Flanged Jamesbury™ ball valves ASME class 150 & 300 full bore: 1/2" - 24" (DN 15 - 600) series 9000

The Jamesbury polymer-seated flanged ball valves provide industry leading performance and reliability. Offered in a wide variety of materials to suit an extensive range of applications these valves are designed and manufactured with all our latest technology and expertise.



Unique sealing

The superior performance of Jamesbury ball valves is achieved by the unique design of the seats. The flexible lip seats exert continuous sealing pressure on the ball and automatically compensate for wear and changes in pressure and temperature, yielding positive bi-directional zero-leak shut-off. The stem seal sealing system ensures minimum emissions.

Materials

Standard products are available with carbon steel body and stainless steel trim or all stainless steel construction. Special body and trim materials such as Alloy 20, Hastelloy® C, and others are available upon request. For applications involving chemicals, acids, caustics, and steam we recommend our Xtreme™ seat material, which provides superior life-cycle and sealing performance compared to virgin or filled PTFE. We can accommodate nearly any special customer or application specific requirement.

Fire-Tite™ valves

All Jamesbury Fire-Tite flanged ball valves are qualified to API 607 and ISO 10497. This ensures minimal leakage in the event of a fire.

CE marked

CE marked and documented product conforming to the European Pressure Equipment Directive (PED) 2014/68/EU and ATEX Directive 2014/34/EU Equipment category II 2 G/D is available as standard product.

Features and benefits

- Robust engineering design yields leading cycle life
- Outstanding quality provides confidence
- Flexible lip seat provides bi-directional zero-leak shut-off and cavity pressure relief
- Xtreme seats provide longer life and expanded pressure-temperature capability
- Patented stem seal system engineered to provide superior emissions performance (1/2" - 11/2")
- Live loaded stem packing enhances emissions performance and reduces maintenance (1/2" - 12")
- ISO 5211 bonnet mounting design (1/2" - 6")
- Compliant with API-598
- API 607 qualified
- API 608 compliance & grounding as standard (1/2" -12")
- ISO 15848-1 Class BH (1/2" - 12") & API 641 (1/2" - 10")
- Standard materials meet requirements of NACE MR0103 and MR0175 (See How to order page)
- SIL 3 qualified

Emission-Pak™ valves

Jamesbury Emission-Pak products feature a double steam seal packing system to provide additional sealing performance for critical services. This feature is ISO 15848-1 Class AH rated.

Automated assemblies

Valves, actuators, and accessories designed to mate together with precision ensures superior performance.

Specifications

Flow data

The table at right provides flow coefficients for Jamesbury valves covered in this bulletin. C_v values represent the flow of water at +60°F through the valve in U.S. gallons per minute at a pressure drop of 1 psi. The metric equivalent, K_v, is the flow of water at +16°C through the valve in cubic meters per hour at a pressure drop of 1 kg/cm². To convert C_v to K_v, multiply by 0.8569.

Valve size	C_v	
Inches	DN	Full Bore
1/2	15	9
3/4	20	50
1	25	100
1-1/2	40	270
2	50	490
3	80	1160
4	100	2200
6	150	5100
8	200	9300
10	250	15,200
12	300	22,400
14	350	27,000
16	400	37,000
18	450	47,000
20	500	60,000

Valve body ratings

These are the maximum working pressure ratings of the valve body only. The seat ratings, shown on the next page, determine the practical temperature and pressure limitations according to actual service conditions.

Maximum Working Pressure, psi						
Temp °F	Class 150				Class 300	
	Carbon steel	316 Stainless steel	Alloy 20	Monel®	Carbon steel	316 Stainless steel
-20 to 100	285	275	230	230	740	720
200	260	235	200	200	675	620
300	230	215	190	190	655	560
400	200	195	190	185	635	515
500	170	170	170	170	600	480
Test Pressure	450	425	350	350	1125	1100

Maximum Working Pressure, bar						
Temp °C	Class 150				Class 300	
	Carbon steel	316 Stainless steel	Alloy 20	Monel	Carbon steel	316 Stainless steel
-29 to 38	19.6	19.0	15.9	15.9	51.1	49.6
93	17.7	16.2	13.5	13.5	46.6	42.2
149	15.8	14.8	13.1	13.1	45.1	38.5
204	13.8	13.7	13.1	13.1	43.8	35.7
260	11.7	11.7	11.7	11.7	41.9	33.4
Test Pressure	30	29	24	24	77	75

Valve seat ratings

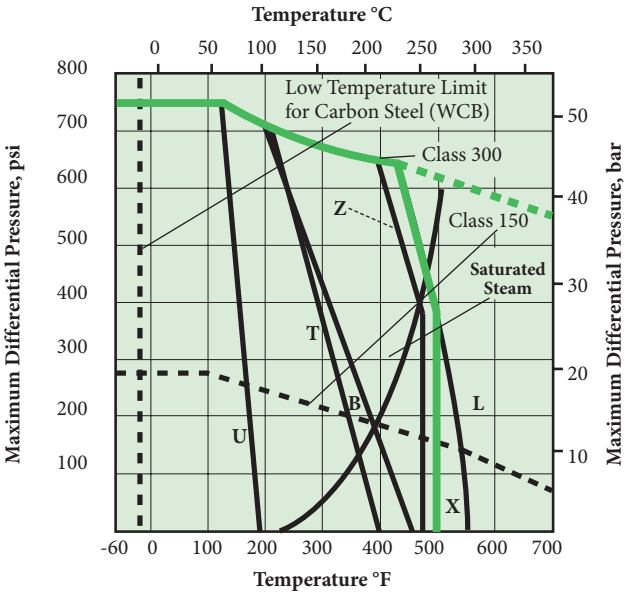
Seat ratings, indicated by solid lines in the charts on the next page, are based on differential pressure with the valve ball in the fully closed position and refer to seats only. The dotted lines indicate maximum working pressures for WCB carbon steel valve bodies. (Maximum working pressures of other body materials are shown in the tables above.) The combination of dotted and solid lines indicates the maximum valve rating at specific pressure and temperature conditions. Valves with PTFE, Xtreme, PEEK®, PFA, and UHMW polyethylene seats can be used in service to -100°F (-73°C) provided that the valve body material is suitable for such a temperature. Carbon steel valves are rated to -20°F (-29°C).

For more application information on seat materials, refer to Bulletin T140-1.

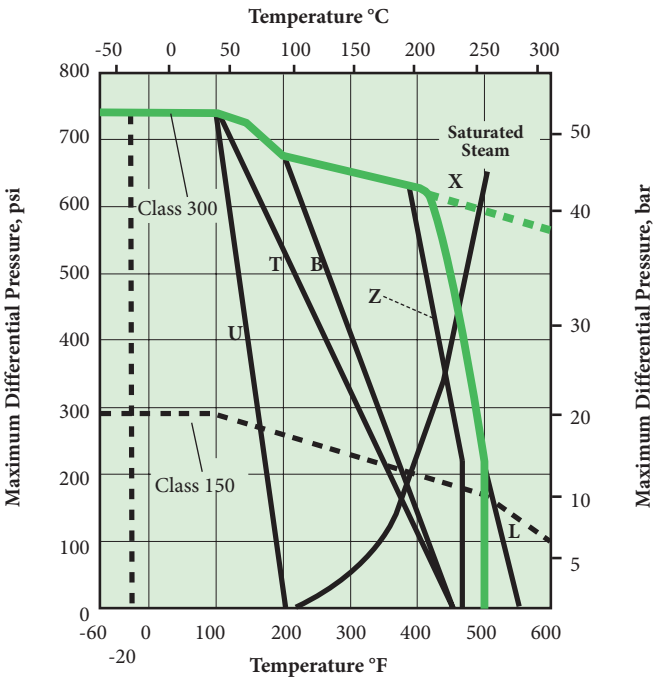
Xtreme performance and value

Xtreme seats provide longer life, expanded performanceboundaries, and the greatest possible value. Xtreme material is unique, resulting from a technological breakthrough in our polymer research lab. The material is a proprietary fluoropolymer based blend that provides superior quarter-turn performance.

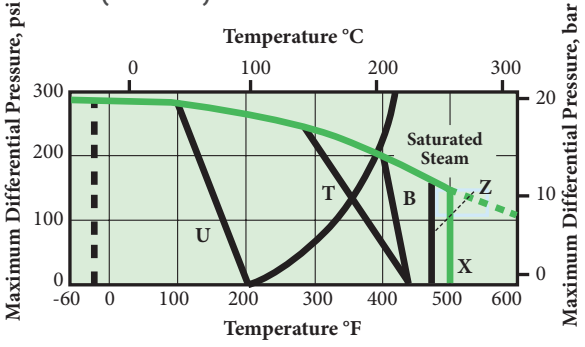
1/2" – 1-1/2" (DN 15 – 40) Full Bore



2" – 4" (DN 50 – 100) Full Bore

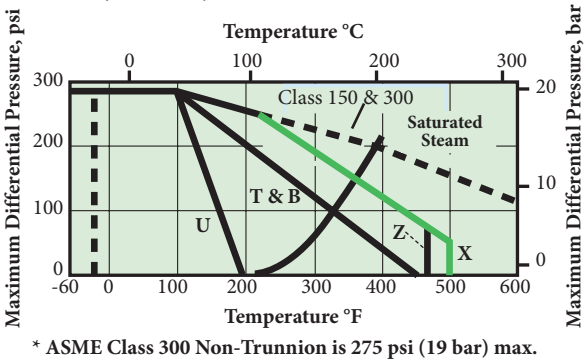


6" (DN 150) Full Bore Non-Trunnion



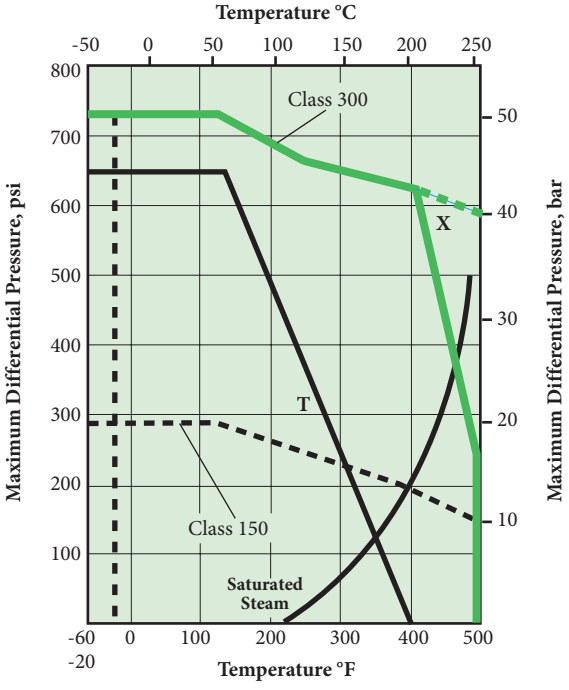
*** ASME Class 300 Non-Trunnion is 275 psi (19 bar) max.**

8" (DN 200) Full Bore Non-Trunnion



*** ASME Class 300 Non-Trunnion is 275 psi (19 bar) max.**

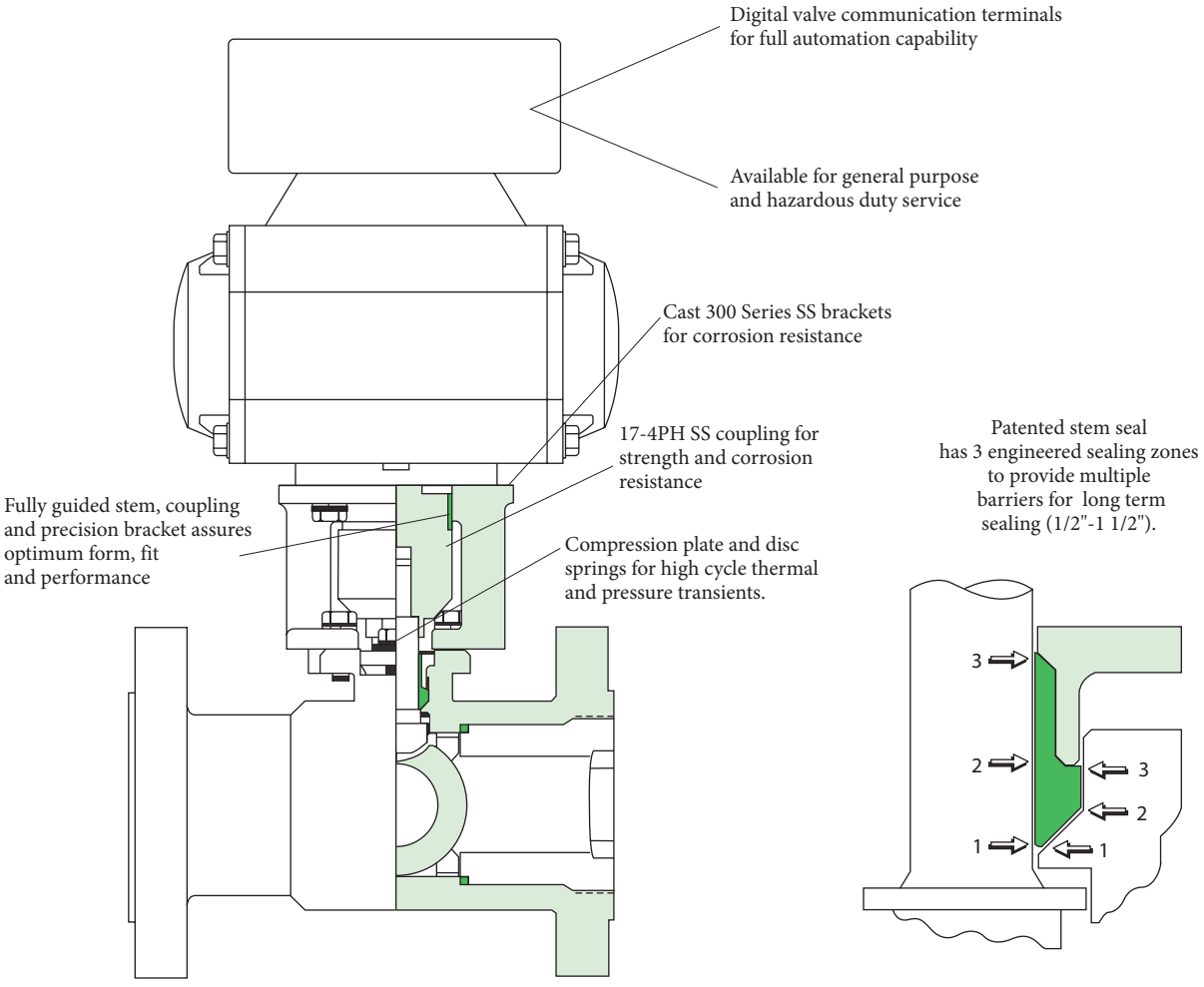
Trunnion Valves
6" – 24"(DN 150 – 600) Full Bore



LEGEND:

T = PTFE	U = UHMW	B = PFA
L = PEEK	Z = TFM	X = Xtreme

The Ultimate Process Automation Package for VPVL Pneumatic Actuators, V-Series, ADC-Series and QX-Series Electric Actuators With 1/2" – 6" (DN 15 – 150) Full Port Series 9000

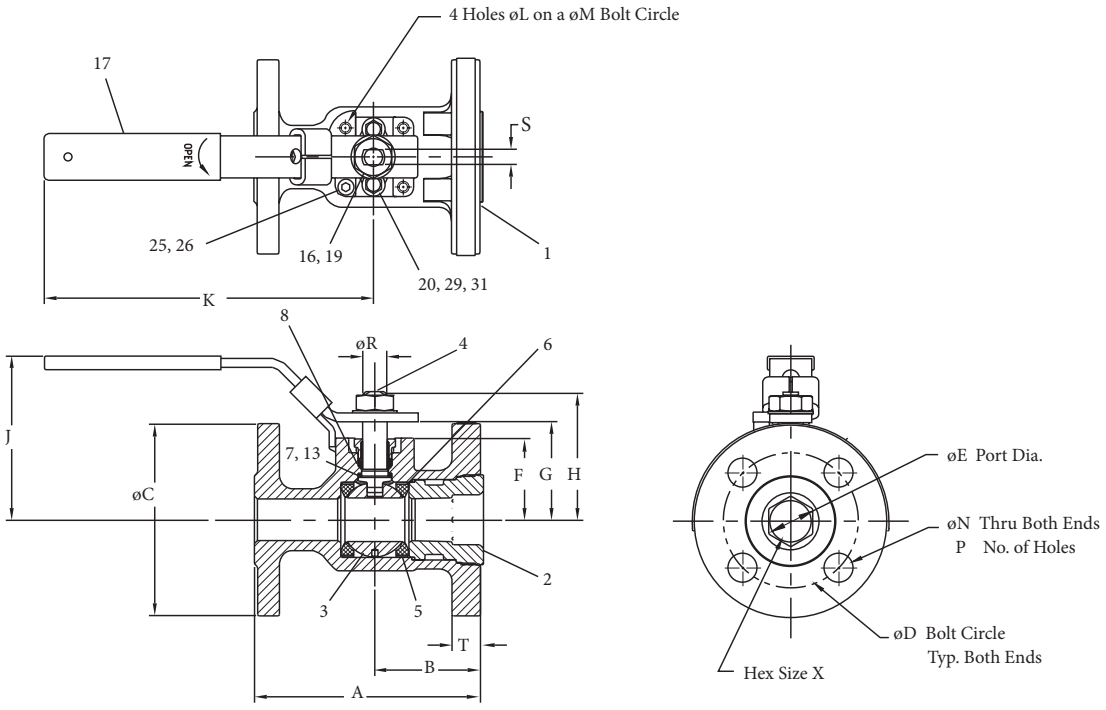


Automation performance and value

Valves combined with Jamesbury actuators offer a total value and performance package. Available with pneumatic Valv-Powr™VPVL actuators, V-Series, ADC-Series and QX-Series electric actuators and with Stonel™ Quartz™ and Hawkeye™ digital monitors or VCTs, the packages have a wide range of applications.
Visit our website at **www.valmet.com/flowcontrol**.

Dimensions

1/2" – 1-1/2" (DN15 – 40) Series 9150 ASME Class 150 and Series 9300 ASME Class 300 (Non-Trunnion)



Valve size inches	Series 9150 ASME Class 150 Approximate dimensions - inches																	Hex size	ISO Bonnet	Approx weight lb
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S	T			
1/2	4.25	1.94	3.50	2.38	0.50	1.06	1.33	1.63	3.38	5.00	M5	1.42	0.62	4	0.31	0.18	0.45	0.50	F03	3.5
3/4	4.63	2.19	3.88	2.75	0.88	1.65	2.04	2.58	3.69	6.50	M5	1.65	0.62	4	0.50	0.31	0.58	0.88	F04	10
1	5.00	2.19	4.25	3.12	1.00	1.78	2.17	2.71	3.94	6.50	M5	1.65	0.62	4	0.50	0.31	0.58	1.00	F04	13
1-1/2	6.50	2.64	5.00	3.88	1.50	2.26	2.78	3.49	4.46	8.00	M6	1.97	0.62	4	0.62	0.37	0.63	1.50	F05	17

Valve size DN	Series 9150 ASME Class 150 Approximate dimensions - mm																	Hex size	ISO Bonnet	Approx weight kg
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S	T			
15	108	49	89	60	13	27	34	41	86	127	M5	36	16	4	8	5	11	13	F03	1.6
20	118	56	99	70	22	42	52	66	94	165	M5	42	16	4	13	8	15	22	F04	4.5
25	127	56	108	79	25	45	55	69	100	165	M5	42	16	4	13	8	15	25	F04	5.9
40	165	67	127	99	38	57	71	89	113	203	M6	50	16	4	16	9	16	38	F05	7.7

Valve size inches	Series 9300 ASME Class 300 Approximate dimensions - inches																	Hex size	ISO Bonnet	Approx weight lb
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S	T			
1/2	5.50	1.94	3.75	2.62	0.50	1.06	1.33	1.63	3.38	5.00	M5	1.42	0.62	4	0.31	0.18	0.51	0.50	F03	6
3/4	6.00	2.19	4.63	3.25	0.88	1.65	2.04	2.58	3.69	6.50	M5	1.65	0.75	4	0.50	0.31	0.59	0.88	F04	13
1	6.50	2.19	4.88	3.50	1.00	1.78	2.17	2.71	3.94	6.50	M5	1.65	0.75	4	0.50	0.31	0.64	1.00	F04	17
1-1/2	7.50	2.64	6.13	4.50	1.50	2.26	2.78	3.49	4.46	8.00	M6	1.97	0.88	4	0.62	0.37	0.81	1.50	F05	22

Valve size DN	Series 9300 ASME Class 300 Approximate dimensions - mm																	Hex size	ISO Bonnet	Approx weight kg
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S	T			
15	140	49	95	67	13	27	34	41	86	127	M5	36	16	4	8	5	13	13	F03	2.7
20	152	56	118	83	22	42	52	66	94	165	M5	42	19	4	13	8	15	22	F04	5.9
25	165	56	124	89	25	45	55	69	100	165	M5	42	19	4	13	8	16	25	F04	7.7
40	190	67	156	114	38	57	71	89	113	203	M6	50	22	4	16	9	21	38	F05	10.0

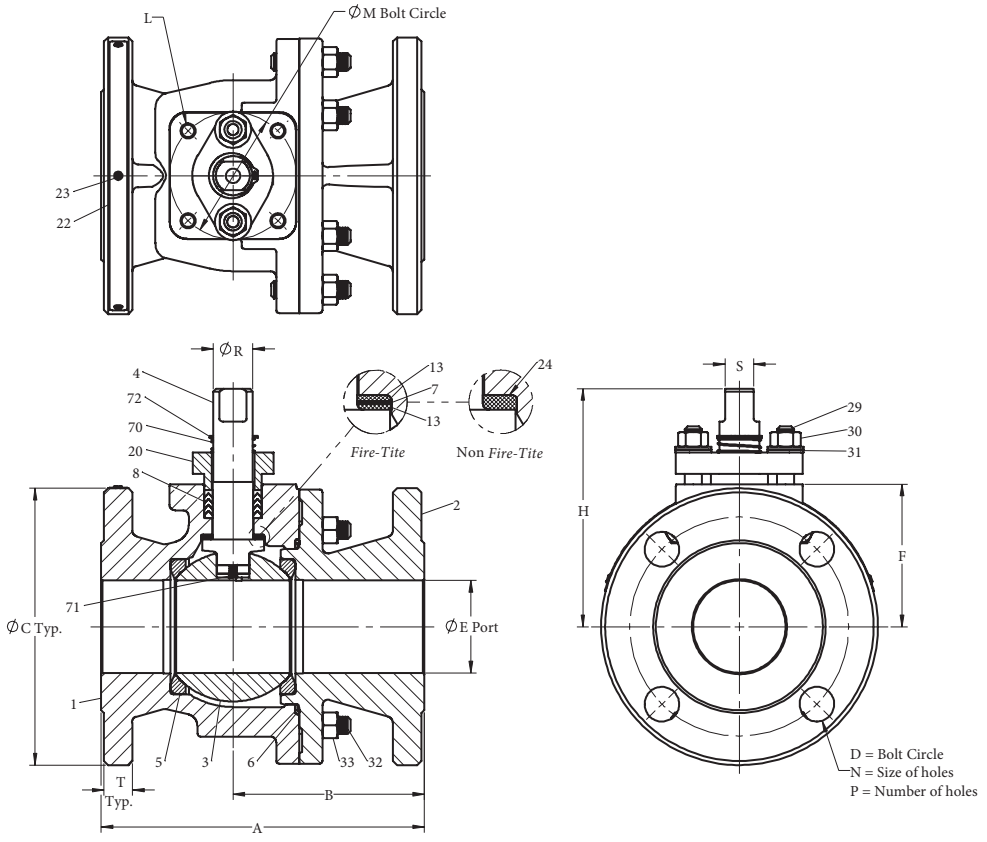
Bills of materials and parts list Fire-Tite 1/2" – 1-1/2" (DN15 – 40) Full Port Series 9000 Valves					
Part no.	Part name	Body material			
		Carbon Steel (22)	316 Stainless Steel (36)	Alloy 20 (35)	Monel (71)
1	Body	Carbon Steel ASTM A216 Type WCB	316 Stainless Steel ASTM A351 Type CF8M	Alloy 20 ASTM A351 Type CN7M	Monel ASTM A494 M35-1
2	Insert	Carbon Steel ASTM A216 Type WCB	316 Stainless Steel ASTM A351 Type CF8M	Alloy 20 ASTM A351 Type CN7M	Monel ASTM A494 M35-1
3	Ball	316 Stainless Steel,Monel, Hastelloy C		Alloy 20	Monel, Hastelloy C as specified
4	Stem	316 Stainless Steel, 17-4PH, K-Monel, Hastelloy C		Alloy 20	K-Monel, Hastelloy C as specified
5	Seat	PTFE, Xtreme, PFA			
6	Body Seal	TFM			
7	Secondary Stem Seal	Graphite			
8	Primary Stem Seal	PTFE (w/ PTFE seats), TFM (w/ Xtreme & PFA seats)			
13	Stem Bearing	PTFE, Filled PTFE			
16	Hex Nut	Carbon Steel (zinc plated)	300 Series Stainless Steel		
17	Handle	Carbon Steel (zinc plated)	300 Series Stainless Steel		
19	Lock Washer	Carbon Steel (zinc plated)	400 Series Stainless Steel		
20	Compression Plate	316 Stainless Steel			Monel
22	Identification Tag	Stainless Steel			
23	Pop Rivet	Stainless Steel			
25	Socket Cap Screw	300 Stainless Steel			
26	Handle Stop Screw	300 Stainless Steel			
29	Hex Cap Screw	300 Stainless Steel			Monel
31	Disc Springs	Inconel®			

Bills of materials and parts list Non-Fire-Tite 1/2" – 1-1/2" (DN15 – 40) Full Port Series 9000 Valves					
Part no.	Part name	Body material			
		Carbon Steel (22)	316 Stainless Steel (36)	Alloy 20 (35)	Monel (71)
1	Body	Carbon Steel ASTM A216 Type WCB	316 Stainless Steel ASTM A351 Type CF8M	Alloy 20 ASTM A351 Type CN7M	Monel ASTM A494 M35-1
2	Insert	Carbon Steel ASTM A216 Type WCB	316 Stainless Steel ASTM A351 Type CF8M	Alloy 20 ASTM A351 Type CN7M	Monel ASTM A494 M35-1
3	Ball	316 Stainless Steel, Monel, Hastelloy C		Alloy 20	Monel, Hastelloy C as specified
4	Stem	316 Stainless Steel, 17-4PH, K-Monel, Hastelloy C		Alloy 20	K-Monel, Hastelloy C as specified
5	Seat	PTFE, Xtreme, PFA, PEEK[1] & UHMWPE			
6	Body Seal	TFM (w/ PTFE, Xtreme, PFA seats) , UHMWPE (w/ UHMWPE seats), Graphite (w/ PEEK seats)			
8	Primary Stem Seal	PTFE (w/ PTFE seats), TFM (w/ Xtreme & PFA seats), UHMWPE (w/ UHMWPE seats), Graphite (w/ PEEK seats)			
10	Stem Guide	PEEK (PEEK seated valves)			
16	Hex Nut	Carbon Steel (zinc plated)	300 Series Stainless Steel		
17	Handle	Carbon Steel (zinc plated)	300 Series Stainless Steel		
19	Lock Washer	Carbon Steel (zinc plated)	400 Series Stainless Steel		
20	Compression Plate	316 Stainless Steel			Monel
22	Identification Tag	Stainless Steel			
23	Pop Rivet	Stainless Steel			
24	Stem Bearing	PTFE (w/ PTFE seats), Filled PTFE (w/ Xtreme & PFA seats), PEEK (w/ PEEK seats), UHMWPE (w/ UHMWPE seats)			
25	Socket Cap Screw	300 Stainless Steel			
26	Handle Stop Screw	300 Stainless Steel			
29	Hex Cap Screw	300 Stainless Steel			Monel
31	Disc Springs	Inconel			

Note 1: 17-4 PH stems required with PEEK seats

Dimensions

2"– 6" (DN50 – 150) Series 9150 ASME Class 150 and 2"– 4" (DN50 – 100) Series 9300 ASME Class 300 (Non-Trunnion)



Series 9150 ASME Class 150 Approximate dimensions - inches																
Valve size inches	A	B	C	D	E	F	H	L	M	N	P	R	S	T	ISO Pattern	Weight lb
2	7.00	4.14	6.00	4.75	2.00	3.09	5.16	M8	2.76	0.75	4	0.86	0.62	0.62	F07	29
3	8.00	4.26	7.50	6.00	3.00	3.90	5.95	M8	2.76	0.75	4	0.86	0.62	0.75	F07	49
4	9.00	4.50	9.00	7.50	4.00	5.51	8.24	M10	4.02	0.75	8	1.11	0.81	0.94	F10	89
6	15.50	8.25	11.00	9.50	6.00	7.27	10.37	M12	4.92	0.88	8	1.61	1.12	1.00	F12	244

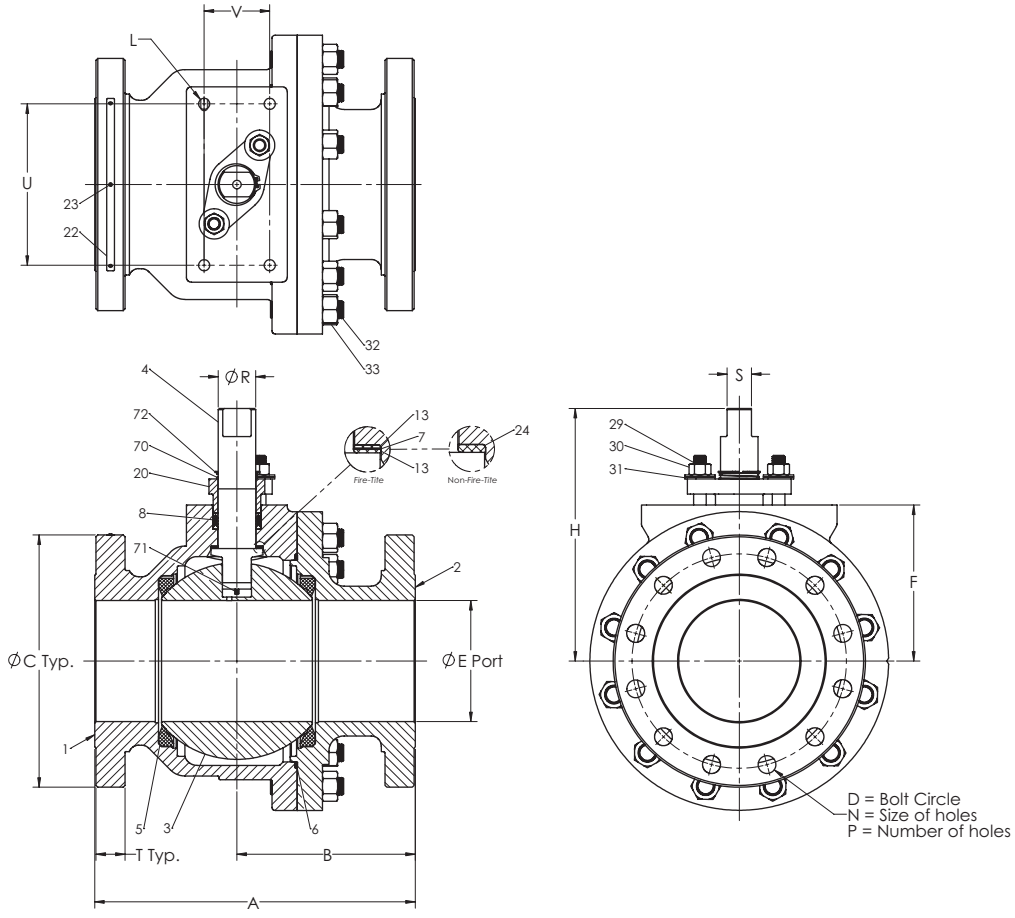
Series 9150 ASME Class 150 Approximate dimensions - mm																
Valve size DN	A	B	C	D	E	F	H	L	M	N	P	R	S	T	ISO Pattern	Weight kg
50	178	105	152	121	51	78	131	M8	70	19	4	22	16	16	F07	13
80	203	108	191	152	76	99	151	M8	70	19	4	22	16	19	F07	22
100	229	114	229	191	102	140	209	M10	102	19	8	28	21	24	F10	40
150	394	210	279	241	152	185	263	M12	125	22	8	41	28	25	F12	111

Series 9300 ASME Class 300 Approximate dimensions - inches																
Valve size inches	A	B	C	D	E	F	H	L	M	N	P	R	S	T	ISO Pattern	Weight lb
2	8.50	4.89	6.50	5.00	2	3.09	5.16	M8	2.76	0.75	8	0.86	0.62	0.87	F07	37
3	11.12	6.11	8.25	6.62	3	4.69	7.40	M10	4.02	0.88	8	1.11	0.81	1.12	F10	77
4	12.00	6.86	10.00	7.88	4	5.66	8.75	M12	4.92	0.88	8	1.61	1.12	1.25	F12	136

Series 9300 ASME Class 300 Approximate dimensions - mm																
Valve size DN	A	B	C	D	E	F	H	L	M	N	P	R	S	T	ISO Pattern	Weight kg
50	216	124	165	127	51	78	131	M8	70	19	8	22	16	22	F07	17
80	282	155	210	168	76	119	188	M10	102	22	8	28	21	28	F10	35
100	305	174	254	200	102	144	222	M12	125	22	8	41	28	32	F12	62

Dimensions

8" (DN 200) Series 9150 ASME Class 150 and 6" & 8" (DN 150 & 200) Series 9300 ASME Class 300 (Non-Trunnion)



Valve size inches	Series 9150 ASME Class 150 Approximate Dimensions - inches															Weight lb
	A	B	C	D	E	F	H	L	N	P	R	S	T	U	V	
8	18.00	8.97	13.50	11.75	8.00	9.74	14.91	M16	0.88	8	2.11	1.38	1.12	8.00	3.25	430

Valve size DN	Series 9150 ASME Class 150 Approximate Dimensions - mm															Weight kg
	A	B	C	D	E	F	H	L	N	P	R	S	T	U	V	
200	457	228	343	298	203	247	379	M16	22	8	54	35	28	203	83	195

Valve size inches	Series 9300 ASME Class 300 Approximate Dimensions - inches															Weight lb
	A	B	C	D	E	F	H	L	N	P	R	S	T	U	V	
6	15.88	8.84	12.50	10.63	6.00	7.74	12.52	M16	0.88	12	1.86	1.21	1.44	8.00	3.25	311
8	19.75	11.47	15.00	13.00	8.00	9.74	14.91	M16	1.00	12	2.11	1.38	1.62	8.00	3.25	556

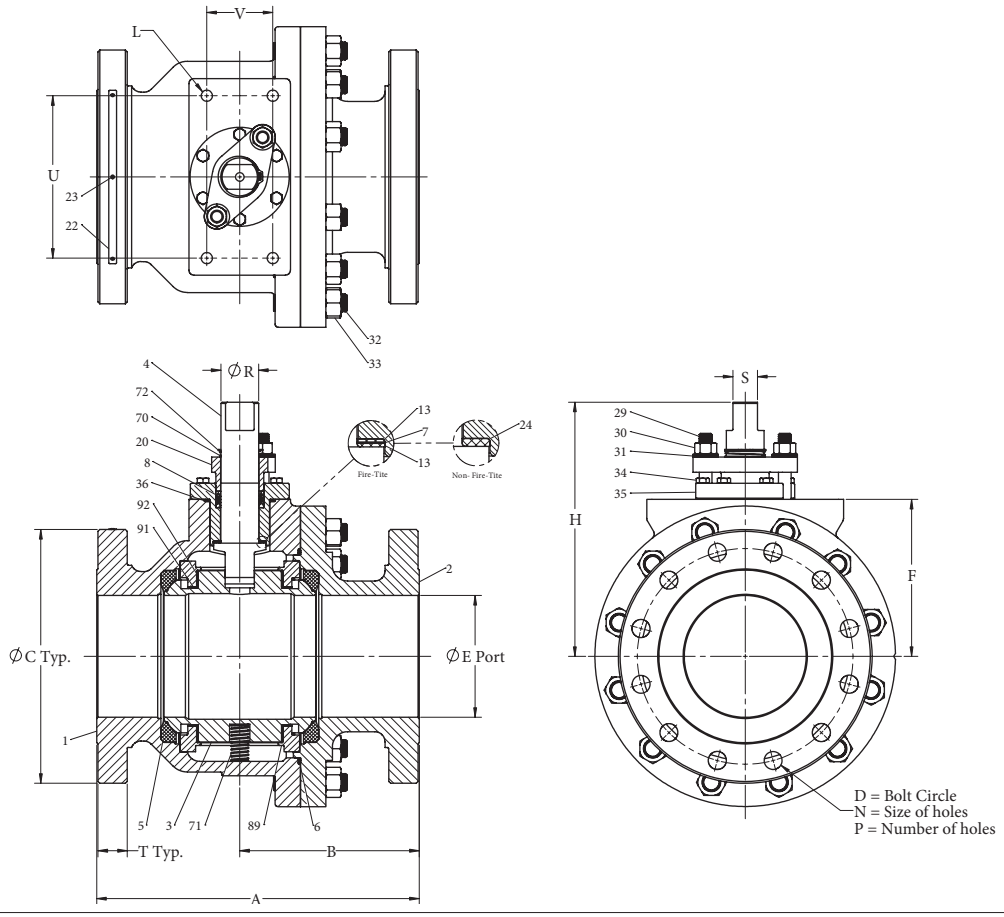
Valve size DN	Series 9300 ASME Class 300 Approximate Dimensions - mm															Weight kg
	A	B	C	D	E	F	H	L	N	P	R	S	T	U	V	
150	403	224	318	270	152	196	318	M16	22	12	47	31	37	203	83	141
200	502	291	381	330	203	247	379	M16	25	12	54	35	41	203	83	252

Bills of materials and parts list Fire-Tite 2" - 8" (DN50 & DN200) Full Port Series Non-Trunnion 9150 & 9300 Valves					
Part no.	Part name	Body material			
		Carbon Steel (22)	316 Stainless Steel (36)	Alloy 20 (35)	Monel (71)
1	Body	Carbon Steel ASTM A216 Type WCB	316 Stainless Steel ASTM A351 Type CF8M	Alloy 20 ASTM A351 Type CN7M	Monel ASTM A494 M35-1
2	Body Cap	Carbon Steel ASTM A216 Type WCB	316 Stainless Steel ASTM A351 Type CF8M	Alloy 20 ASTM A351 Type CN7M	Monel ASTM A494 M35-1
3	Ball	316 Stainless Steel, Monel, Hastelloy C		Alloy 20	Monel, Hastelloy C as specified
4	Stem	316 Stainless Steel, K-Monel, Hastelloy C		Alloy 20	K-Monel, Hastelloy C as specified
5	Seat	PTFE, Xtreme, PFA			
6	Body Seal	Spiral Wound Graphite/316 Stainless Steel		Spiral Wound Graphite/ Alloy 20	Spiral Wound Graphite/ Monel
7	Secondary Stem Seal	Graphite			
8	Stem Seal	PTFE (w/ PTFE seats), TFM (w/ Xtreme & PFA seats)			
13	Thrust Bearing	PTFE, Filled PTFE			
20	Compression Plate	316 Stainless Steel			Monel
22	Identification Tag	Stainless Steel			
23	Pop Rivet	Stainless Steel			
29	Bonnet Stud	ASTM A193 GR. B8, B8C, B8T or B8M, K-Monel			
30	Bonnet Stud Nut	ASTM A194 GR. 8B, 8CB, 8MB, 8TB, 8FB, K-Monel			
31	Disc Springs	Inconel			
32	Body Stud	ASTM A193 GR. B8, B8C, B8T or B8M, K-Monel			
33	Body Stud Nut	ASTM A194 GR. 8B, 8CB, 8MB, 8TB, 8FB, K-Monel			
70	Top Grounding Spring	Stainless Steel			
71	Bottom Grounding Spring	Inconel®			
72	Retaining Ring	Stainless Steel			

Bills of materials and parts list Non Fire-Tite 2" - 8" (DN50 & DN200) Full Port Series Non-Trunnion 9150 & 9300 Valves					
Part no.	Part name	Body material			
		Carbon Steel (22)	316 Stainless Steel (36)	Alloy 20 (35)	Monel (71)
1	Body	Carbon Steel ASTM A216 Type WCB	316 Stainless Steel ASTM A351 Type CF8M	Alloy 20 ASTM A351 Type CN7M	Monel ASTM A494 M35-1
2	Body Cap	Carbon Steel ASTM A216 Type WCB	316 Stainless Steel ASTM A351 Type CF8M	Alloy 20 ASTM A351 Type CN7M	Monel ASTM A494 M35-1
3	Ball	316 Stainless Steel, Monel, Hastelloy C		Alloy 20	Monel, Hastelloy C as specified
4	Stem	316 Stainless Steel, K-Monel, Hastelloy C		Alloy 20	K-Monel, Hastelloy C as specified
5	Seat	PTFE, Xtreme, PFA			
6	Body Seal	Spiral Wound PTFE/316 Stainless Steel		Spiral Wound PTFE/ Alloy 20	Spiral Wound PTFE/ Monel
8	Stem Seal	PTFE (w/ PTFE seats), TFM (w/ Xtreme & PFA seats)			
13	Thrust Bearing	PTFE, Filled PTFE			
20	Compression Plate	316 Stainless Steel			Monel
22	Identification Tag	Stainless Steel			
23	Pop Rivet	Stainless Steel			
29	Bonnet Stud	ASTM A193 GR. B8, B8C, B8T or B8M, K-Monel			
30	Bonnet Stud Nut	ASTM A194 GR. 8B, 8CB, 8MB, 8TB, 8FB, K-Monel			
31	Disc Springs	Inconel			
32	Body Stud	ASTM A193 GR. B8, B8C, B8T or B8M, K-Monel			
33	Body Stud Nut	ASTM A194 GR. 8B, 8CB, 8MB, 8TB, 8FB, K-Monel			
70	Top Grounding Spring	Stainless Steel			
71	Bottom Grounding Spring	Inconel®			
72	Retaining Ring	Stainless Steel			

Dimensions

8” - 12” (DN 200 - 300) Series 9150 ASME Class 150 and 6” - 12” (DN 150 - 300) Series 9300 ASME Class 300 (Trunnion)



Valve size inches	Series 9150 ASME Class 150 Approximate dimensions - inches															Weight lb
	A	B	C	D	E	F	H	L	N	P	R	S	T	U	V	
8	18.00	8.97	13.50	11.75	8.00	9.74	14.91	M16	0.88	8	2.11	1.38	1.12	8.00	3.25	406
10	21.00	10.88	16.00	14.25	10.00	11.58	18.26	M20	1.00	12	2.36	1.61	1.18	10.00	3.25	680
12	24.00	11.96	19.00	17.00	12.00	13.00	19.36	M20	1.00	12	2.74	1.79	1.25	10.00	3.25	837

Valve size DN	Series 9150 ASME Class 150 Approximate dimensions - mm															Weight kg
	A	B	C	D	E	F	H	L	N	P	R	S	T	U	V	
200	457	228	343	298	203	247	379	M16	22	8	54	35	28	203	83	184
250	533	276	406	362	254	294	464	M20	25	12	60	41	30	254	83	309
300	610	304	483	432	305	330	492	M20	25	12	69	45	32	254	83	379

Valve size inches	Series 9300 ASME Class 300 Approximate dimensions - inches															Weight lb
	A	B	C	D	E	F	H	L	N	P	R	S	T	U	V	
6	15.88	8.84	12.50	10.63	6.00	7.74	12.52	M16	0.88	12	1.86	1.21	1.44	8.00	3.25	298
8	19.75	11.47	15.00	13.00	8.00	9.74	14.91	M16	1.00	12	2.11	1.38	1.62	8.00	3.25	532
10	22.38	12.19	17.50	15.25	10.00	11.58	18.26	M20	1.13	16	2.36	1.61	1.87	10.00	3.25	906
12	25.50	14.02	20.50	17.75	12.00	13.00	19.36	M20	1.25	16	2.74	1.79	2.00	10.00	3.25	1342

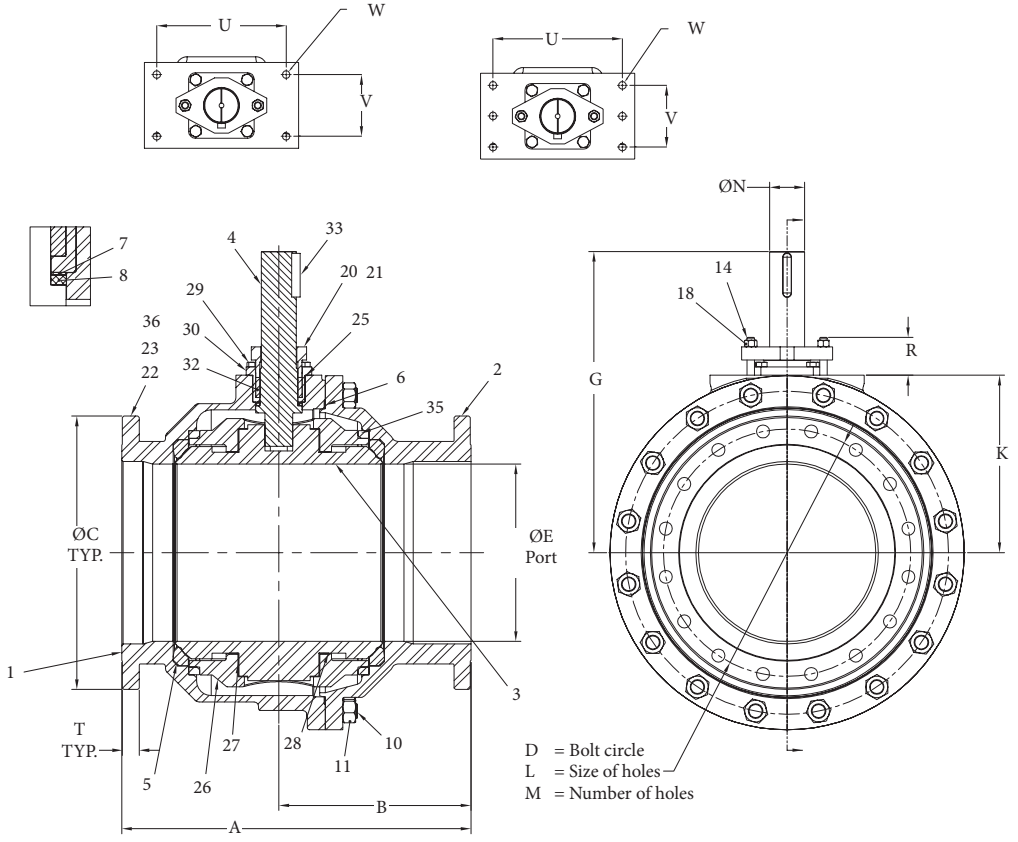
Valve size DN	Series 9300 ASME Class 300 Approximate dimensions - mm															Weight kg
	A	B	C	D	E	F	H	L	N	P	R	S	T	U	V	
150	403	224	318	270	152	196	318	M16	22	12	47	31	37	203	83	135
200	502	291	381	330	203	247	379	M16	25	12	54	35	41	203	83	242
250	568	310	445	387	254	294	464	M20	29	16	60	41	47	254	83	411
300	648	356	521	451	305	330	492	M20	32	16	69	45	51	254	83	609

Bills of materials and parts list					
Fire-Tite 6" – 12" (DN150 – DN300) Full Port Trunnion Series 9300 and 8" – 12" (DN200 – DN300) Full Port Trunnion Series 9150 Valves					
Part no.	Part name	Body material			
		Carbon Steel (22)	316 Stainless Steel (36)	Alloy 20 (35)	Monel (71)
1	Body	Carbon Steel ASTM A216 Type WCB	316 Stainless Steel ASTM A351 Type CF8M	Alloy 20 ASTM A351 Type CN7M	Monel ASTM A494 M35-1
2	Body Cap	Carbon Steel ASTM A216 Type WCB	316 Stainless Steel ASTM A351 Type CF8M	Alloy 20 ASTM A351 Type CN7M	Monel ASTM A494 M35-1
3	Ball	316 Stainless Steel, Monel, Hastelloy C		Alloy 20	Monel, Hastelloy C as specified
4	Stem	316 Stainless Steel, K-Monel, Hastelloy C		Alloy 20	K-Monel, Hastelloy C as specified
5	Seat	PTFE, Xtreme, PFA			
6	Body Seal	Spiral Wound Graphite/316 Stainless Steel		Spiral Wound Graphite/ Alloy 20	Spiral Wound Graphite/ Monel
7	Secondary Stem Seal	Graphite			
8	Stem Seal	PTFE (w/ PTFE seats), TFM (w/ Xtreme & PFA seats)			
13	Thrust Bearing	PTFE, Filled PTFE			
20	Compression Plate	316 Stainless Steel			Monel
22	Identification Tag	Stainless Steel			
23	Pop Rivet	Stainless Steel			
29	Bonnet Stud	ASTM A193 GR. B8, B8C, B8T or B8M, K-Monel			
30	Bonnet Stud Nut	ASTM A194 GR. 8B, 8CB, 8MB, 8TB, 8FB, K-Monel			
31	Disc Springs	Inconel			
32	Body Stud	ASTM A193 GR. B8, B8C, B8T or B8M, K-Monel			
33	Body Stud Nut	ASTM A194 GR. 8B, 8CB, 8MB, 8TB, 8FB, K-Monel			
34	Stem Retainer Bolts	ASTM A194 GR. 8B, 8CB, 8MB, 8TB, 8FB, K-Monel			
35	Stem Retainer	Carbon Steel ASTM A216 Type WCB	316 Stainless Steel ASTM A351 Type CF8M	Alloy 20 ASTM A351 Type CN7M	Monel ASTM A494 M35-1
36	Stem Retainer Seal	Spiral Wound Graphite/316 Stainless Steel		Spiral Wound Graphite/ Alloy 20	Spiral Wound Graphite/ Monel
70	Top Grounding Spring	Stainless Steel			
71	Bottom Grounding Spring	Inconel®			
72	Retaining Ring	Stainless Steel			
89	Trunnion Plate	316 Stainless Steel ASTM A351 Type CF8M	Alloy 20 ASTM A351 Type CN7M	Monel ASTM A494 M35-1	
91	Bearing Spacer	Filled PTFE			
92	Trunnion Bearing	Filled PTFE/316 Stainless Steel	Filled PTFE/Alloy 20	Filled PTFE/Monel	

BILLS OF MATERIALS AND PARTS LIST					
Fire-Tite 6" – 12" (DN150 – DN300) Full Port Trunnion Series 9300 and 8" – 12" (DN200 – DN300) Full Port Trunnion Series 9150 Valves					
Part no.	Part name	Body material			
		Carbon Steel (22)	316 Stainless Steel (36)	Alloy 20 (35)	Monel (71)
1	Body	Carbon Steel ASTM A216 Type WCB	316 Stainless Steel ASTM A351 Type CF8M	Alloy 20 ASTM A351 Type CN7M	Monel ASTM A494 M35-1
2	Body Cap	Carbon Steel ASTM A216 Type WCB	316 Stainless Steel ASTM A351 Type CF8M	Alloy 20 ASTM A351 Type CN7M	Monel ASTM A494 M35-1
3	Ball	316 Stainless Steel, Monel, Hastelloy C		Alloy 20	Monel, Hastelloy C as specified
4	Stem	316 Stainless Steel, K-Monel, Hastelloy C		Alloy 20	K-Monel, Hastelloy C as specified
5	Seat	PTFE, Xtreme, PFA			
6	Body Seal	Spiral Wound PTFE/316 Stainless Steel		Spiral Wound PTFE/ Alloy 20	Spiral Wound PTFE/ Monel
8	Stem Seal	PTFE (w/ PTFE seats), TFM (w/ Xtreme & PFA seats)			
13	Thrust Bearing	PTFE, Filled PTFE			
20	Compression Plate	316 Stainless Steel			Monel
22	Identification Tag	Stainless Steel			
23	Pop Rivet	Stainless Steel			
29	Bonnet Stud	ASTM A193 GR. B8, B8C, B8T or B8M, K-Monel			
30	Bonnet Stud Nut	ASTM A194 GR. 8B, 8CB, 8MB, 8TB, 8FB, K-Monel			
31	Disc Springs	Inconel			
32	Body Stud	ASTM A193 GR. B8, B8C, B8T or B8M, K-Monel			
33	Body Stud Nut	ASTM A194 GR. 8B, 8CB, 8MB, 8TB, 8FB, K-Monel			
34	Stem Retainer Bolts	ASTM A194 GR. 8B, 8CB, 8MB, 8TB, 8FB, K-Monel			
35	Stem Retainer	Carbon Steel ASTM A216 Type WCB	316 Stainless Steel ASTM A351 Type CF8M	Alloy 20 ASTM A351 Type CN7M	Monel ASTM A494 M35-1
36	Stem Retainer Seal	Spiral Wound Graphite/316 Stainless Steel		Spiral Wound Graphite/ Alloy 20	Spiral Wound Graphite/ Monel
70	Top Grounding Spring	Stainless Steel			
71	Bottom Grounding Spring	Inconel®			
72	Retaining Ring	Stainless Steel			
89	Trunnion Plate	316 Stainless Steel ASTM A351 Type CF8M	Alloy 20 ASTM A351 Type CN7M		Monel ASTM A494 M35-1
91	Bearing Spacer	Filled PTFE			
92	Trunnion Bearing	Filled PTFE/316 Stainless Steel	Filled PTFE/Alloy 20		Filled PTFE/Monel

Dimensions

14" – 24" (DN350 – 600) Series 9150 ASME Class 150 and Series 9300 ASME Class 300 (Trunnion)



Valve size inches	Series 9150 ASME Class 150 Approximate dimensions – inches															Weight lb
	A	B	C	D	E	G	K	L	M	N	R	T	U	V	W	
14	27.00	14.25	21.00	18.75	13.25	24.21	13.88	1.13	12	3.00	3.25	1.31	11.13	5.30	3/4-10	1470
16	30.00	16.50	23.50	21.25	15.25	25.88	15.25	1.13	16	3.00	3.25	1.38	11.13	5.30	3/4-10	1900
18	34.00	18.00	25.00	22.75	17.25	26.82	17.38	1.25	16	3.50	4.00	1.5	13.00	7.00	3/4-10	2800
20	36.00	19.38	27.50	25.00	19.25	29.13	18.25	1.25	20	3.50	4.00	1.62	15.00	7.00	3/4-10	3500
24	42.00	21.06	32.00	29.50	23.25	31	20.00	1.38	20	3.75	4.00	1.81	15.00	7.00	7/8-9	on application

Valve size DN	Series 9150 ASME Class 150 Approximate dimensions – mm															Weight kg
	A	B	C	D	E	G	K	L	M	N	R	T	U	V	W*	
350	686	362	533	476	337	615	353	29	12	76	83	33	254	83	3/4-10	667
400	762	419	597	540	387	657	387	29	16	76	83	35	283	135	3/4-10	862
450	864	457	635	578	438	681	441	32	16	89	102	38	330	178	3/4-10	1270
500	914	492	699	635	489	740	464	32	20	89	102	41	330	178	3/4-10	1588
600	1067	535	813	749	590	787	508	35	20	95	102	46	381	178	7/8-9	on application

Valve size inches	Series 9300 ASME Class 300 Approximate dimensions – inches															Weight lb
	A	B	C	D	E	G	K	L	M	N	R	T	U	V	W	
14	30.00	17.25	23.00	20.25	13.25	24.94	14.00	1.25	20	3.50	4.00	2.06	13.00	7	3/4-10	2000
16	33.00	17.63	25.50	22.50	15.25	26.12	15.19	1.38	20	3.50	4.00	2.19	13.00	7	3/4-10	2480
18	36.00	19.28	28.00	24.00	17.25	28.78	15.13	1.38	24	3.50	4.50	2.31	15.00	7	7/8-9	3400
20	Contact Factory															on application
24	45.00	22.50	36.00	32.00	23.25	32	21.06	1.63	24	3.75	4.63	2.69	15.00	7	7/8-9	on application

Valve size DN	Series 9300 ASME Class 300 Approximate dimensions – mm															Weight kg
	A	B	C	D	E	G	K	L	M	N	R	T	U	V	W*	
350	762	438	584	514	336	633	356	32	20	89	102	52	330	178	3/4-10	907
400	838	448	648	572	387	663	386	35	20	89	102	56	330	178	3/4-10	1125
450	914	490	711	610	438	731	384	35	24	89	114	59	381	178	7/8-9	1542
500	Contact Factory															on application
600	1143	572	914	813	590	813	535	41	24	95	118	68	381	178	7/8-9	on application

* Screw-thread dimensions are in inches

BILLS OF MATERIALS AND PARTS LIST			
14" – 24" (DN 350 – 600) Series 9150, 14" – 24" (DN 350 – 600) Series 9300 Full-Bore Valves			
Part no.	Part name	Body material	
		Carbon Steel (22) All Series	316 Stainless Steel (36)
1	Body	Carbon steel ASTM A216 Type WCB	316 stainless steel ASTM A351 Type CF8M
2	Body Cap	Carbon steel ASTM A216 Type WCB	316 stainless steel ASTM A351 Type CF8M
3	Ball	Alloy 20, 316 Stainless steel, Monel[1], Hastelloy C[1] - as specified	
4	Stem	Alloy 20, 316 Stainless steel, K-Monel[1], Hastelloy C[1] -as specified	
5	Seat	PTFE or filled PTFE	
6	Body Seal[1]	Spiral wound PTFE/316 Stainless steel[1]	
7	Secondary Stem Seal	Graphite	
8	Stem Bearing	Filled PTFE	
10	Body Stud	ASTM A193 Gr. B7; Gr. B7M; or Gr. B8, B8C, B8T or B8M	
11	Nut	ASTM A194 Gr. 2H; Gr. 2HM; or Gr. 8B, 8CB, 8MB, 8TB , or 8FB	
14	Hex Head Cap Screw	ASTM A193 Gr. B7; Gr. B7M; or Gr. B8, B8C, B8T or B8M	
18	Nut	ASTM A194 Gr. 2H; Gr. 2HM; or Gr. 8B, 8CB, 8MB, 8TB , or 8FB	
20	Compression Plate[1]	Carbon steel	Stainless steel
21	Compression Ring	Stainless steel	
22	Identification Tag	Stainless steel	
23	Drive Screw	Stainless steel	
25	Stem Retainer Seal	Graphite	
26	Trunnion Plate	Carbon steel Type WCB	316 Stainless steel Type CF8M
27	Trunnion Bearing	316 Stainless steel backed glass-filled PTFE	
28	Bearing Spacer	Filled PTFE	
29	Hex.Hd. Cap Screw	ASTM A193 Gr. B7; Gr. B7M	
30	Stem Retainer	Carbon steel Type WCB	316 Stainless steel Type CF8M
32	Upper Stem Seal	PTFE	
33	Key	Carbon steel	
35	Trunnion Ring[2]	Carbon steel	Stainless steel
36	Tag: Trunnion Ball	Stainless steel	

Note 1: Compression plate, body seal, and gland follower are Monel for valves with Monel or Hastelloy C trim.
Note 2: Not used in 14" & 16" (DN 350 & 400) Series 9300 valves.

Standard valve torque data

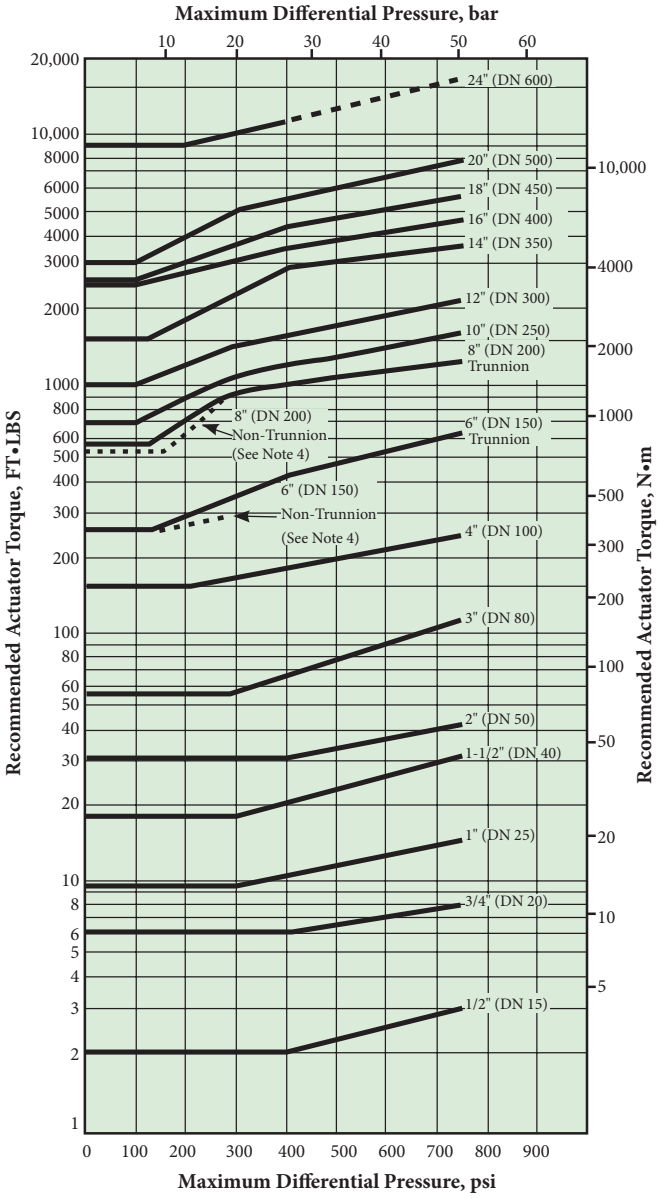
Use these torque charts as a guide for actuator selection. Additional requirements may be imposed by media characteristics, trim, and frequency of valve operation. For clean lubricating fluid service, required torque for PTFE (T), Xtreme (X) and filled PTFE (M) seated valves only may be reduced 20% when the valve is equipped with corrosion resistant trim. For difficult services such as slurries and semi-solids, and for oxygen, increase values by 50%. If in doubt, err on the side of safety by using a larger actuator than would normally be selected.

Torque output values and actuator selection tables for the different types of Jamesbury actuators are contained in the bulletins listed below.

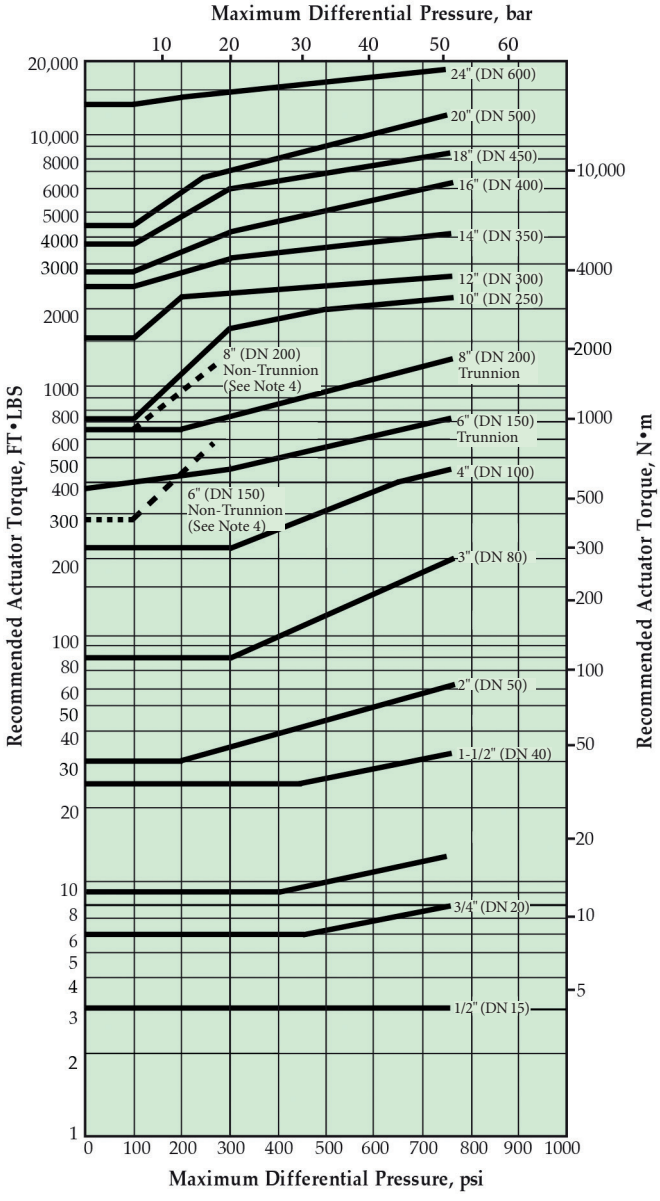
Manual Gear Actuators	A100-1
B-Series Piston Actuators	6 B 20
Quadra-Powr X Spring Diaphragm Rotary Actuators	A110-4
Valv-Powr Series VPVL	A111-5
V-Series Electric Actuators	V200-1
ADC Electric Actuators	V201-1
LC Series’ Electric Actuators	V202-1 & V203-1
ESR-Series Electric Actuators	V204-1
Q6-Series Electric Actuators	V205-1
QX-Series Electric Actuators	V207-1

ASME Class 150 and 300 standard valve torque data

PTFE (T) Seated Valves



Xtreme (X) and TFM (Z) Seated Valves 1/2" – 12" (DN 15 – 300)

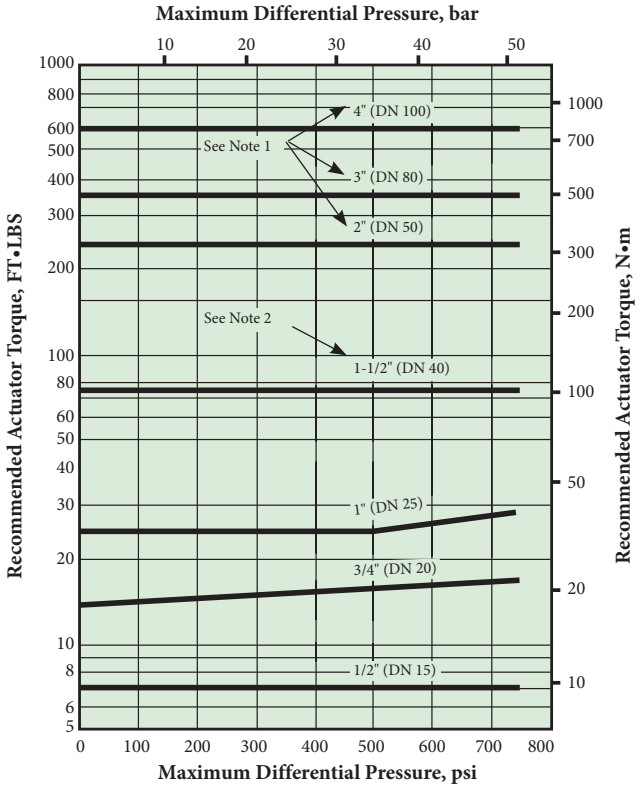


Note: See notes on page 16.

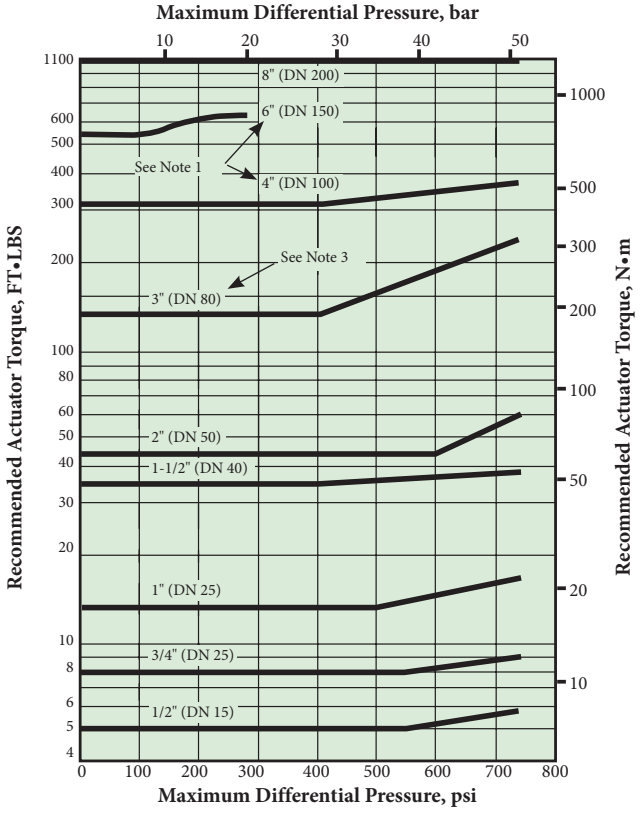
Standard valve torque data

ASME Class 150 and 300 Valves

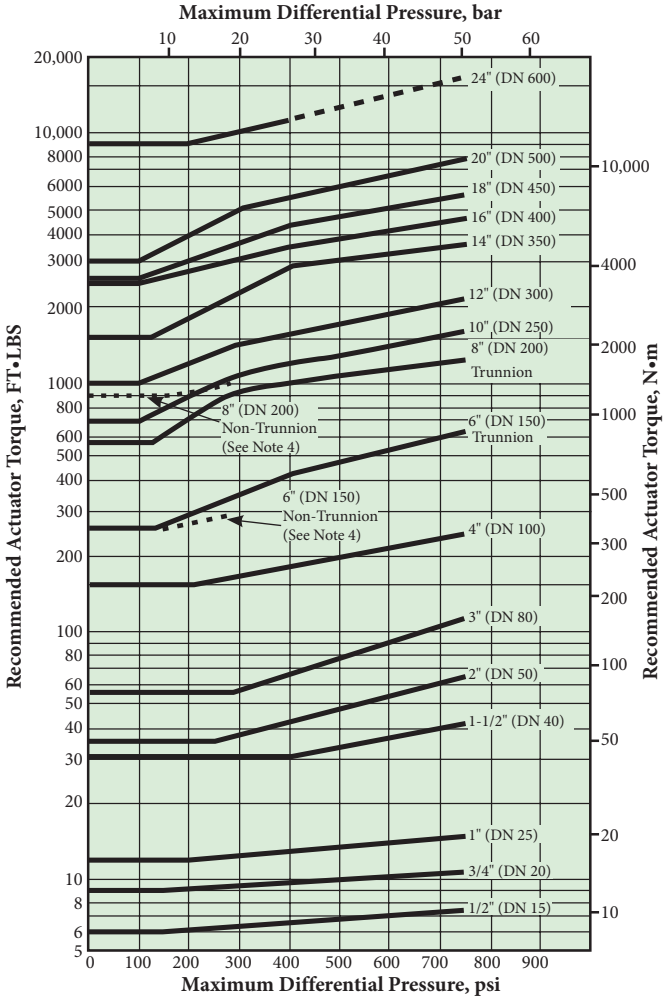
PEEK (L) Seated Valves 1/2" – 6" (DN 15 – 150)



PFA (B) Seated Valves 1/2" – 8" (DN 15 – 200)



UHMW Polyethylene (U) Seated Valves



Note 1: Actuator is required;
Note 2: Actuator is required for difficult service;
Note 3: Actuator is required for difficult service and pressure greater than 500 psi.
Note 4: Dashed line indicates Non-Trunnion and is rated to Class 150 only for seats.

Emission-Pak series 9000 ball valves

The Emission-Pak provides additional protection from emissions and stem seal leakage, and the ability to monitor leakage for critical applications.

The Emission-Pak is an extended stem retainer containing two sets of stem seals which is mounted in the valve body. A special TFM and graphite gasket maintains a leak-fee joint and assures that a Fire-Tite valve retains its fire tested rating.

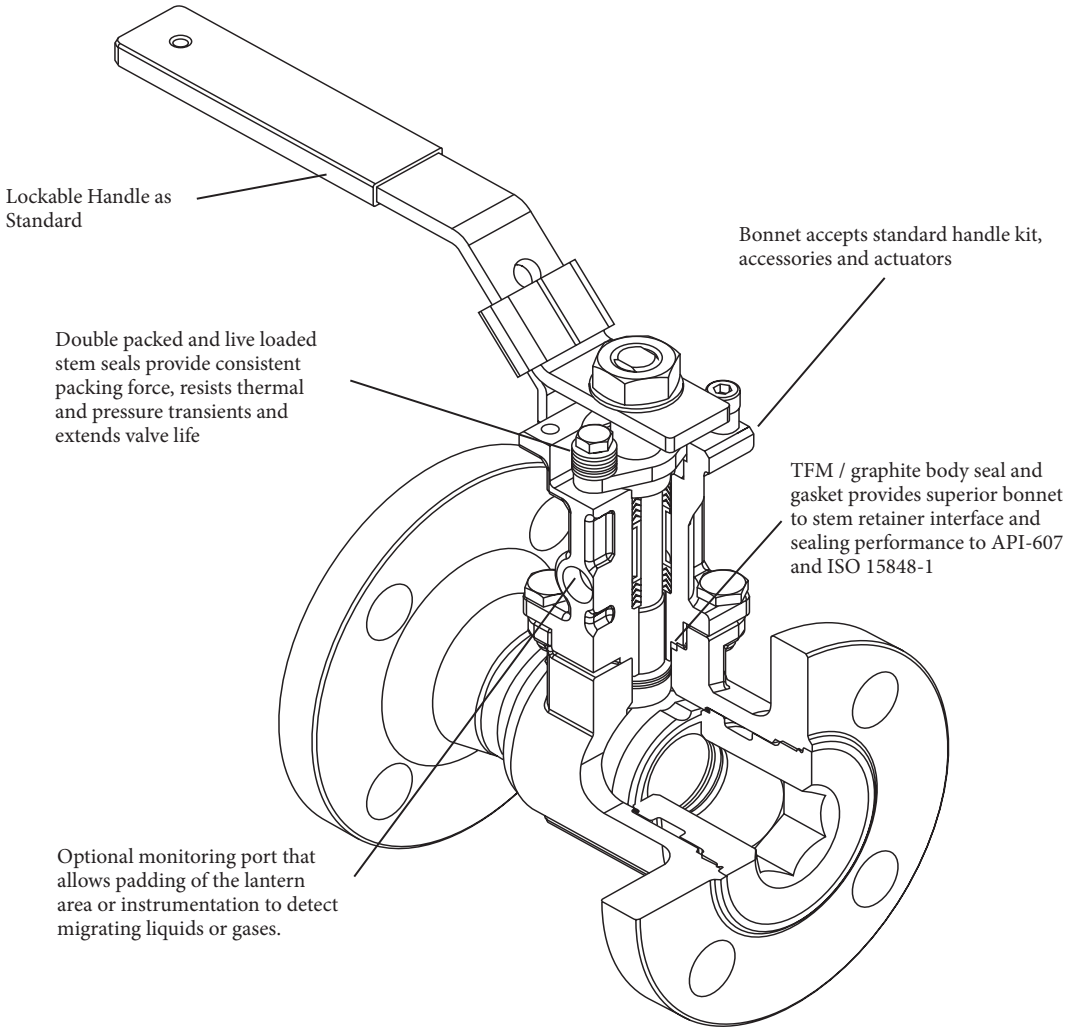
Features

- Two separate live loaded v-ring stem seals
- One piece stem
- Two thrust bearings
- Optional stem seal monitoring port permits detection of primary stem seal wear or leakage
- ISO 15848-1 Class AH rated

Available configurations

Full Bore valves		
Valve	**Size range**	**ASME Class**
9150, 9180	1/2" – 6" (DN 15 – 150)	150
9300, 9380	1/2" – 4" (DN 15 – 100)	300

1/2" - 1-1/2" (DN15 - 40) Series 9000 with Emission-Pak

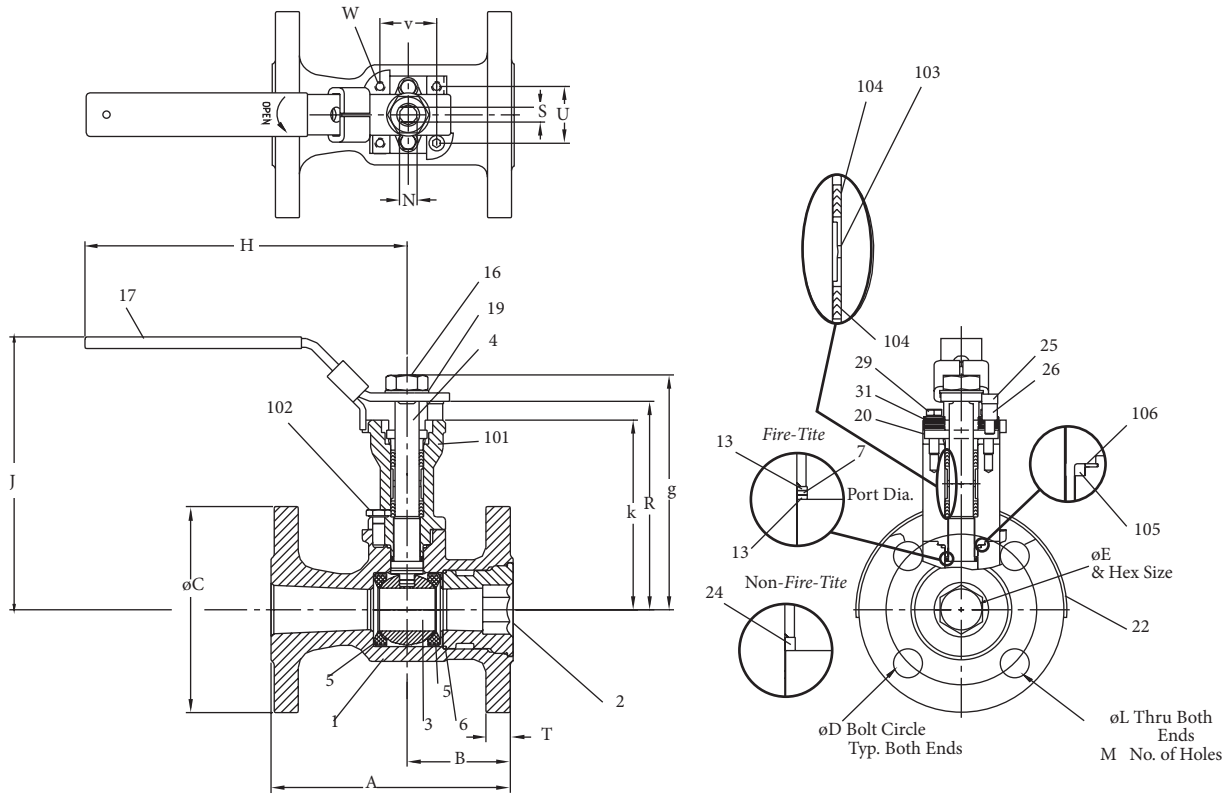


Qualification test

Emission-Pak 1/2" - 1-1/2" (DN 15 – 40) 9000 series are qualified to ISO 15848-1 AH-CC3-SSA1-T200.

Dimensions

1/2" – 1-1/2" (DN15 – 40) Series 9150 ASME Class 150 and Series 9300 ASME Class 300 with Emission-Pak (Non-Trunnion)



Valve size inches	Series 9150 Emission-Pak ASME Class 150 Approximate dimensions - inches																		ISO Bonnet
	A	B	C	D	E	G	H	J	K	L	M	N	R	S	T	U	V	W	
1/2	4.25	1.94	3.50	2.38	0.50	3.61	5.00	4.42	3.08	0.62	4	0.31	3.30	0.18	0.50	1.002	1.002	M5	F03
3/4	4.63	2.19	3.88	2.75	0.88	4.85	6.50	5.60	3.95	0.62	4	0.50	4.30	0.31	0.63	1.168	1.168	M5	F04
1	5.00	2.19	4.25	3.12	1.00	4.98	6.50	5.73	4.08	0.62	4	0.50	4.43	0.31	0.63	1.168	1.168	M5	F04
1-1/2	6.50	2.64	5.00	3.88	1.50	5.99	8.00	6.97	4.81	0.62	4	0.62	5.26	0.37	0.69	1.392	1.392	M6	F05

Valve size DN	Series 9150 Emission-Pak ASME Class 150 Approximate dimensions - mm																		ISO Bonnet
	A	B	C	D	E	G	H	J	K	L	M	N	R	S	T	U	V	W	
15	108	49	89	60	13	92	127	112	78	16	4	8	84	5	13	25	25	M5	F03
20	118	56	99	70	22	123	165	142	100	16	4	13	109	8	15	30	30	M5	F04
25	127	56	108	79	25	126	165	146	104	16	4	13	113	8	15	30	30	M5	F04
40	165	67	127	99	38	152	203	177	122	16	4	16	134	9	18	35	35	M6	F05

Valve size inches	Series 9300 Emission-Pak ASME Class 300 Approximate dimensions - inches																		ISO Bonnet
	A	B	C	D	E	G	H	J	K	L	M	N	R	S	T	U	V	W	
1/2	5.50	1.94	3.75	2.62	0.50	3.61	5.00	4.42	3.08	0.62	4	0.31	3.30	0.18	0.52	1.002	1.002	M5	F03
3/4	6.00	2.19	4.63	3.25	0.88	4.85	6.50	5.60	3.95	0.75	4	0.50	4.30	0.31	0.63	1.168	1.168	M5	F04
1	6.50	2.19	4.88	3.50	1.00	4.98	6.50	5.73	4.08	0.75	4	0.50	4.43	0.31	0.63	1.168	1.168	M5	F04
1-1/2	7.50	2.64	6.13	4.50	1.50	5.99	8.00	6.97	4.81	0.88	4	0.62	5.26	0.37	0.71	1.392	1.392	M6	F05

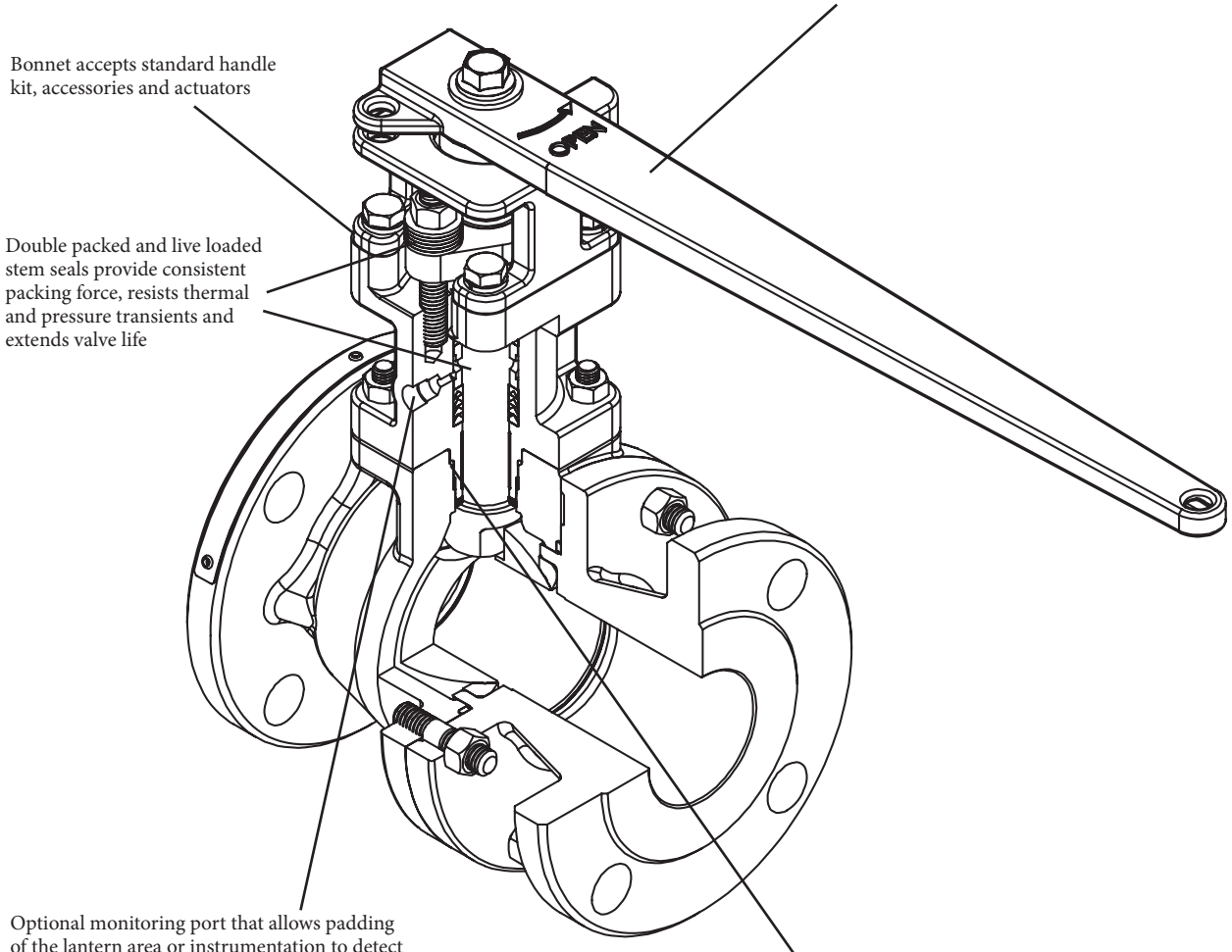
Valve size DN	Series 9300 Emission-Pak ASME Class 300 Approximate dimensions - mm																		ISO Bonnet
	A	B	C	D	E	G	H	J	K	L	M	N	R	S	T	U	V	W	
15	140	49	95	67	13	92	127	112	78	16	4	8	84	5	13	25	25	M5	F03
20	152	56	118	83	22	123	165	142	100	19	4	13	109	8	16	30	30	M5	F04
25	165	56	124	89	25	126	165	146	104	19	4	13	113	8	16	30	30	M5	F04
40	191	67	156	114	38	152	203	177	122	22	4	16	134	9	18	35	35	M6	F05

Bills of materials and parts list					
Fire-Tite 1/2" – 1-1/2" (DN15 – 40) Full Port Series 9000 Valves with Emission-Pak					
Part no.	Part name	Body material			
		Carbon Steel (22)	316 Stainless Steel 36)	Alloy 20 (35)	Monel (71)
1	Body	Carbon Steel ASTM A216 Type WCB	316 Stainless Steel ASTM A351 Type CF8M	Alloy 20 ASTM A351 Type CN7M	Monel ASTM A494 M35-1
2	Insert	Carbon Steel ASTM A216 Type WCB	316 Stainless Steel ASTM A351 Type CF8M	Alloy 20 ASTM A351 Type CN7M	Monel ASTM A494 M35-1
3	Ball	316 Stainless Steel, Monel, Hastelloy C		Alloy 20	Monel, Hastelloy C as specified
4	Stem	316 Stainless Steel, 17-4PH, K-Monel, Hastelloy C		Alloy 20	K-Monel, Hastelloy C as specified
5	Seat	PTFE, Xtreme, PFA			
6	Body Seal	TFM			
7	Secondary Stem Seal	Graphite			
13	Stem Bearing	PTFE, Filled PTFE			
16	Hex Nut	Carbon Steel (zinc plated)			
17	Handle	Carbon Steel (zinc plated)	300 Series Stainless Steel		
19	Lock Washer	Carbon Steel (zinc plated)	300 Series Stainless Steel		
22	Identification Tag	Stainless Steel			
23	Pop Rivet	Stainless Steel			
20	Compression Plate	316 Stainless Steel	300 Series Stainless Steel		
25	Socket Cap Screw	300 Stainless Steel			Monel
26	Handle Stop Screw	300 Stainless Steel			
29	Hex Cap Screw	300 Stainless Steel			
31	Disc Springs	Inconel			Monel
101	Emission-Pak Housing	Carbon Steel ASTM A216 Type WCB	316 Stainless Steel ASTM A351 Type CF8M	Alloy 20 ASTM A351 Type CN7M	Monel ASTM A494 M35-1
102	Hex Head Cap Screw	ASTM A193 GR. B7, ASTM A193 GR. B8, B8C, B8T or B8M, K-Monel			
103	Lantern Ring	316 Stainless Steel, Monel, Alloy 20			
104	Double Stem Seals	TFM			
105	Emission-Pak Body Seal	TFM			
106	Emission-Pak Body Gasket	Graphite			
107	Pipe Plug	Plastic			
109	Bearing Strip	PTFE			
112	Warning Tag	Polyethylene			

Bills of materials and parts list					
Non-Fire-Tite 1/2" – 1-1/2" (DN15 – 40) Full Port Series 9000 Valves with Emission-Pak					
Part no.	Part name	Body material			
		Carbon Steel (22)	316 Stainless Steel (36)	Alloy 20 (35)	Monel (71)
1	Body	Carbon Steel ASTM A216 Type WCB	316 Stainless Steel ASTM A351 Type CF8M	Alloy 20 ASTM A351 Type CN7M	Monel ASTM A494 M35-1
2	Insert	Carbon Steel ASTM A216 Type WCB	316 Stainless Steel ASTM A351 Type CF8M	Alloy 20 ASTM A351 Type CN7M	Monel ASTM A494 M35-1
3	Ball	316 Stainless Steel, Monel, Hastelloy C		Alloy 20	Monel, Hastelloy C as specified
4	Stem	316 Stainless Steel, 17-4PH, K-Monel, Hastelloy C		Alloy 20	K-Monel, Hastelloy C as specified
5	Seat	PTFE, Xtreme, PFA, PEEK[1] & UHMWPE			
6	Body Seal	TFM (w/ PTFE, Xtreme, PFA seats) , UHMWPE (w/ UHMWPE seats), Graphite (w/ PEEK seats)			
8	Primary Stem Seal	PTFE (w/ PTFE seats), TFM (w/ Xtreme & PFA seats), UHMWPE (w/ UHMWPE seats), Graphite (w/ PEEK seats)			
10	Stem Guide	PEEK (PEEK seated valves)			
16	Hex Nut	Carbon Steel (zinc plated)	300 Series Stainless Steel		
17	Handle	Carbon Steel (zinc plated)	300 Series Stainless Steel		
19	Lock Washer	Carbon Steel (zinc plated)	300 Series Stainless Steel		
20	Compression Plate	316 Stainless Steel			Monel
22	Identification Tag	Stainless Steel			
23	Pop Rivet	Stainless Steel			
24	Stem Bearing	PTFE (w/ PTFE seats), Filled PTFE (w/ Xtreme & PFA seats), PEEK (w/ PEEK seats), UHMWPE (w/ UHMWPE seats)			
25	Socket Cap Screw	300 Stainless Steel			
26	Handle Stop Screw	300 Stainless Steel			
29	Hex Cap Screw	300 Stainless Steel			Monel
31	Disc Springs	Inconel			
101	Emission-Pak Housing	Carbon Steel ASTM A216 Type WCB	316 Stainless Steel ASTM A351 Type CF8M	Alloy 20 ASTM A351 Type CN7M	Monel ASTM A494 M35-1
102	Hex Head Cap Screw	ASTM A193 GR. B7, ASTM A193 GR. B8, B8C, B8T or B8M, K-Monel			
103	Lantern Ring	316 Stainless Steel, Monel, Alloy 20			
104	Double Stem Seals	TFM (w/ Xtreme, PTFE & PFA seats), UHMWPE (w/ UHMWPE seats), Graphite (w/ PEEK seats)			
105	Emission-Pak Body Seal	TFM, UHMWPE (w/ UHMWPE seats)			
106	Emission-Pak Body Gasket	Graphite			
107	Pipe Plug	Plastic			
109	Bearing Strip	PTFE			
112	Warning Tag	Polyethylene			

Note 1: 17-4PH stem required with PEEK seats

2" - 6" (DN 50 - 150) Series 9150 valves with Emission-Pak
2" - 4" (DN 50 - 100) Series 9300 valves with Emission-Pak

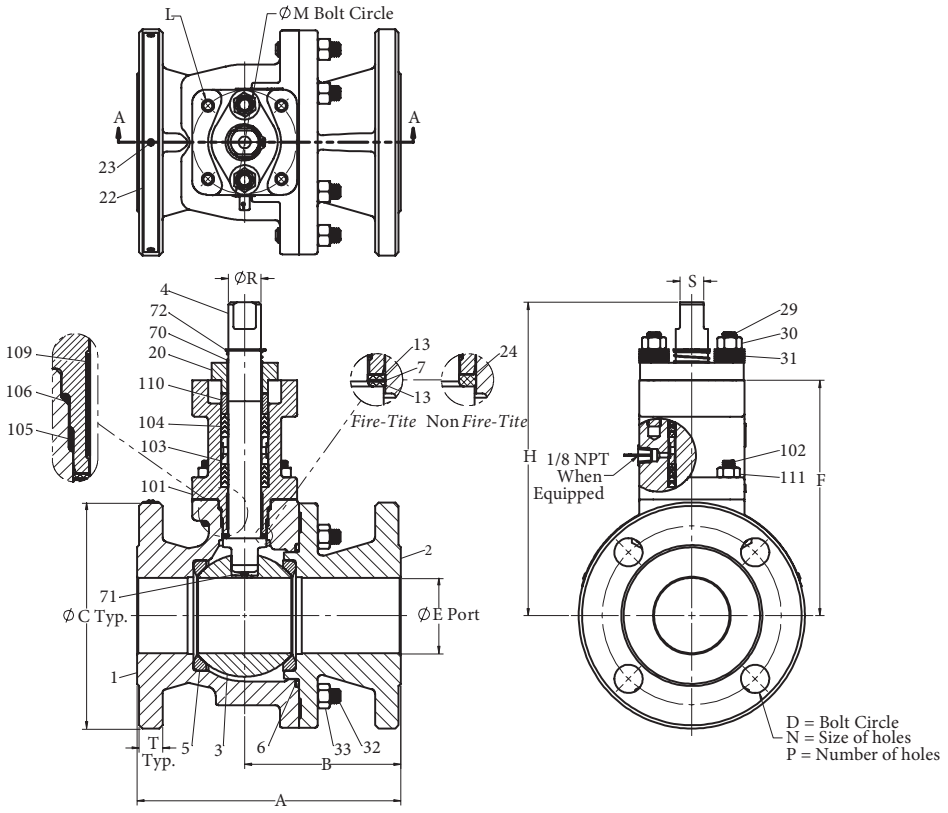


Qualification test

2" – 6" (DN 50 – 150) 9150 and 2" - 4" 9300 (DN 50 - 100) series with Emission-Pak are qualified to ISO 15848-1 AH CO3-SSA3 T(200C).

Dimensions

2" - 6" (DN50 - 150) Series 9150 ASME Class 150 and Series 9300 ASME Class 300 with Emission-Pak (Non-Trunnion)



Series 9150 Emission-Pak ASME Class 150 Approximate dimensions - inches																
Valve size inches	A	B	C	D	E	F	H	L	M	N	P	R	S	T	ISO Pattern	Weight lb
2	7.00	4.14	6.00	4.75	2.00	6.24	8.31	M8	2.76	0.75	4	0.86	0.62	0.62	F07	39
3	8.00	4.26	7.50	6.00	3.00	7.06	9.11	M8	2.76	0.75	4	0.86	0.62	0.75	F07	59
4	9.00	4.50	9.00	7.50	4.00	9.45	12.18	M10	4.02	0.75	8	1.11	0.81	0.94	F10	105
6	15.50	8.25	11.00	9.50	6.00	11.39	14.49	M12	4.92	0.88	8	1.61	1.12	1.00	F12	276

Series 9150 Emission-Pak ASME Class 150 Approximate dimensions - mm																
Valve size DN	A	B	C	D	E	F	H	L	M	N	P	R	S	T	ISO Pattern	Weight kg
50	178	105	152	121	51	158	211	M8	70	19	4	22	16	16	F07	18
80	203	108	191	152	76	179	231	M8	70	19	4	22	16	19	F07	27
100	229	114	229	191	102	240	309	M10	102	19	8	28	21	24	F10	48
150	394	210	279	241	152	289	368	M12	125	22	8	41	28	25	F12	125

Series 9300 Emission-Pak ASME Class 300 Approximate dimensions - inches																
Valve size inches	A	B	C	D	E	F	H	L	M	N	P	R	S	T	ISO Pattern	Weight lb
2	8.50	4.89	6.50	5.00	2	6.24	8.31	M8	2.76	0.75	4	0.86	0.62	0.87	F07	47
3	11.12	6.11	8.25	6.62	3	8.63	11.34	M10	4.02	0.88	8	1.11	0.81	1.12	F10	93
4	12.00	6.86	10.00	7.88	4	9.77	12.87	M12	4.92	0.88	8	1.61	1.12	1.25	F12	168

Series 9300 Emission-Pak ASME Class 300 Approximate dimensions - mm																
Valve size DN	A	B	C	D	E	F	H	L	M	N	P	R	S	T	ISO Pattern	Weight kg
80	216	124	165	127	51	158	211	M8	70	19	4	22	16	22	F07	21
100	282	155	210	168	76	219	288	M10	102	22	8	28	21	28	F10	42
150	305	174	254	200	102	248	327	M12	125	22	8	41	28	32	F12	76

Bills of materials and parts list					
Fire-Tite 2" - 6" (DN50 - 150) Full Port Series 9150 Valves, 2" - 4" (DN50 - 100) Full Port Series 9300 Valves with Emission-Pak					
Part no.	Part name	Body material			
		Carbon Steel (22)	316 Stainless Steel (36)	Alloy 20 (35)	Monel (71)
1	Body	Carbon Steel ASTM A216 Type WCB	316 Stainless Steel ASTM A351 Type CF8M	Alloy 20 ASTM A351 Type CN7M	Monel ASTM A494 M35-1
2	Body Cap	Carbon Steel ASTM A216 Type WCB	316 Stainless Steel ASTM A351 Type CF8M	Alloy 20 ASTM A351 Type CN7M	Monel ASTM A494 M35-1
3	Ball	316 Stainless Steel, Monel, Hastelloy C		Alloy 20	Monel, Hastelloy C as specified
4	Stem	316 Stainless Steel, 17-4PH, K-Monel, Hastelloy C		Alloy 20	K-Monel, Hastelloy C as specified
5	Seat	PTFE, Xtreme, PFA			
6	Body Seal	Spiral Wound Graphite/316 Stainless Steel		Spiral Wound Graphite/Alloy 20	Spiral Wound Graphite/ Monel
7	Secondary Stem Seal	Graphite			
13	Thrust Bearing	PTFE, Filled PTFE			
20	Compression Plate	316 Stainless Steel			Monel
22	Identification Tag	Stainless Steel			
23	Pop Rivet	Stainless Steel			
29	Bonnet Stud	ASTM A193 GR. B8, B8C, B8T or B8M, K-Monel			
30	Bonnet Stud Nut	ASTM A194 GR. 8B, 8CB, 8MB, 8TB, 8FB, K-Monel			
31	Disc Springs	Inconel			
32	Body Stud	ASTM A193 GR. B8, B8C, B8T or B8M, K-Monel			
33	Body Stud Nut	ASTM A194 GR. 8B, 8CB, 8MB, 8TB, 8FB, K-Monel			
70	Top Grounding Spring	Stainless Steel			
71	Bottom Grounding Spring	Inconel			
72	Retaining Ring	Stainless Steel			
101	Emission-Pak Stem Retainer	Carbon Steel ASTM A216 Type WCB	316 Stainless Steel ASTM A351 Type CF8M	Alloy 20 ASTM A351 Type CN7M	Monel ASTM A494 M35-1
102	Stud	ASTM A193 GR. B7, ASTM A193 GR. B8, B8C, B8T or B8M, K-Monel			
103	Spacer/Lantern Ring	316 Stainless Steel, Monel, Alloy 20			
104	Stem Seal	PTFE (w/ PTFE seats), TFM (w/ Xtreme & PFA seats)			
105	Inner Stem Retainer Seal	TFM			
106	Outer Stem Retainer Seal	Graphite			
107	Pipe Plug	Plastic			
109	Bearing Strip	PTFE			
110	Compression Ring	316 Stainless Steel, Monel			
111	Hex Nut	ASTM A194 GR. 2H, ASTM A194 GR. 8B, 8CB, 8MB, 8TB, 8FB, K-Monel			
112	Warning Tag	Polyethylene			

Bills of materials and parts list					
Non-Fire-Tite 2" - 6" (DN50 - 150) Full Port Series 9150 Valves, 2" - 4" (DN50 - 100) Full Port Series 9300 Valves with Emission-Pak					
Part no.	Part name	Body material			
		Carbon Steel (22)	316 Stainless Steel (36)	Alloy 20 (35)	Monel (71)
1	Body	Carbon Steel ASTM A216 Type WCB	316 Stainless Steel ASTM A351 Type CF8M	Alloy 20 ASTM A351 Type CN7M	Monel ASTM A494 M35-1
2	Body Cap	Carbon Steel ASTM A216 Type WCB	316 Stainless Steel ASTM A351 Type CF8M	Alloy 20 ASTM A351 Type CN7M	Monel ASTM A494 M35-1
3	Ball	316 Stainless Steel, Monel, Hastelloy C		Alloy 20	Monel, Hastelloy C as specified
4	Stem	316 Stainless Steel, 17-4PH, K-Monel, Hastelloy C		Alloy 20	K-Monel, Hastelloy C as specified
5	Seat	PTFE, Xtreme, PFA			
6	Body Seal	Spiral Wound PTFE/316 Stainless Steel		Spiral Wound PTFE/ Alloy 20	Spiral Wound PTFE/ Monel
8	Stem Seal	PTFE (w/ PTFE seats), TFM (w/ Xtreme & PFA seats)			
13	Thrust Bearing	PTFE, Filled PTFE			
20	Compression Plate	316 Stainless Steel			Monel
22	Identification Tag	Stainless Steel			
23	Pop Rivet	Stainless Steel			
29	Bonnet Stud	ASTM A193 GR. B8, B8C, B8T or B8M, K-Monel			
30	Bonnet Stud Nut	ASTM A194 GR. 8B, 8CB, 8MB, 8TB, 8FB, K-Monel			
31	Disc Springs	Inconel			
32	Body Stud	ASTM A193 GR. B8, B8C, B8T or B8M, K-Monel			
33	Body Stud Nut	ASTM A194 GR. 8B, 8CB, 8MB, 8TB, 8FB, K-Monel			
70	Top Grounding Spring	Stainless Steel			
71	Bottom Grounding Spring	Inconel			
72	Retaining Ring	Stainless Steel			
101	Emission-Pak Stem Retainer	Carbon Steel ASTM A216 Type WCB	316 Stainless Steel ASTM A351 Type CF8M	Alloy 20 ASTM A351 Type CN7M	Monel ASTM A494 M35-1
102	Stud	ASTM A193 GR. B7, ASTM A193 GR. B8, B8C, B8T or B8M, K-Monel			
103	Spacer/Lantern Ring	316 Stainless Steel, Monel, Alloy 20			
104	Stem Seal	PTFE (w/ PTFE seats), TFM (w/ Xtreme & PFA seats), UHMWPE (w/ UHMWPE seats), Graphite (w/ PEEK seats)			
105	Inner Stem Retainer Seal	TFM, PFA (w/ PFA Seats), UHMWPE (w/ UHMWPE seats)			
106	Outer Stem Retainer Seal	Graphite			
107	Pipe Plug	Plastic			
109	Bearing Strip	PTFE			
110	Compression Ring	316 Stainless Steel, Monel			
111	Hex Nut	ASTM A194 GR. 2H, ASTM A194 GR. 8B, 8CB, 8MB, 8TB, 8FB, K-Monel			
112	Warning Tag	Polyethylene			

Emission-Pak valve torque data

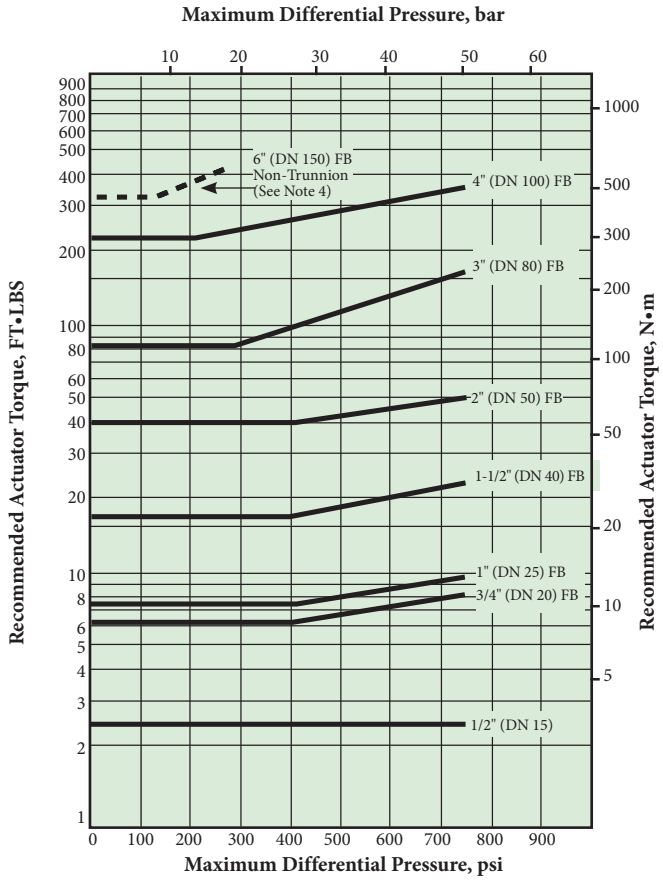
Use these torque charts as a guide for actuator selection. Additional requirements may be imposed by media characteristics, trim, and frequency of valve operation. For clean lubricating fluid service, required torque for PTFE (T) and Xtreme (X) seated valves only may be reduced 20% when the valve is equipped with corrosion resistant trim. For difficult services such as slurries and semi-solids, and for oxygen, increase values by 50%. If in doubt, err on the side of safety by using a larger actuator than would normally be selected.

Torque output values and actuator selection tables for the different types of Jamesbury actuators are contained in the bulletins listed below.

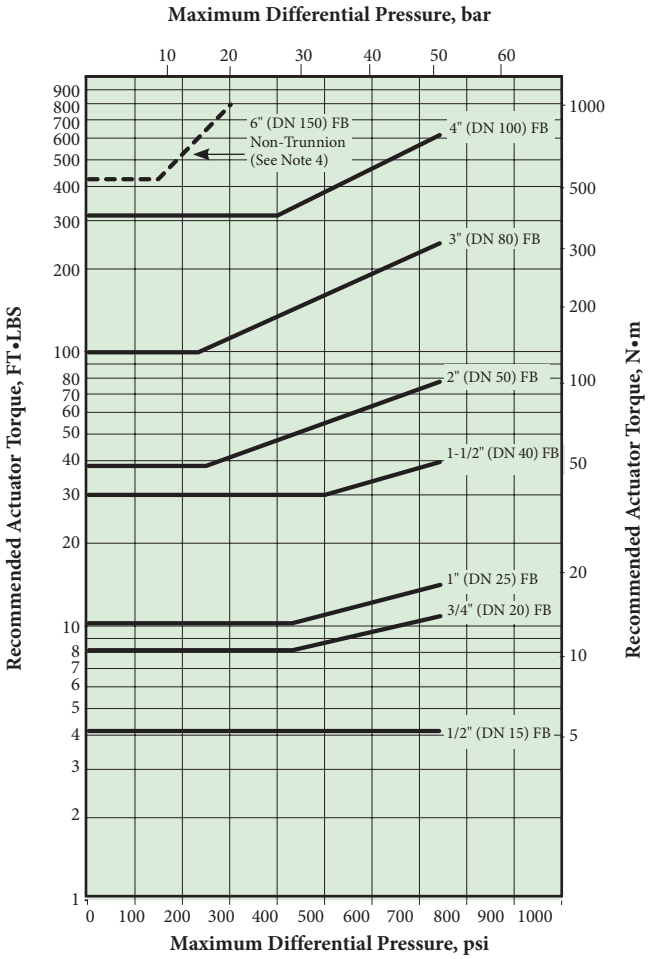
Manual Gear Actuators	A100-1
B-Series Piston Actuators	6 B 20
Quadra-Powr X Spring Diaphragm Rotary Actuators	A110-4
Valv-Powr Series VPVL	A111-5
VV-Series Electric Actuators	V200-1
ADC-Series Electric Actuators	V201-1
LC Series' Electric Actuators	V202-1 & V203-1
ESR-Series Electric Actuators	V204-1
Q6-Series Electric Actuators	V205-1
QX-Series Electric Actuators	V207-1

ASME Class 150 and 300 valve torque data

PTFE (T) Seated Valves



Xtreme (X) and TFM (Z) Seated Valves



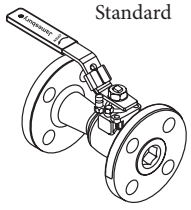
FB = Full Bore

Note 4: Dashed line indicates Non-Trunnion and is rated to Class 150 only for seats.

Accessories

Locking Devices

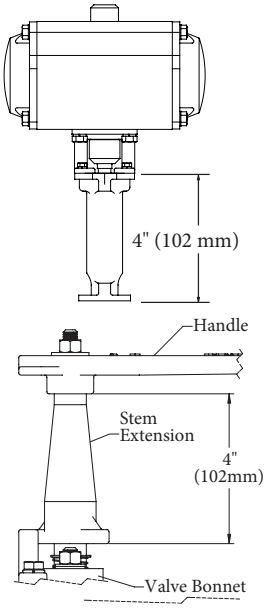
When safety measures are necessary, a reliable locking feature is standard to allow the valve to be padlocked in either the open or closed position.



1/2" – 1-1/2" (DN 15 – 40)
Series 9000

Bonnet/Stem extensions

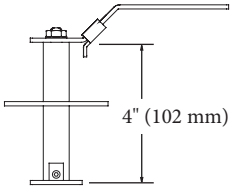
4" (102 mm) bonnet/stem extensions are available for applications and are particularly useful for automated and manual products. Extensions can also be used to prevent interference between actuators and companion pipelines and equipment. They are ideal as extension that require locking lever or locking oval handle capability. Stainless steel construction is also available.



2" – 6"

Stem extensions

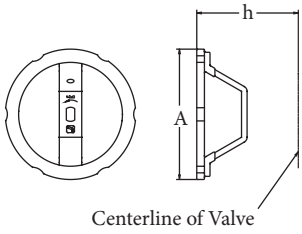
4" (102 mm) non-lockable stem extensions are available for manual valves. Extensions can also be used to prevent interference between companion pipelines and equipment. Compatible with all handle options. Stainless steel construction is also available.



1/2" – 1-1/2"

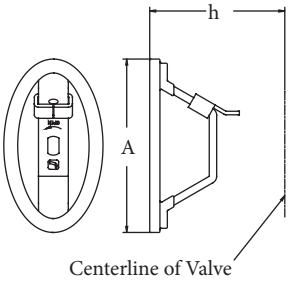
Round handles

Series 9000 ball valves have optional round handles (non lockable) available. To order handles separately, specify the part number shown in the accessories table below.



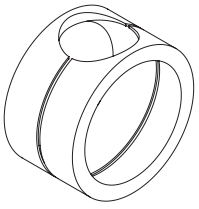
Oval handles with slide-lock

Optional oval handle saves space and may be padlocked to retain the valve in the open or closed position. To order handles separately, specify the part number shown in the accessories table below.



Cavity fillers

Cavity fillers are available in non-trunnion 9000 series full bore valves. The fillers are PTFE or Xtreme and used for sanitary applications and in processes where cross contamination is a concern. Food processing, pharma-chemicals, cosmetics, paints, solvents, finishes and dyes are typical applications where fillers are employed.

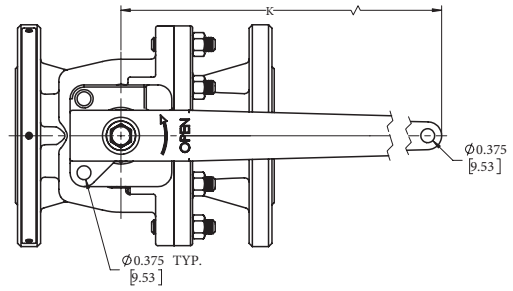


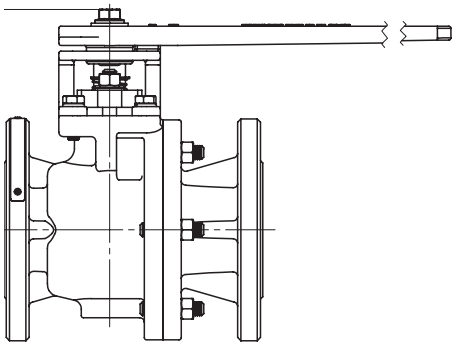
Accessory table – inches (DN)										
Valve size	Lever handle	Locking device	Stem Ext.	Bonnet/ Stem Ext.	Locking Oval	Round	Round/Oval handle		Allowable Max. Torque FT•LBS (N•m)	
Full Bore							Dimension A	Dimension H	Round	Oval
1/2" (15)	Standard Equipment	Standard Equipment	SE-093	SE-096	112-0108-30	112-0105-30	4.00 (101.6)	2.96 (75.2)	9 (12)	9 (12)
3/4" (20)			SE-094	SE-097	112-0109-30	112-0106-30	4.50 (114.3)	3.70 (94.0)	18 (24)	18 (24)
1" (25)			SE-094	SE-097	112-0109-30	112-0106-30	4.50 (114.3)	3.83 (97.3)	18 (24)	18 (24)
1-1/2" (30)			SE-095	SE-098	112-0110-30	112-0107-30	5.75 (146.0)	4.75 (120.7)	25 (34)	25 (34)
1-1/2" (40)			SE-095	SE-098	112-0110-30	112-0107-30	5.75 (146.0)	4.94 (125.5)	25 (34)	25 (34)
2" (50)	BHK-0070		SE-099	SE-0102	NA					
3" (80) 9150	BHK-0070		SE-99	SE-0102						
3" (80) 9300	BHK-0071		SE-0100	SE-0103						
4" (100) 9150	BHK-0071		SE-0100	SE-0103						
4" (100) 9300	BHK-0072		SE-0101	SE-0104						
6" (150) 9150	BHK-0072		SE-0101	SE-0104						

* For valves with PEEK(L) seats that require stem extensions use bonnet/stem extension SE-096, 097 or 098.

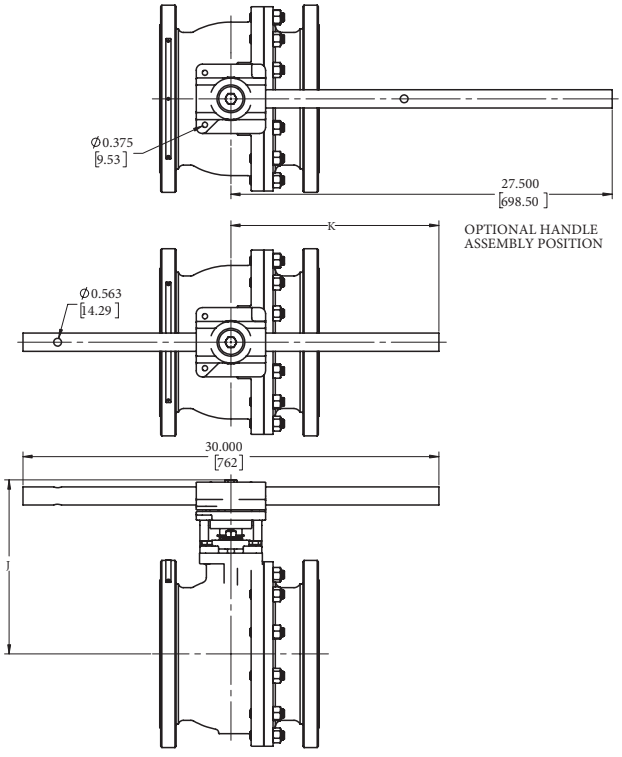
Dimensions

2"- 6" (DN50 - 150) Series 9150 ASME Class 150 and 2"- 4" (DN50 -100) Series 9300 ASME Class 300





BHK-0070 & BHK-0071



BHK-0072

Series 9150 ASME Class 150 Approximate dimensions - inches					
Valve size Inches	Handle Kit Number	J	K	ISO Pattern	Weight lb
2	BHK-0070	5.84	14.00	F07	7
3	BHK-0070	6.65	14.00	F07	7
4	BHK-0071	8.94	19.94	F10	9
6	BHK-0072	12.57	15.00	F12	34

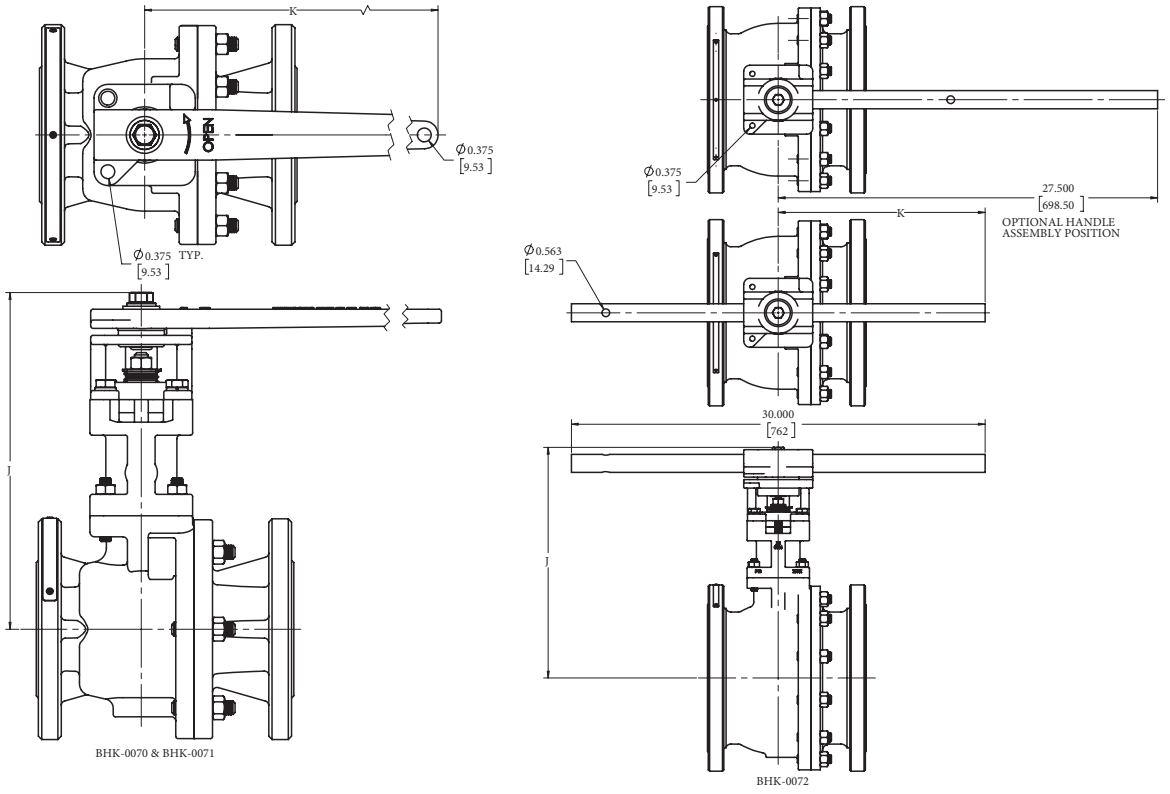
Series 9150 ASME Class 150 Approximate dimensions - mm					
Valve size DN	Handle Kit Number	J	K	ISO Pattern	Weight kg
50	BHK-0070	148	356	F07	3
80	BHK-0070	169	356	F07	3
100	BHK-0071	227	506	F10	4
150	BHK-0072	319	381	F12	15

Series 9300 ASME Class 300 Approximate dimensions - inches					
Valve size Inches	Handle Kit Number	J	K	ISO Pattern	Weight lb
2	BHK-0070	5.84	14.00	F07	7
3	BHK-0071	8.11	19.94	F10	9
4	BHK-0072	11.00	15.00	F12	34

Series 9300 ASME Class 300 Approximate dimensions - mm					
Valve size DN	Handle Kit Number	J	K	ISO Pattern	Weight kg
50	BHK-0070	148	356	F07	3
80	BHK-0071	206	506	F10	4
100	BHK-0072	279	381	F12	15

Dimensions

2" - 6" (DN50 - 150) Series 9150 ASME Class 150 and 2" - 4" (DN 50 - 100) Series 9300 ASME Class 300 with Emission-Pak



Series 9150 Emission-Pak ASME Class 150 Approximate dimensions - inches					
Valve size inches	Handle Kit Number	J	K	ISO Pattern	Weight lb
2	BHK-0070	9.00	14.00	F07	7
3	BHK-0070	9.81	14.00	F07	7
4	BHK-0071	12.87	19.94	F10	9
6	BHK-0072	16.69	15.00	F12	34

Series 9150 Emission-Pak ASME Class 150 Approximate dimensions - mm					
Valve size DN	Handle Kit Number	J	K	ISO Pattern	Weight kg
50	BHK-0070	228	356	F07	3
80	BHK-0070	249	356	F07	3
100	BHK-0071	327	506	F10	4
150	BHK-0072	424	381	F12	15

Series 9300 Emission-Pak ASME Class 300 Approximate dimensions - inches					
Valve size inches	Handle Kit Number	J	K	ISO Pattern	Weight lb
2	BHK-0070	9.00	14.00	F07	7
3	BHK-0071	12.05	19.94	F10	9
4	BHK-0072	15.12	15.00	F12	34

Series 9300 Emission-Pak ASME Class 300 Approximate dimensions - mm					
Valve size DN	Handle Kit Number	J	K	ISO Pattern	Weight kg
50	BHK-0070	228	356	F07	3
80	BHK-0071	306	506	F10	4
100	BHK-0072	384	381	F12	15

WARNING:
As the use of the valve is application specific, a number of factors should be taken into account when selecting a valve for a given application. Therefore, some of the situations in which the valves are used are outside the scope of this manual. If you have any questions concerning the use, application or compatibility of the valve with the intended service, contact Valmet for more information.

How to order

EXAMPLE: A 2" ASME Class 150 short design valve (9150) in Fire-Tite design (3) with raised-face flanges (31), carbon steel body (22), and 316 stainless steel trim (36), with Xtreme seats (XTZ) and molecularlyenhanced PTFE stem seals is written: 2" 9150-31-2236XTZ1.

1	2	3	4	5	6	7	8
2"	9150	–	31	22	36	XTZ	1

1	Size					
1/2" to 24"	1/2"	(DN 15)	4"	(DN 100)	14"	(DN 350)
	3/4"	(DN 20)	6"	(DN 150)	16"	(DN 400)
	1"	(DN 25)	8"	(DN 200)	18"	(DN 450)
	1-1/2"	(DN 40)	10"	(DN 250)	20"	(DN 500)
	2"	(DN 50)	12"	(DN 300)	24"	(DN 600)
	3"	(DN 80)				

2	Valve series & style	Size range
9150	Full Bore Class 150	1/2" – 24" (DN 15 –600)
9180	Full Bore Class 150*	1/2" – 24" (DN 15 –600)
9300	Full Bore Class 300	1/2" – 24" (DN 15 –600)
9380	Full Bore Class 300*	1/2" – 24" (DN 15 –600)

* Metric units on nameplate. Valves larger than 1" (DN 25) are CE marked. Includes static grounding.

3	Special construction	
—	Standard (no entry)	
C	Chlorine	
DBB	Double Block and Bleed	
DT	125 RMS Flange Finish	
O	Oxygen	
Q	Cavity Filler (Xtreme w/ XT, PTFE w/ TT)	
STG	Static Ground (1/2" – 1-1/2" 9000) (Not for Emission-Pak)	
V	High Vacuum	
VC	High Vacuum Certified	
Emission-Pak Coding		
LA	Standard w/o leakoff	1/2"-6" (DN 15 – 150) 9150/9180 1/2"-4" (DN 15 – 100) 9300/9380
LL	Standard w/ leakoff	
LC	Chlorine w/o leakoff	
L1	Chlorine w/ leakoff	
L2	Static Ground w/o leakoff (1/2" – 1-1/2" 9000 ONLY)	
L3	Static Ground w/ leakoff (1/2" – 1-1/2" 9000 ONLY)	
LV	High Vacuum w/o leakoff	
LB	High Vacuum w/ leakoff	
LW	High Vacuum Certified w/o leakoff	
LJ	High Vacuum Certified w/ leakoff	
LX	Oxygen w/o leakoff	
LG	Oxygen w/ leakoff	

4	End connection	Size range
11	Raised Face, Non-Fire-Tite, Non-Trunnion	1/2" – 8" (DN 15 – 200)
31	Raised Face, Fire-Tite, Non-Trunnion	1/2" – 8" (DN 15 – 200)
51	Raised Face, Non-Fire-Tite, Trunnion	8" - 24" (DN200 - 600) Class 150 6" - 24" (DN150 - 600) Class 300
71	Raised Face, Fire-Tite, Trunnion	8" – 24" (DN 200 – 600) Class 150 6" – 24" (DN 150 – 600) Class 300

5	Body material*
22[5]	Carbon Steel (WCB)
28	Carbon Steel (LCC)
35	Alloy 20 (CN7M)
36[5]	Stainless Steel (CF8M)
71[5]	Monel

* Other materials available upon request

6	Ball & Stem materials*	
35	Alloy 20 (CN7M)	
36[5]	Stainless Steel (CF8M)	
71[5]	Monel & K Monel	
73	Hastelloy C	
HB[5]	316 SS & 17-4PH	Required for seat code LGG
00	Same as body	Carbon steel not available

* Other materials available upon request

7	Seat material*	Available sizes
XTZ	Xtreme	All
BTT	PFA	1/2" – 6" (DN 15 – 150)
LGG[†12]	PEEK	1/2" – 4" (DN 15 – 100)
MBT[1]	Barrier Filled PTFE	3" – 10" (DN 80 – 250)
TTT	PTFE	All
UUU[1]	UHMWPE	1/2" – 8" (DN 15 – 200)
ZTT	TFM	1/2" – 10" (DN 15 – 250)

* Other materials available upon request
† Requires 17-4PH Stem
1 Non-Fire-Tite only
2 Not a self relieving seat

8	Valve body bolting materials[6]		Valve gland bolting materials	
	Studs	Nuts	Bolts/Studs	Nuts
1	ASTM A193 Gr. B7	ASTM A194 Gr. 2H or 2HB	ASTM A193 Gr. B8, B8C, B8M or B8T, Class 2	ASTM A194 Gr. 8, 8C, 8M, 8T, 8F
2	ASTM A193 Gr. B8, B8C, B8M or B8T Class 2	ASTM A194 Gr. 8, 8C, 8M, 8T, 8F	ASTM A193 Gr. B8, B8C, B8M or B8T, Class 2	ASTM A194 Gr. 8, 8C, 8M, 8T, 8F
4**, 4	K-Monel	K-Monel	K-Monel	K-Monel
5**	ASTM A193 Gr. B7M	ASTM A194 Gr. 2HM	K-Monel	K-Monel
H	Alloy 20	Alloy 20	Alloy 20	Alloy 20

* Other materials available upon request
** Available for compliance to NACE for 2" and larger (if buried or insulated)
4 Required for compliance to NACE for 1 1/2" and smaller (if buried or insulated)
5 Material meets NACE requirements for sour environments. For valves to be in full compliance with NACE, both the body (sign #5) and trim (sign #6) must meet the NACE requirements.
6 Only for 2" and larger

9	Model code*
A	1/2" – 1-1/2" (DN 15 – 40) 9000 (Non-Emission-Pak) 14" – 24" (DN 350 – 600) 9000
C	1/2" – 1-1/2" (DN 15 – 40) 9000 (Emission-Pak) 2" – 12" 9150, 9180 (DN 50 - 300) (Non-Emission-Pak) 2" – 12" 9300, 9380 (DN 50 - 300) (Non-Emission-Pak) 2" – 6" 9150, 9180 (DN 50 - 150) (Emission-Pak) 2" – 4" 9300, 9380 (DN 50 - 100) (Emission-Pak)

* Model Code not required when ordering

Hastelloy is a registered trademark of Haynes International, Inc.
Monel is a registered trademark of Special Materials Corp.
Inconel is a registered trademark of Special Materials Corp.
PEEK is a registered trademark of Victrex USA Inc.

Standards and specifications

The Company

ISO 9001 – 2015
Pressure Equipment Directive 2014/68/EU

Available standards

API 598	American Petroleum Institute - Valve Inspection and testing
API 607	American Petroleum Institute - Fire Test for Soft Seated Valves
API 608	Metal Ball Valves Used in On-Off Service that have Buttwelded or Flanged Ends
ASME B16.10	American National Standard - Face-to-Face and End-to-End Dimensions of Ferrous Valves
ASME B16.5	American National Standard - Steel Pipe Flanges and Flanged Fittings
ASME B16.34	American National Standard - Steel Valves - Flanged and Buttwelded End
ASME B31.1	American National Standard - Power Piping
ASME B31.3	American National Standard - Chemical Plant and Petroleum Refinery Piping
FCI 70-2	American National Standard - For Control Valve Seat Leakage
ISO 15848-1	Industrial Valves - Fugitive Emissions - Measurement, Test & Qualification Procedures
ISO 17292	Metal Ball Valves for Petroleum, Petrochemical and Allied Industries
ISO 5752	International Standard for Organization Metal Valves for use in Flanged Piping Systems
ISA 75.02	Valve Sizing Coefficient Cv, Piping Geometry Factor Fp and Pressure Drop Limitation XT
ISA S75.19	Hydrostatic Testing of Control Valves
ISO 5211	Dimensions for Attachment of Actuators/Gear Boxes to Valves (ISO Mounting)
MSS SP-25	Manufacturers Standardization Society - Standard Marking System for Valves
MSS-SP-55	Manufacturers Standardization Society - Quality Standards for Steel Castings
MSS-SP-6	Standard Finishes for Contact Faces of Pipe Flanges and Connecting-End Flanges of Valves and Fittings
MSS-SP-44	Steel Pipe Line Flanges
MSS-SP-61	Pressure Testing of Steel Valves
MSS SP-72	Flanged or Butt and Weld End Ball Valves Having Full or Reduced Bores for General Liquid and Gas Service
MSS SP-96	Terminology for Valves and Fittings
2014/68/EU	European Pressure Equipment Directive (PED)
MSS SP-53-1995	Quality Standard For Steel Castings and Forgings for Valves, Flanges and Fittings and Other Piping Components-Magnetic Particle Examination Method
MSS SP-93-1987	Quality Standard For Steel Castings and Forgings for Valves, Flanges and Fittings and Other Piping Components-Liquid Penetrant Method
NACE Standard MR0103	National Association of Corrosion Engineers-Engineers - Materials Resistant to Sulfide Stress Cracking in Corrosive Petroleum Refining Environments
NACE Standard MR0175	National Association of Corrosion Engineers - Materials For Use In H_{25}- Containing Environments In Oil And Gas Production
Factory Mutual (FM)	Figure 1052 Gas and Oil Shutoff Valves.
Factory Mutual (FM)	Figure 1051 Supervisory Cock Valves, Electric Interlocking Fuel Gas and Fuel Oil Cocks.
CSA	Figure 1057/1056 Gas Shut-Off and Vent Valves.
Factory Mutual (FM)	Figure 1075 Emergency Shut-Off and Fire-Safe Valves.
CSA	CSA 3.16.
EN 161/264	Automatic Shut-Off Valves for Gas Burners and Gas Appliances

Underwriter Laboratory (UL) Categories MHKZ, YQAR, YRBX, YRPV, YSDT.
Underwriter's Laboratories of Canada (ULC) Categories YSDT7 & YRPV7

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