

## Data Sheet

# High Pressure Manways – CODAP 2000 & PED 96/23/CE

Alchem offer a range of High-Pressure manways designed and built to comply with the European Pressure Directive 97/23/CE and also with the pressure vessel code CODAP 2000.

Two styles of manways are offered namely with a single flange or double flange lid designs.

Health and Safety issues are paramount in the design and operation of these manways and this has led to the introduction of several key features such as the Security Bolt and the Spring Assisted Hinge.



### Features:

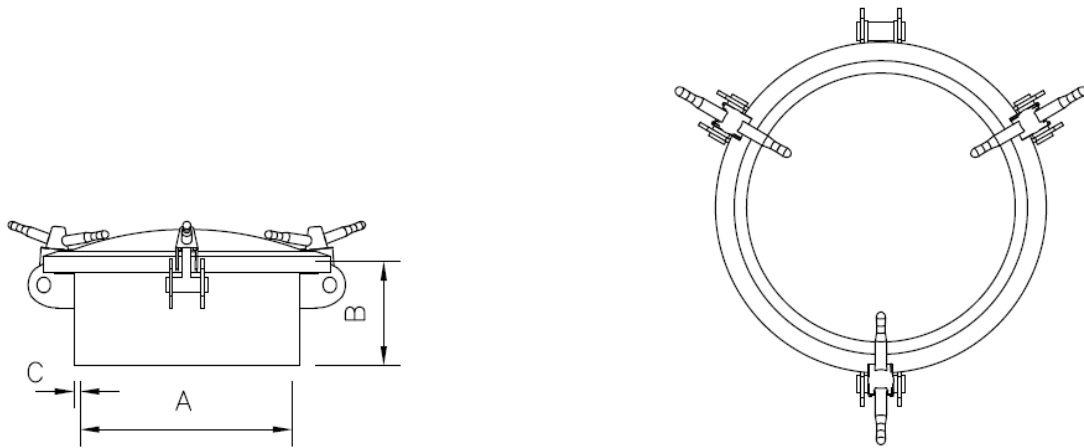
- Full material traceability to EN10204 3.1.B
- 316L and 304L Stainless Steel
- Domed self draining heads, with no hold-up areas or grooves
- Pressure Equipment Directive 97/23/CE compliancy documentation
- CODAP calculation dossier and welder approval certificates to NF EN 287.7 & ASME QW-484
- Welding procedures & approvals to EN 288.3 & EN 287.7 and ASME QW-484

### Options:

- A wide range of Gaskets materials including EPDM, Silicone, Viton®, and high performance seals are offered in FKM, FEP Silicone and FEP Viton®.
- **Carbon Steel - P265 GH special manways available to order**
- Security Bolt to prevent premature pressure release
- Spring assisted hinge for opening and closing larger doors
- Internal security grid and wire crosses
- Materials such as 316Ti (1.4571) and Uranus B6
- Internal Surface finishes to 0.3µM Ra
- Exotic nickel alloys offered such as 316Ti (1.4571) and Uranus B6
- **20 Bar - Working pressures** and full vacuum rating on smaller diameters

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## M129 – High Pressure PED Manways



Part No:	Max. Working Press (Bar)	Max Working Temp. °C	Swing Bolts	A (Bore)	B (Neck)	C
M129-A1501	8	150	3	150	98	4.5
M129-A2001	8	150	3	203	95	8.2
M129-A2501	8	150	3	250	95	8.0
M129-A3001	8	150	4	300	95	8.0
M129-A3501	5	150	4	350	95	8.0
M129-A3502	10	150	6	350	115	4.0
M129-A4001	4	150	4	400	95	8.0
M129-A4002	8	150	6	400	115	4.0
M129-A4501	4	150	5	450	95	8.0
M129-A4502	6	150	6	450	115	4.0
M129-A4502	8	150	8	450	115	4.0
M129-A5001	4	150	6	500	95	8.0
M129-A5002	6	150	8	500	115	4.0
M129-A5002	8	150	10	500	115	4.0
M129-A6001	3	150	8	600	95	8.0
M129-A6001	6	150	12	600	95	8.0
M129-A6002	3	150	8	600	95	4.0

**Materials:**

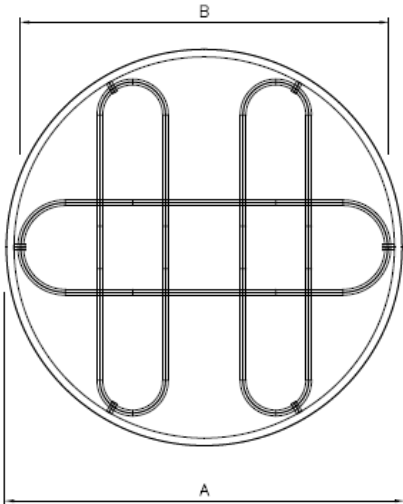
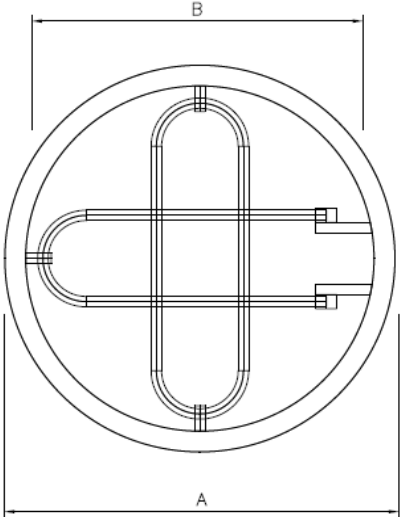
- **Stainless Steel** - 316L and 304L
- **Specials such as 316 Ti, Uranus B6, Hastelloy and 904L**
- **Carbon Steel** - P265 GH specials available to order
- **20 Bar - Working pressures** and full vacuum rating on smaller diameters

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## Security Grid, Crosses and Meshes

Several types of safety grids are offered including perforated plate, wire mesh and the more the common Marguerite Cross. These can be fixed into position permanently or can be fully removable or hinged to suit the customers' requirements. The mesh and perforated plate are made from standard sheet products available in the market whereas the crosses are made from 8mm bar formed, welded and fabricated to suit the particular application.

### Security Grids, Crosses and Meshes

	A	B	C
	205	200	
	305	300	
	425	425	
	465	460	
	505	505	
	605	600	
	706	700	
	806	800	
	1006	1000	
	1206	1200	

**Applications:**

- The grids, crosses and meshes can hinged or fully removable for easy access
- The grids are often installed to prevent accidental contamination of the product
- The grids are often used to support bags of powder when manual filling is required

## Data Sheet

### Custom Fabrication

Alchem offer a full fabrication service for our manways including the installation of sight glasses, charge ports, inspection hatches, sprayballs, bursting discs and pressure relief valves.

The manways can also be fabricated to form reactor vessels where the neck rings are extended to form the body of the vessel.

Alchem also offer dished ends for reactor vessels that match the diameter of our manways.



#### Options:

- Sight Glasses, Pressure Relief Valves and Bursting Discs
- Range of Handles and Stainless Steel Wing Nuts
- Polishing to customer specification such as 0.35 $\mu$ m Ra internally
- Full range of FDA approved seal materials, including EPDM, Silicone and Viton®
- Safety Grids, Crosses and Meshes
- Safety Bolts for vacuum and pressure release
- Proximity or micro switches to monitor lid position
- Pneumatic opening and closing devices

## Data Sheet

### Manway Safety Devices

Alchem are pleased to announce the arrival of additional safety features to our comprehensive range of tank manways. In addition to the Safety Bolt, Meshes and Crosses we now offer Air Actuated Locking Devices and Magnetic Proximity Switches. These additions to our comprehensive range of high pressure and atmospheric manways allow us to offer you the complete solution for your vessel closure design.



- **Safety Bolt**

The safety bolt has been developed to ensure operator safety remains paramount. This product is offered as a standard option with all our high pressure manways but is also suitable for use with our atmospheric range. The bolt operates on a cam principle and simultaneously raises the lid and vents any residual pressure or vacuum. This prevents any dangerous blow back of the lid under pressure and helps to un-stick the lid in vacuum conditions. This is a particularly useful option for applications with gas or compressed air.

- **Air Actuated Locking Devices**

The locking device consists of a Double Acting Air Actuator and is usually mounted on the neck ring and can be operated remotely from a control panel or locally by the operator. Often used in conjunction with a proximity switch, these two devices can be linked to a control panel and operated fully automatically as part of a cycle such as filling and cleaning or inspection.

- **Magnetic Proximity Switches**

These devices are used in a variety of applications from simply detecting that the lid is open or closed or they can be installed as part of a control loop. Here the Agitator supply or the Cleaning Cycle can be linked to the proximity switch and the system will only operate when the lid is safely closed. This is commonly used to ensure operator safety where the vessels have to be filled manually. Here the switch is used to break the circuit when the lid is open and thus preventing the agitator from running or can be used to stop the cleaning cycle.