



## 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



## R110 - ONE-PIECE BODY BALL VALVE

See page 4

- An economical, investment cast, one-piece body ball valve in stainless steel

### Size range

DN 8 (NPS ¼) to DN 50 (NPS 2)  
- Reduced bore



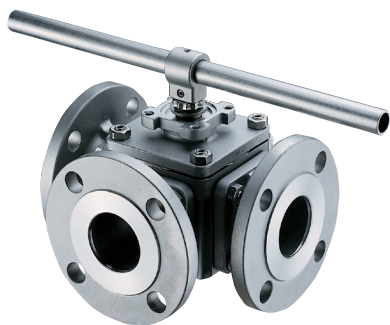
## F120 - TWO-PIECE BODY BALL VALVE

See page 5

- General purpose, 69 bar (1000 psi) (PN 63) ball valve, in stainless steel

### Size range

DN 8 (NPS ¼) to DN 50 (NPS 2)  
- Full bore



## F130M - THREE-WAY SPLIT BODY BALL VALVE

See pages 6-8

- With ISO 5211 top mounting plate and fully enclosed bolting
- Flanged ASME 150 or DIN PN 10/16 or JIS 10K
- L-, T- or LL-port options, 90° operation
- Carbon steel or stainless steel bodies

### Size range

DN 50 (NPS 2) to DN 150 (NPS 6)  
- Full bore  
DN 200 (NPS 8)  
- Reduced bore



## F133M - THREE AND FOUR-WAY SPLIT BODY BALL VALVE

See pages 9-12

- With ISO 5211 top mounting plate and fully enclosed bolting
- End connections screwed, socket weld, butt weld or flanged
- Flanged ASME 150 or DIN PN 10/16 or JIS 10K
- L-, T- or LL-port options, 90° operation
- Carbon steel or stainless steel bodies

### Size range

DN 10 (NPS ¾) to DN 50 (NPS 2)  
- Full and reduced bore



## R138 - THREE WAY MULTI-PORT BALL VALVE

See page 13

- With ISO 5211 top mounting plate
- Investment stainless steel cast body
- Screwed ends, NPT, BSPP, BSPT reduced bore
- L- or T-port options, 90° operation

### Size range

DN 8 (NPS ¼) to DN 50 (NPS 2)  
- Reduced bore

# K-BALL BALL VALVES FOR INDUSTRIAL AND PROCESS APPLICATIONS

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## F155 - THREE-PIECE ECONOMICAL BALL VALVE

See pages 14-15

- Three piece, swing-out design
- End connections screwed, butt weld or socket weld
- Carbon steel or stainless steel bodies

### Size range

DN 8 (NPS ¼) to DN 100 (NPS 4)  
- Full bore



## F171 - THREE-PIECE BALL VALVE TO ISO 5211

See pages 16-18

- With ISO 5211 top mounting plate
- End connections flanged, screwed, butt weld or socket weld
- Carbon steel or stainless steel bodies

### Size range

DN 8 (NPS ¼) to DN 100 (NPS 4)  
- Full bore



## F171T - THREE-PIECE HIGH PURITY CLEAN BALL VALVE

See pages 19-21

- With ISO 5211 mounting plate
- End connections butt weld, tubing and Tri-Clamp
- High purity cleaning (oil free)
- Helium leak detection calibrated to  $1 \times 10^{-5}$  std cm<sup>3</sup>/sec

### Size range

DN 15 (NPS ½) to DN 300 (NPS 12)  
- Full bore/true bore



## F180/R180/F180F/R180F - THREE-PIECE HEAVY DUTY BALL VALVE

See pages 22-27

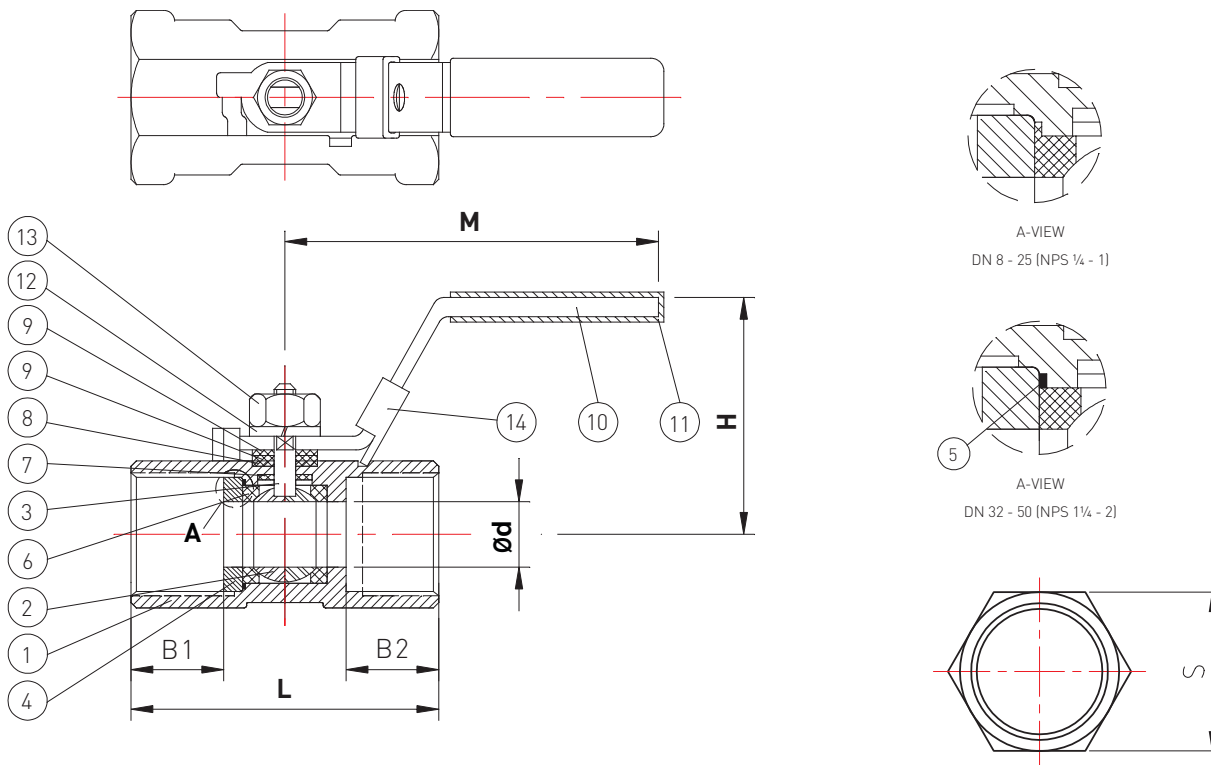
- With ISO 5211 top mounting plate and fully enclosed bolting
- End connections screwed, butt weld or socket weld
- Carbon steel or stainless steel bodies
- F180F Fire safe tested to API 607 5<sup>th</sup> edition / ISO 10497:2004

### Size range

F180 - DN 8 (NPS ¼) to DN 100 (NPS 4)  
F180F - DN 8 (NPS ¼) to DN 80 (NPS 3)  
- Full bore and reduced bore

# K-BALL BALL VALVES FOR INDUSTRIAL AND PROCESS APPLICATIONS

## R110 - ONE-PIECE BODY BALL VALVE



### MATERIALS OF CONSTRUCTION

No.	Part name	Material	Quantity
1	Body	ASTM A351 Gr CF8M / 1.4408	1
2	Ball	316SS [DN 8-15 (NPS 1/4-1/2)] CF8M [DN 20-50 (NPS 3/4-2)]	1
3	Stem	316SS	1
4	Insert	316SS [DN 8-15 (NPS 1/4-1/2)] CF8M [DN 20-50 (NPS 3/4-2)]	1
5	Body seal	PTFE	1
6	Seat	PTFE	2
7	Thrust washer	PTFE	1
8	Stem packing	PTFE	1
9	Gland	304SS	1
10	Handle	304SS	1
11	Handle cover	Plastic	1
12	Handle washer	304SS	1
13	Handle nut	304SS	1
14*	Locking device	304SS	1

\* Optional

### FEATURES

- General purpose 69 bar (1000 psi) (PN 63) ball valve
- Investment cast, one-piece body
- Stainless steel construction only
- Screwed ends to:
  - BSPP
  - BSPT
  - NPT
- Blow-out proof shaft
- Locking device
- Size range DN 8 (NPS 1/4) to DN 50 (NPS 2)
  - Reduced bore

### NOTE

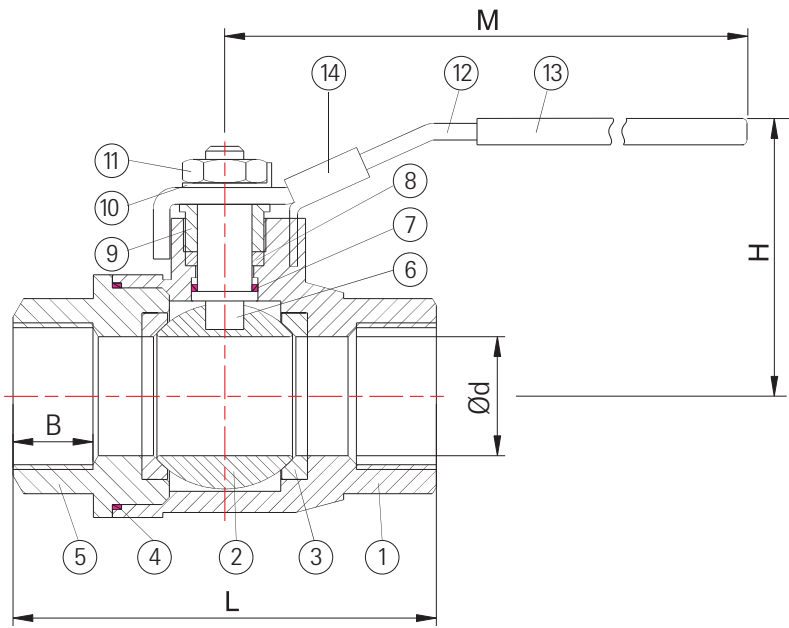
For Pressure/Temperature charts, please refer to page 39

### DIMENSIONS mm (inch)

DN	NPS	Ød	M	H	L	B1	B2	S	Weight	
									kg	lbs
8	1/4	5.0 [0.20]	69.0 [2.72]	35.0 [1.38]	39.0 [1.54]	9.0 [0.35]	9.0 [0.35]	17.0 [0.67]	0.064	0.14
10	3/8	7.2 [0.28]	79.0 [3.11]	36.5 [1.44]	44.0 [1.73]	9.5 [0.37]	9.5 [0.37]	21.0 [0.83]	0.104	0.23
15	1/2	9.2 [0.36]	109.0 [4.29]	40.0 [1.57]	56.5 [2.22]	13.5 [0.53]	13.0 [0.51]	25.0 [0.98]	0.190	0.42
20	3/4	12.5 [0.49]	109.0 [4.29]	44.3 [1.74]	59.0 [2.32]	12.5 [0.49]	14.5 [0.57]	32.0 [1.26]	0.264	0.58
25	1	15.0 [0.59]	111.7 [4.40]	47.5 [1.87]	71.0 [2.80]	15.0 [0.59]	17.0 [0.67]	38.0 [1.50]	0.420	0.93
32	1 1/4	20.0 [0.79]	111.7 [4.40]	53.0 [2.09]	78.0 [3.07]	18.5 [0.73]	17.5 [0.69]	48.0 [1.89]	0.650	1.43
40	1 1/2	25.0 [0.98]	157.0 [6.18]	62.0 [2.44]	83.0 [3.27]	18.5 [0.73]	18.5 [0.73]	53.0 [2.09]	0.840	1.85
50	2	32.0 [1.26]	155.5 [6.12]	68.5 [2.70]	100.0 [3.94]	20.5 [0.81]	21.0 [0.83]	64.0 [2.52]	1.330	2.93

# K-BALL BALL VALVES FOR INDUSTRIAL AND PROCESS APPLICATIONS

## F120 - TWO-PIECE BODY BALL VALVE



### MATERIALS OF CONSTRUCTION

No.	Part name	Material	Quantity
1	Body	CF8M / 1.4408	1
2	Ball	ASTM A351 Gr. CF8M	1
3	Seat	PTFE	2
4	Body seal	PTFE	1
5	Cap	CF8M / 1.4408	1
6	Anti-static shaft	A276 Type 316	1
7	Thrust washer	PTFE	1
8	Shaft packing	PTFE	1
9	Gland nut	304SS	1
10	Shaft washer	304SS	1
11	Shaft nut	304SS	1
12	Handle	304SS	1
13	Handle sleeve	Vinyl	1
14	Locking device	304SS	1

### FEATURES

- General purpose 69 bar (1000 psi) (PN 63), ball valve
- Two piece, investment cast body
- Stainless steel construction only
- Screwed end to:
  - BSPP
  - BSPT
  - NPT
- DIN 3202 M3 face-to-face
- Adjustable shaft packing
- Locking device
- Size range DN 8 (NPS ¼) to DN 50 (NPS 2)
  - Full bore

### NOTE

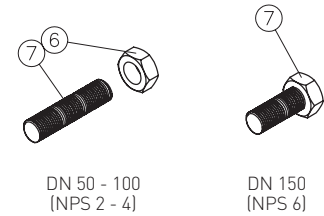
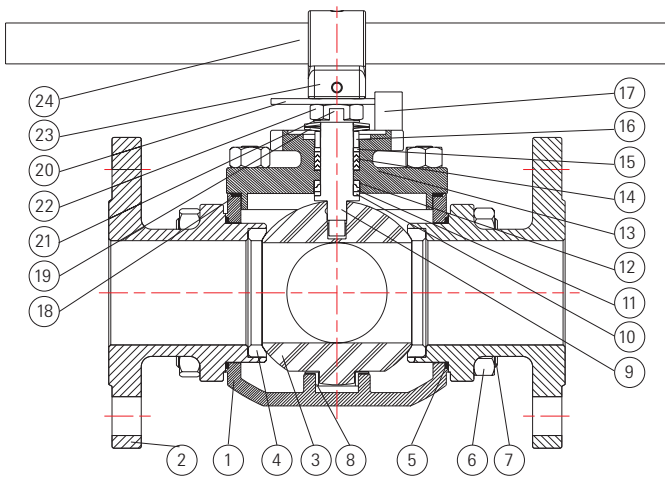
For Pressure/Temperature charts, please refer to page 39

### DIMENSIONS mm (inch)

DN	NPS	Ød	M	H	L	B	Weight	
							kg	lbs
8	¼	11.2 (0.44)	100 (3.94)	52 (2.05)	50 (1.97)	10 (0.39)	0.24	0.53
10	¾	11.2 (0.44)	100 (3.94)	52 (2.05)	60 (2.36)	12 (0.47)	0.28	0.62
15	½	15.0 (0.59)	136 (5.35)	58 (2.28)	75 (2.95)	13 (0.51)	0.44	0.97
20	¾	20.0 (0.79)	146 (5.75)	63 (2.48)	80 (3.15)	16 (0.63)	0.56	1.23
25	1	25.0 (0.98)	168 (6.61)	75 (2.95)	90 (3.54)	17 (0.67)	0.88	1.94
32	1¼	32.0 (1.26)	168 (6.61)	80 (3.15)	110 (4.33)	20 (0.79)	1.44	3.17
40	1½	38.0 (1.50)	194 (7.64)	94 (3.70)	120 (4.72)	22 (0.87)	1.93	4.25
50	2	50.0 (1.97)	194 (7.64)	103 (4.06)	140 (5.51)	25 (0.98)	3.36	7.41

# K-BALL BALL VALVES FOR INDUSTRIAL AND PROCESS APPLICATIONS

## F130M - THREE-WAY SPLIT BODY BALL VALVE



### MATERIALS OF CONSTRUCTION

No.	Part name	Material	Quantity
1	Body	CF8M / WCB, 1.4408 / 1.0619	1
2	Cap	CF8M / WCB, 1.4408 / 1.0619	3-4
3	Ball	ASTM A351 Gr. CF8M	1
4	Ball seat	RPTFE	4
5	Body gasket	PTFE	4
6	Bolt nut	A2-70	(Note 1)
7	Bolt	B8/A2-70/8.8	(Note 1)
8	Bushing	50% SS powder / 50% PTFE	1
9	Anti-static shaft	A276 Type 316 (Note 3)	1
10	Lower thrust washer	50% SS powder / 50% PTFE	1
11	Compress ring	316L SS DN 50 - 100 (NPS 2 - 4) 316SS DN 150 - 200 (NPS 6 - 8)	1
12	Upper thrust washer	TFM 1600	1
13	Cover	CF8M / WCB, 1.4408 / 1.0619	1
14	V-ring shaft packing	PTFE	1 set
15	Thrust washer	50% SS powder / 50% PTFE	1
16	Gland	304SS	1
17	Stop bolt	Stainless steel	1-2
18	Cover seal	PTFE	1
19	Belleville washer	301SS	2
20	Triangle stopper	Stainless steel	1
21	Lock saddle	Stainless steel	1
22	Shaft nut	304SS	1-2
23	Shaft adapter	304SS	1
24	Handle	SGP Zn plating	1
25	Block cover	ASTM A351 Gr. CF8M / ASTM A216 Gr. WCB	1 (Note 2)

### FEATURES

- Four seats design
- Simplicity in replacing valve seats and packing
- Investment cast body DN 50 (NPS 2) to DN 100 (NPS 4)
- Sand casting DN 150 (NPS 6) and DN 200 (NPS 8) reduced bore
- Standard L-port and T-port; optional LL-port for 4 way [\*]
- Tightness to EN 12266-1, Rate A
- Patented 'SEALMASTER' shaft arrangement
- Double shaft sealing complies with TA Luft requirements
- Semi-trunnion mounted
- Lower operation torque
- ISO 5211 mounting plate
- Full bore and flanged connection
- Anti-static design according to EN 1983 / ISO 17292
- Optional ball and body patterns for various flow paths
- Valve pressure rating:
  - ASME Class 150
  - DIN PN 10/16
  - JIS 10K

### NOTE

For Pressure/Temperature charts, please refer to page 39

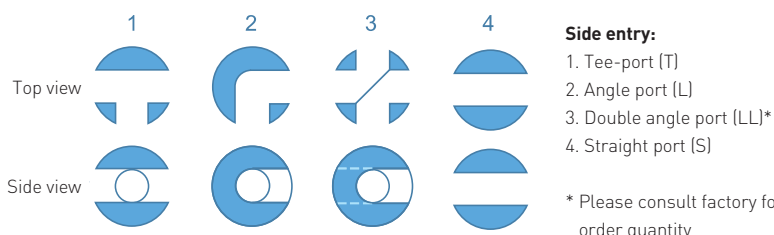
Note 1: DN 50 - 80 (NPS 2 - 3), all standards: 20 pcs; DN 100 (NPS 4), all standards: 28 pcs, (B8); DN 150 (NPS 6) Class 150, PN 10/16,10K, all standards: 44 pcs, (SS: A2-70/CS: 8.8)

Note 2: For no. 25 block cover, please refer to page 7

Note 3: 2205 (A276-S31803) is standard for DN 150 (NPS 6) Class 150, 10K, PN 10/16 CF8M/SCS14A/1.4408 ball valves

17-4 (A564-630) is standard for DN 150 (NPS 6) Class 150, 10K, PN 10/16 WCB/SCPH2/1.0619 ball valves

### BALL PORT CONFIGURATION



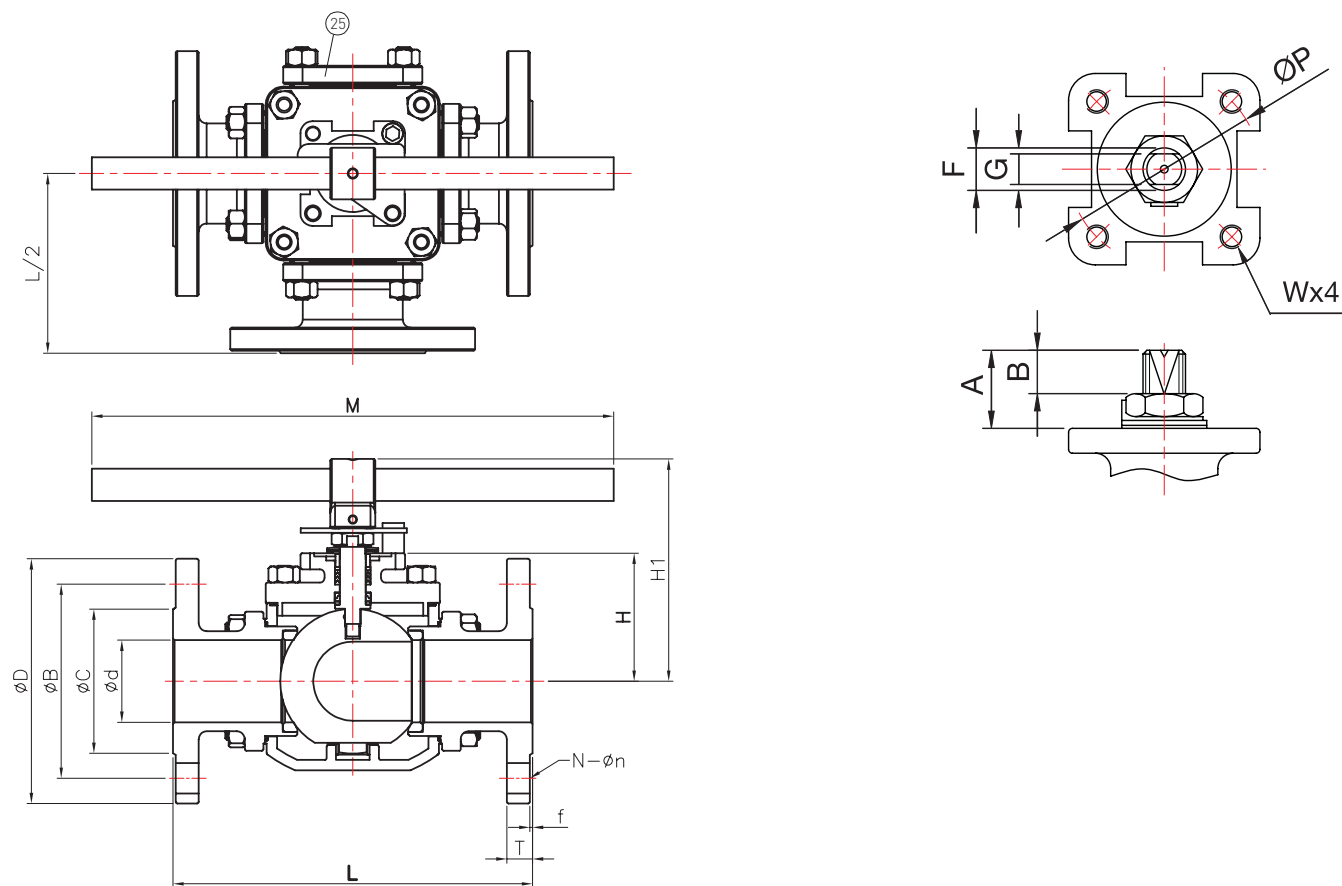
#### Side entry:

1. Tee-port (T)
2. Angle port (L)
3. Double angle port (LL)\*
4. Straight port (S)

\* Please consult factory for minimum order quantity

# K-BALL BALL VALVES FOR INDUSTRIAL AND PROCESS APPLICATIONS

## F130M - THREE-WAY SPLIT BODY BALL VALVE (METRIC)



### DIMENSIONS (mm)

DN	A	B	Ø	F	G	W
50	27.5	17.5	70	16.0	9.5	M8
65	43.0	24.0	102	22.3	17.0	M10
80	41.5	24.0	102	22.3	17.0	M10
100	47.2	29.0	102	28.6	17.0	M10
150	65.0	37.0	125	34.0	23.0	M12
200	65.0	37.0	125	34.0	23.0	M12

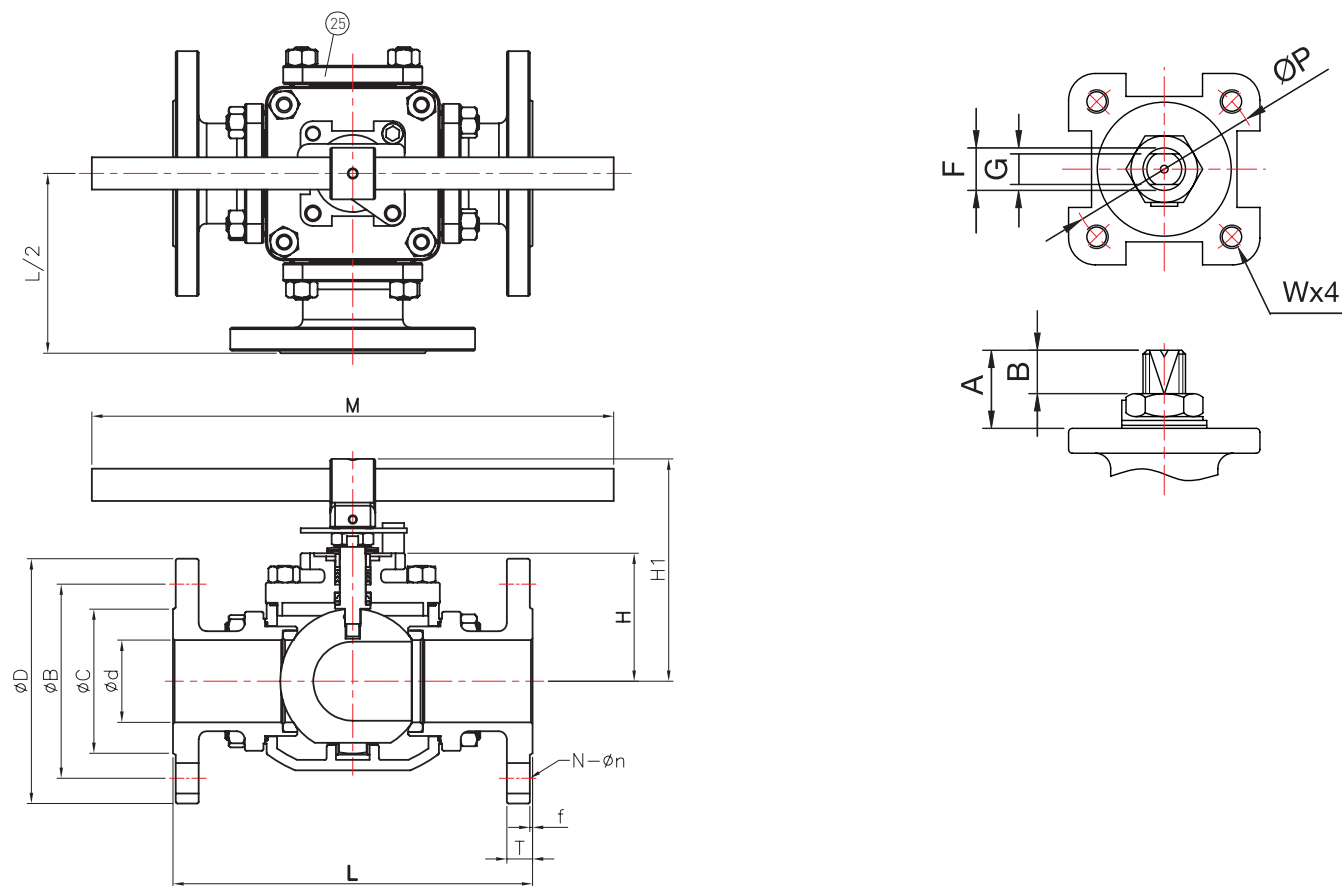
DN	Ød	ØB			ØC			ØD			T		
		ASME 150	JIS 10K	PN 10/16	ASME 150	JIS 10K	PN 10/16	ASME 150	JIS 10K	PN 10/16	ASME 150	JIS 10K	PN 10/16
50	50	120.5	120	125	92.0	96	102	152.0	155	165	15.9	16	18
65	65	139.5	140	145	105.0	116	122	178.0	175	185	17.5	18	18
80	76	152.5	150	160	127.0	126	138	190.0	185	200	19.1	18	20
100	100	190.5	175	180	157.0	151	158	229.0	210	220	23.9	18	20
150	150	241.3	240	240	216.0	212	212	279.4	280	285	25.4	22	22
200	150	298.4	-	295	269.9	-	268	343.3	-	340	28.6	-	24

DN	f		N			ØN			L			H	H1	M
	ASME 150	JIS 10K	ASME 150	JIS 10K	PN 10/16	ASME 150	JIS 10K	PN 10/16	ASME 150	JIS 10K	PN 10/16			
50	1.6	2	4	4	4	19.0	19	18	220	220	230	80.0	136.5	395
65	1.6	2	4	4	4	19.0	19	18	280	280	290	97.0	162.0	495
80	1.6	2	4	8	8	19.0	19	18	285	285	310	108.0	186.0	495
100	1.6	2	8	8	8	19.0	19	18	347	347	350	129.0	213.0	650
150	1.6	2	8	8	8	22.2	23	22	480	480	480	214.5	280.0	800
200	1.6	2	8	12	12	22.2	23	22	480	480	480	215.0	280.0	800

\* Reduced bore only.

# K-BALL BALL VALVES FOR INDUSTRIAL AND PROCESS APPLICATIONS

## F130M - THREE-WAY SPLIT BODY BALL VALVE (IMPERIAL)



### DIMENSIONS (inch)

NPS	A	B	Ø	F	G	W
2	1.08	0.69	2.76	0.63	0.37	M8
2½	1.69	0.94	4.02	0.88	0.67	M10
3	1.63	0.94	4.02	0.88	0.67	M10
4	1.86	1.14	4.02	1.13	0.67	M10
6	2.56	1.46	4.92	1.34	0.91	M12
8*	2.56	1.46	4.92	1.34	0.91	M12

NPS	Ød	ØB			ØC			ØD			T		
		ASME 150	JIS 10K	PN 10/16	ASME 150	JIS 10K	PN 10/16	ASME 150	JIS 10K	PN 10/16	ASME 150	JIS 10K	PN 10/16
2	1.97	4.74	4.72	4.92	3.62	3.78	4.02	5.98	6.10	6.50	0.63	0.63	0.71
2½	2.56	5.49	5.51	5.71	4.13	4.57	4.80	7.01	6.89	7.28	0.69	0.71	0.71
3	2.99	6.00	5.91	6.30	5.00	4.96	5.43	7.48	7.28	7.87	0.75	0.71	0.79
4	3.94	7.50	6.89	7.09	6.18	5.94	6.22	9.02	8.27	8.66	0.94	0.71	0.79
6	5.91	9.50	9.45	9.45	8.50	8.35	8.35	11.00	11.02	11.22	1.00	0.87	0.87
8*	5.91	11.75	-	11.61	10.63	-	10.55	13.52	-	13.39	1.13	-	0.94

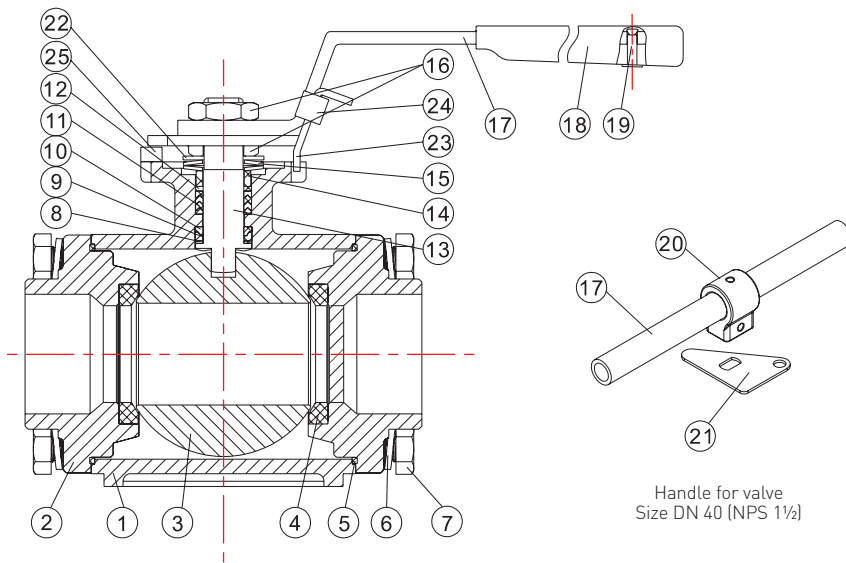
NPS	f		N			ØN			L			H	H1	M
	ASME 150	JIS 10K	ASME 150	JIS 10K	PN 10/16	ASME 150	JIS 10K	PN 10/16	ASME 150	JIS 10K	PN 10/16			
2	0.06	0.08	4	4	4	0.75	0.75	0.71	8.66	8.66	9.06	3.15	5.37	15.55
2½	0.06	0.08	4	4	4	0.75	0.75	0.71	11.02	11.02	11.42	3.82	6.38	19.49
3	0.06	0.08	4	8	8	0.75	0.75	0.71	11.22	11.22	12.20	4.25	7.32	19.49
4	0.06	0.08	8	8	8	0.75	0.75	0.71	13.66	13.66	13.78	5.08	8.39	25.59
6	0.06	0.08	8	8	8	0.87	0.91	0.87	18.90	18.90	18.90	8.44	11.02	31.50
8*	0.06	0.08	8	12	12	0.87	0.91	0.87	18.90	18.90	18.90	8.46	11.02	31.50

\* Reduced bore only.



# K-BALL BALL VALVES FOR INDUSTRIAL AND PROCESS APPLICATIONS

## F133M - THREE- AND FOUR-WAY SPLIT BODY BALL VALVE



### FEATURES

- Four seats design
- Simplicity in replacing valve seats and packing
- Investment casting for body and end cap
- Optional LL-port for 4 way (\*)
- Patented 'SEALMASTER' shaft arrangement
- Double shaft sealing complies with TA Luft requirements
- Blow-out proof shaft
- ISO 5211 mounting plate
- Anti-static design according to EN 1983 / ISO 17292
- Optional ball and body patterns for various flow paths
- Weld in place for socket or butt weld end
- Size range DN 10 (NPS 3/8) to DN 50 (NPS 2)
  - Full and reduced bore
- Valve pressure rating:
  - ASME Class 150
  - DIN PN 10/16
  - JIS 10K
- End connections screwed, butt weld, socket weld and flanged
- Flanged connection in full bore only
- Tightness to EN 12266-1, Rate A
- Patented 'POSILOCK' handle for DN 15 (NPS 1/2) to DN 32 (NPS 1 1/4)
  - Full bore

### NOTE

For Pressure/Temperature charts, please refer to page 40

### MATERIALS OF CONSTRUCTION

No.	Part name	Material	Quantity
1	Body	CF8M / WCB, 1.4408 / 1.0619	1
2	Cap	CF8M / WCB, 1.4408 / 1.0619	3-4
3	Ball	ASTM A351 Gr. CF8M	1
4	Ball seat	RPTFE	4
5	Body gasket	PTFE	4
6	Bolt washer	304SS	16
7	Bolt	A2-70	16
8	Lower thrust washer	50% SS powder / 50% PTFE	1
9	Compress ring	316L SS	1
10	Upper thrust washer	TFM 1600	1
11	V-ring shaft packing	PTFE	1 set
12	Thrust washer	50% SS powder / 50% PTFE	1
13	Anti-static shaft	A276 Type 316	1
14	Gland	304SS	1
15	Belleville washer	301SS	2
16	Shaft nut	304SS	1-2
17	Handle	CF8 DN 15 - 32 (NPS 1/2 - 1 1/4) SGP Zn plating DN 40 (NPS 1 1/2)	1
18	Handle sleeve	Vinyl	1
19	Rivet	304SS	1
20	Shaft adapter	304SS	1
21	Triangle stopper	Stainless steel	1
22	Lock saddle	Stainless steel	1
23	Locking trigger	Stainless steel	1
24	Stop bolt	Stainless steel	1
25	Block cover	CF8M / WCB, 1.4408 / 1.0619	1

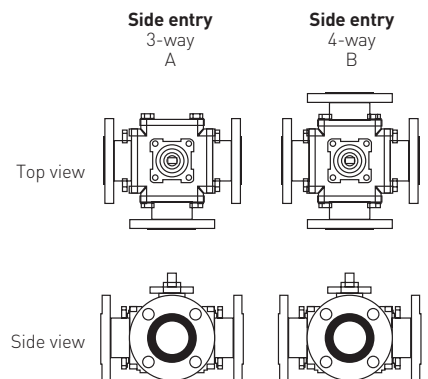
DN 10 (NPS 3/8) to DN 32 (NPS 1 1/4) for standard handle  
DN 40 (NPS 1 1/2) T-handle

### BALL PORT CONFIGURATION

**Side entry**

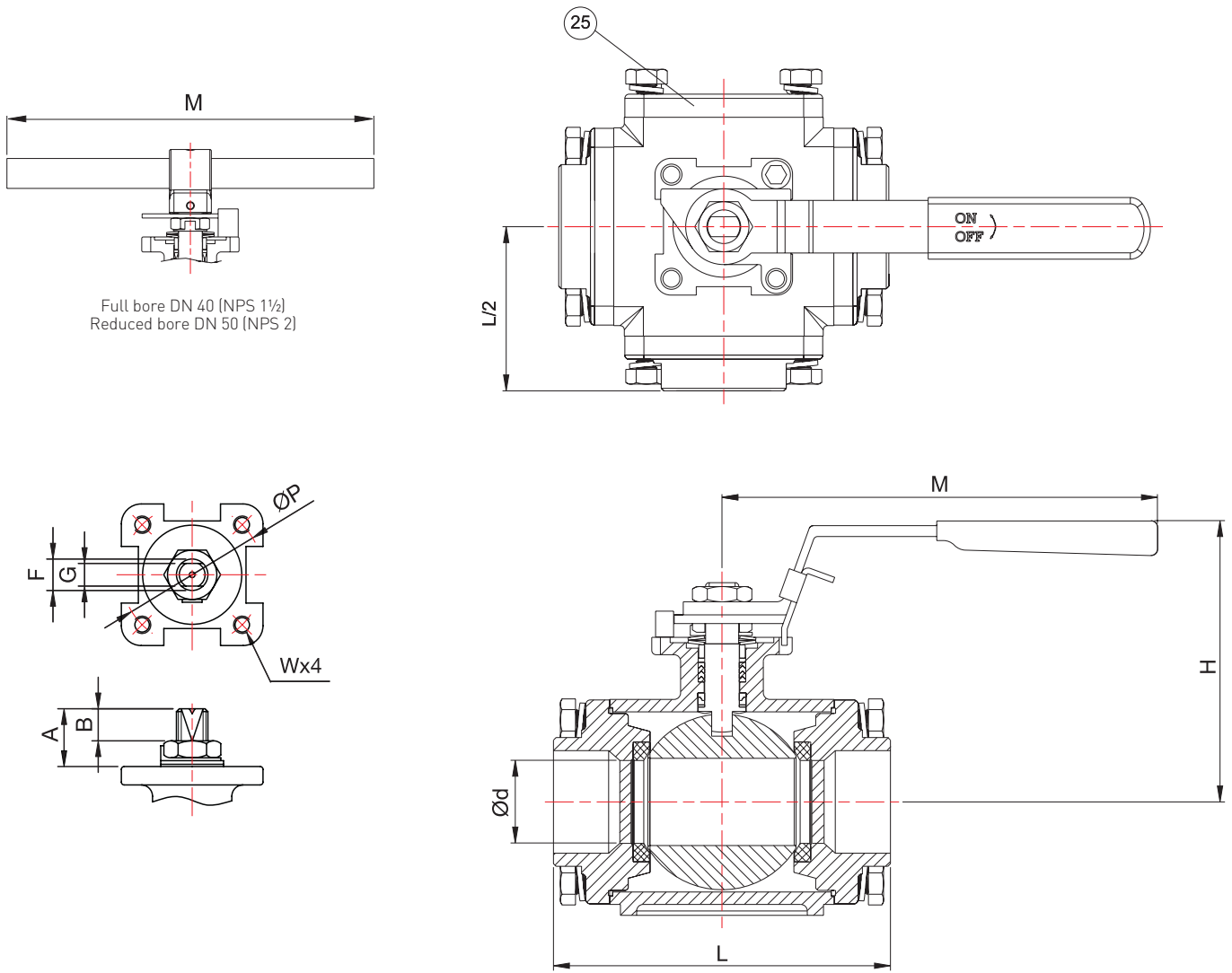
1. Tee-port (T)  
2. Angle port (L)  
3. Double angle port (LL)\*  
4. Straight port (S)

\* Please consult factory for minimum order quantity



# K-BALL BALL VALVES FOR INDUSTRIAL AND PROCESS APPLICATIONS

## F133M - THREE- AND FOUR-WAY SPLIT BODY BALL VALVE



### DIMENSIONS (mm)

DN	F	R	Ød	H	L	M	A	B	G	ØP	ØF	W
10	15		12.5	63.5	90.0	115	12.5	5.5	6.3	42	9.7	M5
15	20		15.5	82.0	107.0	130	18.2	10.6	6.3	42	9.7	M5
20	25		20.0	86.0	110.5	130	21.8	14.0	8.0	50	11.2	M6
25	32		25.0	98.0	126.5	165	21.8	14.3	8.0	50	11.2	M6
32	40		32.0	100.0	135.0	200	24.5	15.0	9.5	70	16.0	M8
40	50		38.0	127.0	154.0	395	24.5	15.0	9.5	70	16.0	M8

### DIMENSIONS (inch)

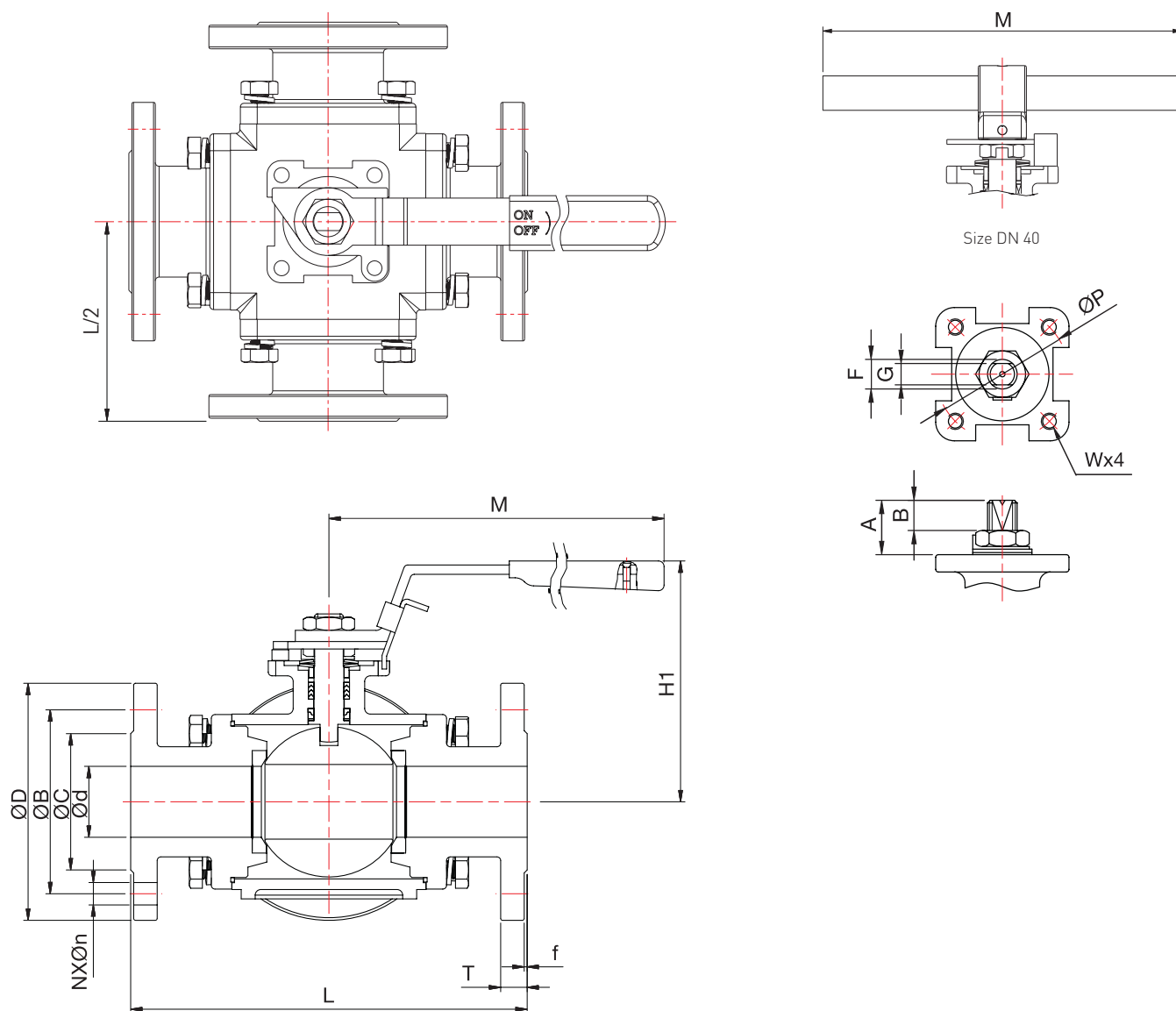
NPS	F	R	Ød	H	L	M	A	B	G	ØP	ØF	W
3/8	1/2		0.49	2.50	3.54	4.53	0.49	0.22	0.25	1.65	0.38	M5
1/2	3/4		0.61	3.23	4.21	5.12	0.72	0.42	0.25	1.65	0.38	M5
3/4	1		0.79	3.39	4.35	5.12	0.86	0.55	0.31	1.97	0.44	M6
1	1¼		0.98	3.86	4.98	6.50	0.86	0.56	0.31	1.97	0.44	M6
1¼	1½		1.26	3.94	5.31	7.87	0.96	0.59	0.37	2.76	0.63	M8
1½	2		1.50	5.00	6.06	15.55	0.96	0.59	0.37	2.76	0.63	M8

F: Full bore

R: Reduced bore

# K-BALL BALL VALVES FOR INDUSTRIAL AND PROCESS APPLICATIONS

## F133M - THREE- AND FOUR-WAY SPLIT BODY BALL VALVE (METRIC)



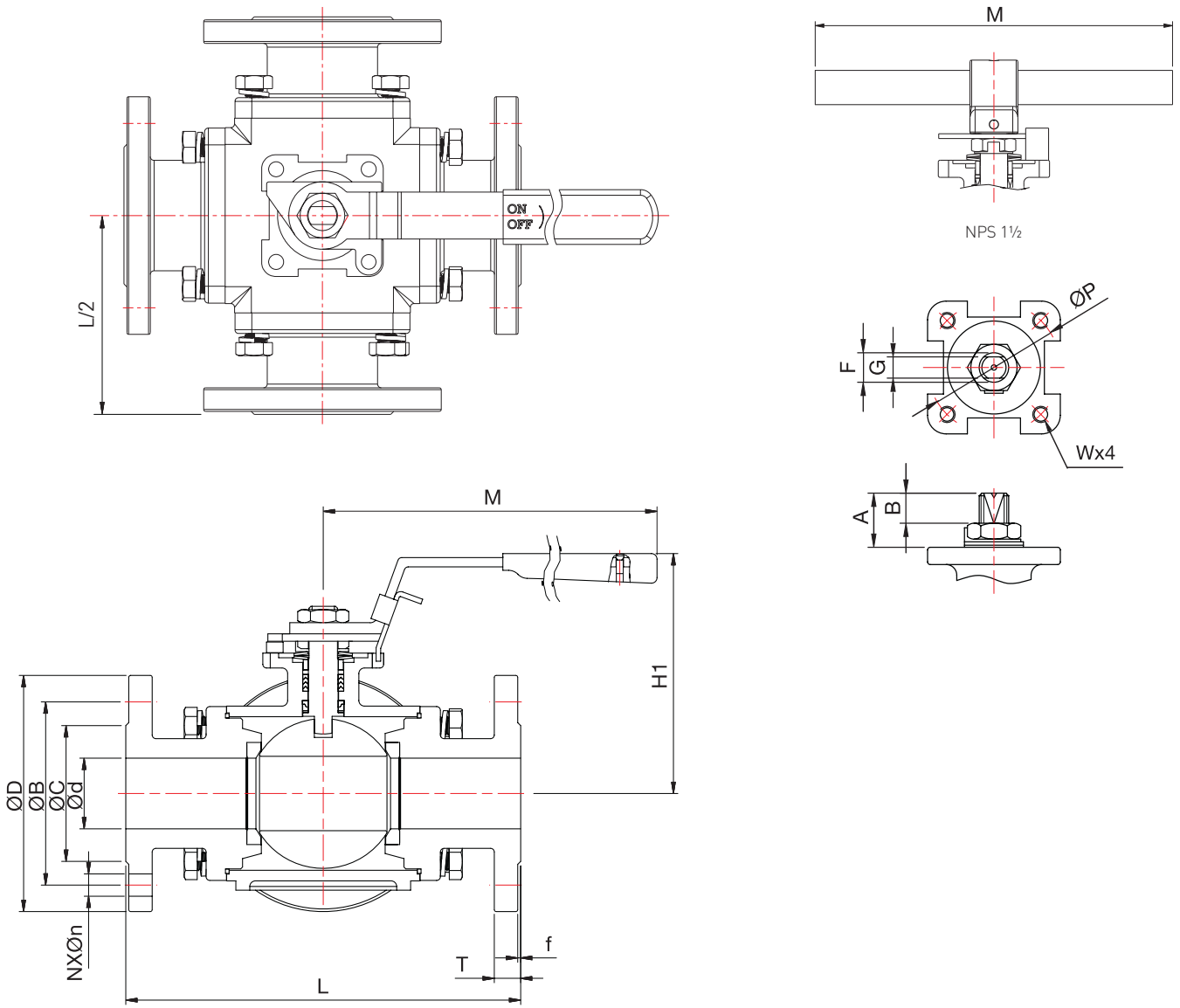
### DIMENSIONS (mm)

DN	A	B	ØB			ØC			Ød	ØP	ØD			N	M	W
			ASME	JIS	PN	ASME	JIS	PN			ASME	JIS	PN			
15	19.0	11.4	35	51	45	89	95	95	15.5	42	60.5	70	65	4	130	M5
20	21.8	14.0	43	56	58	98	100	105	20.0	50	70.0	75	75	4	130	M6
25	21.8	14.3	51	67	68	108	125	115	25.0	50	79.5	90	85	4	165	M6
40	24.5	15.0	73	81	88	127	140	150	38.0	70	98.5	105	110	4	400	M8

DN	F	G	H1	L			T				f			Øn		
				ASME	JIS	PN	ASME	JIS	JIS	PN	ASME	JIS	PN	ASME	JIS	PN
15	9.7	6.3	82	148.2	154.4	157.8	11.2	12	14	16	1.6	1	2	16	15	14
20	11.2	8.0	86	153.9	163.6	167.8	11.2	14	16	18	1.6	1	2	16	15	14
25	11.2	8.0	98	168.4	181.0	182.0	11.2	14	16	18	1.6	1	2	16	19	14
40	16.0	9.5	127	212.4	223.4	218.0	14.2	16	18	18	1.6	2	2	16	19	18

# K-BALL BALL VALVES FOR INDUSTRIAL AND PROCESS APPLICATIONS

## F133M - THREE- AND FOUR-WAY SPLIT BODY BALL VALVE (IMPERIAL)



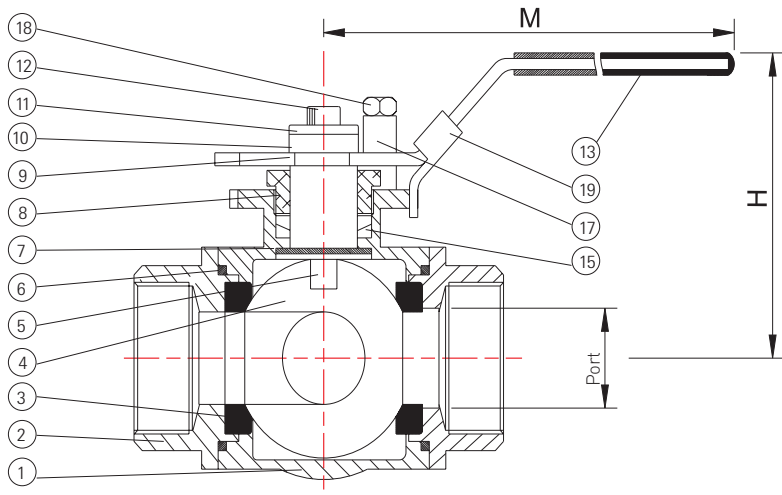
### DIMENSIONS (inch)

NPS	A	B	$\varnothing B$			$\varnothing C$			$\varnothing d$	$\varnothing P$	$\varnothing D$			N	M	W
			ASME 150	JIS 10K/20K	PN 10	ASME 150	JIS 10K/20K	PN 10			ASME 150	JIS 10K/20K	PN 10			
1/2	0.75	0.45	1.38	2.01	1.77	3.50	3.74	3.74	0.61	1.65	2.38	2.76	2.56	4	5.12	M5
3/4	0.86	0.55	1.69	2.20	2.28	3.86	3.94	4.13	0.79	1.97	2.76	2.95	2.95	4	5.12	M6
1	0.86	0.56	2.01	2.64	2.68	4.25	4.92	4.53	0.98	1.97	3.13	3.54	3.35	4	6.50	M6
1 1/2	0.96	0.59	2.87	3.19	3.46	5.00	5.51	5.91	1.50	2.76	3.88	4.13	4.33	4	15.75	M8

NPS	F	G	H1	L			T				f			$\varnothing n$		
				ASME 150	JIS 10K	PN 10	ASME 150	JIS 10K	JIS 20K	PN 10	ASME 150	JIS 10K/20K	PN 10	ASME 150	JIS 10K/20K	PN 10
1/2	0.38	0.25	3.23	5.83	6.08	6.21	0.44	0.47	0.55	0.63	0.06	0.04	0.08	0.63	0.59	0.55
3/4	0.44	0.31	3.39	6.06	6.44	6.61	0.44	0.55	0.63	0.71	0.06	0.04	0.08	0.63	0.59	0.55
1	0.44	0.31	3.86	6.63	7.13	7.17	0.44	0.55	0.63	0.71	0.06	0.04	0.08	0.63	0.75	0.55
1 1/2	0.63	0.37	5.00	8.36	8.80	8.58	0.56	0.63	0.71	0.71	0.06	0.08	0.08	0.63	0.75	0.71

# K-BALL BALL VALVES FOR INDUSTRIAL AND PROCESS APPLICATIONS

## R138 - THREE-WAY MULTI-PORT BALL VALVE



### FEATURES

- General purpose 69 bar (1000 psi) (PN 63), ball valve
- Three way multi-port ball valve with L-port or T-port options, 90° operation
- Investment cast body
- Stainless steel body, RPTFE seats
- Screwed ends to:
  - BSPP
  - BSPT
  - NPT
- ISO 5211 top mounting plate
- Blow-out proof shaft
- Size range DN 8 (NPS ¼) to DN 80 (NPS 3)
  - Reduced bore

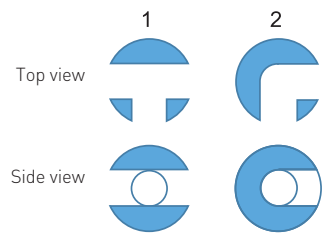
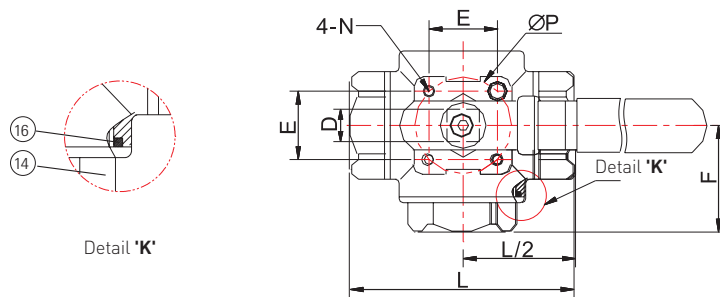
### NOTE

For Pressure/Temperature charts, please refer to page 40

### MATERIALS OF CONSTRUCTION

No.	Part name	Material	Quantity
1	Body	CF8M / 1.4408	1
2	Cap	CF8M / 1.4408	2
3	Seat	RPTFE	4
4	Ball	ASTM A351 Gr. CF8M	1
5	Anti-static shaft	A276 Type 316	1
6	Joint gasket	PTFE	2
7	Thrust washer	PTFE	1
8	Gland	304SS	1
9	Handle	304SS	1
10	Handle washer	304SS	1-3
11	Washer	304SS	1
12	Handle nut	304SS	1
13	Handle sleeve	Vinyl	1
14	End cap	CF8M / 1.4408	1
15	Shaft packings	PTFE	1 set
16	End cap seal	PTFE	1
17	Stopper	304SS	1
18	Bolt	A2-70	1
19	Locking device	304SS	1

### BALL PORT CONFIGURATION



### Side entry

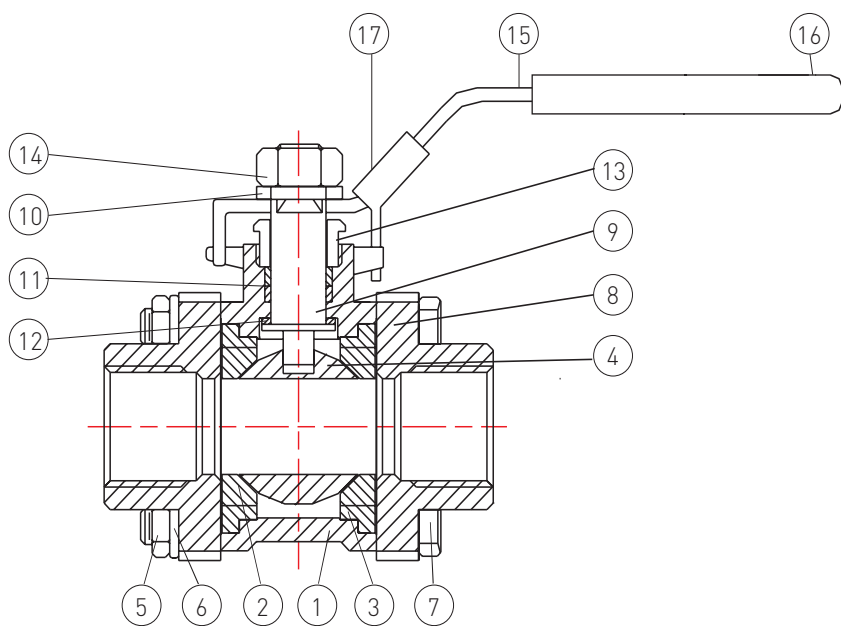
1. Tee-port (T)
2. Angle port (L)

### DIMENSIONS mm (inch)

Valve size			D	E	F	ØP	N	Ød ±0.5 (0.019)	L ±0.8 (0.031)	H ±3.0 (0.118)	M ±3.0 (0.118)	Weight	
DN	NPS	Port										kg	lbs
8	¼	11.0 (0.43)	9 (0.35)	29.7 (1.17)	34.6 (1.36)	42 (1.65)	M5	11.0 (0.43)	69.4 (2.73)	60.7 (2.39)	133.4 (5.25)	0.60	1.32
10	⅜	11.0 (0.43)	9 (0.35)	29.7 (1.17)	34.6 (1.36)	42 (1.65)	M5	11.0 (0.43)	69.4 (2.73)	60.7 (2.39)	133.0 (5.24)	0.60	1.32
15	½	12.5 (0.49)	9 (0.35)	29.7 (1.17)	39.3 (1.55)	42 (1.65)	M5	12.7 (0.50)	75.5 (2.97)	64.1 (2.52)	133.0 (5.24)	0.67	1.48
20	¾	16.0 (0.63)	11 (0.43)	35.4 (1.39)	44.7 (1.76)	50 (1.97)	M6	16.0 (0.63)	86.0 (3.39)	82.4 (3.24)	178.5 (7.03)	1.20	2.65
25	1	20.0 (0.79)	11 (0.43)	35.4 (1.39)	51.4 (2.02)	50 (1.97)	M6	20.0 (0.79)	102.4 (4.03)	86.1 (3.39)	178.5 (7.03)	1.70	3.75
32	1¼	25.0 (0.98)	11 (0.43)	35.4 (1.39)	57.5 (2.26)	50 (1.97)	M6	25.0 (0.98)	118.0 (4.65)	91.4 (3.60)	209.9 (8.26)	2.40	5.29
40	1½	32.0 (1.26)	11 (0.43)	49.5 (1.95)	62.7 (2.47)	70 (2.76)	M8	32.0 (1.26)	125.8 (4.95)	102.7 (4.04)	208.9 (8.22)	3.35	7.39
50	2	38.0 (1.50)	14 (0.55)	49.5 (1.95)	74.6 (2.94)	70 (2.76)	M8	38.0 (1.50)	149.0 (5.87)	110.0 (4.33)	229.9 (9.05)	5.50	12.13
65	2½	50.0 (1.97)	14 (0.55)	49.5 (1.95)	85.0 (3.35)	70 (2.76)	M8	50.0 (1.97)	170.1 (6.70)	115.8 (4.56)	229.9 (9.05)	6.63	14.62
80	3	65.0 (2.56)	17 (0.67)	72.1 (2.84)	97.5 (3.84)	102 (4.02)	M10	65.0 (2.56)	195.1 (7.68)	132.0 (5.20)	265.0 (10.43)	10.50	23.15

# K-BALL BALL VALVES FOR INDUSTRIAL AND PROCESS APPLICATIONS

## F155 - THREE-PIECE ECONOMICAL BALL VALVE



### MATERIALS OF CONSTRUCTION

No.	Part name	Material	Quantity
1	Body	CF8M / WCB, 1.4408 / 1.0619	1
2	Seat	PTFE	2
3	Body gasket	PTFE	2
4	Ball	ASTM A351 Gr. CF8M	1
5	Bolt nut	304SS	4-12
6	Bolt washer	304SS	4-12
7	Bolt	304SS	4-6
8	Cap	CF8M / WCB, 1.4408 / 1.0619	2*
9	Anti-static shaft	A276 Type 316	1
10	Handle washer	304SS	1
11	Shaft packing	PTFE	1
12	Thrust washer	PTFE	1
13	Gland nut	304SS	1
14	Shaft nut	304SS	1
15	Handle	304SS	1 set
16	Handle sleeve	Vinyl	1
17	Locking device	304SS	1

### FEATURES

- General purpose 69 bar (1000 psi) (PN 63) / 41.4 bar (600 psi) (PN 40), ball valve
- Three piece, swing out design
- Investment casting for body and end cap
- End connections screwed, butt weld and socket weld
- Blow-out proof stem
- Locking device
- Size range DN 8 (NPS ¼) to DN 100 (NPS 4) - Full bore
- Tightness to EN 12266-1, Rate A
- Threaded ends to: BSPP, BSPT, NPT

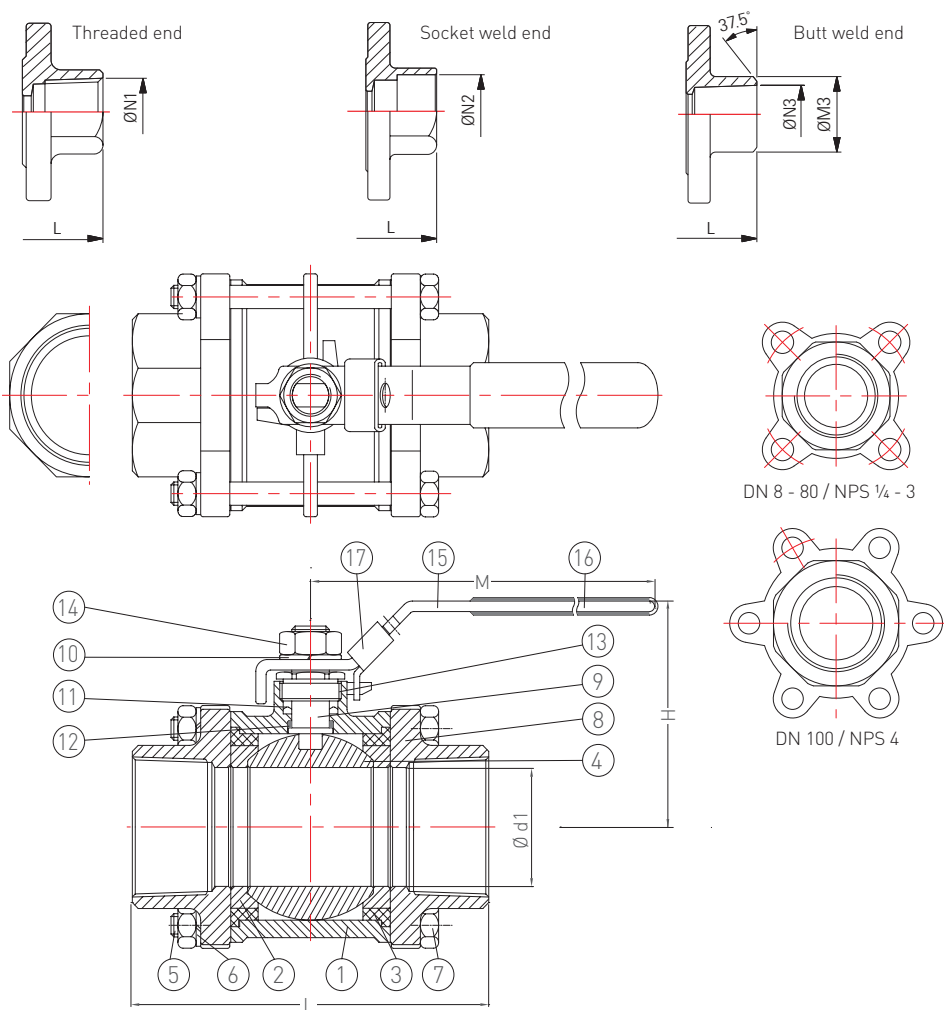
### NOTE

For Pressure/Temperature charts, please refer to page 40

\* Stainless steel welded connectors are CF3M/1.4409

# K-BALL BALL VALVES FOR INDUSTRIAL AND PROCESS APPLICATIONS

## F155 - THREE-PIECE ECONOMICAL BALL VALVE



### DIMENSIONS (mm)

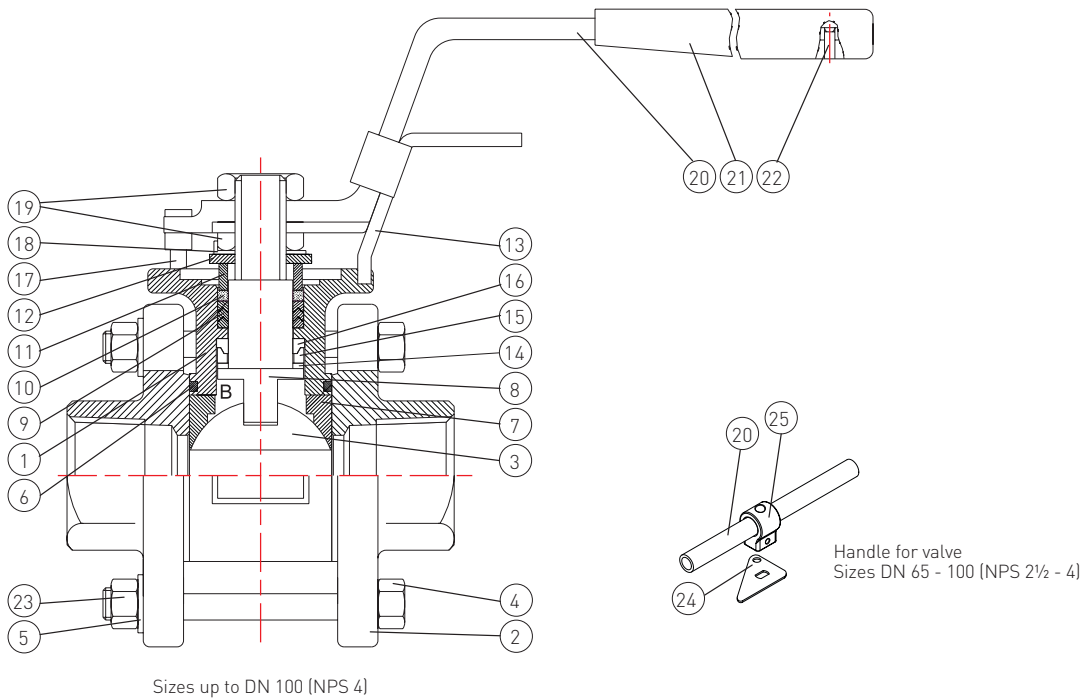
DN	d1	L	M	H	N2	N3	M3	Wt (kg)
8	11.5	54.0	97.4	49.0	14.2	11.0	13.7	0.31
10	12.5	54.0	97.4	49.0	17.5	12.5	17.1	0.31
15	15.0	63.5	122.9	58.0	21.8	15.8	21.3	0.47
20	20.0	72.5	122.9	61.0	27.4	20.9	26.7	0.60
25	25.0	81.0	144.9	68.0	34.1	26.6	33.4	0.91
32	32.0	94.5	144.9	73.5	42.7	35.1	42.2	1.36
40	38.0	108.0	188.9	84.5	49.0	40.9	48.3	2.03
50	50.0	121.5	188.9	93.2	61.2	52.5	60.3	3.00
65	65.0	157.5	255.3	131.8	77.0	62.7	73.0	6.36
80	80.0	190.0	260.8	140.0	90.2	77.9	88.9	9.90
100	100.0	225.0	322.2	173.6	115.3	102.3	114.3	20.74

### DIMENSIONS (inch)

NPS	d1	L	M	H	N2	N3	M3	Wt (lbs)
1/4	0.45	2.13	3.83	1.93	0.56	0.43	0.54	0.68
3/8	0.49	2.13	3.83	1.93	0.69	0.49	0.67	0.68
1/2	0.59	2.50	4.84	2.28	0.86	0.62	0.84	1.04
3/4	0.79	2.85	4.84	2.40	1.08	0.82	1.05	1.32
1	0.98	3.19	5.70	2.68	1.34	1.05	1.31	2.01
1 1/4	1.26	3.72	5.70	2.89	1.68	1.38	1.66	3.00
1 1/2	1.50	4.25	7.44	3.33	1.93	1.61	1.90	4.48
2	1.97	4.78	7.44	3.67	2.41	2.07	2.37	6.61
2 1/2	2.56	6.20	10.05	5.19	3.03	2.47	2.87	14.02
3	3.15	7.48	10.27	5.51	3.55	3.07	3.50	21.83
4	3.94	8.86	12.69	6.83	4.54	4.03	4.50	45.72

# K-BALL BALL VALVES FOR INDUSTRIAL AND PROCESS APPLICATIONS

## F171 - THREE-PIECE BALL VALVE TO ISO 5211



### MATERIALS OF CONSTRUCTION

No.	Part name	Material	Quantity
1	Body	CF8M / WCB, 1.4408 / 1.0619	1
2	Cap	CF8M / WCB, 1.4408 / 1.0619	2*
3	Ball	ASTM A351 Gr. CF8M	1
4	Bolt	A2-70	4-6
5	Bolt washer	304SS	4-12
6	Body gasket	PTFE	2
7	Ball seat	PTFE	2
8	Anti-static shaft	A276 Type 316	1
9	V-ring shaft packing	PTFE	1 set
10	Thrust washer	50% SS powder / 50% PTFE	1
11	Gland	304SS	1
12	Belleville washer	301SS	2
13	Locking trigger	Stainless steel	1
14	Lower shaft seal	50% SS powder / 50% PTFE	1
15	Compress ring	316L SS	1
16	Upper shaft seal	TFM 1600	1
17	Stop bolt	Stainless steel	1
18	Lock saddle	Stainless steel	1
19	Shaft nut	304SS	1-2
20	Handle	CF8 / SGP Zn plating	1
21	Handle sleeve	Vinyl	1
22	Rivet	304SS	1
23	Bolt nut	A2-70	4-12
24	Triangle stopper	Stainless steel	1
25	Handle adapter	CF8	1

\* Stainless steel welded connectors are CF3M/1.4409

### FEATURES

- Patented 'SEALMASTER' shaft arrangement for DN 15 (NPS ½) (full bore) and larger sizes
- Double shaft seal design complies with TA Luft fugitive emission requirements
- Three-piece swing out design
- Valve pressure rating:  
DN 8 - 40 (NPS ¼ - 1½) - ASME Class 400  
DN 50 - 100 (NPS 2 - 4) - ASME Class 300
- ISO 5211 top mounting plate
- End connections flanged, screwed, butt weld or socket weld
- Carbon steel or stainless steel bodies
- Size range DN 8 (NPS ¼) to DN 100 (NPS 4) - Full bore
- Seat material options
- Blow-out proof shaft and anti-static design
- Tightness to EN 12266-1, Rate A
- Patented 'POSILOCK' handle for DN 15 (NPS ½) to DN 50 (NPS 2) - Full bore

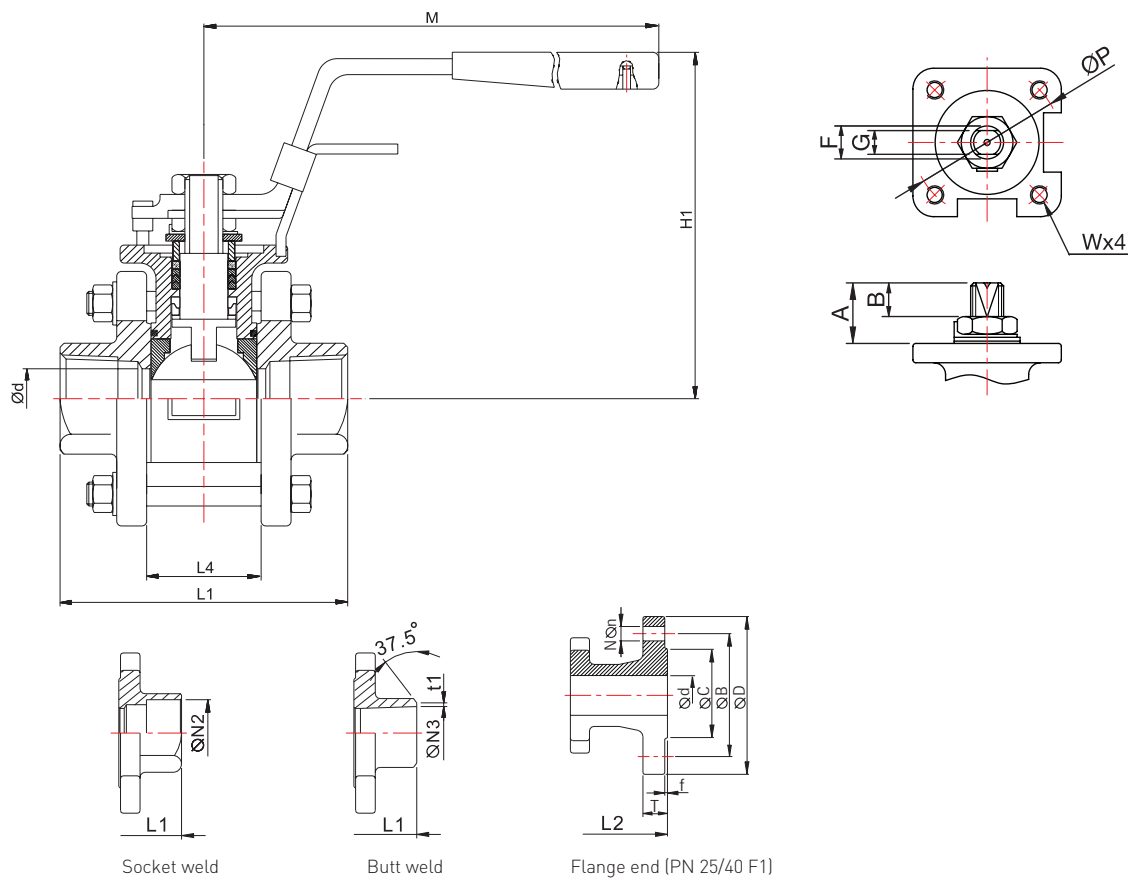
### NOTE

For Pressure/Temperature charts, please refer to page 41



# K-BALL BALL VALVES FOR INDUSTRIAL AND PROCESS APPLICATIONS

## F171 - THREE-PIECE BALL VALVE TO ISO 5211 (METRIC)



### DIMENSIONS (mm)

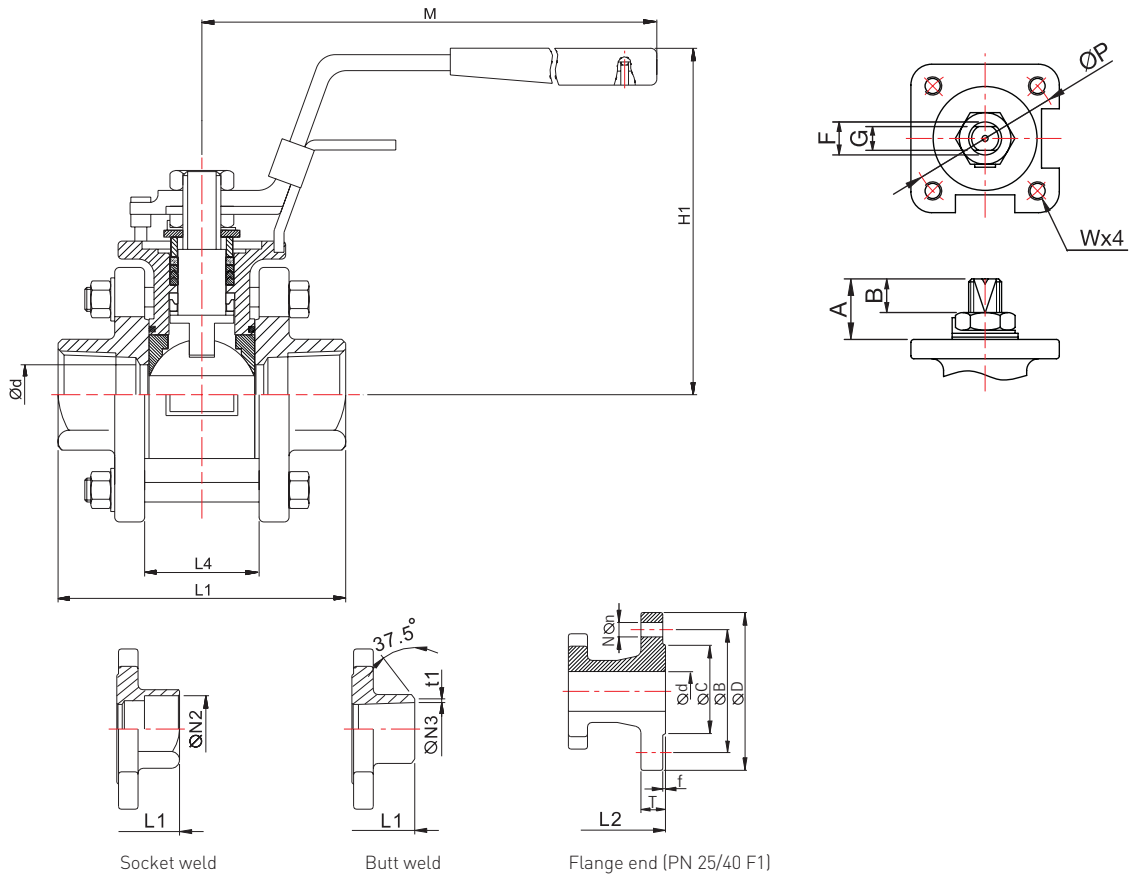
DN	A	B	G	ØP	F	W	Wt (kg)
							Threaded SW, BW
8	12.0	6.0	5.0	36	8.0	M5	0.44
10	12.0	6.0	5.0	36	8.0	M5	0.44
15	19.8	12.5	6.3	42	9.7	M5	0.44
20	20.0	12.5	6.3	42	9.7	M5	0.95
25	21.0	13.7	8.0	50	11.2	M6	1.40
32	21.4	13.2	8.0	50	11.2	M6	1.90
40	24.6	13.9	9.5	70	16.0	M8	3.08
50	25.1	13.9	9.5	70	16.0	M8	4.70
65	41.6	26.1	15.0	102	19.1	M10	8.90
80	42.0	25.4	15.0	102	19.1	M10	14.10
100	47.8	29.2	17.0	102	28.6	M10	22.00

DN	Ød	M	H1	L4	L1	L2	N	t1	T	f	Øn	ØD	ØB	ØC	ØN2	ØN3	Wt (kg)
																	PN 25/40 Flange
8	11.6	135	65.5	21.1	65.00	-	-	0.8	-	-	-	-	-	-	14.2	11.6	-
10	12.7	135	66.0	21.2	65.00	-	-	0.8	-	-	-	-	-	-	17.5	12.8	-
15	15.0	135	83.0	26.5	72.10	130	4	0.8	16	2	14	95	65	45	21.7	15.8	2.24
20	20.0	135	86.0	33.2	85.00	150	4	1.0	18	2	14	105	75	58	27.1	20.9	3.04
25	25.0	165	96.0	37.7	91.96	160	4	1.6	18	2	14	115	85	68	33.8	26.6	3.90
32	32.0	165	102.0	46.8	110.00	180	4	1.6	18	2	18	140	100	78	42.6	35.0	6.25
40	38.0	200	115.0	58.8	123.00	200	4	1.6	18	3	18	150	110	88	48.6	40.9	7.15
50	50.8	200	124.0	69.6	142.00	230	4	1.6	20	3	18	165	125	102	61.1	52.5	10.15
65	65.0	250	160.0	86.5	174.00	290	8	2.0	22	3	18	185	145	122	77.1	62.7	16.62
80	76.0	250	170.0	102.6	193.00	310	8	2.0	24	3	18	200	160	138	90.2	78.0	23.80
100	97.4	500	182.0	125.4	221.40	350	8	1.6	24	3	22	235	190	162	115.1	104.3	35.60

ØN1 refer to thread options: BSPP, BSPT, NPT, DIN 2999

# K-BALL BALL VALVES FOR INDUSTRIAL AND PROCESS APPLICATIONS

## F171 - THREE-PIECE BALL VALVE TO ISO 5211 (IMPERIAL)



### DIMENSIONS (inch)

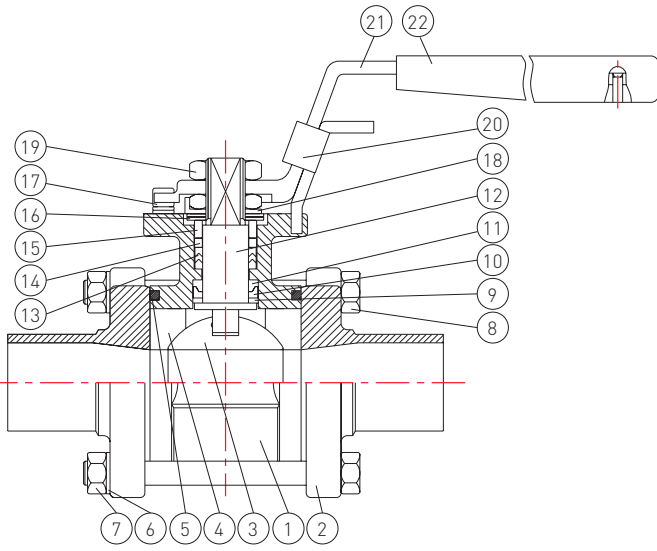
NPS	A	B	G	ØP	F	W	Wt (lbs)
							Threaded SW, BW
1/4	0.47	0.24	0.20	1.42	0.31	M5	0.97
3/8	0.47	0.24	0.20	1.42	0.31	M5	0.97
1/2	0.78	0.49	0.25	1.65	0.38	M5	0.97
3/4	0.79	0.49	0.25	1.65	0.38	M5	2.09
1	0.83	0.54	0.31	1.97	0.44	M6	3.09
1 1/4	0.84	0.52	0.31	1.97	0.44	M6	4.19
1 1/2	0.97	0.55	0.37	2.76	0.63	M8	6.79
2	0.99	0.55	0.37	2.76	0.63	M8	10.36
2 1/2	1.64	1.03	0.59	4.02	0.75	M10	19.62
3	1.65	1.00	0.59	4.02	0.75	M10	31.09
4	1.88	1.15	0.67	4.02	1.13	M10	48.50

NPS	Ød	M	H1	L4	L1	L2	N	t1	T	f	Øn	ØD	ØB	ØC	ØN2	ØN3	Wt (lbs)
																	PN 25/40 Flange
1/4	0.46	5.31	2.58	0.83	2.56	-	-	0.03	-	-	-	-	-	-	0.56	0.46	-
3/8	0.50	5.31	2.60	0.83	2.56	-	-	0.03	-	-	-	-	-	-	0.69	0.50	-
1/2	0.59	5.31	3.27	1.04	2.84	5.12	4	0.03	0.63	0.08	0.55	3.74	2.56	1.77	0.85	0.62	4.94
3/4	0.79	5.31	3.39	1.31	3.35	5.91	4	0.04	0.71	0.08	0.55	4.13	2.95	2.28	1.07	0.82	6.70
1	0.98	6.50	3.78	1.48	3.62	6.30	4	0.06	0.71	0.08	0.55	4.53	3.35	2.68	1.33	1.05	8.60
1 1/4	1.26	6.50	4.02	1.84	4.33	7.09	4	0.06	0.71	0.08	0.71	5.51	3.94	3.07	1.68	1.38	13.78
1 1/2	1.50	7.87	4.53	2.31	4.84	7.87	4	0.06	0.71	0.12	0.71	5.91	4.33	3.46	1.91	1.61	15.76
2	2.00	7.87	4.88	2.74	5.59	9.06	4	0.06	0.79	0.12	0.71	6.50	4.92	4.02	2.41	2.07	22.38
2 1/2	2.56	9.84	6.30	3.41	6.85	11.42	8	0.08	0.87	0.12	0.71	7.28	5.71	4.80	3.04	2.47	36.64
3	2.99	9.84	6.69	4.04	7.60	12.20	8	0.08	0.94	0.12	0.71	7.87	6.30	5.43	3.55	3.07	52.47
4	3.83	19.69	7.17	4.94	8.72	13.78	8	0.06	0.94	0.12	0.87	9.25	7.48	6.38	4.53	4.11	78.48

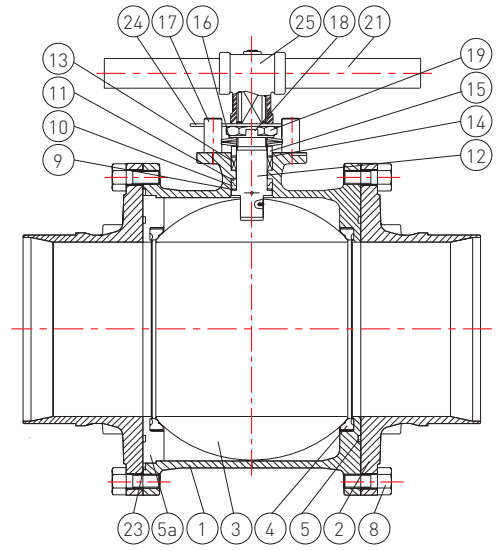
ØN1 refer to thread options: BSPP, BSPT, NPT, DIN 2999

# K-BALL BALL VALVES FOR INDUSTRIAL AND PROCESS APPLICATIONS

## F171T - THREE-PIECE HIGH PURITY CLEAN BALL VALVE



Sizes DN 15 - 80 (NPS 1/2 - 3)



Sizes DN 100 - 300 (NPS 4 - 12)

### MATERIALS OF CONSTRUCTION

No.	Part name	Material	Quantity
1	Body	CF8M / WCB, 1.4408	1
2	Cap	CF8M / WCB, 1.4409	2
3	Ball	ASTM A351 Gr. CF8M	1
4	Ball seat	PTFE	2
5	Body seal	PTFE	2
5a	Seat ring	ASTM A351 Gr. CF8M - DN 125 - 300 (NPS 5 - 12)	1
6	Bolt washer	304SS	4-12
7	Bolt nut	A2-70	4-12
8	Bolt	A2-70	(Note 1)
9	Lower thrust washer	50% SS powder / 50% PTFE	1
10	Compress ring	316L SS - DN 15 - 100 (NPS 1/2 - 4) 316 SS - DN 125 - 300 (NPS 5 - 12)	1
11	Upper thrust washer	TFM 1600	1
12	Anti-static shaft	A276 Type 316 (Note 2)	1
13	V-ring shaft packing	PTFE	1 set
14	Thrust washer	50% SS powder / 50% PTFE	1
15	Gland	304SS	1
16	Belleville washer	301SS	2
17	Stop bolt	Stainless steel	1-2
18	Lock saddle	Stainless steel	1
19	Shaft nut	304SS	1-2
20	Locking trigger	Stainless steel	1
21	Handle	CF8 / SGP Zn plating	1
22	Handle sleeve	Vinyl	1
23	Cap seal	PTFE	1
24	Triangle stopper	Stainless steel - DN 65 - 300 (NPS 2 1/2 - 12)	1
25	Handle adapter	CF8 - DN 65 - 125 (NPS 2 1/2 - 5) A536 DN 150 - 300 (NPS 6 - 12)	1

Note 1: DN 15 - 65 (NPS 1/2 - 2 1/2) x 4 pcs, DN 80 - 100 (NPS 3 - 4) x 6 pcs, DN 125 (NPS 5) x 20 pcs, DN 150 (NPS 6) x 28 pcs, DN 200 (NPS 8) x 24 pcs, DN 250 - 300 (NPS 10 - 12) x 40 pcs

Note 2: See table below

### FEATURES

- Patented 'SEALMASTER' shaft arrangement
- Double shaft seal design complies with TA Luft fugitive emission requirements
- Blow-out proof shaft
- ISO 5211 top mounting plate
- Three-piece swing out design
- Valve pressure rating:  
DN 15 - 40 (NPS 1/2 - 1 1/2) - PN 63  
DN 50 - 100 (NPS 2 - 4) - PN 40  
DN 125 - 300 (NPS 5 - 12) - PN 16
- End connections butt weld, tubing and Tri-Clamp
- All wetted parts are polished to 180 Grit (0.51 to 0.64 micron)
- All extended weld ends in CF3M/DIN 1.4409 material allows orbital welding in place
- High purity cleaning (oil free) and packing
- Bosses for purge connections are built into the end caps
- Size range DN 15 (NPS 1/2) to DN 300 (NPS 12)
- Helium leak detection calibrated to 1x10<sup>-5</sup> std cm<sup>3</sup>/sec
- Patented 'POSILOCK' handle for DN 15 (NPS 1/2) to DN 50 (NPS 2) full bore
- Individually bagged
- Cavity filler seat option available
- Clean room assembly option available

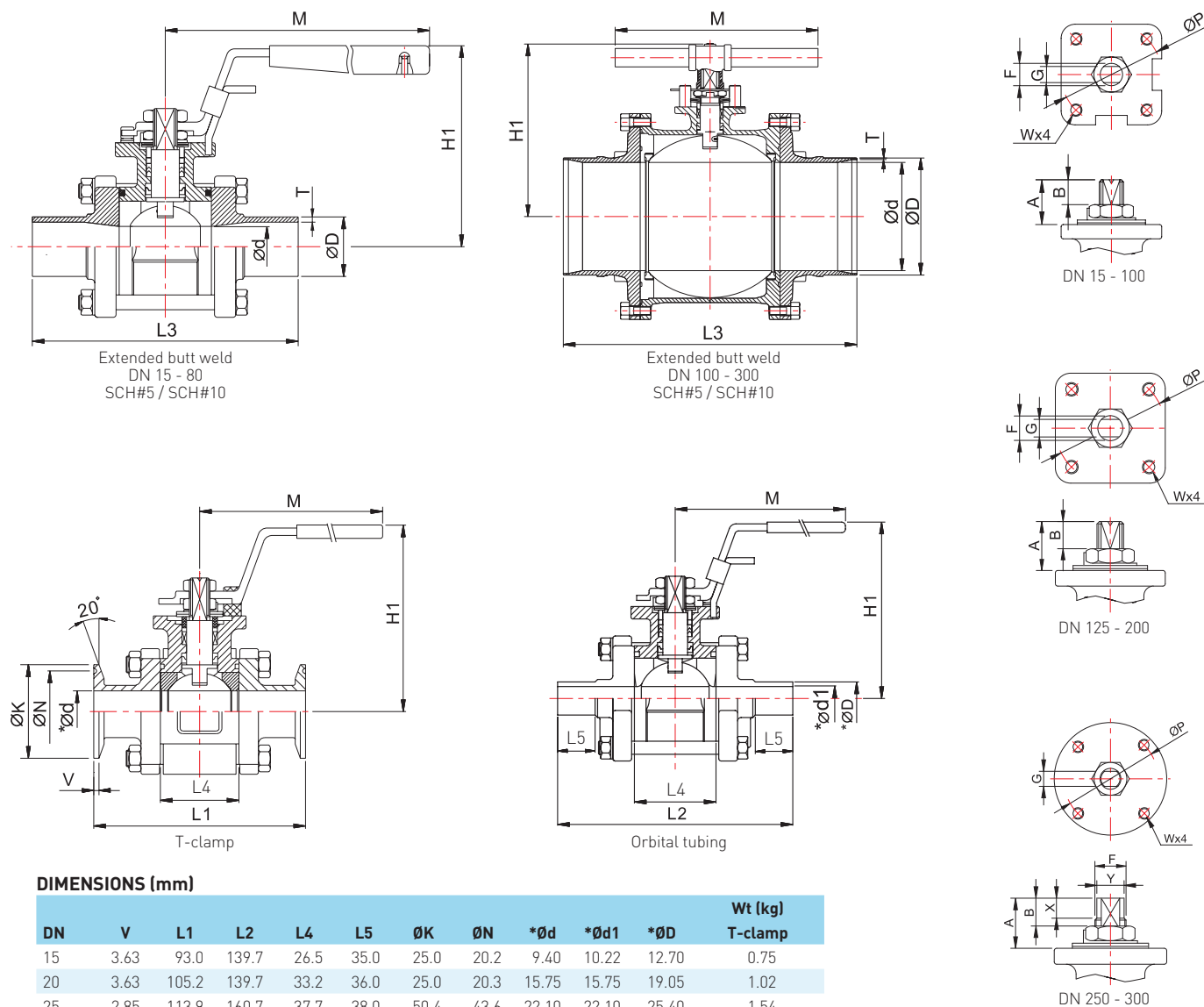
### NOTE

For Pressure/Temperature charts, please refer to page 41

Body material	Size	
CF8M, SCS14A, 1.4408	DN 15 - 100 (NPS 1/2 - 4)	316
	DN 150 (NPS 6)	2205 (A276-S31803)
	DN 200 - 300 (NPS 8 - 12)	2205 (A276-S31803)
WCB, SCPH2, 1.0619	DN 15 - 100 (NPS 1/2 - 4)	316
	DN 150 (NPS 6)	17-4 (A564-630)
	DN 200 - 300 (NPS 8 - 12)	17-4 (A564-630)

# K-BALL BALL VALVES FOR INDUSTRIAL AND PROCESS APPLICATIONS

## F171T - THREE-PIECE HIGH PURITY CLEAN BALL VALVE (METRIC)



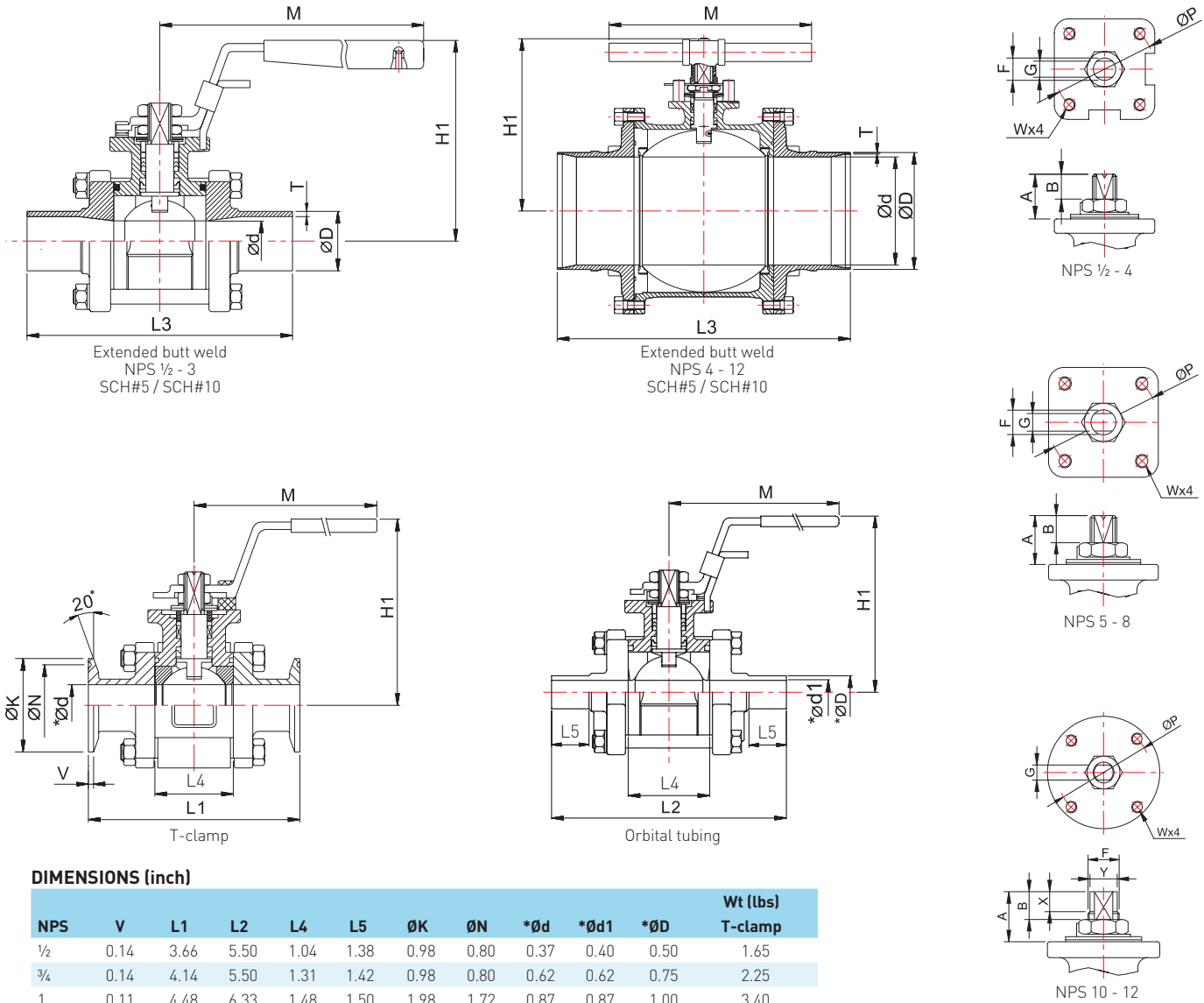
### DIMENSIONS (mm)

DN	V	L1	L2	L4	L5	ØK	ØN	*Ød	*Ød1	*ØD	Wt (kg) T-clamp
15	3.63	93.0	139.7	26.5	35.0	25.0	20.2	9.40	10.22	12.70	0.75
20	3.63	105.2	139.7	33.2	36.0	25.0	20.3	15.75	15.75	19.05	1.02
25	2.85	113.9	160.7	37.7	38.0	50.4	43.6	22.10	22.10	25.40	1.54
40	2.85	125.0	190.4	58.0	46.0	50.4	43.6	34.80	34.80	38.10	-
50	2.85	146.0	203.2	69.6	46.0	63.9	56.3	47.50	47.50	50.80	3.08
65	2.85	174.0	254.0	86.5	56.0	77.4	70.6	60.20	60.20	63.50	4.54
80	2.85	193.0	279.0	102.6	60.0	90.9	83.3	72.90	72.90	76.20	9.32
100	2.85	219.4	307.0	125.4	60.0	118.9	110.3	97.38	97.38	101.60	13.15

DN	A	B	G	ØP	W	F	Ød	T			ØD	M	H1	L3	Wt (kg)		
								5S	10S	Ext. BW					X	Y	
15	19.8	12.5	6.3	42	M5	9.7	15.0	1.65	2.1	21.7	135	82	139.7	0.98	-	-	
20	20.0	12.5	6.3	42	M5	9.7	20.0	1.65	2.1	27.2	135	86	139.7	1.18	-	-	
25	21.0	13.7	8.0	50	M6	11.2	25.0	1.65	2.8	34.0	165	98	154.2	1.80	-	-	
32	21.4	13.2	8.0	50	M6	11.2	32.0	1.65	2.8	42.7	165	100	165.1	2.64	-	-	
40	24.6	13.9	9.5	70	M8	16.0	38.0	1.65	2.8	48.6	200	116	190.5	3.90	-	-	
50	25.1	13.9	9.5	70	M8	16.0	50.8	1.65	2.8	60.5	200	125	203.2	5.42	-	-	
65	41.6	26.1	15.0	102	M10	19.1	65.0	2.10	3.0	76.3	250	160	254.0	10.42	-	-	
80	42.0	25.4	15.0	102	M10	19.1	76.0	2.10	3.0	89.1	250	171	279.4	15.74	-	-	
100	47.8	29.2	17.0	102	M10	28.6	97.4	2.10	3.0	114.3	595	204	317.5	23.06	-	-	
125	53.6	33.0	17.0	102	M10	28.6	125.0	2.80	3.4	139.8	595	226	381.0	49.00	-	-	
150	65.0	39.0	23.0	125	M12	34.0	150.0	2.80	3.4	165.2	800	281	403.0	76.00	-	-	
200	65.0	39.0	23.0	125	M12	34.0	200.0	2.80	4.0	216.3	1100	317	521.0	136.00	-	-	
250	83.5	52.0	30.0	140	M16	50.0	250.0	3.40	4.0	267.4	1100	378	559.0	153.00	40	47	
300	83.5	52.0	30.0	140	M16	50.0	300.0	4.00	4.5	318.5	1100	420	635.0	409.00	40	47	

# K-BALL BALL VALVES FOR INDUSTRIAL AND PROCESS APPLICATIONS

## F171T - THREE-PIECE HIGH PURITY CLEAN BALL VALVE (IMPERIAL)



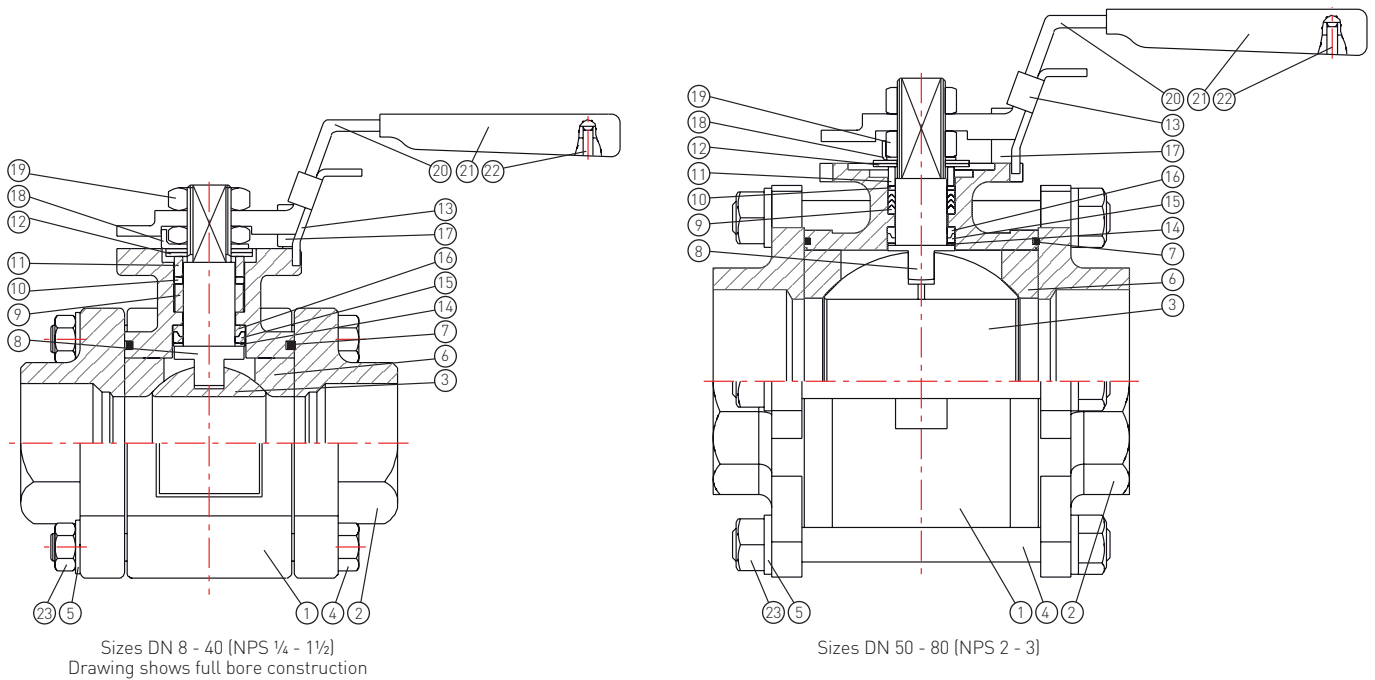
### DIMENSIONS (inch)

NPS	V	L1	L2	L4	L5	ØK	ØN	*Ød	*Ød1	*ØD	Wt (lbs) T-clamp
1/2	0.14	3.66	5.50	1.04	1.38	0.98	0.80	0.37	0.40	0.50	1.65
3/4	0.14	4.14	5.50	1.31	1.42	0.98	0.80	0.62	0.62	0.75	2.25
1	0.11	4.48	6.33	1.48	1.50	1.98	1.72	0.87	0.87	1.00	3.40
1 1/2	0.11	4.92	7.50	2.28	1.81	1.98	1.72	1.37	1.37	1.50	-
2	0.11	5.75	8.00	2.74	1.81	2.52	2.22	1.87	1.87	2.00	6.79
2 1/2	0.11	6.85	10.00	3.41	2.20	3.05	2.78	2.37	2.37	2.50	10.01
3	0.11	7.60	10.98	4.04	2.36	3.58	3.28	2.87	2.87	3.00	20.55
4	0.11	8.64	12.09	4.94	2.36	4.68	4.34	3.83	3.83	4.00	28.99

NPS	A	B	G	ØP	W	F	Ød	T		ØD	M	H1	L3	Wt (lbs) Ext. BW	X	Y
								5S	10S							
1/2	0.78	0.49	0.25	1.65	M5	0.38	0.59	0.06	0.08	0.85	5.31	3.23	5.50	2.16	-	-
3/4	0.79	0.49	0.25	1.65	M5	0.38	0.79	0.06	0.08	1.07	5.31	3.39	5.50	2.60	-	-
1	0.83	0.54	0.31	1.97	M6	0.44	0.98	0.06	0.11	1.34	6.50	3.86	6.07	3.97	-	-
1 1/4	0.84	0.52	0.31	1.97	M6	0.44	1.26	0.06	0.11	1.68	6.50	3.94	6.50	5.82	-	-
1 1/2	0.97	0.55	0.37	2.76	M8	0.63	1.50	0.06	0.11	1.91	7.87	4.57	7.50	8.60	-	-
2	0.99	0.55	0.37	2.76	M8	0.63	2.00	0.06	0.11	2.38	7.87	4.92	8.00	11.95	-	-
2 1/2	1.64	1.03	0.59	4.02	M10	0.75	2.56	0.08	0.12	3.00	9.84	6.30	10.00	22.97	-	-
3	1.65	1.00	0.59	4.02	M10	0.75	2.99	0.08	0.12	3.51	9.84	6.73	11.00	34.70	-	-
4	1.88	1.15	0.67	4.02	M10	1.13	3.83	0.08	0.12	4.50	23.43	8.03	12.50	50.84	-	-
5	2.11	1.30	0.67	4.02	M10	1.13	4.92	0.11	0.13	5.50	23.43	8.90	15.00	108.03	-	-
6	2.56	1.54	0.91	4.92	M12	1.34	5.91	0.11	0.13	6.50	31.50	11.06	15.87	167.55	-	-
8	2.56	1.54	0.91	4.92	M12	1.34	7.87	0.11	0.16	8.52	43.31	12.48	20.51	299.83	-	-
10	3.29	2.05	1.18	5.51	M16	1.97	9.84	0.13	0.16	10.53	43.31	14.88	22.01	337.31	1.57	1.85
12	3.29	2.05	1.18	5.51	M16	1.97	11.81	0.16	0.18	12.54	43.31	16.54	25.00	901.69	1.57	1.85

# K-BALL BALL VALVES FOR INDUSTRIAL AND PROCESS APPLICATIONS

## F180/R180 - THREE-PIECE HEAVY DUTY BALL VALVE



### MATERIALS OF CONSTRUCTION

No.	Part name	Material	Quantity
1	Body	CF8M / WCB, 1.4408 / 1.0619	1
2	Cap	CF8M / WCB, 1.4409 / 1.0619	2*
3	Ball	ASTM A351 Gr. CF8M	1
4	Bolt	A2-70	4-6
5	Bolt washer	304SS	4-12
6	Ball seat	RPTFE	2
7	Body gasket	PTFE	2
8	Anti-static shaft	A276 Type 316	1
9	V-ring shaft packing	PTFE	1 set
10	Thrust washer	50% SS powder / 50% PTFE	1
11	Gland	304SS	1
12	Belleville washer	301SS	2
13	Locking trigger	Stainless steel	1
14	Lower shaft seal	50% SS powder / 50% PTFE	1
15	Compress ring	316L SS	1
16	Upper shaft seal	TFM 1600	1
17	Stop bolt	Stainless steel	1
18	Lock saddle	Stainless steel	1
19	Shaft nut	304SS	2
20	Handle	CF8 / SGP Zn plating	1
21	Handle sleeve	Vinyl	1
22	Rivet	304SS	1
23	Bolt nut	A2-70	4-12

\* Stainless steel welded connector materials are CF3M/1.4409

### FEATURES

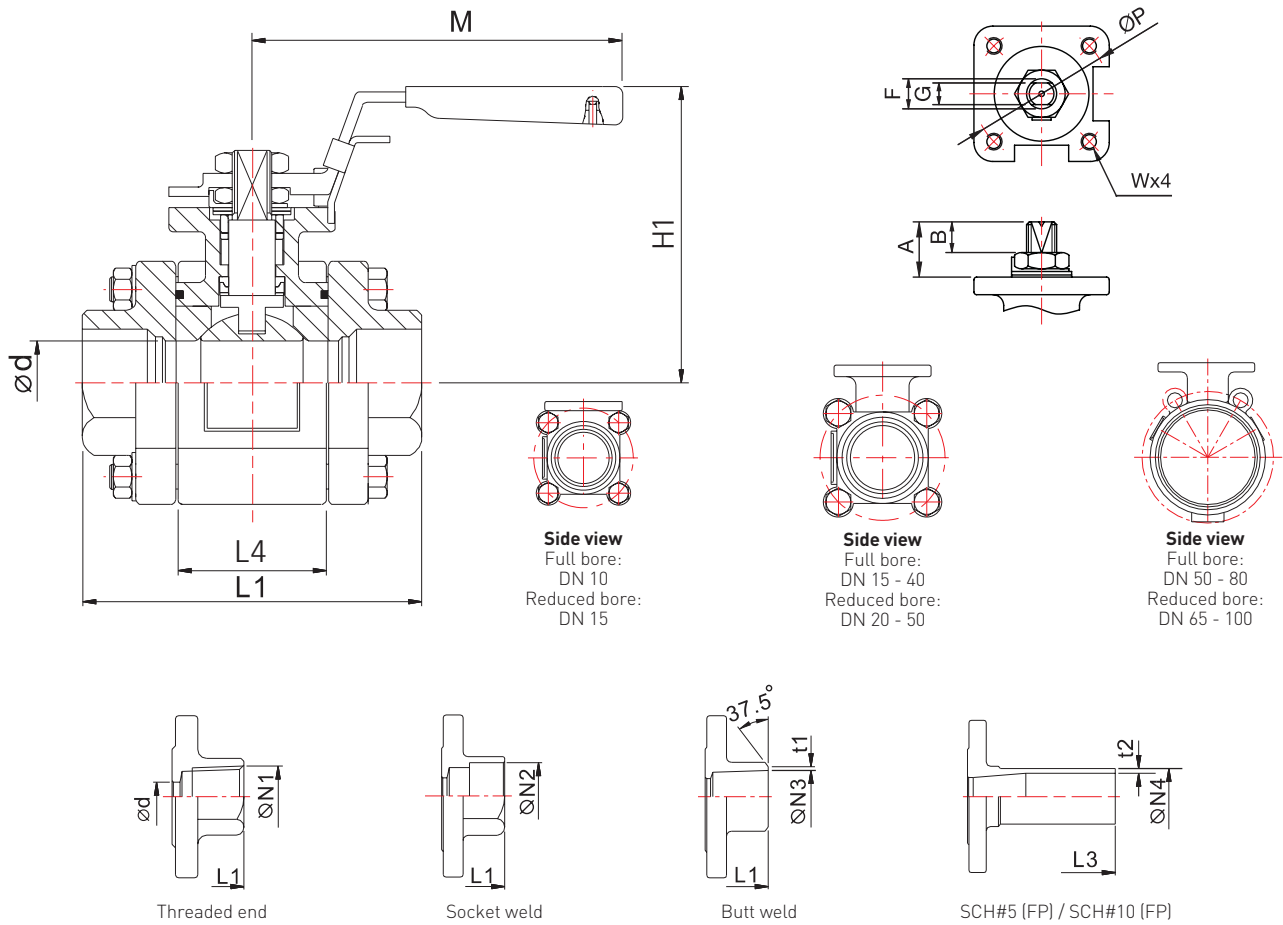
- Patented 'SEALMASTER' shaft arrangement DN 15 (NPS 1/2) (full bore) and larger sizes
- Double shaft sealing complies with TA Luft fugitive emission requirements
- Heavy duty, three piece ball valve
- ISO 5211 top mounting plate
- Fully enclosed bolting for sizes up to DN 40 (NPS 1 1/2) full bore and DN 50 (NPS 2) reduced bore
- End connections, screwed, butt weld and socket weld
- Seat material options
- Size range DN 8 to 80 (NPS 1/4 - 3)
  - Reduced bore to DN 100 (NPS 4)
- Blow-out proof shaft and anti-static design
- Tightness to EN 12266-1, Rate A
- Optional casting per AD2000-WO
- Patented 'POSILOCK' handle for DN 15 to 50 (NPS 1/2 - 2)
  - Full bore
- Valve pressure rating:
  - DN 8 - 50 (NPS 1/4 - 2) - ASME Class 600
  - DN 65 - 80 (NPS 2 1/2 - 3) - ASME Class 300

### NOTE

For Pressure/Temperature charts, please refer to page 41

# K-BALL BALL VALVES FOR INDUSTRIAL AND PROCESS APPLICATIONS

## F180/R180 - THREE-PIECE HEAVY DUTY BALL VALVE (METRIC)



### FULL BORE DIMENSIONS (mm)

DN	Ød	A	B	G	ØP	F	W	M	t1	t2		L1	L2	L3	ØN2	ØN3	ØN4	H1	Wt (kg)
										5S	10S								
8	11.2	12.2	5.6	5.0	36	8.0	M5	115	0.5	-	-	66.6	-	21.2	14.1	9.2	-	66	0.62
10	12.7	12.2	5.6	5.0	36	8.0	M5	115	0.5	-	-	66.6	-	21.2	17.5	12.5	-	66	0.60
15	15.0	15.0	9.3	6.3	42	9.7	M5	135	0.5	1.65	2.1	71.6	129.8	25.2	22.4	15.8	21.7	84	0.82
20	20.0	20.0	12.5	6.3	42	9.7	M5	135	0.5	1.65	2.1	96.6	140.9	32.3	27.4	21.0	27.2	88	1.42
25	25.0	21.4	13.4	8.0	50	11.2	M6	165	0.5	1.65	2.8	109.0	223.3	42.3	34.2	26.6	34.0	98	2.02
32	31.8	21.7	13.8	8.0	50	11.2	M6	165	0.5	1.65	2.8	117.0	230.4	49.4	43.0	35.1	42.7	101	2.76
40	38.1	25.6	15.6	9.5	70	16.0	M8	200	0.5	1.65	2.8	129.0	240.2	57.2	49.0	40.9	48.6	117	4.12
50	50.8	25.2	16.3	9.5	70	16.0	M8	200	1.0	1.65	2.8	142.0	259.4	71.4	61.1	52.5	60.5	125	6.00
65	65.0	42.7	25.2	17.0	102	22.3	M10	250	1.0	-	-	174.0	-	89.0	77.1	68.9	-	165	9.48
80	76.0	39.4	24.8	17.0	102	22.3	M10	250	1.6	-	-	193.0	-	108.5	90.2	77.9	-	174	15.64

ØN1: refer to thread options: NPT, BSPT, BSPP, DIN 2999

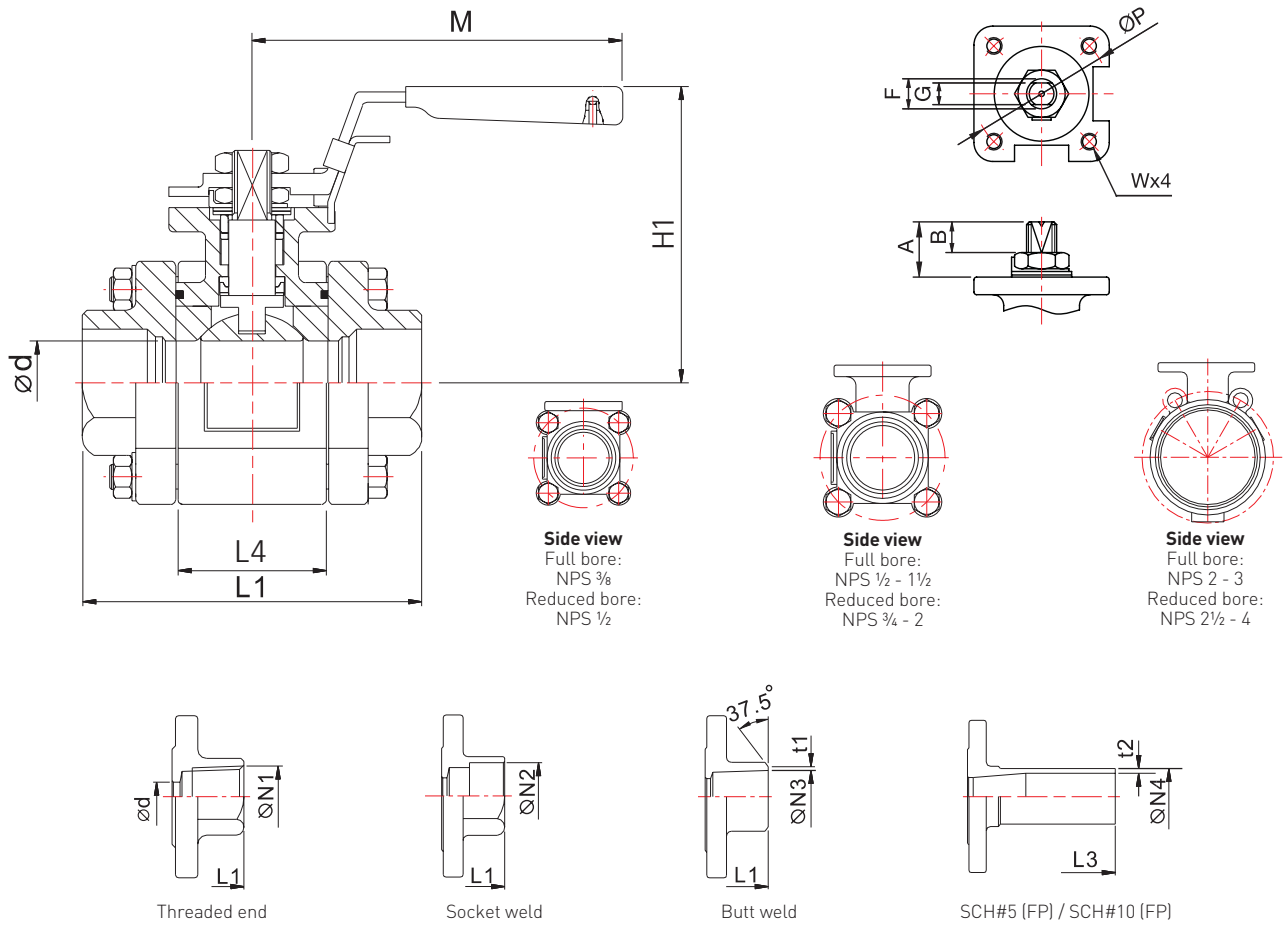
### REDUCED BORE DIMENSIONS (mm)

DN	Ød	A	B	G	ØP	F	W	M	t1	L1	L4	ØN2	ØN3	H1	Wt (kg)
15	12.7	12.2	5.6	5.0	36	8.0	M5	115	0.5	66.6	21.2	22.4	15.8	66	0.63
20	15.0	15.0	9.3	6.3	42	9.7	M5	135	0.5	71.6	25.2	27.4	21.0	84	0.85
25	20.0	20.0	12.5	6.3	42	9.7	M5	135	0.5	96.6	32.3	34.2	26.6	85	1.48
32	25.0	21.4	13.4	8.0	50	11.2	M6	165	0.5	109.0	42.3	43.0	35.1	98	2.08
40	31.8	21.7	13.8	8.0	50	11.2	M6	165	0.5	117.0	49.4	49.0	40.9	101	2.82
50	38.1	25.6	15.6	9.5	70	16.0	M8	200	1.0	129.0	57.2	61.1	52.5	117	4.32
65	50.8	25.2	16.3	9.5	70	16.0	M8	200	1.0	142.0	71.4	77.1	68.9	125	5.89
80	65.0	42.7	25.2	17.0	102	22.3	M10	250	1.6	174.0	89.0	90.2	77.9	165	9.63
100	80.0	39.4	24.8	17.0	102	22.3	M10	250	1.6	193.0	108.5	115.1	102.3	174	15.44

ØN1: refer to thread options: NPT, BSPT, BSPP, DIN 2999

# K-BALL BALL VALVES FOR INDUSTRIAL AND PROCESS APPLICATIONS

## F180/R180 - THREE-PIECE HEAVY DUTY BALL VALVE (IMPERIAL)



### FULL BORE DIMENSIONS (inch)

NPS	Ød	A	B	G	ØP	F	W	M	t1	t2		L1	L2	L3	ØN2	ØN3	ØN4	H1	Wt (lbs)
										5S	10S								
1/4	0.44	0.48	0.22	0.20	1.42	0.31	M5	4.53	0.02	-	-	-	-	0.83	0.56	0.36	-	2.60	1.37
3/8	0.50	0.48	0.22	0.20	1.42	0.31	M5	4.53	0.02	-	-	-	-	0.83	0.69	0.49	-	2.60	1.32
1/2	0.59	0.59	0.37	0.25	1.65	0.38	M5	5.31	0.02	0.06	0.08	2.82	5.11	0.99	0.88	0.62	0.85	3.31	1.81
3/4	0.79	0.79	0.49	0.25	1.65	0.38	M5	5.31	0.02	0.06	0.08	3.80	5.55	1.27	1.08	0.83	1.07	3.46	3.13
1	0.98	0.84	0.53	0.31	1.97	0.44	M6	6.50	0.02	0.06	0.11	4.29	8.79	1.67	1.35	1.05	1.34	3.86	4.45
1 1/4	1.25	0.85	0.54	0.31	1.97	0.44	M6	6.50	0.02	0.06	0.11	4.61	9.07	1.94	1.69	1.38	1.68	3.98	6.08
1 1/2	1.50	1.01	0.61	0.37	2.76	0.63	M8	7.87	0.02	0.06	0.11	5.08	9.46	2.25	1.93	1.61	1.91	4.61	9.08
2	2.00	0.99	0.64	0.37	2.76	0.63	M8	7.87	0.04	0.06	0.11	5.59	10.21	2.81	2.41	2.07	2.38	4.92	13.23
2 1/2	2.56	1.68	0.99	0.67	4.02	0.88	M10	9.84	0.04	-	-	-	-	3.50	3.04	2.71	-	6.50	20.90
3	2.99	1.55	0.98	0.67	4.02	0.88	M10	9.84	0.06	-	-	-	-	4.27	3.55	3.07	-	6.85	34.48

ØN1: refer to thread options: NPT, BSPT, BSPP, DIN 2999

### REDUCED BORE DIMENSIONS (inch)

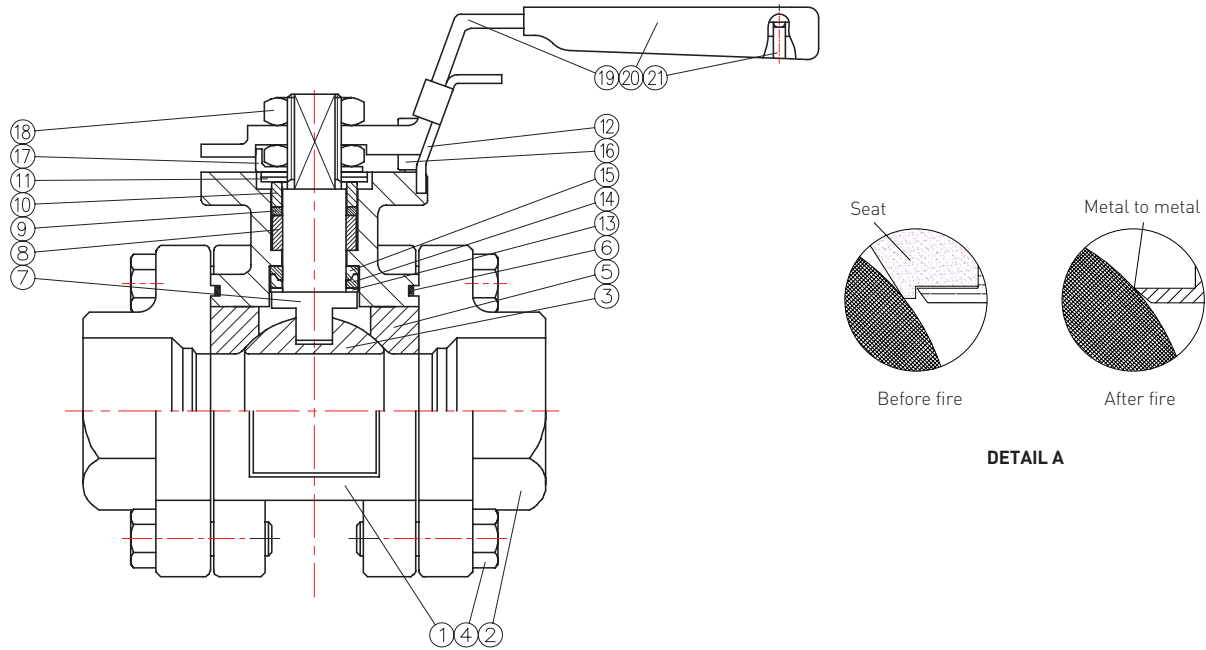
NPS	Ød	A	B	G	ØP	F	W	M	t1	L1	L4	ØN2	ØN3	H1	Wt (lbs)
1/2	0.50	0.48	0.22	0.20	1.42	0.31	M5	4.53	0.02	2.62	0.83	0.88	0.62	2.60	1.39
3/4	0.59	0.59	0.37	0.25	1.65	0.38	M5	5.31	0.02	2.82	0.99	1.08	0.83	3.31	1.87
1	0.79	0.79	0.49	0.25	1.65	0.38	M5	5.31	0.02	3.80	1.27	1.35	1.05	3.35	3.26
1 1/4	0.98	0.84	0.53	0.31	1.97	0.44	M6	6.50	0.02	4.29	1.67	1.69	1.38	3.86	4.59
1 1/2	1.25	0.85	0.54	0.31	1.97	0.44	M6	6.50	0.02	4.61	1.94	1.93	1.61	3.98	6.22
2	1.50	1.01	0.61	0.37	2.76	0.63	M8	7.87	0.04	5.08	2.25	2.41	2.07	4.61	9.52
2 1/2	2.00	0.99	0.64	0.37	2.76	0.63	M8	7.87	0.04	5.59	2.81	3.04	2.71	4.92	12.99
3	2.56	1.68	0.99	0.67	4.02	0.88	M10	9.84	0.06	6.85	3.50	3.55	3.07	6.50	21.23
4	3.15	1.55	0.98	0.67	4.02	0.88	M10	9.84	0.06	7.60	4.27	4.53	4.03	6.85	34.04

ØN1: refer to thread options: NPT, BSPT, BSPP, DIN 2999



# K-BALL BALL VALVES FOR INDUSTRIAL AND PROCESS APPLICATIONS

## F180F/R180F - THREE-PIECE BALL VALVE - FIRE SAFE



### MATERIALS OF CONSTRUCTION

No.	Part name	Material	Quantity
1	Body	CF8M / WCB, 1.4408 / 1.0619	1
2	Cap	CF8M / WCB, 1.4408 / 1.0619	2*
3	Ball	A2-70	1
4	Bolt	A2-70	8-12
5	Ball seat	RPTFE	2
6	Body gasket	Graphite	2
7	Anti-static shaft	A276 Type 316	1
8	Shaft packing	Graphite	1 set
9	Thrust washer	50% SS powder / 50% PTFE	1
10	Gland	304SS	1
11	Belleville washer	301SS	2
12	Locking trigger	Stainless steel	1
13	Lower shaft seal	50% SS powder / 50% PTFE	1
14	Compress ring	316L SS	1
15	Upper shaft seal	Graphite	1
16	Stop bolt	Stainless steel	1
17	Lock saddle	Stainless steel	1
18	Shaft nut	304SS	2
19	Handle	CF8	1
20	Handle sleeve	Vinyl	1
21	Rivet	304SS	1

\* Stainless steel welded connectors are CF 3M/1.4409

### FEATURES

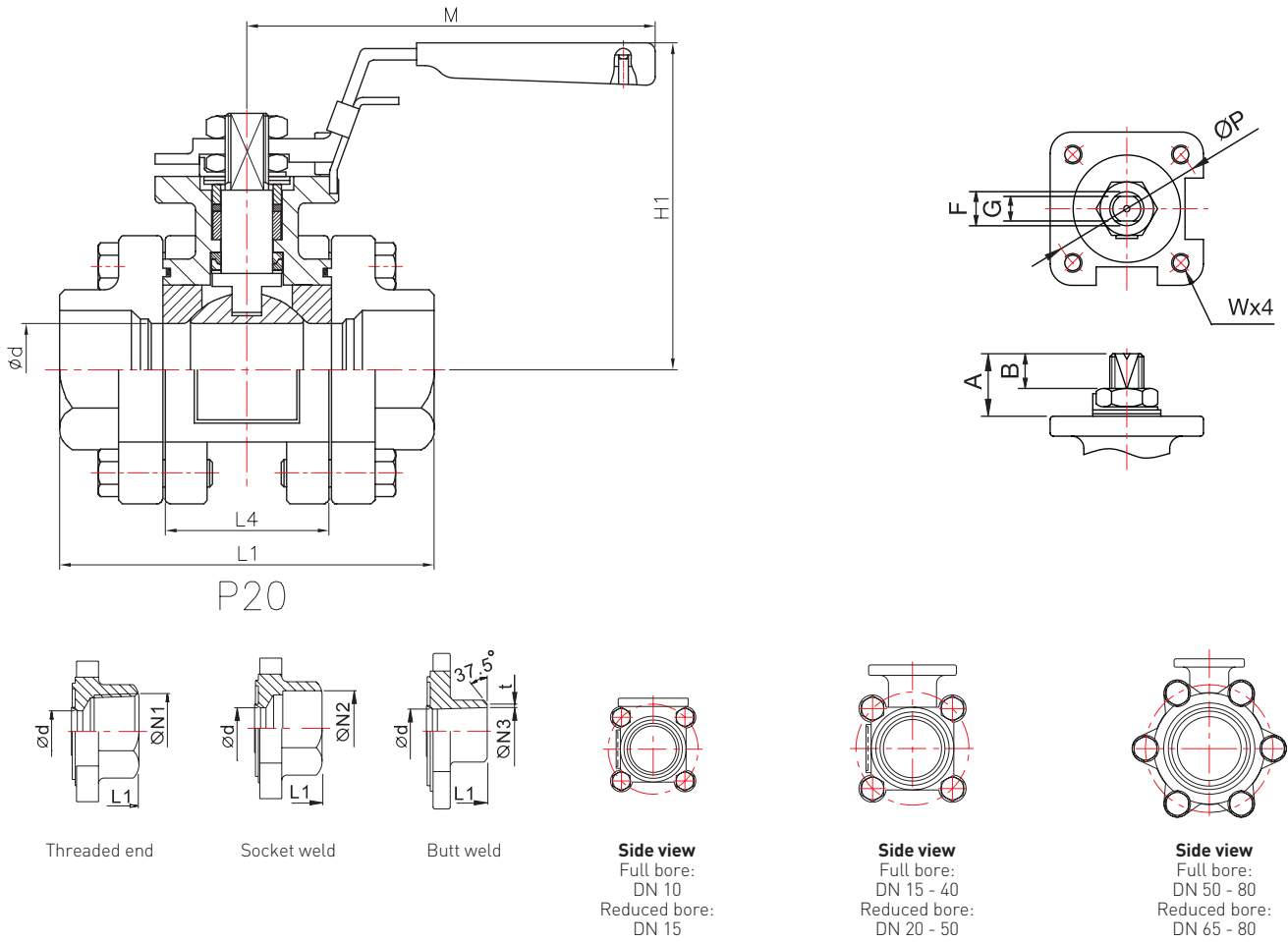
- Patented 'SEALMASTER' shaft arrangement for DN 15 (NPS ½) (full bore) and larger sizes
- Double shaft seal design
- Blow-out proof shaft
- ISO 5211 mounting plate
- Anti-static design
- Valve pressure rating:  
DN 8 - 50 (NPS ¼ - 2) - ASME Class 600  
DN 65 - 80 (NPS 2½ - 3) - ASME Class 300
- End connections, screwed, butt weld and socket weld
- Secondary metal to metal seating surface
- Fire tested to API 607 5<sup>th</sup> edition / ISO 10497:2004
- Size range DN 8 - 80 (NPS ¼ - 3)  
- Reduced bore to DN 100 (NPS 4)
- Tightness to EN 12266-1, Rate A
- Optional casting per AD200-W0
- Patented 'POSILOCK' handle for DN 15 - 50 (NPS ½ - 2)  
- Full bore

### NOTE

For Pressure/Temperature charts, please refer to page 41

# K-BALL BALL VALVES FOR INDUSTRIAL AND PROCESS APPLICATIONS

## F180F/R180F - THREE-PIECE BALL VALVE - FIRE SAFE (METRIC)



### FULL BORE DIMENSIONS (mm)

DN	$\varnothing d$	A	B	G	$\varnothing P$	$\varnothing F$	W	H1	L1	L4	M	$\varnothing N2$	$\varnothing N3$	t	Wt (kg)
8	11.2	12.7	5.6	5.0	36	8.0	M5	66	66.6	21.2	115	14.1	9.2	0.5	0.62
10	12.7	12.7	5.6	5.0	36	8.0	M5	66	66.6	21.2	115	17.5	12.5	0.5	0.62
15	15.0	15.0	9.3	6.3	42	9.7	M5	84	71.6	25.2	135	22.4	15.8	0.5	0.88
20	20.0	20.0	12.5	6.3	42	9.7	M5	88	96.6	32.3	135	27.4	21.0	0.5	1.40
25	25.0	21.4	13.4	8.0	50	11.2	M6	98	109.0	42.3	165	34.2	26.6	0.5	1.96
32	31.8	21.7	13.8	8.0	50	11.2	M6	101	117.0	49.4	165	43.0	35.1	0.5	2.72
40	38.1	25.6	15.6	9.5	70	16.0	M8	117	129.0	57.2	200	49.0	40.9	0.5	4.04
50	50.8	24.2	15.3	9.5	70	16.0	M8	125	142.0	71.4	200	61.1	52.5	1.0	6.56
65	65.0	42.2	24.7	17.0	102	22.3	M10	165	174.0	89.0	250	77.1	68.9	1.0	-
80	76.0	35.4	24.8	17.0	102	22.3	M10	174	193.0	108.5	250	90.2	77.9	1.6	-

$\varnothing N1$ : refer to thread options: NPT, BSPT, BSPP, DIN 2999

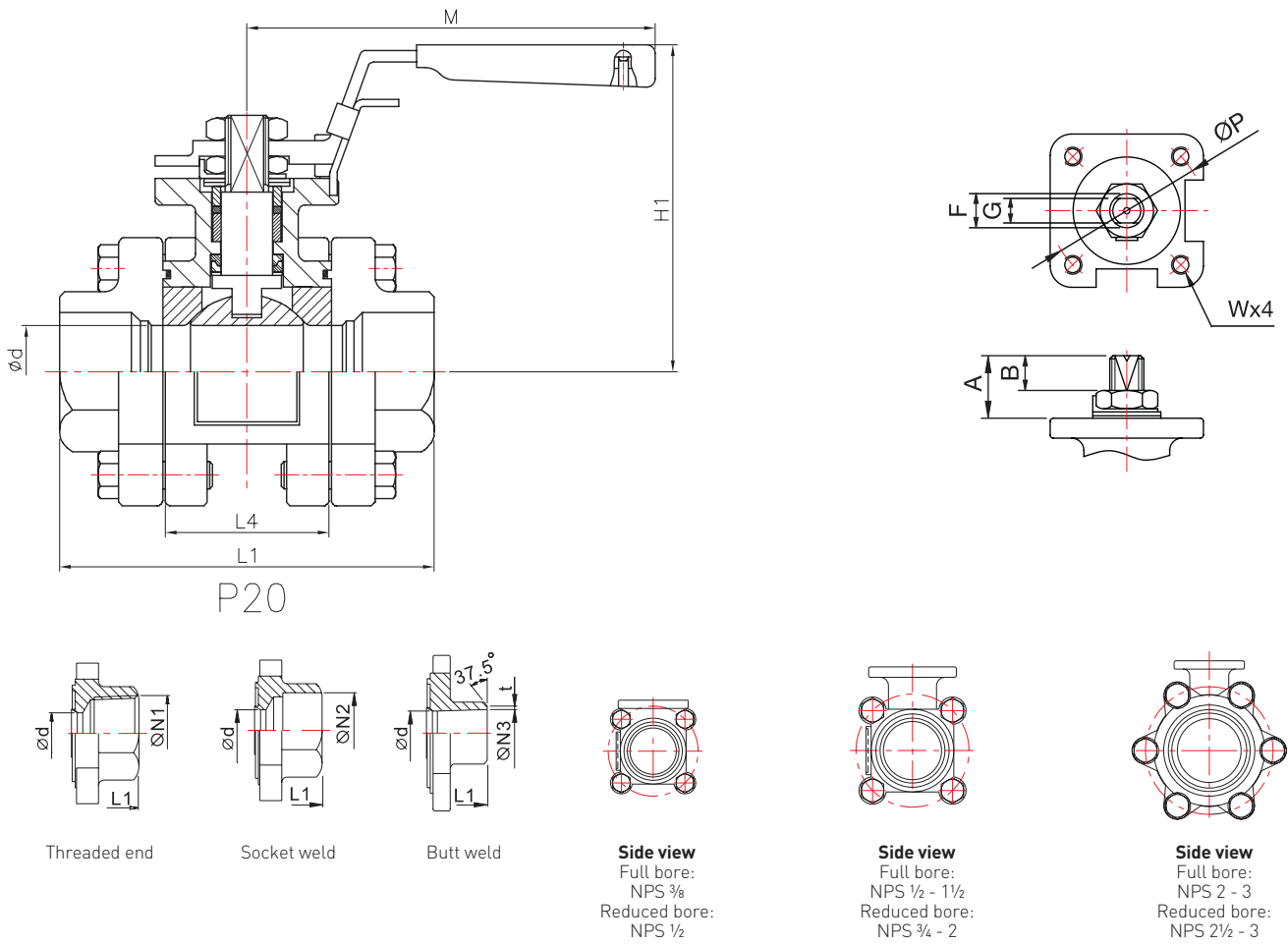
### REDUCED BORE DIMENSIONS (mm)

DN	$\varnothing d$	A	B	G	$\varnothing P$	F	W	H1	L1	L4	M	$\varnothing N2$	$\varnothing N3$	t
15	12.7	12.7	5.6	5.0	36	8.0	M5	66	66.6	21.2	115	22.4	15.8	0.5
20	15.0	15.0	9.3	6.3	42	9.7	M5	84	71.6	25.2	135	27.4	21.0	0.5
25	20.0	20.0	12.5	6.3	42	9.7	M5	88	96.6	32.3	135	34.2	26.6	0.5
32	25.0	21.4	13.4	8.0	50	11.2	M6	98	109.0	42.3	165	43.0	35.1	0.5
40	31.8	21.7	13.8	8.0	50	11.2	M6	101	117.0	49.4	165	49.0	40.9	0.5
50	38.1	25.6	15.6	9.5	70	16.0	M8	117	129.0	57.2	200	61.1	52.5	1.0
65	50.8	24.2	15.3	9.5	70	16.0	M8	125	142.0	71.4	200	77.1	68.9	1.0
80	65.0	42.2	24.7	17.0	102	22.3	M10	165	174.0	89.0	250	90.2	77.9	1.6
100	76.0	35.4	24.8	17.0	102	22.3	M10	174	193.0	108.5	250	115.1	105.2	1.6

$\varnothing N1$ : refer to thread options: NPT, BSPT, BSPP, DIN 2999

# K-BALL BALL VALVES FOR INDUSTRIAL AND PROCESS APPLICATIONS

## F180F/R180F - THREE-PIECE BALL VALVE - FIRE SAFE (IMPERIAL)



### FULL BORE DIMENSIONS (inch)

NPS	Ød	A	B	G	ØP	ØF	W	H1	L1	L4	M	ØN2	ØN3	t	Wt (lbs)
1/4	0.44	0.50	0.22	0.20	1.42	0.31	M5	2.60	2.62	0.83	4.53	0.56	0.36	0.02	1.37
3/8	0.50	0.50	0.22	0.20	1.42	0.31	M5	2.60	2.62	0.83	4.53	0.69	0.49	0.02	1.37
1/2	0.59	0.59	0.37	0.25	1.65	0.38	M5	3.31	2.82	0.99	5.31	0.88	0.62	0.02	1.94
3/4	0.79	0.79	0.49	0.25	1.65	0.38	M5	3.46	3.80	1.27	5.31	1.08	0.83	0.02	3.09
1	0.98	0.84	0.53	0.31	1.97	0.44	M6	3.86	4.29	1.67	6.50	1.35	1.05	0.02	4.32
1 1/4	1.25	0.85	0.54	0.31	1.97	0.44	M6	3.98	4.61	1.94	6.50	1.69	1.38	0.02	6.00
1 1/2	1.50	1.01	0.61	0.37	2.76	0.63	M8	4.61	5.08	2.25	7.87	1.93	1.61	0.02	8.91
2	2.00	0.95	0.60	0.37	2.76	0.63	M8	4.92	5.59	2.81	7.87	2.41	2.07	0.04	14.46
2 1/2	2.56	1.66	0.97	0.67	4.02	0.88	M10	6.50	6.85	3.50	9.84	3.04	2.71	0.04	-
3	2.99	1.39	0.98	0.67	4.02	0.88	M10	6.85	7.60	4.27	9.84	3.55	3.07	0.06	-

ØN1: refer to thread options: NPT, BSPT, BSPP, DIN 2999

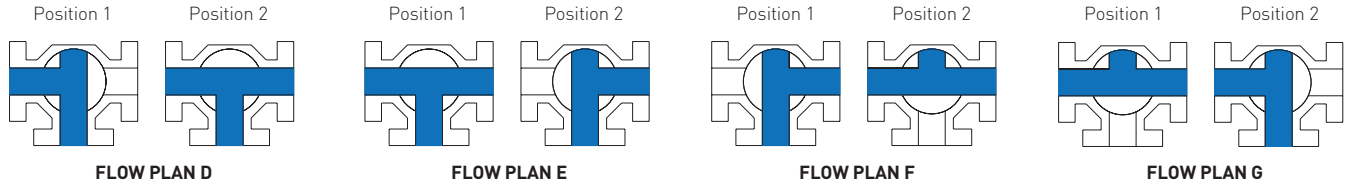
### REDUCED BORE DIMENSIONS (inch)

NPS	Ød	A	B	G	ØP	F	W	H1	L1	L4	M	ØN2	ØN3	t
1/2	0.50	0.50	0.22	0.20	1.42	0.31	M5	2.60	2.62	0.83	4.53	0.88	0.62	0.02
3/4	0.59	0.59	0.37	0.25	1.65	0.38	M5	3.31	2.82	0.99	5.31	1.08	0.83	0.02
1	0.79	0.79	0.49	0.25	1.65	0.38	M5	3.46	3.80	1.27	5.31	1.35	1.05	0.02
1 1/4	0.98	0.84	0.53	0.31	1.97	0.44	M6	3.86	4.29	1.67	6.50	1.69	1.38	0.02
1 1/2	1.25	0.85	0.54	0.31	1.97	0.44	M6	3.98	4.61	1.94	6.50	1.93	1.61	0.02
2	1.50	1.01	0.61	0.37	2.76	0.63	M8	4.61	5.08	2.25	7.87	2.41	2.07	0.04
2 1/2	2.00	0.95	0.60	0.37	2.76	0.63	M8	4.92	5.59	2.81	7.87	3.04	2.71	0.04
3	2.56	1.66	0.97	0.67	4.02	0.88	M10	6.50	6.85	3.50	9.84	3.55	3.07	0.06
4	2.99	1.39	0.98	0.67	4.02	0.88	M10	6.85	7.60	4.27	9.84	4.53	4.14	0.06

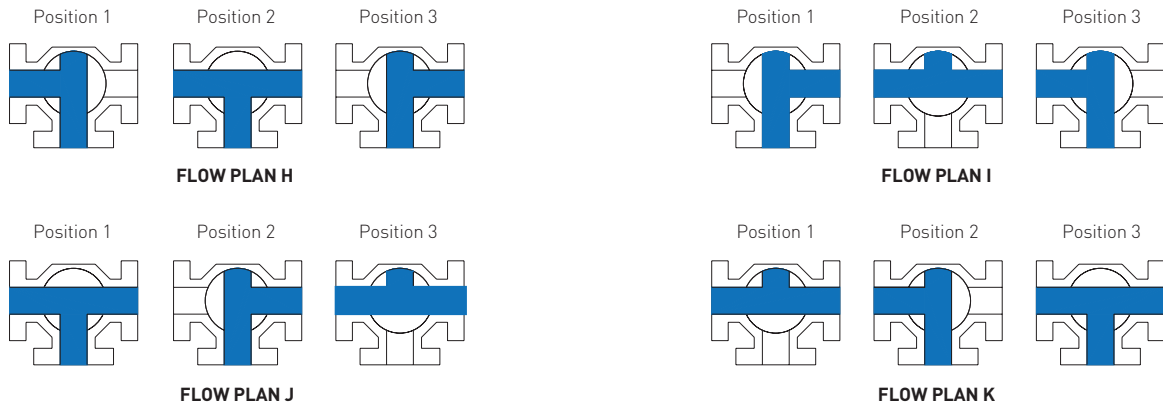
ØN1: refer to thread options: NPT, BSPT, BSPP, DIN 2999

**K-BALL BALL VALVES FOR INDUSTRIAL AND PROCESS APPLICATIONS**  
 FLOW PLAN CHART (ONLY FOR 3-WAY BALL VALVE)

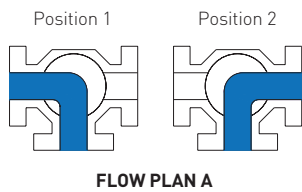
**T-PORT 90° TURN**



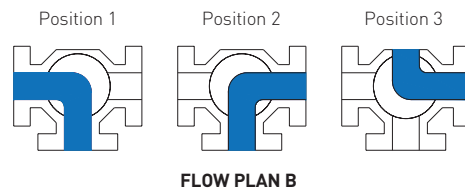
**T-PORT 180° TURN**



**L-PORT 90° TURN**

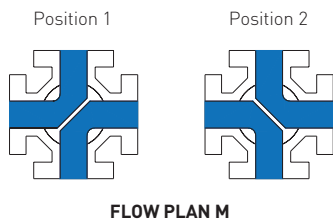


**L-PORT 180° TURN**



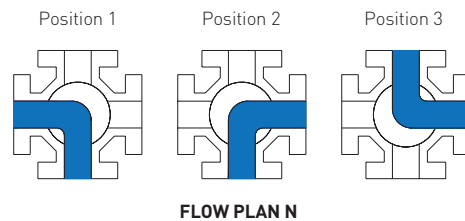
**LL-PORT\* 90° TURN**

(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)

Model	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		•	•	•	•	•	•	•	•	•	•					

SS = Stainless Steel

CS = Carbon Steel

RB = Reduced Bore

### F171 DIFFERENTIAL-PRESSURE TORQUE Nm (ft-lb)

Seat:		Pressure: bar (psi)						MAST Nm (ft-lb)
PTFE / RPTFE		0	6.9	20.7	48.3	69	103.4	A276-316 SS
DN	NPS		[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]	-	78.4 [57.8]
50	2	21.0 [15.5]	21.5 [15.9]	23.0 [17.0]	38.5 [28.4]	68.0 [50.2]	-	78.4 [57.8]
65	2 1/2	42.5 [31.3]	45.0 [33.2]	61.0 [45.0]	125.0 [92.2]	-	-	227.4 [167.7]
80	3	61.0 [45.0]	64.0 [47.2]	83.0 [61.2]	180.0 [132.8]	-	-	227.4 [167.7]
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

## COMPLETE VALVE RANGE

### F180/R180, F180F/R180F DIFFERENTIAL-PRESSURE TORQUE Nm (ft-lb)

Seat:		Pressure: bar (psi)						MAST Nm (ft-lb)
PTFE / RPTFE		0	6.9	20.7	48.3	69	103.4	A276-316 SS
DN	NPS	(0)	(100)	(300)	(700)	(1000)	(1500)	(Note 8)
15	½	5.1 (3.8)	5.2 (3.8)	5.2 (3.8)	5.2 (3.8)	5.4 (4.0)	5.4 (4.0)	25.2 (18.6)
20	¾	7.7 (5.7)	7.7 (5.7)	7.8 (5.8)	7.8 (5.8)	8.0 (5.9)	8.0 (5.9)	25.2 (18.6)
25	1	9.6 (7.1)	9.8 (7.2)	10.0 (7.4)	10.0 (7.4)	10.2 (7.5)	10.2 (7.5)	40.2 (29.6)
32	1¼	12.5 (9.2)	12.5 (9.2)	13.0 (9.6)	16.5 (12.2)	21.0 (15.5)	28.5 (21.0)	40.2 (29.6)
40	1½	19.5 (14.4)	20.0 (14.8)	21.0 (15.5)	25.5 (18.8)	36.0 (26.6)	54.0 (39.8)	78.4 (57.8)
50	2	25.5 (18.8)	27.5 (20.3)	31.0 (22.9)	41.0 (30.2)	57.0 (42.0)	70.0 (51.6)	78.4 (57.8)
65	2½	48.0 (35.4)	53.0 (39.1)	65.0 (47.9)	125.0 (92.2)	-	-	318.0 (234.5)
80	3	59.0 (43.5)	63.0 (46.5)	85.0 (62.7)	180.0 (132.8)	-	-	318.0 (234.5)

### F130M, F133M MAX. BREAK-AWAY TORQUE

Seat: PTFE / RPTFE		MAST Nm (ft-lb)		
DN	NPS	Nm (ft-lb)	kgf-cm (lbf-in)	A276-316 SS
10	⅜	9.0 (6.6)	91.8 (79.7)	25.2 (18.6)
15	½	10.0 (7.4)	102.0 (88.5)	25.2 (18.6)
20	¾	11.0 (8.1)	112.2 (97.4)	25.2 (18.6)
25	1	17.0 (12.5)	173.4 (150.5)	40.2 (29.6)
32	1¼	23.0 (17.0)	234.6 (203.6)	40.2 (29.6)
40	1½	40.0 (29.5)	408.0 (354.1)	78.4 (57.8)
50	2	51.0 (37.6)	520.2 (451.5)	78.4 (57.8)
65	2½	90.0 (66.4)	918.0 (796.8)	318.0 (234.5)
80	3	169.0 (124.6)	1723.8 (1496.2)	318.0 (234.5)
100	4	339.0 (250.0)	3457.8 (3001.2)	392.0 (289.1)
150	6	450.0 (331.9)	4590.0 (3983.9)	637.0 (469.8)

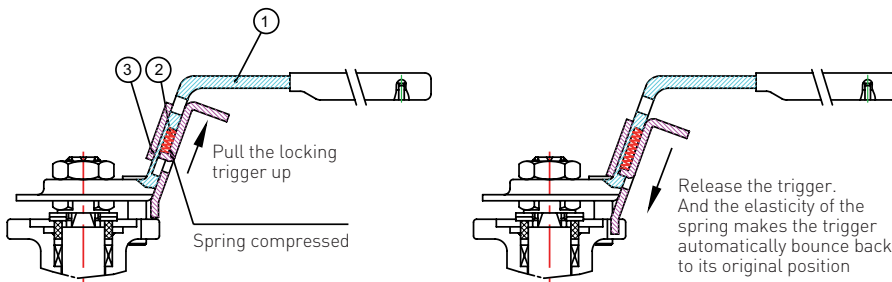
#### NOTES

1. Increase by 25% for MG1241, carbon and SS filled seat.
2. Increase by 15% for dry gas or oil free products.
3. Increase by 40% for dry gas [-100°C (-148°F) and below].
4. Increase by 40% for gas or liquid with slurry powder (above -100°C [-148°F]).
5. Increase by 40% for high viscosity fluid (above -100°C [-148°F]).
6. For actuator sizing, we recommend to add at least 20% of the break-away torque of valve as safety factor.
7. Valve torques refer to ball valves with full port. For reduced port valve torque take one size smaller.
8. MAST (maximum allowable shaft torque) for full bore option. Other shaft options available.

# K-BALL BALL VALVES FOR INDUSTRIAL AND PROCESS APPLICATIONS

SEALMASTER®

## POSILOCK HANDLE



### PARTS LIST

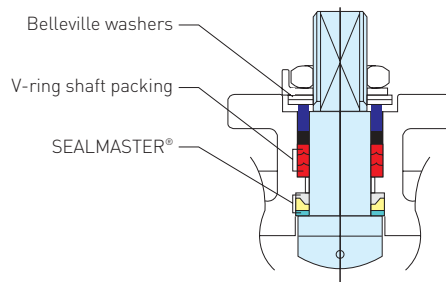
No.	Parts name
1	Handle
2	Spring
3	Locking trigger

## FEATURES

- Simple construction
- Smooth action for locking trigger
- Wrapped locking trigger design prevents the spring from coming out
- The elasticity of the spring makes the trigger automatically bounce back to its original position, which keeps the plate in position for firm locking. This also avoids unwanted valve operation caused by accident.

## PATENTED SEALMASTER® SHAFT SEAL ARRANGEMENT - AVAILABLE FOR FIGURES F130M, F133M, F171, F180/R180

Our extremely high cycle shaft sealing design is accomplished by double sealing system. The high performance of our ball valves is mainly due to unique SEALMASTER® shaft seal arrangement, which provides a primary sealing. It has been specially designed and constructed to prevent line fluid permeation and resultant leakage. On top of this arrangement are multiple layers of V-ring shaft packing, this acts as secondary sealing. A set of Belleville washers automatically and constantly compresses the seals to adjust for wear, pressure and temperature fluctuations. Our ball valve is a stalwart barrier against fugitive emissions.

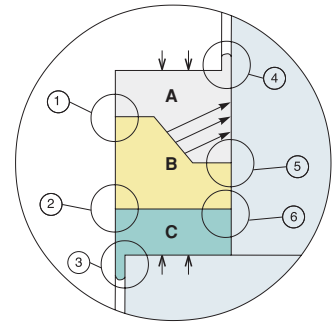


# K-BALL BALL VALVES FOR INDUSTRIAL AND PROCESS APPLICATIONS

SEALMASTER®

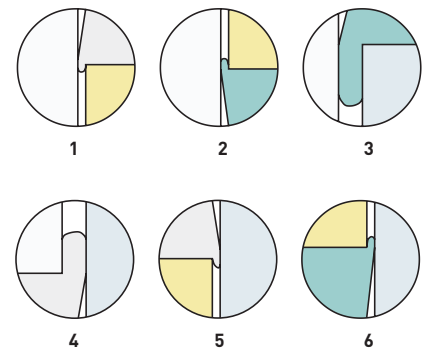
## EXPLANATION OF SEALMASTER®

The live loaded SEALMASTER® is a combination of 3 components; (A) a cup and cone PFA/TFE upper thrust seal, (B) a cup and cone sintered SS316 center load ring and (C) a flat SS/TFE lower thrust seal. When tightened, the live loaded shaft pulls up and compressing the shaft thrust seals. As this happens, material from upper and lower thrust seal extrude between shaft and body enclosures. (See 1 - 6). The surfaces between the bottom of lower thrust seal and top of shaft flange are smooth and all rotation occurs between these two surfaces leaving the shaft thrust seal 'static' to create the best possible seal. As rotation continues, components bed in and keep seal performance constant with usage.

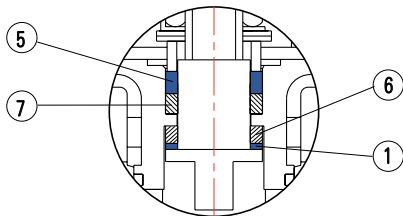


## MAIN FEATURES OF SEALMASTER® - PATENTED SHAFT SEAL ARRANGEMENT

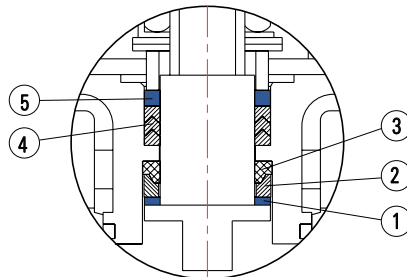
- 'Multiple' sealing up to 6 areas (see view 1 - 6).
- Encapsulated 'static' sealing achieved on upper thrust seal.
- Constant sealing force transmitted to shaft (see arrow) and making the shaft primary sealing 'positive'.
- Excellent wear resistance on lower thrust seal (50% SS filled PTFE).
- Standard shaft finish better than Ra 0.8 µm (150 Grit) to reduce seals friction to a minimum.



## SHAFT SEAL ARRANGEMENT



DN 8 (NPS ¼)  
 DN 8 - 10 (NPS ¼ - ¾)  
 F133M  
 F171, F180/R180 and  
 F180F/R180R



**Patented SEALMASTER**  
 DN 8 - 40 (NPS ¼ - 1½)  
 DN 50 - 150 (NPS 2 - 6)  
 DN 15 - 300 (NPS ½ - 12)  
 F133M  
 F130M  
 F171, F171T,  
 F180/R180,  
 F180F/R180R

No.	Part name	Material	Shaft seal arrangement	Patented SEALMASTER shaft seal arrangement
1	Lower thrust washer	50% SS powder / 50% PTFE	•	•
2	Compress ring	316 SS		•
3	Upper thrust washer	TFM 1600		•
4	V-ring shaft packing	PTFE		•
5	Thrust washer	50% SS powder / 50% PTFE	•	•
6	Flat thrust washer	50% SS powder / 50% PTFE	•	
7	Shaft packing	15% Graphite + PTFE	•	

• means available

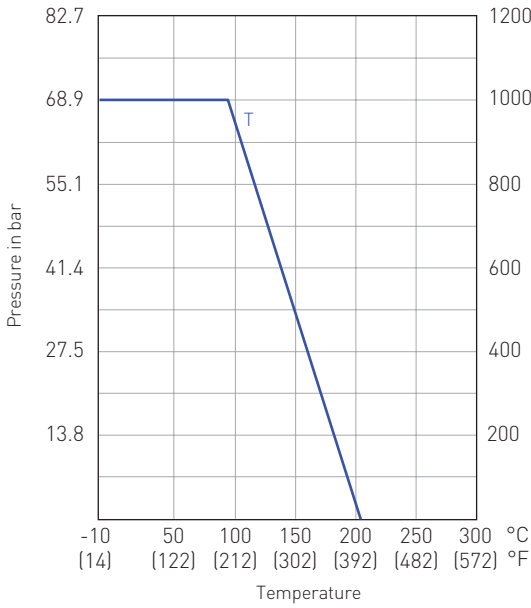


# K-BALL BALL VALVES FOR INDUSTRIAL AND PROCESS APPLICATIONS

## R110, F120, F130M - PRESSURE/TEMPERATURE CHARTS

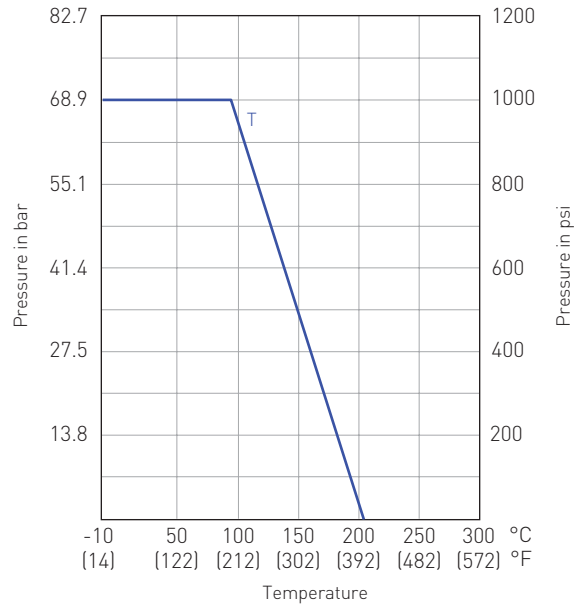
**R110**  
**ONE-PIECE BODY BALL VALVE**

DN 8 to DN 50 (NPS ¼ to NPS 2) - reduced bore



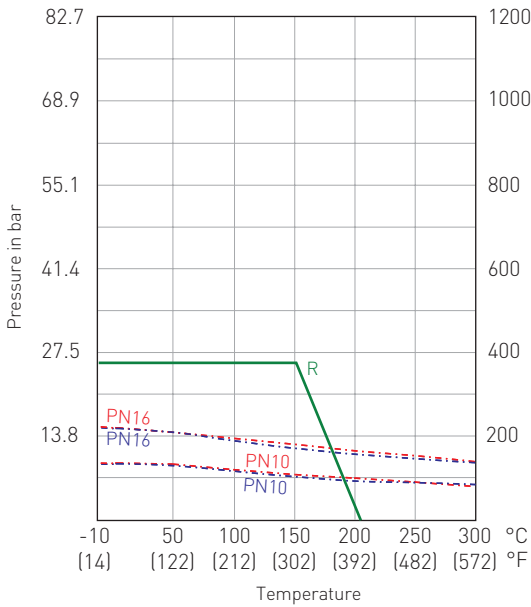
**F120**  
**TWO-PIECE BODY BALL VALVE**

DN 8 to DN 50 (NPS ¼ to NPS 2) - full bore



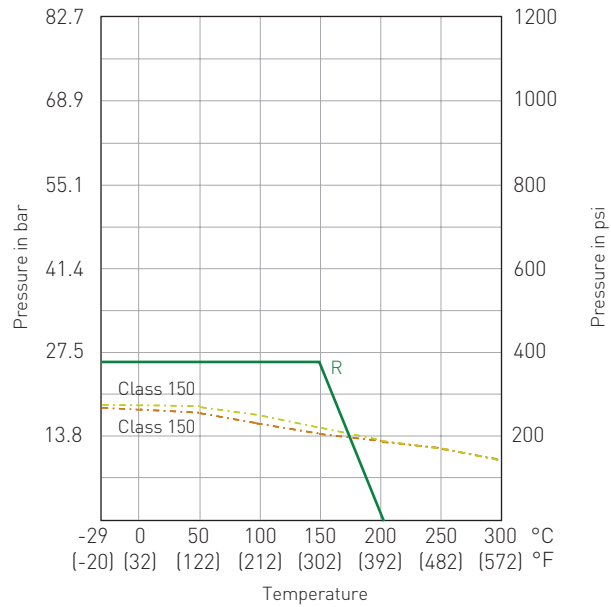
**F130M**  
**THREE-WAY SPLIT-BODY BALL VALVE**

PN 16, PN 10:  
DN 50 to DN 150 (NPS 2 to NPS 6) - full bore  
DN 200 (NPS 8) - reduced bore



**F130M**  
**THREE-WAY SPLIT-BODY BALL VALVE**

ASME Class 150:  
DN 50 to DN 150 (NPS 2 to NPS 6) - full bore  
DN 200 (NPS 8) - reduced bore



- = 1.0619 body rating
- = 1.4408 body rating
- = WCB body rating
- = CF8M body rating
- T = PTFE
- R = RPTFE

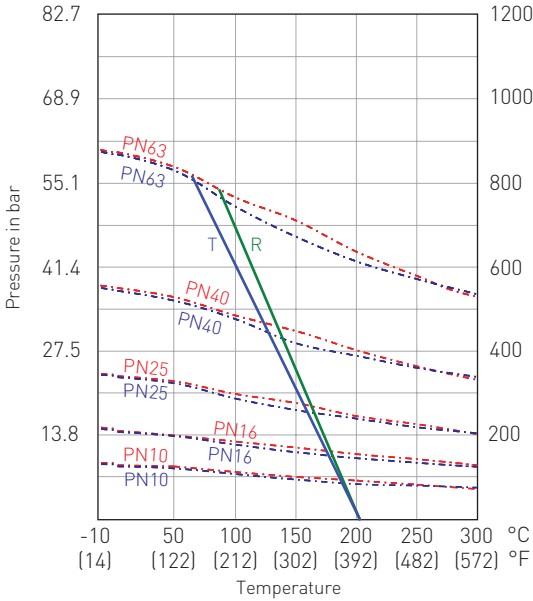
# K-BALL BALL VALVES FOR INDUSTRIAL AND PROCESS APPLICATIONS

## F133, R138, F155 - PRESSURE/TEMPERATURE CHARTS

### F133M/F133MT

#### THREE- AND FOUR-WAY SPLIT-BODY BALL VALVE

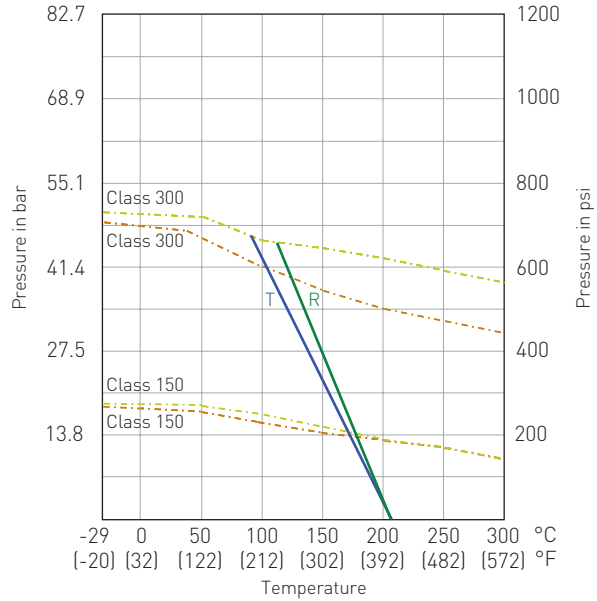
PN 63, PN 40, PN 25, PN 16, PN 10:  
 DN 10 to DN 40 (NPS 3/8 to NPS 1 1/2) - full bore  
 DN 15 to DN 50 (NPS 1/2 to NPS 2) - reduced bore



### F133M/F133MT

#### THREE- AND FOUR-WAY SPLIT-BODY BALL VALVE

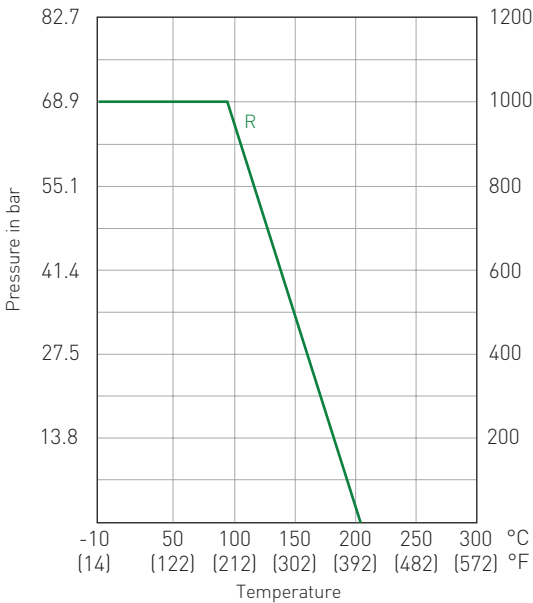
ASME Class 150/300:  
 DN 10 to DN 40 (NPS 3/8 to NPS 1 1/2) - full bore  
 DN 15 to DN 50 (NPS 1/2 to NPS 2) - reduced bore



### R138

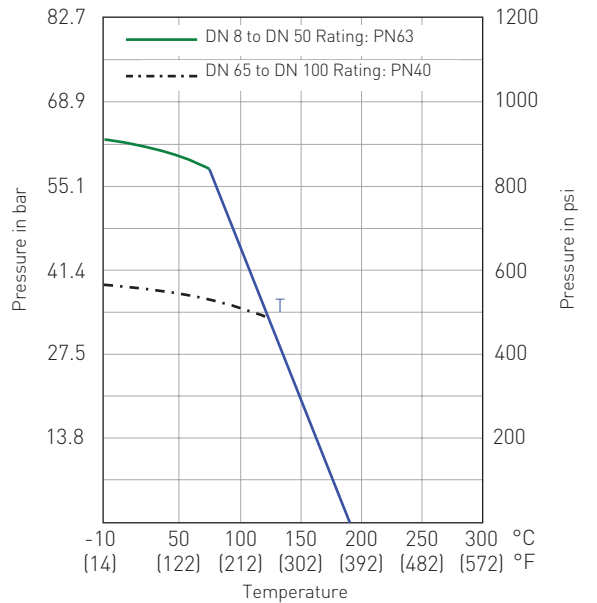
#### THREE-WAY MULTI-PORT BALL VALVE

DN 8 to DN 50 (NPS 1/4 to NPS 2) - reduced bore



### F155

#### THREE-PIECE ECONOMICAL BALL VALVE



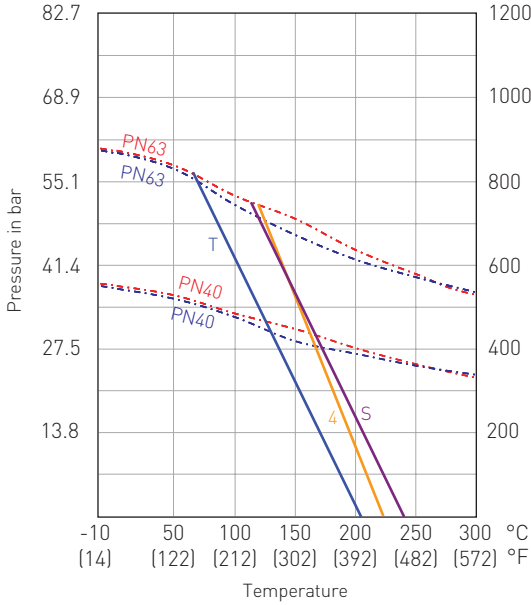
- - - = 1.0619 body rating
- . - . = 1.4408 body rating
- . - . = WCB body rating
- . - . = CF8M body rating
- T = PTFE
- R = RPTFE

# K-BALL BALL VALVES FOR INDUSTRIAL AND PROCESS APPLICATIONS

## F171/F171T, F180/R180/F180F/R180R - PRESSURE/TEMPERATURE CHARTS

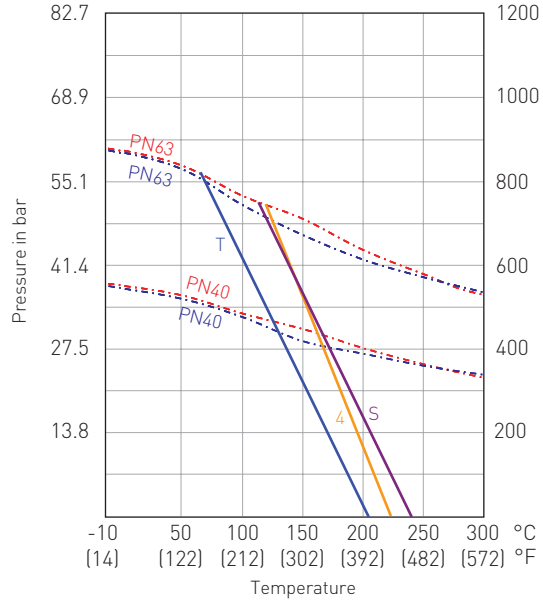
### F171 THREE-PIECE BALL VALVE TO ISO 5211

PN 63, PN 40:  
DN 8 to DN 40 (NPS ¼ to NPS 1½) - full bore  
DN 50 to DN 100 (NPS 2 to NPS 4) - full bore



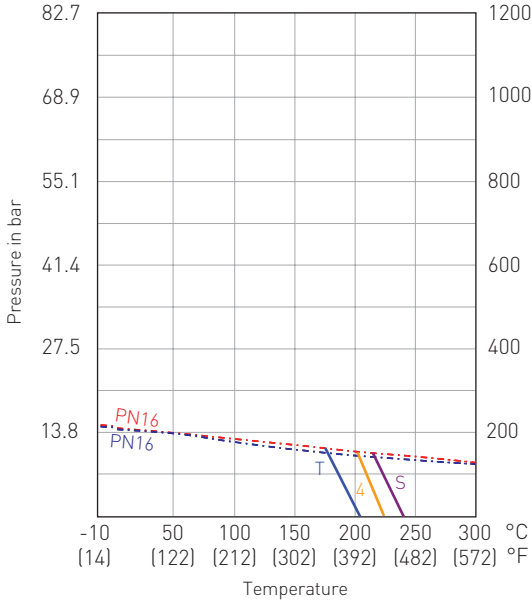
### F171T THREE-PIECE HIGH PURITY CLEAN BALL VALVE

PN 63, PN 40:  
DN 15 to DN 40 (NPS ½ to NPS 1½) - full bore  
DN 50 to DN 100 (NPS 2 to NPS 4) - full bore



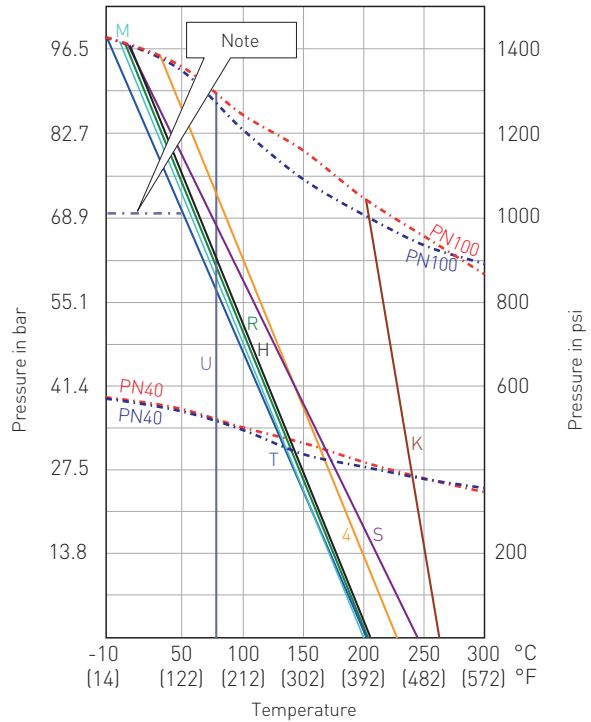
### F171T THREE-PIECE HIGH PURITY CLEAN BALL VALVE

PN 16:  
DN 125 to DN 300 (NPS 5 to NPS 12) - full bore



### F180/180R/F180F/R180R THREE-PIECE HEAVY DUTY BALL VALVE / FIRE SAFE

PN 100: DN 8 to DN 50 (NPS ¼ to NPS 2) - full bore  
DN 15 to DN 65 (NPS ½ to NPS 2½) - reduced bore  
PN 40: DN 65 to DN 80 (NPS 2½ to NPS 3) - full bore  
DN 80 to DN 100 (NPS 3 to NPS 4) - reduced 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 = UHMWPE
- K = PEEK (ARLON 1330)
- M = MG1241
- H = TFM 1600

**NOTE**  
For PTFE seat, we recommend the maximum operating pressure not to exceed 68.9 bar (1000 psig) for DN 25 (NPS 1) and larger.

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