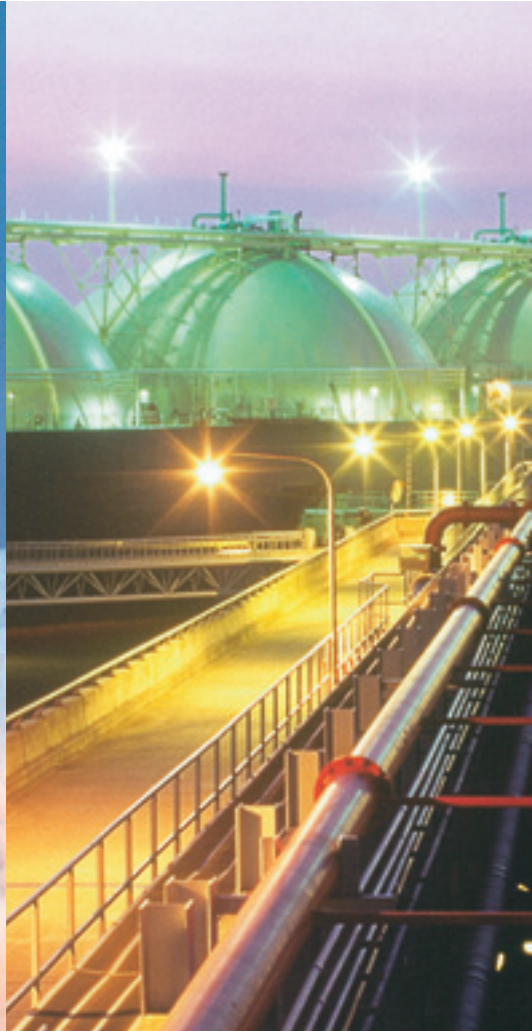


Triple Eccentric Metal Seated Valves

MV "royal" cryogenic



A Fluid Control Business of IMI

Triple eccentric Metal Seated Valves Orton MV "royal" cryogenic

- Pressure range: ASME Class 150 to ASME Class 900 full rating

- Size range from 80 mm (3") to 2000 mm (80")
- Resilient metal-to-metal seal
- Worldwide experience proven over more than 40 years
- Triple eccentric design
- Bi-directional tight shut-off
- Torque seated



- No special tools required
- Integral external position indicator on valve shaft and body / bonnet
- External anti-blowout device in full compliance with API 609
- Quarter-turn friction-free operation
- Inherently fire-safe and fire tested

- Temperature range from -196°C (-320°F) to +420°C (+788°F)

Standards

- | | | |
|--|--|--|
| <ul style="list-style-type: none"> • Design
ASME B16.34
ASME VIII
DIN 3840 | <ul style="list-style-type: none"> • Face to face
ISO 5752
API 609
ASME B16.10 | <ul style="list-style-type: none"> • Fire test
API 607 4th edition
BS 6755
ISO-FDIS 10497 |
| <ul style="list-style-type: none"> • Flanges
ASME
ISO
DIN
JIS | <ul style="list-style-type: none"> • Testing:
at room temperature
API 598 - API 6D
(zero leakage)
ISO / DIN / BS at cryogenic temperature
on customer specs | <ul style="list-style-type: none"> • Quality
ISO 9001 • Fugitive emissions
TA-LUFT Point 3.1.8.4 • European directive
PED-Module H |

Sizes

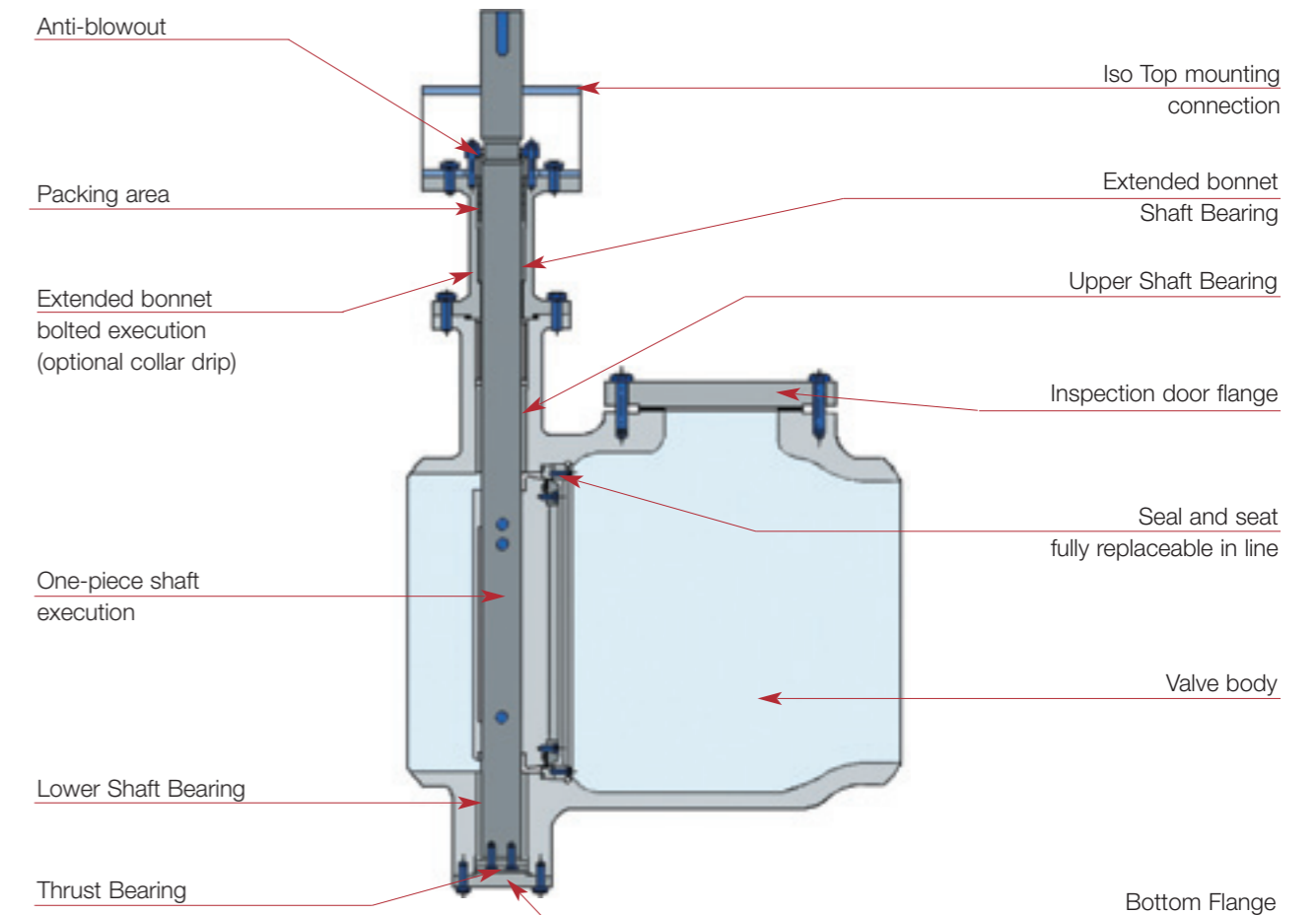
- 2" - 120" Class 150
- 2" - 80" Class 300
- 3" - 60" Class 600
- 6" - 48" Class 900
- Class 1500 and 2500 on special request

Body Styles

- Double flange
- Lug
- Butt-weld
- Butt-weld "Top entry" (for in-line maintenance)
- Special execution on request

Triple eccentric Metal Seated Valves Orton MV "royal" cryogenic

The unique Orton triple eccentric design eliminates friction between the disc seal ring and the seat in the body, thereby preventing wear and any consequent leakage. The result is a valve with a longer service life, in which all sealing elements (seal ring on the disc, seat ring on the body) are fully replaceable with the valve in line.

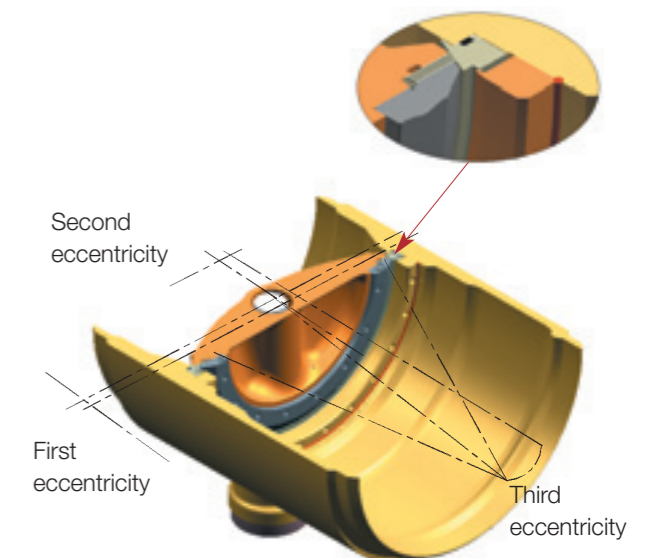


Cryogenic by design

MV "royal" cryogenic valve disc includes a resilient, laminated metal seal ring, composed of alternating layers of corrosion-resistant alloy and composite graphite. Each individual lamination provides an independent seal, unaffected by damage to the others. While improving long-term sealing properties, the resilience of the laminated design also allows lower operating torques. (For high pressure class a hardened, non-laminated seal ring, is available.)

Assembled on the disc, the seal ring is engineered with tolerance to allow radial compression and flexing when torque is applied to close the valve. Consequently, the valve seals tightly even when pressurized from the reverse direction.

In addition, the resiliency of the seal and seat ring compensates for differences in expansion rates between body and trim.

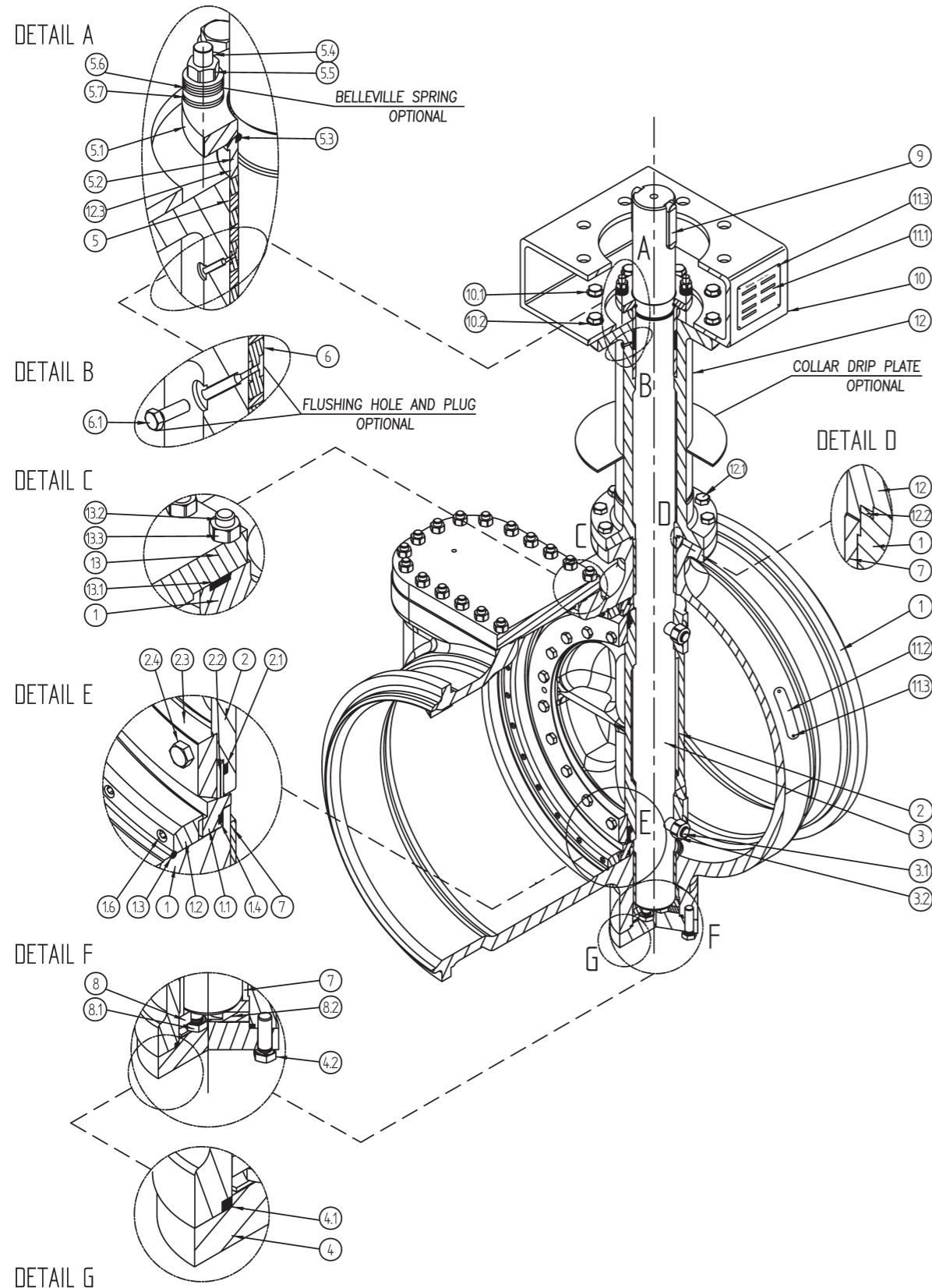


Triple eccentric Metal Seated Valves

Orton MV "royal" cryogenic

Sectional drawing

Model MV-BWT : Butt Weld Top entry



Triple eccentric Metal Seated Valves

Orton MV "royal" cryogenic

Parts and Materials

Item	Note	Description	Material
1	°	Body	ASTM A351 CF3 (AISI 304L)
1.1	▲	Bolted Seat	UNS S31603 (AISI 316L) - HARDENED
1.2		Seat Ring Retaining Flange	UNS S30400 (AISI 304)
1.3		Bolted Seat Retaining Ring	UNS S30400 (AISI 304)
1.4	▲	Bolted Seat Gasket	HIGH DENSITY GRAPHITE
1.5		Bolted Seat Retaining Ring Lower Dowel	ISO 3506 A2 (AISI 304)
1.6		Bolted Seat Retaining Ring Upper Dowel	ISO 3506 A2 (AISI 304)
2	°	Disc	ASTM A351 CF8 (AISI 304)
2.1	▲	Seal Ring Gasket	HIGH DENSITY GRAPHITE
2.2	▲	Seal Ring	UNS S31600 (AISI 316) + GRAPHITE
2.3		Seal Ring Retaining Flange	UNS S30400 (AISI 304)
2.4		Seal Ring Retaining Screw	ISO 3506 A2 (AISI 304)
3		Shaft	UNS S20910 (NITRONIC 50 ®)
3.1		Pin	UNS S20910 (NITRONIC 50 ®)
3.2		Pin Nut	ISO 3506 A2 (AISI 304)
4	°	Body Bottom Flange	UNS S30400 (AISI 304)
4.1	▲	Body Bottom Flange Gasket	HIGH DENSITY GRAPHITE
4.2		Body Bottom Flange Screw	ISO 3506 A2 (AISI 304)
5	▲	Shaft Packing	HIGH DENSITY GRAPHITE
5.1		Gland Flange	UNS S30400 (AISI 304)
5.2		Gland Bushing	UNS S30400 (AISI 304)
5.3		Anti Blow-Out Ring	UNS S30400 (AISI 304)
5.4		Gland Flange Stud Bolt	ISO 3506 A2 (AISI 304)
5.5		Gland Flange Stud Bolt Nut	ISO 3506 A2 (AISI 304)
5.6		Belleville Spring	ALLOY STEEL - optional
5.7		Belleville Spring Washer	ALLOY STEEL - optional
6		Lantern Ring	UNS S30400 (AISI 304) - optional
6.1		Flushing Hole Plug	ISO 3506 A2 (AISI 304) - optional
7		Body Bearing	UNS S30400 (AISI 304) HARDENED
8		Thrust Bearing Washer	UNS S30400 (AISI 304)
8.1		Thrust Bearing Screw	ISO 3506 A2 (AISI 304)
8.2		Unloosening Washer	UNS S30400 (AISI 304)
9		Key	ALLOY STEEL
10		Bracket	CARBON STEEL
10.1		Bracket Screw	ALLOY STEEL CL. 8.8 ZINC COATED
10.2		Bracket Screw Washer	ALLOY STEEL CL. 8.8 ZINC COATED
11.1		Nameplate	UNS S31600 (AISI 316)
11.2		"Shut-Off High Pressure Side"	LABEL UNS S31600 (AISI 316)
11.3		Label Rivet	NI PLATED STEEL
12	°	Cryo Extended Bonnet	ASTM A351 CF8 (AISI 304)
12.1		Cryo Extended Bonnet Screw	ISO 3506 A2 (AISI 304)
12.2	▲	Cryo Extended Bonnet Gasket	HIGH DENSITY GRAPHITE
12.3		Cryo Extended Bonnet Bearing	UNS S30400 (AISI 304) HARDENED
13	°	Top Entry Flange	UNS S30400 (AISI 304)
13.1	▲	Top Entry Flange Gasket	BRAIDED GRAPHITE
13.2		Top Entry Flange Stud Bolt	ISO 3506 A2 (AISI 304)
13.3		Top Entry Flange Stud Bolt Nut	ISO 3506 A2 (AISI 304)

▲ Suggested spare parts

° Parts under pressure

Triple eccentric Metal Seated Valves

Orton MV "royal" cryogenic

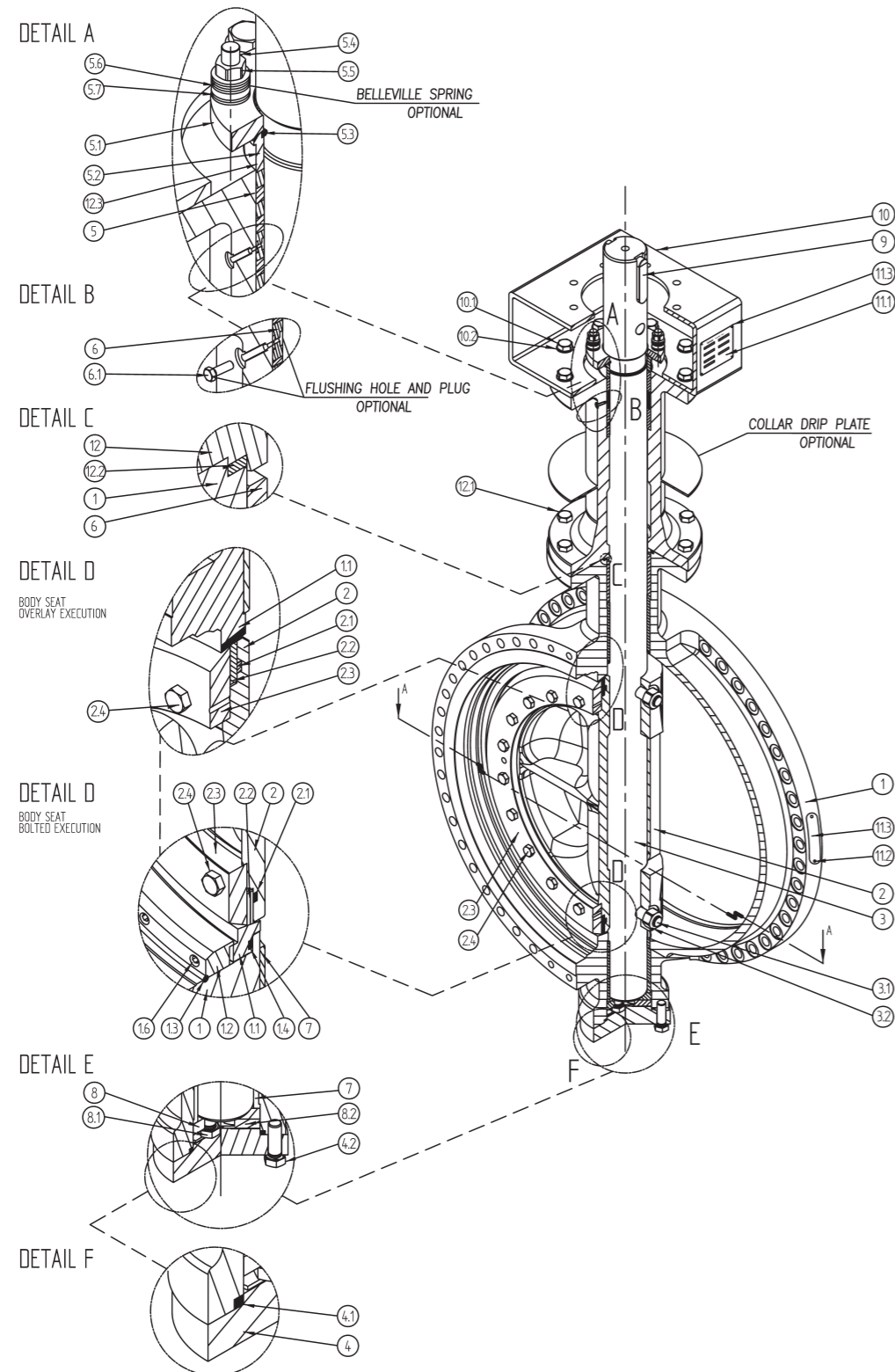
Sectional drawing

Model MV-DFS : Double Flanged Short

Model MV-DFG : Double Flanged Gate

Model MV-LUG : Lug

Model MV-BWE : Butt-weld



Triple eccentric Metal Seated Valves

Orton MV "royal" cryogenic

Parts and Materials

Item	Note	Description	Material For Bolted Seat Execution	Material For Stellite Gr. 21 Seat Execution
1	°	Body	ASTM A351 CF8 / CF8M	ASTM A351 CF8 / CF8M
1.1	▲	Bolted Seat	UNS S31603 (AISI 316L) - HARDENED	—
1.1	▲	Body Seat	—	WELDED OVERLAY STELLITE GR. 21
1.2		Seat Ring Retaining Flange	UNS S30400 (AISI 304)	—
1.3		Bolted Seat Retaining Ring	UNS S30400 (AISI 304)	—
1.4	▲	Bolted Seat Gasket	HIGH DENSITY GRAPHITE	—
1.5		Bolted Seat Retaining Ring Lower Dowel	ISO 3506 A2 (AISI 304)	—
1.6		Bolted Seat Retaining Ring Upper Dowel	ISO 3506 A2 (AISI 304)	—
2	°	Disc	ASTM A351 CF8 / CF8M	ASTM A351 CF8 / CF8M
2.1	▲	Seal Ring Gasket	HIGH DENSITY GRAPHITE	HIGH DENSITY GRAPHITE
2.2	▲	Seal Ring	UNS S31600 (AISI 316)	UNS S31600 (AISI 316)
2.3		Seal Ring Retaining Flange	UNS S30400 (AISI 304)	UNS S30400 (AISI 304)
2.4		Seal Ring Retaining Screw	ISO 3506 A2 (AISI 304)	ISO 3506 A2 (AISI 304)
3		Shaft	UNS S20910 (NITRONIC 50 ®)	UNS S20910 (NITRONIC 50 ®)
3.1		Pin	UNS S20910 (NITRONIC 50 ®)	UNS S20910 (NITRONIC 50 ®)
3.2		Pin Nut	ISO 3506 A2 (AISI 304)	ISO 3506 A2 (AISI 304)
4	°	Body Bottom Flange	UNS S30400 (AISI 304)	UNS 30400 (AISI 304)
4.1	▲	Body Bottom Flange Gasket	HIGH DENSITY GRAPHITE	HIGH DENSITY GRAPHITE
4.2		Body Bottom Flange Screw	ISO 3506 A2 (AISI 304)	ISO 3506 A2 (AISI 304)
5	▲	Shaft Packing	HIGH DENSITY GRAPHITE	HIGH DENSITY GRAPHITE
5.1		Gland Flange	UNS S30400 (AISI 304)	UNS S30400 (AISI 304)
5.2		Gland Bushing	UNS S30400 (AISI 304)	UNS S30400 (AISI 304)
5.3		Anti Blow-Out Ring	UNS S30400 (AISI 304)	UNS S30400 (AISI 304)
5.4		Gland Flange Stud Bolt	ISO 3506 A2 (AISI 304)	ISO 3506 A2 (AISI 304)
5.5		Gland Flange Stud Bolt Nut	ISO 3506 A2 (AISI 304)	ISO 3506 A2 (AISI 304)
5.6		Belleville Spring	ALLOY STEEL - optional	ALLOY STEEL - optional
5.7		Belleville Spring Washer	ALLOY STEEL - optional	ALLOY STEEL - optional
6		Lantern Ring	UNS S30400 (AISI 304) - optional	UNS S30400 (AISI 304) - optional
6.1		Flushing Hole Plug	ISO 3506 A2 (AISI 304) - optional	ISO 3506 A2 (AISI 304) - optional
7		Body Bearing	UNS S30400 (AISI 304) HARDENED	UNS S30400 (AISI 304) HARDENED
8		Thrust Bearing Washer	UNS S30400 (AISI 304)	UNS S30400 (AISI 304)
8.1		Thrust Bearing Screw	ISO 3506 A2 (AISI 304)	ISO 3506 A2 (AISI 304)
8.2		Unloosening Washer	UNS S30400 (AISI 304)	UNS S30400 (AISI 304)
9		Key	ALLOY STEEL	ALLOY STEEL
10		Bracket	CARBON STEEL	CARBON STEEL
10.1		Bracket Screw	ALLOY STEEL CL. 8.8 ZINC COATED	ALLOY STEEL CL. 8.8 ZINC COATED
10.2		Bracket Screw Washer	ALLOY STEEL CL. 8.8 ZINC COATED	ALLOY STEEL CL. 8.8 ZINC COATED
11.1		Nameplate	UNS S31600 (AISI 316)	UNS S31600 (AISI 316)
11.2		"Shut-Off High Pressure Side" Label	UNS S31600 (AISI 316)	UNS S31600 (AISI 316)
11.3		Label Rivet	NI PLATED STEEL	NI PLATED STEEL
12	°	Cryo Extended Bonnet	ASTM A351 CF8	ASTM A351 CF8
12.1		Cryo Extended Bonnet Screw	ISO 3506 A2 (AISI 304)	ISO 3506 A2 (AISI 304)
12.2	▲	Cryo Extended Bonnet Gasket	HIGH DENSITY GRAPHITE	HIGH DENSITY GRAPHITE
12.3		Cryo Extended Bonnet Bearing	UNS S30400 (AISI 304) HARDENED	UNS S30400 (AISI 304) HARDENED

▲ Suggested spare parts

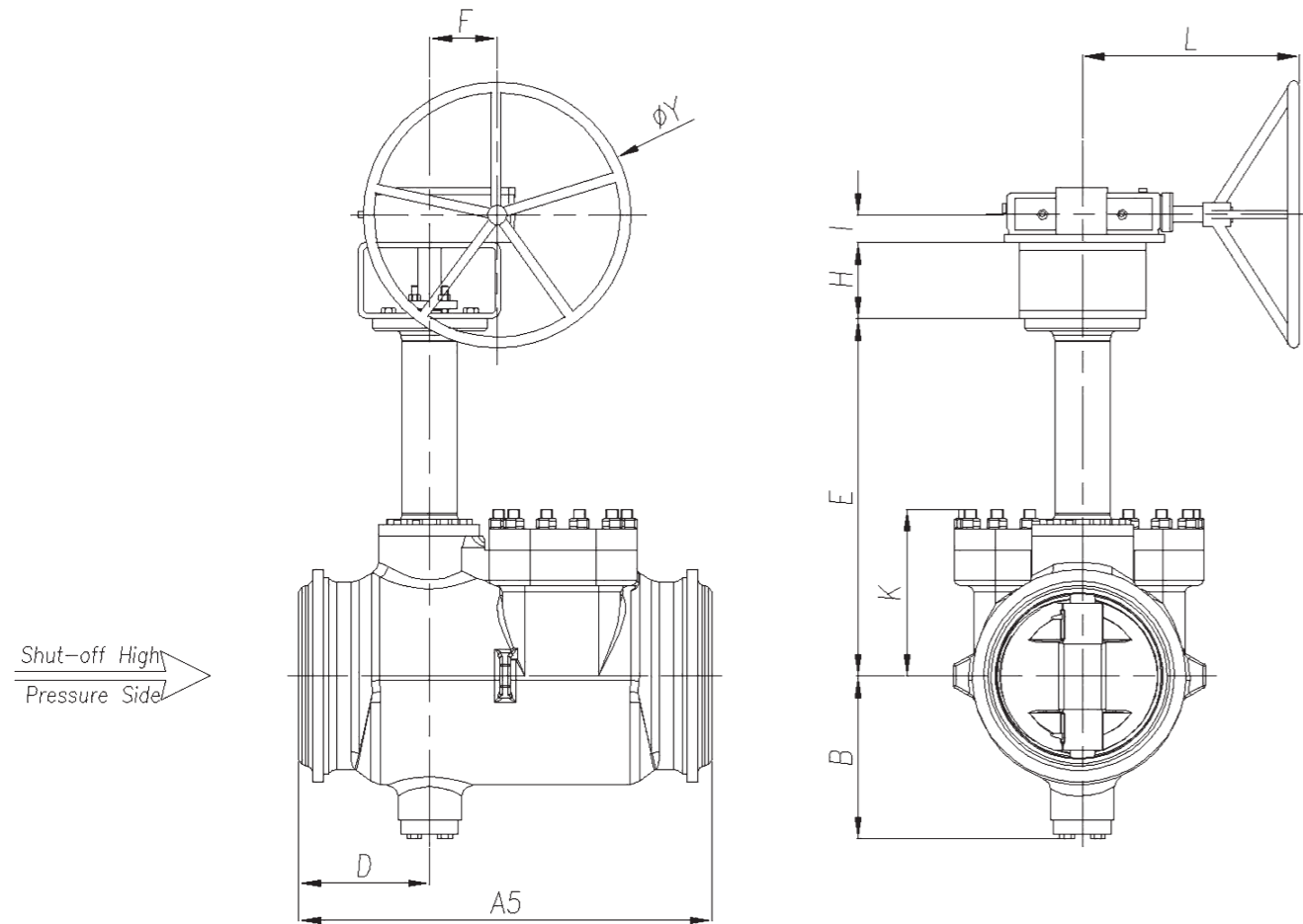
° Parts under pressure

Triple eccentric Metal Seated Valves

Orton MV "royal" cryogenic

Overall Dimensions

Model MV-BWT : Butt-Weld Top Entry



Notes

1. Suggested orientation is with the valve shaft in vertical position, or inclined with a maximum angle of 45° from the vertical position.
2. Valve body should be insulated to limit body to trim differential temperature to 100 °C (212 °F).
3. Shut-Off High Pressure Side (shaft side) is the preferred side of the valve for long sealing capability.
4. Please consult Orton for other available sizes, classes and end connections.

Triple eccentric Metal Seated Valves

Orton MV "royal" cryogenic

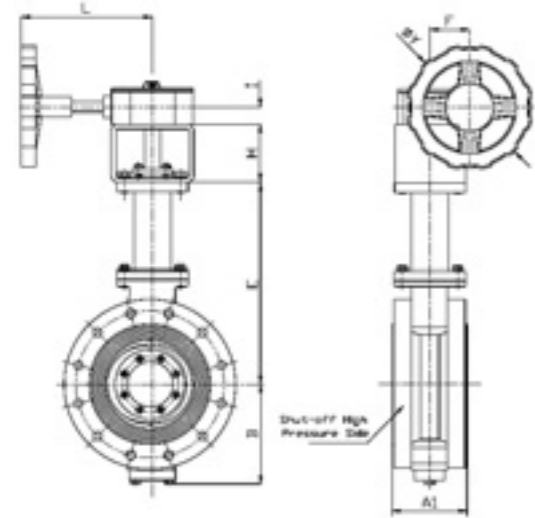
ND (inches)	ND (mm)	Dimension in mm										Weights (Kg)
		A5	D	K	B	E	H	L	I	ØY	F	
Class 150#												
6"	150	535	150	183	175	427	100	247	29	250	52	124
8"	200	654	207	225	215	522	100	297	41	400	71	184
10"	250	700	223	250	247	560	120	305	42	500	86	244
12"	300	700	215	270	280	645	120	346	48	600	104,5	282
14"	350	744	240	295	315	672	140	346	48	600	104,5	352
16"	400	801	264	335	360	733	140	387	55	600	130	502
18"	450	808	261	365	395	813	140	447	55	700	211	615
20"	500	877	291	382	436	853	140	500	59	500	263	840
22"	550	883	290	410	490	950	140	500	59	700	263	900
24"	600	921	289	435	505	963	150	500	59	700	263	1030
26"	650	950	295	460	530	986	150	510	65	600	159	1091
28"	700	965	299	505	570	1032	200	658	74	700	169	1340
30"	750	1036	310	510	630	1162	200	658	74	700	169	1590
32"	800	1060	321	545	658	1191	200	673	100	700	293	1828
34"	850	1118	350	595	665	1195	200	673	100	700	293	1978
36"	900	1170	385	605	741	1261	200	696	115	700	285	2410
38"	950	1150	385	645	745	1264	200	696	115	700	285	2660
40"	1000	1150	410	690	795	1314	200	673	99	700	245	2833
42"	1050	1145	345	745	825	1293	200	673	99	700	245	3083
44"	1100	1180	358	785	873	1413	250	673	99	700	245	3283
46"	1150	1200	363	805	900	1463	250	696	100	700	245	3633
48"	1200	1220	372	816	940	1460	250	912	130	700	355	4250
Class 300#												
6"	150	589	175	207	190	497	100	243	45	300	97	204
8"	200	652	205	250	223	535	120	243	45	300	97	262
10"	250	715	228	253	260	620	140	387	55	600	130	292
12"	300	753	239	295	300	656	140	447	55	700	211	395
14"	350	848	280	340	335	759	150	500	59	700	263	633
16"	400	866	288	340	360	790	150	500	59	700	263	650
18"	450	921	305	413	410	823	150	586	59	500	357	890
20"	500	936	315	410	455	910	150	658	74	700	169	920
22"	550	1025	350	460	480	940	150	658	74	700	169	1312
24"	600	1062	370	487	522	980	200	696	115	700	285	1594
26"	650	1095	390	515	522	980	200	696	115	700	285	1729
28"	700	1126	400	552	650	1172	200	673	99	700	245	1889
30"	750	1216	440	570	680	1202	200	673	99	700	245	2131
32"	800	1240	455	602	725	1245	250	796	115	700	288	2443
34"	850	1306	490	642	725	1245	250	796	115	700	288	2739
36"	900	1369	520	663	775	1303	250	950	130	700	517	3407
38"	950	1470	570	680	775	1303	250	950	130	700	517	3660
40"	1000	1488	580	688	795	1350	300	950	130	700	517	3925
42"	1050	1506	590	723	795	1370	300	950	130	700	517	4281
44"	1100	1600	640	726	875	1412	300	990	150	800	444	5780
46"	1150	1624	655	759	900	1437	300	990	150	800	444	6480
48"	1200	1650	675	802	970	1440	300	1102	175	1000	552	8000
Class 600#												
6"	150	660	210	230	235	585	140	243	45	300	97	257
8"	200	750	253	275	270	580	140	387	55	600	130	255
10"	250	895	289	320	300	700	150	447	55	700	211	565
12"	300	940	294	352	340	787	150	500	59	700	263	730
14"	350	995	312	395	380	809	150	500	59	700	263	850
16"	400	1050	330	430	420	838	150	544	74	600	217	1102
18"	450	1130	361	460	474	885	200	658	83	700	169	1558
20"	500	1185	370	475	525	1000	200	673	99	700	293	1828
22"	550	1220	382	510	570	1000	200	673	99	700	293	2228
24"	600	1264	395	539	610	1100	250	673	99	700	245	2583
26"	650	1314	410	569	615	1100	250	673	99	700	245	2933
28"	700	1364	425	599	705	1184	250	950	130	700	517	3850
30"	750	1414	437	629	705	1254	250	950	130	700	517	4230
32"	800	1464	452	659	770	1246	300	950	130	700	517	4687
34"	850	1514	475	689	775	1246	300	950	130	700	517	5100
36"	900	1590	492	720	855	1330	300	990	150	800	444	6480
Class 900#												
6"	150	810	230	249	255	592	140	243	45	300	97	372
8"	200	900	280	320	300	685	150	447	55	700	211	530
10"	250	1020	314	375	365	773	150	500	59	700	263	830
12"	300	1090	352	382	397	806	150	586	59	500	357	1130
14"	350	1170	380	420	420	897	150	544	74	600	217	1442
16"	400	1250	400	455	455	985	250	673	99	700	293	1778
18"	450	1310	430	505	530	1036	250	673	99	700	245	2313
20"	500	1380	450	545	580	1075	250	673	99	700	245	2633
22"	550	1430	450	575	580	1075	250	673	99	700	245	3133
24"	600	1460	456	625	675	1190	300	912	130	700	355	4400
26"	650	1540	496	625	675	1190	300	912	130	700	355	4530
28"	700	1570	500	672	738	1230	300	950	130	700	517	5565
30"	750	1590	510	693	805	1272	300	950	130	700	517	6550
32"	800	1615	510	693	805	1272	300	990	150	800	444	8115
34"	850	1640	530	757	920	1352	300	990	150	800	444	9060
36"	900	1756	525	815	945	1350	300	990	150	800	444	9110

Triple eccentric Metal Seated Valves

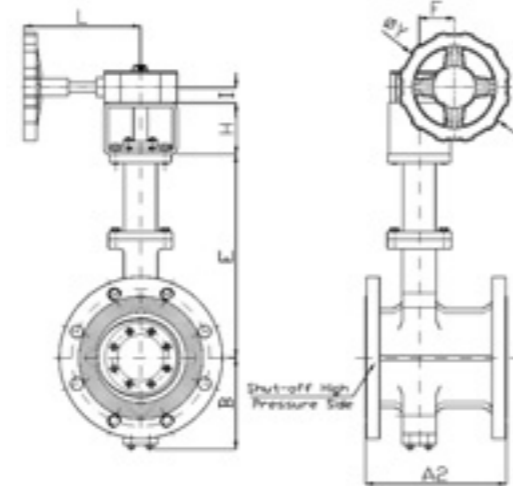
Orton MV "royal" cryogenic

MV-DFS / DFG / LUG / BWE Overall Dimensions

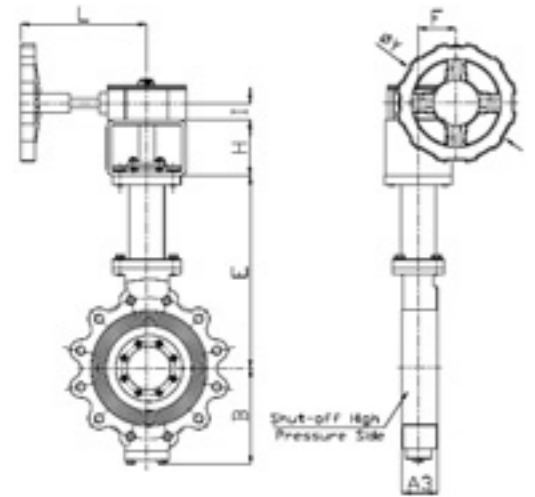
Model MV-DFS: Double Flanged
API 609 Table 2 (C) (ISO 5752)



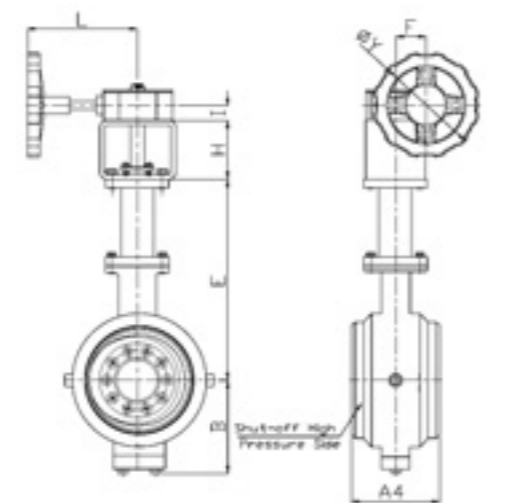
Model MV-DFG: Double Flanged Long
API 609 Table 2 (B) (ASME B16.10)



Model MV-LUG: Lug
API 609 Table 2 (A)



Model MV-BWE: Butt-Weld



Notes

1. Suggested orientation is with the valve shaft in vertical position, or inclined with a maximum angle of 45° from the vertical position.
2. Valve body should be insulated to limit body to trim differential temperature to 100 °C (212 °F).
3. Shut-Off High Pressure Side (shaft side) is the preferred side of the valve for long sealing capability.
4. Face to face dimensions are in strict accordance with the latest edition of the stated standards.
5. Flange/end connections are in strict accordance with ASME B16.5 or ASME B16.47.
6. Please consult Orton for other available sizes, classes and end connections.

Triple eccentric Metal Seated Valves

Orton MV "royal" cryogenic

DN	Face to face (mm)				Other dimensions (mm)							Weights (kg)							
	MVDFS	MVDFG	MVLUG	MVBWE	B	E	H	L	I	ØY	F	MVDFS	MVDFG	MVLUG	MVBWE				
	Double Flanged	ASME B16.10	Lug	Butt-Weld								Double Flanged	ASME B16.10	Lug	Butt-Weld				
A ₁	A ₂	A ₃	A ₄																
Class 150																			
2"	108	178	43	150	100	390	100	158	26	200	43	24	34	30	29				
2 1/2"	112	190	46	170	130	380	100	158	26	200	43	32	34	30	31				
3"	114	203	48	180	130	390	100	158	26	200	43	33	36	30	33				
4"	127	229	54	190	135	405	100	158	26	200	43	37	40	32	38				
5"	140	254	57	200	165	415	100	217	29	200	52	46	50	34	42				
6"	140	267	57	210	190	430	100	247	29	250	52	55	57	50	46				
8"	152	292	64	230	215	522	100	305	42	500	86	68	100	69	80				
10"	165	330	71	250	250	560	120	305	42	500	86	120	127	94	102				
12"	178	356	81	270	285	645	120	346	48	600	105	155	171	120	120				
14"	190	381	92	290	315	672	140	346	48	600	105	230	210	184	192				
16"	216	406	102	310	360	733	140	387	55	600	130	256	294	202	215				
18"	222	432	114	330	395	814	140	447	55	700	211	330	359	280	274				
20"	229	457	127	350	438	852	140	500	59	500	263	400	461	360	354				
22"	229	508	127	390	465	877	150	500	59	700	263	488	553	499	470				
24"	267	508	154	390	505	963	150	500	59	700	263	620	652	556	513				
26"	267	559	154	390	530	986	150	586	59	500	357	685	722	720	610				
28"	292	610	229	430	575	1032	200	658	74	700	169	935	941	915	742				
30"	318	610	241	470	630	1162	200	658	74	700	169	920	1061	1120	860				
32"	318	660	241	470	630	1162	200	673	100	700	293	990	1207	1268	950				
34"	318	711	241	510	665	1195	200	673	100	700	293	1040	1417	1550	1195				
36"	330	711	241	510	745	1264	200	696	115	700	285	1430	1631	1776	1340				
38"	330	762	300	530	745	1264	200	696	115	700	285	1530	1863	1943	1548				
40"	410	762	300	550	760	1314	200	673	100	700	245	1869	2046	2295	1666				
42"	410	813	300	550	790	1339	200	673	100	700	245	2260	2559	2756	2104				
44"	470	832	300	575	875	1463	250	673	100	700	245	2550	3263	3220	2350				
46"	470	851	350	575	875	1463	250	795	115	700	288	2750	3861	3790	2570				
48"	470	864	350	630	945	1512	250	912	130	700	355	3150	4026	4239	2744				
50"	470	890	365	653	880	1510	250	912	130	700	355	3550	4370	4550	3075				
52"	530	903	365	682	1015	1544	300	950	130	700	517	3880	4746	4800	3260				
54"	530	918	380	700	1025	1590	300	950	130	700	517	4500	5060	5025	3400				
56"	530	933	390	710	1070	1685	300	950	130	700	517	5200	5600	5214	3700				
58"	530	948	390	726	1105	1714	300	950	130	700	517	5730	6130	5630	4026				
60"	600	963	390	742	1145	1778	300	950	130	700	517	6950	7500	5940	4400				
Class 300																			
2"	108	216	48	150	100	390	100	158	26	200	43	37	38	34	33				
2 1/2"	112	241	46	170	130	380	100	158	26	200	43	37	38	36	37				
3"	114	283	48	180	130	391	100	217	29	200	52	42	47	37	43				
4"	127	305	54	190	160	404	100	217	29	200	52	47	53	35	51				
5"	140	381	59	200	190	455	100	305	42	500	86	55	75	48	60				
6"	140	403	61	210	187	497	100	305	42	500	86	77	96	53	84				
8"	152	419	73	230	225	535	120	346	48	600	105	113	136	83	115				
10"	165	455	86	250	260	621	140	387	55	600	130	180	207	143	165				
12"	178	502	92	270	300	657	140	447	55	700	211	238	328	190	223				
14"	190	527	117	290	336	759	150	447	55	700	263	350	460	320	350				
16"	216	638	133	310	370	790	150	500	59	700	263	462	670	411	400				
18"	222	614	149	330	410	823	150	586	59	500	357	555	880	536	450				
20"	229	691	159	350	455	910	150	658	74	700	169	675	1130	649	503				
22"	229	1092	181	350	470	910	150	658	74	700	169	765	1325	859	548				
24"	267	1143	183	390	525	980	200	696	115	700	285	1057	1670	1040	890				
26"	267	1245	210	390	560	980	200	696	115	700	285	1246	1718	1196	1100				
28"	292	1346	228	430	650	1172	200	673	100	700	245	1390	1925	1438	1190				
30"	318	1397	241	470	680	1202	200	673	100	700	245	1765	2150	1779	1580				
32"	330	1524	300	470	725	1245	250	795	115	700	288	2005	2325	1900	1890				
34"	330	1626	300	510	725	1245	250	795	115	700	288	2300	2556	2243	2050				
36"	330	1727	300	510	775	1303	250	950	130	700	517	2530	2860	2630	2355				
38"	330	1824	350	550	790	1335	250	950	130	700	517	2946	3166	3025	2765				
40"	410	1921	350	550	800	1350	300	950	130	700	517	3650	3964	3300	3334				
42"	410	2018	384	580	800	1350	300	950	130	700	517	3770	4125	3760	3678				
44"	440	2115	418	580	866	1415	300	990	150	800	444	4315	4750	3995	4080				
46"	440	2212	452	610	923	1475	300	990	150	800	444	5026	5360	4368	4625				
48"	470	2309	452	610	965	1507	300	1102	175	1000	552	5670	5982	4990	4976				
50"	500	2406	486	630	1026	1560	300	1102	175	1000	552	6027	6400	5360	5500				
52"	530	2503	520	630	1090	1683	300	1102	175	1000	552	6700	7136	5750	6037				
54"	550	2600	554	655	1100	1720	300	1102	175	1000	552	7124	7550	6230	6580				
56"	575	2697	588	655	1136	1762	300	1102	175	1000	552	7600	8026	6770	7037				
58"	600	2794	622	680	1175	1802	300	1102	175	1000	552	8030	8325	7248	7750				
60"	600	2891	656	705	1185	1832	300	1242	190	1000	604	8530	9000	7700	8135				
Class 600																			
3"	180	356	54	180	135	441	100	247	29	250	52	40	47	28	30				
4"	190	432	66	190	190	520	120	305	42	500	86	70	71	47	46				
5"	200	508	70	200	205	560	120	305	42	500	86	100	117	77	71				
6"	210	559	78	210	235	585	140	346	48	600	105	128	149	105	79				
8"	230	660	103	230	267	580	140	387	55	600	130	210	215	130	100				
10"	250	787	120	250	300	701	150	447	55	700	211	355	443	290	275				
12"	270	838	143	270	345	730	150	500	59	700	263	435	531	369	3				

Triple eccentric Metal Seated Valves
Orton MV "royal" cryogenic



16" & 30" cl. 600 for isolation



66" cl. 150 actuated after cryo test



8" cl. 600 Butt-Welding Top Entry

In-line easy maintenance

Valve design with an inspection door allows easy and quick in-line maintenance. Thanks to the opening door located on the top of the valve body, free access inside the valve is possible for inspections and maintenance. This operation may be done with the actuator in place and without removing bonnet and packing. No special tools are required. Full disassembly and assembly procedure is available in PowerPoint® format on request.

Triple eccentric Metal Seated Valves
Orton MV "royal" cryogenic



24" cl.150 and 8" cl.600 Butt Welding Top Entry execution



30" cl. 600 after cryo test

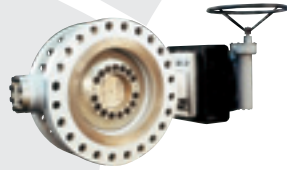


18" cl. 600 for isolation



20" cl. 150 for modulating service

A member of IMI UK - Severe Service Division, an international leader in specialist flow control products, Orton offers the most complete range of triple eccentric metal seated valves and soft seated butterfly valves for all applications.



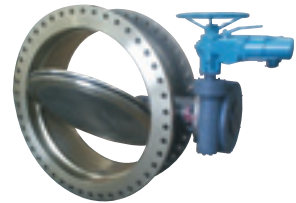
Triple Eccentric Metal Seated Valves

- MV Series**
- Triple eccentric 1/4 turn friction-free operation.
 - Resilient torque seated metal-to-metal seal.
 - Bi-directional zero leakage shut-off.
 - Inherently fire-safe.



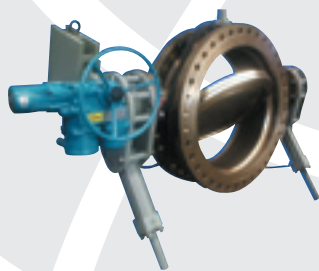
Triple Eccentric Metal Seated Valves

- MV Royal Series**
- Triple eccentric 1/4 turn friction-free operation.
 - Resilient torque seated metal-to-metal seal.
 - Fully replaceable seat and seal with in-line maintenance
 - Inherently fire-safe.



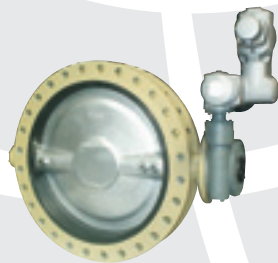
Double Eccentric Valves

- VF Series**
- Resilient disc-mounted seal ring.
 - Bi-directional tight shut-off.
 - Double eccentric operation.
 - Bi-directional axial shaft support.



Non-Return Valves

- NR Series**
- Triple or double eccentric.
 - Metal or rubber seal.
 - Counter balance weight with a dampening system.
 - Low pressure drop.



Rubber Seated Valves

- DS Series**
- Bi-directional tight shut-off.
 - Self-centering disc on a resilient seat.
 - Body and stem free from fluid contact.
 - No disc connecting pin or key (up to 24").



PTFE Seated Valves

- TF Series**
- Self-centering disc on a PTFE seat.
 - Bi-directional tight shut-off.
 - Body and stem free from fluid contact.
 - No disc connecting pin or key.

QS Certificate of Assessment
97/23 EC-PED-H
Pressure Equipment Directive
Certified by DNV

Certificate of Assessment
ATEX 94/9/EC
Filed at DNV

Quality System
ISO 9001
Certified by DNV

Fugitive Emissions
TA-LUFT Point 3.1.8.4
Certified by TÜV

Fire Safe
API 607 4th Edition
Certified by SwRI

Fire Safe
BS 6755 : Pt. 2 : 1987
Certified by LLoyd's Register

Fire Safe
Department of Trade & Industry
Rule 54 Para 62
Certified by LLoyd's Register

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