5501-ACFB	2, 3, 4 and 6 (50, 80, 100 and 150)	53 (24.1)

Duriron "MJ" to Lead Adapter	Type	Size in (mm)	Part No.
	AD-11	1 1/2 (40)	AX36355A
	AD-12	2 (50)	AX36356A

Floor Drain Funnel Attachment*	Funnel attaches to duplex stainless steel strainer plates of floor drains. Funnel body, screws and washers are stainless steel. (Approximately 4 pounds.)
	

Warranty

Flowserve Corporation warrants all pipe, fittings, and accessories of its manufacture to be free from defects in material and workmanship. If any failure results from such cases within ten years after purchase, Flowserve Corporation will, after inspection by a factory representative, supply replacement parts at no charge to the customer. The liability of Flowserve Corporation is expressly limited to supplying such replacement parts.

Returned Material

The following conditions apply to the return of Duriron pipe and fittings. Credit, where applicable, will be issued approximately 60 days from the date of receipt of the returned items. Any questions regarding the return goods policy should be directed to the Flowserve Corporation, manufacturer of Duriron pipe and fittings, or your local Duriron representative.

- Request for return authorization must be submitted to Flowserve Corporation or its representatives in writing. Such requests must state the reason(s) for the return and reference the order(s) against which the material was purchased. Flowserve Corporation reserves the right to refuse return authorization on special make items, non-stocked items, or for any other reason. Flowserve Corporation also reserves the right to deny consent for return on any list of material having a total list value less than \$100.00.
- Items must be returned freight prepaid F.O.B. destination, unless Flowserve Corporation instructs otherwise.
- The return authorization tag(s) must accompany the returned item(s).
- Credit will be issued for items returned in saleable condition. Credit will not be given for items that are used, broken, or otherwise damaged.
- All returns are subject to a handling fee.
- Credit for returned items will be applied to the customer's account, unless notified in writing to issue credit in the form of a check.

For additional details regarding the terms applying to the return of materials, please contact Flowserve Corporation.

Shipping

All shipments are F.O.B. Dayton, Ohio. If export packing is necessary, please contact Flowserve Corporation for pricing.

In the event of transportation shortages or damages, it is the responsibility of the customer to file any and all claims with the transportation company.

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Multiple Casting Processes

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Your local Flowserve representative:

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