

EMISSION-PAK®

SERIES 7000 AND 9000

BALL VALVES

The *Emission-Pak* provides a simple and economical method to meet emissions standards. It is supplied as a factory mounted valve assembly.

The *Emission-Pak* has a double-packed, live-loaded V-ring stem seal design, which utilizes stacked and guided spring washers to maintain a constant packing force without over-compression. The *Emission-Pak* is mounted on the valve and retained by a bolt pattern that requires low clamping force to secure it to the valve bonnet. A second bolt pattern allows easy actuator installation for automated operation without disturbing any pressure-retaining bolts. A special TFM and a graphite gasket on the mounting face of the *Emission-Pak* maintains a leak-free joint at the valve bonnet, and assures that a Fire-Tite® valve retains its fire-tested rating.

FEATURES

- Double-packed, live loaded v-ring stem seals effectively eliminate emissions while extending cycle life.
- One piece internal entry stem for stem retention.
- Dual thrust bearings secure stem in position and prolong valve life.
- Available in a wide range of corrosion resistant trim materials.
- Unique graphite gasket retains the fire-tested rating of a *Fire-Tite* valve to API 607.
- Optional stem seal monitoring port permits early detection of primary seal wear.
- Qualified to ISO 15848 for 1/2" – 2" (DN 15 – 50) 7000 and 1/2" – 1-1/2" (DN 15 – 40) 9000. 3" – 8" (DN 80 – 200) 7000 and 2" – 6" (DN 50 – 150) 9000 qualified to 4OCFR EPA Method 21. ISO 15848 Qualification in process.
- Permits easy mounting of actuators and accessories without disturbing pressure retaining bolts. Bonnet is the same as the valve to allow use of the same mounting hardware and accessories, including stem extensions, locking devices and optional handles.



CE Marked

CE marked and documented valves 9180 and 9380 which meet the European Pressure Equipment Directive (PED) 97/23/EC are available in ASME Class 150/300. CE marked products also meet the requirements of BS5351, including static grounding. Operating torques, construction options and valve dimensions are exactly the same as the standard ASME 150/300 offering (see page 12 for ordering instructions).

SPECIFICATIONS

Temperature

The *Emission-Pak* is suitable for use in temperature ranges from -100°F to +500°F (-73°C to +260°C) in 316 stainless steel, and -20°F to +500°F (-29°C to +260°C) in carbon steel.

AVAILABLE CONFIGURATIONS

Standard Bore Valves		
Valve	Size Range	ANSI Class
7150, 7180	1/2" – 6" (DN 15 – 150)	150
7305	1/2" – 6" (DN 15 – 150)	300
7300, 7380	1/2" – 6" (DN 15 – 150)	300
Full Bore Valves		
Valve	Size Range	ANSI Class
9150, 9180	1/2" – 6" (DN 15 – 150)	150
9300, 9380	1/2" – 4" (DN 15 – 100)	300

SPECIFICATIONS

Flow Data

The table at right provides flow coefficients for Jamesbury® valves covered in this bulletin. Cv 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, Kv, 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 Cv to Kv, multiply by 0.8569.

Valve Size		Cv	
Inches	DN	Standard Bore	Full Bore
1/2	15	9	9
3/4	20	19	50
1	25	45	100
1-1/2	40	125	270
2	50	165	490
3	80	350	1160
4	100	550	2200
6	150	765	5100

*In accordance with ASME B16.34

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 pressure limitations according to actual service conditions. Test pressures are recommended pressures for hydrostatic test with ball half open.

Maximum Working Pressure, psi				
Temp °F	Class 150		Class 300	
	Carbon steel*	316 Stainless steel*	Carbon steel*	316 Stainless steel*
-20 to 100	285	275	740	720
200	260	235	680	620
300	230	215	655	560
400	200	195	635	515
500	170	170	605	480
Test Pressure	450	425	1125	1100

Maximum Working Pressure, bar				
Temp °F	Class 150		Class 300	
	Carbon steel*	316 Stainless steel*	Carbon steel*	316 Stainless steel*
-29 to 38	19.6	19.0	51.1	49.6
100	17.7	16.2	46.6	42.2
150	15.8	14.8	45.1	38.5
200	13.8	13.7	43.8	35.7
250	12.1	12.1	41.9	33.4
Test Pressure	30	29	77	75

* In accordance with ASME B16.34

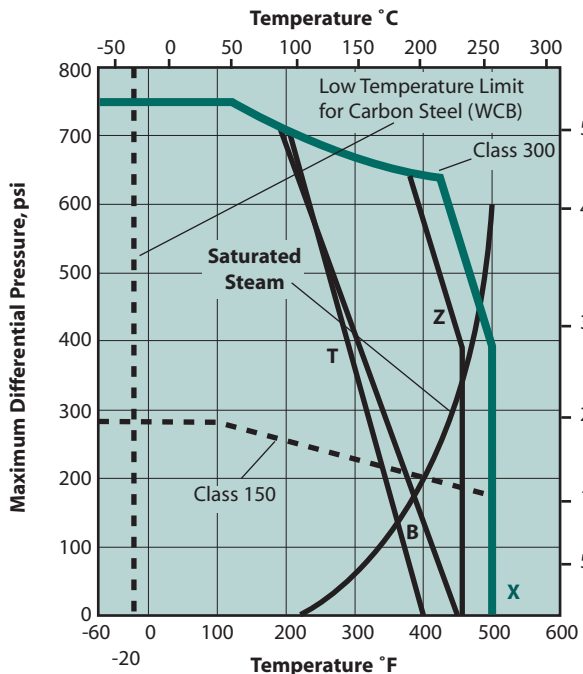
Valve Seat Ratings

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.

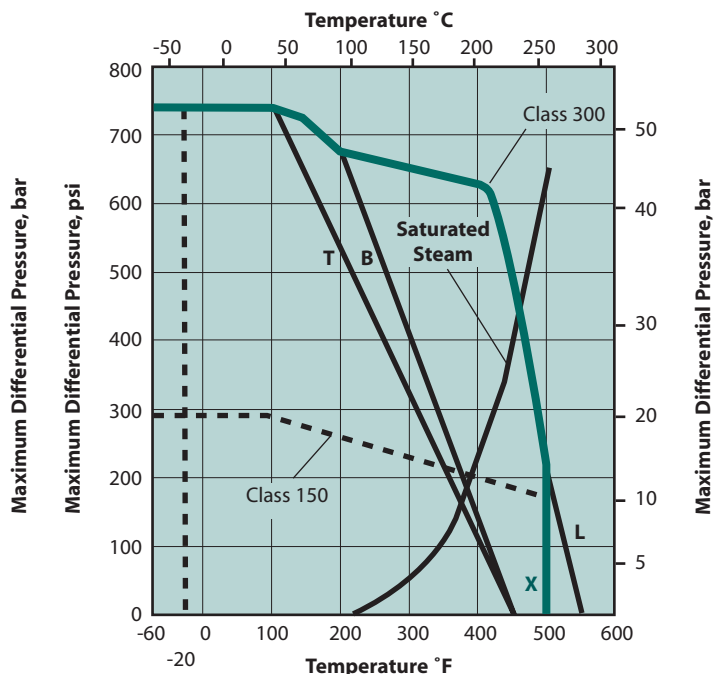
Valves with PTFE and Xtreme® can be used in service to -100°F (-73°C) provided that the valve body material is suitable for such a temperature. Carbon steel valves are rated to -20°F (-29°C).

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

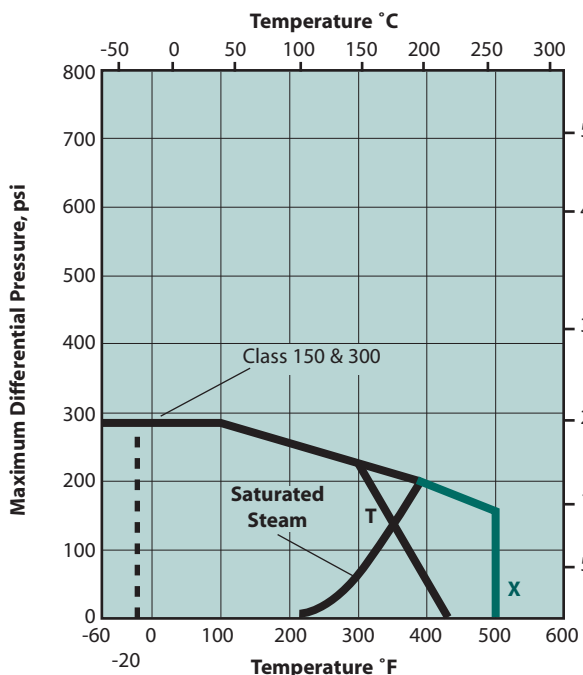
**1/2" – 2" (DN 15 – 50) Standard Bore
3/4" – 1-1/2" (DN 20 – 40) Full Bore**



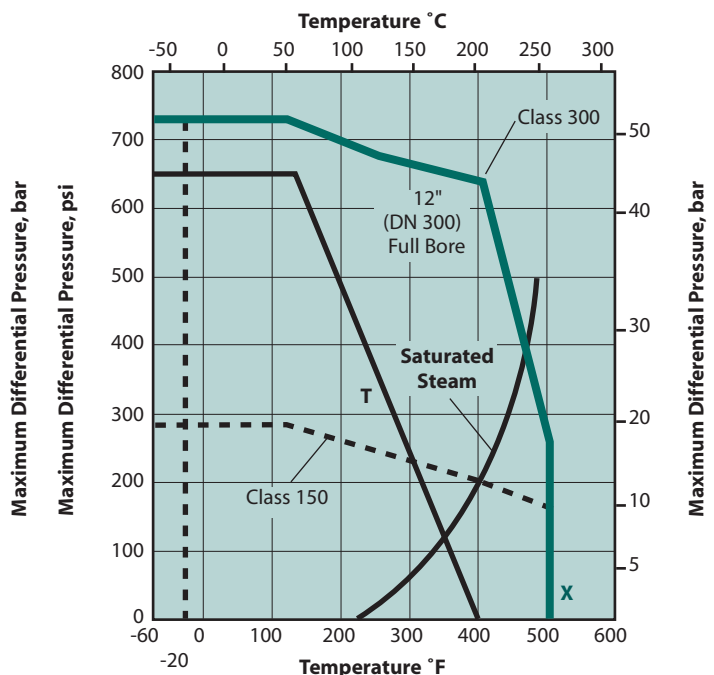
**3" – 6" (DN 80 – 150) Standard Bore
2" – 4" (DN 50 – 100) Full Bore**



6" (DN 150) Full Bore Non-Trunnion



6" (DN 150) Full Bore Trunnion



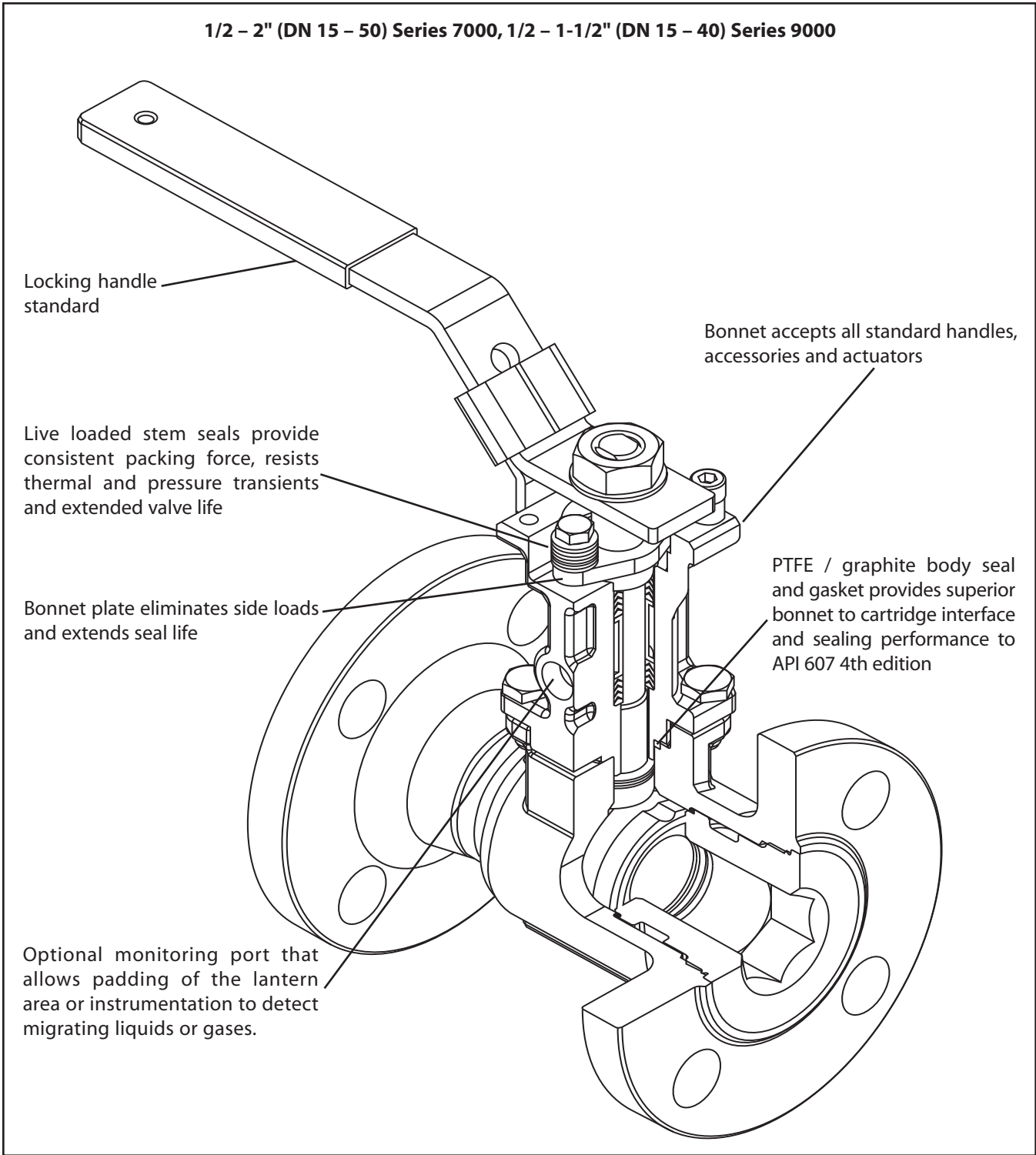
LEGEND:

- T = PTFE
- X = Xtreme
- B = PFA
- L=Peek
- Z=TFM

Xtreme Performance and Value

Xtreme seats provide longer life, expanded performance boundaries, and the greatest possible value. *Xtreme* is a unique material that resulted from a technological break-through in our polymer research lab. The material is a fluoro-polymer-based blend proprietary to *Jamesbury* that provides superior quarter-turn performance at elevated temperature and pressure.

1/2 – 2" (DN 15 – 50) Series 7000, 1/2 – 1-1/2" (DN 15 – 40) Series 9000

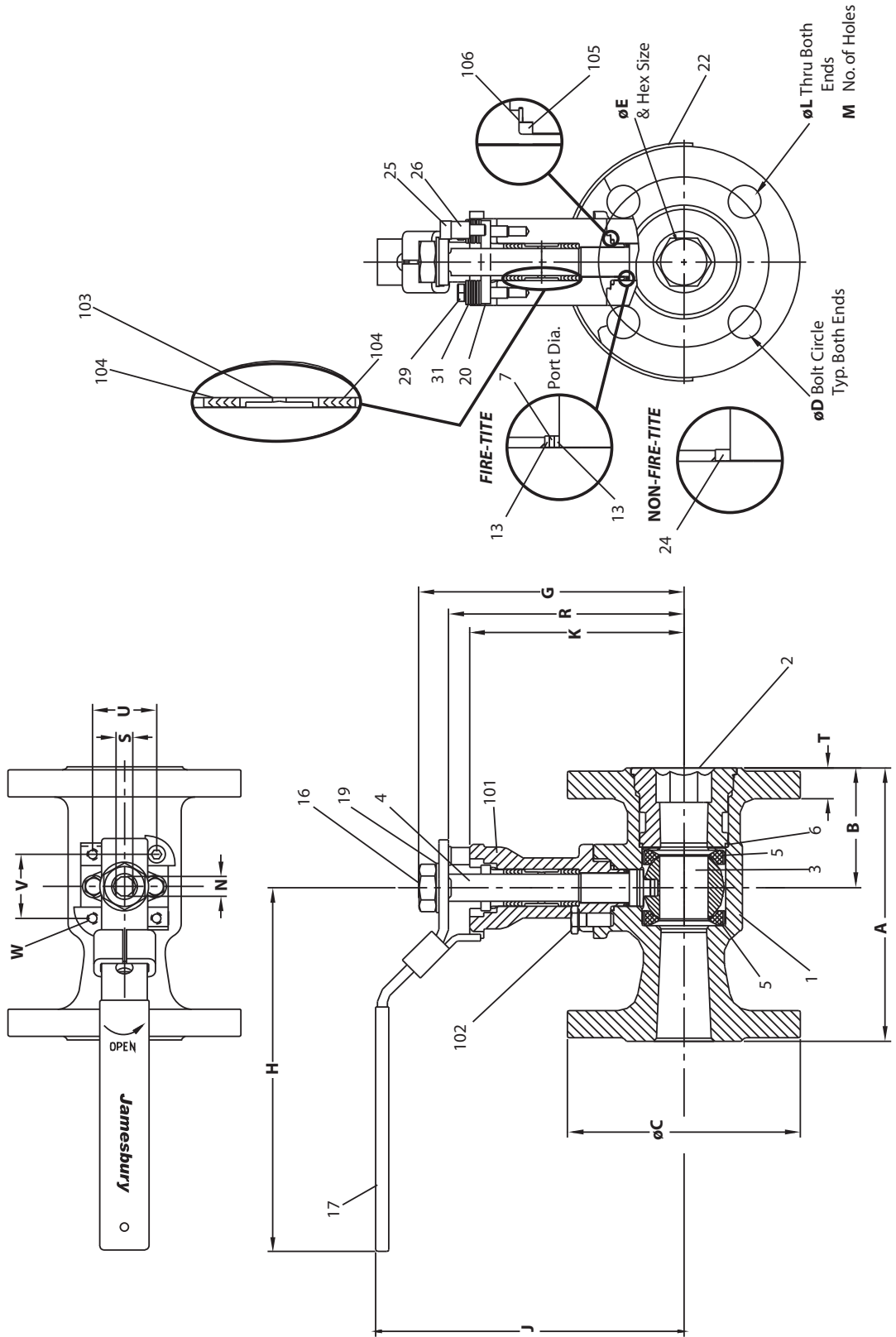


Qualification Test

Emission-Pak 1/2" – 2" (DN 15 – 50) 7000 series and 1/2" – 1-1/2" (DN 15 – 40) 9000 series are qualified to (draft) ISO 15848 BH-CC3-55A3-T200. Results and procedures are available on request.

DIMENSIONS

1/2" - 2" (DN 15 - 50) Series 7150, 7300 & 730S Flanged Ball Valves with Emission-Pak
1/2" - 1-1/2" (DN 15 - 40) Series 9150 & 9300 Flanged Ball Valves with Emission-Pak



Valve Size inches	Series 7150 ANSI 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	5.17	3.08	0.62	4	0.31	3.30	0.18	0.50	1.002	1.002	M5	F03
3/4	4.63	2.00	3.88	2.75	0.69	3.77	5.00	5.32	3.24	0.62	4	0.31	3.46	0.18	0.50	1.002	1.002	M5	F03
1	5.00	2.19	4.25	3.12	0.88	4.85	6.50	5.69	3.96	0.62	4	0.50	4.30	0.31	0.56	1.168	1.168	M5	F04
1-1/2	6.50	2.65	5.00	3.88	1.25	5.81	8.00	7.34	4.63	0.62	4	0.62	5.10	0.37	0.69	1.392	1.392	M6	F05
2	7.00	2.64	6.00	4.75	1.50	5.99	8.00	7.52	4.81	0.75	4	0.62	5.28	0.37	0.75	1.392	1.392	M6	F05

Valve Size DN	Series 7150 ANSI 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	131	78	16	4	8	84	5	13	25	25	M5	F03
20	118	51	99	70	18	96	127	135	82	16	4	8	88	5	13	25	25	M5	F03
25	127	56	108	79	22	123	165	145	101	16	4	13	109	8	14	30	30	M5	F04
40	165	67	127	99	32	148	203	186	118	16	4	16	130	9	18	35	35	M6	F05
50	178	67	152	121	38	152	203	191	122	19	4	16	134	9	19	35	35	M6	F05

Valve Size inches	Series 7300 & 730S ANSI Class 300 Approximate Dimensions - inches																		ISO Bonnet	
	730S A	7300 A	B	C	D	E	G	H	J	K	L	M	N	R	S	T	U	V		W
1/2	4.25	5.50	1.94	3.75	2.62	0.50	3.61	5.00	5.17	3.08	0.62	4	0.31	3.30	0.18	0.56	1.002	1.002	M5	F03
3/4	4.63	6.00	2.00	4.62	3.25	0.69	3.77	5.00	5.32	3.24	0.75	4	0.31	3.46	0.18	0.62	1.002	1.002	M5	F03
1	5.00	6.50	2.19	4.88	3.50	0.88	4.85	6.50	5.69	3.96	0.75	4	0.50	4.30	0.31	0.69	1.168	1.168	M5	F04
1-1/2	6.50	7.50	2.65	6.12	4.50	1.25	5.81	8.00	7.34	4.63	0.88	4	0.62	5.10	0.37	0.81	1.392	1.392	M6	F05
2	7.00	8.50	2.64	6.50	5.00	1.50	5.99	8.00	7.52	4.81	0.75	4	0.62	5.28	0.37	0.88	1.392	1.392	M6	F05

Valve Size DN	Series 7300 & 730S ANSI Class 300 Approximate Dimensions - mm																		ISO Bonnet	
	730S A	7300 A	B	C	D	E	G	H	J	K	L	M	N	R	S	T	U	V		W
15	108	140	49	95	67	13	92	127	131	78	16	4	8	84	5	14	25	25	M5	F03
20	118	152	51	117	83	18	96	127	135	82	19	4	8	88	5	16	25	25	M5	F03
25	127	165	56	124	89	22	123	165	145	101	19	4	12	109	8	18	30	30	M5	F04
40	165	191	67	155	114	32	148	203	186	118	22	4	16	130	9	21	35	35	M6	F05
50	178	216	67	165	127	38	152	203	191	122	22	8	16	134	9	22	35	35	M6	F05

Valve Size inches	Series 9150 ANSI 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 ANSI 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 ANSI 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 ANSI 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			
1/2" – 2" (DN 15 – 50) Series 7000 Standard Bore Valves with <i>Emission-Pak</i>			
1/2" – 1-1/2" (DN 15 – 40) Series 9000 Full Bore Valves with <i>Emission-Pak</i>			
Part No.	Part Name	Body Material	
		Carbon Steel (22) All Series	316 Stainless Steel (36) All Series
1	Body	†Carbon Steel ASTM A216 Type WCB	†316 Stainless Steel ASTM A351 Type CF8M
2	Insert	†Carbon Steel	†316 Stainless Steel
3	Ball	316 Stainless Steel, Monel® - as specified	
4	Stem	†316 Stainless Steel, Monel - as specified	
5	Seat	<i>Xtreme</i> , PTFE - as specified	
6	Body Seal	TFM	
7	Secondary Stem Seal	Graphite	
13	Stem Bearing	PTFE, Filled PTFE	
16	Hex. Jam Nut	Carbon Steel or Stainless Steel	
17	Handle	Carbon Steel or Stainless Steel	
19	Shakeproof Washer	Carbon Steel or Stainless Steel	
20	Stem Retainer	†Carbon Steel	†316 Stainless Steel
22	Identification Tag	Stainless Steel	
24	Stem Bearing Non-Fire-Tite	PTFE, Filled PTFE	
25	Socket Head Cap Screw	Stainless Steel	
26	Spacer	Stainless Steel	
29	Hex. Head Cap Screw	Stainless Steel, †Monel	
31	Disc Spring	17-7 PH Stainless Steel	
101	E-Pak Housing	†Carbon Steel ASTM A216	†316 Stainless Steel ASTM A351
102	Hex. Head Cap Screws	1/2"-3/4" (1/2") ASTM B164 UNS N04900 (Monel) 1"-2" (3/4"-1-1/2") ASTM A193 Gr. B7	ASTM A193 Gr. B8 †ASTM B164 UNS N04900 (Monel)
103	Lantern Ring	†316 Stainless Steel, Monel - as specified	
104	Double V-Ring Packing	TFM	
105	E-Pak Body Seal	TFM	
106	E-Pak Body Gasket	Graphite	

† Meets NACE MR-0103

3" – 8" (DN 80 – 200) Series 7000 valves with *Emission-Pak*
2" – 6" (DN 50 – 150) Series 9000 valves with *Emission-Pak*

Stem guide eliminates side loads and assures accurate alignment.

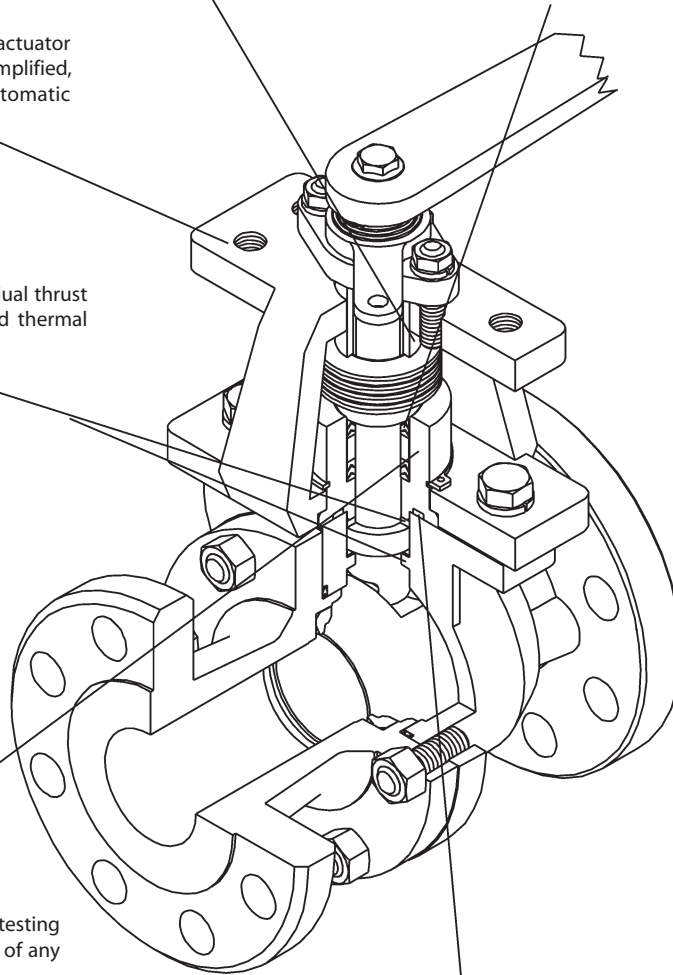
Computer designed double-packing and live-loaded stem seals provide consistent packing force, thermal and pressure cycle resistance, and extend valve life.

Non-pressure retaining actuator bolt pattern permits simplified, in-line mounting of automatic actuator.

Rigid stem design is supported by dual thrust bearings for extended cycle life and thermal cycle capability.

Optional monitoring port facilitates testing of primary seal and allows detection of any potential leakage problem.

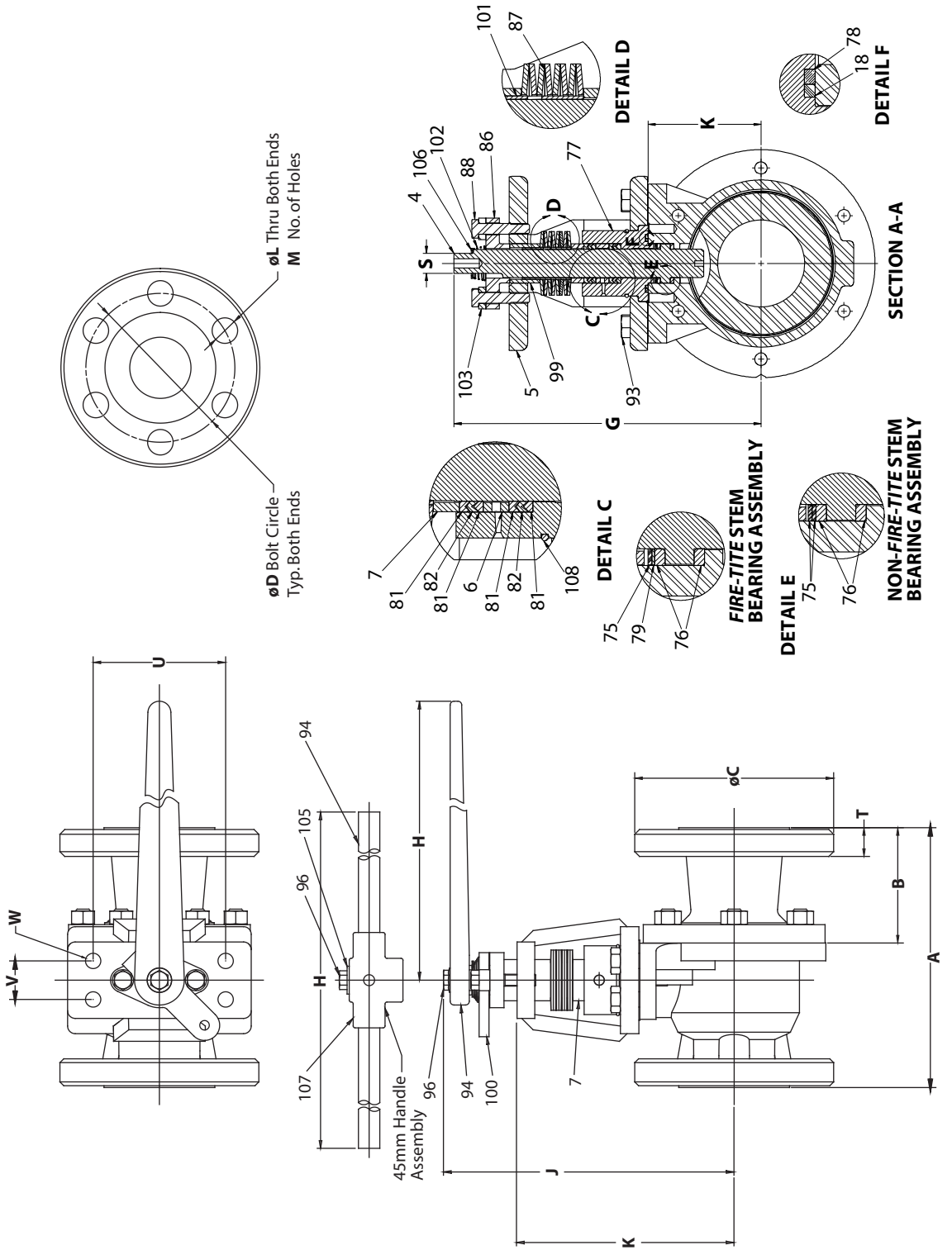
Graphite and TFM gaskets provide superior, reliable bonnet-to-cartridge interface and sealing performance while providing a fire tested joint.



3" – 8" (DN 80 – 200) 7000 and 2" – 6" (DN 50 – 150) 9000 series with *Emission-Pak* are qualified in accordance 40CFR60 EPA Method 21 test procedure. Results are available on request. Qualification to ISO 15848 is in process.

DIMENSIONS

3" - 6" (DN 80 - 150) Series 7150, 730S and 7300 with Emission-Pak



Valve Size inches	Series 7150 ANSI Class 150 Approximate Dimensions - inches																
	A	B	C	D	E	G	H	J	K	L	M	N	S	T	U	V	W
3	8.00	3.75	7.50	6.00	2.31	10.22	14.00	10.36	8.21	0.75	4	0.97	0.69	0.81	4.33	1.26	1/2-13
4	9.00	4.00	9.00	7.50	3.00	10.71	14.00	10.85	8.70	0.75	8	0.97	0.69	1.00	4.33	1.26	1/2-13
6	10.50	4.25	11.00	9.50	4.00	13.89	19.94	14.30	10.97	0.88	8	1.36	0.97	1.06	5.10	1.26	1/2-13
8	11.50	6.41	13.50	11.75	6.00	17.34	30.00	19.28	14.47	0.88	8	1.75	1.25	1.15	6.30	1.56	5/8-11

Valve Size DN	Series 7150 ANSI Class 150 Approximate Dimensions - mm																
	A	B	C	D	E	G	H	J	K	L	M	N	S	T	U	V	W
80	203	95	191	152	59	260	356	263	209	19	4	25	18	21	110	32	1/2-13
100	229	102	229	191	76	272	356	276	221	19	4	25	18	25	110	32	1/2-13
150	267	108	279	241	102	353	506	363	279	22	4	35	25	27	130	32	1/2-13
200	292	163	343	298	152	440	762	490	368	22	8	44	32	29	160	40	5/8-11

Valve Size inches	730S	7300	Series 7300/730S ANSI Class 300 Approximate Dimensions - inches															
	A	A	B	C	D	E	G	H	J	K	L	M	N	S	T	U	V	W
3	8.00	11.12	3.75	8.25	6.62	2.31	10.22	14.03	10.36	3.44	0.88	8	0.97	0.69	1.19	4.33	1.26	1/2-13
4	9.00	12.00	4.00	10.00	7.88	3.00	13.06	21.35	13.47	4.68	0.88	8	1.36	0.97	1.31	5.10	1.26	1/2-13
6	10.00	15.88	4.68	12.50	10.63	4.00	15.73	30.00	17.67	5.66	0.88	12	1.75	1.25	1.50	6.30	1.58	5/8-11

Valve Size DN	730S	7300	Series 7300/730S ANSI Class 300 Approximate Dimensions - mm															
	A	A	B	C	D	E	G	H	J	K	L	M	N	S	T	U	V	W
80	203	282	95	210	168	59	260	356	263	87	22	4	25	18	30	110	32	1/2-13
100	229	305	102	254	200	76	332	542	342	119	22	4	35	25	33	130	32	1/2-13
150	254	403	119	318	270	102	400	762	449	144	22	4	44	32	38	160	40	5/8-11

Valve Size inches	Series 9150 ANSI Class 150 Approximate Dimensions - inches																
	A	B	C	D	E	G	H	J	K	L	M	N	S	T	U	V	W
2	7.00	3.75	7.50	4.75	2.00	9.87	14.03	10.01	3.09	0.75	4	0.97	0.69	0.69	4.33	1.26	1/2-13
3	8.00	4.00	9.00	6.00	3.00	10.68	14.03	10.82	3.90	0.75	4	0.97	0.69	0.81	4.33	1.26	1/2-13
4	9.00	4.25	11.00	7.50	4.00	13.89	19.94	14.29	5.51	0.75	8	1.36	0.97	1.00	5.10	1.26	1/2-13
6	15.50	6.41	13.50	9.50	6.00	17.35	30.00	19.29	7.28	0.88	8	1.75	1.25	1.06	6.30	1.58	5/8-11

Valve Size DN	Series 9150 ANSI Class 150 Approximate Dimensions - mm																
	A	B	C	D	E	G	H	J	K	L	M	N	S	T	U	V	W
50	178	95	191	121	51	251	356	254	78	19	4	25	18	18	110	32	1/2-13
80	203	102	229	152	76	271	356	275	99	19	4	25	18	21	110	32	1/2-13
100	229	108	279	191	102	353	506	363	140	19	4	35	25	25	130	32	1/2-13
150	394	163	343	241	152	441	762	490	185	22	8	44	32	27	160	40	5/8-11

Valve Size inches	Series 9300 ANSI Class 300 Approximate Dimensions - inches																
	A	B	C	D	E	G	H	J	K	L	M	N	S	T	U	V	W
2	8.50	4.99	6.50	5.00	2.00	9.87	14.00	10.01	3.09	0.75	8	0.97	0.69	0.94	4.33	1.26	1/2-13
3	11.12	6.41	8.25	6.63	3.00	13.07	19.94	13.48	4.69	0.88	8	1.36	0.97	1.18	5.10	1.26	1/2-13
4	12.00	6.59	10.00	7.88	4.00	15.76	30.00	17.67	5.66	0.88	8	1.75	1.25	1.31	6.30	1.58	5/8-11

Valve Size DN	Series 9300 ANSI Class 300 Approximate Dimensions - mm																
	A	B	C	D	E	G	H	J	K	L	M	N	S	T	U	V	W
50	216	127	165	127	51	251	356	254	78	19	8	25	18	24	110	32	1/2-13
80	282	163	210	168	76	332	506	342	119	22	8	35	25	30	130	32	1/2-13
100	305	167	254	200	102	400	762	449	144	22	8	44	32	33	160	40	5/8-11

BILL OF MATERIAL AND PARTS LIST				
Part No.	Part Name	Stem Retainer/Stem Material		
		Carbon Steel		Stainless Steel
1	Body	†Carbon Steel ASTM A216 Gr WCB		†316 Stainless Steel ASTM A351 Gr CF8M
2	Insert/Body Cap	†Carbon Steel		†316 Stainless Steel
3	Ball	†316 Stainless Steel - as specified		
4	Stem	†316 Stainless Steel, †Monel, †Hastelloy C		
5	Retainer Yoke	†Carbon Steel ASTM A-515 Gr 70 or ASTM A-216 Gr WCB or †Stainless Steel ASTM A-240 Type 316 or ASTM A-351 Type CF8M		
6	Lantern Ring*	†316 Stainless Steel, †Monel		
7	Spacer	†316 Stainless Steel, †Monel		
18	Inner Retainer Seal	TFM		
65	Body Gasket	PTFE		
75	Upper Stem Bearing	Filled PTFE		
76	Pilot Bearing	Filled PTFE		
77	Retainer Insert	Carbon Steel ASTM A-675 Gr 70		316 Stainless Steel ASTM A-479
78	Outer Retainer Seal	Graphite, PTFE		
79	Secondary Stem Seal	Graphite		
81	Follower/Header**	PTFE, TFM		
82	Stem Seal	PTFE, Filled TFM, or Graphite		
86	Compression Plate	Carbon Steel		316 Stainless Steel
87	Disc Spring	Electroless Nickel Plated CRV Steel		
88	Hex Head Cap Screw	ASTM A-193 Gr B7	ASTM A-193 Gr B8, B8C or B8T	†K-Monel
93	Hex Head Cap Screw	ASTM A-193 Gr B7	ASTM A-193 Gr B8, B8C or B8T	†K-Monel
94	Handle	Iron or Carbon Steel		
96	Handle Bolt	Carbon Steel		
97	ID Tag	Stainless Steel		
98	Drive Screw	Stainless Steel		
99	Compression Guide	†Stainless Steel		†Monel
100	Indicator Stop	Carbon Steel		Stainless Steel
101	Compression Guide Bearing	PTFE		
102	Indicator Stop Spring	Stainless Steel		
103	Stop Bushing	316 Stainless Steel		
105	Flat Washer	Carbon Steel		
106	Retaining Ring	Stainless Steel		
107	Tee Handle	Ductile Iron		
108	Retaining Ring	Inconel® X-750		

Refer to appropriate valve bulletin for a complete list of valve parts.

* Supplied when optional leak-off connection is specified.

** Not applicable for graphite stem seal arrangement.

† Meets NACE MR-0103

VALVE TORQUE DATA

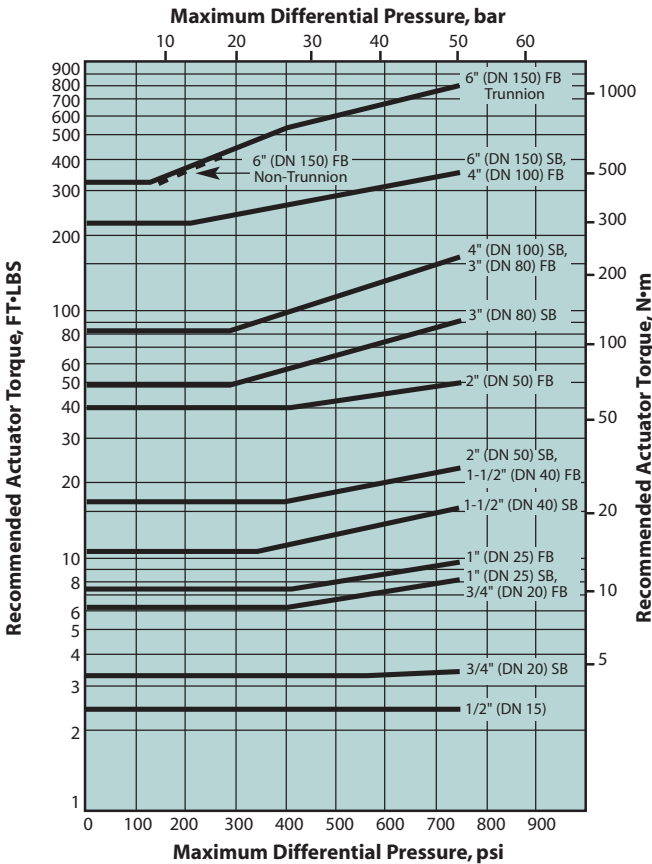
Use these torque charts as a guide for actuator selection. Additional requirements may be imposed by media characteristics, trim, and frequency of valve operation. For clean lubricating fluid service, required torque for PTFE (T) and Xtreme (X) seated valves only may be reduced 20% when the valve is 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.

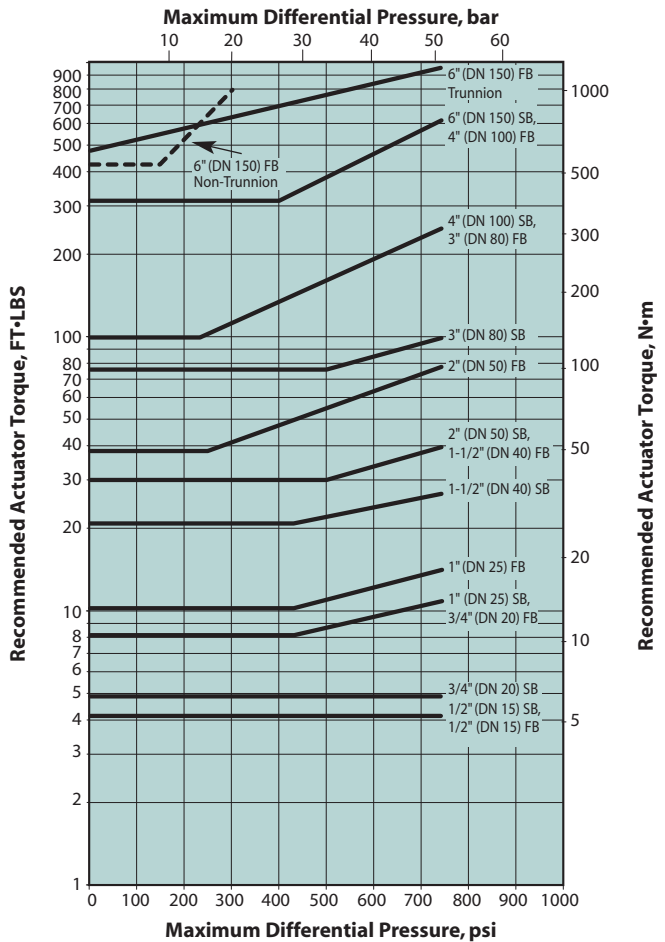
Manual Gear Actuators	A100-1
B-Series Piston Actuators	6B20
Quadra-Powr® X Spring Diaphragm	
Rotary Actuators	A110-4
Valv-Powr® Series VPVL	A111-3
VPVL Stainless Steel	A111-4
V-Series Electric Actuators	A200-1
ADC-Series Electric Actuators	A201-1

ANSI Class 150 and 300 Valve Torque Data

PTFE (T) Seated Valves



Xtreme (X) Seated Valves



FB = Full Bore SB = Standard

HOW TO ORDER *EMISSION-PAK* ASSEMBLY WITH SERIES 7000 AND 9000 POLYMERIC SEATED BALL VALVES

Example: This example is for a 3" ANSI Class 300, full bore ball valve of standard construction with a carbon steel body, stainless steel ball, stainless stem, *Xtreme* seats, PTFE packing, and B7 bolting. The valve is complete with a standard *Emission-Pak* without a leak-off connection.

1	2	3	—	4	—	5	6	7	—	8
3"	9300	LA		31		22	36	XTZ		1

1	Valve Size	
	inches	DN
7000	1/2 – 6	15 – 150
9000	1/2, 3/4, 1, 1-1/2, 2, 3, 4, 6*	15, 20, 25, 40, 50, 80, 100, 150*

* Excludes 6" (DN 150) 9300.

2	Valve Style & Series
7150 7180†	ANSI Class 150 Std. Port
7300 7380†	ANSI Class 300 Std. Port (Long Pattern)
7305	ANSI Class 300 Std. Port (Short Pattern)
9150 9180†	ANSI Class 150 Full Port
9300 9380†	ANSI Class 300 Full Port

† Metric units on name plate. Valves larger than 1" (DN 25) are CE marked.

3	Special Construction (Optional)
LA	Standard <i>Emission-Pak</i> w/o Leak-off Connection
LL	Standard <i>Emission-Pak</i> w/Leak-off Connection
LC	Chlorine <i>Emission-Pak</i> w/o Leak-off Connection
L1	Chlorine <i>Emission-Pak</i> w/Leak-off Connection

4	End Connections/Construction
11	Raised Face (ANSI B16.5)/Non-Fire-Tite
31	Raised Face (ANSI B16.5)/Fire-Tite

5	Body Material
22	Carbon Steel (WCB)
36	316 Stainless Steel (CF8M)

6	Ball & Stem Material*
00	Same as Body Material (Carbon Steel Not Available)
36	316 Stainless Steel
71	Monel
73	Hastelloy C

7	Seat, Body Seal & Stem Seal Material
TTT	PTFE/PTFE/PTFE
XTZ	<i>Xtreme</i> /PTFE/TFM

8	Body/Bonnet Bolting Body Bolting	
	Bolts	Nuts
1	Carbon Steel ASTM A193 Gr B7	ASTM A194 Gr 2H
2	Stainless Steel ASTM A193 Gr B8, B8C or B8T Class 2	ASTM A194 Gr 8, 8C, 8M, 8T or 8E
4	Monel ASTM B164 N04400	

Subject to change without prior notice.

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www.metso.com/valves

