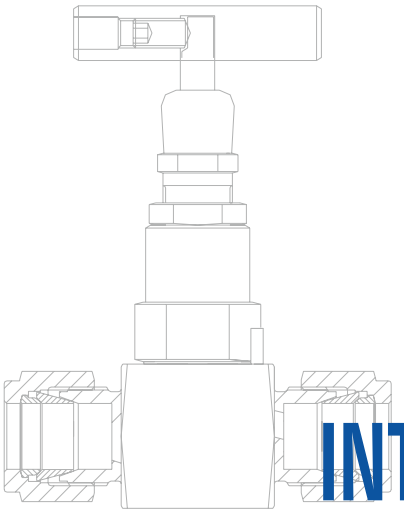
FLUID CONTROLS®

INSTRUMENTATION VALVES



INTRODUCTION

Established in 1974, Fluid Controls Private Limited is an ISO 9001:2015, ISO 14001:2015, ISO 45001:2018, PED and IRIS certified company. With 50 Years of experience in engineering connection Fluid Controls® is involved in the manufacturing of Valves, Manifolds, Double Ferrule Compression Tube Fittings and specialized accessories for use in instrumentation, hydraulics, pneumatic, and lubrication. The Company has a wide range of products for Oil and Gas Applications, Petrochemicals, Rotating Machinery, Power Generation, Cryogenic/Vacuum Applications, Defence Applications and Rail & Metro Brake Piping Installation.

The Valves Unit of Fluid Controls Private Limited was founded in 1979 by Late Dr. Y.E. Moochhala, a Ph.D. in Mechanical Engineering from Northwestern University, USA. The Unit was earlier known as Hyd-Air® Engineering Works Lonavala and subsequently merged with Fluid Controls Private Limited in 2013.

At Fluid Controls®, we draw our strength from our experience of 50 years in design, engineering, manufacturing and supply of range of high-performance valves and manifolds. These precision products are used for instrumentation in the chemical, petrochemical and oil & gas industries, as well as for high pressure hydraulics, pneumatics and lubrication.

DESIGN AND MATERIALS

Engineered to specific designs for low, medium and high pressure usage, the VALVES manufactured by Fluid Controls® are available in a wide range of materials. These materials are custom selected for the body, trim and seals to suit the pressures, temperatures and fluids used in the pressure lines.

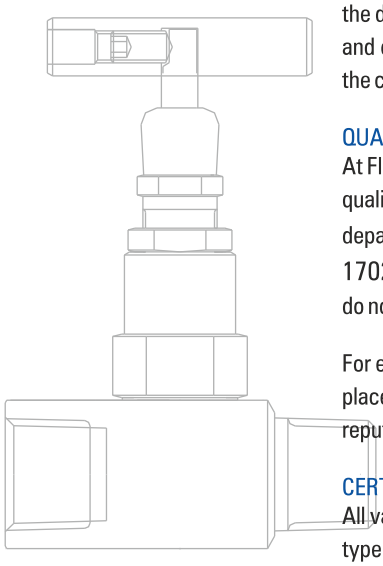
The materials used for manufacturing are based on ASTM/DIN/BS and Indian Standards, depending upon the requirements of our customers. Most of the products manufactured are in carbon steel (ASTM A105) and stainless steel (ASTM A182 F316, ASTM A479, and ASTM A276 in the SS range). Both the materials conform to NACE MR0175 for specified corrosive applications.

Special valves are also available in materials such as High Tensile Brass, Nickel, Aluminium, Bronze, Monel, Hastelloy, Titanium, and PTFE depending on the specifications of the applications they are required for. Some examples of applications and the materials used are:

- Monel is widely used in oil and gas applications, specifically, for sour gas service
- ASTM A182 SS 316 and 316L conforming to NACE MR0175 is used in highly corrosive environments
- PTFE valves are required for chlor-alkali applications

For all the valves displayed in this catalogue, the full range of materials for body and trim are available. Fluid Controls® also manufactures valves for the naval and sea service that are designed for high pressure pneumatic applications. These valves are available in Nickel, Aluminium, Bronze, SS 316 Ti and SS 321.

The gland seal material for the valves depends on the applications and temperatures of usage. Standard gland seals are available in PTFE. For high temperature applications above 180^{0}C and 270^{0}C graphitized asbestos and graphoil are used respectively. Much of the manufacture in Carbon Steel is to ASTM A105 and in Stainless Steel to ASTM A182, ASTM A470 and ASTM A276 respectively.



MANUFACTURE

Fluid Controls® products are manufactured using state-of-the-art facilities. All designs are first tested and tried in the development section before they go in for general manufacturing. The products are also machined for tolerance and compliance with international standards. For special application in cryogenic and ultra-high pressure service, the clients first test the products and then place orders for usage.

QUALITY CONTROL

At Fluid Controls®, we are committed to ensure that the requirements of our customers are fully met with respect to quality. Consequently, all our products undergo rigorous quality control. We have a full-fledged Quality Control department that is equipped with all required gauges and test equipment at our in-house NABL (ISO/IEC 17025:2017)Accredited Performance Testing and Metrology Laboratory. In case of any special tests for which we do not have the facilities, we are backed by the support of nationally recognized laboratories.

For each of our valves, we have developed separate Quality Assurance Programs that are submitted to clients who place large orders. This is a routine feature for all project orders supplied by Fluid Controls® and is a key to the reputation we have acquired over the past fourty-five years.

CERTIFICATION

All valves supplied by Fluid Controls® come with ISO 3.1B certification for material and performance to regular and type tests specified by our customers.

PRODUCT RANGE

Given below are the products manufactured by us at Fluid Controls®, which are featured in this catalogue.

A. Needle Valves

- Fluid Controls® has a comprehensive range of Needle Valves. These valves are available in: two-way, three-way, multiport, single block and bleed, and double block & bleed designs. The Fluid Controls Needle Valves are available with a variety of end connections covering screwed male/female pipe ends which conforms to both single ferrule and double ferrule designs.

- The Needle Valves manufactured by us have a unique feature: a swiveling, non-rotating plug and thread above the gland seal which ensures that the threads are not left wet by the fluid media. This feature contains the pressure within the envelope below the gland seal to prevent body-leakage, thereby ensuring a long life. The swiveling plug tip also ensures positive aligned seating for repeat operations. The plugs of our SS valves are hardened by a unique process, which prevents indentation of the plug and guarantees long life for each valve that we manufacture.

- We are a reputed manufacturer of Needle Valves and have the capability to accommodate the requirements of our customers with any end connections and special specification especially those requried for high / medium/ low pressure applications as well as for high / medium / low vacuum applications. We also manufacture valves with a variety of seals to suit high to low temperature cryogenic applications.

- Given the diversity of our products, the Needle Valves displayed in the catalogue do not cover our entire product range line. Please do not hesitate to contact us for valves of special applications or for those minor variations.

B. Ball Valves

- The Fluid Controls Ball Valves were originally designed for use in hydraulic applications. Their applications, however, also extend to instrumentation, pneumatics, hydraulics and other fields. Our Ball Valves are available with a wide variety of end connections (screwed ends, single ferrule ends, double ferrule tube ends) and in a range of two, three and four-way designs.

- The Fluid Controls Instrumentation Ball Valves for switching service are suitable for panel mounting. They are widely used in two-way as well three and four-way designs with bottom entry and other outlet ports in the same plane. Their compact nature is ideal for applications that require minimum carry-over fluid when switching from one port to the other. These Ball Valves are also used for CNG applications, for static and vehicular installations.

- In the field of hydraulics, the Ball Valves we manufacture are available with flanged ends for sizes 1.5" and above, which conforms to SAE and CETOP standards. The Fluid Controls Ball Valves shown in this catalogue are specifically designed for isolating where the pipes carry SAE and CETOP flange connections with butt weld or socket welds ends.

C. Check Valves

- Fluid Controls® has a complete range of Check Valves. The Fluid Controls Non-Return Valves range has a unique sealing arrangement whereby the pressure force is directly transmitted to the body without straining the sealing elements. This sealing arrangement provides for zero leakage over long-life operations. The Fluid Controls Non-Return ranges of Check Valves are robust and suitable for pressures up to 640 bar. They are available with a variety ends screwed, single ferrule tube/male ports, double ferrule tube/male ports, single or double ferrule port ends.

- The Compact Non-Return Valve of the CV range is manufactured for high-flow and non-return applications in the hydraulic industry. The leakage in these valves is restricted not to exceed 5 cc's per second per 1000 to pressure drop. This valve is commonly used where absolute shut-off in the reverse direction is not required and where the frequency of pressure reversal is not very heavy. These valves are generally used in plastic injection moulding machines, die casting machines, and machine tool which use oil hydraulics for their operations.

D. Union Bonnet Valves

- Where socket weld or butt weld ends are required, screwed bonnet and integral bonnet valve are not ideal. This is because screwed and integral bonnet valves required extensive cooling during socket/butt welding to prevent damage the orifice of the valves. In the past, bolted bonnet OS & Y valves were used whenever socket or butt weld end connections were required.

- To circumvent this problem of cooling during the welding operation and provide a low weight compact design, Fluid Controls® introduced Union Bonnet Valves as a low-cost solution for bolted bonnet O S & Y type designs which are heavy and require clamping to prevent straining of the piping around the valve. As they are of heavier construction than the Screwed Integral Bonnet Valves, the Union Bonnet Valves allow for centering of the spindle assembly on the body after welding operations. In the welding process, distortion is negligible if normal precautions are taken to cool the body during welding procedure. Union Bonnet Valves with Socket Weld/Butt Weld ends are commonly used as isolation/root valves in instrumentation.

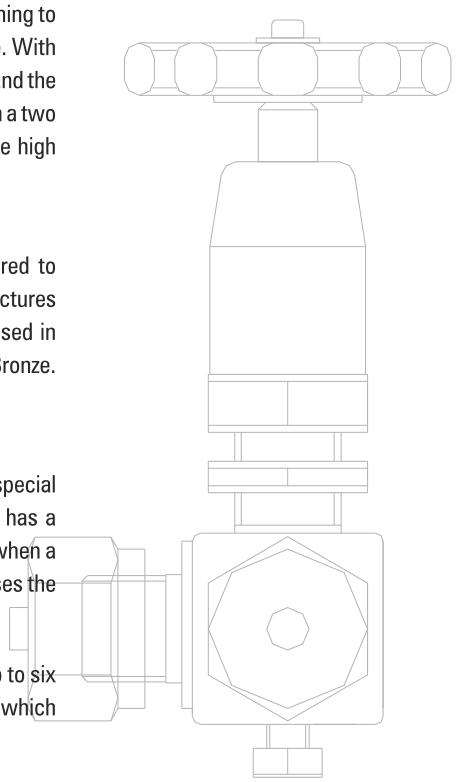
E. O S & Y Type Bolted Bonnet Valves

- Fluid Controls® has a range of Bolted Bonnet OS & Y type valves with a limited range for use in instrumentation applications only. The use of these valves is restricted to isolation and root valves, and limited to butt/weld sockets welds and screwed ends for isolation and root valve service.

F. Pressure Gauge Pin Valves

- The power generation industry uses multiple lines in their control rooms which are monitored by pressure gauges. The use of two-valve manifolds for these pressure gauges is impractical, as the gauges require continuous calibration and draining to ease the calibration procedure.

- The use of Pressure Gauge Pin Valves manufactured by Fluid Controls® can be successfully used for these applications. In its two-way design, these valves are used as simple pressure gauge valves with a draining to atmosphere feature. In its three-way design, they are used for draining and for calibration of the gauge. With the use of these valves the calibration line is connected to the calibration port, the process line isolated and the gauge calibrated in-situ. The Pressure Gauge Pin Valve is a single valve and not a set of Two Valves (as in a two valve manifold). Medium pressure operations can be serviced with the Integral Bonnet design, while high pressure operations or super-heated steam require the Union Bonnet design.



G. Ultra High Pressure Pneumatic Valves

- Ultra High Pressure Pneumatic Valves require a special arrangement for reducing the torque required to operate the valve. To achieve this, the balancing piston feature is widely used. Fluid Controls® manufactures a series of Balance Piston Isolation Valves with a soft seat arrangement. These valves are widely used in pneumatic applications up to 400 bar and are available in Carbon Steel, Stainless Steel, Aluminum and Bronze. They are ideal for quick valve operations as the handle rotates with finger-tip control.

H. Oil Hydraulic Pressure Gauge Isolators

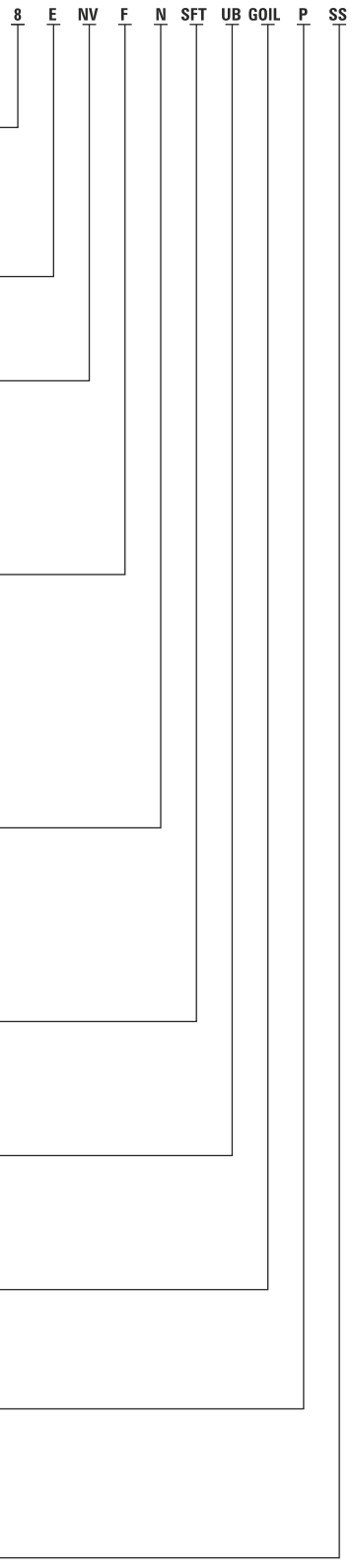
- The Fluid Controls Pressure Gauge Isolators are of the push-to-read design and are, in effect, miniature special valves. These valves have metal spool type sealing ideal for hydraulic applications where the fluid has a certain amount of lubricity. These valves are also excellent for pressure gauges as they are energized when a push button is depressed and de-energized when released. This saves repeated calibration and increases the life of gauge.

- Multi-station pressure gauge isolator valves allow the use of a single gauge for the measurement of up to six lines where a common fluid is used in all the lines measured. These valves can be used only with fluids which have certain lubricity and not for gas or liquid/gas.

NEEDLE & PLUG VALVES

ORDERING CODE FOR NEEDLE & PLUG VALVES

DESCRIPTION	FEATURE	SYMBOL
SIZE	Thread size in multiple of 1/16" - for example -1/2" = 8 Tube od in multiples of 1/16" for ferrule end connection using inch od tubing For sizes in inches this code will come before type of position code	8,12,16,20,24, 32,40,50
	Tube end size in metric - For sizes in metric this code will come after type of hand valve code	6,8,10,12,14,16,18 20,22,28,30,32,35,42
	If inlet size & outlet size of the same valve is different - for example - 1/4"x1/2" = 4-8	
Type of position (inlet & outlet)	For straight type -	No symbol
	For angle type -	E
Types of hand Valve	Model number for each type for example	
	Needle valve	NV
	Plug valve	PLV
Type of end Connections (inlet x outlet)	Female threaded	F
	Male threaded	M
	Male x female threaded	M / F
	Female x male threaded	F / M
	Single ferrule tube	D
	Double ferrule tube	T
	Socket weld NB pipe	NBSW
	Butt weld ends	BW
Thread type	NPT to ASA B 2.1 - 1960	N
	ISO parallel to ISO : 228/1	R
	ISO taper to ISO : 7/1	RX
Tube OD/series For metric tube	Light series eg 22 mm OD light series-22L,	L
	Heavy series eg 30 mm OD heavy series-30S,	S
Inch size tubes	Specified by nominal bore	N B
	Specified by outside dia	No symbol
Seat	Integral	No symbol
	Soft seat - material - DELRIN	SFD
	Soft seat - material - PTFE	SFT
	Soft seat - material - PEEK	SFP
Type of bonnet	Screwed bonnet	No symbol
	Integral bonnet	IB
	Union bonnet	UB
Stem packing	Teflon (standard)	No symbol
	Graphitized asbestos	GASB
	Graphoil	GOIL
	Teflon asbestos	TASI
Mounting	Not required	No symbol
	Panel mounting	P
Material	A 105	No symbol
	SS 304/SS 304L **	S/SL
	SS 316 /SS 316L**	SS/SSL
	Monel	MNL
	Hastelloy C	HAC
	Brass to IS 319	b



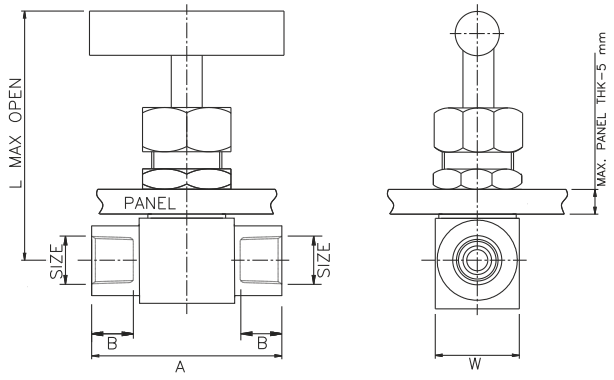
** For material conformity to NACE MR-01-75 USE SUFFIX "NACE" AS S/NACE, SS/NACE,SSL/NACE

Note : Due to continous improvement & customer interaction designs & specifications may be modified or upgraded without notice.

FLUID CONTROLS®

NEEDLE VALVE - INTEGRAL BONNET SCREWED ENDS

MODEL No. NV - IB



DESCRIPTION

A compact needle type valve for isolation of lines, sampling, throttling & similar applications. The valve has screwed ends to be used with pipes & tubes.

Test Pressure	:	25°C Room Temperature		
Hydrostatic	:	Body	-	413 Kg/cm^2
		Seat	-	280 Kg/cm^2
Pneumatic	:	Seat	-	40 Kg/cm^2
Gland Packing	:	PTFE	-	Standard
		Graphoil	-	Temperatures above 180°C
Material	:	A 105, A 479 SS304, A 479 SS316, A182 Gr F 316 SS Monel, Hastelloy		
Finish	:	CS Zinc plated and Dichromated. SS Natural		

CONNECTIONS

SIZE	A	B	W	L	PART No.
1/8" FNPT	45	11	19	65	2 NVFN - IB
1/4" FNPT	45	14	19	65	4 NVFN - IB-P
3/8" FNPT	50	17	24	53	6 NVFN - IB-P
1/2" FNPT	65	19	28	88	8 NVFN - IB-P
3/4" FNPT	65	19	36	88	12 NVFN - IB-P
1" FNPT	84	25	46	102	16 NVFN - IB-P

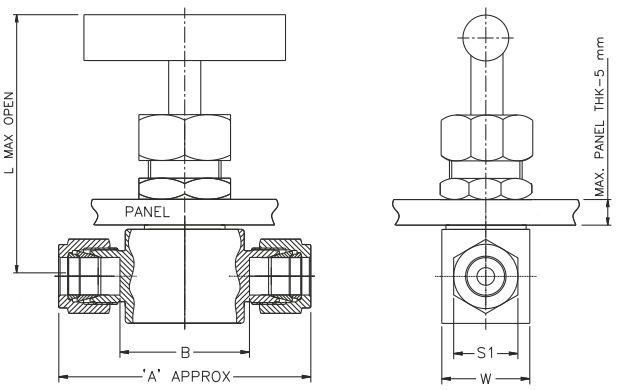
DESCRIPTION

A compact needle valve especially designed for direct use with tubes through built-in double ferrule compression fittings. Ideal for stainless steel, copper, monel tubes.

Test Pressure	:	25°C Room Temperature
Hydrostatic	:	Body - 413 Kg/cm^2 Seat - 280 Kg/cm^2
Pneumatic	:	Seat - 40 Kg/cm^2
Gland Packing	:	PTFE - Standard Graphoil - Temperatures above 180°C
Material	:	A 479 SS304, A 479 SS316, A182 Gr F 316 SS Monel, Hastelloy
Finish	:	SS Natural

CONNECTIONS

SIZE	A	B	W	S1	L	PART No.
1/8" O. D.	59	27	19	11	68	2 NV - T - IB
1/4" O. D.	59	27	19	14	68	4 NV - T - IB-P
3/8" O. D.	67	32	24	17	72	6 NV - T - IB-P
1/2" O. D.	72	27	28	22	75	8 NV - T - IB-P
3/4" O. D.	123	73	32	28.5	120	12 NV - T - IB-P
1" O. D.	128	64	38	38.1	120	16 NV - T - IB-P

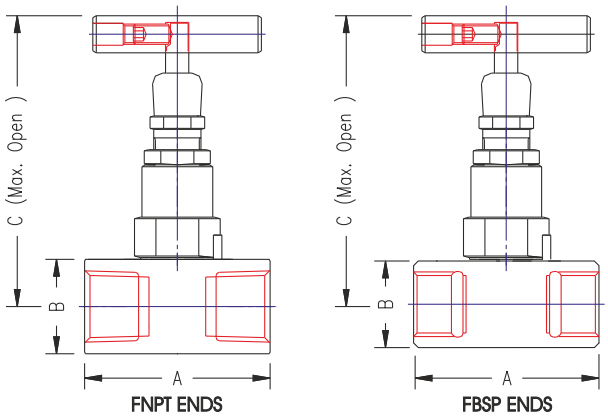


MODEL No. NV - IB - T

NEEDLE VALVE - INTEGRAL BONNET DOUBLE FERRULE ENDS

NEEDLE VALVES
SCREWED BONNET DESIGN
FEMALE ENDS

MODEL No. NVF



DESCRIPTION

A compact needle type valve for isolation of lines, sampling, throttling & similar applications. The valve has screwed ends to be used with pipes & tubes.

Test Pressure	:	25°C Room Temperature		
Hydrostatic	:	Body	-	413 Kg/cm^2
		Seat	-	280 Kg/cm^2
Pneumatic	:	Seat	-	40 Kg/cm^2
Gland Packing	:	PTFE	-	Standard
		Graphoil	-	Temperatures above 180°C
Material	:	A 105, A 479 SS304, A 479 SS316, A182 Gr F 316 SS Monel, Hastelloy		
Finish	:	CS Zinc plated and Dichromated. SS Natural		

CONNECTIONS

SIZE	A	B	C	PART No.	SIZE	A	BC		PART No.
1/4" FNPT	56	25	89	4 NVFN	1/4" BSP	56	25	89	4 NVFR
3/8" FNPT	56	25	89	6 NVFN	3/8" BSP	56	25	89	6 NVFR
1/2" FNPT	65	28	90	8 NVFN	1/2" BSP	60	28	90	8 NVFR
3/4" FNPT	75	35	110	12 NVFN	3/4" BSP	80	35	110	12 NVFR
1" FNPT	80	41	113	16 NVFN	1" BSP	80	41	113	16 NVFR

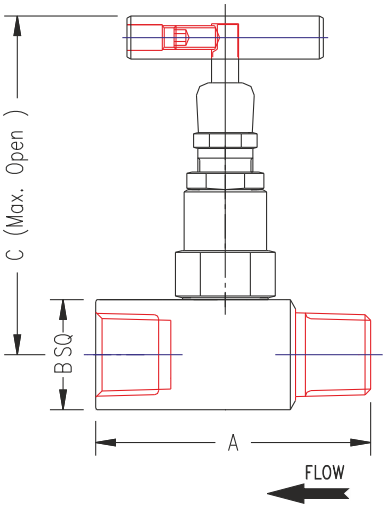
DESCRIPTION

Designed for use in purpose applications for throttling and straight shut off of liquids, gas or vapour service. These needle valves are available with a variety of end connections and stem packing.

Test Pressure	:	25°C Room Temperature	
Hydrostatic	:	Body -	620 Kg/cm^2
		Seat -	413 kg/cm^2
Pneumatic	:	Seat -	40 kg/cm^2
Gland Packing	:	PTFE -	Standard
		Graphoil -	Temperatures above 180°C
Material	:	A 105, A 479 SS304, A 479 Ss316, A182 Gr F 316 SS Monel, Hastelloy	
Finish	:	CS Zinc plated and Dichromated. SS Natural	

CONNECTIONS

(INLET x OUTLET)	A	B	C	PART No.
1/4" MNPT x 1/4" FNPT	60	25	89	4 NVM/FN
1/4" MBSP x 1/4" FBSP	60	25	89	4 NVM/FR
1/2" MNPT x 1/4" FNPT	63	28	90	8-4 NVM/FN
1/2" MNPT x 1/2" FNPT	70	28	90	8 NVM/FN
1/2" MBSP x 1/2" FBSP	70	28	90	8 NVM/FR
3/4" MNPT x 1/2" FNPT	75	35	110	12-8 NVM/FN
3/4" MBSP x 1/2" FBSP	75	35	110	12-8 NVM/FR
3/4" MNPT x 3/4" FNPT	80	35	110	12 NVM/FN
3/4" MBSP x 3/4" FBSP	80	35	110	12 NVM/FR
1" MNPT x 1" FNPT	80	41	113	16 NVM/FN
1" MBSP x 1" FBSP	80	41	113	16 NVM/FR

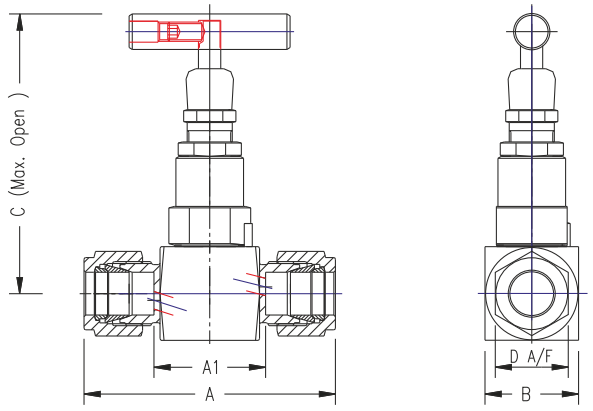


MODEL No. NV M/F

NEEDLE VALVES
SCREWED BONNET
DESIGN MALE x FEMALE ENDS

NEEDLE VALVES
SCREWED BONNET DESIGN
DOUBLE FERRULE TUBE ENDS

MODEL No. NVT



DESCRIPTION

Designed for use in purpose applications for throttling and straight shut off of liquids, gas or vapour service. These needle valves are available with a variety of end connections and stem packing.

Test Pressure	:	25°C Room Temperature		
Hydrostatic	:	Body	-	620 Kg/cm^2
		Seat	-	413 Kg/cm^2
Pneumatic	:	Seat	-	40 Kg/cm^2
Gland Packing	:	PTFE	-	Standard
		Graphoil	-	Temperatures above 180°c
Material	:	A 105, A 479 SS304, A 479 SS316, A182 Gr F 316 SS Monel, Hastelloy		
FINISH	:	CS Zinc plated and Dichromated. SS Natural		

CONNECTIONS

TUBE OD	A	A1	B	C	D A/F	PART No.
1/4" / 6mm	67.8	36.0	25	89	14	4 NV-T/NV-T-6
5/16" / 8mm	67.8	34.5	25	89	16	5 NV-T/NV-T-8
3/8" / 10mm	70	35	25	89	17	6 NV-T/NV-T-10
1/2" / 12mm	86.5	40.5	28	90	22	8 NV-T/NV-T-12
3/4" / 20 mm	92	42	28	110	28.5	12 NV-T/NV-T-20

Note : Bigger tube connections up to 1-1/2"/ 38 mm OD size available on request.

DESCRIPTION

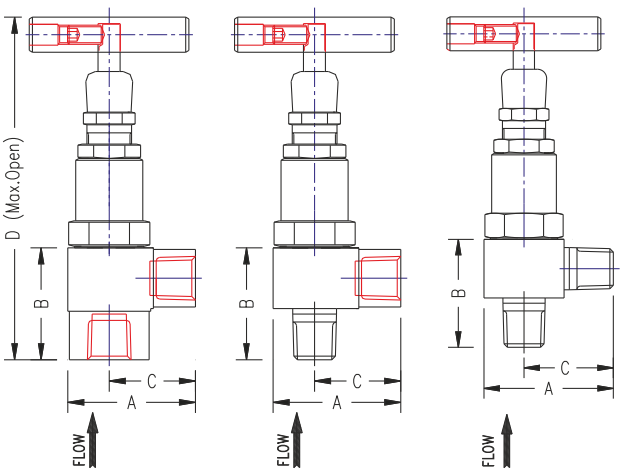
Designed for use in purpose applications for throttling and straight shut off of liquids, gas or vapour service. These needle valves are available with a variety of end connections and stem packing.

Test Pressure	:	25°C Room Temperature
Hydrostatic	:	Body - 620 Kg/cm^2 Seat - 413 Kg/cm^2
Pneumatic	:	Seat - 40 Kg/cm^2
Gland Packing	:	PTFE - Standard Graphoil - Temperatures above 180°C
Material	:	A 105, A 479 SS304, A 479 SS316, A182 Gr F 316 SS Monel, Hastelloy
Finish	:	CS Zinc plated and Dichromated. SS Natural

CONNECTIONS

(INLET x OUTLET)	A	B	C	D	PART No.
1/4" MNPT x 1/4" MNPT	40	35	27	115	4 ENVMN
1/4" FNPT x 1/4" FNPT	40	35	27	115	4 ENVFN
1/4" MNPT x 1/4" FNPT	40	35	27	115	4 ENVM/FN
3/8" MNPT x 3/8" MNPT	40	35	27	115	6 ENVMN
3/8" FNPT x 3/8" FNPT	40	35	27	115	6 ENVFN
3/8" MNPT x 3/8" FNPT	40	35	27	115	6 ENVM/FN
1/2" MNPT x 1/2" MNPT	48	48	33	128	8 ENVMN
1/2" FNPT x 1/2" FNPT	48	48	33	128	8 ENVFN
1/2" MNPT x 1/2" FNPT	48	48	33	128	8 ENVM/FN

Note : Also available with BSP and BSP taper thread connections bigger pipe connections on request.

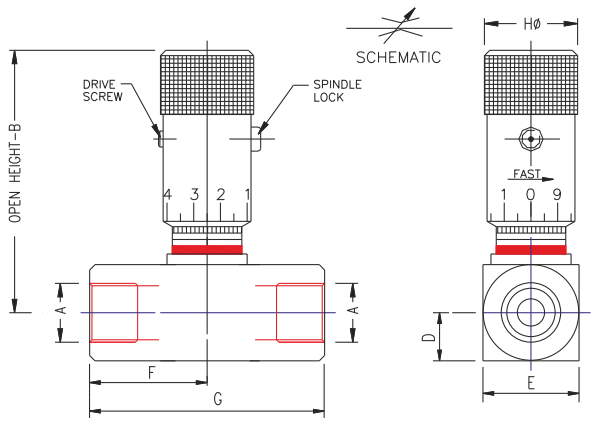


MODEL No. ENV

ANGLE NEEDLE VALVES
SCREWED BONNET DESIGN

COLOUR FLOW NEEDLE VALVE

MODEL No. CNR



DESCRIPTION

A compact valve with micrometer adjustment for fine throttling service with colored ring indicators for complete turns of opening.

Size A GAS THD'S	B Approx	D	E	F	G	H	** Part No.
1/4"	48	10	20	25	50	20	CN R 4 S
3/8"	56	13	26	32	64	25	CN R 6 S
1/2"	69	16	32	33	67	30	CN R 8 S
3/4"	86	19	38	41	83	35	CN R 12 S
1"	124	22.5	45	54	108	46*	CN R 16 S
1-1/4"	130	28.5	57	54	108	46*	CN R 20 S
1-1/2"	136	35	70	54	108	46*	CN R 24 S

* CAP WILL BE KNURLED CIRCULAR OF Æ H FOR SIZES UPTO 3/4"
FOR SIZES 1" AND ABOVE KNURLED PORTION WILL BE HEXAGON A/F OF DIMENSION 'H'
* *SEE ORDERING CODE FOR DETAILED PART NUMBERING SYSTEM.

ORDERING INFORMATION : CN R 8 S - V

COLOUR FLOW NEEDLE VALVE

DENOTES TYPE OF THREAD - R - GAS THD. DIN - 259
N - NPT ANSI B 2.1

DENOTES SIZE OF THREAD - IN MULTIPLES OF 1/16"
FOR EXAMPLE - 1/4" IS 4. 1/2" IS 8 etc.

MATERIAL : S-STEEL, b-BRASS

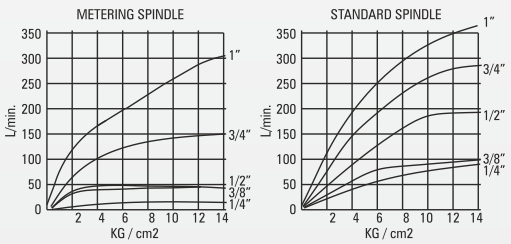
SPINDLE : NO SYMBOL :- STANDARD SPINDLE
M : FINE METERING SPINDLE

SEAL MATERIAL : NO SYMBOL - BUNA'N' SEAL
V - VITON SEAL

EXAMPLE :
THE PART NUMBER CN R 8 S-V ABOVE REFERS TO COLOUR FLOW NEEDLE VALVE WITH 1/2"BSP (F) ENDS IN STEEL STANDARD SPINDLE AND VITON SEAL.

NOTE :
1) MAX. OPERATIONAL PRESSURE : STEEL : UP TO 1/2" 400 KG/cm2
3/4" & ABOVE - 300 KG/cm2
BRASS : UP TO 1" - 150 KG/cm2
1 - 1/4" & 1 - 1/2" - 50 KG/cm2

CONTROLLED FLOW VS PRESSURE DROP : NEEDLE FULLY OPEN



MEDIUM HYDRAULIC OIL 100 SSU SPECIFIC GRAVITY : 0.86

DESCRIPTION

A compact for free flow in one direction and controlled flow in the reverse. The controller is fitted with a micrometer adjustment to adjust the throttling service our provision of colored rings to indicate the number of complete turns of opening.

SIZE A GAS THD's	B APPROX	D	E	F	G	H	** PART No.
1/4"	46	10	20	42	67	20	CF R 4 S
3/8"	56	13	26	45	70	25	CF R 6 S
1/2"	69	16	32	57	87	30	CF R 8 S
3/4"	86	19	38	65	99	35	CF R 12 S
1"	124	22.5	45	83	127	46*	CF R 16 S
1-1/4"	130	28.5	57	98	143	46*	CF R 20 S
1-1/2"	136	35	70	113.5	143	46*	CF R 24 S

* CAP WILL BE KNURLED CIRCULAR OF Æ H FOR SIZES UPTO 3/4"
FOR SIZES 1" AND ABOVE KNURLED PORTION WILL BE HEXAGON A/F OF DIMENSION 'H'
* *SEE ORDERING CODE FOR DETAILED PART NUMBERING SYSTEM.

ORDERING INFORMATION : CF R 8 S - V

COLOUR FLOW CONTROL VALVE

DENOTES TYPE OF THREAD - R - GAS THD. DIN - 259
N - NPT ANSI B 2.1

DENOTES SIZE OF THREAD - IN MULTIPLES OF 1/16"
FOR EXAMPLE - 1/4" IS 4. 1/2" IS 8 etc.

MATERIAL : S-STEEL, b-BRASS

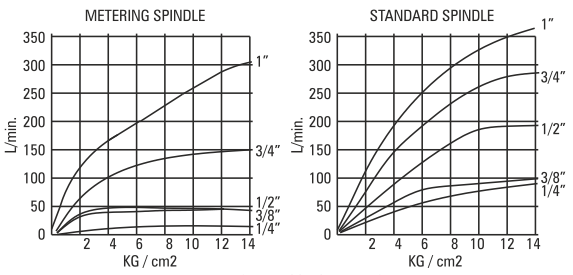
SPINDLE : NO SYMBOL :- STANDARD SPINDLE
M : FINE METERING SPINDLE

SEAL MATERIAL : NO SYMBOL - BUNA'N' SEAL
V - VITON SEAL

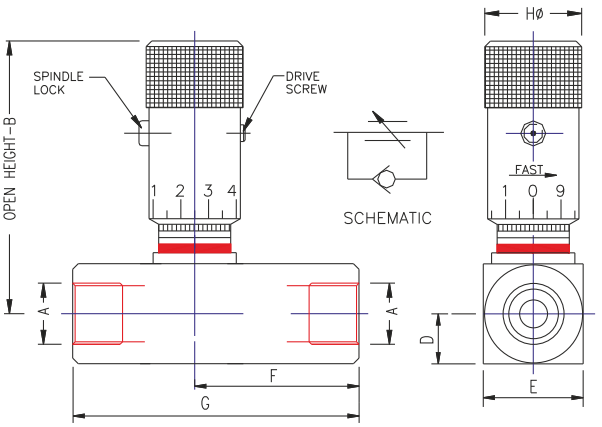
EXAMPLE :
THE PART NUMBER CF R 8 S-V ABOVE REFERS TO COLOUR FLOW CONTROL VALVE WITH 1/2"BSP (F) ENDS IN STEEL STANDARD SPINDLE AND VITON SEAL.

NOTE :
1) MAX. OPERATIONAL PRESSURE : STEEL : UP TO 1/2" 400 KG/cm2
3/4" & ABOVE - 300 KG/cm2
BRASS : UP TO 1" - 150 KG/cm2
1 - 1/4" & 1 - 1/2" - 50 KG/cm2

CONTROLLED FLOW VS PRESSURE DROP : NEEDLE FULLY OPEN



MEDIUM HYDRAULIC OIL 100 SSU SPECIFIC GRAVITY : 0.86

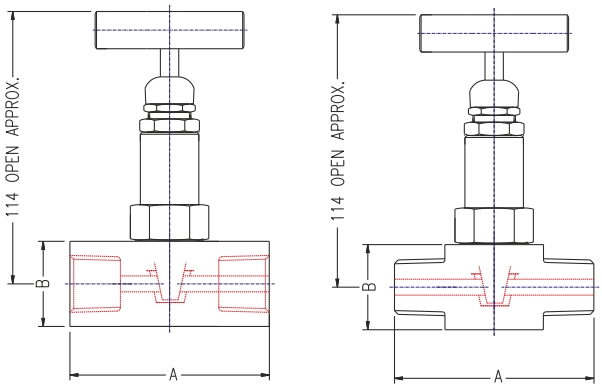


MODEL No. CFR

COLOUR FLOW CONTROL VALVE

PLUG VALVES - SCREWED BONNET DESIGN MALE / FEMALE ENDS

MODEL No. PLV - M / F



DESCRIPTION

Fluid Controls PLV Series valve is an extremely rugged, straight - through design, raising plug valve. The valve provides good regulation as well as large flow capacity in the wide open position.
Valve with replaceable seats and seals is ideal for use where it is desirable to have a permanent installation with easy and inexpensive maintenance.

Test Pressure	:	25^0 C Room Temperature		
Hydrostatic	:	Body	-	413 Kg/cm^2
		Seat	-	280 Kg/cm^2
Pneumatic	:	Seat	-	40 Kg/cm^2
Gland Packing	:	PTFE	-	Standard
		Graphoil	-	Temperatures above 180°C
Material	:	A 105, A 479 SS304, A 479 SS316, A182 Gr F 316 SS Monel, Hastelloy		
Finish	:	CS Zinc plated and Dichromated. SS Natural		

CONNECTIONS

SIZE	A	B	PART No.
1/4" FNPT /1/4" FBSP	65	28	4 PLVFN/4 PLVFR
3/8"FNPT /3/8" FBSP	65	28	6 PLVFN/6 PLVFR
1/2"FNPT /1/2" FBSP	75	32	8 PLVFN/8 PLVFR

SIZE	A	B	PART No.
1/4" MBSP /1/4" MNPT	65	28	4 PLVMR/4 PLVMN
3/8"MBSP /3/8" MNPT	65	28	6 PLVMR/6 PLVMN
1/2"MBSP /1/2" MNPT	75	32	8 PLVMR/8 PLVMN

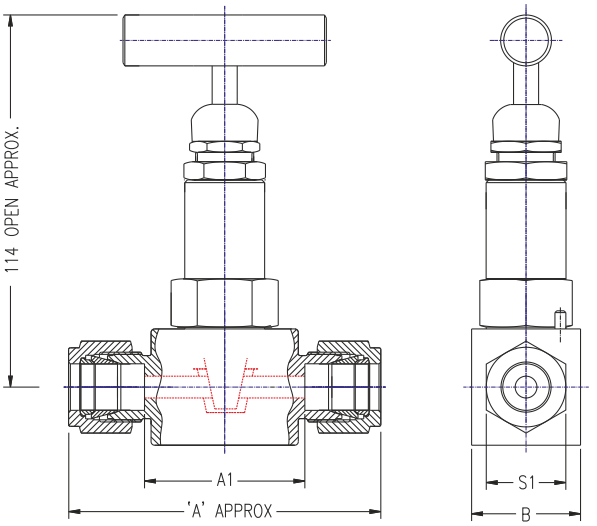
DESCRIPTION

Fluid Control PLV Series valve is an extremely rugged, straight - through design, raising plug valve. The valve provides good regulation as well as large flow capacity in the wide open position.
Valve with replaceable seats and seals is ideal for use where it is desirable to have a permanent installation with easy and inexpensive maintenance.

Test Pressure	:	25^{0}C Room Temperature
Hydrostatic	:	Body - 413 Kg/cm^2 Seat - 280 Kg/cm^2
Pneumatic	:	Seat - 40 Kg/cm^2
Gland Packing	:	PTFE - Standard Graphoil - Temperatures above 180°C
Material	:	A 105, A 479 SS304, A 479 SS316, A182 Gr F 316 SS Monel, Hastelloy
Finish	:	CS Zinc plated and Dichromated. SS Natural

CONNECTIONS

TUBE OD	A	A1	B	S1 A/F	PART No.
1/4"	75	44	28	14	4 PLV-T
3/8"	78	44	28	17	6 PLV-T
1/2"	82	36	32	22	8 PLV-T



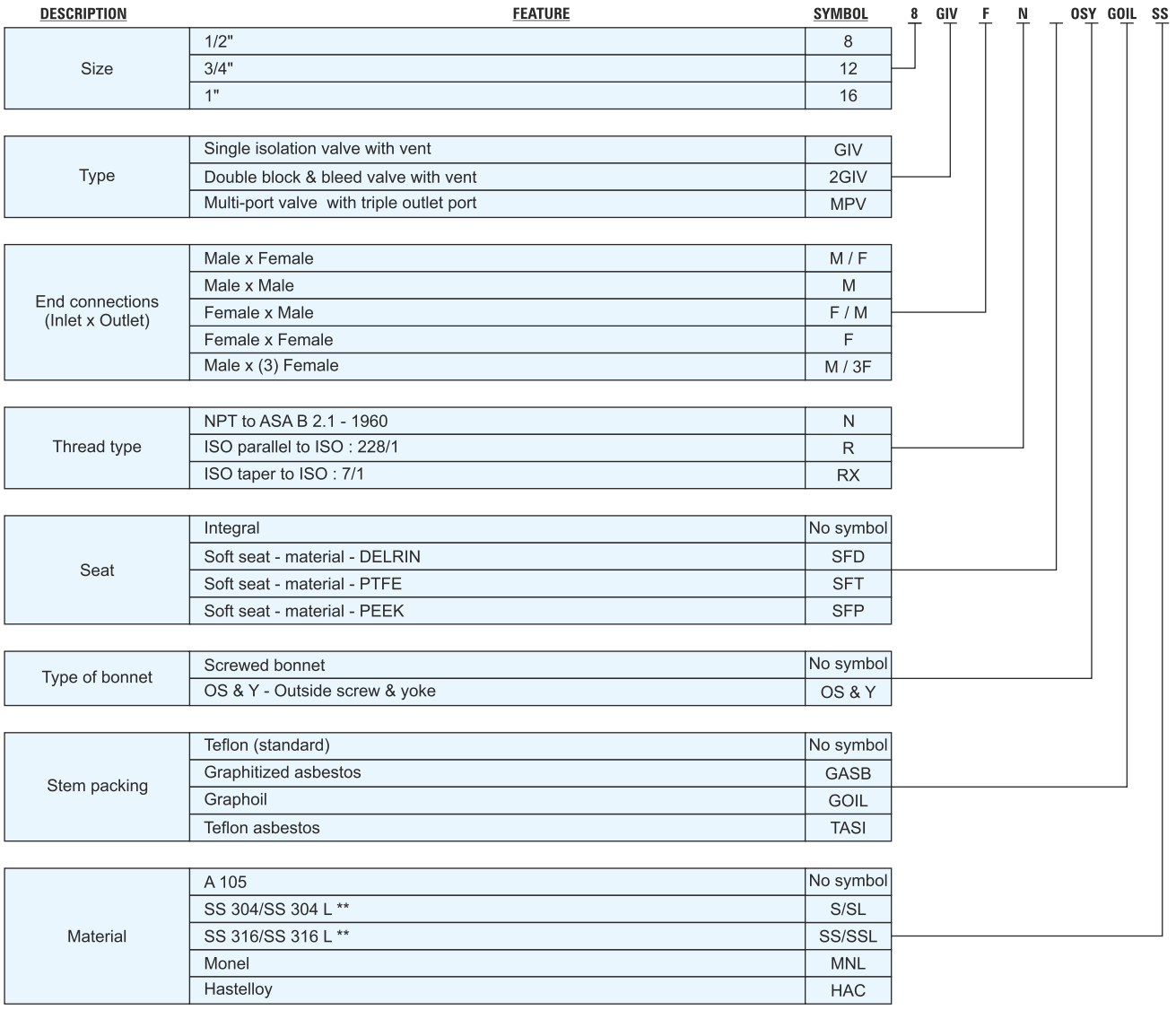
MODEL No. PLV - T

PLUG VALVES - SCREWED BONNET DESIGN DOUBLE FERRULE ENDS

GAUGE VALVES-TWO PORT, THREE PORT & MULTI PORT

ORDERING CODES FOR GAUGE VALVES

DESCRIPTION	FEATURE	SYMBOL
Size	1/2"	8
	3/4"	12
	1"	16
Type	Single isolation valve with vent	GIV
	Double block & bleed valve with vent	2GIV
	Multi-port valve with triple outlet port	MPV
End connections (Inlet x Outlet)	Male x Female	M / F
	Male x Male	M
	Female x Male	F / M
	Female x Female	F
	Male x (3) Female	M / 3F
Thread type	NPT to ASA B 2.1 - 1960	N
	ISO parallel to ISO : 228/1	R
	ISO taper to ISO : 7/1	RX
Seat	Integral	No symbol
	Soft seat - material - DELRIN	SFD
	Soft seat - material - PTFE	SFT
	Soft seat - material - PEEK	SFP
Type of bonnet	Screwed bonnet	No symbol
	OS & Y - Outside screw & yoke	OS & Y
Stem packing	Teflon (standard)	No symbol
	Graphitized asbestos	GASB
	Graphoil	GOIL
	Teflon asbestos	TASI
Material	A 105	No symbol
	SS 304/SS 304 L **	S/SL
	SS 316/SS 316 L **	SS/SSL
	Monel	MNL
	Hastelloy	HAC

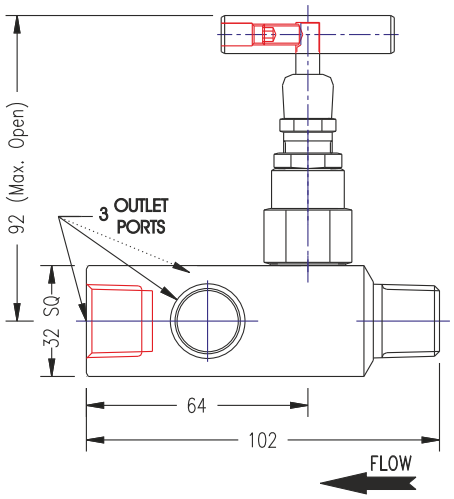


** For material conformity to NACE MR-01-75 USE SUFFIX "NACE" AS S/NACE , SS/NACE,SSL/NACE

Note : Due to continous improvement & customer interaction designs & specifications may be modified or upgraded without notice.

MULTI - PORT GAUGE VALVES

MODEL No. MPV



DESCRIPTION

Multi-port gauge valve is designed for giving the user flexibility in positioning of gauges or pressure switches. These valves can be supplied with vent valve and blanking plug separately.

Test Pressure	:	25°C Room Temperature		
Hydrostatic	:	Body	-	620 Kg/cm^2
		Seat	-	413 Kg/cm^2
Pneumatic	:	Seat	-	40 Kg/cm^2
Gland Packing	:	PTFE	-	Standard
		Graphoil	-	Temperatures above 180°C
Material	:	A 105, A 479 SS304, A 479 SS316, A182 Gr F 316 SS Monel, Hastelloy		
Finish	:	CS Zinc plated and Dichromated. SS Natural		
Optional Items	:	Plug at Outlet End : Drain / Vent Valve on Page 18		

CONNECTION

(INLET x OUTLET)	PART No.
1/2" MNPT x 1/2" FNPT	8 MPV M/FN
1/2" FNPT x 1/2" FNPT	8 MPV FN
3/4" MNPT x 1/2" FNPT	12-8 MPV M/FN

Note : Also available with BSP and BSP taper threads.

ADJUSTABLE PRESSURE GAUGE SNUBBER

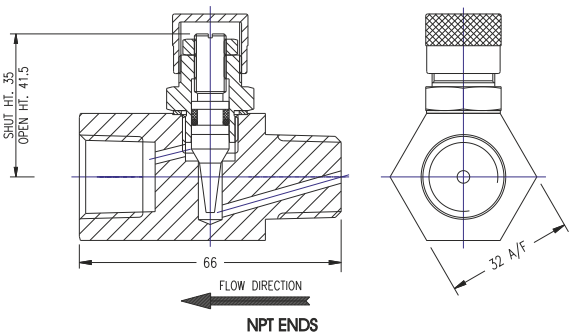
DESCRIPTION

The adjustable pressure gauge damper draw a unique taper PIN/ORIFICE design for high range of damping. The damping can be adjusted to suit the fluid and the pulsation.

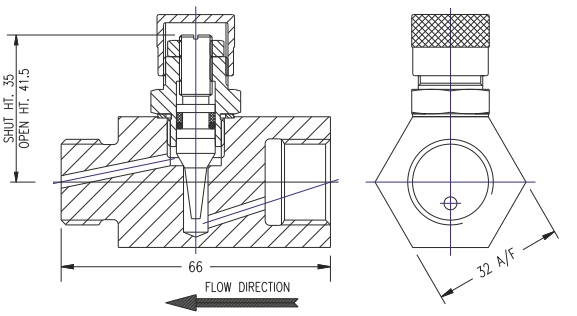
Test Pressure	:	25°C Room Temperature
Hydrostatic	:	Body - 420 Kg/cm^2 Seat - 270 Kg/cm^2
Pneumatic	:	Seat - 40 Kg/cm^2
Gland Seal	:	BUNA 'N', VITON
Material	:	A 105, A 276 SS304, A 276 SS 316, Monel, Hastelloy
Finish	:	CS Zinc plated and Dichromated. SS Natural

CONNECTION

(INLET x OUTLET)	PART No.
1/4" MNPT x 1/4" FNPT	4 PSA - N
3/8" MNPT x 3/8" FNPT	6 PSA - N
1/2" MNPT x 1/2" FNPT	8 PSA - N
3/4" MNPT x 3/4" FNPT	12 PSA - N
1/4" MBSP x 1/4" FBSP	4 PSA - R
3/8" MBSP x 3/8" FBSP	6 PSA - R
1/2" MBSP x 1/2" FBSP	8 PSA - R
3/4" MBSP x 3/4" FBSP	12 PSA - R



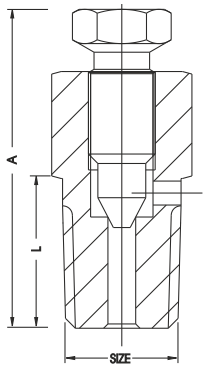
NPT ENDS



BSP ENDS

MODEL No. PSAN

OPTIONAL ITEM



DRAIN VALVE

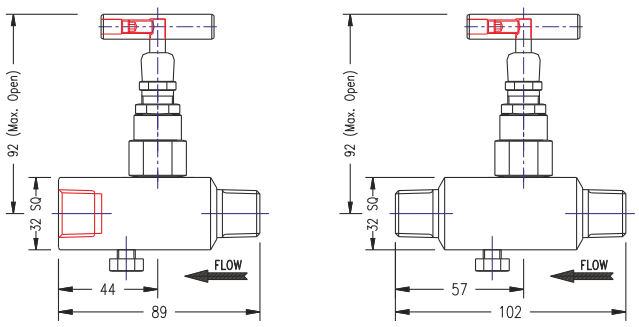
DRAIN VALVE

A compact miniature drain valve to be used with multiport valves and transmitters for draining or venting of instruments.

Size	A	L	PART NO.
1/4" NPT	37.3	14.3	4DVN
3/8" NPT	37.3	14.3	6DVN
1/2" NPT	42.1	19.1	8DVN
3/4" NPT	42.1	19.1	12DVN

SINGLE BLOCK & BLEED GAUGE VALVES

MODEL No. GIV



DESCRIPTION

Needle Valve with down stream vent for usage with static pressure gauge and instrument installation for isolation and venting.

Test Pressure	:	25°C Room Temperature		
Hydrostatic	:	Body	-	620 Kg/cm^2
		Seat	-	413 Kg/cm^2
Pneumatic	:	Seat	-	40 Kg/cm^2
Gland Packing	:	PTFE	-	Standard
		Graphoil	-	Temperatures above 180°C
Material	:	A 105, A 479 SS304, A 479 SS316, A182 Gr F 316 SS Monel, Hastelloy		
Finish	:	CS Zinc plated and Dichromated. SS Natural		

CONNECTIONS

(INLET x OUTLET)	PART No.
1/2" MNPT x 1/2" MNPT	8 GIV.M.N.D
1/2" MNPT x 1/2" FNPT	8 GIV.M/F.N.D
1/2" FNPT x 1/2" FNPT	8 GIV.F.N.D
3/4" MNPT x 1/2" FNPT	12-8 GIV.M/F.N.D

Note : Also available with BSP and BSP Taper Pipe Threads bigger pipe connections on request.

DESCRIPTION

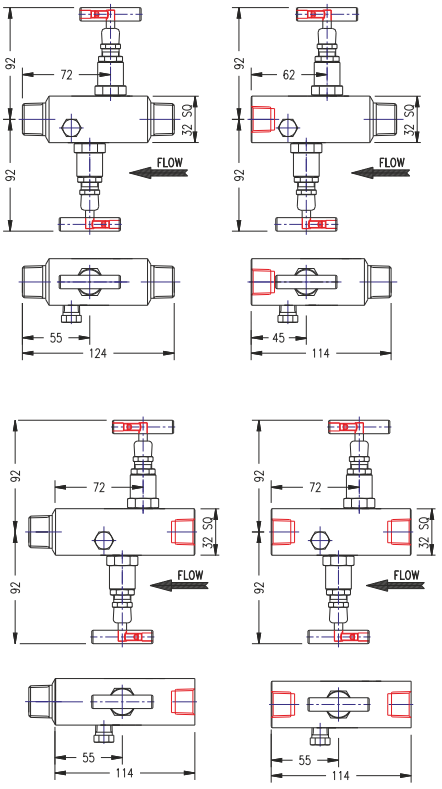
Design for use with gauges switches or pressure transmitter. these Gauge Valves incorporate two-valve with single outlet that combines isolation, calibration and venting.

Test Pressure	:	25°C Room Temperature
Hydrostatic	:	Body - 620 Kg/cm^2 Seat - 413 Kg/cm^2
Pneumatic	:	Seat - 40 Kg/cm^2
Gland Packing	:	PTFE - Standard Graphoil - Temperatures above 180°C
Material	:	A 105, A 479 SS304, A 479 SS316, A182 Gr F 316 SS Monel, Hastelloy
Finish	:	CS Zinc plated and Dichromated. SS Natural

CONNECTIONS

(INLET x OUTLET)	PART No.
1/2" MNPT x 1/2"MNPT	8-2 GIV. M.N.D
1/2" MNPT x 1/2"FNPT	8-2 GIV.M/F.N.D
1/2" FNPT x 1/2"MNPT	8-2 GIV.F/M.N.D
1/2" FNPT x 1/2"FNPT	8-2 GIV.F.N.D
3/4" MNPT x 1/2"FNPT	12-8-2 GIV.M/F.N.D

Note : Also available with BSP and BSP Taper Pipe Threads bigger pipe connections on request.

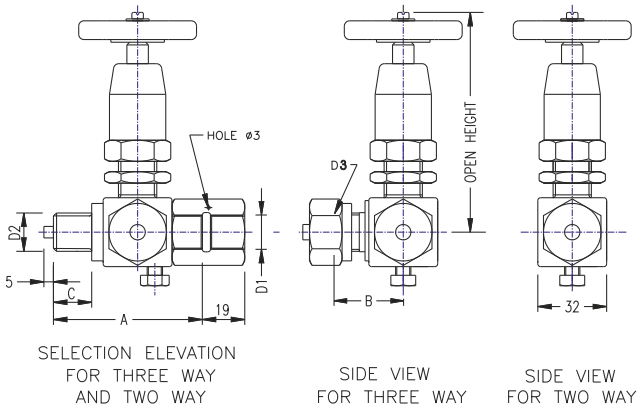


MODEL No. 2 GIV

DOUBLE BLOCK & BLEED GAUGE VALVES

PRESSURE GAUGE PIN VALVE
UNION BONNET DESIGN

MODEL No.
THREE WAY PGP - UB TWO WAY PRGG - UB



SELECTION ELEVATION FOR THREE WAY AND TWO WAY

SIDE VIEW FOR THREE WAY

SIDE VIEW FOR TWO WAY

DESCRIPTION

A compact isolation valve for pressure gauges with built in vent. The three way design incorporates drain/calibrate port for in-situcalibration. Heavy duty bonnet design ideal for high temperature applications as steam, etc.

Test Pressure	:	25°C Room Temperature		
Hydrostatic	:	Body	-	620 Kg/cm^2
		Seat	-	413 Kg/cm^2
Pneumatic	:	Seat	-	60 Kg/cm^2
Gland Packing	:	PTFE	-	Standard
		Graphoil	-	Temperatures above 180°C
Material	:	A 105, A 479 SS304, A 479 SS 316, A 182 Gr F 316 SS A 182 Gr F 304 SS, Monel, Hastelloy		
Finish	:	CS Zinc plated and Dichromated. SS Natural		

THREE WAY VALVE

D1	D2	D3	A	B	C	OPEN HT. APPROX.	PART No.
M20x1.5 RH	M20x1.5 RH	M20x1.5 RH	82	36	20	115	PGP-UB-M20 x 1.5
1/2" BSP RH	1/2" BSP RH	1/2"BSP RH	73	34	20	115	PGP-UB-AG 1/2"

TWO WAY VALVE

M20x1.5 RH	M20x1.5 RH	-	82	-	20	115	PRGG-UB-M20 x 1.5
1/2" BSP RH	1/2" BSP RH	-	73	-	20	115	PRGG-UB-AG 1/2"

DESCRIPTION

A compact isolation valve for pressure gauges with built in vent. The three way design incorporates drain/calibrate port for in-situ calibration. Heavy duty bonnet design ideal for high temperature applications as steam, etc.

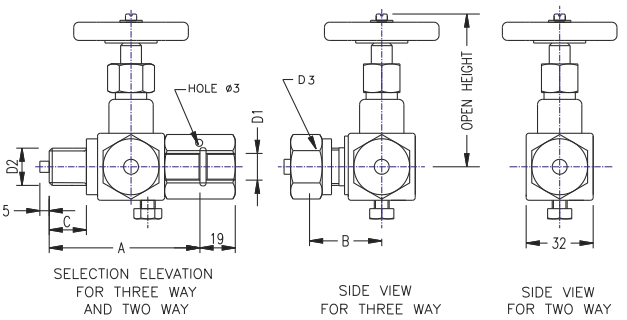
Test Pressure	:	25°C Room Temperature
Hydrostatic	:	Body - 620 Kg/cm^2 Seat - 413 Kg/cm^2
Pneumatic	:	Seat - 60 Kg/cm^2
Gland Packing	:	PTFE - Standard Graphoil - Temperatures above 180°C
Material	:	A 105, A 479 SS304, A 479 SS 316, A 182 Gr F 316 SS, A 182 Gr F 304 SS, Monel, Hastelloy
Finish	:	CS Zinc plated and Dichromated. SS Natural

THREE WAY VALVE

D1	D2	D3	A	B	C	OPEN HT. APPROX.	PART No.
M20x1.5 RH	M20x1.5 RH	M20x1.5 RH	82	36	20	77	PGP-M20 x 1.5
1/2" BSP RH	1/2" BSP RH	1/2"BSP RH	73	34	20	77	PGP-AG 1/2"

TWO WAY VALVE

M20x1.5 RH	M20x1.5 RH	-	82	-	20	77	PRGG-M20 x 1.5
1/2" BSP RH	1/2" BSP RH	-	73	-	20	77	PRGG-AG 1/2"

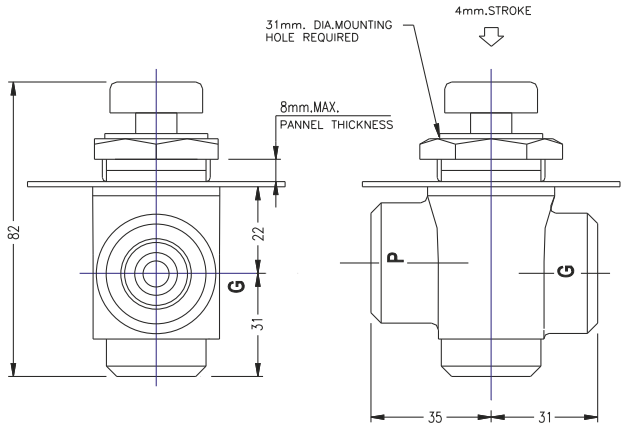


MODEL No.
THREE WAY PGP TWO WAY PRGG

PRESSURE GAUGE PIN VALVE INTEGRAL BONNET DESIGN

PUSH TO READ PRESSURE GAUGE ISOLATOR

MODEL No. 4 PGIR



NOTES:

The single station push-to-read gauge-isolator is designed for use with pressure gauges to prevent damage from shocks. The unit automatically vents the gauge to tank when gauge reading is not required , enhancing the life and preserving the accuracy of the gauge. This standard unit is designed basically for panel mounting. The unit has a basic high grade alloy cast iron body with hardened alloy steel spool, and is suitable for working pressure up to 5000 psi (352 kg/sq.cm). By using this type of gauge isolator, guaranteed savings are ensured on the life of your pressure gauge. Suitable for liquid lines only.

End Connections :

Standard : 1/4" BSP (F)

Also available with end connections of 3/8" BSP(F), 1/4 " NPT(F) and 3/8" NPT(F).

Notes

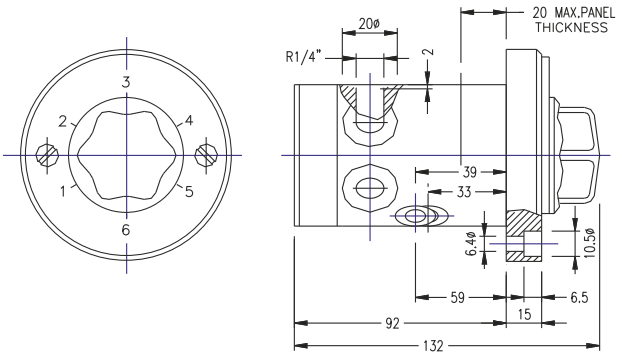
Six station pressure gauge isolator may replace number of pressure-gauges and isolation valves needed to read pressures at various points in multi pressure hydraulics system. The pressure can be read on a single pressure gauge by indexing the knob. Also, it eliminates pressure lock-up in pressure-gauges, reducing damage and increasing their life. Maximum six pressure-line connections can be given. For reading the desired line pressure, index and push knob. When the knob is released, pressure-gauge is automatically vented to tank. When using model if there is a working pressure above 100 kp/sq.cm, then the pressure connections must be done symmetrically and the line pressures in these symmetrically connections must be equal.

The unwanted ports are to be plugged with ¼"BSP plugs and copper sealing rings. The isolator can be mentioned on a panel with two allen screw M6, after removal of graduated dial. Suitable for liquid lines only.

End Connections :

Standard : 1/4" BSP (F)

Also available with end connections of 3/8" BSP(F), 1/4" NPT(F) and 3/8" NPT(F).



PORT: 1/4" BSP (F)

UNIT WEIGHT– 2.3 Kg.

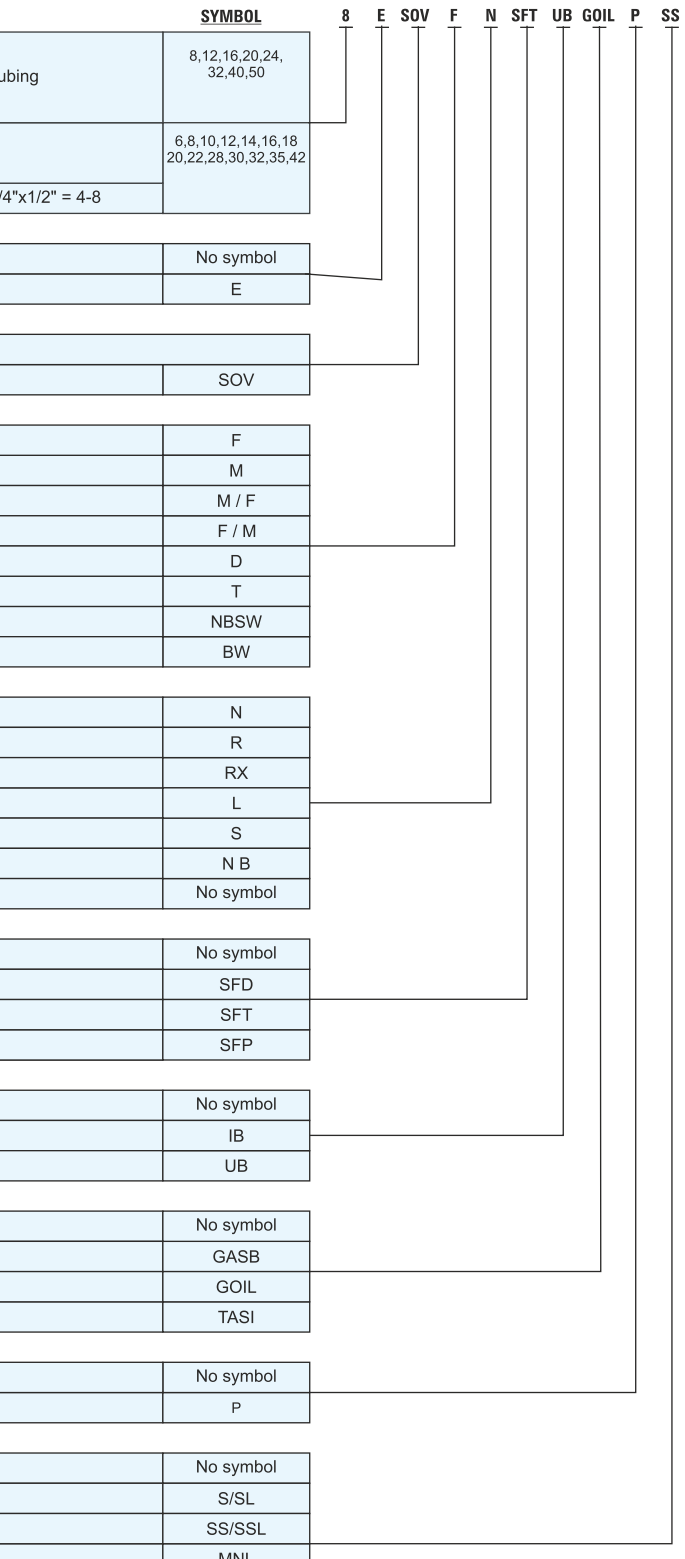
MODEL No. 4 - 6 PGIR

SIX STATION PRESSURE GAUGE ISOLATOR

GLOBE ISOLATION VALVES

ORDERING CODE

DESCRIPTION	FEATURE	SYMBOL
SIZE	Thread size in multiple of 1/16" - for example -1/2" = 8 Tube od in multiples of 1/16" for ferrule end connection using inch od tubing For sizes in inches this code will come before type of position code	8,12,16,20,24, 32,40,50
	Tube end size in metric - For sizes in metric this code will come after type of hand valve code	6,8,10,12,14,16,18 20,22,28,30,32,35,42
	If inlet size & outlet size of the same valve is different - for example - 1/4"x1/2" = 4-8	
Type of position (inlet & outlet)	For straight type -	No symbol
	For angle type -	E
Types of hand Valve	Model number for each type for example	
	Globe isolation valve	SOV
Type of end Connections (inlet x outlet)	Female threaded	F
	Male threaded	M
	Male x female threaded	M / F
	Female x male threaded	F / M
	Single ferrule tube	D
	Double ferrule tube	T
	Socket weld NB pipe	NBSW
	Butt weld ends	BW
Thread type	NPT to ASA B 2.1 - 1960	N
	ISO parallel to ISO : 228/1	R
	ISO taper to ISO : 7/1	RX
Tube OD/series For metric tube	Light series eg 22 mm OD light series-22L,	L
	Heavy series eg 30 mm OD heavy series-30S,	S
Inch size tubes	Specified by nominal bore	N B
	Specified by outside dia	No symbol
Seat	Integral	No symbol
	Soft seat - material - DELRIN	SFD
	Soft seat - material - PTFE	SFT
	Soft seat - material - PEEK	SFP
Type of bonnet	Screwed bonnet	No symbol
	Integral bonnet	IB
	Union bonnet	UB
Stem packing	Teflon (standard)	No symbol
	Graphitized asbestos	GASB
	Graphoil	GOIL
	Teflon asbestos	TASI
Mounting	Not required	No symbol
	Panel mounting	P
Material	A 105	No symbol
	SS 304/SS 304L **	S/SL
	SS 316 /SS 316L**	SS/SSL
	Monel	MNL
	Hastelloy C	HAC
	Brass to IS 319	b

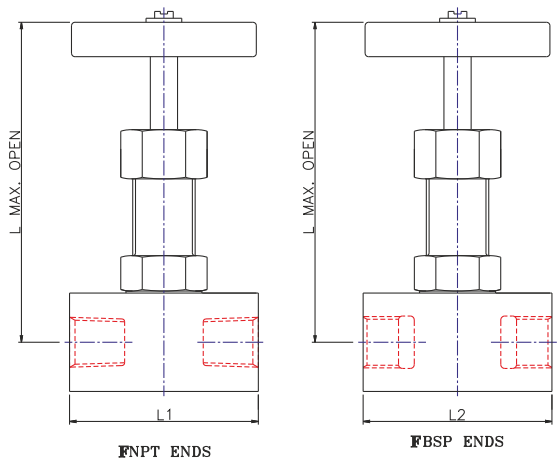


** For material conformity to NACE MR-01-75 USE SUFFIX "NACE" AS S/NACE, SS/NACE,SSL/NACE

Note : Due to continous improvement & customer interaction designs & specifications may be modified or upgraded without notice.

GLOBE ISOLATION VALVES
HIGH FLOW SERIES
SCREWED ENDS

MODEL No. SOV



DESCRIPTION

Designed for isolation of fluid lines with minimum pressure drop. Threaded end connections.

Test Pressure	:	25^{0}C Room Temperature		
Hydrostatic	:	Body	-	620 Kg/cm^2
		Seat	-	413 Kg/cm^2
Pneumatic	:	Seat	-	40 Kg/cm^2
Gland Packing	:	For temp. up to 100^{0}C PTFE/VITON 'O' Ring/PTFE pack For temp. 101^{0}C to 160^{0}C : PTFE For temp above 160^{0}C : Graphoil		
Material	:	A 105, A 479 SS304, A 479 Ss316, A182 Gr F 316 SS Monel, Hastelloy		
Finish	:	CS Zinc plated and Dichromated. SS Natural		

CONNECTIONS

SIZE	L1	L	PART No.	SIZE	L2	L	PART No.
1/8" FNPT	46	90	2 SOVFN	1/8" BSP	46	90	2 SOVFR
1/4" FNPT	58	95	4 SOVFN	1/4" BSP	50	95	4 SOVFR
3/8" FNPT	60	88	6 SOVFN	3/8" BSP	60	88	6 SOVFR
1/2" FNPT	75	94	8 SOVFN	1/2" BSP	75	94	8 SOVFR
3/4" FNPT	84	104	12 SOVFN	3/4" BSP	84	104	12 SOVFR
1" FNPT	135	129	16 SOVFN	1" BSP	135	129	16 SOVFR
1-1/4" FNPT	150	161	20 SOVFN	1-1/4" BSP	150	161	20 SOVFR
1-1/2" FNPT	166	187	24 SOVFN	1-1/2" BSP	160	187	24 SOVFR
2" FNPT	225	220	32 SOVFN	2" BSP	225	220	32 SOVFR

DESCRIPTION

Designed for isolation and shut-off service for liquids, gases and liquid / gas mixtures. End connections are single ferrule tube connections complete with ferrule and nut for metric and inch size tubes and pipes.

Test Pressure : 25°C Room Temperature

L Series	: PN 250	S Series	: PN 400
Hydrostatic	: Body - 375 Kg/cm²	Hydrostatic	: Body - 630 Kg/cm²
	: Seat - 250 Kg/cm²		: Seat - 400 Kg/cm²
Pneumatic	: Seat - 40 Kg/cm²	Pneumatic	: Seat - 40 Kg/cm²

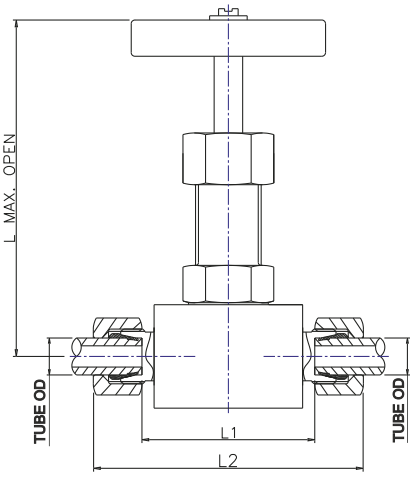
Gland Packing pack : For temp. up to 100°C PTFE/VITON 'O' Ring/PTFE
For temp. 101°C to 160°C : PTFE
For temp above 160°C : Graphoil

Material : Carbon Steel, Brass

Finish : CS Zinc plated and Dichromated. SS Natural

SERIES	TUBE O.D	L1	L2	L	PART No.
L SERIES PN 250	6	66	92	92	SOV-6-L
	8	66	86	92	SOV-8-L
	10	66	90	92	SOV-10-L
	12	58	82	95	SOV-12-L
	15	84	114	95	SOV-15-L
	18	83	112	95	SOV-18-L
	22	79	112	95	SOV-22-L
	28	115	140	130	SOV-28-L
	35	129	164	166	SOV-35-L
	42	128	166	163	SOV-42-L
S SERIES PN 400	6	66	96	92	SOV-6-S
	8	66	90	92	SOV-8-S
	10	65	94	92	SOV-10-S
	12	65	94	93	SOV-12-S
	14	84	116	95	SOV-14-S
	16	83	118	95	SOV-16-S
	20	79	118	112	SOV-20-S
	25	106	146	130	SOV-25-S
	30	103	156	168	SOV-30-S
	38	147	197	161	SOV-38-S

Note : Ends are tube connections to DIN: 2353, BS: 4368, IS: 8805 for Metric Tube sizes. They are also available in inch OD tubes to BS 3601/3602/3005 from 1/4" OD to 1 1/2"OD & nominal Bore Pipes to BS : 1387-1957/ANSI B36.10 & 36.19 NB 1/8" NB to 1 1/2" NB
Available with "O" ring Weld Nipple Ends in PN 400 series for all sizes. Part number will carry suffix "W". e.g., WSOV 38-S, etc.

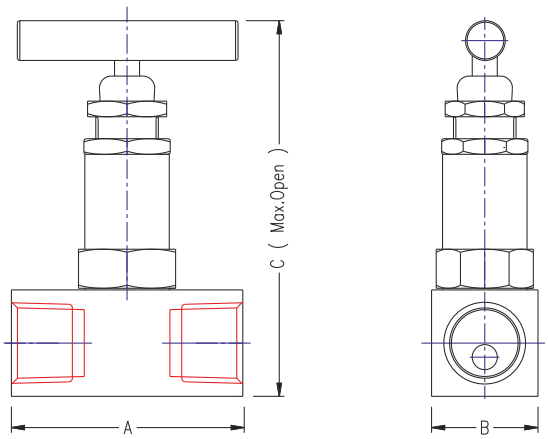


MODEL No. SOV (D)

GLOBE ISOLATION VALVE
SINGLE FERRULE TUBE ENDS

ISOLATION GLOBE VALVES
FOR INSTRUMENTS FEMALE ENDS
REFERENCE : ENGINEERS INDIA LTD.
SPEC. No. 6 - 52 - 69 Rev. 1

MODEL No. SOVF ( ) - EIL



DESCRIPTION

Designed for use in general purpose applications for straight shut off of liquids, gas or vapour service ideal for impulse lines as root valves.

Pressure Rating : 3000# / 6000# / 9000#

Test Pressure : 25° C Room Temperature

			3000#	6000#	9000#
Hydrostatic	:	Body -	420 Kg/cm^2	620 Kg/cm^2	950 Kg/cm^2
	:	Seat -	260 Kg/cm^2	413 Kg/cm^2	630 Kg/cm^2
Pneumatic	:	Seat -	40 Kg/cm^2	60 Kg/cm^2	90 Kg/cm^2

Gland Packing : PTFE - Standard
Graphoil - Temperatures above 180°C

Material : A 105, A 479 SS304, A 479 SS316, A182 Gr F 316 SS Monel, Hastelloy

Finish : CS Zinc plated and Dichromated. SS Natural

CONNECTIONS

SIZE	A	B	C	PART No.
1/4" FNPT	65	30	130	4 SOV FN-EIL
3/8" FNPT	65	30	130	6 SOV FN-EIL
1/2" FNPT	74	34	132	8 SOV FN-EIL
3/4" FNPT	80	38	135	12 SOV FN-EIL

Note : Also available with BSP and BSP taper pipe threads.

DESCRIPTION

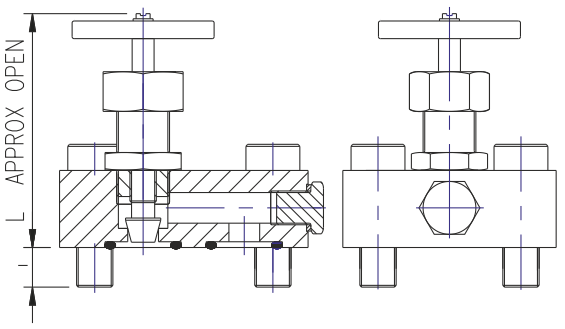
A compact globe type isolation valve for direct fitment on manifolds widely used in oil hydraulics and lubrication.

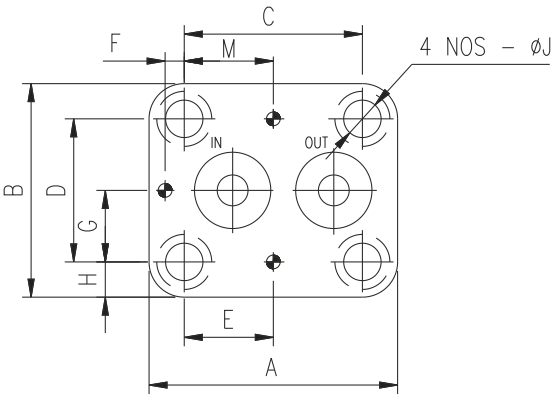
Test Pressure	:	25^0C Room Temperature
Hydrostatic	:	Body - 620 Kg/cm^2 Seat - 413 Kg/cm^2
Pneumatic	:	Seat - 60 Kg/cm^2
Gland Packing	:	Standard : PTFE / VITON 'O' Ring / PTFE Pack Max. temp. 100^0C
Material	:	Carbon Steel with SS internals
Finish	:	Parkerized & Oiled

CONNECTIONS

SIZE	A	B	C	D	E	F	G	H	ØJ	I	L	PART No.
1/4"	47.5	44.5	35	33.5	-	-	-	5.5	6.8	18	104	4 GMSOV
1/2"	78	65	60.5	48	48	-	-	8.6	11	24	95	8 GMSOV
3/4"	113	97	81	65	40.5	8.7	32.5	16	17	18	117	12 GMSOV
1"	113	97	81	65	40.5	8.7	32.5	16	17	18	138	16 GMSOV
1-1/4"	127	127	92	92	46	9.6	46	17.5	21	18	175	20 GMSOV
1-1/2"	127	127	92	92	46	9.5	46	17.5	21	18	175	24 GMSOV

For Size 1/2" - M=30.3mm





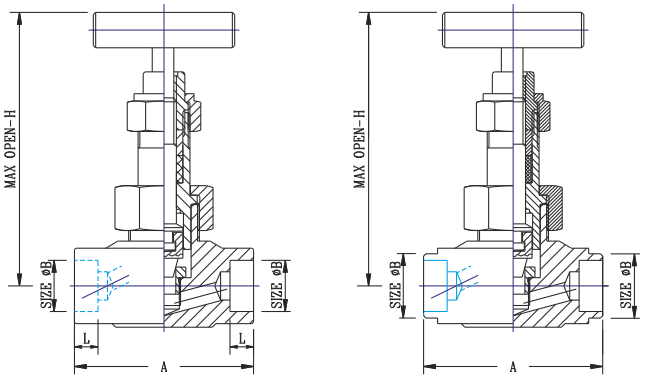
MODEL No. GMSOV

GASKET MOUNTED GLOBE TYPE SHUT - OFF VALVE

FLUID CONTROLS®

SHUT-OFF VALVE - UNION BONNET TYPE SOCKET WELD/BUTT WELD ENDS

MODEL No. SOV-UB-NB



DESCRIPTION

A simple light weight design ideal for use in instrumentation and small installation for isolation in place of heavy bolted bonnet OS & Y type valves.

Test Pressure	:	PER ANSI B 16.34, 1996 @ 25°C Room Temperature			
			800 #	1500#	2500#
Hydrostatic	:	Body -	210 Kg/cm²	420Kg/cm²	630 Kg/cm²
	:	Seat -	153 Kg/cm²	270 Kg/cm²	420 Kg/cm²
Pneumatic	:	Seat -	6 Kg/cm²	6 Kg/cm²	6 Kg/cm²

Gland Packing	:	PTFE	- Standard
		Graphoil	- Temperatures above 180°C
Material	:	A 105, A 182 Gr F 304 SS, A 182 Gr F 316 SS, A 182 Gr F11, A 182 Gr F 22	
Finish	:	CS Zinc plated and Dichromated. SS Natural	

CONNECTIONS

SOCKET WELD ENDS

PIPE	B SIZE	L	A	H OPEN HT.	PART No.
1/2"	21.7	10.0	76	121	8 SOV NB-SW-UB
3/4"	27.0	13.0	85	125	12 SOV NB-SW-UB
1"	33.8	14.0	95	125	16 SOV NB-SW-UB

BUTT WELD ENDS

PIPE SIZE	B	H OPEN HT.	PART No.
1/2"	21.34	121	8 SOV NB-BW-UB
3/4"	26.67	125	12 SOV NB-BW-UB
1"	33.40	125	16 SOV NB-BW-UB

DESCRIPTION

A simple light weight design ideal for use in instrumentation and small installation for isolation in place of heavy bolted bonnet O S & Y type valves.

Test Pressure : PER ANSI B 16.34, 1996@25°C Room Temperature

		800 #	1500#	2500#
Hydrostatic	: Body -	210 Kg/cm²	420Kg/cm²	630 Kg/cm²
	: Seat -	153 Kg/cm²	270 Kg/cm²	420 Kg/cm²
Pneumatic	: Seat -	6 Kg/cm²	6 Kg/cm²	6 Kg/cm²

Gland Packing : PTFE - Standard
Graphoil - Temperatures Above 180°C

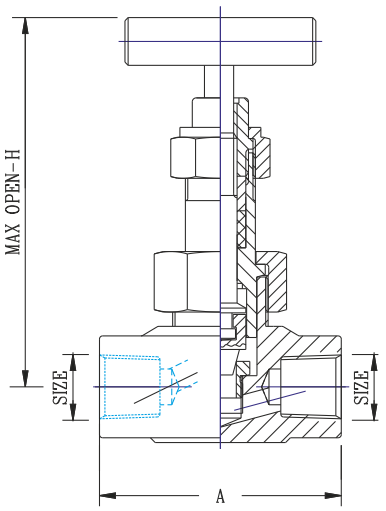
Material : A 105, A 182 Gr. F 304 SS, A 182 Gr. F 316 SS, A 182 Gr. F11, A 182 Gr. F 22

Finish : CS Zinc plated and Dichromated. SS Natural

CONNECTIONS

SIZE	A	H OPEN HT.	PART No.
1/2" FNPT	76	121	8 SOV FN-UB
3/4" FNPT	85	125	12 SOV FN-UB
1" FNPT	95	125	16 SOV FN-UB

Note : Available with ISO parallel pipe thread to ISO : 228/1, BS : 2779, DIN 259, IS : 2643 available with ISO taper pipe threads TO ISO : 711, BS : 21, DIN 2999, IS : 554

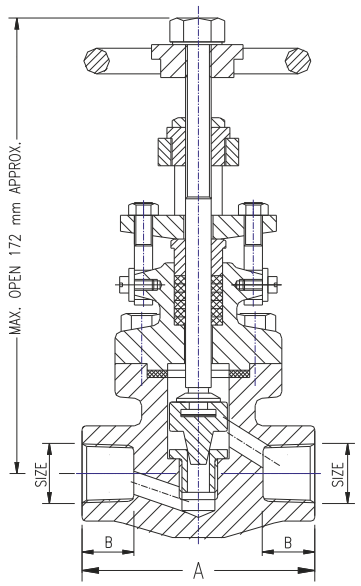


MODEL No. SOV - UB - F

SHUT-OFF VALVE UNION BONNET TYPE SCREWED ENDS

BOLTED BONNET GLOBE-TYPE ISOLATION VALVE SCREWED/ SOCKET WELD ENDS

MODEL No. SOV - O, S&Y



DESCRIPTION

Standard valves with screwed, socket weld and butt weld ends for use as isolation valves.

Specification	:	Design	-	BS 5352	
		Testing	-	BS 6755	
Test Pressure	:	25°C Room Temperature			
			800 #	1500#	2500#
Hydrostatic	:	Body	- 210 Kg/cm^2	420Kg/cm^2	630 Kg/cm^2
	:	Seat	- 153 Kg/cm^2	270 Kg/cm^2	420 Kg/cm^2
Pneumatic	:	Seat	- 6 Kg/cm^2	6 Kg/cm^2	6 Kg/cm^2
Gland Packing	:	PTFE	-	Standard	
		Graphoil	-	Temperatures above 180°C	
Material	:	A 105, A 182 Gr F 304 SS, A 182 Gr F 316 SS, A 182 Gr F 11, A 182 Gr F 22			
Finish	:	CS Zinc plated and Dichromated. SS Natural			

SIZE	A	B	PART No.
1/4" NPT(F)/BSPT(F)	85	17	4 SOV-O,S&Y-FN / 4 SOV-O,S&Y-FRX
3/8" NPT(F)/BSPT(F)	85	17	6 SOV-O,S&Y-FN / 6 SOV-O,S&Y-FRX
1/2" NPT(F)/BSPT(F)	85	19	8 SOV-O,S&Y-FN / 8 SOV-O,S&Y-FRX
3/4" NPT(F)/BSPT(F)	85	19	12 SOV-O,S&Y-FN / 12 SOV-O,S&Y-FRX
1/4" BSP(F)	85	13	4 SOV-O,S&Y-FR
3/8" BSP(F)	85	17	6 SOV-O,S&Y-FR
1/2" BSP(F)	85	19	8 SOV-O,S&Y-FR
3/4" BSP(F)	85	20	12 SOV-O,S&Y-FR
3/8" NBSW	85	10	6 SOV-O,S&Y-NBSW
1/2" NBSW	85	10	8 SOV-O,S&Y-NBSW
3/4" NBSW	85	13	12 SOV-O,S&Y-NBSW

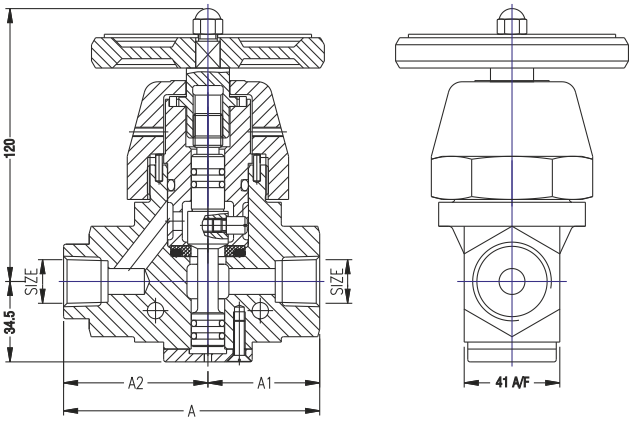
DESCRIPTION

These valves are designed for use in high pressure pneumatic system. Since these valves are fully pressure balanced, the operating torque is minimal at high pressure. Due to soft seat its performance is superior in isolation and ensures leak-tight-off with less sealing load, as a result the valves can be operated continuously without fatigue.

Max. Inlet Pressure Air	:	400 Kg/cm^2
Max. Operating Temperature	:	70^0 C
Max. Operating Temperature	:	10^0 C
Hydraulic Test Pressure	:	600 Kg/cm^2
Material Body	:	A 105, A 182 Gr. F 316 SS, A 182 Gr F 321 SS, Nickel Aluminium Bronze
Internals	:	High Tensile Brass, Nickel Aluminium Bronze A276F316SS

CONNECTIONS

SIZE	A	A1	A2	PART No.
1/2"	110	48	62	8 BPSOV
3/4"	140	70	70	12 BPSOV
1"	140	70	70	16 BPSOV



MODEL No. BPSOV

BALANCED PISTION STOP VALVE

BALL VALVE

ORDERING CODE

DESCRIPTION	FEATURE	SYMBOL
SIZE	Thread size in multiple of 1/16" - for example -1/2" = 8 Tube od in multiples of 1/16" for ferrule end connection using inch od tubing For sizes in inches this code will come before type of position code	8,12,16,20,24, 32,40,50.
	Tube end size in metric - For sizes in metric this code will come after type of hand valve code	6,8,10,12,14,16,18 20,22,28,30,32,35,42
	If inlet size & outlet size of the same valve is different - for example - 1/4"x1/2" = 4-8	
No of ways (end connections)	Two way inline	No symbol
	Three way bottom inlet	3
	Three way side inlet	3S
	Four way side connections	4
	Five way bottom inlet	5
Types of Valve	Ball valve	BLV
	Switching service ball valve	BLV SWS
	Ball valve with SAE connector	BLV SAE
Type of end Connections	Female threaded	F
	Male threaded	M
	Male x Female threaded	M / F
	Female x Male threaded	F / M
	Single ferrule tube	D
	Double ferrule tube	T
	Socket weld NB pipe	NBSW
	Butt weld ends	BW
Thread type	NPT to ASA B 2.1 - 1960	N
	ISO parallel to ISO : 228/1	R
	ISO taper to ISO : 7/1	RX
Tube OD/series For metric tube	Light series e.g. 22 mm OD light series-22 L,	L
	Heavy series e.g. 30 mm OD heavy series-30 S,	S
Inch size tubes	Specified by nominal bore	NB
	Specified by outside dia	No symbol
Ball seal	Material - PTFE	No symbol
	DELRIN	SFT
	PEEK	SFP
Material	A 105	No symbol
	SS 304/SS 304 L **	S/SL
	SS 316 /SS 316 L**	SS/SSL
	Monel	MNL
	Hastelloy C	HAC
	Brass to IS 319	b

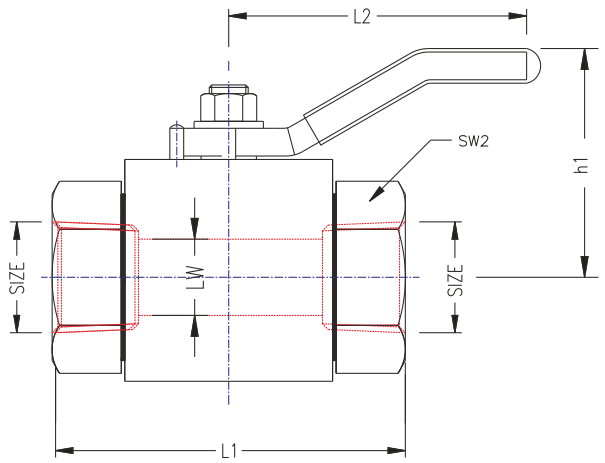
8 - 3 BLV F N SS

** for material conformity to NACE MR-01-75 USE SUFFIX "NACE" AS S/NACE, SS/NACE,SSL/NACE

Note : Due to continous improvement & customer interaction designs & specifications may be modified or upgraded without notice.

TWO WAY BALL VALVE - PN 200 SCREWED ENDS

MODEL No. BLV - MP



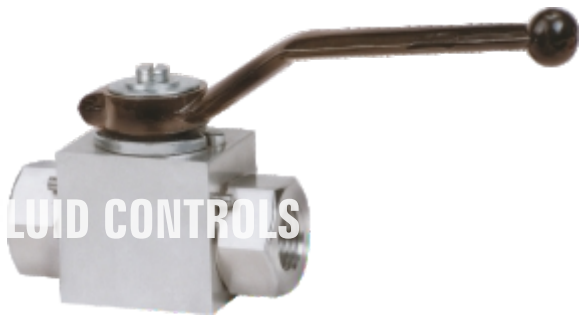
Test Pressure	:	25^{0}C Room Temperature
Hydrostatic	:	Body - 270 Kg/cm^2 Seat - 200 Kg/cm^2
Pneumatic	:	Seat - 40 Kg/cm^2
Ball Seal	:	RPTFE, DELRIN, PEEK
Gland Seal	:	BUNA 'N', VITON
Material	:	A 105, A 479 SS304, A 479 Ss316, A 182 Gr F 316 SS, Monel, Hastelloy
Finish	:	CS Zinc plated and Dichromated. SS Natural

CONNECTIONS

SIZE NPT/BSP	LW	h1	Sw2	L2	L1 R	L1 N	PART No. B.S.P Ends.	PART No. N.P.T.Ends
1/4"	6.35	33	22	90	52	54	4 BLVR-MP	4BLVN-MP
3/8"	9	33	22	90	63	67	6 BLVR-MP	6 BLVN-MP
1/2"	12	36	27	120	66.5	64	8 BLVR-MP	8 BLVN-MP
3/4"	18	55	36	90	90	83	12 BLVR-MP	12 BLVN-MP
1"	24	62	46	130	94	94	16 BLVR-MP	16 BLVN-MP

Note : Also available with BSP Taper Pipe Threads.

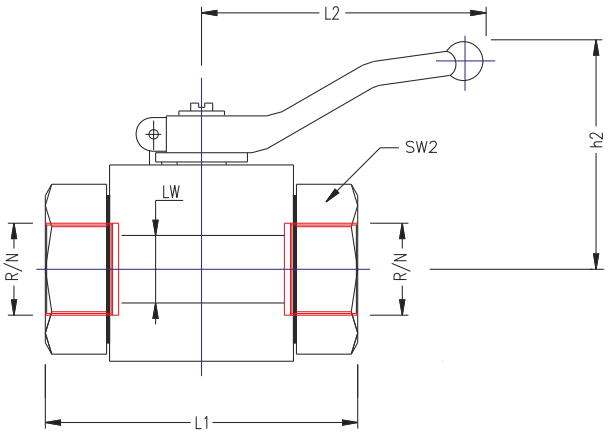
Test Pressure	:	25°C Room Temperature
Hydrostatic	:	Body - 620 Kg/cm^2 Seat - 413 Kg/cm^2
Pneumatic	:	Seat - 40 Kg/cm^2
Ball Seal	:	RPTFE, DELRIN, PEEK
Gland Seal	:	BUNA 'N', VITON
Material	:	A 105, A 479 SS304, A 479 Ss316, A 182 Gr F 316 SS, Monel, Hastelloy
Finish	:	CS Zinc plated and Dichromated. SS Natural



CONNECTIONS

SIZE	SW2	L2	LW	h2	L1		PART No.	
					R BSP	N NPT	BSP ENDS	NPT ENDS
1/4"	22	90	6	45.5	69	75	4BLVR	4BLVN
3/8"	27	90	10	50	72	78	6BLVR	6BLVN
1/2"	32	130	13	68	83	89	8BLVR	8BLVN
3/4"	41	130	20	70	96	102	12BLVR	12BLVN
1"	50	180	25	109	113	119	16BLVR	16BLVN
1-1/4"	60	300	30	115.5	115	115	20BLVR	20BLVN
1-1/2"	70	300	38	118.5	118	122	24BLVR	24BLVN
2"	75	300	48	135	140	140	32BLVR	32BLVN

Note : Also available with BSP and BSP taper pipe threads connection. Higher seat test pressure of 620 kg / cm^2 with PEEK seals.

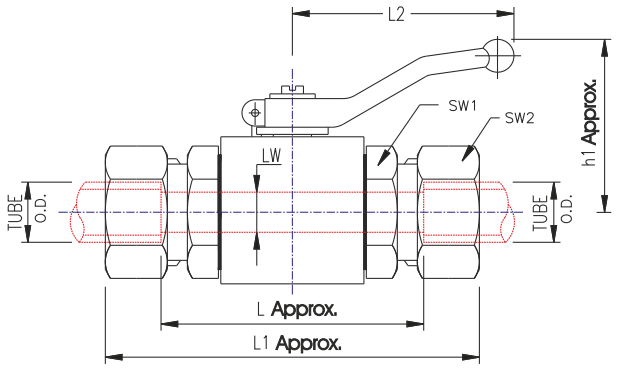


MODEL No. BLV

TWO WAY BALL VALVE - PN 400 SCREWED ENDS

TWO WAY BALL VALVE
SINGLE FERRULE TUBE ENDS

MODEL No. BLV (D)



Test Pressure	:	25°C Room Temperature			
L Series	:	PN 250	S Series	:	PN 400
Hydrostatic	:	Body - 375 Kg/cm^2	Hydrostatic	:	Body - 630 Kg/cm^2
	:	Seat - 250 Kg/cm^2		:	Seat - 400 Kg/cm^2
Pneumatic	:	Seat - 40 Kg/cm^2	Pneumatic	:	Seat - 40 Kg/cm^2
Ball Seal	:	RPTFE, DELRIN, PEEK			
Gland Seal	:	BUNA 'N', VITON			
Material	:	A 105, IS 2062			
Finish	:	CS Zinc plated and Dichromated. SS Natural			

SERIES	TUBE O.D	h1	SW1	SW2	L	L1	L2	LW	PART No.
L SERIES PN 250	6	45.5	22	14	53	83	90	4	BLV-6-L
	8	45.5	22	17	53	83	90	6	BLV-8-L
	10	50	27	19	60	90	90	8	BLV-10-L
	12	50	27	22	60	90	90	10	BLV-12-L
	15	68	32	27	68	98	130	13	BLV-15-L
	18	68	32	32	67	100	130	13	BLV-18-L
	22	70	41	36	86	119	130	20	BLV-22-L
	28	109	50	41	93	126	180	25	BLV-28-L
	35	115.5	60	50	115	158	300	32	BLV-35-L
	42	115.5	60	60	115	127	300	32	BLV-42-L
S SERIES PN 400	6	45.5	22	17	59	89	90	4	BLV-6-S
	8	45.5	22	19	59	89	90	6	BLV-8-S
	10	45.5	22	22	58	89	90	6	BLV-10-S
	12	50	27	24	61	92	90	9	BLV-12-S
	14	50	27	27	64	100	90	10	BLV-14-S
	16	68	32	30	67	104	130	13	BLV-16-S
	20	68	32	36	69	112	130	13	BLV-20-S
	25	70	41	46	85	135	130	20	BLV-25-S
	30	109	50	50	93	146	180	25	BLV-30-S
	38	115.5	60	60	125	187	300	32	BLV-38-S

Note : End connections as per DIN 2353, BS 4368, IS 8805 higher seat test pressure of 620 kg /cm^2 with PEEK seals. Available with "O" ring weld nipple ends in PN 400 series for all sizes. Part number will carry suffix "W". e.g., WBLV 38-S, etc.

Test Pressure	:	25°C Room Temperature
Hydrostatic	:	Body - 420 Kg/cm^2 Seat - 270 Kg/cm^2
Pneumatic	:	Seat - 40 Kg/cm^2
Ball Seal	:	RPTFE, DELRIN, PEEK
Gland Seal	:	BUNA 'N', VITON
Material	:	A 105, A 479 SS304, A 479 Ss316, A 182 Gr F 316 SS, Monel, Hastelloy
Finish	:	CS Zinc plated and Dichromated. SS Natural

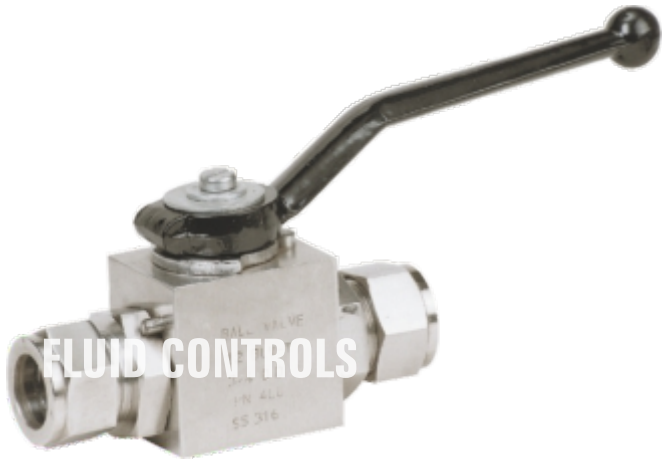
METRIC DOUBLE FERRULE COMPRESSION TUBE ENDS

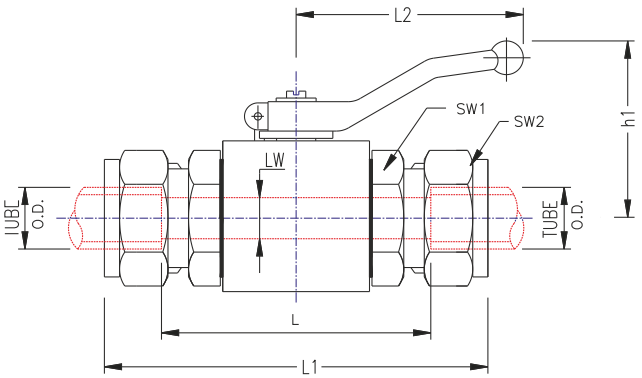
TUBE OD	h1	SW1	SW2	L	L1	L2	LW	PART No.
6	45.5	22	14	50.3	82.1	90	4.8	BLV-6-T
8	45.5	22	16	48.3	82.5	90	6.35	BLV-8-T
10	45.5	22	19	50.5	85.5	90	7.1	BLV-10-T
12	50	27	22	50	98	90	9.5	BLV-12-T
14	50	27	25.4	50.8	99.4	90	11.08	BLV-14-T
16	68	32	25.4	59.4	108.4	130	12.7	BLV-16-T

INCH DOUBLE FERRULE COMPRESSION TUBE ENDS

TUBE OD	h1	SW1	SW2	L	L1	L2	LW	PART No.
1/4"	45.5	22	14	49	80.6	90	4.8	4 BLV-T
3/8"	45.5	22	17	50.5	85.3	90	7	6 BLV-T
1/2"	50	27	22	54	100	90	10.3	8 BLV-T
3/4"	68	32	30	59.4	108.6	130	15.8	12 BLV-T
1"	70	41	38	75.9	137.7	130	19.05	16 BLV-T

Note : Available in sizes up to 1-1/2"/ 38 mm OD tube ends available for seat test pressure of 413 kg/cm^2 with DELRIN and 620 kg/cm^2 with PEEK seals.





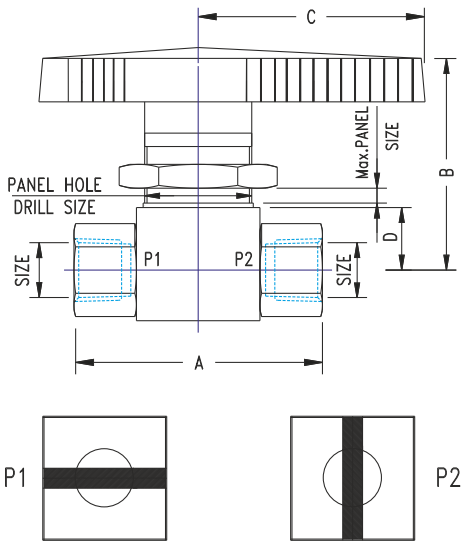
MODEL No. BLV T

TWO WAY BALL VALVE
DOUBLE FERRULE TUBE ENDS

FLUID CONTROLS®

SWITCHING SERVICE BALL VALVETWO-WAY; SCREWED ENDS

MODEL No. 2 BLV ( ) - SWS



DESCRIPTION

Switching service ball valve are designed to ensure excellent sealing characteristics. The two-way ball valve with 90° actuation/rotation of stem ensures quick on-off switching service with low torques. These ball valves has provisions for panel mounting and comes with a variety of port connections.

Test Pressure	:	25°C Room Temperature
Hydrostatic	:	Body - 300 Kg/cm^2 Seat - 200 Kg/cm^2 See note below
Pneumatic	:	Seat - 40 Kg/cm^2
Ball Seal	:	RPTFE, DELRIN, PEEK
Gland Seal	:	BUNA 'N', VITON
Material	:	A 105, A 479 SS 304, A 479 SS 316, A 182 Gr F 316 SS
Finish	:	CS Zinc plated and Dichromated. SS Natural

SIZE FNPT	A	B	C	D	Panel Hole Drill Size	PART No.
1/4"	64	47	50	11	24	4 BLVN-SWS
3/8"	72	47	50	11	24	6 BLVN-SWS
1/2"	82	72	76	21	36	8 BLVN-SWS
3/4"	86	72	76	21	36	12 BLVN-SWS

Note : Maximum panel size : 6 mm available with combination of male / male and male / female threads available with BSP and BSP taper threads. Higher seat test pressure of 413 kg /cm^2 with DELRIN and 620 kg / cm^2 with PEEK seals.

DESCRIPTION

Switching service ball valve are designed to ensure excellent sealing characteristics. The two-way ball valve with 90° actuation/rotation of stem ensures quick on-off switching service with low torques. These ball valves has provisions for panel mounting and comes with a variety of port connections.

Test Pressure	:	25°C Room Temperature
Hydrostatic	:	BODY - 300 Kg/cm^2 SEAT - 200 Kg/cm^2 See note below
Pneumatic	:	SEAT - 40 Kg/cm^2
Ball Seal	:	RPTFE, DELRIN, PEEK
Gland Seal	:	BUNA 'N', VITON
Material	:	A 105, A 479 SS 304, A 479 SS 316, A 182 Gr F 316 SS
Finish	:	CS Zinc plated and Dichromated. SS Natural

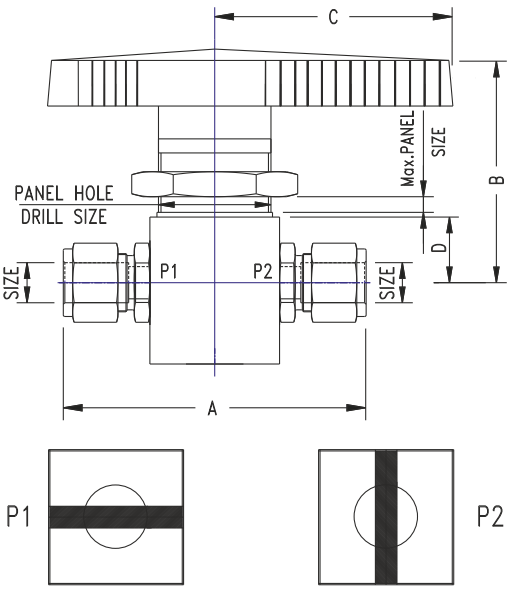
METRIC DOUBLE FERRULE COMPRESSION TUBE ENDS

SIZE TUBE OD	A	B	C	D	PANEL HOLE DRILL SIZE	PART No.
3mm	81	47	50	11	24	BLV-3-T-SWS
6mm	87	47	50	11	24	BLV-6-T-SWS
8mm	89	47	50	11	24	BLV-8-T-SWS
10mm	98	72	76	21	36	BLV-10-T-SWS
12mm	98	72	76	21	36	BLV-12-T-SWS

INCH DOUBLE FERRULE COMPRESSION TUBE ENDS

SIZE TUBE OD	A	B	C	D	PANEL HOLE DRILL SIZE	PART No.
1/8"	81	47	50	11	24	2 BLV-T-SWS
1/4"	87	47	50	11	24	4 BLV-T-SWS
3/8"	89	47	50	11	24	6 BLV-T-SWS
1/2"	98	72	76	21	36	8 BLV-T-SWS
3/4"	98	72	76	21	36	12 BLV-T-SWS

Note : Maximum panel size : 6 mm available with combination of male / male and male / female threads available with BSP and BSP taper threads. Higher seat test pressure of 413 kg / cm^2 with DELRIN and 620 kg / cm^2 with PEEK seals.

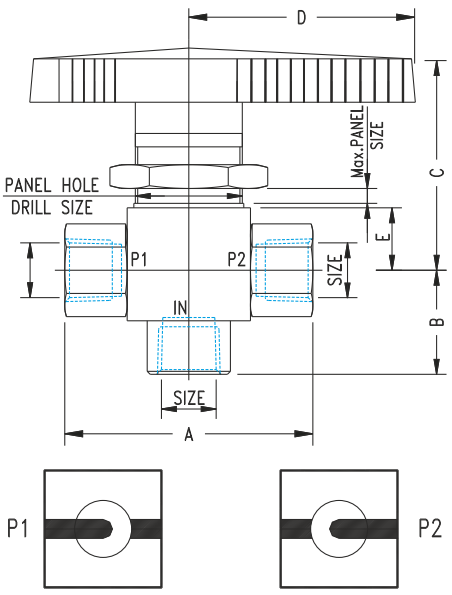


MODEL No. 2 BLV SWS T

SWITCHING SERVICE BALL VALVE TWO WAY, DOUBLE FERRULE ENDS

SWITCHING SERVICE BALL VALVE
THREE-WAY BOTTOM INLET SCREWED ENDS

MODEL No. 3 BLV ( ) SWS



DESCRIPTION

Switching service ball valve are designed to ensure excellent sealing characteristics. The three-way ball valve with 180° actuation/rotation of stem ensures quick on-off switching service these way ball valves series is ideal in mixing applications. All ball valves has provisions for panel mounting and comes with a variety of port connections.

Test Pressure	:	25°C Room Temperature
Hydrostatic	:	Body - 300 Kg/cm^2 Seat - 200 Kg/cm^2 See note below
Pneumatic	:	Seat - 40 Kg/cm^2
Ball Seal	:	RPTFE, DELRIN, PEEK
Gland Seal	:	BUNA 'N', VITON
Material	:	A 105, A 479 SS 304, A 479 SS 316, A 182 Gr F 316 SS
Finish	:	CS Zinc plated and Dichromated. SS Natural

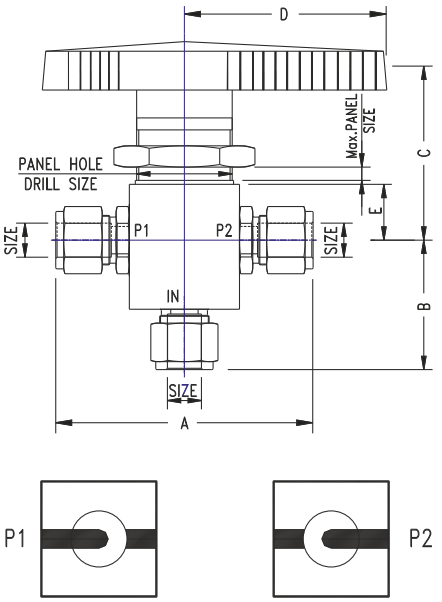
SIZE FNPT	A	B	C	D	E	Panel Hole Drill Size	PART No.
1/4"	64	30	47	50	11	24	4-3 BLVN-SWS
3/8"	72	30	47	50	11	24	6-3 BLVN-SWS
1/2"	82	40	72	76	21	36	8-3 BLVN-SWS
3/4"	86	40	72	76	21	36	12-3 BLVN-SW

Note :Maximum panel size : 6 mm available with combination of male / male and male / female threads available with BSP and BSP taper threads. Higher seat test pressure of 413 kg / cm^2 with DELRIN and 620 kg / cm^2 with PEEK seals.

DESCRIPTION

Switching service ball valve are designed to ensure excellent sealing characteristics. The three-way ball valve with 180° actuation/rotation of stem ensures quick on-off switching service these way ball valves series is ideal in mixing applications. All ball valves have provisions for panel mounting and comes with a variety of port connections.

Test Pressure	:	25°C Room Temperature
Hydrostatic	:	Body - 300 Kg/cm^2 Seat - 200 Kg/cm^2 See note below
Pneumatic	:	Seat - 40 Kg/cm^2
Ball Seal	:	RPTFE, DELRIN, PEEK
Gland Seal	:	BUNA 'N', VITON
Material	:	A 105, A 479 SS 304, A 479 SS 316, A 182 Gr F 316 SS
Finish	:	CS Zinc plated and Dichromated. SS Natural



MODEL No. 3 BLV SWS T

METRIC DOUBLE FERRULE COMPRESSION TUBE ENDS

SIZE TUBE OD	A	B	C	D	E	PANEL HOLE DRILL SIZE	PART No.
3mm	81	37	47	50	11	24	3 BLV-3-T-SWS
6mm	87	38	47	50	11	24	3 BLV-6-T-SWS
8mm	76	38	47	50	11	24	3 BLV-8-T-SWS
10mm	98	49	72	76	21	36	3 BLV-10-T-SWS
12mm	98	49	72	76	21	36	3 BLV-12-T-SWS

INCH DOUBLE FERRULE COMPRESSION TUBE ENDS

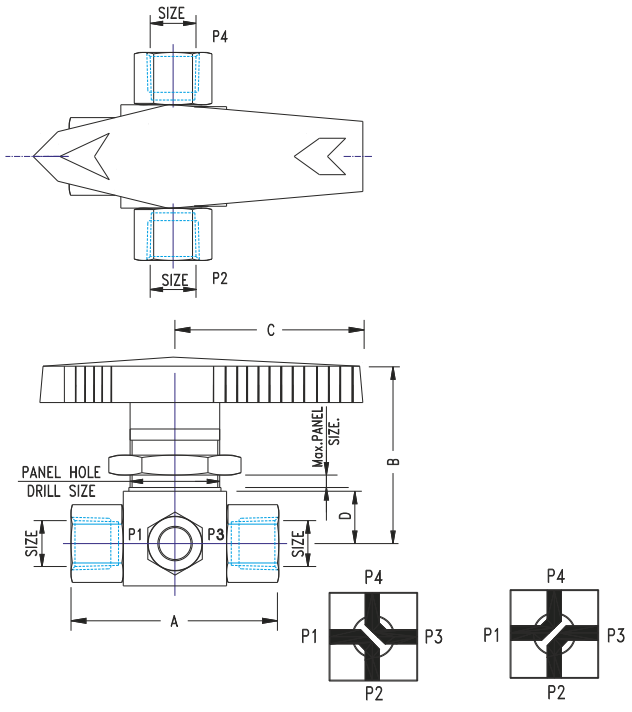
SIZE TUBE OD	A	B	C	D	E	PANEL HOLE DRILL SIZE	PART No.
1/8"	81	37	47	50	11	24	2-3 BLV-T-SWS
1/4"	87	38	47	50	11	24	4-3 BLV-T-SWS
3/8"	76	38	47	50	11	24	6-3 BLV-T-SWS
1/2"	98	49	72	76	21	36	8-3 BLV-T-SWS
3/4"	98	49	72	76	21	36	12-3 BLV-T-SW

Note : Maximum panel size : 6 mm available with combination of male / male and male / female threads available with BSP and BSP taper threads. Higher seat test pressure of 413 kg / cm^2 with DELRIN and 620 kg / cm^2 with PEEK seals.

THREE-WAY SWITCHING SERVICE BALL VALVE BOTTOM INLET DOUBLE FERRULE TUBE ENDS

SWITCHING SERVICE BALL VALVE
FOUR-WAY SCREWED END

MODEL No. 4 BLV SWS FN



DESCRIPTION

Switching service ball valve are designed to ensure excellent sealing characteristics. The four-way ball valve with 90° actuation/rotation of stem ensures quick on-off switching service with low torques. These ball valves has provisions for panel mounting and comes with a variety of port connections.

Test Pressure	:	25° C Room Temperature
Hydrostatic	:	Body - 300 Kg/cm^2 Seat - 200 Kg/cm^2 See note below
Pneumatic	:	Seat - 40 Kg/cm^2
Ball Seal	:	RPTFE, DELRIN, PEEK
Gland Seal	:	BUNA 'N'', VITON
Material	:	A 105, A 479 SS 304, A 479 SS 316, A 182 Gr F 316 SS
Finish	:	CS Zinc plated and Dichromated. SS Natural

SIZE FNPT	A	B	C	D	PANEL HOLE DRILL SIZE	PART No.
1/4"	64	47	50	11	24	4-4 BLVN-SWS
3/8"	72	47	50	11	24	4-6 BLVN-SWS
1/2"	82	72	76	21	36	8-4 BLVN-SWS
3/4"	86	72	76	21	36	12-4 BLVN-SWS

Note : Maximum panel size : 6 mm available with combination of male / male and male / female threads available with BSP and BSP taper threads. Higher seat test pressure of 413 kg / cm^2 with DELRIN and 620 kg / cm^2 with PEEK seals.

DESCRIPTION

Switching service ball valve are designed to ensure excellent sealing characteristics. The four-way ball valve with 90° actuation/rotation of stem ensures quick on-off switching service with low torques. These ball valves has provisions for panel mounting and comes with a variety of port connections.

Test Pressure	:	25°C Room Temperature
Hydrostatic	:	Body - 300 Kg/cm^2 Seat - 200 Kg/cm^2 See note below
Pneumatic	:	Seat - 40 Kg/cm^2
Ball Seal	:	RPTFE, DELRIN, PEEK
Gland Seal	:	BUNA 'N', VITON
Material	:	A 105, A 479 SS 304, A 479 SS 316, A 182 Gr F 316 SS
Finish	:	CS Zinc plated and Dichromated. SS Natural

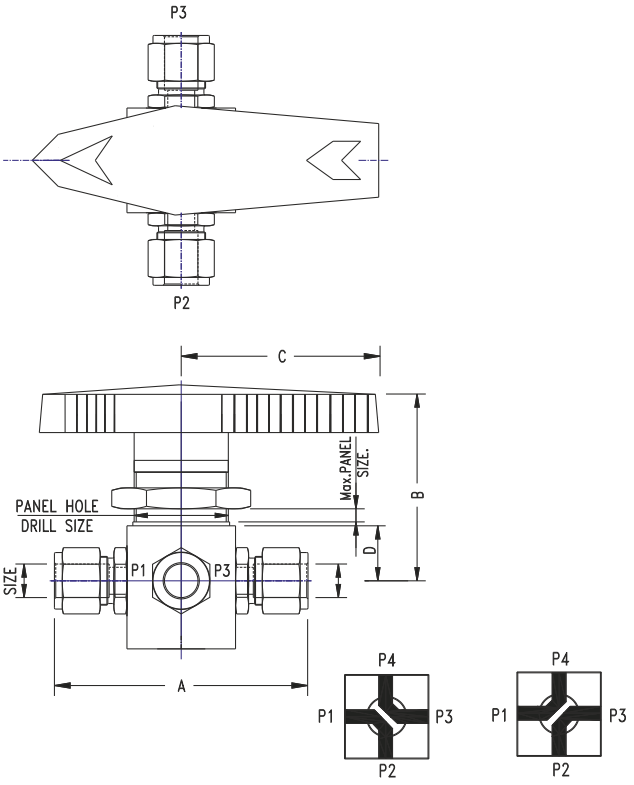
METRIC DOUBLE FERRULE COMPRESSION TUBE ENDS

SIZE TUBE OD	A	B	C	D	PANEL HOLE DRILL SIZE	PART No.
3mm	81	47	50	11	24	4 BLV-2-T-SWS
6mm	87	47	50	11	24	4 BLV-6-T-SWS
8mm	89	72	76	21	36	4 BLV-10-T-SWS
12mm	98	72	76	21	36	4 BLV-12-T-SWS

INCH DOUBLE FERRULE COMPRESSION TUBE ENDS

SIZE TUBE OD	A	B	C	D	PANEL HOLE DRILL SIZE	PART No.
1/8"	81	47	50	11	24	2-4 BLV-T-SWS
1/4"	87	47	50	11	24	4-4 BLV-T-SWS
3/8"	89	47	50	11	24	6-4 BLV-T-SWS
1/2"	98	72	76	21	36	8-4 BLV-T-SWS
3/4"	98	72	76	21	36	12-4 BLV-T-SWS

Note : Maximum panel size : 6 mm available with combination of male / male and male / female threads available with BSP and BSP taper threads. Higher seat test pressure of 413 kg / cm^2 with DELRIN and 620 kg / cm^2 with PEEK seals.

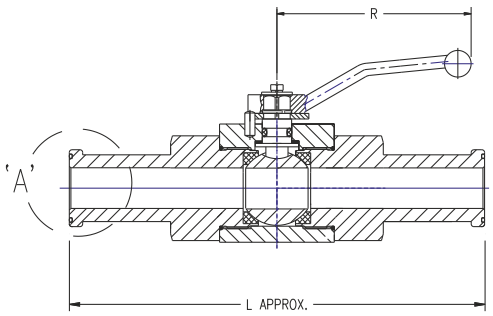


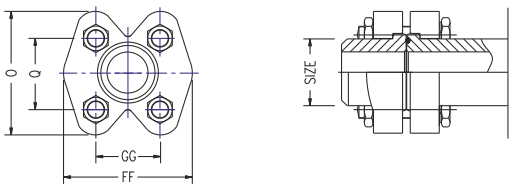
MODEL No. 4 BLV SWS T

SWITCHING SERVICE BALL VALVE FOUR-WAY DOUBLE FERRULE TUBE ENDS

BALL VALVE WITH FLANGED ENDS SAE ISO 6162

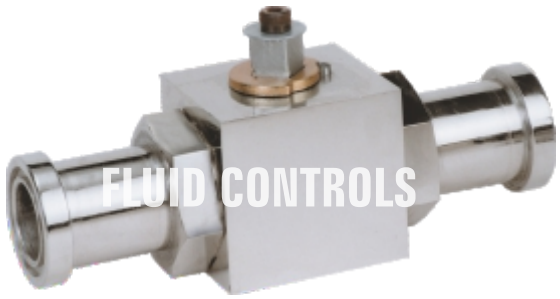
MODEL No. BLV - SAE





DETAIL – 'A'

ASSEMBLY SAE FLANGE WITH BUTT WELD SLEEVE.



DESCRIPTION

Ball Valves are frequently required with Buttweld or Socket Weld ends. In such Valve the SAE system of Flanges to ISO : 6162 / SAE is frequently employed. This allows the Valve to be removed for servicing by looseing the bolts on either side. SAE Flange system comes in 3000 (PN200) and 6000# (PN400) series. The Valve can be ordered with both Socket Weld and Butt Weld ends are deserved.

Test Pressure : 25^{0}C Room Temperature

CODE 61	:	3000 PSI		CODE 62	:	6000 PSI	
Hydrostatic	:	Body	- 300 Kg/cm^2	Hydrostatic	:	Body	- 500 Kg/cm^2
	:	Seat	- 200 Kg/cm^2		:	Seat	- 420 Kg/cm^2
Pneumatic	:	Seat	- 40 Kg/cm^2	Pneumatic	:	Seat	- 40 Kg/cm^2

Ball Seal : RPTFE, DELRIN, PEEK

Gland Seal : BUNA 'N', VITON

Material : A 105, IS 2062

Finish : CS Zinc plated and Dichromated.

SERIES	SIZE	O	Q	GG	FF	L	R	PART No.
	1/2"	54	38.1	17.5	46	160	130	8 BLV-SAE-NBBW
	3/4"	65	47.6	22.3	52	170	130	12 BLV-SAE-NBBW
CODE 61	1"	70	52.4	26.2	59	178	180	16 BLV-SAE-NBBW
3000 PSI	1-1/4"	80	58.7	30.2	73	191	300	20 BLV-SAE-NBBW
	1-1/2"	94	69.9	35.7	83	231	300	24 BLV-SAE-NBBW
	2"	102	77.8	42.9	97	232	300	32 BLV-SAE-NBBW
	1/2"	56	40.5	18.2	48	160	130	8 BLV-SAE-NBBW
CODE 62	3/4"	71	50.8	23.8	60	180	130	12 BLV-SAE-NBBW
6000 PSI	1"	81	57.2	27.8	70	198	180	16 BLV-SAE-NBBW
	1-1/4"	95	66.7	31.8	78	223	300	20 BLV-SAE-NBBW
	1-1/2"	113	79.4	36.5	95	279	300	24 BLV-SAE-NBBW
	2"	133	96.8	44.5	114	316	300	32 BLV-SAE-NBBW

Note : Bigger ends connection up to 3" size available on request. Also available for socket weld ends.

DESCRIPTION

Ball Valves are frequently required with Butt weld or Socket Weld ends. In such Valve the SAE system of flanges to ISO: 6164/CETOP RP 63 H. AFNOR 48-054 is frequently employed. This allows the valve to be removed for servicing by looseing the Bolts on either side. CETOP Flange system comes in 3000 (PN200) and 6000# (PN400) series. The valve can be ordered with both socket weld and butt weld ends are deserved.

Test Pressure : 25°C Room Temperature

CODE 61	: 250 kg/cm²	CODE 62	: 400 kg/cm²
Hydrostatic	: Body - 300 Kg/cm²	Hydrostatic	: Body - 540 Kg/cm²
	: Seat - 200 Kg/cm²		: Seat - 420 Kg/cm²
Pneumatic	: Seat - 40 Kg/cm²	Pneumatic	: Seat - 40 Kg/cm²

Ball Seal : RPTFE, DELRIN, PEEK

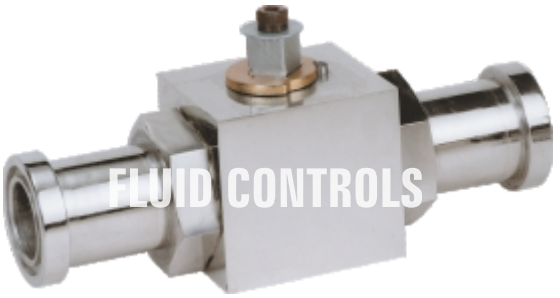
Gland Seal : BUNA 'N', VITON

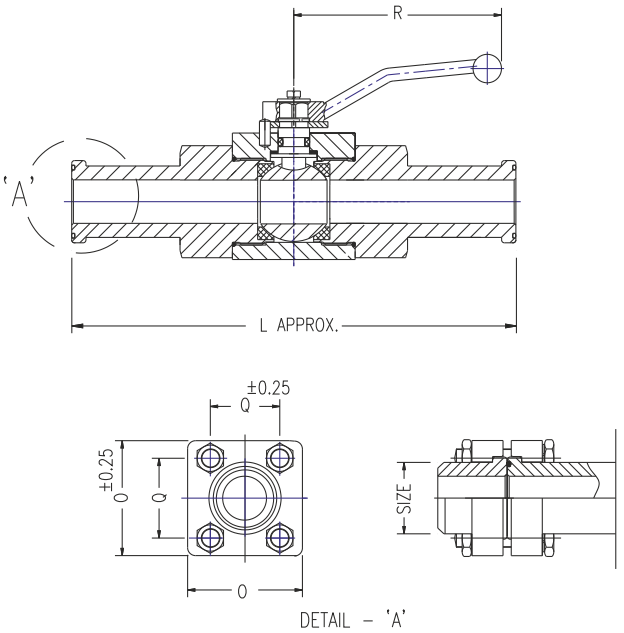
Material : A 105, IS 2062

Finish : CS Zinc plated and Dichromated.

SERIES	SIZE	O	Q	L	R	PART No.
	1/2"	50	35.3	160	130	8 BLV-CETOP-NBBW
	3/4"	65	43.8	170	130	12 BLV-CETOP-NBBW
CODE 61	1"	75	51.6	178	180	16 BLV-CETOP-NBBW
250 Kg/Cm²	1-1/4"	85	60.0	191	300	20 BLV-CETOP-NBBW
	1-1/2"	100	69.4	231	300	24 BLV-CETOP-NBBW
	2"	120	83.4	232	300	32 BLV-CETOP-NBBW
	1/2"	50	35.3	160	130	8 BLV-CETOP-NBBW
CODE 64	3/4"	65	43.8	180	130	12 BLV-CETOP-NBBW
400 Kg/Cm²	1"	75	51.6	198	180	16 BLV-CETOP-NBBW
	1-1/4"	85	60.0	223	300	20 BLV-CETOP-NBBW
	1-1/2"	100	69.4	279	300	24 BLV-CETOP-NBBW
	2"	120	83.4	316	300	32 BLV-CETOP-NBBW

Note : Bigger ends connection up to 3" size available on request. Also available for socket weld ends





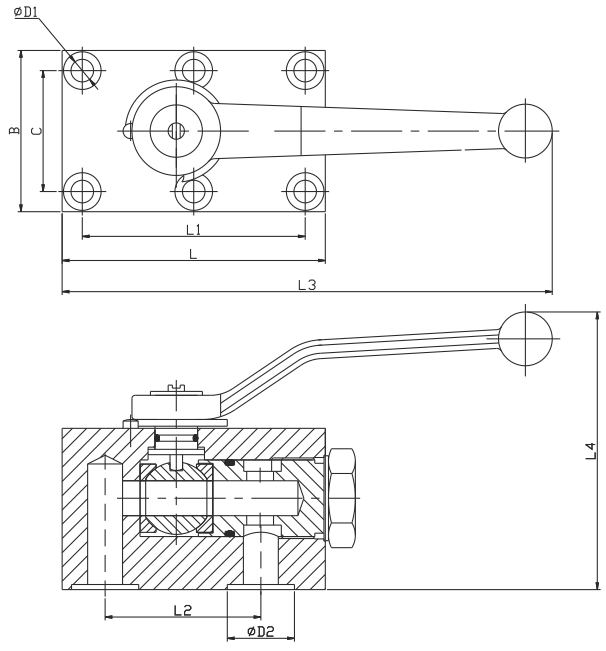
ASSEMBLY CETOP FLANGE WITH BUTT WELD SLEEVE.

MODEL No. BLV - CETOP

BALL VALVE WITH FLANGED ENDS CETOP RP 63 H. AFNOR 48-054 :ISO 6164

MANIFOLD MOUNTED BALL VALVE

MODEL No. BLMNV



DESCRIPTION

A compact ball type isolation valve for direct fitment on manifolds widely used in oil hydraulics and lubrication.

Test Pressure	:	25^{0}C Room Temperature		
Hydrostatic	:	Body	-	620 Kg/cm^2
		Seat	-	413 Kg/cm^2
Pneumatic	:	Seat	-	60 Kg/cm^2
Max. Temp.	:	100^{0}C		
Ball Seal	:	RPTFE, DELRIN, PEEK		
Material	:	Carbon Steel with SS internals		
Finish	:	Parkerized and Oiled		

CONNECTIONS

SIZE	B	C	L	L1	L2	L3	L4	D1	D2	PART No.
DN6	40	27	57	35	35	116	60	6.6	11.8	BLMNV-6
DN10	55	40	70	55	44	120	66	8.4	15	BLMNV-10
DN13	60	45	98	83	58	163	105	8.4	25	BLMNV-13
DN20	70	51	117	97	69	182	115	10.5	31	BLMNV-20
DN25	80	60	135	115	81	247	140	10.5	35	BLMNV-25
DN32	100	78	165	136	96	375	170	13	38.2	BLMNV-32
DN40	130	95	181	112	112	385	167	17	47.7	BLMNV-40
DN50	150	112	220	136	136	412	187	22	59.8	BLMNV-50

NON RETURN / CHECK VALVES

ORDERING CODE FOR NON RETURN / CHECK VALVES

DESCRIPTION	FEATURE	SYMBOL
SIZE	Thread size in multiple of 1/16" - for example -1/2" = 8 Tube od in multiples of 1/16" for ferrule end connection using inch od tubing For sizes in inches this code will come before type of position code	8,12,16,20,24, 32,40,50
	Tube end size in metric - For sizes in metric this code will come after type of hand valve code	6,8,10,12,14,16,18 20,22,28,30,32,35,42
	If inlet size & outlet size of the same valve is different - for example - 1/4"x1/2" = 4-8	
Types of hand Valve	Model number for each type for example	
	Non return valve	NR
	Compact non return valve	CV
Type of end Connections (inlet x outlet)	Female threaded	F
	Male threaded	M
	Male x female threaded	M / F
	Female x male threaded	F / M
	Single ferrule tube	D
	Double ferrule tube	T
	Socket weld NB pipe	NBSW
	Butt weld ends	BW
Thread type	NPT to ASA B 2.1 - 1960	N
	ISO parallel to ISO : 228/1	R
	ISO taper to ISO : 7/1	RX
Tube OD/series For metric tube	Light series eg 22 mm OD light series-22L,	L
	Heavy series eg 30 mm OD heavy series-30S,	S
Inch size tubes	Specified by nominal bore	N B
	Specified by outside dia	No symbol
Material	A 105	No symbol
	SS 304/SS 304L **	S/SL
	SS 316 /SS 316L**	SS/SSL
	Monel	MNL
	Hastelloy C	HAC
	Brass to IS 319	b

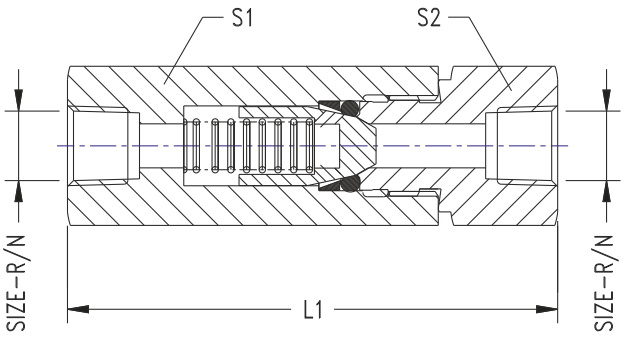
8 NR F N SS

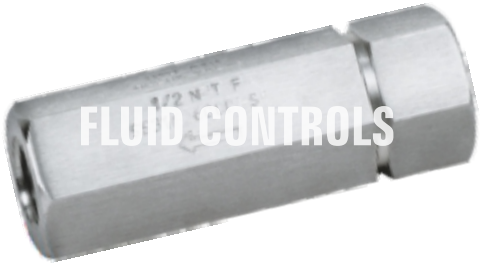
** For material conformity to NACE MR-01-75 USE SUFFIX "NACE" AS S/NACE, SS/NACE,SSL/NACE

Note : Due to continous improvement & customer interaction designs & specifications may be modified or upgraded without notice.

NON RETURN VALVE-
PN 400 SCREWED ENDS

MODEL No. NRF





DESCRIPTION

A reliable high pressure non-return/check valve for free flow in one direction only with minimum pressure drop. Soft seating arrangement without any force on the soft BUNA 'N' or VITON seals results in zero leakage at back pressure and long life available with screwed ends, tube/pipe ends in single and double ferrule design and combination of screwed and pipe / tube ends.

Cracking Pressure	:	0.3 to 0.5 Kg/cm^2 - Standard Special Cracking Pressure Available
Test Pressure	:	25^{0}C Room Temperature
Hydrostatic	:	Body - 620 Kg/cm^2 Seat - 413 Kg/cm^2
Pneumatic	:	Seat - 60 Kg/cm^2
Seal	:	BUNA 'N' , VITON
Material	:	A 105, A 276 SS304, A 276 SS316, Monel, Hastelloy
Finish	:	CS Zinc plated and Dichromated. SS Natural

SIZE	S_1	S_3	BSP ENDS		NPT ENDS	
			L1	PART No.	L1	PART No.
1/8"	22	22	65	2 NRF - R	64	2 NRF - N
1/4"	22	22	75	4 NRF - R	76	4 NRF - N
3/8"	27	27	85	6 NRF - R	90	6 NRF - N
1/2"	32	32	93	8 NRF - R	98	8 NRF - N
3/4"	41	41	108	12 NRF - R	111	12 NRF - N
1"	50	50	129	16 NRF - R	135	16 NRF - N
1-1/4"	65	65	155	20 NRF - R	162	20 NRF - N
1-1/2"	65	65	166	24 NRF - R	166	24 NRF - N
⌀2"	90	90	185	32 NRF - R	191	32 NRF - N

Cracking Pressure : 0.3 to 0.5 Kg/cm^2 - Standard
Special cracking pressure available

Test Pressure : 25^{0}C Room Temperature

L Series	: PN 250		S Series	: PN 400	
Hydrostatic	: Body -	375 Kg/cm^2	Hydrostatic	: Body -	630 KG/cm^2
	: Seat -	250 Kg/cm^2		: Seat -	400 Kg/cm^2
Pneumatic	: Seat -	40 Kg/cm^2	Pneumatic	: Seat -	40 Kg/cm^2

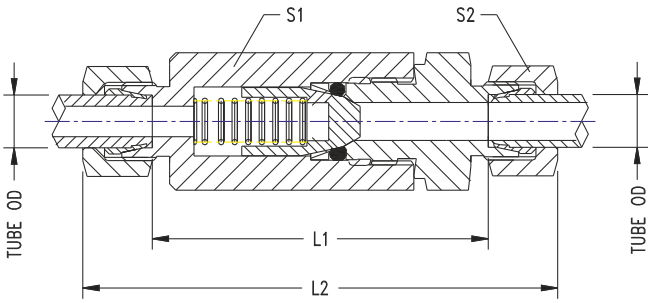
Seal : BUNA 'N', VITON

Material : A 105, IS 2062

Finish : CS Zinc plated and Dichromated.

SERIES	TUBE O.D	S_1	S_2	L_1	L_2 APPROX	PART No.
L SERIES PN 250	6	22	14	56	86	NRD - 6 L
	8	22	17	56	86	NRD - 8 L
	10	27	19	69	99	NRD - 10 L
	12	27	22	71	101	NRD - 12 L
	15	32	27	75	105	NRD - 15 L
	18	41	32	85	118	NRD - 18 L
	22	41	36	89	122	NRD - 22 L
	28	50	41	98	131	NRD - 28 L
	35	65	50	118	161	NRD - 35 L
	42	65	60	117	163	NRD - 42 L
S SERIES PN 400	6	22	17	61	91	NRD - 6 S
	8	22	19	61	91	NRD - 8 S
	10	27	22	70	103	NRD - 10 S
	12	27	24	72	105	NRD - 12 S
	14	32	27	77	113	NRD - 14 S
	16	32	30	77	114	NRD - 16 S
	20	41	36	88	131	NRD - 20 S
	25	50	46	97	145	NRD - 25 S
	30	50	50	100	153	NRD - 30 S
	38	65	60	119	181	NRD - 38 S

Note : Ends are tube connections to DIN : 2353, BS : 4368, IS : 8805 for metric tube sizes. They are also available in inch OD tubes to BS : 3601/3602/3005 from 1/4" OD to 1- 1/2" OD and nominal bore pipes to BS : 1387-1957/ANSI B 36.10 & 36.19 from 1/8" NB to 1-1/2" NB also available with "O" ring weld nipple ends in PN 400 series. Add prefix "W" to the part number as WNRD 16-S, WNRD 38-S. etc



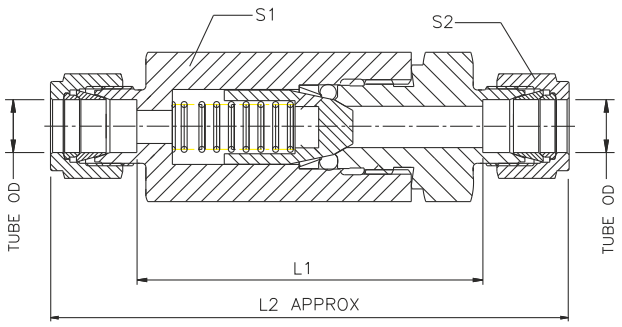
MODEL No. NRD

NON RETURN VALVE- PN 400SINGLE FERRULE METRIC TUBE ENDS

FLUID CONTROLS®

NON RETURN VALVE- PN 400 DOUBLE FERRULE TUBE ENDS

MODEL No. NRD - T



Cracking Pressure	:	0.3 to 0.5 Kg/cm^2 - Standard Special Cracking Pressure Available
Test Pressure	:	25^{0}C Room Temperature
Hydrostatic	:	Body - 620 Kg/cm^2 Seat - 413 Kg/cm^2
Pneumatic	:	Seat - 60 Kg/cm^2
Seal	:	BUNA 'N' , VITON
Material	:	A 105, A 276 SS304, A 276 SS 316, Monel, Hastelloy
Finish	:	CS Zinc plated and Dichromated. SS Natural

TUBE O.D	S_1	S_2	L_1	L_2	PART No.
1/4"	22	14	55.5	87	4 NRD - T
3/8"	27	17	65	99.8	6 NRD - T
1/2"	27	22	61.6	107.6	8 NRD - T
5/8"	27	25.4	58.2	107.6	10 NRD - T
3/4"	32	30	63.2	112.5	12 NRD - T
1"	41	38	70.8	133.8	16 NRD - T

Note : Bigger tube connections up to 1-1/2" OD size available on request.

Cracking Pressure : 0.3 to 0.5 Kg/cm^2 - Standard
Special Cracking Pressure Available

Test Pressure : 25^{0}C Room Temperature

L Series	: PN 250	S Series	: PN 400
Hydrostatic	: Body - 375 Kg/cm^2	Hydrostatic	: Body - 630 Kg/cm^2
	: Seat - 250 Kg/cm^2		: Seat - 400 Kg/cm^2
Pneumatic	: Seat - 40 Kg/cm^2	Pneumatic	: Seat - 40 Kg/cm^2

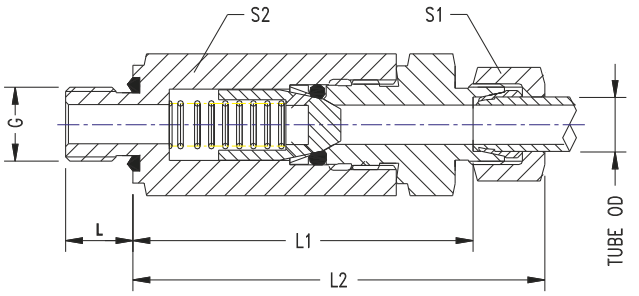
Seal : BUNA 'N' , VITON

Material : A 105, IS 2062

Finish : CS Zinc plated and Dichromated.

SERIES	TUBE O.D	BSP THRDS G	S_1	S_2	L	L_1	L_2 APPROX.	PART No.
L SERIES PN 250	6	1/8"	22	14	8	53	68	NRZ - 6 LR NR
	8	1/4"	22	17	12	53.5	68.5	NRZ - 8 LR NR
	10	1/4"	27	19	12	66.5	81.5	NRZ - 10 LR NR
	12	3/8"	27	22	12	66.5	81.5	NRZ - 12 LR NR
	15	1/2"	32	27	14	73	88	NRZ - 15 LR NR
	18	1/2"	41	32	14	83.5	99	NRZ - 18 LR NR
	22	3/4"	41	36	16	86	102	NRZ - 22 LR NR
	28	1"	50	41	18	94	200.5	NRZ - 28 LR NR
	35	1-1/4"	50	50	20	115	136.5	NRZ - 35 LR NR
S SERIES PN 400	6	1/4"	22	17	12	55.5	70.5	NRZ - 6 SR NR
	8	1/4"	22	19	12	55.5	70.5	NRZ - 8 SR NR
	10	3/8"	27	22	12	67	83.5	NRZ - 10 SR NR
	12	3/8"	27	24	12	67	83.5	NRZ - 12 SR NR
	14	1/2"	32	27	14	72.5	90.5	NRZ - 14 SR NR
	16	1/2"	32	30	14	73.5	92	NRZ - 16 SR NR
	20	3/4"	41	36	16	84	105.5	NRZ - 20 SR NR
	25	1"	50	46	18	93.5	117.5	NRZ - 25 SR NR
	30	1-1/4"	50	50	20	96	122.5	NRZ - 30 SR NR
	38	1-1/2"	65	60	22	115.5	146.5	NRZ - 38 SR NR

Note : Ends are tube connections to DIN : 2353, BS : 4368, IS : 8805 for metric tube sizes. They are also available in inch OD tubes to BS : 3601/3602/3005 from 1/4" OD to 1- 1/2" OD and nominal bore pipes to BS : 1387- 1957/ANSI B36.10 & 36.19 from 1/8" NB to 1-1/2" NB also available with "O" ring weld nipple ends in PN 400 series. Add prefix "W" to the part number as WNRZ 16-SRnr, WNRZ 38-SRnr, etc.

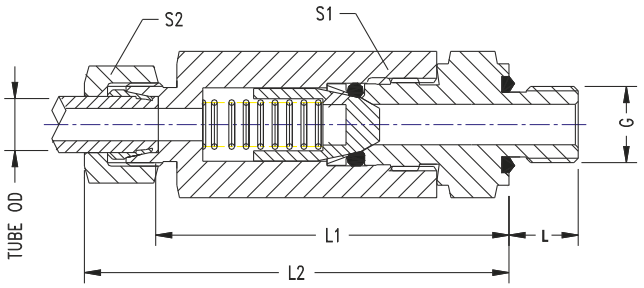


MODEL No. NRZ

NON RETURN VALVE- PN 400 SINGLE FERRULE TUBE / PIPE ENDS

NON RETURN VALVE- PN 400PIPE/SINGLE FERRULE TUBE ENDS

MODEL No. NRV



Cracking Pressure : 0.3 to 0.5 Kg/cm^2 - Standard
Special Cracking Pressure Available

Test Pressure : 25^{0}C Room Temperature

L Series	: PN 250	S Series	: PN 400
Hydrostatic	: Body - 375 Kg/cm^2	Hydrostatic	: Body - 630 Kg/cm^2
	: Seat - 250 Kg/cm^2		: Seat - 400 Kg/cm^2
Pneumatic	: Seat - 40 Kg/cm^2	Pneumatic	: Seat - 40 Kg/cm^2

Seal : BUNA 'N' , VITON

Material : A 105, IS 2062

Finish : CS Zinc plated and Dichromated.

SERIES	TUBE O.D	BSP THRDS G	S_1	S_2	L_1	L_2 APPROX.	L	PART No.
L SERIES PN 250	6	1/8"	22	14	55	76	8	NRV - 6 LR NR
	8	1/4"	22	17	55.5	76.5	12	NRV - 8 LR NR
	10	1/4"	27	19	68.5	83.5	12	NRV - 10 LR NR
	12	3/8"	27	22	67.5	82.5	12	NRV - 12 LR NR
	15	1/2"	32	27	72	87	14	NRV - 15 LR NR
	18	1/2"	41	32	82.5	99	14	NRV - 18 LR NR
	22	3/4"	41	36	85	101.5	16	NRV - 22 LR NR
	28	1"	50	41	94	200.5	18	NRV - 28 LR NR
	35	1-1/4"	50	50	95	116.5	20	NRV - 35 LR NR
	42	1-1/2"	65	60	114.5	137.5	22	NRV - 42 LR NR
S SERIES PN 400	6	1/4"	22	17	63.5	78.5	12	NRV - 6 SR NR
	8	1/4"	22	19	63.5	78.5	12	NRV - 8 SR NR
	10	3/8"	27	22	69	85.5	12	NRV - 10 SR NR
	12	3/8"	27	24	67.5	84.5	12	NRV - 12 SR NR
	14	1/2"	32	27	73	91	14	NRV - 14 SR NR
	16	1/2"	32	30	73.5	92	14	NRV - 16 SR NR
	20	3/4"	41	36	84	105.5	16	NRV - 20 SR NR
	25	1"	50	46	93.5	117.5	18	NRV - 25 SR NR
	30	1-1/4"	50	50	97	123.5	20	NRV - 30 SR NR
	38	1-1/2"	65	60	115.5	146.5	22	NRV - 38 SR NR

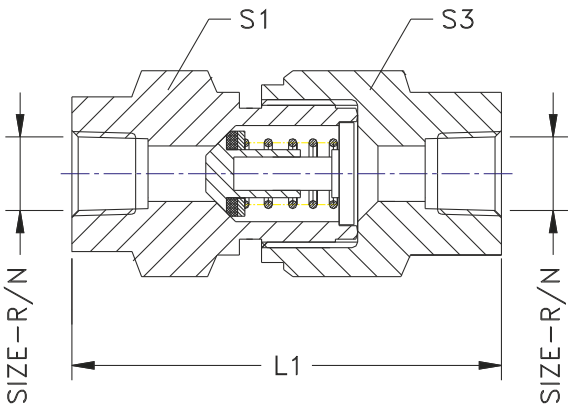
Note : Ends are tube connections to DIN : 2353, BS : 4368, IS : 8805 for metric tube sizes. They are also available in inch OD tubes to BS : 3601/3602/3005 from1/4" OD to 1-1/2" OD and nominal bore pipes to BS : 1387-1957/ANSI B 36.10 & 36.19 from 1/8" NB to 1 -1/2" NB. Also available with "O" ring weld nipple ends in PN 400 series. Add prefix "W" to the part number as WNRV16-SRnr, WNRV 38-SRnr, etc.

DESCRIPTION :

These compact valves offer minimum resistance to flow in one direction and shut-off in reverse. Sealing by 90°C one with packing washer of synthetic material. Valve lift stops therefore safe free outlet shock-absorbing and muffled opening. No reduction of cross section. Maximum flow rate not more than 4-5 m/sec. They are available in a variety of screwed and pipe/ tube ends.

Cracking Pressure	:	0.3 to 0.5 Kg/cm^2 - Standard Special Cracking Pressure Available
Test Pressure	:	25^{0}C Room Temperature
Hydrostatic	:	Body - 500 Kg/cm^2 Seat - 413 Kg/cm^2
Pneumatic	:	Seat - 60 Kg/cm^2
Seal	:	BUNA 'N', VITON
Material	:	A 105, A 276 Ss304, A 276 SS316, Monel, Hastelloy, Brass
Finish	:	CS Zinc plated and Dichromated. SS & BRASS - Natural

SIZE	S_1	S_3	BSP ENDS		NPT ENDS	
			L1	PART No.	L1	PART No.
1/4"	19	19	51	4 CVF - R	51	4 CVF - N
3/8"	27	27	85	6 CVF - R	90	6 CVF - N
1/2"	32	32	93	8 CVF - R	98	8 CVF - N
3/4"	41	41	108	12 CVF - R	111	12 CVF - N
1"	50	50	129	16 CVF - R	135	16 CVF - N
1-1/4"	65	65	155	20 CVF - R	162	20 CVF - N
1-1/2"	65	65	166	24 CVF - R	166	24 CVF - N



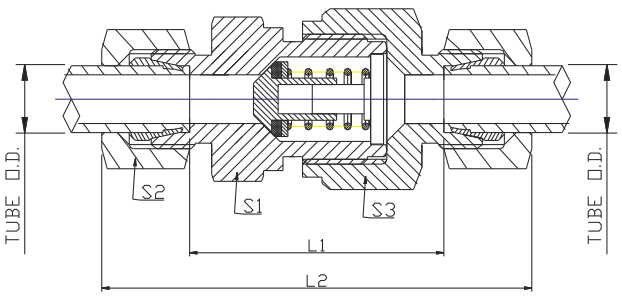
MODEL No. CVF

COMPACT NON RETURN VALVE SCREWED ENDS

FLUID CONTROLS®

COMPACT NON RETURN VALVE
SINGLE FERRULE TUBE ENDS

MODEL No. CVD



DESCRIPTION

Sealing by 90° cone with packing washer of synthetic material. Valve lift stops therefore safe free outlet shock-absorbing and muffled opening. No reduction of cross section. Maximum flow rate not more than 4-5 m/sec.

Cracking Pressure : 0.3 to 0.5 Kg/cm^2 - Standard
Special Cracking Pressure Available

Test Pressure : 25°C Room Temperature

L Series		S Series	
Hydrostatic	: Body - 375 Kg/cm^2	Hydrostatic	: Body - 630 Kg/cm^2
	: Seat - 250 Kg/cm^2		: Seat - 400 Kg/cm^2
Pneumatic	: Seat - 40 Kg/cm^2	Pneumatic	: Seat - 40 Kg/cm^2

Seal : BUNA 'N' , VITON

Material : A 105, IS 2062

Finish : CS Zinc plated and Dichromated.

SERIES	TUBE O.D	S_1	S_2	S_3	L_2	L_1	PART No.
L SERIES PN 250	6	17	14	17	58	29	CVD - 6 L
	8	19	17	19	59	30	CVD - 8 L
	10	22	19	24	69.5	40.5	CVD - 10 L
	12	27	22	30	72.5	43.5	CVD - 12 L
	15	27	27	32	77.5	47.5	CVD - 15 L
	18	36	32	36	83.5	51.5	CVD - 18 L
	22	41	36	46	93.5	61.5	CVD - 22 L
	28	50	41	55	102.5	69.5	CVD - 28 L
	35	60	50	60	117.5	74.5	CVD - 35 L
	42	65	60	70	119	74	CVD - 42L
S SERIES PN 400	6	19	17	19	63.5	34.5	CVD - 6 S
	8	19	19	19	63.5	34.5	CVD - 8 S
	10	22	22	24	72.5	40.5	CVD - 10 S
	12	24	24	27	74.5	42.5	CVD - 12 S
	14	27	27	32	82.5	47.5	CVD - 14 S
	16	32	30	36	86.5	50.5	CVD - 16 S
	20	41	36	46	97.5	54.5	CVD - 20 S
	25	46	46	50	106.5	58.5	CVD - 25 S
	30	60	50	60	122.5	69.5	CVD - 30 S
	38	65	60	70	136.5	75.5	CVD - 38 S

Note : Ends are tube connections to DIN : 2353, BS : 4368, IS : 8805 for metric tube sizes. They are also available in inch OD tubes to BS : 3601/3602/3005 from 1/4" OD to 1 ½" OD and nominal bore pipes to BS : 1387-1957/ANSI B36.10 & 36.19 from 1/8" NB to 1 ½" NB
Also available with "O" ring weld nipple ends in PN 400 series. Add prefix "W" to the part number as WCVD 16-S, WCVD 3S-S, etc.

DESCRIPTION

Sealing by 90° cone with packing washer of synthetic material. Valve lift stops therefore safe free outlet shock-absorbing and muffled opening. No reduction of cross section. Maximum flow rate not more than 4-5 m/sec.

Cracking Pressure : 0.3 to 0.5 Kg/cm^2 - Standard
Special Cracking Pressure Available

Test Pressure : 25^0 C Room Temperature

L Series	: PN 250	S Series	: PN 400
Hydrostatic	: Body - 375 Kg/cm^2	Hydrostatic	: Body - 630 Kg/cm^2
	: Seat - 250 Kg/cm^2		: Seat - 400 Kg/cm^2
Pneumatic	: Seat - 40 Kg/cm^2	Pneumatic	: Seat - 40 Kg/cm^2

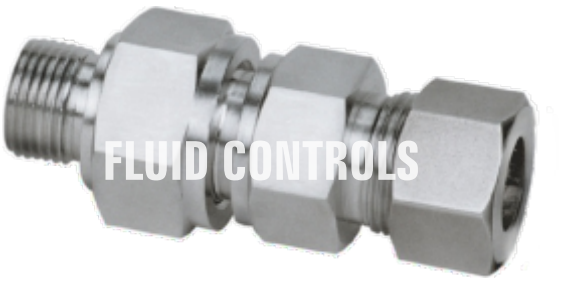
Seal : BUNA 'N' , VITON

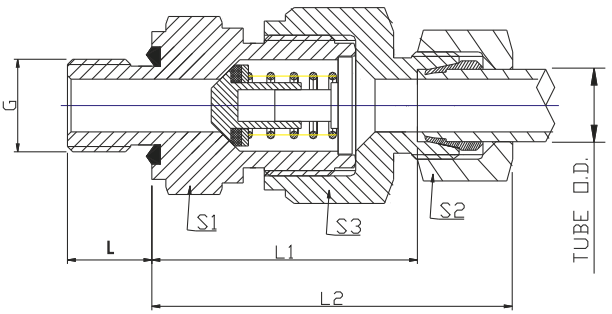
Material : A 105, IS 2062

Finish : CS Zinc plated and Dichromated.

SERIES	TUBE O.D	BSP THRDS G	S_1	S_2	S_3	L	L_1	L_2 APPROX.	PART No.
L SERIES PN 250	6	1/8"	17	14	17	8	28	42.5	CVV- 6 LR NR
	8	1/4"	19	17	19	12	28	44.5	CVV- 8 LR NR
	10	1/4"	22	19	24	12	38.5	53	CVV- 10 LR NR
	12	3/8"	27	22	30	12	42.5	57	CVV- 12 LR NR
	15	1/2"	27	27	32	14	45.5	60.5	CVV- 15 LR NR
	18	1/2"	36	32	36	14	50	66	CVV- 18 LR NR
	22	3/4"	41	36	46	16	55	71	CVV- 22 LR NR
	28	1"	50	41	55	18	63	79.5	CVV- 28 LR NR
	35	1-1/4"	60	50	60	20	69	90.5	CVV- 35 LR NR
	42	1-1/2"	65	60	70	22	68.5	91	CVV- 42 LR NR
S SERIES PN 400	6	1/4"	19	17	19	12	31.5	46	CVV- 6 SR NR
	8	1/4"	19	19	19	12	31.5	46	CVV- 8 SR NR
	10	3/8"	22	22	24	12	38	54	CVV- 10 SR NR
	12	3/8"	24	24	27	12	41	57	CVV- 12 SR NR
	14	1/2"	27	27	32	14	44.5	62	CVV- 14 SR NR
	16	1/2"	32	30	36	14	48	66	CVV- 16 SR NR
	20	3/4"	41	36	46	16	52	73.5	CVV- 20 SR NR
	25	1"	46	46	50	18	54.5	78.5	CVV- 25 SR NR
	30	1-1/4"	60	50	60	20	64	90.5	CVV- 30 SR NR
	38	1-1/2"	65	60	70	22	69.5	100	CVV- 38 SR NR

Note : Ends are tube connections to DIN : 2353, BS : 4368, IS : 8805 for metric tube sizes. They are also available in inch OD tubes to BS : 3601/3602/3005 from 1/4" OD to 1½" OD and nominal bore pipes to BS : 1387-1957/ANSI B36.10 & 36.19 from 1/8" NB to 1½" NB Also available with "O" ring Weld nipple ends in PN 400 series. Add prefix "W" to the part number as WCVV 16-SR nr, WCVV 38-SR nr, etc.





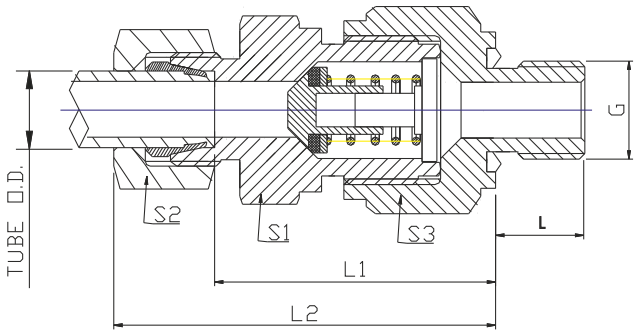
MODEL No. CVV

COMPACT NON RETURN VALVE
SINGLE FERRULE TUBE / PIPE ENDS

FLUID CONTROLS®

COMPACT NON RETURN VALVE
PIPE/SINGLE FERRULE TUBE ENDS

MODEL No. CVZ



DESCRIPTION

Sealing by 90° cone with packing washer of synthetic material. Valve lift stops therefore safe free outlet shock-absorbing and muffled opening. No reduction of cross section. maximum flow rate not more than 4-5 m/sec.

Cracking Pressure : 0.3 to 0.5 Kg/cm^2 - Standard
Special Cracking Pressure Available

Test Pressure : 25^{0}C Room Temperature

L Series	: PN 250		S Series	:	PN 400
Hydrostatic	: Body -	375 Kg/cm^2	Hydrostatic	:	Body - 630 Kg/cm^2
	: Seat -	250 Kg/cm^2		:	Seat - 400 Kg/cm^2
Pneumatic	: Seat -	40 Kg/cm^2	Pneumatic	:	Seat - 40 Kg/cm^2

Seal : BUNA 'N', VITON

Material : A 105, IS 2062

Finish : CS Zinc plated and Dichromated.

SERIES	TUBE O.D	BSP THRDS G	S_1	S_2	S_3	L	L_1	L_2 Approx.	PART No.
L SERIES PN 250	6	1/8"	17	14	17	8	26.5	41	CVZ - 6 LR NR
	8	1/4"	19	17	19	12	28.5	43	CVZ - 8 LR NR
	10	1/4"	22	19	24	12	38.5	53	CVZ - 10 LR NR
	12	3/8"	27	22	30	12	40	55	CVZ - 12 LR NR
	15	1/2"	27	27	32	14	42.5	57.5	CVZ - 15 LR NR
	18	1/2"	36	32	36	14	48	64	CVZ - 18 LR NR
	22	3/4"	41	36	46	16	56	72	CVZ- 22 LR NR
	28	1"	50	41	55	18	66	80.5	CVZ - 28 LR NR
	35	1-1/4"	60	50	60	20	70	91.5	CVZ - 35 LR NR
	42	1-1/2"	65	60	70	22	70.5	93	CVZ - 42 LR NR
S SERIES PN 400	6	1/4"	19	17	19	12	31.5	46	CVZ - 6 SR NR
	8	1/4"	19	19	19	12	31.5	46	CVZ - 8 SR NR
	10	3/8"	22	22	24	12	38	54	CVZ - 10 SR NR
	12	3/8"	24	24	27	12	41	57	CVZ - 12 SR NR
	14	1/2"	27	27	32	14	43.5	61	CVZ - 14 SR NR
	16	1/2"	32	30	36	14	46	64	CVZ - 16 SR NR
	20	3/4"	41	36	46	16	50	71.5	CVZ - 20 SR NR
	25	1"	46	46	50	18	54.5	78.5	CVZ - 25 SR NR
	30	1-1/4"	60	50	60	20	64	90.5	CVZ - 30 SR NR
	38	1-1/2"	65	60	70	22	71.5	102	CVZ - 38 SR NR

Note :Ends are Tube connections to DIN : 2353, BS : 4368, IS : 8805 for Metric tube sizes. They are also available in inch OD tubes to BS : 3601/3602/3005 from 1/4" OD to 1½" OD and nominal bore pipes to BS : 1387-1957/ANSI B36.10 & 36.19 from 1/8" NB to 1½"NB. Also available with "O" ring weld nipple ends in PN 400 series. Add prefix "W" to the part number as WCVZ 16-SR nr, WCVZ 38-SR nr, etc.

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