

K-BALL BALL VALVES FOR INDUSTRIAL AND PROCESS APPLICATIONS

A comprehensive range of ball valves to suit a wide variety of industrial applications



FEATURES

- The range includes one, two and three piece ball valve designs with screwed, weld or flanged end connections.
- 3/4/5-way multi-port designs available.
- ISO 5211 top mounting plate available, for easy actuation, on selected models.
- Body construction either investment or sand cast according to model.
- Carbon steel or stainless steel body materials.
- Wide range of pressure ratings available.
- Reduced and full bore models.
- Locking device on all models.
- Seat material options available.
- Fire tested valves available.

APPLICATION

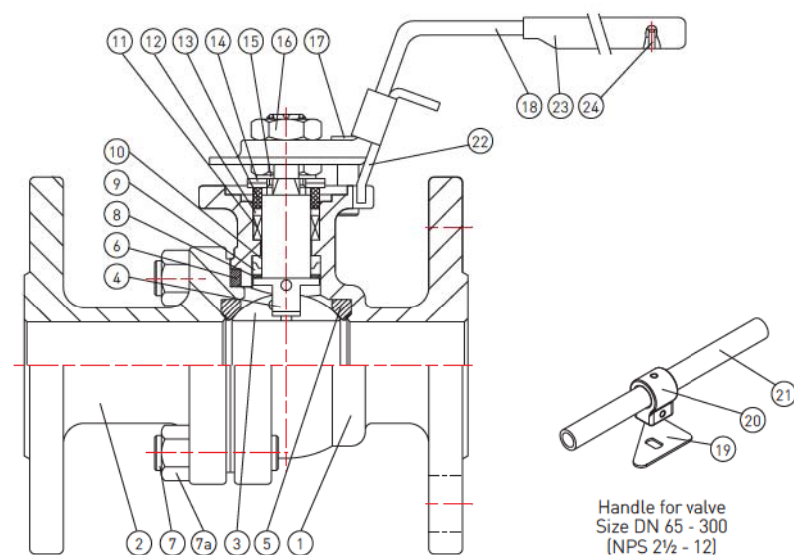
The range includes valves ideal for general industrial and service applications including water, oil, gas and chemical processes. Certain models also offer designs suitable for more hazardous services such as fuel and inflammable substances.

TECHNICAL DATA

Sizes:	DN 8 - 300 NPS ¼ - 12
Pressure ratings:	PN 10/16/25/40/63 ASME 150/300 JIS 10K/20K
End connections	
Screwed:	BSPP, BSPT, NPT
Welded:	Socket and butt weld
Flanged:	ASME 150/300 PN 10/16/25/40 JIS 10K/20K

K-BALL BALL VALVES FOR INDUSTRIAL AND PROCESS APPLICATIONS

F190F - SPLIT BODY FLANGED BALL VALVE - FIRE SAFE



MATERIALS OF CONSTRUCTION

No.	Part name	Material	Quantity
1*	Body	ASTM A351 Gr. CF8M / ASTM A216 Gr. WCB	1
2*	Cap	ASTM A351 Gr. CF8M / ASTM A216 Gr. WCB	1
3	Ball	ASTM A351 Gr. CF8M	1
4	Anti-static shaft	A276 Type 316 (Note 1)	1
5	Ball seat	PTFE	2
6	Body seal	Graphite DN 15 - 100 (NPS ½ - 4) / 316SS Spiral wound graphite DN 125 - 300 (NPS 5 - 12)	1
7	Stud	A193 Gr. B8 / A193 Gr. B7	4-26
7a	Nut	A194 Gr. 8 / A194 Gr. 2H	4-26
8	Lower shaft seal	50% SS powder / 50% PTFE	1
9	Compress ring	316L SS DN 15 - 100 (NPS ½ - 4) / 316 SS DN 125 - 300 (NPS 5 - 12)	1
10	Upper shaft seal	Graphite	1
11	Shaft packing	Graphite	1 set
12	Thrust washer	50% SS powder / 50% PTFE	1
13	Gland	304SS	1
14	Belleville washer	301SS	2
15	Lock saddle	Stainless steel	1
16	Shaft nut	304SS	1-2
17	Stop bolt	Stainless steel	1-2
18	Handle DN 15 - 50 (NPS ½ - 2)	CF8	1
19	Triangle stopper DN 65 - 300 (NPS 2½ - 12)	Stainless steel	1
20	Handle adapter DN 65 - 300 (NPS 2½ - 12)	CF8 DN 65 - 125 (NPS 2½ - 5) A536 DN 150 - 300 (NPS 6 - 12)	1
21	Handle DN 65 - 300 (NPS 2½ - 12)	SGP Zn plating	1
22	Locking trigger	Stainless steel	1
23	Handle sleeve	Vinyl	1
24	Rivet	304SS	1

* For DIN valves, the body and cap material will be 1.4408/1.0619.

* For JIS valves, the body and cap material will be SCS14A/SCPH2

Note 1: Standard shaft material

Body material	Size	Class 150, 10K, PN 10/16	Class 300, 20K, PN 25/40
CF8M, SCS14A, 1.4408	DN 15 - 100 (NPS ½ - 4)	316	316
	DN 150 (NPS 6)	316	2205 [A276-S31803]
	DN 200 - 300 (NPS 8 - 12)	2205 [A276-S31803]	2205 [A276-S31803]
WCB, SCPH2, 1.0619	DN 15 - 100 (NPS ½ - 4)	316	316
	DN 150 (NPS 6)	316	17-4 [A564-630]
	DN 200 - 300 (NPS 8 - 12)	17-4 [A564-630]	17-4 [A564-630]

FEATURES

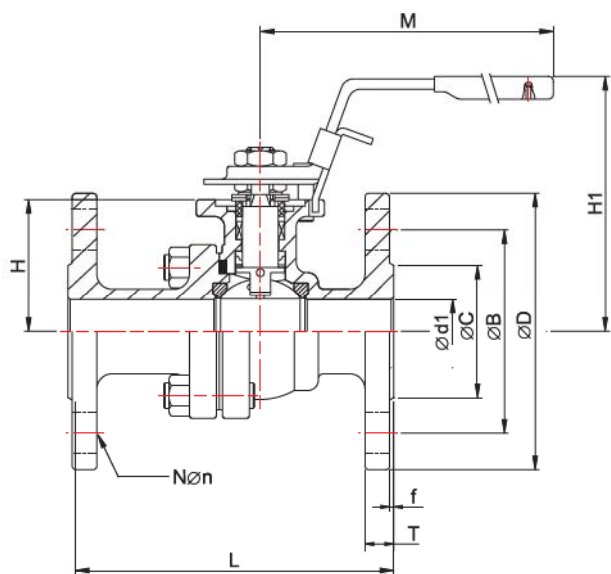
- Patented 'SEALMASTER' shaft arrangement
- Double shaft seal design
- Blow-out proof shaft
- ISO 5211 mounting plate
- Anti-static design according to EN 1983 / ISO 17292 / BS5351
- Valve pressure rating:
 - ASME Class 150/300
 - DIN PN 10/16/25/40
 - JIS 10K/20K
- Two-piece, split-body ball valve
- Flexible graphite body and shaft packing for Hi-temp resistance
- Secondary metal to metal seating surface
- Fire tested:
 - DN 15 - 200 (NPS ½ - 8):
 - API 607 5th edition
 - ISO 10497:2004
 - DN 50 - 300 (NPS 10-12):
 - API 607 4th edition
- Size range DN 15 - 300 (NPS ½ - 12)
 - Full bore
- Tightness to EN 12266-1, Rate A
- Patented 'POSILOCK' handle for DN 15 - 50 (NPS ½ - 2)
 - Full bore

NOTE

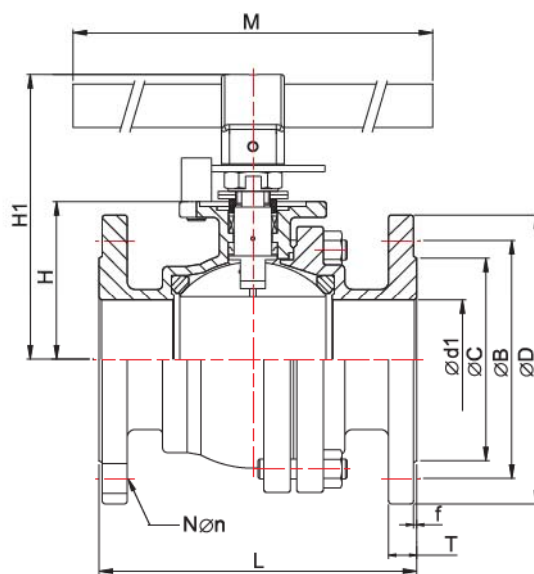
For Pressure/Temperature charts, please refer to pages 42 and 43

K-BALL BALL VALVES FOR INDUSTRIAL AND PROCESS APPLICATIONS

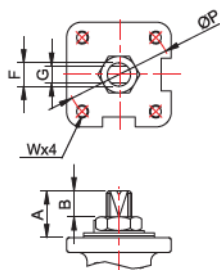
F190/190F - SPLIT BODY FLANGED BALL VALVE (METRIC)



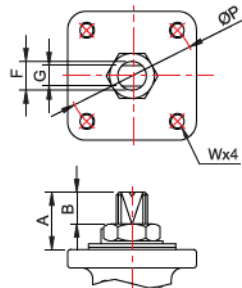
Sizes DN 15 - 50



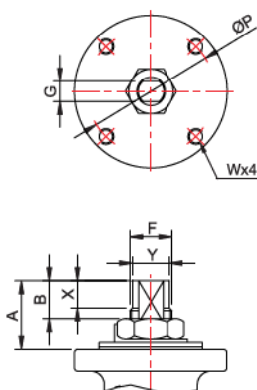
Sizes DN 65 - 300



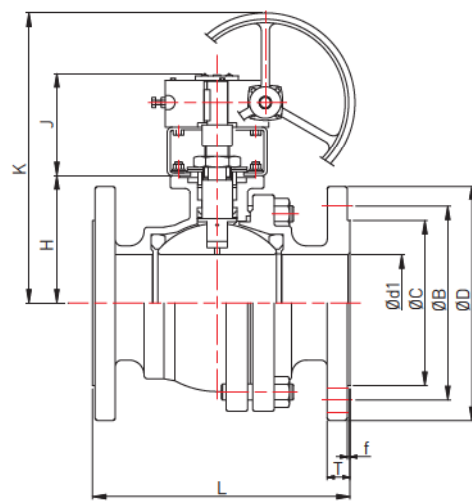
DN 15 - 100



DN 125 - 200



DN 250 - 300



DN 250 - 300
Optional

DIMENSIONS (mm)

DN	A	ØP	F	G	B	W	M	H	H1	J	K	X	Y
15	20.3	42	9.7	6.3	12.0	M5	135	38.5	82	-	-	-	-
20	20.5	42	9.7	6.3	12.4	M5	135	42.0	86	-	-	-	-
25	21.6	50	11.2	8.0	14.0	M6	165	51.5	98	-	-	-	-
32	21.6	50	11.2	8.0	14.0	M6	165	56.2	102	-	-	-	-
40	26.0	70	16.0	9.5	16.2	M8	200	65.5	119	-	-	-	-
50	26.0	70	16.0	9.5	16.2	M8	200	74.5	128	-	-	-	-
65	43.0	102	22.3	17.0	24.7	M10*	495	88.0	162	-	-	-	-
80	43.5	102	22.3	17.0	25.2	M10*	495	101.0	172	-	-	-	-
100	49.0	102	28.6	17.0	30.0	M10*	595	122.0	197	-	-	-	-
125	53.6	102	28.6	17.0	33.0	M10*	595	140.0	226	161	393	-	-
150	65.0	125	34.0	23.0	39.0	M12	800	167.0	281	190	513	-	-
200	65.0	125	34.0	23.0	39.0	M12	1100	203.0	317	190	549	-	-
250	83.5	140	50.0	30.0	52.0	M16	1100	263.0	378	221	625	40	47
300	83.5	140	50.0	30.0	52.0	M16	1100	305.0	420	221	667	40	47

* For DN 65 - 125 JIS 10K/20K, W = M12

K-BALL BALL VALVES FOR INDUSTRIAL AND PROCESS APPLICATIONS

F190/190F - SPLIT BODY FLANGED BALL VALVE (METRIC)

ASME 150/300 DIMENSIONS (mm)

DN	ØB		ØD		L		N		T		Øn		ØC	Ød1	f	Wt (kg)	
	150	300	150	300	150	300	150	300	150	300	150	300				150	300
15	60.5	66.5	89.0	95.0	108.0	140.0	4	4	11.2	14.3	16.0	16.0	35	15	1.6	1.82	2.20
20	70.0	82.5	98.6	117.0	117.0	152.0	4	4	11.2	15.9	16.0	19.0	43	20	1.6	2.12	3.25
25	79.5	89.0	108.0	124.0	127.0	165.0	4	4	11.2	17.5	16.0	19.0	51	25	1.6	3.04	4.48
40	98.5	114.5	127.0	156.0	165.0	190.0	4	4	14.2	20.7	16.0	22.0	73	40	1.6	5.80	8.70
50	120.5	127.0	152.5	165.0	178.0	216.0	4	8	15.9	22.3	19.0	19.0	92	50	1.6	8.36	11.20
65	139.5	149.0	178.0	190.0	190.0	241.0	4	8	17.5	25.4	19.0	22.0	105	65	1.6	15.00	19.00
80	152.5	168.0	190.5	210.0	203.0	283.0	4	8	19.1	28.6	19.0	22.0	127	76	1.6	19.92	28.00
100	190.5	200.0	229.0	254.0	229.0	305.0	8	8	23.9	31.8	19.0	22.0	157	100	1.6	32.90	43.72
125	215.9	234.9	254.0	279.4	355.6	381.0	8	8	23.9	34.9	22.2	22.2	186	125	1.6	49.00	71.00
150	241.3	269.9	279.4	317.5	393.7	403.4	8	12	25.4	36.6	22.2	22.2	216	150	1.6	75.00	100.00
200	298.4	330.2	342.9	381.0	457.2	501.7	8	12	28.6	41.3	22.2	25.4	270	200	1.6	128.00	172.00
250	361.9	387.3	406.4	444.5	533.4	568.5	12	16	30.5	48.0	25.4	28.6	324	250	1.6	215.00	291.00
300	431.8	450.8	484.0	522.0	609.6	647.7	12	16	31.8	50.8	25.4	31.8	381	300	1.6	254.00	423.00

Face to face dimensions to ASME B16.10

DIN PN 10/16/25/40 DIMENSIONS (mm)

DN	PN	ØB	ØC	ØD	L	*L	N	T	Øn	Ød1	f	Wt (kg)	
												F1	F4/F5
15	10/16/25/40	65	45	95	115	130	4	16	14	15	2	2.42	2.46
20	10/16/25/40	75	58	105	120	150	4	18	14	20	2	3.24	3.08
25	10/16/25/40	85	68	115	125	160	4	18	14	25	2	4.42	4.18
32	10/16/25/40	100	78	140	130	180	4	18	18	32	2	6.10	5.62
40	10/16/25/40	110	88	150	140	200	4	18	18	40	2	7.94	7.40
50	10/16	125	102	165	150	230	4	18	18	50	3	10.50	9.76
	25/40	125	102	165	150	230	4	20	18	50	3	10.50	9.76
65	10/16	145	122	185	170	290	4	18	18	65	3	17.00	16.60
	25/40	145	122	185	170	290	8	22	18	65	3	18.30	16.22
80	10/16	160	138	200	180	310	8	20	18	80	3	21.50	21.40
	25/40	160	138	200	180	310	8	24	18	80	3	24.90	21.34
100	10/16	180	158	220	190	350	8	20	18	100	3	34.00	27.72
	25/40	190	162	235	190	350	8	24	22	100	3	37.20	31.42
125	10/16	210	188	250	325	400	8	22	18	125	3	50.00	48.00
	25/40	220	188	270	325	400	8	26	26	125	3	60.00	57.00
150	10/16	240	212	285	350	480	8	22	22	150	3	78.00	73.00
	25/40	250	218	300	350	480	8	28	26	150	3	92.00	82.00
200	10	295	268	340	400	600	8	24	22	200	3	124.00	98.00
	16	295	268	340	400	600	12	24	22	200	3	124.00	98.00
	25	310	278	360	400	600	12	30	26	200	3	164.00	148.00
	40	320	285	375	400	600	12	34	30	200	3	164.00	148.00
250	10	350	320	395	450	730	12	26	22	250	3	270.00	203.00
	16	355	320	405	450	730	12	26	26	250	3	270.00	203.00
300	10	400	370	445	500	850	12	26	22	300	4	-	233.00
	16	410	378	460	500	850	12	28	26	300	4	-	233.00

L Dimensions EN 558 Series 27

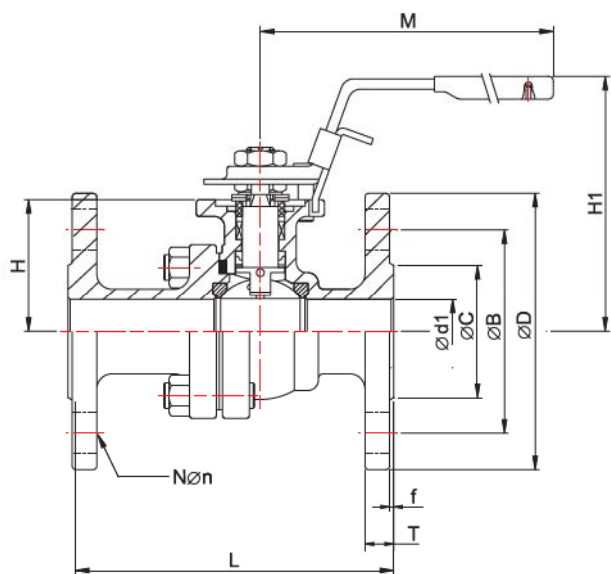
*L Dimensions EN 558 Series 1

JIS 10K/20K DIMENSIONS (mm)

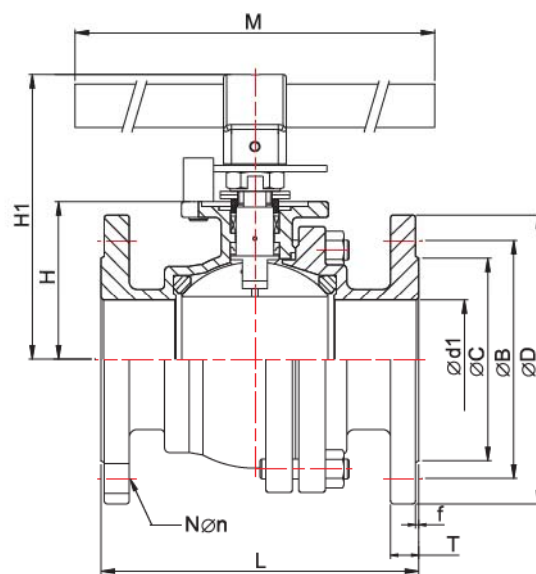
DN	ØB		ØC		ØD		L		N		T		Øn		J	K	Ød1	f	H	Wt (kg)	
	10K	20K	10K	20K	10K	20K	10K	20K	10K	20K	10K	20K	10K	20K						10K	20K
15A	70	70	51	51	95	95	108	140	4	4	12	14	15	15	-	-	15	1	38.5	2.10	2.36
20A	75	75	56	56	100	100	117	152	4	4	14	16	15	15	-	-	20	1	42.0	2.50	2.80
25A	90	90	67	67	125	125	127	165	4	4	14	16	19	19	-	-	25	1	51.5	3.86	4.55
32A	100	-	76	-	135	-	140	-	4	-	16	-	19	-	-	-	32	2	56.2	5.50	-
40A	105	105	81	81	140	140	165	190	4	4	16	18	19	19	-	-	40	2	65.5	6.48	7.16
50A	120	120	96	96	155	155	178	216	4	8	16	18	19	19	-	-	50	2	74.5	8.40	8.92
65A	140	140	116	116	175	175	190	241	4	8	18	20	19	19	-	-	65	2	90.0	13.80	15.50
80A	150	160	126	132	185	200	203	283	8	8	18	22	19	23	-	-	76	2	101.0	18.60	23.24
100A	175	182	151	160	210	225	229	305	8	8	18	24	19	23	-	-	100	2	122.0	27.36	34.10
125A	210	225	185	195	250	270	356	381	8	8	20	26	23	25	161	393	125	2	140.0	46.00	69.00
150A	240	260	212	230	280	305	394	403	8	12	22	28	23	25	190	513	150	2	167.0	73.00	92.00
200A	290	305	262	275	330	350	457	502	12	12	22	30	23	25	190	549	201	2	203.0	120.00	139.00
250A	355	380	324	345	400	430	533	568	12	12	24	34	25	27	221	625	250	2	263.0	201.00	291.00
300A	400	430	368	395	445	480	610	648	16	16	24	36	25	27	221	667	300	3	305.0	254.00	423.00

K-BALL BALL VALVES FOR INDUSTRIAL AND PROCESS APPLICATIONS

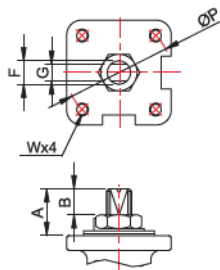
F190/190F - SPLIT BODY FLANGED BALL VALVE (IMPERIAL)



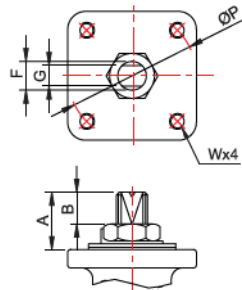
NPS 1/2 - 2



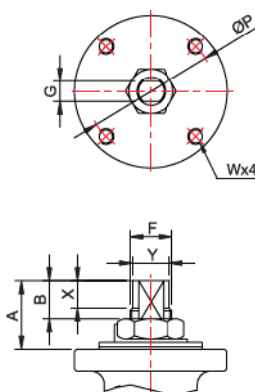
NPS 2 1/2 - 12



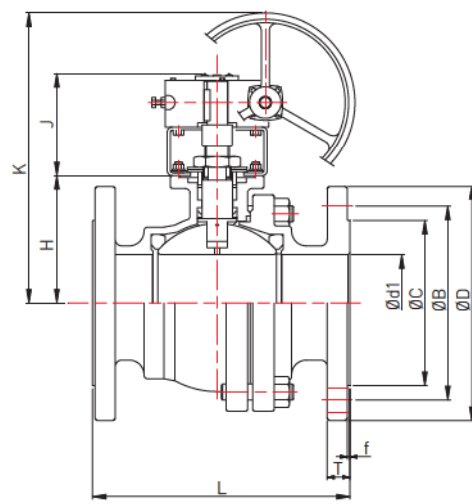
NPS 1/2 - 4



NPS 5 - 8



NPS 10 - 12



NPS 10 - 12
Optional

DIMENSIONS (inch)

NPS	A	ØP	F	G	B	W	M	H	H1	J	K	X	Y
1/2	0.80	1.65	0.38	0.25	0.47	M5	5.31	1.52	3.23	-	-	-	-
3/4	0.81	1.65	0.38	0.25	0.49	M5	5.31	1.65	3.39	-	-	-	-
1	0.85	1.97	0.44	0.31	0.55	M6	6.50	2.03	3.86	-	-	-	-
1 1/4	0.85	1.97	0.44	0.31	0.55	M6	6.50	2.21	4.02	-	-	-	-
1 1/2	1.02	2.76	0.63	0.37	0.64	M8	7.87	2.58	4.69	-	-	-	-
2	1.02	2.76	0.63	0.37	0.64	M8	7.87	2.93	5.04	-	-	-	-
2 1/2	1.69	4.02	0.88	0.67	0.97	M10*	19.49	3.46	6.38	-	-	-	-
3	1.71	4.02	0.88	0.67	0.99	M10*	19.49	3.98	6.77	-	-	-	-
4	1.93	4.02	1.13	0.67	1.18	M10*	23.43	4.80	7.76	-	-	-	-
5	2.11	4.02	1.13	0.67	1.30	M10*	23.43	5.51	8.90	6.34	15.47	-	-
6	2.56	4.92	1.34	0.91	1.54	M12	31.50	6.57	11.06	7.48	20.20	-	-
8	2.56	4.92	1.34	0.91	1.54	M12	43.31	7.99	12.48	7.48	21.61	-	-
10	3.29	5.51	1.97	1.18	2.05	M16	43.31	10.35	14.88	8.70	24.61	1.57	1.85
12	3.29	5.51	1.97	1.18	2.05	M16	43.31	12.01	16.54	8.70	26.26	1.57	1.85

* For NPS 2 1/2 - 5 JIS 10K/20K, W = M12

K-BALL BALL VALVES FOR INDUSTRIAL AND PROCESS APPLICATIONS

F190/190F - SPLIT BODY FLANGED BALL VALVE (IMPERIAL)

ASME 150/300 DIMENSIONS (inch)

NPS	ØB		ØD		L		N		T		Øn		f			Wt (lbs)	
	150	300	150	300	150	300	150	300	150	300	150	300	ØC	Ød1	f	150	300
½	2.38	2.62	3.50	3.74	4.25	5.51	4	4	0.44	0.56	0.63	0.63	1.38	0.59	0.06	4.01	4.85
¾	2.76	3.25	3.88	4.61	4.61	5.98	4	4	0.44	0.63	0.63	0.75	1.69	0.79	0.06	4.67	7.17
1	3.13	3.50	4.25	4.88	5.00	6.50	4	4	0.44	0.69	0.63	0.75	2.01	0.98	0.06	6.70	9.88
1½	3.88	4.51	5.00	6.14	6.50	7.48	4	4	0.56	0.81	0.63	0.87	2.87	1.57	0.06	12.79	19.18
2	4.74	5.00	6.00	6.50	7.01	8.50	4	8	0.63	0.88	0.75	0.75	3.62	1.97	0.06	18.43	24.69
2½	5.49	5.87	7.01	7.48	7.48	9.49	4	8	0.69	1.00	0.75	0.87	4.13	2.56	0.06	33.07	41.89
3	6.00	6.61	7.50	8.27	7.99	11.14	4	8	0.75	1.13	0.75	0.87	5.00	2.99	0.06	43.92	61.73
4	7.50	7.87	9.02	10.00	9.02	12.01	8	8	0.94	1.25	0.75	0.87	6.18	3.94	0.06	72.53	96.39
5	8.50	9.25	10.00	11.00	14.00	15.00	8	8	0.94	1.37	0.87	0.87	7.32	4.92	0.06	108.03	156.53
6	9.50	10.63	11.00	12.50	15.50	15.88	8	12	1.00	1.44	0.87	0.87	8.50	5.91	0.06	165.35	220.46
8	11.75	13.00	13.50	15.00	18.00	19.75	8	12	1.13	1.63	0.87	1.00	10.63	7.87	0.06	282.19	379.20
10	14.25	15.25	16.00	17.50	21.00	22.38	12	16	1.20	1.89	1.00	1.13	12.76	9.84	0.06	473.99	641.55
12	17.00	17.75	19.06	20.55	24.00	25.50	12	16	1.25	2.00	1.00	1.25	15.00	11.81	0.06	559.97	932.56

Face to face dimensions to ASME B16.10

DIN PN 10/16/25/40 DIMENSIONS (inch)

NPS	PN	ØB	ØC	ØD	L	*L	N	T	Øn	Ød1	f	Wt (lbs)	
												F1	F4/F5
½	10/16/25/40	2.56	1.77	3.74	4.53	5.12	4	0.63	0.55	0.59	0.08	5.34	5.42
¾	10/16/25/40	2.95	2.28	4.13	4.72	5.91	4	0.71	0.55	0.79	0.08	7.14	6.79
1	10/16/25/40	3.35	2.68	4.53	4.92	6.30	4	0.71	0.55	0.98	0.08	9.74	9.22
1¼	10/16/25/40	3.94	3.07	5.51	5.12	7.09	4	0.71	0.71	1.26	0.08	13.45	12.39
1½	10/16/25/40	4.33	3.46	5.91	5.51	7.87	4	0.71	0.71	1.57	0.08	17.50	16.31
2	10/16	4.92	4.02	6.50	5.91	9.06	4	0.71	0.71	1.97	0.12	23.15	21.52
	25/40	4.92	4.02	6.50	5.91	9.06	4	0.79	0.71	1.97	0.12	23.15	21.52
2½	10/16	5.71	4.80	7.28	6.69	11.42	4	0.71	0.71	2.56	0.12	37.48	36.60
	25/40	5.71	4.80	7.28	6.69	11.42	8	0.87	0.71	2.56	0.12	40.34	35.76
3	10/16	6.30	5.43	7.87	7.09	12.20	8	0.79	0.71	3.15	0.12	47.40	47.18
	25/40	6.30	5.43	7.87	7.09	12.20	8	0.94	0.71	3.15	0.12	54.90	47.05
4	10/16	7.09	6.22	8.66	7.48	13.78	8	0.79	0.71	3.94	0.12	74.96	61.11
	25/40	7.48	6.38	9.25	7.48	13.78	8	0.94	0.87	3.94	0.12	82.01	69.27
5	10/16	8.27	7.40	9.84	12.80	15.75	8	0.87	0.71	4.92	0.12	110.23	105.82
	25/40	8.66	7.40	10.63	12.80	15.75	8	1.02	1.02	4.92	0.12	132.28	125.66
6	10/16	9.45	8.35	11.22	13.78	18.90	8	0.87	0.87	5.91	0.12	171.96	160.94
	25/40	9.84	8.58	11.81	13.78	18.90	8	1.10	1.02	5.91	0.12	202.83	180.78
8	10	11.61	10.55	13.39	15.75	23.62	8	0.94	0.87	7.87	0.12	273.37	216.05
	16	11.61	10.55	13.39	15.75	23.62	12	0.94	0.87	7.87	0.12	273.37	216.05
	25	12.20	10.94	14.17	15.75	23.62	12	1.18	1.02	7.87	0.12	361.56	326.28
	40	12.60	11.22	14.76	15.75	23.62	12	1.34	1.18	7.87	0.12	361.56	326.28
10	10	13.78	12.60	15.55	17.72	28.74	12	1.02	0.87	9.84	0.12	595.25	447.54
	16	13.98	12.60	15.94	17.72	28.74	12	1.02	1.02	9.84	0.12	595.25	447.54
12	10	15.75	14.57	17.52	19.69	33.46	12	1.02	0.87	11.81	0.16	-	513.68
	16	16.14	14.88	18.11	19.69	33.46	12	1.10	1.02	11.81	0.16	-	513.68

L Dimensions EN 558 Series 27

*L Dimensions EN 558 Series 1

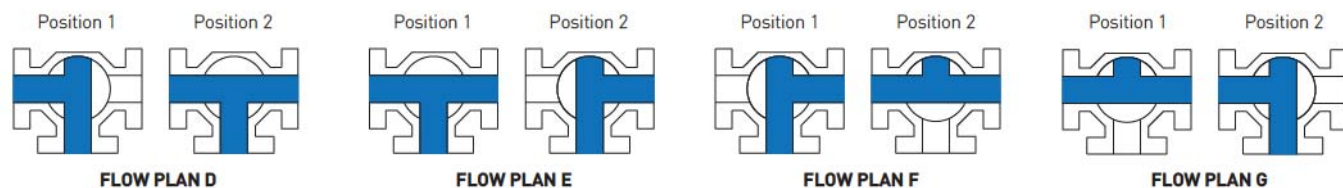
JIS 10K/20K DIMENSIONS (inch)

NPS	ØB		ØC		ØD		L		N		T		Øn		f					Wt (lbs)	
	10K	20K	10K	20K	10K	20K	10K	20K	10K	20K	10K	20K	10K	20K	J	K	Ød1	f	H	10K	20K
½	2.76	2.76	2.01	2.01	3.74	3.74	4.25	5.51	4	4	0.47	0.55	0.59	0.59	-	-	0.59	0.04	1.52	4.63	5.20
¾	2.95	2.95	2.20	2.20	3.94	3.94	4.61	5.98	4	4	0.55	0.63	0.59	0.59	-	-	0.79	0.04	1.65	5.51	6.17
1	3.54	3.54	2.64	2.64	4.92	4.92	5.00	6.50	4	4	0.55	0.63	0.75	0.75	-	-	0.98	0.04	2.03	8.51	10.03
1¼	3.94	-	2.99	-	5.31	-	5.51	-	4	-	0.63	-	0.75	-	-	-	1.26	0.08	2.21	12.13	-
1½	4.13	4.13	3.19	3.19	5.51	5.51	6.50	7.48	4	4	0.63	0.71	0.75	0.75	-	-	1.57	0.08	2.58	14.29	15.79
2	4.72	4.72	3.78	3.78	6.10	6.10	7.01	8.50	4	8	0.63	0.71	0.75	0.75	-	-	1.97	0.08	2.93	18.52	19.67
2½	5.51	5.51	4.57	4.57	6.89	6.89	7.48	9.49	4	8	0.71	0.79	0.75	0.75	-	-	2.56	0.08	3.54	30.42	34.17
3	5.91	6.30	4.96	5.20	7.28	7.87	7.99	11.14	8	8	0.71	0.87	0.75	0.91	-	-	2.99	0.08	3.98	41.01	51.24
4	6.89	7.17	5.94	6.30	8.27	8.86	9.02	12.01	8	8	0.71	0.94	0.75	0.91	-	-	3.94	0.08	4.80	60.32	75.18
5	8.27	8.86	7.28	7.68	9.84	10.63	14.02	15.00	8	8	0.79	1.02	0.91	0.98	6.34	15.47	4.92	0.08	5.51	101.41	152.12
6	9.45	10.24	8.35	9.06	11.02	12.01	15.51	15.87	8	12	0.87	1.10	0.91	0.98	7.48	20.20	5.91	0.08	6.57	160.94	202.83
8	11.42	12.01	10.31	10.83	12.99	13.78	17.99	19.76	12	12	0.87	1.18	0.91	0.98	7.48	21.61	7.91	0.08	7.99	264.55	306.44
10	13.98	14.96	12.76	13.58	15.75	16.93	20.98	22.36	12	12	0.94	1.34	0.98	1.06	8.70	24.61	9.84	0.08	10.35	443.13	641.55
12	15.75	16.93	14.49	15.55	17.52	18.90	24.02	25.51	16	16	0.94	1.42	0.98	1.06	8.70	26.26	11.81	0.12	12.01	559.97	932.56

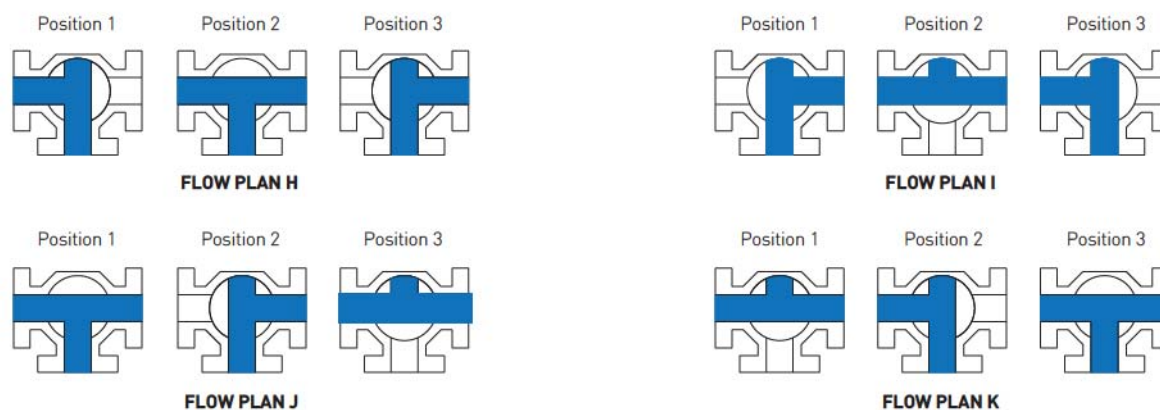
K-BALL BALL VALVES FOR INDUSTRIAL AND PROCESS APPLICATIONS

FLOW PLAN CHART (ONLY FOR 3-WAY BALL VALVE)

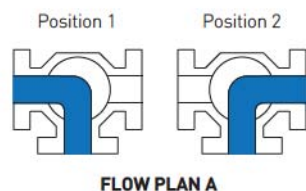
T-PORT 90° TURN



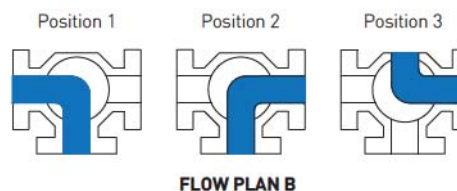
T-PORT 180° TURN



L-PORT 90° TURN

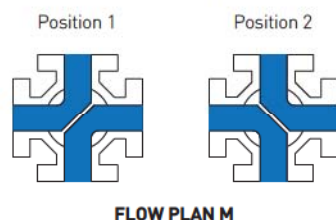


L-PORT 180° TURN



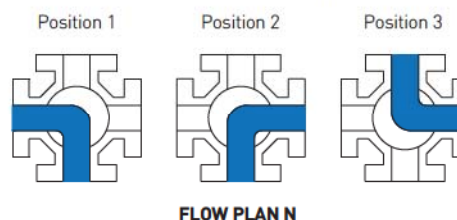
LL-PORT* 90° TURN

(Not available for F133MT, F138 and F139)



LL-PORT 180° TURN

(Not available for F138 and F139) 4-way valves



* Please consult factory for minimum quantity.

K-BALL BALL VALVES FOR INDUSTRIAL AND PROCESS APPLICATIONS

COMPLETE VALVE RANGE

AVAILABILITY MATRIX (MODELS AND SIZES AVAILABLE)

	DN	8	10	15	20	25	32	40	50	65	80	100	125	150	200	250	300
Model	NPS	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12
R110	- SS	•	•	•	•	•	•	•	•								
F120	- SS	•	•	•	•	•	•	•	•								
F130M	- SS								•	•	•	•		•	• RB		
	- CS								•	•	•	•		•	• RB		
F133M	- SS		•	•	•	•	•	•	• RB								
	- CS		•	•	•	•	•	•	• RB								
R138	- SS	•	•	•	•	•	•	•	•								
F171	- SS	•	•	•	•	•	•	•	•	•	•	•					
	- CS	•	•	•	•	•	•	•	•	•	•	•					
F171T	- SS			•	•	•	•	•	•	•	•	•	•	•	•	•	•
F180/R180	- SS	•	•	•	•	•	•	•	•	•	•	•					
F180F/	- SS		•	•	•	•	•	•	•	•	•						
R180F	- CS		•	•	•	•	•	•	•	•	•						
F190	- SS			•	•	•	•	•	•	•	•	•	•	•	•	•	•
	- CS			•	•	•	•	•	•	•	•	•	•	•	•	•	•
F190F	- SS			•	•	•	•	•	•	•	•	•	•	•	•	•	•
	- CS			•	•	•	•	•	•	•	•	•	•	•	•	•	•

SS = Stainless Steel

CS = Carbon Steel

RB = Reduced Bore

F171 DIFFERENTIAL-PRESSURE TORQUE Nm (ft-lb)

Seat:		Pressure: bar (psi)						MAST Nm (ft-lb) A276-316 SS
PTFE / RPTFE			6.9	20.7	48.3	69	103.4	
DN	NPS	0	(100)	(300)	(700)	(1000)	(1500)	
15	1/2	6.2 (4.6)	6.4 (4.7)	6.8 (5.0)	7.2 (5.3)	8.6 (6.3)	-	25.2 (18.6)
20	3/4	8.8 (6.5)	9.0 (6.6)	9.6 (7.1)	10.5 (7.7)	11.5 (8.5)	-	25.2 (18.6)
25	1	12.0 (8.9)	12.5 (9.2)	12.5 (9.2)	13.0 (9.6)	13.0 (9.6)	-	40.2 (29.6)
32	1 1/4	13.5 (10.0)	14.0 (10.3)	14.5 (10.7)	17.0 (12.5)	20.5 (15.1)	-	40.2 (29.6)
40	1 1/2	18.0 (13.3)	18.5 (13.6)	19.5 (14.4)	23.5 (17.3)	33.0 (24.3)	-	18.4 (13.6)
50	2	21.0 (15.5)	21.5 (15.9)	23.0 (17.0)	38.5 (28.4)	68.0 (50.2)	-	18.4 (13.6)
65	2 1/2	42.5 (31.3)	45.0 (33.2)	61.0 (45.0)	125.0 (92.2)	-	-	318.0 (234.5)
80	3	61.0 (45.0)	64.0 (47.2)	83.0 (61.2)	180.0 (132.8)	-	-	318.0 (234.5)
100	4	80.0 (59.0)	83.0 (61.2)	105.0 (77.4)	213.0 (157.1)	-	-	392.0 (289.1)
125	5	149.5 (110.3)	155.0 (114.3)	175.0 (129.1)	-	-	-	392.0 (289.1)
150	6	235.0 (173.3)	402.5 (296.9)	520.0 (383.5)	-	-	-	637.0 (469.8)
200	8	322.0 (237.5)	440.0 (324.5)	560.0 (413.0)	-	-	-	637.0 (469.8)
250	10	460.0 (339.3)	747.5 (551.3)	1260.0 (929.3)	-	-	-	1313.0 (968.4)
300	12	590.0 (435.2)	890.0 (656.4)	1520.0 (1121.1)	-	-	-	1313.0 (968.4)

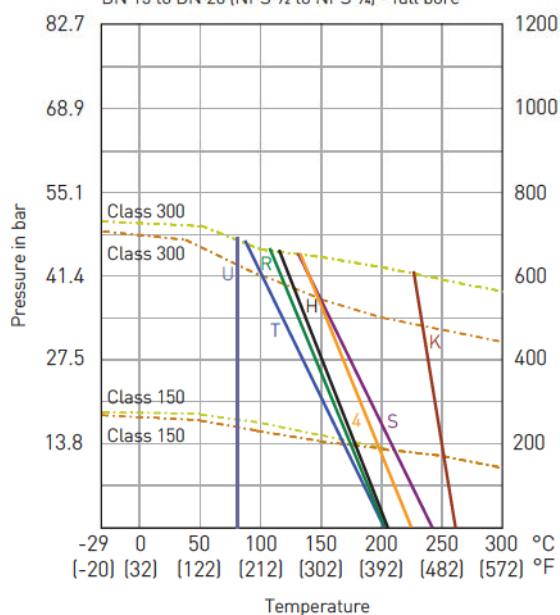
K-BALL BALL VALVES FOR INDUSTRIAL AND PROCESS APPLICATIONS

F190/F190F - PRESSURE/TEMPERATURE CHARTS

F190/F190F - ASME

SPLIT-BODY FLANGED BALL VALVE

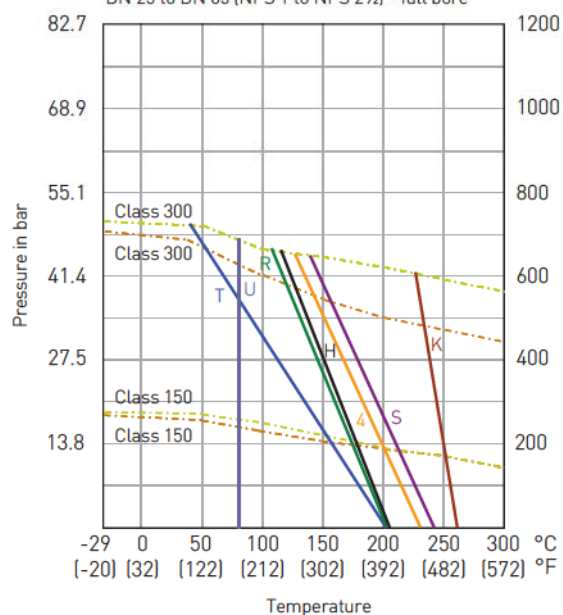
DN 15 to DN 20 (NPS ½ to NPS ¾) - full bore



F190/F190F - ASME

SPLIT-BODY FLANGED BALL VALVE

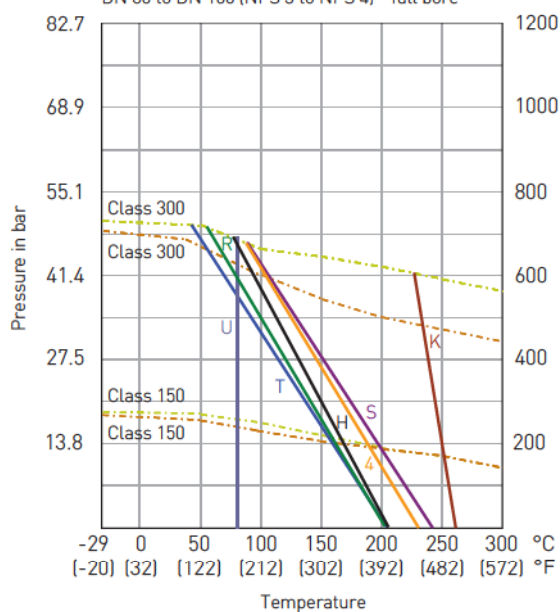
DN 25 to DN 65 (NPS 1 to NPS 2½) - full bore



F190/F190F - ASME

SPLIT-BODY FLANGED BALL VALVE

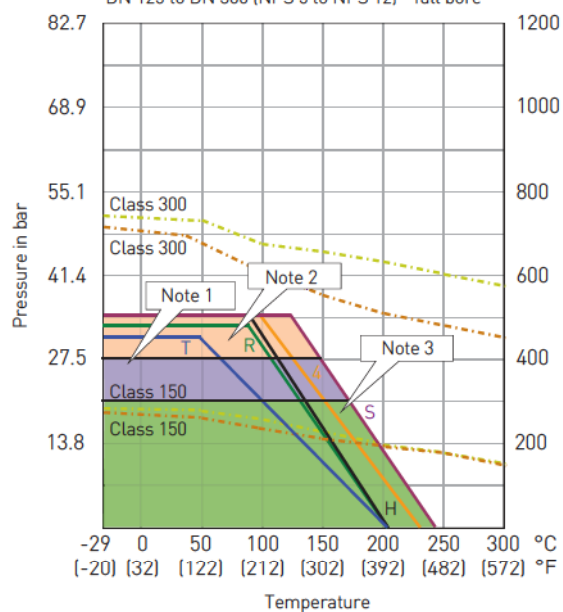
DN 80 to DN 100 (NPS 3 to NPS 4) - full bore



F190/F190F - ASME

SPLIT-BODY FLANGED BALL VALVE

DN 125 to DN 300 (NPS 5 to NPS 12) - full bore



--- = 1.0619 body rating

--- = 1.4408 body rating

--- = WCB body rating

--- = CF8M body rating

T = PTFE

R = RPTFE

4 = 25% carbon filled PTFE

S = 50% SS filled PTFE

U = UHMWP

K = PEEK (ARLON 1330)

H = TFM 1600

NOTES

1. DN 200 and 250 (NPS 8 and 10) maximum operation pressure 27.6 bar (400 psig). Please consult factory for this range of application.
2. DN 125 and 150 (NPS 5 and 6) maximum operation pressure 34.5 bar (500 psig).
3. DN 300 (NPS 12) maximum operation pressure 20.7 bar (300 psig).

50% SS filled PTFE and 25% carbon filled PTFE shall not exceed this rating line for ASME Class 300.

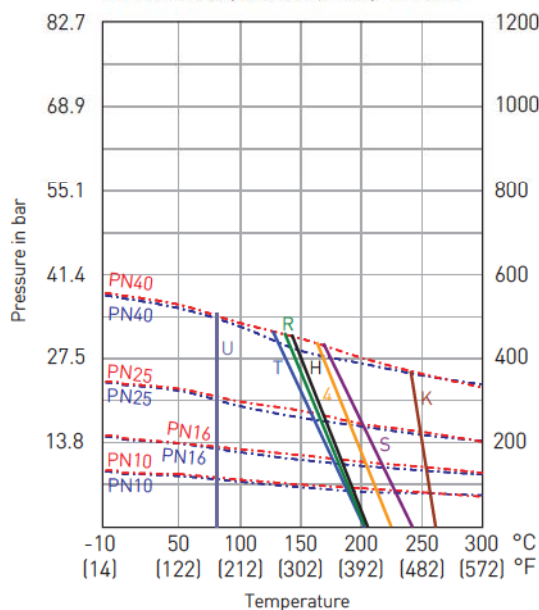
K-BALL BALL VALVES FOR INDUSTRIAL AND PROCESS APPLICATIONS

F190/F190F - PRESSURE/TEMPERATURE CHARTS

F190/F190F - DIN

SPLIT-BODY FLANGED BALL VALVE

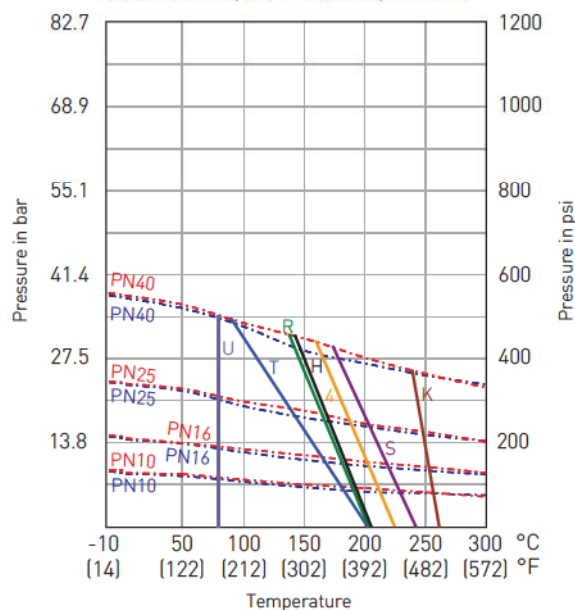
DN 15 to DN 20 (NPS ½ to NPS ¾) - full bore



F190/F190F - DIN

SPLIT-BODY FLANGED BALL VALVE

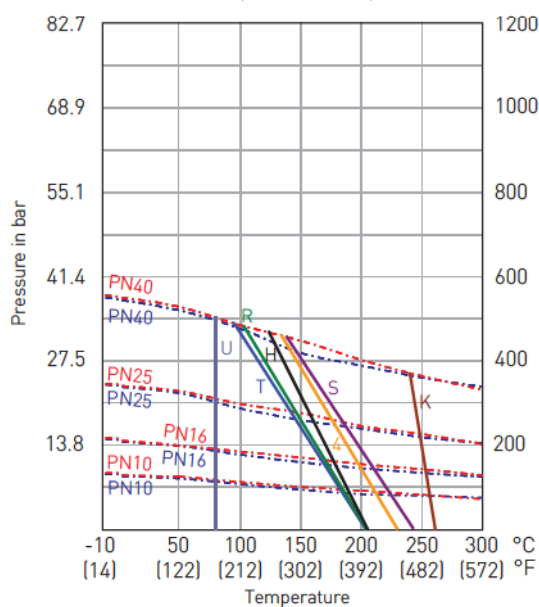
DN 25 to DN 65 (NPS 1 to NPS 2½) - full bore



F190/F190F - DIN

SPLIT-BODY FLANGED BALL VALVE

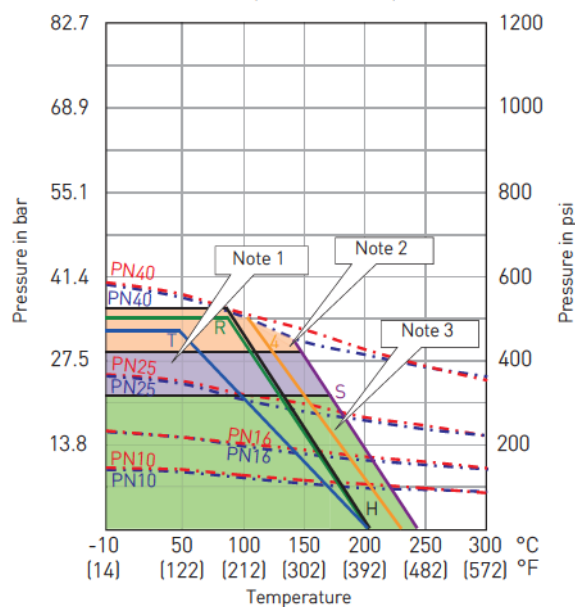
DN 80 to DN 100 (NPS 3 to NPS 4) - full bore



F190/F190F - DIN

SPLIT-BODY FLANGED BALL VALVE

DN 125 to DN 300 (NPS 5 to NPS 12) - full bore



--- = 1.0619 body rating

--- = 1.4408 body rating

--- = WCB body rating

--- = CF8M body rating

T = PTFE

R = RPTFE

Δ = 25% carbon filled PTFE

S = 50% SS filled PTFE

U = UHMWP

K = PEEK (ARLON 1330)

H = TFM 1600

NOTES

1. DN 200 and 250 (NPS 8 and 10) maximum operation pressure 27.6 bar (400 psig). Please consult factory for this range of application.
2. DN 125 and 150 (NPS 5 and 6) maximum operation pressure 34.5 bar (500 psig).
3. DN 300 (NPS 12) maximum operation pressure 20.7 bar (300 psig).