VIAR VALVOLE®

V3
V63
F3
F63

Cryogenic Ball Valves

The Company

ViarValvole is a 100% Italian Family Owned Company, leader in the design and manufacturing of Ball Valves, mainly for Oil & Gas application.

Based in Italy, 50 km north of Milan, ViarValvole started its business as a reliable partner of the main Italian Valve Manufacturers, earning experience in managing National and International projects.

Thanks to the confidence of some International EPC companies, ViarValvole entered the worldwide market getting End users approval and estimation.

ViarValvole extends on a production surface of 10.000 sqm distributed in three locations (main offices and two warehouses in Sumirago and one in Solbiate Arno) and has lifting capability up to 50 tons.

- 1000 sqm for raw materials stock, identification and acceptance of the incoming material
- 4000 sqm for machining, assembly and testing of small and medium range valves
- 4000 sqm for machining, assembly and testing of large size valves + 1000 sqm. dedicated to special testing (cryogenic, slurry service, hyperbaric, PR2, etc.).

Applications

Viar Valvole Valves Type V3, F3, V63 and F63, are Stainless Steel Cryogenic Ball Valves for temperature lower than -110°C (166°F). *(1)*

General Applications

Applications	Fluid Involved	Boiling point				
		-161.5 °C (-258 °F)	-168 °C (-270 °F)	-182.9°C (-296°F)	-185.9°C (-303°F)	-195.8°C (-320°F)
Transporting, storing and handling of Liquefied Natural Gas (LNG)	Methane					
	LNG					
Air separation processes; Transporting, storing and handling of technical gases	Oxygen					
	Argon					
	Nitrogen					

Note (1): for Valves with Design Temperature up to -110°(-166°F) please refer to Standard Production.

Features

General standard Features

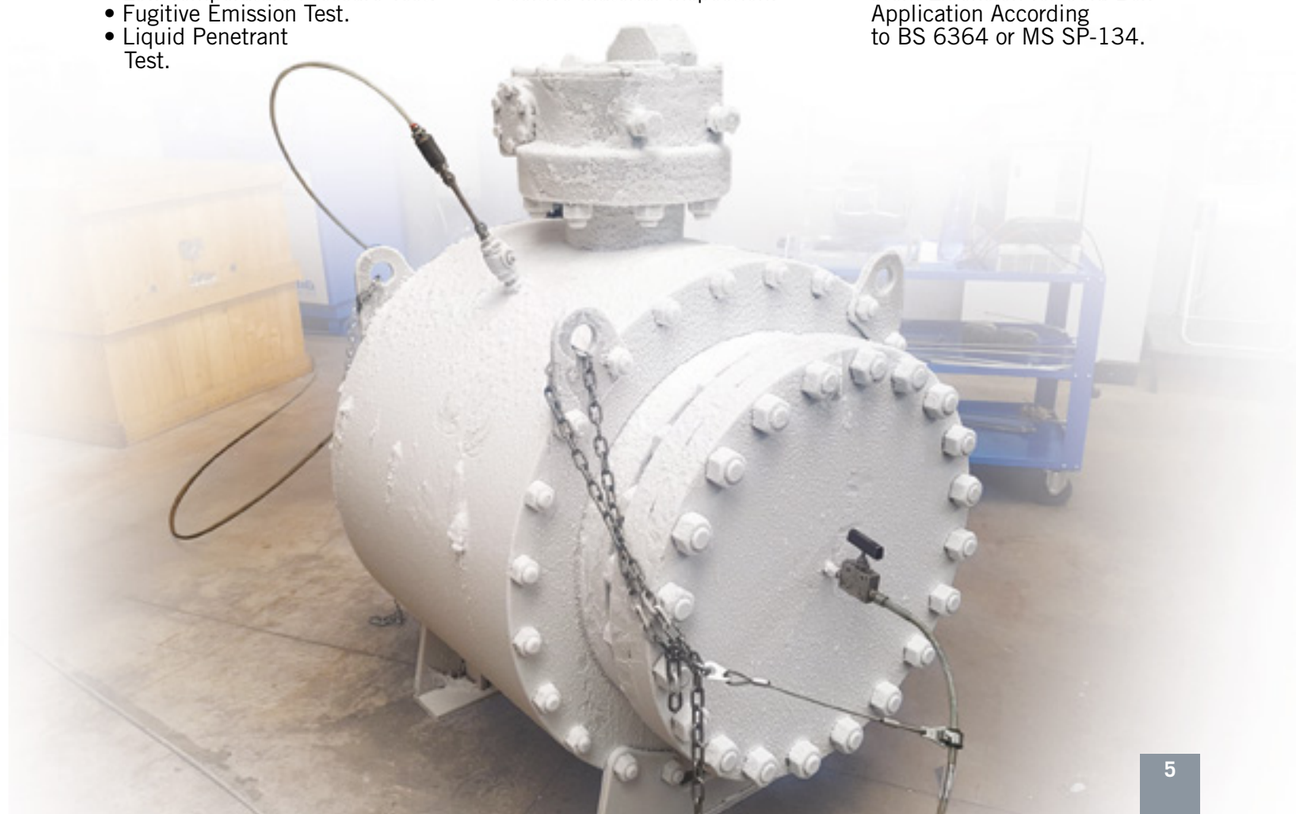
- Bonnet Extension According to SPE 77/200, ISO 28921-1 and MSS SP-134.
- Cavity Pressure Self Relief Construction.
- Fire Safe Design.
- Stem Packing Designed for Cryogenic Temperature.

Technical Data

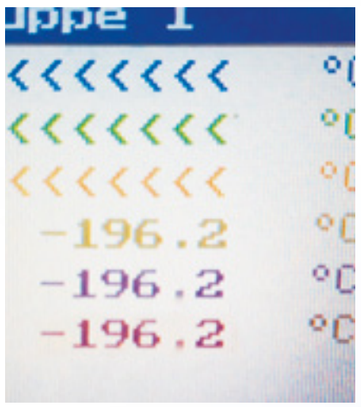
- Cryogenic Ball Valve Type:
  - **V3**: Trunnion Side Entry Bolted Body Type Ball Valve
  - **F3**: Floating Side Entry Bolted Body Type Ball Valve
  - **V63**: Trunnion Top Entry Ball Valve
  - **F63**: Floating Top Entry Ball Valve.
- MSS-SP 134, ISO 28921-1 and ASME B16.34 design.
- Design according to PED 2014/68/UE
- End connections ASME B16.5, B16.25 (Other Connections Available On Request)
- Face to face dimensions:
  - B16.10 for Valve Type V3 and F3
  - B16.10 class 600 for Valves Type V63 and F63 Class 150-300-600.
- Testing according to API 598.

Optional Testing and Features

- Low Temperature Pressure Test.
- Fugitive Emission Test.
- Liquid Penetrant Test.
- Positive Material Inspection.
- Stem Extension for Cold Box Application According to BS 6364 or MS SP-134.



Cryogenic Ball Valves



Side Entry

Trunnion

V3

Type Technical Data

- Side Entry Bolted Body Construction.
- Trunnion Mounted Ball Design with Floating Seats.
- Sizes: DN 2” to 14”
- Pressure Rating: ASME 150, 300, 600, 900, 1500.
- Face to Face Dimensions According to ASME B16.10.
- End Connections ASME B16.5, B16.25 (other connections available on request).

Type Standard Features

- Double Isolation and Bleed DIB-2 Seat Design (Upstream Seat Self Relieving and Downstream Seat Double Piston Effect).
- Bonnet Extension According to SPE 77/200, ISO 28921-1 and MSS SP-134.

Material

Part	DN<6”	DN≥6”
Body	ASTM A479 Type 316L (1)	ASTM A182 F316L (2)
Closure	ASTM A479 Type 316L (1)	ASTM A182 F316L (2)
Bonnet Extension	ASTM A479 Type 316L (1)	ASTM A182 F316L (2)
Stem	ASTM A479 Type XM19	ASTM A479 Type XM19
Ball	ASTM A479 Type 316L*	ASTM A479 Type 316L*
Seats	ASTM A479 Type 316L*	ASTM A479 Type 316L*
Seat Insert	PCTFE	PCTFE
Stem Packing	Energized RPTFE+Graphite	Energized RPTFE+Graphite
Gaskets	Energized RPTFE+Graphite	Energized RPTFE+Graphite

Note
(1): Available upon request in A479 Type 316.
(2): Available upon request in A182 F316.
*: A479 Type XM19 for Class 900 and 1500.

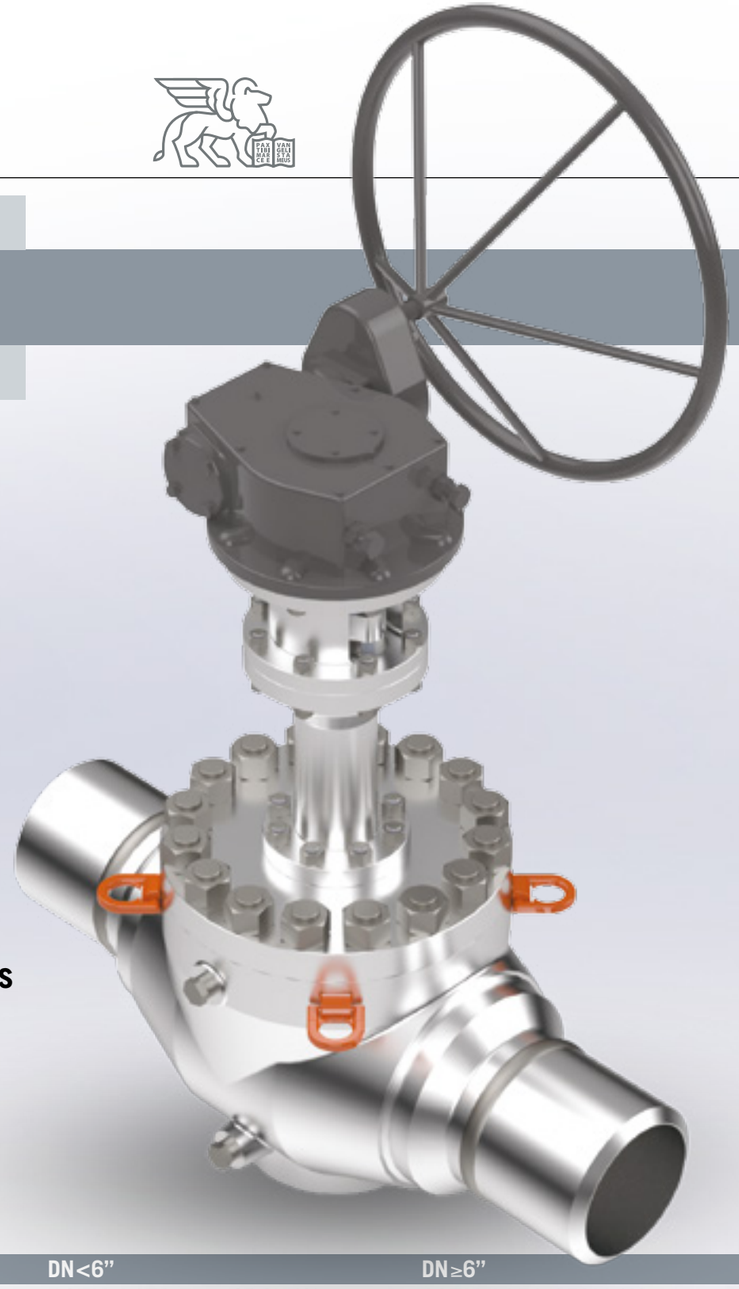
Top Entry

Trunnion

V63

Type Technical Data

- Top Entry Body Construction.
- Trunnion Mounted Ball Design with Floating Seats.
- Sizes: DN 2” to 14”.
- Pressure Rating: ASME 150, 300, 600, 900, 1500.
- Face to Face dimensions according to ASME B16.10. For Class 150 through 600, Class 600 applies.
- End Connections ASME B16.5, B16.25 (other connections available on request).



Type Standard Features

- Double Isolation and Bleed DIB-2 Seat Design (Upstream Seat Self Relieving and Downstream Seat Double Piston Effect).
- Bonnet Extension According to SPE 77/200, ISO 28921-1 and MSS SP-134.

Material

Part	DN<6”	DN≥6”
Body	ASTM A479 Type 316L (1)	ASTM A351 CF3M (3)
Bonnet	ASTM A479 Type 316L (1)	ASTM A351 CF3M (3)/ ASTM A182 F316L (2)
Bonnet extension	ASTM A479 Type 316L (1)	ASTM A479 Type 316L (1)
Stem	ASTM A479 Type XM19	ASTM A479 Type XM19
Ball	ASTM A479 Type 316L*	ASTM A479 Type 316L*
Seats	ASTM A479 Type 316L*	ASTM A479 Type 316L*
Seat insert	PCTFE	PCTFE
Stem Packing	Energized RPTFE+Graphite	Energized RPTFE+Graphite
Gaskets	Energized RPTFE+Graphite	Energized RPTFE+Graphite

Note
(1): Available upon request in A479 Type 316.
(2): Available upon request in F316.
(3): Available upon request in A351 CF8M.
*: A479 Type XM19 for Class 900 and 1500.

Side Entry

Floating

F3

Type Technical Data

- Side Entry Bolted Body Construction.
- Floating Ball Design.
- Unidirectional Ball with Relieving Hole in Upstream Side.
- Sizes: DN 1/2” to 6”.
- Pressure Rating: ASME 150, 300, 600, 900, 1500.
- Face to Face Dimensions According to ASME B16.10.
- End Connections ASME B16.5, B16.25 (Other Connections Available on Request).

Type Standard Features

- Energised Seat in Upsetrem Side.
- Bonnet Extension According to SPE 77/200, ISO 28921-1 and MSS SP-134.

Material

Part	
Body	ASTM A479 Type 316L (1)
Closure	ASTM A479 Type 316L (1)
Bonnet Extension	ASTM A479 Type 316L (1)
Stem	ASTM A479 Type XM19
Ball	ASTM A479 Type 316L*
Seats	PCTFE
Stem Packing	Energized RPTFE+Graphite
Gaskets	Energized RPTFE+Graphite

Note

(1): Available upon request in A479 Type 316.

*: A479 Type XM19 for Class 900 and 1500.

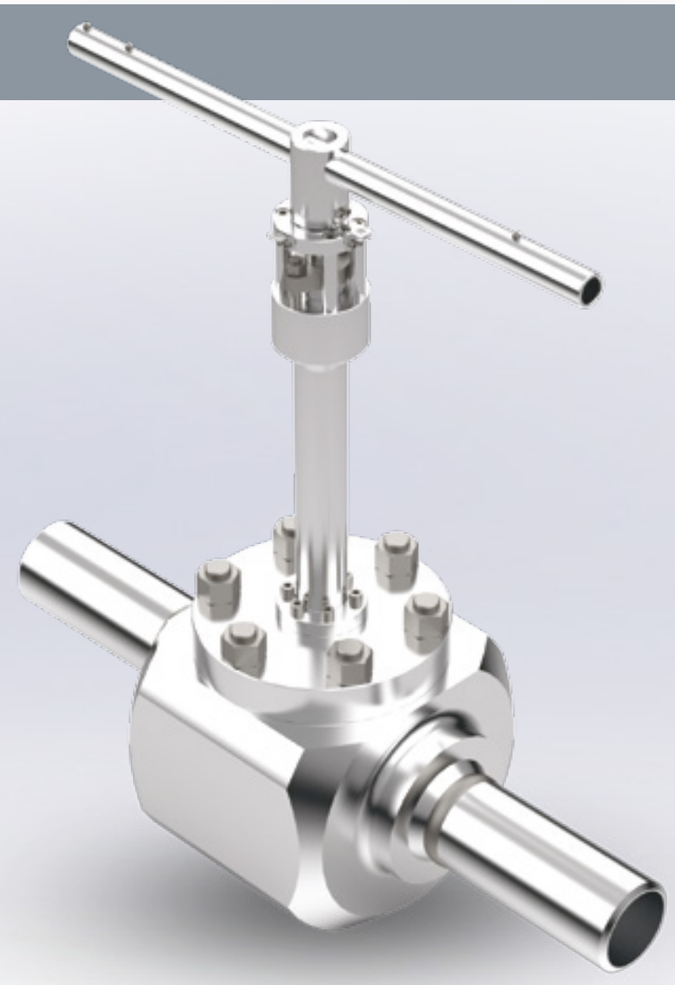
Top Entry

Floating

F63

Type Technical Data

- Top Entry Construction.
- Floating Ball Design.
- Unidirectional Ball with Relieving Hole in Upstream Side.
- Sizes: DN 1/2” to 6”.
- Pressure Rating: ASME 150, 300, 600, 900, 1500.
- Face to Face Dimensions According to ASME B16.10. for Class 150 through 600, Class 600 applies.
- End Connections ASME B16.5, B16.25 (other connections available on request).



Type Standard Features

- Energised Seat in Upstream Side.
- Bonnet Extension According to SPE 77/200, ISO 28921-1 and MSS SP-134.

Material

Part	
Body	ASTM A479 Type 316L (1)
Bonnet	ASTM A479 Type 316L (1)
Bonnet Extension	ASTM A479 Type 316L (1)
Stem	ASTM A479 Type XM19
Ball	ASTM A479 Type 316L*
Seats	PCTFE
Stem Packing	Energized RPTFE+Graphite
Gaskets	Energized RPTFE+Graphite

Note

(1): Available upon request in A479 Type 316.

*: A479 Type XM19 for Class 900 and 1500.

Side Entry

Trunnion

Fig. **A**

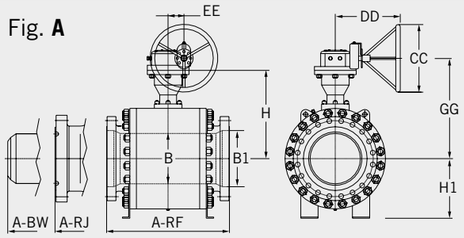


Fig. **B**

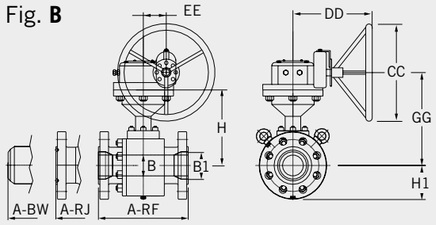
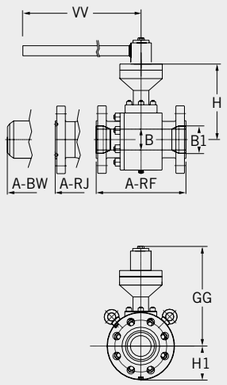


Fig. **C**



ASME 150

	API 6D Face to Face A (mm)			Overall Dimensions (mm)								Weight (Kg) Bolted Body		Gear	
NPS (in)	RF	RTJ	BW	B1	B	H	H1	GG	DD/VV	CC	EE	Flanged	BW		Fig.
6	394	407	457	150	150	544	210	584	250	400	70	270	265	12	A
8 x 6	457	470	521	201	150	544	210	584	250	400	70	260	250	12	A
8	457	470	521	201	201	619	261	674	305	500	90	340	330	18	A
10 x 8	533	546	559	252	201	669	261	724	305	500	90	350	335	18	A
10	533	546	559	252	252	723	347	788	360	600	100	530	515	27	A
12 x 10	610	622	635	303	252	723	347	788	360	600	100	575	555	27	A
14 x 10	686	699	762	334	252	773	347	838	360	600	100	655	625	27	A
12	610	622	635	303	303	752	370	817	360	600	100	670	650	27	A
14 x 12	686	699	762	334	303	802	370	867	360	600	100	730	700	27	A
14	686	699	762	334	334	850	405	930	420	700	125	855	825	45	A

ASME 300

	API 6D Face to Face A (mm)			Overall Dimensions (mm)								Weight (Kg) Bolted Body		Gear	
NPS (in)	RF	RTJ	BW	B1	B	H	H1	GG	DD/VV	CC	EE	Flanged	BW		Fig.
4	305	321	305	100	100	465	135	505	250	400	70	97	89	12	B
6 x 4	403	419	457	150	100	515	160	555	250	400	70	109	96	12	B
6	403	419	457	150	150	545	210	585	250	400	70	208	195	12	A
8 x 6	502	518	521	201	150	545	210	585	250	400	70	230	210	12	A
8	502	518	521	201	201	650	280	705	305	500	90	392	375	18	A
10 x 8	568	584	559	252	201	700	280	755	305	500	90	414	385	18	A
10	568	584	559	252	252	725	335	790	360	600	100	590	565	27	A
12 x 10	648	664	635	303	252	725	335	790	360	600	100	700	660	27	A
14 x 10	762	778	762	334	252	775	335	840	360	600	100	765	710	27	A
12	648	664	635	303	303	800	380	880	420	700	125	825	785	45	A
14 x 12	762	778	762	334	303	850	380	930	420	700	125	880	825	45	A
14	762	778	762	334	334	850	420	995	555	700	135	1160	1110	68	A

- Weights are subject to change without notice.
- Bore sizes acc. to API 6D; Piggable bore available on request.
- **L** = lever operated.
- Overall Dimensions and Face to face dimensions not listed in applicable standards are subject to change without notice.

Side Entry

Trunnion

Fig. **B**

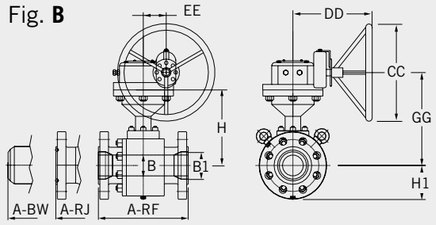


Fig. **A**

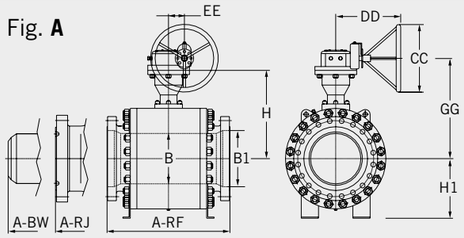
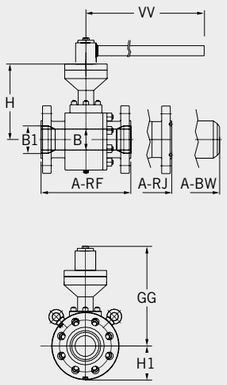


Fig. **C**



ASME 600

	API 6D Face to Face A (mm)			Overall Dimensions (mm)								Weight (Kg) Bolted Body		Gear	
NPS (in)	RF	RTJ	BW	B1	B	H	H1	GG	DD/VV	CC	EE	Flanged	BW		Fig.
2	292	295	292	49	49	374	90	440 **L**	445 **L**	-	-	58	55	-	C
3 x 2	356	359	356	74	49	424	90	490 **L**	445 **L**	-	-	66	61	-	C
3	356	359	356	74	74	450	110	490	250	400	70	83	78	12	B
4 x 3	432	435	432	100	74	450	138	490	250	400	70	96	83	12	B
4	432	435	432	100	100	465	138	505	250	400	70	122	109	12	B
6 x 4	559	562	559	150	100	515	178	555	250	400	70	170	145	12	B
6	559	562	559	150	150	630	260	685	305	500	90	305	280	18	A
8 x 6	660	664	660	201	150	630	260	685	305	500	90	355	315	18	A
8	660	664	660	201	201	670	300	735	360	600	100	485	445	27	A
10 x 8	787	791	787	252	201	720	300	785	360	600	100	590	530	27	A
10	787	791	787	252	252	725	350	805	420	700	125	760	700	45	A
12 x 10	838	841	838	303	252	725	350	805	420	700	125	800	725	45	A
14 x 10	889	892	889	334	252	775	350	855	420	700	125	865	775	45	A
12	838	841	838	303	303	775	410	920	555	700	135	1160	1090	56	A
14 x 12	889	892	889	334	303	825	410	970	555	700	135	1215	1130	56	A
14	889	892	889	334	334	855	425	1000	555	700	135	1420	1330	68	A

ASME 900

	API 6D Face to Face A (mm)			Overall Dimensions (mm)								Weight (Kg) Bolted Body		Gear	
NPS (in)	RF	RTJ	BW	B1	B	H	H1	GG	DD/VV	CC	EE	Flanged	BW		Fig.
2	368	371	368	49	49	410	135	450	250	400	70	114	105	12	B
3 x 2	381	384	381	74	49	460	135	500	250	400	70	135	124	12	B
3	381	384	381	74	74	505	145	545	250	400	70	146	135	12	B
4 x 3	457	460	457	100	74	505	145	545	250	400	70	160	145	12	B
4	457	460	457	100	100	535	165	590	305	500	90	209	190	18	B
6 x 4	610	613	610	150	100	585	190	640	305	500	90	280	245	18	B
6	610	613	610	150	150	640	260	705	360	600	100	421	385	29	A
8 x 6	737	740	737	201	150	640	260	705	360	600	100	490	430	29	A
8	737	740	737	201	201	705	320	850	555	700	135	723	665	56	A
10 x 8	838	841	838	252	201	755	320	900	555	700	135	785	700	56	A
10	838	841	838	252	252	755	370	900	555	700	135	1085	1000	68	A

- Weights are subject to change without notice.
- Bore sizes acc. to API 6D; Piggable bore available on request.
- **L** = lever operated.
- Overall Dimensions and Face to face dimensions not listed in applicable standards are subject to change without notice.

Side Entry

Trunnion

Fig. **A**

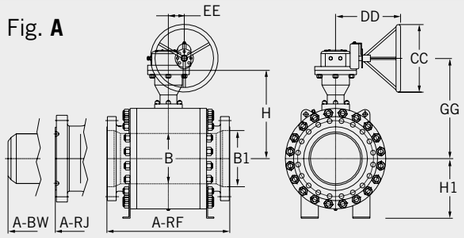


Fig. **B**

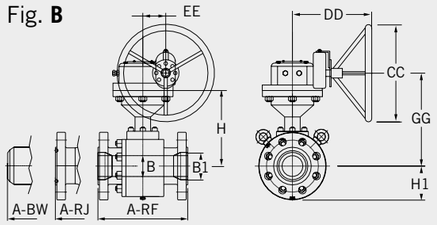
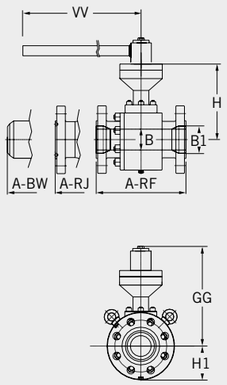


Fig. **C**



ASME 1500

	API 6D Face to Face A (mm)			Overall Dimensions (mm)								Weight (Kg) Bolted Body		Gear	
NPS (in)	RF	RTJ	BW	B1	B	H	H1	GG	DD/VV	CC	EE	Flanged	BW		Fig.
2	368	371	368	49	49	410	140	450	250	400	70	114	105	12	B
3 x 2	470	473	470	74	49	460	140	500	250	400	70	135	118	12	B
3	470	473	470	74	74	515	155	255	250	400	70	189	175	12	B
4 x 3	546	549	546	100	74	515	155	255	250	400	70	210	185	12	B
4	546	549	546	100	100	545	190	310	360	600	100	312	290	27	B
6 x 4	705	711	705	144	100	595	190	310	360	600	100	400	345	27	B
6	705	711	705	144	144	650	300	445	555	700	135	576	520	68	A
8 x 6	832	841	832	192	144	650	300	445	555	700	135	655	565	68	A
8	832	841	832	192	192	720	365	515	555	700	135	1030	940	68	A

- Weights are subject to change without notice.
- Bore sizes acc. to API 6D; Piggable bore available on request.
- **L** = lever operated.
- Overall Dimensions and Face to face dimensions not listed in applicable standards are subject to change without notice.

Top Entry

Trunnion

Fig. **B**

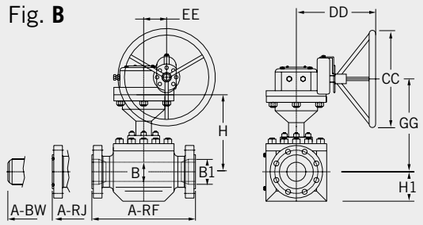
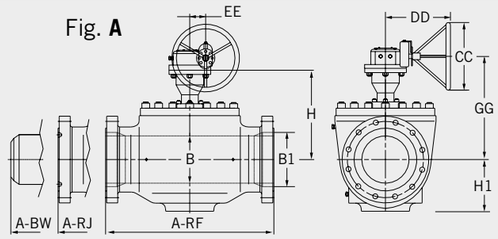


Fig. **A**



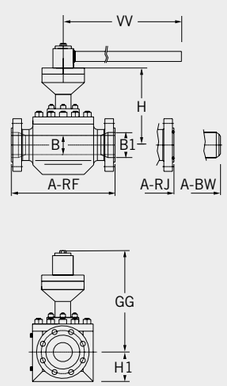
ASME 150-600

	API 6D Face to Face A (mm)			Overall Dimensions (mm)								Weight (Kg) Cast Body			Gear	
NPS (in)	RF	RTJ	BW	B1	B	H	H1	GG	DD/VV	CC	EE	150	300	600		Fig.
2	292	295	292	49	49	440	98	506	445	-	-	75	77	80	-	C
3 x 2	356	359	356	74	49	490	98	506	445	-	-	81	86	90	-	C
3	356	359	356	74	74	510	135	550	250(2)	400	70	94	99	104	12	B
4 x 3	432	435	432	100	74	510	135	550	250(2)	400	70	98	108	128	12	B
4	432	435	432	100	100	543	140	583	250	400	70	156	171	201	12	B
6 x 4	559	562	559	150	100	593	140	633	250	400	70	198	231	314	12	B
6	559	562	559	150	150	635	215	690	305	500	90	294	327	410	18	A
8 x 6	660	664	660	201	150	635	215	690	305	500	90	306	352	472	18	A
8	660	664	660	201	201	650	225	725	420	700	125	340	386	506	45	A
10 x 8	787	791	787	252	201	700	225	775	420	700	125	376	438	637	45	A
10	787	791	787	252	252	762	297	842	420	700	125	620	682	881	45	A
12 x 10	838	841	838	303	252	762	297	842	420	700	125	662	744	951	45	A
14 x 10	889	892	889	334	252	812	297	892	420	700	125	878	1005	1199	45	A
12	838	841	838	303	303	790	373	935	555	700	135	792	874	1081	56	A
14 x 12	889	892	889	334	303	840	373	985	555	700	135	1044	1171	1365	56	A
14	889	892	889	334	334	870	362	955	600	700	165	1024	1151	1345	105	A

ASME 900

	API 6D - Face to Face A (mm)			Overall Dimensions (mm)								Weight (Kg)		
NPS (in)	RF	RTJ	BW	B1	B	H	H1	GG	DD/VV	CC	EE	Cast Body	Gear	Fig.
2	368	371	368	49	49	485	116	525	250	400	70	105	12	B
3 x 2	381	384	381	74	49	535	116	575	250	400	70	115	12	B
3	381	384	381	74	74	566	131	606	250	400	70	140	12	B
4 x 3	457	460	457	100	74	566	131	606	250	400	70	180	12	B
4	457	460	457	100	100	570	150	625	305	500	90	210	20	B
6 x 4	610	613	610	150	100	620	200	675	305	500	90	290	20	B
6	610	613	610	150	150	695	215	840	555	700	135	490	56	A
8 x 6	737	740	737	201	150	695	250	840	555	700	135	750	56	A
8	737	740	737	201	201	760	295	905	555	700	135	790	56	A
10 x 8	838	841	838	252	201	810	295	955	555	700	135	850	56	A
10	838	841	838	252	252	835	307	980	555	700	135	1290	68	A

Fig. **C**



- Weights are subject to change without notice.
- Bore sizes acc. To API 6D; Piggable bore available on request.
- Overall Dimensions and Face to face dimensions not listed in applicable standards are subject to change without notice.
- **L** = lever operated.
- (2) = 3" and 4"X3" Class 150/300 available also with lever.

Top Entry

Trunnion

Fig. **A**

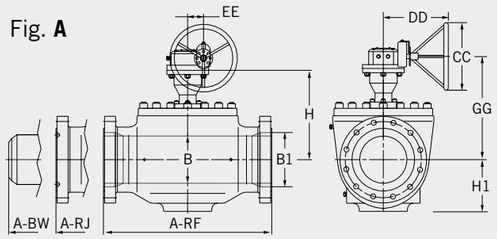


Fig. **B**

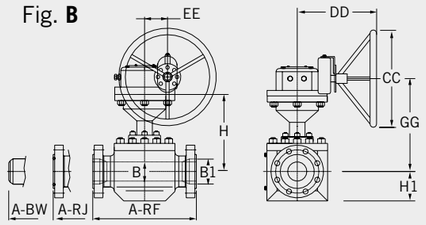
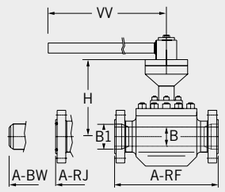
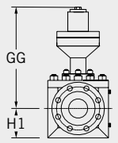


Fig. **C**





ASME 1500

	API 6D - Face to Face A (mm)			Overall Dimensions (mm)								Weight (Kg)		
NPS (in)	RF	RTJ	BW	B1	B	H	H1	GG	DD/VV	CC	EE	Cast Body	Gear	Fig.
2	368	371	368	49	49	485	116	525	250	400	70	105	12	B
3 x 2	470	473	470	74	49	535	116	575	250	400	70	121	12	B
3	470	473	470	74	74	566	142	606	250	400	70	182	12	B
4 x 3	546	549	546	100	74	566	142	606	250	400	70	234	12	B
4	546	549	546	100	100	570	157	635	360	600	100	273	20	B
6 x 4	705	711	705	144	100	620	157	685	360	600	100	377	20	B
6	705	711	705	144	144	750	245	895	555	700	135	637	56	A
8 x 6	832	841	832	192	144	750	280	895	555	700	135	975	56	A
8	832	841	832	192	192	825	330	970	555	700	135	1070	56	A

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- **L** = lever operated.
- (2) = 3" and 4"X3" Class 150/300 available also with lever.

Side Entry

Floating

Fig. **B**

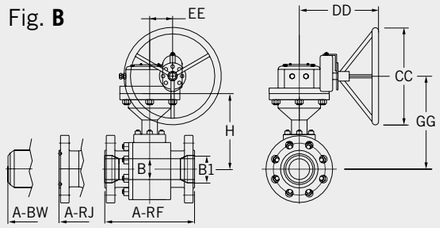
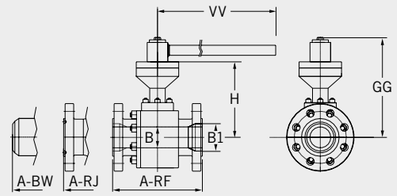


Fig. **A**



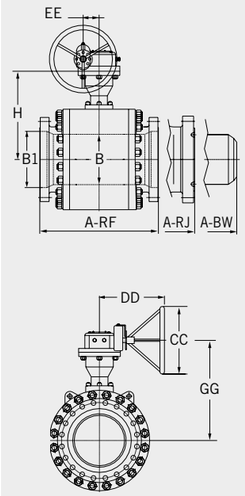
ASME 150

	B 16,10 - Face to Face - A (mm)			Overall Dimensions (mm)							Weight (Kg)		
NPS (in)	RF	RTJ	BW	B1	B	H	GG	DD/VV	CC	EE	Flanged	Gear	Fig.
3/4 x 1/2	117	-	152	19	13	310	376 **L**	280 **L**	-	-	15	-	A
3/4	117	-	152	19	19	312	378 **L**	280 **L**	-	-	15	-	A
1 x 3/4	127	140	165	25	19	312	378 **L**	280 **L**	-	-	16	-	A
1	127	140	165	25	25	317	383 **L**	350 **L**	-	-	17	-	A
1 1/2 x 1	165	178	190	38	25	367	433 **L**	350 **L**	-	-	19	-	A
1 1/2	165	178	190	38	38	386	452 **L**	350 **L**	-	-	23	-	A
2 x 1 1/2	178	191	216	49	38	386	452 **L**	350 **L**	-	-	26	-	A
2	178	191	216	49	49	400	466 **L**	400 **L**	-	-	32	-	A
3 x 2	203	216	283	74	49	450	516 **L**	400 **L**	-	-	45	-	A
3	203	216	283	74	74	470	510	250	400	70	48	12	B
4 x 3	229	241	305	100	74	470	510	250	400	70	54	12	B
4	229	241	305	100	100	490	530	250	400	70	68	12	B
6 x 4	394	407	457	150	100	540	580	250	400	70	91	12	B
6	394	407	457	150	150	625	665	250	400	70	159	12	C

ASME 300

	B 16,10 - Face to Face - A (mm)			Overall Dimensions (mm)							Weight (Kg)		
NPS (in)	RF	RTJ	BW	B1	B	H	GG	DD/VV	CC	EE	Flanged	Gear	Fig.
1/2	140	151	140	13	13	310	376 **L**	280 **L**	-	-	16	-	A
3/4 x 1/2	152	165	152	19	13	310	376 **L**	280 **L**	-	-	17	-	A
3/4	152	165	152	19	19	312	378 **L**	280 **L**	-	-	17	-	A
1 x 3/4	165	178	165	25	19	312	378 **L**	280 **L**	-	-	17,0	-	A
1	165	178	165	25	25	317	383 **L**	350 **L**	-	-	21	-	A
1 1/2 x 1	190	203	190	38	25	367	433 **L**	350 **L**	-	-	23	-	A
1 1/2	190	203	190	38	38	386	452 **L**	400 **L**	-	-	26	-	A
2 x 1 1/2	216	232	216	49	38	386	452 **L**	400 **L**	-	-	29	-	A
2	216	232	216	49	49	400	466 **L**	430 **L**	-	-	36	-	A
3 x 2	283	298	283	74	49	450	516 **L**	430 **L**	-	-	46	-	A
3	283	298	283	74	74	470	510	250	400	70	57	12	C
4 x 3	305	321	305	100	74	470	510	250	400	70	66	12	C
4	305	321	305	100	100	490	530	250	400	70	83	12	C

Fig. **C**



- Weights are subject to change without notice.
- Bore sizes acc. To API 6D; Piggable bore available on request
- Overall Dimensions and Face to face dimensions not listed in applicable standards are subject to change without notice.
- **L** = lever operated.

Side Entry

Floating

Fig. **A**

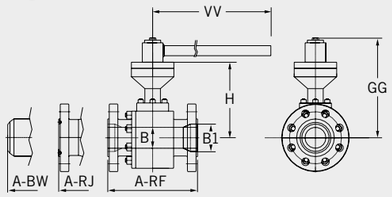


Fig. **B**

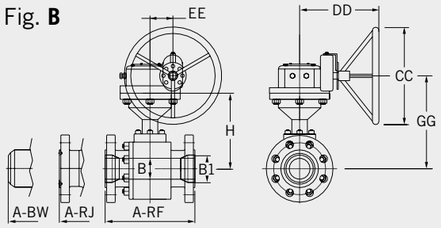
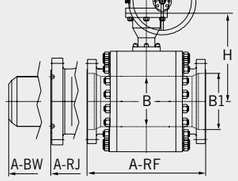
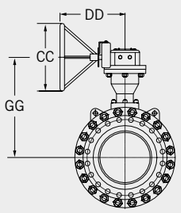


Fig. **C**





ASME 600

	B 16,10 - Face to Face - A (mm)			Overall Dimensions (mm)							Weight (Kg)		
NPS (in)	RF	RTJ	BW	B1	B	H	GG	DD/VV	CC	EE	Flanged	Gear	Fig.
1/2	165	165	165	13	13	310	376 **L**	350 **L**	-	-	16	-	A
3/4 x 1/2	190	190	190	19	13	310	376 **L**	350 **L**	-	-	17	-	A
3/4	190	190	190	19	19	312	378 **L**	350 **L**	-	-	18	-	A
1 x 3/4	216	216	216	25	19	312	378 **L**	350 **L**	-	-	18	-	A
1	216	216	216	25	25	317	383 **L**	400 **L**	-	-	22,0	-	A
1 1/2 x 1	241	241	241	38	25	367	433 **L**	400 **L**	-	-	26	-	A
1 1/2	241	241	241	38	38	386	426	250	400	70	29	12	B
2 x 1 1/2	292	295	292	49	38	386	426	250	400	70	34	12	B
2	292	295	292	49	49	400	440	250	400	70	40	12	B

ASME 900-1500

	B 16,10 - Face to Face - A (mm)			Overall Dimensions (mm)							Weight (Kg)		
NPS (in)	RF	RTJ	BW	B1	B	H	GG	DD/VV	CC	EE	Flanged	Gear	Fig.
1/2	216	216	216	13	13	310	376 **L**	350 **L**	-	-	19	-	A
3/4 x 1/2	229	229	229	19	13	310	376 **L**	350 **L**	-	-	21	-	A
3/4	229	229	229	19	19	312	378 **L**	400 **L**	-	-	22	-	A
1 x 3/4	254	254	254	25	19	312	378 **L**	400 **L**	-	-	24	-	A
1	254	264	254	25	25	317	383 **L**	400 **L**	-	-	26	-	A
1 1/2 x 1	305	305	305	38	25	367	433 **L**	400 **L**	-	-	30	-	A
1 1/2	305	305	305	38	38	386	426	250	400	70	37	-	B
2 x 1 1/2	368	371	368	49	38	386	426	250	400	70	68	-	B
2	368	371	368	49	49	400	440	250	400	70	85	-	B

- Weights are subject to change without notice.
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- Overall Dimensions and Face to face dimensions not listed in applicable standards are subject to change without notice.
- **L** = lever operated.

Top Entry

Floating

Fig. **B**

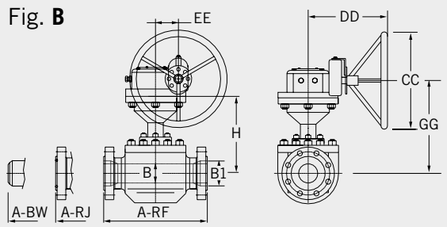
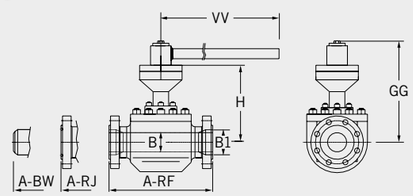


Fig. **A**



ASME 150 - 600

	MAN STD Face to Face - A (mm)			Overall Dimensions (mm)							Weight (Kg)				
NPS (in)	RF	RTJ	BW	B1	B	H	GG	DD/VV	CC	EE	Flanged			Gear	Fig.
1/2	165	165	165	13	13	320	376 **L**	350 **L**	-	-	17	17,6	19	-	A
3/4 x 1/2	190	190	190	19	13	320	376 **L**	350 **L**	-	-	18	19,0	20	-	A
3/4	190	190	190	19	19	322	378 **L**	350 **L**	-	-	19	19,7	21	-	A
1 x 3/4	216	216	216	25	19	322	378 **L**	350 **L**	-	-	19	20,4	22	-	A
1	216	216	216	25	25	328	383 **L**	400 **L**	-	-	24,8	26	28	-	A
1 1/2 x 1	241	241	241	38	25	380	433 **L**	400 **L**	-	-	30	31	33	-	A
1 1/2	241	241	241	38	38	391	431	250 (1)	400	70	33	35	37	12	B
2 x 1 1/2	292	295	292	49	38	391	431	250 (1)	400	70	40	42	45	12	B
2	292	295	292	49	49	420	460	250 (1)	400	70	47	50	53	12	B
3 x 2	356	359	356	74	49	430	470	250 (1)	400	70	61	64	68	12	B
3	356	359	356	74	74	470	510	250	400	70	75	79	84	12	B

ASME 900 - 1500

	B 16,10 Face to Face - A (mm)			Overall Dimensions (mm)							Weight (Kg)		
NPS (in)	RF	RTJ	BW	B1	B	H	GG	DD/VV	CC	EE	Flanged	Gear	Fig.
1/2	216*	216*	216*	13	13	320	376 **L**	350 **L**	-	-	23		A
3/4 x 1/2	229*	229*	229*	19	13	320	376 **L**	350 **L**	-	-	25		A
3/4	229*	229*	229*	19	19	322	378 **L**	350 **L**	-	-	28		A
1 x 3/4	254*	254*	254*	25	19	322	378 **L**	350 **L**	-	-	31		A
1	254*	254*	254*	25	25	328	383 **L**	400 **L**	-	-	34		A
1 1/2 x 1	305*	305*	305*	38	25	380	433 **L**	400 **L**	-	-	39		A
1 1/2	305*	305*	305*	38	38	391	431	250 (1)	400	70	48	12	B
2 x 1 1/2	368	371	368	49	38	391	431	250 (1)	400	70	96	12	B
2	368	371	368	49	49	420	460	250 (1)	400	70	120	12	B

- Weights are subject to change without notice.
- Bore sizes acc. To API 6D; Piggable bore available on request.
- Overall Dimensions and Face to face dimensions not listed in applicable standards are subject to change without notice.
- **L** = lever operated.
- (1) = available also lever operated for Class 150 and 300.

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