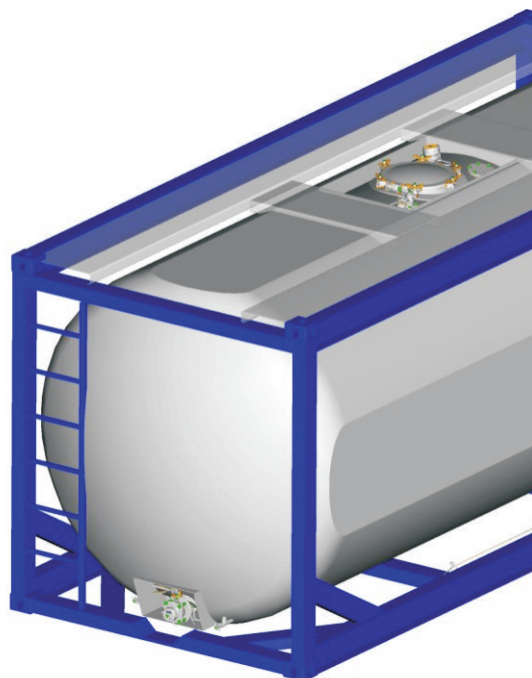




CORE
SPECIFICATION

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4 Bar
ISO
Tank
Container

REV03_05.03.08



MANLID EQUIPMENT //

- » 300MM ULTRA LOW PROFILE PENDLE INSPECTION HATCH ASSEMBLY
- » 500MM ULTRA LOW PROFILE PENDLE MANLID ASSEMBLY

SAFETY EQUIPMENT //

- » 2½" BSP SUPER MAXI RELIEF VALVE
- » 80MM SLOTTED FLANGED SUPER MAXI RELIEF VALVE

AIRLINE EQUIPMENT //

- » 1½" BLACKO AIRLINE BALL VALVE
- » 2" BSP AIRLINE BUTTERFLY VALVE
- » 2" FLANGED AIRLINE BUTTERFLY VALVE

DISCHARGE VALVES //

- » 3" 45° CLEANFLOW FOOTVALVE
- » 3" 45° MKIII HIGHLIFT FOOTVALVE
- » 3" UNIFLOW BOTTOM DISCHARGE ASSEMBLY
- » 3" UNIVALVE BOTTOM DISCHARGE ASSEMBLY
- » 3" CLAMPED WIDDOP BUTTERFLY VALVE

TOP DISCHARGE PROVISION //

- » 3" FLANGED WIDDOP BUTTERFLY VALVE

ANCILLARIES //

- » BLANK CAPS
- » BURSTING DISCS
- » FUSIBLE LINK
- » GAUGES, DOCUMENT HOLDERS, GAUZES

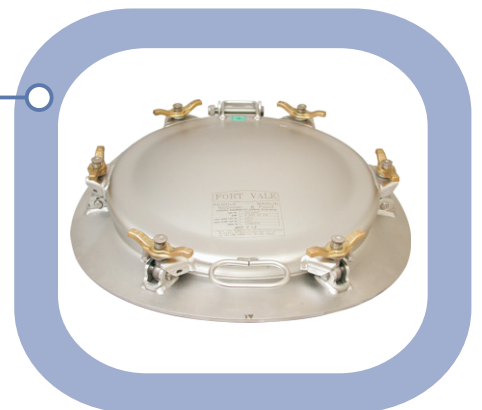
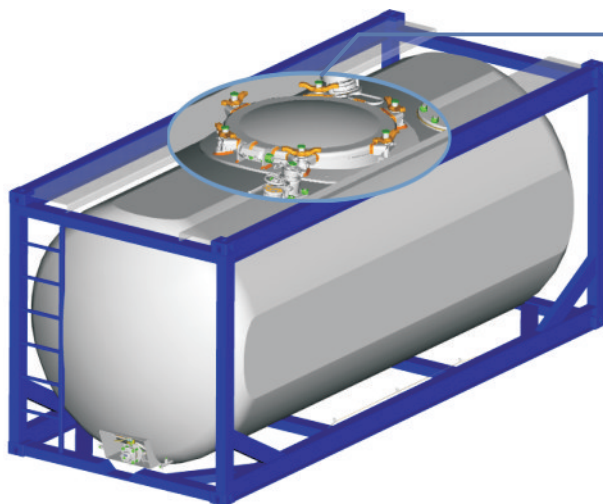
AFTER SALES //

- » REPAIR & MAINTENANCE



MANLID
EQUIPMENT

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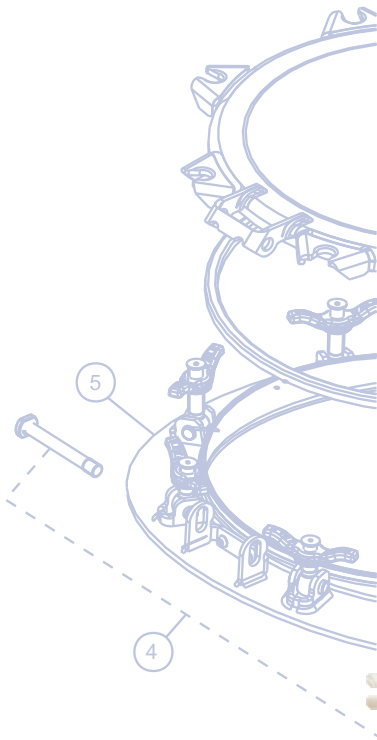


MANLID EQUIPMENT



The **500mm Pendle manlid assembly** is a 4 bar MAWP unit available in 6 or 8 point fastening. The cover is a double skin construction which offers excellent thermal insulation. The assembly has no internal welds as the cover and the neckring with integral compensating ring are each made from a one piece pressed item, reducing corrosion risk and optimizing cleanliness.

Swingbolts are available with naval brass or stainless steel handnuts. All eyebolts are thread rolled and handnuts are fitted with a thrust washer (patented) as standard. Wide range of seals available to suit, including the **Super Tanktyt** recommended for corrosive and toxic products.



Options

Pads and sockets can be welded to the manlid cover to accommodate relief valves, fill branches, sight glasses, breather vents or loading and venting valves.

A safebolt can be fitted to one of the points. This item forces the lid to vent before it can be fully opened thus avoiding any risk of injury.

The manlid cover can be supplied with insulating rockwool between the two skins to reduce heat loss.

A range of 300mm cleaning hatches is also available with the same options.

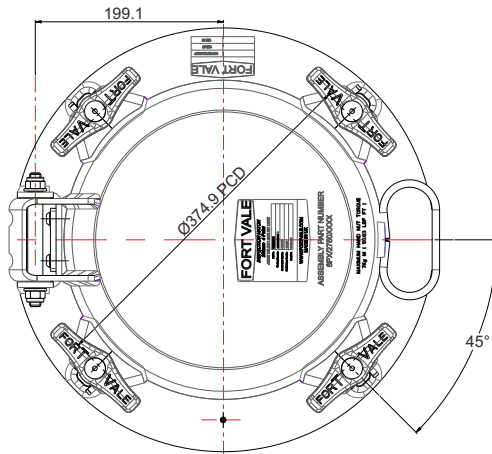
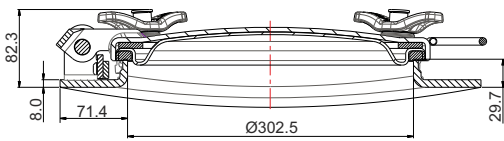


300mm Ultra Low Profile Inspection Hatch Assembly - 4 point fastening double skin cover. 8mm thick pressed neck/compensating ring profiled to suit tank radius range from 850 to 1220mm. Contact parts manufactured in 316 stainless steel. Stainless steel swingbolts with naval brass handnuts. Seal supplied separately.

Options - Stainless steel swingbolts with either stainless steel handnuts or low profile stainless steel/brass composite handnuts.

Fitting Details

Example shown : 8PB/2750XXXP



Specification

Weight	19.8 Kg *See Note
Design Pressure (MAWP)	4 Bar (58 PSI)
Test Pressure	6 Bar (87 PSI)
Design Temperature	-40°C to 200°C (-40°F to 392°F)

*NB Above data varies according to specification

Manlid cover 703/0600P approved to BS EN14025

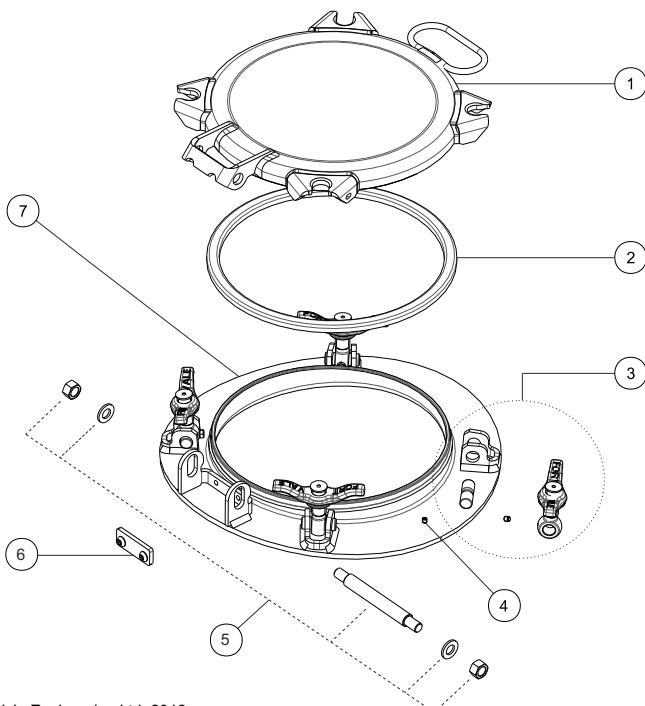
Range

Part No.	Description
8PB/2750XXXP	Fitted with naval brass handnuts
8PB/2750XXXS	Fitted with stainless steel handnuts

XXX in part number above denotes the radius range:-

- 087 = 850 mm to 900 mm
- 092 = 900 mm to 950 mm
- 097 = 950 mm to 1005 mm
- 104 = 1005 mm to 1075 mm
- 111 = 1075 mm to 1145 mm
- 118 = 1145 mm to 1220 mm

Parts drawing



Item	Description	Part No.
1	Cover	703/0600P
2	Seal	See DS/MAN028
3	Swingbolt assembly (4)	496/X260
4	Grubscrew	5111-009
5	Hinge pin assembly	600/1060
6	Hinge kit – 135° fixed	135B
7	Neck/compensating ring *See note	63P/2750XXXP

*NB Part number varies according to specification

X in swingbolt part number denotes handnut material :
1 = naval brass
5 = stainless steel
E = low profile stainless steel/brass composite

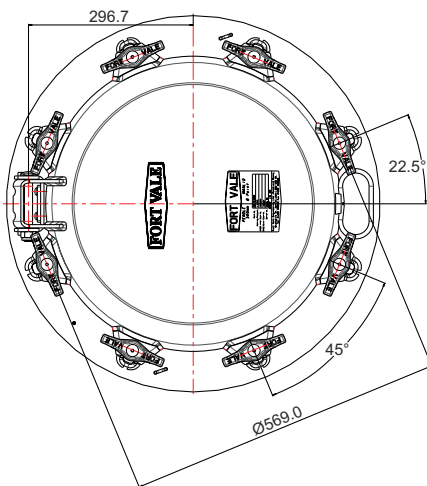
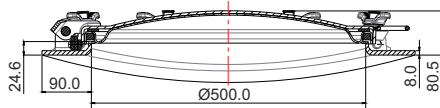


500mm Ultra Low Profile Manlid Assembly - 8 point fastening. 8mm thick pressed neck/compensating ring profiled to suit tank radius. Contact parts manufactured in 316 stainless steel. Stainless steel swingbolts with naval brass handnuts. Seal supplied separately.

Options - 3 Bar 6 point version and 4 Bar 8 point version. Tank radius range from 850mm to 1300mm. Stainless steel swingbolts with either stainless steel handnuts or low profile stainless steel/brass composite handnuts. Cover hinge stop plate may be fitted to adjust opening angle.

Fitting Details

Example shown : E4C/85XX025B



Specification

Weight	40 Kg
Design Pressure (MAWP)	4 Bar (58 PSI)
Test Pressure	6 Bar (87 PSI)
Design Temperature	-40°C to 200°C -40°F to 392°F

NB Above data varies according to specification

Manlid covers 74E/0500 (4 Bar) & 73E/0500 (3 Bar) are approved to BS EN14025.

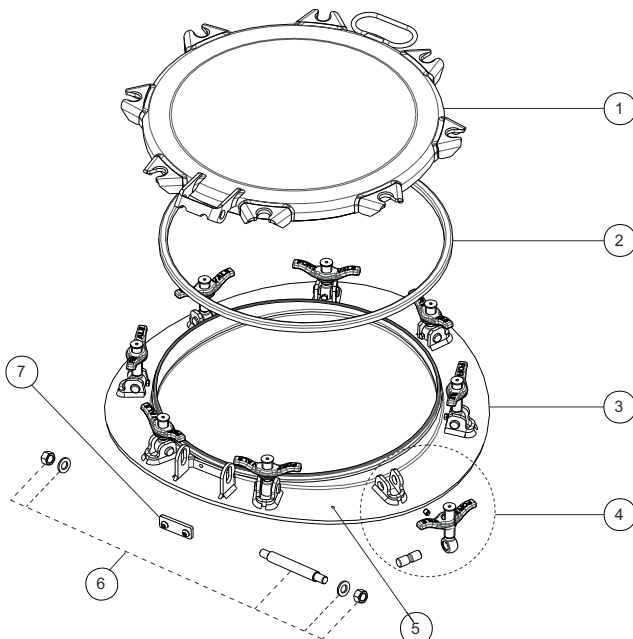
Range

Part Number	Points	MAWP
E4C/85XX025B	8	4 Bar
E3C/65XX025B	6	3 Bar

XX in part number above denotes the radius range:-

- 87** = 850 mm to 900 mm
- 92** = 900 mm to 950 mm
- 97** = 950 mm to 1005 mm
- 04** = 1005 mm to 1075 mm
- 11** = 1075 mm to 1145 mm
- 18** = 1145 mm to 1220 mm
- 20** = 1220 mm to 1300 mm

Parts drawing



Item	Description	Part No.
1	Cover	74E/0500
2	Seal (sold separately)	See DS/MAN028
3	Neck/compensating ring	6EP/7403XXXXP
4	Long swingbolt assembly (4)	496/XXXX see Note
	Short swingbolt assembly (4)	496/X240 see Note
5	Grubscrew	5111-009
6	Hinge pin assembly	600/1060
7	Hinge kit – 135° fixed	135B

Note
496/X in swingbolt part number denotes handnut material

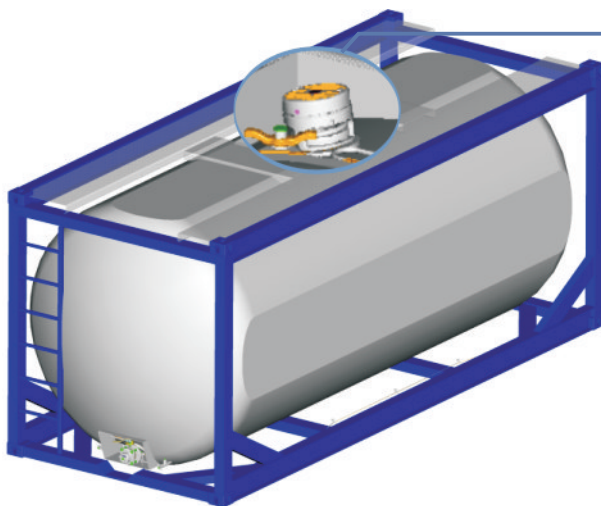
- 1** = naval brass
- 5** = stainless steel
- E** = low profile stainless steel/brass composite

496/XXXX - long swingbolt length depends upon tank radius.



SAFETY EQUIPMENT

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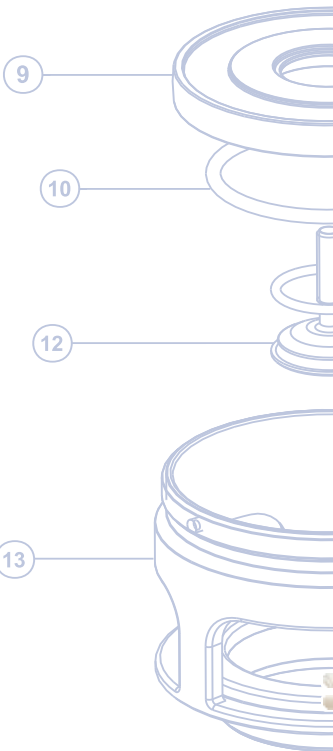
SAFETY EQUIPMENT



The **Super Maxi Highflow MK III** safety relief valve is the result of 20 years of development.

Our 4 bar tank model offers a flow capacity in excess of 16,000 m³/h.

If the tank is capable of withstanding a 0.42 bar relative vacuum, a pressure only valve can be used. In this case, there is no requirement to fit a flameproof gauze.



Options

Pressure and vacuum relief valve.

Flameproof Gauze (compulsory with vacuum relief devices).

65mm and 80mm bursting disc adaptor flanges and co-ordinated weld-in pads.

Stainless steel pressure gauges.

65mm and 80mm stainless steel bursting discs.

80 mm Flanged Super Maxi Highflow relief valves. These valves have a greater flow capacity and can accommodate a bursting disc and telltale pressure gauge without the requirement of an adaptor flange.

80 mm Flanged Hyperflow relief valves. Fitted with special springs, they offer an even greater flow than the standard valves.



2½" BSP Super Maxi Emergency Relief Valve - 2½" BSP male connection with 65mm nominal bore. Suitable for a pressure range of between 2 - 75 PSI (0.14 - 5.17 Bar) and a vacuum range of between 0 - 26" Hg (0 - 0.88 Bar). Contact parts manufactured in 316 stainless steel. Fitted with Fortyt seals as standard. Complete with rubber/PTFE tank seal.

Options - pressure only version. Flanged connections available. Range of high pressure extended body valves. Manual vent button option. A range of alternative seal materials is available.

Specification

Weight 2.97 Kg
Design Temperature Range -55°C to 200°C *Note
(-67°F to 392°F)

*Note : Varies according to seal material

Design approval by Lloyds Register of Shipping.

Test certificates supplied as standard. Please see separate data sheets for details on flow rates.

Tests may be witnessed and valves individually stamped by an independent inspectorate by arrangement.

Range

Part No.	Common Valve Configurations
010/13212	31.8 PSI (2.19 Bar) & 6.2"Hg (-0.21 Bar)
010/14812	48 PSI (3.31 Bar) & 6.2"Hg (-0.21 Bar)
010/15412	53.8 PSI (3.71 Bar) & 6.2"Hg (-0.21 Bar)
010/16312	63.8 PSI (4.40 Bar) & 6.2"Hg (-0.21 Bar)

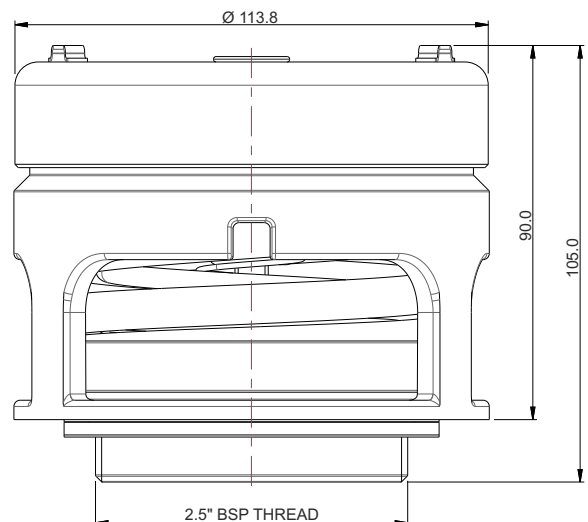
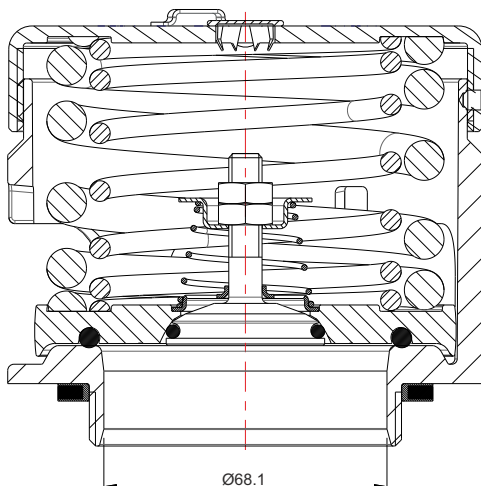
NB Above part number varies according to valve pressure and vacuum settings. These are standard settings.

Associated Parts

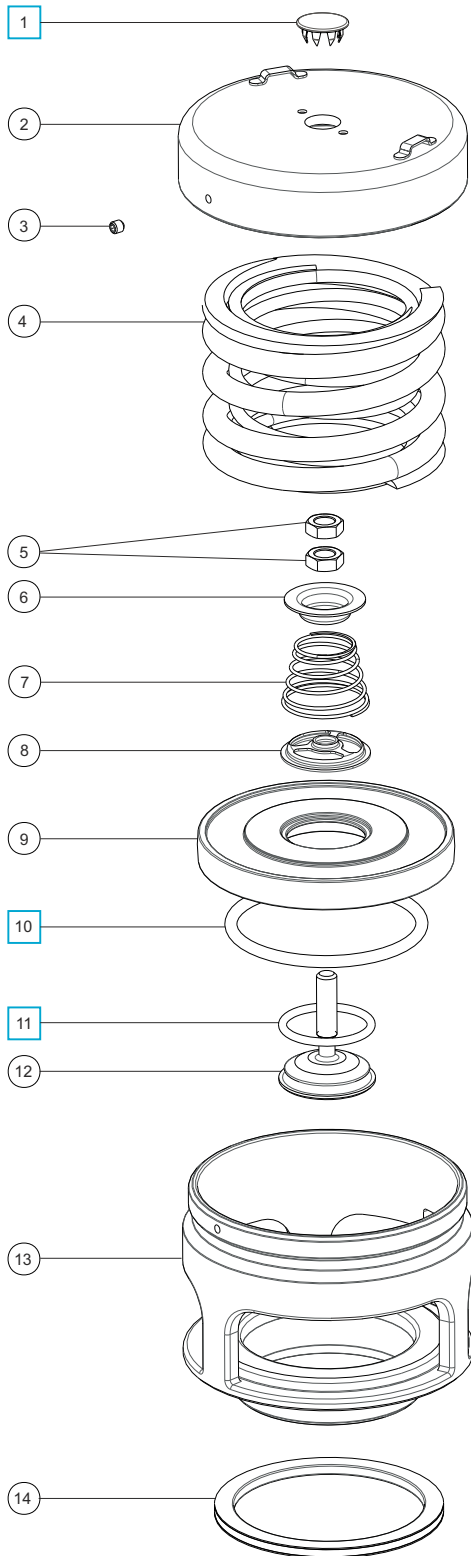
Part No.	Associated Parts
600/1000	2½" BSP weld-in socket
176/7020	Adaptor assembly for bursting disc
176/3150	Tank weld-in pad
176/7001	Adaptor flange for bursting disc
862/XXXX	65mm bursting disc – full range available
5005-398	CNAF/PTFE gasket to suit weld-in pad/adaptor flange
921/07BBSP	0-100 PSI pressure gauge, bottom entry, brass internal parts
921/07RBSP	0-100 PSI pressure gauge, rear entry, brass internal parts
920/07BBSP	0-100 PSI pressure gauge, bottom entry, stainless steel internal parts
176/2900	Removeable flameproof gauze
176/6000	Gauzed cowl

Fitting Details

Example shown : 010/1XXXX



Parts drawing



Item	Description	Part No.
1	Stainless steel plug	10978 <input type="checkbox"/>
2	Cap	1760/0005
3	Setting locking grub screw	5121-001
4	Pressure springs *See Table 1	6104-XXXX
5	M8 half nut (2)	5112-004
6	Vacuum spring pad	1860/0005
7	Vacuum spring *See Table 2	7104-XXX
8	Spring pad	10986/3
9	Pressure plate *See Note	1860/005X
10	Fortyt pressure O ring *See Note	5005-101 <input type="checkbox"/>
11	Fortyt vacuum O ring *See Note	5005-108H <input type="checkbox"/>
12	Vacuum poppet	10983V/3
13	Body	1860/0100
14	Rubber/PTFE envelope seal	5005-046

Note : Part number varies according to valve specification.

SEAL KIT

Part number **000/1PVSK** contains all parts marked

TABLE 1

Common Pressure Settings	Pressure Spring Part No.
31.8 PSI (2.19 Bar)	6104-0252
48 PSI (3.31 Bar)	6104-0112 & 6104-0252
53.8 PSI (3.71 Bar)	6104-0422 (Pair)
63.8 PSI (4.40 Bar)	6104-0485 (Pair)

Pressure springs are available from 2 PSI (0.14 Bar) up to 75 PSI (5.17 Bar)

TABLE 2

Common Vacuum Setting	Vacuum Spring Part No.
6.2"Hg (0.21 Bar)	7104-012

Vacuum springs are available from 0.5"Hg (0.02 Bar) to 26"Hg (0.88 Bar)

Visual inspection and service (where necessary) is recommended on a 6 monthly basis. A detailed step-by-step repair manual is available for our Super Maxi Relief Valves. Please contact our Sales team for further information.



80mm Super Maxi Relief Valve with slotted inlet flange - inlet flange with 4 slots to suit DIN65 PN10 / DIN80 PN6 / 3" ASA 150 / 3" BSTD drilling pattern with 80mm nominal bore. Suitable for a pressure range of between 3-75 PSI (0.21-5.17 Bar) and a vacuum range of between 0-24" Hg (0-0.81Bar). Contact parts manufactured in 316 stainless steel. Fitted with Fortyt seals as standard.

Options - pressure only version. 65mm nominal bore range. BSP screwed range. 80-65mm taper bore. High pressure extended body valves. Alternative seal materials are available, including high temperature option. Available with CE Marking.

Specification

Weight	6.7 Kg
Design Temperature Range	-55°C to 200°C (-67°F to 392°F)

Test certificates supplied as standard. Please see separate data sheets for details on flow rates.

Tests may be witnessed and valves individually stamped by an independent inspectorate by arrangement.

Range

Part No.	Description
013/1XXXX8SL	80mm NB with slotted inlet flange
013/1XXXX6SL	65mm NB with slotted inlet flange

NB Above part number varies according to valve pressure and vacuum settings.

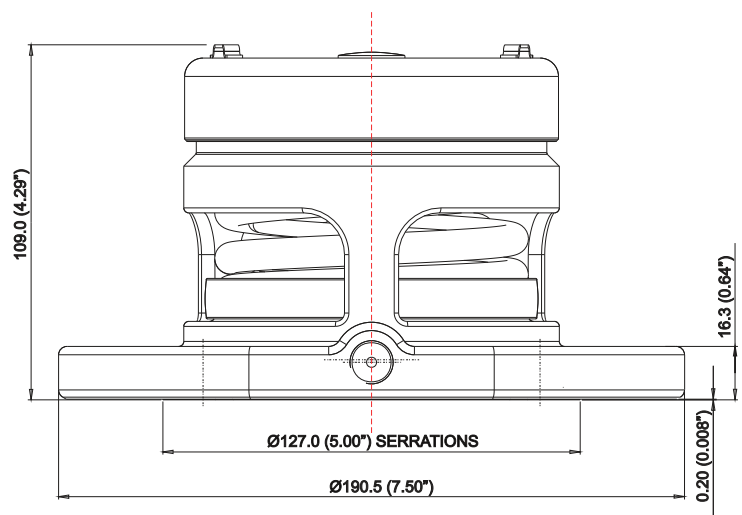
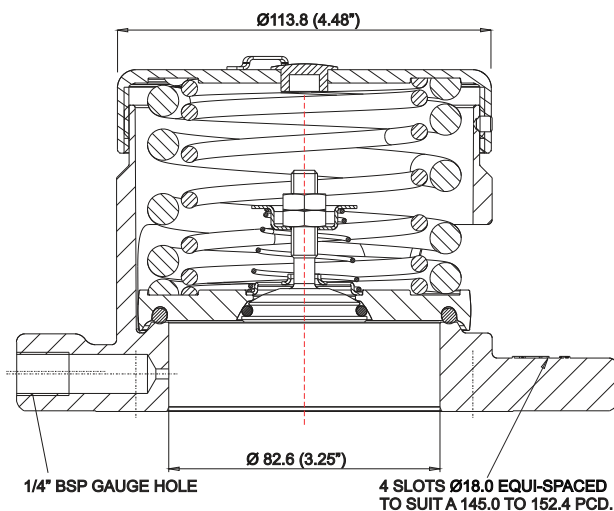
Standard settings are 31.8 PSI, 48 PSI, 53.8 PSI, 63.8 PSI and 6.2" Hg.

Associated Parts

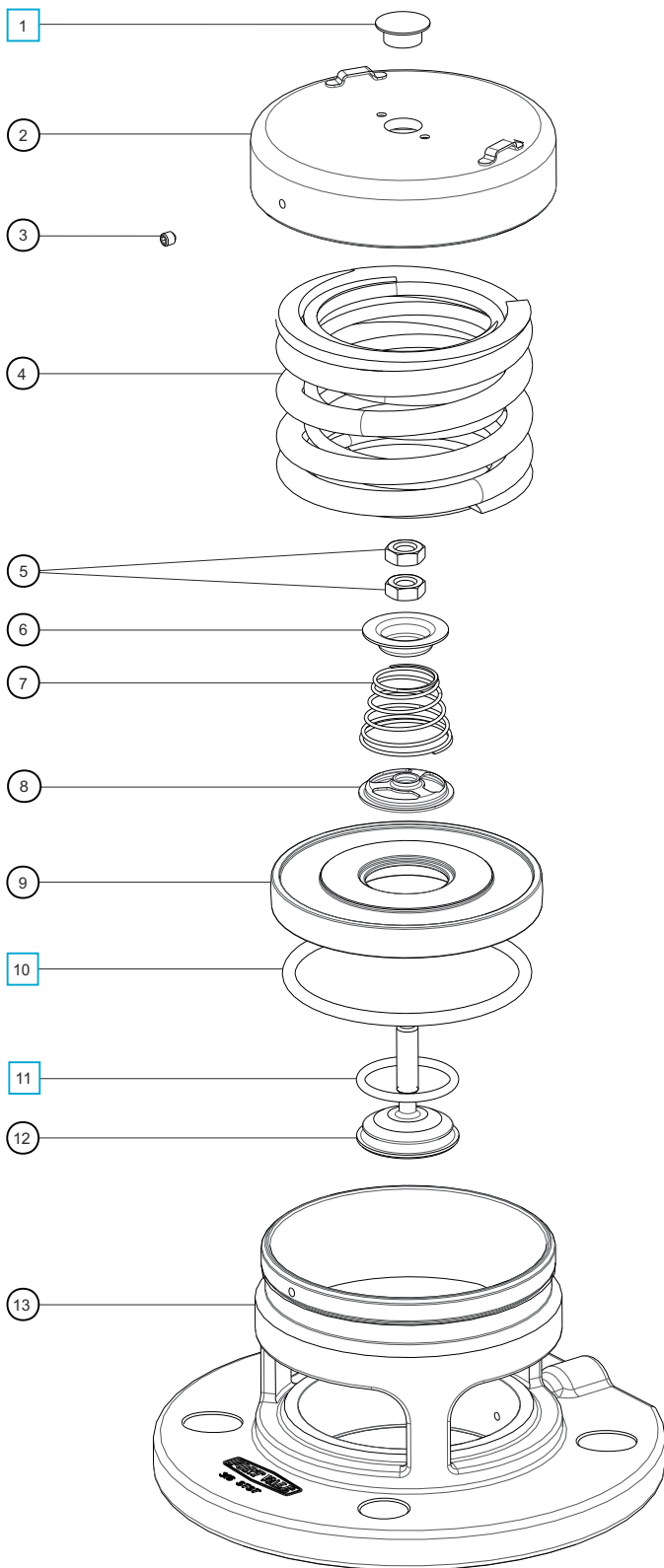
Part No.	Description
176/3250	Tank weld-in flange-DIN65 PN10/3"BSTD
176/3158	Tank weld-in flange - DIN80 PN6
176/3125	Tank weld-in flange - 3" ASA 150
311/3700	Stud kit (4 x M16)
5005-930	CNAF/PTFE slotted gasket
864/XXXX	80mm bursting disc
176/2900	Removable clamped gauge
921/07BBSP	0-100 PSI pressure gauge, bottom entry, brass internal parts
920/07BBSP	0-100 PSI pressure gauge, bottom entry, stainless steel internal parts

Fitting Details

Example shown : 013/1XXXX8SL



Fitting Details



Item	Description	Part No.
1	Stainless steel plug	10978 <input type="checkbox"/>
2	Cap <i>see below</i>	1760/000X
3	Setting locking grub screw	5121-001
4	Pressure spring pair <i>see below</i>	6104-XXXX
5	M8 lock nut (2)	5112-004
6	Vacuum spring pad	1860/0005
7	6" Hg vacuum spring	7104-012
8	Spring pad	10986/3
9	Pressure plate <i>see below</i>	1860/006X
10	Fortyt pressure O ring	5005-104 <input type="checkbox"/>
11	Fortyt vacuum O ring	5005-108H <input type="checkbox"/>
12	Vacuum poppet	10983V/3
13	Body assembly	1860/08SL

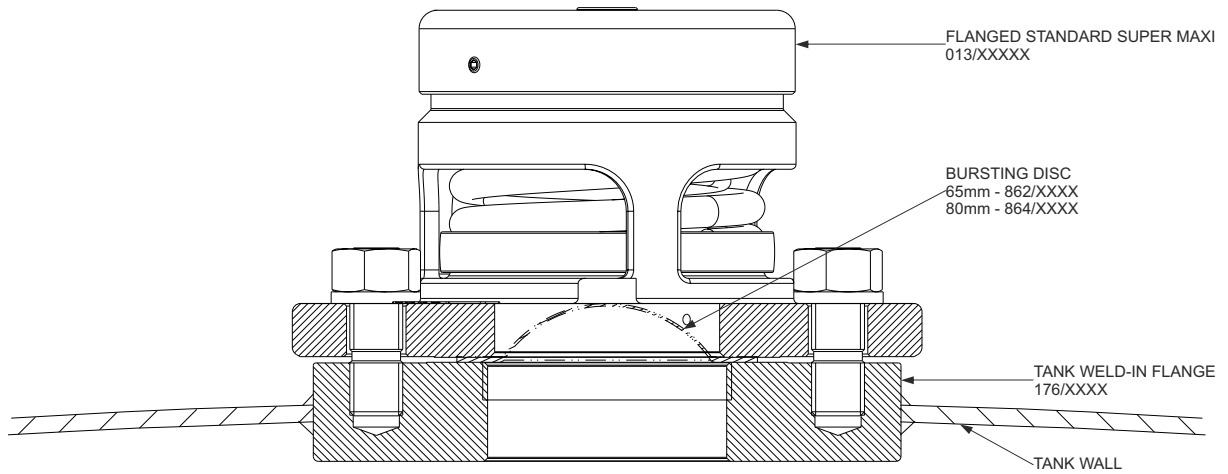
SEAL KIT

Part number **000/1PVSK80** contains all parts marked

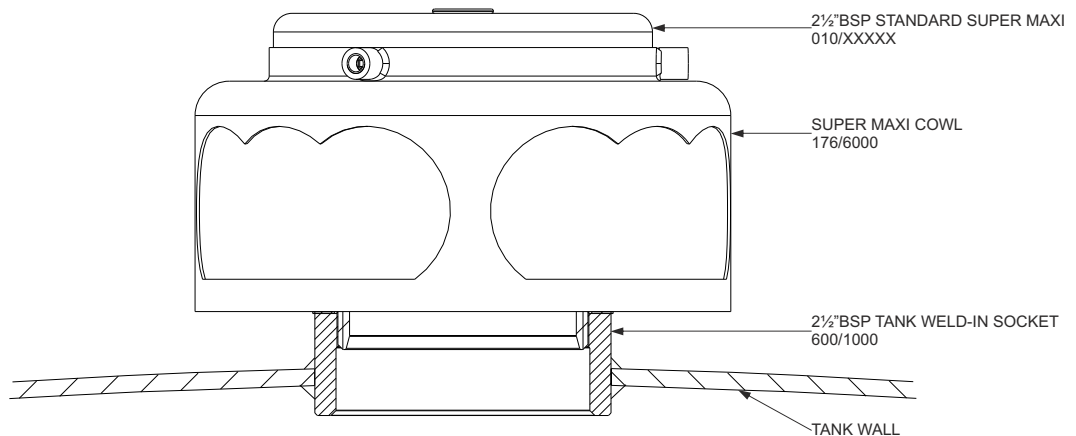
Pressure Setting	Pressure Springs	Top Cap	Pressure Plate
31.8 PSI	6104-0310	1760/0005	1860/0061
48 PSI	6104-0485	1760/0005	1860/0061
53.8 PSI	6104-0570	1760/0005	1860/0061
63.8 PSI	6104-0665	1760/0007	1860/0066

Visual inspection and service (where necessary) is recommended on a 6 monthly basis. A detailed step-by-step repair manual is now available for our Super Maxi Relief Valves. Please contact our Sales team for further information.

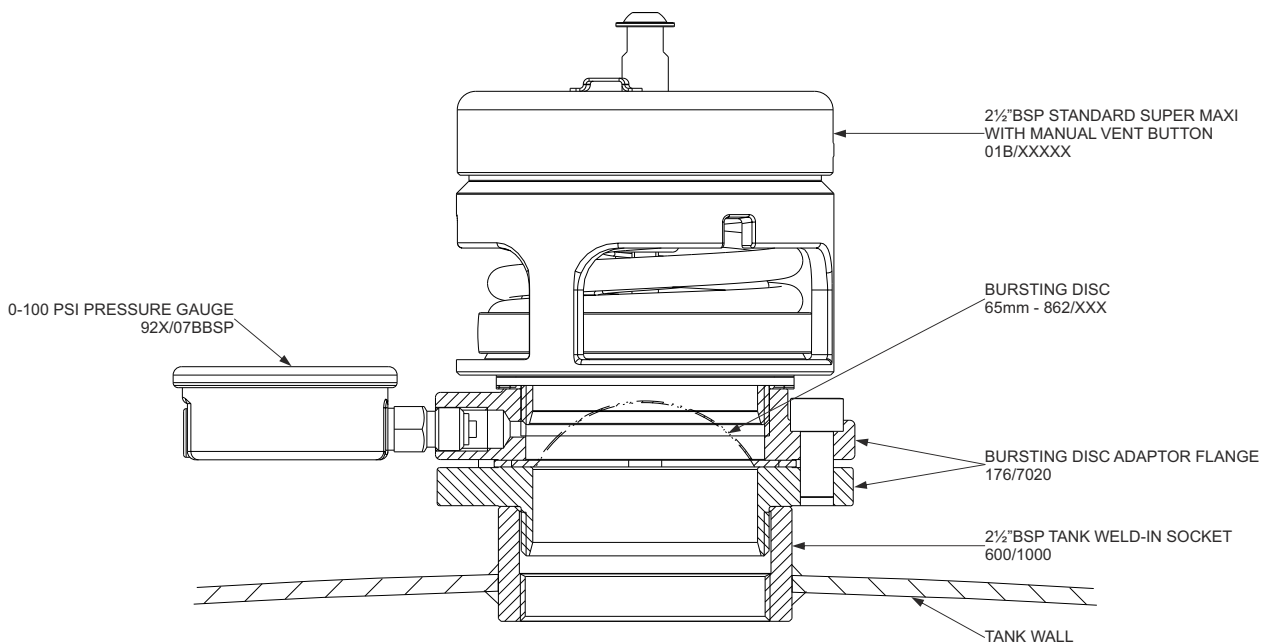
Flanged Super Maxi with bursting disc and tank weld-in flange



2½" BSP Super Maxi with weatherproof cowl and tank weld-in socket



2½" BSP Super Maxi with bursting disc, gauge, adaptor flange and socket

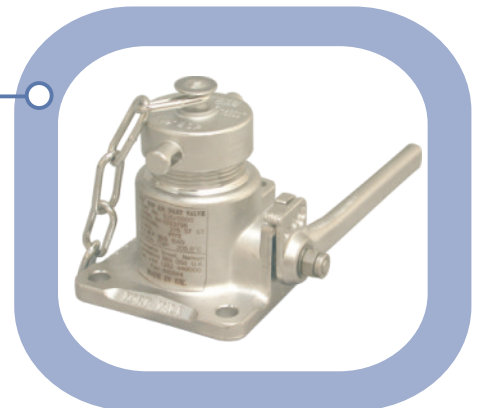
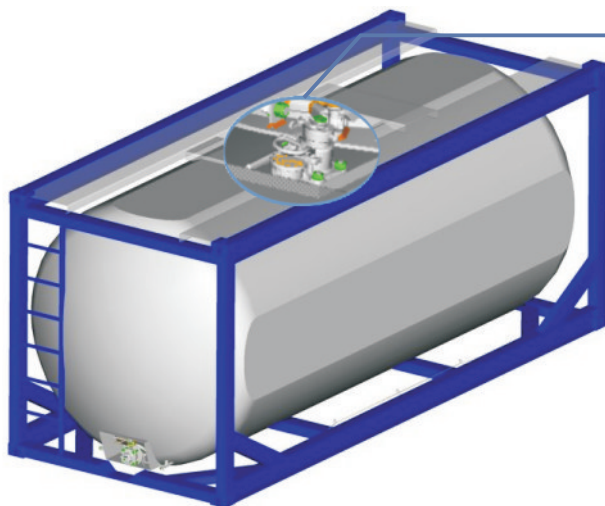




TM

AIRLINE EQUIPMENT

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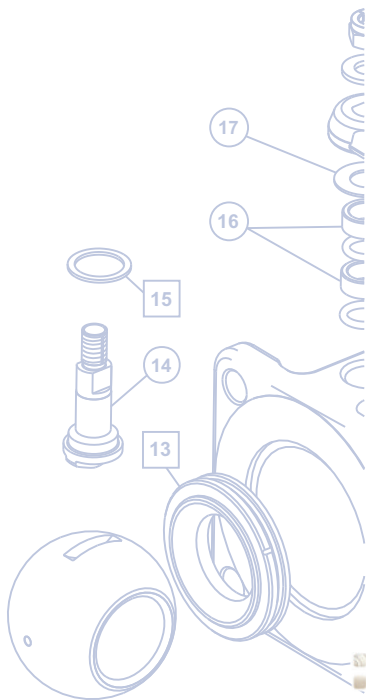


AIRLINE EQUIPMENT



The **1½" Blacko airline ball valve** is fitted with a solid full bore stainless steel ball floating between solid PTFE seals. The ball has a bleed hole to the tank side to ensure that there is no retention of product or build up of pressure inside the body.

The connection to a compressed airline, nitrogen blanketing system or vapour recovery line is a standard BSP thread. The blanking cap is stainless steel with a PTFE seal and is retained on the ball valve by a stainless steel chain. The handle operates the valve by a quarter turn operation.



Options

Tank pressure monitoring by pressure gauge with valve in open or closed position. A gauge guard is also available.

Gauze filter to valve inlet - a 200 micron stainless steel mesh to retain dust particles. The gauze filter may be changed in-situ.

Flanged valve with slotted connection flange allowing 1½" ASA, 1½" BST"D" and DIN 50 fitting.

Dual connection valve with 1½" BSP and 1½" NPT thread.

Pneumatic remote operation to avoid the operator having to climb on top of the tank.

50mm Nominal Bore butterfly valves are also available with the same options.

FORT VALE
TM



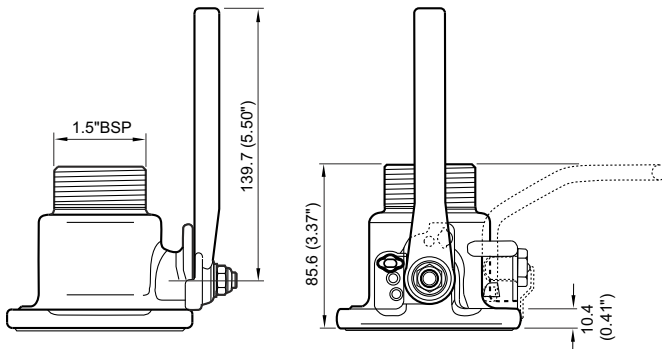
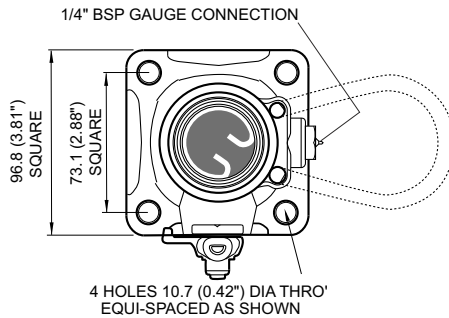
1½" Airline Ball Valve - 1½" BSP male inlet.

Complete with pressure gauge connection and TIR facility to handle. Contact parts manufactured in 316 stainless steel with PTFE seals.

Optional extras - gauge guard and/or gauze filter.

Fitting Details

Part Number : 530/0000



Specification

Weight	2.8 Kg
Design Pressure	MAWP 10 Bar (145 PSIG)
Test Pressure	21.4 Bar (310 PSIG)
Design Temperature	-55°C to 205°C (-67°F to 401°F)

Approved to BS EN14432.

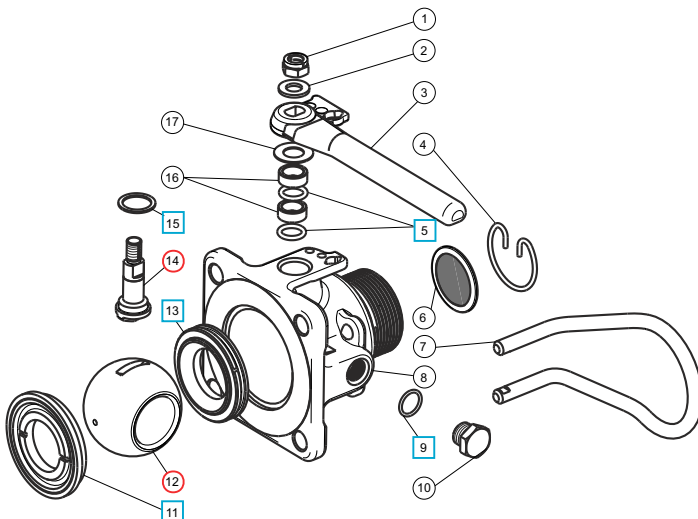
Range

Type	Gauze	Gauge Guard	Part No.
1½" BSPM inlet	Without	Without	530/0000
1½" BSPM inlet	With	Without	530/0000F
1½" BSPM inlet	With	With	530/0000FG
1½" BSPM inlet	Without	With	530/0000G

Associated Parts

Associated Parts	Part No.
Gauge	920/07BBSP
Gauge Adaptor	352/4004
1½" BSP Dust Cap	10300PS
Stud Kit	350/1300
Tank Pad	350/0025

Parts drawing



Item	Description	Part No.
1	Self-locking nut	5112-031
2	M8 washer	5113-005
3	Handle	531/0025
4	Snap ring (optional suffix 'F')	5120-017
5	PTFE O ring (2)	5005-008 <input type="checkbox"/> <input type="radio"/>
6	Gauze filter (optional suffix 'F')	353/0010
7	Gauge guard (optional suffix 'G')	530/0040
8	Valve body	530/0100
9	PTFE O ring	5005-048 <input type="checkbox"/> <input type="radio"/>
10	¼" BSP plug	5128-005
11	Rear ball seal	5005-007 <input type="checkbox"/> <input type="radio"/>
12	Ball	350/0002 <input type="radio"/>
13	Front ball seal	5005-006 <input type="checkbox"/> <input type="radio"/>
14	Spindle	530/0001 <input type="radio"/>
15	PTFE washer	5003-002 <input type="checkbox"/> <input type="radio"/>
16	Stuffing boss (2)	530/0003
17	Disc spring	5113-036

Repair Kits: Items marked included in Repair Kit - 530/00RK (Item 6x2)

Seal Kits: Items marked included in Seal Kit - 530/00SK

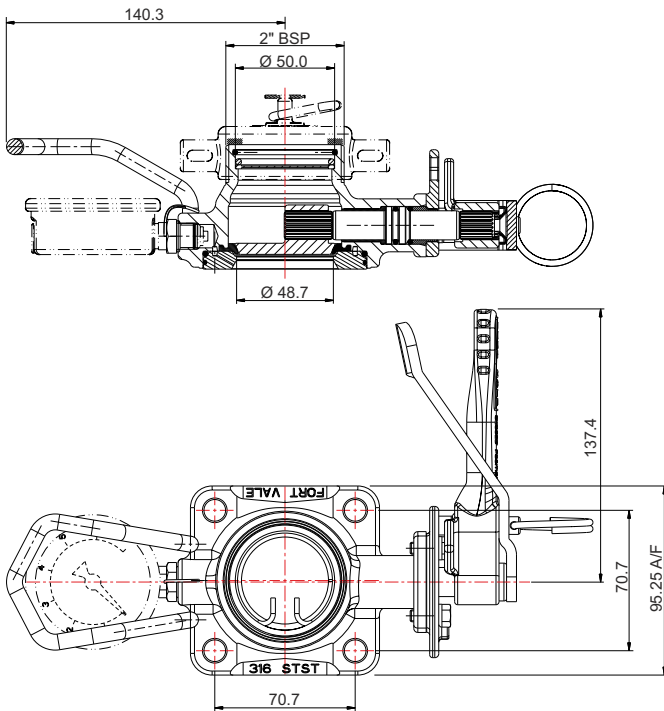


2" Airline Butterfly Valve - 2" BSP male inlet. Complete with pressure gauge connection, gauge guard and TIR facility to handle. Contact parts manufactured in 316 stainless steel with PTFE seals.

Optional extras - gauze filter or sintered filters.

Fitting Details

Part Number : 535/0200



Specification

Weight	3 Kg *See Note
Design Pressure (MAWP)	6.9 Bar (100 PSIG)
Test Pressure	12.5 Bar (181 PSIG)
Design Temperature	190°C (374°F)

Note : Weight varies according to valve specification

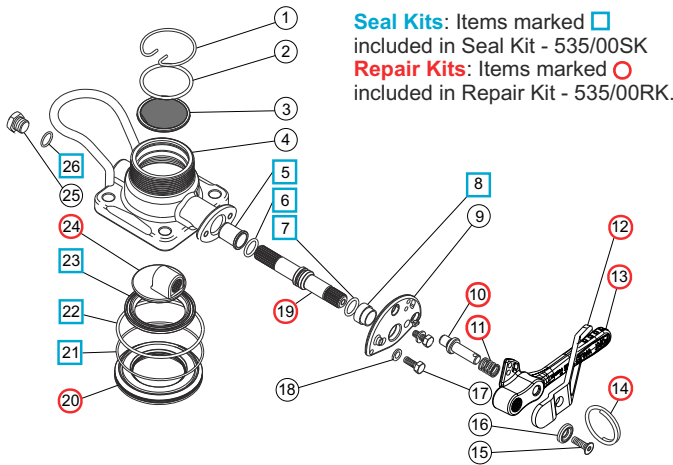
Range

Size	Inlet	Gauze	Part No.
2"	2" BSP thread	Without	535/0200
2"	2" BSP thread	Gauze Filter	535/0200F
2"	2" BSP thread	Sintered Discs	535/0200S

Associated Parts

Associated Parts	Part No.
Dust Cap	10301PS
Gauge	920/07BBSP
Gauge Adaptor	352/4004
Stud Kit	350/1300
Gasket	5005-500
Tank Pad	355/1000

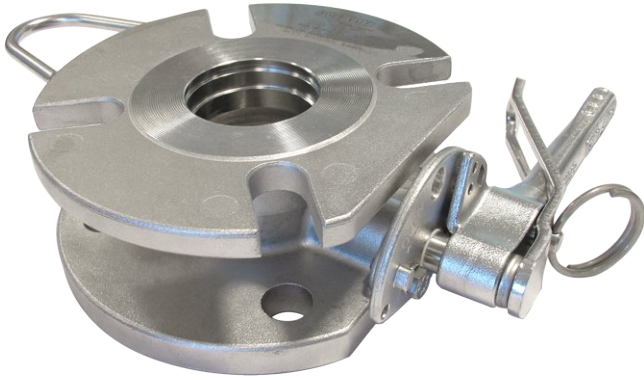
Parts drawing



Seal Kits: Items marked □ included in Seal Kit - 535/00SK
Repair Kits: Items marked ○ included in Repair Kit - 535/00RK.

Item	Description	Part No.
1	Snap ring (Optional F,S)	5120-005
2	Spacer (Optional F,S)	355/0295
3	Gauze filter (Optional F)	355/0010
4	Body	535/0215
5	PTFE bearing	535/0009 □ ○

Item	Description	Part No.
6	Viton O ring	20361 □ ○
7	PTFE O ring	20363 □ ○
8	Stuffing bush	368/0301 □ ○
9	Stuffing clamp	535/0204
10	Location pin	368/0010 ○
11	Location pin spring	368/0012 ○
12	Operating lever	368/9838 ○
13	Handle	535/0050 ○
14	Split ring	368/0011 ○
15	M6 x 30 screw	5111-030
16	Retaining washer	20370
17	M6 x 16mm hex screw (2)	5111-022
18	Spring washer (2)	5113-008
19	Spindle	535/0203 ○
20	Seal plate	535/0201 ○
21	O ring	5005-664 □ ○
22	PTFE O ring	5005-659 □ ○
23	Seal	355/0202 □ ○
24	Closure plate	535/0225 ○
25	1/4" BSP plug	5128-005
26	PTFE O ring	5005-048 □ ○



2" Flanged Airline Butterfly Valve - inlet flange slotted to suit 2" BSTD minimum. 4 hole tank connection to DIN50 PN10. Complete with 1/4" BSP pressure gauge connection, gauge guard and TIR facility to handle. Contact parts manufactured in 316 stainless steel with PTFE seals.

Optional extras - gauze filter or sintered filter. TIR wire welded to gauge inlet plug.

Specification

Weight	5.9 Kg
Design Pressure (MAWP)	6.9 Bar (100 PSIG)
Test Pressure	12.5 Bar (181 PSIG)
Design Temperature Range	-40°C to 190°C (-40°F to 374°F)

Approved to BS EN14432

Recommended bolt torque 50 Nm (36.9 Lb/ft)

Range

Description	Part No.
Standard valve – no gauze/filter	535/3000
Valve with gauze filter	535/3000F
Valve with sintered filter	535/3000S
Valve with TIR wire to gauge inlet plug	535/3000W

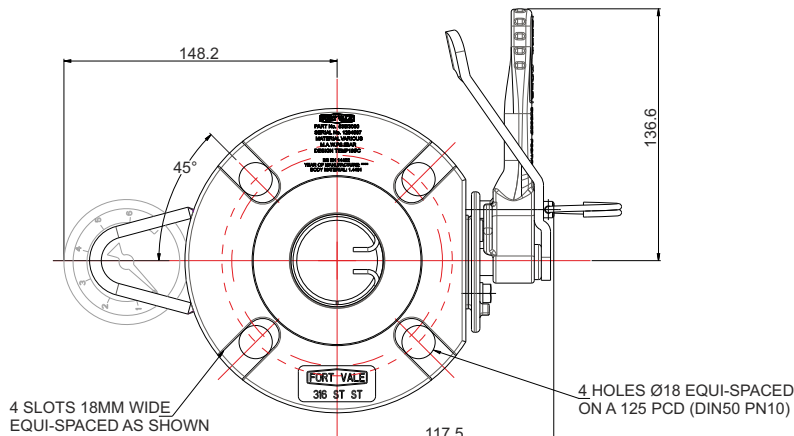
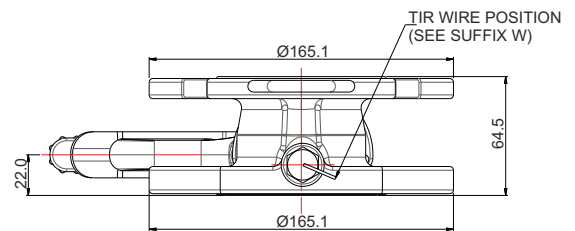
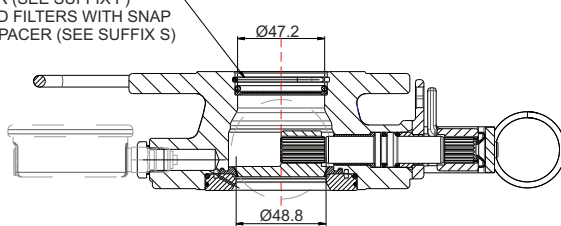
Associated Parts

Associated Parts	Part No.
Blind Flange	370/4239CM
Inlet Gasket	5005-360
Bolting Kit	311/3000
Pressure gauge	920/07BBSP
Gauge Adaptor	352/4004
Stud Kit	311/3700
Outlet Gasket	5005-361
Tank Pad	355/3100

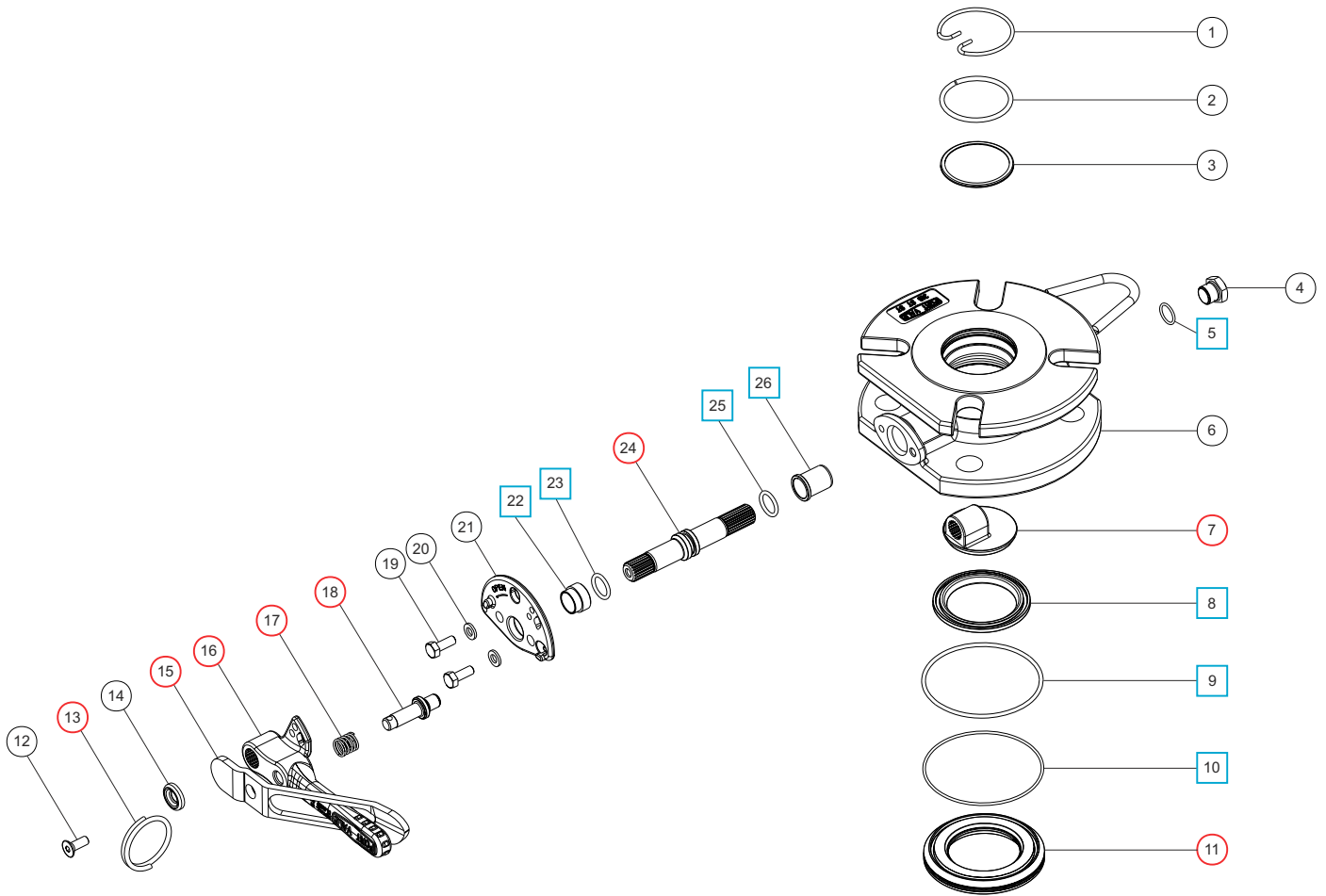
Fitting Details

Example shown : 535/3000 fitted with pressure gauge.

GAUZE FILTER WITH SNAP RING & SPACER (SEE SUFFIX F)
SINTERED FILTERS WITH SNAP RING & SPACER (SEE SUFFIX S)



Parts drawing



Item	Description	Part No.
1	Snap ring (Optional F,S)	5120-005
2	Spacer (Optional F, S)	355/0295
3	Gauze filter (Optional F) Sintered filter (2) (Optional S)	355/0010 355/0206
4	1/4" BSP plug	5128-005
5	PTFE O ring	5005-048 □ ○
6	Body	535/3015
7	Closure plate	535/0225 ○
8	Seal	355/0202 □ ○
9	PTFE O ring	5005-659 □ ○
10	O ring	5005-664 □ ○
11	Seal plate	535/0201 ○
12	M6 screw	5111-030
13	Split ring	368/0011 ○
14	Retaining washer	20370
15	Operating lever	368/9838 ○
16	Handle	535/0050 ○
17	Location pin spring	368/0012 ○
18	Location pin	368/0010 ○
19	M6 x 16mm hex bolt (2)	5111-022
20	Spring washer (2)	5113-008
21	Stuffing clamp	535/0204C
22	Stuffing bush	368/0301 □ ○
23	PTFE O ring	20363 □ ○
24	Spindle	535/0203 ○
25	Viton O ring	20361 □ ○
26	PTFE bearing	535/0009 □ ○

SEAL KIT

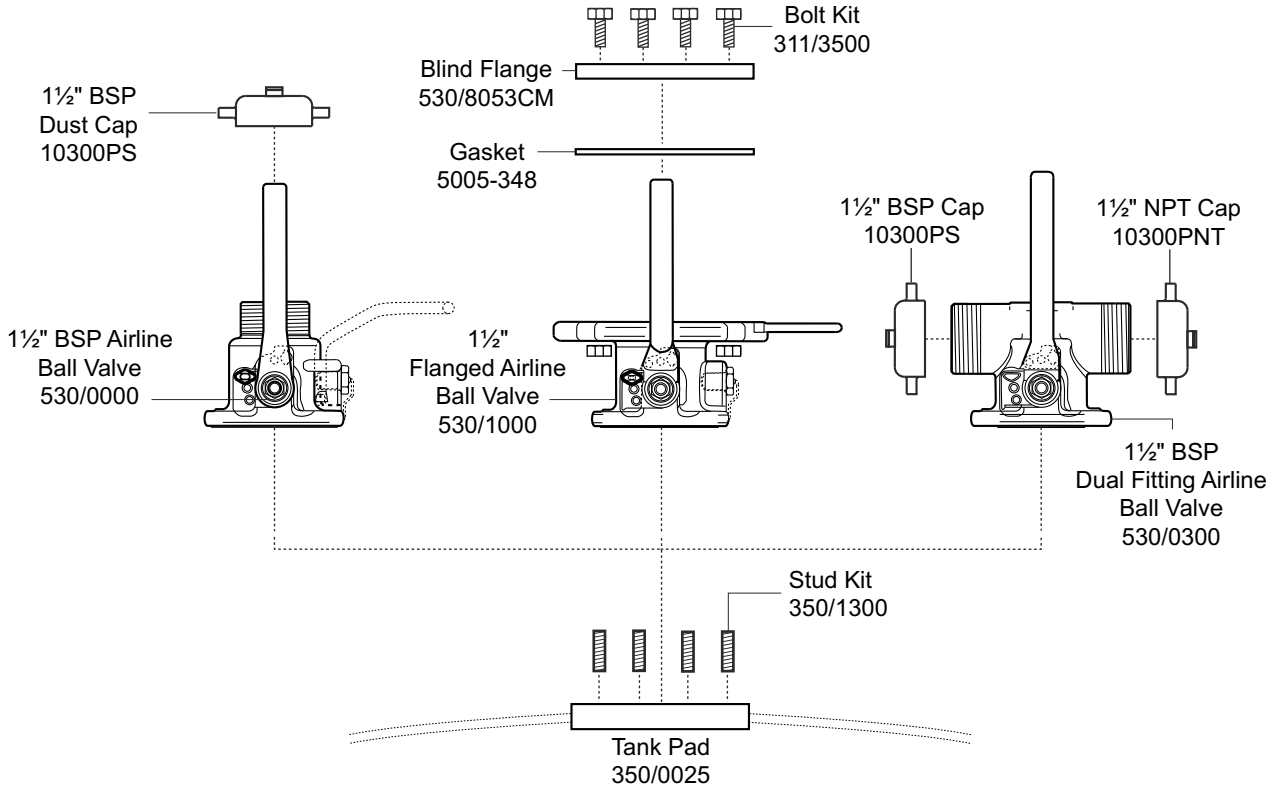
Part number 535/00SK contains all parts marked □

SEAL KIT

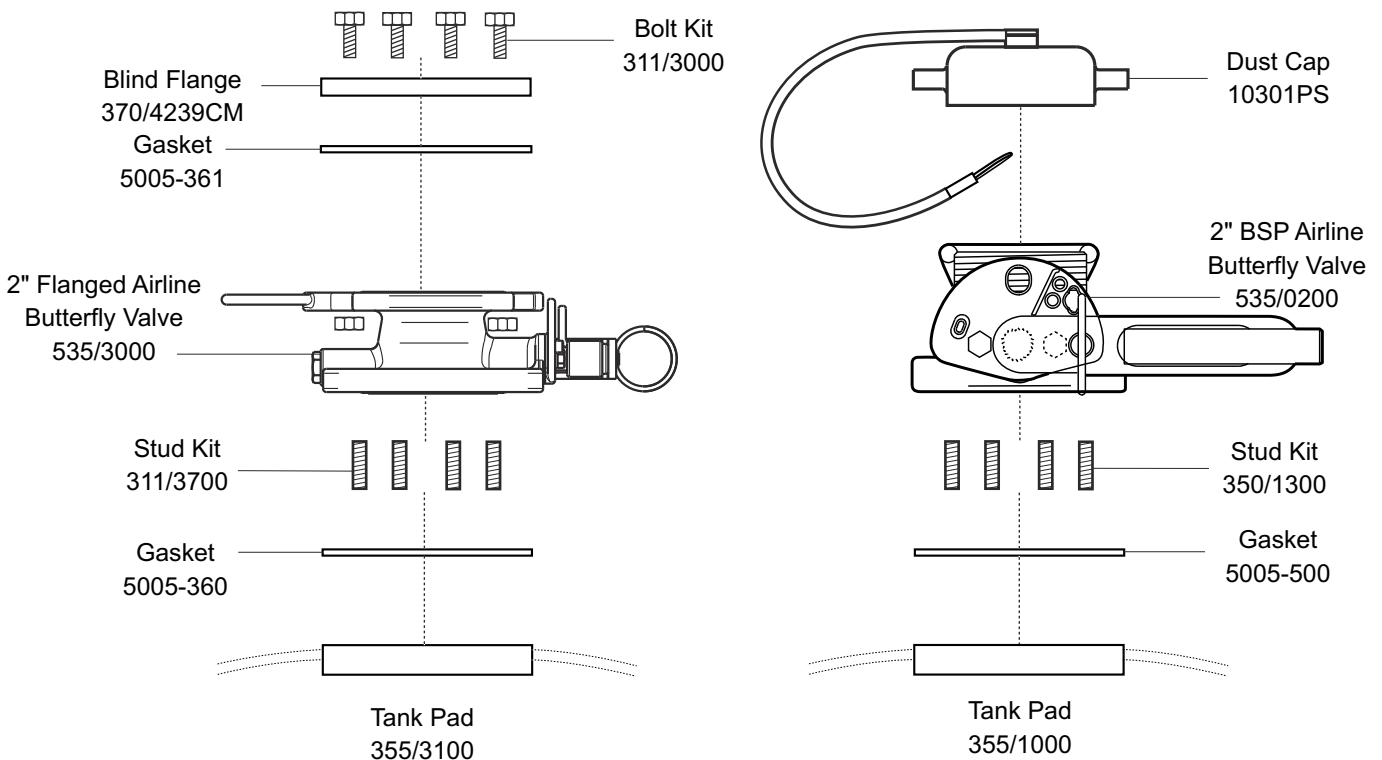
Part number 535/00RK contains all parts marked ○

Airline Valve Installation

1 1/2" Airline Ball Valves



2" Airline Butterfly Valves

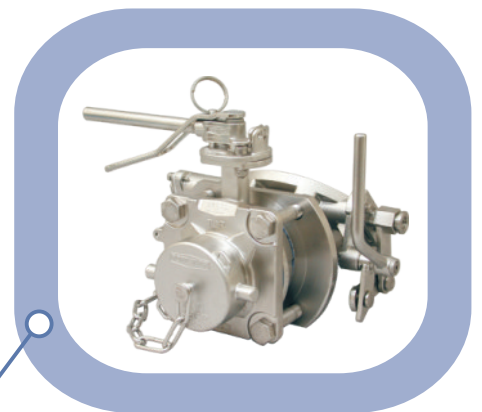
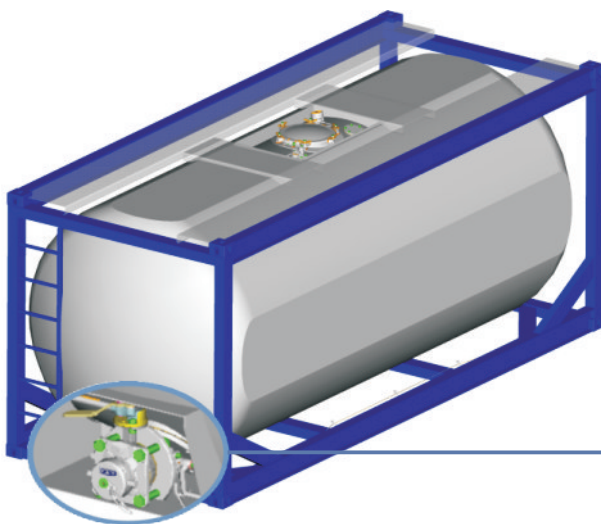
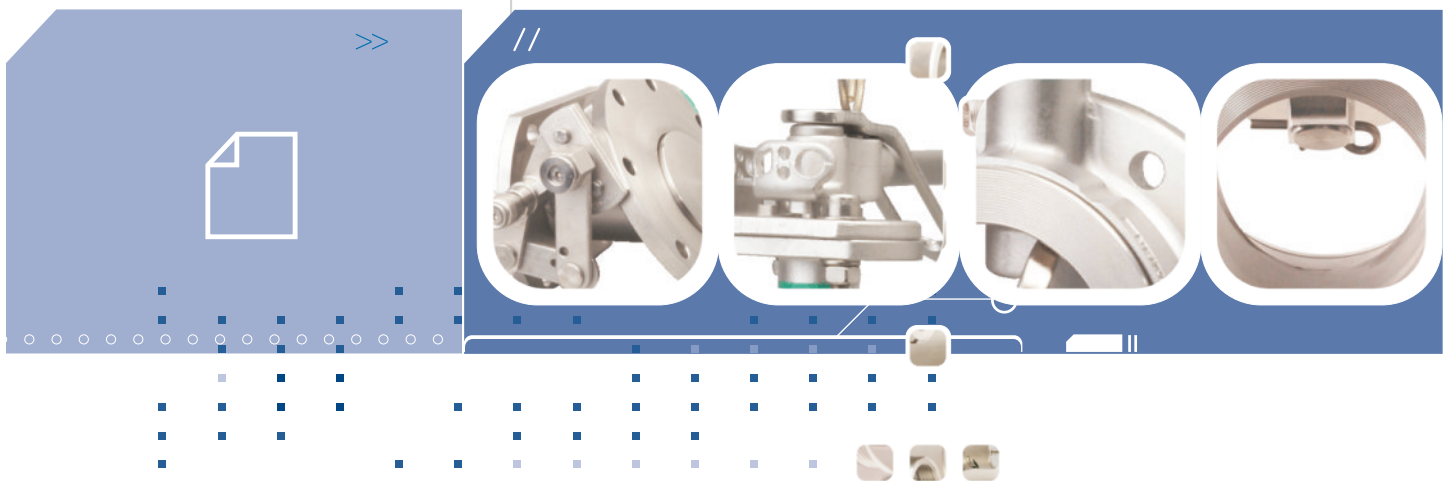




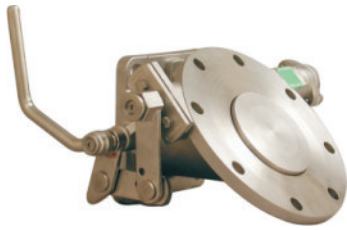
TM

DISCHARGE EQUIPMENT

//



DISCHARGE EQUIPMENT



Although the **3" Highlift footvalve** remains the cheaper internal emergency device, we have also included our **3" Cleanflow footvalve** as an alternative in this specification.

In the field, the Cleanflow proves more economical in the long term. This is because the valve design makes seal replacement and cleaning times quicker in addition to a much faster discharge time. You may therefore consider the small supplement worth spending.

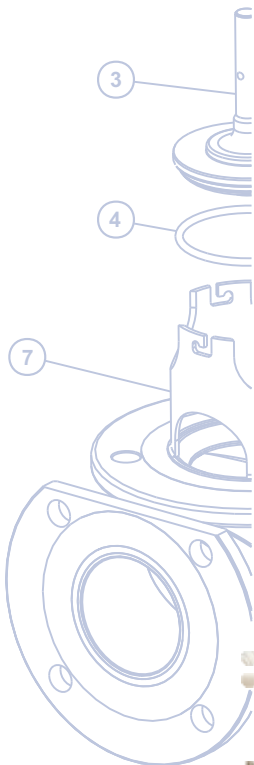
Options

In both cases, we can offer 30° and 45° bodies with the following options:

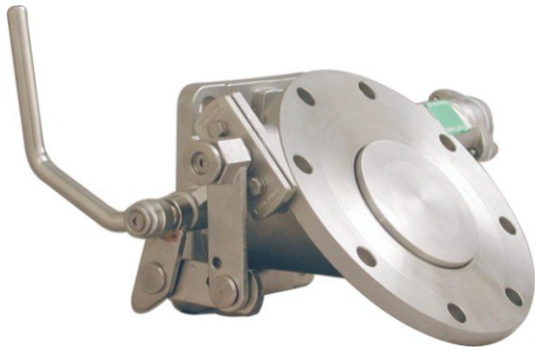
Steam heating tank pads and footvalves to speed the melting of solidified cargoes prior to discharge in the un-insulated area around the bottom outlet.

Solid or cable operated remote closure systems, with or without fusible element.

Replaceable seat valves. Please see attached sheet.



FORT VALE
TM



3" 45° Cleanflow Footvalve - inlet flange drilled 8 x 14mm holes equi-spaced on a 178mm PCD; outlet flange drilling as shown below. Contact parts manufactured in 316 stainless steel with Fortyt O ring to main poppet as standard.

Options - Other poppet seal materials available. Footvalve may be manufactured in other metals. A range of outlet flange configurations available. Conical poppet available for solidifying cargoes. Steam heated option. Available with integral Hastelloy seat area for corrosive cargoes. Full range of 30°, 90° and 180° Cleanflow footvalves. A range of bolting kits and outlet gaskets is available.

Specification

Weight	9.4 Kg *See Note
Design Pressure (MAWP)	4 Bar (58 PSI)
Test Pressure	6 Bar (87 PSI)
Design Temperature	-40°C to 200°C (-40°F to 392°F)

***Note** Weight and dimensions vary according to valve specification.

Comparison tests between the Cleanflow and the Highlift footvalves conclude that there is a 38% increase in flow and a 27% reduction in discharge time.

Design approval by Lloyds Register of Shipping.

Approved to BS EN14433.

Operating Instructions available - OPIN28

Range

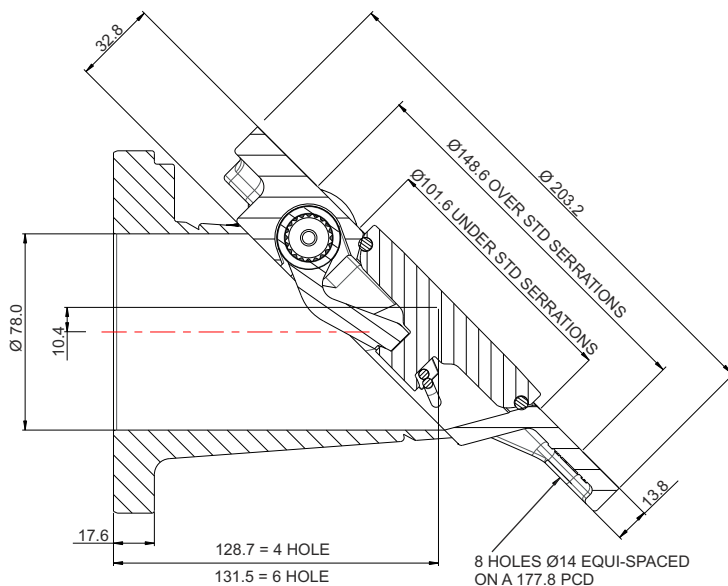
Part No.	Outlet flange drilling
845/1200A	4 hole to suit clamped butterfly valve
845/1200AHS	4 hole – integral Hastelloy seat area to inlet
845/0000A	6 hole to suit flanged butterfly valve/ball valve
845/0000AHS	6 hole – integral Hastelloy seat area to inlet

Associated Parts

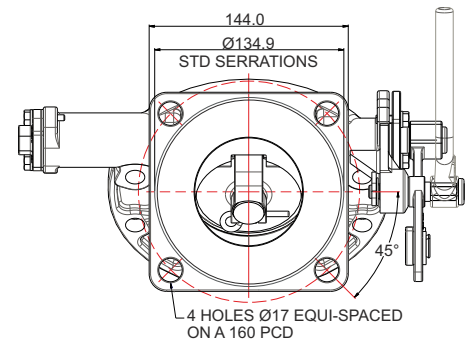
Associated Parts	Part No.
Tank pad	324/9000
Stud kit	845/2040
Bolting kit – 4 hole outlet	311/3500
Bolting kit – 6 hole outlet	360/0300
Inlet gasket – 8 hole	5005-015
Outlet gasket	5005-049
Outlet gasket – 6 hole	5005-169

Fitting Details

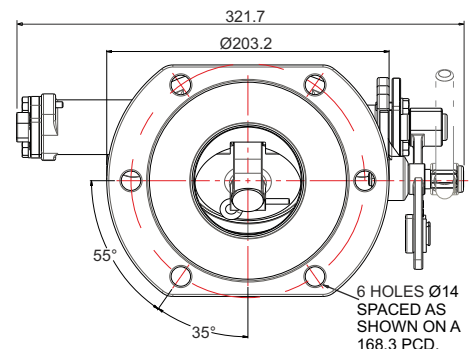
Standard 3" 45° Cleanflow - Part No. 845/1200A



Part No. 845/1200A



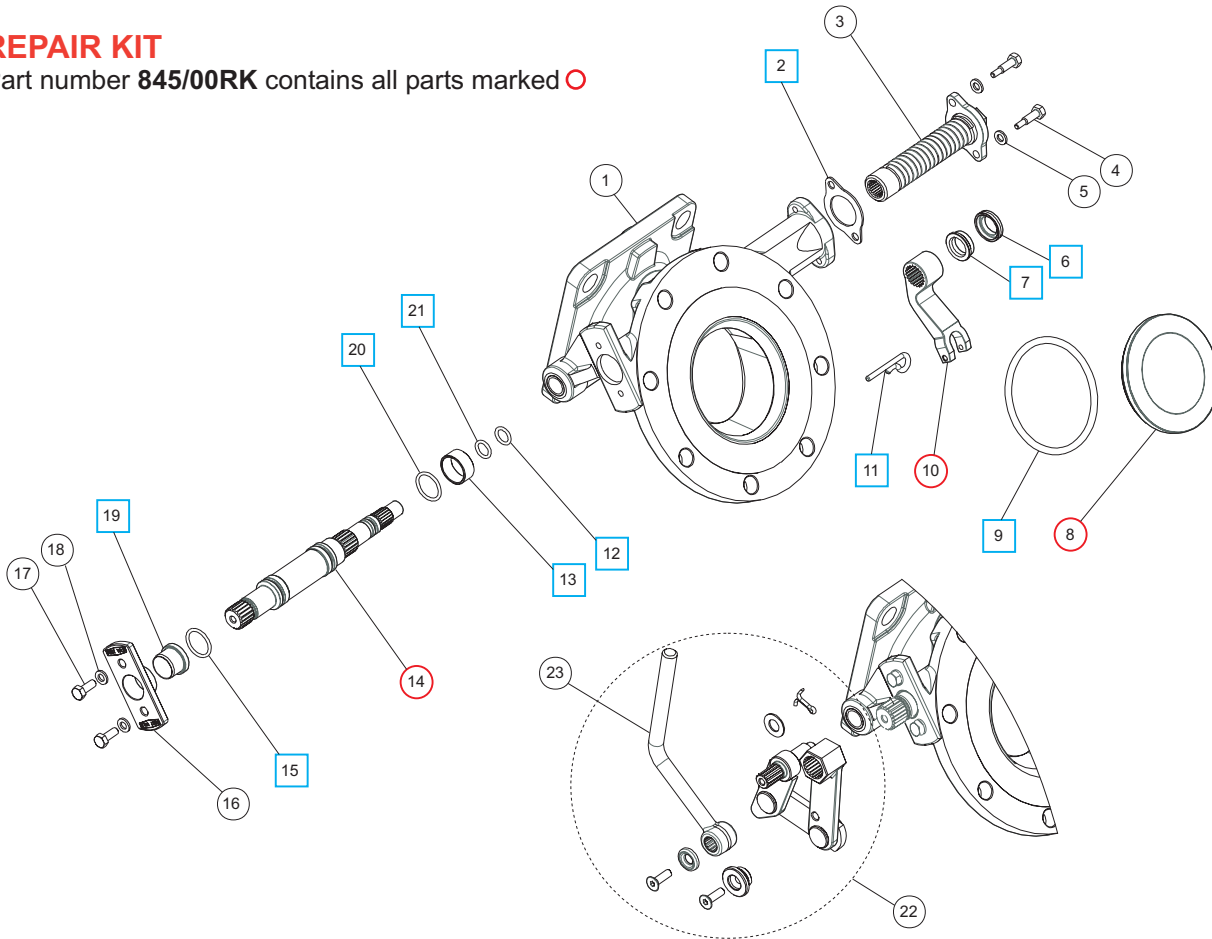
Part No. 845/0000A



Parts drawing

REPAIR KIT

Part number **845/00RK** contains all parts marked ○



SEAL KIT

Part number **845/00SK** contains all parts marked □

Item	Description	Part No.
1	Body	845/1100
2	Spring boss gasket	5005-845 ○ □
3	Spring assembly	845/0050
4	Clamp screw (2)	845/0017
5	Spring washer (2)	5113-008
6	Bush seal	845/0064 ○ □
7	Seal energizer	845/0063 ○ □
8	Poppet	845/0040 ○
9	Fortyt O ring	5005-104 ○ □
10	Lifting fork	845/0010 ○
11	Retaining pin	845/0015 ○ □
12	Perfluoroelastomer O ring	10133PHT ○ □

Item	Description	Part No.
13	Spindle bearing	845/0062 ○ □
14	Spindle	845/0200 ○
15	Viton O ring	5005-336 ○ □
16	Stuffing clamp	845/0016
17	Clamp bolt (2)	5111-022
18	Spring washer (2)	5113-008
19	Stuffing seal	845/0061 ○ □
20	Perlast O ring	5005-384 ○ □
21	PTFE O ring	5005-008 ○ □
22	Handle linkage assembly	324/8910
23	Handle	T.B.A. *See note

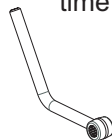


SELF ADHESIVE DECAL
 Part No. 845/0320
 Text in English, German & French

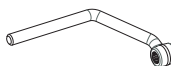
Please see separate data sheet for details on remote closure kits

A detailed step-by-step repair manual is now available for our Cleanflow range of footvalves. Please contact our Sales team for further information.

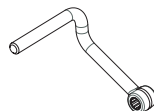
N.B. Please specify the style of handle required at the time of order.



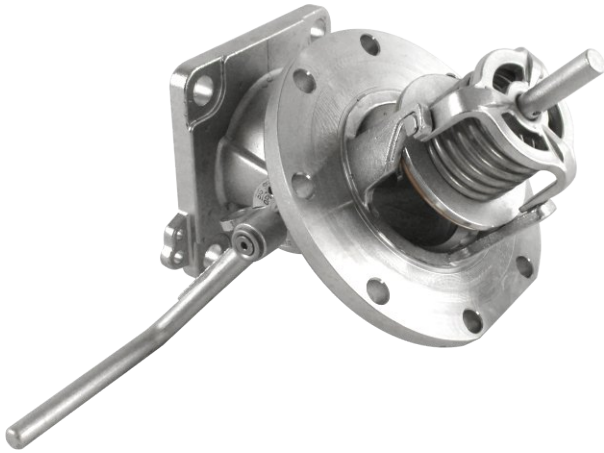
STANDARD CLEANFLOW HANDLE
 Part No. 324/8670



STANDARD HIGHLIFT HANDLES
 Part No. 330/5010



Part No. 324/8671



3" 45° MKIII Highlift Footvalve - inlet flange drilled 8 x 14mm holes equi-spaced on a 178mm PCD; outlet flange drilled 4 x 17mm holes on a 160mm PCD. Contact parts manufactured in 316 stainless steel with Fortyt main seal as standard.

Options - Other poppet seal materials available. Footvalve may be manufactured in other metals. Full range of 30°, 90° and 180° Highlift footvalves. Steam heated option. Available with integral Hastelloy seat area. A range of bolting kits and outlet gaskets are available.

Specification

Weight	8.9 Kgs *See note
Design Pressure (MAWP)	4 Bar (58 PSI)
Hydraulic Test Pressure	6 Bar (87 PSI)
Design Temperature Range	-40°C to 200°C -40°F to 392°F

* NB Weight and dimensions vary according to valve specification

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.

Design approval by Lloyds Register of Shipping
Approved to EN14433:2006

Range

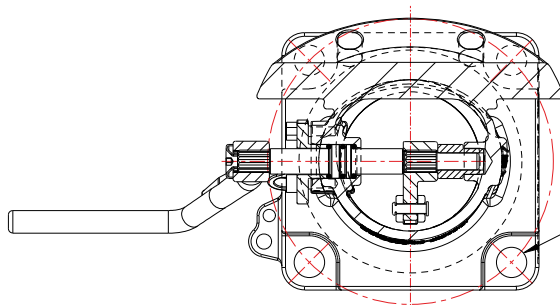
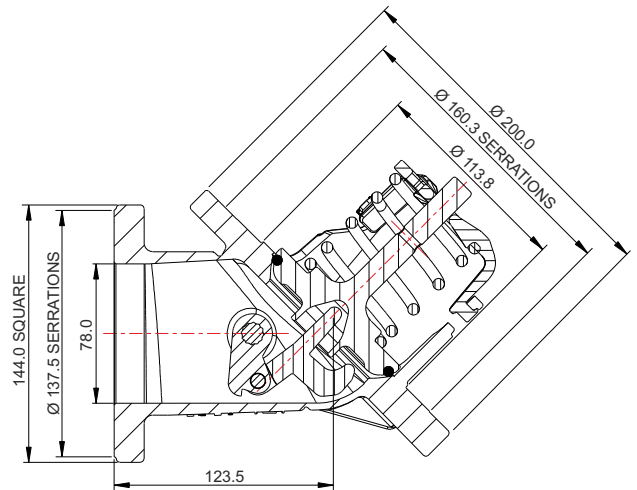
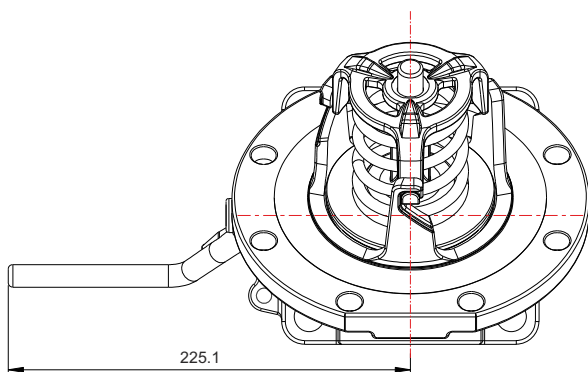
Part No.	Flange drilling
826/1200A	4 hole outlet to suit clamped butterfly valve
826/1200AHS	4 hole – integral Hastelloy seat area to inlet

Associated Parts

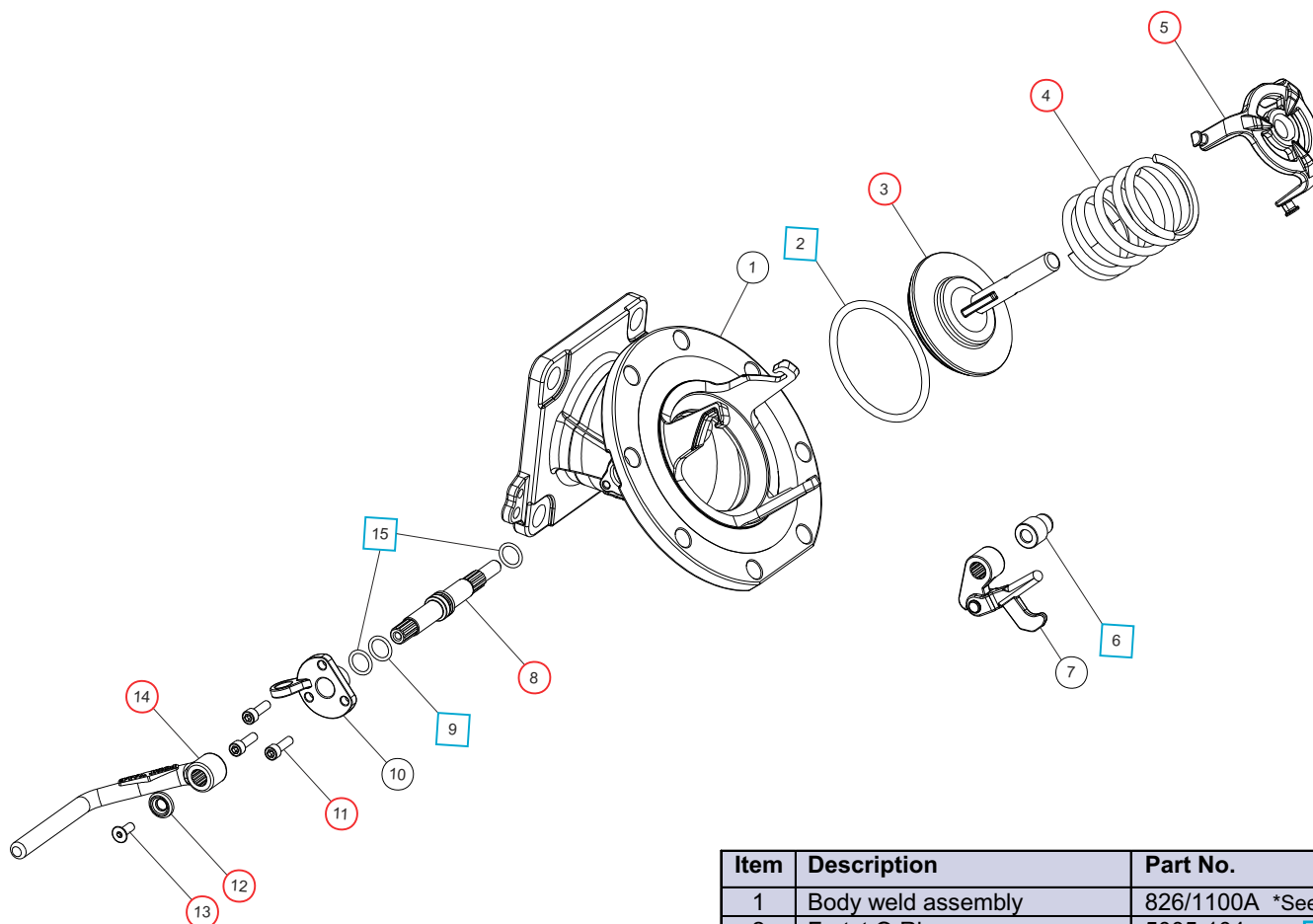
Associated Parts	Part No.
Tank pad	324/9000
Stud kit	324/2070
Standard bolting kit – 4 hole outlet	311/3500
8 hole inlet gasket – CNAF/PTFE	5005-015
Standard outlet gasket – CNAF/PTFE	5005-049

Fitting Details

Part Number : 826/1200A



Parts drawing



SEAL KIT

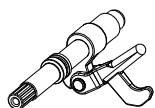
Part number **826/00SK**
Contains all parts marked

REPAIR KIT

Part number **826/00RKA**
Contains all parts marked

Item	Description	Part No.
1	Body weld assembly	826/1100A *See note
2	Fortyt O Ring	5005-104
3	Solid poppet	324/2020
4	Spring	5104-971
5	Spring top plate	290/6104
6	PTFE crankshaft end bush	20362
7	Crank block assembly	821/0300
8	Spindle	821/0010
9	Viton O ring	20361
10	Stuffing clamp	324/1001
11	M6 capscrew (3)	5111-017
12	Handle retaining washer	20370
13	Handle retaining screw	5111-030
14	Handle	330/5010
15	PTFE O ring (2)	20363

***NB** Part number varies according to valve specification



SPINDLE & CRANK BLOCK ASSEMBLY - PART NO. 821/0200

Includes spindle, crank block assembly, O rings and end bush
(Item nos. 6 7 8 9 & 15)

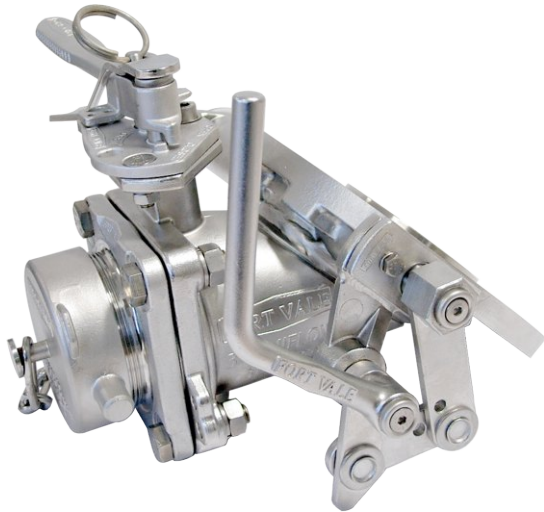


SELF ADHESIVE DECAL - PART NO. 326/0300

Text in English, German and French

Please see separate data sheet for details on remote closure kits

A detailed step-by-step repair manual is available for our Highlift range of footvalves. Please contact our Sales team for further information.



3" 45° Uniflow Bottom Discharge Assembly - comprising 3" 45° Cleanflow footvalve, inlet flange drilled 8 x 14mm holes equi-spaced on a 178mm PCD; footvalve body incorporates integral 3" butterfly valve terminating with 3" BSP spigot and stainless steel blank cap. Unique "CLEAN" position of butterfly valve closure plate allows for in-situ CIP without removal of the valve assembly from the tank. Manufactured in 316 stainless steel with Forty main seal to footvalve and PTFE main seal to butterfly valve and cap.

Options - Available with Hastelloy sealing area to Footvalve. 3" 30° Uniflow bottom discharge assembly available.

Specification

Weight	12 Kg * See note
Design Pressure (MAWP)	4 Bar (58 PSI)
Test Pressure	6 Bar (87 PSI)
Design Temperature	-20°C to +200°C (-4°F to +392°F)

* **NB** Weight and dimensions vary according to valve specification

Design approval by Lloyds Register of Shipping.
Approved to BS EN14433.

I Operating Instructions available - OPIN28.

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.

Range

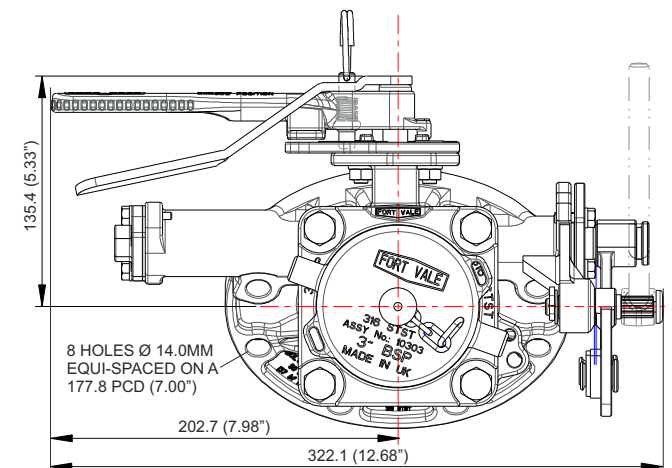
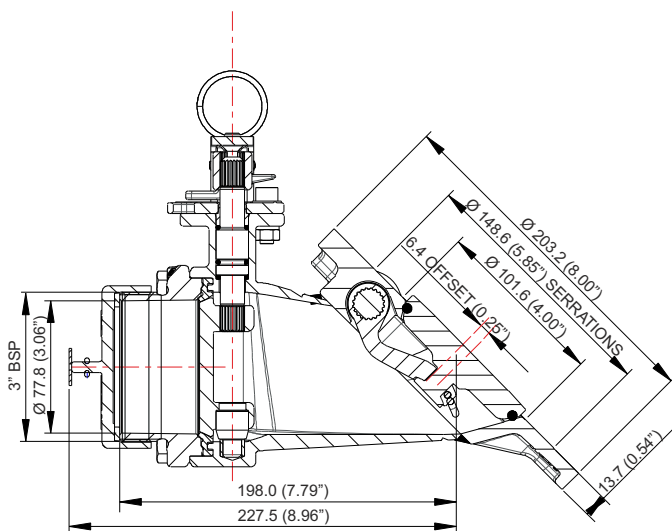
Part No.	Description
806/4000	3" 45° standard assembly with 3" BSP outlet
806/4000HS	As 806/4000 with Hastelloy seating area to Footvalve
806/4000Z	As 806/4000, suitable for -40°C/-40°F
807/4000	3" 30° standard assembly with 3" BSP outlet

Associated Parts

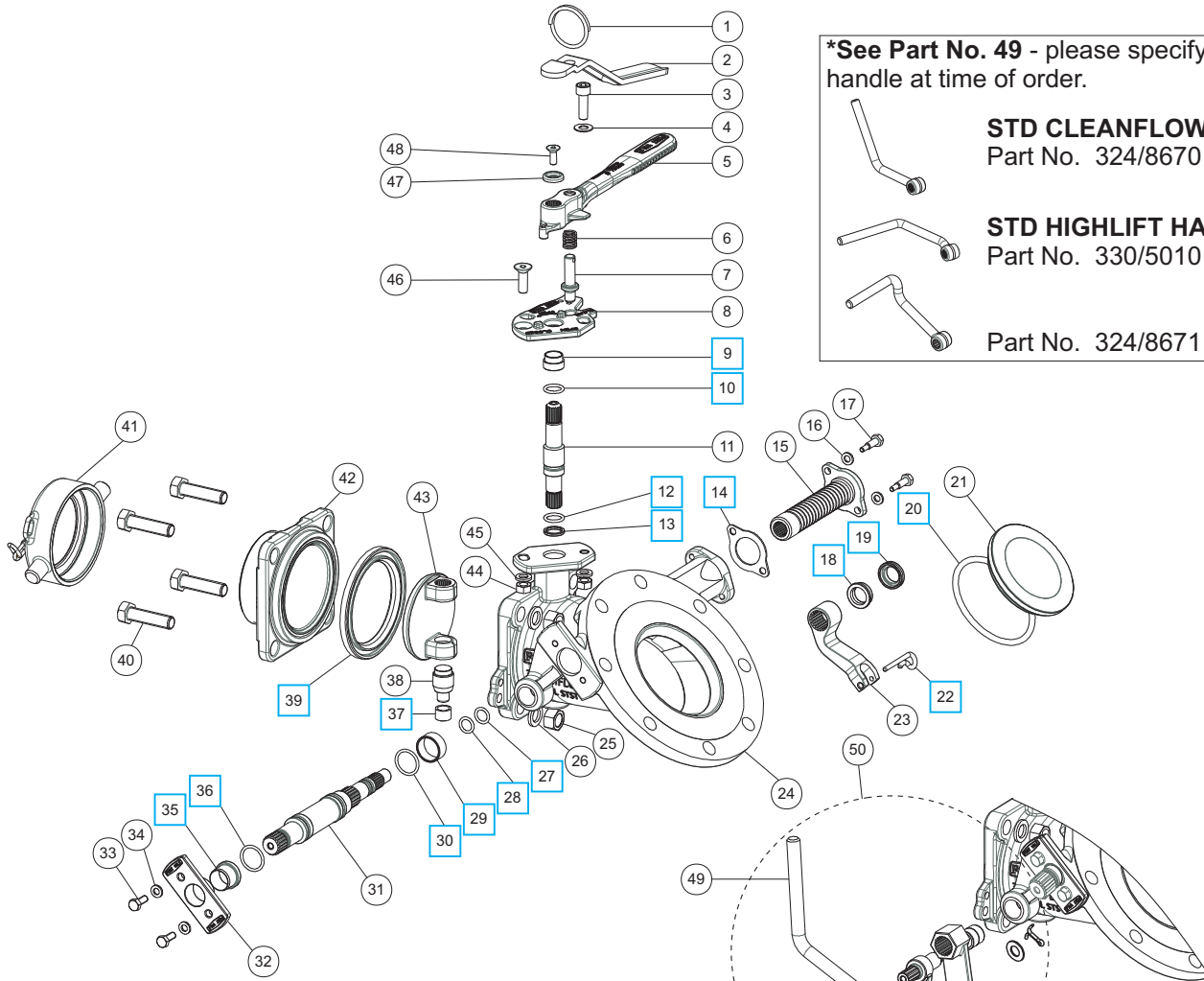
Associated Parts	Part No.
Tank pad	324/9000
Stud kit	845/2040
Inlet gasket – 8 hole	5005-015
3" BSP Blank cap with PTFE washer	10303PS

Fitting Details

Example Shown : 806/4000



Parts drawing



*See Part No. 49 - please specify required handle at time of order.

STD CLEANFLOW HANDLE
Part No. 324/8670

STD HIGHLIFT HANDLES
Part No. 330/5010

Part No. 324/8671



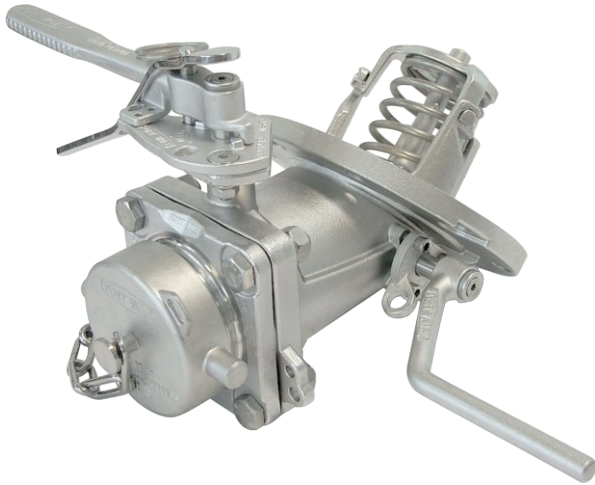
SELF ADHESIVE DECAL
PART NO. 326/0303
Text in English, German & French

SEAL KIT

Part number **806/40SK** contains all parts marked

Item	Description	Part No.
1	Split ring	368/0011
2	Handle lever	368/9837
3	M8 cap screw	5111-148
4	M8 plain washer	5113-005
5	Butterfly valve handle	368/0057
6	Handle location spring	368/0012
7	Handle locator pin	368/0010
8	Stuffing clamp	368/0047
9	Stuffing clamp bush	368/0301 <input type="checkbox"/>
10	PTFE O ring	20363 <input type="checkbox"/>
11	Spindle	368/0201
12	Viton O ring	20361 <input type="checkbox"/>
13	PTFE spindle seat	368/0009 <input type="checkbox"/>
14	Spring boss gasket	5005-845 <input type="checkbox"/>
15	Spring assembly	845/0050
16	Spring washer (2)	5113-008
17	Clamp screw (2)	845/0017
18	Seal energizer	845/0063 <input type="checkbox"/>
19	Bush seal	845/0064 <input type="checkbox"/>
20	Fortyt O ring	5005-104 <input type="checkbox"/>
21	Poppet	845/0040
22	Retaining pin	845/0015 <input type="checkbox"/>
23	Lifting fork	845/0010
24	Body	845/1107
25	M12 full nut (4)	5112-006

Item	Description	Part No.
26	M12 spring washer (4)	5113-010
27	Perfluoroelastomer O ring	10133PHT <input type="checkbox"/>
28	PTFE O ring	5005-008 <input type="checkbox"/>
29	Spindle bearing	845/0062 <input type="checkbox"/>
30	Perlast O ring	5005-384 <input type="checkbox"/>
31	Spindle	845/0200
32	Stuffing clamp	845/0016
33	Clamp bolt (2)	5111-022
34	Spring washer (2)	5113-008
35	Stuffing seal	845/0061 <input type="checkbox"/>
36	Viton O ring	5005-336 <input type="checkbox"/>
37	PTFE bottom bush	368/0035 <input type="checkbox"/>
38	Bottom spindle	368/0036
39	PTFE butterfly valve main seal	368/0002 <input type="checkbox"/>
40	M12 hex bolt (4)	5111-023
41	3" BSP cap with chain & washer	10303PS
42	Outlet flange	368/5129
43	Closure plate	368/0400
44	M8 full nut (2)	5112-001
45	M8 spring washer (2)	5113-003
46	M8 countersunk bolt	5111-085
47	Retaining washer	20370
48	M6 setscrew	5111-030
49	Handle – See illustrations above	TBA-see note*
50	Handle linkage assembly	324/8910



3" Univalve Bottom Discharge Assembly - comprising of 3" 45° Highlift footvalve, inlet flange drilled 8 x 14mm holes equi-spaced on a 178mm PCD. Footvalve body incorporates integral 3" butterfly valve terminating with 3" BSP spigot and stainless steel blank cap. Unique "CLEAN" position of butterfly valve closure plate allows for in-situ CIP without removal of the valve assembly from the tank. Manufactured in 316 stainless steel with Forty main seal to footvalve and PTFE main seal to butterfly valve and cap.

Options - Available with Hastelloy sealing area to Footvalve. Flanged outlet version (drilled 3"BSTD/3"ASA 150/DIN80 PN40). 3" Camlock outlet version.

Specification

Weight	12.2 Kg * See note
Design Pressure (MAWP)	4 Bar (58 PSI)
Test Pressure	6 Bar (87 PSI)
Design Temperature	-55°C to +200°C (-67°F to +392°F)

* NB Weight and dimensions vary according to valve specification

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.

Design approval by Lloyds Register of Shipping.
Approved to BS EN14433 & EN14432

Range

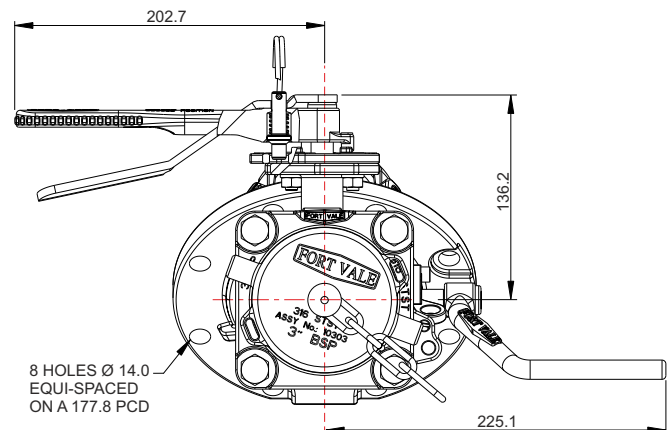
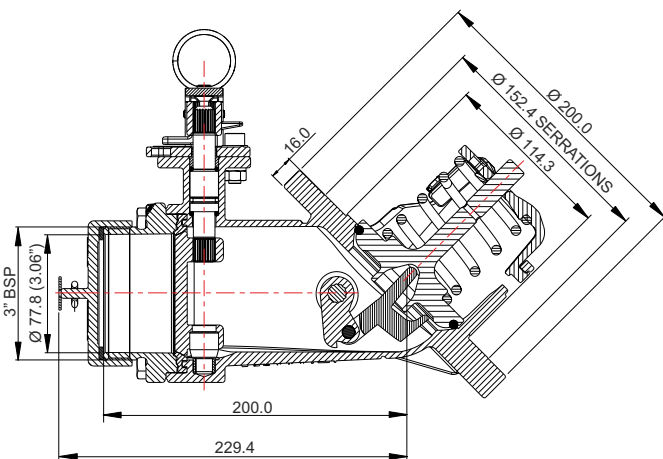
Part No.	Description
804/4000A	Standard assembly with 3" BSP outlet
804/4000AHS	As 804/4000A with Hastelloy seating area to Footvalve
804/4010A	Flanged outlet – 3"BSTD/3"ASA150/DIN80 PN40
804/4020A	3" Camlock outlet supplied with Camlock cap

Associated Parts

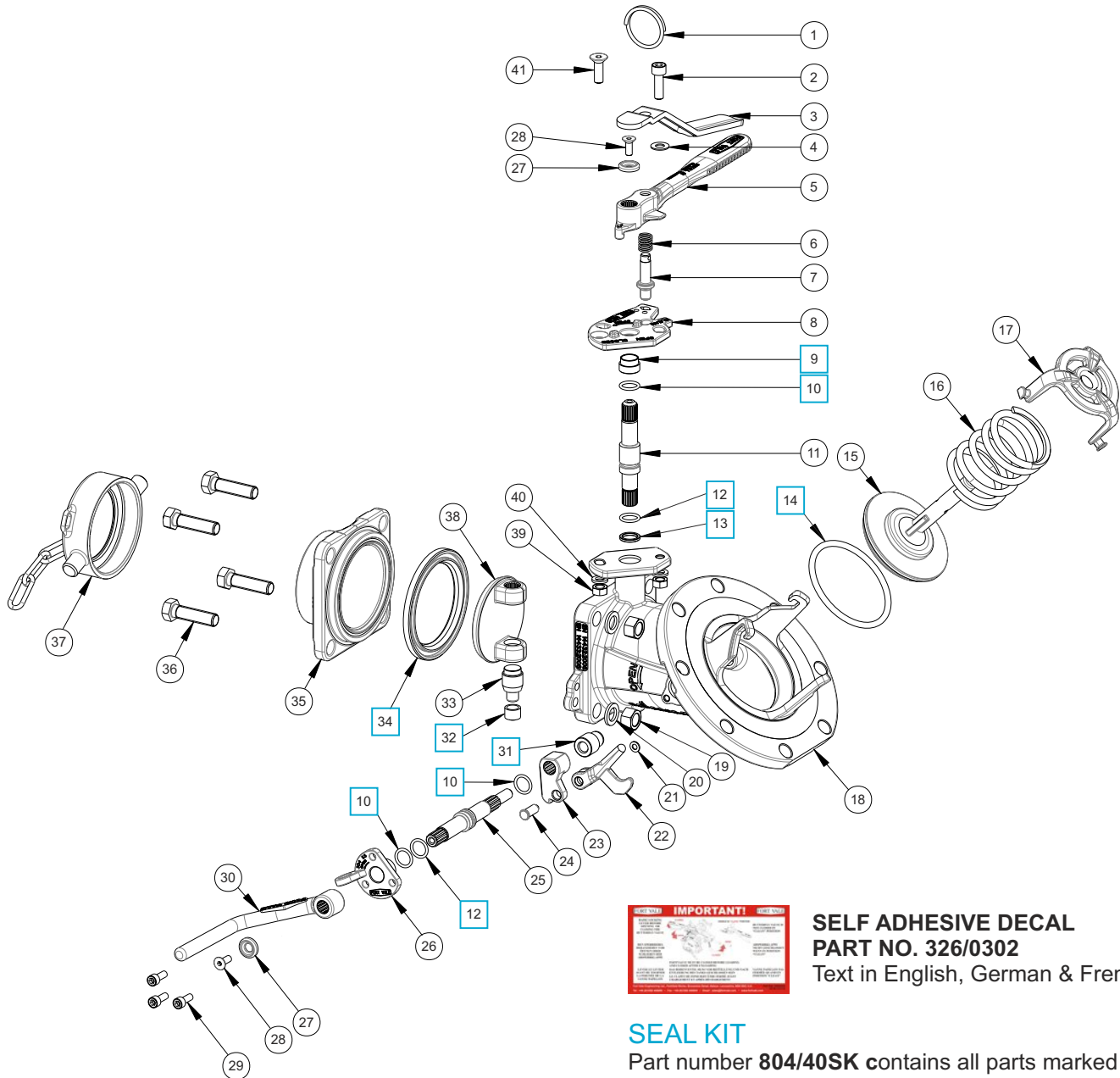
Associated Parts	Part No.
Tank pad	324/9000
Stud kit	324/2070
Inlet gasket – 8 hole	5005-015
3" BSP Blank cap with PTFE washer	10303PS

Fitting Details

Example Shown : 804/4000A



Parts drawing



SELF ADHESIVE DECAL
PART NO. 326/0302
 Text in English, German & French

SEAL KIT

Part number **804/40SK** contains all parts marked

Item	Description	Part No.
1	Split ring	368/0011
2	M8 cap screw	5111-148
3	Handle lever	368/9837
4	M8 plain washer	5113-005
5	Butterfly valve handle	368/0057
6	Handle location spring	368/0012
7	Handle locator pin	368/0010
8	Stuffing clamp	368/0047
9	Stuffing clamp bush	368/0301 <input type="checkbox"/>
10	PTFE O ring (3)	20363 <input type="checkbox"/>
11	Spindle	368/0201
12	Viton O ring (2)	20361 <input type="checkbox"/>
13	PTFE spindle seat	368/0009 <input type="checkbox"/>
14	Fortyt footvalve main O ring	5005-104 <input type="checkbox"/>
15	Poppet	324/2020
16	Closure spring	5104-971
17	Spring top plate	290/6104
18	Body assembly	826/1252A
19	M12 full nut (4)	5112-006
20	M12 spring washer (4)	5113-010
21	5mm plain washer	5113-015

Item	Description	Part No.
22	Lifting finger	821/0033
23	Crank block	821/0025
24	Pivot pin	821/0034
25	Spindle	821/0010
26	Stuffing clamp	324/1001
27	Retaining washer (2)	20370
28	M6 bolt (2)	5111-030
29	M6 cap screw (3)	5111-017
30	Footvalve handle	330/5010
31	PTFE crankshaft end bush	20362 <input type="checkbox"/>
32	PTFE bottom bush	368/0035 <input type="checkbox"/>
33	Bottom spindle	368/0036
34	PTFE Butterfly valve main seal	368/0002 <input type="checkbox"/>
35	Outlet flange	368/5129
36	M12 hex bolt (4)	5111-023
37	3" BSP cap with chain & washer	10303PS1
38	Closure plate	368/0400
39	M8 full nut (2)	5112-001
40	M8 spring washer (2)	5113-003
41	M8 countersunk bolt	5111-085

DISCHARGE EQUIPMENT



The secondary closure is ensured by the lightweight and compact **3" Widdop clamped butterfly valve**.

The eccentric disc system minimises seal wear and gives maximum seal compression in the closed position. Replacement of the main seal takes only a few seconds with the pressed on retaining ring.

Options

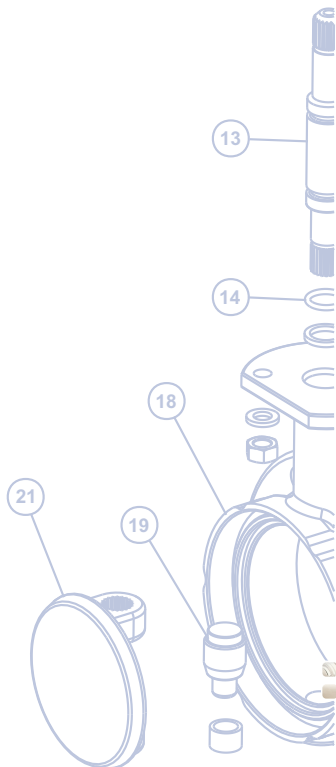
Lockable handle.

Hemispherical disc for congealing cargoes. This facility avoids damage to the valve spindle when a core of solidified product would prevent the flat disc from opening freely.

Flanged valves with slotted outlet flanges to connect with ASA, BST"D" and DIN flanges. The flanged valves can be fitted with a steam heating system.

The outlet is fitted with a 3" BSP threaded spigot flange and cap as standard. Camlock, NPT, Tankwagen, RJT, DIN 11851, self sealing, dry break or symmetric coupling outlets are also available.

We also offer a range of 3" full bore ballvalves to fit our footvalves with these same options.





3" Clamped Butterfly Valve - left hand operated with TIR to handle and padlock facility. Contact parts manufactured in 316 stainless steel with PTFE main seal.

Options - lockable handle. "Congealing cargo" version with semi-spherical closure plate. Right hand operated version. Range of 2" and 4" clamped valves. TW style body available.

Specification

Weight	3.5 Kg
Design Pressure (MAWP)	6 Bar (87 PSI)
Test Pressure	10 Bar (145 PSI)
Design Temperature	-40°C to 200°C (-40°F to 392°F)

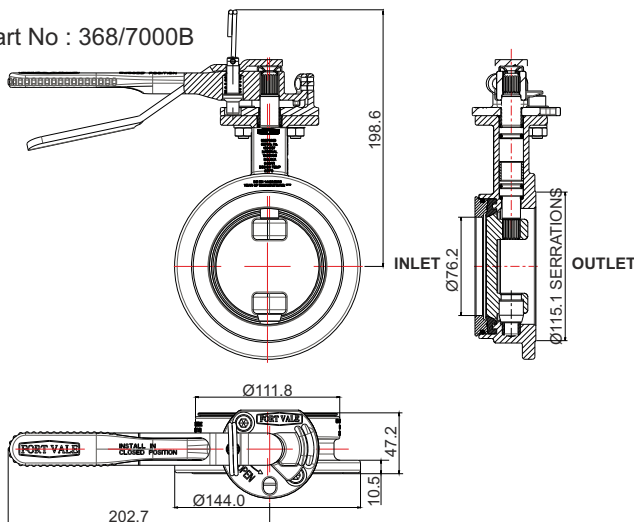
Design approvals by Lloyds Register of Shipping, Rijksdienst, SNCF, RMRS. Approved to BS EN14432

Range

Part No.	Description
368/7000B	Left hand standard butterfly valve
368/9110B	Left hand with semi-spherical closure plate
368/4000A	Right hand standard butterfly valve

Fitting Details

Part No : 368/7000B

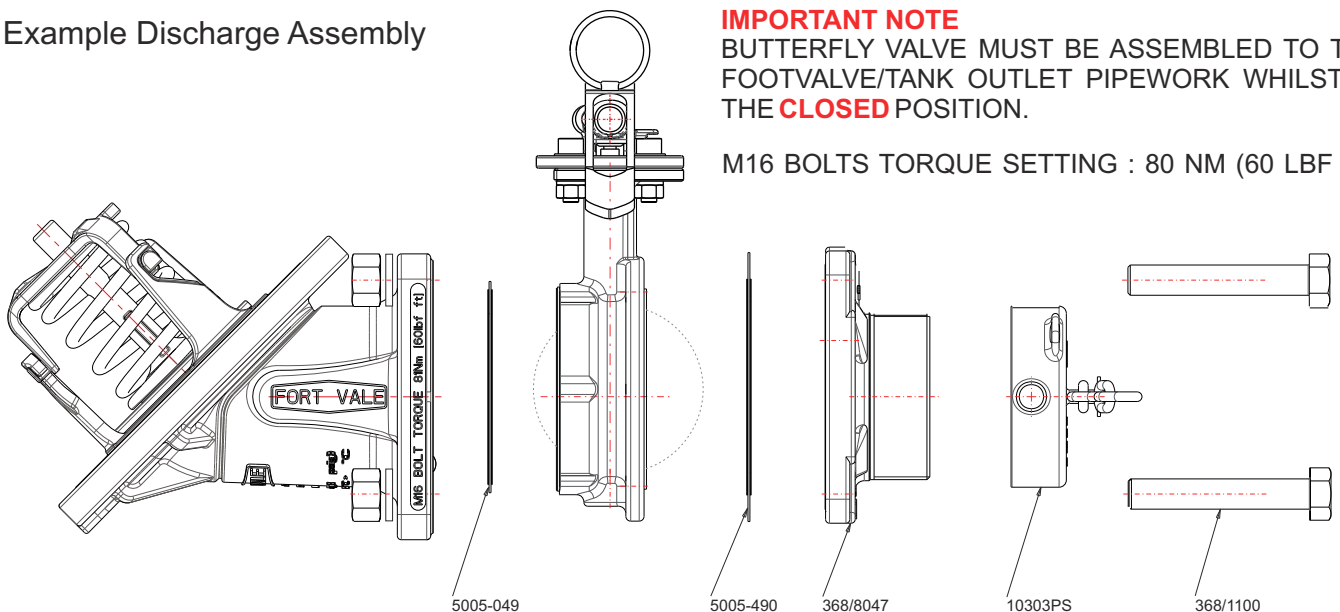


Associated Parts

Associated Parts	Part No.
CNAF/PTFE inlet gasket	5005-049
CNAF/PTFE outlet gasket	5005-490
Bolting kit	368/1100
3" BSP outlet flange	368/8047
3" BSP blank cap with PTFE washer	10303PS
3" Camlock outlet flange	368/8058
3" Camlock blank cap	90/DC300
3" NPT outlet flange	368/8049
3" NPT blank cap with PTFE washer	425/3250

Assembly Details

Example Discharge Assembly

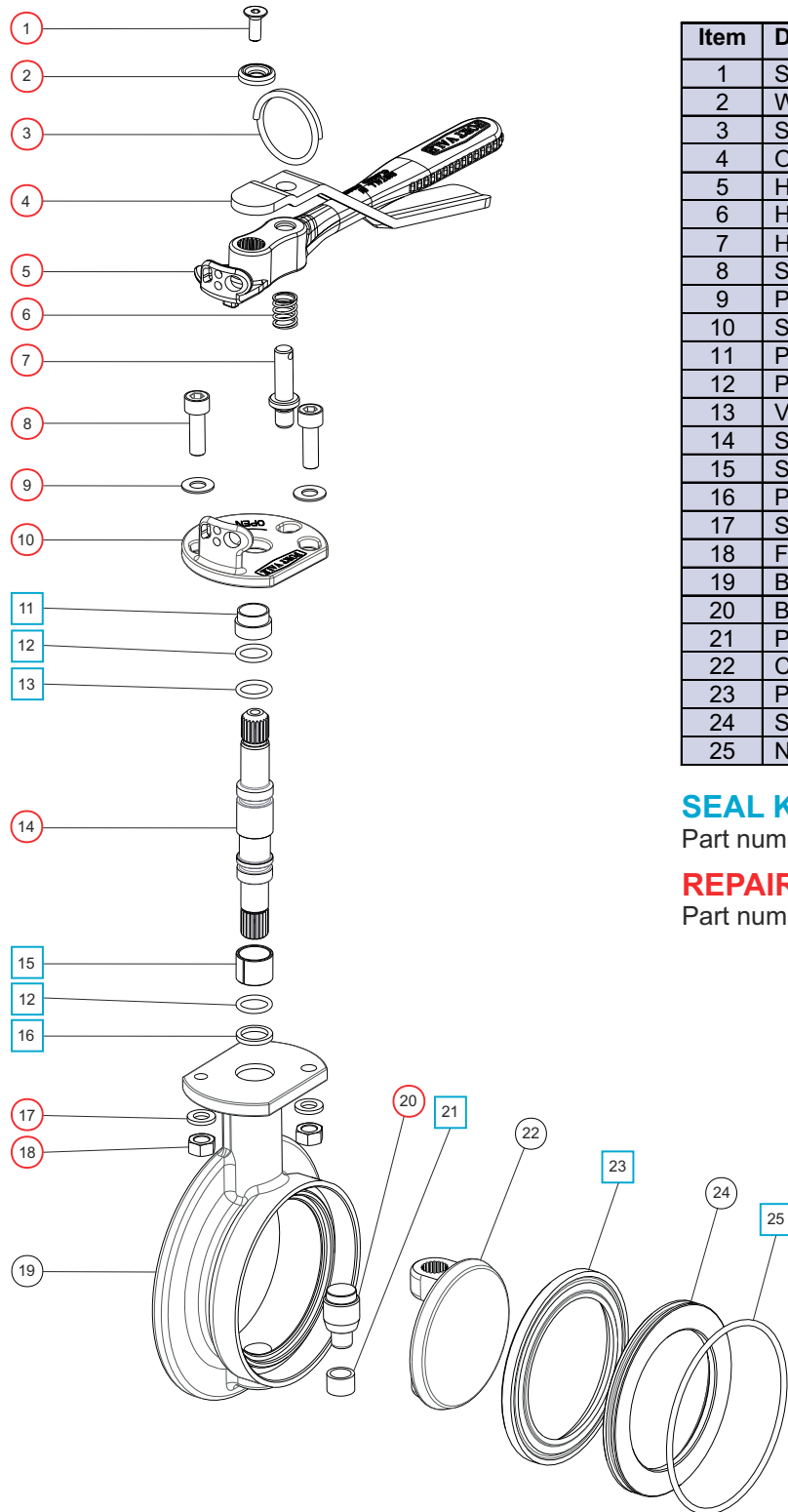


IMPORTANT NOTE

BUTTERFLY VALVE MUST BE ASSEMBLED TO THE FOOTVALVE/TANK OUTLET PIPEWORK WHILST IN THE **CLOSED** POSITION.

M16 BOLTS TORQUE SETTING : 80 NM (60 LBF FT)

Parts drawing



Item	Description	Part No.	
1	Sockethead setscrew	5111-030	○
2	Washer	20370	○
3	Split ring	368/0011	○
4	Operating lever	368/9837	○
5	Handle	368/0050	○
6	Handle location spring	368/0012	○
7	Handle location pin	368/0010	○
8	Sockethead capscrew (2)	5111-148	○
9	Plain washer (2)	5113-005	○
10	Stuffing clamp	368/0040	○
11	PTFE stuffing clamp bush	368/0301	□○
12	PTFE O ring (2)	20363	□○
13	Viton O ring	20361	□○
14	Spindle	368/0200	○
15	Split bearing	252/0517	□○
16	PTFE spindle seat	368/0009	□○
17	Spring washer (2)	5113-003	○
18	Full nut (2)	5112-001	○
19	Body	368/0150	
20	Bottom spindle	368/0036	○
21	PTFE bottom bush	368/0035	□○
22	Closure plate	368/0400	
23	PTFE main seal	368/0002	□○
24	Seal clamp plate	368/0045	
25	Nitrile O ring	5005-342	□○

SEAL KIT

Part number **368/00SK** contains all parts marked □

REPAIR KIT

Part number **368/00RKA** contains all parts marked ○



SELF ADHESIVE DECAL - PART NO. 368/0300

Text in English, German and French

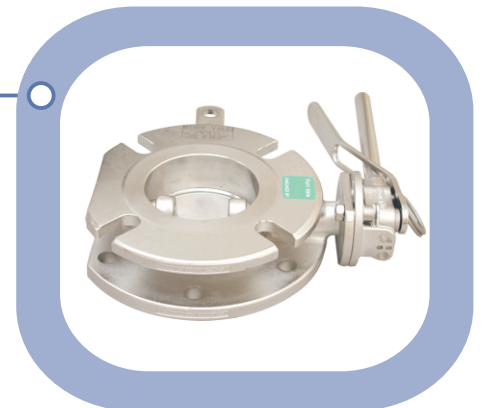
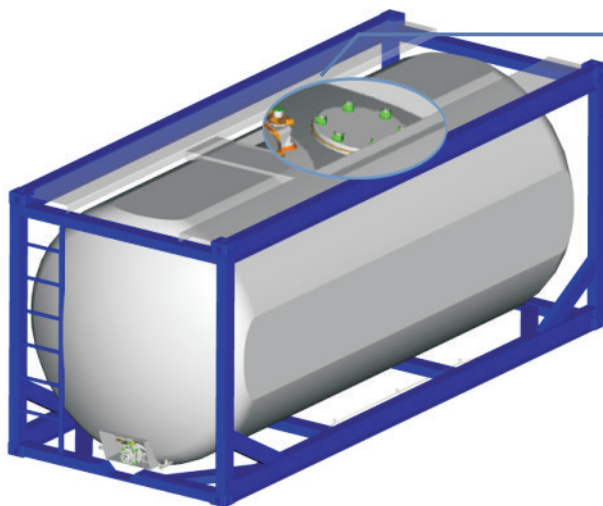
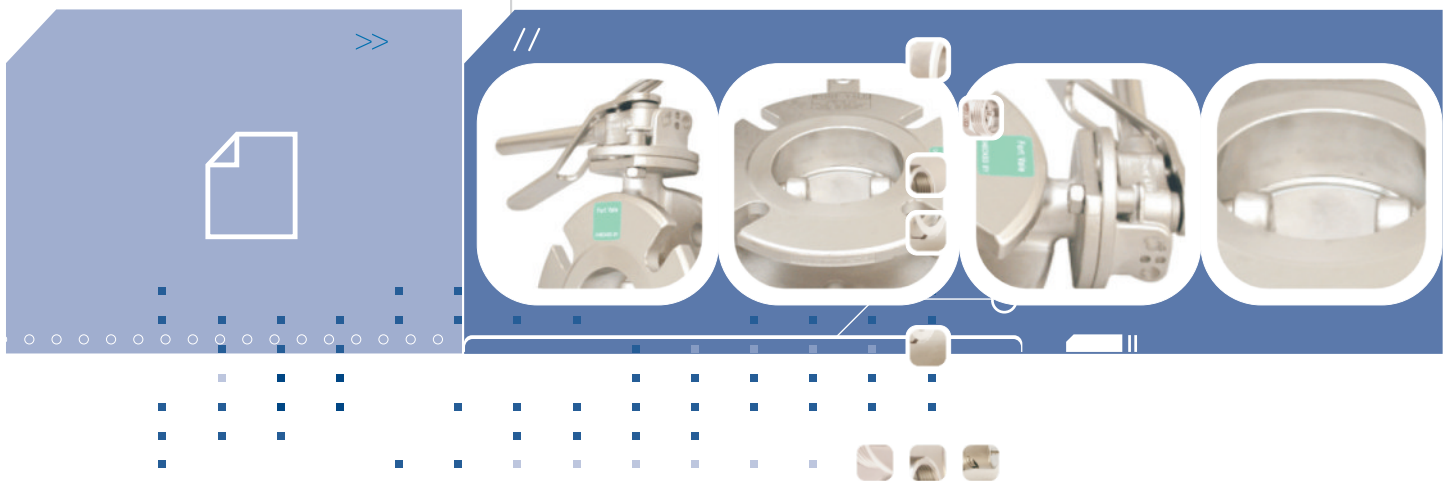
A detailed step-by-step repair manual is now available for our range of discharge butterfly valves. Please contact our Sales team for further information.



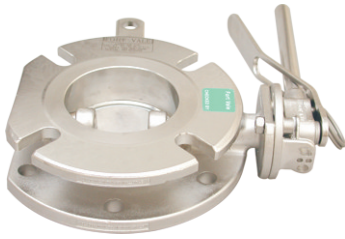
TM

TOP DISCHARGE PROVISION

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TOP DISCHARGE PROVISION



On a standard tank, only a provision for top discharge would be provided.

We would recommend that the weld-in pad of this facility is designed to accept our **3" Widdop flanged butterfly valve** which, with its low profile dimensions will fit tanks with a capacity of up to 26,000 litres.

Options

Hemispherical disc to avoid damage when operating the valve with viscous or solidifying products.

Steam heating flange fitted between the tank pad and the valve heats the valve to guarantee maximum flow of viscous products.

Dished blind flange allows the valve to be open and closed with the blind flange in place without damaging the disc.

Lockable handle as an additional safety feature - supplied with a square drive lug key.

Retaining pin to secure the blind flange to the valve, avoiding loss or theft.



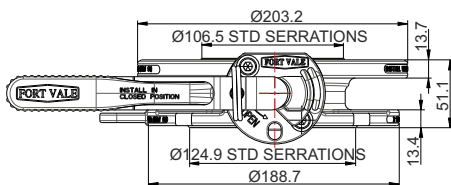
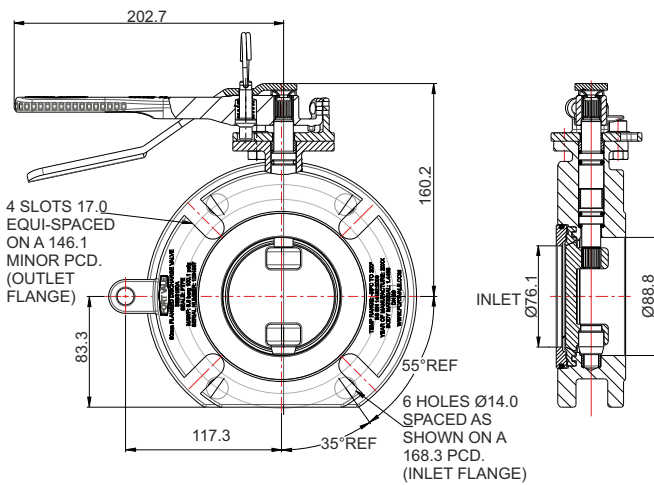
3" Flanged Butterfly Valve - inlet flange drilled 6 x 14mm holes spaced as shown below on a 168mm PCD; outlet flange with 4 slots 17mm equi-spaced on a 146mm PCD. Left hand operated with TIR and padlock facility to handle. Contact parts manufactured in 316 stainless steel with PTFE seals.

Options - alternative inlet flange drilling. "Congealing cargo" version with semi-spherical closure plate. Steam heated option.

Fitting Details

Part Number : 368/3160A

M12 BOLTS TORQUE SETTING : 50 NM (37 LBF FT)



Specification

Weight	7 Kgs
Design Pressure (MAWP)	6.9 Bar (100 PSI)
Test Pressure	10.35 Bar (150 PSI)
Design Temperature	-55°C to 200°C (-67° to 392°F)

Design approvals by Lloyds Register of Shipping, Rijksdienst, SNCF, RMRS. Approved to BS EN14432

Range

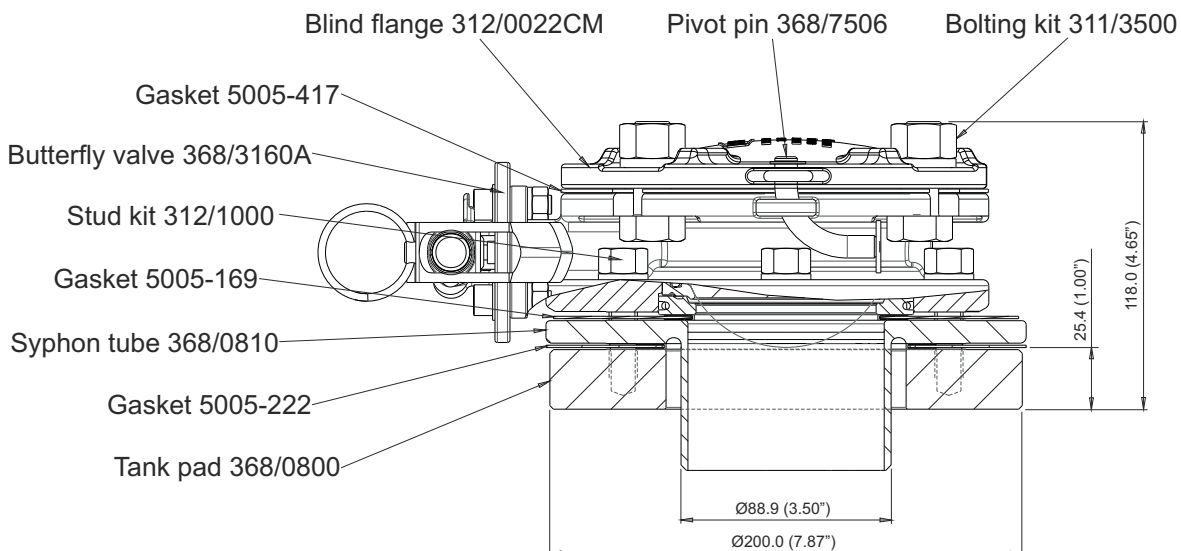
Part No.	Description
368/3160A	6 hole inlet standard valve
368/3180A	DIN80 inlet flange for 8 timing positions
368/3600A	Inlet flange with steam heating provision
368/9160A	Std. valve with semi-spherical closure plate

Associated Parts

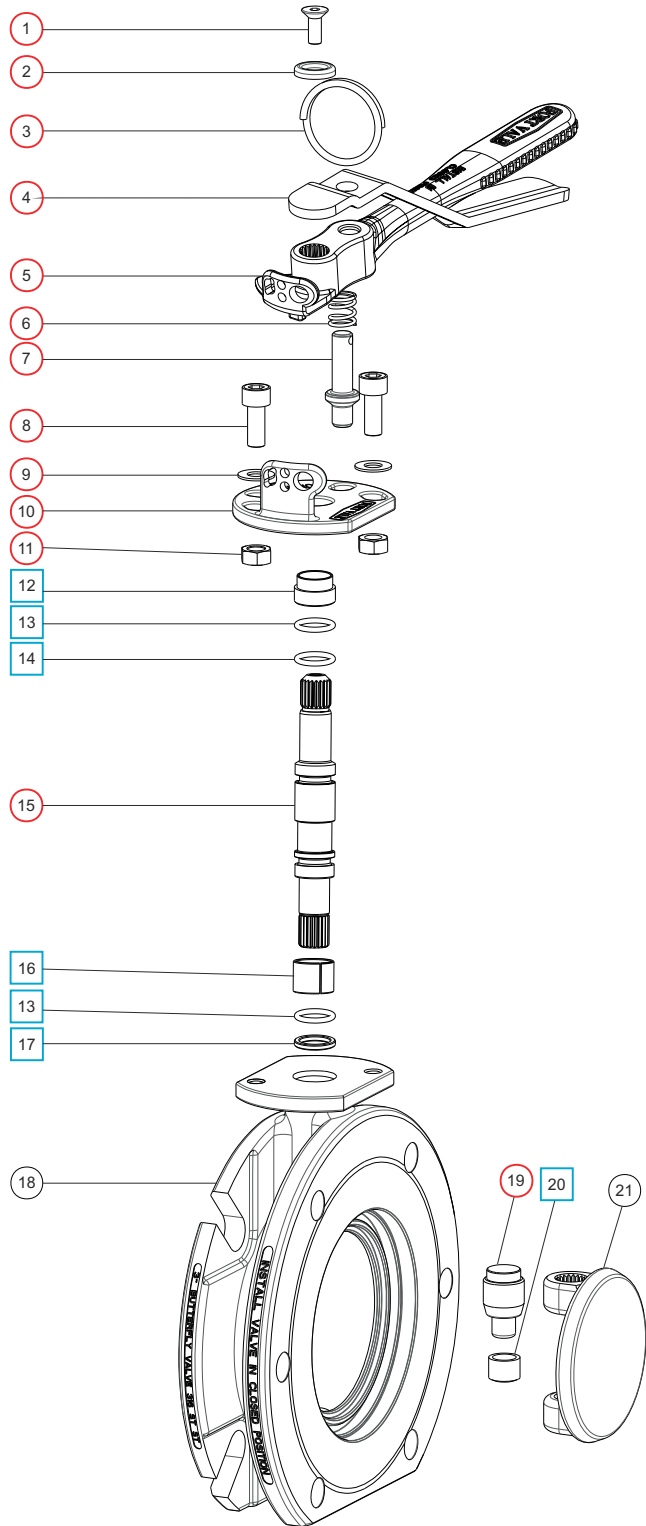
Associated Parts	Part No.
CNAF/PTFE inlet gasket	5005-169
Solid PTFE outlet gasket	5005-417
Dished blind flange	312/0022CM
Bolting kit	311/3500
Pivot pin	368/7506

Assembly Details

Example Top Discharge Assembly



Parts drawing



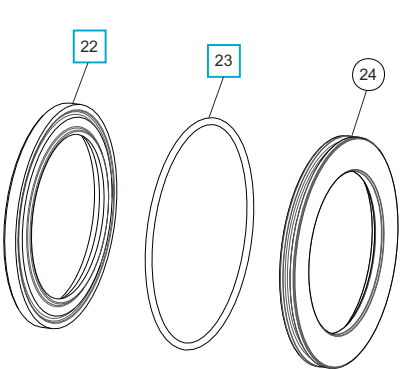
Item	Description	Part No.	
1	Countersunk setscrew	5111-030	○
2	Washer	20370	○
3	Split ring	368/0011	○
4	Operating lever	368/9837	○
5	Handle	368/0050	○
6	Handle location spring	368/0012	○
7	Handle location pin	368/0010	○
8	Sockethead capscrew (2)	5111-010	○
9	Plain washer (2)	5113-005	○
10	Stuffing clamp	368/0040	○
11	Full nut (2)	5112-001	○
12	PTFE stuffing clamp bush	368/0301	□ ○
13	PTFE O ring (2)	20363	□ ○
14	Viton O ring	20361	□ ○
15	Spindle	368/0200	○
16	Split bearing	252/0517	□ ○
17	PTFE spindle seat	368/0009	□ ○
18	Body	368/9141	
19	Bottom spindle	368/0036	○
20	PTFE bottom bush	368/0035	□ ○
21	Closure plate	368/0400	
22	PTFE main seal	368/0002	□ ○
23	Nitrile O ring	5005-342	□ ○
24	Seal clamp plate	368/9148	

SEAL KIT

Part number **368/00SK** contains all parts marked □

REPAIR KIT

Part number **368/316RKA** contains all parts marked ○



SELF ADHESIVE DECAL - PART NO. 368/0300

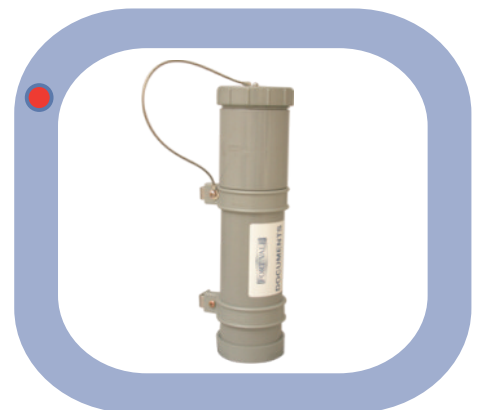
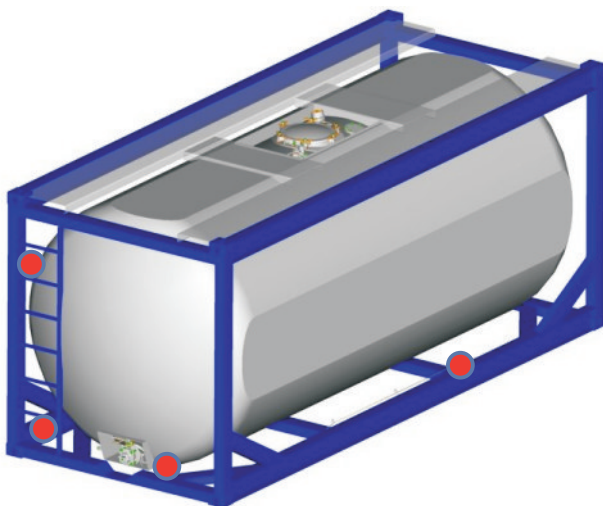
Text in English, German and French

A detailed step-by-step repair manual is available for our range of discharge butterfly valves. Please contact our Sales team for further information.



TM

ANCILLARIES //



ANCILLARIES



Steam relief valve

This 3/4" bore pressure relief valve is fitted on a tee at the inlet connection to the steam heating system to protect it from over-pressure.

Earthing Pin

A rust-free pin in naval brass.

Document holder

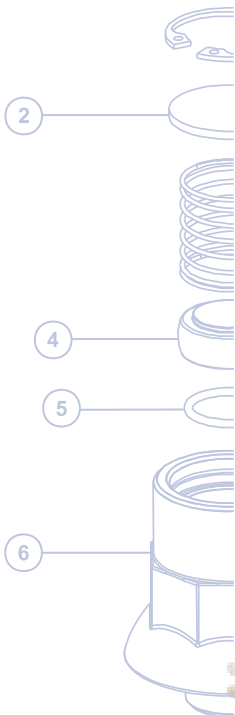
In UPVC with stainless steel fastening brackets and cap retaining cable.

Stainless steel remote closure kit

Comprising of cable, clamps and tensioning spring.

Caps

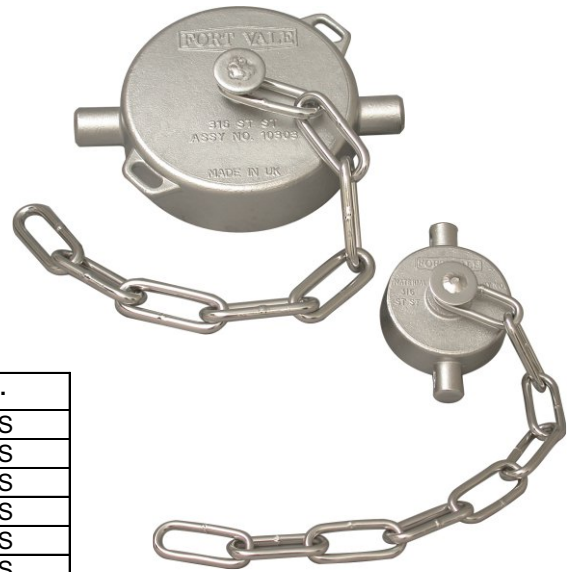
Stainless steel caps with rubber seal and stainless steel retaining cable for steam lines.



Threaded Blank Caps

A range of stainless steel check caps is also available. These comprise of a cap with an indicator which allows the operator to check if there is any residual pressure. The part numbers have a 'CK' suffix instead of the 'PS'.

Please contact our Sales team if the size or material you require is not listed below.



BSP - Stainless Steel

Description	Part No.
½" BSP stainless steel cap with wire & PTFE washer	10316PS
¾" BSP stainless steel cap with chain & PTFE washer	10306PS
1" BSP stainless steel cap with chain & PTFE washer	10305PS
1½" BSP stainless steel cap with chain & PTFE washer	10300PS
2" BSP stainless steel cap with chain & PTFE washer	10301PS
2½" BSP stainless steel cap with wire & PTFE washer	10302PS
3" BSP stainless steel cap with chain & PTFE washer	10303PS
4" BSP stainless steel cap with wire & PTFE washer	10304PSC

BSP - Aluminium

Description	Part No.
¾" BSP aluminium cap with chain & leather washer	10706AL
1" BSP aluminium cap with chain & leather washer	10707AL
1½" BSP aluminium cap with chain & leather washer	10708AL
2" BSP aluminium cap with chain & leather washer	10709AL
2½" BSP aluminium cap with chain & leather washer	10710AL
3" BSP aluminium cap with chain & leather washer	10711AL

NPT

Description	Part No.
1½" NPT stainless steel cap with chain and Teflon washer	10300NPTP
2" NPT stainless steel cap with chain and Teflon washer	10301NPTP
3" NPSL stainless steel cap with chain and Teflon washer	425/3240
3" NPT aluminium cap with brass chain and leather washer	10711NPT

Washers

Description	Part No. LEATHER	Part No. PTFE
½" washer	-	10335P
¾" washer	10331L	10331P
1" washer	10319L	10319P
1½" washer	10326L	10326P
2" washer	10327L	10327P
2½" washer	10328L	10328P
3" washer	10329L	10329P

Bursting Discs

Our range includes stocks of standard 65mm and 80mm discs and more specialised discs for IMO V Gas Relief Valves (89mm) and Hydrogen Peroxide applications (250mm).

We can offer the following models for different applications:-

ICON - cross scored solid metal disc, PC-SERT - multi-layered (composite) disc, Reverse Acting and Standard 250mm discs.



Part Number	Type	Set to burst at
General Purpose Tank Containers / Road Tankers		
861/0320	50mm PC-SERT	2.20-2.42 Bar @ 20°C
861/0400	50mm PC-SERT	2.76-3.10 Bar @ 20°C
862/0310	65mm PC-SERT	2.14 Bar @ 20°C
862/0330	65mm PC-SERT	2.28 Bar @ 20°C
862/0350	65mm PC-SERT	2.41 Bar @ 20°C
862/0390	65mm PC-SERT	2.69 Bar @ 20°C
862/0430	65mm PC-SERT	2.96 Bar @ 20°C
862/0450	65mm PC-SERT	3.1 Bar @ 20°C
862/0540	65mm ICON	3.67 Bar @ 20°C
862/0600	65mm ICON	4.1 Bar @ 20°C
862/0640	65mm ICON	4.4 Bar @ 20°C
862/0700	65mm ICON	4.84 Bar @ 20°C
864/0540	80mm PC-SERT	3.67 Bar @ 20°C
864/0600	80mm ICON	4.1 Bar @ 20°C
864/0700	80mm ICON	4.84 Bar @ 20°C
864/0960	80mm PC-SERT	6.62 Bar @ 20°C
864/1100	80mm PC-SERT	7.58 Bar @ 20°C
Compressed Liquefied Gas Tanks		
864/1750	89mm Reverse Acting	12.1 Bar @ 55°C
864/2000	89mm Reverse Acting	13.8 Bar @ 55°C
864/2180	89mm Reverse Acting	15.0 Bar @ 55°C
864/3050	89mm Reverse Acting	21.0 Bar @ 55°C
864/3190	89mm Reverse Acting	22.0 Bar @ 55°C
864/3990	89mm Reverse Acting	27.5 Bar @ 55°C
864/5000	89mm Reverse Acting	34.5 Bar @ 55°C
Hydrogen Peroxide		
865/1200	250mm STD (new design)	4.5 Bar @ 20°C
865/1250	250mm STD (new design)	4.5 Bar @ 60°C
865/1400	250mm STD (new design)	6.0 Bar @ 20°C



Fusible Link Assembly - effects the automatic closure of the footvalve (primary valve) in case of fire. The device incorporates a fusible element designed to operate at 100°C (212°F) and is linked to the remote closure cable.

Quick and easy to fit on the container tank frame and compatible with all tank designs and with most footvalves on the market.

Complies with U.S. DOT CFR49 - ch.178275 [d].

Specification

Weight 0.5 Kg
 Operating Temperature 100°C (212°F)

Associated Parts

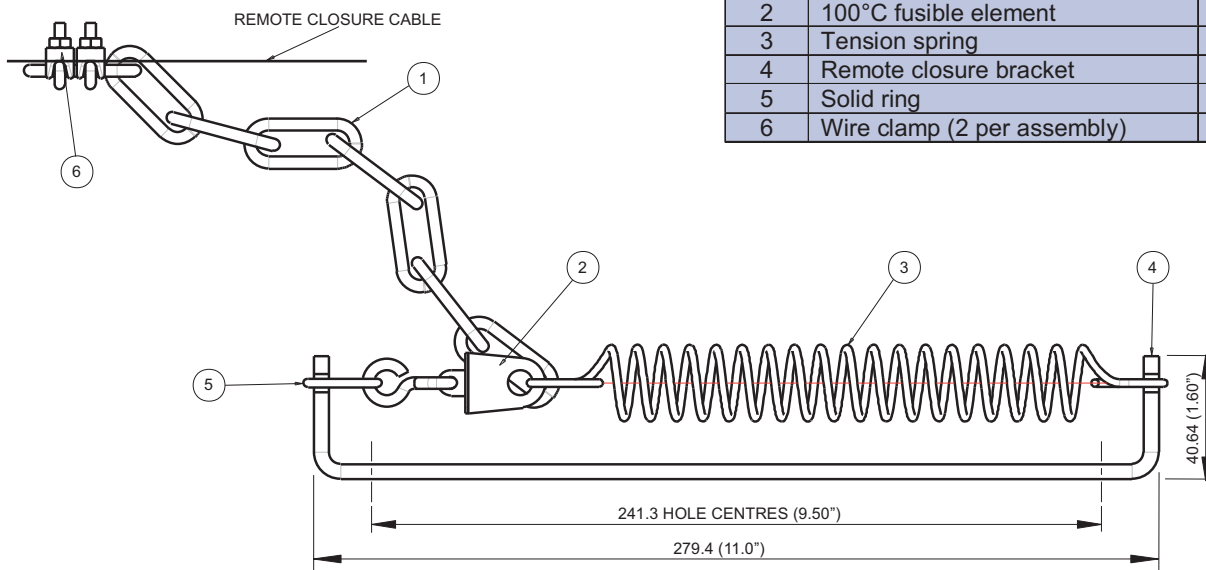
Part No.	Description
6110-022	2.5mm 7x7 strand st/st wire – 6.5 metre length
324/5341	Wire clamp
5104-203	Remote closure tension spring
324/7610	Footvalve handle remote operating lever

Important Precautions

Fusible links are designed for straight pull load applications. Do not use these links in applications involving radial or twisting loads. Store in a cool dry area. Do not subject links to loads exceeding those indicated. Do not install links where temperatures exceed those indicated above. Do not paint or coat fuse links as this may prevent operation. The manufacture of the fusible link recommends that, where fusible links are installed in atmospheres which can cause stress/strains or corrosion of surfaces, the fusible links be examined and replaced at least annually if signs of corrosion or stress/strain are evident.

Parts drawing

Part Number : 324/5760



Item	Description	Part No.
1	Stainless steel chain (9 links)	6128-016
2	100°C fusible element	324/5616
3	Tension spring	252/3272
4	Remote closure bracket	324/5765
5	Solid ring	613/6150
6	Wire clamp (2 per assembly)	324/5341

SETTING DETAILS

DRILL & TAP TANK FRAME M6 AT CENTRES QUOTED

CLAMP REMOTE CLOSURE WIRE TO CHAIN USING CABLE CONNECTORS. ENSURE THAT THERE IS MINIMUM AMOUNT OF SLACK ON THE CHAIN WHEN THE VALVE IS IN THE OPEN POSITION.

Document Holders

Description	Part No.
75mm plastic document holder with st.st. cap retaining wire, plastic brackets	360/1101
75mm clear plastic document holder with st.st. cap retaining wire, plastic brackets	360/1101T
75mm plastic document holder with st.st. cap retaining wire and brackets	360/1101ABSS
75mm clear plastic document holder with st.st. cap retaining wire and brackets	360/1101TBSS
110mm plastic document holder with st.st. cap retaining wire, plastic brackets	460/1101
110mm clear plastic document holder, st.st. cap retaining wire, plastic brackets	460/1101T
110mm plastic document holder with st.st. cap retaining wire and brackets	460/1101ABSS
110mm clear plastic document holder with st.st. cap retaining wire and brackets	460/1101TBSS



Associated Parts

Description	Part No.
75mm PVC cap with stainless steel cable	360/1010
110mm PVC cap with stainless steel cable	460/1010
75mm fixing bracket – plastic	360/1007
75mm fixing bracket – stainless steel	360/1007SS
110mm fixing bracket – plastic	460/1007
110mm fixing bracket – stainless steel	460/1007SS

Flameproof Gauzes

Description	Part No.
1" clamped gauze ring – Minnow valves	179/0300
1½" clamped gauze ring – Twinact valves	200/5000
2½" clamped gauze ring – Twinact valves	130/5000
2½" clamped gauze ring – Super Maxi valves	176/2900



Fitting a clamped gauze ring to a Minnow or a Twinact relief valve reduces the flow by 12%

Fitting clamped gauze ring 176/2900 to a 65mm Super Maxi relief valve reduces the flow by 1%

Gauges

Pressure Gauges

Description	Part No.
0-6 Bar (0-90 PSI) Pressure Gauge, 1/4" BSP connection, brass internals, glycerine filled.	921/06BBSP
0-6 Bar (0-90 PSI) Pressure Gauge, 1/4" BSP connection, st.st. internals, glycerine filled.	920/06BBSP
0-10 Bar (0-150 PSI) Pressure Gauge, 1/4" BSP connection, brass internals, glycerine filled.	921/10BBSP
0-10 Bar (0-150 PSI) Pressure Gauge, 1/4" BSP connection, st.st. internals, glycerine filled.	920/10BBSP



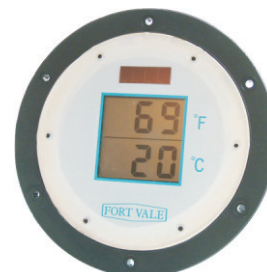
Tell-Tale Pressure Gauges

Description	Part No.
Pressure gauge with Tell-Tale Pointer 0-6 Bar (0-90 PSI), 1/4" BSP connection, brass internals, glycerine filled.	921/06TTBBSP
Pressure gauge with Tell-Tale Pointer 0-6 Bar (0-90 PSI), 1/4" BSP connection, st.st. internals, glycerine filled.	920/06TTBBSP
Pressure gauge with Tell-Tale Pointer 0-10 Bar (0-150 PSI), 1/4" BSP connection, brass internals, glycerine filled.	921/10TTBBSP
Pressure gauge with Tell-Tale Pointer 0-10 Bar (0-150 PSI), 1/4" BSP connection, st.st. internals, glycerine filled.	920/10TTBBSP
Pressure gauge with Tell-Tale Pointer 0-16 Bar (0-230 PSI), 1/4" BSP connection, st.st. internals, glycerine filled.	920/16TTBBSP



Temperature Gauge

Description	Part No.
Analogue Temperature Gauge with 2500mm capillary. Silicone oil filled. Range : -20°C to 200°C / -4°F to 392°F	922/TEMP200
Analogue Temperature Gauge with 2500mm capillary. Silicone oil filled. Range : -20°C to 160°C / -4°F to 320°F	922/TEMP160
Analogue Temperature Gauge with 250mm st/st tube & brass thermo well probe. Range : -20°C to 200°C / -4°F to 392°F	922/TEMPT200
Analogue Temperature Gauge with 250mm st/st tube & brass thermo well probe. Range : -20°C to 160°C / -4°F to 320°F	922/TEMPT160
Digital Temperature Gauge with 2500mm capillary. Range : -50°C to 200°C / -58°F to 392°F	922/TEMPDIGI



Please note that the temperature ranges apply to the capillary/probe only.



AFTER
SALES

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- >> Spares
- >> Repairs
- >> Maintenance
- >> Distributors

AFTER SALES



The Fort Vale system does not stop at the supply of valves to tank manufacturers, we pride ourselves in offering a worldwide **after sales service** to all our end users.

With Fort Vale subsidiaries in Texas USA, Rotterdam, Moscow, Shanghai and Singapore and a genuine worldwide **distributorship network** holding substantial stocks of spares at controlled retail prices, your container can be repaired anywhere with minimum down-time.

To ensure that your staff can be trained to repair our valves quickly and competently, we offer a series of **maintenance manuals** on compact disc. Each is illustrated with step-by-step photos and concise instructions on how to repair our products and test them before re-fitting.

Sets of specialist **tools** are also available to ensure that all seals are fitted correctly and without damage to the seal or the valve, which in turn keeps costs and down-time to a minimum.

We can also supply a safety valve **test rig** for pressure and vacuum testing on calibrated high quality gauges for 2½ and 5 year tests.

In addition, we offer a **seat lapping** system which allows you to repair the seats of footvalves and safety valves in-house, avoiding expensive sub-contract work.

FORT VALE
TM

Repair & Maintenance Equipment



Fort Vale offer a full range of instruction manuals and proprietary tools for the repair, maintenance and testing of our valves.

Maintenance manuals may be provided electronically and in printed format. Training courses in valve refurbishment and testing are available on application.

Fort Vale highly recommend the use of proprietary tools to ensure the quick and efficient refurbishment of valves without damaging the seals, and more importantly, to guarantee that the valve passes its pressure test once re-assembled.

Test Rig

Pressure / Vacuum Test Rig - is used for the testing of any pressure or vacuum Super Maxi, Twinact, Uniact, Minnow and Steam Relief Valve. Connection is by a 2½" BSP socket mounted on top of the rig with adaptors available upon request. The rig comprises of a digital pressure and vacuum gauge and two control valves.

The testing range of the rig is -10 PSI to 100 PSI (-0.7 Bar to 6.9 Bar).

Supply connection to the test rig is via a 1/4" BSP female socket on the back of the rig.



Part No. 400/8000

Tool Kits

Description	Part No.
Relief Valve Test Rig – digital gauges	400/8000
Test rig adaptor flange, adapts 2½" BSP to 3" ASA150, DIN65 PN10 & DIN80 PN6	425/1000
C Spanner – to fit/remove Twinact relief valves	400/3000
C Spanner – to fit/remove Super Maxi relief valve	400/3001
Tightening tool for MKIII Super Maxi relief valve	400/8380
1½" & 2½" Twinact relief valve Tool Kit	400/2000
2½" BSP Maxi & Highflow relief valve Tool Kit	400/8100
65mm & 80mm Super Maxi Relief Valve Tool Kit	400/8300
Footvalve & Relief Valve Seat Repair Kit	400/2600
Box of 100 x 60 grit grinding discs	400/2610
Box of 100 x 80 grit grinding discs	400/2620
Box of 100 x 180 grit polishing discs	400/2630
Box of 100 x 600 grit polishing discs	400/2640
3" Cleanflow Footvalve Tool Kit	400/2150
3" Highlift Footvalve Tool Kit	400/2450
2" Butterfly Valve Tool Kit	400/2300
3" Butterfly Valve Tool Kit	400/2700
1½" Ball Valve Tool Kit	400/2500
3" Ball Valve Tool Kit	400/2200



Part No. 400/2600



Part No. 400/2000



Part No. 400/8300



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