HIGH PERFORMANCE 3-PIECE BALL VALVE

KV-L80 L81 · L82

2000/1500 WOG · full port · thread / BW / SW

3-piece body, full port ball valve with threaded, butt weld or socket weld ends and a direct mount ISO 5211 pad. Fire safe versions: KV-L80F, L81F, L82F, L81F-L.

- Built-in ISO 5211 direct mounting pad for easy automation
- Fire safe design approved
- Anti-static devices · blow-out proof stem
- TA-Luft / ISO 15848-1 design approved
- Casting approved by TÜV AD 2000-Merkblatt W0
- NACE MR-0175 (optional)



2000 WOG	1500 WOG	¼–2 in	207
DN8 – DN25	DN32 – DN50	DN8 – DN50	MAX. CV · DN50

End connections.

DIRECT MOUNT STANDARD & FIRE SAFE TYPES

KV-L80 / L80F
Threaded ends

Pipe thread — **ASME B1.20.1, BS 21, DIN 2999/259, ISO 228/1, JIS B0203, ISO 7/1**

KV-L81 / L81F · L81-L / L81F-L
Butt weld ends

Butt weld — **ASME B16.25 (B2 Sch80), EN 12627**

KV-L82 / L82F
Socket weld ends

Socket weld — **ASME B16.11**

Applicable standards

Design	MSS SP-110
Wall thickness	EN 12516-3
Inspection & testing	MSS SP-110

Options

1. Actuator
2. Limit switch
3. Positioner

MATERIALS

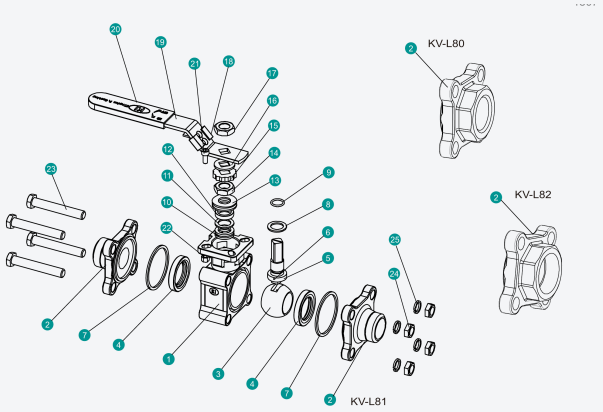
CF8M · CF8 · WCB · TFM1600 / TFM4215 seats · Graphite sealing on fire safe models · Pressure balance hole in ball slot

Weight & CV values.

BY END TYPE

Size		KV-L80		KV-L81		KV-L82		CV
DN	NPS	kg	lb	kg	lb	kg	lb	
8	1/4	1.10	2.43	1.04	2.29	1.07	2.36	**10**
10	3/8	1.06	2.34	1.02	2.25	1.04	2.29	**13**
15	1/2	1.04	2.29	1.00	2.20	1.01	2.23	**18**
20	3/4	1.50	3.31	1.54	3.40	1.52	3.35	**36**
25	1	2.10	4.63	2.04	4.50	2.07	4.56	**48**
32	1-1/4	3.04	6.70	2.94	6.48	3.01	6.64	**93**
40	1-1/2	4.48	9.88	4.50	9.90	4.49	9.90	**165**
50	2	7.14	15.74	6.95	15.32	7.06	15.56	**207**

EXPLODED VIEW · END CAPS



Torque values.

CLOSE TO OPEN · STANDARD SEATS (TFM4215)

ΔP		75 psig 5 bar		150 psig 10 bar		300 psig 20 bar		700 psig 50 bar		1000 psig 63 bar		1500 psig 100 bar		2000 psig 140 bar	
DN	NPS	N·m	in·lb	N·m	in·lb	N·m	in·lb	N·m	in·lb	N·m	in·lb	N·m	in·lb	N·m	in·lb
8	1/4	7	62	7	62	7	62	7	62	7	62	7	62	7	62
10	3/8	7	62	7	62	7	62	7	62	7	62	7	62	8	71
15	1/2	7	62	7	62	7	62	7	62	7	62	7	62	8	71
20	3/4	8	71	8	71	8	71	8	71	8	71	8	71	9	80
25	1	13	115	13	115	15	133	15	133	15	133	15	133	16	142
32	1-1/4	17	150	17	150	20	177	22	195	25	221	26	230	–	–
40	1-1/2	25	221	25	221	29	257	31	274	34	301	37	328	–	–
50	2	33	292	33	292	42	372	46	407	49	434	55	487	–	–

Torque at 5 bar: maximum values tested after valves are placed for 24 hours. Actuator sizing: min. 30% safety factor; above 180 °C (356 °F) add a further min. 20%. No 2000 psig values for DN32–50 (1500 WOG).

Material of construction.

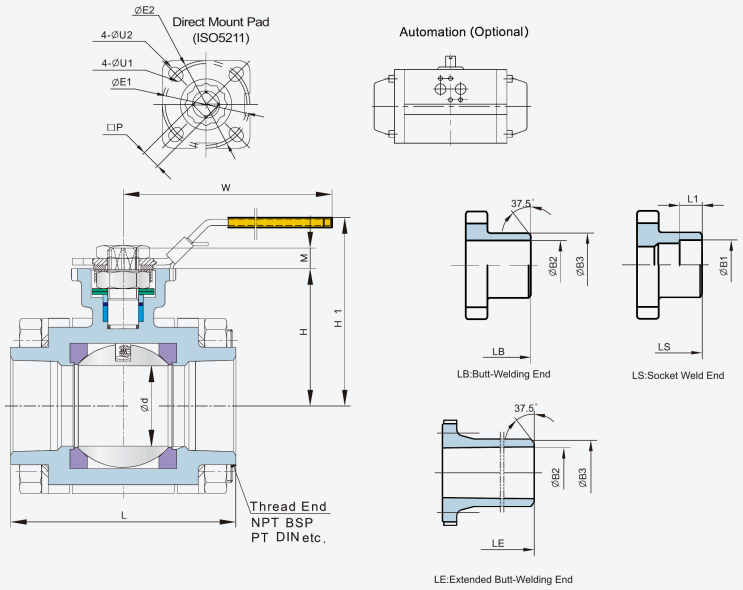
* FIRE SAFE MODELS

No.	Part	CF8M	CF8	WCB
1	**Body**	CF8M (1.4408)	CF8 (1.4308)	WCB (1.0619)
2	**End cap (thread)**	CF8M (1.4408)	CF8 (1.4308)	WCB (1.0619)
2	**End cap (BW/SW)**	CF3M (1.4409)	CF8 (1.4308)	WCB (1.0619)
3	**Ball**	CF8M	CF8	
4	**Ball seat**	TFM1600 / TFM4215		
5	**Stem**	316	304	
6	**Anti-static**	316	304	
7	**Body gasket**	PTFE / TFM1600 / graphite*		
8	**Thrust washer**	PTFE / TFM1600 / RTFE		
9	**O-ring**	FKM		
10	**Packing**	PTFE / graphite*		
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**	A194-8		
18	**Lock device**	304		
19	**Handle**	304		
20	**Handle sleeve**	Vinyl plastic		
21	**Stop bolt**	A2-70		
22	**Stop nut**	A2-70		
23	**Bolting**	A193-B8 / A2-70		
24	**Bolt nut**	A193-8 / A2-70		
25	**Bolt washer**	304		

* Materials for KV-L80F / L81F / L82F / L81F-L series (fire safe models).

Data supplied by Kingdom Flow Control for reference only. Subject to change without notice – please confirm with Actuation Valve & Control before ordering.

THREAD END · LB BUTT-WELDING · LS SOCKET WELD · LE EXTENDED BUTT-WELDING



ANSI 2000 WOG.

MM

DN	NPS	d	L	LS	LB	LE	H	H1	W	B1	B2	B3	L1	P	M	E1	E2	U1	U2	Hex B	ISO 5211
8	1/4	10.6	75	70	70	165	43	73	147	14.2	7.6	18	10.0	9	9	36	42	6	6	23.5	F03~F04
10	3/8	12.7	75	70	70	165	43	73	147	17.8	10.7	18	10.0	9	9	36	42	6	6	23.8	F03~F04
15	1/2	15	75	75	75	165	43	73	147	21.8	13.9	22	10.0	9	9	36	42	6	6	28	F03~F04
20	3/4	20	80	80	90	190	51	81	147	27.3	18.8	28	13.0	9	9	36	50	6	7	34	F03~F05
25	1	25	90	90	100	216	58	88	177	34.0	24.3	34	13.0	11	11	42	50	6	7	46	F03~F05

ANSI 1500 WOG.

MM

DN	NPS	d	L	LS	LB	LE	H	H1	W	B1	B2	B3	L1	P	M	E1	E2	U1	U2	Hex B	ISO 5211
32	1-1/4	32	110	110	110	229	63	93	177	42.8	32.5	43	16.0	11	11	42	70	6	9	55	F04~F07
40	1-1/2	38	120	120	125	241	75	107	197	48.9	38.1	50	16.0	14	14	50	70	7	9	57	F05~F07
50	2	50	140	140	150	292	86	118	197	61.4	49.2	61	17.0	14	14	50	70	7	9	73	F05~F07

Inch versions of these tables are also published by Kingdom – available on request.

Pressure-temperature.

TECHNICAL INFORMATION

Pressure-temperature data is determined not only by the valve shell material but also by the sealing materials used for ball seats, gland packings and flange gaskets. Kingdom publishes P-T curves for 2000 psi (NPS ¼–1) and 1500 psi (NPS 1¼–2) floating ball valves with TFM1600, TFM4215 and PEEK seats; body ratings shown are for ASTM A351 Gr. CF8M and A216 Gr. WCB – for other shell materials refer to the latest edition of ASME B16.34. Please ask us for the curves.

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Specifying a high-pressure 3-piece ball valve?

Talk to our UK team about end connections, fire safe options and actuated packages.

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