



3" Full Bore Blacko Ball Valve - 3" TTMA flanged inlet. 3" Camlock outlet. Right hand operated with T.I.R. to handle. Contact parts manufactured in 316 stainless steel with Teflon seals.

Options - alternative inlet and outlets available. Steam heated option.

Specification

Weight	24.31 Lbs (11.03 Kg)
Design Pressure (MAWP)	101.5 PSI (7 Bar)
Hydraulic Test Pressure	150 PSI (10.5 Bar)
Design Temperature Range	-67°F to 392°F (-55°C to 200°C)

Torque rating : 37 LBF FT (50 Nm)

Range

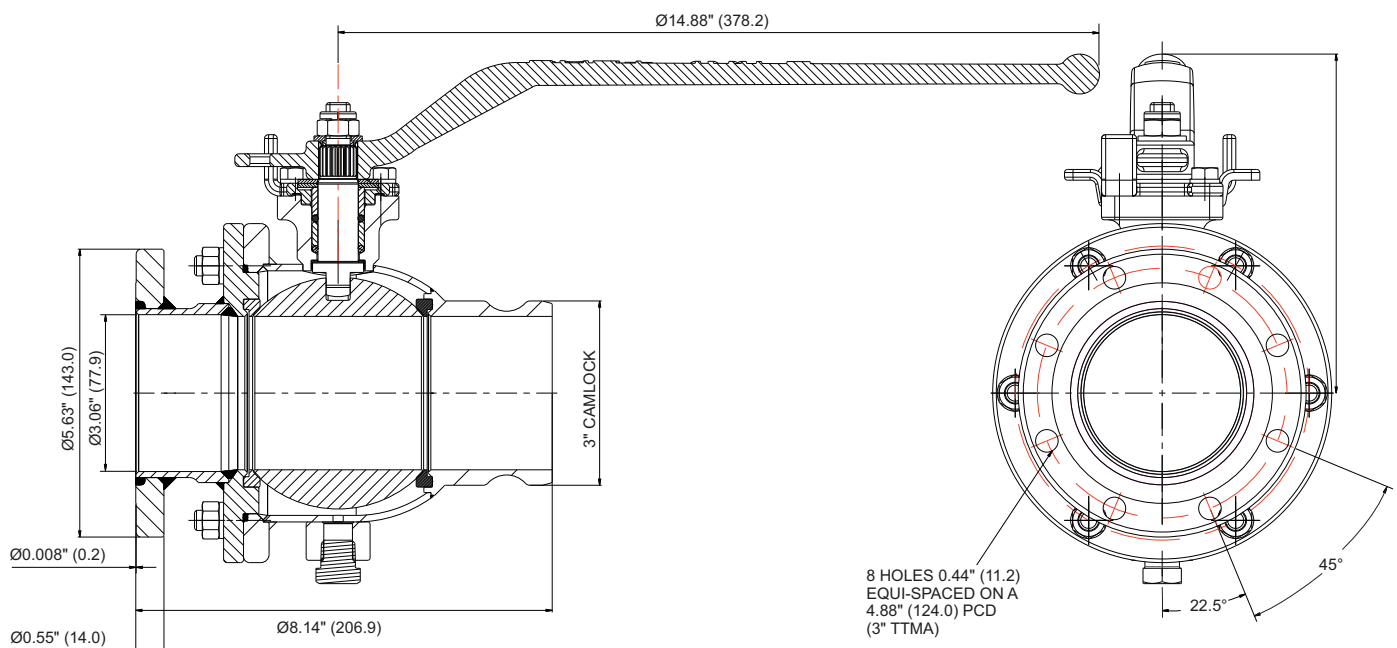
Part No.	Description
360/9000	3" TTMA inlet / 3" Camlock outlet
360/9080	3" NPT inlet / 3" Camlock outlet
360/5040X	6 hole inlet / 4 hole slotted outlet to BSTD, ASA 150 & DIN80
360/5030X	4 hole inlet / 4 hole slotted outlet to BSTD, ASA 150 & DIN80

Associated Parts

Associated Parts	Part No.
3" TTMA CNAF/Teflon inlet gasket	5005-445
Inlet bolting kit	US039
3" Camlock Cap	90/DC300

Fitting Details

Example shown : 360/9000





3" Quick Clean Butterfly Valve - 3" TTMA flanged inlet. 3" NPT threaded outlet. Two-piece body with quick-release clamp ring. Ambidextrous handle with TIR facility. Contact parts manufactured in 316 stainless steel with Viton B main seal as standard.

Options - different inlet & outlet configurations. Alternative seal materials available.

Maintenance



The Quick Clean butterfly valve can be stripped for cleaning in a matter of seconds by simply removing the quick-release clamp ring.

Should complete strip-down be needed, then by removing one locking nut, the valve can be dismantled fully and all seals replaced quickly and easily.

Used in conjunction with the **Fort Vale Hydraulic Cleanflow footvalve**, we believe it is the most efficient and easily cleaned tank truck outlet on the market.

Specification

Weight - 358/200X	10.5 Lbs (4.77 Kg)
358/150X	12.0 Lbs (5.45 Kg)
Design Pressure (MAWP)	50 PSI (3.45 Bar)
Test Pressure	75 PSI (5.17 Bar)

Seal Temperature Range

Material	Range in °F	Range in °C
Hypalon	-40°F to 212°F	-40°C to 100°C
Nitrile	-4°F to 212°F	-20°C to 100°C
Silicone	-4°F to 392°F	-20°C to 200°C
Viton	-4°F to 392°F	-20°C to 200°C
Viton B	-4°F to 356°F	-20°C to 180°C

Associated Parts

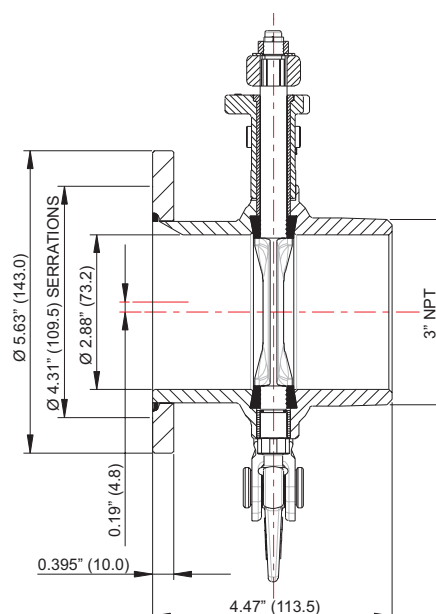
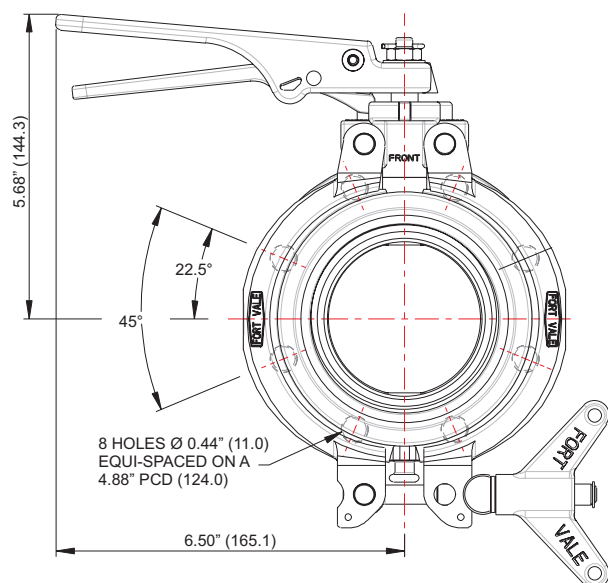
Associated Parts	Part No.
CNAF/TEFLON inlet gasket	5005-445
Inlet bolting kit	US039
3" NPSL blank cap	425/3240

Range

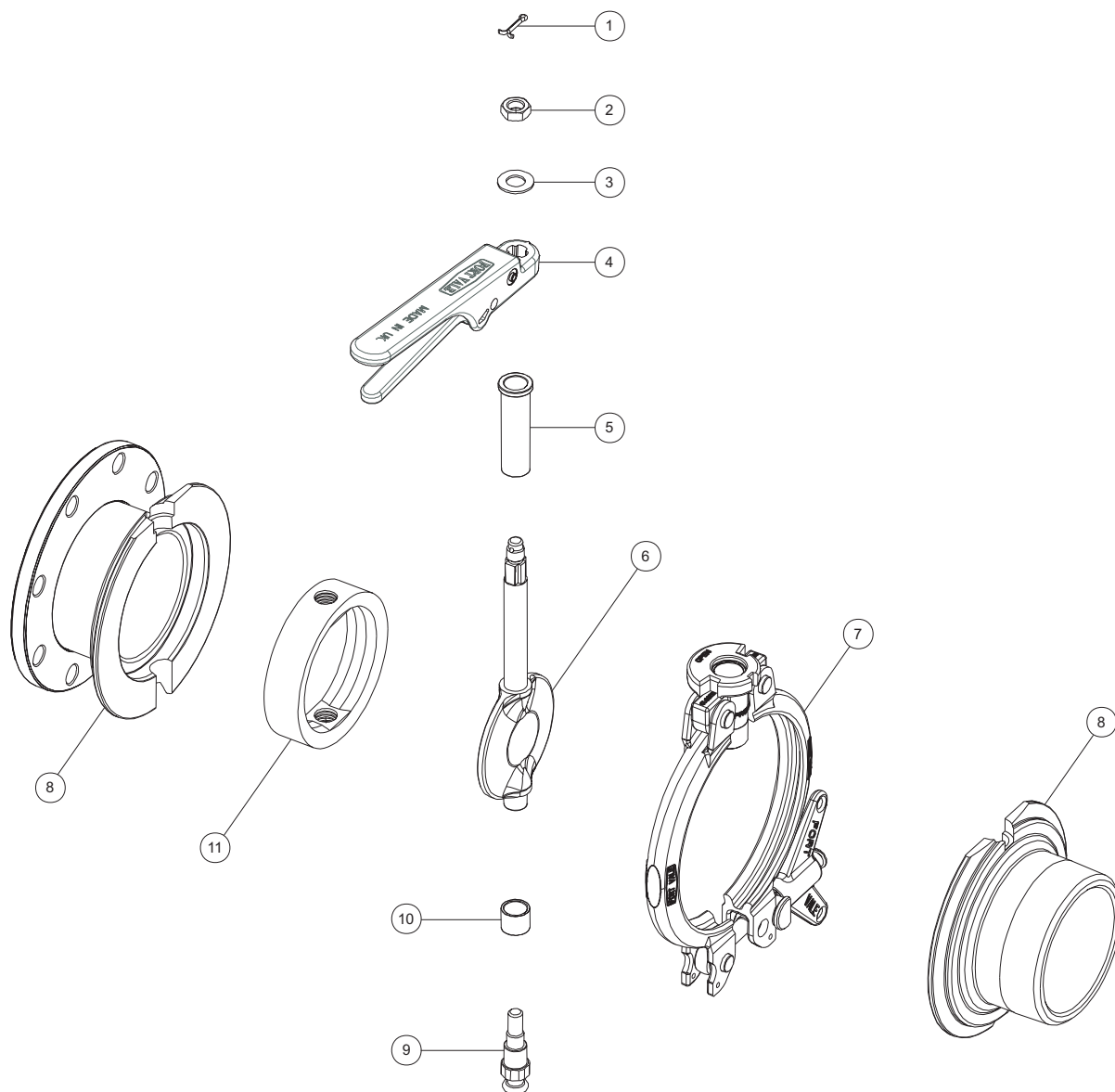
Part No.	Description
358/200X	3" TTMA inlet/3" NPT threaded outlet
358/150X	3" TTMA inlet/3" TTMA outlet

Fitting Details

Example shown : 358/200X



Parts drawing



Item	Description	Part No.
1.	Split pin	5118-011
2.	3/8" half nut	5122-014
3.	Plain washer	5113-009
4.	Handle assembly	358/2010
5.	Top spindle bush	5008-028
6.	Spindle and closure plate	358/2040
7.	Clamp ring assembly	358/2030
8.	3"TTMA/3"NPT body assembly	358/2250
	3"TTMA/3"TTMA body (<i>not shown</i>)	358/2260

Item	Description	Part No.
9.	Bottom plug	358/2050
10.	Bottom spindle bush	5008-029
11.	Hypalon main seal *See NOTE	5005-58H
	Nitrile main seal	5005-58N
	Silicone main seal	5005-58S
	Viton main seal	5005-58V
	Viton B main seal	5005-58VB

NOTE

When selecting seal type, please refer to the "Seal Temperature Range" information over the page.

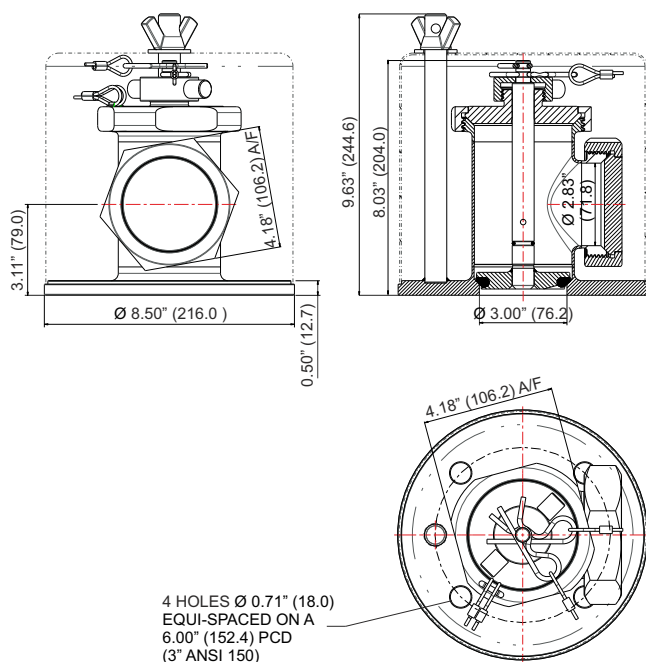


3" 3A Stamped Sanitary Milk Fitting Discharge Valve - 3" Bevel outlet. Inlet flange drilled 4 holes Ø 0.71" equi-spaced on a 6.00" PCD. (3" ANSI 150). Contact parts manufactured in 316 stainless steel with EPDM main seal. Supplied with weatherproof cowl.

Options - other inlet and outlet connections available.

Fitting Details

Example shown : 800/2000



Specification

Weight	24 Lbs (11 Kg)
Design Pressure (MAWP)	58 PSI (4 Bar)
Service Test Pressure	87 PSI (6 Bar)
Design Temperature Range	-40°F to 302°F (-40°C to 150°C)



Stamped valve

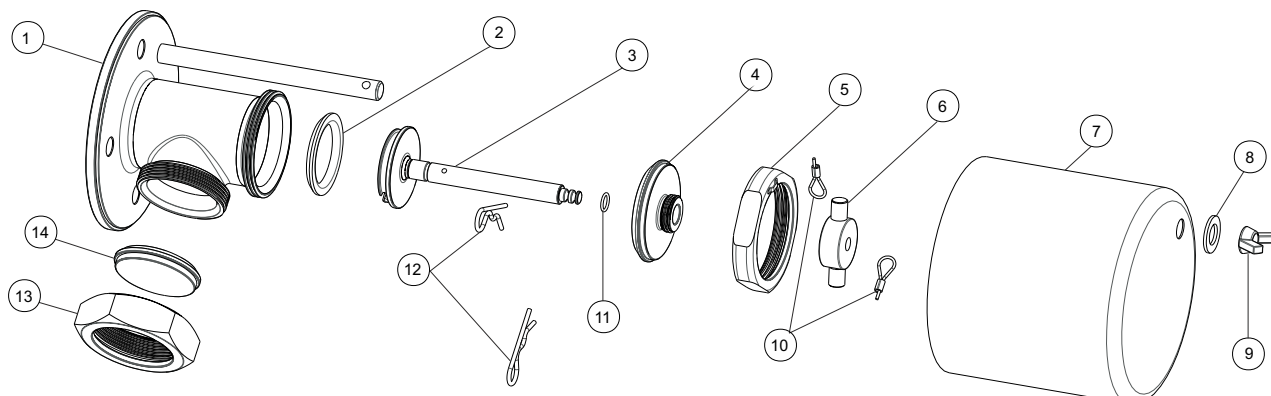
NB : Outlet valve must be fully open and safety retainer installed on valve stem before loading or unloading through outlet.

THIS VALVE SHOULD BE MANUALLY CLEANED.

Range

Part No.	Specification
800/2000	3" ANSI 150 inlet / 3" Bevel outlet
800/2050	3" ANSI 150 inlet / 3" Bevel outlet. No cowl.

Parts drawing



Item	Description	Part No.
1	Body weld assembly	800/2001
2	EPDM Main seal	800/2012
3	Poppet weld assembly	800/2005
4	Shaft guide	800/2002
5	Top ring	800/2004
6	Cap	800/2003
7	Cowl	800/2010
8	M20 washer	5113-013

Item	Description	Part No.
9	3/4" UNC wingnut	800/2021
10	Captivation wire, comprising	6110-119 (1) SF1.5 (3)
11	EPDM O ring	5005-652
12	Retaining clip (2)	800/2022
13	Outlet nut	800/2016
14	Outlet blanking plug	800/2014



3" 90° Hydraulic Cleanflow Footvalve - inlet flange drilled to 4" TTMA. Outlet flange drilled to 3" TTMA. Hydraulic actuator with 1/8" NPT connection. Contact parts manufactured in 316 stainless steel with Fortyt main seal (FEP encapsulated silicone).

Options - steam heated option. Alternative outlet drillings are available. Pneumatically actuated and manually operated versions.

Performance

The Fort Vale **Cleanflow** design has a totally unrestricted bore which reduces product residue to a minimum, enables easy access for thorough cleaning in-situ and offers a much faster discharge time.

The proven discharge rate of the **3" 90° Cleanflow** valve under gravity is **132 gallons/min** - equal to that of a 4" conventional style footvalve.

Associated Parts

Associated Parts	Part No.
Tank pad	299/0102
Inlet gasket – CNAF/Teflon envelope	5005-441
Stud kit	845/2045
Outlet gasket – CNAF/Teflon envelope	5005-445

Specification

Weight	21 Lbs (9.5 Kg)
Design Pressure (MAWP)	58 PSI (4 Bar)
Test Pressure	87 PSI (6 Bar)
Design Temperature	-40°F to 374°F (-40°C to 190°C)

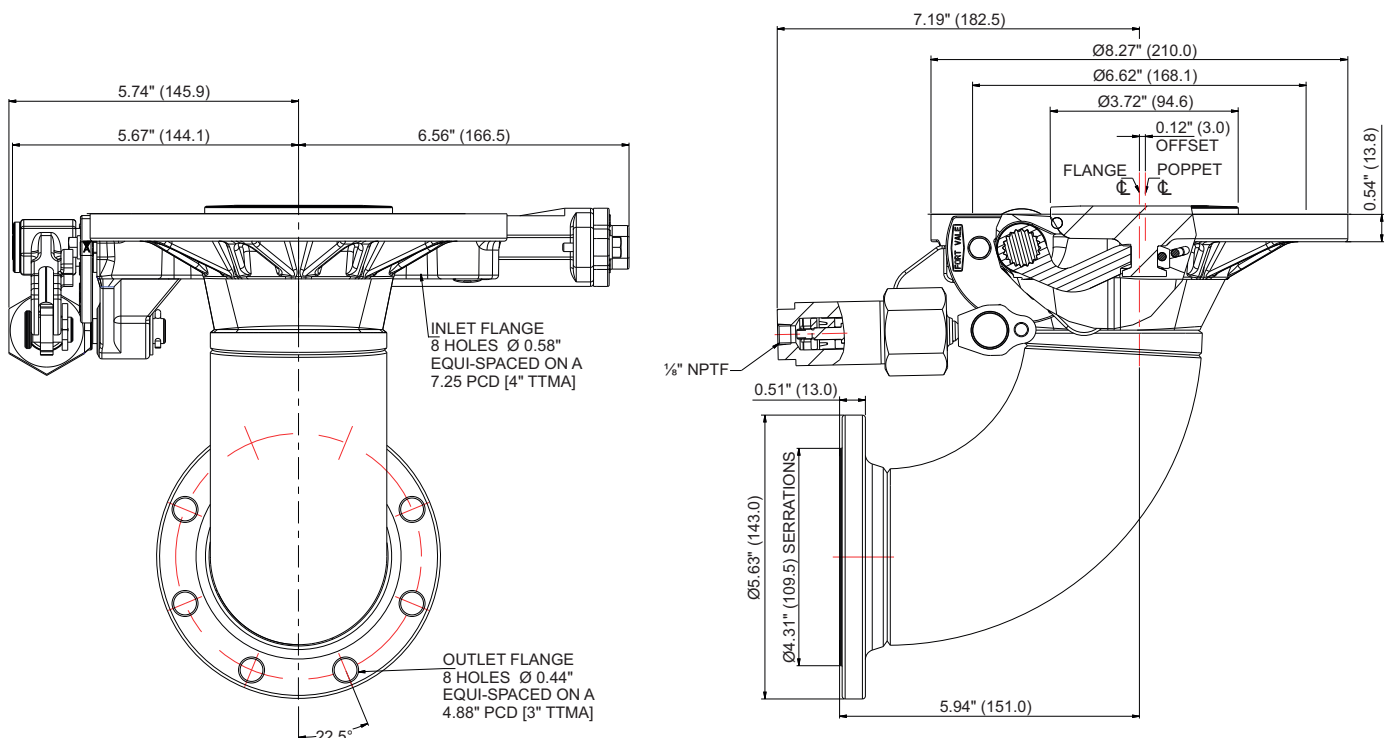
NOTE: When using this valve on tanks hauling congealing cargo, do not exceed a maximum hydraulic pressure of 3000 PSI (207 Bar) and install a relief valve.

Range

Part No.	Description
844/9000B	3" 90° hydraulic Cleanflow footvalve
844/9000BSH	3" 90° steam heated Cleanflow footvalve
844/2000ASS	3" 90° pneumatic Cleanflow footvalve

Fitting Details

Part number : 844/9000B





4" 90° Hydraulic Sealtyt Extended Footvalve - inlet flange drilled to 4" TTMA. Outlet flange drilled to 3" TTMA. Hydraulic actuator with 1/8" NPT connection. Contact parts manufactured in 316 stainless steel with Elastomer core PTFE main seal. Shear section allows mounting at centre or rear discharge.

Options - Alternative outlet drillings available. Pneumatically actuated version. Steam heated version. BSP connection. Alternative seal materials are available.

Advantages

- The seal is easier to maintain, clean and change as the whole poppet and spring assembly can be removed without decompressing the spring.
- The poppet is guided through the bayonet cap, eliminating the risk of the poppet jamming open and has no leak path through, eliminating contamination.
- Increased sealing reliability (self centring poppet).
- Electro-polished stainless steel body - no external corrosion.
- Complete interchangeability allowing one stock of spares to be kept.
- The sealing system in the spindle of the valve offers lower costs and greater reliability particularly at lower and higher temperatures.
- In the event of hydraulic or pneumatic failure, the valve may still be operated by inserting a bolt through the bottom of the actuating cylinder which will push the spindle.
- A spring load (336 Lbs to 798 Lbs) exerted onto the poppet allows the valve to break any crystallized product around the sealing face.

Specification

Weight	39 Lbs (17.7 Kg)
Design Pressure (MAWP)	58 PSI (4 Bar)
Service Test Pressure	87 PSI (6 Bar)
Design Temperature Range	-4°F to 392°F (-20°C to 200°C)

Approved to BS EN14433

Range

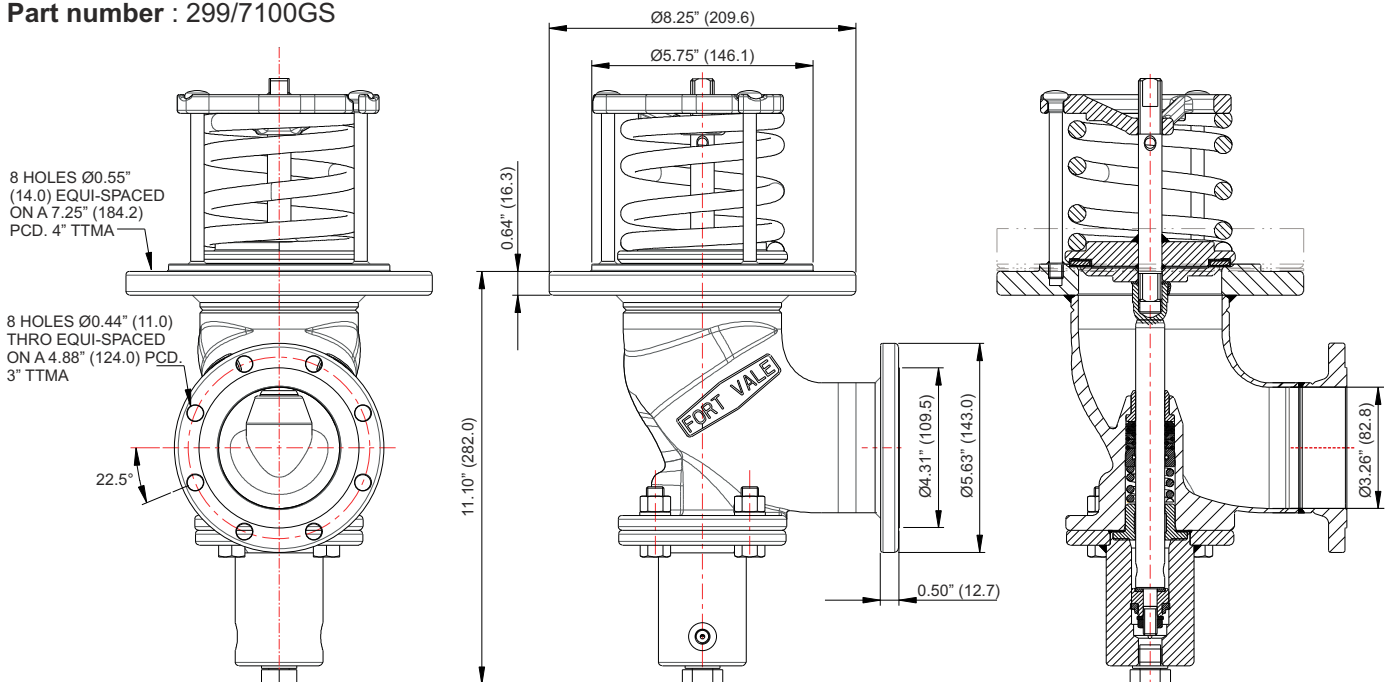
Part No.	Description
299/7000GS	4"90° Hydraulically Operated, extended
299/7000PN	4"90° Pneumatically Operated, extended
299/7050PN	4" to 3" 90° Pneumatically Operated
299/7100GS	4" to 3" 90° Hydraulically Operated
299/7200PN	4" 75° Pneumatically Operated
299/7250PN	4" to 3" 75° Pneumatically Operated
299/7100GSSH	4" to 3" 90°Hydraulic, steam heated

Associated Parts

Part Number	Description
299/0102	4" TTMA Tank pad
5005-441	Inlet gasket - CNAF/Teflon envelope
5005-445	Outlet gasket - CNAF/Teflon envelope

Fitting Details

Part number : 299/7100GS





6" 180° Hydraulic Cleanflow Footvalve - inlet flange drilled to 6" TTMA sump specification. Outlet flange drilled to 6" TTMA flange specification. Hydraulic actuator with 1/8" NPT connection. Contact parts manufactured in 316 stainless steel with Fortyt main seal (FEP encapsulated silicone).

To ensure that the tank remains sealed in the event of an accident, the valve body incorporates a shear groove, designed to fail in such a way as to leave the internal part of the valve closed and attached to the tank body.

Options - Alternative seal arrangements and materials available.

Specification

Weight	79.5 Lbs (36.08 Kg)
Design Pressure (MAWP)	58 PSI (4 Bar)
Test Pressure	87 PSI (6 Bar)
Design Temperature	-40°F to 302°F (-40°C to 150°C)
Maximum Internal Pressure on Opening	25 PSI (1.72 Bar)

Please Note : When using this valve on tanks hauling congealing product, the hydraulic hand pump should be limited to 290PSIG (20 Bar).

Flow Performance

The Fort Vale **Cleanflow** design has unrestricted bore which reduces product residue to a minimum, enables easy access for thorough cleaning in-situ and offers a much faster discharge time.

Estimated CV : 1,000 US gallons/min

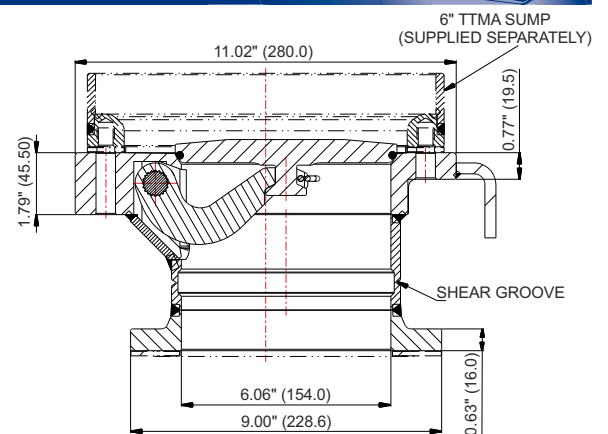
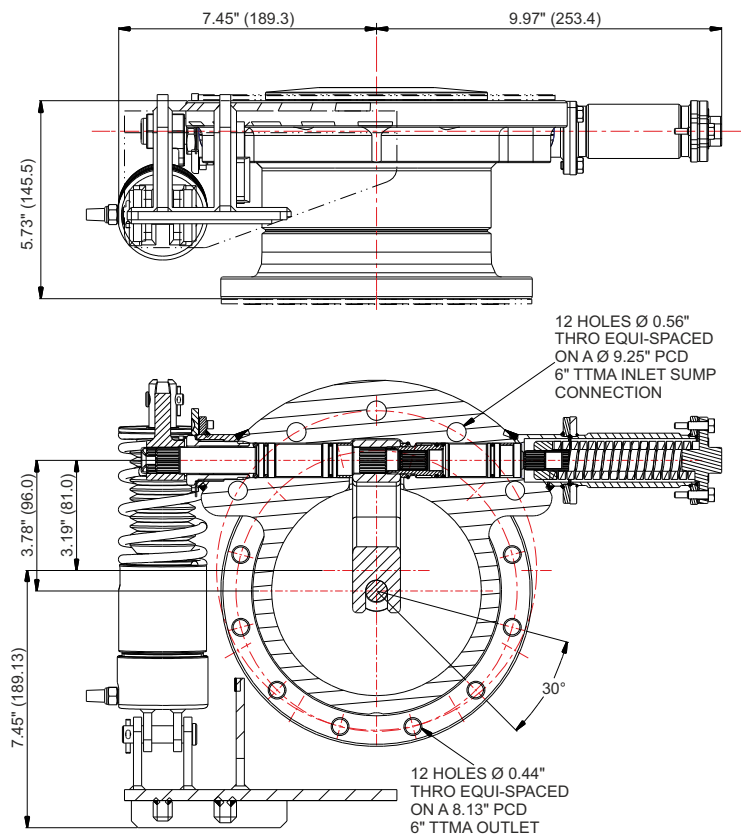
Estimated flow at 4 PSI ΔP	2,000 US gallons/min
Estimated flow at 9 PSI ΔP	3,000 US gallons/min
Estimated flow at 25 PSI ΔP	5,000 US gallons/min

Associated Parts

Part No.	Description
312/1029	Inlet stud kit
874/0040	6" TTMA sump weld assembly
874/0041	Inlet gasket – MIL CNAF/PTFE envelope
874/0042	Outlet gasket - MIL CNAF/PTFE envelope

Fitting Details

Part Number : 874/0000

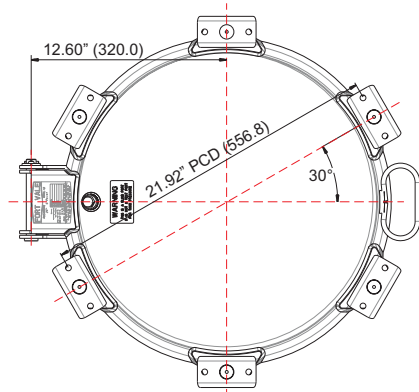
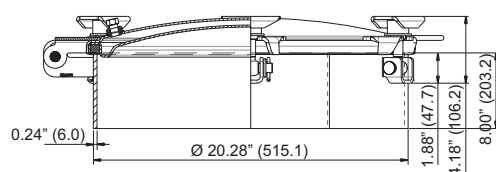




Example shown : 859/995010

Fitting Details

Example shown : 859/995008



20" Rushmore Manway - 6 point fastening. 8" deep neckring, 0.24" thick. Contact parts manufactured in 316 stainless steel. Stainless steel swingbolts with stainless steel handnuts. Seal supplied separately.

Options - 10", 8", 6" and 4" deep neckrings. A range of 4 point assemblies is available. Manways may be supplied to ASME "U" Stamp and/or 3-A Standard specifications on request. Covers may be supplied complete with nipples or vents welded into dome.

Specification

Weight	80.5 Lbs (36.6 Kg) *NB
Design Pressure (MAWP)	50 PSI (3.45 Bar)
Test Pressure	75 PSI (5.17 Bar)
Design Temperature	450°F (232°C)

This manway fully complies with **CFR-49 178.345-5** Manhole Assemblies.

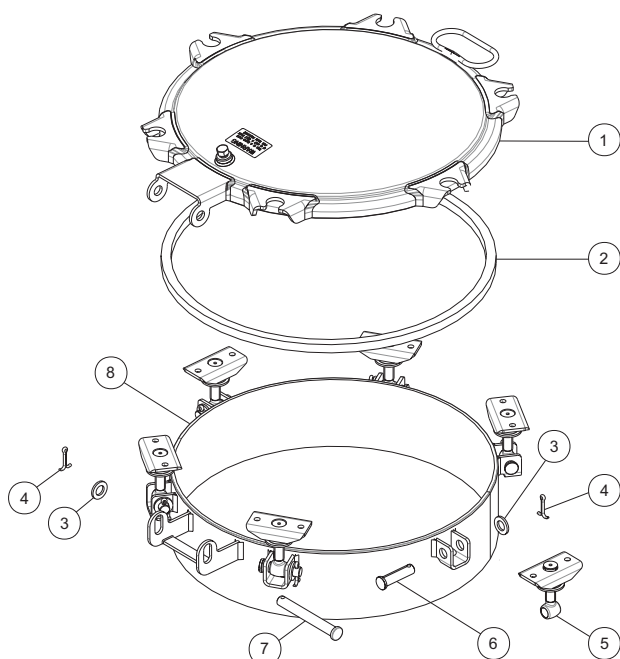
*NB Data varies according to specification

Range

Assembly Part No	Neckring
859/995010	10" deep neck
859/995008	8" deep neck
859/995006	6" deep neck
859/995004	4" deep neck

Please refer to our separate data sheet giving full details of our range of Rushmore manways.

Parts drawing



Item	Description	Part No.
1	Cover	740/5000
2	Seal – Butyl EPDM Hypalon (white) Natural white rubber Neoprene rubber Nitrile Braided PTFE Viton "A" rubber	5005-50B 5005-50EPD US5005-51H 5005-50SWR 5005-50NR 5005-50N P16161625D 5005-50VR
3	M16 washer (7)	5113-011
4	Split pin (7)	5118-043
5	Swingbolt assembly (6)	495/2010
6	Swingbolt hinge pin (6)	10917SS
7	Cover/neck hinge pin	600/1075
8	8" deep neckring	629/995008 *See note

*NB Part number will vary according to neckring specification



3" Hyper Tank Vent Pressure/Vacuum Relief Valve - 3"NPSL swivel lug nut connection with PTFE O ring. Suitable for a pressure range of between 3 to 50 PSI (0.21 to 3.45 Bar) and a vacuum range of between 1"Hg to 22"Hg (0.03 to 0.74 Bar). Valve body incorporates 1/4"NPS and 3/4"NPS connections to fit a pressure gauge and an airline valve. TIR facility to body and swivel nut. Contact parts manufactured in 316 stainless steel fitted with Fortyt seal (FEP encapsulated silicone). Fitted with low profile weather-proof cowl.

Options - Pressure only version. Viton, Kalrez® and perfluoroelastomer seals are available. Alternative tank connections.

Specification

Weight	12.65 Lbs (5.75 Kg)*
Design Pressure	75 PSIG (5.2 Bar)*
Test Pressure	147 PSIG (10.1 Bar)*
Design Temperature	-67°F to 392°F* (-55°C to 200°C)*
U.S. DOT Registration No.	CT-5411
Conforms to TTMA RP No.	81-97

***PLEASE NOTE** : Above data varies according to the valve/seal specification.

The R408/XXXXX valve has been witness tested by Lloyd's Register and its flow performance rates exceed all DOT requirements per CFR49 178.345-10. (Please request separate data sheet X408/Flow/Table for flow rate information.)

Tank Vents must be fitted using a spanner wrench. Hammer blows, or similar impact, may impair the unit and invalidate the valve warranty.

Range

Part No.	Connection
A408/XXXXX	3" ANSI flange – standard valve
A4U8/XXXXX	3" ANSI flange - PFA lined wetted surfaces
F408/XXXXX	3" TTMA flange – standard valve
R408/XXXXX	3" NPS swivel – standard valve

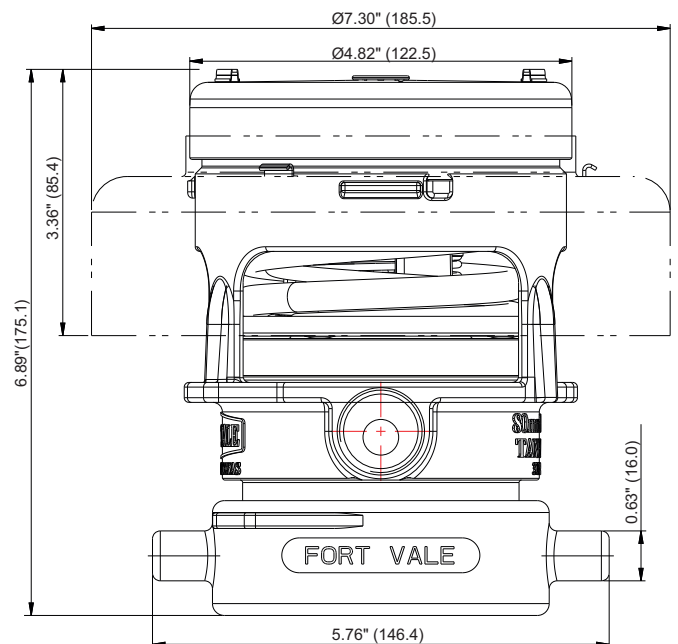
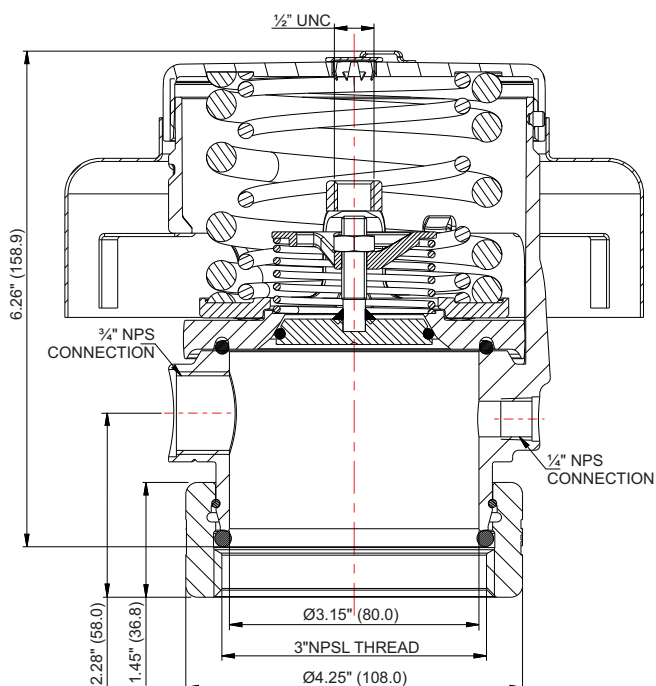
Associated Parts

Part No.	Description
US007	3/4" NPT female socket ball valve
US000	1/4" NPT pressure gauge 0 to 60 PSIG
US100	60 PSIG air charge kit
400/0104	Jacking tool

See separate data sheet USREL105 for our full range of Venting Device Accessories.

Fitting Details

Example shown : R408/XXXXX





Specification

Weight	17.71 Lbs (8.05 Kg)*
Design Pressure	75 PSIG (5.2 Bar)*
Test Pressure	147 PSIG (10.1 Bar)*
Design Temperature	-67°F to 392°F* (-55°C to 200°C)*
U.S. DOT Registration No.	CT-5411
Conforms to TTMA RP No.	81-97

***PLEASE NOTE** : Above data varies according to the valve/seal specification.

The X408/XXXXX range has been witness tested by Lloyd's Register and its flow performance rates exceed all DOT requirements per CFR49 178.345-10.
(Please request separate data sheet X408/Flow/Table for flow rate information.)

3" Flanged Hyper Tank Vent Pressure/Vacuum Relief Valve - 3" ANSI or 3" TTMA flanged connections available - see Fitting Details for drilling patterns. Suitable for a pressure range of between 3 to 50 PSI (0.21 to 3.45 Bar) and a vacuum range of between 1 "Hg to 22 "Hg (0.03 to 0.74 Bar). Valve body incorporates 1/4" NPS and 3/4" NPS connections to fit a pressure gauge and an airline valve. Contact parts manufactured in 316 stainless steel fitted with Fortyt seal (FEP encapsulated silicone) as standard. Fitted with low profile weather-proof cowl.

Options - Pressure only version. Viton, Kalrez® and perfluoroelastomer seals are available. Alternative tank connections.

Range

Part No.	Connection
A408/XXXXX	3" ANSI flange – standard valve
A4U8/XXXXX	3" ANSI flange – PFA lined wetted surfaces
F408/XXXXX	3" TTMA flange – standard valve
F4U8/XXXXX	3" TTMA flange – PFA lined wetted surfaces
R408/XXXXX	3" NPS swivel – standard valve

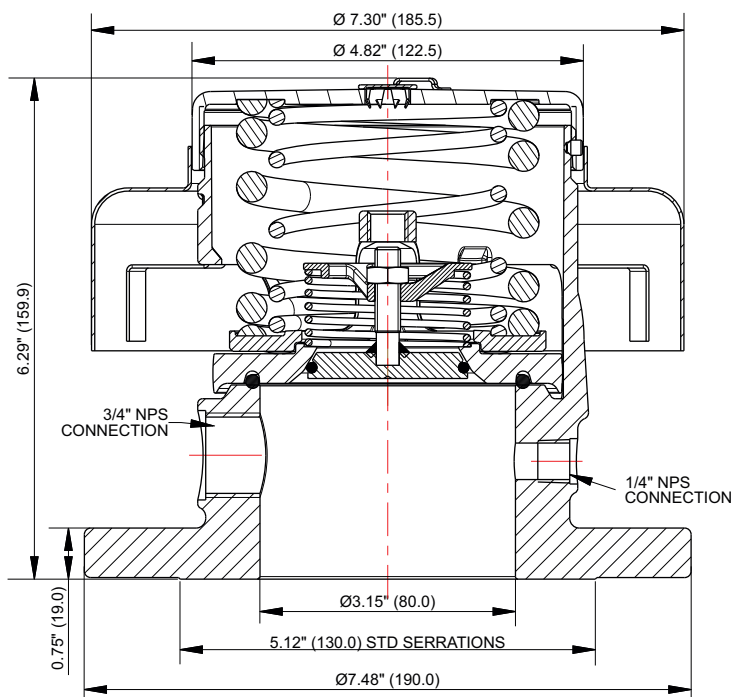
Associated Parts

Part No.	Description
US007	3/4" NPT female socket ball valve
US000	1/4" NPT pressure gauge 0 to 60 PSIG
US100	60 PSIG air charge kit
400/0104	Jacking tool

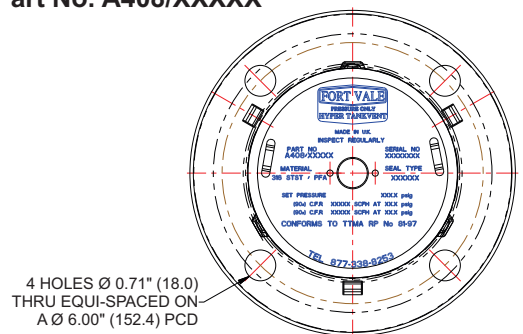
See separate data sheet USREL105 for our full range of Venting Device Accessories.

Fitting Details

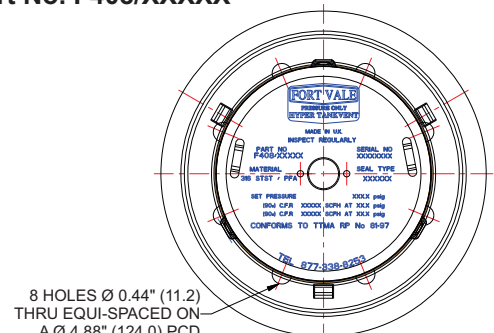
Example shown : A408/XXXXX



Part No. A408/XXXXX



Part No. F408/XXXXX





Specification

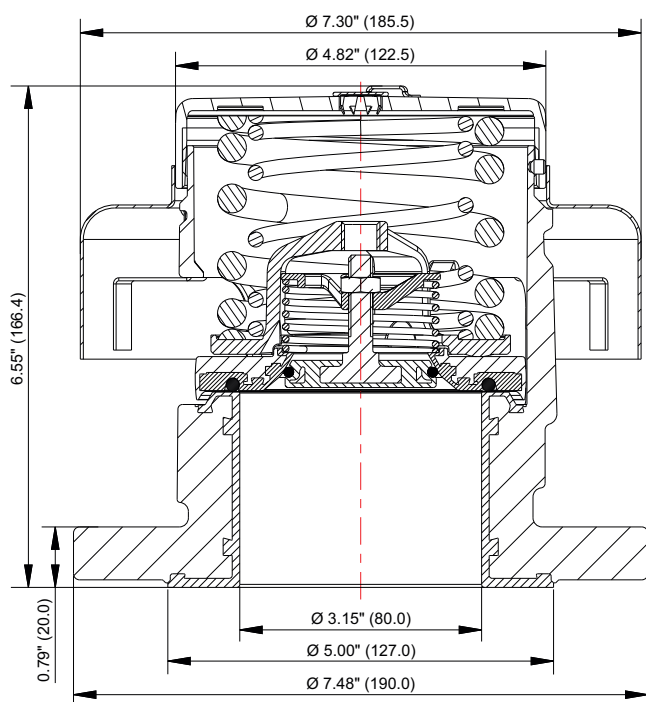
Weight	17.93 Lbs (8.15 Kg)*
Design Pressure	75 PSIG (5.2 Bar)*
Test Pressure	147 PSIG (10.1 Bar)*
Design Temperature	-67°F to 392°F* (-55°C to 200°C)*
U.S. DOT Registration No.	CT-5411
Conforms to TTMA RP No.	81-97

***PLEASE NOTE** : Above data varies according to the valve/seal specification.

The X408/XXXXX range has been witness tested by Lloyd's Register and its flow performance rates exceed all DOT requirements per CFR49 178.345-10. (Please request separate data sheet X408/Flow/Table for flow rate information.)

Fitting Details

Example shown : A4U8/XXXXX



3" Lined Flanged Hyper Tank Vent Pressure Only Relief Valve - 3" ANSI or 3" TTMA flanged connections available - see Fitting Details for drilling patterns. Suitable for a pressure range of between 3 to 50 PSI (0.21 to 3.45 Bar) and a vacuum range of between 1 "Hg to 22 "Hg (0.03 to 0.74 Bar). Manufactured in 316 stainless steel with PFA lined wetted parts, Halar® coated pressure spring, alloy C276 vacuum spring, and fitted with Fortyt seal (FEP encapsulated silicone) as standard. Fitted with low profile weather-proof cowl.

Options - Pressure only version. Viton, Kalrez® and perfluoroelastomer seals are available. Alternative tank connections.

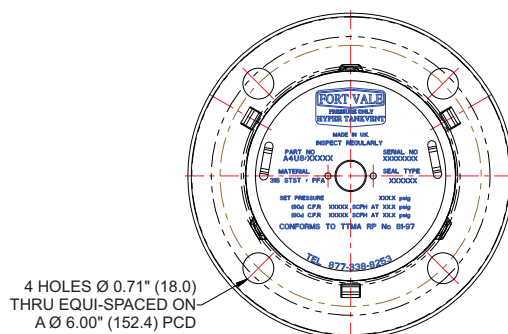
Range

Part No.	Connection
A408/XXXXX	3" ANSI flange – standard valve
A4U8/XXXXX	3" ANSI flange – PFA lined wetted surfaces
F408/XXXXX	3" TTMA flange – standard valve
F4U8/XXXXX	3" TTMA flange – PFA lined wetted surfaces
R408/XXXXX	3" NPS swivel – standard valve

Associated Parts

Part No.	Description
400/0104	Jacking tool

Part No. A4U8/XXXXX



Part No. F4U8/XXXXX

