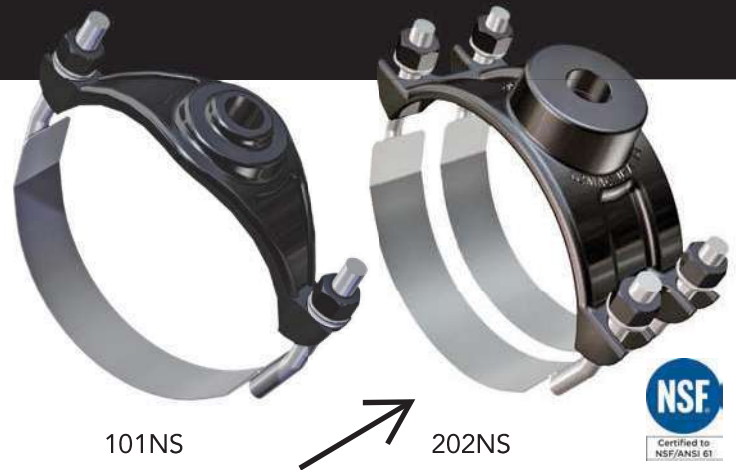


TITLE TO AND OWNERSHIP OF THIS ENGINEERING DATA REMAINS IN Mueller Co. NO USE IS TO BE MADE OF THIS DATA EXCEPT AS SPECIFICALLY AUTHORIZED BY Mueller Co. ASSENT ON THE PART OF THE RECIPIENT TO THESE CONDITIONS IS PRESUMED

101NS & 202NS SERVICE SADDLE

SUBMITTAL INFORMATION



MATERIALS

CASTING

The saddle body is cast from ductile (nodular) iron, meeting or exceeding ASTM A 536, Grade 65-45-12.

GASKET

Gasket is made from Nitrile Butadiene Rubber (NBR) compounded for water and sewer service and a tolerance of petroleum products in accordance with ASTM D 2000 MBC 610 and NSF 61 Certified. Other compounds available for special applications.

STRAPS

Type 304 (18-8) heavy gauge Stainless Steel per ASTM A 240. Straps are two inches wide to spread out clamping forces on the pipe. GMAW and GTAW welds. Passivated for corrosion resistance.

BOLTS, NUTS

For sizes 1-1/2" through 3", 1/2" UNC roll thread Type 304 (18-8) Stainless Steel bolts with heavy hex nuts. 4" and above use 5/8" UNC roll thread Type 304 (18-8) Stainless Steel bolts with heavy hex nuts. Rod for bolts are per ASTM A 240 and nuts are per ASTM A 194. All welds fully passivated for enhanced corrosion resistance. Nuts coated to prevent galling.

WASHERS

Flat, type 304 (18-8) heavy gauge Stainless Steel.

COATING

Casting is coated with fusion bonded black nylon, 10-12 mils thick, with a dielectric strength of 1,000 v/mil and NSF 61 Certified.

PRESSURE

Ductile iron, cast iron and steel pipe: rating of pipe up to 350 psi maximum, on pipe sizes up through 24 inch, larger than 24 inch up to 30 inch pressure rating is 150 psi. PVC, asbestos cement and other pipe: up to the maximum rating of the pipe. For other applications please consult your representative.

STANDARD

Contact Romac Engineering for ANSI/AWWA C800 Spec and Approval Chart.

SIZES & RANGES

See Catalog.

11/29/2018

Document # 25-8-0003

This information is based on the best data available at the date printed above. Please check with Romac for any updates or changes.



www.romac.com
21919 20th Avenue SE • Suite 100 • Bothell, WA 98021
Phone (425) 951-6200 • 1-800-426-9341 • Fax (425) 951-6201



MUNICIPEX® WATER SERVICE LINE

TESTED. TRUSTED. CHOSEN BY PROFESSIONALS.

ENGINEERED FOR POTABLE WATER

ONE BILLION FEET OF INSTALLATION EXPERIENCE



REHAU's MUNICIPEX (PEXa) crosslinked polyethylene service line pipe is backed by more than 40 years and more than 1 billion feet (300 million meters) of installation experience worldwide. MUNICIPEX meets or exceeds all required certifications, is the first PEX pipe certified by AWWA C904 and is field-proven for use in municipal service lines.

Mineral build-up and corrosion from both soil and water are common problems in buried copper service lines. MUNICIPEX has a smoother interior, resulting in minimal flow restriction. Unlike copper or composite tubing, MUNICIPEX does not contain any metal. It is an engineered polymer water service line that resists corrosion, delivering greater service life while retaining maximum flow.

MUNICIPEX may also be used for other water applications such as splash parks, water parks and some industrial facilities. Contact REHAU about using MUNICIPEX for other water supply applications.

Superior Performance

MUNICIPEX pipe is manufactured using REHAU's high-pressure peroxide method for crosslinked polyethylene pipe. It is co-extruded with a PE shield that protects the pipe when exposed to ultraviolet light for an extended time. This manufacturing process provides MUNICIPEX with enhanced benefits over other water service line pipes in the market.

According to a Plastics Pipe Institute (PPI) report¹, PEXa pipes such as MUNICIPEX surpass the performance of HDPE in the following ways:

- Increased environmental stress crack resistance
- Increased resistance to slow crack growth
- Increased resistance to creep
- Increased hydrostatic design basis (HDB) pressure at 180°F (82.2°C)
- Increased flexibility
- Increased elongation to break

Compared to traditional copper pipe, MUNICIPEX is:

- More affordable
- More resistant to corrosion
- Lighter weight and easier to handle and install
- Able to be squeezed shut without damage to the pipe during curb stop replacement
- More resistant to freezing issues

MUNICIPEX is an engineered solution that optimizes performance and affordability in water service line applications.

Meets or Exceeds Industry Standards

- Manufactured in accordance with AWWA C904 and to SDR9 copper tube sizes (CTS)
- Certified to CSA B137.5, *Crosslinked Polyethylene (PEX) Tubing for Pressure Applications*
- Certified to ASTM F876
- Certified to NSF/ANSI Standard 14 and 61 (NSF-pw-g)
- Exceeds chlorine resistance requirements of ASTM F876, when tested in accordance with ASTM F2023
- In accordance with UV resistance to ASTM F2657 for 1 year



Superior corrosion and impact resistance, excellent flow capacity and low cost make MUNICIPEX the obvious choice for municipal specifiers.

¹ Source: PPI Reference TN-17

PERFORMANCE PROPERTIES

PROVEN RELIABILITY

For service line and underground applications, it is the responsibility of the installer to ensure fittings selected meet local jurisdictional codes.



Pipe sizes 3/4 to 2 in.



No internal deposits



Corrosion build-up in metal pipes

SDR9 Copper Tube Sizes (CTS)

Produced to copper tube size OD, MUNICIPEX connects to standard, off-the-shelf, potable water fitting solutions such as AWWA C800 compression joint valves and fittings and ASTM F2080 brass compression-sleeve fittings. When using AWWA C800 fittings, the manufacturer's recommended insert is required to stiffen the pipe at these connections. These fitting options make MUNICIPEX pipe easy and convenient to install.

Tools

No special tools are required for MUNICIPEX connections. Standard pipe wrenches are used with compression joint connections.

Corrosion Resistance

As a polymer material, MUNICIPEX resists corrosion in soil or aggressive water conditions.

Mineral Build-up Resistance

MUNICIPEX resists scaling and internal deposits.

Chlorine Resistance

MUNICIPEX exceeds the requirements of ASTM F876 for chlorine resistance, when tested in accordance with ASTM F2023, and is listed by NSF for chlorine resistance.

Chemical Resistance

MUNICIPEX is resistant to a wide range of chemicals. However, while some chemicals may not harm MUNICIPEX, chemical concentration, temperature, pressure and other parameters can influence the suitability and service life of the MUNICIPEX application. Do not bury MUNICIPEX in contaminated soil. If you have questions regarding chemical compatibility, please contact your REHAU regional sales office.

Freeze Resistance

Unlike HDPE and copper pipes, MUNICIPEX will not split when frozen, if allowed to expand along its entire length. It will return to its original shape when thawed.

1. Thawing can be performed by using available hot water injection equipment. After thawing, MUNICIPEX can immediately be put back into service.

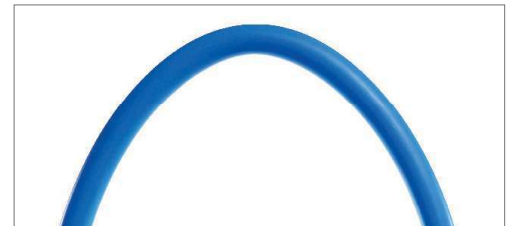
2. Thawing can also be performed by applying hot air to the pipe. When using a hot air gun to heat frozen areas, ensure that the temperature of the pipe does not exceed 210°F (93.3°C). Do not use an open flame to thaw MUNICIPEX.

Abrasion Resistance

The increased abrasion resistance of crosslinked polyethylene pipe ensures long service life even in directional drilling applications.

High Impact Resistance

MUNICIPEX is more flexible than other piping materials, and will not crush, kink or collapse when proper backfill techniques are used. MUNICIPEX also has high resistance to gouges or scratches and outstanding resistance to slow crack growth. Even at temperatures as low as -40°F (-40°C) MUNICIPEX will not become brittle.



Prevent kinks; bend pipe more slowly in cold temperatures

Excellent Temperature-Pressure Capabilities

Minimum Burst Pressure Requirements

- 475 psi @ 73.4°F (3,310 kPa @ 23°C)
- 210 psi @ 180°F (690 kPa @ 82.2°C)
- 180 psi @ 200°F (550 kPa @ 93.3°C)

MUNICIPEX carries the following continuous-use temperature and pressure ratings

- 160 psi @ 73.4°F (1,105 kPa @ 23°C)
 - 100 psi @ 180°F (690 kPa @ 82°C)
 - 200 psi @ 73.4°F (1,380 kPa @ 23°C)
- using design factor of 0.63*

*see REHAU Technical Bulletin 239 for clarification

Lightweight

MUNICIPEX is five to six times lighter than copper, is easy to handle and economical to ship.

Waste Reduction

MUNICIPEX is supplied in coils, minimizing joints, reducing waste, speeding installation and saving money.

Kink Resistance

MUNICIPEX is more flexible than HDPE or composite pipes and will resist kinking even at temperatures well below freezing. Kinking can be prevented by bending the pipe more slowly in cold temperatures, taking care not to bend it too far.

If MUNICIPEX becomes kinked, unlike HDPE, it can be repaired without cutting. To repair a kink, carefully heat the kinked area with a hot air gun until the kink disappears and the pipe becomes round (approximately 275°F [135°C]), then remove heat and let the pipe cool before moving it. There must be no pressure or stress on the pipe during heating to prevent deformation. Small bubbles or wrinkles may appear on the blue UV shield – this is normal.

MUNICIPEX Product Offering

Article No.	Available Coil Lengths	Weight lb/ft (kg/m)	Bend radius in (cm)	Coils per pallet
3/4 in.				
261056-100	100 ft (30.5 m)	0.10 (0.15)	4.50 (11.25)	62
261056-300	300 ft (91.4 m)			23
261056-500	500 ft (152.4 m)			14
261056-000	1,000 ft (304.8 m)			7
1 in.				
261076-100	100 ft (30.5 m)	0.17 (0.26)	5.75 (14.40)	23
261076-300	300 ft (91.4 m)			14
261076-500	500 ft (152.4 m)			7
261076-000	1,000 ft (304.8 m)			5
1 1/4 in.				
261096-100	100 ft (30.5 m)	0.25 (0.37)	7.00 (17.80)	10
1 1/2 in.				
261116-100	100 ft (30.5 m)	0.35 (0.52)	8.25 (21.00)	5
261116-300	300 ft (91.4 m)			5
261116-500	500 ft (152.4 m)			5
261116-111	1,000 ft (304.8 m)			5
2 in.				
261136-100	100 ft (30.5 m)	0.60 (0.90)	10.75 (27.30)	5
261136-300	300 ft (91.4 m)			4
261136-500	500 ft (152.4 m)			5
261136-111	1,000 ft (304.8 m)			2

UV Resistance

MUNICIPEX meets the requirements for ASTM F2657 and has a maximum exposure limit to sunlight of up to one year. MUNICIPEX should not be permanently installed in direct sunlight, either outdoors or indoors. Follow all handling and installation instructions found on the packaging.

All MUNICIPEX pipe is shipped in protective packaging. MUNICIPEX should be stored in the original packaging until time of installation.



Repair kinks without cutting

INSTALLATION

EASY TO HANDLE

Lightweight and flexible, MUNICIPEX is supplied in longer coils to reduce the number of couplings, minimize waste and speed installation. Being five to six times lighter than copper, MUNICIPEX is easier and safer to handle. It is also easier to plan an installation as consecutive footage marks on the pipe indicate the length and how much material is available. Allowing a slight curve while laying MUNICIPEX in the trench is all that is required to accommodate expansion and contraction. Follow all published installation instructions.

For additional information, please refer to REHAU MUNICIPEX® Installation Guide or contact your regional REHAU sales office.

Using a squeeze-off tool to temporarily stop the water flow through MUNICIPEX will not cause permanent damage or deformation to the service line, and is the fastest and cleanest way to temporarily stop flow through the pipe, such as when replacing a curb stop or other shut-off valve.



Standard tools and connections



P.O. Box 24, Bay Head, New Jersey 08742, 732-892-8989, FAX: 509-275-5820

LOW DENSITY HMW-PE Paigetracer

**UL-LISTED 30V or 600V
FOR GAS PIPELINES/WATER
PIPELINES & FIBER OPTIC LINES**

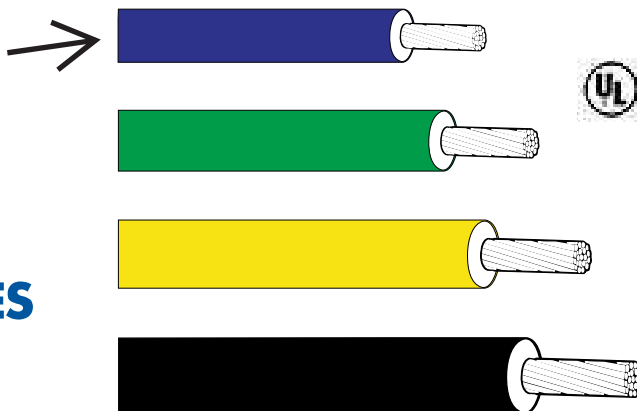
INSULATION: POLYETHYLENE

SIZES: 14-8 AWG

CONDUCTOR: SOLID OR STRANDED BARE ANNEALED COPPER

INSULATION: POLYETHYLENE

JACKET: PVC; SIZE: 24 AWG



1.0 DESCRIPTION

Single conductor solid or stranded,
bare annealed copper, low
density high molecular weight
Polyethylene insulation.

2.0 APPLICATION

Outstanding dielectric strength,
moisture resistance and low
capacitance of the high molecular
weight Polyethylene, coupled
with its high resistance to
corrosive chemicals, makes this
the optimum Tracer Wire for
locating buried Utilities.
Polyethylene is resistant to salt
water and most organic and
inorganic substances. A.P.W.A.
Color Code: Gas-Yellow, Water-
Blue, Fiber-Orange.

3.0 TEMPERATURE RATING

-55°C +60°C.

4.0 CONSTRUCTION DATA

HMW-PE

UL 600V CONSTRUCTION		
SIZE	INSULATION	WEIGHT
(AWG)	THICKNESS	(LB/1000)
14	45 MILS	20
12	45 MILS	29
10	45 MILS	42
8	45 MILS	80
UL 30V CONSTRUCTION		
SIZE	INSULATION	WEIGHT
(AWG)	THICKNESS	(LB/1000)
14	30 MILS	18
12	30 MILS	25
10	30 MILS	38
8	30 MILS	75

FOR SPLICING - 3M DBY'S/DBR'S ARE RECOMMENDED OR PAIGE DBM'S.
CUSTOM PUT UPS AND SURFACE PRINT AVAILABLE. FIRM OR FLOAT PRICING/BLANKET ORDERS/DROP SHIPS.
CALL BILL GAAL AT 732-892-8989 OR FAX YOUR INQUIRIES TO 509-275-5820 FOR PRICING INFORMATION.

Detectable Underground Warning Tape Material Specification Sheet

Description: Detectable Underground Warning Tape is a specially laminated pet / foil / poly blend. This amazing blend (with polyester) provides exceptional strength characteristics when compared to other all polyethylene type detectable warning tapes. The bold black message on its APWA color coded background is treated so as not to degrade or fade when exposed to alkalis, acids and or any other destructive elements under ground.

Construction: .0003" Aluminum Foil Laminated (Full Width) Between Polyester and Polyethylene Sheeting

Colors: Standard Colors:
Black text on APWA color
Coded Background Per Specification:
Orange, Red, Yellow, Blue, Purple, or Green

Thickness: 5 Mil

Slit Width: Standard widths: 2, 3, 4, 6, and 12 inches.

Length: Standard Roll Length: 1000 Feet





MUELLER® 300™
Ball Angle Meter Valve
MUELLER 110® Conductive
Compression Connection for CTS
O.D.* tubing x meter swivel nut**
Quarter turn check - lock wing.
360° turn option available by adding
-3 suffix to catalog number.
B-24258 Example: B-24258-3

Catalog size	5/8x3/4R†	5/8x3/4	5/8x3/4x3/4R†
Meter size	5/8	5/8	5/8x3/4, 3/4
Tubing size	3/4	3/4	3/4

Catalog size	5/8x3/4x3/4	5/8x3/4x1	1R†	1
Meter size	5/8x3/4, 3/4	5/8x3/4, 3/4	1	1
Tubing size	3/4	1	1	1



MUELLER 300
Ball Angle Meter Valve
MUELLER Pack Joint Connection
for CTS O.D.* tubing x meter
swivel nut** Quarter turn check -
lock wing. 360° turn option available
by adding -3 suffix to catalog number.
Example: P-24258-3
P-24258

Catalog size	5/8x3/4R†	5/8x3/4	5/8x3/4x3/4R†
Meter size	5/8	5/8	5/8x3/4, 3/4
Tubing size	3/4	3/4	3/4

Catalog size	5/8x3/4x3/4	5/8x3/4x1	1R†	1
Meter size	5/8x3/4, 3/4	5/8x3/4, 3/4	1	1
Tubing size	3/4	1	1	1



MUELLER 300
Ball Angle Meter Valve
MUELLER 110 Conductive
Compression Connection for IPS PE*
pipe x meter swivel nut**
Quarter turn check - lock wing.
360° turn option available by adding
-3 suffix to catalog number.
B-24259 Example: B-24259-3

Catalog size	5/8x3/4x3/4	5/8x3/4x1	1
Meter size	5/8x3/4, 3/4	5/8x3/4, 1	1
Tubing size	3/4	1	1



MUELLER 300
Ball Angle Meter Valve
MUELLER Pack Joint Connection
for IPS PE* pipe x meter
swivel nut**
Quarter turn check - lock wing.
360° turn option available by adding
-3 suffix to catalog number.
Example: B-24259-3
E-24259

Catalog size	5/8x3/4x3/4	1
Meter size	5/8x3/4, 3/4	1
Tubing size	3/4	1



MUELLER 300 Ball Angle
Meter Valve
MUELLER INSTA-TITE Connection
for IPS PE* pipe x meter swivel nut**
Quarter turn check - lock wing.
360° turn option available by
adding -3 suffix to catalog number.
B-24266 Example: B-24266-3

Catalog size	5/8x3/4x3/4	1
Meter size	5/8x3/4, 3/4	1
Tubing size	3/4	1

Note: Two-piece factory assembly



MUELLER 300 Ball Angle
Meter Valve
MUELLER INSTA-TITE Connection
for CTS O.D.* tubing x meter swivel
nut**
Quarter turn check - lock wing.
360° turn option available by adding
-3 suffix to catalog number.
Example: B-24267-3
B-24267

Catalog size	5/8x3/4x3/4	1
Meter size	5/8x3/4, 3/4	1
Tubing size	3/4	1

Note: Two-piece factory assembly

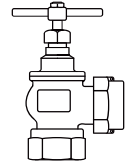
* See charts on pages 8D.17 and 8D.18 for tubing and pipe that can be used with this connection.

** Meter swivel nuts are regularly furnished with a saddle feature to aid in meter installation and removal. A plain swivel nut is available as an option by adding a suffix of -1 to the catalog number.

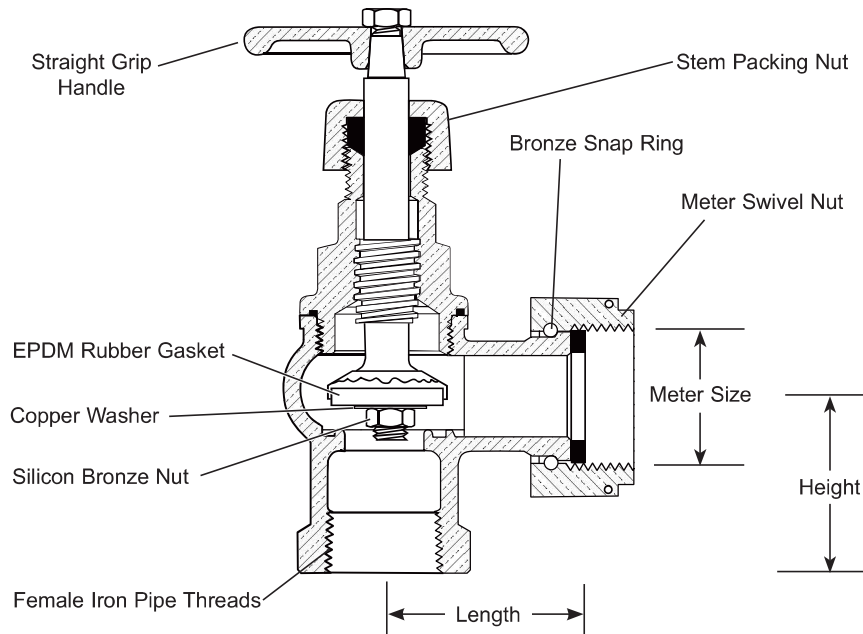
† The "R" indicates this valve has a reduced port. Port size is one nominal size smaller than the valve inlet/outlet

SUBMITTAL INFORMATION

Angle Compression Service Valve - (GA13-xxx-NL style)



FEMALE IRON PIPE THREAD INLET BY METER SWIVEL NUT OUTLET



VALVE SIZE	INLET SIZE	METER SIZE	LENGTH	HEIGHT	APPROX. WT. LBS	PART NUMBER	✓SUBMITTED ITEM(S)
3/4"	3/4"	5/8"	1-3/4"	1-5/8"	1.4	GA13-331-NL	
3/4"	3/4"	5/8"x3/4", 3/4"	1-3/4"	1-5/8"	1.5	GA13-332-NL	
1"	1"	1"	2"	1-7/16"	1.8	GA13-444-NL	

FEATURES

- All brass components that come in contact with potable water conform to AWWA Standard C800 (UNS NO C89833)
- The product has the letters "NL" cast into the main body for proper identification
- Brass components that do not come in contact with potable water conform to AWWA Standard C800 (ASTM B-62 and ASTM B-584, UNS NO C83600 - 85-5-5-5)
- Conforms to AWWA C700 for meter threads
- 150 PSI working pressure

The Ford Meter Box Company considers the information in this submittal form to be correct at the time of publication. Item and option availability, including specifications, are subject to change without notice. Please verify that your product information is current.



The Ford Meter Box Company, Inc.

P.O. Box 443, Wabash, Indiana U.S.A. 46992-0443

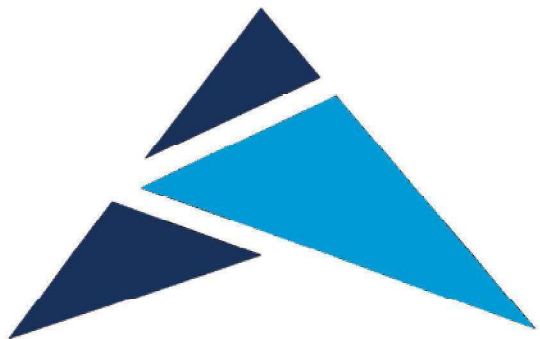
Phone: 260-563-3171 / Fax: 800-826-3487

Overseas Fax: 260-563-0167

<http://www.fordmeterbox.com>

01/16/14

Submitted By:



ARMORCAST®

WATER UTILITY PRODUCTS



ARMORCAST PRODUCTS COMPANY

13230 Saticoy Street, North Hollywood, Ca 91605 Tel: (818) 982-3600 Fax: (818) 982-7742 www.armorcastprod.com

PRODUCT INFORMATION

COVERS



ARMORCAST PRODUCTS COMPANY

Armorcast Polymer Concrete Fiberglass, and Rotocast products compared to conventional material; Concrete, Wood, Steel etc..

- Lighter weight
- High load carrying capacity
- High impact resistance
- Non-conductive or sparking
- Non-combustible
- Superior weathering resistance
- Excellent chemical resistance
- Excellent insulating properties for cold climate installations
- Bolt Down options available
- Ease of installation
- Zero maintenance

Covers: Slip Resistance Surfaces

All covers that are exposed to foot traffic have a slip resistant surface with a minimum coefficient of friction of 0.60 under wet or dry conditions. Armorcast Products Company slip resistant covers meet the American with Disabilities Act slip resistance requirements.

ROUND / DROP IN / HINGED READER LIDS



ROUND AMR/AMI
UNDER MOUNT



COVER WITH
DROP-IN LID



COVER WITH
CAST IRON HINGED LID



COVER WITH
DIAMOND PLATE HINGED LID

AMR / AMI FEATURES

Covers are compatible to most AMR/AMI manufacturers, transmitter holes vary in size and location. Bottom surface mounting options are available. Contact an Armorcast representative for more information.



COVER WITH
SINGLE TOP MOUNT AMR/AMI



COVER WITH
DUAL TOP MOUNT AMR/AMI



COVER WITH
BOTTOM MOUNT AMR/AMI



ARMORCAST PRODUCTS COMPANY

PRODUCT INFORMATION

METER BOXES, VAULTS & ROUNDS

Polymer Concrete / Fiberglass Meter Boxes & Vaults

The Armorcast Products Company line of Polymer Concrete and Fiberglass Boxes and Vaults are designed to provide maximum strength and durability. Lighterweight than traditional concrete, they are easily installed and provide superior strength and longevity. Meets all WUC and SCTE / ANSI 77 specifications.

Polyethylene Rotocast Meter Boxes & Round Meter Pits

Elite blend of Polyethylene material formula with UV inhibitors have exceptional weatherability and durability characteristics as well as high environmental stress crack resistance. Superior tensile and impact strengths at both ambient and sub-zero temperatures and unique structural design provides added strengths and stability.

WATER METER BOXES & COVERS

Available with AMR/AMI Covers, Drop-In Covers and/or Hinged Reader Lids



**STRAIGHT WALL
POLYMER CONCRETE**



**FLARED WALL
POLYMER CONCRETE**



**POLYETHYLENE
ROTOCAST**



**FLARED WALL
FIBERGLASS**

WATER METER VAULTS & ROUNDS

Available with Standard or Torsion Assist covers with AMR/AMI, Drop-in and Hinged Reader Lids



POLYETHYLENE ROTOCAST ROUND PIT



POLYMER CONCRETE VAULT



FIBERGLASS VAULT

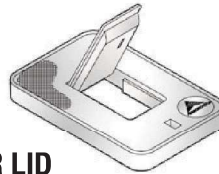
WATER METER BOXES & COVERS



ARMORCAST PRODUCTS COMPANY

POLYMER CONCRETE BOX COVERS

COVER with
HINGED READER LID



COVER with DROP-IN LID



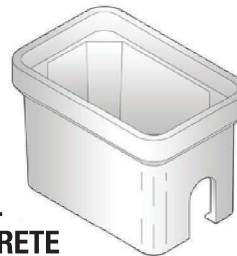
COVER SIZE	10K PART#	WT.	20K PART#	WT.	10K PART#	WT.	20K PART#	WT.	Drop-In Part#	Size
9" x 14"	---	---	---	---	---	---	---	---	---	---
10" x 15"	A6001922R	13 lbs.	A6001922TR	18 lbs.	A6001922DQ	10 lbs.	A6001922TDQ	16 lbs.	A6000487T	5" x 7"
10" x 20"	A6000483R	15 lbs.	A6000483TR	19 lbs.	A6000483DQ	13 lbs.	A6000483TDQ	16 lbs.	A6000487T	5" x 7"
11" x 21"	A6000489R	23 lbs.	A6000489TR	26 lbs.	---	---	---	---	---	---
11" x 18"	A6001428R	15 lbs.	A6001428TR	16 lbs.	---	---	---	---	---	---
12" x 18"	A6001426R	19 lbs.	A6001426TR	20 lbs.	---	---	---	---	---	---
12" x 20"	A6000484R	17 lbs.	A6000484TR	23 lbs.	A6000484DQ	13 lbs.	A6000484TDQ	19 lbs.	A6000487T	5" x 7"
13" x 24"	A6001866R	35 lbs.	A6001969TR	37 lbs.	A6001866DQ	34 lbs.	A6001866TDQ	37 lbs.	A6000487T	5" x 7"
17" x 28"	A6001420R	29 lbs.	A6001420TR	45 lbs.	A6001420DW	29 lbs.	A6001420TDW	42 lbs.	A6000481DT	7" x 13"
17" x 30"	A6001643R	45 lbs.	A6001947TR	69 lbs.	A6001643DZ	45 lbs.	A6001947TDZ	65 lbs.	A6000482T	9" x 14"
18" x 19"	A6000491R	30 lbs.	A6000491TR	42 lbs.	---	---	---	---	---	---
24" x 36"	A6001975R	102 lbs.	A6001975TR	104 lbs.	A6001975DZ	---	A6001975TDZ	---	---	---
30" x 48"	---	---	---	---	A6001470DZ	---	A6001470TDZ	---	---	---

Contact an Armorcast Products Company representative for more information and technical assistance on our products and capabilities.

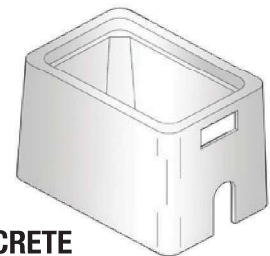
WATER METER BOXES

INDUSTRY REFERENCE

STRAIGHT WALL
POLYMER CONCRETE



FLARED WALL
POLYMER CONCRETE



BOX SIZE	Concrete Cross Reference		PART#	WEIGHT	PART#	WEIGHT
9" x 14" x 12"	3	B-3	---	---	A6000494	39 lbs.
10" x 15" x 12"	36, 3.5	B-9	---	---	A6001921X12	46 lbs.
10" x 20" x 12"	33, 4	---	A6000486	34 lbs.	A6000486SA	38 lbs.
11" x 21" x 12"	---	B-16	A6000492	51 lbs.	---	---
12" x 18" x 12"	---	---	A6001425	41 lbs.	---	---
12" x 20" x 12"	37, 4.5	B-12	A6000485	33 lbs.	A6000485SA	38 lbs.
13" x 24" x 12"	38, 5.25	B-30	A6001946PCX12	50 lbs.	---	---
17" x 28" x 12"	65, 5.5	---	A6001419	55 lbs.	A6001419SA	78 lbs.
17" x 30" x 12"	66, 6	B-36	A6001640PCX12	70 lbs.	---	---
17" x 30" x 18"	66, 6	B-36	A6001640PCX18	96 lbs.	---	---
18" x 19" x 12"	---	B-24	A6000490	60 lbs.	---	---
24" x 36" x 12"	67	B-40	A6001974PCX12	100 lbs.	---	---
24" x 36" x 18"	67	B-40	A6001974PCX18	147 lbs.	---	---
30" x 48" x 18"	68	B-48	A6001430PCX18	192 lbs.	---	---

OTHER SIZES & DEPTHS ARE AVAILABLE.

Contact an Armorcast Products Company representative for more information and technical assistance on our products and capabilities.

www.armorcastprod.com

Tel: (818) 982-3600 Fax: (818) 982-7742



ARMORCAST PRODUCTS COMPANY

WATER METER BOXES & COVERS



**COVER with
AMR/AMI TOP MOUNT**

*Specify Hole Size / 1" to 14"

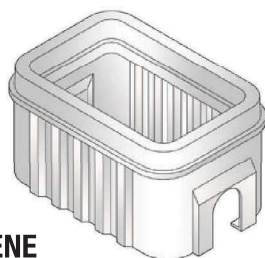


**COVER with
AMR/AMI SLOT**

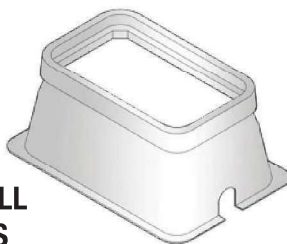


ONE PIECE COVER

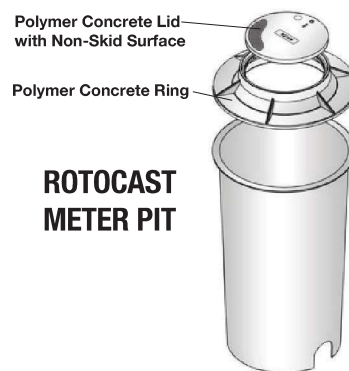
10K PART#	WT.	20K PART#	WT.	10K PART#	WT.	20K PART#	WT.	10K PART#	WT.	20K PART#	WT.
A6000482-H*	9 lbs.	A6000482T-H*	10 lbs.	---	---	---	---	A6000482	9 lbs.	A6000482T	10 lbs.
A6001922-H*	11 lbs.	A6001922-TH*	19 lbs.	A6001922-IT	13 lbs.	A6001922T-IT	15 lbs.	A6001922	11 lbs.	A6001922T	19 lbs.
A6000483-H*	14 lbs.	A6000483-TH*	19 lbs.	---	---	---	---	A6000483	14 lbs.	A6000483T	19 lbs.
A6000489-H*	21 lbs.	A6000489-TH*	28 lbs.	A6000489-IT	20 lbs.	A6000489T-IT	22 lbs.	A6000489	21 lbs.	A6000489T	28 lbs.
A6001428-H*	13 lbs.	A6001428-TH*	14 lbs.	---	---	---	---	A6001428	13 lbs.	A6001428T	14 lbs.
A6001426-H*	17 lbs.	A6001426-TH*	18 lbs.	---	---	---	---	A6001426	17 lbs.	A6001426T	18 lbs.
A6000484-H*	15 lbs.	A6000484-TH*	23 lbs.	A6000484-IT	23 lbs.	A6000484T-IT	24 lbs.	A6000484	15 lbs.	A6000484T	23 lbs.
A6001866-H*	33 lbs.	A6001969-TH*	43 lbs.	A6001866-IT	39 lbs.	A6001866T-IT	41 lbs.	A6001866	33 lbs.	A6001969T	43 lbs.
A6001420-H*	27 lbs.	A6001420-TH*	45 lbs.	A6001420-IT	43 lbs.	A6001420T-IT	45 lbs.	A6001420	27 lbs.	A6001420T	45 lbs.
A6001643-H*	43 lbs.	A6001947-TH*	70 lbs.	A6001643-IT	66 lbs.	A6001947T-IT	68 lbs.	A6001643	43 lbs.	A6001947T	70 lbs.
A6000491-H*	34 lbs.	A6000491-TH*	44 lbs.	---	---	---	---	A6000491	34 lbs.	A6000491T	44 lbs.
A6001975-H*	97 lbs.	A6001975-TH*	102 lbs.	---	---	---	---	A6001975	97 lbs.	A6001975T	102 lbs.
A6001470-H*	96 lbs.	A6001470-TH*	98 lbs.	---	---	---	---	A6001470	96 lbs.	A6001470T	98 lbs.



**ROTOCAST
POLYETHYLENE**



**FLARED WALL
FIBERGLASS**



**ROTOCAST
METER PIT**

PART#	WEIGHT	PART#	WEIGHT	PIT SIZE	PART#	WEIGHT
---	22 lbs.	---	---	20" DIA. x 36"	A6000201X36	20 lbs.
P6001921X12	30 lbs.	A6001923X12	25 lbs.	COVER		
P6000486	32 lbs.	---	---	12" DIA.	A6001996	7 lbs.
---	---	---	---	---	---	---
---	---	---	---	---	---	---
P6000485	32 lbs.	A6000485FRP	31 lbs.	---	---	---
P6001868X12	42 lbs.	A6001946X12	47 lbs.	---	---	---
---	---	---	---	---	---	---
P6001534X12	50 lbs.	A6001640X12	49 lbs.	---	---	---
P6001534X18	42/49 lbs.	A6001640X18	57 lbs.	---	---	---
---	---	---	---	---	---	---
---	---	---	---	---	---	---
---	---	---	---	---	---	---
---	---	---	---	---	---	---
---	---	---	---	---	---	---

Armorcast Products Company reserves the right to update or discontinue product information at any time without notice.

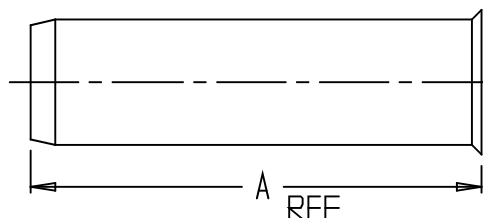
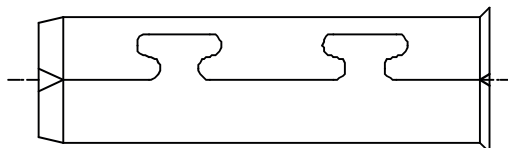
www.armorcastprod.com

Tel: (818) 982-3600 Fax: (818) 982-7742

SUBMITTAL DATA SHEET

Service Fitting – 6133T

CTS Insert Stiffener - Stainless Steel



MODEL	SIZE	A
6133T	3/4	2 3/8
6133T	1	2 3/8
6133T	1 1/4	2 3/8
6133T	1 1/2	2 3/8
6133T	2	2 3/8

SUBMITTAL INFORMATION

- 304 Series Stainless Steel
- Certified to NSF/ANSI/CAN 61
- Insert stiffeners required on all flexible plastic connections.
- For use on:
 - Polyethylene – ASTM D2737 SDR 9 tube size
 - Pex Tubing – ASTM F876 SDR 9 CSA B137.5
 - Polybutylene – ASTM D2666 SDR 9 tube size Class 250



A.Y. McDonald Mfg. CO.
P.O. Box 508
Dubuque, IA 52004-508

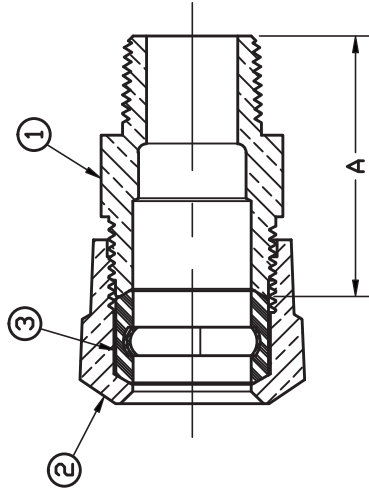
Toll Free: 1-800-292-2737
Fax: 1-800-832-9296
Hours: 7:00 a.m. – 5:00 p.m., CST

sales@aymcdonald.com
www.aymcdonald.com

A.Y. McDonald considers the information on this assembly drawing correct when published. Item and option availability, including specifications, are subject to change without notice.

Submitted by:

No.	QTY.	DESCRIPTION	MATERIAL
1	1	SPUD	CAST LOW LEAD BRASS ALLOY
2	1	CONN. NUT	CAST BRASS ASTM B62 ALLDY C83600
3	1	CTS GSKT SUB	SBR D2000 - GSKT 410ss - BAND

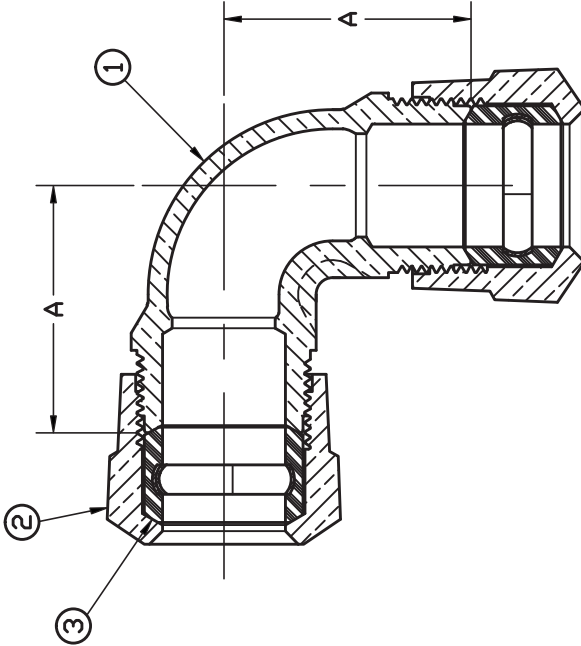


SIZE	A
1/2	1.910
1/2x3/4	1.750
3/4	1.965
3/4x1	2.125
1	2.156
1x3/4	1.976
1-1/4	2.312
1-1/4x1	2.194
1-1/2	2.375
1-1/2x1	2.880
2	2.625
2x1-1/2	2.453

FILEPATH: PROD-ENG\MUELLER\ASYSUBMITTALS\H15428N

REV	ECR	DESCRIPTION	DATE	BY	CHKR
PER EST NO: DXXXX EST FIN WT = 0.0000 lbs					
DESCR.					
STRAIGHT SERVICE FITTING					
90° LEAD BRASS (110 CTS x MIP)					
PART NUMBER					
H15428N					

No.	QTY.	DESCRIPTION	MATERIAL
1	1	SPUD	CAST LOW LEAD BRASS ALLOY
2	2	CONN. NUT	CAST BRASS ASTM B62 ALLOY C83600
3	2	CTS GSKT SUB	SBR D2000 - GSKT 410ss - BAND



SIZE	A
3/4	1.79
1	2.00
1x3/4	2.00
1-1/2	2.75
2	3.09

NOTE: ALL WETTED PARTS ARE LOW LEAD BRASS ALLOY

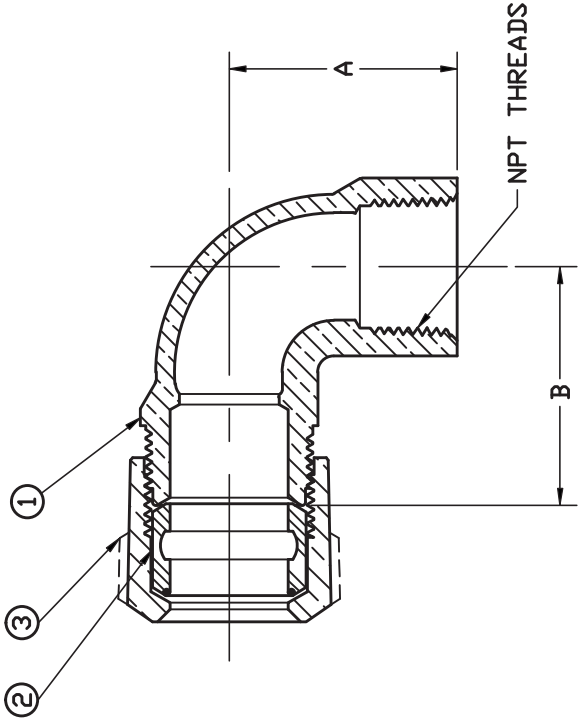
FILEPATH: PROD-ENG\MUELLER\ASYSUBMITTALS\H15526N

DRFTR	Garvir	9/17/09	Mueller Co.	
CHKR			THIRD ANGLE PROJECTION	
ENGR			UNLESS OTHERWISE NOTED	
MGR			SURFACE PREPARATION:	
			BREAK CORNER(S) --- .000	
			SURFACE FINISH -- 000 RMS	
			TOLERANCE(S):	
			LINEAR --- ± .000	
			ANGULAR --- ± 0°00'	
			SCALE NONE	
			REF. No.	
			DATE	
			BY	
			STK No.	
			MAT'L	

REV	ECR	DESCRIPTION	DATE	BY	CHKR
DESCR. 1/4 BEND SERVICE FITTING					
PART NUMBER H15526N					
PER EST NO: DXXXX EST FIN WT = 0.0000 lbs					

No.	DESCRIPTION	MATERIAL DESCRIPTION
1	SPUD	CAST LOW LEAD BRASS ALLOY
2	CTS GASKET SUB	ASTM D2000(SBR)&410 STAINLESS STEEL
3	CONNX NUT	CAST BRASS ASTM B62 ALLOY C83600

SIZE	A	B
3/4"	1.72	1.79
1"	2.00	2.00
1 1/2"	2.38	2.75
2"	2.84	3.09



NOTE: ALL WETTED PARTS ARE LOW LEAD BRASS ALLOY

FILEPATH: PROD-ENG\MUELLER\ASYSUBMITTALS\H15533N

DRFTR		Garvin		9/17/09	
CHKR		ENGR		MGR	
BY		DATE		STK No	
MAT'L		DESCR.			
REV	ECR	DESCRIPTION	DATE	BY	CHKR
PER EST NO: DXXXX		EST FIN WT = 0.0000 lbs			

Mueller Co. UNLESS OTHERWISE NOTED SURFACE PREPARATION: --- .000 BREAK CORNERS: --- .000 SURFACE FINISH: --XX RMS TOLERANCE(S): LINEAR: --- ± .000 ANGULAR: --- ± 0°00'		THIRD ANGLE PROJECTION REF. No. SCALE FULL
---	--	---

442-MRKTG
H15533N
PART NUMBER

PART NUMBER
H15533N



To Our Valued Customer:

We hereby certify that to the best of our knowledge and belief the S.A. brand lead free brass fittings manufactured by Siam Fittings Co. Bangkok, Thailand and distributed by Merit Brass Company comply with the following standards:

	SPECIFICATIONS
DIMENSION	ANSI/ASME B16.14,B15.15,B16.18 MSS-SP-106(Flanges) A-A-59617(Union)
THREADS	ANSI/ASME B1.20.1
MATERIAL	ASTM 584-06a(C89833)LEAD FREE Cu= 87.0-91.0% Sn= 4.0-6.0% Pb= 0.10% (Max.) Zn= 2.0-4.0% Ni= 1.0% (Max.) P= 0.05% (Max.) Si= 0.005% (Max.) Al= 0.005% (Max.) S= 0.08% (Max.) Fe= 0.3% (Max.) Sb= 0.25% (Max.) Bi= 1.7-2.7%

Please consider this letter official notification that all Siam (SA) brand fittings marked LF-SA meet the requirements of California Health & Safety Code 116875 (AB1953), Vermont Act 193 and are certified by NSF to NSF/ANSI 61 Annex G.

Sincerely,

MERIT BRASS COMPANY

Marc Schlessinger
President



QMS-SAI Global
Certificate No. 8375

P.O. Box 43127 • One Merit Drive • Cleveland, OH 44143

Phone: 216 261 9800 • Toll Free: 800 726 9800 • Fax: 800 726 9880 • www.meritbrass.com • www.mbwebXpress.com



Engineering Specification

Job Name _____
 Job Location _____
 Engineer _____
 Approval _____

Contractor _____
 Approval _____
 Contractor's P.O. No. _____
 Representative _____

LEAD FREE*

Series LF007 Double Check Valve Assembly 1/2" – 2"

⚠ WARNING

Freeze sensor solely provides alerts about a possible freeze event and cannot prevent a freeze event from occurring. User action is required to prevent freeze conditions from causing product and/or property damage.

Series LF007 Double Check Valve assemblies are installed at referenced cross-connections to prevent the backflow of polluted water into the potable water supply. Only those cross-connections identified by local inspection authorities as non-health hazard are allowed the use of an approved double check valve assembly. The series features Lead Free* construction to comply with Lead Free* installation requirements. Check with local authority having jurisdiction regarding vertical orientation, frequency of testing, or other installation requirements.

The included freeze sensor can indicate when temperature nears the freezing point. Installed on the assembly exterior, the sensor does not alter assembly functions or certifications. The sensor relays a signal that triggers notification to facility personnel to take preventive action, thus reducing or eliminating equipment replacement or repair.

NOTICE

An add-on connection kit is required to activate the freeze sensor. Without the connection kit, the sensor is a passive component that has no communication with any other device. The sensor is on the assembly exterior and does not modify functions or certification. (For more information download RP/IS-007S)



Features

- Modular, compact design concept to facilitate maintenance and assembly by retaining the spring load
- Lead Free* cast copper silicon alloy body construction
- Top-mounted Lead Free* ball valve test cocks
- Replaceable seats and seat discs
- Easier maintenance through a single, top-entry cover
- No special tools required for servicing
- Tee handles, sizes 1/2" to 1"; lever handles, sizes 1 1/4" to 2"
- Low pressure drop
- Sensor included on sizes 1/2" to 2" to indicate temperature at freeze thresholds when activated with an add-on connection kit, compatible with building and irrigation management systems

NOTICE

Use of the freeze sensor does not replace the need to comply with all required instructions, codes, and regulations related to installation, operation, and maintenance of the backflow preventer.

Watts is not responsible for data transmission failures due to power outages, connectivity issues, or improper installation.

NOTICE

The information contained herein is not intended to replace the full product installation and safety information available or the experience of a trained product installer. You are required to thoroughly read all installation instructions and product safety information before beginning the installation of this product.

Inquire with governing authorities for local installation requirements.

* The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.

Specification

A Double Check Valve assembly shall be installed at each noted location. The assembly shall consist of two positive seating check modules with captured springs and rubber seat discs. The check module seats and seat discs shall be replaceable. Service of all internal components shall be through a single access cover secured with stainless steel bolts. The Double Check Valve assemblies shall be constructed using Lead Free* cast copper silicon alloy. Lead Free* Double Check Valve assemblies shall comply with state codes and standards, where applicable, requiring reduced lead content. The assembly shall also include two resilient seated isolation valves; four top mounted, resilient seated test cocks. The assembly shall meet the requirements of ASSE Standard 1015 and AWWA Standard C510. Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California. Assembly shall be a Watts Series LF007, and shall include a freeze sensor mounted to one of the test cocks.

Model/Option

Prefix:

U Union connections

Suffix:

FZ Freeze sensor
S Copper silicon alloy strainer
LF Without shutoff valves
W/Press** Press inlet x press outlet

Materials

Check Valve Body: Lead Free* cast copper silicon alloy
Check Module: Captured spring and rubber seat disc
Access cover bolts: Stainless steel

Pressure — Temperature

Temperature Range: 33°F – 180°F (0.5°C – 82°C)
Maximum Working Pressure: 175 psi (12.1 bar)

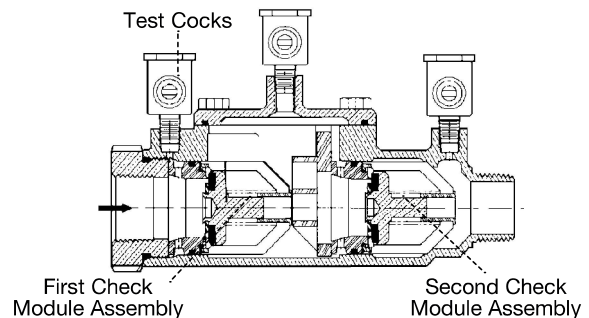
Standards

ASSE Standard 1015, AWWA Standard C510
IAPMO PS31, CSA B64.5

Approvals

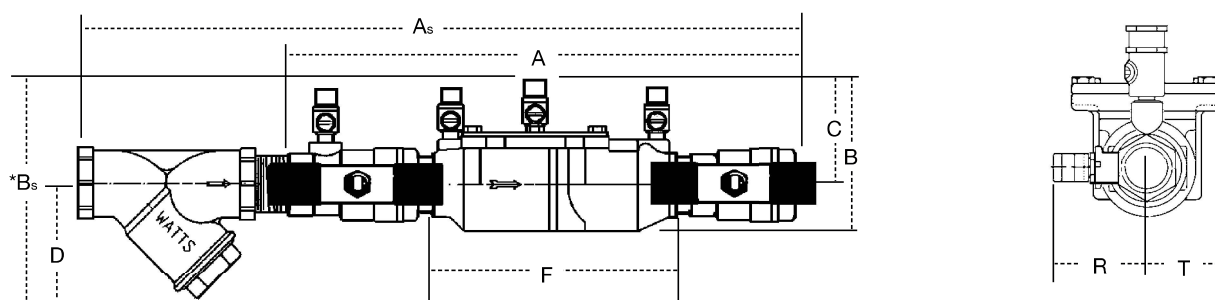


- ASSE, AWWA, IAPMO, CSA, UPC
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California
- Options FZ, LF, and S not listed
- UL Classified without shutoff valves only (¾" to 2", except 007M3LF)
- Lead Free* models with strainers
- Horizontal and vertical "flow up" approval on all sizes



**Viega ProPress® connections are optional factory-installed fitting on each end of the approved/certified assembly.

Dimensions – Weights

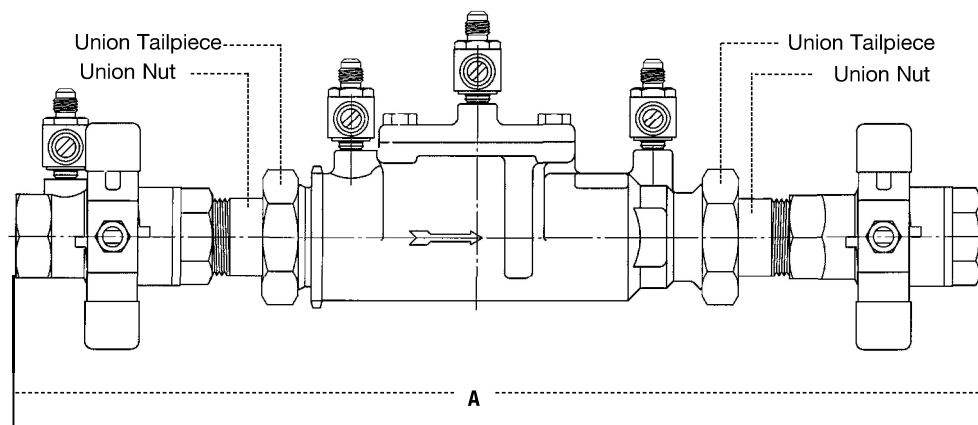


*Subscript 'S' = strainer model

Call customer service if you need assistance with technical details.

SIZE				DIMENSIONS										WEIGHT					
		A		B		C		D		F		G		R		T			
	<i>in.</i>	<i>in.</i>	<i>mm</i>	<i>in.</i>	<i>mm</i>	<i>in.</i>	<i>mm</i>	<i>in.</i>	<i>mm</i>	<i>in.</i>	<i>mm</i>	<i>in.</i>	<i>mm</i>	<i>in.</i>	<i>mm</i>	<i>in.</i>	<i>mm</i>	<i>lb</i>	<i>kg</i>
007QT	½	10	254	4⅝	117	2⅞	62	—	—	5	127	3⅝	85	2⅝	59	2⅞	52	4.5	2.0
007M3QT	¾	11⅞	282	4	102	3⅞	79	—	—	6⅞	157	3⅞	87	2⅝	54	1⅞	33	5.0	2.3
007M1QT	1	13¼	337	5⅛	130	4	102	—	—	7½	191	3⅞	85	1⅞	43	1⅞	43	12.0	5.4
007M2QT	1¼	16⅞	416	5	127	3⅞	84	—	—	9½	241	5	127	3	76	2	50	15.0	6.8
007M2QT	1½	16¾	425	4⅞	124	3½	89	—	—	9¾	248	5⅞	148	3⅞	79	2⅞	68	15.9	7.2
007M1QT	2	19½	495	6¼	159	4	102	—	—	13⅝	340	6⅞	156	3⅞	87	2⅞	68	25.7	11.7
007QT-S	½	13	330	6	152	2⅞	62	3	76	5	127	3⅞	85	2⅝	59	2⅞	52	5.5	2.5
007M3QT-S	¾	14½	368	6⅛	156	3⅞	79	3	76	6⅞	157	3⅞	87	2⅝	54	1⅞	33	6.7	3.1
007M1QT-S	1	17⅞	456	7¾	197	4	102	3¼	83	7½	191	3⅞	85	1⅞	43	1⅞	43	14.0	6.4
007M2QT-S	1¼	21½	546	7⅞	179	3⅞	84	3½	83	9½	241	5	127	3	76	2	50	19.0	8.6
007M2QT-S	1½	21¾	552	7⅞	179	3½	89	3¾	95	9¾	248	5⅞	148	3⅞	79	2⅞	68	19.6	8.9
007M1QT-S	2	25¾	654	8¾	222	4	102	4	102	13⅝	340	6⅞	156	3⅞	87	2⅞	68	33.5	15.2

LFU007



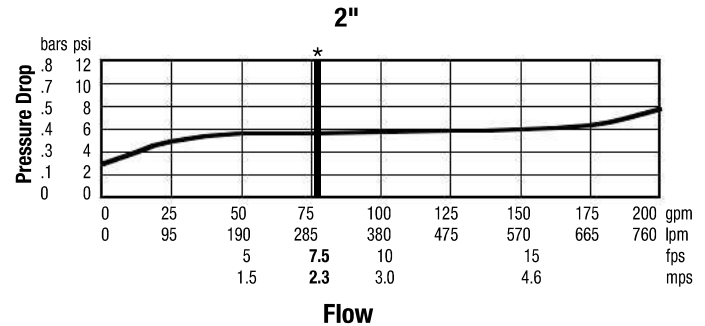
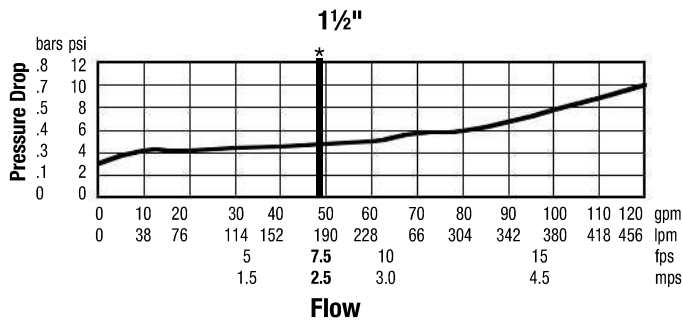
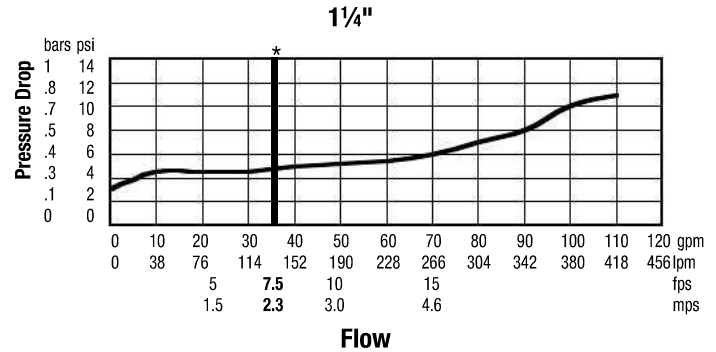
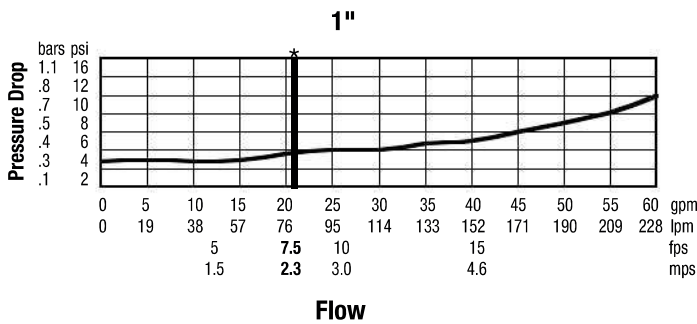
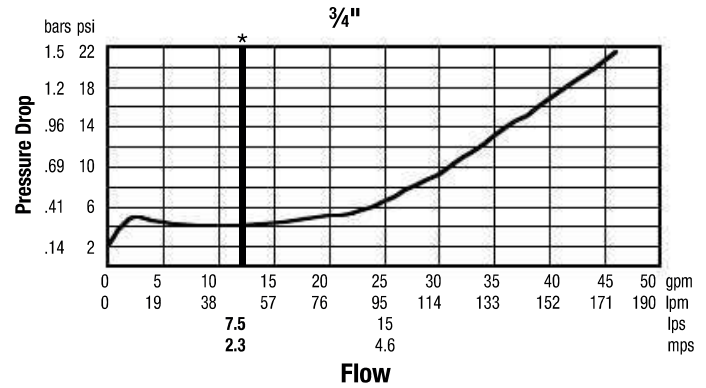
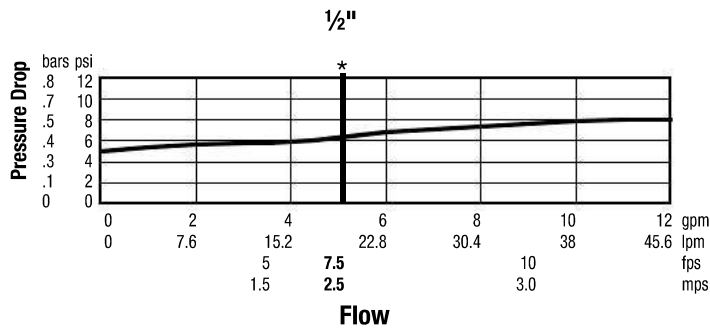
MODEL	SIZE	DIMENSIONS	
		A	
	in.	in.	mm
U007QT	1/2	12 13/16	326
U007M2QT	3/4	13 13/16	350
U007M2QT	1	16 5/8	422
U007M2QT	1 1/4	20 3/4	527
U007M2QT	1 1/2	21 1/2	546
U007M1QT	2	24 1/2	622

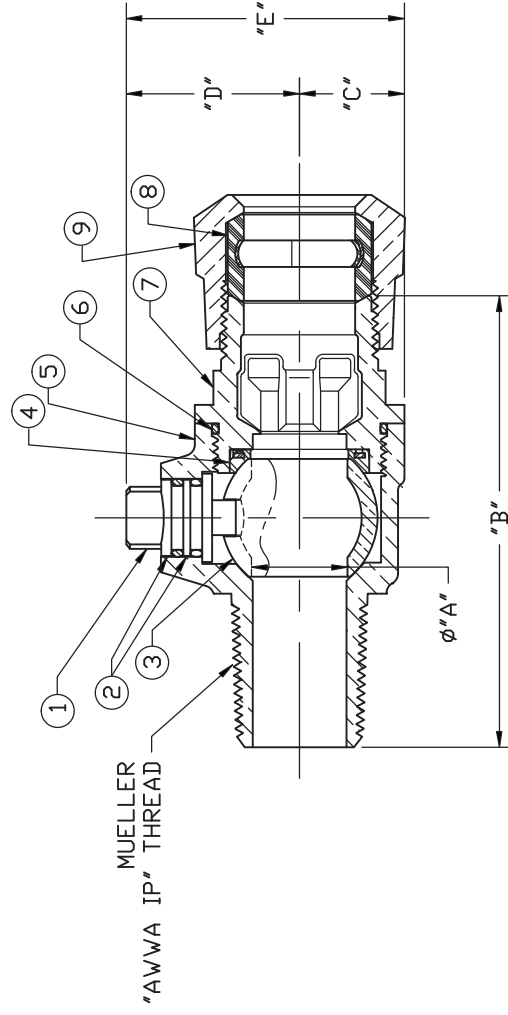
Capacity

As compiled from documented Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California lab tests.

†† Typical maximum system flow rate (7.5 ft/s, 2.3 m/s)

** UL rated flow





No.	DESCRIPTION	MATERIAL
1	STEM	LOW LEAD BRASS ALLOY
2	O-RING	EPDM D2000
3	BALL	LOW LEAD BRASS ALLOY
4	GASKET - SEAL	NITRILE D2000
5	BODY	CAST LOW LEAD BRASS ALLOY
6	O-RING	EPDM D2000
7	END PIECE	CAST LOW LEAD BRASS ALLOY
8	CTS GSKT SUB	SBR D2000 - GSKT 410ss - BAND
9	CONNX NUT	CAST BRASS ASTM B62 ALLOY C83600

SIZE	ØA	B	C	D	E
3/4	.750	3.621	.840	1.363	2.203
3/4x1	.750	3.855	.840	1.390	2.230
1	1.000	4.648	1.150	1.564	2.714
1-1/2	1.500	5.157	1.500	2.120	3.620
1-1/2x2	1.500	5.133	1.500	2.235	3.735
2	2.000	5.612	1.820	2.443	4.263

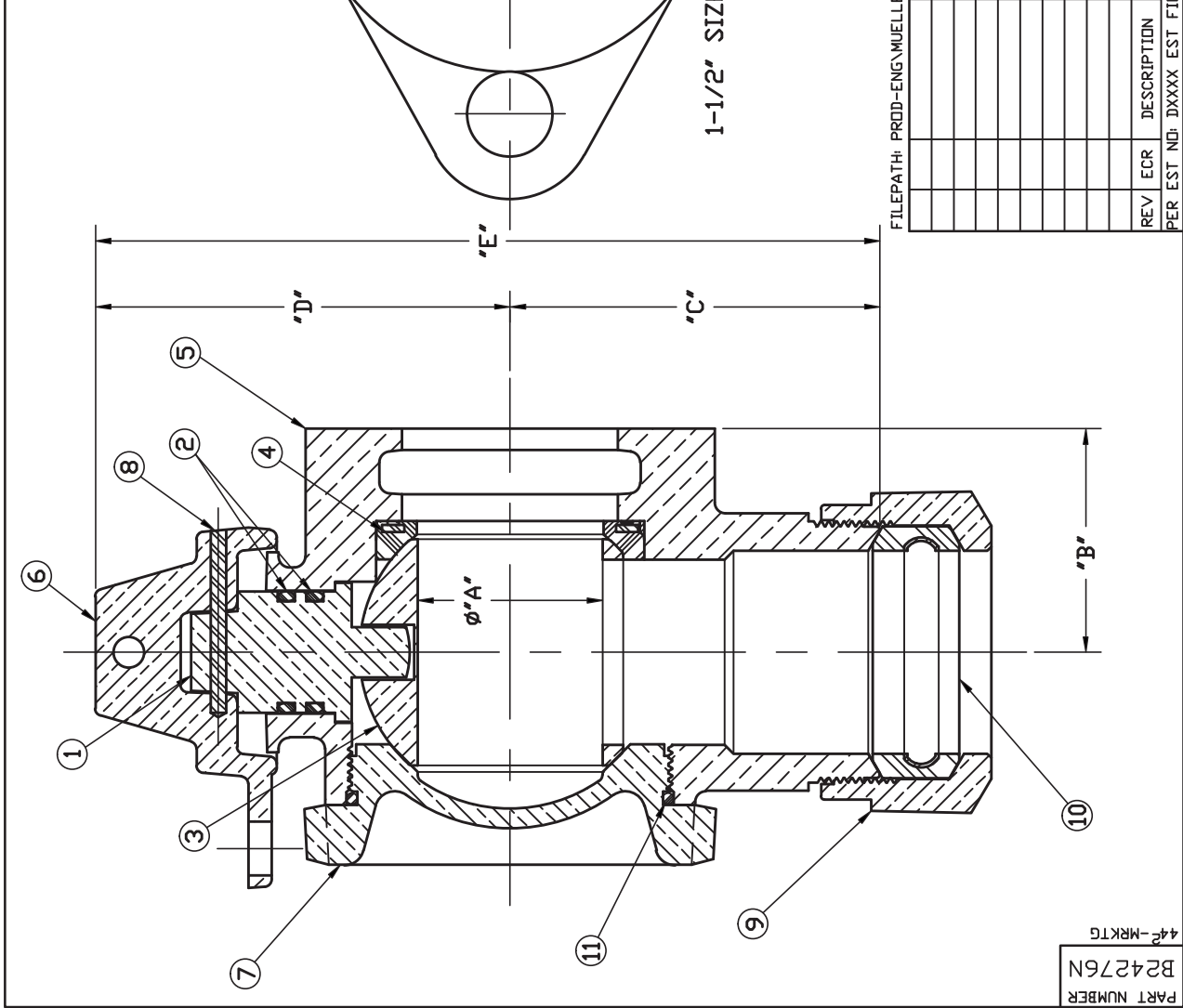
ALL WETTED PARTS ARE LOW LEAD BRASS ALLOY

FILEPATH: PRODD-ENG\MUELLER\ASYSUBMITTAL\S\B25028N

[illegible]

TITLE TO AND OWNERSHIP OF THIS ENGINEERING DATA REMAINS IN Mueller Co. NO USE IS TO BE MADE OF THIS DATA EXCEPT AS SPECIFICALLY AUTHORIZED BY Mueller Co. ASSENT ON THE PART OF THE RECIPIENT TO THESE CONDITIONS IS PRESUMED

No.	DESCRIPTION	MATERIAL
1	STEM	LOW LEAD BRASS ALLOY
2	O-RING	EPDM D2000
3	BALL	LOW LEAD BRASS ALLOY
4	GASKET - SEAL	NITRILE D2000
5	BODY	CAST LOW LEAD BRASS ALLOY
6	CAP	CAST BRASS ASTM B62 ALLOY C83600
7	SEALING PLUG	CAST LOW LEAD BRASS ALLOY
8	ROLLPIN	STAINLESS STEEL ASTM A240 TYPE 302
9	CONN. NUT	CAST BRASS ASTM B62 ALLOY C83600
10	CTS GSKT SUB	SBR D2000 - GSKT 410ss - BAND
11	O-RING	EPDM D2000



NOTE: ALL WETTED PARTS ARE LOW LEAD BRASS ALLOY

FILEPATH: PROD-ENG\MUELLER\ASYSUBMITTALS\B24276N

DRFTR	JGar/vrh	9/17/09	Mueller Co.		
CHKR			UNLESS OTHERWISE NOTED	THIRD ANGLE PROJECTION	
ENGR			SURFACE PREPARATION: --- .000	BREAK CORNERS: --- .000	SCALE: NONE
MGR			SURFACE FINISH: -- XX RMS	REF. No.	
	BY	DATE	TOLERANCE(S):	LINEAR: ± .000	ANGULAR: ± 0°00'
			STK No:		
			MAT'L:		
REV	ECR	DESCRIPTION	DATE	BY	CHKR
DESCR. MUeller BALL ANGLE METER VALVE					
PER EST NO: DXXXX EST FIN WT = 0.0000 lbs					
PART NUMBER B24276N					
PART NUMBER B24276N					

Sanitary And Sewer

CB SEWER SADDLE SEWER SADDLE

SUBMITTAL INFORMATION

* Patent #4494780



MATERIALS

CASTING

The saddle body is cast from ductile (nodular) iron, meeting or exceeding ASTM A 536, Grade 65-45-12.

GASKET

Gasket is made from virgin Styrene Butadiene Rubber (SBR) compounded for water and sewer service in accordance with ASTM D 2000 MBA 710.

PIPE STOP

A pipe stop is molded into the inside wall of the gasket. This pipe stop can hold up to 1000 lbs of force along the branch.

STRAP

Type 304 (18-8) Stainless Steel, 3 1/2 inches wide to

spread out clamping forces on the pipe. M.I.G. and T.I.G welds. Passivated for corrosion resistance.

BOLTS AND NUTS

Type 304 (18-8) Stainless Steel, passivated for resistance to corrosion. 1/2" National Coarse roll thread. Nuts coated to prevent galling.

COATINGS

Shop coat applied to cast parts for corrosion protection in transit. Fusion bonded epoxy, liquid epoxy and other coatings available on request.

WASHERS

Acetyl and stainless steel washers are used to reduce friction.

PRESSURE

Designed for sewer service, the Style CB saddle will hold a 7 psi air test when properly installed on a pipe within the correct outside diameter range.

DEFLECTION

When the CB saddle is installed properly the branch can accommodate up to 3 degrees of deflection.

SIZES

See catalog.

This information is based on the best data available at the date printed above. Please check with Romac for any updates or changes.

D3034 & F679 SEWER SPECIFICATIONS DATA

PVC Pipe for the 21st Century™

Product Description:

Diamond gravity sewer pipe 4 inches through 48 inches shall be made of compounds conforming to material requirements of ASTM D3034 and ASTM F679 (Annex) in accordance with ASTM D1784. Diamond PVC Sewer Pipe meets all the dimensional, chemical, and physical requirements as outlined in ASTM D3034 and ASTM F679.



The pipe sizes 4 inches through 48 inches are made with an integral bell “water-tight” joint that meets the requirements of ASTM D3212 and that utilizes a Rieber gasket system for sealing that meets the requirements of ASTM F477.

Each male end shall be beveled to facilitate joining and referencing marked for proper insertion depth. Diamond furnished lubricant is to be used in the joining process.

Physical Properties:

➤ **ASTM D3034 & ASTM F679**

Pipe Materials:

Pipe shall be made of PVC plastic having a minimum cell classification of 12454 or 12364 as defined in Specification D1784.

Properties of PVC 12364

Property		ASTM	Minimum Test
Specific Gravity	D792		1.47
Tensile Strength, psi	D638		6,000
IZOD Impact Strength	D256		.65 Ft.,lb./in. of notch

SHORT FORM Specification for Diamond PVC Solid-Wall Sewer Pipe

SDR 26 or SDR 35 or PS 46 or PS 115

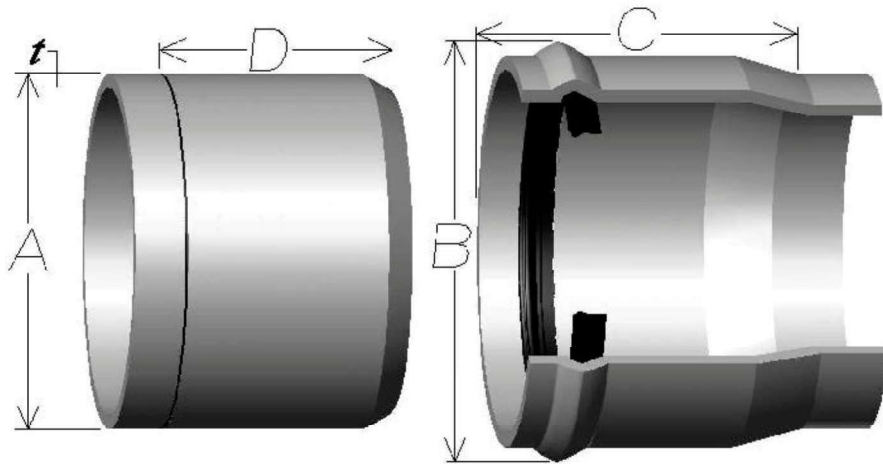
Diamond PVC Solid-Wall Sewer Pipe shall be made of compounds conforming to ASTM D1784 manufactured in accordance with the material requirements of ASTM D3034 or ASTM F679. Diamond PVC Sewer Pipe must meet all dimensional, chemical, and physical requirements as outlined in ASTM D3034 and ASTM F679 or ASTM F679 ANNEX. Diamond PVC Sewer Pipe shall be installed according to the requirements of ASTM D2321, Joints shall meet the requirements of ASTM D3212 and shall be formed using Rieber Technology. Uni-Bell UNI-PUB 6, “and the manufacturer’s requirements

Pipe Stiffness

Pipe SDR	Modulus	
	E = 400,000	E = 500,000
41	28	35
35	46	57
26	115	144

ASTM D3034 & F679 Specification Data

Rieber Joint Illustration



Standard Laying Lengths are 14' & 20'

D3034 Pipe Dimensions

Nominal Pipe Size	Outside Diameter A	Bell Socket Diameter B	Socket Depth C	Insert Mark D	Wall Thickness SDR 26 (t)	Wall Thickness SDR 35 (t)
4	4.215	5 1/4	4 5/8"	4	0.162	0.120
6	6.275	7 1/2	4 3/4"	4	0.241	0.180
8	8.400	9 7/8	6 1/8"	5	0.323	0.240
10	10.500	12 3/8	6 3/4"	6	0.404	0.300
12	12.500	14 5/8	7 1/4"	6	0.481	0.360
15	15.300	18	6 3/4"	6	0.588	0.437

F679 & Annex Pipe Dimensions

Nominal Pipe Size	Outside Diameter A	Bell Socket Diameter B	Socket Depth C	Insert Mark D	Wall Thickness PS 115 (t)	Wall Thickness PS 46 (t)
18	18.701	21 3/4"	7 3/4"	7"	0.719	0.499
21	22.047	25 1/2"	7 3/4"	7"	0.848	0.588
24	24.803	28 3/4"	8 1/2"	7 1/4"	0.954	0.661
27	27.953	32 1/2"	8 1/2"	7 1/4"	1.075	0.745
30 _{ciod}	32.000	37 1/4"	12"	10"	1.231	0.853
36 _{ciod}	38.300	43 1/4"	12"	10"	1.473	1.021
42 _{ciod}	44.500	53"	16"	13"		1.187
48 _{ciod}	50.800	60"	16"	13"		1.355

"Possession of this page does not constitute an offer to sell."

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Fairfield, Ohio USA
45014
(513) 942-9910
1-800-523-3539
Fax (513) 942-9914

TRENCH TOUGH PLUS™

SDR 35 GASKETED SEWER FITTINGS

LETTER OF COMPLIANCE

Scope:

This letter of compliance covers the requirements for 4" through 42" (100 mm – 1050 mm) **PVC Trench Tough Plus SDR35 Gasketed Sewer Fittings**. These products meet or exceed performance standards set by the American Society of Testing and Materials (ASTM), CSA International (CSA) and the International Association of Plumbing and Mechanical Officials (IAPMO).

Trench Tough Plus SDR35 Gasketed Sewer Fittings are compatible with pipe manufactured to ASTM

D 3034, CSA B182.1 and CSA B182.2 and is suitable for the non-pressure drainage of sewage and surface water. They can also be used in applications involving subsurface drainage.

Material:

Rigid PVC Poly(Vinyl Chloride) used in the manufacturing of **Trench Tough Plus SDR35 Gasketed Sewer Fittings** complies with ASTM D 1784, *Standard Specification for Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds*, having a cell classification 12454 or 13343.

Gasket materials used in the manufacturing of **Trench Tough Plus SDR35 Gasketed Sewer Fittings** complies with either of the following requirements:

ASTM F 477 "*Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe*" for low-head applications for rubber gaskets

ASTM F 913 "*Standard Specification for Thermoplastic Elastomeric Seals (Gaskets) for Joining Plastic Pipe*" for TPE gaskets

Molded Fittings:

Molded **Trench Tough Plus SDR35 Gasketed Sewer Fittings** conform to the following standards:

ASTM D 3034 "*Standard Specification for Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings*"

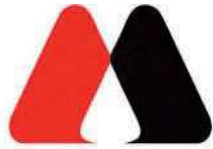
ASTM D 3212 "*Standard Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals*"

ASTM F 1336 "*Standard Specification for Poly(Vinyl Chloride) (PVC) Gasketed Sewer Fittings*"

CSA B182.1 "*Plastic Drain and Sewer Pipe and Pipe Fittings*"

CSA B182.2 "*PVC Sewer Pipe and Fittings (PSM Type)*"

IAPMO "*Uniform Plumbing Code*"



MULTI FITTINGS

HIGHER STANDARDS™

Page 2/..

Trench Tough Plus SDR35 Gasketed Sewer Fittings

Fabricated Fittings:

Fabricated **Trench Tough Plus SDR35 Gasketed Sewer Fittings** are made from segments of pipe conforming to the following standards:

ASTM D3 034 “*Standard Specification for Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings*”

ASTM D 3212 “*Standard Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals*”

ASTM F 679 “*Standard Specification for Poly(Vinyl Chloride) (PVC) Large-Diameter Plastic Gravity Sewer Pipe and Fittings*”

ASTM F 1336 “*Standard Specification for Poly(Vinyl Chloride) (PVC) Gasketed Sewer Fittings*”

CSA B182.2 “*PVC Sewer Pipe and Fittings (PSM Type)*”

Note: Molded components meeting the requirements listed above may also be used as part of the fabricated fitting.

Markings:

Trench Tough Plus SDR35 Gasketed Sewer Fittings are marked as prescribed in the above applicable standards to indicate size of the fittings, material designation, compliance to standard, and manufacturer’s name or trademark.

Color Coding:

Gaskets for **Trench Tough Plus SDR35 Gasketed Sewer Fittings** are black.

Yours truly,

André Battistin, Eng.

Vice President, Manufacturing & Sourcing

Issue Date: 2015-10-22



Original Gripper®



Pneumatic Plugs

Mechanical Plugs

Original Gripper®

Hub-Fit Gripper®

Clean-Out Gripper®

T-Handle Gripper®

Econ-O-Grip®

Petro Econ-O-Grip®

Kwik 'N Sure®

Sure-Grip®

Monitor Well

Test Kap

Deflection Gauges

Testing Equipment

Tools & Accessories

Technical Data

Contact Us

Search

Cherne's Gripper plugs can be used in a variety of applications including DWV (drain, waste and vent) testing and stack testing. End-of-Pipe design won't fall in, whereas the Inside-of-Pipe design allows you to locate the plug inside the pipe as far as you need. Time tested, the Gripper® remains one of the most popular mechanical plugs on the market.

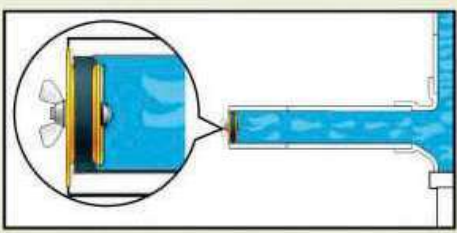
Original Gripper® Plug Features:

- Ideal for sewer testing and long-term applications
- Made with glass-reinforced ABS plastic
- End-of-pipe design seals only at the end of a pipe
- Inside-of-pipe design seals inside pipe as far as needed

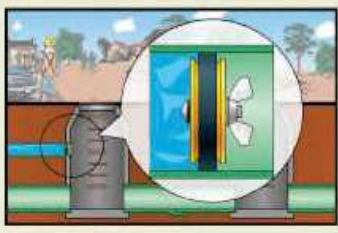
Equipped with:

- Easy to install extra large zinc wing nut – won't rust
- Natural rubber o-ring
- Galvanized carriage bolt to prevent corrosion





End-of-Pipe Gripper® plug



Inside-of-Pipe Gripper® plug

Part Number	Nominal Size	Range of Use	Maximum Back Pressure	Length	Product Weight
End-of-Pipe Gripper					
270210	1 1/2" (40 mm)	1.48"-1.65" (39-42 mm)	17 psi (1,2 bar)	40 ft. (12 M)	1.75" (44.5 mm) 0.13 lbs (0.05 kg)
270229	2" (50 mm)	1.9"-2.17" (49-55 mm)	17 psi (1,2 bar)	40 ft. (12 M)	1.87" (47.5 mm) 0.19 lbs (0.09 kg)
270237	3" (75 mm)	2.8"-3.1" (71-79 mm)	17 psi (1,2 bar)	40 ft. (12 M)	2.5" (63.5 mm) 0.375 lbs (0.16 kg)
270245	4" (100 mm)	3.8"-4.06" (96-103 mm)	17 psi (1,2 bar)	40 ft. (12 M)	2.5" (63.5 mm) 0.5 lbs (0.23 kg)
270261	6" (150 mm)	5.77"-6.08" (147-154 mm)	17 psi (1,2 bar)	40 ft. (12 M)	3.75" (95.3 mm) 2.5 lbs (1.14 kg)
270270	8" (200 mm)	7.7"-8.03" (196-204 mm)	17 psi (1,2 bar)	40 ft. (12 M)	3.75" (95.3 mm) 3 lbs (1.37 kg)
Inside-of-Pipe Gripper					



Original Gripper®



Pneumatic Plugs

Mechanical Plugs

Original Gripper®

Hub-Fit Gripper®

Clean-Out Gripper®

T-Handle Gripper®

Econ-O-Grip®

Petro Econ-O-Grip®

Kwik 'N Sure®

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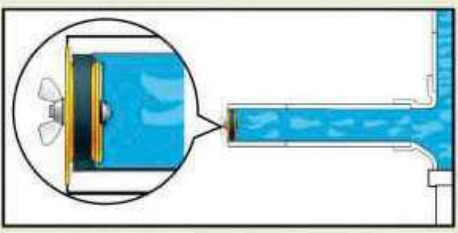
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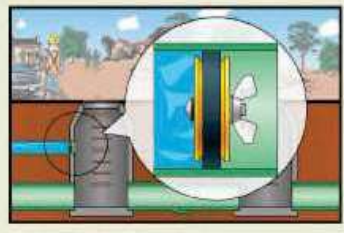
Equipped with:

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End-of-Pipe Gripper® plug



Inside-of-Pipe Gripper® plug

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Inside-of-Pipe Gripper					



ASSEMBLED CAST IRON CLEAN OUT BODY WITH COVER

Product Features

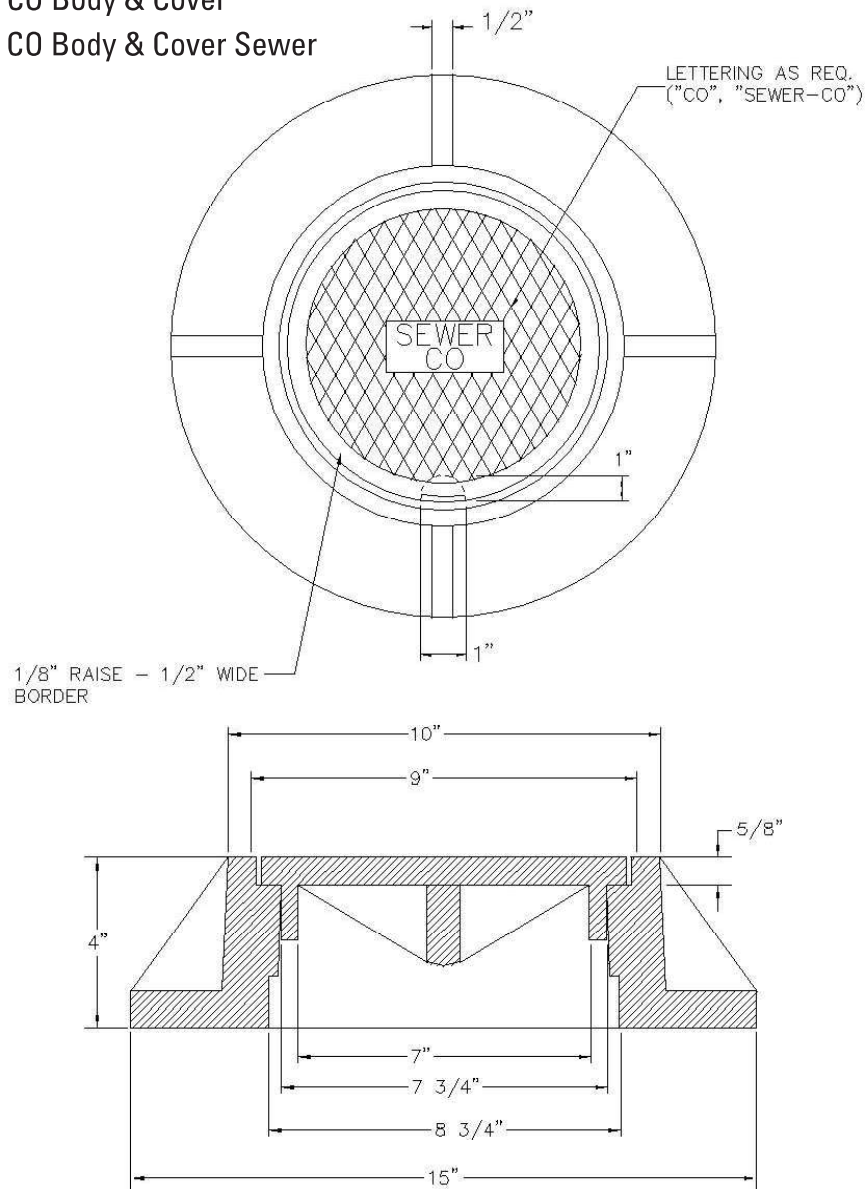
All valve boxes and related parts shall be coated on all surfaces with an asphaltic varnish of 2mm in thickness.

NOTE: This product is not rated for traffic

Model Numbers

PSVBM1007CO 8x4 MON CO Body & Cover

PSVBM1007SWR 8x4 MON CO Body & Cover Sewer



Codes & Approvals

Valve boxes conform to ASTM A-48, Grade 30B; Asphaltic varnish conforms to AWWA C-104.

LOW DENSITY HMW-PE Paigetracer

**UL-LISTED 30V or 600V
FOR GAS PIPELINES/WATER
PIPELINES & FIBER OPTIC LINES**

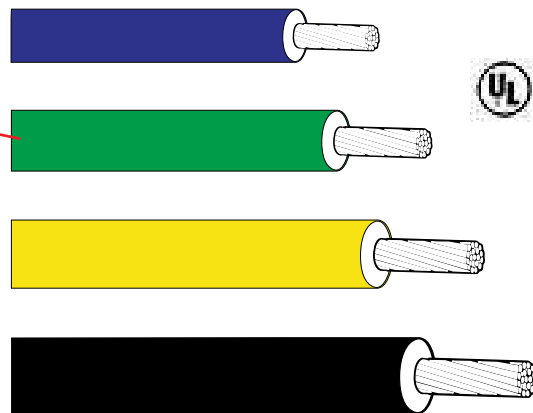
INSULATION: POLYETHYLENE

SIZES: 14-8 AWG

CONDUCTOR: SOLID OR STRANDED BARE ANNEALED COPPER

INSULATION: POLYETHYLENE

JACKET: PVC; SIZE: 24 AWG



1.0 DESCRIPTION

Single conductor solid or stranded,
bare annealed copper, low
density high molecular weight
Polyethylene insulation.

2.0 APPLICATION

Outstanding dielectric strength,
moisture resistance and low
capacitance of the high molecular
weight Polyethylene, coupled
with its high resistance to
corrosive chemicals, makes this
the optimum Tracer Wire for
locating buried Utilities.
Polyethylene is resistant to salt
water and most organic and
inorganic substances. A.P.W.A.
Color Code: Gas-Yellow, Water-
Blue, Fiber-Orange.

3.0 TEMPERATURE RATING

-55°C +60°C.

4.0 CONSTRUCTION DATA

HMW-PE

UL 600V CONSTRUCTION		
SIZE	INSULATION	WEIGHT
(AWG)	THICKNESS	(LB/1000)
14	45 MILS	20
12	45 MILS	29
10	45 MILS	42
8	45 MILS	80
UL 30V CONSTRUCTION		
SIZE	INSULATION	WEIGHT
(AWG)	THICKNESS	(LB/1000)
14	30 MILS	18
12	30 MILS	25
10	30 MILS	38
8	30 MILS	75

FOR SPLICING - 3M DBY'S/DBR'S ARE RECOMMENDED OR PAIGE DBM'S.
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CALL BILL GAAL AT 732-892-8989 OR FAX YOUR INQUIRIES TO 509-275-5820 FOR PRICING INFORMATION.

Detectable Underground Warning Tape Material Specification Sheet

Description: Detectable Underground Warning Tape is a specially laminated pet / foil / poly blend. This amazing blend (with polyester) provides exceptional strength characteristics when compared to other all polyethylene type detectable warning tapes. The bold black message on its APWA color coded background is treated so as not to degrade or fade when exposed to alkalis, acids and or any other destructive elements under ground.

Construction: .0003" Aluminum Foil Laminated (Full Width) Between Polyester and Polyethylene Sheeting

Colors: Standard Colors:
Black text on APWA color
Coded Background Per Specification:
Orange, Red, Yellow, Blue, Purple, or Green

Thickness: 5 Mil

Slit Width: Standard widths: 2, 3, 4, 6, and 12 inches.

Length: Standard Roll Length: 1000 Feet

