

Applications

General gate valve service where space is limited, weight needs to be minimised and non wedging bubble tight sealing is required. Available in nominal bore sizes from 2" – 16" in class ratings of 150–300.

Ideal for use on tank farms, manifolds, terminals, jetties and platforms and any pipeline system. Suited for vacuum service, hot tapping and a wide range of temperature and sour corrosive duties.

Product Description*Features*

- Full round opening
- No lubrication - no routine maintenance
- Bubble-tight sealing from vacuum to full rated working pressure
- Upstream and downstream seal under all operating conditions irrespective of flow direction
- Automatic self relief of body cavity pressure resulting from thermal expansion in service fluids
- Double block and bleed as defined by API 6D
- Metal to metal primary seal
- Seat rings incorporating a secondary elastomer 'O' ring seal located in the gate and therefore out of the product flow
- 3 piece bolted plate design to achieve high strength to weight ratio and compact size
- Rising stem suitable for all types of manual and powered automation
- Pressure rated and fully tested to API 6D pipeline valve specifications



The CORT C-G5 wafer gate valve has a compact body with integral flat ends which are drilled and tapped to suit the customers line flanges. The valve is opened by withdrawing a circular parallel slab gate including its floating seat rings into the upper part of the body cavity - out of product flow.

When the gate is lowered into its preset closed position the seat rings are aligned to make a primary metal to metal seal without wedging against both the up and downstream bodyplate faces.

The seats in the gate are floating and pressure energised such that the sealing action increases with increasing pipeline pressure. A secondary elastomer seal is incorporated into each seat in the gate and springs are provided to supply the sealing force to ensure bubble tight sealing at low pressures including vacuum. No lubricant or sealant is required and therefore product contamination cannot occur from this source.

When the valve is opened the seat assemblies are lifted into the upper part of the body cavity, against the body plate faces, completely clear of the pipeline flow. This is far superior to gate valve designs where the seats remain unprotected in the valve body and pipeline debris can damage the face of the seats or pack behind them, resulting in the valve either leaking or jamming. It is this design feature that also means the valves are piggable.

The stem is sealed by means of a lip seal. When the valve is in the closed position and the body pressure bled off to atmosphere, it is possible to remove the gland for replacement of the lip seal.



Product Data Sheet

C-G5 Wafer Gate Valve
version 2.0

Range of Supply

Bore Sizes - 2" - 16"

Pressure Ratings - ANSI class 150 and 300

Standard Features

Double Block and Bleed

The C-G5 valve is ideally suited for a Double Block and Bleed service as defined by API 6D. The bubble tight seal permits the small body cavity to be vented or drained when in the closed position, with pressure applied from either side of the valve; or from both sides simultaneously under differential or balanced conditions up to the maximum pressure rating.

Operators

The C-G5 valve can be supplied with a choice of bevel gear operator suitable for one man valve operation or Electric, Pneumatic or Hydraulic actuators.

The valve can be operated with the maximum rated working pressure applied as a differential pressure without the need for equalisation.

Position Indicators

Gate position indicator rods can be supplied for attachment to the valve stem which rise through a weatherproof rubber bushing at the top of the stem protector and give positive visual indication of valve position.

Optional Features

Adaptor Spools

Butt weld end pipe spools can be provided to enable customer to weld the valves directly into their pipeline without the need for transition pups.

Spools can also be provided to increase the end to end lengths of the valves to comply fully with API 6D requirements.

Bolting Sets and Weld Neck Companion Flanges

When specified, a line flange bolting set complete with nuts can be supplied for installation of the valve between a pair of standard companion flanges. Please refer to dimension details herewith for the number and size of tapped holes in the valve body.

Extensions

Extensions can be supplied to enable buried or inaccessible valves to be operated from a convenient point. These are watertight extended yoke and drive tube designs which can be retrofitted with the valve under pressure.

The C-G5 valve body cavity can be piped above ground to an accessible position and completely drained down by the optional extended body drain valve system. This operation may be performed with the line under pressure and the gate in the closed position. The connections on the pipework and to the valve may be threaded, flanged or welded according to customer specification.

Orientation Options

The C-G5 valve is normally installed with the stem vertical in a horizontal pipeline, an may also be

Robert Cort Valves Limited

185 Elgar Road South, Reading, Berkshire, RG2 0DL

Tel: +44 (0)118 987 4311 | Fax: +44 (0)118 986 6592

Email: sales@robertcort.co.uk | Web: www.robertcort.co.uk



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installed with the stem horizontal in either vertical or horizontal pipeline.

Lever Operated

The Lever Operated version of the Cort C-G5 gate valve gives height reduction whilst maintaining a narrow face to face dimension and retaining the standard seat design.

Special Designs

Design variations for special applications including high temperature flare stack service to hazardous fire safe areas are available on request.

Sizes 16" and above

Please refer to our product data on our wafer gate valve model C-G9 range covering sizes 16"-72" in pressure classes 150 and 300.



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Materials

| | <i>Standard</i> | <i>Options</i> |
|----------------------------|--|--|
| <i>Body</i> | Carbon Steel ASTM A36 (S275) ASTM A516 (S355) | Stainless Steel Ferralium Epoxy/Phenolic Lining |
| <i>Bonnet</i> | Carbon Steel ASTM A36 (S275) ASTM A516 (S355) | Stainless Steel Ferralium Epoxy/Phenolic Lining |
| <i>Yoke</i> | Carbon Steel ASTM A36 (S275) ASTM A106/API 5L Seamless Carbon Steel Tube) | |
| <i>Body/Bonnet Bolting</i> | ASTM A193 Grade B7 Studs | Low Temperature Alloy Steel Ferralium Epoxy/Phenolic Lining |
| <i>Gate</i> | Carbon Steel ASTM A36 (S275) ASTM A516 (S355) | Low Temperature Carbon Steel (LTCS) Stainless Steel Monel Ferralium Epoxy/Phenolic Lining |
| <i>Seat Rings</i> | Electroless Nickel Coated Carbon Steel ASTM A36 (S275JR) ASTM A516 (S355JR) | LTCS 13 CR Stainless Steel 316 Stainless Steel Duplex Stainless Steel Monel Ferralium Stellite Or Tungsten Carbide |
| <i>'O' Ring Seals</i> | Nitrile (Nbr) | Viton HNBR AFLAS |
| <i>Stem</i> | Electroless Nickel Coated Alloy Steel (ETG88) AISI 4140 (BS 970 709 M40) | LTCS 13 Cr Stainless Steel 316 Stainless Steel 17-4 Ph.Stainless Steel Monel Ferralium |
| <i>Seat Springs</i> | 18/8 Austenitic Stainless Steel | Inconel X750 MONEL |

NOTE : Materials shown in the standard section are representative of a normal SWEET SERVICE application. Optional materials are dependent on the pressure, temperature and corrosive properties of the flow media. Further options are available upon request. Materials given in brackets include nearest equivalent European Standard designations.

For a SOUR SERVICE application, fabrication procedures and materials selected for product wetted components comply with the NACEMR-01-75

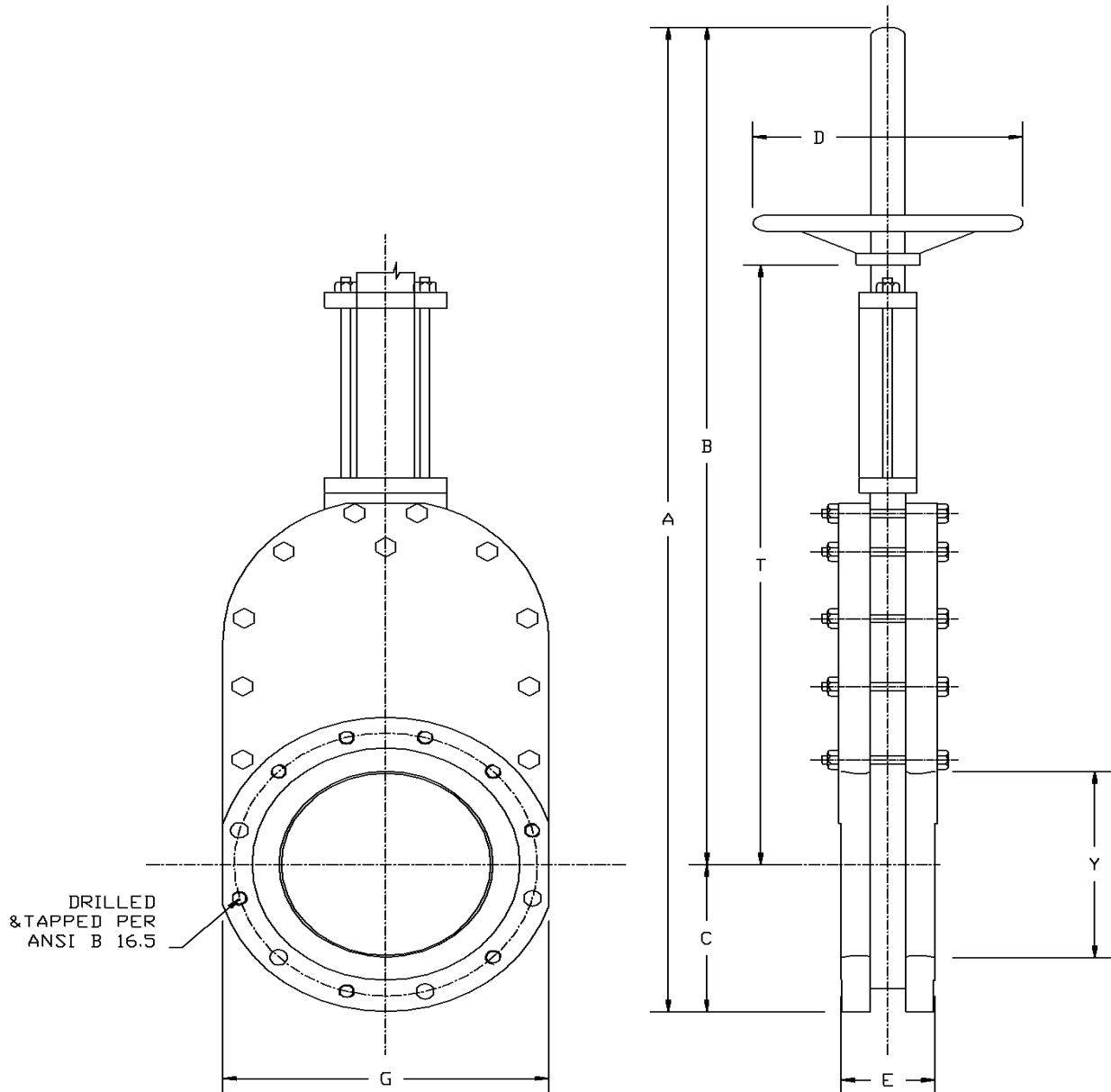


Product Data Sheet

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Dimensional Outline Drawing





Product Data Sheet

C-G5 Wafer Gate Valve

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Weights and Dimensions Class 150

| Valve Size (inch) | A | B | C | D | E | G | M | T | Y | Weight (Kg) |
|-------------------|------|------|-----|-----|-----|-----|---|------|-----|-------------|
| 4 | 739 | 635 | 104 | 254 | 104 | 228 | - | 454 | 102 | 60 |
| 6 | 946 | 815 | 130 | 254 | 114 | 269 | - | 574 | 153 | 90 |
| 8 | 1177 | 1016 | 161 | 254 | 114 | 330 | - | 714 | 196 | 127 |
| 10 | 1384 | 1177 | 196 | 304 | 127 | 381 | - | 844 | 254 | 188 |
| 12 | 1631 | 1400 | 231 | 381 | 133 | 447 | - | 1006 | 304 | 268 |
| 14 | 1828 | 1571 | 257 | 406 | 146 | 495 | - | 1125 | 336 | 372 |
| 16 | 2085 | 1792 | 293 | 508 | 154 | 577 | - | 1304 | 387 | 509 |

Weights and Dimensions Class 300

| Valve Size (inch) | A | B | C | D | E | G | M | T | Y | Weight (Kg) |
|-------------------|------|------|-----|-----|-----|-----|-----|------|-----|-------------|
| 4 | 746 | 635 | 111 | 254 | 114 | 228 | - | 454 | 102 | 65 |
| 6 | 1012 | 860 | 914 | 381 | 114 | 298 | - | 603 | 153 | 111 |
| 8 | 1273 | 1089 | 184 | 406 | 149 | 360 | - | 765 | 203 | 204 |
| 10 | 1558 | 1343 | 215 | 508 | 153 | 423 | 247 | 974 | 254 | 327 |
| 12 | 1803 | 1549 | 254 | 609 | 158 | 495 | 285 | 1123 | 304 | 427 |
| 4 | 746 | 635 | 111 | 254 | 114 | 228 | - | 454 | 102 | 65 |
| 6 | 1012 | 860 | 914 | 381 | 114 | 298 | - | 603 | 153 | 111 |



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Applicable Standards

- API 6D Pipeline Valves
- BS 6755 Pipeline Valves
- ASME/ANSI B16.5 Pipe Flanges and Flanged Fittings (Standard for valve sizes up to and including 24")
- BS 1560 Specification for Steel Flanges
- BS 3293 Carbon Steel Pipe Flanges
- Additional standards dependent on customer specifications
- ISO 9001 Quality Assured Product

Notes

Not certified dimensional drawings. Other sizes/classes including 2" and 3" are available.

All dimensions and weights are approximate. The information on this data sheet is accurate to the best of Robert Cort's knowledge; however we reserve the right to alter the product specification at any time.

