

NAC-NUTEK®

TB / LB TRUNNION BALL VALVES



API-6D forged steel trunnion mounted ball valves for use in Upstream and Midstream applications with features and options for aggressive service.



NAC-NUTEK® MODEL TB / LB

Forged End-Entry Trunnion Ball Valve

Table of Contents

Sizes, Advantages, Compliance to Standard & Specifications.....	2
Standard Features, Sizes Available, How to Order.....	3
TB: 2-4" Exploded View, GA Drawing.....	4
TB: 2-6" RP Valve Dimensions.....	5
TB/LB: 6-36" Exploded View, GA Drawing.....	6
TB/LB: 6-36" GA Drawing, TB: 6-16" Dimensions.....	7
TB: Topworks (Actuation), Temperature/Pressure Data.....	8
LB: Dimensions, Topworks (Actuation).....	9

Sizes, Pressures and End Connections

- TB: Sizes: FP: 2" through 16" (50mm through 400mm), RP: 3" through 16" (80mm through 400mm)
- TB: ASME Classes: 150 through 2500 (PN 20 through 420)
- LB: Full Port (FP) Sizes: 20" through 36" (500mm through 900mm)
- LB: ASME Classes: 600 (PN 100) (*unless special order*)
- End Connections: Raised Face, RTJ or Smooth Face flanged and butt-weld (*schedule to be confirmed*)

Advantages

- SEALING: Redundant Stem Seals, Seal Compatibility with Service and Media, Isolation Configurable
- OPERATION: Low Torque Values, Avoid External Relief, Minimum Maintenance, ISO Mounting for Actuation
- SERVICE: Service Assistance, Field Assistance, Application Assistance, Commissioning Assistance

Compliance to Standards and Specification

- Quality Management System [API Q1 / ISO-9001]
- ASME.B16.34 / B16.25 / B16.11 / B16.10 / B16.5 / B1.20.1
- API-6D / CSA Z245.15
- API-607 / API-6FA (Fire-Safe)
- ASME Section VIII, Division 2: Boiler and Pressure Vessel Code
- ISO-5211, API-608
- NACE MR 0175 & MR 0103
- EPA Method 21 (Fugitive Emissions) [*optional test - alternative screening*]
- MSS SP-25 / CSA marking
- Canadian Registration Number (CRN)

Standard Features

BODY CONSTRUCTION

Forged steel, three-piece bolted body construction

ISO mounting pad for actuation

BODY SEALS

Seals specified according to application / media

STEM

Blowout-proof stem with redundant seals and sealant injection

SEATS

Insert materials available are Teflon™, Devlon™, LF PEEK or Viton Delta-Seal

Grease Injection standard: 3" - 4" 2500, 6" 150 and above

FIRE-SAFE, ANTI-STATIC

All valves are Fire-Safe Certified and have mechanical anti-static devices as standard

CONFIGURATION per API-6D

All valves DB&B, with specified isolation: SR, DiB-1, DiB-2

Sizes Available

ASME CLASS (PN)	150 / 300 (20 / 50)	600 (100)	900 (150)	1500 (250)	2500 (420)
FULL PORT inch (mm)	2 through 16 (50 through 400)	2 through 36 (50 through 900)	2 through 12 (50 through 300)	2 through 10 (50 through 250)	2 through 4 (50 through 250)
REDUCED PORT inch (mm)	3 through 16 (80 through 400)	3 through 16 (80 through 400)	3 through 16 (80 through 300)	3 through 12 (80 through 300)	3 through 6 (80 through 300)

How to Order

How to develop typical figure numbers without options:

EG - 2" Full Port Raised Face Class 300 TB for Sour-Low-Temp service c/w CS/ENP trim, RTFE seat insert, Self-Relieving and Lever

FIGURE NUMBER MATRIX - TRUNNIONS

SERIES (XX)		BORE (X)		SIZE (XX)		CONNECTION (X)		CLASS (XX)		SERVICE (X)		TRIM (XX)		SEAT (X)		ISOLATION (X)		OPERATOR (X)	
TB		F		02		R		03		L		01		R		1		L	
TB	TRUNNION	F	FULL	02	2"	R	RAISED FACE	01	150	L	SLT*	01	CS/ENP*	R	RTFE	1	SR	L	LEVER
		R	REDUCED	03	3"	J	RTJ	03	300	A	FULL SS	02	SS	L	LF PEEK	2	DiB-1	G	GEAR-OP
				04	4"	B	BUTT-WELD (80)	06	600	B	BURIED			P	PEEK	3	DiB-2	B	BARE-STEM
				06	6"	A	SMOOTH FACE	08	800	O	OXYGEN			D	DEVLON				
				08	8"	C	BUTT-WELD (40)	09	900	H	HYDROGEN			V	VITON				
				10	10"			15	1500	C	CRYOGENIC**			M	METAL**				
				12	12"			25	2500										
				16	16"														

Notes:

* Standard configuration

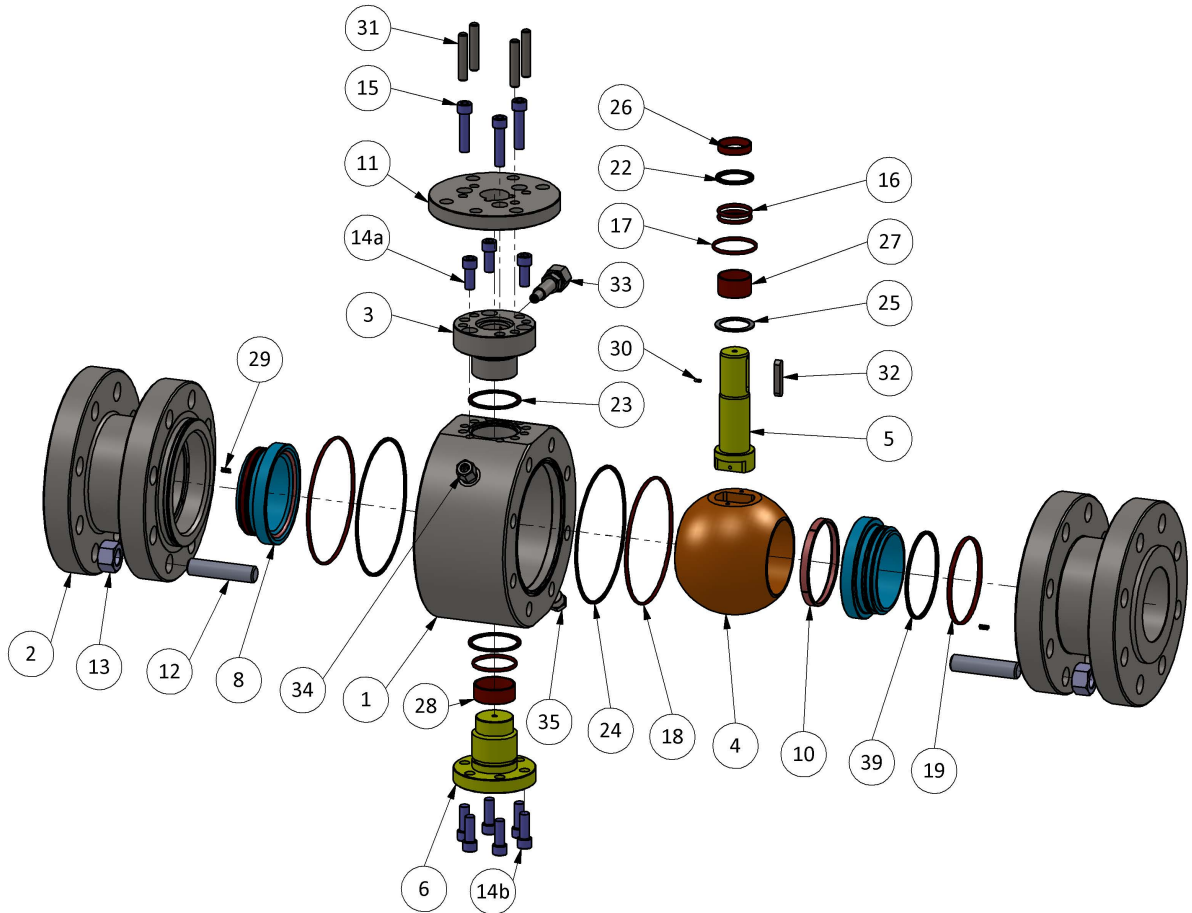
** Available in different series

Additional features are available. **Contact NAM**

LB	TRUNNION	F	FULL	20	20"	R	RAISED FACE	06	600	S	STD	01	CS/ENP*	R	RTFE	1	SR	G	GEAR-OP
				24	24"	J	RTJ			L	SLT*			L	LF PEEK	2	DiB-1	B	BARE-STEM
				30	30"	C	BUTT-WELD (40)			N	SOUR			P	PEEK	3	DiB-2		
				32	32"	A	SMOOTH FACE			A	FULL SS			D	DEVLON				
				36	36"	D	BUTT-WELD (20)			M	SLURRY			V	VITON				
						E	BUTT-WELD (10)			B	BURIED								

Note: Additional sizes / pressures / features available. **Contact NAM**

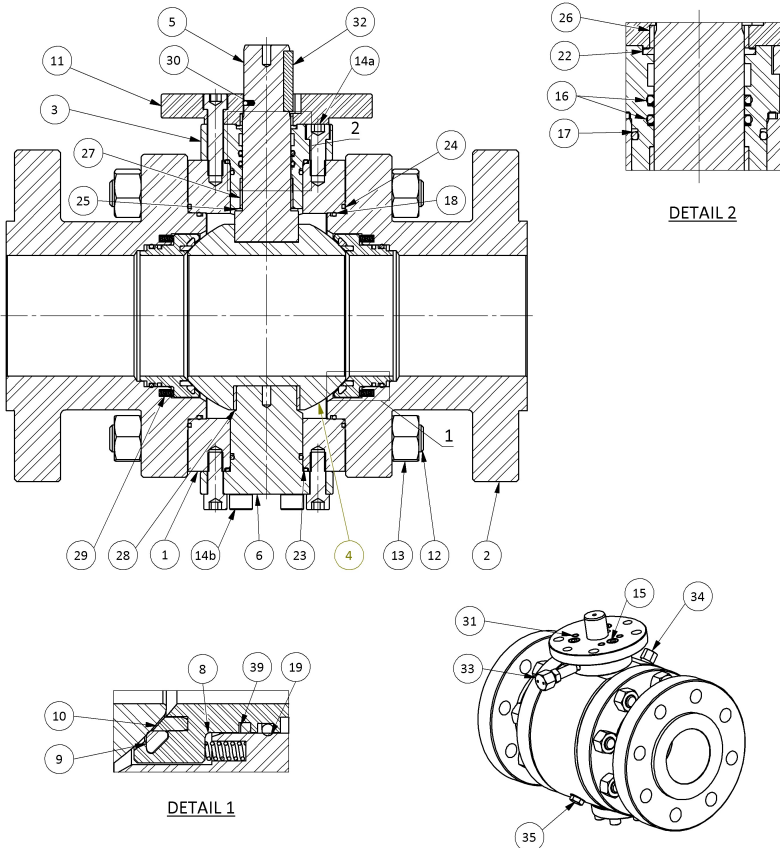
Model TB: 2" FP through 6"RP



MODEL TB

GA: 2" - 4"

Self-Relieving / Delta-Seal

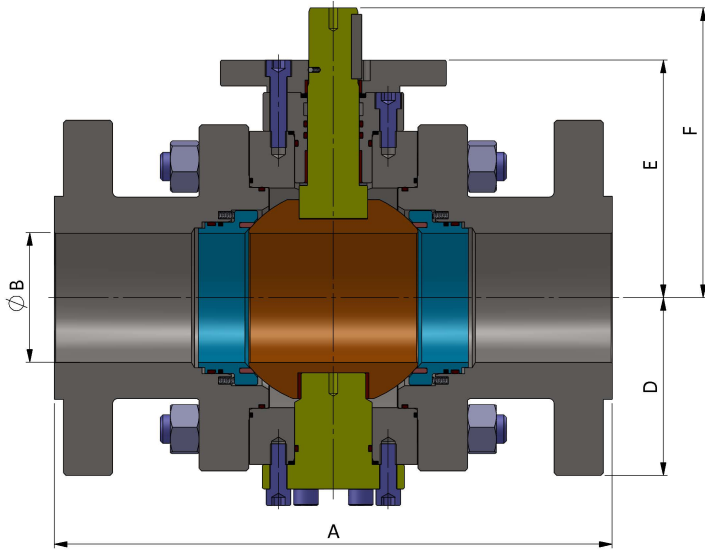


ITEM	PART	MATERIAL
1	BODY	ASTM A350 LF2
2	CAP	ASTM A350 LF2
3	GLAND	ASTM A350 LF2
4	BALL	A350 LF2+ ENP
5	STEM	AISI 4140 +ENP
6	TRUNNION	ASTM A350 LF2
8	SEAT RING	A350 LF2+ ENP
9	DELTA SEAL	VITON 95 D
10	INSERT RETAINING RING	PEEK
11	GLAND PLATE	ASTM A350 LF2
12	BODY STUDS	ASTM A320 L7M
13	HEAVY HEX NUTS	ASTM A194 7M
14a	SOCKET HEAD CAP SCREW	ASTM A320 L7M
14b	SOCKET HEAD CAP SCREW	ASTM A320 L7M
15	SOCKET HEAD CAP SCREW	ASTM A320 L7M
16	STEM O-RING	VITON GLT 90D
17	GLAND/TRUNNION O-RING	VITON GLT 90D
18	BODY/CAP O-RING	VITON GLT 90D
19	SEAT O-RING	VITON GLT 90D
22	STEM FIRE SAFE SEAL	GRAPHITE
23	GLAND/TRUNNION FS SEAL	GRAPHITE
24	BODY/CAP FIRE SAFE SEAL	GRAPHITE
25	THRUST BEARING	RPTFE
26	STEM BEARING	304SS + PTFE
27	GLAND BEARING	304SS + PTFE
28	TRUNNION BEARING	304SS + PTFE
29	SEAT SPRING	INCONEL X750
30	ANTI-STATIC SPRING / BALL	ASTM A276 Gr.316
31	PARALLEL PIN	AISI 1045
32	KEY	AISI 1045
33	INJECTION FITTING LONG	A350 LF2+ Zn
34	BLEED / VENT	A350 LF2+ Zn
35	DRAIN PLUG	ASTM A182 F304
39	SEAT FIRE SAFE SEAL	GRAPHITE BRAIDED ROPE

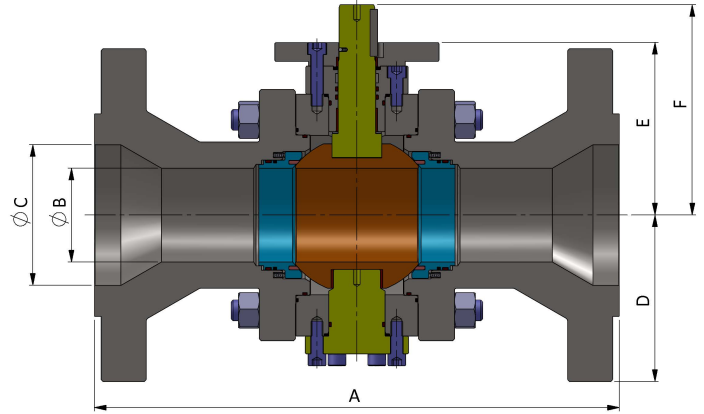
MODEL TB

DIMENSIONS

TB FP 2"-4"



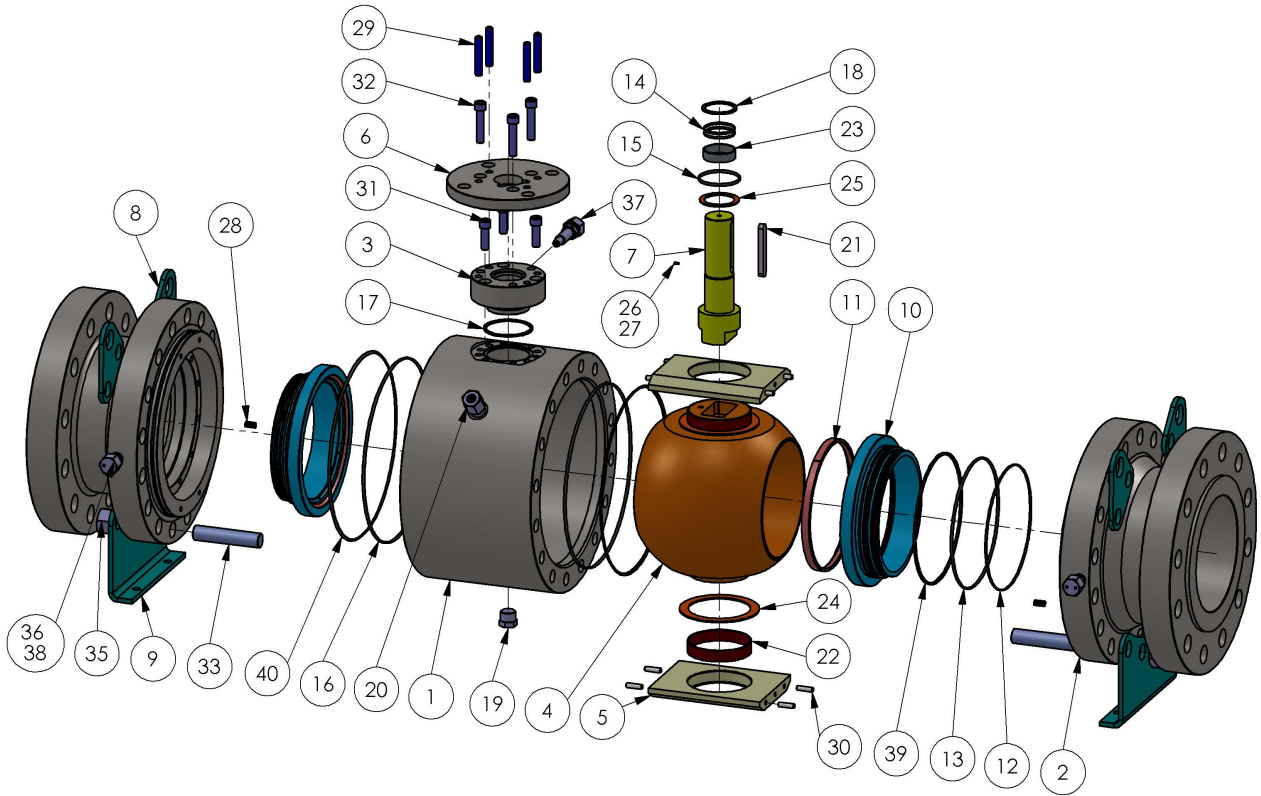
TB RP 3"-6"



Size	Class	A	B	D	E	F
2	150	178	49	76	124.5	160.5
	300	216	49	82.5	124.5	160.5
	600	292	49	82.5	124.5	160.5
	900	368	49	107.5	139	184.5
	1500	368	49	107.5	139	184.5
	2500	451	42	117.5	159	194
3	150	203	74	95	142	178
	300	283	74	105	142	178
	600	356	74	105	171	212.5
	900	381	74	120	171	212.5
	1500	470	74	132.5	176	216.5
	2500	578	62	152.5	199	261.5
4	150	229	100	115	162	202
	300	305	100	127.5	162	202
	600	432	100	137.5	184	224.5
	900	457	100	145	194	235
	1500	546	100	155	194	235
	2500	673	87	177.5	255	317

Size	Class	A	B	C	D	E	F
3 x 2	150	203	49	74	95	124.5	160.5
	300	283	49	74	105	124.5	160.5
	600	356	49	74	105	124.5	160.5
	900	381	49	74	120	139	184.5
	1500	470	49	74	132.5	139	184.5
4 x 3	2500	578	42	62	152.5	159	194
	150	229	74	100	115	142	178
	300	305	74	100	127.5	142	178
	600	432	74	100	137.5	171	212.5
	900	457	74	100	145	171	212.5
6 x 4	1500	546	74	100	155	176	216.5
	2500	673	62	87	177.5	199	261.5
	150	394	100	150	140	162	202
	300	403	100	150	160	162	202
	600	559	100	150	177.5	184	224.5
6 x 4	900	610	100	150	190	194	235
	1500	705	100	144	197.5	194	235
	2500	914	87	131	242.5	255	317

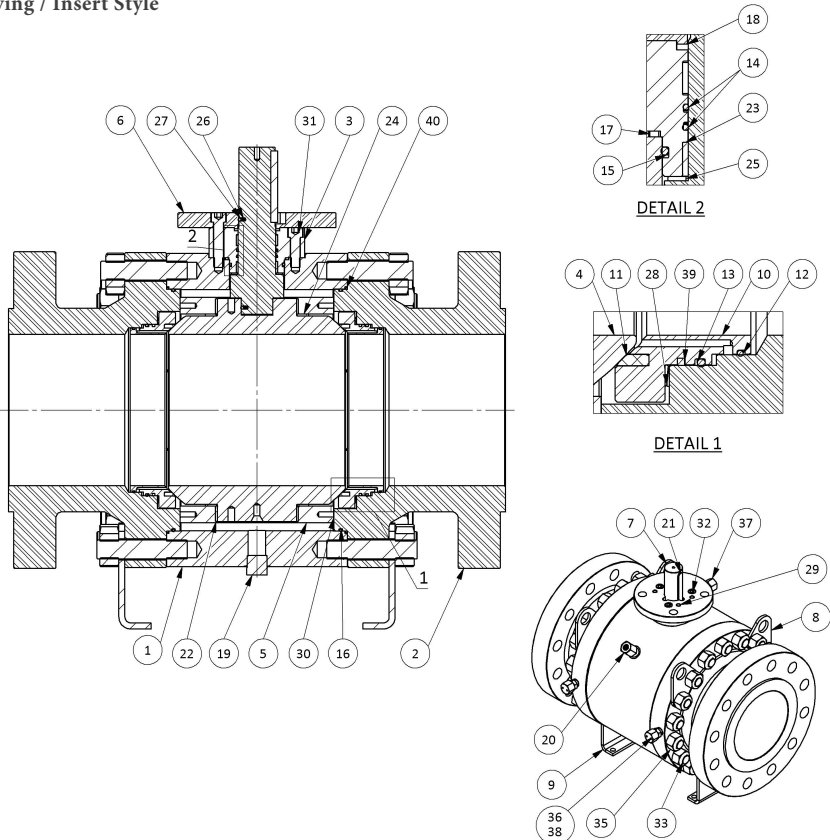
Model TB/LB: 6" through 36"



MODEL TB/LB

GA: 6" - 36"

Self-Relieving / Insert Style

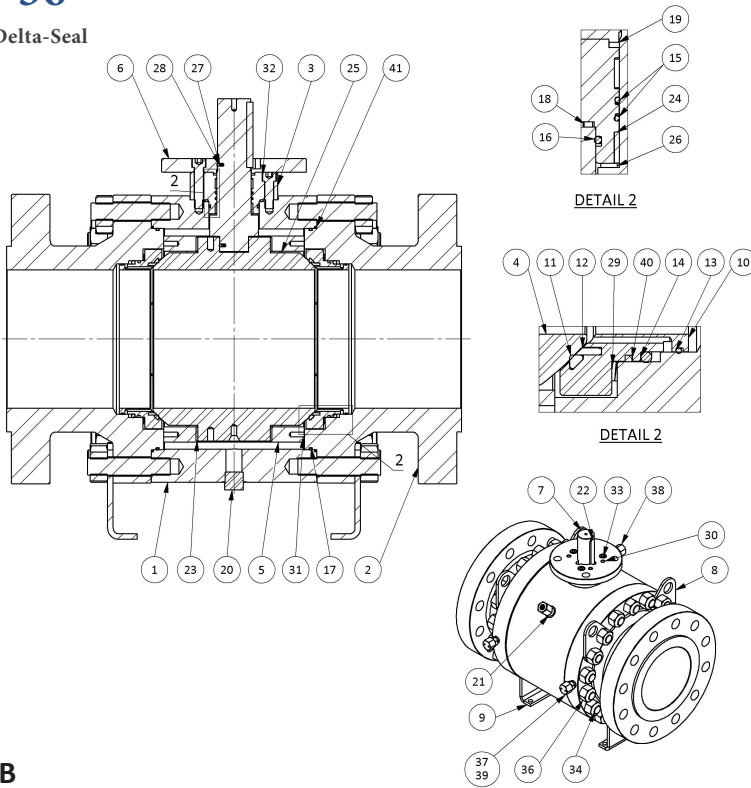


ITEM NO.	PART	MATERIAL
1	BODY	ASTM A350 LF2
2	CAP	ASTM A350 LF2
3	GLAND	ASTM A350 LF2
4	BALL	ASTM A350 LF2 + ENP
5	BEARING PLATE	ASTM A350 LF2
6	GLAND PLATE	ASTM A350 LF2
7	STEM	AISI 4140 + ENP
8	LIFTING LUG	ASTM A36
9	LEG	ASTM A36
10	SEAT RING, SPE RS	ASTM A350 LF2 + ENP
11	SEAT INSERT	DEVLON V-API
12	SEAT SEAL	VITON GLT 90D
13	SEAT SEAL	VITON GLT 90D
14	STEM SEAL	VITON GLT 90D
15	GLAND SEAL	VITON GLT 90D
16	CAP SEAL	VITON GLT 90D
17	FIRE SAFE GASKET	GRAPHITE
18	FIRE SAFE GASKET	GRAPHITE
19	DRAIN	ASTM A350 LF2
20	VENT	ASTM A182 F316
21	KEY	AISI 4130
22	BALL DU BEARING	AISI 304 + PTFE
23	STEM DU BEARING	AISI 304 + PTFE
24	BALL THRUST WASHER	AISI 304 + PTFE
25	STEM THRUST WASHER	AISI 304 + PTFE
26	ANTI-STATIC SPRING	ASTM A276 GR 316
27	ANTI-STATIC BALL	ASTM A276 GR 316
28	SEAT SPRING	INCONEL 750
29	GLAND PLATE DOWEL PIN	AISI 4130
30	BEARING PLATE DOWEL PIN (NOT SHOWN)	AISI 4130
31	GLAND SOCKET HEAD SCREW	ASTM A320 GR. L7M
32	GLAND PLATE SCREW	ASTM A320 GR. L7M
33	BODY STUD	ASTM A320 GR. L7M
35	BODY NUT	ASTM A194 GR. 7M
36	SEAT INJECTION	ASTM A182 F316
37	STEM INJECTION	ASTM A182 F316
38	BURIED CHECK	ASTM A350 LF2
39	SEAT BRAIDED ROPE	GRAPHITE
40	BODY BRAIDED ROPE	GRAPHITE

MODEL TB/LB

GA: 6" - 36"

Self-Relieving / Delta-Seal

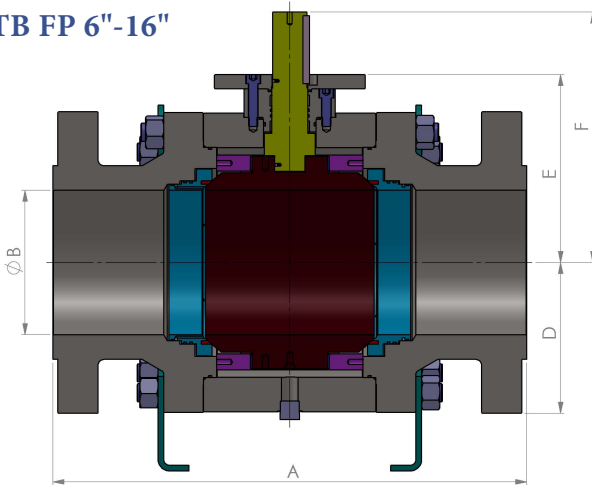


ITEM NO.	PART	MATERIAL
1	BODY	ASTM A350 LF2
2	CAP	ASTM A350 LF2
3	GLAND	ASTM A350 LF2
4	BALL	ASTM A350 LF2 + ENP
5	BEARING PLATE	ASTM A350 LF2
6	GLAND PLATE	ASTM A350 LF2
7	STEM	AISI 4140 + ENP
8	LIFTING LUG	ASTM A36
9	LEG	ASTM A36
10	SEAT RING, DPE DS	ASTM A350 LF2 + ENP
11	DELTA SEAT INSERT	DEVLON V-API
12	SEAT SUPPORT RING	PEEK
13	SEAT SEAL	VITON GLT 90D
14	SEAT SEAL	VITON GLT 90D
15	STEM SEAL	VITON GLT 90D
16	GLAND SEAL	VITON GLT 90D
17	CAP SEAL	VITON GLT 90D
18	FIRE SAFE GASKET	GRAPHITE
19	FIRE SAFE GASKET	GRAPHITE
20	DRAIN	ASTM A350 LF2
21	VENT	ASTM A182 F316
22	KEY	AISI 4130
23	BALL DU BEARING	AISI 304 + PTFE
24	STEM DU BEARING	AISI 304 + PTFE
25	BALL THRUST WASHER	AISI 304 + PTFE
26	STEM THRUST WASHER	AISI 304 + PTFE
27	ANTI-STATIC SPRING	ASTM A276 GR 316
28	ANTI-STATIC BALL	ASTM A276 GR 316
29	SEAT SPRING	INCONEL 750
30	GLAND PLATE DOWEL PIN (NOT SHOWN)	AISI 4130
31	BEARING PLATE DOWEL PIN (NOT SHOWN)	AISI 4130
32	GLAND SOCKET HEAD SCREW	ASTM A320 GR. L7M
33	GLAND PLATE SCREW	ASTM A320 GR. L7M
34	BODY STUD	ASTM A320 GR. L7M
36	BODY NUT	ASTM A194 GR. 7M
37	SEAT INJECTION	ASTM A182 F316
38	STEM INJECTION	ASTM A182 F316
39	BURIED CHECK	ASTM A350 LF2
40	SEAT BRAIDED ROPE	GRAPHITE
41	BODY BRAIDED ROPE	GRAPHITE

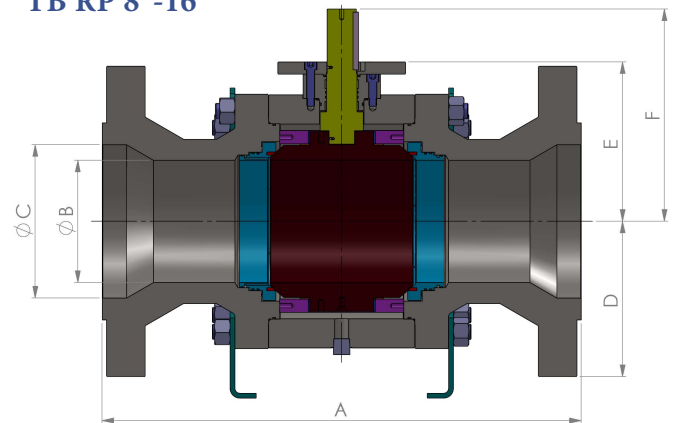
MODEL TB

DIMENSIONS

TB FP 6"-16"



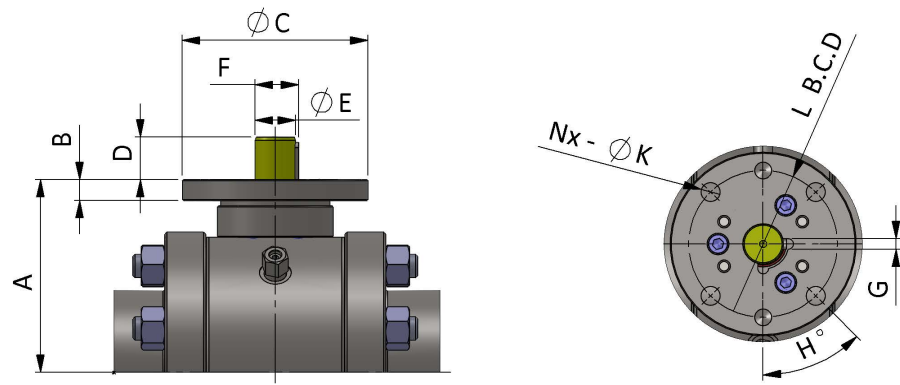
TB RP 8"-16"



Size	Class	A	B	D	E	F
6	150	394	150	140	212	274
	300	403	150	160	212	274
	600	559	150	177.5	216	289
	900	610	150	190	238	325
	1500	705	144	197.5	280	368
8	150	457	201	172.5	249	322
	300	502	201	190	249	322
	600	660	201	210	262	349
	900	737	201	235	294	382
	1500	832	192	242.5	344	454
10	150	533	252	202.5	285	363
	300	568	252	222.5	292	381
	600	787	252	255	326	414
	900	838	252	272.5	341	442
	1500	991	239	292.5	388	506
12	150	610	303	242.5	344	431
	300	648	303	260	350	437
	600	838	303	280	368	460
	900	965	303	305	389	501
	1500	1130	239	317.5	441	566
16	150	762	385	297.5	410	503
	300	838	385	325	410	503
	600	1091	385	342.5	443	555
	900	1210	385	362.5	476	608
	1500	1430	385	392.5	529	681

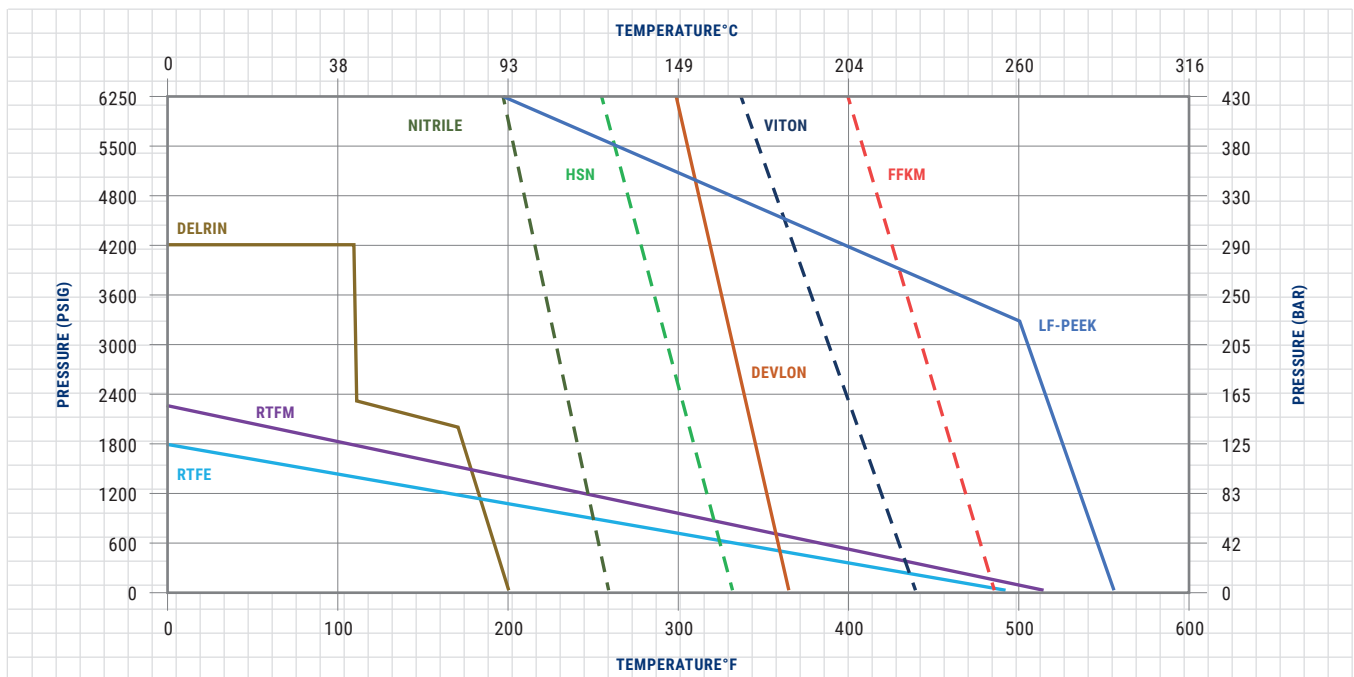
Size	Class	A	B	C	D	E	F
8 x 6	150	457	150	201	172.5	212	274
	300	502	150	201	190	212	274
	600	660	150	201	210	216	289
	900	737	150	201	235	238	325
	1500	832	144	192	242.5	280	368
10 x 8	150	533	201	252	202.5	249	322
	300	568	201	252	222.5	249	322
	600	787	201	252	255	262	349
	900	838	201	252	272.5	294	382
	1500	991	192	239	292.5	344	454
12 x 10	150	610	252	303	242.5	285	363
	300	648	252	303	260	292	381
	600	838	252	303	280	326	414
	900	965	252	303	305	341	442
	1500	1130	239	287	337.5	388	506
16 X 12	150	762	303	385	297.5	344	431
	300	838	303	385	325	350	437
	600	991	303	385	342.5	368	460
	900	1130	303	373	352.5	389	501
	1500	1430	303	392.5	441	566	681

MODEL TB TOP-WORKS



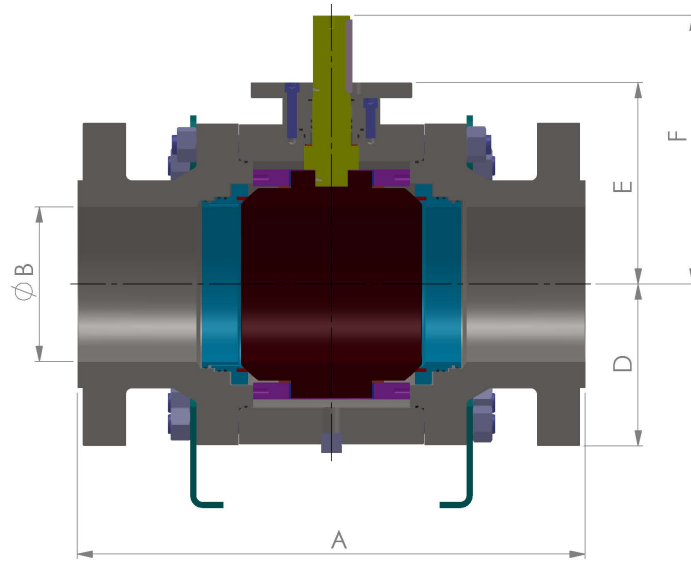
Size	Class	A	B	C	D	E	F	G	H	Nx - K	L B.C.D
2	150/300/600	124.5	15	125	36	25	28	8	45	4x - 12	102
	900/1500	139	15	150	45.5	27	30	8	45	4x - 14	125
	2500	159	20	150	35	30	33	8	45	4x - 14	125
3	150/300	142	15	125	36	25	28	8	45	4x - 12	102
	600/900	171	20	175	41.5	32	35	10	45	4x - 18	140
	1500	176	20	175	40.5	32	35	10	45	4x - 18	140
4	2500	199	25	210	62.5	38	41	10	45	4x - 22	165
	150/300	162	15	150	40	32	35	10	45	4x - 14	125
	600	184	20	175	40.5	38	41	10	45	4x - 18	140
	900	194	20	175	41	38	41	10	45	4x - 18	140
6	1500	194	20	210	41	38	41	10	45	4x - 22	165
	255	25	300	62	48	51.5	14	22.5	8x - 18	254	
	150/300	212	20	210	62	48	51.5	14	45	4x - 22	165
	600	216	20	210	73	48	51.5	14	45	4x - 22	165
8	900	238	20	210	87	48	51.5	14	45	4x - 22	165
	1500	280	25	300	88	57	61	16	22.5	8x - 17.5	254
	150/300	249	20	210	73	48	51.5	14	45	4x - 22	165
	600	262	20	210	87	48	51.5	14	45	4x - 22	165
10	900	294	25	300	88	63	74	18	22.5	8x - 18	254
	1500	344	30	300	110	75	83	20	22.5	8x - 18	254
	150	285	20	210	78	53	57	16	45	4x - 22	165
	300	292	20	210	89	53	57	16	45	4x - 22	165
12	600	326	25	300	88	63	74	18	22.5	8x - 18	254
	900	341	25	300	101	75	84	20	22.5	8x - 18	254
	1500	388	30	350	118	82	92	22	22.5	8x - 22	298
	150	344	25	300	87	57	61	16	22.5	8x - 17.5	254
16	300	350	25	300	87	57	61	16	22.5	8x - 17.5	254
	600	368	25	300	92	75	84	20	22.5	8x - 18	254
	900	389	25	350	112	75	83	20	22.5	8x - 22	298
16	150/300	408	30	300	88	75	84	20	22.5	8x - 17.5	254
	600	443	30	350	112	93	103	25	22.5	8x - 22	298

Pressure/Temperature Ratings (Seats and Seals)



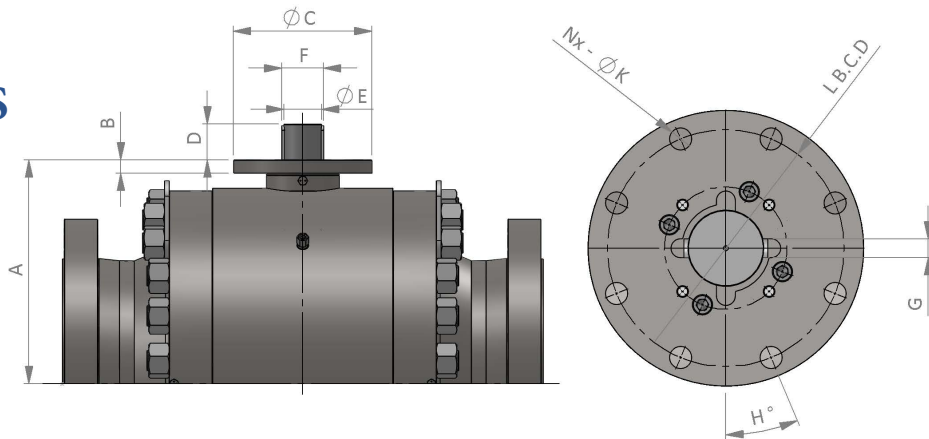
* Consult ASME B16.34 for body and adapter material pressure / temperature ratings.

MODEL LB
DIMENSIONS



Size	Class	A	B	D	E	F
20	600	1194	487	407.5	538	647
24	600	1397	589	470	636	743
30	600	1651	736	565.2	768	891
32	600	1778	780	597	802	925
36	600	2083	875	657.5	895	1026

MODEL LB
TOP-WORKS



Size	Class	A	B	C	D	E	F	G	H	Nx - K	L (B,C,D)
20	600	538	40	415	110	103	115	28	22.5	8x - 32	356
24	600	636	42	415	108	115	129	32	22.5	8x - 32	356
30	600	768	46	475	123	130	144	32	22.5	8x - 38	406
32	600	802	46	475	123	130	144	32	22.5	8x - 38	406
36	600	895	48	475	131	150	166	36	22.5	8x - 38	406



The NAC-NUTEK® valve brand was established in 2017 to address the specific requirements of the oil and gas and process control industries. Every aspect of the brand, and its products, is supported by a team of valve and actuation experts with literally centuries of combined experience in providing global operators with rugged, field-proven products manufactured to the highest levels of quality and performance.



North American Marketing [NAM] and its team have a long and rich history in the energy industry. Founded by William Robbins and Jim Wright, the majority of the team at NAM was part of Nutron Industries which was established by Mr. Robbins in 1989. Up until its sale in 2002 to Cooper Cameron, now a division of Schlumberger, Nutron Industries was an industrial leader placing more than a million valves into applications throughout the world. In 2017, Mr. Robbins and Mr. Wright, formally Senior Vice President of Cooper Cameron and President of its valve and distributed products division, decided to re-enter the valve industry focusing on improved design to create superior valves. The first brand of valves, NAC-NUTEK® is designed specifically for the oil and gas and process control industries, with added focus on severe service applications.

HSE POLICY STATEMENT

At NAC-NUTEK®, we are committed ethically, financially and personally to a working environment where no one gets hurt and nothing gets harmed.



www.nutekvalves.com

CANADA

P.: 780-416-1966

F.: 780-552-1731

E.: info@nutekvalves.com