

Beaver B31–B35

Three-Piece Trunnion Ball Valve

A three-piece body valve with a trunnion-mounted ball, designed for general service applications requiring higher pressures and larger sizes.

B31, B32, B33, B34, B35





Beaver B33 Trunnion Ball Valve

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It features a fixed ball and two independent floating seats which assure bidirectional sealing. When the ball is closed and both seats are simultaneously sealed, the cavity can be relieved of entrapped pressure.

The seats can guarantee full sealing as there's zero differential pressure to the valve's maximum rated pressure. The seat design and trunnion-mounted ball also minimise the torque needed to operate the valve.

KEY FEATURES

- API 607-compliant firesafe design prevents leakage through use of elastomeric polymeric seals.
- Double block and bleed design enables upstream and downstream seats to isolate the cavity.
- Drain plug at the bottom of the cavity and bleed valve at the top allow the cavity to be drained.
- Seats exhibit the double piston effect, which results in a double barrier in a single valve.
- Built-in anti-static device prevents static that can generate harmful sparks from building up on the valve.
- Emergency sealant injection system allows temporary seal renewal until repairs can be scheduled.
- Available as full or reduced bore in Class 150, 300, 600, 900, and 1500.
- Has electroless nickel coating on seats and inserts.

Need technical advice? Our friendly specialists are here to help.

B31

Three-Piece Class 150 Trunnion Ball Valve

Table 1. B31 Standard Materials

Standard Material			
Part	Carbon steel valve with carbon steel trim	Carbon steel valve with stainless steel trim	Stainless steel valve
Body/Cap	A216 WCB	A216 WCB	A351 CF8M
Ball	A105N*	316 SS	316 SS
Stem	AISI 4140*	A182 F316	A182 F316
Seats/Inserts	ASTM A105N* and RTFE	A182 F316 and RTFE	A182 F316 and RTFE
O-rings	Viton-B	Viton-B	Viton-B

*Electroless nickel plating .001"

Diagram. B31 Full Bore Parts

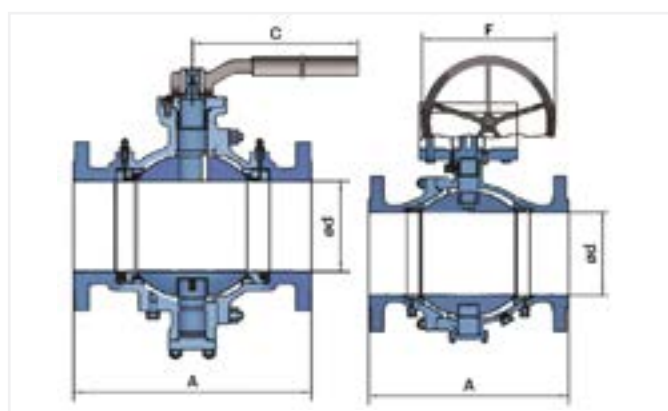


Diagram. B31 Reduced Bore Parts

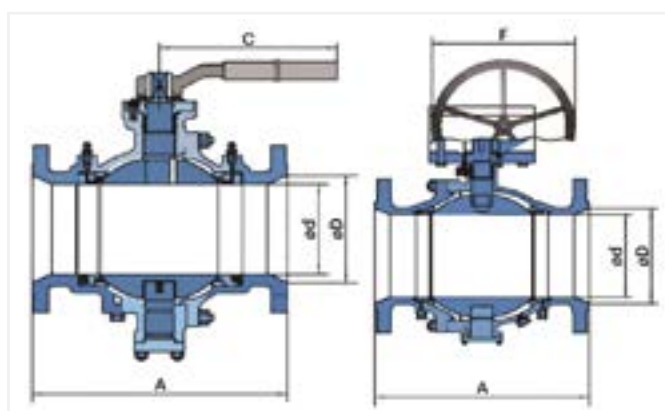


Table 3. B31 Full Bore Dimensions

Product Dimensions (mm)													
Valve size	50	80	100	150	200	250	300	350	400	450	500	600	750
Bore size (d)	48	74	99	150	201	251	302	334	385	436	487	538	735
Face to face (A)	RF	178	203	229	394	457	533	610	686	762	864	914	1067
	BWE	216	282	305	457	521	559	635	762	838	914	991	1143
Handle length (C)	250	350	500										
Handwheel diameter (F)				350	460	600	600	600	600	750	750	750	750
Approximate weight (kg)	17	33	50	93	166	273	475	570	778	935	1190	1579	

Table 3. B31 Reduced Bore Dimensions

Product Dimensions (mm)													
Valve size	80	100	150	200	250	300	350	400	450	500	600	750	
Bore size (d)	48	74	99	150	201	251	302	334	385	436	487	538	
Face to face (A)	RF	203	229	394	457	533	610	686	762	864	914	1067	1295
	BWE	282	305	457	521	559	635	762	838	914	991	1143	1397
Handle length (C)	250	350	500										
Handwheel diameter (F)			350	460	600	600	600	600	750	750	750	750	
Approximate weight (kg)	30	47	90	161	268	467	560	766	902	1130	1520		

B32

Three-Piece Class 300 Trunnion Ball Valve

Table 1. B32 Standard Materials

Part	Standard Material		
	Carbon steel valve with carbon steel trim	Carbon steel valve with stainless steel trim	Stainless steel valve
Body/Cap	A216 WCB	A216 WCB	A351 CF8M
Ball	A105N*	316 SS	316 SS
Stem	AISI 4140*	A182 F316	A182 F316
Seats/Inserts	ASTM A105N* and RTFE	A182 F316 and RTFE	A182 F316 and RTFE
O-rings	Viton-B	Viton-B	Viton-B
*Electroless nickel plating .001"			

Diagram. B32 Full Bore Parts

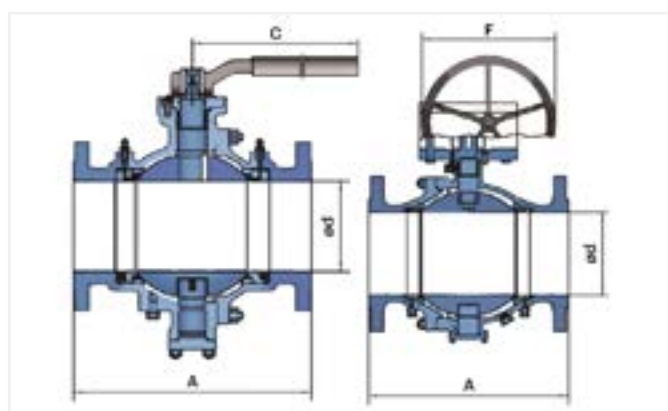


Diagram. B32 Reduced Bore Parts

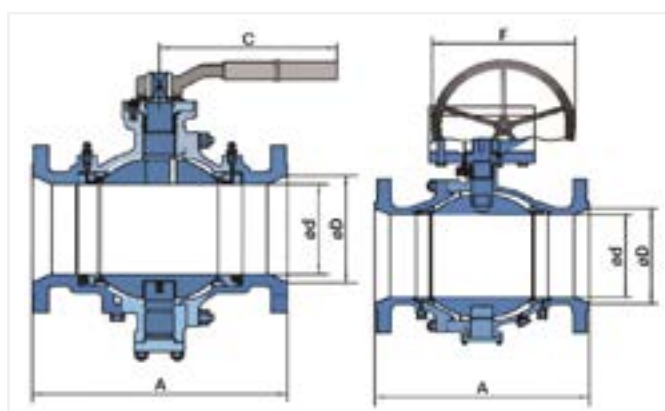


Table 3. B32 Full Bore Dimensions

Product Dimensions (mm)												
Valve size	50	80	100	150	200	250	300	350	400	450	500	600
Bore size (d)	48	74	99	150	201	252	302	334	385	436	487	538
Face to face (A)	RF	216	282	305	403	502	568	648	762	838	914	991
	BWE	216	283	305	457	521	559	635	762	838	914	991
Handle length (C)	250	350	500									
Handwheel diameter (F)				350	600	600	600	600	600	750	750	750
Approximate weight (kg)	18	40	63	150	240	305	507	602	1000	1160	1320	1874

Table 3. B32 Reduced Bore Dimensions

Product Dimensions (mm)												
Valve size	80	100	150	200	250	300	350	400	450	500	600	
Bore size (d)	51	76	102	152	203	254	303	334	385	436	487	
Face to face (A)	RF	283	305	457	502	568	648	762	838	914	991	1143
	BWE	283	305	457	521	559	635	762	838	914	991	1143
Handle length (C)	250	350	500									
Handwheel diameter (F)				350	600	600	600	600	600	750	750	
Approximate weight (kg)	38	60	147	234	295	488	570	910	1020	1280	1670	

B33

Three-Piece Class 600 Trunnion Ball Valve

Table 1. B33 Standard Materials

Standard Material			
Part	Carbon steel valve with carbon steel trim	Carbon steel valve with stainless steel trim	Stainless steel valve
Body/Cap	A216 WCB	A216 WCB	A351 CF8M
Ball	A105N*	A182 F316	A182 F316
Stem	AISI 4140*	A182 F316	A182 F316
Seats/Inserts	ASTM A105N* and Devlon V	A182 F316 and Devlon V	A182 F316 and Devlon V
O-rings	Viton-B	Viton-B	Viton-B

*Electroless nickel plating .001"

Diagram. B33 Full Bore Parts

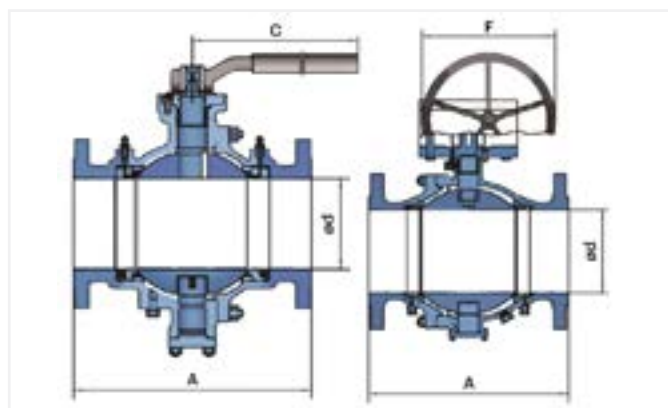


Diagram. B33 Reduced Bore Parts

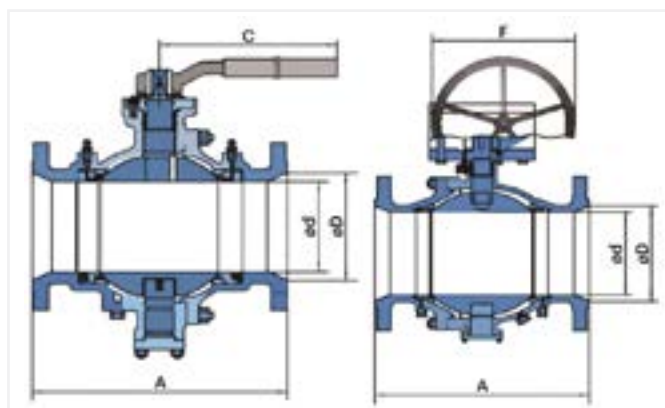


Table 3. B33 Full Bore Dimensions

Product Dimensions (mm)													
Valve size		50	80	100	150	200	250	300	350	400	450	500	600
Bore size (d)		48	74	99	150	201	252	302	334	385	436	487	538
Face to face (A)	RF	292	356	432	559	660	787	838	889	991	1092	1194	1397
	RTJ	295	359	434	561	664	791	940	892	993	1095	1199	1407
	BWE	292	356	432	559	660	787	838	889	991	1092	1194	1379
Handle length (C)													
Handwheel diameter (F)		200	350	350	460	600	600	600	750	750	750	750	750
Approximate weight (kg)		27	50	80	252	350	600	820	1130	1550	2100	2800	3626

Table 3. B33 Reduced Bore Dimensions

Product Dimensions (mm)												
Valve size		80	100	150	200	250	300	350	400	450	500	600
Bore size (d)		48	74	99	150	201	252	302	334	385	436	487
Face to face (A)	RF	356	432	559	660	787	838	889	991	1092	1194	1379
	RTJ	359	434	561	664	791	940	892	993	1095	1199	1407
	BWE	356	432	559	660	787	838	889	991	1092	1194	1379
Handle length (C)												
Handwheel diameter (F)		200	350	350	460	600	600	600	750	750	750	750
Approximate weight (kg)		41	70	122	255	440	662	1060	1440	1860	2400	3240

B34

Three-Piece Class 900 Trunnion Ball Valve

Table 1. B34 Standard Materials

Standard Material			
Part	Carbon steel valve with carbon steel trim	Carbon steel valve with stainless steel trim	Stainless steel valve
Body/Cap	A216 WCB	A216 WCB	A351 CF8M
Ball	A105N*	A182 F316	A182 F316
Stem	AISI 4140*	A182 F316	A182 F316
Seats/Inserts	ASTM A105N* and Devlon V	A182 F316 and Devlon V	A182 F316 and Devlon V
O-rings	Viton-B	Viton-B	Viton-B

*Electroless nickel plating .001"

Diagram. B34 Full Bore Parts

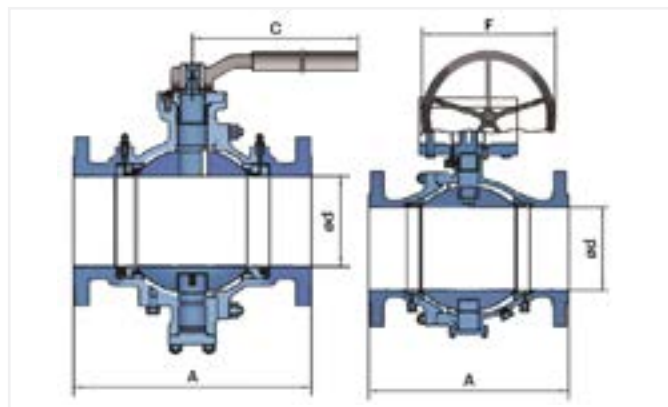


Diagram. B34 Reduced Bore Parts

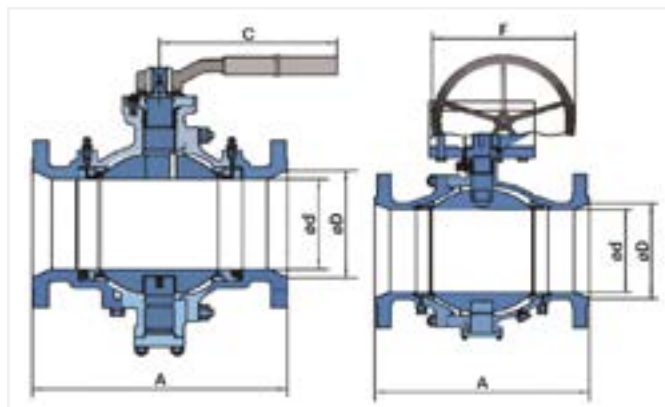


Table 3. B34 Full Bore Dimensions

Product Dimensions (mm)											
Valve size	80	100	150	200	250	300	350	400	450	500	600
Bore size (d)	74	99	150	201	252	302	322	373	423	471	570
Face to face (A)	RF	381	457	610	737	838	965	1029	1130	1219	1321
	RTJ	384	460	612	740	841	968	1039	1141	1232	1334
	BWE	381	457	610	737	838	965	1029	1130	1219	1321
Handle length (C)	899	1199									
Handwheel diameter (F)	350	460	600	600	750	750	750	750	750	750	800
Approximate weight (kg)	97	138	288	448	748	1018	1398	1828	2328	2928	4176

Table 3. B34 Full Bore Dimensions

Product Dimensions (mm)											
Valve size	100	150	200	250	300	350	400	450	500	600	
Bore size (d)	74	99	150	201	252	302	322	373	423	471	
Face to face (A)	RF	457	610	737	838	965	1029	1130	1219	1321	1549
	RTJ	460	612	740	841	968	1039	1141	1232	1334	1567
	BWE	457	610	737	838	965	1029	1130	1219	1321	1549
Handle length (C)	899	1199									
Handwheel diameter (F)	350	460	600	600	750	750	750	750	750	750	750
Approximate weight (kg)	70	122	255	440	662	1060	1440	1860	2400	3240	

Three-Piece Class 1500 Trunnion Ball Valve

Table 1. B35 Standard Materials

Standard Material			
Part	Carbon steel valve with carbon steel trim	Carbon steel valve with stainless steel trim	Stainless steel valve
Body/Cap	A216 WCB	A216 WCB	A351 CF8M
Ball	A105N*	A182 F316	A182 F316
Stem	AISI 4140*	A182 F316	A182 F316
Seats/Inserts	ASTM A105N* and Devlon V	A182 F316 and Devlon V	A182 F316 and Devlon V
O-rings	Viton-B	Viton-B	Viton-B
*Electroless nickel plating .001"			

Diagram. B35 Full Bore Parts

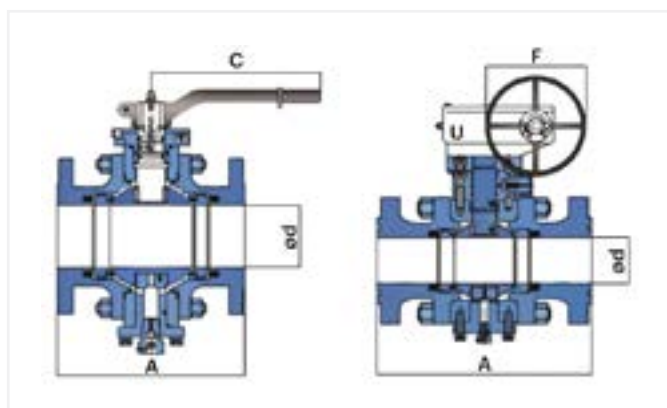


Diagram. B35 Reduced Bore Parts

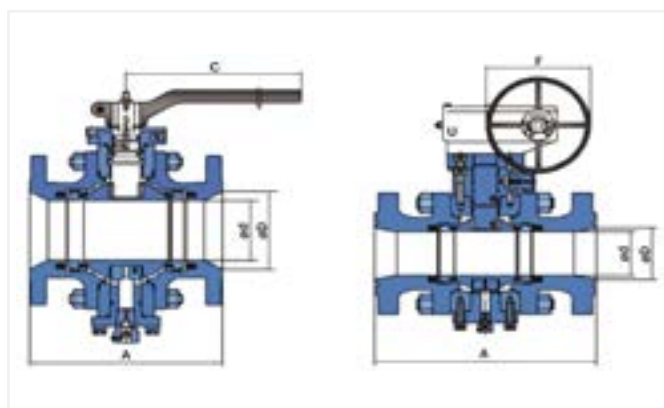


Table 3. B35 Full Bore Dimensions

Product Dimensions (mm)												
Valve size	50	80	100	150	200	250	300	350	400	450	500	600
Bore size (d)	49	74	100	144	192	239	287	315	360	406	454	546
Face to face (A)	RF	368	470	546	705	832	991	1130	1257	1384	1537	2045
	RTJ	371	473	546	711	841	1000	1146	1276	1407	1559	1972
	BWE	368	470	546	706	833	991	1130	1257	1384		
Handle length (C)	750	1200										
Handwheel diameter (F)	350	460	600	600	750	750	750	750	750	800	800	32
Approximate weight (kg)	65	145	259	475	821	1826	2170	2250	2760	3646	4497	7151

Table 3. B35 Reduced Bore Dimensions

Product Dimensions (mm)											
Valve size	80	100	150	200	250	300	350	400	450	500	600
Bore size (d)	48	74	99	150	201	252	302	322	373	423	471
Face to face (A)	RF	470	546	705	832	991	1130	1257	1384	1537	2045
	RTJ	473	549	711	841	1000	1146	1276	1407	1559	1972
	BWE	470	546	706	833	991	1130	1257	1384		
Handle length (C)	750	1200									
Handwheel diameter (F)	350	460	600	600	750	750	750	750	750	800	800
Approximate weight (kg)	85	169	345	599	1196	1340	2070	2470	2950	3350	5850



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1. Tell us what you need.

Tell us about your project.
What do you want to achieve?
What problems do you need to overcome? Let's work back from there.

2. Choose the right solution.

Weigh up the options. We'll do the analysis, discuss the options with you, and make a recommendation—the choice we'd make in your shoes.

3. Get the job done.

Complete your project, with the right products, on time and to spec. We've got your back all the way, with support during installation and commissioning.

Tap into our expertise and talk to our friendly, expert team.

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