

TRUMBULL

HYDROSTATIC TANK

PRESSURE RELIEF VALVES

FOR WATER & WASTEWATER
TREATMENT PLANTS





About Trumbull Hydrostatic Tank Pressure Relief Valves

Trumbull Industries was established in 1922 in Warren, Ohio (Trumbull County). Manufacturing began in the early 1980's and continues today in our Warren, Ohio facilities.

Trumbull Hydrostatic Tank Pressure Relief Valves are manufactured in ductile iron and cast stainless steel. Valves are offered in floor-type and wall-type, 4" and 6" sizes. On pages 8 and 9, we include details of our valves with comparisons to other designs. Additional information includes testing procedures.

Advantages of our Tank Pressure Relief Valves

- QuadroSeal gasket design prevents iron lid and body from corroding together (see page 3).
- Strainer in wall valve is easier to maintain than a strainer in wall pipe, and insures a strainer will be installed (see page 11).
- C900 pipe gasket in bell of floor valve secures PVC pipe to valve (see pages 4, 5 & 8).
- Valves begin to open with less than 2" of head pressure (see page 10).
- Iron valves are ductile and coated with 2 part NSF 61 approved epoxy.
- Neoprene gaskets have good resistance to oils, sunlight and aging.



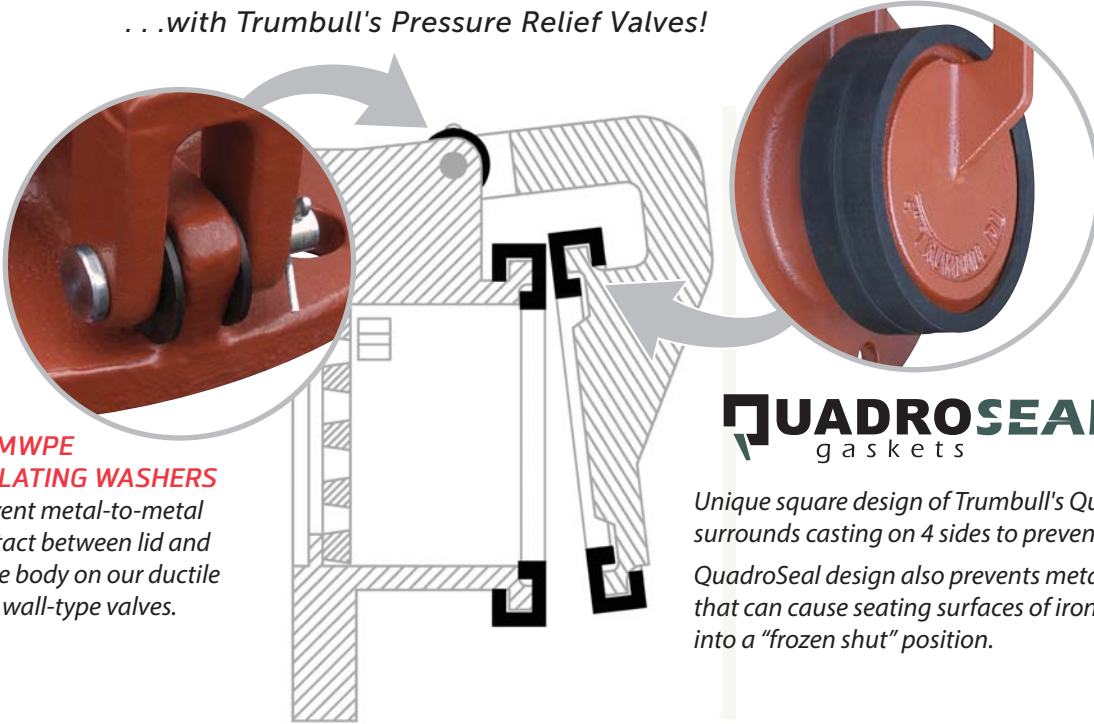
Floor-Type Valve

Wall-Type Valve



No Metal-to-Metal Contact

...with Trumbull's Pressure Relief Valves!



**UHMWPE
ISOLATING WASHERS**
prevent metal-to-metal
contact between lid and
valve body on our ductile
iron wall-type valves.

QUADROSEAL
gaskets

Unique square design of Trumbull's QuadroSeal Gasket surrounds casting on 4 sides to prevent separation. QuadroSeal design also prevents metal-to-metal contact that can cause seating surfaces of iron valves to corrode into a "frozen shut" position.

Compare... to see why Trumbull is the BEST CHOICE!

Trumbull Wall-Type PRV



with
QUADROSEAL
gaskets

Metal-to-metal contact is not possible
between Trumbull seating surfaces!

Alternate Design Wall-Type PRV (as removed from service)

Flap was "frozen shut" by
corrosion; the rim is caked
with debris that has hardened.



Valve after being
pried open.



Inoperable valves cannot relieve groundwater pressure,
leading to structural damage to tanks.

Floor-Type Hydrostatic Tank Pressure Relief Valves (PRV's)

QUADROSEAL Design - Ductile Iron & Type 316 Cast Stainless Steel
gaskets

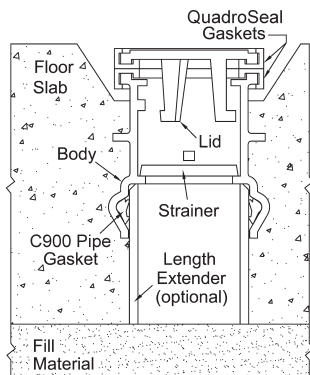
TRUMBULL FLOOR TYPE TANK PRESSURE RELIEF VALVES

are cast in the bottom of tanks in treatment plants to keep empty tanks from floating from an excess of groundwater beneath them. When this condition occurs, the hydrostatic pressure will open the cover of the valve allowing water to enter, thereby equalizing pressure inside and outside the tank and preventing it from floating.

They will start to open at less than one foot of head. Lugs in the body prevent the cover or strainer from becoming separated from the body of the valve due to flow. Both can be removed when necessary, however, by turning to the right or left.

Both Floor Type & Wall Type Valves use two Neoprene seating surfaces so if particles of grit lodge on them, the head of liquid in the tank will force the valve closed. These valves are for low seating or unseating pressure applications only.

Improved design uses C900 pipe gaskets in bell to securely retain PVC pipe to valve.



Floor-Type PRV's

Available in both high-strength ductile iron and type 316 cast stainless steel models.*

Size	Ductile Iron**		316 Stainless Steel	
	Domestic	Non-Domestic	Domestic	Non-Domestic
4"	1367-1558	367-1558	1367-1540	367-1540
6"	1367-1559	367-1559	1367-1544	367-1544

* For product weights, see drawing on Page 5.

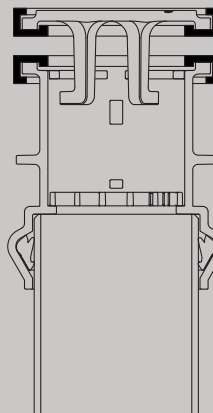
** Furnished with NSF-61, 2 part epoxy coating.

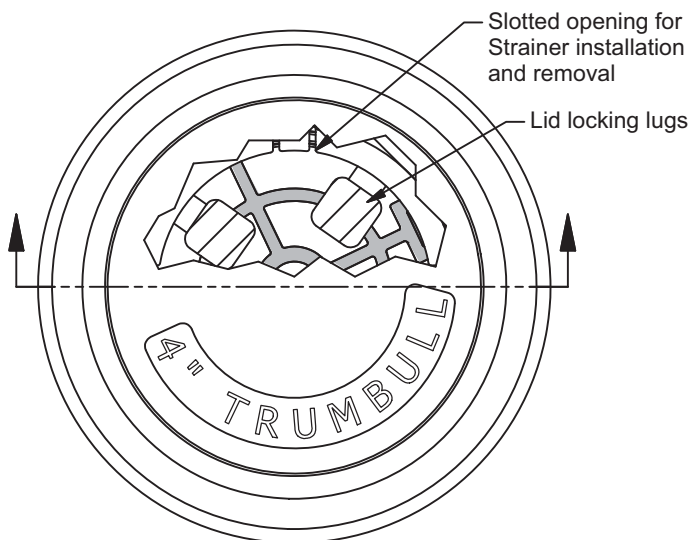
Floor type valves are cast in 4" and 6" sizes, in overall lengths of approx. 7-3/4". The lengths can be extended by inserting C900 PVC pipe into the underside of the valve. The PVC extensions can be furnished and inserted by Trumbull, to customer's exact length requirements, or in the field with customer supplied PVC pipe.

QUADROSEAL gaskets

Unique square design of QuadroSeal Gasket **SURROUNDS CASTING ON 4 SIDES** to prevent separation.

QuadroSeal design also prevents metal-to-metal contact that can cause seating surfaces of iron valves to corrode into a "frozen shut" position.

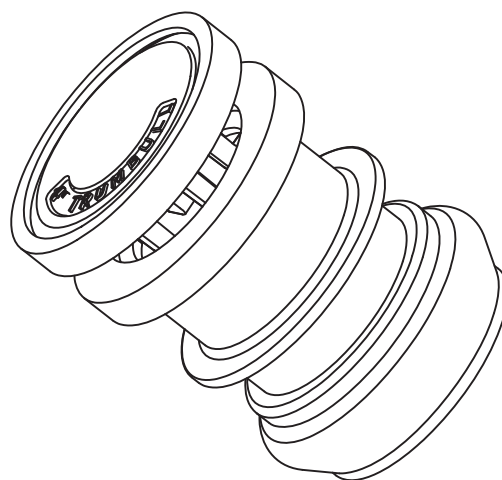
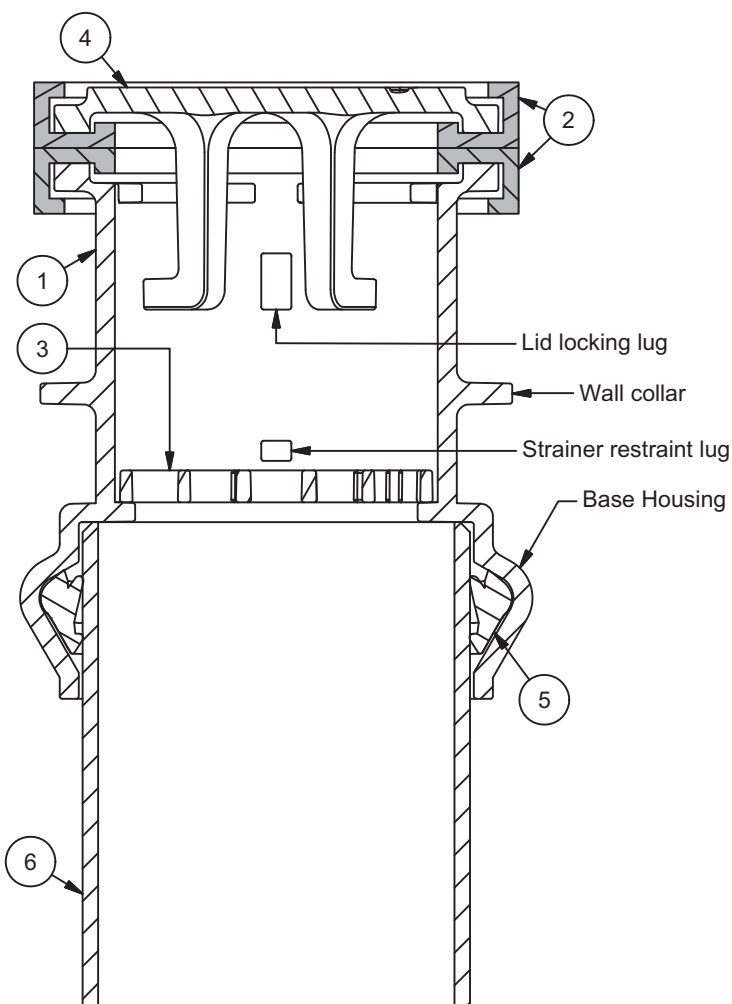




ITEM	DESCRIPTION	MATERIAL
1	Valve Body	Stainless Steel (T316) or Ductile Iron (65-45-12)
2	QuadroSeal Seat	Neoprene (50 durometer)
3	Strainer	Stainless Steel (T316) or Ductile Iron (65-45-12)
4	Lid	Stainless Steel (T316) or Ductile Iron (65-45-12)
5	C900 Pipe Gasket	SBR
6	Length Extender	C900 PVC Pipe

Note:

Ductile Iron components are coated with Tnemec N140-1211 epoxy (complies with NSF 61).



Size	Material	Part Number	Weight
4"	DI	367-1558	12.0 lb
4"	SS	367-1540	13.0 lb
6"	DI	367-1559	22.0 lb
6"	SS	367-1544	22.0 lb

Valve size	4	6
Overall height - closed	7-5/8"	7-59/64"
Lid lift distance	1"	1"
Seat O.D.	6"	8"
Base Housing O.D.	6-11/32"	8-5/8"
Fits C900 pipe size	4"	6"
Wall collar O.D.	5-27/32"	8-1/8"
Body seat face to Collar CL	3"	2-7/8"
Strainer flow area	7.3 sq. in	18.9 sq. in

Drawn:	Drawing Revision:		TRUMBULL INDUSTRIES P.O. Box 1556 1040 N. Meridian Rd. Youngstown, Ohio 44501	Drawn to Scale	
Date	Rev.	Date		TANK PRESSURE RELIEF VALVE FLOOR TYPE	
1/7/2013	--	--			

Wall-Type Hydrostatic Tank Pressure Relief Valves (PRV's)

QUADROSEAL Design - Ductile Iron & Type 316 Cast Stainless Steel

TRUMBULL WALL TYPE TANK PRESSURE RELIEF VALVES are designed for installation in side walls of tanks of treatment plants. They are intended for low unseating pressure applications and will start to open at less than one foot of head to relieve groundwater pressure from the exterior of tank wall. For low seating applications, contact Trumbull.

Trumbull Relief Valves use two Neoprene seating surfaces so if particles of grit lodge on them, the head of liquid in the tank will force the valve closed.

The valve has a flanged body for use with a wall pipe. The flange drilling is according to ANSI 125# STD on both sizes. The wall type valve uses a removable stainless steel hinge pin and two stainless cotter pins.



Wall-Type PRV's

Available in both high-strength ductile iron and type 316 cast stainless steel models.*

Size	Ductile Iron**		316 Stainless Steel	
	Domestic	Non-Domestic	Domestic	Non-Domestic
4"	1367-1572	367-1572	1367-1560	367-1560
6"	1367-1573	367-1573	1367-1564	367-1564

* For product weights, see drawing on Page 7.

** Furnished with NSF-61, 2 part epoxy coating.

QUADROSEAL gaskets

Unique square design of QuadroSeal Gasket **SURROUNDS CASTING ON 4 SIDES** to prevent separation. This design also prevents metal-to-metal contact that can cause seating surfaces of iron valves to corrode into a "frozen shut" position.

Wallpipes

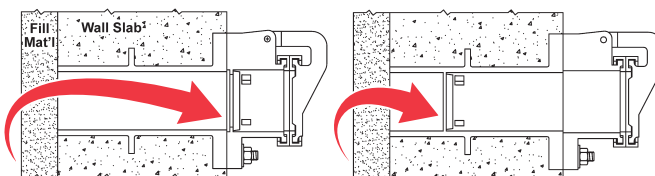
Wallpipes are 18" long (overall) with a collar 6" from the face of the flange; they can be furnished cut-to-length to meet your requirements. The flange is tapped for studs to allow the flange on the wall pipe to be set flush with the wall. No flange accessories will be furnished unless ordered separately. Wallpipe & Wall PRV sold separately. In order for the wall type valve to operate properly, it must be installed so that the bolt holes straddle the centerline.

Size	Ductile Iron	
	Trumbull Item No.	Weight
4"	367-1000	33.50 lbs.
6"	367-1002	68.50 lbs.

NOTE:

When stainless valves are used, wall pipes are furnished in ductile iron or fabricated from stainless pipe.

Importance of Strainer Location:



Strainer in **TRUMBULL** valve is easily accessed for maintenance

Strainer installation of other designs

Easy access to strainer helps prevent blockage of flow that could lead to structural tank damage. Wallpipes are frequently provided by ductile pipe suppliers and don't have strainers. The accumulation of debris on seating surfaces can lead to leakage from the tank. To prevent that condition, specify a valve with an internal strainer.

Wall Type, Pressure Relief Valve

Flange drilling per ANSI 125#

Size	Flange	Bolt Circle	Bolt Hole	Seat O.D.	Bore
4"	9" x 7/16"	7-1/2"	3/4"	6"	4"
6"	11" x 1/2"	9-1/2"	7/8"	8"	6"

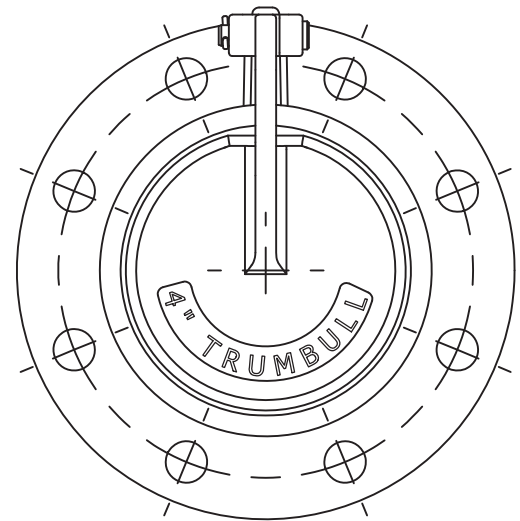
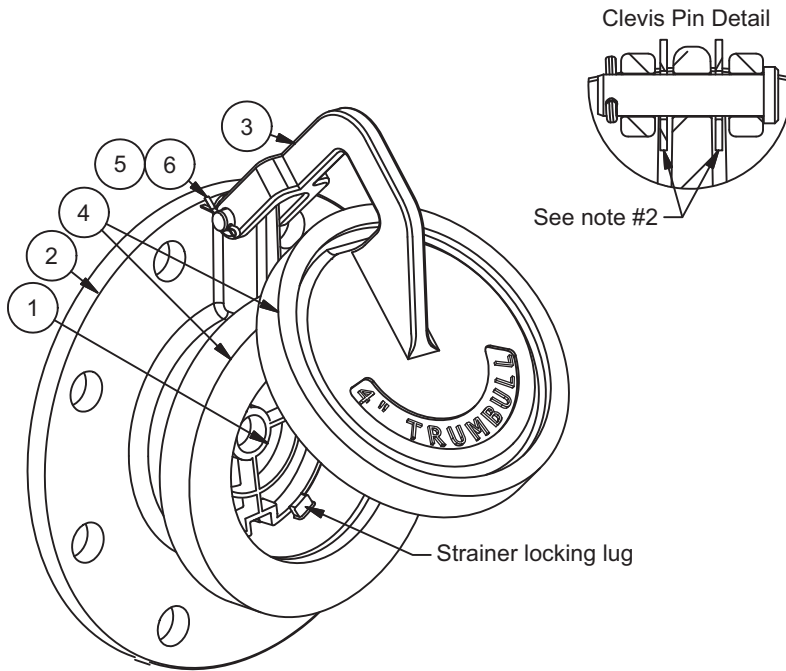
Item	Description	Material
1	Strainer	Stainless Steel (T316) or Ductile Iron (65-45-12)
2	Body	Stainless Steel (T316) or Ductile Iron (65-45-12)
3	Lid Flap	Stainless Steel (T316) or Ductile Iron (65-45-12)
4	QuadroSeal Seat	Neoprene (50 durometer)
5	Clevis Pin	Stainless Steel
6	Cotter Pin	Stainless Steel

Size	Material	Part Number	Weight
4"	DI	367-1572	12.00 lb
4"	SS	367-1560	13.00 lb
6"	DI	367-1573	20.00 lb
6"	SS	367-1564	22.00 lb

Note:

1.) Ductile Iron components are coated with Tnemec N140-1211 epoxy (complies with NSF 61).

2.) Ductile Iron valves have Isolating washers made of UHMWPE installed on the Clevis pin between the lid and body, preventing metal to metal contact.



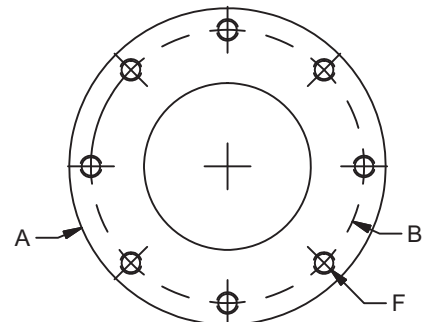
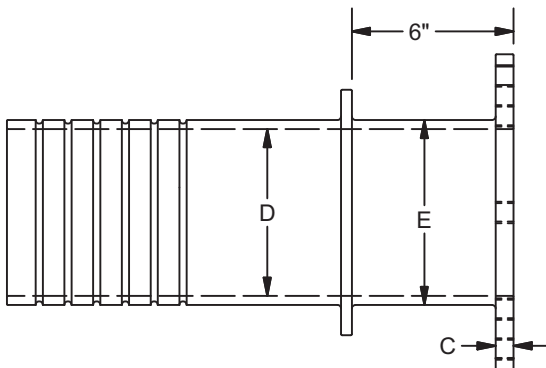
Size	Trumbull #	A	B	C	D	E	F	Weight
4"	367-1000	9"	7-1/2"	5/8"	4-3/16"	4.8"	5/8-11 UNC	34 lbs
6"	367-1002	11"	9-1/2"	5/8"	6.3"	6.9"	3/4"-10 UNC	47 lbs

Wall Pipe

Flange drilling per ANSI 125#

Material: Ductile Iron (65-45-12)

Coating: Tnemec N140-1211 epoxy



Drawn:	Drawing Revision:	TRUMBULL INDUSTRIES		Drawn to Scale	
Date	Rev.	Date	P.O. Box 1556	TANK PRESSURE RELIEF VALVE WALL TYPE	
1/7/2013	A	2/16/2014	1040 N. Meridian Rd. Youngstown, Ohio 44501		

Comparison: Seat Attachment Methods

TRUMBULL:

QuadroSeal gaskets surround lid and body castings on 4 sides to prevent separation.

OTHERS:

Screw and nylon washer retain gasket at center, but not at outer perimeter where seating takes place . . . lack of compression at outer diameter allows corrosion to build up underneath gasket, further reducing sealing ability.

TRUMBULL:

C900 pipe gasket securely retains PVC pipe extensions and accomodates minimum and maximum tolerances of outside pipe diameter.

OTHERS:

Relies on O-ring to retain all pipe OD's.

Comparison: Seat Designs



Testing of Trumbull Tank PRV's

Wall-type valve
in test fixture measures
head pressure required
to open valve.



At 5" head differential, valve flows to
prevent external pressure from increasing.

External head pressure required to make
valve drip.

Water level at bottom of valve bore.



Trumbull 4" wall-type valve
begins to open at less than 2" of head.



A Note About Strainers in Hydrostatic Tank PRV's

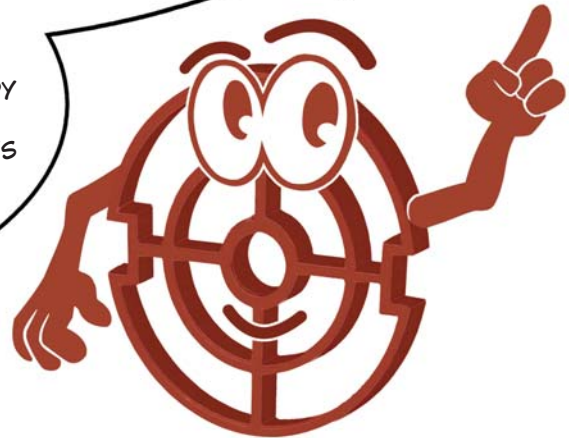
Hello!

I'M A STRAINER USED IN WALL AND FLOOR-TYPE
TANK PRESSURE RELIEF VALVES. YOU MAY NOT
THINK ABOUT ME VERY MUCH, BUT I AM **REALLY IMPORTANT!**

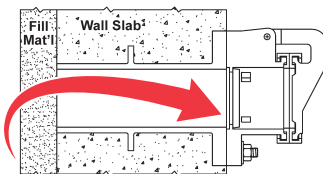
MY JOB IS TO KEEP ROCK OR GRAVEL FROM THE TANK EXTERIOR FROM
INTERFERING WITH THE SEATING SURFACE. BUT YOU MUST REMOVE AND CLEAN ME
PERIODICALLY. OTHERWISE, THE VALVE CAN GET PLUGGED UP AND THE GROUNDWATER
WON'T BE ABLE TO FIND ITS WAY THROUGH THE VALVE INTO THE TANK. IF THAT
HAPPENS, THE PRESSURE RELIEF VALVE CAN'T DO ITS JOB BY OPENING. THEN, THE
HYDROSTATIC PRESSURE OF THE GROUNDWATER MIGHT DAMAGE THE TANK'S WALL
OR CAUSE THE TANK TO FLOAT OUT OF ITS SETTING.

WHEN YOU INSTALL ME IN A WALL-TYPE VALVE, PLEASE PUT ME IN THE **VALVE**,
NOT IN THE WALL PIPE. IF YOU PUT ME IN THE PIPE, SOMETIMES WORKERS
CAN'T GET THEIR ARMS THROUGH THE VALVE AND HALFWAY INTO THE
WALL PIPE. OCCASIONALLY, THEY HAVE TO REMOVE THE VALVE,
JUST TO BE ABLE TO REACH ME!

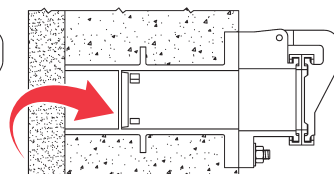
I WISH THE ENGINEERS THAT DESIGNED
THIS PLANT WOULD HAVE USED VALVES THAT
ARE EASIER TO MAINTAIN. I REALLY LIKE FIELD
REPLACEABLE GASKETS THAT SURROUND THE BODY
AND COVER, PREVENTING SEPARATION FROM
THE VALVE. PLUS, THOSE SOFT RESILIENT GASKETS
ALLOW A BETTER SHUTOFF ON SAND, SILT
AND FINE GRAVEL, COMPARED TO
IRON OR BRONZE SEATS.



Importance of Strainer Location:



Strainer in **TRUMBULL**
valve is easily accessed
for maintenance



Strainer installation of
other designs

Easy access to strainer helps prevent blockage
of flow that could lead to structural tank damage.
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The accumulation of debris on seating surfaces
can lead to leakage from the tank. To prevent
that condition . . . specify a valve with an
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