

HYGIENIC STAINLESS STEEL MANWAYS



Axiom Process offers a comprehensive range of stainless steel manways providing access to tanks, storage vessels and ducting systems. Used extensively throughout the process industries, our manways are designed for low and high pressure applications. Our specialist in-house fabrication services enable us to offer tank manways to customer specification.

- Rectangular, circular and oval designs
- Lever, clamp and swivel arm options
- Sizes from 100mm up to 1200mm diameter
- Mirror polished and bead blasted finishes offered
- Silicone, *Viton®, nitrile, natural rubber and EPDM seal options available
- Alternative hand wheels in stainless steel or nylon available
- Safety locks and grids available
- Ancillary items include tank ferrules with full material traceability, sightglasses and sprayballs

HYGIENIC STAINLESS STEEL MANWAYS - SEAL MATERIALS

The operating temperature ranges for the manways are determined by the seal material used.

The standard seal materials are shown but alternative materials available include Viton®, silicone, nitrile, natural rubber and EPDM.

Temperature ranges				
Natural rubber	Nitrile	Silicone	EPDM	*Viton®
-50 to +90°C	-15 to +110°C	-50 to +200°C	-45 to +110°C	-20 to +200°C

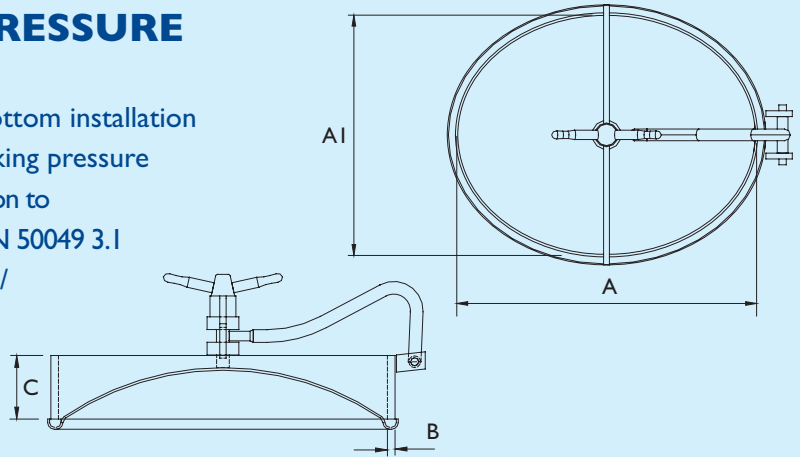
Replacement seals are available for all our manways

*Viton® is a registered trademark of DuPont Dow Elastomers

OVAL MANWAYS - HIGH PRESSURE



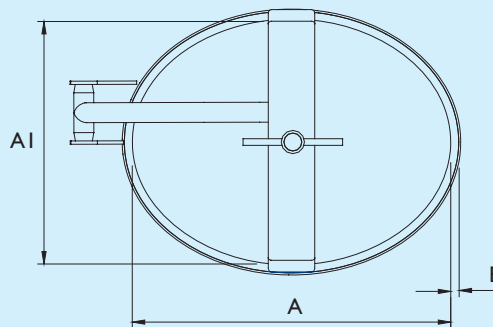
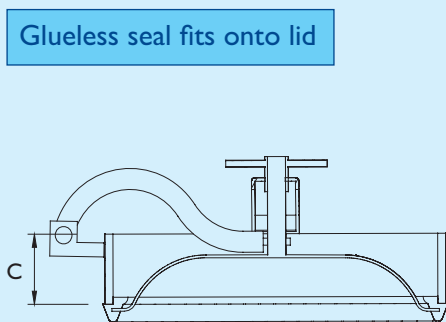
- Designed for side/bottom installation
- Up to 9 barg working pressure
- Material certification to BS EN 10204/DIN 50049 3.1
- Mirror polish lid/brushed skirt
- Alternative seal materials available



Axiom Code No	Opening mm (A x AI)	Description Inward Opening, Hinged	Skirt Thickness mm (B)	Skirt Length mm (C)	Materials of Contact	Max Oper. Pressure barg	Vacuum Rating barg	Weight kg	Standard Seal Material
8166	440 x 310	1 x Lever*	8	60	316 or 304	3.0	0.0	8.7	EPDM
8162	518 x 418	1 x Lever	12	100	316L or 304	8.0	0.0	25.5	EPDM

*Outward opening to order

Glueless seal fits onto lid



Axiom Code No	Opening mm (A x AI)	Description Inward Then Outward Opening, Hinged	Skirt Thickness mm (B)	Skirt Length mm (C)	Materials of Contact	Max Oper. Pressure barg	Vacuum Rating barg	Weight kg	Standard Seal Material
8163	480 x 370	1 x Lever	12	100	316 or 304	3.0	0.0	25.4	EPDM
8164	480 x 370	1 x Lever	12	100	316 or 304	9.0	0.0	28.0	EPDM

It is important to note that tank manways should be used as the cutting template. Please contact us if skirt length is critical.

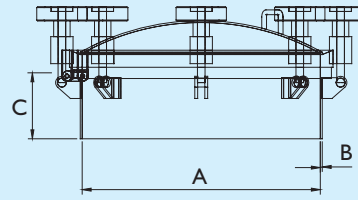
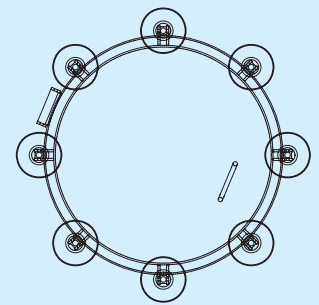
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CIRCULAR MANWAYS - HIGH PRESSURE

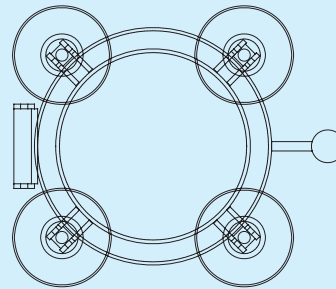
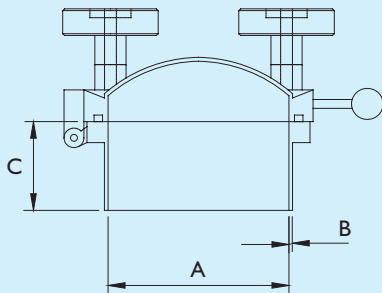


8193

- Designed for use in the pharmaceutical, cosmetic and food industries
- Up to 6 barg working pressure
- Material certification to BS EN 10204/DIN 50049 3.1
- Full vacuum rated
- Satin finish lid/brushed skirt
- Domed, low retention cover complete with handle and lid resting foot
- Glueless seal
- Alternative seal materials available



Axiom Code No	Opening mm (A)	Description Outward Opening, Hinged	Skirt Thickness mm (B)	Skirt Length mm (C)	Materials of Contact	Max Oper. Press. barg	Vacuum Rating barg	Weight kg	Standard Seal Material
8193	300	4 x clamps, low pressure	4	150	316 or 304	4.0	-1.0	17.0	Silicone
8193	300	6 x clamps, high pressure	4	150	316 or 304	6.0	-1.0	17.0	Silicone
8193	400	4 x clamps, low pressure	4	150	316 or 304	4.0	-1.0	23.7	Silicone
8193	400	6 x clamps, high pressure	4	150	316 or 304	6.0	-1.0	23.7	Silicone
8193	450	6 x clamps, low pressure	4	150	316 or 304	4.0	-1.0	27.0	Silicone
8193	450	8 x clamps, high pressure	4	150	316 or 304	6.0	-1.0	27.0	Silicone
8193	500	6 x clamps, low pressure	4	150	316 or 304	3.0	-1.0	31.0	Silicone
8193	500	8 x clamps, high pressure	4	150	316 or 304	6.0	-1.0	31.0	Silicone
8193	600	6 x clamps, low pressure	4	150	316 or 304	2.0	-1.0	35.0	Silicone
8193	600	8 x clamps, high pressure	4	150	316 or 304	4.0	-1.0	35.0	Silicone



8194

Axiom Code No	Opening mm (A)	Description Outward Opening, Hinged	Skirt Thickness mm (B)	Skirt Length mm (C)	Materials of Contact	Max Oper. Pressure barg	Vacuum Rating barg	Weight kg	Standard Seal Material
8194	200	4 x clamps	6	100	316 or 304	1.0	-1.0	8.1	EPDM
8194	300	4 x clamps	6	100	316 or 304	1.0	-1.0	13.0	EPDM
8194	400	4 x clamps	6	100	316 or 304	1.0	-1.0	19.3	EPDM
8194	450	4 x clamps	6	100	316 or 304	1.0	-1.0	21.8	EPDM
8194	500	4 x clamps	6	100	316 or 304	1.0	-1.0	24.5	EPDM
8194	600	6 x clamps	6	100	316 or 304	1.0	-1.0	30.0	EPDM

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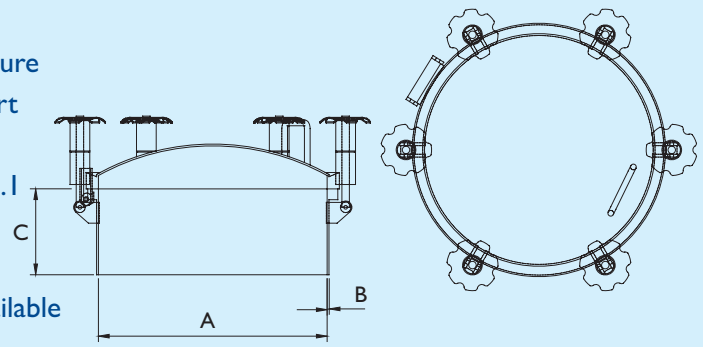
CIRCULAR MANWAYS - HIGH PRESSURE

PED Certified



8189

- PED Certified
- Up to 8 barg working pressure
- Satin finish lid/brushed skirt
- Material certification to BS EN 10204/DIN 50049 3.1
- Full vacuum rated
- Glueless seal
- Alternative seal materials available



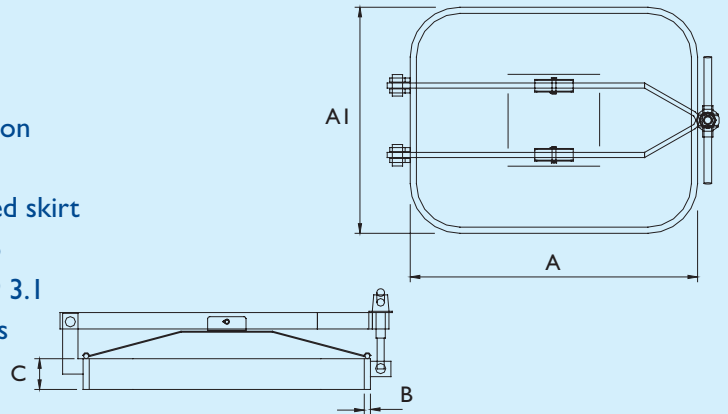
Axiom Code No	Opening mm (A)	Description Outward Opening, Hinged	Skirt Thickness mm (B)	Skirt Length mm (C)	Materials of Contact	Max Oper. Pressure barg at 200°C	Vacuum Rating barg	Weight kg	Standard Seal Material
8189	300	4, 6 or 8 clamps	4	150	316L or 304	2.5, 4.0 or 5.5	-1.0	20.0	Silicone
8189	400	4, 6, 8, 10 or 12 clamps	4	150	316L or 304	2.5, 4.0, 5.5, 7.0 or 8.0	-1.0	26.7	Silicone
8189	450	4, 6, 8, 10 or 12 clamps	4	150	316L or 304	2.0, 3.5, 4.5, 5.5 or 6.5	-1.0	30.0	Silicone
8189	500	4, 6, 8, 10, 12 or 14 clamps	4	150	316L or 304	1.5, 2.5, 3.5, 4.5, 5.5 or 6.0	-1.0	34.0	Silicone
8189	600	6, 8, 10, 12 or 14 clamps	4	150	316L or 304	2.0, 2.5, 3.0, 4.0 or 4.5	-1.0	38.0	Silicone

RECTANGULAR MANWAYS



8170

- Designed for top installation and low pressure
- Mirror polish lid/brushed skirt
- Material certification to BS EN 10204/DIN 50049 3.1
- Alternative seal materials available



Axiom Code No	Opening mm (A x A1)	Description Outward Opening, Hinged	Skirt Thickness mm (B)	Skirt Length mm (C)	Materials of Contact	Max Oper. Press. barg	Vacuum Rating barg	Weight kg	Standard Seal Material
8174	225 x 175	1 x lever, vertical aspect ratio	3	45	316 or 304	0.0	0.0	2.5	EPDM
8170	420 x 310	2 x lever, horizontal aspect ratio	10	60	316 or 304	0.6	-1.0	15.0	EPDM
8171	420 x 310	2 x lever, vertical aspect ratio	10	60	316 or 304	0.7	-1.0	13.6	EPDM
8173	530 x 410	2 x lever, horizontal aspect ratio	8	60	316 or 304	1.1	-1.0	22.0	EPDM
8187	530 x 410	2 x lever, vertical aspect ratio*	8	60	316 or 304	1.2	-1.0	19.0	EPDM
8195	740 x 450	3 x lever, vertical aspect ratio	10	70	316 or 304	1.0	-1.0	42.4	EPDM

*Inward opening options available

It is important to note that tank manways should be used as the cutting template. Please contact us if skirt length is critical.

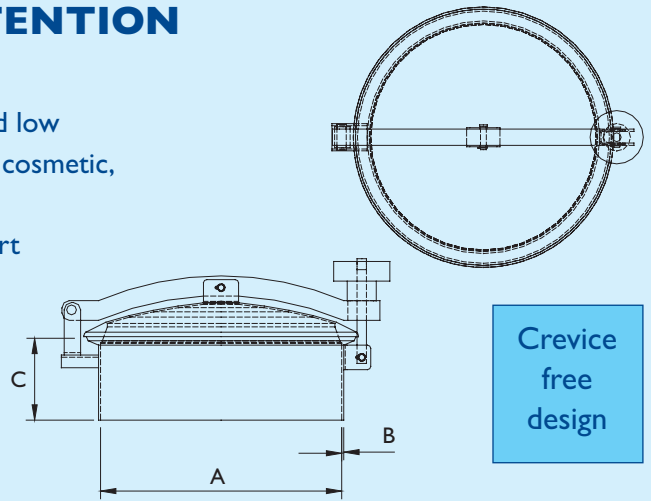
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CIRCULAR MANWAYS - LOW RETENTION



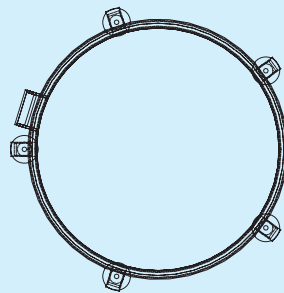
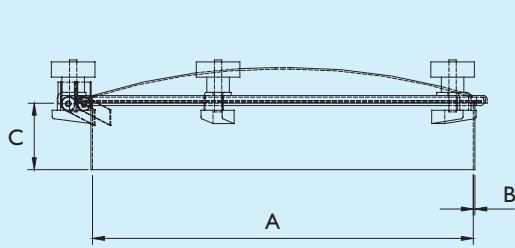
8186

- Designed for top installation and low pressure in the pharmaceutical, cosmetic, food and beverage industries
- Mirror polish lid/brushed skirt
- Material certification to BS EN 10204/DIN 50049 3.1
- Domed, low retention cover
- EPDM Glueless seal
- Alternative seal materials available



Crevice free design

Axiom Code No	Opening mm (A)	Description Outward Opening, Hinged	Skirt Thickness mm (B)	Skirt Length mm (C)	Materials of Contact	Max Oper. Pressure barg	Vacuum Rating barg	Weight kg	Standard Seal Material
8186	200	1 x lever	2.5	100	316L or 304L	0.1	0.0	2.5	EPDM
8186	300	1 x lever	2.5	100	316L or 304L	0.1	0.0	4.5	EPDM
8186	420	1 x lever	2.5	100	316L or 304L	0.1	0.0	6.5	EPDM
8186	460	1 x lever	2.5	100	316L or 304L	0.1	0.0	7.2	EPDM
8186	500	1 x lever	2.5	100	316L or 304L	0.1	0.0	8.2	EPDM



8191

Axiom Code No	Opening mm (A)	Description Outward Opening, Hinged	Skirt Thickness mm (B)	Skirt Length mm (C)	Materials of Contact	Max Oper. Pressure barg	Vacuum Rating barg	Weight kg	Standard Seal Material
8191	200	3 x clamp closure	2.5	100	316L or 304L	0.2	-1.0	3.6	EPDM
8191	300	4 x clamp closure	2.5	100	316L or 304L	0.2	-1.0	5.4	EPDM
8191	420	4 x clamp closure	2.5	100	316L or 304L	0.2	-1.0	10.0	EPDM
8191	460	4 x clamp closure	2.5	100	316L or 304L	0.2	-1.0	10.8	EPDM
8191	500	4 x clamp closure	2.5	100	316L or 304L	0.2	-1.0	12.4	EPDM
8191	600	5 x clamp closure	2.5	100	316L or 304L	0.2	-1.0	15.0	EPDM
8191	700	6 x clamp closure	3.0	100	316L or 304L	0.2	-1.0	19.9	EPDM
8191	800	8 x clamp closure	3.0	100	316L or 304L	0.2	-1.0	28.0	EPDM
8191	900	8 x clamp closure	3.0	100	316L or 304L	0.2	-1.0	33.3	EPDM
8191	1000	10 x clamp closure	3.0	100	316L or 304L	0.2	-1.0	39.3	EPDM
8191	1200	12 x clamp closure	3.0	100	316L or 304L	0.2	-1.0	46.2	EPDM

It is important to note that tank manways should be used as the cutting template. Please contact us if skirt length is critical.

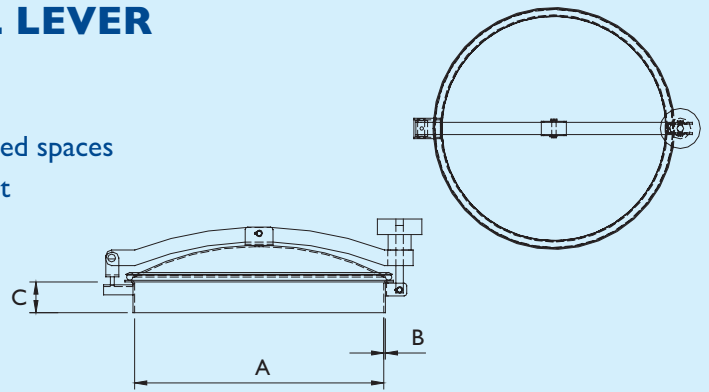
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CIRCULAR MANWAYS - SWIVEL LEVER



8182

- Designed for opening in confined spaces
- Mirror polish lid/brushed skirt
- Material certification to BS EN 10204/DIN 50049 3.1
- Alternative seal materials available



Axium Code No	Opening mm (A)	Description Outward Opening, Hinged	Skirt Thickness mm (B)	Skirt Length mm (C)	Materials of Contact	Max Oper. Pressure barg	Vacuum Rating barg	Weight kg	Standard Seal Material
8182	150	1 x swivel lever	2.5	45*	316 or 304	0.2	0.0	2.0	EPDM
8182	250	1 x swivel lever	2.5	50*	316 or 304	0.2	0.0	3.0	EPDM
8182	300	1 x swivel lever	2.5	50*	316 or 304	0.2	0.0	3.5	EPDM
8182	360	1 x swivel lever	2.5	50*	316 or 304	0.2	0.0	4.4	EPDM
8182	385	1 x swivel lever	2.5	50*	316 or 304	0.2	0.0	4.7	EPDM
8182	420	1 x swivel lever	2.5	50*	316 or 304	0.2	0.0	5.3	EPDM
8182	455	1 x swivel lever	2.5	50*	316 or 304	0.2	0.0	5.8	EPDM
8182	500	1 x swivel lever	2.5	50*	316 or 304	0.2	0.0	7.0	EPDM
8182	600	1 x swivel lever	2.5	50*	316 or 304	0.2	0.0	10	EPDM

*130mm skirt length also available

ANCILLARY PRODUCTS FOR STAINLESS STEEL TANK MANWAYS

CUSTOMISED STAINLESS STEEL TANK FERRULES



We produce a comprehensive range of 316L stainless steel tank ferrules which are generally used for welding onto tanks and vessels. The ferrules which are available in sizes from ½” – 10”, can be produced in a variety of lengths to suit customer specification. They can also be produced from ASME BPE compliant 316L stainless steel as well as a range of exotic materials including Hastelloy®.

The ferrules are available with an internal finish of 0.8 µm Ra as standard with 0.4 and 0.25 µm Ra options available. Each ferrule is part marked with the heat number and material grade providing full traceability to BS EN 10204/DIN 50049 3.1

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STAINLESS STEEL SPRAYBALLS

To complement our range of tank manways, we supply static sprayballs, nozzles and rotating sprayheads as a cost effective solution for many tank washing duties.

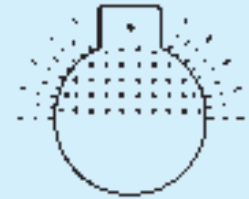
- Manufactured in 316L stainless steel
- 180° upward, 180° downward and 360° spray patterns
- Customised spray patterns to order
- Screw in or clip on options available
- Fabricated sprayball assemblies to customer specification



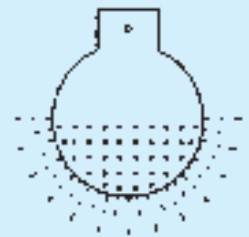
Dimensions				Normal operating pressure bar	Flowrates		Cleaning radius
Coverage	Supply tube OD	Ball diameter	Spray hole diameter		Imperial gall/hr	m ³ /hr	Effective cleaning radius, m
360	3/4"	1 1/2"	1/16"	1.40	780	3.55	0.90
180D	3/4"	1 1/2"	1/16"	1.40	480	2.18	0.80
180U	3/4"	1 1/2"	1/16"	1.40	540	2.45	0.80
360	1"	2 1/2"	3/32"	1.40	3,420	15.54	1.80
180D	1"	2 1/2"	3/32"	1.40	2,040	9.27	1.80
180U	1"	2 1/2"	3/32"	1.40	2,460	11.18	1.80
360	1 1/2"	2 1/2"	3/32"	1.40	3,420	15.54	1.80
180D	1 1/2"	2 1/2"	3/32"	1.40	2,040	9.27	1.80
180U	1 1/2"	2 1/2"	3/32"	1.40	2,640	12.00	1.80
360	1 1/2"	3 1/2"	3/32"	1.40	5,760	26.18	3.65
360	2"	3 1/2"	3/32"	1.40	5,760	26.18	3.65
180U	2"	3 1/2"	3/32"	1.40	3,420	15.54	3.65
180D	2"	3 1/2"	3/32"	1.40	3,060	13.91	3.65
180S	1 1/2"	2 1/2"	3/32"	1.40	2,100	9.54	1.80
180S	1 1/2"	2 1/2"	3/32"	3.60	4,740	21.54	3.80
180S	1 1/2"	3 1/2"	3/32"	1.40	4,020	18.27	4.50
180S	1 1/2"	3 1/2"	3/32"	3.80	6,480	29.45	7.60

D = down U = up S = sideways

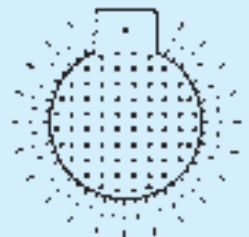
180° upward



180° downward



360°



CLAMP SIGHTGLASSES



Clamp sightglasses can be fitted to tank manways so that inspection can be carried out without having to open the tank manway lid

Standard sizes 1" – 12"

Manufactured in Duplex or Hastelloy® alloys

Temperature: - 60°C up to + 300°C

Pressure: From full vacuum to 16 barg

Material Certification to BS EN 10204/DIN 50049 3.1

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FABRICATION

Axium Process is a specialist stainless steel system fabricator supplying custom built process equipment, components, fittings and filtration systems:



- All welders are dual coded ASME IX, BS EN 287-1
- Manual and orbital welding
- In-house machining, fabrication and polishing
- Certificated surface finishes to 0.05 $\mu\text{m Ra}$
 - Bead blasting, mirror and electropolishing options
 - Material traceability to BS EN 10204 / DIN 50049 3.1
 - 304, 316, 316L stainless steel options (only stainless steel fabricated on site)
 - Comprehensive stock of hygienic stainless steel tube & pipe fittings

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FS 83081



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