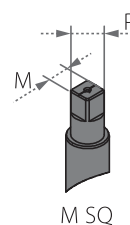
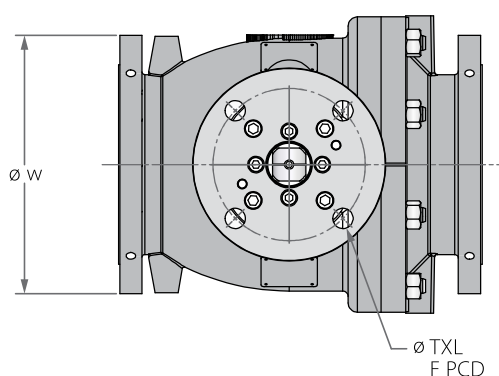
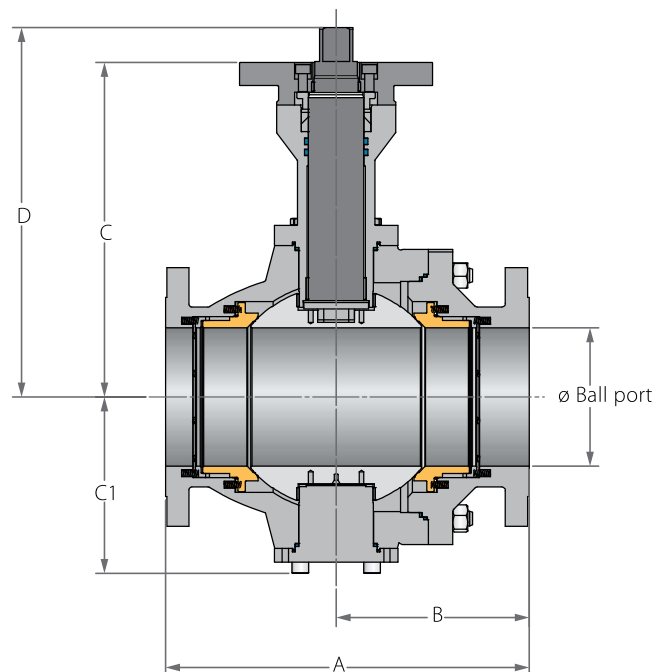


Z81T**Z82T**

2"-6" | DN50-DN150 | CLASS 150/300

High Temperature Trunnion Ball 2 Piece Up to 538°C (1000°F)

Valve dimensions



Full port	Unit	Ball port	A		B		C	C1	D	W		M SQ	P SQ	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	113.50	250.00	94.00	269.00	150.00	165.00	16.90	21.30	(F10)	102.00	M10X15 (4 holes)	22	25	400	363
2"	inch	1.93	7.01	8.50	3.50	4.47	9.84	3.70	10.59	5.91	6.50	0.67	0.84		4.02		49	55	463	420
DN80	mm	74.00	203.00	283.00	101.50	154.00	277.00	117.00	301.00	190.00	210.00	21.90	26.90	(F12)	125.00	M12X15 (4 holes)	40	51	1125	952
3"	inch	2.91	7.99	11.14	4.00	6.06	10.91	4.61	11.85	7.48	8.27	0.86	1.06		4.92		88	112	1300	1100
DN100	mm	100.00	229.00	305.00	114.50	164.50	293.00	139.00	322.00	230.00	255.00	26.90	34.90	(F14)	140.00	M16X15 (4 holes)	61	73	2154	1860
4"	inch	3.94	9.02	12.00	4.51	6.48	11.54	5.47	12.68	9.06	10.04	1.06	1.37		5.51		134	161	2490	2150
DN150	mm	150.00	394.00	403.00	209.10	207.60	362.00	191.00	400.00	280.00	320.00	35.90	46.20	(F16)	165.00	M22X25 (4 holes)	133	145	4723	4628
6"	inch	5.91	15.51	15.87	8.23	8.17	14.25	7.52	15.75	11.02	12.60	1.41	1.82		6.50		293	320	5460	5350

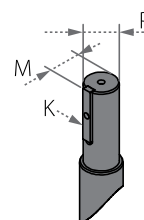
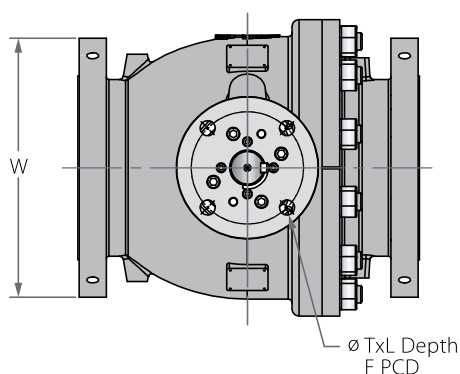
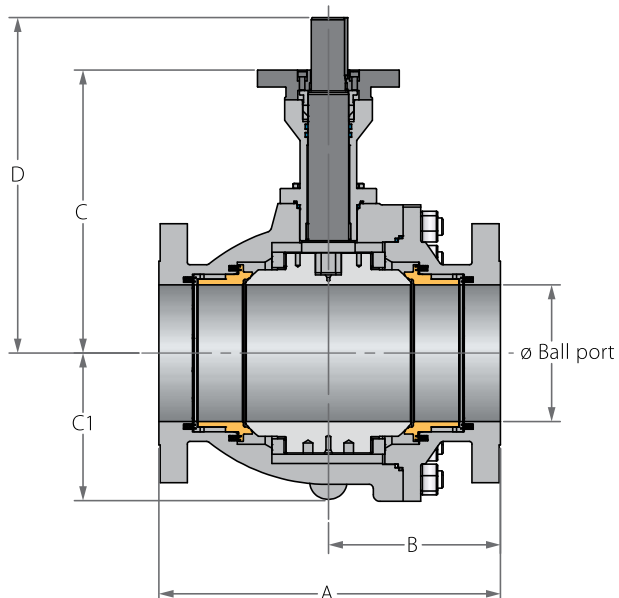
Z81T**Z82T**

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



High Temperature Trunnion Ball 2 Piece Up to 538°C (1000°F)

Valve dimensions



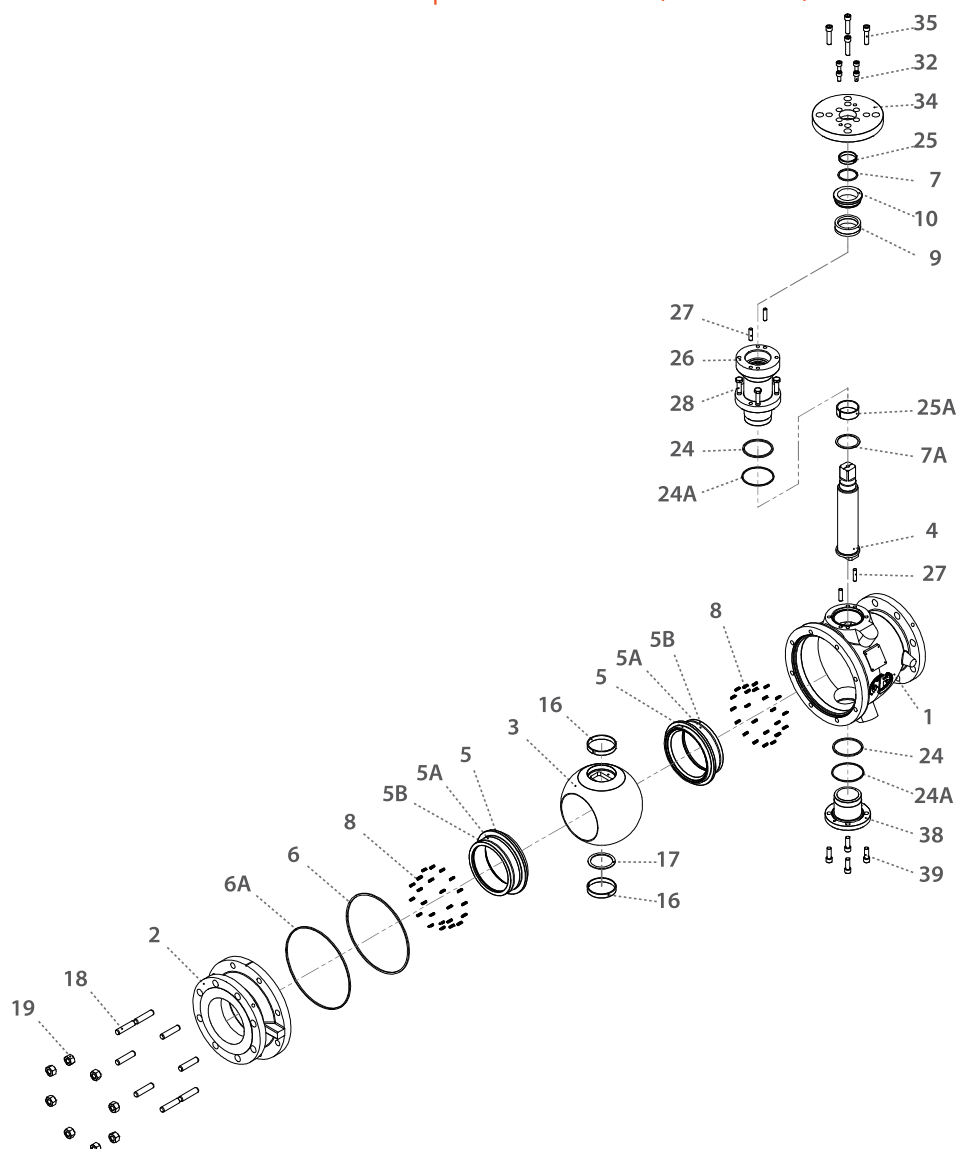
Full port	Unit	Ball port	A		B		C	C1	D	W		P	M	K	F	TxL	Weight kg/ib		Kv/Cv	
			150	300	150	300				150	300						150	300	150	300
DN200	mm	201.00	457.00	502.00	228.50	253.00	416.00	215.00	493.00	345.00	380.00	50.00	54.00	14.00	(F16) 165.00	22x25 (4 holes)	250	288	9273	8737
8"	inch	7.91	17.99	19.76	9.00	9.96	16.38	8.46	19.41	13.58	14.96	1.97	2.13	0.55	6.50		551	635	10720	10100
DN250	mm	252.00	533.00	568.00	270.00	287.50	504.00	260.00	581.00	405.00	445.00	50.00	54.00	14.00	(F25) 254.00	18x25 (8 holes)	405	475	15224	14792
10"	inch	9.92	20.98	22.36	10.63	11.32	19.84	10.24	22.87	15.94	17.52	1.97	2.13	0.55	10.00		893	1047	17600	17100
DN300	mm	303.00	610.00	648.00	298.00	313.00	590.00	300.00	671.00	485.00	520.00	60.00	63.50	18.00	(F25) 254.00	18x25 (8 holes)	595	672	23096	22404
12"	inch	11.93	24.02	25.51	11.73	12.32	23.23	11.81	26.42	19.09	20.47	2.36	2.50	0.71	10.00		1312	1481	26700	25900

Z81T**Z82T**

2"-6"

High Temperature Trunnion Ball 2 Piece Up to 538°C (1000°F)

Components & materials



Item	Description	Material Spec. ASTM	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
5*	Seat	Acc. Ordering Code	2
5A*	Seat seal	Graphite	2
5B*	Seat ring	Acc. Ordering Code	2
6*	Body inner seal	Graphite	1
6A*	00-91-60-239	Graphite	1
7	Upper thrust seal	S.steel 316 / Inconel 625	1
7A	Lower thrust seal	S.steel 316 / Inconel 625	1
8	Seat Spring	Inconel X750	16-48
9*	Stem seal	Graphite	1
10	Follower	S.steel	1
16	Ball bearing	S.steel 316 / Inconel 625	2
17	Ball thrust seal	S.steel 316 / Inconel 625	1

Item	Description	Material Spec. ASTM	Qty.
18	Body stud	A193-B8M / A320 L7	4-12
19	Body nuts	A194 8M / A194 L7	4-12
24*	Bonnet inner seal	Graphite	2
24A*	48G-20-139	Graphite	2
25	Upper stem bearing	S.steel 316 / Inconel 625	1
25A	Lower stem bearing	S.steel 316 / Inconel 625	1
26	Bonnet	S. steel / C. steel	1
27	Bonnet pin	S. steel / C. steel	4
28	Bonnet bolts	A193-B8M / A320 L7	4-8
32	Follower drive bolts	A193-B8M / A320 L7	4-8
34	Iso plate	S. steel / C. steel	1
35	Iso plate bolts	A193-B8M / A320 L7	4-8
38	External trunnion	S. steel / C. steel	1
39	External trunnion bolts	A193-B8M / A320 L7	4-8

* Repair kit components

Z81T

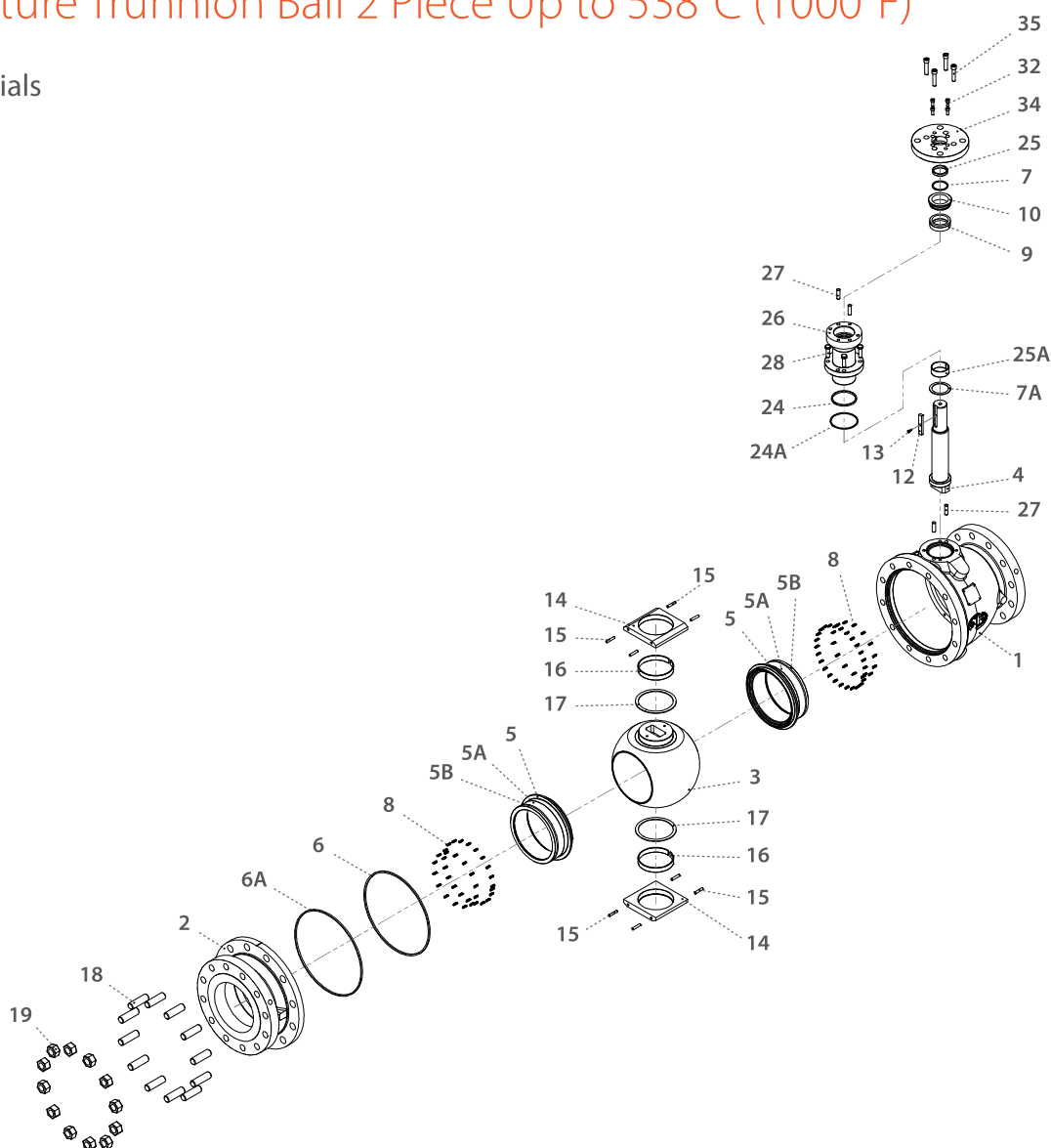
Z82T

8"-12"



High Temperature Trunnion Ball 2 Piece Up to 538°C (1000°F)

Components & materials



Item	Description	Material Spec. ASTM	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
5*	Seat	Acc. Ordering code	2
5A*	Seat seal	Graphite	2
5B*	Seat ring	Acc. Ordering code	2
6*	Body inner seal	Graphite	1
6A*	Body outer seal	Graphite	1
7	Upper thrust seal	S.steel 316 / Inconel 625	1
7A	Lower thrust seal	S.steel 316 / Inconel 625	1
8	Seat Spring	Inconel X750	68-76
9*	Stem seal	Graphite	1
10	Follower	S.steel	1
12	Stem key	S.steel / C.steel	1
13	Stem key bolt	S.steel / C.steel	1
14	Trunnion plate	S.steel / C.steel	2

Item	Description	Material Spec. ASTM	Qty.
15	Trunnion plate pin	S.steel / C.steel	8
16	Ball bearing	S.steel 316 / Inconel 625	2
17	Ball thrust washer	S.steel 316 / Inconel 625	2
18	Body stud	A193-B8M / A320 L7	8-20
19	Body nuts	A194 8M / A194 L7	8-20
24*	Bonnet inner seal	Graphite	1
24A*	Bonnet outer seal	Graphite	1
25	Upper stem bearing	S.steel 316 / Inconel 625	1
25A	Lower stem bearing	S.steel 316 / Inconel 625	1
26	Bonnet	S.steel / C.steel	1
27	Bonnet pin	S.steel / C.steel	4
28	Bonnet bolts	A193-B8M / A320 L7	4-8
32	Follower drive bolts	A193-B8M / A320 L7	4-8
34	Iso plate	S.steel / C.steel	1
35	Iso plate bolts	A193-B8M / A320 L7	4-8

* Repair kit components

Z81

Z82

Z83



High Temperature Trunnion Ball 2 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	25	26	27	28	29	30
4	0			Z	B	8	1	P	-	6	M	6	D	I	V	G	/	1	5	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

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

Series - 2 Piece Cast (7-8)	
81	ASME B16.5 #150 Flanged RF
82	ASME B16.5 #300 Flanged RF
83	ASME B16.5 #600 Flanged RF

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 material (11)	
4*	C. Steel A216 WCB
6	S. Steel A351 CF8M

* Up to 425°C (800°F)

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)
C	DPE & SPE combination (API 6D DIB-2)

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

* Only with N ball material

Inner Seal (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

Outer Seal (17)	
G	Graphite

End connections (19-22)	
Flanged	
150	ASME B16.5 #150
300	ASME B16.5 #300
600	ASME B16.5 #600

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)