SUPERFREEZE

CERTIFIED

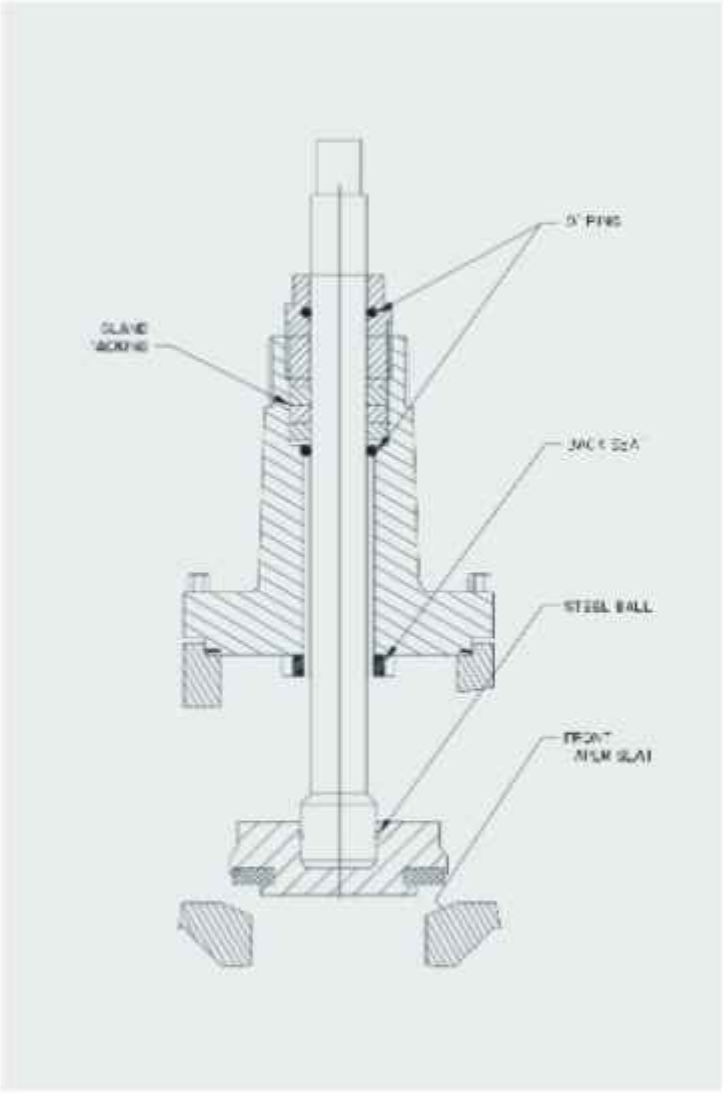
BUTT WELDING SHUT-OFF VALVES

BUTT WELDING SHUT-OFF VALVES

TYPE : SBW
Port Size : 1/2" to 16" (15 to 400 MM)

REFRIGERANTS

Suitable for all common refrigerants including R-717 (Ammonia), R-134 a, R-404, neutral, gaseous and liquid media.



INTRODUCTION

These well-designed and constructed low pressure drop refrigerant shut-off valves are butt-weldable directly to steel piping, thereby eliminating potential leaky flanges or threaded joints, and simplifying installation. The important feature of these valves is non leak packing and back seat design.

APPLICATIONS

Ammonia refrigeration system suction, liquid discharge, recirculating liquid, hot gas and oil lines, using handwheel of seal cap models and also compressor suction, discharge connections, condenser, evaporator inlet and outlet connections in ammonia, R22, R134a and other approved refrigerant.

SUPERFRE

BUTT WELDING SHUT-OFF VALVES

SPECIFICATIONS

Body	: **ASTM A-216 Grade WCB, ASTM A-352 Grade LCC, ASTM A-105, ASTM A-516 Grade 70, ASTM A333 Grade 6**
Stem	: **Stainless**
Disc Holder	: steel (stainless/ Zn. Plated).
Seat Disc	: PTFE Teflon.
Packing Nut	: steel.
Stem Packing	: Neoprene "O" Rings with graphite gland packing.
Handwheel	: **Iron Alloy**
Seal Cap	: Aluminum, vented.
Safe working pressure	: **580 psig (40bar)**
Temperature range	: -46°C to +116° C (-50 F to + 240 F).
Temperature below	: -60 F at lower pressure.

FEATURES

- Back Seating and gland packing :The heart of ***SUPERFREEZE*** shut-off-valve is the Patented stempacking and backseat design.This Patented design is used exclusively on ***SUPERFREEZE*** valves and virtually eliminates stem leakage.
- Size Range :1/2" to 12" (15 mm to 300mm)
- Light Weight :Ease of installation

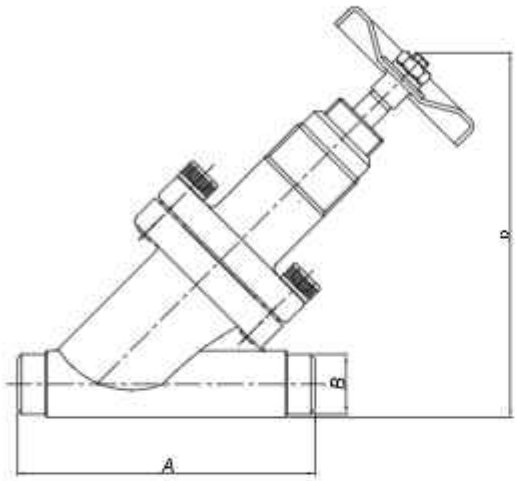
- Available in both wheel vented cap option
- Available in angle and straight types

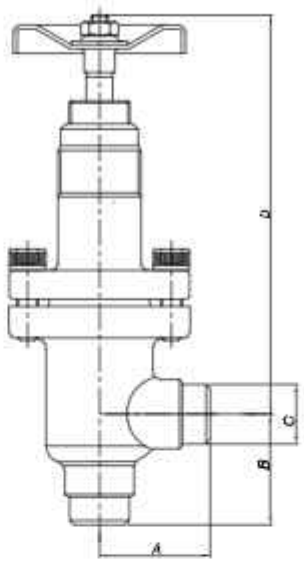
INSTALLATION

All of these valves may be installed in horizontal or vertical pipe lines. Stems may be horizontal or vertical or angled upward. Globe valves and angle valves in horizontal suction lines, liquid overfeed return lines, of condenser drain lines should preferably have stems horizontal rather than upward to avoid partial liquid trapping at valve seat orifices. Angle valves under 12" will not trap liquid or gas at the seat orifice.

A valve should preferably have its bonnet/stem/seat disc assembly removed before welding (refer fig. B). Which protects Teflon seat disc from welding sparks, and facilitates cleaning of welding debries from body interior prior to valve operation. The valve stem should be several turns open when removing and replacing the bonnet assembly. The Teflon seat disc should be protected when outside of the valve. Where it is necessary or when it is standard practice to weld a valve into the line without bonnet removal, stem should be opened several turns to prevent seat disc heat damage. Because of great compactness, some extra care if welded into pipelines without disassembly in order to avoid welding sparks striking the Teflon seat from the outlet weld connection.

DIMENSION DETAILS





BUTT WELDING SHUT -OFF VALVE

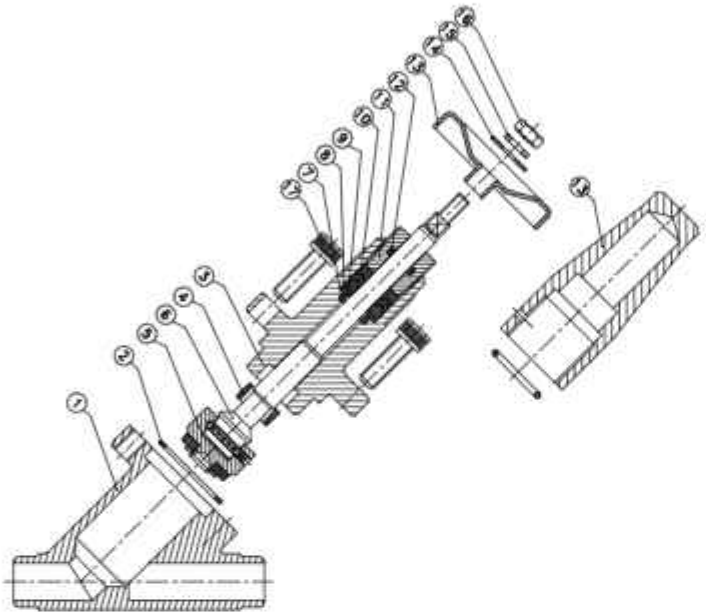
WED-IN-LINE GLOBE VALVE					WELD-IN-LINE ANGLE VALVE					
SIZE		A	B	C	SIZE		A	B	C	D
1/2"	15mm	107	21.3	155	1/2"	15mm	40	40	21.3	169
3/4"	20mm	110	26.9	159	3/4"	20mm	40	40	26.9	170
1"	25mm	129	33.7	195	1"	25mm	48.5	48.5	33.7	209
1.1/4"	32mm	129	42.4	198	1.1/4"	32mm	51	51	42.4	209
1.1/2"	40mm	142	48.3	235	1.1/2"	40mm	60	60	48.3	245
2"	50mm	184	60.3	255	2"	50mm	70	70	60.3	250
2.1/2"	65mm	200	73	310	2.1/2"	65mm	80	80	73	296
3"	80mm	238	88.9	326	3"	80mm	95	95	88.9	305
4"	100mm	276	114.3	382	4"	100mm	120	120	114.3	345
5"	125mm	458	141.3	494	5"	125mm	150	150	141.3	460
6"	150mm	560	168.3	530	6"	150mm	180	180	168.3	460
8"	200mm	857	219.1	558	8"	200mm	200	200	219.1	415
10"	250mm	857	273		10"	250mm	274	274	273	
12"	300mm	1030	323.8		12"	300mm	324	324	323.8	

FLOW COEFFICENTS

Size	Angle		Globe	
	Cv*	Equiv. Length Ft.	Cv*	Equiv. Length Ft
1½"	48	12	47	13
2"	83	26	80	28
2½"	141	21	131	24
3"	204	31	195	34
4"	310	54	300	58
5"	596	46	575	49
6"	818	62	788	67
8"	1435	84	1380	91
10"	2450	93	2350	101
12"	3410	115	3275	124

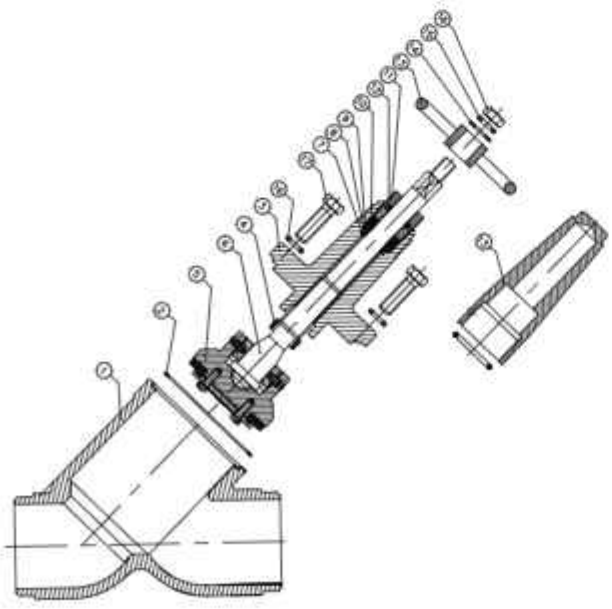
*The CV factor is based on flow in U.S. G.P.M. and pressure drop in PSI.

PART LIST



SIZE – 15mm – 32mm

ITEM NO.	DESCRIPTION	Qty.
17	HEX SOCKET HEAD SCREW	04
16	HEX NUT	04
15	SPRING WASHER	04
14	PLANE WASHER	04
13	HAND WHEEL /CAP WITH O-RING	01
12	O-RING	01
11	GLAND NUT	01
10	PACKING RING	03
9	PACKING WASHER	01
8	O-RING	01
7	STEM WASHER	01
6	STEM	01
5	SEAT NUT ASSEMBLY	01
4	SEAT BUSH	01
3	BONNET	01
2	GASKET	01
1	BODY	01

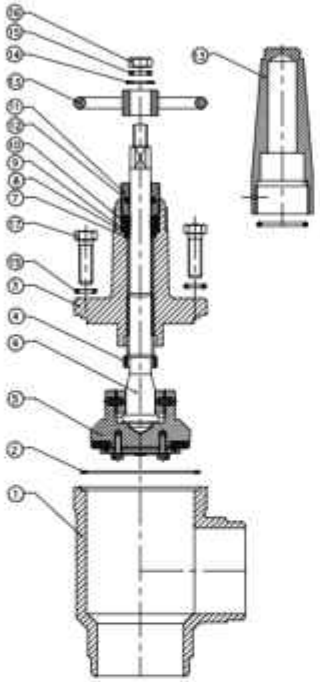


ITEM NO.	DESCRIPTION	Qty.
17	HEX BOLT	04
16	HEX NUT	04
15	SPRING WASHER	04
14	PLANE WASHER	04
13	HAND WHEEL /CAP WITH O-RING	01
12	O-RING	01
11	GLAND NUT	01
10	PACKING RING	03
9	PACKING WASHER	01
8	O-RING	01
7	STEM WASHER	01
6	STEM	01
5	SEAT NUT ASSEMBLY	01
4	SEAT BUSH	01
3	BONNET	01
2	GASKET	01
1	BODY	01

SUPERFREEZE

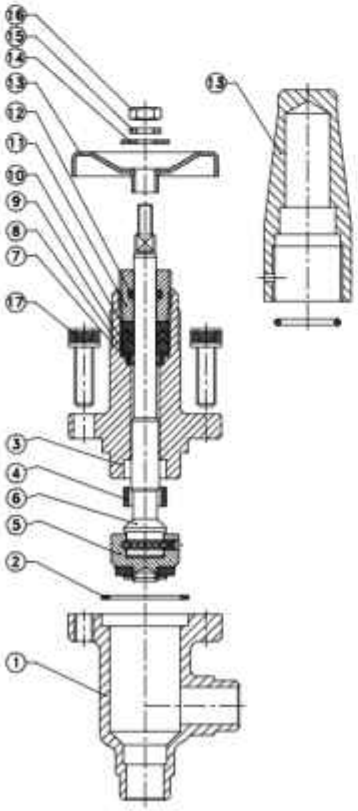
BUTT WELDING SHUT-OFF VALVES

PART LIST



SIZE – 15mm – 32mm

ITEM NO.	DESCRIPTION	Qty
17	HEX SOCKET HEAD SCREW	04
16	HEX NUT	04
15	SPRING WASHER	04
14	PLANE WASHER	04
13	HAND WHEEL /CAP WITH O-RING	01
12	O-RING	04
11	GLAND NUT	01
10	PACKING RING	04
9	PACKING WASHER	01
8	O-RING	01
7	STEM WASHER	01
6	STEM	01
5	SEAT NUT ASSEMBLY	01
4	SEAT BUSH	01
3	BONNET	01
2	GASKET	01
1	BODY	01



ITEM NO.	DESCRIPTION	Qty
17	HEX BOLT	04
16	HEX NUT	04
15	SPRING WASHER	04
14	PLANE WASHER	04
13	HAND WHEEL /CAP WITH O-RING	01
12	O-RING	04
11	GLAND NUT	01
10	PACKING RING	04
9	PACKING WASHER	01
8	O-RING	01
7	STEM WASHER	01
6	STEM	01
5	SEAT NUT ASSEMBLY	01
4	SEAT BUSH	01
3	BONNET	01
2	GASKET	01
1	BODY	01

WELDING PROCEDURE FOR WELD-IN-LINE SHUT OFF VALVES

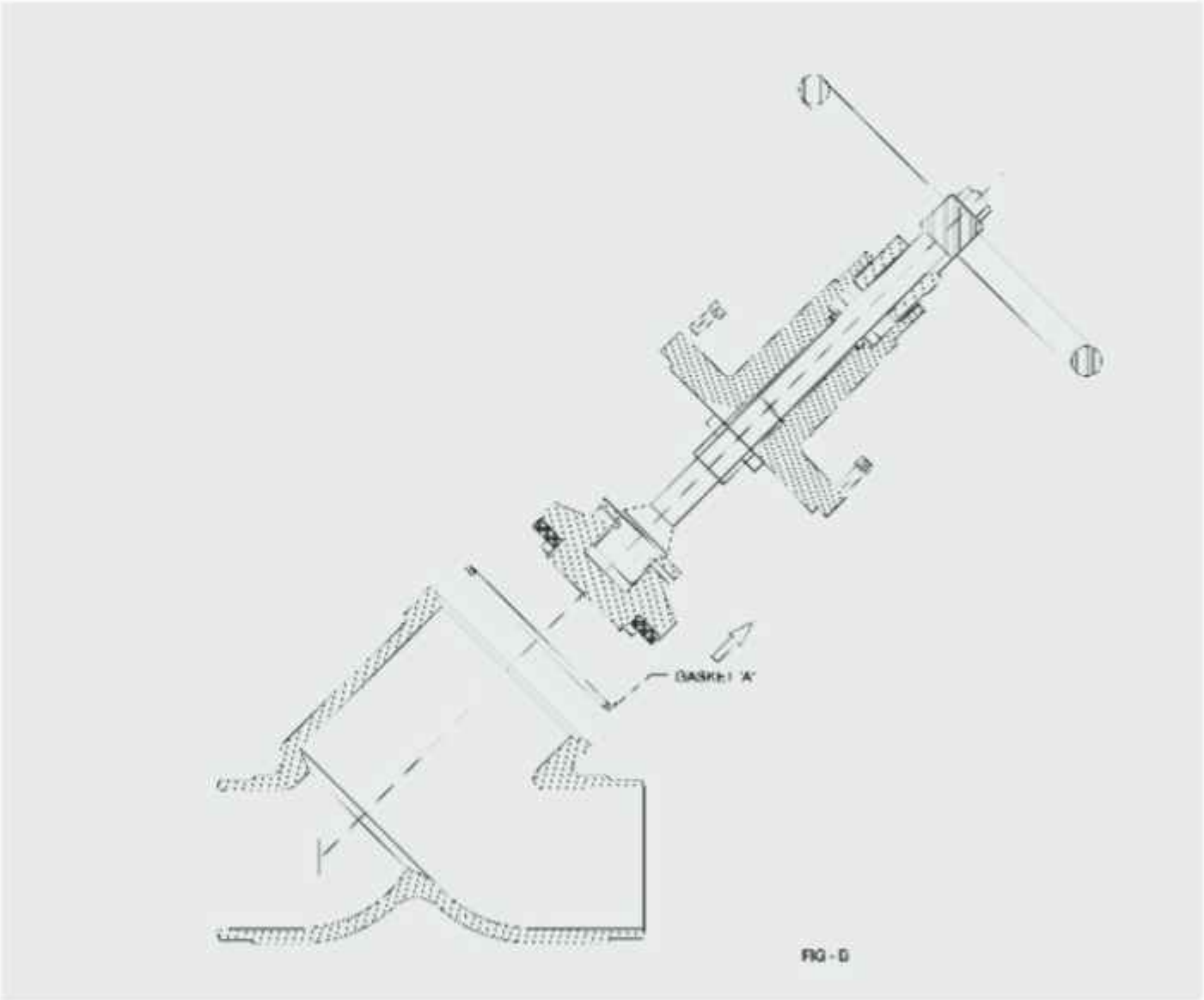


FIG - D

Before welding the valve in the line, kindly unscrew the bonnet assembly as shown in the figure above.

After wielding, clean the valve seat area of any wielding fluxes and then retighten the bonnet assembly making sure the gasket 'A' is properly fixed.

SUPERFREEZE INDIA (P) LTD
An ISO 9001 : 2015 Certified Company
122, Qutab Plaza, DLF Phase-I, Gurgaon -122002, Haryana, India
Tel : +91-124-4301636
E mail : sales@superfreeze.com Website : www.superfreeze.com