

Z91W

Z92W

Z91P

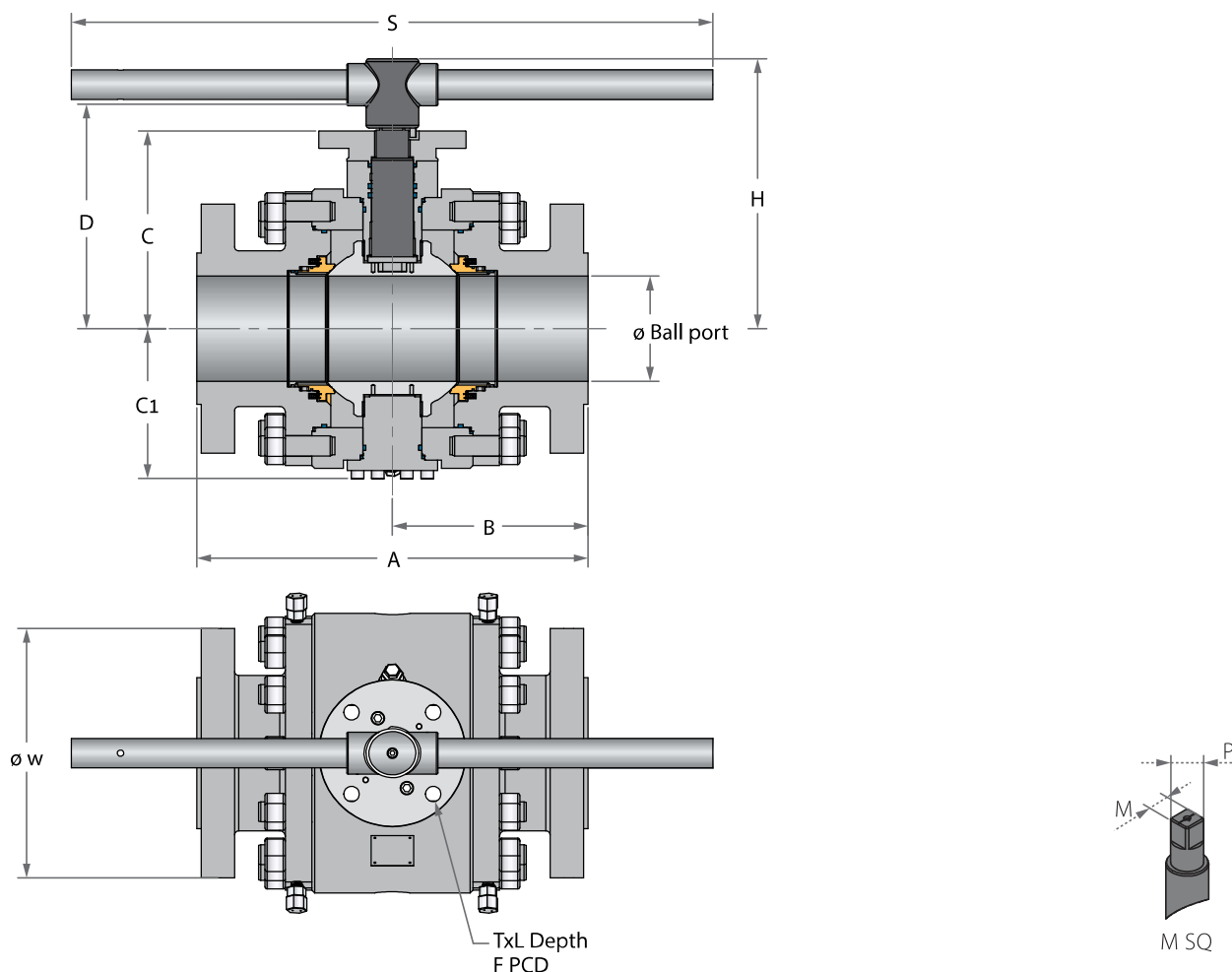
Z92P

2"-6" | DN150-DN300
CLASS 150/300

High Temperature Trunnion Ball 3 Piece Up to

W 200°C (400°F) | **P** 327°C (620°F)

Valve dimensions



Full port	Unit	Ball port	A		B		C	C1	D	W		M SQ	P SQ	H	S	F	TxL	Weight kg/ib		Kv/Cv	
			150	300	150	300				150	300							150	300	150	300
DN50	mm	49.00	178.00	216.00	89.00	108.00	127.00	91.50	144.50	150.00	165.00	17.00	22.00	196.00	401.00	(F10) 102.00	11X15	27	31	400	363
2"	inch	1.93	7.01	8.50	3.50	4.25	5.00	3.60	5.69	5.91	6.50	0.67	0.87	7.72	15.79	4.02	(4 holes)	60	68	463	420
DN80	mm	74.00	203.00	283.00	101.50	128.00	148.00	117.00	172.00	190.00	210.00	22.00	32.00	223.00	610.00	(F12) 125.00	13X15	44	61	1125	952
3"	inch	2.91	7.99	11.14	4.00	5.04	5.83	4.61	6.77	7.48	8.27	0.87	1.26	8.78	24.02	4.92	(4 holes)	97	134	1300	1100
DN100	mm	100.00	229.00	305.00	114.50	140.50	171.00	139.00	198.50	230.00	255.00	27.00	35.00	247.50	610.00	(F14) 140.00	18X15	66	100	2154	1860
4"	inch	3.94	9.02	12.00	4.51	5.53	6.73	5.47	7.81	9.06	10.04	1.06	1.38	9.74	24.02	5.51	(4 holes)	146	220	2490	2150
DN150	mm	150.00	394.00	403.00	185.00	230.40	254.00	191.00	290.50	280.00	320.00	36.00	46.20	356.50	916.00	(F16) 165.00	22X25	180	216	4723	4628
6"	inch	5.91	15.51	15.87	7.28	9.07	10.00	7.52	11.44	11.02	12.60	1.42	1.82	14.04	36.06	6.50	(4 holes)	397	476	5460	5350

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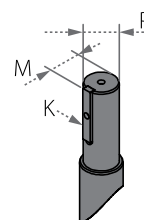
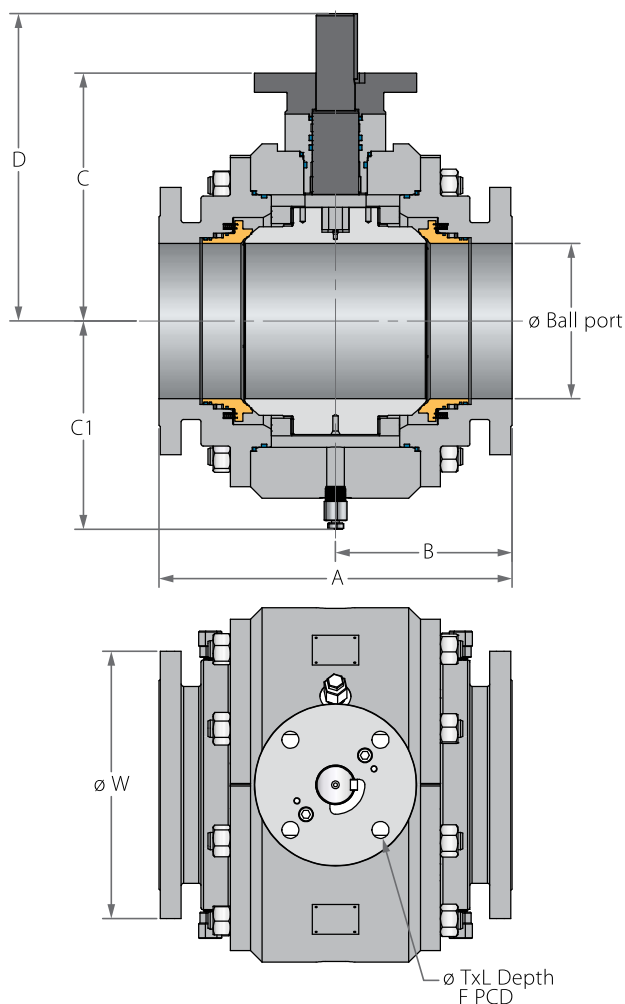
Z92P

8"-12" | DN200-DN300
CLASS 150/300

High Temperature Trunnion Ball 3 Piece Up to

W 200°C (400°F) | **P** 327°C (620°F)

Valve dimensions



Full port	Unit	Ball port	A		B		C	C1	D	W	P	M	K	F		TxL	Weight kg/ib		Kv/Cv	
			150	300	150	300											150	300	150	300
DN200	mm	201.00	457.00	502.00	228.50	251.00	325.00	305.00	247.00	232.00	405.50	379.50	345.00	(F16)	165.00	22x25	346	378	9273	8737
8"	inch	7.91	17.99	19.76	9.00	9.88	12.80	12.01	9.72	9.13	15.96	14.94	13.58		6.50	(4 holes)	763	833	10720	10100
DN250	mm	252.00	533.00	568.00	270.00	287.50	353.00	359.00	297.00	299.00	430.00	454	405.00	(F25)	254.00	18x25	473	594	15224	14792
10"	inch	9.92	20.98	22.36	10.63	11.32	13.90	14.13	11.69	11.77	16.93	17.87	15.94		10.00	(8 holes)	1043	1310	17600	17100
DN300	mm	303.00	610.00	648.00	298.00	313.00	388.00	368.00	324.00	305.00	468.50	464	485.00	(F25)	254.00	18x25	723	833	23096	22404
12"	inch	11.93	24.02	25.51	11.73	12.32	15.28	14.49	12.76	12.01	18.44	18.27	19.09		10.00	(8 holes)	1594	1836	26700	25900

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2"-6"

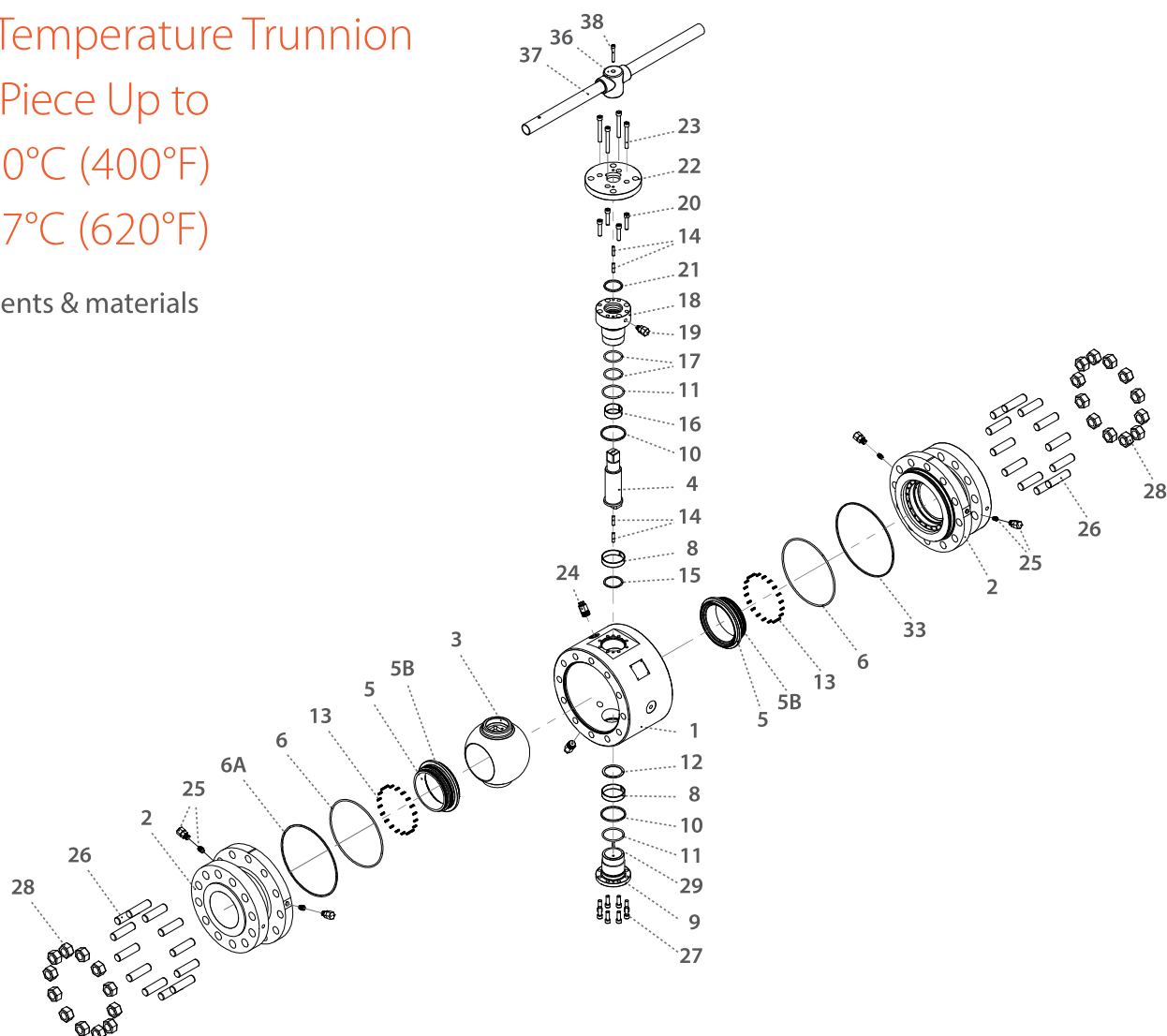
High Temperature Trunnion

Ball 3 Piece Up to

W 200°C (400°F)

P 327°C (620°F)

Components & materials



Item	Description	Material Spec. ASTM	Qty.
1	Body	Acc. Ordering code	1
2	Ends	Acc. Ordering code	2
3	Ball	Acc. Ordering code	1
4	Stem	Acc. Ordering code	1
5*	Seat	Acc. Ordering code	2
5B*	Seat seal	Viton / HNBR	2-4
6*	Body inner seal	Viton / HNBR	2
6A*	Body outer seal	Graphite	2
8*	Ball Bearing	S.steel 316 + PTFE	2
9	External Trunnion	S.steel / C.steel	1
10*	Gland Plate & External trunnion Fire Safe Seal	Graphite	2
11*	Gland Plate & External trunnion Seal	Viton / HNBR	2
12*	Lower thrust washer	S.steel 316 + PTFE	1
13	Seat Spring	Inconel X750	28-40
14	Gland pin	S.steel / C.steel	4
15*	Stem Thrust Washer	S.steel 316 + PTFE	1
16*	Gland plate bearing	S.steel 316 + PTFE	1

Item	Description	Material Spec. ASTM	Qty.
17*	Stem seal	Viton / HNBR	2
18	Gland Plate	S.steel / C.steel	1
19	Stem grease fitting	S.steel	1
20	Lower gland bolts	A193-B8M / A320 L7	4
21*	Stem fire safe seal	Graphite	1
22	Iso plate	S.steel / C.steel	1
23	Upper gland bolts	A193-B8M / A320 L7	4
24	Plug valve	S.steel	2
25**	Seat grease fitting + check valve	S.steel	4
26	Body studs	A193-B8M / A320 L7	16-24
27	External trunnion bolts	A193-B8M / A320 L7	4
28	Body nuts	A194-8M / A194 L7	16-24
29	Antistatic spring	Inconel X750	1
30	Wrench head	S.steel / C.steel	1
31	Wrench bolt	S.steel / C.steel	1
32	Pipe handle	S.steel / C.steel Zink plate	1

* Repair kit components

** Available from 6" size only

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8"-12"

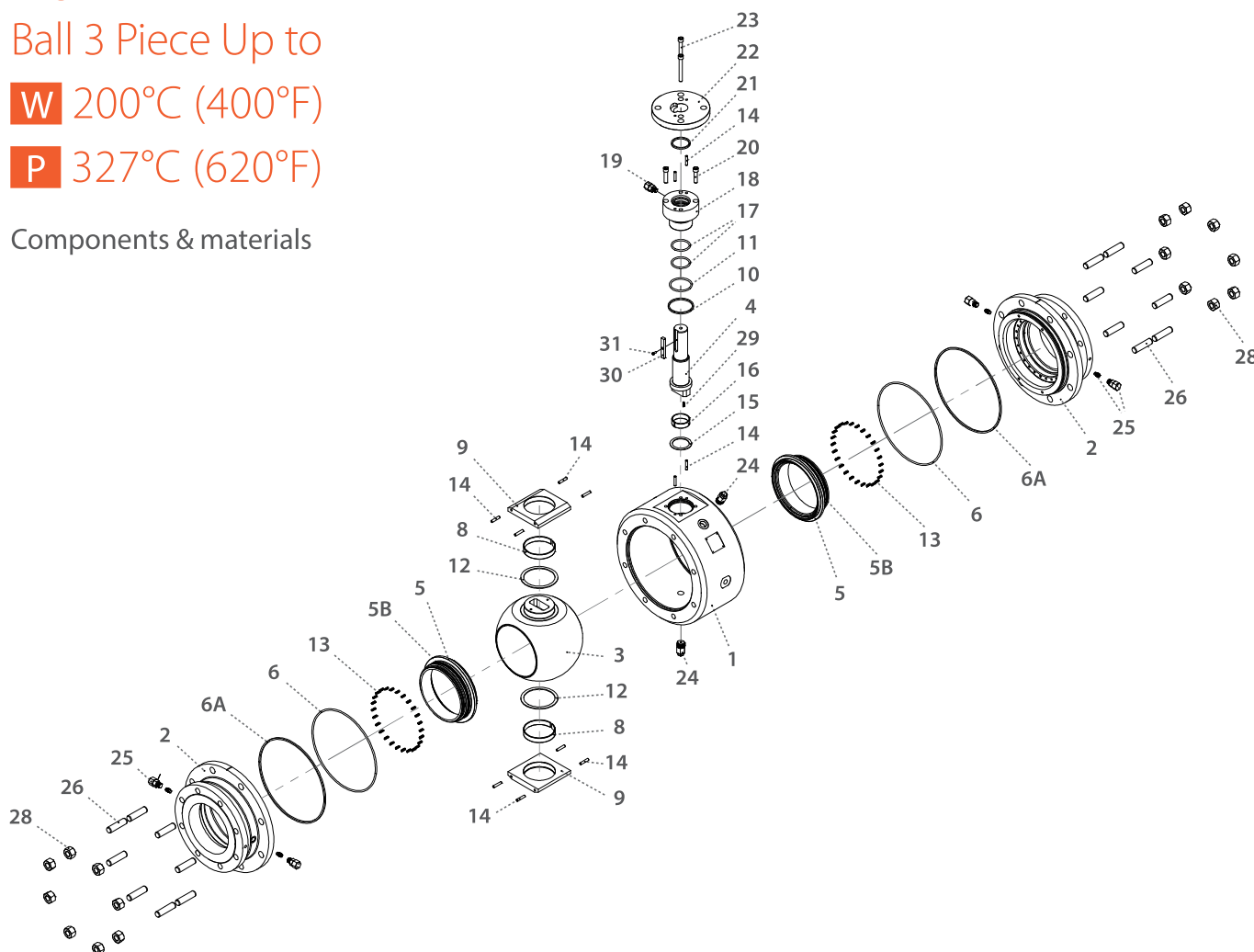
High Temperature Trunnion

Ball 3 Piece Up to

W 200°C (400°F)

P 327°C (620°F)

Components & materials



Item	Description	Material Spec. ASTM	Qty.
1	Body	Acc. Ordering code	1
2	Ends	Acc. Ordering code	2
3	Ball	Acc. Ordering code	1
4	Stem	Acc. Ordering code	1
5*	Seat	Acc. Ordering code	2
5B*	Seat seal	Viton, HNBR	2-4
6*	Body inner seal	Viton, HNBR	2
6A*	Body outer seal	Graphite	2
8*	Ball bearing	S.steel 316 + PTFE	2
9	Trunnion plate	S.steel / C.steel	2
10*	Gland plate & External Trunnion Fire Safe Seal	Graphite	1
11*	Gland Plate & External Trunnion Seal	Viton, HNBR	1
12*	Ball thrust washer	S.steel 316 + PTFE	2
13	Seat Spring	Inconel X750	52-60
14	Gland pin	S.steel / C.steel	12
15*	Stem Thrust Washer	S.steel 316 + PTFE	1
16*	Stem Bearing	S.steel 316 + PTFE	1

Item	Description	Material Spec. ASTM	Qty.
17*	Stem seal	Viton, HNBR	2
18	Gland Plate	S.steel / C.steel	1
19	Stem grease fitting	S.steel	1
20	Lower gland bolts	A193-B8M / A320 L7	2-6
21*	Stem fire safe seal	Graphite	1
22	Iso plate	S.steel / C.steel	1
23	Upper gland bolts	A193-B8M / A320 L7	2-6
24	Plug valve	S.steel	2
25**	Seat grease fitting + check valve	S.steel	4
26	Body studs	A193-B8M / A320 L7	16-32
28	Body nuts	A194-8M / A194 L7	16-32
29	Antistatic spring	Inconel X750	1
30	Stem key	S.steel / C.steel	1
31	Stem key bolt	S.steel / C.steel	1

* Repair kit components

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High Temperature Trunnion Ball 3 Piece - 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	.	.	30
4	0			Z	B	9	4	P	-	6	M	6	D	I	V	G	/	9	0	0		0				
Size		Features				Series		Design		Body & ends material		Stem material	Ball material	Seat feature	Hardening	Inner Seal	Outer Seal		End Connection				Special features			

Size (1-2)		
Code	inch	mm
20*	2"	50
30	3"	80
40	4"	100
60	6"	150
80	8"	200
A0	10"	250
A2	12"	300

* Full port only

Features (3-6)	
Z	Metal seats
B	Full port

Series - 3 Piece (7-8)	
91	ASME B16.5 #150
92	ASME B16.5 #300
93	ASME B16.5 #600
94	ASME B16.5 #900
95	ASME B16.5 #1500
96	ASME B16.5 #2500

Design (9)	
W	-46°C to 200°C (-50°F to 400°F)
P	-46°C to 327°C (-40°F to 620°F)
T	-60°C to 538°C (-76°F to 1000°F)

Body & ends (11)	
4*	C. Steel A105
6	S. Steel A479 316
J**	F22

* -29°C to 425°C
(-20°F to 800°F)

** For T design only

Stem (12)	
M	High Strength S. Steel
Z	Inconel 718

Ball material(13)	
6	S. Steel A182 316
N*	ASTM A182 F6A (S.Steel 410)

* For O hardening only

Seat feature (14)	
D	Double Piston Effect (DPE) (API 6D DIB-1)
S	Single Piston Effect (SPE) (API 6D DBB)

Hardening (15)	
I*	Cr3C2- Chromium Carbide with Nickel Chrome binder - HVOF technique
O	WC-Co- Tungsten Carbide with Cobalt binder HVO technique

Inner Seal material (16)	
V	Viton (-20°C to 200°C [-4°F to 400°F])
H	HNBR (-46°C to 150°C [-50°F to 300°F])
K	Kalrez (-20°C to 327°C [-4°F to 620°F])
G	Graphite

* Only with N ball material

Outer Seal material (17)	
G	Graphite

End connections (19-22)	
Flanged	
150	ASME B16.5 #150
300	ASME B16.5 #300
600	ASME B16.5 #600
900	ASME B16.5 #900
1500	ASME B16.5 #1500
2500	ASME B16.5 #2500
PN16	DIN EN 1092-1 PN16
PN40	DIN EN 1092-1 PN40
PN63	DIN EN 1092-1 PN63
PN100	DIN EN 1092-1 PN100
PN160	DIN EN 1092-1 PN160
PN250	DIN EN 1092-1 PN250
PN320	DIN EN 1092-1 PN320
PN400	DIN EN 1092-1 PN400

Flanged RTJ	
600RTJ	ASME B16.5 #600 RTJ
900RTJ	ASME B16.5 #900 RTJ
1500RTJ	ASME B16.5 #1500 RTJ
2500RTJ	ASME B16.5 #2500 RTJ

Welded	
XBW	Extended butt weld sch 40
XBW80	Extended butt weld sch 80
XBW160	Extended butt weld sch 160

Special features (23-30)	
L*	Seat greasing point
D**	Drain & Vent
Blank	Drain & vent is capped
H**	Drain ball valve & vent
PT***	Basic paint system
P1	Offshore, Temp Ambient up to 93°C (200°F)
P2	Offshore, up to 537°C (998°F)

* for 6" up not for -T design

** for 6" up

*** colors RAL 1018 or 7036
(other colors upon request)