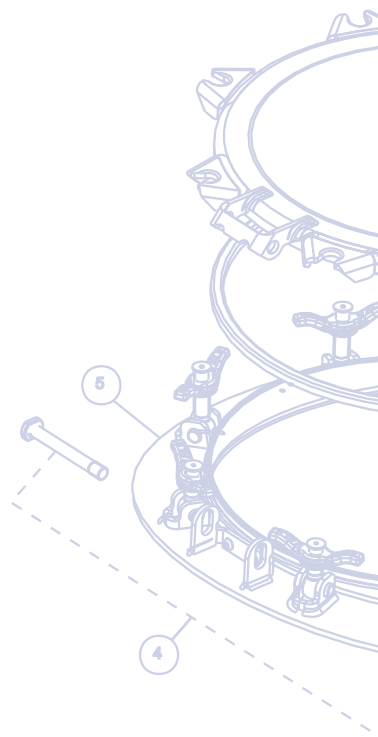
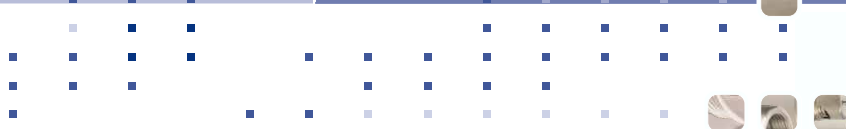
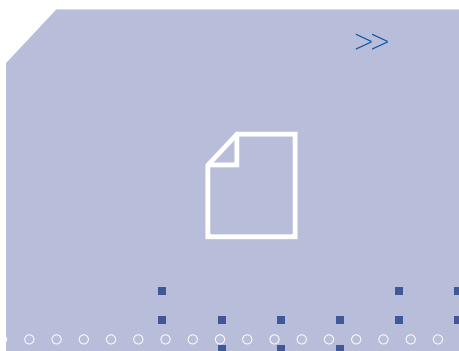




HYGIENIC
EQUIPMENT
CATALOGUE
//



The Fort Vale
Range of Equipment
for Food, Brewery &
Hygienic Applications

TOP MOUNTED MANWAYS //

- » 500mm Manlid Assembly with Flash Vacuum Vent
- » Manlid Seals

1
3/4

RELIEF VALVES & VENTS //

VENTS //

- » 2" BSP Breather Vent
- » 300mm Flash Vacuum Vent Assembly

5
6

RELIEF VALVES - AIR FLOW //

- » 1½" Vacuum Only Uniact - 50mm DIN11851
- » 2" Vacuum Only Uniact - 65mm DIN11851
- » 1½" Pressure/Vacuum Twinact - 50mm DIN11851
- » 2½" Pressure/Vacuum Twinact - 80mm DIN11851
- » 2½" Super Maxi Highflow - 80mm DIN11851
- » Relief Valve Ancillaries

7
8
9/10
11/12
13/14
15

RELIEF VALVES - LIQUID FLOW //

- » 2½" BSP Foodgrade Extended Body
- » 65mm Foodgrade Extended Body - 100mm DIN11851

17/18
19/20

SIDE/REAR MOUNTED MANWAYS //

- » 500mm Side Entry Manlid Assembly
- » In/Out Oval Manlid Assembly - Shallow Neckring
- » In/Out Oval Manlid Assembly - Deep Neckring

21
22
23/24

DISCHARGE VALVES //

- » 3" RJT Butterfly Valve
- » 3" Bevel Outlet Discharge valve

25
26

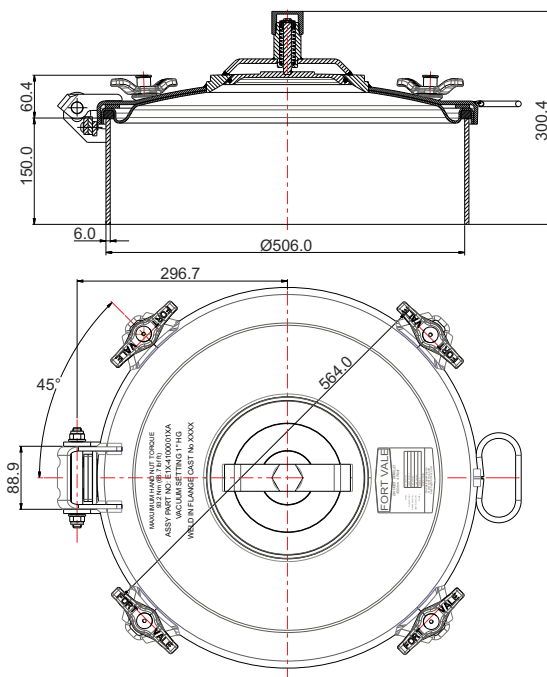


500mm Manlid Assembly with Flash Vacuum Vent - to suit Hygienic applications. 4 point fastening. 6mm thick x 150mm deep neckring. Manlid cover fitted with a flash vacuum vent set at 1"Hg (0.03 Bar). Neckring contact parts manufactured in 304 stainless steel. Manlid cover contact parts manufactured in 316 stainless steel. Fitted with stainless steel swingbolts with stainless steel handnuts. Seal supplied separately.

Options - alternative settings for vacuum vent valve. A range of neckring depths is available. Neckring may be profiled and/or supplied in 316 stainless steel. Other fittings, eg. sockets may be incorporated into the manlid cover. Alternative swingbolt assemblies are available.

Fitting Details

Part Number : E1B-4100001AA



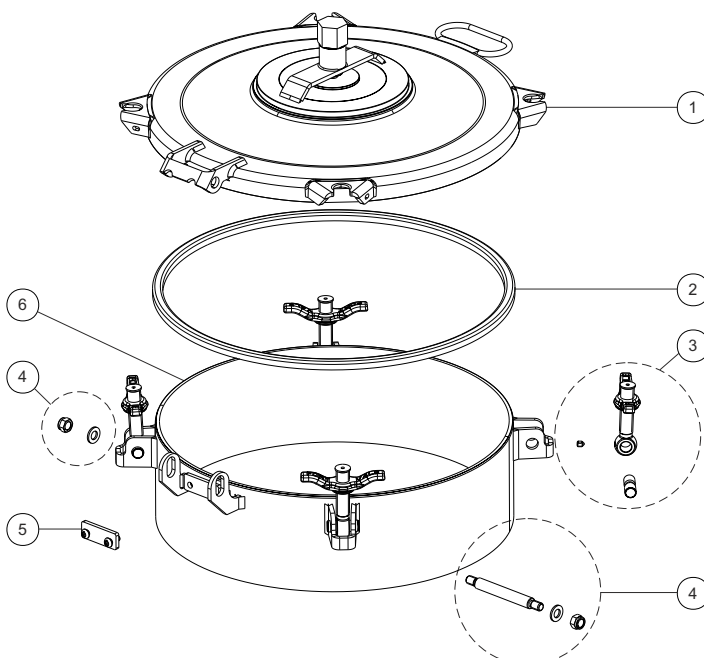
Specification

Weight	38 Kg *See Note
Design Pressure (MAWP)	1.0 Bar (14.5 PSI)
Test Pressure	1.5 Bar (21.75 PSI)
Design Temperature Range	-20°C to 200°C (-4°F to 392°F)

Approved to BS EN14025

Note : Weight may vary according to specification

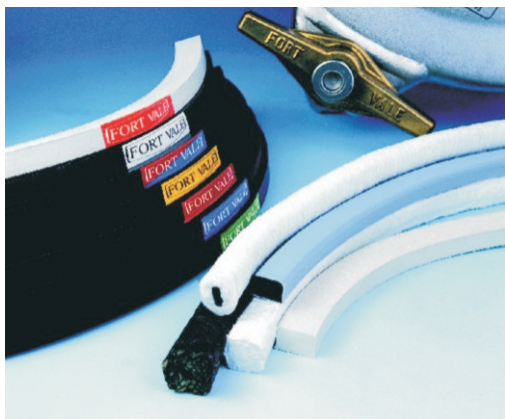
Parts drawing



Item	Description	Part No.
1	Cover with vac vent *See note	71E/0520PV02
2	500mm 16 x 10mm seal	See separate sheet
3	Swingbolt assembly (4) *Note	4965379
4	Hinge pin assembly	600/1060
5	Hinge kit *See note	135A
6	Neckring *See note	66E/46150A304

Note : Part number varies according to specification.

See data sheet reference **MAN028** for our range of seal materials.



Fort Vale offer an extensive selection of manlid seals to suit all applications and a range of temperatures.

Standard seal section dimensions are approximately 16mm x 10mm. Alternative dimensions are available as well as special seals to suit specific manways.

Seals may be fitted into the manlid cover if requested at the time of order.

A comprehensive range of genuine Fort Vale spare seals is available from all Fort Vale group companies as well as from our worldwide network of authorised distributors and service centres.

Rubber Compounds

Seals moulded from rubber compounds are suitable for many duties. Advantages include :

- Easily cleaned
- Good resilience qualities
- Excellent sealing capabilities
- Economical to replace regularly

Please be aware that many of these compounds are suitable only for specific types of cargo. The temperature range of each type of rubber must be observed. Please refer to the table overleaf for a general guide to product suitability. For more specific advice, please contact our Sales team.

Composite Seals

Composite seals have been developed for general purpose tanks where the products carried can vary and therefore, where a multi-purpose seal is required.

Braided - (NON-GAS TIGHT) PTFE impregnated fibre tightly braided around a silicone core and jointed into a solid ring. Caution should be taken when fitting rigid seals. Fitting this seal is at the discretion of the tank builder. See note on reverse for duty.

*** NB (see over)** *This material is lubricant free but does contain a small percentage of residual wetting agents essential to the PTFE dispersion with which this packing is impregnated. It should be noted that small amounts of these wetting agents may leach during application.*

Super Tanktyt - a virgin PTFE sheath bonded to three sides of a nitrile rubber core offering excellent sealing capabilities and cleanliness together with suitability for a wide variety of cargoes. It remains gas tight at 6 Bar.

Advantages include:

- Easily cleaned
- Excellent resilience qualities
- Excellent sealing capabilities
- Does not become porous
- Suitable for a wide variety of cargoes and a broad temperature range

Overall, the "Super Tanktyt" is the ideal sealing solution for the chemical industry. Its rubber core gives flexibility to ensure a gastight seal and its PTFE envelope gives optimum protection in hazardous cargo applications.

The table below is a guide to the standard range of Fort Vale manlid seals. We also offer a wide variety of different sizes and materials - please contact our sales department if the seal you require is not listed below. **The seal section is noted below the part number - all dimensions quoted are millimetres.**

Fort Vale rubber manlid seals have a unique colour-coding system to identify the seal material. The appropriate colour is marked on the outer edge of the seal as indicated in the table below.

	Duty (example only)	Pendle Manlid Seal					Euro Lid Seal			Colour Code
		170mm (7")	300mm (12")	460mm (18")	500mm (20")	600mm (24")	300mm (12")	460mm (18")	500mm (20")	
Butyl	Non-corrosive cargo -40°C to 120°C (-40°F to 248°F)	5005-17B 16 x 10	5005-30B 16 x 10	11536B 14.5 x 11.8	5005-50B 15.24 x 11.8	5005-60B 16 x 10	5005-33B 16 x 16	5005-47B 16 x 16	5005-53B 16 x 16	Blue
EPDM	Some corrosive cargoes. Not suitable for petroleum based liquids. -50°C to 150°C (-58°F to 302°F)	5005-17EPD 16 x 10	5005-30EPD 16 x 10	11536EPD 14.5 x 11.8	5005-50EPD 15.24 x 11.8	5005-60EPD 16 x 10	5005-33EPD 16 x 16	5005-47EPD 16 x 16	5005-53EPD 16 x 16	Red/Blue
Graphite Impregnated Fibre (non-Asbestos)	Non-corrosive high temperature products e.g. tar, bitumen etc. -50°C to 250°C (-58°C to 482°F)	5005-17GA 14.2 x 14.2	5005-30GA 14.2 x 14.2	11536GA 14.2 x 14.2	5005-50GA 14.2 x 14.2	5005-60GA 14.2 x 14.2	5005-33GA 16 x 16	5005-47GA 16 x 16	5005-53GA 16 x 16	
CSM	Moderately corrosive cargoes. Not suitable for petroleum based liquids. -40°C to 85°C (-40°F to 185°F)	5005-17CSM 16 x 10	5005-30CSM 16 x 10	11536CSM 14.5 x 11.8	5005-50CSM 15.24 x 11.8	5005-60CSM 16 x 10	5005-33CSM 16 x 16	5005-47CSM 16 x 16	5005-53CSM 16 x 16	White
Natural White Rubber	Food products -50°C to 80°C (-58°F to 176°F)	5005-17SWR 16 x 10	5005-30SWR 16 x 10	11536SWR 14.5 x 11.8	5005-50SWR 15.24 x 11.8	5005-60SWR 16 x 10	5005-33SWR 16 x 16	5005-47SWR 16 x 16	5005-53SWR 16 x 16	
Neoprene	Non-corrosive cargo -30°C to 100°C (-22°F to 212°F)	5005-17NR 16 x 10	5005-30NR 16 x 10	11536NR 14.5 x 11.8	5005-50NR 15.24 x 11.8	5005-60NR 16 x 10	5005-33NR 16 x 16	5005-47NR 16 x 16	5005-53NR 16 x 16	Green
Nitrile (Black)	Aliphatic hydrocarbons -25°C to 100°C (-13°F to 212°F)	5005-17N 16 x 10	5005-30N 16 x 10	11536N 14.5 x 11.8	5005-50N 15.24 x 11.8	5005-60N 16 x 10	5005-33N 16 x 16	5005-47N 16 x 16	5005-53N 16 x 16	Red
PTFE Impregnated Braided Fibre (silicone core)	Most corrosive cargoes – commonly used on general purpose tanks. -30°C to 120°C (-22°F to 248°F) See note on reverse	5005-17P/A 16 x 10	5005-30P/A 14 x 14	11536P/A 14 x 14	5005-50P/A 14 x 14		5005-33P/A 16 x 16	5005-47P/A 16 x 16	5005-53P/A 16 x 16	
Orange Silicone	High temperature non-corrosive cargoes. -50°C to 200°C (-58°F to 392°F)	5005-17S 16 x 10	5005-30S 16 x 10	11536S 14.5 x 11.8	5005-50S 15.24 x 11.8	5005-60S 16 x 10	5005-33S 16 x 16	5005-47S 16 x 16	5005-53S 16 x 16	
White Silicone	Food products. FDA approved. -50°C to 200°C (-58°F to 392°F)	5005-17WS 16 x 10	5005-30WS 16 x 10	11536WS 14.5 x 11.8	5005-50WS 15.24 x 11.8	5005-60WS 16 x 10	5005-33WS 16 x 16	5005-47WS 16 x 16	5005-53WS 16 x 16	Red
Super Tanktyt Nitrile Core	Corrosive cargoes – resistance similar to that of PTFE. -25°C to 140°C (-13°F to 284°F)		5005-890 15 x 10	5005-870 14.5 x 10	5005-860 14.5 x 12	5005-850 16 x 10			5005-871 16 x 16	
Super Tanktyt EPDM Core	Corrosive cargoes – resistance similar to that of PTFE. -50°C to 150°C (-58°F to 302°F)	5005-830EP 15.5 x 10	5005-890EP 15 x 10	5005-870EP 14.5 x 10	5005-860EP 14.5 x 12	5005-850EP 15 x 10				
Viton A	Non-corrosive cargo -15°C to 200°C (5°F to 392°F)	5005-17VR 16 x 10	5005-30VR 16 x 10	11536VR 14.5 x 11.8	5005-50VR 15.24 x 11.8	5005-60VR 16 x 10	5005-33VR 16 x 16	5005-47VR 16 x 16	5005-53VR 16 x 16	Yellow

Super Tanktyt is a Fort Vale trade name.

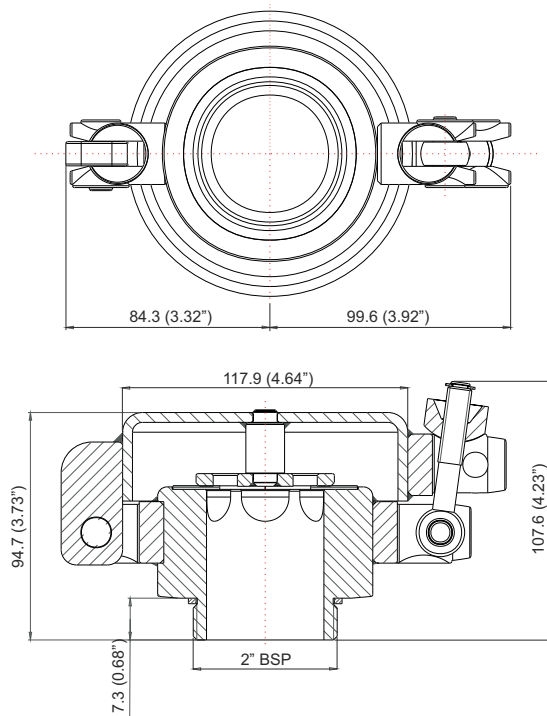


2" BSP Highflow Milk Breather Vent Valve - has a male screw connection and a hinged cap, enabling easy removal of the cap or the complete valve for inspection, cleaning and seal replacement. The cap can be opened by releasing the swingbolt. The valve has a food-grade silicone membrane seal which allows passage of air under pressure or vacuum conditions whilst preventing escape of liquid product during transit. Contact parts manufactured in 316 stainless steel.

Options - a DIN11851 milk fitting liner is available for hygienic applications. The cap is also available with a spot welded flameproof gauze to prevent ingress of any foreign particles.

Fitting Details

Example shown: 800/1100



Specification

Weight 2.93 Kg
Design Temperature -20°C to +200°C

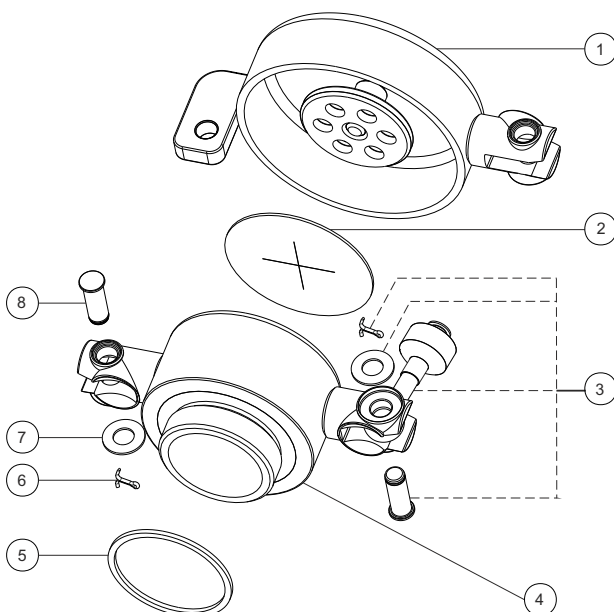
Range

Part No.	Description
800/1100	2" BSP Highflow Milk Breather Vent Valve
800/1200	2" Flanged Milk Breather Vent Valve

Associated Parts

Associated Parts	Part No.
2" Tank weld-in socket	600/1017
65mm DIN11851 milk fitting socket	176/2645
65mm DIN11851 milk fitting nut	176/2630
65mm DIN11851 Silicone seal	176/2635S

Parts drawing



Item	Description	Part No.
1	Top cap assembly	800/1120
2	Silicone rubber membrane	800/1105
3	Swingbolt assembly	800/1090
4	Body assembly	800/1110
5	1 1/2" cap seal	5005-575
6	Split pin	5118-016
7	M10 washer	5113-063
8	Clevis pin	614/4002



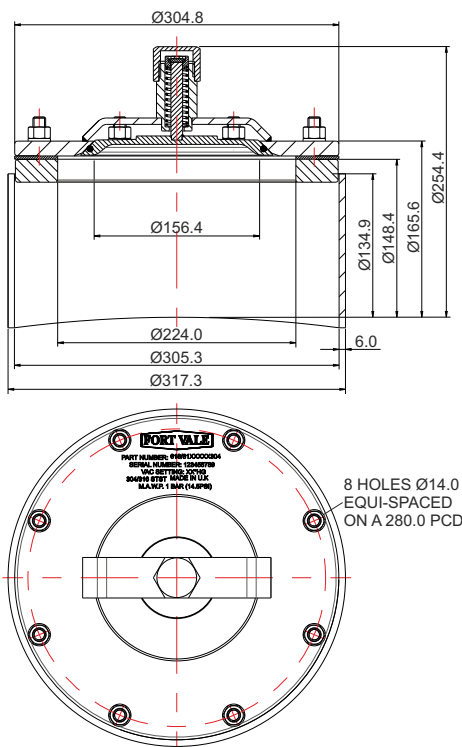
300mm Flash Vacuum Vent Assembly - Allows an emergency flow of air into the vessel to protect it from vacuum damage, for example during CIP.

The assembly comprises of a 300mm flash vacuum vent set at 1"Hg mounted to a flanged neckring, profiled to suit customer requirements. Supplied with studs, nuts and washers and fitted with a sweet white rubber gasket. Vacuum vent manufactured in 304/316 stainless steel fitted with EPDM O ring. Flanged neck manufactured in 304 stainless steel.

Options - neckring profiling for a tank radius range from 850mm - 1005mm. Alternative vacuum settings. The flash vacuum vent may be incorporated into a manlid cover.

Fitting Details

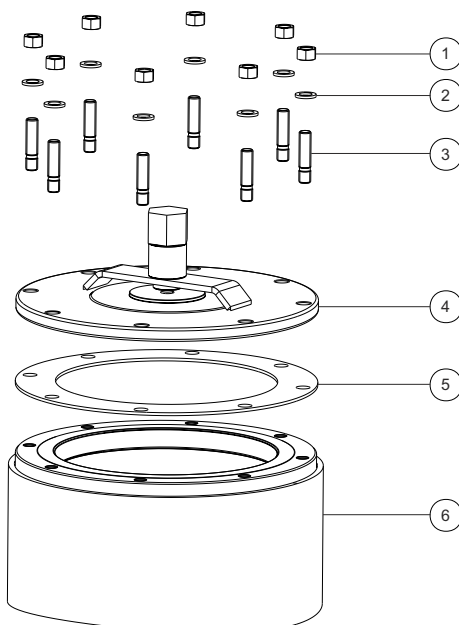
Part number : 618/6102XXX304



Specification

Weight	20.4 Kg
Design Pressure (MAWP)	1 Bar (14.5 PSI)
Test Pressure	1.5 Bar (21.75 PSI)
Design Temperature Range	-20°C to +150°C (-4°F to 302°F)

Parts drawing



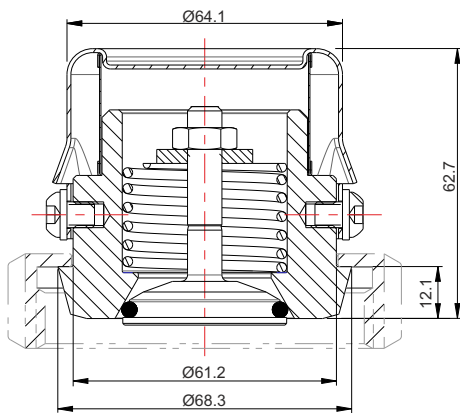
Item	Description	Part No.
1	M12 full nut (8)	5112-006
2	M12 spring washer (8)	5113-010
3	M12 stud (8)	312/1001
4	1"Hg flash vacuum vent *Note	618/620002304
5	Sweet white rubber gasket	5005-988
6	Tank pad/profiled neck *Note	618/614XXX304



Valve depicted without cap for clarity.

Fitting Details

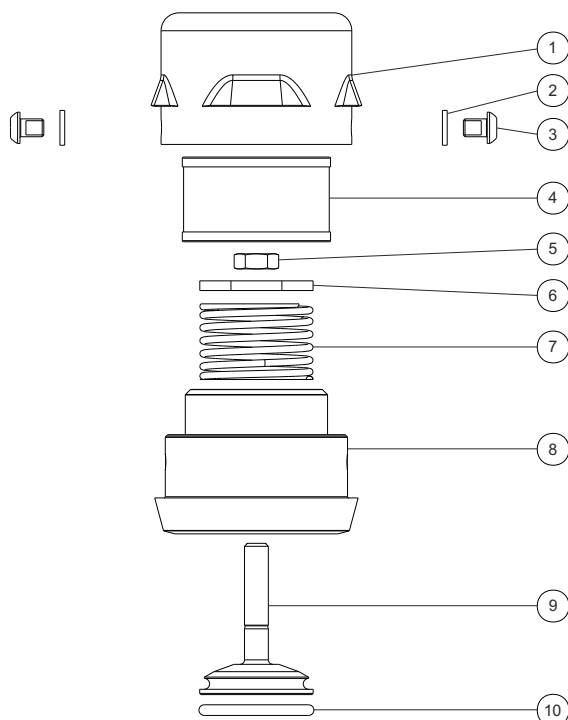
Part Number : 47M/X00XXAX



Range

Part No.	Description
47M/X00XXAX	50mm DIN11851 vacuum only
47M/XXX00AX	50mm DIN11851 pressure only
46RJT/XXXXXX	2" RJT fitting to inlet & outlet

Parts drawing



1½" Vacuum Only Uniact Relief Valve with 50mm DIN11851 connection - Suitable for a vacuum range of between 0.5"Hg and 22"Hg (0.02 Bar and 0.75 Bar). Single-acting valve - vacuum relief only. Contact parts manufactured in 316 stainless steel fitted with Fortyt seal (FEP encapsulated silicone O ring) as standard. Supplied with stainless steel gauzed cap. 50mm DIN 11851 nut and seal supplied separately.

Options - pressure only version. Different tank connections available. Alternative seal materials. Alternative style cap. 65mm range of Uniact valves.

Specification

Weight	1.16 Kg
Design Pressure (MAWP)	4.5 Bar (65 PSI)
Test Pressure	7 Bar (101.5 PSI)
Fortyt Seal Temperature Range	-55°C to 200°C

In-house test certificates confirming valve setting and serial number supplied as standard.

Visual inspection and service (where necessary) is recommended on a 6 monthly basis.

Associated Parts

Part No.	Associated Parts
176/2660	50mm DIN11851 weld-in socket
176/2670	50mm DIN11851 fitting nut
176/2675S	Silicone seal to suit 50mm DIN fittings
10217/1GZ	Pressed stainless steel cap with gauze
10217GZ	Fabricated stainless steel cap with gauze

Item	Description	Part No.
1	Cap	10217/1
2	M6 spring washer (2)	5113-008
3	M6 button screw (2)	5111-611
4	Gauze ring	10204
5	M8 half nut	5112-004
6	Spring pad	10215
7	Spring (See Note)	5104-XXX
8	50mm DIN 11851 body	40M/1005
9	Vacuum poppet	10983V
10	Fortyt O ring	5005-108H

NOTE : Part number varies according to setting.

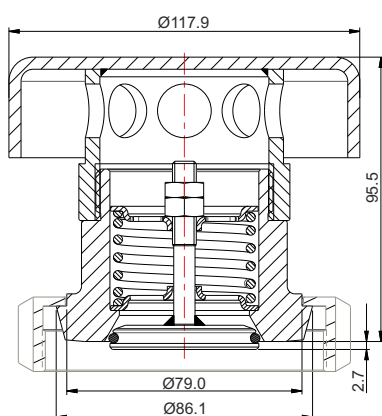


2" Vacuum Only Uniact Relief Valve with 65mm DIN11851 connection - Suitable for a vacuum range of between 0.5"Hg and 24"Hg (0.02 Bar and 0.81 Bar). Single-acting valve - vacuum relief only. Contact parts manufactured in 316 stainless steel fitted with Fortyt seal (FEP encapsulated silicone O ring) as standard. Supplied with stainless steel gauzed cap. 65mm DIN 11851 nut supplied separately.

Options - pressure only version. Different tank connections available. Alternative seal materials. Alternative style cap. 50mm range of Uniact valves.

Fitting Details

Part Number : 85M/X00XXA



Specification

Weight	2.71 Kg
Fortyt Seal Temperature Range	-55°C to 200°C

In-house test certificates confirming valve setting and serial number supplied as standard.

Visual inspection and service (where necessary) is recommended on a 6 monthly basis.

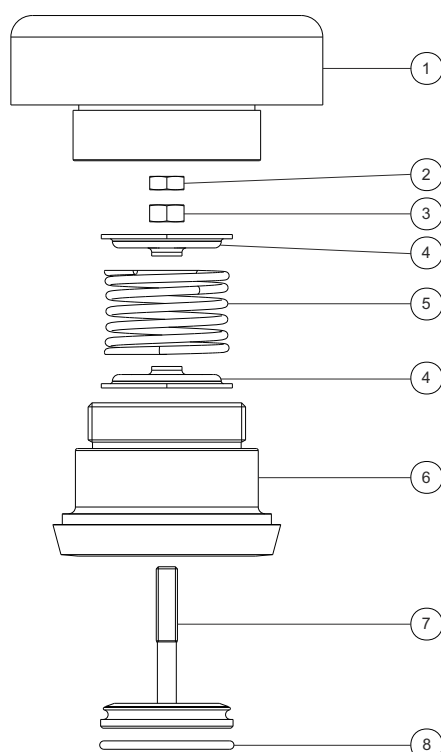
Range

Part No.	Description
85M/X00XXA	65mm DIN11851 vacuum only
85M/XXX00A	65mm DIN11851 pressure only

Associated Parts

Part No.	Associated Parts
176/2645	65mm DIN11851 fitting socket
176/2630	65mm DIN11851 fitting nut

Parts drawing



Item	Description	Part No.
1	Cap	10218
2	Half nut	5112-004
3	Full nut	5112-001
4	Spring pad (2)	85/1003
5	Spring (See Note)	5104-XXX
6	65mm DIN11851 valve body	85M/1000
7	Poppet	85/1015
8	Fortyt O ring	5005-118

NOTE : Part number varies according to valve specification.



1½" Twinact Relief Valve with 50mm DIN11851 connection - Suitable for a pressure range of between 1 - 64 PSI (0.07 - 4.41 Bar) and a vacuum range of between 0.5" - 28" Hg (0.02 - 0.94 bar). Contact parts manufactured in 316 stainless steel fitted with Fortyt (FEP encapsulated silicone O ring) seals as standard. Complete with manual vent button.

Options - Pressure only version. Valve also available with Viton seals. Other seal materials available, including high temperature option. Flameproof gauze available. Full range of BSP valves.

Specification

Weight	0.96 Kg
Fortyt Seal Temperature Range	-55°C to +200°C
Viton Seal Temperature Range	-20°C to +200°C

In-house test certificates confirming valve settings and serial numbers are supplied as standard.

Visual inspection and service (where necessary) is recommended on a 6 monthly basis.

Range

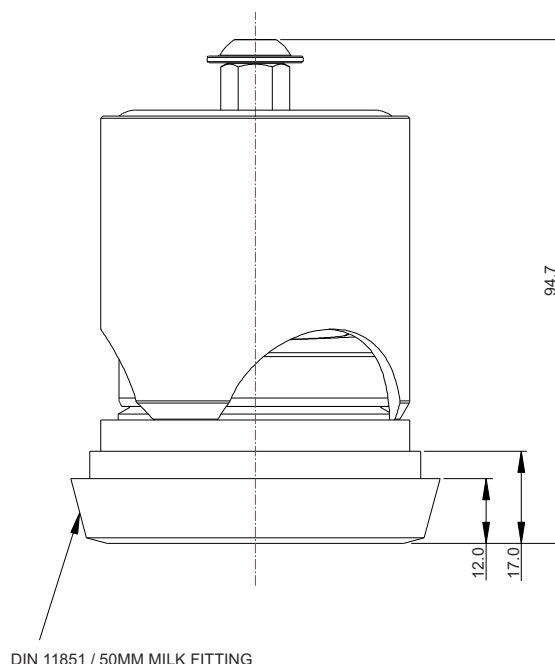
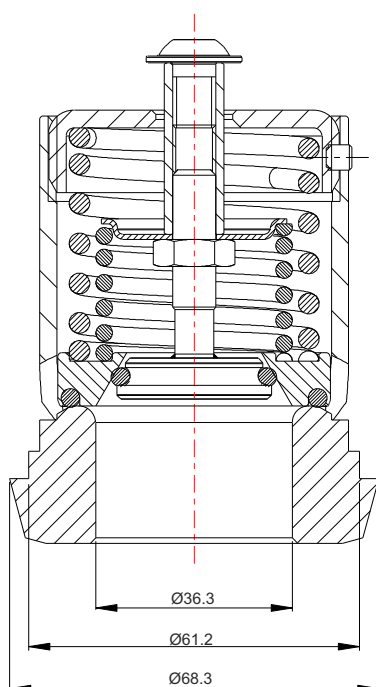
Part No.	Description
3M/XXXXX	50mm DIN11851 1½" Twinact, pressure/vacuum
3M/XXX00	50mm DIN11851 1½" Twinact, pressure only

Associated Parts

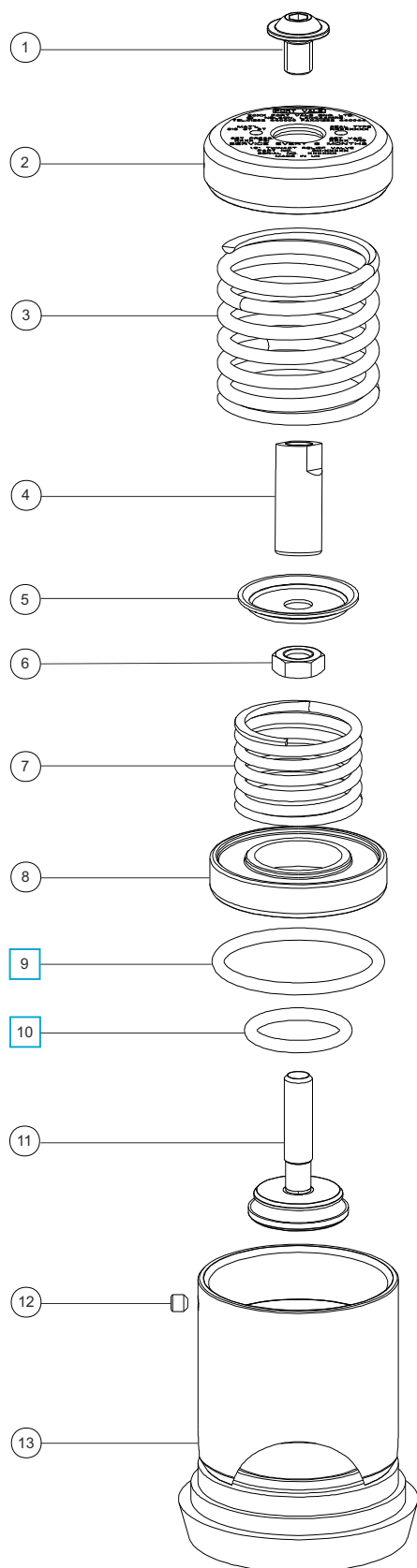
Part No.	Associated Parts
176/2660	50mm DIN11851 milk fitting socket
176/2670	50mm DIN11851 milk fitting nut
176/2675S	50mm DIN11851 silicone seal
200/5000	1½" clamped gauze ring

Fitting Details

Example shown : 3M/XXXXX



Parts drawing



Item	Description	Part No.
1	Flanged button screw	5111-9812
2	Top cap	11004
3	Pressure spring See Table 1	5104-XXX
4	Spring stem	10984
5	Spring pad	11006XX
6	M8 half nut	5112-004
7	Vacuum spring See Table 2	5104-XXX
8	Pressure plate See NOTE	11002XX
9	Pressure o ring See Table 3 & NOTE	5005-XXX <input type="checkbox"/>
10	Vacuum o ring See Table 3	5005-XXX <input type="checkbox"/>
11	Vacuum poppet	11003
12	Grubcrew	5121-001
13	Body	10990

SEAL KIT - contains all parts marked ☐

Part number **30/1PVSK** contains Fortyt O rings

Part number **30/0PVSK** contains Viton O rings

NOTE

Please note that additional tooling is required to peen the pressure o ring into the pressure plate.

When a pressure plate needs replacing, Fort Vale strongly recommends the purchase of a pressure plate with a factory-fit pressure o ring. (See Table 4)

TABLE 1

Common Pressure Settings	Pressure Spring Part No
3 PSI (0.21 Bar)	5104-703
29 to 32 PSI (2.0 – 2.21 Bar)	5104-730

Pressure springs are available from 1 PSI (0.07 Bar) to 64 PSI (4.41 Bar)

TABLE 2

Common Vacuum Settings	Vacuum Spring Part No
0.5" Hg (0.02 Bar)	5104-760
1" Hg (0.03 Bar)	5104-761
3" Hg (0.10 Bar)	5104-765

Vacuum springs are available from 0.5"Hg (0.02 Bar) to 28"Hg (0.94 Bar)

TABLE 3 - See NOTE

Seal Material	Pressure o ring	Vacuum o ring
Fortyt	5005-118	5005-114
Viton	5005-110	5005-112

TABLE 4

Seal Material	Pressure plate with o ring
Fortyt	11002F
Viton	11002V

**C SPANNER - PART NUMBER 400/3000**

For relief valve fitting and removal.

Size range 1¼" to 3".



2½" Twinact Relief Valve with 80mm DIN11851 connection - Suitable for a pressure range of between 1 - 63 PSI (0.07 - 4.34 bar) and a vacuum range of between 0.5" - 28" Hg (0.02 - 0.94 bar). Contact parts manufactured in 316 stainless steel fitted with Fortyt (FEP encapsulated silicone O ring) seals as standard. Complete with manual vent button.

Options - pressure only version. Other seal materials are available. Full range of BSP valves.

Specification

Weight	1.91 Kg
Fortyt Seal Temperature Range	-55°C to +200°C
Viton Seal Temperature Range	-20°C to +200°C

In-house test certificates confirming valve settings and serial numbers are supplied as standard.

Visual inspection and service (where necessary) is recommended on a 6 monthly basis.

Range

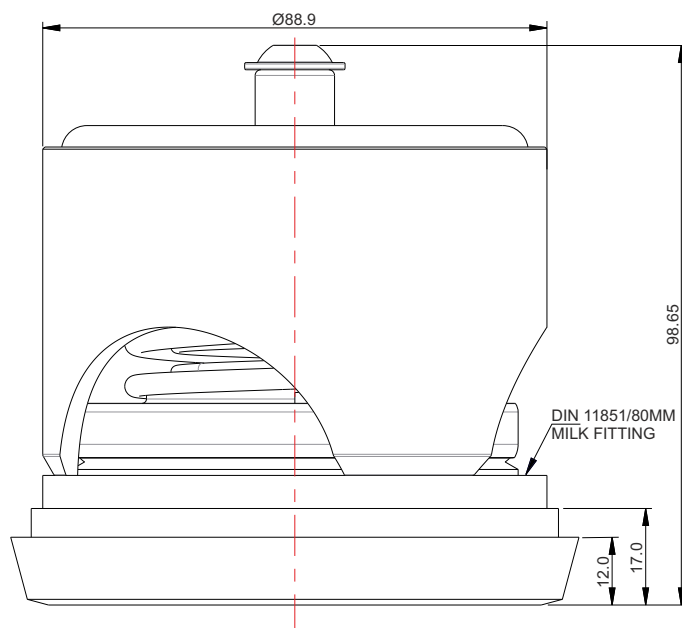
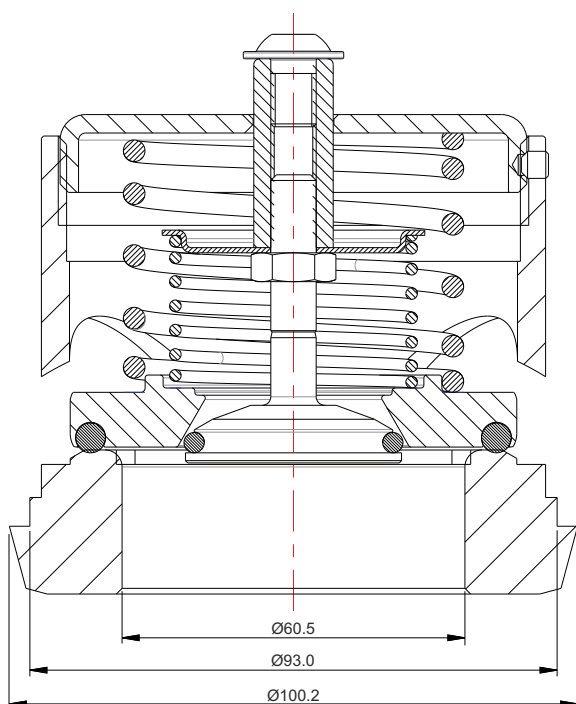
Part No.	Description
2M/XXXXX	80mm DIN11851 2½" Twinact, pressure/vacuum
2M/XXX00	80mm DIN11851 2½" Twinact, pressure only

Associated Parts

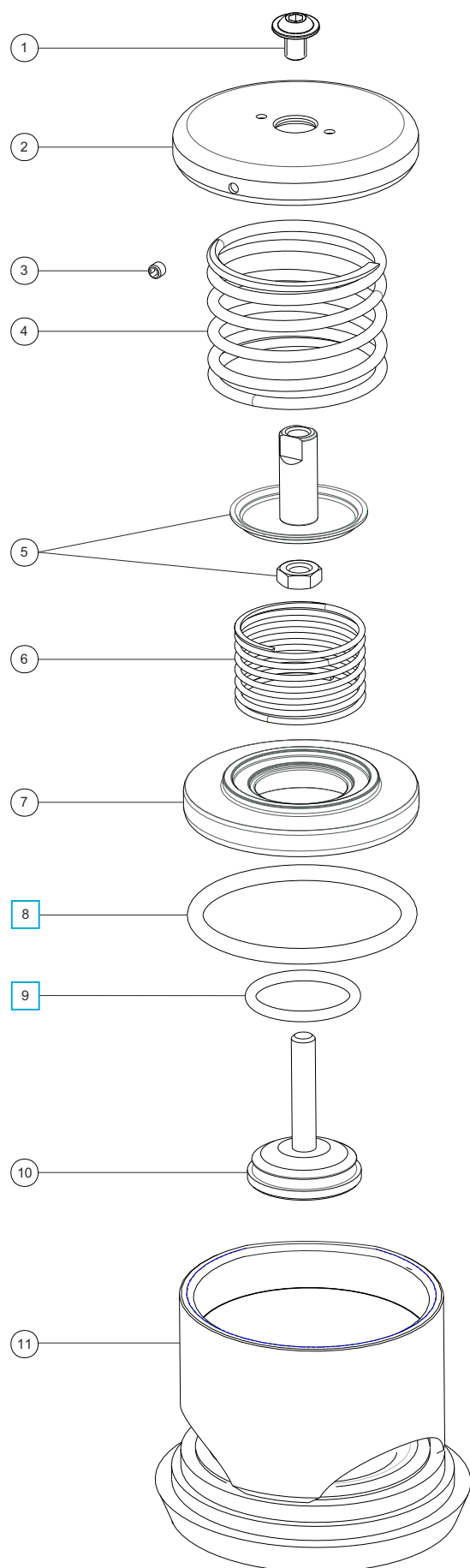
Part No.	Associated Parts
176/2550	80mm DIN11851 milk fitting socket
176/2650	80mm DIN11851 milk fitting nut
176/2685S	80mm DIN11851 silicone seal
130/5000	2½" clamped gauze ring

Fitting Details

Example shown : 2M/XXXXX



Parts drawing



Item	Description	Part No.
1	Flanged button screw	5111-9812
2	Top cap	10967/1
3	Grubscrew	5121-001
4	Pressure spring See Table 1	5104-XXX
5	Spring pad assembly	130/0010
6	Vacuum spring See Table 2	5104-XXX
7	Pressure plate See NOTE	175/00XX
8	Pressure o ring See Table 3 & NOTE	5005-XXX <input type="checkbox"/>
9	Vacuum o ring See Table 3	5005-XXX <input type="checkbox"/>
10	Vacuum poppet	10983V
11	Body	11021

SEAL KIT - contains all parts marked ☐

Part no. **20/1PVSK** contains Fortyt O rings

Part no. **20/0PVSK** contains Viton O rings

NOTE

Please note that additional tooling is required to peen the pressure o ring into the pressure plate.

When a pressure plate needs replacing, Fort Vale strongly recommends the purchase of a pressure plate with a factory-fit pressure o ring. (See Table 4)

TABLE 1

Common Pressure Settings	Pressure Spring
28 to 30 PSI (1.93 to 2.07 Bar)	5104-529

Pressure springs are available from 1 PSI (0.07 Bar) to 63 PSI (4.34 Bar)

TABLE 2

Common Vacuum Settings	Vacuum Spring
0.5" Hg (0.02 Bar)	5104-560
1" Hg (0.03 Bar)	5104-561
3" Hg (0.10 Bar)	5104-563

Vacuum springs are available from 0.5"Hg (0.02 Bar) to 28"Hg (0.94 Bar)

TABLE 3 - See NOTE

Seal Material	Pressure o ring	Vacuum o ring
Fortyt	5005-101	5005-108H
Viton	5005-102	5005-107

TABLE 4

Seal Material	Pressure plate	Pressure plate with o ring
Fortyt	175/0061	175/0061F
Viton	175/0031	175/0031V

**C SPANNER - PART NUMBER 400/3000**

For relief valve fitting and removal.

Size range 1¼" to 3".



2½" Super Maxi Pressure/Vacuum Relief Valve with 80mm DIN11851 connection - Suitable for a pressure range of between 2 PSI to 75 PSI (0.14 Bar to 5.17 Bar) and a vacuum range of between 0.5"Hg to 24"Hg (0.02 Bar to 0.81 Bar). Contact parts manufactured in 316 stainless steel fitted with Fortyt seal (FEP encapsulated silicone O ring) as standard. Supplied complete with DIN 11851 fitting nut.

Options - pressure only version. Different tank connections available. Alternative seal materials.

Specification

Weight	5.35 Kg
Design Pressure (MAWP)	5.2 Bar (75 PSI)
Test Pressure	10.1 Bar (147 PSI)
Fortyt Seal Temperature Range	-55°C to 200°C

In-house test certificates confirming valve setting and serial number supplied as standard.

Visual inspection and service (where necessary) is recommended on a 6 monthly basis.

Range

Part No.	Description
01M/XXX00	80mm DIN11851 pressure only
01M/XXXXX	80mm DIN11851 pressure/vacuum
01J/XXXXX	3" RJT pressure/vacuum *Note

Note : See 3" RJT section view under Fitting Details

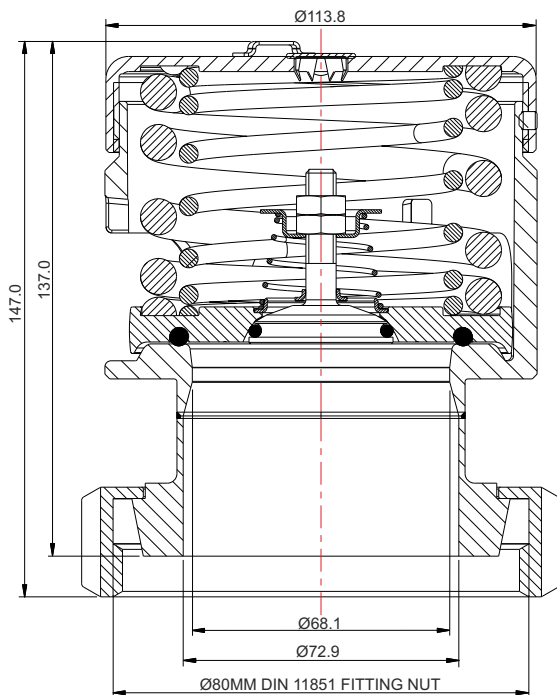
Associated Parts

Part No.	Associated Parts
176/2550	80mm DIN11851 fitting socket
176/2685S	Silicone seal to suit 80mm DIN fittings
176/2900	Clamped gauze ring

Fitting Details

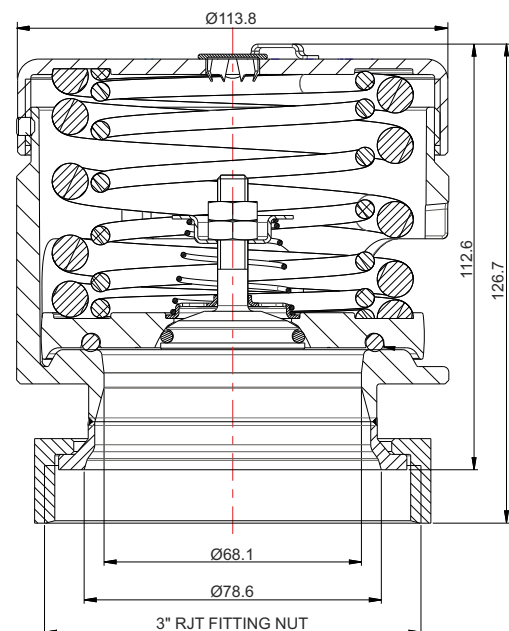
DIN11851 Connection

Part Number : 01M/XXXXX



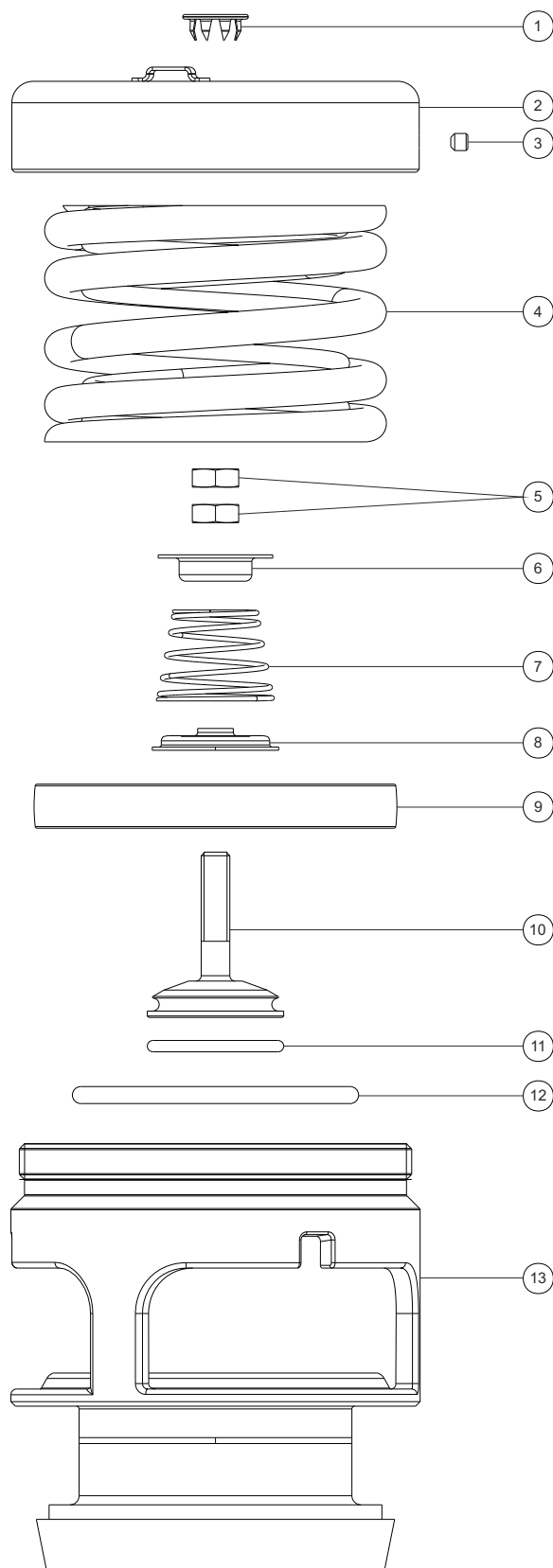
Alternative Connection - 3" RJT

Part Number : 01J/XXXXX



Parts Drawing
DIN11851 Connection

Part Number : 01M/XXXXX



Item	Description	Part No.
1	Stainless steel plug	10978
2	Cap	1760/0005
3	Sockethead screw	5121-001
4	Pressure spring pair (See Note)	6104-XXX
5	M8 half nut (2)	5112-004
6	Vacuum spring pad	1860/0005
7	Vacuum spring (See Note)	7104-XXX
8	Spring pad	10986/3
9	Pressure plate (See Note)	1860/XXXX
10	Vacuum poppet (See Note)	10983X
11	Fortyt vacuum O ring (See Note)	5005-108H
12	Fortyt pressure O ring (See Note)	5005-101
13	80mm DIN11851 valve body	1860/0150

NOTE : Part number varies according to valve specification.

DIN11851 Socket & Nut



The DIN11851 fitting is suitable for hygienic applications and consists of a male socket and female nut. A compatible silicone seal is also available.

It is available in three sizes - 50mm, 65mm and 80mm, designed for use with our 1½", 2" and 2½" relief valves.

The socket and nut are manufactured in 316 stainless steel.

Description	Part No.
50mm socket	176/2660
50mm nut	176/2670
Silicone seal to suit 50mm DIN fittings	176/2675S
65mm socket	176/2645
65mm nut	176/2630
Silicone seal to suit 65mm DIN fittings	176/2635S
80mm socket	176/2550
80mm nut	176/2650
Silicone seal to suit 80mm DIN fittings	176/2685S

Clamped Gauzes



Clamped gauze rings are available for our 1", 1½", 2½", 65mm and 80mm relief valves. They clamp around the body ports and offer flame protection on valves with a vacuum setting of 0.21 Bar (6"Hg) and above. For valves with a vacuum setting of less than 0.21 Bar, a clamped gauze is often fitted to offer dust protection.

Description	Part No.
Clamped gauze – 1" Minnow valves	179/0300
Clamped gauze – 1½" Twinact valves	200/5000
Clamped gauze – 2½" Twinact valves	130/5000
Clamped gauze – 2½"/65mm Super Maxi valves *	176/2900
Clamped gauze – 80mm Hyper Maxi 043/series & 049/series only *	176/2920

Fitting a clamped gauze to a Minnow or Twinact relief valve reduces the valve flow rate.

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

Fitting clamped gauze 176/2920 to an 043/series or 049/series 80mm Hyper Maxi relief valve reduces the valve flow rate by 5.4%.

* Please note that the 176/2900 and 176/2920 are NOT interchangeable. For further advice, please contact our Sales Department.

Burst Disc Adaptor



The burst disc adaptor assembly is designed to hold a 65mm burst disc between the tank and a 2½" BSP relief valve. It is designed for use in conjunction with the Fort Vale manometer to monitor the integrity of the disc. (burst disc not included)

Description	Part No.
Burst disc adaptor	176/7020
Burst disc	862/####



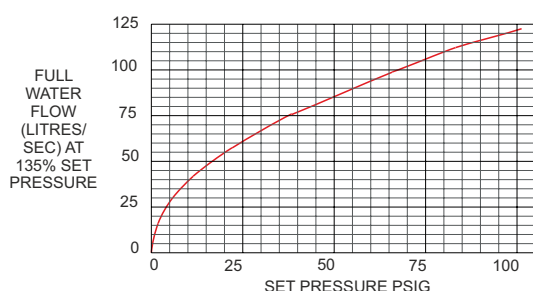
Specification

Weight 4.78 Kg *Varies
Design Temperature Dependant upon seal material

Design approval by Lloyds Register of Shipping.

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

Test certificates supplied as standard.



2½" BSP Foodgrade Extended Body Relief Valve - Designed and tested for incompressible fluid flow. 2½" BSP male connection with 65mm NB. Suitable for a pressure range of between 3 - 101 PSI (0.21 - 6.97 Bar) and a standard vacuum setting of 0.5"Hg (0.02 Bar). Contact parts manufactured in 316 stainless steel. Fitted with Fortyt and EPDM seals.

Options - Additional vacuum settings are available. Valve with 100mm DIN11851 milk fitting available.

Range

Part No.	Description
0S/5XXXX	2½" BSP Foodgrade relief valve

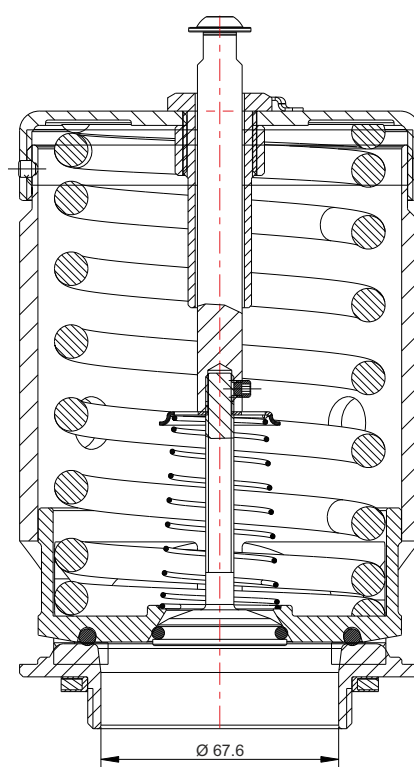
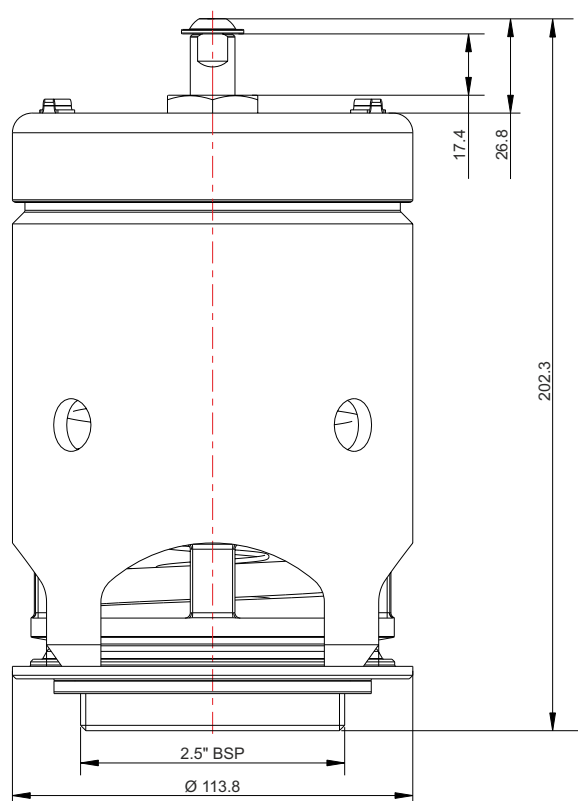
Associated Parts

Part No.	Associated Parts
600/1000	2½" BSP weld-in socket
176/3156	Hygienic tank weld-in pad
920/07BBSP	0-100 PSIG pressure gauge, bottom entry, stainless steel internal parts
921/07BBSP	0-100 PSIG pressure gauge, bottom entry, brass internal parts
921/07RBSP	0-100 PSIG pressure gauge, rear entry, brass internal parts
176/2200 *	Removable clamped gauze

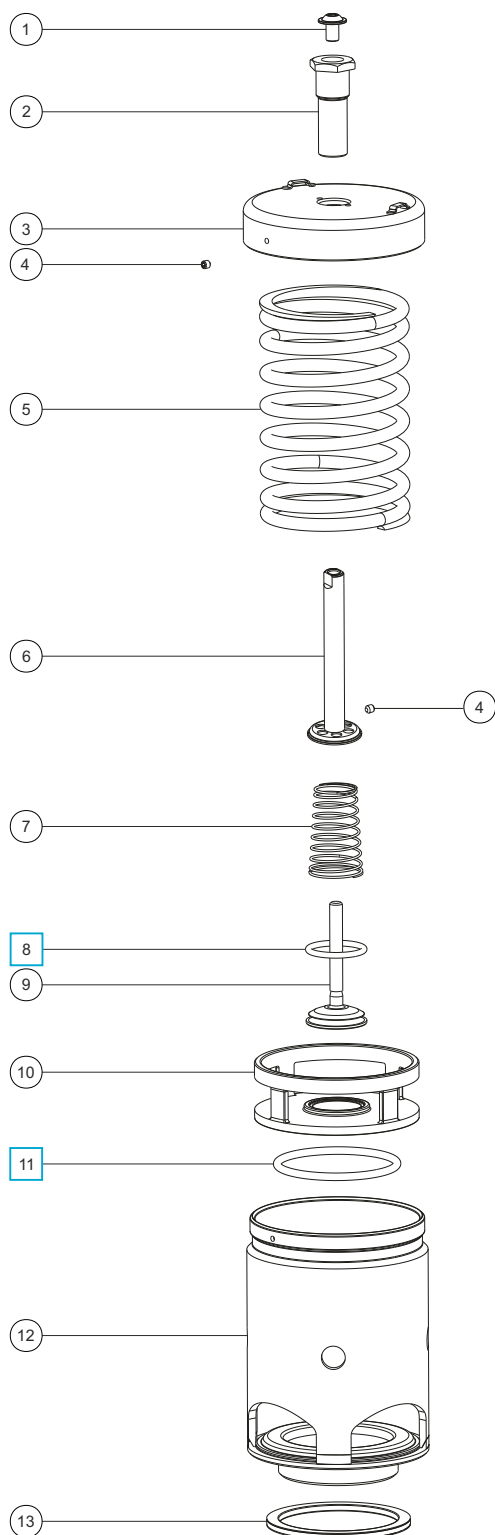
* Fitting ancillary items in the flow stream will affect the valve flow rate.

Fitting Details

Example shown : 0S/5XXXX



Fitting Details



Item	Description	Part No.
1	Flanged button screw	5111-9812
2	Adjusting screw	175/0005
3	Cap assembly	176/0009
4	Grubscrew (2)	5121-001
5	Pressure spring *See Table 1	5104-XXX
6	Spring pad assembly	176/0067
7	Vacuum spring *See Table 2	5104-XXX
8	EPDM O ring	5005-255 <input type="checkbox"/>
9	Vacuum poppet	230/0045
10	Pressure plate	176/0062
11	Fortyt O ring	5005-101 <input type="checkbox"/>
12	Body	176/0610
13	Rubber/PTFE envelope seal	5005-046

SEAL KIT

Part number **000/5PVSK** contains all parts marked ☐

TABLE 1

Pressure Setting	Pressure Spring	Full Water Flow (Litres/Sec)	At Pressure (PSIG)
3 PSI (0.21 Bar)	5104-947	21.3	4.1
7 PSI (0.48 Bar)	5104-946	33.0	9.5
13 PSI (0.90 Bar)	5104-969	44.3	17.6
14 PSI (0.97 Bar)	5104-923	46.0	18.9
15 PSI (1.03 Bar)	5104-923	47.5	20.3
17 PSI (1.17 Bar)	5104-922	50.6	23.0
18 PSI (1.24 Bar)	5104-922	52.1	24.3
20 PSI (1.38 Bar)	5104-804	55.0	27.0
22 PSI (1.52 Bar)	5104-940	57.6	29.7
25 PSI (1.72 Bar)	5104-912	61.4	33.8
26 PSI (1.79 Bar)	5104-912	62.6	35.1
27 PSI (1.86 Bar)	5104-927	63.8	36.5
29 PSI (2.00 Bar)	5104-921	66.1	39.2
35 PSI (2.41 Bar)	5104-958	72.6	47.3
37 PSI (2.55 Bar)	5104-859	75.0	50.0
43 PSI (2.96 Bar)	5104-955	80.5	58.1
50 PSI (3.45 Bar)	5104-950	87.0	67.5
101 PSI (6.96 Bar)	5104-994	123.3	136.4

TABLE 2

Common Vacuum Settings	Vacuum Spring Part No.
½"Hg (-0.02 Bar)	5104-917
1"Hg (-0.03 Bar)	5104-913
1½"Hg (-0.05 Bar)	5104-979

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.



65mm NB Foodgrade Extended Body Relief Valve with 100mm DIN11851 connection - Designed and tested for incompressible fluid flow. Suitable for a pressure range of between 3 - 50 PSI (0.21 - 3.45 Bar) and a standard vacuum setting of 0.5"Hg (0.02 Bar). Contact parts manufactured in 316 stainless steel. Fitted with Forty and EPDM seals.

Options - Additional vacuum settings are available. Valve with 2½" BSP fitting available.

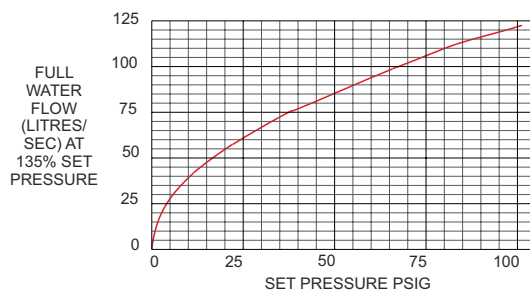
Specification

Weight 6.61 Kg *Varies
Design Temperature Dependant upon seal material

Design approval by Lloyds Register of Shipping.

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

Test certificates are supplied as standard.



Range

Part No.	Description
0M/5XXXX	Foodgrade relief valve – 100mm DIN11851

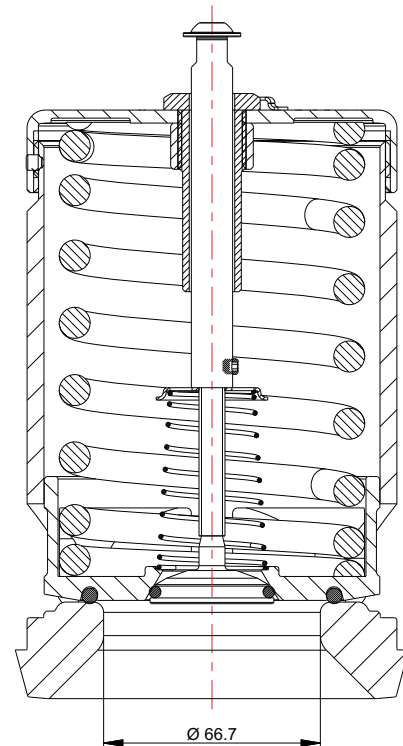
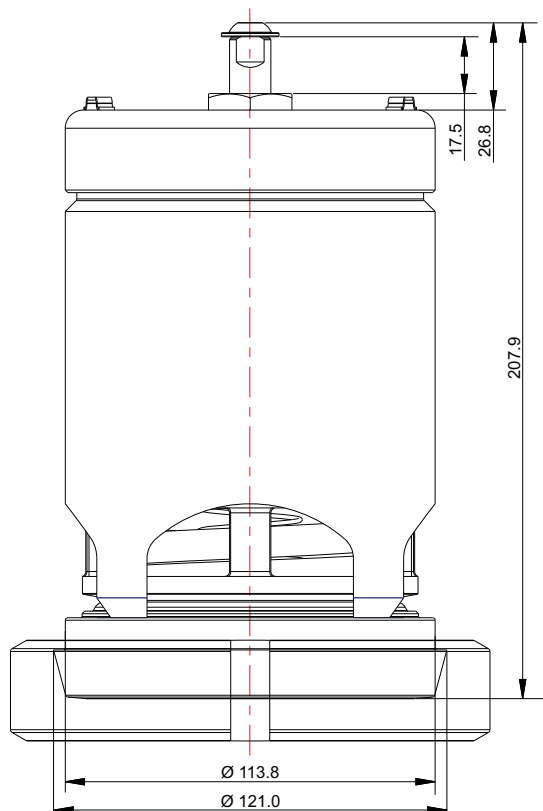
Associated Parts

Part No.	Associated Parts
176/2600	100mm DIN11851 milk fitting nut
176/2620	100mm DIN11851 milk fitting socket
176/2200 *	Removable clamped gauze
920/07BBSP	0-100 PSIG pressure gauge, bottom entry, stainless steel internal parts
921/07BBSP	0-100 PSIG pressure gauge, bottom entry, brass internal parts
921/07RBSP	0-100 PSIG pressure gauge, rear entry, brass internal parts

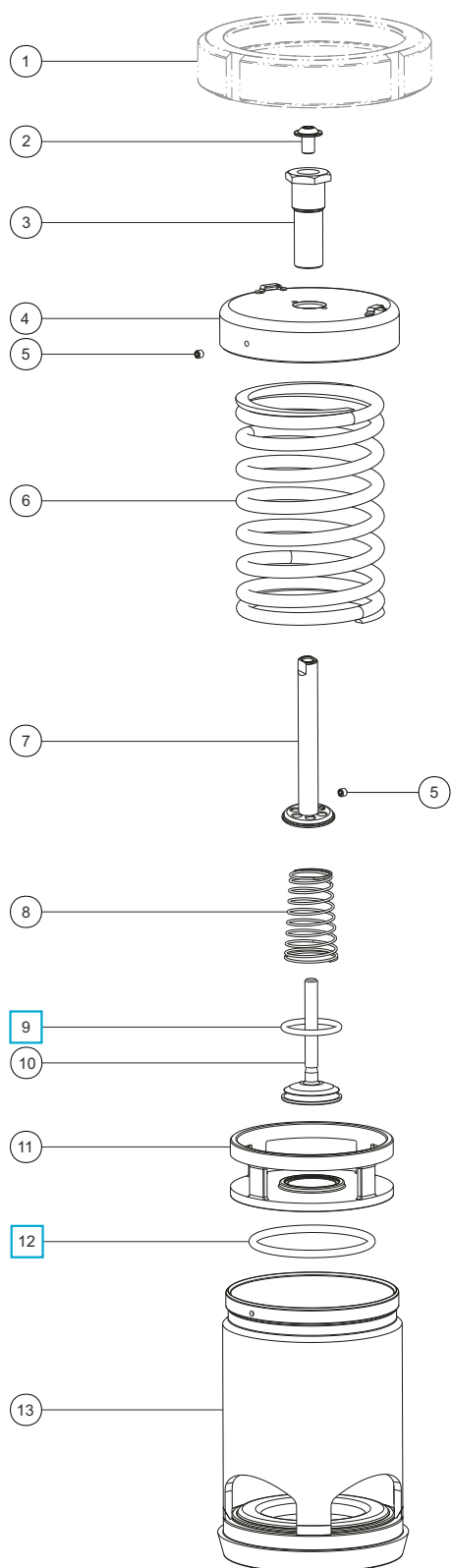
* Fitting ancillary items in the flow stream will affect the valve flow rate.

Fitting Details

Example shown : 0M/5XXXX



Fitting Details



Item	Description	Part No.
1	100mm DIN11851 milk fitting nut	176/2600
2	Flanged button screw	5111-9812
3	Adjusting screw	175/0005
4	Cap assembly	176/0009
5	Grubscrew (2)	5121-001
6	Pressure spring *See Table 1	5104-XXX
7	Spring pad assembly	176/0067
8	Vacuum spring *See Table 2	5104-XXX
9	EPDM O ring	5005-255 <input type="checkbox"/>
10	Vacuum poppet	230/0045
11	Pressure plate	176/0062
12	Fortyt O ring	5005-101 <input type="checkbox"/>
13	Body assembly	176/0630

* supplied separately

SEAL KIT

Part number **000/5PVSK** contains all parts marked ☐

TABLE 1

Pressure Setting	Pressure Spring	Full Water Flow (Litres/Sec)	At Pressure (PSIG)
17 PSI (1.17 Bar)	5104-922	50.6	23.0
22 PSI (1.52 Bar)	5104-940	57.6	29.7
25 PSI (1.72 Bar)	5104-912	61.4	33.8
26 PSI (1.79 Bar)	5104-912	62.6	35.1
27 PSI (1.86 Bar)	5104-927	63.8	36.5
29 PSI (2.00 Bar)	5104-921	66.1	39.2
32 PSI (2.21 Bar)	5104-921	69.5	43.2
36 PSI (2.48 Bar)	5104-958	73.9	48.6
43 PSI (2.96 Bar)	5104-978	80.5	58.1
44 PSI (3.03 Bar)	5104-978	82.5	59.4

TABLE 2

Common Vacuum Settings	Vacuum Spring Part No.
½" Hg (-0.02 Bar)	5104-917
1" Hg (-0.03 Bar)	5104-913
1½" Hg (-0.05 Bar)	5104-979

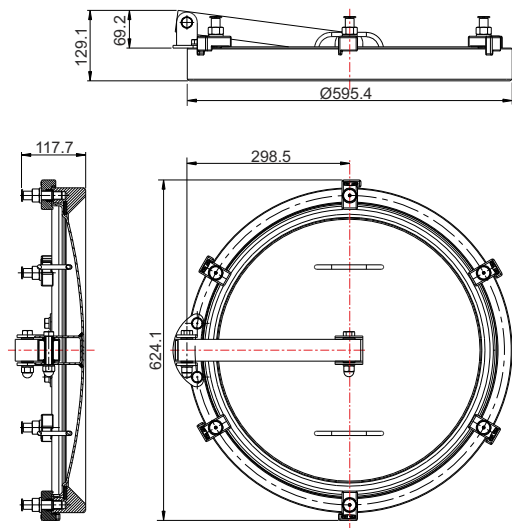
Visual inspection and service (where necessary) is recommended on a 6 monthly basis. A detailed step-by-step repair manual is available for our Super Maxi Relief Valves. Please contact our Sales team for further information.



500mm Side Entry Manlid Assembly - suitable for Milk Tankers. Cover with cross arm and 6 point fastening with clamp system. 60mm deep neckring. Contact parts manufactured in 304 stainless steel. Fitted with a sweet white rubber seal. (FDA compliant)

Fitting Details

Part Number : 850/3500



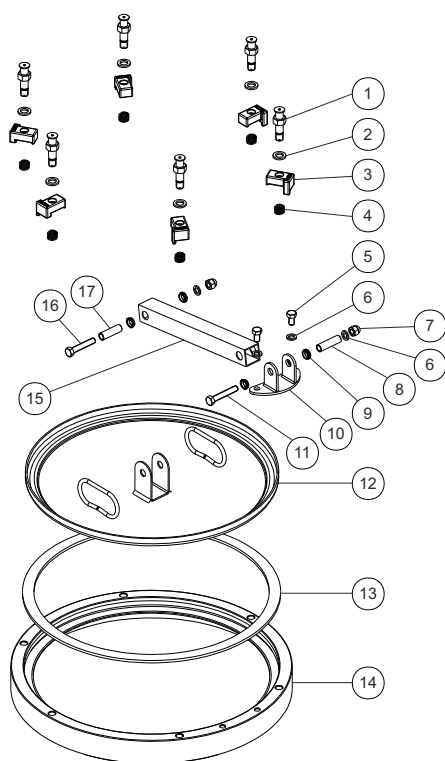
Specification

Weight	36.8 Kg
Design Pressure (MAWP)	0.5 Bar (7.25 PSI)
Test Pressure	0.75 Bar (10.9 PSI)
Design Vacuum	-0.62 Bar (460mmHg)
Test Vacuum	-0.68 Bar (510mmHg)
Design Temperature	-20°C to +85°C (-4°F to +185°F)

Bolt torque

20 Nm

Parts drawing



Item	Description	Part No.
1	Stud assembly (6)	850/3501
2	Spring washer (6)	5113-012
3	Clamp bracket (6)	760/0033
4	Lug spring (6)	5104-785
5	Hex bolt (2)	5111-021
6	Spring washer (4)	5113-010
7	Dome nut (2)	5112-050
8	Spacer tube	677/0034/1
9	Brass bush (4)	677/0035
10	Hinge assembly	677/0039
11	Hex bolt	5111-164
12	Manlid weld assembly	760/0030
13	Sweet white rubber seal	760/0031
14	Neckring	677/0045
15	Hinge arm	760/0032
16	Hex bolt	5111-098
17	Spacer tube	677/0034

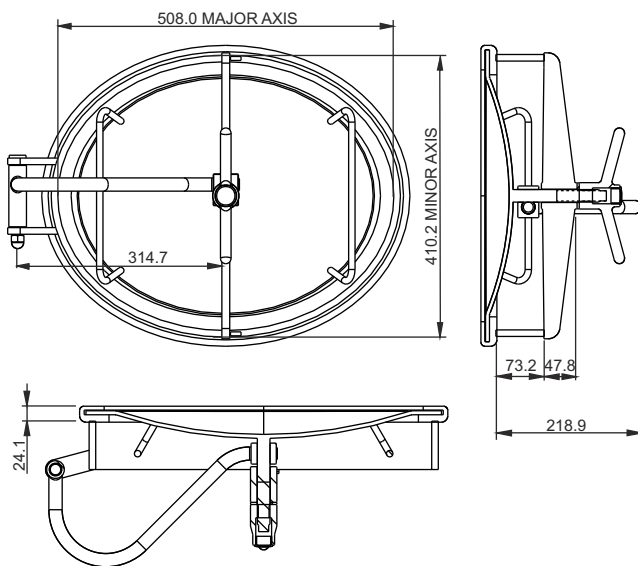


In-Out Oval Manlid Assembly - opens into the tank vessel, the cover may then be rotated to swing out through the manway. The manlid is operated using a double arm handnut and incorporates a cross arm to clamp and seal the cover on closure. Internal tank pressure enhances sealing performance. Contact parts manufactured in 316 stainless steel polished to 180 grit. Fitted with sweet white rubber seal as standard. Left hand operation.

Options - hand polishing and other seal materials available on request. Sampling point may be incorporated. Range of neckring depths possible from 73mm-200mm. Right hand operation. Low profile oval manlid range.

Fitting Details

Example shown : 850/6000XXX



Specification

Weight	25.5 Kg *See note
Design Pressure (MAWP)	3 Bar (43.5 PSI)
Test Pressure	4.5 Bar (65.25 PSI)
Vacuum Conditions	Suitable for 0.21mbar (6"Hg)
Design Temperature	-20°C to 70°C -4°F to 158°F

N.B. Weight will vary according to neckring depth.

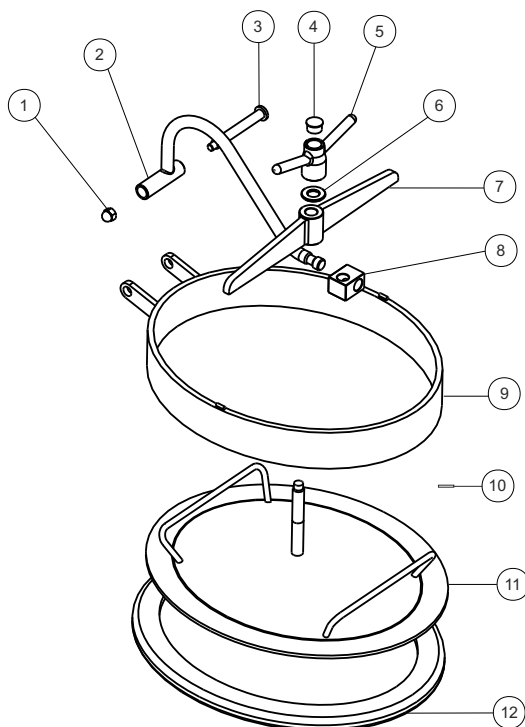
Range

Part No.	Variations	Neckring Depth
850/6000XXX	Left hand swing	73.2mm (2.88")
850/6000304XXX	304 stainless steel	73.2mm (2.88")
850/6200XXX	Left hand swing	200mm (7.87")
850/6200304XXX	304 stainless steel	200mm (7.87")
850/6530XXX	High vacuum	200mm (7.87")
850/6530304XXX	304 stainless steel	200mm (7.87")

"XXX" indicates variable seal material.

Contact parts manufactured in 316 stainless steel unless otherwise stated.

Parts Drawing



Item	Description	Part No.
1	M12 dome nut	5112-050
2	Pivot beam assembly	650/6020
3	Hinge pin	650/6002
4	Cap	750/6015
5	Handnut	750/6030
6	Thrust bearing	750/6003
7	Cross arm	750/6020
8	Pivot block	750/6001
9	Neckring	650/6010
10	Retaining pin	750/6035
11	Lid assembly	750/6010
12	Sweet white rubber seal	750/60XXX



In/Out Oval Manlid Assembly with Deep Neckring - to suit Hygienic applications. 410mm x 508mm assembly with 200mm deep x 10mm thick neckring. Contact parts manufactured in 316 stainless steel polished to 180 grit. Cover fitted with vulcanised Blue Nitrile seal.

The manlid is operated using a double arm handnut and incorporates a cross arm to clamp and seal the cover on closure. Internal tank pressure enhances the sealing performance. The cover is designed to be opened into the vessel and may be rotated to swing out through the manway, clear of the neckring. Handling bars are attached to the cover to assist in manoeuvring it.

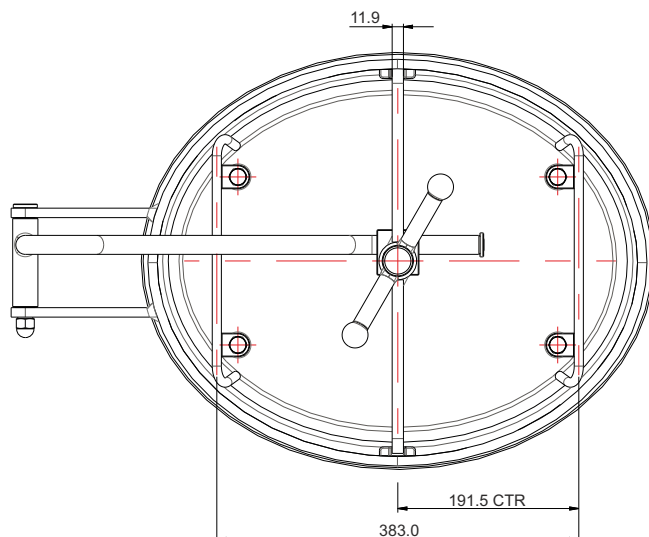
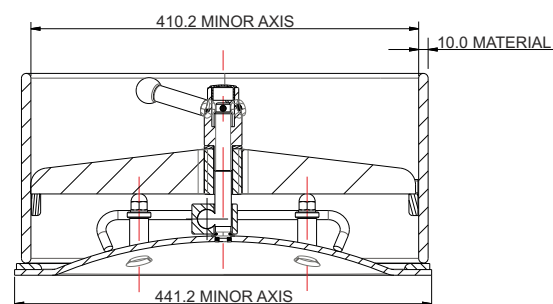
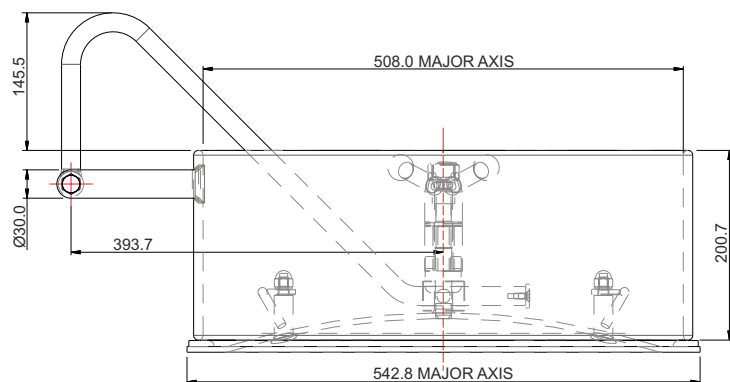
Options - other surface finishes and alternative seal materials are available on request. Version with 304 stainless steel contact parts. A sampling point may be incorporated. Low profile oval manlid range available.

Specification

Weight	42.8 Kg
Design Pressure (MAWP)	3 Bar (45 PSI)
Design Vacuum	-0.20 Bar (6"Hg)
Design Temperature	-20°C to +70°C (-4°F to 158°F)

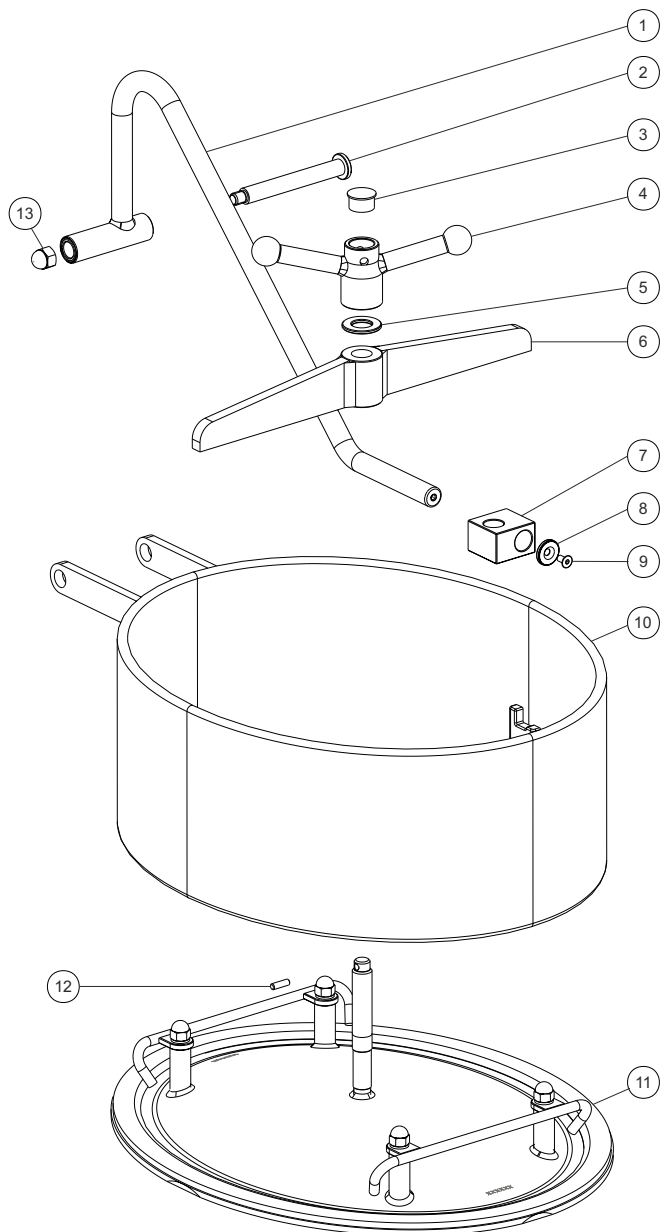
Fitting Details

Part number : 850/7200VXX



Parts Drawing

FORT VALE®



Item	Description	Part No.
1	Pivot beam assembly	650/6535
2	Hinge pin	650/6002
3	Top cap	750/6015
4	Handnut assembly	750/6030
5	Thrust bearing	750/6003
6	Cross arm	750/6535
7	Long pivot block	750/2501
8	Retaining washer	20370/2
9	Countersunk bolt	5111-018
10	Elliptical neckring assembly	650/6530
11	Cover assembly with vulcanised seal *See Note	750/6010VSXXX
12	Retaining pin	750/6035
13	M12 dome nut	5112-050

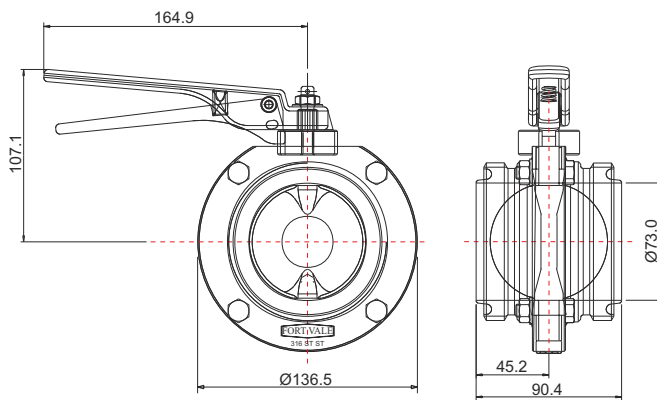


3" Concentric Disc Butterfly Valve - Suitable for hygienic applications. Inlet/outlet connections available include 3" BSP, 3" RJT, 3" Camlock, flanged and weld prepared. Single hand operation with TIR facility. Contact parts manufactured in 316 stainless steel fitted with Silicone seal as standard.

Options - Other seal materials available on request. Other connections available on request.

Fitting Details

Example shown : 358/160X



Associated Parts

Description	Part No.
3" BSP blank cap – seal separate	10303SS
3" RJT blank cap – seal separate	358/RJT3
3" Camlock cap – seal separate	90/DC300

Specification

Weight	4 Kg (See Note)
Design Pressure (MAWP)	4 Bar (58PSI)
Test Pressure	6 Bar (87 PSI)
Silicone Seal Design	
Temperature	200°C (392°F)

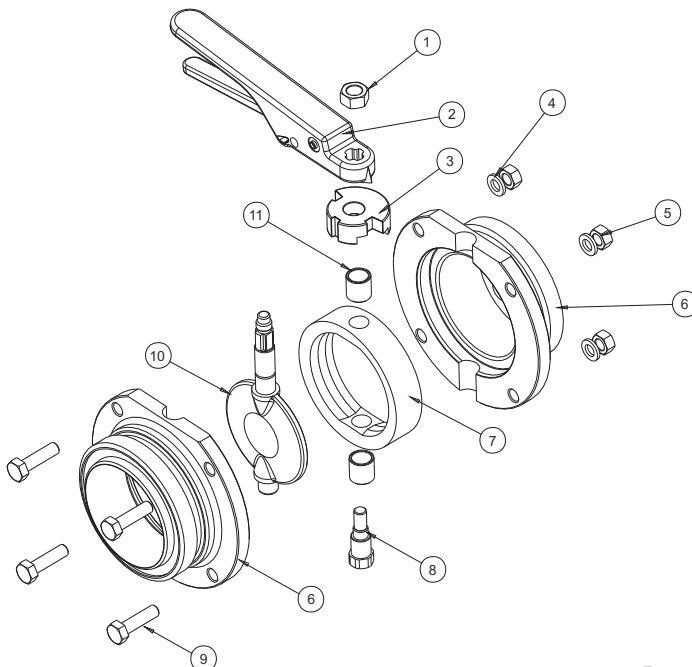
Note : Weight and seal design temperature varies according to valve specification.

Range

Inlet	Outlet	Part No.
3" RJT	3" RJT	358/160X
3" RJT	3" BSP	358/1700
3" BSTD	3" RJT	358/1100
3" BSTD	3" BSP	358/0000
TW 80	3" BSP	358/120S
DIN 80	3" Camlock	358/3950X

"X" in part number indicates variable seal options.

Parts drawing



Item	Description	Part No.
1	M10 lock nut	5112-032
2	Handle assembly	358/2010
3	Top flange	358/1605
4	Spring washer (4)	5113-003
5	M8 nut (4)	5112-001
6	Body half – See Note	358/XXXX
7	Main seal	5005-58X
8	Lower bearing support	358/3024
9	M8 hex screw (4)	5111-038
10	Vane	358/3020
11	Guide bush	358/3023

"X" indicates that the part number varies according to the valve specification.

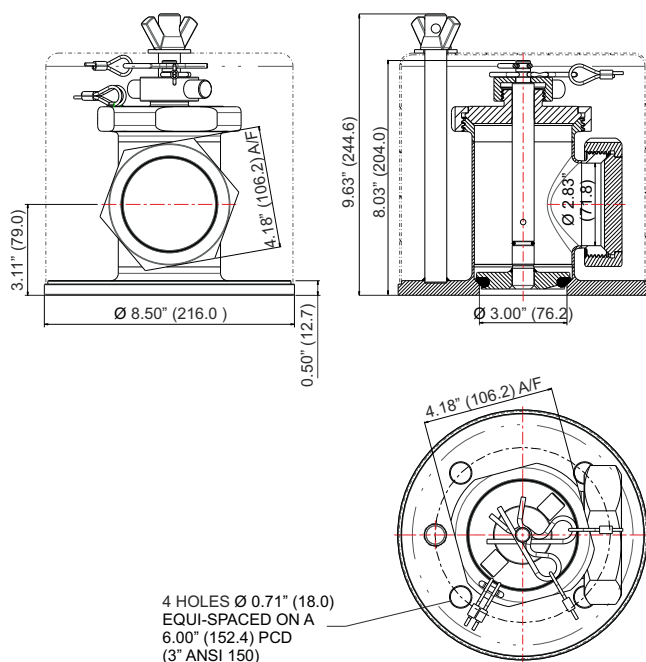


3" 3A Stamped Sanitary Milk Fitting Discharge Valve - 3" Bevel outlet. Inlet flange drilled 4 holes Ø 0.71" equi-spaced on a 6.00" PCD. (3" ANSI 150). Contact parts manufactured in 316 stainless steel with EPDM main seal. Supplied with weatherproof cowl.

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

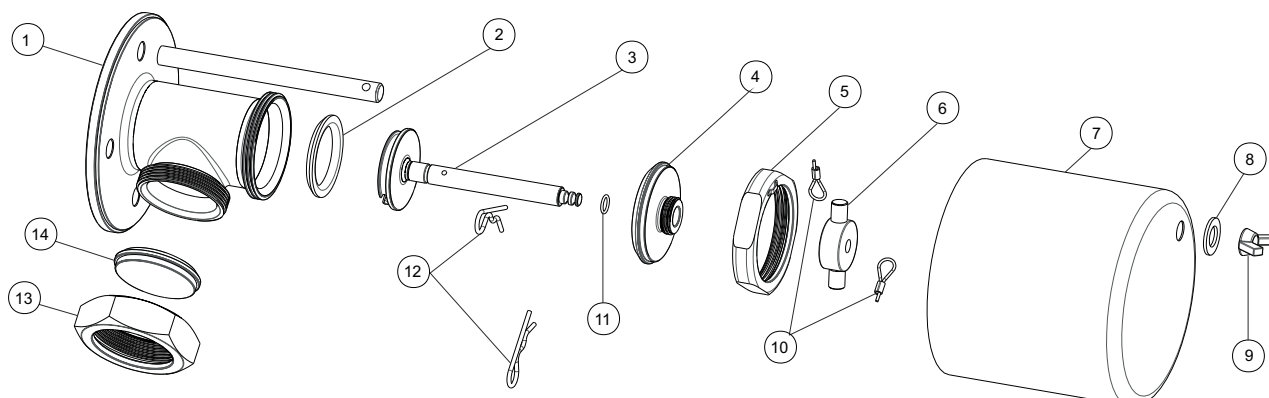
NB : Outlet valve must be fully open and safety retainer installed on valve stem before loading or unloading through outlet.

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

All goods supplied will be subject to Fort Vale Engineering Ltd Terms and Conditions of Sale (Ref. FV4) which are available upon request, or may be viewed at www.fortvale.com.

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