

Applications

Flowlines, manifolds, pipeline transmission and distribution, metering runs, underground storage, hot tapping, waterflood and general pipeline service.

Product Description*Features*

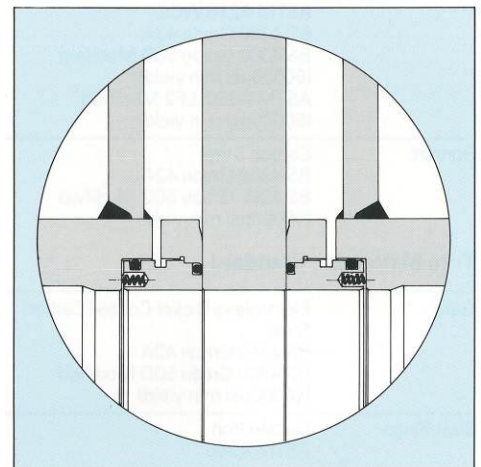
- Through conduit, full round opening
- No lubrication – no routine maintenance
- Bubble-tight sealing from zero to full rated pressure
- Upstream and downstream sealing under all operating conditions full block and bleed capability
- Metal-to-metal primary seal – protected 'O' ring secondary seal
- Self-cleaning gate
- Flanged, weld and weld by flange end connections
- Fabricated construction for maximum strength and minimum size and weight
- All internal components can be replaced without removing the valve from the line

The unique fabricated, rectangular body of CORT C-G4 valve provides maximum strength combined with minimum size and weight. The rectangular configuration permits reduction of the body cavity to the minimum required to house gate and seat ring assemblies. The result is a lighter, more compact pipeline gate valve with a small body cavity which minimises product loss when the valve is drained.

Safety and strength are further enhanced by the specially designed hoop ribs and side tie bars.

During manufacture, the body is stress-relieved by loading it hydrostatically to 1.75 times the rated working pressure. This causes some local yielding and redistributes the stresses. The result is to ensure that no further yielding of the body takes place either when it is later tested to 1.5 times the rated working pressure or in service.

Exclusive valve design provides a round, full opening conduit for ideal flow characteristics. The gate slides smoothly between precision inner metal seat rings, assuring a positive metal-to-metal seal. Inner seat rings also protect 'O' rings from damage by bore contaminants. Outer metal seat rings complete the 'floating seal' by locating the inner seat ring and 'O' ring against the gate. Springs hold the 'O' ring seal system against the gate for initial contact until line pressure completes the seal. The 'O' rings back up metal-to-metal seal and also wipe the gate clean, so there is always a smooth, clean gate surface.





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Bubble-tight seals on both sides of the gate isolate line pressure in the conduit. The valve body serves merely as framework for the operating parts and to prevent liquid loss while gate is moving. When the gate is open or closed, the valve body may be drained or vented and the integrity of the seal checked by a telltale valve in the body.

Range of Supply

Bore Sizes - 6" - 48"

Pressure Ratings - ANSI class 150 to 1500

Standard Features

Block and Bleed

With the gate in either the closed or open position, the valve body may be drained or vented. In cases when the pipeline is pressurised, zero leakage from the body drain confirms the integrity of the seat seals.

Stem Seals

The stem is sealed by means of two 'O' rings. If leakage should ever occur through both stem seals, the secondary 'O' ring can be replaced with the valve in the line, under pressure. When the valve is in the closed or open position with the body pressure bled off to atmosphere.

Mechanical Stops

The CORT C-G4 design includes integral mechanical stops. This feature is essential for accurately setting the travel limits on a power actuator when it is site fitted to a valve already installed in a pipeline.

Low Operating Torque

Due to the characteristics of the parallel slab gate and floating (non-wedging) seats the CORT C-G4 can be operated by applying a relatively low input torque. This ensures fast operation, and permits the use of smaller, less expensive manual or power operators.

Field Disassembly

The CORT C-G4 is designed to permit easy disassembly in the field and repair can be carried out with the valve in-line, for the purpose of inspecting or replacing parts.

Alternatively, CORT offer a factory refurbishing service which ensures that valves are returned to customers in an as-new condition with a full warranty.

Optional Features

Emergency Seal

Under throttling conditions or if excessive debris is present then the possibility of leakage is greater than when a valve is used for normal on-off service. All Cort valves are designed not to require sealants. However, if the metal-to-metal primary seal and the secondary 'O' ring seal are damaged, an emergency shut-off may be obtained with a sealant injected into an optional, specially designed, groove in the seat ring assembly. A design of emergency stem seal is also available.

Operating Extensions

Extensions can be supplied to enable underground valves to be operated from ground level. These are extended yoke and drive tube designs and are watertight for buried service.



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Extended Blow-Down Valves

C-G4 valve body cavities can be vented to atmosphere and completely drained down by the extended body drain valve. This operation may be performed with the line under pressure and the gate in either the open or closed positions. The connection between the valve and the pipework may be threaded, flanged or welded according to customer specification.

Body Materials

	<i>Standard</i>	<i>Options</i>
<i>Body Tube</i>	Carbon Steel BS 1501-224 Grade 490 BS 4360 50B	
<i>Hubs</i>	Carbon Steel BS 4360 Grade 43A BS 4360 Grade 50D Modified ASTM A350-LF2 Modified	
<i>Bonnet</i>	Carbon Steel BS 4360 Grade 43A BS 4360 Grade 50D Modified	

Trim Materials

	<i>Standard</i>	<i>Options</i>
<i>Gate</i>	Electroless Nickel Coated Carbon Steel BS 4360 Grade 43A BS 4360 Grade 50D Modified	Stainless Steels Weld Overlaid
<i>Seat Rings</i>	Electroless Nickel Coated Carbon Steel BS 4360 50B	Stainless Steels Weld Overlaid
<i>Inner Seat Rings</i>	Electroless Nickel Coated Carbon Steel BS 970 070 M20 BS 970 080 M40 BS 4360 50B	Stainless Steels Weld Overlaid
<i>O Ring Seals</i>	Specially compounded Nitrile synthetic rubber	Viton HNBR
<i>Stem</i>	Electroless Nickel Coated Alloy Steel BS 970 605 M36 BS 970 709 M40 BS 970 817 M40	Stainless Steels 17-4 PH
<i>T Bar</i>	Carbon Steel BS 4360 Grade 50D Modified	
<i>Seat Springs</i>	18/8 Austenitic Stainless Steel	Inconel X750

Other Options

- Impact tested materials
- Hardness controlled materials (to suit NACE MR-01-75)

Robert Cort Valves Limited

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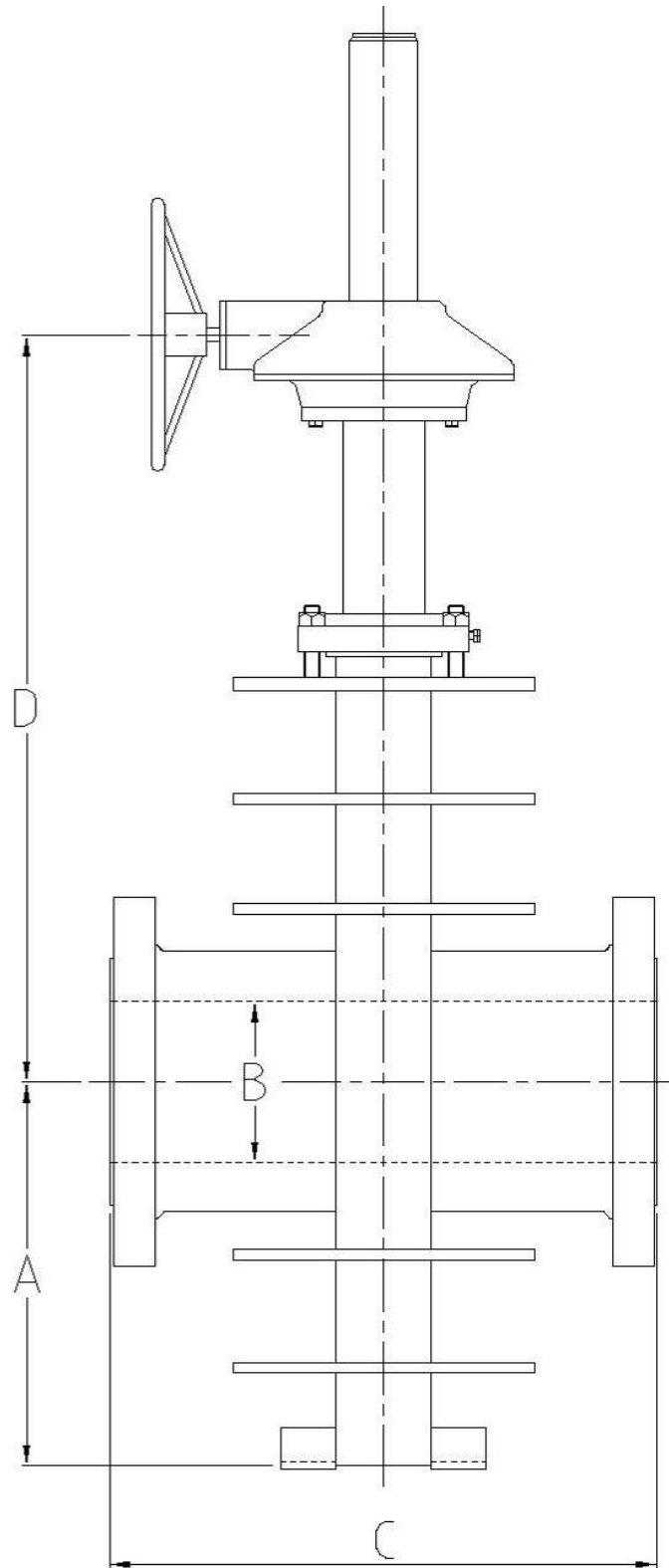
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Dimensional Outline Drawing





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Weights and Dimensions Class 150

Valve Size (inch)	A	B	C (R.F)	C (W.E)	D	Weight (Kg)	
						WE	RF
6	162	152	403	457	295	220	193
8 x 6 x 8	162	152	502	521	295	250	216
8	203	203	502	521	375	375	330
10 x 8 x 10	203	203	568	559	375	409	364
10	248	254	568	559	419	534	466
12 x 8 x 12	248	254	648	635	419	580	511
12	289	305	648	635	460	761	659
6	162	152	403	457	295	220	193
14	308	337	762	762	470	898	818
16	346	387	838	838	540	1295	1068
20 x 16 x 20	346	387	991	991	540	1466	1261
18	394	438	914	914	591	1705	1500
20	429	489	614	991	632	2080	1841
24 x 20 x 24	429	489	1143	1143	632	2216	1977
22	470	540	1092	1092	670	2611	2330
24	514	591	1143	1143	708	3080	2727
30 x 24 x 30	514	591	1397	1397	708	3193	2841
26	546	635	1245	1245	762	3875	3443
30	629	737	1397	1397	876	5580	4966
36 x 30 x 36	629	737	1727	1727	870	6091	5489
32	664	781	1524	1524	902	6239	5614
34	699	832	1626	1626	956	7364	6580
36	730	876	1727	1727	991	8420	7568
40	806	978	1956	1956	1064	11000	9773
42	841	1022	2083	2083	1105	12955	11514
48	975	1181	2388	2388	1283	19045	17932





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Weights and Dimensions Class 300

Valve Size (inch)	A	B	C (R.F)	C (W.E)	D	Weight (Kg)	
						WE	RF
6	343	150	403	403	686	220	250
8 x 6 x 8	343	150	419	419	686	240	275
8	419	201	419	419	832	285	325
10 x 8 x 10	419	201	457	457	832	305	355
12 x 8 x 12	419	201	502	502	832	345	410
10	495	252	457	457	978	415	485
12	578	303	502	502	1137	645	725
14	635	334	762	762	1245	975	1095
16	718	385	838	838	1378	1295	1425
20 x 16 x 20	718	385	991	991	1378	1470	1680
18	794	436	914	914	1537	1765	1945
20	876	487	991	991	1675	2100	2550
24 x 20 x 24	876	487	1143	1143	1675	2350	2810
22	953	538	1092	1092	1841	2890	3130
24	1035	589	1143	1143	1981	3440	3950
30 x 24 x 30	1035	589	1397	1397	1981	4025	4675
26	1111	633	1245	1245	2172	4260	4685
30	1270	735	1397	1397	2438	5780	6730
36 x 30 x 36	1270	735	1727	1727	2438	6690	8050
32	1353	779	1524	1524	2616	6820	7730
34	1429	830	1626	1626	2750	8010	8745
36	1511	874	1727	1727	2908	9365	10245
40	1626	976	1930	1930	3023	11640	12955
42	1689	1020	2032	2032	3239	12910	14320
48	1930	1166	2337	2337	3613	17730	19550





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Weights and Dimensions Class 600

Valve Size (inch)	A	B	C (R.F)	C (W.E)	D	Weight (Kg)	
						WE	RF
6	343	150	559	559	699	270	320
8 x 6 x 8	343	150	660	660	699	300	375
8	419	201	660	660	864	450	515
10 x 8 x 10	419	201	787	787	864	475	635
12 x 8 x 12	419	201	838	838	864	540	700
10	495	252	787	787	991	720	850
12	578	303	838	838	1130	895	1155
14	635	334	889	889	1251	1380	1550
16	718	385	991	991	1403	2005	2270
20 x 16 x 20	718	385	1194	1194	1403	2295	2645
18	794	436	1092	1092	1556	2530	2865
20	876	487	1194	1194	1721	3200	3685
24 x 20 x 24	876	487	1397	1397	1721	3630	4270
22	953	538	1295	1295	1867	4295	4715
24	1035	589	1397	1397	2032	5280	5910
30 x 24 x 30	1035	589	1651	1651	2032	5770	6705
26	1111	633	1448	1448	2197	6250	7160
30	1270	735	1651	1651	2489	9115	10140
36 x 30 x 36	1270	735	2083	2083	2489	10465	11730
32	1346	779	1778	1778	2642	11025	11820
36	1486	874	2083	2083	2946	14210	15455
40	1607	976	2286	2286	3200	19890	*
42	1721	1020	2438	2438	3263	22500	*
48	1969	1166	2896	2896	3810	32730	*

* Please refer to Robert Cort Valves Ltd





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Weights and Dimensions Class 900

Valve Size (inch)	A	B	C (R.F)	C (W.E)	D	Weight (Kg)	
						WE	RF
6	343	150	610	610	699	310	395
8 x 6 x 8	343	150	737	737	699	335	475
8	419	201	737	737	864	645	790
10 x 8 x 10	419	201	838	838	864	745	955
12 x 8 x 12	419	201	965	965	864	825	1095
10	495	252	838	838	991	995	1210
12	578	303	965	965	1194	1415	1685
14	629	322	1029	1029	12836	1865	2195
16	718	373	1130	1130	1448	2545	2960
18	794	423	1219	1219	1594	3365	3945
20	870	471	1321	1321	1797	4275	4985
24	1035	570	1549	1549	2134	6820	8135

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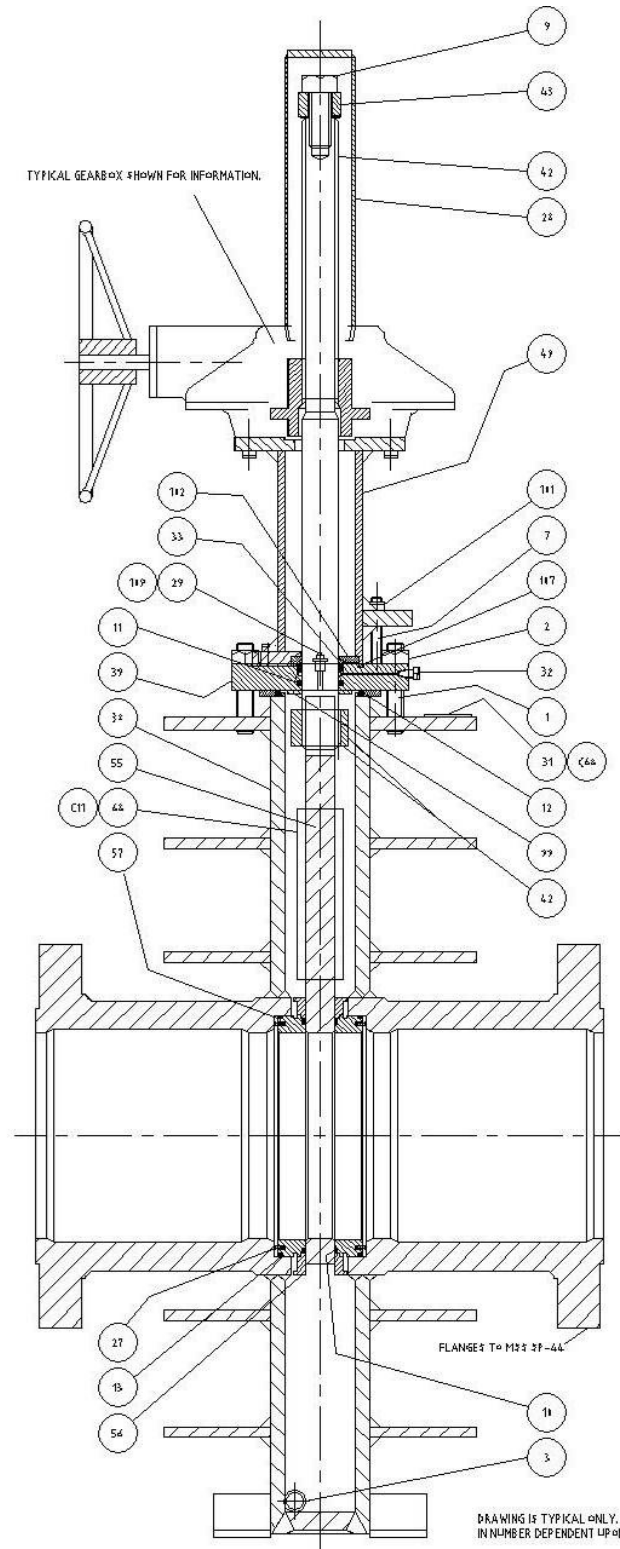
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Typical Section View & Component List



ITEM	PART NAME
1	STUD - BONNET
2	NUT - BONNET
3	PIPE PLUG - BODY UNIT
7	STUD - LOWER YOKE
9	CAPSCREW - DOWNSTOP
10	O RING - SEAT FACE
11	O RING - STEM SEAL
12	O RING - BONNET SEAL
13	O RING - GASKET
27	SPRING - SEAT RING
28	STEM PROTECTOR
29	VENT VALVE - BONNET
31	NAMEPLATE
32	PIPE PLUG - BONNET
33	GLAND BUSHING
38	BODY UNIT
39	BONNET
42	STEM UNIT
43	STEM DOWNSTOP
44	STEM NUT
49	YOKE
55	GATE
56	OUTER SEAT RING
57	INNER SEAT RING
68	EMBLEM
99	TRAVEL SPACER
101	NUT - LOWER YOKE
102	GLAND BUSHING RETAINER
104	GASKET - GEARBOX
107	O RING - YOKE
109	PIPE PLUG - BONNET
C9	GROMMET (OR EQUIV.)
C11	DRIVE SCREW -EMBLEM
C68	DRIVE SCREW -NAMEPLATE
C94	PACKING INJECTOR
C999	GASKET - YOKE



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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")
- ASME/ANSI B16.47 Large Diameter Steel Flanges
- MSS-SP44 Steel Pipe Flanges (Standard for valve sizes 26" and above)
- API 605 Large Diameter Carbon Steel Flanges
- 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 6"-12" CL1500 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.