

Cryogenic Ball Valve

ST-402E Rev.0.0

VSFR9100

Maximum Pressure
100 Barg
Temperature
-196/+100°C



VSFR 9100 valves are ball valves manual operated or pneumatic electric actuator. Are suitable for cryogenic fluids up to -196°C with the extension bonnet and PTFE/graphite packing self-adjusting type Fire-Safe ISO 10497. The body is in 3 pieces "floating" rating PN.100 (ASME 600) for BW and SW

connection, for flange ASME150/300/600/90 and UNI-EN PN.16/40 the body is SPLIT in 2 pieces. VSFR9100 valves are unidirectional.

The valves are manufactured according to ASME B16.34 and comply with 97/23/EC (PED) standard requirements.

Materials

Body	A351 CF3/CF8
Extension	AISI 304
Ball	AISI 304/316
Sealing	PCTFE

Operating Conditions

MOP Max Operative Pressure	100 Barg
MOT Max Operative Temperature	-196/+100°C

Models/Connections

VSFR 9105 BW Sch 10,40,80
VSFR 9106 SW
VSFR 9109 ASME 150 RF
VSFR 9119 ASME 300 RF
VSFR 9129 ASME 600 RF
VSFR 9139 ASME 900 RF
VSFR 9149 UNI.EN PN.16
VSFR 9149 UNI.EN PN.40
Other connections on request

Accessories

- Locking device open/closed position
- Limit switch
- Bidirectional
- Solenoid Valve

Applications

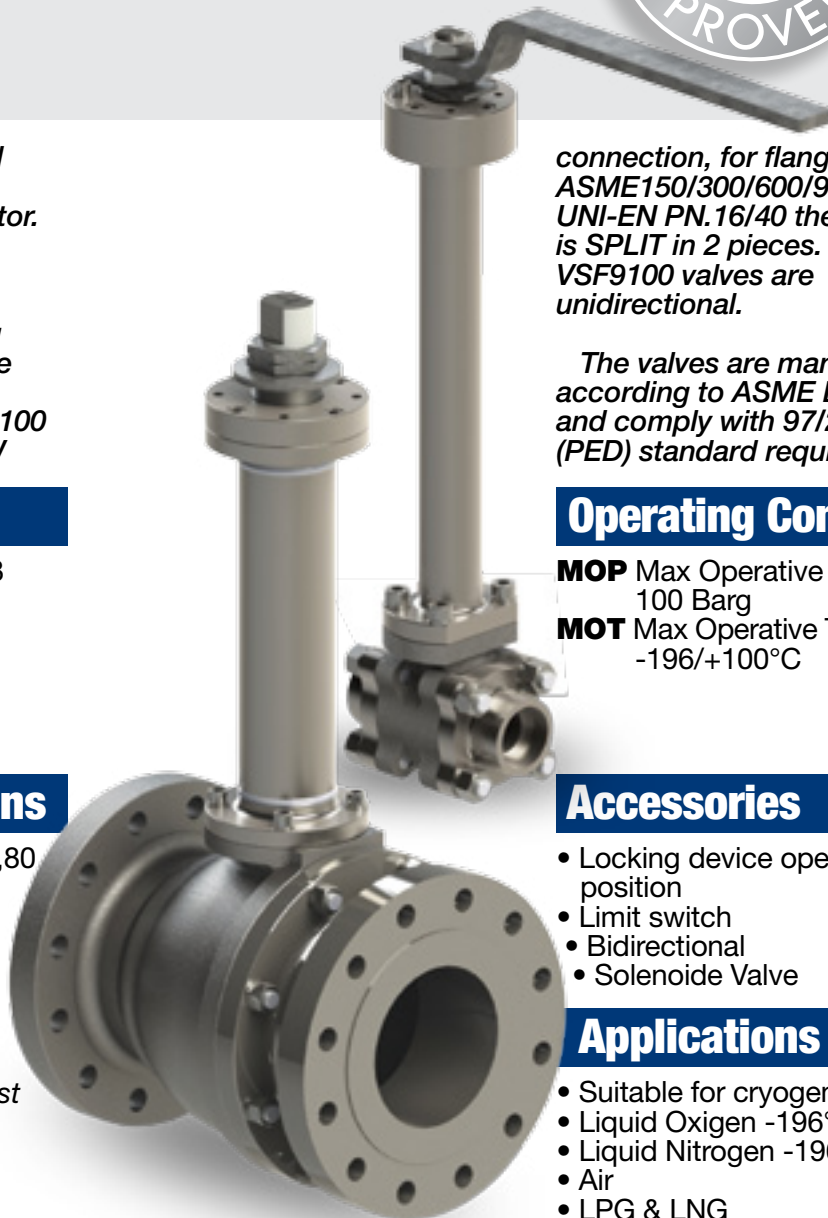
- Suitable for cryogenic fluids
- Liquid Oxygen -196°C
- Liquid Nitrogen -196°C
- Air
- LPG & LNG

Characteristics

- Ball valve full bore Unidirection
- From DN. ½" to 6" (DN.15 – DN.150)
- Suitable for cryogenic fluid
- Ball AISI 304/316
- Soft sealing PCTFE Class VI
- FIRE SAFE ISO 10497
- Manual or pneumatic/electric operator

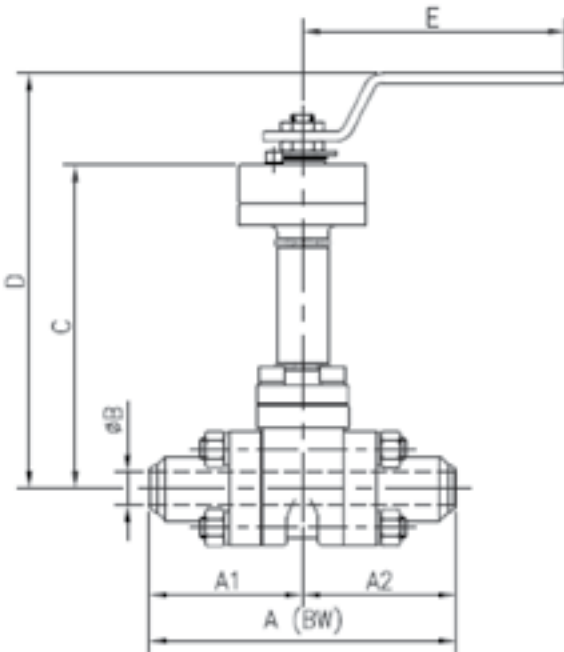


- Self-adjusting packing PTFE+grafite
- Extension AISI 304



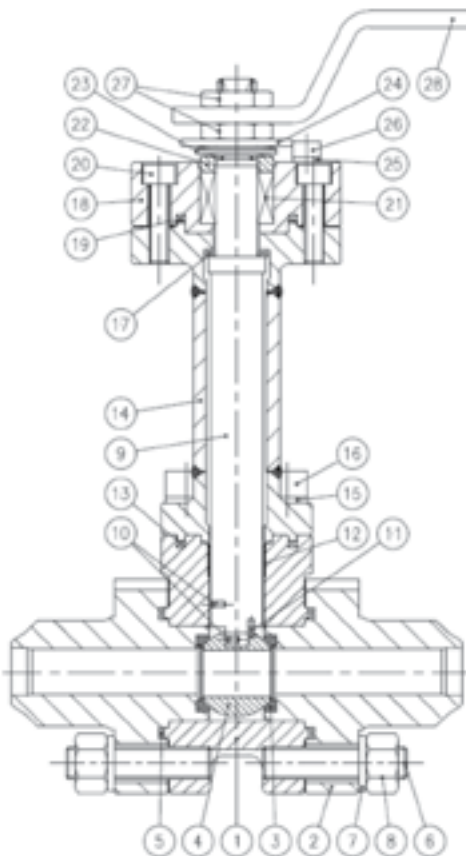
VSFR9100 SW & BW Connections - Cryogenic Ball Valve

Overall Dimensions and Technical Characteristic



VSFR 9105 BW - 9106 SW							
DN	A				B Ø	C	D Leva (°) G. BOX(**)
	# 150 PN.16	# 300 PN.40	# 600	# 900			
15	108	140	165	216	14.5	332	380°
20	117	153	191	229	21	339	400°
25	127	165	216	254	24	348	410°
32	140	178	229		32	348	419°
40	165	191	242		40	355	430°
50	178	216	292		49	397	460°
65	191	241	330		62	440	525°
80	203	283	355		75	460	545°
100	229	305			96	471	594**
150	394	403			148	567	728**
200	457	502			201	650	901**

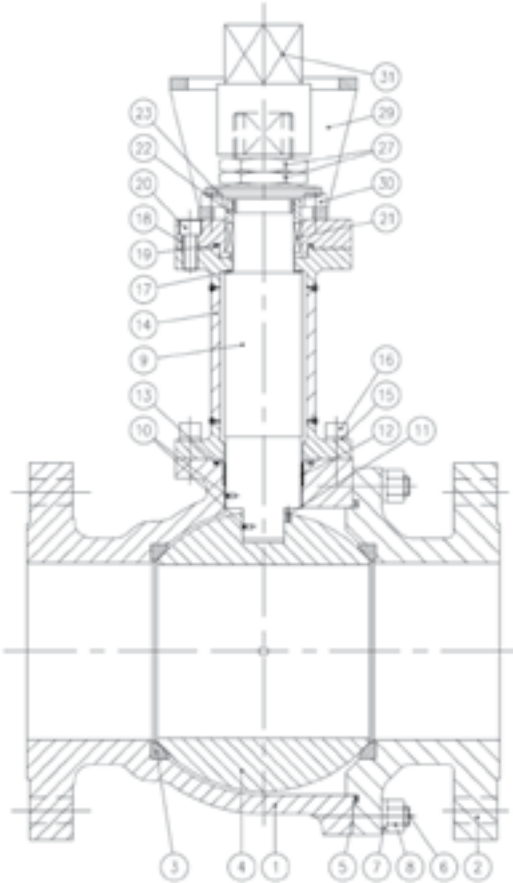
Dimension are in mm



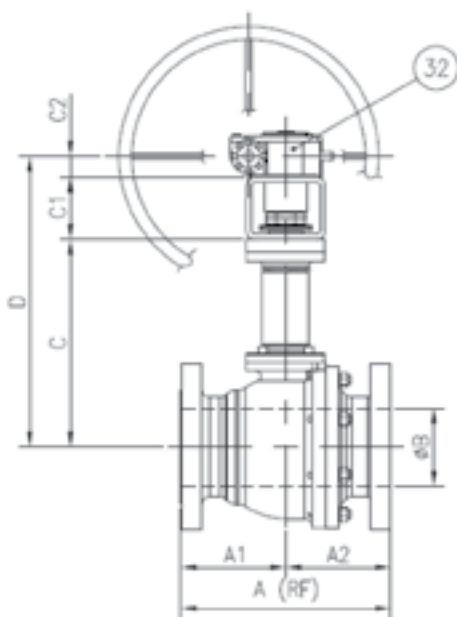
Pos.	Description	Material
1	BODY	A351 CF 3M
2	END CONNECTOR	A351 CF 3M
3	SEAT	PCTFE
4	BALL	AISI 316
5	BODY GASKET	GRAPHITE
6	BODY STUD	A320 BB
7	BODY SPRING WASHED	A4 .70
8	BODY NUT	A194 Gr.8
9	STEM	AISI 316
10	ANTISTATIC DEVICE	AISI 316
11	PIN	A4 .70
12	STEM BEARING	DU-DRY
13	EXTENSION GASKET	GRAPHITE
14	EXTENSION	AISI 316
15	EXTENSION SPRING WASHER	A4 .70
16	EXTENSION CAP SCREW	A320 BB
17	THRUST WASHER	AISI 316 + PTFE
18	TOP FLANGE	AISI 316
19	TOP FLANGE GASKET	GRAPHITE
20	TOP FLANGE CAP SCREW	A320 BB
21	STEM GASKET	GRAPHITE + PTFE
22	GLAND BUSHING	AISI 316
23	SPRING WASHER	AISI 304
24	STOP	AISI 304
25	STOP SPRING WASHER	A4 .70
26	STOP CAP SCREW	A320 BB
27	STEM NUT	A194 Gr. 8
28	WRENCH	STEEL GALVANIZED

VSFR9100 - Cryogenic Ball Valve

Overall Dimensions and Technical Characteristic



Pos.	Description	Material
1	BODY	A351 CF 3M
2	END CONNECTOR	A351 CF 3M
3	SEAT	PCTFE
4	UNIDIRECTIONAL BALL	AISI 316
5	BODY GASKET	GRAPHITE
6	BODY STUD	A320 B8
7	BODY SPRING WASHER	A4 .70
8	BODY NUT	A194 Gr.8
9	STEM	AISI 316
10	ANTISTATIC DEVICE	AISI 316
11	PIN	A4 .70
12	STEM BEARING	DU-DRY
13	EXTENSION GASKET	GRAPHITE
14	EXTENSION	AISI 316
15	EXTENSION SPRING WASHER	A4 .70
16	EXTENSION CAP SCREW	A320 BB
17	THRUST WASHER	AISI 316 + PTFE
18	TOP FLANGE	AISI 316
19	TOP FLANGE GASKET	GRAPHITE
20	TOP FLANGE CAP SCREW	A320 BB
21	STEM GASKET	GRAPHITE + PTFE
22	GLAND BUSHING	AISI 316
23	SPRING WASHER	AISI 304
29	BRACKET	STAINLESS STEEL
30	BRACKET CAP SCREW	A320 BB
31	STEM EXTENSION	AISI 316
32	GEARBOX	



DN	A						B Ø	C	D
	VSFR 9109-9119-9129-9139-9149-9159 FLANGED								
	ASME 150 RF	ASME 300 RF	ASME 600 RF	ASME 900 RF	UNI-EN PN.16	UNI-EN PN.40			
15	108	140	165	216	108	140	14.5	332	380°
20	117	153	191	229	117	153	21	339	400°
25	127	165	216	254	127	165	24	348	410°
32	140	178	229		140	178	32	348	419°
40	165	191	242		165	191	40	355	430°
50	178	216	292		178	216	49	397	460°
65	191	241	330		191	241	62	440	525°
80	203	283	355		203	283	75	460	545°
100	229	305			229	305	96	471	594**
150	394	403			394	403	148	567	728**
200	457	502			457	502	201	650	901**

Dimension are in mm



A Member of **VRV** Group
