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170mm Inspection Hatch - 3 point fastening. 6mm thick x 100mm deep neckring. Contact parts manufactured in 316 stainless steel. Stainless steel swingbolts with stainless steel handnuts, 1-off spring-loaded to allow the cover to rotate clear of the neckring when in the open position. Seal supplied separately.

Options - alternative neckring depths and swingbolt combinations available.

Weight: 8.9 Kg *See note
Design Pressure (MAWP): 4 Bar (58 PSI)
Test Pressure: 6 Bar (87 PSI)
Design Temperature: -40°C to +150°C (-40°F to +302°F)

**NB** Weight will vary according to specification

### Range

<table>
<thead>
<tr>
<th>Part No</th>
<th>Neckring Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>14I/3100075X</td>
<td>75mm (2.95&quot;)</td>
</tr>
<tr>
<td>14I/3100100X</td>
<td>100mm (3.94&quot;)</td>
</tr>
<tr>
<td>14I/3100125X</td>
<td>125mm (4.92&quot;)</td>
</tr>
<tr>
<td>14I/3100150X</td>
<td>150mm (5.91&quot;)</td>
</tr>
<tr>
<td>14I/3100200X</td>
<td>200mm (7.87&quot;)</td>
</tr>
<tr>
<td>14I/3100305X</td>
<td>305mm (12.00&quot;)</td>
</tr>
</tbody>
</table>

### Parts drawing

1. **Cover**
2. Seal (sold separately)
3. Swingbolt assembly (2)
4. Neckring *See note*
5. Spring loaded swingbolt, comprising
   - Top washer
   - Swingbolt
   - Spring
   - Washer
   - Swingbolt pin
   - Handnut **See note**

*NB: part number may vary according to specification

**Note**

X in swingbolt part number denotes handnut material
5 = stainless steel
1 = naval brass
E = low profile stainless steel/brass composite
300mm Inspection Hatch - 4 point fastening. Double skin cover. 6mm thick x 100mm deep neckring. Contact parts manufactured in 316 stainless steel. Stainless steel swingbolts with naval brass handnuts. Seal supplied separately.

Options - 100mm, 150mm and 200mm deep neckrings. Stainless steel swingbolts with stainless steel handnuts. Profiled and compensated versions available.

Fitting Details

Example shown: 34C/4100100B

Specification

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>16 Kg *See note</td>
</tr>
<tr>
<td>Design Pressure (MAWP)</td>
<td>4 Bar (58 PSI)</td>
</tr>
<tr>
<td>Test Pressure</td>
<td>6 Bar (87 PSI)</td>
</tr>
<tr>
<td>Design Temperature Range</td>
<td>-40°C to 200°C (-40°F to 392°F)</td>
</tr>
</tbody>
</table>

*NB Above data will vary according to specification

Manlid cover 703/0600P approved to BS EN14025

Range

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Neckring description</th>
</tr>
</thead>
<tbody>
<tr>
<td>34C/4100100B</td>
<td>6mm thick x 100mm deep</td>
</tr>
<tr>
<td>34C/4100150B</td>
<td>6mm thick x 150mm deep</td>
</tr>
<tr>
<td>34C/4100200B</td>
<td>6mm thick x 200mm deep</td>
</tr>
</tbody>
</table>

Parts drawing

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cover</td>
<td>*See note 703/0600P</td>
</tr>
<tr>
<td>2</td>
<td>Seal</td>
<td>See DS/MAN028</td>
</tr>
<tr>
<td>3</td>
<td>Swingbolt assembly (4)</td>
<td>496/X342</td>
</tr>
<tr>
<td>4</td>
<td>Hinge pin assembly</td>
<td>600/1060</td>
</tr>
<tr>
<td>5</td>
<td>Hinge kit</td>
<td>*See note 135B</td>
</tr>
<tr>
<td>6</td>
<td>Neckring</td>
<td>*See note 663/46XXX</td>
</tr>
</tbody>
</table>

*NB Part numbers will vary according to specification

X in swingbolt assembly part number denotes handnut material:
1 = naval brass
5 = stainless steel
E = low profile stainless steel/brass composite
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 750 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/2750XXXXP

**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)

*Note: Above data varies according to specification Manlid cover 703/0600P approved to BS EN14025

**Range**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>8PB/2750XXXXP</td>
<td>Fitted with naval brass handnuts</td>
</tr>
<tr>
<td>8PB/2750XXXS</td>
<td>Fitted with stainless steel handnuts</td>
</tr>
</tbody>
</table>

XXX in part number above denotes the radius range:-
- **077** = 750 mm to 800 mm
- **082** = 800 mm to 850 mm
- **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**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cover</td>
<td>703/0600P</td>
</tr>
<tr>
<td>2</td>
<td>Seal</td>
<td>See DS/MAN028</td>
</tr>
<tr>
<td>3</td>
<td>Swingbolt assembly (4)</td>
<td>496/X260</td>
</tr>
<tr>
<td>4</td>
<td>Grubscrew</td>
<td>5111-009</td>
</tr>
<tr>
<td>5</td>
<td>Hinge pin assembly</td>
<td>600/1060</td>
</tr>
<tr>
<td>6</td>
<td>Hinge kit – 135° fixed</td>
<td>135B</td>
</tr>
<tr>
<td>7</td>
<td>Neck/compensating ring <em>See Note</em></td>
<td>63P/2750XXXXP</td>
</tr>
</tbody>
</table>

*Note: 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
460mm Pendle Manlid Assembly - 6 point double skin manlid cover hinged to open to 135°. 6mm thick x 100mm deep straight neckring. Contact parts manufactured in 316 stainless steel. Stainless steel swingbolts with naval brass handnuts. Seal supplied separately.

Options - 0.7 Bar, 2 Bar, 3 Bar and 4 Bar version. 4 point, 6 point and 8 point assemblies. 120° opening. 100mm, 125mm, 150mm, 200mm and 250mm deep neckrings. Stainless steel swingbolts with stainless steel handnuts. Profiled and compensated versions. 304 Stainless steel and Carbon steel (SA516 G60) neckrings available.

**Weight** 30 Kg

**Design Pressure (MAWP)** 4 Bar (58 PSI)

**Test Pressure** 6 Bar (87.5 PSI)

**Design Temperature Range** -40°C to 180°C (-40°F to 356°F)

**Maximum handnut torque** 118 Nm

*NB* Weight varies according to specification

### Range

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Points</th>
<th>MAWP</th>
<th>Neckring</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>4AC/4100100B</td>
<td>4</td>
<td>0.7  Bar</td>
<td>6mm x 100mm</td>
<td>St Steel</td>
</tr>
<tr>
<td>4AC/4100100BM</td>
<td>4</td>
<td>0.7  Bar</td>
<td>6mm x 100mm</td>
<td>Carbon Steel</td>
</tr>
<tr>
<td>4BC/4100100B</td>
<td>4</td>
<td>2 Bar</td>
<td>6mm x 100mm</td>
<td>St Steel</td>
</tr>
<tr>
<td>4BC/4100100BM</td>
<td>4</td>
<td>2 Bar</td>
<td>6mm x 100mm</td>
<td>Carbon Steel</td>
</tr>
<tr>
<td>43C/6100100B</td>
<td>6</td>
<td>3 Bar</td>
<td>6mm x 100mm</td>
<td>St Steel</td>
</tr>
<tr>
<td>43C/6100100BM</td>
<td>6</td>
<td>3 Bar</td>
<td>6mm x 100mm</td>
<td>Carbon Steel</td>
</tr>
<tr>
<td>44C/6100100B</td>
<td>6</td>
<td>4 Bar</td>
<td>6mm x 100mm</td>
<td>St Steel</td>
</tr>
<tr>
<td>44C/6100100BM</td>
<td>6</td>
<td>4 Bar</td>
<td>6mm x 100mm</td>
<td>Carbon Steel</td>
</tr>
<tr>
<td>44C/8100100B</td>
<td>8</td>
<td>4 Bar</td>
<td>6mm x 100mm</td>
<td>St Steel</td>
</tr>
</tbody>
</table>

The above table shows common configurations, other options are available.

### Parts drawing

**Note 1**: Part numbers vary according to specification

**Note 2**: X in swingbolt assembly part number denotes handnut material:

- 1 = naval brass
- 5 = stainless steel
- E = low profile stainless steel/brass
460mm Pennine Manlid Assembly - 6 point double skin cover, hinged to open to 135°. 6mm thick x 100mm deep neckring. Contact parts manufactured in 316 stainless steel with stainless steel swingbolts and handnuts. Seal supplied separately.

Options - 100mm, 150mm, 200mm & 250mm deep neckrings. Neckring profiling available to suit a tank radius range from 850mm to 1220mm. 120° opening. May be supplied fitted with a safebolt. Alternative handnut and hinge kit options available.

**NB**  Weight varies according to specification.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Manlid</td>
<td>722/0000P</td>
</tr>
<tr>
<td>2</td>
<td>Manlid seal</td>
<td>Sold separately</td>
</tr>
<tr>
<td>3</td>
<td>Swingbolt assembly (6) *see Note A</td>
<td>496/X342</td>
</tr>
<tr>
<td>4</td>
<td>Neckring *see Note B</td>
<td>664/66XXXA</td>
</tr>
<tr>
<td>5</td>
<td>Hinge kit *see Note B</td>
<td>135B</td>
</tr>
<tr>
<td>6</td>
<td>Hinge pin assembly</td>
<td>600/1060</td>
</tr>
</tbody>
</table>

**Note A**

X in swingbolt assembly part number denotes handnut material:

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

**Note B**

Part number varies according to specification.
500mm Low Pressure Pendle Manlid Assembly - 4 point fastening cover. 6mm x 100mm straight neckring. Contact parts manufactured in 316 stainless steel with stainless steel swingbolts and handnuts. Seal supplied separately.

Options - 100mm, 150mm, 200mm, 250mm, 300mm deep neckrings. Neckring profiling available to suit a tank radius from 600mm to 1220mm. 135° and 120° opening. Stainless steel swingbolt with naval brass handnut available.

Weight 30 Kg *See NB
Design Pressure (MAWP) 1 Bar (14.5 PSI)
Test Pressure 1.5 Bar (21.8 PSI)
Design Temperature Range -40°C to 200°C (-40°F to 392°F)

*NB Weight varies according to specification.

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Recommended handnut torque: 68Nm (50 Lb/ft)

**Note A**

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

**Note B**

Part number varies according to specification.
500mm Pendle Manlid Assembly - 6 point fastening. 6mm thick x 100mm deep neckring. Contact parts manufactured in 316 stainless steel. Stainless steel swingbolts with naval brass handnuts. Seal supplied separately.

Options - 3 Bar, 6 point fastening and 4 Bar, 8 point fastening assemblies. 60mm, 100mm, 125mm, 150mm, 200mm, 250mm and 350mm deep neckrings. Profiled and compensated versions. 304 Stainless steel and Carbon steel (SA516 G60) neckrings available. Stainless steel swingbolts with stainless steel handnuts.

**Specification**

- Weight: 36 Kg *NB
- Design Pressure (MAWP): 3 Bar (43.5 PSI) *NB
- Test Pressure: 4.5 Bar (65.3 PSI) *NB
- Design Temperature Range: 
  -40°C to 250°C **Note
  (-40°F to 482°F) **Note

* NB  Data will vary according to specification

**Note  Metal parts only

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**Range**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Points</th>
<th>MAWP</th>
<th>Neckring</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>E3C/6100100B</td>
<td>6</td>
<td>3 Bar</td>
<td>6 x 100 mm</td>
<td>St Steel</td>
</tr>
<tr>
<td>E4C/8100100B</td>
<td>8</td>
<td>4 Bar</td>
<td>8 x 100 mm</td>
<td>St Steel</td>
</tr>
</tbody>
</table>

Neckrings are available in a variety of heights.

**Part Numbers**

- 73E/0500 - Manlid cover
- See separate sheet - 16 x 10mm seal
- 496/X375 **See note - Swingbolt assembly (6)
- 600/1060 - Hinge pin assembly
- 135B - Hinge kit *See note
- 66E/66100A - Neckring *See note

*Note Part numbers will vary according to specification

**Note  
X in swingbolt part number denotes handnut material
5 = stainless steel
1 = naval brass
E = low profile stainless steel/brass composite
0 = stainless steel hex nut
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 750mm 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.

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

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Points</th>
<th>MAWP</th>
</tr>
</thead>
<tbody>
<tr>
<td>E4C/85XX025B</td>
<td>8</td>
<td>4 Bar</td>
</tr>
<tr>
<td>E3C/65XX025B</td>
<td>6</td>
<td>3 Bar</td>
</tr>
</tbody>
</table>

XX in part number above denotes the radius range:

- 75 = 750 to 800mm
- 82 = 800 to 850mm
- 87 = 850 to 900mm
- 92 = 900 to 950mm
- 97 = 950 to 1005mm
- 04 = 1005 to 1075mm
- 11 = 1075 to 1145mm
- 18 = 1145 to 1220mm
- 20 = 1220 to 1300mm
- 28 = 1280mm

Parts drawing

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.
500mm Offshore Manlid Assembly - 10 point fastening. 8mm thick x 90mm deep transverse opening compensating ring. Profiled to suit tank radius range of 1145 to 1220mm. Contact parts manufactured in 316 stainless steel. Stainless steel swingbolts with naval brass handnuts. Seal supplied separately.

Options - tank radius range from 850mm to 1220mm. Stainless steel swingbolts with stainless steel handnuts. 6 Bar and 7.7 Bar design pressures optional.

**Specification**

- **Weight**: 48 Kg *see note
- **Design Pressure (MAWP)**: 6.9 Bar (100 PSI)
- **Test Pressure**: 8.97 Bar (130 PSI)
- **Design Temperature**: 130°C (266°F)

*NB above data varies according to specification.

### Range

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Neckring</th>
<th>Swingbolts</th>
</tr>
</thead>
<tbody>
<tr>
<td>86A/9446XXXP</td>
<td>8mm x 90mm</td>
<td>St. Steel swingbolts / naval brass handnuts</td>
</tr>
<tr>
<td>86A/9446XXXS</td>
<td>8mm x 90mm</td>
<td>St. Steel swingbolts / St. Steel handnuts</td>
</tr>
</tbody>
</table>

The last letter indicates **handnut material**

- P = naval brass
- S = stainless steel

XXX in part number above denotes the radius range:

- 097 = 950mm - 1005mm
- 104 = 1005mm - 1075mm
- 111 = 1075mm - 1145mm
- 118 = 1145mm - 1220mm

### Associated Parts

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Associated Parts</th>
</tr>
</thead>
<tbody>
<tr>
<td>5005-50XXX</td>
<td>16mm x 10mm manlid seal</td>
</tr>
</tbody>
</table>

**Item** | **Description** | **Part No.**
--- | --- | ---
1 | Manlid cover | 605/4000
2 | Hinge pin assembly | 600/1060
3 | Seal – sold separately | 5005-50XXX
4 | 500mm transverse neckring | 679/9445XXXP
5 | Swingbolt assy - 4.25” long (4) | 496/X425 "NB"
6 | Grub screw | 5111-009
7 | Swingbolt assy – 4.0” long (4) | 496/X400 "NB"
8 | Swingbolt assy – 3.75” long (2) | 496/X375 "NB"

*NB : X in swingbolt assembly denotes handnut material

- 1 = naval brass
- 5 = stainless steel
- E = low profile stainless steel/brass composite
500mm Manlid Assembly with Quick Release Latches - pressed 6 point fastening cover. 6mm thick x 180mm deep neckring. Contact parts manufactured in 316 stainless steel. Fitted with stainless steel quick release latches. Seal supplied separately.

Options - 100mm, 125mm, 150mm, 180mm deep neckrings. Manlid may be supplied with welded ancillary items, eg. RJT fitting. Insulated manlid available.

Available etched with customer logo upon request.

Weight 40.5 Kg *See Note
Design Pressure (MAWP) 2.50 Bar (36.3 PSIG)
Test Pressure 3.25 Bar (47.1 PSIG)
Design Temperature -20°C to 150°C (-4°F to 302°F)

*Note : varies according to specification.

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Operating Instructions available - OPIN64

### Range

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>8EZ/66XXXSH</td>
<td>Standard assembly</td>
</tr>
<tr>
<td>8EZ/67XXXSH</td>
<td>Assembly with RJT fitting in manlid cover</td>
</tr>
<tr>
<td>8EZ/68XXXSH</td>
<td>Assembly with insulated manlid cover</td>
</tr>
</tbody>
</table>

### Parts drawing

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Manlid cover</td>
<td>73E/7200</td>
</tr>
<tr>
<td>2</td>
<td>Quick release handle (6)</td>
<td>490/4000</td>
</tr>
<tr>
<td>3</td>
<td>M10 self locking nut (6)</td>
<td>5112-008</td>
</tr>
<tr>
<td>4</td>
<td>M10 washer (12)</td>
<td>5113-009</td>
</tr>
<tr>
<td>5</td>
<td>M10 hex head bolt (6)</td>
<td>5111-110</td>
</tr>
<tr>
<td>6</td>
<td>M12 swingbolt (6)</td>
<td>86Z/0003</td>
</tr>
<tr>
<td>7</td>
<td>M12 half nut (6)</td>
<td>5112-017</td>
</tr>
<tr>
<td>8</td>
<td>16mm eye female swingbolt (6)</td>
<td>86Z/0002</td>
</tr>
<tr>
<td>9</td>
<td>M8 socket grub screw (6)</td>
<td>5111-002</td>
</tr>
<tr>
<td>10</td>
<td>16mm swingbolt pin (6)</td>
<td>10913SS</td>
</tr>
<tr>
<td>11</td>
<td>Neckring *See Note</td>
<td>66E/66XXXH</td>
</tr>
</tbody>
</table>

*Note: Part number varies according to specification.

Quick release swingbolt assembly part number 86Z/0001 includes items 2-10.

16 x 10mm section Manlid seal supplied separately - part number 5005-50XXX (various materials available)
600mm Manlid Assembly - 6 point fastening fabricated cover. 6mm thick x 100mm deep neckring. 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. 100mm to 400mm deep neckrings. Stainless steel swingbolts with stainless steel handnuts. Profiled and compensated version. Carbon steel (SA516 G60) neckring available.

Example shown: 63X/6100100B

Range

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Points</th>
<th>MAWP</th>
<th>Neckring</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>63X/6100100B</td>
<td>6</td>
<td>3 Bar</td>
<td>6 x 100mm</td>
<td>St Steel</td>
</tr>
<tr>
<td>63X/6100100BM</td>
<td>6</td>
<td>3 Bar</td>
<td>6 x 100mm</td>
<td>Carbon Steel</td>
</tr>
<tr>
<td>64X/8100100B</td>
<td>8</td>
<td>4 Bar</td>
<td>6 x 100mm</td>
<td>St Steel</td>
</tr>
</tbody>
</table>

00 in part number above denotes straight neckring.
X in part number above denotes the hinge kit.

* NB Weight will vary according to specification.

Part numbers will vary according to specification

Note

X in swingbolt part number denotes handnut material

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

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

- 405.5 x 507mm assembly with 73.2mm deep x 10mm thick neckring. Contact parts manufactured in 316 stainless steel polished to 180 grit. Fitted with sweet white rubber seal as standard.

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. The cover opens into the vessel and may be rotated to swing out through the manway, clear of the neckring. Handling bars are attached to assist operation.

**Options** - hand polishing and other seal materials are available on request. Neckrings range from 73-200mm deep. Sampling point may be incorporated. 304 stainless steel contact parts.

**Specification**

- **Weight**: 23 Kg  *See Note*
- **Design Pressure (MAWP)**: 3 Bar (43.5 PSI)
- **Design Temperature**: 
  - -40°C to 150°C
  - -40°F to 302°F

Suitable for 0.21 mbar (6"Hg) vacuum conditions, assuming neckring/vessel weld distortion is minimal.

**Note**: Weight will vary according to specification.

**Range**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>850/6000XXX</td>
<td>316 st/st 73.2mm deep neck</td>
</tr>
<tr>
<td>850/6000304XXX</td>
<td>304 st/st 73.2mm deep neck</td>
</tr>
<tr>
<td>850/6200XXX</td>
<td>316 st/st 200mm deep neck</td>
</tr>
<tr>
<td>850/6200304XXX</td>
<td>304 st/st 200mm deep neck</td>
</tr>
</tbody>
</table>

“XXX” indicates variable seal material.

---

**Parts Drawing**

- In/Out Oval Manlid Assembly - 405.5 x 507mm assembly with 73.2mm deep x 10mm thick neckring. Contact parts manufactured in 316 stainless steel polished to 180 grit. Fitted with sweet white rubber seal as standard.

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. The cover opens into the vessel and may be rotated to swing out through the manway, clear of the neckring. Handling bars are attached to assist operation.

**Options** - hand polishing and other seal materials are available on request. Neckrings range from 73-200mm deep. Sampling point may be incorporated. 304 stainless steel contact parts.

**Specification**

- **Weight**: 23 Kg  *See Note*
- **Design Pressure (MAWP)**: 3 Bar (43.5 PSI)
- **Design Temperature**: 
  - -40°C to 150°C
  - -40°F to 302°F

Suitable for 0.21 mbar (6"Hg) vacuum conditions, assuming neckring/vessel weld distortion is minimal.

**Note**: Weight will vary according to specification.

**Range**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>850/6000XXX</td>
<td>316 st/st 73.2mm deep neck</td>
</tr>
<tr>
<td>850/6000304XXX</td>
<td>304 st/st 73.2mm deep neck</td>
</tr>
<tr>
<td>850/6200XXX</td>
<td>316 st/st 200mm deep neck</td>
</tr>
<tr>
<td>850/6200304XXX</td>
<td>304 st/st 200mm deep neck</td>
</tr>
</tbody>
</table>

“XXX” indicates variable seal material.
Below are some typical examples of fabricated manlid assemblies developed for specific vessel or product requirements. Our state-of-the-art manufacturing capabilities teamed with our in-house design expertise allows for great flexibility. Please contact our Sales team to discuss your special requirements more fully.

**US DOT51 500MM FLAT BOLTED MANLID**

**PART NO : S0859/3**

- 20 point fastening cover - Ø 22mm equi-spaced on a 560mm PCD. 50mm wide solid neckring flange. Tongue and groove sealing system. Contact parts manufactured in 316 stainless steel. Supplied with all studs, nuts and washers and with PTFE seal.
- Designed to ASME VIII Div 1
- Maximum Working Pressure: 6.9 Bar (100 PSI)
- Test Pressure: 10.5 Bar (152.3 PSI)
- Design Temperature: 121°C (250°F)
- Available with ASME certified materials.

**500MM FLAT BOLTED DOMED MANLID ASSEMBLY**

**PART NO : 959/6403CXXXX**

- 20 point fastening cover - Ø 18mm equi-spaced on a 565.0mm PCD. 8mm thick neckring with 8mm x 80mm compensating ring profiled to suit customer tank radius. Contact parts manufactured in 316 stainless steel. Supplied with all M16 bolts, nuts and washers. PTFE seal supplied separately.
- Maximum Working Pressure: 7 Bar (102 PSI)
- Test Pressure: 10 Bar (145 PSI)
- Design Temperature: -40°C to 150°C (-40°F to 302°F)

Flat bolted manlid covers may be machined to your requirements to accept the tank service equipment (i.e. relief valves, airline valves and discharge valves) which alleviates the need to fit separate weld-in flanges to the tank shell.

Please discuss your individual requirements with our Sales team.
Standard Swingbolt Assembly Part Number Breakdown

Example: 496 / XXXX

Specification

¾" BSW stainless steel bolt with 16mm diameter eye, swingbolt hinge pin and captivated handnut.

Handnut Type

0 = ¾" BSW stainless steel hexagonal nut.
1 = ¾" BSW low profile naval brass with stainless steel thrust washer.
2 = ¾" BSW naval brass with TIR holes.
4 = ¾" BSW naval brass safebolt assembly.
5 = ¾" BSW low profile stainless steel.
6 = ¾" BSW stainless steel single arm, long handle.
7 = ¾" BSW stainless steel single arm, short handle.
C = ¾" BSW stainless steel extended double arm with brass insert to prevent galling.
E = low profile stainless steel with brass insert to prevent galling.

Eyebolt Length

Equivalent to working length of bolt, calculated from centre of eye to end of bolt and expressed in inches. See Swingbolt Assembly Components Data sheet (MAN018) for full range of eyebolt lengths. Please refer to Sales department for assembly numbers.

Options

Components may be purchased separately - see Swingbolt Assembly Components Data sheet

Swingbolt assemblies with ⅜" eye and ¾" pivot pin may be supplied as a spare part

Other thread sizes available on request
Eyebolt Specification

¾” BSW Eyebolt
16mm eye (dimension A) x ¾” BSW (dimension B) x length from centre of eye to end of bolt (dimension C). With M8 grub screw. Manufactured in stainless steel.

Options - other eye/thread sizes available on request.

N.B. ¾” eye x ¾” BSW available as spares

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Length (mm”)</th>
</tr>
</thead>
<tbody>
<tr>
<td>540/0210</td>
<td>53mm (2.10”)</td>
</tr>
<tr>
<td>540/0240</td>
<td>61mm (2.40”)</td>
</tr>
<tr>
<td>540/0250</td>
<td>64mm (2.50”)</td>
</tr>
<tr>
<td>540/0260</td>
<td>66mm (2.60”)</td>
</tr>
<tr>
<td>540/0275</td>
<td>70mm (2.75”)</td>
</tr>
<tr>
<td>540/0290</td>
<td>74mm (2.90”)</td>
</tr>
<tr>
<td>540/0315</td>
<td>80mm (3.15”)</td>
</tr>
<tr>
<td>540/0342</td>
<td>87mm (3.42”)</td>
</tr>
<tr>
<td>540/0375</td>
<td>95mm (3.75”)</td>
</tr>
<tr>
<td>540/0400</td>
<td>102mm (4.00”)</td>
</tr>
<tr>
<td>540/0475</td>
<td>121mm (4.75”)</td>
</tr>
<tr>
<td>540/0690</td>
<td>175mm (6.90”)</td>
</tr>
</tbody>
</table>

Handnut Specification

¾” BSW Handnut
Standard range includes naval brass and stainless steel low profile handnut, stainless steel hexagonal handnut and stainless steel single arm handnut.

Options - safenolt handnuts available - please see separate sheet. Other sizes and materials available on request.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Handnut Description</th>
<th>Assy.Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>490/1190</td>
<td>¾” stainless steel hex nut</td>
<td>0</td>
</tr>
<tr>
<td>490/1060</td>
<td>¾” naval brass low profile</td>
<td>1</td>
</tr>
<tr>
<td>490/0310</td>
<td>¾” stainless steel low profile</td>
<td>5</td>
</tr>
<tr>
<td>490/0610</td>
<td>¾” stainless steel single arm</td>
<td>6</td>
</tr>
<tr>
<td>490/0380</td>
<td>Low profile stainless steel/brass composite</td>
<td>E</td>
</tr>
</tbody>
</table>

Hinge Pin Specification

16mm diameter x 45mm Hinge Pin - part no. 10913SS
Manufactured in stainless steel.

N.B. ¾” x 1.75” and 2.00” stainless steel hinge pins available as spares.
Swingbolt Assemblies

Eyebolt with 16mm or ¾" eye (Dimension A) x ¾" BSW (Dimension B) x length from centre of eye to end of bolt (Dimension C). Manufactured in Stainless Steel. Fitted with M8 grubbscrew. Supplied with swingbolt hinge pin and captivated handnut (see below for options)

Standard handnuts:
- low profile stainless steel
- low profile naval brass with stainless steel thrust washer
- stainless steel “Anti-Galling” handnut (brass thread)

16mm eye Swingbolt Assemblies

Part Number : 496/XXXX

<table>
<thead>
<tr>
<th>Eyebolt Length (mm/”) Dimension “C”</th>
<th>Swingbolt Assy. St.St. handnut</th>
<th>Swingbolt Assy. N. Brass handnut</th>
<th>Swingbolt Assy. Anti-Galling handnut</th>
</tr>
</thead>
<tbody>
<tr>
<td>66mm (2.60”)</td>
<td>496/5260</td>
<td>496/1260</td>
<td>496/C260</td>
</tr>
<tr>
<td>87mm (3.42”)</td>
<td>496/5342</td>
<td>496/1342</td>
<td>496/C342</td>
</tr>
<tr>
<td>95mm (3.75”)</td>
<td>496/5375</td>
<td>496/1375</td>
<td>496/C375</td>
</tr>
</tbody>
</table>

¾“ eye Swingbolt Assemblies

Part Number : 495/XXXX

<table>
<thead>
<tr>
<th>Eyebolt Length (mm/”) Dimension “C”</th>
<th>Swingbolt Assy St. St. handnut</th>
<th>Swingbolt Assy N. Brass handnut</th>
</tr>
</thead>
<tbody>
<tr>
<td>66mm (2.60”)</td>
<td>495/1005</td>
<td>495/1081</td>
</tr>
<tr>
<td>87mm (3.42”)</td>
<td>495/1015</td>
<td>495/1060</td>
</tr>
<tr>
<td>95mm (3.75”)</td>
<td>495/1059</td>
<td>495/1055</td>
</tr>
</tbody>
</table>

Hinge Pins

<table>
<thead>
<tr>
<th>Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>16mm Ø eyebolt pivot pin</td>
<td>10913SS</td>
</tr>
<tr>
<td>¾“ Ø eyebolt pivot pin</td>
<td>10911SS</td>
</tr>
<tr>
<td>Manlid/neck hinge pin assembly</td>
<td>600/1060</td>
</tr>
<tr>
<td>16mm Ø locking manway hinge pin</td>
<td>600/1060/3</td>
</tr>
</tbody>
</table>
Fitting Details

SAFEBOLT WITH RETAINING COLLAR
PART NO: 496/XXXXXX
(1) See data sheet MAN024 for instructions on how to operate a safebolt. For full installation and operating instructions for manlid assemblies, see OPIN13.

Part number 496/4XXX illustrated below

Specification

¾” BSW Safebolt Assembly - an important safety feature suitable for use on all standard manlid assemblies.

Use of a safebolt assembly enables the controlled release of any residual tank pressure by breaking the seal between the lid and neck whilst retaining the manlid cover, thus eliminating any possibility of operator injury.

When operating a manlid assembly fitted with a safebolt, it is important to secure the safebolt first when closing the manlid and release the safebolt last when opening the lid.

Simple to operate and may easily be retro-fit.

Item Description Part No
1 ¾” eyebolt with 16mm eye *See Note 540/0XXX
2 Safebolt handnut *See Note 490/0XXX
3 Retaining collar 701/0050
4 Pivot pin 10913SS
5 M8 grub screw 5111-002

Note: Part number varies according to specification.
Proper use of a safebolt assembly enables the controlled release of any residual tank pressure. When operating a manlid assembly fitted with a safebolt, it is important to secure the safebolt first when closing the manlid and release the safebolt last when opening the manlid.

**IMPORTANT NOTE:** All pressure must be relieved from the tank prior to loosening the swingbolt assemblies. Failure to relieve residual tank pressure may cause the manway cover to blow open which may result in serious personal injury or death.

SAFEBOLT WITH RETAINING COLLAR, PART NO. 496/XXXXXXX

**CLOSED POSITION**

In this position, the safebolt retains the manlid closed, as does a standard swingbolt. In the event of the handnut working loose, the retaining collar (shown in red) will prevent the swingbolt from pivoting away from the lug bracket, thus preventing the manlid cover from opening suddenly due to a build-up of pressure inside the tank.

**RETAINED POSITION**

When intentionally unscrewed, the bottom collar on the handnut forces the lid to open slightly, even if the gasket is sticking to the neckring. This allows any residual pressure inside the tank to vent, making it safe for the operator to open the lid.

**OPEN POSITION**

Only when the safebolt has been fully unscrewed will the retaining collar be clear of the manlid lug bracket, allowing the bolt to pivot and the manlid to open fully.

**NOTE:** The above instructions are intended only as a guideline. For more detailed information, please refer to our Manway Operating Instructions, reference OPIN13. Please contact sales@fortvale.com.
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. It is the responsibility of the client to verify that the seal material is compatible with the cargo.

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 page)* 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 Tankyt” - 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 4 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 Tankyt 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. (Super Tankyt is a Fort Vale trade name.)

**Seal Gas-Tightness - Important Note:**

Following fabrication of the neckring to the tank shell, Fort Vale recommends a maximum tolerance of 4mm for roundness and 2mm for flatness. Fort Vale can accept no responsibility for weld distortion. Distortion in excess of these values may lead to problems in operation and/or sealing efficiency. Seal gas-tightness varies according to seal material and can depend upon the number of bolt fixings. For specific advice, please contact Fort Vale: +44 (0)1282 687120.
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.

<table>
<thead>
<tr>
<th>Manlid Seals</th>
<th>Duty (example only)</th>
<th>Pendle Manlid Seal</th>
<th>Euro Lid Seal</th>
<th>Colour Code</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>170mm (7&quot;)</td>
<td>300mm (12&quot;)</td>
<td>460mm (18&quot;)</td>
<td>500mm (20&quot;)</td>
</tr>
<tr>
<td>Butyl</td>
<td>Non-corrosive cargo</td>
<td>-40°C to 120°C (-40°F to 248°F)</td>
<td>5005-17B 16 x 10</td>
<td>5005-30B 16 x 10</td>
</tr>
<tr>
<td>EPDM</td>
<td>Some corrosive cargoes. Not suitable for petroleum based liquids. -50°C to 150°C (-58°F to 302°F)</td>
<td>5005-17EPD 16 x 10</td>
<td>5005-30EPD 16 x 10</td>
<td>11536EPD 14.5 x 11.8</td>
</tr>
<tr>
<td>Graphite Impregnated Fibre (non-Asbestos)</td>
<td>Non-corrosive high temperature products e.g. tar, bitumen etc. -50°C to 250°C (-58°F to 482°F)</td>
<td>5005-17GA 14.2 x 14.2</td>
<td>5005-30GA 14.2 x 14.2</td>
<td>11536GA 14.2 x 14.2</td>
</tr>
<tr>
<td>Natural White Rubber</td>
<td>Moderately corrosive cargoes. Not suitable for petroleum based liquids. -40°C to 85°C (-40°F to 185°F)</td>
<td>5005-17CSM 16 x 10</td>
<td>5005-30CSM 16 x 10</td>
<td>11536CSM 14.5 x 11.8</td>
</tr>
<tr>
<td>Neoprene</td>
<td>Non-corrosive cargo</td>
<td>-30°C to 100°C (-22°F to 212°F)</td>
<td>5005-17NR 16 x 10</td>
<td>5005-30NR 16 x 10</td>
</tr>
<tr>
<td>Nitrile (Black)</td>
<td>Aliphatic hydrocarbons</td>
<td>-25°C to 100°C (-13°F to 212°F)</td>
<td>5005-17N 16 x 10</td>
<td>5005-30N 16 x 10</td>
</tr>
<tr>
<td>PTFE</td>
<td>Most corrosive cargoes – commonly used on general purpose tanks. -30°C to 120°C (-22°F to 248°F)</td>
<td>5005-17P/A 16 x 10</td>
<td>5005-30P/A 14 x 14</td>
<td>11536P/A 14 x 14</td>
</tr>
<tr>
<td>Orange Silicone</td>
<td>High temperature non-corrosive cargoes.</td>
<td>5005-17S 16 x 10</td>
<td>5005-30S 16 x 10</td>
<td>11536S 14.5 x 11.8</td>
</tr>
<tr>
<td>White Silicone</td>
<td>Food products. FDA approved. -50°C to 200°C (-58°F to 392°F)</td>
<td>5005-17WS 16 x 10</td>
<td>5005-30WS 16 x 10</td>
<td>11536WS 14.5 x 11.8</td>
</tr>
<tr>
<td>Super Tanktyt Nitrile Core</td>
<td>Corrosive cargoes – resistance similar to that of PTFE. -25°C to 140°C (-13°F to 284°F)</td>
<td>5005-17Nitril 16 x 10</td>
<td>5005-30Nitril 16 x 10</td>
<td>11536Nitril 14.5 x 11.8</td>
</tr>
<tr>
<td>Super Tanktyt EPDM Core</td>
<td>Corrosive cargoes – resistance similar to that of PTFE. -50°C to 150°C (-58°F to 302°F)</td>
<td>5005-830EPD 15.5 x 10</td>
<td>5005-890EPD 15 x 10</td>
<td>5005-870EPD 14.5 x 10</td>
</tr>
<tr>
<td>Viton A</td>
<td>Moderately corrosive cargoes.</td>
<td>-15°C to 200°C (5°F to 392°F)</td>
<td>5005-17Vitron 16 x 10</td>
<td>5005-30Vitron 16 x 10</td>
</tr>
</tbody>
</table>

**Super Tanktyt** is a Fort Vale trade name.
Fitting a Rubber Seal

1. Turn the manlid upside down on its neckring.
2. Take the rubber seal and immerse it in cold water.
3. Push the seal into the manlid groove at four points, 90° to each other.
4. Knock the seal firmly into place with a plastic or wooden mallet, all round the manlid.
5. If a kink occurs, use a small piece of clean plastic or spare rubber seal material and the mallet to work the seal back into the groove.
Fitting a Braided Seal

Turn the manlid upside down on its neckring

Take the braided seal and place it over the manlid groove to measure the length required. Cut the seal with a mitre joint. PTFE tape may be applied to reinforce the mitre joint. (Adhesive not recommended)

Push the seal into the manlid groove at four points, 90° to each other

Knock the seal firmly into place with a plastic or wooden mallet, all around the manlid

If a kink occurs, use a small piece of clean plastic or spare seal material and the mallet to work the seal back into the groove
We are able to respond to a variety of specialized demands from all market sectors and the following is a sample of ancillary products which may be incorporated into the Fort Vale manlid range. Please enquire with our Sales department if your specific requirement is not detailed below.

**Weld-in Adaptors**
A wide range of adaptors may be welded into the cover to accommodate additional fittings, such as a relief valve, sampling valve, fill aperture etc. Fittings available include BSP, NPT, RJT, SMS, DIN 11851 and flanges. Please discuss your individual needs with our Sales team.

**Insulation**
For the transportation and storage of heated products, insulation may be incorporated into the manlid cover, giving improved heat-retaining properties and increasing the tank’s overall efficiency.

**Breather Assembly**
A stainless steel sintered disc holder with venting cap can be fitted for the purpose of filtering air entering the tank and preventing internal pressure build-up. This is especially suited to the handling of hydrogen peroxide.

**Vacuum Vent**
A vacuum vent valve is available as a catastrophic vacuum relief provision for road tankers. The valve is especially suited to hygienic situations. Various vacuum settings are available and an optional gauzed cowl may be supplied.

**Safety Grille**
A range of designs is available depending upon the level of protection required - from preventing debris entering the tank to guarding against operator injury from tank internal mechanisms. Please discuss your individual requirements with our Sales team.

**Sight Glass**
A customer-supplied sight glass may be expertly welded into the manlid dome for a nominal fee.

**Dipstick Holder**
Bracketry may be fitted to the neckring at the time of manufacture if specified at the time of order.

**Customer Logo**
A facsimile of your logo may be included in the lid marking for a nominal charge.

**Polishing**
Clean, weld-free lines to underside of cover with a high grade electro polish giving a standard surface finish of 10-30 microns Rtm. Hand polished finish to ultra high grade specification available on request.
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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