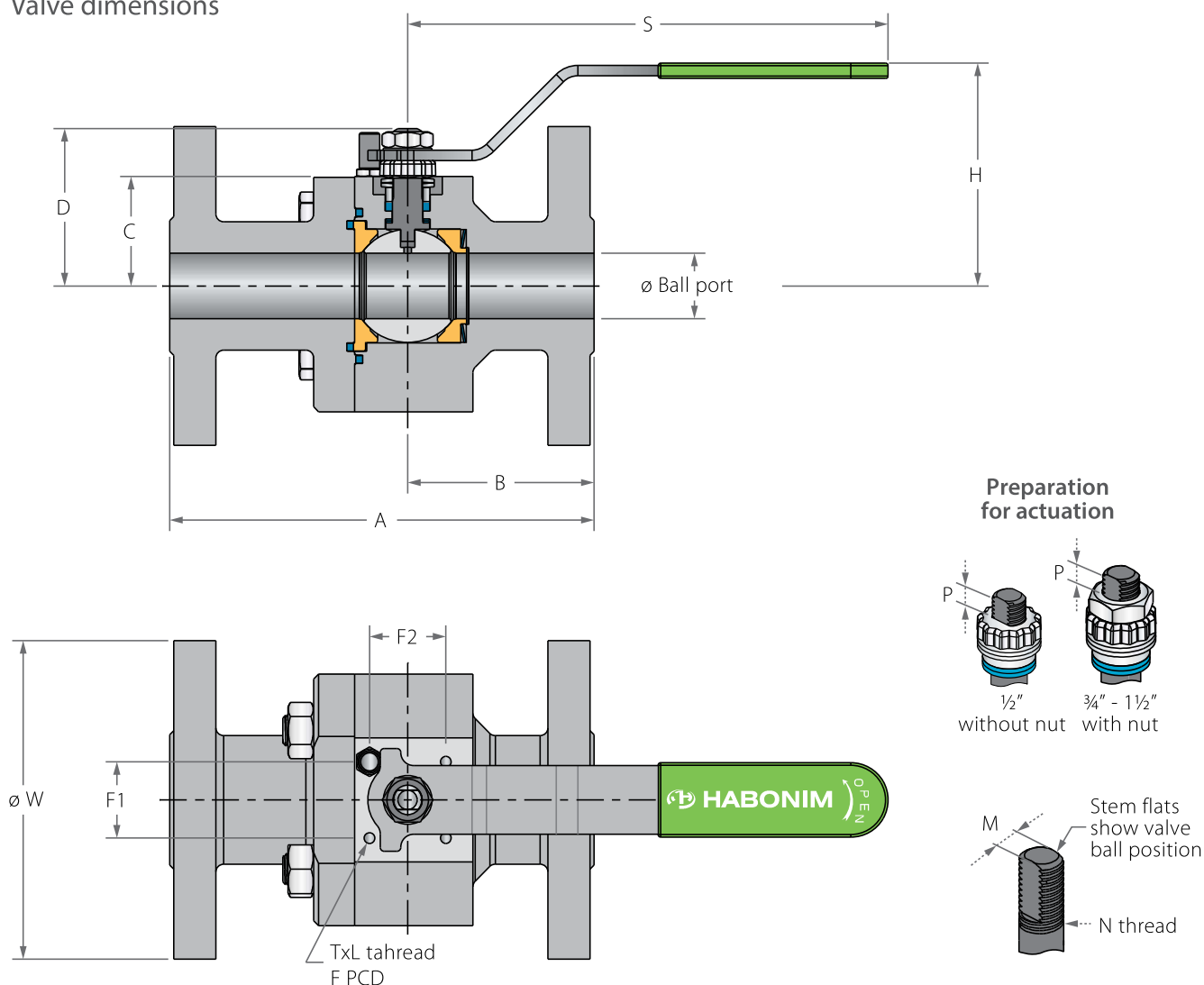


Z78W**Z78P** $\frac{1}{2}$ "-1 $\frac{1}{2}$ " | DN15-DN40 | PN40Floating Ball Flanged Up to **W** 260°C (500°F) | **P** 400°C (750°F)

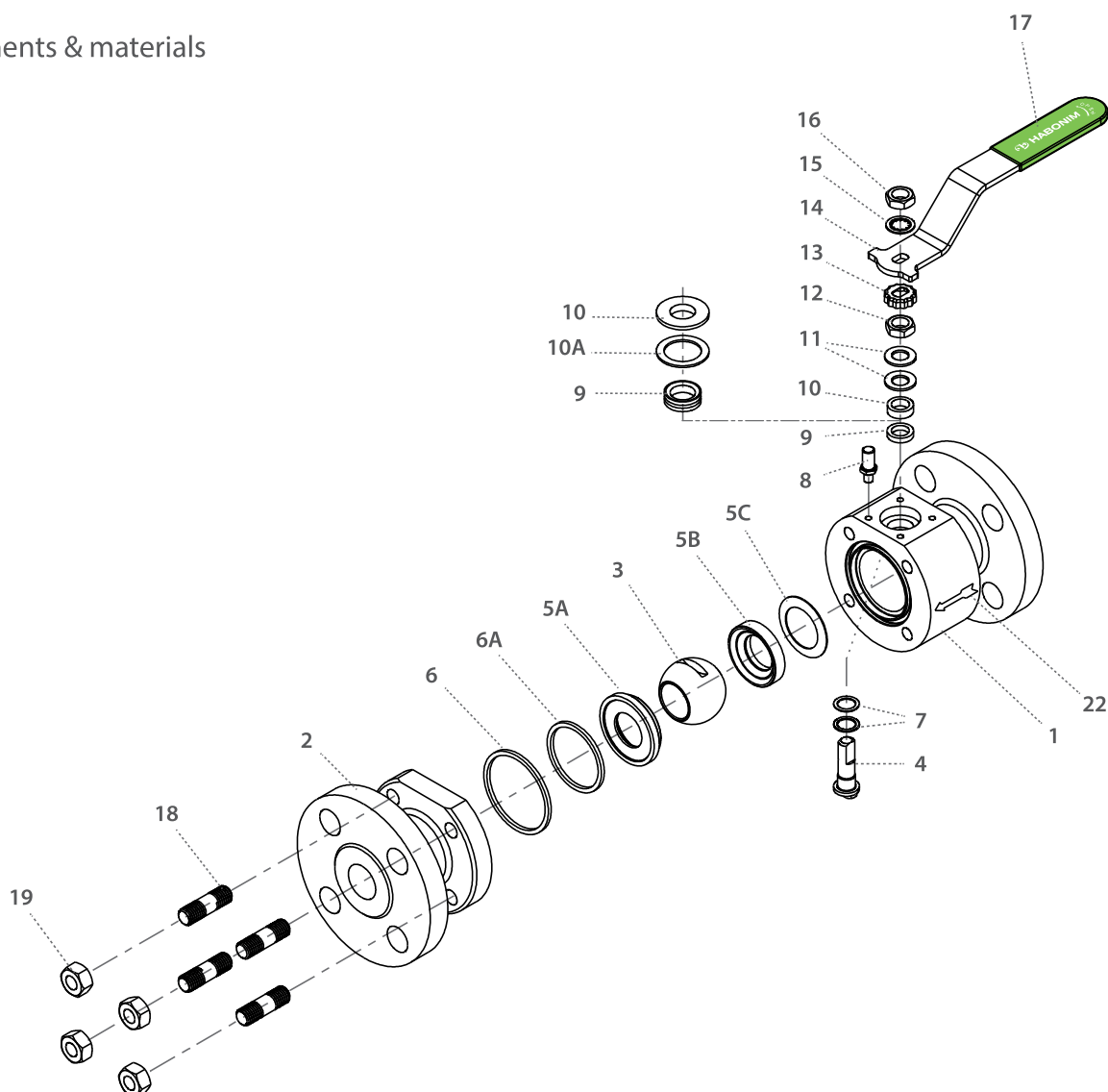
Valve dimensions



Std. port	Unit	Ball port	A	B	C	D	H	S	W	M	N	P	F	TxL	Weight kg/lb	Cv	
DN15	mm	14.30	130.00	49.00	29.40	38.40	92.00	151.00	95.00	5.54	⅜" UNF	6.65	(F03)	36.00	M5x10	3	28
½"	inch	0.56	5.11	1.93	1.16	1.51	3.62	5.94	3.74	0.22		0.26		1.42		7	32
DN20	mm	20.65	150.00	58.00	38.20	55.70	103.50	170.00	105.00	7.54	⅞" UNF	7.40	(F04)	42.00	M5x10	4	46
¾"	inch	0.81	5.90	2.28	1.50	2.19	4.07	6.69	4.13	0.30		0.29		1.65		9	53
DN25	mm	25.50	160.00	55.00	42.65	60.20	108.00	170.00	115.00	7.54	⅞" UNF	7.40	(F04)	42.00	M5x10	6	80
1"	inch	1.00	6.30	2.17	1.68	2.37	4.25	6.69	4.53	0.30		0.29		1.65		13	93
DN40	mm	38.10	140.00	65.90	48.20	77.70	124.00	220.50	150.00	8.71	¾" UNF	8.50	(F05)	50.00	M6x12	8	220
1½"	inch	1.50	5.51	2.59	1.90	3.06	4.88	8.68	5.91	0.34		0.33		1.97		18	255

Z78W**Z78P** $\frac{1}{2}$ "-1 $\frac{1}{2}$ " | DN15-DN40 | PN40Floating Ball Flanged Up to **W** 260°C (500°F) | **P** 400°C (750°F)

Components & materials



Item	Description	Material specification	Qty.
1	Body	Acc. Ordering Code	1
2	End	Acc. Ordering Code	1
3	Ball	Acc. Ordering Code	1
4	Stem	Acc. Ordering Code	1
5A	Upstream seat	Acc. Ordering Code	1
5B	Downstream seat	Acc. Ordering Code	1
5C	Upstream disc spring	Inconel 718	1
6*	Body seal	Graphite	1
6A*	Seat seal	Graphite	1
7*	Stem thrust seal	A479 316L Hardened with LTPN, B637 N07718 Inconel 718, Virgin peek, PCTFE	2
8	Stop pin	S. Steel	1
9*	Stem seal	Graphite, CF PTFE, TFM	1
10	Follower	S. Steel	1

Item	Description	Material specification	Qty.
10A*	Slide Bearing	S. Steel	1
11	Disc spring	S. Steel	2
12	Stem nut	S. Steel	1
13	Locking clip	S. Steel	1
14	Handle	S. Steel	1
15	Serrated washer	S. Steel	1
16	Handle nut	S. Steel	1
17	Sleeve	PVC	1
18	Body bolts/studs	S. Steel	4
19	Body nut	S. Steel	4
22	Arrow flow	S. Steel	1
23	Tag (not shown)	S. Steel	1

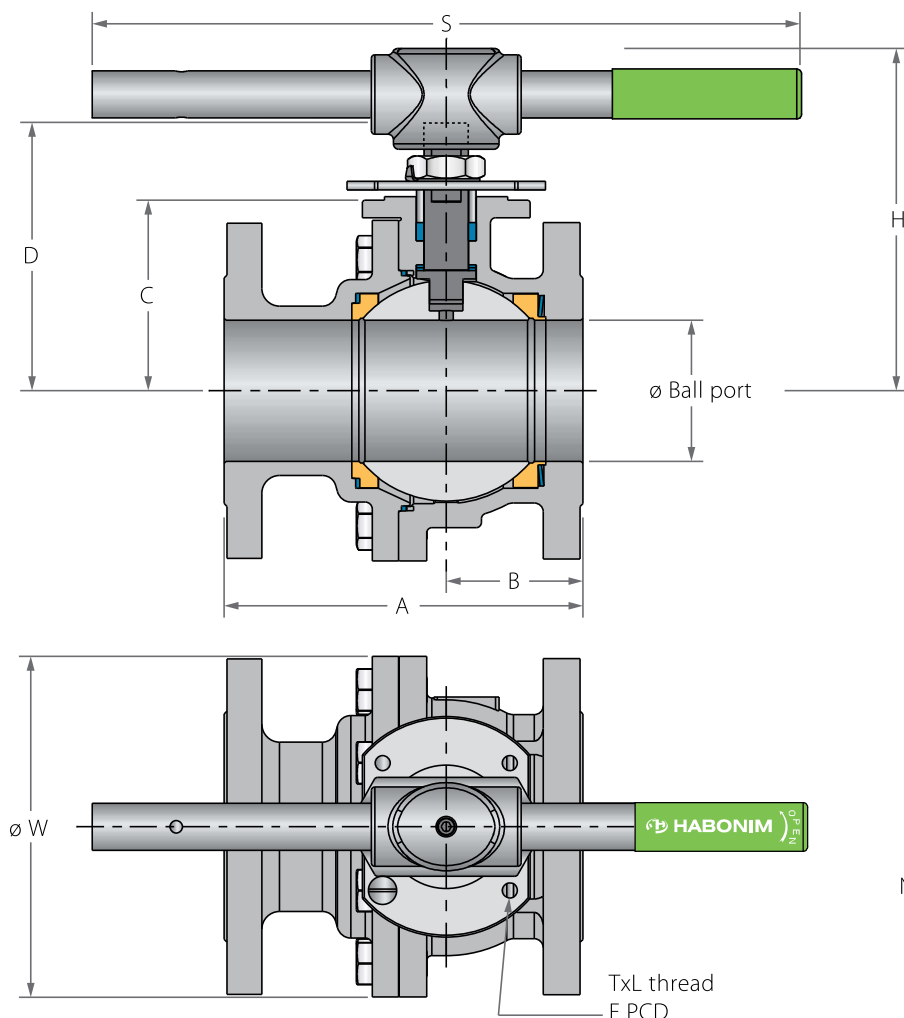
* Repair kit components

Z78W **Z78P** 2" | DN50 | PN40

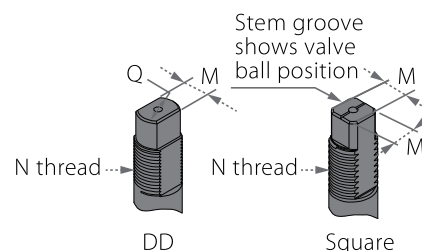
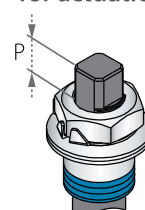
Z77W **Z77P** 3"-6" | DN80-DN150 | PN16

Floating Ball Flanged Up to **W** 260°C (500°F) | **P** 400°C (750°F)

Valve dimensions



Preparation for actuation



Std. port	Unit	Ball port	A	B	C	D	H	S	W	M	M (DD)	Q	N	P	F		TxL	Weight kg/lb	Cv
DN50	mm	50.05	150.00	60.70	70.00	111.60	137.30	256.00	165.00	-	13.90	20.00	M20x2.5	14.60	(F07)	70.00	M8X12	11	430
2"	inch	1.97	5.91	2.39	2.76	4.39	5.41	10.08	6.50	-	0.55	0.79		0.57		2.76		25	499
DN80	mm	80.00	180.00	77.50	108.00	154.60	194.80	610.00	200.00	18.90	15.90	22.70	1"-14 UNF-2A	16.70	(F10)	102.00	M10X20	24	1000
3"	inch	3.15	7.09	3.05	4.25	6.09	7.67	24.00	7.87	0.74	0.63	0.89		0.66		4.02		53	1160
DN100	mm	100.00	190.00	84.50	124.00	210.80	-	-	225.00	18.90	15.90	22.70	1"-14 UNF-2A	16.70	(F10)	102.00	M10X20	31	1830
4"	inch	3.94	7.48	3.33	4.88	8.30	-	-	8.86	0.74	0.63	0.89		0.66		4.02		69	2123
DN150	mm	150.00	350.00	163.50	179.00	248.50	-	-	328.00	28.45	23.75	35.20	1½"-12 UNF-2A	26.20	(F12)	125.00	M12X20	78	4380
6"	inch	5.91	13.78	6.44	7.05	9.78	-	-	12.91	1.12	0.94	1.39		1.03		4.92		172	5081

Z78W**Z78P**

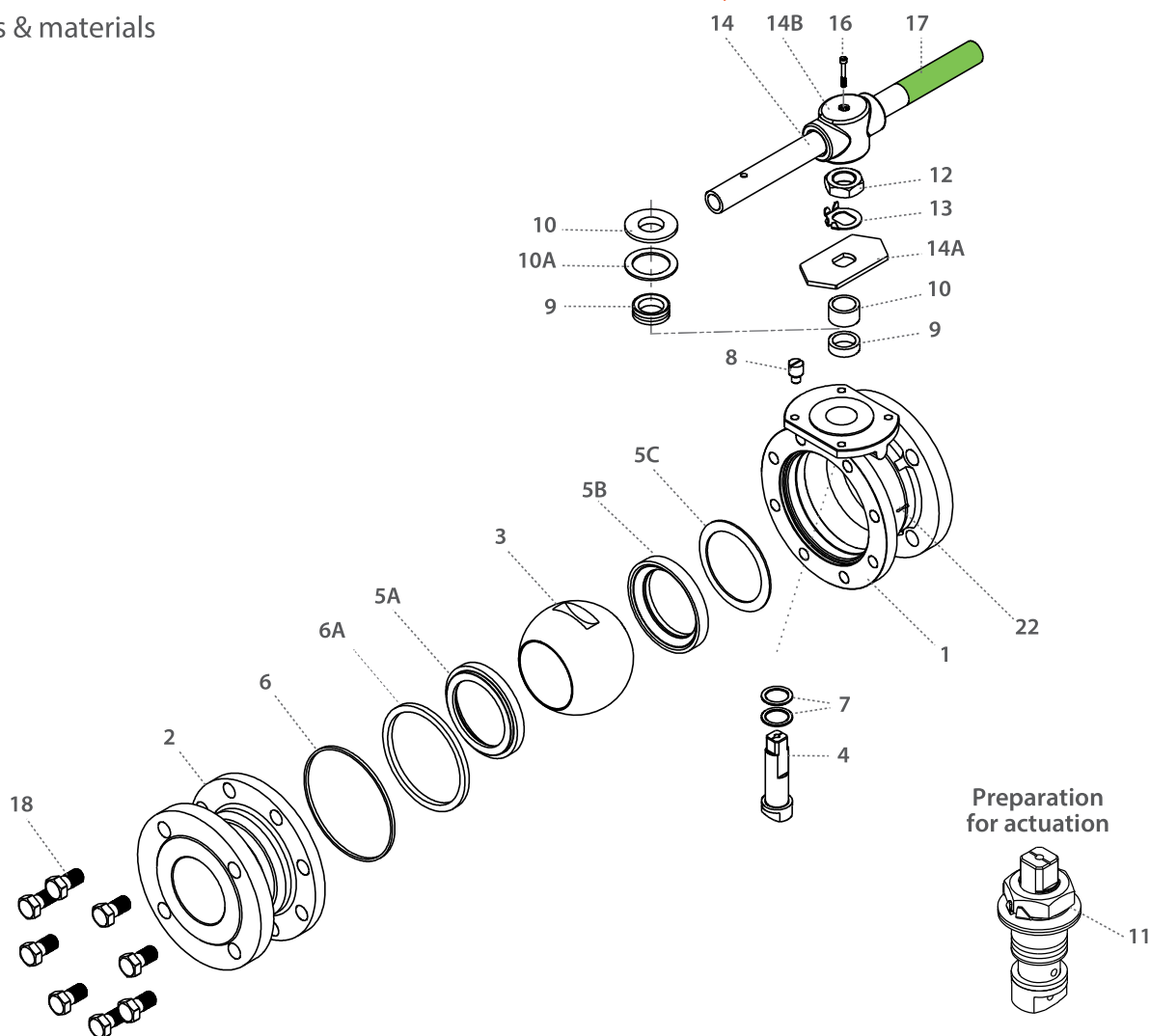
2" | DN50 | PN40

**Z77W****Z77P**

3"-6" | DN80-DN150 | PN16

Floating Ball Flanged Up to **W** 260°C (500°F) | **P** 400°C (750°F)

Components & materials



Item	Description	Material specification	Qty.
1	Body	Acc. Ordering Code	1
2	End	Acc. Ordering Code	1
3	Ball	Acc. Ordering Code	1
4	Stem	Acc. Ordering Code	1
5A	Downstream seat	Acc. Ordering Code	1
5B	Upstream seat	Acc. Ordering Code	1
5C	Upstream disc spring	Inconel 718	1
6*	Body seal	Graphite	1
6A*	Seat seal	Graphite	1
7*	Stem thrust seal	A479 316L Hardened with LTPN, B637 N07718 Inconel 718, Virgin peek, PCTFE	2
8	Stop pin	S. Steel	1
9*	Stem seal	Graphite, CF PTFE, TFM	1
10	Follower	S. Steel	1

Item	Description	Material specification	Qty.
10A*	Slide Bearing	S. Steel	1
11	Disc spring	S. Steel	2
12	Stem nut	S. Steel	1
13	Tab lock washer	S. Steel	1
14**	Handle	S. Steel	1
14A	Stop plate	S. Steel	1
14B	Wrench head	S. Steel	1
16	Wrench bolt	S. Steel	1
17	Sleeve	PVC	1
18	Body bolts	S. Steel	8-12
22	Arrow flow	S. Steel	1
23	Tag (not shown)	S. Steel	1

* Repair kit components

** Gear operator should be used for size 4" DN100 and above (handle components are not included)

Z73

Z74

Z77

Z78



High Temperature - Ordering Code System

"Mandatory option" options are marked with **green background** | "Standard offer" options are marked with **light green background**

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	...	30
2	0			Z	B	7	3	P	-	6	6	6	M	N	G	-	/	1	5	0			-					
Size		Features				Series		Design		Body material	Ends material	Ball/Seat material	Stem material	Hardening	Seal			End Connection					Seat design		Special features			

Size (1-2)		
Code	inch	mm
12	1¼"	32
15	1½"	40
20	2"	50
25	2½"	65
30	3"	80
40	4"	100
60	6"	150
80	8"	200

Up to size 1" see Z47 series

Features (3-6)	
Z	Metal seats
N	Control service

Series (7-8)	
73	ANSI #150 full port
74	ANSI #300 full port
77	DIN PN 16 full port
78	DIN PN 40 full port

Design (9)	
P	-60°C to 400°C (-76°F to 752°F)
W	-60°C to 260°C (-76°F to 500°F) HermetiX stem seal
T	-60°C to 538°C (-76°F to 1000°F)

Body/Ends material (11-12)	
6	CF8M
4	A216 C.st WCB

Ball/Seat material (13)	
6	ASTM A479 S. Steel 316L
N*	St. Steel 410

* For O hardening only

Stem material (14)	
M	High Strength S. Steel
Z	Inconel 718

Hardening (15)	
N*	LTPN - Low Temperature Plasma Carbonitriding
I**	Cr3C2 - Chromium Carbide with Nickel Chrome binder - HVOF technique
O***	WC-Co - Tungsten Carbide with Cobalt binder- HVOF technique

* LTPN is standard offering up to size 2". Applicable only for P/W design

** standard offering for size 2½" and up

*** Only with N ball material

Seal Material (16)	
G	Expanded graphite
B	NBR
V	Viton
K	FFKM

End connections (19-23)	
Flanged	
150	ASME B16.5 #150 RF
300	ASME B16.5 #300 RF
PN16	EN1092 PN16 RF
PN40	EN1092 PN40 RF

Seat design (25-26)	
Blank	Type A seat design
TB	Type B seat design
TC	Type C seat design
TD	Type D seat design

Special Features (27-30)	
RTJ	Ring Type Joint
F1*	F1 - DIN 3202-1 RF face-to-face size
F4**	F4 - DIN 3202-1 RF face-to-face size
F5***	F5 - DIN 3202-1 RF face-to-face size
V30	Characterized control ball

* Up to 2"

** Up to 4"

*** 6" only