

DESIGN FEATURES

- Built-in ISO 5211 Direct Mounting Pad Easy Automation
- Anti-static Devices for Ball-Stem-Body
- Blow-out Proof Stem
- Pressure Balance Hole in Ball Slot
- TA-Luft Design Approved
- ISO 15848-1 Design Approved
- NACE MR-0175 (Optional)
- Casting Approved by TUV AD 2000-Merkblatt W0
- Options : 1.Actuator 2.Limit 3.Positioner

APPLICABLE STANDARDS

- Design Standard : MSS SP-110
- Wall Thickness : EN12516-3,
- Pipe Thread (KV-L30) : ASME B1.20.1,BS21
DIN 2999/259, ISO 228/1
JIS B0203 ISO7/1
- Butt Weld (KV-L31,L31-L) : ASME B16.25 (øB2 Sch40), EN 12627
- Socket Weld (KV-L32) : ASME B16.11
- Flange End (KV-L3F*) : ASME B16.5 Class150 KV-L3F(1)
ASME B16.5 Class300 KV-L3F(2)
EN 1092-1 PN10-40 KV-L3F(K/N)
- Inspection & Testing : MSS SP-110



CV VALUES

NPS	DN	CV
1/4	8	10
3/8	10	13
1/2	15	18
3/4	20	36
1	25	48
1 1/4	32	93
1 1/2	40	165
2	50	207
2 1/2	65	450
3	80	780
4	100	1360

WEIGHT

NPS	DN	KV-L30		KV-L31		KV-L32	
		(kg)	(lb)	(kg)	(lb)	(kg)	(lb)
1/4	8	0.64	1.41	0.64	1.41	0.65	1.43
3/8	10	0.65	1.43	0.61	1.34	0.61	1.34
1/2	15	0.68	1.50	0.63	1.39	0.67	1.48
3/4	20	0.95	2.09	0.91	2.01	0.95	2.09
1	25	1.40	3.09	1.35	2.98	1.33	2.93
1 1/4	32	2.21	4.87	2.08	4.59	2.04	4.50
1 1/2	40	2.99	6.59	2.97	6.55	2.80	6.17
2	50	4.50	9.92	4.30	9.48	4.30	9.48
2 1/2	65	8.40	18.5	8.50	18.8	8.30	18.2
3	80	12.3	27.1	12.3	27.1	12.3	27.1
4	100	23.7	52.3	23.4	51.6	23.0	50.7

TORQUE VALUES

Close to Open Torque at Various Differential Pressure (ΔP), Standard Seats (TFM1600 & PTFE)

unit : in-lb / N-m

Size/ ΔP		75 psig		150 psig		300 psig		700 psig		1000 psig	
		5 bar		10 bar		20 bar		50bar		63bar	
NPS	DN	N-m	In-lb	N-m	In-lb	N-m	In-lb	N-m	In-lb	N-m	In-lb
1/4	8	4.5	40	4.5	40	4.5	40	4.5	40	4.5	40
3/8	10	4.5	40	4.5	40	4.5	40	4.5	40	4.5	40
1/2	15	5	44	5	44	5	44	5	44	5	44
3/4	20	6	53	6	53	6	53	6	53	6	53
1	25	10	88	10	89	11	97	11	97	11	97
1 1/4	32	13	115	13	115	15	133	17	150	19	168
1 1/2	40	19	168	19	168	22	195	24	212	26	230
2	50	25	221	29	257	32	283	35	310	38	336
2 1/2	65	40	354	45	398	49	434	54	478	59	522
3	80	65	575	72	637	81	717	90	796	101	894
4	100	100	885	110	973	122	1080	135	1195	148	1310

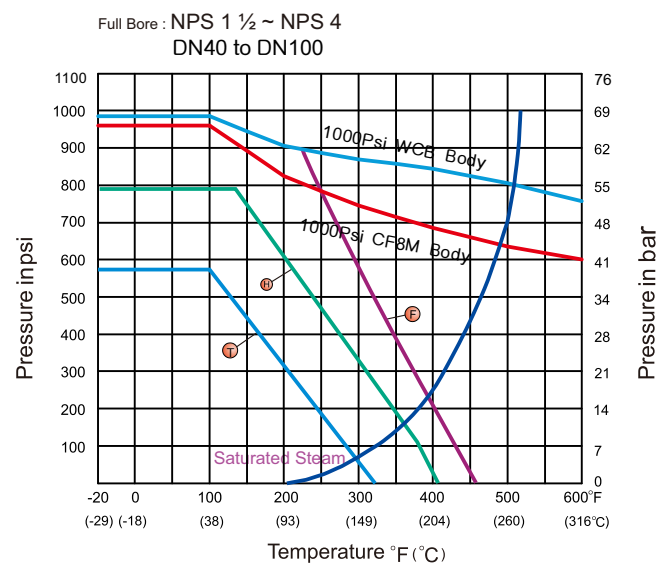
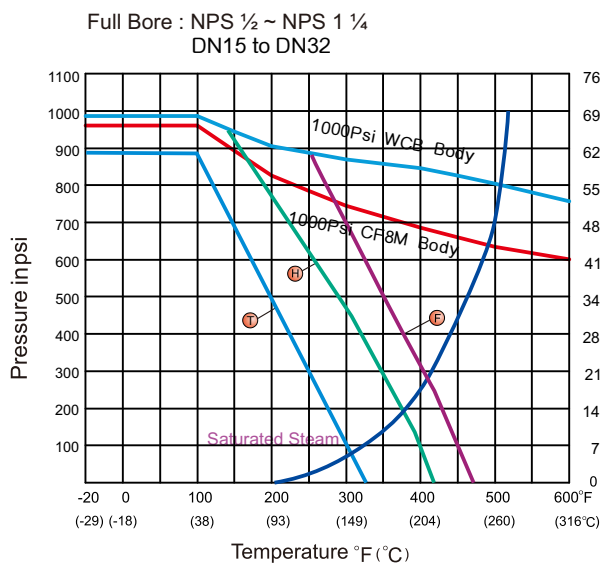
Remark : 1.Torques will increase about 30% if seat materials are Reinforced Fiber-Glass PTFE, Carbon-filled PTFE or EK+PTFE or TFM4215.

2.The torque figures at 5 bar pressure are maximum values to be tested after the valves are placed for 24 hours.

3.For actuator sizing, a safety factor of minimum 30% is recommended.

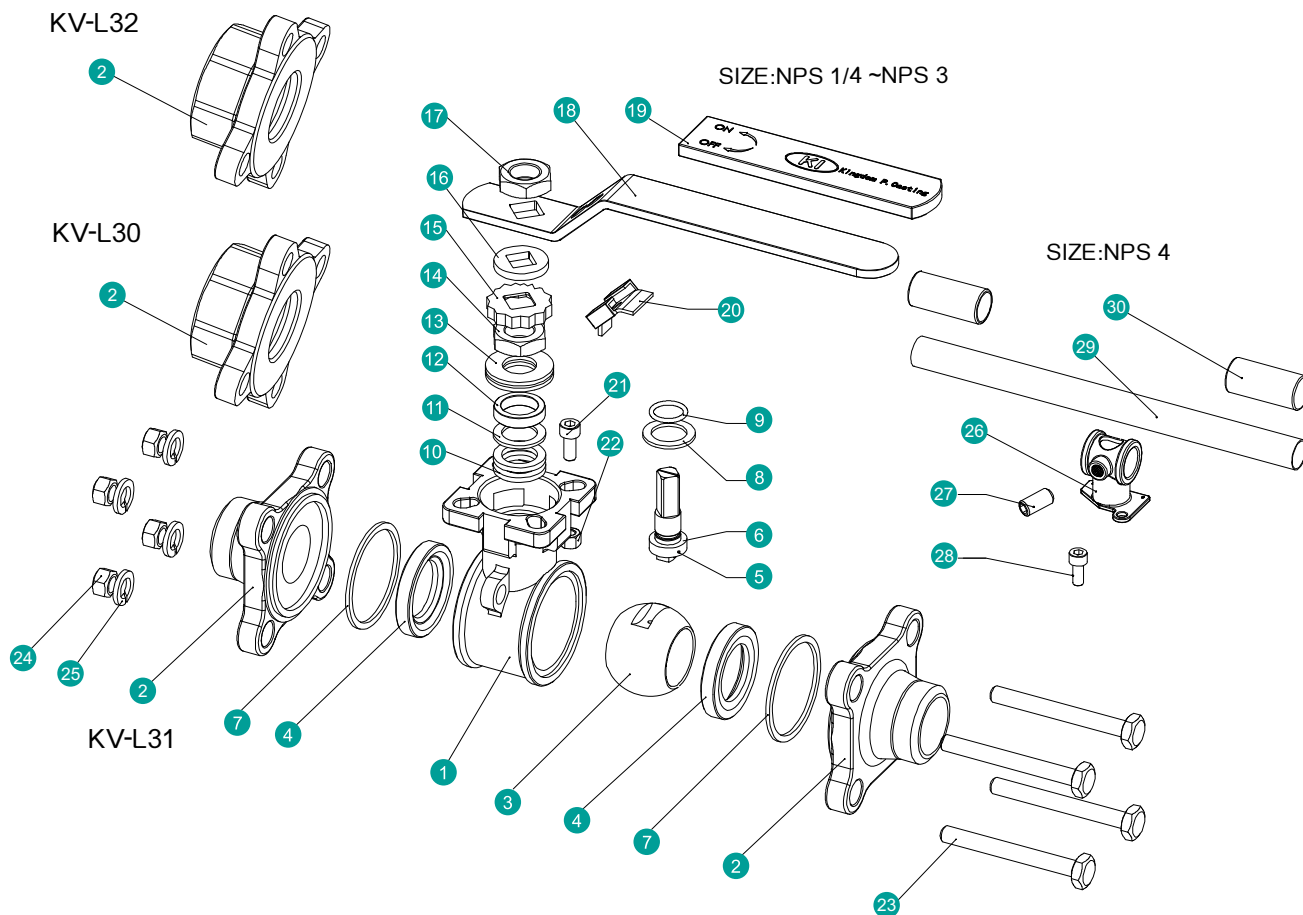
TECHNICAL INFORMATION

PRESSURE - TEMPERATURE DATA



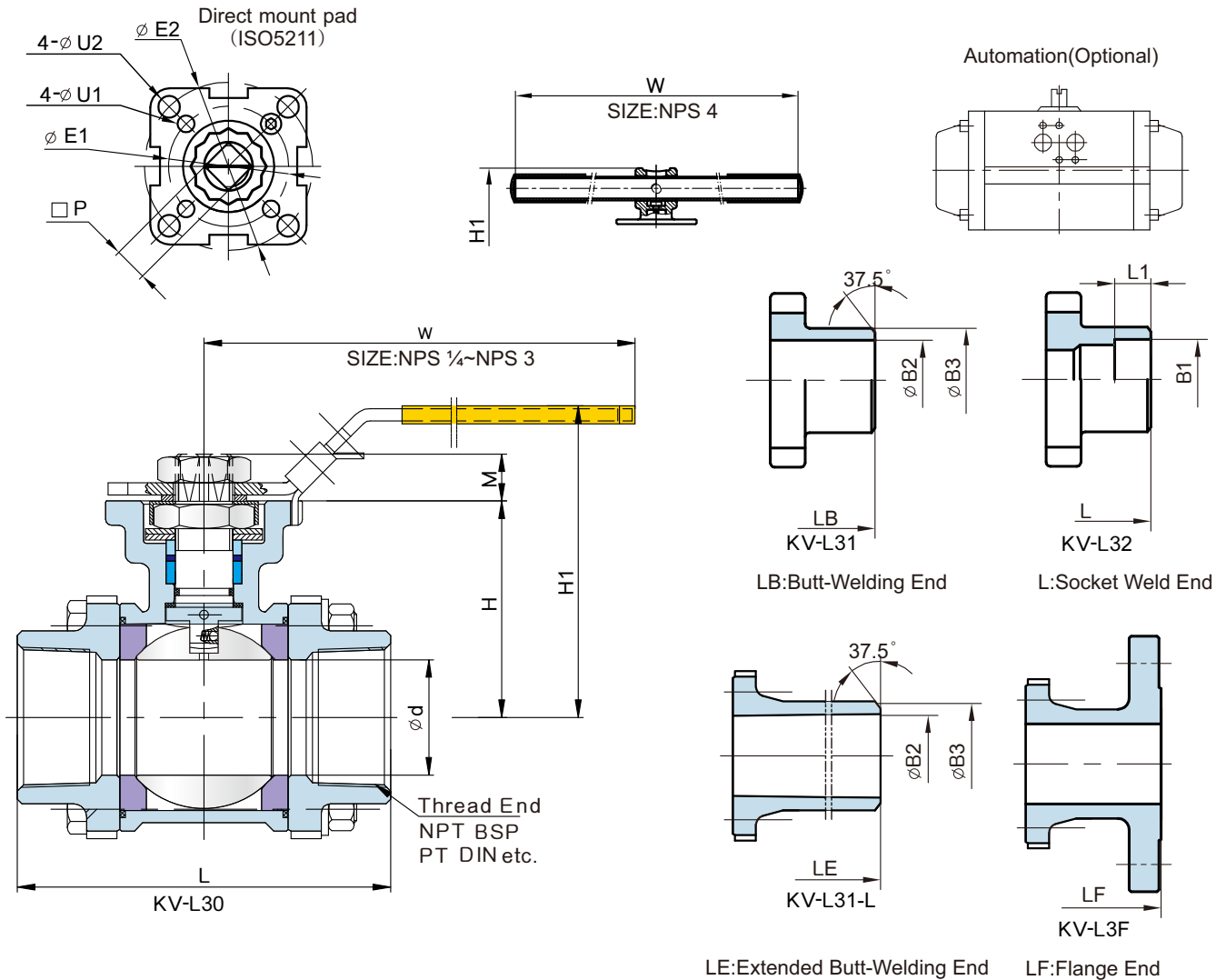
Seat Materials : T PTFE H TFM1600 E TFM4215

The pressure-temperature data of ball valves are determined, not only by valve shell materials, but also by sealing materials used for ball seats, gland packings, and flange gaskets



MATERIAL OF CONSTRUCTION

NO.	PART NAME	MATERIALS		
1	Body	CF8M(1.4408)	CF8(1.4308)	WCB(1.0619)
2	End Cap (Thread)	CF8M(1.4408)	CF8(1.4308)	WCB(1.0619)
	End Cap (BW/SW)	CF3M(1.4409)	CF3(1.4309)	WCB(1.0619)
3	Ball	CF8M	CF8	
4	Ball Seat	TFM1600 /PTFE/TFM4215		
5	Stem	316	304	
6	Anti-Static	316	304	
7	Body Gasket	PTFE/TFM1600		
8	Thrust washer	PTFE/TFM1600/ RTFE		
9	O-Ring	FKM		
10	Packing	PTFE/ GRAFOIL*		
11	Bushing	50%SS+50%PTFE / 304		
12	Gland	316		
13	Belleville Washer	301		
14	Stem Nut	A194-8		
15	Stop-lock-Cap	304		
16	Handle Gland	304		
17	Handle Nut (NPS ^{1/4} ~NPS3)	A194-8		
18	Handle (NPS ^{1/4} ~NPS3)	304		
19	Handle Sleeve (NPS ^{1/4} ~NPS3)	VINYL PLASTIC		
20	Lock Device (NPS ^{1/4} ~NPS3)	304		
21	Stop Bolt	A2-70		
22	Stop Nut	A2-70		
23	Bolting	A193-B8/A2-70		
	Bolt Nut	A194-8/A2-70		
24	Bolt Washer	304		
26	Handle Adapter (NPS4)	A351-CF8		
27	Set Screw (NPS4)	A2-70		
28	Bolting (NPS4)	A2-70		
29	Pipe Handle (NPS4)	A53+PLATED Zn		
30	Handle Sleeve (NPS4)	VINYL PLASTIC		



DIMENSION TABLE

ANSI 1000 WOG DIMENSION TABLE

Unit : mm

NPS	DN	d	L	LB	LE	H	H1	W	B1	B2	B3	L1	P	M	E1	E2	U1	U2	HEX.B	ISO 5211
1/4	8	10.6	75	70	225	42	72	147	14.2	9.3	18	10.0	9	9	36	42	6	6	28	F03-F04
3/8	10	12.7	75	70	225	42	72	147	17.8	12.5	18	10.0	9	9	36	42	6	6	28	F03-F04
1/2	15	15	75	75	225	42	72	147	21.8	15.8	22	10.0	9	9	36	42	6	6	28	F03-F04
3/4	20	20	80	90	225	48.5	79	147	27.3	20.9	28	13.0	9	9	36	50	6	7	34.5	F03-F05
1	25	25	90	100	245	58.5	89	177	34.0	26.7	34	13.0	11	11	42	50	6	7	42	F04-F05
1 1/4	32	32	110	110	255	63	93	177	42.8	35.1	43	16.0	11	11	42	70	6	9	52	F04-F07
1 1/2	40	38	120	125	260	71.3	103	197	48.9	40.9	50	16.0	14	14	50	70	7	9	58.5	F05-F07
2	50	50	140	150	275	78.2	110	197	61.4	52.5	61	17.0	14	14	50	70	7	9	71.5	F05-F07
2 1/2	65	63.5	185	190	330	100	150	267	74.0	62.7	76	17.0	17	17	70	102	9	11	86.5	F07-F10
3	80	76	205	220	356	108.5	159	267	90.0	78.0	92	17.0	17	17	70	102	9	11	101	F07-F10
4	100	100	240	270	432	140	212	400	115.5	102.4	115	20.0	22	22	—	102	—	11	132	F10

Unit : inch

NPS	DN	d	L	LB	LE	H	H1	W	B1	B2	B3	L1	P	M	E1	E2	U1	U2	HEX.B	ISO 5211
1/4	8	0.42	2.95	2.76	8.86	1.65	2.83	5.79	0.55	0.37	0.71	0.39	0.354	0.28	1.42	1.65	0.24	0.24	1.10	F03-F04
3/8	10	0.50	2.95	2.76	8.86	1.65	2.83	5.79	0.70	0.49	0.71	0.39	0.354	0.28	1.42	1.65	0.24	0.24	1.10	F03-F04
1/2	15	0.59	2.95	2.95	8.86	1.65	2.83	5.79	0.86	0.62	0.87	0.39	0.354	0.28	1.42	1.65	0.24	0.24	1.10	F03-F04
3/4	20	0.79	3.15	3.54	8.86	1.91	3.11	5.79	1.07	0.82	1.10	0.51	0.354	0.35	1.42	1.97	0.24	0.28	1.36	F03-F05
1	25	0.98	3.54	3.94	9.65	2.30	3.50	6.97	1.34	1.05	1.34	0.51	0.433	0.43	1.65	1.97	0.24	0.28	1.65	F04-F05
1 1/4	32	1.26	4.33	4.33	10.04	2.48	3.66	6.97	1.69	1.38	1.69	0.63	0.433	0.43	1.65	2.76	0.24	0.35	2.05	F04-F07
1 1/2	40	1.50	4.72	4.92	10.24	2.81	4.06	7.76	1.93	1.61	1.97	0.63	0.551	0.55	1.97	2.76	0.28	0.35	2.30	F05-F07
2	50	1.97	5.51	5.91	10.83	3.08	4.33	7.76	2.42	2.07	2.40	0.67	0.551	0.55	1.97	2.76	0.28	0.35	2.81	F05-F07
2 1/2	65	2.50	7.28	7.48	12.99	3.94	5.91	10.5	2.91	2.47	2.99	0.67	0.669	0.67	2.76	4.02	0.35	0.43	3.41	F07-F10
3	80	2.99	8.07	8.66	14.02	4.27	6.26	10.5	3.54	3.07	3.62	0.67	0.669	0.67	2.76	4.02	0.35	0.43	3.98	F07-F10
4	100	3.94	9.45	10.63	17.01	5.51	8.35	15.9	4.55	4.03	4.53	0.79	0.866	0.87	—	4.02	—	0.43	5.20	F10