NORTH TEXAS CONTR.
MORRIS AVE. EXTN.
ADDISON, TEXAS

TABLE CONTENTS

I. PIPE-C900 PVC & SDR-21 WATER PIPE

USFilter

USF DISTRIBUTION
4333 IRVING BLVD., 75247
P.O. BOX 569250
DALLAS, TX 753569250
TELEPHONE 214-631-9410
FACSIMILE 214-905-0768

CERTIFICATION OF CONFORMANCE

THIS CERTIFIES THAT THE FOLLOWING MATERIAL(S):

4" thru 12" AWWA C-900 PVC WATERMAIN PIPE

AS FURNISHED BY U.S. FILTER/DISTRIBUTION GROUP TO:

PURCHASER: **North Texas COntr.**

PROJECT: **Morris Ave. Extn.**
Addison, Texas

MEET THE REQUIREMENTS OF THE FOLLOWING SPECIFICATION(S):

AWWA C-900 -	"STANDARD FOR POLYVINYL CHLORIDE (PVC) PRESSURE PIPE, 4 IN. THRU 12 IN. FOR WATER"
NSF -	NATIONAL SANITATION FOUNDATION (CHEMICAL TASTING ODOR)
UL -	UNDERWRITERS LABORATORIES, INC.
FM -	FACTORY MUTUAL

CERTIFICATIONS FORWARDED:

SUBSCRIBED, AND SWORN TO BEFORE ME THIS DAY OF

DATE **May 23, 2001**

NOTARY Mary Lindsey

Mary Lindsey

MARY LINDSEY
NOTARY PUBLIC
State of Texas
Comm. Exp. 01-26-2004

U.S.FILTER/DISTRIBUTION GROUP

BY _____
Bruce Ellingsworth

LOCATION Dallas, Texas

Modern Piping for Reliable Low Maintenance Water Systems.

A Company With Experience

CertainTeed Corporation is one of the nation's leading manufacturers of Polyvinyl Chloride (PVC) piping products. Applications include products for industrial, commercial, residential, municipal and utility markets. CertainTeed operates its own resin plant to assure constant high quality raw material for its specially equipped extrusion facilities that produce high quality uniform pipe and fittings to exacting standards.

Description

Fluid-Tite™ Integral Bell (IB) solid PVC piping for reliable fluid transportation is available in sizes 1½" through 12" in pressure class 160 (SDR 26) and class 200 (SDR 21). Each length of pipe is supplied with a rubber sealing gasket and sufficient lubricant. The bell end (socket) of the pipe is thicker than the pipe and an integral part of the pipe.

The patented Fluid-Tite joint provides an instant seal and can be assembled and installed by personnel with a minimum experience. No special tools or skills are required. No heavy lifting equipment is necessary to handle the pipe. Fluid-Tite PVC pipe can be installed in adverse weather conditions and undulating terrain. Joints, when assembled, can be pressure tested immediately.

Uses

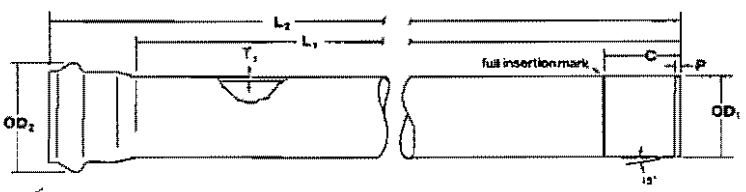
The uses of CertainTeed PVC pipe are growing as engineers recognize the benefits of the highly versatile pipe for reliable fluid transportation. Contractors find the lightweight sections install rapidly, even in difficult soil conditions and terrains because of CertainTeed's simple all weather Fluid-Tite IB joint.

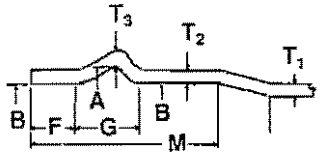
Typical uses are: Potable Water
Sewer Forced Mains
Irrigation Supply Lines

Fittings

There is a comprehensive line of compatible precision-made fittings available for Fluid-Tite (IB) piping systems including adaptors for joining to other piping materials.

Dimensions

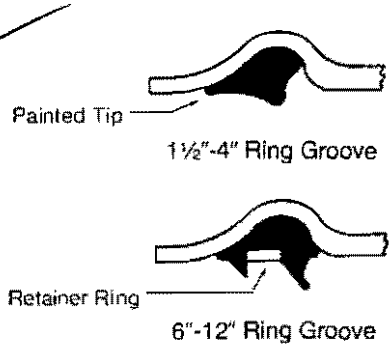




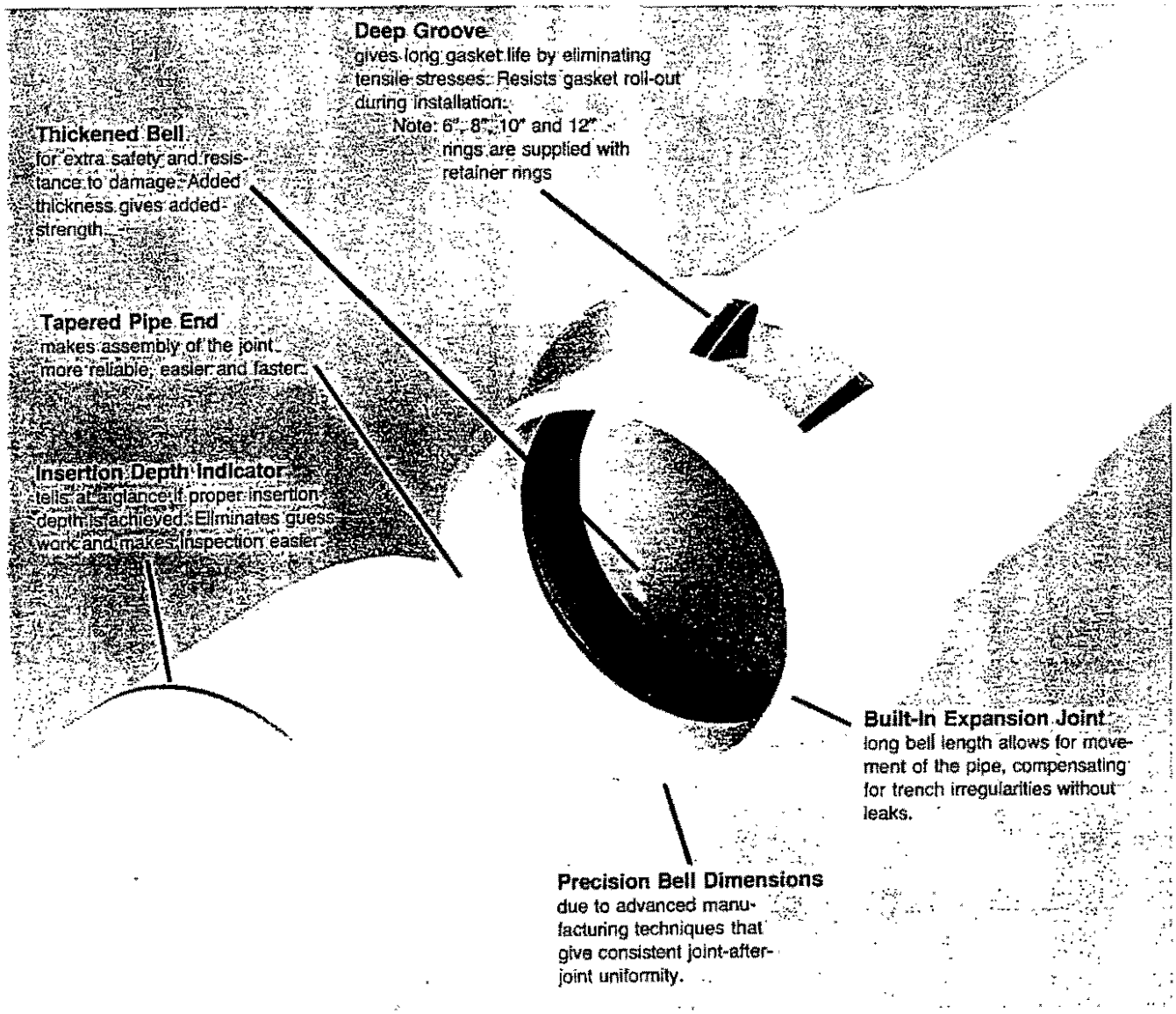
Class 160 (SDR 26)
Class 200 (SDR21)

Size Inches	O.D.$_1$ Inches	A Inches	B Inches	F Inches	G Inches	M Inches	P Inches	C Inches	L_1 Laying Length Feet	L_2 Overall Length L_1 Length Plus
1½	1.900	2.359	1.919	.380	.838	3.018	⅛	3.216	20/40	3¼"
2	2.375	2.998	2.398	.565	1.227	4.042	5/32	4.282	20/40	4⅜"
2½	2.875	3.603	2.913	.600	1.270	4.179	3/16	4.481	20/40	4½"
3	3.500	4.321	3.538	.634	1.443	4.477	¼	4.844	20/40	4⅞"
4	4.500	5.392	4.538	.700	1.578	4.778	5/16	5.210	20/40	5¼"
6	6.625	7.683	6.691	1.031	2.076	5.609	½	6.250	20/40	6⅜"
8	8.625	9.661	8.690	1.406	2.073	5.993	9/16	6.370	20/40	7"
10	10.750	11.936	10.817	1.625	2.417	7.105	1	7.641	20/40	8¼"
12	12.750	14.000	12.820	1.875	2.619	8.306	1 1/16	8.201	20/40	9⅜"

Size Inches	Class 160 (SDR 26) O.D.$_2$ Inches	T_1 T_3 Inches	T_2 Inches	Class 200 (SDR 21) O.D.$_2$ Inches	T_1 T_3 Inches	T_2 Inches
1½	2.505	.073	.080	2.539	.090	.101
2	3.180	.091	.100	3.224	.113	.126
2½	3.823	.110	.121	3.877	.137	.153
3	4.591	.135	.147	4.655	.167	.186
4	5.738	.173	.189	5.820	.214	.239
6	8.193	.255	.279	8.315	.316	.352
8	10.325	.332	.362	10.481	.410	.457
10	12.762	.413	.451	12.958	.511	.569
12	14.980	.490	.534	15.212	.606	.675



Note:
All dimensions subject to manufacturing tolerances.



Quality Standards

CertainTeed Fluid-Tite IB Piping Systems meet or exceed requirements of the following standards:

PIPE: ASTM D 2241, "Standard Specification for Polyvinyl Chloride (PVC) Plastic Pipe (SDR-PR)."

POTABLE WATER SERVICE CERTIFICATION: NSF No. 14, "National Sanitation Foundation Standard No. 14 for Thermoplastic Materials, Pipe, Fittings, Valves, Traps and Joining Materials."

GASKET: ASTM F 477, "Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe."

PUSH-ON JOINT: ASTM D 3139, "Standard Specification for Joints for Plastic Pressure Pipe Using Flexible Elastomeric Seals."

PVC MATERIAL 12454-B (PVC 1120): ASTM D 1784, "Standard Specification for Rigid Polyvinyl Chloride (PVC) Compounds and Chlorinated Polyvinyl Chloride (CPVC) Compounds."

CertainTeed manufactures PVC Piping to its own quality standards in modern clean plants. Pipe is compounded and extruded in an electronically controlled closed system to exacting tolerances.

II. GATE VALVES

MUELLER® 2360 SERIES™ RESILIENT WEDGE GATE VALVE

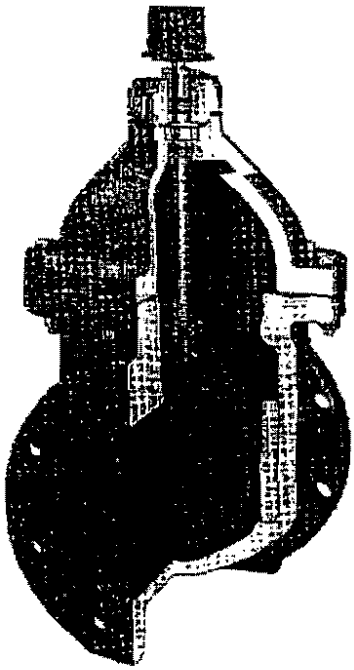
Mueller Co.

10A.1

REV. 3-97

MUELLER® 2-1/2"-12" Resilient Wedge Gate Valve Features

- ☐ TWO ANTI - FRICTION WASHERS — polymer washers (one above and one below the thrust collar) further reduce operating torque in both the opening and closing directions.
- ☐ STEM — machined from forged manganese bronze bar stock for strength where it is needed most, at the thrust collar.
- ☐ WEDGE — cast iron, fully encapsulated in molded rubber complying with ASTM D2000.
- ☐ MUELLER® PRO-GARD™ FUSION EPOXY COATING— of nominal 6 mils protects all interior and exterior exposed iron surfaces and complies fully with AWWA 550 and is certified to NSF 61.
- ☐ MANUFACTURED AND TESTED — in compliance with ANSI/AWWA C509 Standard and is certified to ANSI/NSF 61. Manufactured at facility with ISO 9001 certification and UL 262, FM 1120/1130.
- ☐ BI-DIRECTIONAL FLOW
- ☐ FLAT BOTTOM SURFACES — allow all 2360 series valves to stand upright for ease of handling and storage.
- ☐ TRIPLE O-RING SEALS — two above the trust collar, one below. Uppermost serves as dirt seal. Retain lubrication on thrust collar and isolate it from waterway and outside contamination. Top two can be replaced with valve fully open and under pressure.



- ☐ 250 PSIG MAXIMUM WORKING PRESSURE— hydrostatically tested at 500 psig. Surpasses ANSI/AWWA C509 standards by 25% (UL/FM 200 psig working pressure, 400 psig hydrostatic pressure).
- ☐ EXTENDED WEDGE GUIDES— molded as part of the wedge, fit into guide channels in the valve body and maintain optimum wedge alignment with the stem throughout the wedge's travel, preventing the disc from tilting downstream during operation.
- ☐ GUIDE CAP BEARINGS — protective guide cap bearings made of a polymer bearing material snap over each rubber encapsulated guide on the wedge, providing a bearing interface between the wedge guides and the body's interior guide channels, protecting both from wear, even after thousands of cycles under severe pressure and flow conditions.
- ☐ SMOOTH, OVERSIZED FLOW WAY — all Mueller 2360 series RW Valves have a full, round, unobstructed flow way which accommodates full-sized shell cutters without interference and which provides superior flow characteristics.
- ☐ TEN YEAR LIMITED WARRANTY — (see separate Mueller Warranty document for terms).

MUELLER® 14"-24" Resilient Wedge Gate Valve Features

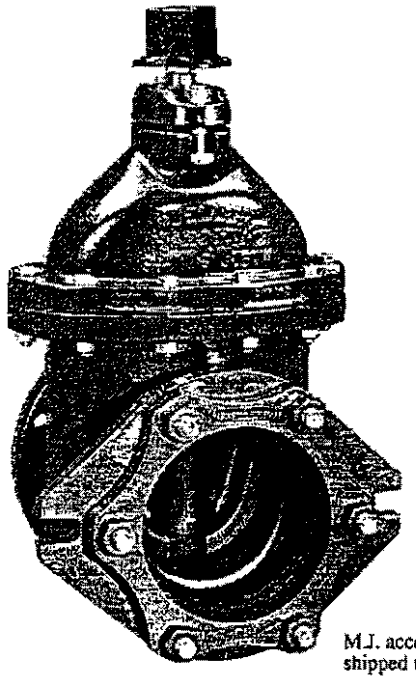
- ☐ DUCTILE IRON BODY & BONNET— with all interior and exterior exposed surfaces protected by fusion epoxy coating.
- ☐ FUSION EPOXY COATING— protects all interior and exterior exposed iron surfaces. Complies fully with AWWA C550.
- ☐ NON-RISING STEM — made of stainless steel.
- ☐ SOFT SEATED WEDGE — made of Ductile Iron with EPDM elastomer seal.
- ☐ FLAT BOTTOM SURFACES — allow all 2360 series valves to stand upright for ease of handling and storage.

- ☐ DOUBLE O-RING SEALS — above thrust collar area.
- ☐ EYEBOLTS — for greater convenience during handling.
- ☐ 250 PSIG MAXIMUM WORKING PRESSURE— 500 psig (3447 kPa) static test pressure.
- ☐ TEN YEAR LIMITED WARRANTY — (see separate Mueller Warranty document for terms).
- ☐ SMOOTH, OVERSIZED FLOW WAY — all Mueller 2360 series RW Valves have a full, round, smooth, unobstructed, oversized flow way which accommodates full-sized shell cutters without interference and which provides superior flow characteristics.

Mueller Co.

4"-12" MUELLER® A-2360 RESILIENT WEDGE GATE VALVES WITH M.J. x FL. ENDS

- Catalog number—
  A-2360-16 mechanical joint x flanged ends (with mechanical joint unassembled accessories)
  A-2360-19 mechanical joint x flanged ends (less mechanical joint accessories)
- Sizes— 4", 6", 8", 10", 12"
- Meets or exceeds all applicable requirements of ANSI/AWWA C509 Standard and is certified to ANSI/NSF 61
- Flanged end dimensions and drilling comply with ANSI B16.1, class 125
- Mechanical joint end complies with ANSI/AWWA C111 Standard
- Iron body with nominal 10 mils MUELLER® Pro-Gard™ Fusion Epoxy Coated interior and exterior surfaces
- Epoxy coating meets or exceeds all applicable requirements of ANSI/AWWA C550 Standard and is certified to ANSI/NSF 61
- Iron wedge, symmetrical & fully encapsulated with molded rubber; no exposed iron
- Non-rising stem (NRS)
- Triple O-ring seal stuffing box (2 upper & 1 lower O-rings)
- 2" square wrench nut (optional handwheel available)—open left or open right
- 4"-12" sizes—250 psig (1723 kPa) maximum working pressure, 500 psig (3447 kPa) static test pressure
- UL Listed, FM Approved —200 psig (1379 kPa)



M.J. accessories shipped unassembled

A-2360-16

Options

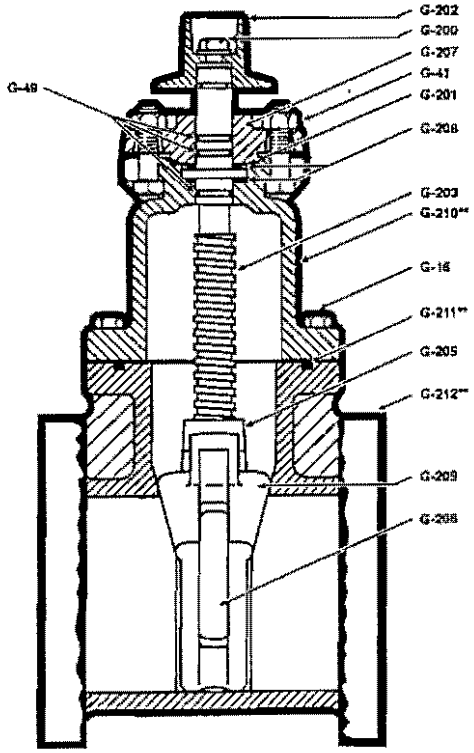
See pages 10.68 and 10.69 for more information on Resilient Wedge Gate Valve options

- Position indicators
- ASTM B98-C66100/H04 stem
- Stainless steel fasteners: Type 304, Type 316
- Handwheel

Resilient wedge gate valve parts

Catalog Part No.	Description	Material	Material standard
G-16	Bonnet Bolts & Nuts	Carbon Steel	ASTM A307 Grade B, Zinc Plated
G-41	Stuffing Box Bolts & Nuts	Carbon Steel	ASTM A307 Grade B, Zinc Plated
G-49	Stem O -rings (3)	Rubber	ASTM D2000
G-200	Wrench Nut Cap Screw	Carbon Steel	ASTM A307 Grade B, Zinc Plated
G-201	Stuffing Box Seal	Rubber	ASTM D2000
G-202	Wrench Nut	Cast Iron	ASTM A126 CL.B
G-203	Stem	Bronze	ASTM B138
G-204	Hand Wheel (not shown)	Cast Iron	ASTM A126 CL.B
G-205	Stem Nut	Bronze	ASTM B62
G-206	Guide Cap Bearings	Celcon	
G-207	Stuffing Box	Cast iron	ASTM A126 CL.B
G-208	Anti-friction Washers (2)	Celcon	
G-209	Wedge, Rubber Encapsulated	Cast Iron*	ASTM A126 CL.B
G-2[illegible]	Bonnet	Cast Iron	ASTM A126 CL.B
G-2[illegible]	Bonnet O-ring	Rubber	ASTM D2000
G-212**	Body	Cast Iron	ASTM A126 CL.B

*Fully encapsulated in molded rubber with no iron exposed
**Previous to 1999 these parts on 4"-12" valves were designed with a gasket instead of an O-ring and with additional bolts. Confirm the type of seal when ordering a replacement gasket or O-ring.

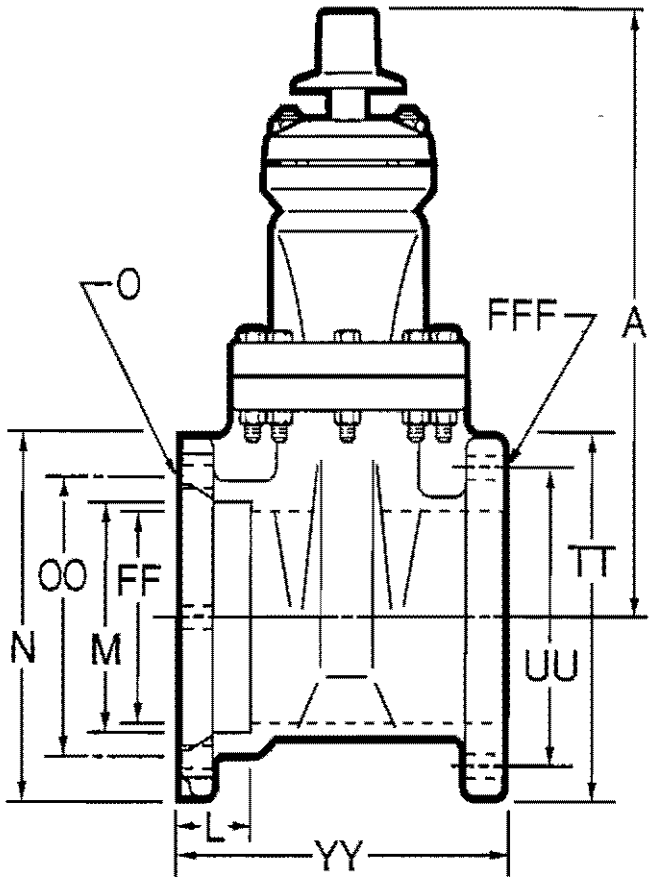


SEE PAGE 10.73 FOR ORDERING INSTRUCTIONS

4"-12" MUELLER® A-2360 RESILIENT WEDGE GATE VALVE DIMENSIONS - M.J. x FL. ENDS

Mueller Co.

REV. 4-99



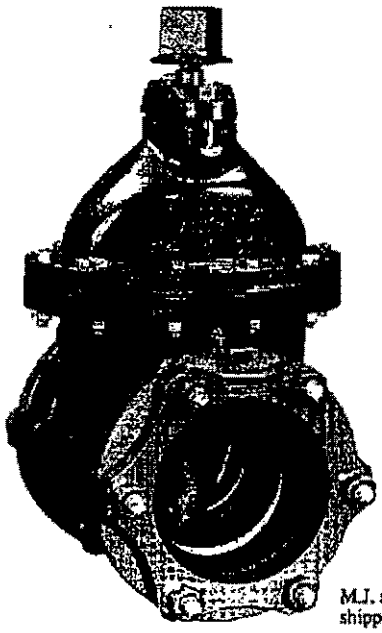
Dimensions

Dimension*	Nominal size				
	4"	6" X	8" Y	10"	12"
A	14.19	18.00	21.50	25.50	28.62
L	2.50	2.50	2.50	2.50	2.50
M	4.90	7.00	9.15	11.20	13.30
N	9.12	11.12	13.37	15.62	17.88
O (number and size of holes for MJ)	4---7/8"	6---7/8"	6---7/8"	8---7/8"	8---7/8"
FF	4.30	6.30	8.30	10.30	12.30
OO (bolt circle diameter for MJ)	7.50	9.50	11.75	14.00	16.25
TT	9.00	11.00	13.50	16.00	19.00
UU (bolt circle diameter for FL)	7.50	9.50	11.75	14.25	17.00
YY	9.50	11.00	12.00	13.88	14.44
FFF (number and size of holes for FL)	8--3/4"	8---7/8"	8---7/8"	12---1"	12---1"
Turns to open	14	20.5	26.5	33	38.5
Weight*	115	168	275	400	570

*All dimensions are in inches. All weights include accessories and are in approximate pounds.

MUELLER® A-2360 RESILIENT WEDGE GATE VALVES WITH M.J. x M.J. ENDS

- ☐ Catalog number—
  A-2360-20 Mechanical joint ends (with mechanical joint unassembled accessories)
  A-2360-23 Mechanical joint ends (less mechanical joint accessories)
- ☐ Sizes---2", 3", 4", 6", 8", 10", 12"
- ☐ Meets or exceeds all applicable requirements of ANSI/AWWA C509 Standard
- ☐ Standard mechanical joint ends comply with ANSI/AWWA C111
- ☐ Iron body with nominal 10 mils MUELLER® Pro-Gard™ Fusion Epoxy Coated interior and exterior surfaces
- ☐ Epoxy coating meets or exceeds all applicable requirements of ANSI/AWWA C550 Standard and is certified to ANSI/NSF 61
- ☐ Iron wedge, symmetrical & fully encapsulated with molded rubber; no exposed iron
- ☐ Non-rising stem (NRS)
- ☐ Triple O-ring seal stuffing box (2 upper & 1 lower O-rings)
- ☐ 2" square wrench nut (optional handwheel available)—open left or open right
- ☐ 2"-12" sizes—250 psig (1723 kPa) maximum working pressure, 500 psig (3447 kPa) static test pressure



M.J. accessories shipped unassembled

A-2360-20

Options

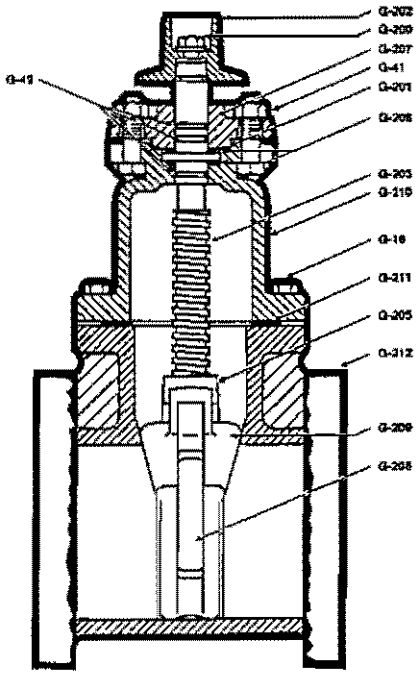
See pages 10.54 and 10.55 for more information on Resilient Wedge Gate Valve options

- ☐ Position indicators
- ☐ Stainless steel fasteners: Type 304, Type 316
- ☐ ASTM B98-C66100/H04 stem
- ☐ Handwheel

Resilient wedge gate valve parts

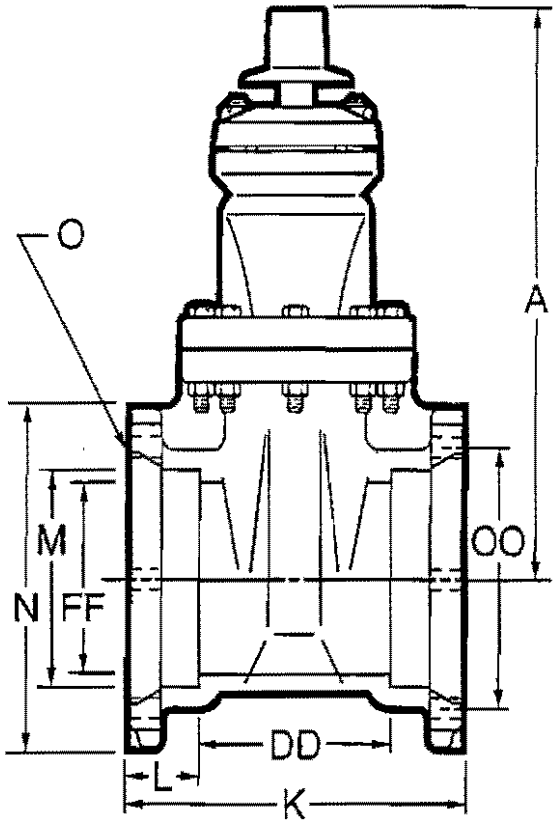
Catalog Part No.	Description	Material	Material standard
G-16	Bonnet Bolts & Nuts	Carbon Steel	ASTM A307 Grade B, Zinc Plated
G-41	Stuffing Box Bolts & Nuts	Carbon Steel	ASTM A307 Grade B, Zinc Plated
G-49	Stem O -rings (3)	Rubber	ASTM D2000
G-200	Wrench Nut Cap Screw	Carbon Steel	ASTM A307 Grade B, Zinc Plated
G-201	Stuffing Box Seal	Rubber	ASTM D2000
G-202	Wrench Nut	Cast Iron	ASTM A126 CL.B
G-203	Stem	Bronze	ASTM B138
G-204	Hand Wheel (not shown)	Cast Iron	ASTM A126 CL.B
G-205	Stem Nut	Bronze	ASTM B62
G-206	Guide Cap Bearings	Celcon	
G-207	Stuffing Box	Cast iron	ASTM A126 CL.B
G-208	Anti-friction Washers (2)	Celcon	
G-209	Wedge, Rubber Encapsulated	Cast Iron*	ASTM A126 CL.B
G-210	Bonnet	Cast Iron	ASTM A126 CL.B
G-211	Bonnet Gasket	Rubber	ASTM D2000
.12	Body	Cast Iron	ASTM A126 CL.B

* Fully encapsulated in molded rubber with no iron exposed



SEE PAGE 10.59 FOR ORDERING INSTRUCTIONS

MUELLER® A-2360 RESILIENT WEDGE GATE VALVE DIMENSIONS - M.J. x M.J. ENDS



Dimensions

Dimension*	Nominal size						
	2"	3"	4"	6"	8"	10"	12"
A	9.88	12.38	14.19	18.00	21.50	25.50	28.62
K	8.50	9.00	10.00	11.50	12.50	14.75	14.88
L	2.50	2.50	2.50	2.50	2.50	2.50	2.50
M	2.75	4.06	4.90	7.00	9.15	11.20	13.30
N	4.62	7.50	9.12	11.12	13.37	15.62	17.88
O (number and size of holes)	4—7/8	4—7/8	4—7/8	6—7/8	6—7/8	8—7/8	8—7/8
DD	3.50	4.00	5.00	6.50	7.50	9.75	9.88
FF	2.30	3.30	4.30	6.30	8.30	10.30	12.30
OO (bolt circle diameter)	5.00	6.19	7.50	9.50	11.75	14.00	16.25
Turns to open	8	11	14	20.5	26.5	33	38.5
Weight*	40	83	120	186	280	436	546

*All dimensions are in inches. All weights include accessories and are in approximate pounds.

III. FIRE HYDRANTS

MUELLER® SUPER CENTURION® FIRE HYDRANT

Mueller Co.

REV. 3-97

MUELLER SUPER CENTURION 250™ 3-Way Fire Hydrant Features

☐ **ANTI-FRICTION WASHER**— helps assure easy turning operation for the life of the hydrant.

☐ **OIL FILLER PLUG**— permits quick check of oil level. Lets you add oil without removing bonnet.

☐ **OIL RESERVOIR O-RING SEALS**— seal oil in, water out.

☐ **STAINLES STEEL SAFETY STEM COUPLING**— pulls free if hydrant is hit by a vehicle preventing damage to the stem and main valve. Coupling will not break into pieces that could drop into lower barrel and affect valve operation. Top of lower stem is below the top of the lower barrel so that a tire cannot depress the stem and open the main valve. Repair is easy and economical.

☐ **SAFETY FLANGE**— breaks cleanly to help prevent barrel damage, yet is strong enough to withstand normal handling. Allows economical repair, adding of extension section, rotation or changing of upper barrel without digging or water shut-off.

☐ **BRONZE UPPER VALVE PLATE**— conical design for smooth flow.

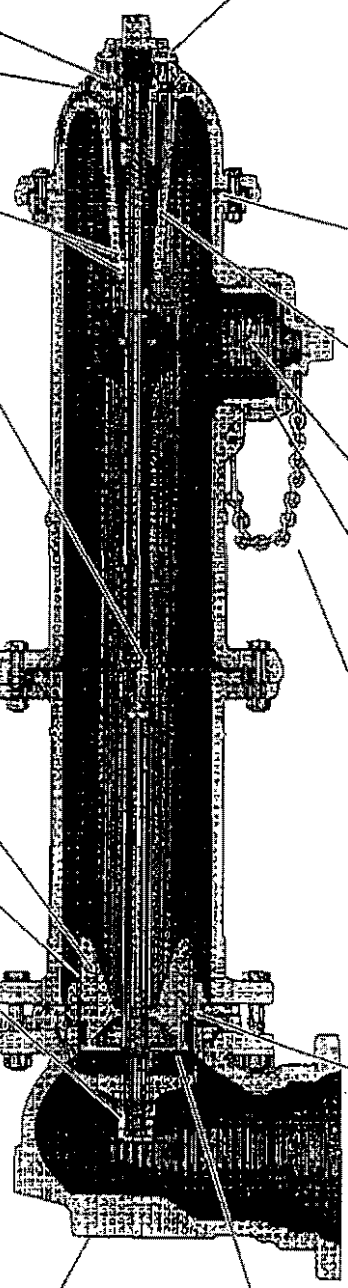
☐ **DRAIN VALVE FACINGS**— specially designed, long-life facings provide effective sealing.

☐ **DUCTILE IRON CAP NUT**— retains main valve. Seats against cap nut gasket to prevent corrosion of stem threads. Locked in place by a stainless steel lock washer.

☐ **250 PSIG**— 3-way hydrant: 250 psig (1723 kPa) maximum working pressure, 500 psig (3447 kPa)

☐ **SHOE DESIGNED FOR MAXIMUM FLOW AND EASY CONNECTION**— with its smooth transitional contours, extended neck and integral anti-rotation pads, allowing use of standard tee-head bolts. The inside of the shoe is covered with MUELLER HP® Epoxy Coating. This thermosetting epoxy forms a tough, corrosion-resistant barrier to chemicals, physical impact and electrical currents.

☐ **HOLD-DOWN NUT**— with integral weather seal. Design discourages unauthorized removal of the hold-down nut or bronze operating nut. Resilient wiper seal between hold-down nut and operating nut prevents water entry to protect operating nut from freezing. Wiper seal material is resistant to ultra-violet ray deterioration. O-ring seal provides second level of protection.



☐ **MEETS OR EXCEEDS**— all applicable requirements of ANSI/AWWA C502 Standard and UL 246 and FM 1510 specifications.

☐ **O-RING SEALS AT BONNET, GROUND, AND SHOE FLANGES**— for better leak resistance, easier maintenance.

☐ **SEALED OIL RESERVOIR**— O-ring sealed to prevent leakage. Provides positive lubrication of stem threads and bearing surfaces each time the hydrant is operated. Filled at the factory.

☐ **FULL FLOW OPENINGS**— large radius hose and pumper openings produce low friction loss.

☐ **FIELD REPLACEABLE HOSE AND PUMPER NOZZLES**— O-ring sealed. Threaded in place and retained by stainless steel locks. Nozzles are easily replaced.

☐ **ELECTRO-GALVANIZED BOLTS AND NUTS**— provide corrosion protection.

☐ **NON-KINKING CHAINS**— heavy-duty chains are securely attached to the hydrant. Special chain loop permits free turning of the cap.

☐ **BRONZE SEAT RING**— threaded into drain ring and O-ring sealed. Seat ring is easily removed or installed from above ground. Each time main valve is opened or closed, double drain valves force-flush both drain valve openings to keep them open for effective barrel drainage. Bronze drain valves are integral parts of main valve assembly.

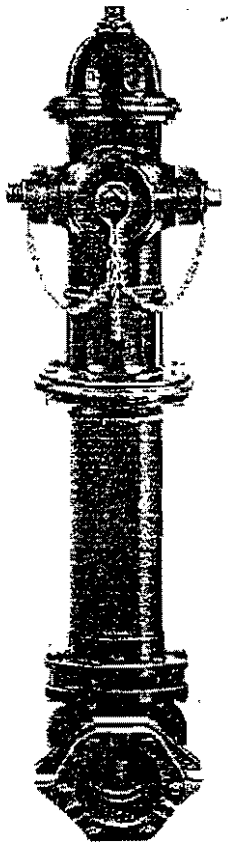
☐ **REVERSIBLE, COMPRESSION-TYPE MAIN VALVE(Patent Pending)** — closes with pressure for positive seal. Rubber material has long service life, yet is reversible providing a convenient spare in place.

Mueller Co.

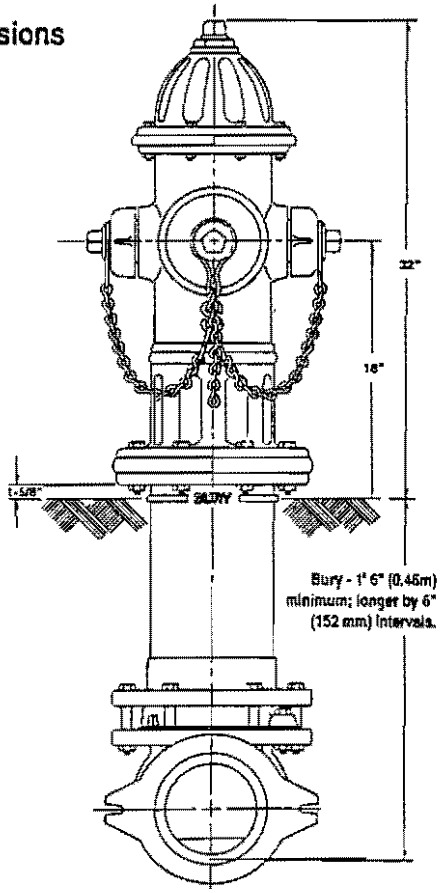
MUELLER® SUPER CENTURION® FIRE HYDRANT

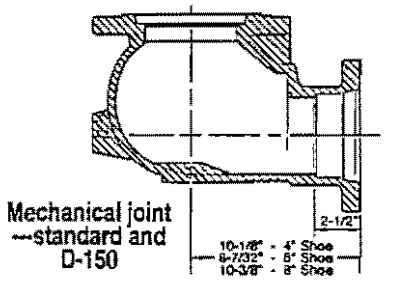
er Centurion 250™ 3-way catalog numbers
(approved to UL 262, FM 1120/1130, ANSI/AWWA C502 Standards)—
A-421 4-1/2" main valve opening three way (two hose nozzles and one pumper nozzle)
→ **A-423** 5-1/4" main valve opening three way (two hose nozzles and one pumper nozzle)
Super Centurion 200™ 2-way catalog numbers
(approved to ANSI/AWWA C502 Standards)—
A-420 4-1/2" main valve opening two way (two hose nozzles)
A-422 5-1/4" main valve opening two way (two hose nozzles)
A-425 5-1/4" main valve opening two way (two pumper nozzles)
Super Centurion 200™ 1-way catalog number
(approved to ANSI/AWWA C502 Standards)—
A-424 4-1/2" main valve opening one way (one pumper nozzle)

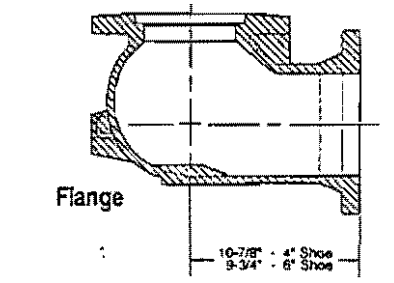
- 10 year limited warranty on material and workmanship
- Meets all applicable parts of ANSI/AWWA C502 Standard
- Post type dry barrel design
- Dry top design with O-ring sealed oil reservoir
- Traffic feature with stainless steel safety stem coupling
- Compression-type main valve closes with pressure for positive seal; it is made of rubber and is conveniently reversible providing a spare for long service life (Patent Pending)
- Operating nut available in wide variety of shapes and sizes—open left or right
- Field replaceable hose and pumper nozzles
- Hose and pumper nozzles have large radius, full flow openings for low friction loss
- Contoured shoe is designed for full flow
- Dual bronze drain valves provide effective barrel drainage
- psig (1723 kPa) maximum working pressure, 500 psig (3447 kPa) static test pressure for 3-way hydrants; 200 psig (1379 kPa) maximum working pressure, 400 psig (2758 kPa) static test pressure for 2-way and 1-way hydrants

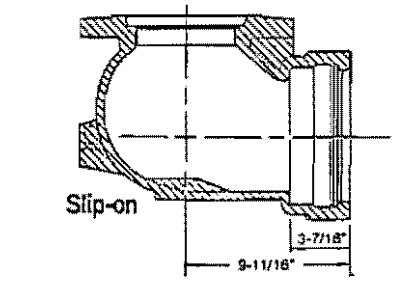


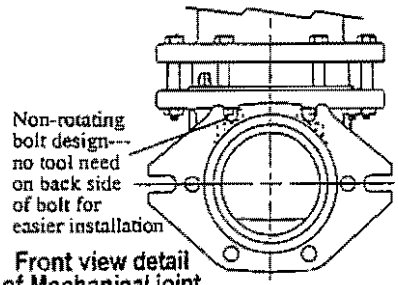
imensions

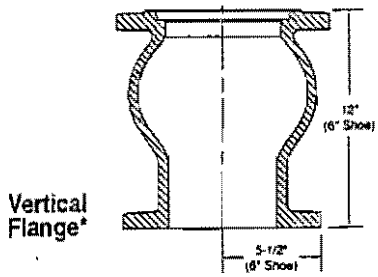












* 4" Vertical shoe available for A-420 and A-421 hydrants.

EE PAGE 9.24 FOR ORDERING INSTRUCTIONS

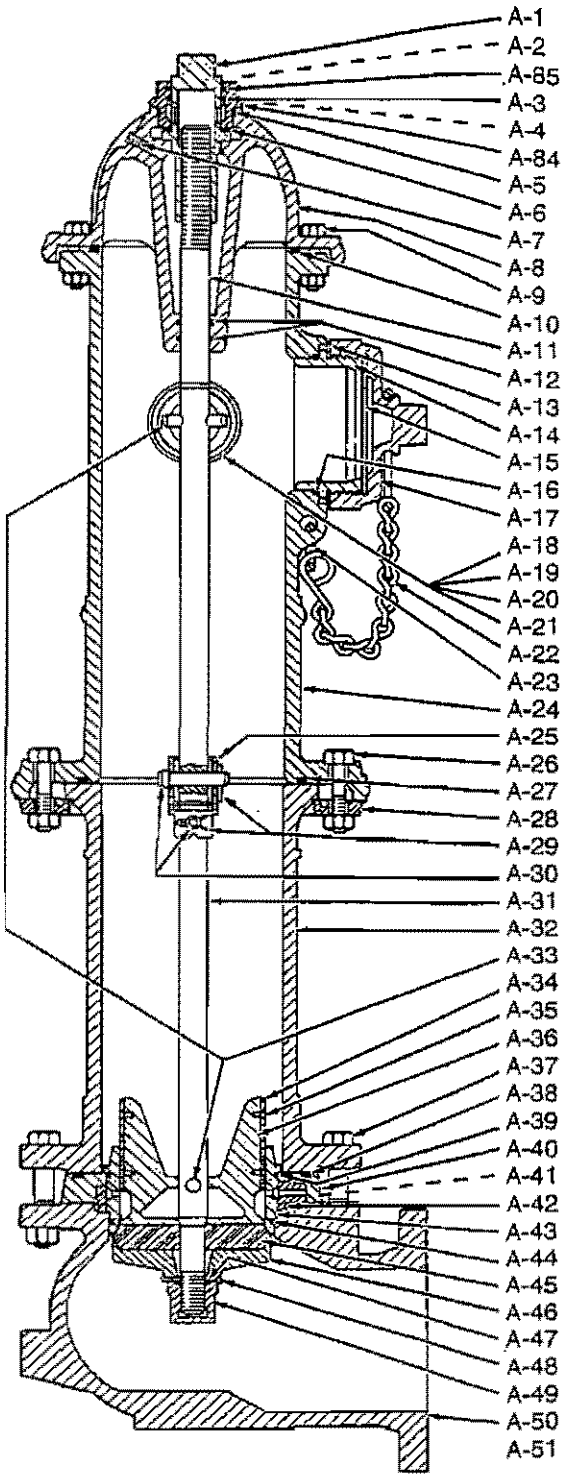
MUELLER® SUPER CENTURION® FIRE HYDRANT PARTS

Mueller Co.
A TYCO INTERNATIONAL LTD. COMPANY

REV. 3-97

MUELLER Super Centurion Fire Hydrant Parts

Cat. part #	Description	Material	Material standard
A-1	Operating nut	Bronze	ASTM B584
A-2	Weather cap (not shown; used only on pre-1988 models)	Cast iron	ASTM A126 CL.B
A-3	Hold down nut O-ring	Rubber	ASTM D2000 BUNA N
A-4	Hold down nut (not shown; used only on pre-1988 models)	Bronze	ASTM B584
A-5	Bonnet O-ring	Rubber	ASTM D2000 BUNA N
A-6	Anti-friction washer	Celcon	
A-7	Oil plug	Brass	ASTM B16
A-8	Bonnet	Cast iron	ASTM A126 CL.B
A-9	Bonnet bolt and nut	Steel	ASTM A307 Plated
A-10	Bonnet O-ring (1997 and newer 3-way models; all pre-1997 models and 1-way and 2-way models have flat gasket)	Rubber	ASTM D2000 BUNA N
A-11	Upper stem	Steel	ASTM A576 GR.B
A-12	Stem O-ring	Rubber	ASTM D2000 BUNA N
A-13	Nozzle lock	Stainless steel	ASTM A276
A-14	Pumper nozzle	Bronze	ASTM B584
A-15	Pumper nozzle gasket	Rubber	ASTM D2000 Neoprene
A-16	Pumper nozzle O-ring	Rubber	ASTM D2000 BUNA N
A-17	Pumper nozzle cap	Cast iron	ASTM A126 CL.B
A-18	Hose nozzle	Bronze	ASTM B584
A-19	Hose nozzle gasket	Rubber	ASTM D2000 Neoprene
A-20	Hose nozzle O-ring	Rubber	ASTM D2000 BUNA N
A-21	Hose nozzle cap	Cast iron	ASTM A126 CL.B
A-22	Cap chain	Steel	Plated
A-23	Chain ring	Steel	Plated
A-24	Upper barrel less nozzles	Cast iron	ASTM A126 CL.B
A-25	Safety coupling	Stainless steel	ASTM A890
A-26	Safety flange bolt and nut	Steel	ASTM A307 Plated
A-27	Safety flange O-ring (1997 and newer models; pre-1997 models have flat gasket)	Rubber	Cellulose
A-28	Safety flange	Cast iron	ASTM A126 CL.B
A-29	Cotter pin	Stainless steel	ASTM A276
A-30	Clevis pin	Stainless steel	ASTM A276
A-31	Lower stem	Steel	ASTM A576 GR.B
A-32	Lower barrel	Cast iron	ASTM A126 CL.B
A-33	Stem pin	Stainless steel	ASTM A276
A-34	Drain valve facing	Plastic	
A-35	Drain valve screw	Stainless steel	ASTM A276
A-36	Upper valve plate (includes A-34 and A-35)	Bronze	ASTM B584
A-37	Shoe bolt and nut	Steel	ASTM A307 Plated
A-38	Drain ring housing O-ring (1997 and newer models; pre-1997 models have flat gasket)	Rubber	ASTM D2000 BUNA N
A-39	Seat ring top O-ring	Rubber	ASTM D2000 BUNA N
A-40	Drain ring housing	Cast iron	ASTM A126 CL.B
A-41	Drain ring housing bolt and nut (not shown; used only on pre-1997 model hydrants)	Steel	ASTM A307 Plated
A-42	Drain ring	Bronze	ASTM B584
A-43	Seat ring	Bronze	ASTM B584
A-44	Seat ring bottom O-ring	Rubber	ASTM D2000 BUNA N
A-45*	Reversible main valve (1997 and newer models only; pre-1997 models use non-reversible main valve and lower valve plate - not shown)	Rubber	ASTM D2000
A-46	Lower valve plate (1997 and newer models for reversible main valve; pre-1997 models have non-reversible main valve - not shown)	Cast iron	ASTM A126 CL.B
A-47	Cap nut seal	Rubber	ASTM D2000
A-48	Lock washer	Stainless steel	ASTM A276
A-49	Lower valve plate nut	Cast iron	ASTM A126 CL.B
A-50	Shoe	Cast iron	ASTM A126 CL.B
A-84	Hold down nut	Bronze	ASTM B584
A-85	Weather seal	Rubber	ASTM D2000
A-51	10.5 oz. hydrant lubricating oil (not shown)		



* Pre-1997 models may be upgraded to use the reversible main valve by also replacing the lower valve plate with the 1997 model.

SEE PAGE 9.26 FOR ORDERING INSTRUCTIONS

IV. VALVE BOXES

Tyler Pipe
Subsidiary of
Tyler Corporation

CAST IRON VALVE BOXES, TWO-PIECE

Accommodates 4" Through 12" Valves
5¼-Inch Shafts, Screw-Type
6850 Series

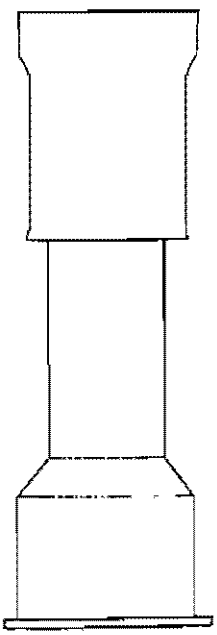
Item	Box Complete Extension, In Inches	Wt.	Top Section, w/Lid Length	Top Section, w/Lid Wt.	Bottom Length	Bottom Wt.	*Pieces Per Pkg.
461-S	19-22	60	10	35	15	25	..
462-S	**27-32**	**70**	**10**	**35**	**24**	**35**	..
562-S	27-37	80	16	45	24	35	20
563-S	**33-43**	**85**	**16**	**45**	**30**	**40**	**20**
564-S	39-50	90	16	45	36	45	20
662-S	**36-52**	**105**	**26**	**65**	**30**	**40**	**20**
664-S	39-60	110	26	65	36	45	20
666-S	**51-71**	**135**	**26**	**65**	****48**	**70**	**20**
668-S	62-82	145	26	65	****60**	80	20

*Tyler may ship loose pieces if packaging delays your order

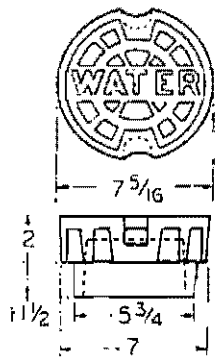
**May be furnished in two pieces screwed together to make the length required.

For special application components, see pages 8-10.

LIDS ARE MARKED "WATER" OR "GAS"
Unless specified otherwise, "Water" will be shipped.

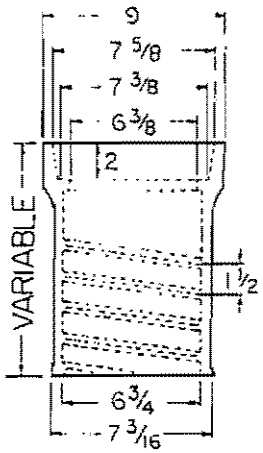


BOX COMPLETE

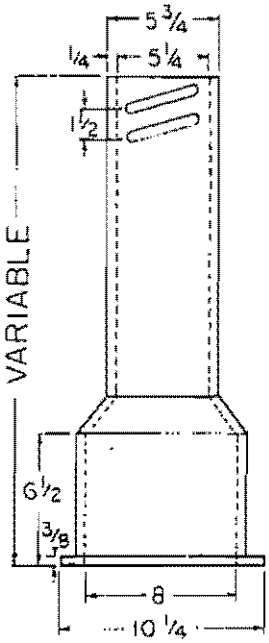


5¼ DROP LID
†Variable Skirt Depths

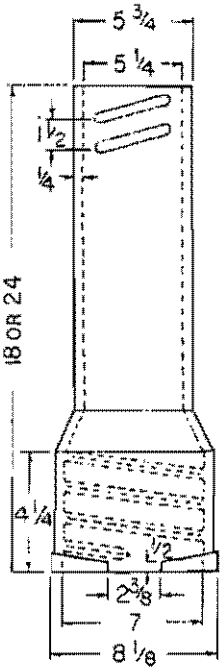
Skirt	Wt.
½	13
1	13
2	13



TOP

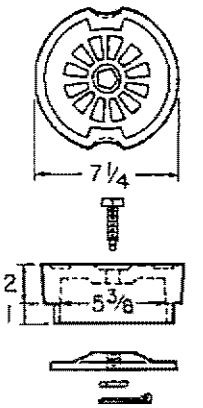


BOTTOM



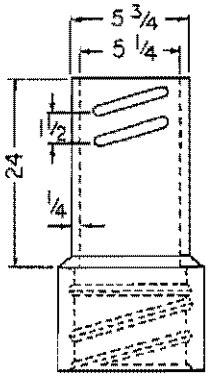
58 AND 59 EXTENSION

Item	Height Increase	Wt.
58	14	25
59	**18**	**30**



5¼ LOCK LID

Wt.
18



60 EXTENSION

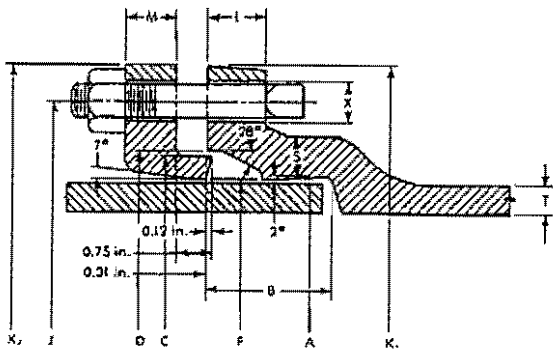
Item	Height Increase	Wt.
60	24	35

These extensions also fit Series 6860 three-piece valve boxes

V. D. I. FITTINGS

MECHANICAL JOINT SSB-DUCTILE IRON CLASS 350 FITTINGS

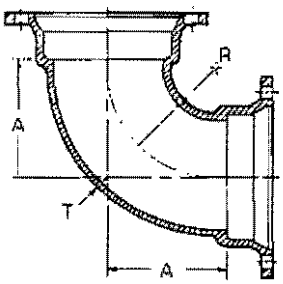
Sample Specification
3" through 16" Mechanical Joint Ductile Iron Fittings shall be produced in strict accordance with all applicable terms and provisions of ANSI/AWWA C153/A21.53 and ANSI/AWWA C111/A21.11 18" thru 24" diameters shall be manufacturer's standards with wall thickness equivalent to Class 56 ductile iron pipe. The working pressure rating shall be 350 PSI.



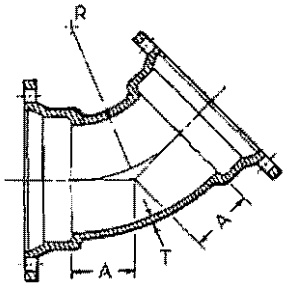
Joint Dimensions in Inches

Size	A Dia.	B	C Dia.	D Dia.	F Dia.	J Dia.	K, Dia.	K, Dia.	L	M	S	T	X Dia.	Bolt Size	Bolt No.
3	3.96	2.50	4.84	4.94	4.06	6.19	7.62	7.69	.59	.62	.38	.34	¾	⅝ x 3	4
4	**4.80**	**2.50**	**5.92**	**6.02**	**4.90**	**7.50**	**9.06**	**9.12**	**.60**	**.75**	**.41**	**.35**	⅞	¾ x 3½	**4**
6	6.90	2.50	8.02	8.12	7.00	9.50	11.06	11.12	.63	.88	.43	.37	⅞	¾ x 3½	6
8	**9.05**	**2.50**	**10.17**	**10.27**	**9.15**	**11.75**	**13.31**	**13.37**	**.66**	**1.00**	**.45**	**.39**	⅞	¾ x 3½	**6**
10	11.10	2.50	12.22	12.34	11.20	14.00	15.62	15.62	.70	1.00	.47	.41	⅞	¾ x 3½	8
12	**13.20**	**2.50**	**14.32**	**14.44**	**13.30**	**16.25**	**17.88**	**17.88**	**.73**	**1.00**	**.49**	**.43**	⅞	¾ x 3½	**8**
14	15.30	3.50	16.40	16.54	15.44	18.75	20.31	20.25	.79	1.25	.56	.51	⅞	¾ x 4	10
16	**17.40**	**3.50**	**18.50**	**18.64**	**17.54**	**21.00**	**22.56**	**22.50**	**.85**	**1.31**	**.57**	**.52**	⅞	¾ x 4	**12**
18	19.50	3.50	20.60	20.74	19.64	23.25	24.83	24.75	1.00	1.38	.68	.59	⅞	¾ x 4	12
20	**21.60**	**3.50**	**22.70**	**22.84**	**21.74**	**25.50**	**27.08**	**27.00**	**1.02**	**1.44**	**.69**	**.60**	⅞	¾ x 4	**14**
24	25.80	3.50	26.90	27.04	25.94	30.00	31.58	31.50	1.02	1.56	.75	.62	⅞	¾ x 4½	16

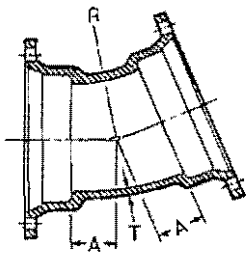
BENDS



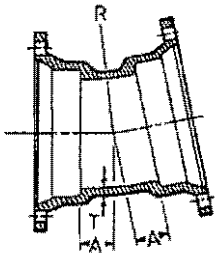
90° Bends (1/4)
5-600



45° Bends(1/8)
5-605



22½° Bends (1/16)
5-609



11¼° (1/32)
5-611

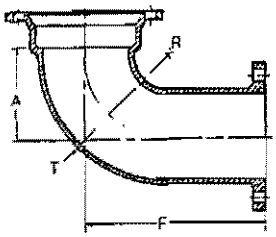
Size	Dimensions			Weights	Dimensions		Weights	Dimensions		Weights	Dimensions		Weights
	T	A	R		A	R		A	R		A	R	
3	.34	4.5	4	20	2.00	3.62	16	1.50	4.98	15	1.25	7.62	15
4	**.35**	**5.0**	**4.5**	**26**	**2.49**	**4.81**	**22**	**1.82**	**6.66**	**21**	**1.55**	**10.7**	**20**
6	.37	6.5	6	48	3.50	7.25	38	2.59	10.5	37	1.81	13.26	33
8	**.39**	**7.5**	**7**	**68**	**4.00**	**8.44**	**59**	**2.85**	**11.8**	**51**	**2.06**	**15.8**	**48**
10	.41	9.5	9	107	5.01	10.88	81	3.35	14.35	67	2.32	18.36	61
12	**.43**	**10.5**	**10**	**141**	**5.98**	**13.25**	**111**	**3.86**	**16.9**	**80**	**2.56**	**20.9**	**79**
14	.51	12.0	11.5	220	5.50	12.06	164	3.93	17.25	148	2.59	21.25	131
16	**.52**	**13.0**	**12.5**	**264**	**5.98**	**13.25**	**202**	**3.98**	**17.5**	**179**	**2.62**	**21.5**	**159**
18	.59	15.5	14.0	410	7.5	14.5	289	7.5	30.19	292	7.5	60.94	292
20	**.60**	**17.0**	**15.5**	**505**	**8.0**	**16.88**	**348**	**8.5**	**35.19**	**364**	**8.5**	**71.07**	**377**
24	.62	20.0	18.5	695	9.0	18.12	475	9.0	37.69	460	9.0	76.12	457

*18" thru 24" not included in AWWA C153 as of August, 1992

MECHANICAL JOINT SSB-DUCTILE IRON CLASS 350 FITTINGS

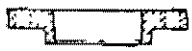
BENDS

90° MJ x Flange Bend (1/4)
5-600 F



Size	Dimensions				Weights
	T	A	R	F	
3	.34	4.5	4	5.5	20
4	**.35**	**5.0**	**4.5**	**6.5**	**26**
6	.37	6.5	6	8.0	48
8	**.39**	**7.5**	**7**	**9.0**	**68**
10	.41	9.5	9	11.0	107
12	**.43**	**10.5**	**10**	**12.0**	**141**
14	.51	12.0	11.5	14.0	227
16	**.52**	**13.0**	**12.5**	**15.0**	**280**

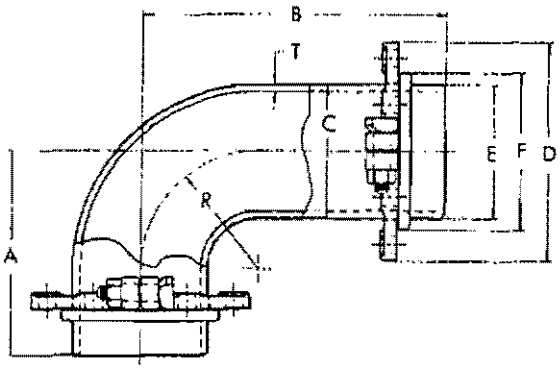
GLANDS



Glands
5-690

Size	Weight*	Size	Weight*
3	3	**12**	**12**
4	4	14	16
6	6	**16**	**20**
8	8	18	25
10	10	**20**	**31**
		24	39

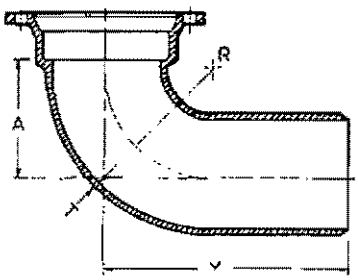
*18" thru 24" not included in AWWA C153 as of August, 1992



90° Swivel x MJ Hydrant Ell
5-698

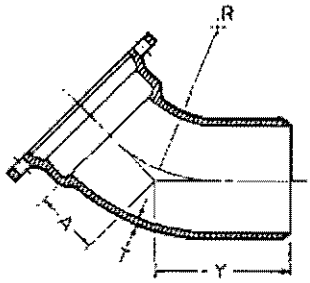
Size	Deminsions								*Weight
	T	A	B	C	D	E	F	R	
6	.37	10.5	15.5	7.10	11.2	6.90	8.02	6.0	85

*with glands



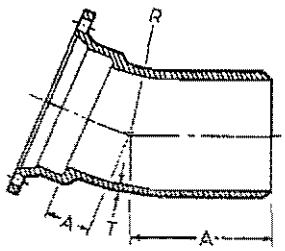
90° MJ x PE Bend (1/4)
***5-603**

Size	Dimensions				Weights
	T	A	Y	R	
3	.34	4.5	10.0	4.0	20
4	**.35**	**5.0**	**10.5**	**4.5**	**25**
6	.37	6.5	12.0	6.0	45
8	**.39**	**7.5**	**13.0**	**7.0**	**65**
10	.41	9.5	15.0	9.0	109
12	**.43**	**10.5**	**16.0**	**10.0**	**135**
14	.51	12.0	20.0	11.5	220
16	**.52**	**13.0**	**21.0**	**12.5**	**254**
18	.59	15.5	23.5	14.0	405
20	**.60**	**17.0**	**25.0**	**15.5**	**465**
24	.62	20.0	28.0	18.5	710



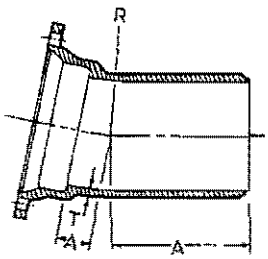
45° MJ x PE Bend (1/8)
***5-607**

Size	Dimensions			Weights
	A	Y	R	
3	2.0	7.5	3.62	16
4	**2.5**	**8.0**	**4.81**	**22**
6	3.5	9.0	7.25	37
8	**4.0**	**9.5**	**8.44**	**56**
10	5.0	10.5	10.88	83
12	**6.0**	**11.5**	**13.25**	**108**
14	5.5	13.5	12.06	165
16	**6.0**	**14.0**	**13.25**	**206**
18	6.0	15.5	14.50	290
20	**7.5**	**16.5**	**16.88**	**340**
24	9.0	17.0	18.12	460



22½° MJ x PE Bend (1/16)
***5-610**

Size	Dimensions			Weights
	A	Y	R	
3	1.50	7.00	4.98	16
4	**1.82**	**7.32**	**6.66**	**20**
6	2.58	8.08	10.50	35
8	**2.84**	**8.34**	**11.80**	**49**
10	3.35	8.85	14.35	66
12	**3.86**	**9.36**	**16.90**	**79**
14	3.93	11.93	17.25	152
16	**3.98**	**11.98**	**17.50**	**181**
18	7.50	15.50	30.19	290
20	**8.50**	**16.50**	**35.19**	**345**
24	9.00	17.00	37.69	445



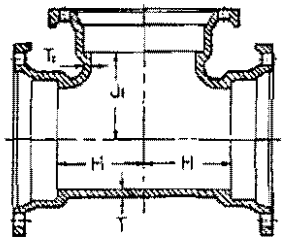
11¼° MJ x PE Bend (1/32)
***5-612**

Size	Dimensions			Weights
	A	Y	R	
3	1.25	6.75	7.62	16
4	**1.55**	**7.05**	**10.70**	**19**
6	1.80	7.30	13.26	32
8	**2.05**	**7.55**	**15.80**	**46**
10	2.31	7.81	18.36	60
12	**2.56**	**8.06**	**20.90**	**78**
14	2.59	10.59	21.25	133
16	**2.62**	**10.62**	**21.50**	**161**
18	7.50	15.5	60.94	288
20	**8.50**	**16.5**	**71.07**	**360**
24	9.00	17.0	76.12	. . .

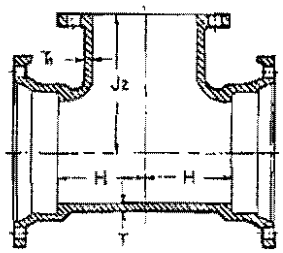
*18" thru 24" not included in AWWA C153 as of August, 1992

MECHANICAL JOINT SSB-DUCTILE IRON CLASS 350 FITTINGS

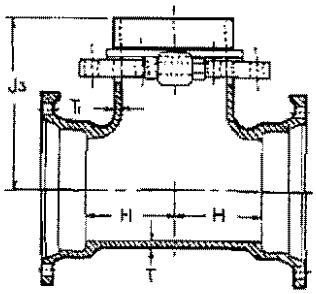
TEES



MJ Tee
5-620

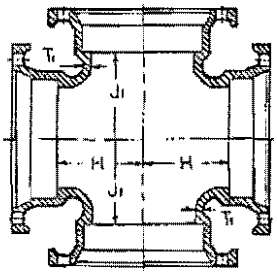


MJ x FE Tee
5-623



MJ x Swivel Tee
5-625

CROSS



Cross
5-631

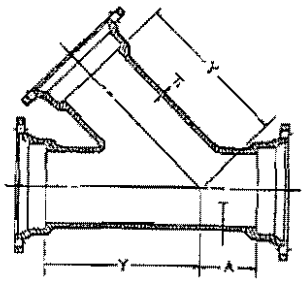
Size	Dimensions						Weights			
	T	T'	H	J'	J²	J³	5-620	5-623	5-625†	5-631
3	.34	.34	3.5	3.5	5.5		24	26		29
4x3	**.35**	**.34**	**3.5**	4	**6.5**		**32**	**34**		**38**
4	.35	.35	4	4	6.5		35	38		42
6x3	**.37**	**.34**	**3.5**	5	**8**		**40**	**43**		**54**
6x4	.37	.35	4	5	8		51	54		60
6	**.37**	**.37**	**5**	5	**8**	**10.5**	**60**	**64**	**77**	**72**
8x3	.39	.34	4	6.5	9		67	68		
8x4	**.39**	**.35**	**4.5**	**6.5**	**9**		**71**	**72**		**81**
8x6	.39	.37	5.5	6.5	9	11.5	80	83	89	94
8	**.39**	**.39**	**6.5**	**6.5**	**9**	**11.5**	**90**	**94**	**116**	**108**
10x3	.41	.34	4	7.5	11		83	81		
10x4	**.41**	**.35**	4.5	**7.5**	**11**		**83**	**89**		**93**
10x6	.41	.37	5.5	7.5	11	13.0	93	107	113	106
10x8	.41	**.39**	**6.5**	**7.5**	**11**	**13.0**	111	115	**129**	**131**
10	.41	.41	7.5	7.5	11		120	130		144
12x3	**.43**	**.34**	**4**	**8.75**	**12**		**98**	**106**		
12x4	.43	.35	4.5	8.75	12		104	115		114
12x6	**.43**	**.37**	**5.5**	**8.75**	**12**	**14.25**	**115**	**120**	**128**	**129**
12x8	.43	.39	6.5	8.75	12	14.25	123	146	149	140
12x10	**.43**	**.41**	**7.5**	**8.75**	**12**		**153**	**174**		**181**
12	.43	.43	8.75	8.75	12		178	198		214
14x6	**.51**	**.44**	**6.5**	**10.5**	**14**	**16.0**	**183**	**205**	**211**	**210**
14x8	.51	.45	7.5	10.5	14		206	227		231
14x10	**.51**	**.46**	**8.5**	**10.5**	**14**		**229**	**244**		**255**
14x12	.51	.47	9.5	10.5	14		235	276		269
14	**.51**	**.51**	**10.5**	**10.5**	**14**		**281**	**302**		**344**
16x6	.52	.45	6.5	11.5	15	17.0	229	213	248	250
16x8	.52	**.46**	**7.5**	**11.5**	**15**		**248**	**260**		**264**
16x10	.52	.47	8.5	11.5	15		265	287		286
16x12	**.52**	**.48**	**9.5**	**11.5**	**15**		**281**	**312**		**310**
16x14	.52	.51	10.5	11.5	15		317	348		363
16	.52	.52	11.5	11.5	15		**323**	**374**		**410**

**Made to order only. Not returnable.

†Includes swivel gland

MECHANICAL JOINT SSB-DUCTILE IRON CLASS 350 FITTINGS

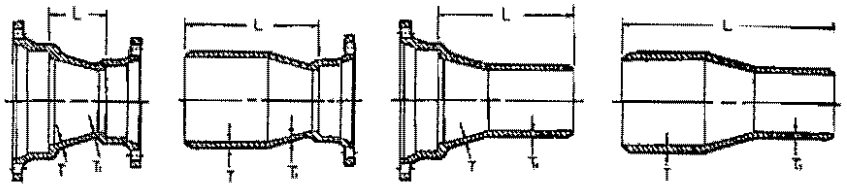
Tyler Pipe
Subsidiary of
Tyler Corporation



WYES
*5-628

Size	Dimensions				Weights
	A	Y	T	T'	
3	2.0	8.5	.34	.34	36
4x3	**1.0**	**9.0**	**.35**	**.34**	**40**
4	2.5	9.5	.35	.35	45
6x4	**1.5**	**11.0**	**.37**	**.35**	**67**
6	3.0	13.0	.37	.37	93
8x4	**0.5**	**13.0**	**.39**	**.35**	**93**
8x6	2.0	14.5	.39	.37	113
8	**3.5**	**16.0**	**.39**	**.39**	**136**
10x4	0	15.0	.41	.35	118
10x6	**1.0**	**16.0**	**.41**	**.37**	**136**
10x8	2.5	17.0	.41	.39	170
10	**3.5**	**19.0**	**.41**	**.41**	**199**
12x4	0	16.5	.43	.35	150
12x6	**1.5**	**18.5**	**.43**	**.37**	**186**
12x8	1.5	18.5	.43	.39	188
12x10	**3.0**	**20.0**	**.43**	**.41**	**223**
12	4.5	22.5	.43	.43	272
14x6	**0**	**19.5**	**.51**	**.44**	**256**
14x8	1.5	21.0	.51	.45	286
14x10	**3.0**	**22.5**	**.51**	**.46**	**322**
14x12	4.5	24.0	.51	.47	387
14	**6.0**	**25.0**	**.51**	**.51**	**465**
16x6	0	21.0	.52	.45	300
16x8	**0.5**	**22.5**	**.52**	**.46**	**327**
16x10	2.0	24.0	.52	.47	375
16x12	**3.5**	**25.0**	**.52**	**.48**	**465**
16x14	5.0	26.5	.52	.51	492
16	**6.5**	**28.0**	**.52**	**.52**	**575**

REDUCERS



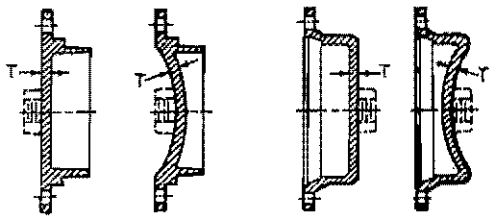
MJ x MJ 5-635 | **MJ SEB 5-636** | **MJ LEB 5-637** | **PE x PE 5-638**

Size	Dimensions						Weights			
	T	T'	5-635 L	5-636 L	5-637 L	5-638 L	5-635	5-636	5-637	5-638
4x3	.35	.34	4.	9.5	9.5	15.0	18	17	18	14
6x3	**.37**	**.34**	**5.**	**10.5**	**10.5**	**16.0**	**21**	**21**	**21**	**18**
6x4	.37	.35	4.	9.5	9.5	15.0	27	26	22	22
8x4	**.39**	**.35**	**5.**	**10.5**	**10.5**	**16.0**	**36**	**34**	**29**	**30**
8x6	.39	.37	4.	9.5	9.5	15.0	40	37	32	31
10x4	**.41**	**.35**	**7.**	**12.5**	**12.5**	**18.0**	**47**	**46**	**40**	**40**
10x6	.41	.37	5.	10.5	10.5	16.0	47	48	42	42
10x8	**.41**	**.39**	**4.**	**9.5**	**9.5**	**15.0**	**54**	**52**	**45**	**44**
12x4	.43	.35	9.	14.5	14.5	20.0	67	61	52	54
12x6	**.43**	**.37**	**7.**	**12.5**	**12.5**	**18.0**	**67**	**58**	**53**	**56**
12x8	.43	.39	5.	10.5	10.5	16.0	64	62	55	58
12x10	**.43**	**.41**	**4.**	**9.5**	**9.5**	**15.0**	**78**	**62**	**57**	**60**
14x6	.51	.44	9.	17.0	14.5	22.5	108	107	112	109
14x8	**.51**	**.45**	**7.**	**15.0**	**12.5**	**20.5**	**104**	**107**	**108**	**101**
14x10	.51	.46	5.	13.0	10.5	18.5	100	102	100	96
14x12	**.51**	**.47**	**4.**	**12.0**	**9.5**	**17.5**	**100**	**101**	**100**	**85**
16x6	.52	.45	11.	19.0	16.5	24.5	136	132	144	128
16x8	**.52**	**.46**	**9.**	**17.0**	**14.5**	**22.5**	**132**	**128**	**136**	**112**
16x10	.52	.47	7.	15.0	12.5	20.5	128	124	128	123
16x12	**.52**	**.48**	**5.**	**13.0**	**10.5**	**18.5**	**125**	**123**	**119**	**113**
16x14	.52	.51	4.	12.0	12.0	20.0	140	139	138	133
18x8	**.59**	**.45**	**14.**	**22.0**	**19.5**	**27.5**	**194**	**190**	**195**	**170**
18x10	.59	.47	12.	20.0	17.5	25.5	196	180	185	175
18x12	**.59**	**.49**	**10.**	**18.0**	**15.5**	**23.5**	**185**	**170**	**190**	**181**
18x14	.59	.56	8.	16.0	16.0	24.0	190	181	200	185
18x16	**.59**	**.57**	**7.**	**15.0**	**15.0**	**23.0**	**196**	**180**	**190**	**188**
20x10	.60	.47	14.	22.0	19.0	27.5	225	210	210	185
20x12	**.60**	**.49**	**12.**	**20.0**	**17.5**	**25.5**	**210**	**200**	**210**	**195**
20x14	.60	.56	10.	18.0	18.0	26.0	208	198	205	195
20x16	**.60**	**.57**	**8.**	**16.0**	**16.0**	**24.0**	**225**	**215**	**222**	**212**
24x18	.60	.59	7.	15.0	15.0	23.0	233	220	225	210
24x10			...	...	...	...	**225**	...	...	...
24x12	.62	.49	16.	24.0	21.5	29.5	310	300	210	290
24x14	**.62**	**.56**	**14.**	**22.0**	**22.0**	**30.0**	**315**	**325**	**335**	**310**
24x16	.62	.57	12.	20.0	20.0	28.0	324	319	310	304
24x18	**.62**	**.59**	**10.**	**18.0**	**18.0**	**26.0**	**312**	**310**	**315**	**304**
24x20	.62	.60	8.	16.0	16.0	24.0	315	305	307	304

*18" thru 24" not included in AWWA C153 as of August, 1992

MECHANICAL JOINT SSB-DUCTILE IRON CLASS 350 FITTINGS

PLUGS & CAPS



3"-12" 14"-24" 3"-12" 14"-24"

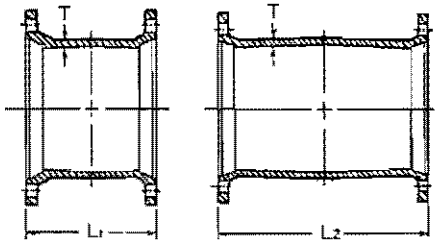
MJ Plug
Solid 5-650
Tapt 5-652

MJ Cap
Solid 5-654
Tapt 5-655

Size	Dimensions		Weights	
	T	Max. Tap	5-650 & 5-652	5-654 & 5-655
3	.46	3	6	7
4	.46	4	10	10
6	.46	4	18	17
8	.46	4	26	25
10	.56	4	36	35
12	.56	4	46	44
14	.62	4	85	79
16	.62	4	93	100
18	.65	4	130	122
20	.66	4	153	202
24	.68	4	202	214

*18" thru 24" not included in AWWA C153 as of August, 1992

SLEEVES

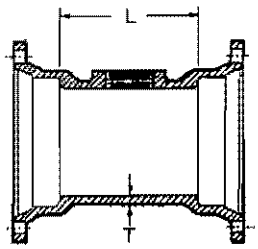


Short
5-644S

Long
5-644L

Size	Dimensions			Weights	
	T	L¹	L²	5-644S	5-644L
3	.34	7.5	12	13	21
4	.35	7.5	12	17	25
6	.37	7.5	12	28	39
8	.39	7.5	12	38	53
10	.41	7.5	12	49	64
12	.43	7.5	12	56	82
14	.56	9.5	15	111	141
16	.57	9.5	15	137	172
18	.68	9.5	15	...	200
20	.69	9.5	15	...	270
24	.75	9.5	15	...	370

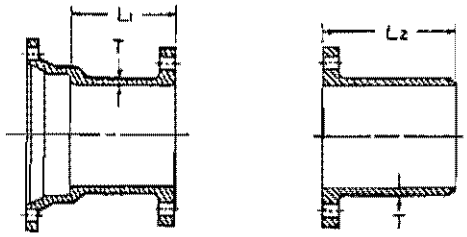
TAPPED TEE



MJ Tapped Tee
5-642

Size	Dimensions			Weights
	T	L	Max. Tap	
3	.34	6	2½	19
4	.35	6	3	23
6	.37	6	4	37
8	.39	6	4	53
10	.41	6	4	71
12	.43	6	4	82
14	.51	6	4	127
16	.52	6	4	164

ADAPTERS



MJxFE
5-658

FExPE
5-661

Size	Dimensions			Weights	
	T	L¹	L²	5-658	5-661
3	.34	6	12	18	18
4	.35	6	12	24	24
6	.37	6	12	36	33
8	.39	6	12	52	52
10	.41	6	12	67	69
12	.43	6	12	80	88
14	.51	6	12	127	127
16	.52	6	12	166	149

VI. METERS

Hersey®
PRODUCTS

Model MVR

Magnetic Drive Vertical Turbine Meters
Sizes 3/4", 1", 1-1/2", 2", 3", 4" and 6"

Features

APPLICATIONS: Measurement of water for residential, commercial and industrial applications where higher flow rates are encountered, and where sensitivity to low flow is also important. Hersey MVR meters are among the most sensitive vertical turbine meters available and may be used in place of compound meters in some applications. The compact design and integral strainer (separate external strainer is not needed) of Model MVR meters facilitate installation in tight spaces. They are ideal where flexibility is needed to meet wider flow ranges, where water temperatures are elevated between 80F and 130F, or where sand particles or other small debris may be encountered. May be installed vertically or horizontally for greater installation flexibility.

Optional ring strainer is available on 3/4", 1" and 1-1/2" meters. Cast iron bottoms on 3/4", 1" and 1-1/2" size meters are enamel painted and include a plastic liner to separate it from the waterway.

CONFORMANCE TO STANDARDS: Hersey Model MVR Water Meters comply with ANSI/AWWA Standard C701 Class I. Each meter is tested to ensure compliance.

CONSTRUCTION: Hersey Model MVR Water Meters consist of three basic parts: maincase; rotor assembly; and a permanently sealed register. Maincases are made of bronze for longer life, and have greater recycling value over plastic meters. Rotor assemblies are thermoplastic, which is dimensionally stable and will not corrode. Retro Thrust® rotor design extends the life of the meter by dividing wear between two points: during low flow the tungsten carbide thrust bearing floats against a sapphire bearing surface; during high flow the stainless steel shaft gently contacts a second sapphire bearing. During medium flow, the rotor floats between the thrust bearings without contact.

REGISTER: Permanently sealed register has double "L" seal to eliminate dirt and moisture infiltration and lens fogging. The standard register has a straight-reading odometer type totalization display; a 360° test circle with center sweep hand; and a low flow (leak) detector. Gears are self lubricating, molded plastic for long life and minimum friction. Standard gearing is used, making registers interchangeable size by size.

Solid state remote reading systems are available for all Model MVR Water Meters (see back for options).

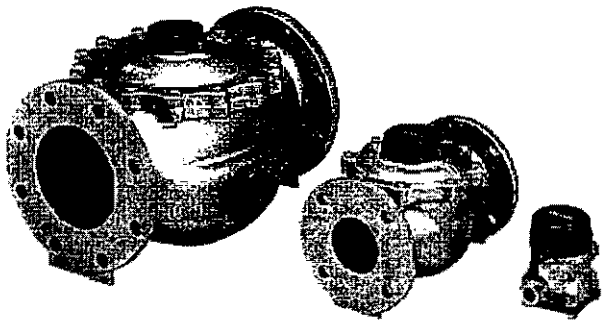
MAGNETIC DRIVE: Reliable, proven design using a four pole radial magnet for reliable magnetic coupling. Register is completely separate from waterway.

OPERATION: Water flows through the integral strainer and into the vertical turbine assembly. There the direction of the water flow is directed by the hub into the rotor at the precise angle necessary for accurate measurement over the full range of flow rates. The turbine turns freely and rotates in direct proportion to the volume of water passing through the meter.

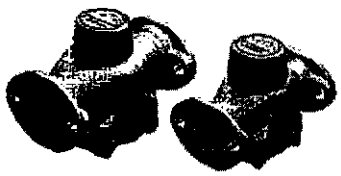
The Model MVR meter turbine operates more quietly than conventional disc or piston meters.

MAINTENANCE: The Hersey Model MVR Water Meters are designed and manufactured to provide long service life with virtually no maintenance required. The register on all sizes, and meter interior and strainer on sizes 3" and larger, can be replaced without removing the meter from the line. Modular design and economical internal parts allow for inexpensive speedy rebuilds.

CONNECTIONS: Available with external (N.P.S.M.) straight pipe threads (ANSI B1.20.1) on 3/4" and 1" sizes; integral two-bolt oval flanges or internal (NPT) pipe threads (ANSI B1.20.1) on 1-1/2" and 2" sizes. ANSI class 150 flanges on 3" through 6" sizes (class 125 cast iron or class 150 bronze companion flanges available on request).



3/4", 1", 1-1/2", 2", 3", 4", 6" Magnetic Drive Vertical Turbine Meters



1-1/2", 2" Compact Magnetic Drive Vertical Turbine Meters

Materials and Specifications

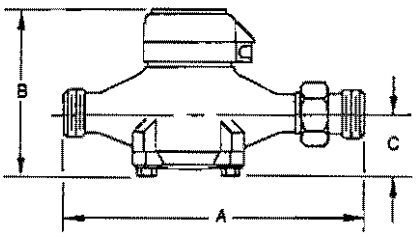
- **MODEL NUMBER** ..... MVR 30 (3/4"), MVR 50 (1"), MVR 100 (1-1/2"), MVR 160 (2"), MVR 350 (3"), MVR 650 (4"), and MVR 1300(6").
- **SIZES** ..... 3/4", 1", 1-1/2", 2", 3", 4" and 6"
- **STANDARDS** ..... Manufactured and tested to meet or exceed all applicable parsts of ANSI/AWWA C701 class I Standard.
- **SERVICE** ..... cold water measurement with flow in only one direction.
- **NORMAL OPERATING FLOW RANGE** ..... See charts on page3.4.
- **ACCURACY** ..... 100% ±1.5% of actual throughput. See charts on page 3.3.
- **LOW FLOW REGISTRATION** ..... See chart on page 3.4.
- **PRESSURE LOSS** ..... See charts on page 3.3.
- **MAXIMUM WORKING PRESSURE** ..... 150 PSI
- **TEMPERATURE RANGE** ..... 33F to 130F
- **MEASURING ELEMENT** ..... Rotor
- **REGISTER TYPE** ..... Straight reading, permanently sealed, magnetic drive with low flow indicator. Remote reading units optional.
- **REGISTRATION** ..... See chart on page 3.4.
- **CAPACITY** ..... See chart on page 3.4.
- **METER CONNECTIONS** ..... 3/4" and 1" external (NPSM) straight pipe threads, 1-1/2 size and 2" size available with either two bolt flanged ends or internal thread (NPT) ends same nominal size as size of meter. 3" thru 6" ANSI class 150 flanges.
- **MATERIALS** ..... Maincase - bronze ASTM B62; Rotor assembly - thermoplastic; Strainer - thermoplastic (std. in 3/4" thru 1-1/2"; stainless steel optional) or stainless steel (2" - 6"); Casing bolts - stainless steel ANSI B18.

Model MVR

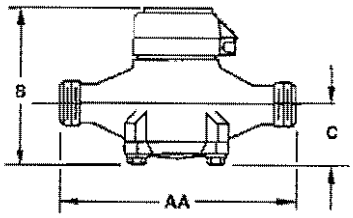
Hersey PRODUCTS

Magnetic Drive Vertical Turbine Meters
Sizes 3/4", 1", 1-1/2", 2", 3", 4" and 6"

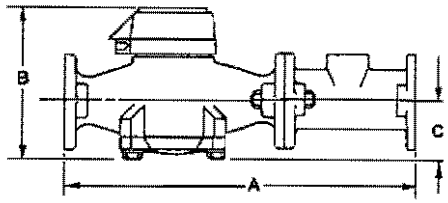
Dimensions and weights



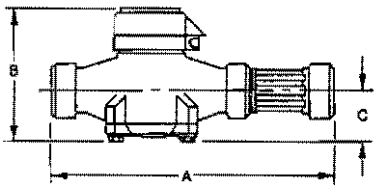
3/4" and 1" standard MVR



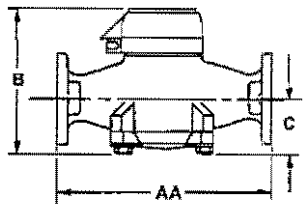
3/4" and 1" compact MVR



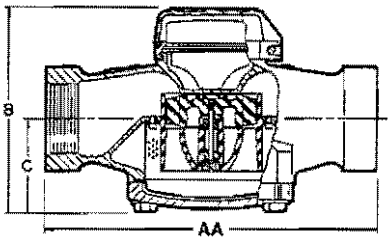
1-1/2" and 2" standard MVR with 2 bolt flange ends** and spool piece



1-1/2" and 2" standard MVR with Internal NPT ends

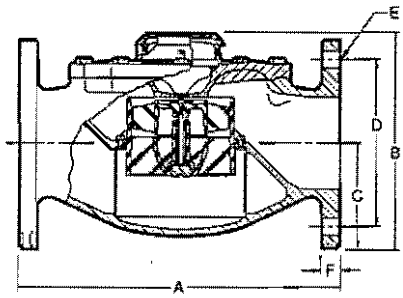


1-1/2" and 2" compact MVR with integral 2 bolt flange ends**



1-1/2" and 2" compact MVR with Internal NPT ends

NOTE: This cutaway view is typical of 3/4" - 2" MVR ** ers.



3", 4" and 6" MVR

Meter Size	3/4"	1"	1-1/2"	2"	1-1/2"**	2"**	3"	4"	6"
Ends	Threaded (screwed)				Flanged				
Model	MVR30	MVR50	MVR100	MVR160	MVR100	MVR160	MVR350	MVR650	MVR1300
Dimensions									
A	9"	10-3/4"	12-5/8"	15-1/4"	13"	17"	12"	14"	18"
AA *	7-1/2"	9"	9"	10-1/2"	9"	10"	-	-	-
B	5"	5-1/2"	5-3/4"	6-1/4"	5-3/4"	6-1/4"	8-7/16"	9-3/8"	12-9/16"
C	1-13/16"	2-3/8"	2-3/8"	3"	2-3/8"	3"	3-7/8"	4-5/8"	6"
D	N/A	N/A	N/A	N/A	4"	4-1/2"	6"	7-1/2"	9-1/2"
E	N/A	N/A	N/A	N/A	5/8"	5/8"	3/4"	3/4"	7/8"
F	N/A	N/A	N/A	N/A	11/16"	15/16"	5/8"	11/16"	13/16"
Maximum width	3-3/4"	4-1/4"	4-3/8"	5-3/8"	5-3/8"	5-15/16"	7-7/8"	9-3/4"	12-7/8"

* Compact length
** 1-1/2" and 2" Flanged meters have 2 bolt oval flange pattern.

NOTE: Meter couplings are optional and must be ordered separately. Weights are in pounds and are approximate.

Hersey PRODUCTS

Mueller Co.
Decatur, IL 62525

For Further information, contact:
Hersey Customer Service
Cleveland, NC 27013
1-704-278-2221
1-800-323-8584 (in USA)

Mueller Co.
A TYCO INTERNATIONAL LTD. COMPANY

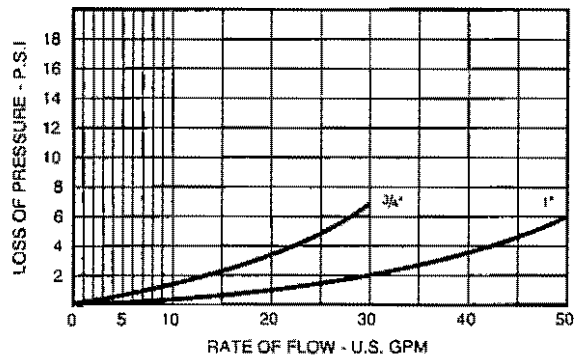
Hersey PRODUCTS

Model MVR

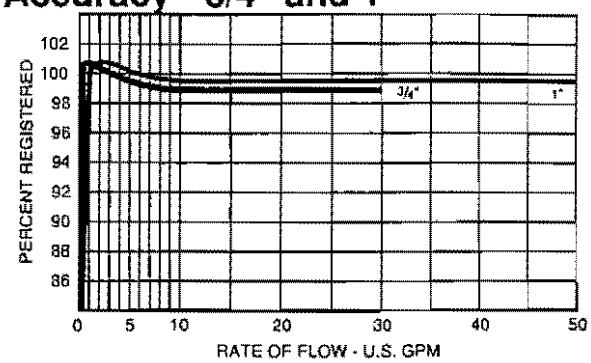
Magnetic Drive Vertical Turbine Meters
Sizes 3/4", 1", 1-1/2", 2", 3", 4" and 6"

Performance*

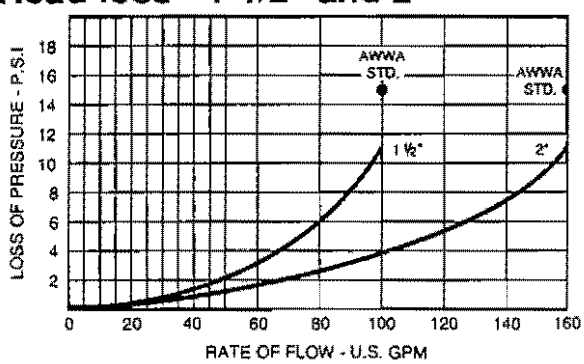
Head loss - 3/4" and 1"



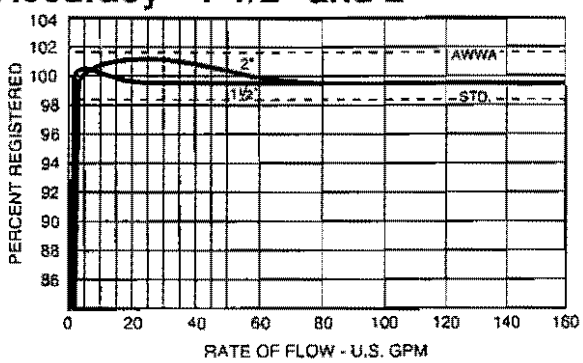
Accuracy - 3/4" and 1"



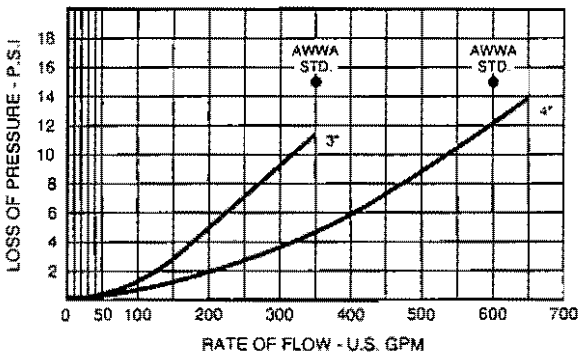
Head loss - 1-1/2" and 2"



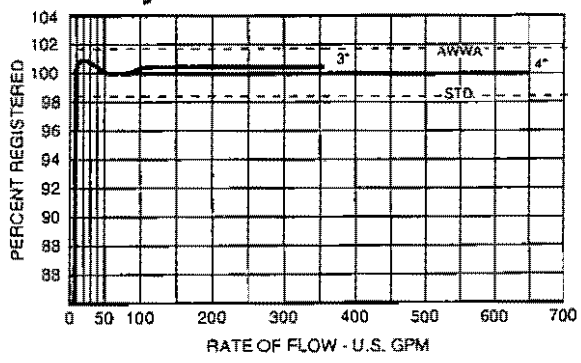
Accuracy - 1-1/2" and 2"



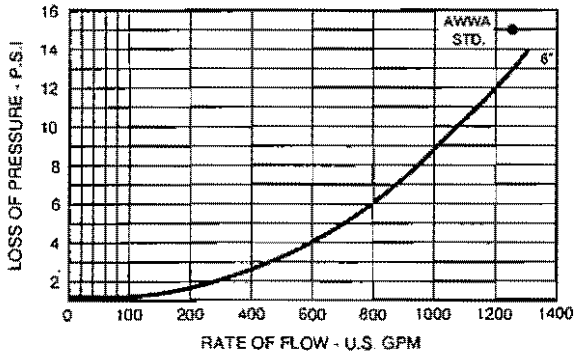
Head loss - 3" and 4"



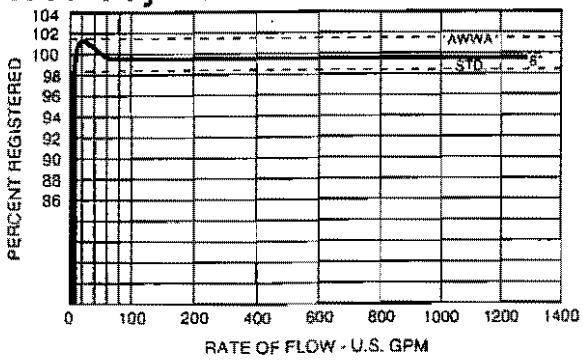
Accuracy - 3" and 4"



Head loss - 6"



Accuracy - 6"

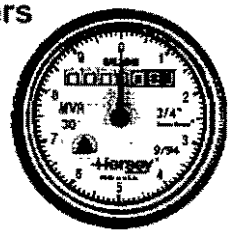


Model MVR

Hersey PRODUCTS

Magnetic Drive Vertical Turbine Meters
Sizes 3/4", 1", 1-1/2", 2", 3", 4" and 6"

Registers



Registration may be specified in U.S. Gallons, Cubic Feet, Cubic Meters, or Imperial Gallons. U.S. Gallon register is illustrated.

Available with optional **ER-1 Electronic Register.** See "Meter Electronics" section for more details.

Meter Registration

Meter Size	Initial Dial *	Capacity	Initial Dial *	Capacity	Initial Dial *	Capacity
3/4"	10 Gallons	10 Million	1 Cubic Foot	1 Million	.1M³	100,000
1"	10 Gallons	10 Million	1 Cubic Feet	1 Million	.1M³	100,000
1-1/2"	100 Gallons	100 Million	10 Cubic Feet	10 Million	.1M³	100,000
2"	100 Gallons	100 Million	10 Cubic Feet	10 Million	1M³	1 Million
3"	100 Gallons	100 Million	10 Cubic Feet	10 Million	1M³	1 Million
4"	100 Gallons	100 Million	10 Cubic Feet	10 Million	1M³	1 Million
6"	1000 Gallons	1 Billion	100 Cubic Feet	100 Million	1M³	1 Million

* Registration equal to one full revolution of the sweep hand.

Flow Characteristics

Accuracy - 100% + 1.5% of actual input

Normal operating flow range

MVR30	1.0 - 30 gpm
MVR50	1.5 - 50 gpm
MVR100	2.0 - 100 gpm
MVR160	3.0 - 160 gpm
MVR350	4.0 - 350 gpm
MVR650	5.0 - 650 gpm
MVR1300	15.0 - 1300 gpm

Low flow accuracy (at 95%)

MVR30	.50 gpm
MVR50	.75 gpm
MVR100	1.50 gpm
MVR160	2.00 gpm
MVR350	2.50 gpm
MVR650	3.50 gpm
MVR1300	5.00 gpm

Remote systems for use with Hersey Water Meters

The Hersey ER-1 Electronic Register is available as an option for new meters and can also be retro-fitted to existing meters. See "Meter Electronics" section for more detailes. The ER-1 Electronic Register can be used with:

- The Hersey Model REC-1 solid state (LCD) remote counter and all other solid state counters. See page 8.3 for details.
- Automatic meter reading (AMR) systems including the Hersey Inbound Telephone Automatic Meter Reading System. See "Meter Electronics" section for more detailes.
- "Touchless" AMR systems. See "Meter Electronics" section for more detailes.
- Radio Read AMR systems. See "Meter Electronics" section for more detailes.

These options offer the utmost in remote reading flexibility, allowing for diverse combinations of remote read systems, as well as the ability to upgrade or migrate from one system to another.

Hersey PRODUCTS

Mueller Co.
Decatur, IL 62525

For Further information, contact:
Hersey Customer Service
Cleveland, NC 27013
1-704-278-2221
1-800-323-8584 (in USA)

Mueller Co.
a Tyco International LTD company

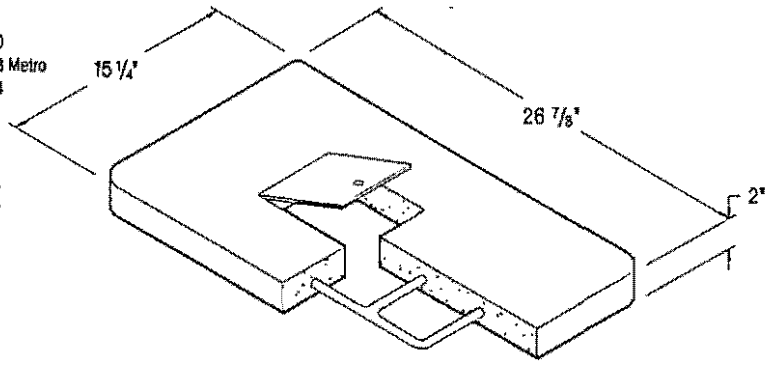
Form 1111549-B Printed in U.S.A.

VII. METER BOXES

DRAW PRODUCTS
201 W. Mayfield Road
Arlington, TX 76015
PHONE: (817) 465-0080
(817) 467-2783 Metro
FAX: (817) 472-6184

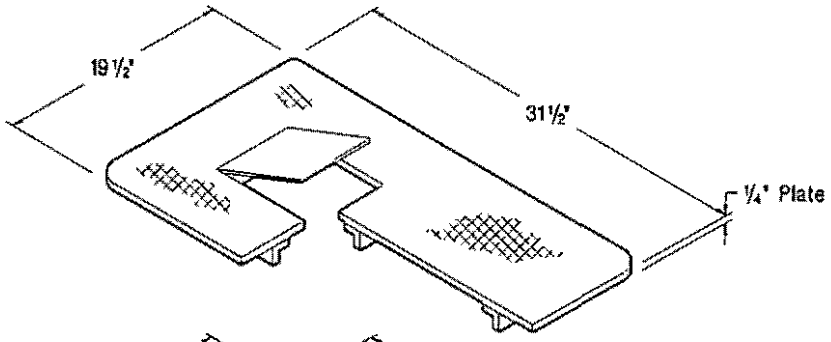
NO. 65 METER BOX
17" x 28" x 12"

No. 65H Concrete Cover With Hinged Lid
Weight - 71 Lbs.
Item# - 000330

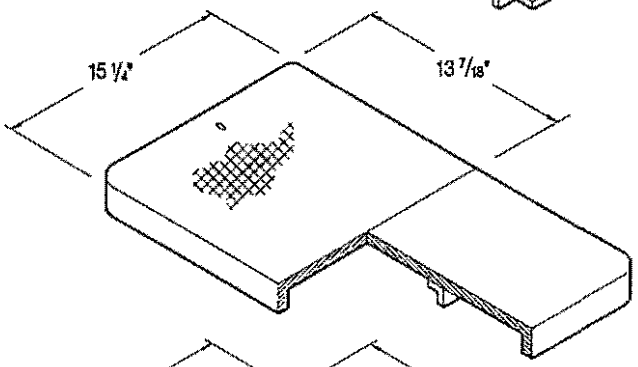


No. 65 T.F.W. Steel Cover W/ Reader
Weight - 105 Lbs.
Item# - 402020

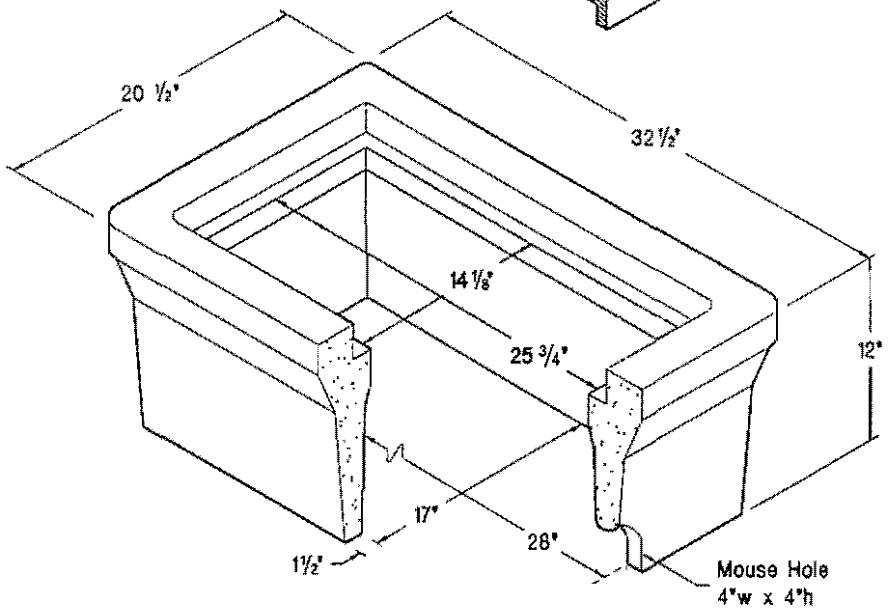
No. 65 T. Steel Cover, Solid
Weight - 105 Lbs.
Item# - 402010

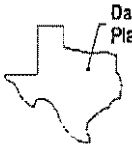


No. 65 C.I. Cover (2) Pieces
Weight - 48 Lbs.
Item# - 400370



No. 65 Body
Weight - 147 Lbs.
Item# - 000320





SPECIFICATIONS -
Concrete - Concrete has a design strength of 5500 PSI at 28 days.
Reinforcement - WWF
C.I. Castings - ASTM A 48 Class 30/35

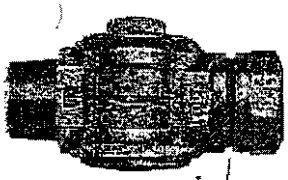
Date -	Scale -	Drawing No. -	Rev.
11/24/97	None	MB-065	A

Oldcastle Precast, Inc.

VIII. BRASS-CORP. STOP, CURB STOP, SADDLES

Mueller Co.

1-1/2" & 2" MUELLER® ORI-CORP® CORPORATION VALVES



H-15013

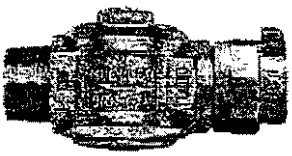
MUELLER® ORI-CORP® Corporation Valve
Inlet: AWWA taper (MUELLER "CC") thread
Outlet: MUELLER® 110® Conductive Compression Connection for CTS O.D. tubing*

1-1/2"	2"

H-15023

MUELLER® ORI-CORP® Corporation Valve
Inlet: AWWA I.P. thread
Outlet: MUELLER® 110® Conductive Compression Connection for CTS O.D. tubing*

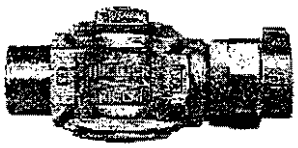
1-1/2"	2" **



P-15013

MUELLER ORI-CORP Corporation Valve
Inlet: AWWA taper (MUELLER "CC") thread
Outlet: MUELLER Pack Joint Connection for CTS O.D. tubing*

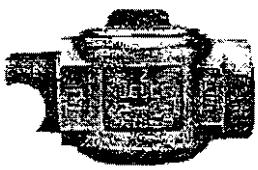
1-1/2"	2"



P-15023

MUELLER ORI-CORP Corporation Valve
Inlet: AWWA I.P. thread
Outlet: MUELLER Pack Joint Connection for CTS O.D. tubing*

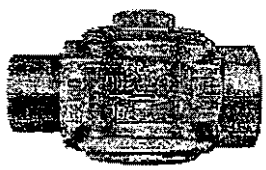
1-1/2"	2" **



H-15014

MUELLER ORI-CORP Corporation Valve
Inlet: AWWA taper (MUELLER "CC") thread
Outlet: F.I.P. thread

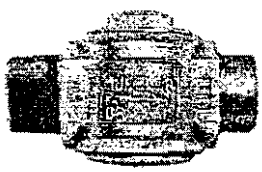
1-1/2" ‡	2" ‡



H-15015

MUELLER ORI-CORP Corporation Valve
Inlet: AWWA I.P. thread
Outlet: F.I.P. thread

1-1/2" ‡	2" ‡



H-9968

MUELLER ORI-CORP Corporation Valve
Inlet: AWWA taper (MUELLER "CC") thread
Outlet: M.I.P. thread

1-1/2"	2"

H-9969

MUELLER ORI-CORP Corporation Valve
Inlet: AWWA I.P. thread
Outlet: M.I.P. thread

1-1/2"	2" **

* See charts on pages 5.10-5.13 for tubing and pipe that may be used on these connections.
** For use with Service Saddle only---cannot be machine inserted.
‡ Requires minimum ordering quantity. Contact MUELLER Customer Service Center for minimum order requirements and availability.
NOTE: Sizes shown above represent nominal size of inlet and outlet connections.

MUELLER® Corporation Stops and Valves are manufactured and tested in accordance with ANSI/AWWA C800

GROUND KEY ANGLE METER VALVES & SERVICE VALVES - 3/4" - 2"

Ground Key Angle Meter Valve
MUELLER 110® Conductive Compression Connection for CTS O.D.* tubing x meter flange
180° turn check - lock wing

H-14277

Catalog size	1-1/2	2††
Meter size	1-1/2	1-1/2, 2
Pipe size	1-1/2	2

Ground Key Angle Meter Valve
MUELLER® Pack Joint Connection for CTS O.D.* tubing x meter flange
180° turn check - lock wing

P-14277

Catalog size	1-1/2	2††
Meter size	1-1/2	1-1/2, 2
Pipe size	1-1/2	2

Ground Key Angle Meter Valve
Copper flare nut x meter flange
180° turn check - lock wing

H-14276

Catalog size	1-1/2	2††
Meter size	1-1/2	1-1/2, 2
Pipe size	1-1/2	2

Ground Key Angle Meter Valve
F.I.P. x meter flange
180° turn check - lock wing

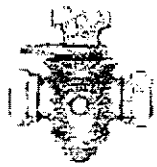
H-14286

Catalog size	1-1/2	2††
Meter size	1-1/2	1-1/2, 2
Pipe size	1-1/2	2

Ground Key Angle Meter Valve
F.I.P. x F.I.P.
180° turn check - lock wing

H-14285

Catalog size	3/4



MUELLER Solid Tee Head Roundway Meter Stop
F.I.P. x F.I.P.
360° turn - lock wing

H-10281

Catalog size	1/2

* See charts on pages 8D.15 and 8D.16 for tubing and pipe that can be used with this connection.
†† These valves have meter flanges double drilled to fit either 1-1/2" or 2" meters.

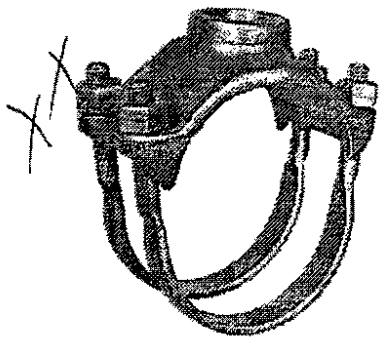
MUELLER® BR2B & BR2S SERIES BRONZE SERVICE SADDLES - DOUBLE STRAP

Mueller Co. **4.5**

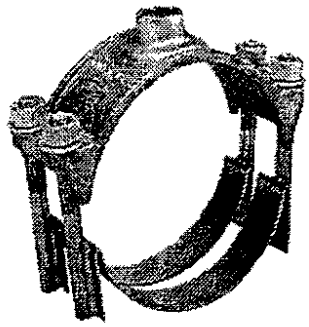
REV. 4-99

MUELLER® Service Saddles for use on A-C, cast iron, ductile iron, and AWWA C900 PVC plastic pipe

- ☐ Outlet tapped with either AWWA taper (C.C.) or AWWA I.P. thread (F.I.P.T.)
- ☐ For use on A-C pipe, cast iron or ductile iron pipe and cast iron O.D. PVC pipe
- ☐ 200 psig (1379 kPa) maximum working pressure
- ☐ Available in single and double strap designs
- ☐ Brass body
- ☐ Flattened silicon bronze straps (standard)
- ☐ Optional 304L stainless steel straps
- ☐ Rolled strap threads
- ☐ O-ring sealed outlet
- ☐ 3/4" thru 2" tap sizes
- ☐ Meets all applicable parts of ANSI/AWWA C800
- ☐ NSF 61 certified



BR 2 B Series



BR 2 S Series

MUELLER® Service Saddles with AWWA taper thread

Pipe O.D. range		Kind and size of pipe *		Bronze double strap with AWWA taper thread (C.C.)							Optional stainless steel double strap with AWWA taper thread (C.C.)							
Inch	mm	A-C	Cast or ductile iron, C900 PVC plastic pipe	Base Catalog Number	Size of tapping (add to "Base" to complete catalog number)						Base Catalog Number	Size of tapping (add to "Base" to complete catalog number)						
					5/8"	3/4"	1"	1-1/4"	1-1/2"	2"		1/2"	5/8"	3/4"	1"	1-1/4"	1-1/2"	2"
4.74"-5.32"	121.0-135.0	4" Cl. 150	4"	BR 2 B 0474 CC	050	075	100	125	150	200	BR 2 S 0474 CC	050	062	075	-	125	150	200
6.84"-7.45"	174.0-189.0	6" Cl. 150	6"	BR 2 B 0684 CC	050	075	100	125	150	200	BR 2 S 0684 CC	050	062	075	100	125	150	200
8.90"-9.67"	229.0-245.0	8" Cl.150	8"	BR 2 B 0899 CC	050	075	100	125	150	200	BR 2 S 0899 CC	050	062	075	100	125	150	200
11.04"-12.12"	281.0-307.0	10" Cl. 150-200	10"	BR 2 B 1104 CC	050	075	100	125	150	200	BR 2 S 1104 CC	050	062	075	-	125	150	200
13.14"-14.58"	334.0-370.0	12" Cl. 150-200	12"	BR 2 B 1314 CC	050	075	100	125	150	200	BR 2 S 1314 CC	050	062	075	100	125	150	200
15.22"-16.88"	386.6-428.7	14" Cl. 150-200	14"	BR 2 B 1522 CC	-	075	100	-	150	200	BR 2 S 1522 CC	-	-	075	100	-	150	200
17.32"-19.19"	439.9-487.4	16" Cl. 150-200	16"	BR 2 B 1732 CC	-	075	100	-	150	200	BR 2 S 1732 CC	-	-	075	100	-	150	200

MUELLER® Service Saddles with AWWA iron pipe thread

Pipe O.D. range		Kind and size of pipe*		Bronze double strap with AWWA I.P. thread (F.I.P.T.)							Optional stainless steel double strap with AWWA I.P. thread (F.I.P.T.)							
Inch	mm	A-C	Cast or ductile iron, C900 PVC plastic pipe	Base Catalog Number	Size of Tapping (add to "Base" to complete catalog number)						Base Catalog Number	Size of Tapping (add to "Base" to complete catalog number)						
					1/2"	3/4"	1"	1-1/4"	1-1/2"	2"		1/2"	5/8"	3/4"	1"	1-1/4"	1-1/2"	2"
4.74"-5.32"	121.0-135.0	4" Class 150	4"	BR 2 B 0474 IP	050	075	100	125	150	200	BR 2 S 0474 IP	050	062	075	100	-	150	200
6.84"-7.45"	174.0-189.0	6" Class 150	6"	BR 2 B 0684 IP	050	075	100	125	150	200	BR 2 S 0684 IP	050	062	075	100	125	150	200
8.90"-9.67"	229.0-245.0	8" Class 150	8"	BR 2 B 0899 IP	050	075	100	125	150	200	BR 2 S 0899 IP	050	062	075	100	125	150	200
11.04"-12.12"	281.0-307.0	10" Class 150-200	10"	BR 2 B 1104 IP	050	075	100	125	150	200	BR 2 S 1104 IP	050	062	075	100	125	150	200
13.14"-14.58"	334.0-370.0	12" Class 150-200	12"	BR 2 B 1314 IP	050	075	100	125	150	200	BR 2 S 1314 IP	050	062	075	100	125	150	200
15.22"-16.88"	386.6-428.7	14" Cl. 150-200	14"	BR 2 B 1522 IP	-	075	100	-	150	200	BR 2 S 1522 IP	-	-	075	100	-	150	200
17.32"-19.19"	439.9-487.4	16" Cl. 150-200	16"	BR 2 B 1732 IP	-	075	100	-	150	200	BR 2 S 1732 IP	-	-	075	100	-	150	200

* A-C pipe, classes 150-200 per ASTM C296 and AWWA C400---actual O.D. of pipe being used must fall within the pipe O.D. range listed in the preceeding charts. Centrifugally cast pipe, classes 50-250per ANSI/AWWA C102/A21.2; ANSI/AWWA C106/A21.6; ANSI/AWWA C108/A21.8, and Federal specification WW-P-421. Ductile iron pipe, classes 50-56 per ANSI/AWWAC151/A21.51; Cast iron O.D. PVC plastic pipe per AWWA C900.

These machines may be used with the service saddles illustrated on this page

Machine	Service saddle tap size				
	1/2"	3/4"	1"	1-1/2"	2"
B-5™	X	X	X	X	X
D-5™	-	X	X	X	X
TRU-CUT™	-	X	X	-	-
MEGA-CUT™	X	X	X	X	X
DL-2™	-	X	X	-	-

TO ORDER SPECIFY QUANTITY, OUTLET TAPPING SIZE AND CATALOG NUMBER.

IX. MISC.-FLANGE BOLT & GASKET SET, POLYWRAP, HYDRANT MARKERS,COPPER TUBING, DOUBLE CHECK BACKFLOW PREVENTER

Cowtown Gasket Co.

PROCESS PIPING WATER UTILITY

bolting gasketing supplies

3320 STUART DR.
FT. WORTH, TX. 76110

817/921-6501
817/921-2782FAX

January 19 2001

U.S. Filter Dallas
4333 Irving Blvd.
Dallas, Tx. 75247

Re: Bolt, Gasket and Insulation kit Specifications

To Whom It May Concern:

BOLTING SPECIFICATIONS

Standard Bolt and Nut Sets, Capscrew Sets and Flange Paks contain Hex Head Machine Bolts and Hex Head Capscrews I/A/W ASTM A307 Gr. A. Their dimensional specifications are I/A/W ANSI/ASME B18.2.1. Finished Hex Pattern Nuts are I/A/W ASTM A563 Gr.A. All Bolts, Screws, and Nuts have National Coarse threads, C1.2A fit.

GASKET SPECIFICATIONS

Flange gasket dimensional requirements are I/A/W ANSI/ASME B16.21. For physical characteristics please reference attachment.

INSULATION KIT SPECIFICATION

Insulation Kits Contain Double Washers and Sleeves. The Washers consist of Phenolic and Steel. The Sleeves are made of Polyethelene material.

Regards,

Brett Hague

Sheet Materials - Elastomers

STYLE 0700 — Red Rubber Smooth Finish
75 Durometer - Utility Grade

Styrene Butadiene Rubber Sheet. Recommended for low applications such as washers and gaskets for the heating and plumbing trades. Low cost flange gasket material. Non-oil resistant compound that resists flow under compression. Offers moderate to good performance against low pressure. Good aging and abrasion resistance. Easily conforms to uneven flange surfaces. Durometer Hardness Shore A - 75±5. Red color.

STYLE 0710 — Red Rubber Cloth Finish

Styrene Butadiene Rubber Sheet. Excellent low cost flange gasket material. Non-oil resistant compound for air, hot and cold water, and exterior service. Durometer - 75 ±10/-5. Tensile strength - 400 PSI. Temperature range: - 20°F to 180°F continuous/210°F intermittent. Red color.

*1/32" x 36" and 1/8" x 72" - Smooth finish. 1/8" x 72" - 700 PSI tensile strength.

STYLE 0725S — Neoprene 40 Durometer

Same as Style 0725 except with 40 Durometer.

STYLE 0705 — Neoprene 60 Durometer - Utility Grade

Utility grade Neoprene sheet with characteristics and applications similar to Style 0725.

May 21, 1993

A-1 Leather Cup & Gasket Co., Inc.
2103 Brennan Circle
Fort Worth, TX 76106
(817) 626-9664 or Metro 429-7710
Fax (817) 626-6230

PIPE WRAP SIZE	NOMINAL PIPE SIZE	WEIGHT	F.O.B. McCOMB, MS	F.O.B. FT. WORTH, TX
18" X 200'	3" - 4" - 6"	23#		
29" x 200'	8"-10"-12"	37#		
37" x 200'	14"-16"	48#		
48" x 200'	18"-20"	61#		
52" x 200'	24"	67#		
87" x 140'	30"	80#		
81" x 200'	36"	104#		

All poly wrap manufactured by Polyflex-M is in compliance with ASTM D-1248 and is .008 mil in thickness as specified by AWWAC105. (Spec. sheets and MSDS available upon request)
Color: Black

FULL FREIGHT ALLOWED ON ORDERS OF $1,500.00 OR MORE, ZONE 1,2,3

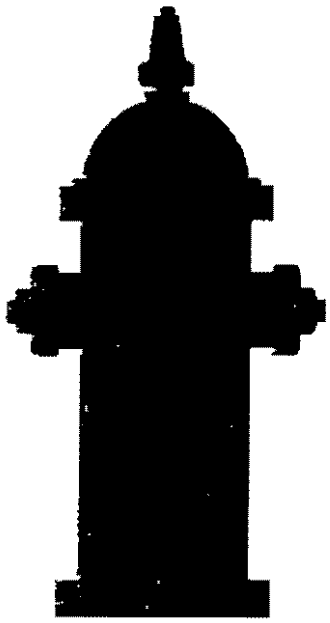
POLYFLEX-M COMPANY
BLOWN POLYETHYLENE FILM
P.O. BOX 727
McCOMB, MISSISSIPPI 39648
(601) 276-7512

F A C T O R Y S T O C K A V A I L A B L E

We also carry pipe wrap tape, which is used to hold the tube seams and overlaps in place.

2" x 10 mil x 100 ft. 24/ctn

This price sheet replaces last published sheet dated June 22, 1992.



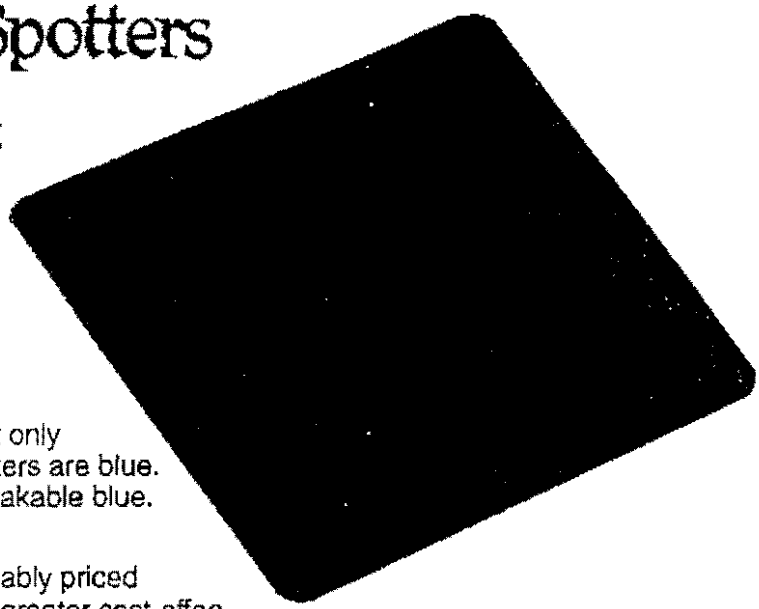
When seconds count, count on

Stimsonite®

FIRE-LITE®

Hydrant Spotters

Instantly spot hydrants from as far as 1000 feet!



The Fire-Lite Hydrant Spotter pavement marker helps fire departments immediately locate their city's fire hydrants—saving crucial time on every alarm response. Placed on the roadway directly across from each hydrant, on either the center line or the right hand lane line, the brilliant blue reflective marker signals hydrant location from up to 1000 feet away.

The raised marker is the same type that your state highway department approves for traffic guidance. But only Fire-Lite markers are blue. Bright, unmistakable blue.

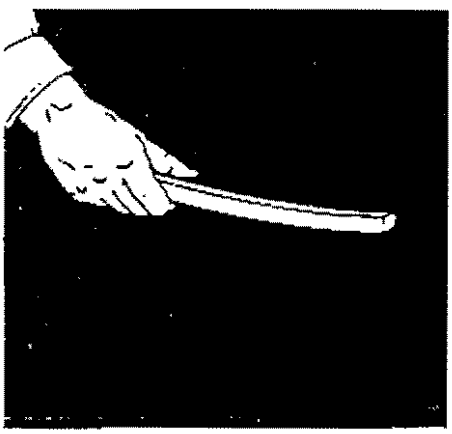
Inexpensive

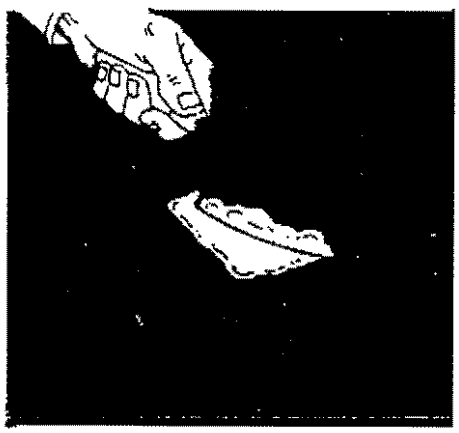
These reasonably priced markers offer greater cost-effectiveness than other hydrant marking systems. Fire department personnel can install them when not busy with other duties.

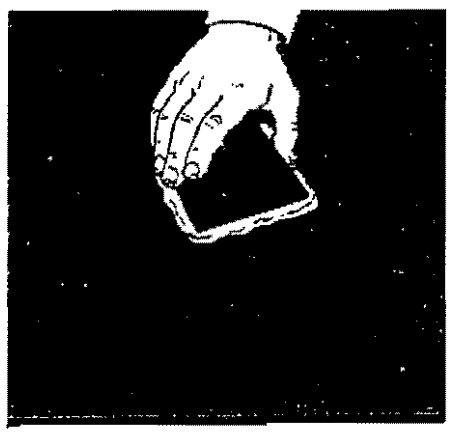
Easy to Install

Each Fire-Lite takes only a couple of minutes to install using Stimsonite's high strength adhesives. Pressure-sensitive adhesive pads are also available.

Spotlight your hydrants with Stimsonite Fire-Lite Hydrant Spotters. For information or a quote, contact your Fire-Lite distributor. Or call or write Stimsonite today.







Distributed by:

STIMSONITE®

Stimsonite Corporation
7542 N. Natchez Ave., Niles, IL 60648-3804
(708) 647-7717 FAX (708) 647-1205

Printed in U.S.A. SP-6884 10.0 M 10-91

SPECIFICATIONS FOR ABRASION RESISTANT PRISMATIC RETROREFLECTIVE PAVEMENT MARKER

GENERAL DESCRIPTION

Markers shall consist of an acrylic plastic shell filled with a tightly adherent potting compound. The shell shall contain one or two glass covered prismatic retroreflective faces as required to reflect incident light from a single or opposite directions.

DETAILED SPECIFICATIONS

1. *DESIGN AND FABRICATION*

A. Dimensional Details

Overall Dimensions	10. 16 cm x 10. 16 cm x1.78 cm (4 in. x 4 in. x 0. 70 in.)
Slope of Reflecting Face	30° to base
Area of Each Reflecting Surface	21.0 sq. cm (3.25 sq. in.)

B. Material

The shell shall be molded of methyl methacrylate conforming to ASTM D788 Grade 8.

Filler shall be a potting compound selected for strength, resilience, and adhesion adequate to pass physical requirements as outlined below.

C. Surface

Thin untempered glass shall be bonded to the prismatic retroreflective faces to provide an extremely hard durable abrasion resistant surface. The area covered by the glass shall not be less than 19.35 sq. cm (3.00 sq. in.). The outer surface of the shell shall be smooth except for purposes of identification.

The base of the marker shall be substantially free from gloss and substances that may reduce its bond to adhesive.

OPTICAL REQUIREMENTS

1. *DEFINITIONS*

Horizontal entrance angle shall mean the angle in the horizontal plane between the direction of incident light and the normal to the leading edge of the marker.

Observation angle shall mean the angle at the reflector between the illumination axis and the observation axis.

Coefficient of Luminous Intensity (CIL) shall mean the ratio of the luminous intensity of the retroreflector in the direction of observation to the illuminance at the retroreflector on a plane perpendicular to the direction of the incident light. For markers, CIL is expressed in millicandelas per incident lux (mcd/lx). The equivalent English term is Specific Intensity (SI) expressed in candles per foot candle (cd/ft c).

2. *OPTICAL PERFORMANCE*

A. Coefficient of Luminous Intensity (Specific Intensity)

For each lot consisting of 10,000 markers or less, select 20 markers at random for coefficient of luminous intensity check. Photometer in accordance with procedure 2C. Coefficient of luminous intensity of each retroreflecting surface shall be not less than shown in Table 1 when the incident light is parallel to the base of the markers. Failure of more than 10% of the retroreflecting faces shall be cause for rejection of the lot.

TABLE 1 COEFFICIENT OF LUMINOUS INTENSITY (SPECIFIC INTENSITY) REQUIREMENTS

Observation Angle (degrees)	Horizontal Entrance Angle (degrees)	Coefficient of Luminous Intensity mcd/lux					Specific Intensity cd/ft				
		White	Yellow	Red	Green	Blue	White	Yellow	Red	Green	Blue
0 2	0	279	167	70	93	23	3.0	1.8	0.75	1.0	0.28
0 2	20	112	67	28	37	10	1.2	0.7	0.3	0.4	0.11

B. Abrasion Resistance

Select at random four retroreflective faces previously passing the specific intensity requirements. Place on each retroreflective face a 2.5 +/- 0.1 cm (1.0 +/- 0.2 in.) diameter pad of No. 3 coarse steel wool conforming to Federal Specification FF-W-1825A. Apply a load of 22.7 +/- 0.2 kg (50 +/- 0.5 lbs.) and rub the entire surface 100 times. Photometer in accordance with procedure 2C. Failure shall constitute loss in reflex of greater than 25% of original value. The failure of more than one retroreflective face shall be cause for rejection of the lot. (Note: On two color units the red lens may not be covered with glass and if so should not be abraded.)

Continued . . .

C. Optical Testing Procedure

A random lot of retroreflectors shall be tested. Specific intensity shall be measured at 30.5 m (100 feet) test distance, spacing between source center and receptor center shall be 5.33 cm (2.1 in), receptor diameter and source diameter shall each be 2.54 cm (1.0 in). Other test distances 15.2 m (50 feet) and above may be used provided that the angular aperture requirements are met. (See ASTM E809, Measuring Photometric Characteristics of Retroreflectors).

3. *COLOR*

Color shall conform to the color requirements of ASTM D4280. Test method is provided in ASTM 4280 if required.

PHYSICAL PROPERTIES

1. *FLEXURAL STRENGTH REQUIREMENTS*

Markers conditioned to 23°+/-2°C (73.4°-/+3.6°F) shall support a load of 909 kg (2000 lbs.) as applied in the following manner:

A random sample of three markers shall be selected for test purposes.

In accordance with ASTM D4280, center the marker base down over the open end of a hollow metal cylinder 2.5 cm (1 in.) high, 7.6 cm (3 in.) I.D., 8.9 cm (3.5 in.) O.D. Apply a load to the top of the marker through a 2.5 cm (1 in.) diameter by 2.5 cm (1 in.) high metal plug centered on the top of the marker. Rate of loading shall be 0.5 cm (0.2 in.) per minute.

Failure shall constitute either breakage or significant deformation of the marker at any load of less than 909 kg (2000 lbs.).

2. *RESISTANCE TO LENS CRACKING*

(Note: On two color units, the red lens may not be glass covered and if so should not be subjected to impact test.)

A. *Sampling*

A random sample of markers to provide 10 lenses for each test (20 total) shall be selected from each lot.

B. *Impact Testing*

Condition the markers in a convection oven at 54°C (130°F) for one hour. Set the marker on a steel fixture designed to hold the reflecting face horizontal and set the fixture in a solid surface such as a concrete floor. While at the elevated temperature, impact the reflective face by allowing a 190 gm (0.42 lb.) dart fitted with a 0.64 cm (0.25 in.) radius spherical head to drop 45.7 cm. (18 in.) perpendicularly onto the center of the reflective surface. Cracks in the impact area shall be generally concentric in appearance. There shall be no more than two radial cracks longer than 0.64 cm (0.25 in.). There shall be no radial cracks extending to the edge of the glass.

C. *Temperature Cycling*

Subject samples to 3 cycles of 60°C (140°F) for 4 hours followed by 7°C (20°F) for 4 hours. There shall be no cracking or delamination following temperature cycling.

D. *Tolerances*

In either the impact or temperature cycling test, if 90% (9 lenses) of the test samples meet the above requirements, the lot shall be acceptable. Failure of 3 lenses of the sample shall be cause for rejection of the lot. Failure of 2 lenses shall necessitate a resample of 10 additional lenses. Failure of more than 1 lens of the resample shall be cause for rejection of the lot.

3. *BOND STRENGTH TEST*

Sand blast end of 5.1 cm (2 in.) diameter by 5.7 cm (2-1/4 in.) long steel test plugs with a threaded hole in the other end. Condition test plugs, pavement markers, and specified adhesive (Stimsonite Type 88 Epoxy) at 23°+/-2°C (73.4°-/+3.6°F) for at least 4 hours before testing. Mix the specified adhesive until the mixture shows no streaks. Place adhesive on the center of the bottom surface of the marker and spread a layer of adhesive on the sandblasted surface of the test plug. Press plug firmly in the center of the marker with a twisting motion. With a squared end tool remove any adhesive which extrudes from under the plug. After 24 hours cure at 23°+/- 2°C (73.4°+/- 3.6°F) measure bond strength using a tensile testing machine adjusted to travel at 0.5 cm (0.2 in.) per minute. Test fixture shall be designed to provide uniform load distribution. Bond strength less than 35.1 kg /cm^2 (500 psi) shall be considered a failure.

March, 1994
(Supersedes January, 1992)

Printed in U.S.A.

MUELLER BRASS CO. PORT HURON, MICHIGAN 48060

Date _____

Customer _____ Contractor _____

Street No. _____ Address _____

City & State _____ Contract No. _____

Order No. _____ Job Description _____

Attention _____ Location _____

PRODUCT SPECIFICATIONS
CERTIFICATION OF CONFORMANCE

Mueller Brass products are manufactured in conformance to the latest revisions of the following recognized industry standards.

☐ WROT COPPER AND COPPER ALLOY SOLDER JOINT PRESSURE FITTINGS — To ANSI B16.22.

☐ CAST COPPER ALLOY SOLDER JOINT PRESSURE FITTINGS — To ANSI B16.18.

☐ CAST COPPER ALLOY FITTINGS FOR FLARED COPPER TUBES — To ANSI B16.26.

☒ STREAMLINE COPPER WATER TUBE — TYPES K, L & M — To ASTM B88 and WWT-799.

☐ REFRIGERATION FLARE-TYPE FITTINGS — To SAEJ513, and Military Standards MS-16993, MS-35867 thru MS-35873 inclusive, MS-35919 and MS-35926.

☐ STREAMLINE COPPER REFRIGERATION SERVICE TUBE — To ASTM B280, and WWT-775.

☐ STREAMLINE NITROGENIZED ACR HARD DRAWN COPPER TUBE — To ASTM B88 - Type L, in accordance with ASTM B280.

☐ OXYGEN SERVICE TUBE — To ASTM B88, Types K and L — hard drawn lengths only — in accordance to CDA cleanliness specifications and NFPA 56F, Seamless Copper Tube cleaned for Oxygen Gas Service.

☐ WROT COPPER AND COPPER ALLOY SOLDER JOINT DRAINAGE FITTINGS - DWV — To ANSI B16.29.

☐ CAST COPPER ALLOY SOLDER JOINT DRAINAGE FITTINGS - DWV — To ANSI B16.23.

☐ STREAMLINE COPPER DRAINAGE TUBE - DWV — To ASTM B306.

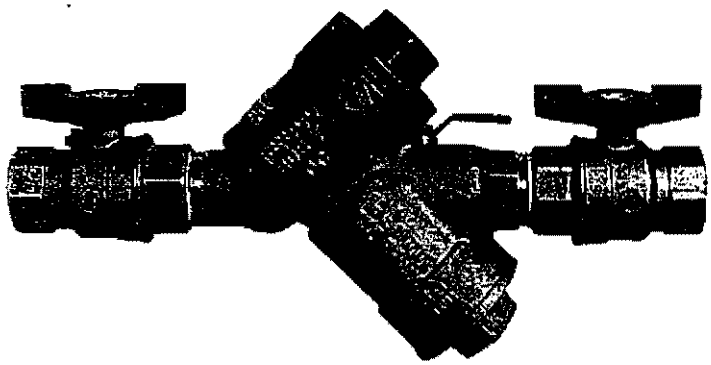
☐ COPPER PIPE — To ASTM B42.

☐ RED BRASS PIPE — To ASTM B43 — Can be supplied in hard temper.

Yours truly,
MUELLER BRASS CO.

By _____

Model 805Y (¾" through 2") Double Check Backflow Preventer For Non-Toxic Service



Features

- Low head loss.
- Spring loaded "Y" type check valves.
- Documented flow curves established by University of Southern California Foundation for Cross Connection Control and Hydraulic Research.
- Simple service procedures. All internal parts are serviceable inline.
- Meets all specifications of AWWA, ASSE, and USC Foundation for Cross Connection Control and Hydraulic Research.
- Bronze bodies, caps, shutoff valves and testcocks.

Operation

a nonflow condition the check valves hold 1 PSI minimum in the direction of flow. In a flow condition the check valves are open, proportional to the flow demand. In a backflow condition both checks will close until the resumption of normal flow.

Typical Specifications

The Double Check Valve assembly ¾" through 2" shall consist of a bronze body with bronze caps. The body shall be a "Y" pattern design incorporating two spring loaded, center guided check assemblies. The assembly shall include threaded inlet and outlet, full port ball valve shut-off valves and four ball valve test cocks. All internal parts shall be of corrosion resistant materials.

All Double Check Valves shall be constructed so all internal parts can be serviced without removing the assembly from the line. Seat discs shall be reversible. The assembly shall operate when installed in any position. Double Check Valves shall be rated to 175 PSI water working pressure and water temperature from 32°F to 140°F.

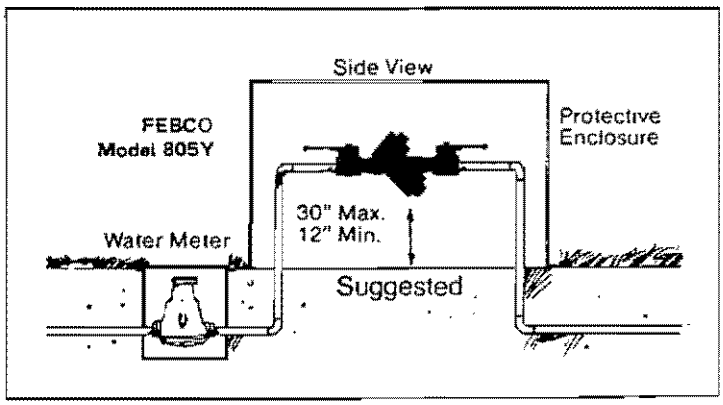
The assembly shall meet the requirements of ASSE Standard 1015, AWWA Standard C506-78, and USC Foundation for Cross Connection Control and Hydraulic Research, Sixth Edition.

Typical Applications

ouble Check assemblies are used to prevent backflow of pollutants that are objectionable but not toxic, Double checks may be installed under continuous pressure service and may be subjected to backpressure. Double Checks can be used in sprinkler irrigation systems, fire protection without chemical additives, protection of industrial plants, industrial in-plant plumbing systems and other systems requiring protection. Local codes may vary; consult authorities for specific approved applications.

Installation

Model 805Y Double Check Backflow Preventers should be installed with adequate clearance and easy accessibility for testing and maintenance and must by protected from freezing. The assembly may be installed horizontally or vertically with flow up. Refer to local codes for specific installation requirements. Some codes may prohibit vertical installation. Thermal water expansion and/or water hammer down stream of the backflow preventer can cause excessive pressure. Excessive pressure situations should be eliminated to avoid possible damage to the system and assembly.



Characteristics and Materials

Maximum working pressure	175 PSI
Hydrostatic test pressure	350 PSI
Temperature Range	32°F to 180°F *
Fluid	Water
End Detail	Threaded ANSI B2.1
Main Valve Body	Bronze ASTM B584-78
Elastomers	Nitrile ASTM D-2000 seat discs †
Springs	Stainless steel, 300 series

* On water systems that experience an excess of a constant 140°F, assembly must be ordered with HW (805Y 1" HW)

† Can be furnished with optional silicone seat discs for areas subject to chloromine degradation of rubber parts.

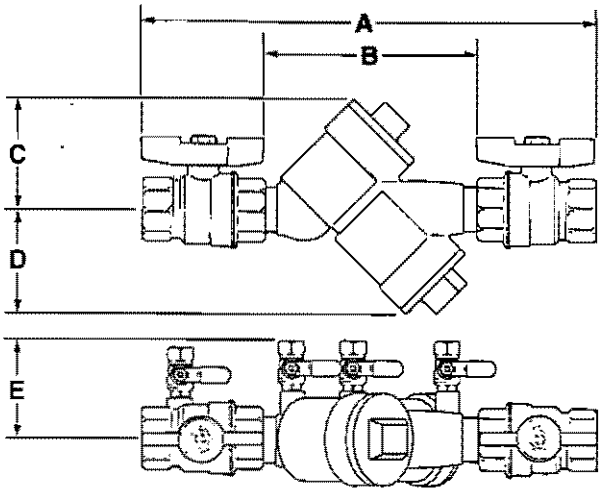
Dimensions and Weights(U.S.-inches)

SIZE	A	B	C	D	E	NET WT.(Lbs.)
¾"	11⅜	6⅞	3¾	3¾	2½	7
1"	12⅞	6⅞	3¾	3¾	2½	7½
1½"	17⅞	10¼	5⅛	4⅞	3⅜	17½
2"	18⅝	10¼	5⅛	4⅞	3⅜	20

Metric (mm.)

SIZE	A	B	C	D	E	NET WT. Wt.(Kgs.)
20	288.9	174.6	95.3	95.3	63.5	3.2
25	327.0	174.6	95.3	95.3	63.5	3.4
30	454.0	260.4	130.2	123.8	85.7	7.9
40	473.1	260.4	130.2	123.8	85.7	9.1

All dimensions are approximate.

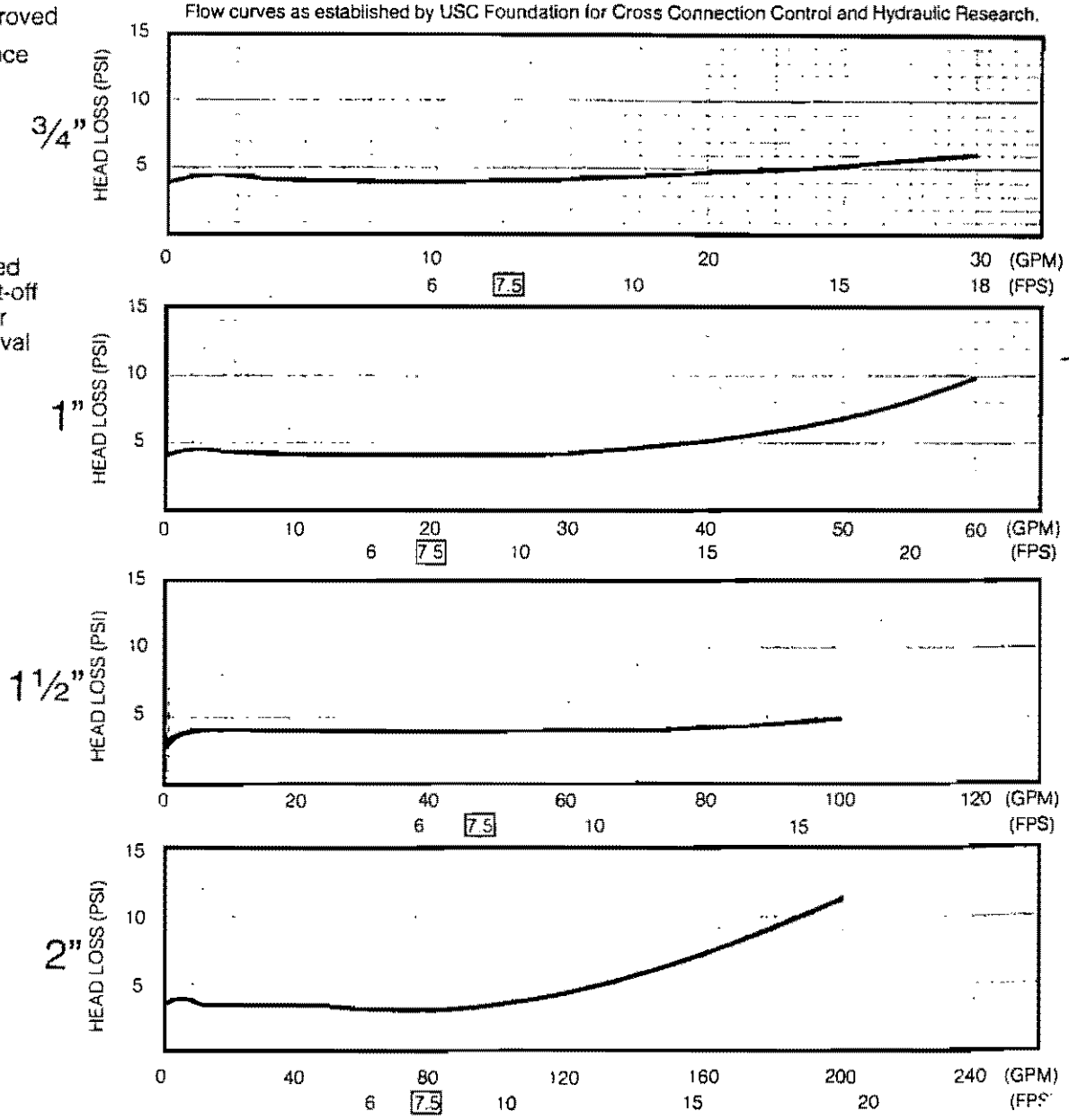


USC FCCC & HR, *Approved
AWWA C506 Conformance
ASSE Listed 1015
CSA B-64.5 Certified

* Valves must be supplied with resilient seated shut-off v ⁻s and test cocks for L FCCC & HR approval to be in effect.

Model 805Y FLOW CURVES

Flow curves as established by USC Foundation for Cross Connection Control and Hydraulic Research.



FLOW RATE (In GPM and FPS)

NOTES. 1. Velocities are calculated for flows in Schedule 40 steel pipe.
2. Typical water sytem flow velocities of 0 to 7 5 FPS should be used for head loss efficiency comparisons.

FEBCO®
division of CMB Industries P.O. Box 8070, Fresno, California 93747, (209) 252-0791 Telex: 33-7616 CMB FSO Fax: (209) 453-9030