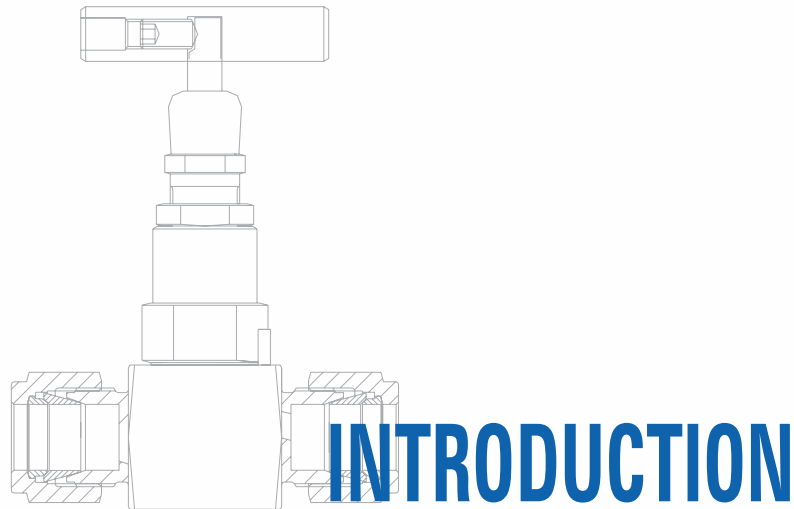




# INSTRUMENTATION VALVES





Established in 1974, Fluid Controls® Private Limited is an ISO 9001:2015, ISO 14001 and OHSAS 18001 certified company. Fluid Controls® is involved in the manufacture of Valves, Manifolds, Double Ferrule Compression Tube Fittings and specialized accessories for use in instrumentation, hydraulics, pneumatics, and lubrication. The company has a wide range of products for the Oil and Gas Applications, Petrochemicals, Rotating Machinery, Power Generation, Cryogenic / Vacuum Applications and Railways.

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 over 40 years in the 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.

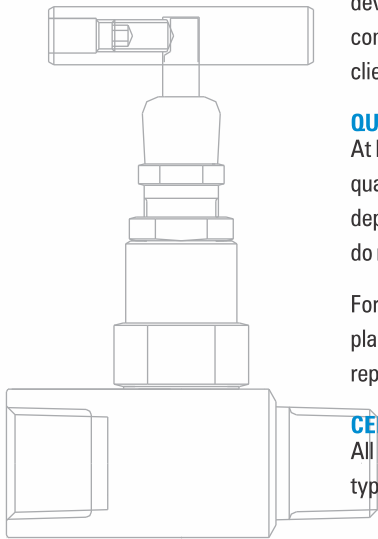
The materials used for manufacturing are based on ASTM/DIN/BS and Indian Standards, depending upon the requirements of our customers. Most of the products manufactured are in carbon steel (ASTM A105) and stainless steel (ASTM A182 F316, ASTM A479, and ASTM A276 in the SS range). Both the materials conform to NACE MR 01-75 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 MR 01 75 is used in highly corrosive environments
- PTFE valves are required for chlor-alkali applications

For all the valves displayed in the 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, Aluminum, 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 graphitized asbestos and graphoil for temperatures above 180° C and 270° C respectively. For high temperature applications above 180° C and 270° 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 A479 and ASTM A276 respectively.



## MANUFACTURE

Fluid Controls<sup>®</sup> products are manufactured using ultra-modern facilities. All designs are first tested and tried in the development section before they go in for general manufacture. The products are also machined for tolerance and compliance with International Standards. For special applications in cryogenic and ultra-high pressure service, the clients first test the products and then place orders for usage.

## QUALITY CONTROL

At Fluid Controls<sup>®</sup>, 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. 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 twenty-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<sup>®</sup> has a comprehensive range of Needle Valves. These valves are available in the following designs: two-way, three-way, multiport, single block and bleed, double block and bleed. Fluid Controls<sup>®</sup> Needle Valves are available with a variety of end connections covering screwed male/female pipe ends which conform 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 specifications especially those required 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 with minor variations. We will be glad to heed to your request.

### B. Ball Valves

- Fluid Controls<sup>®</sup> 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.
- Fluid Controls<sup>®</sup> 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 conform to SAE and CETOP standards. The Fluid Controls<sup>®</sup> Ball Valves shown in the catalogue are specifically designed for isolation where the pipes carry SAE and CETOP flange connections with butt weld or socket weld 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 valves are not ideal. This is because screwed and integral bonnet valves require 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, HYD-AIR introduced Union Bonnet Valves as a low-cost solution for bolted bonnet OS & 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. OS & Y Type Bolted Bonnet Valves**

HYD-AIR 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 HYD-AIR 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 is 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.

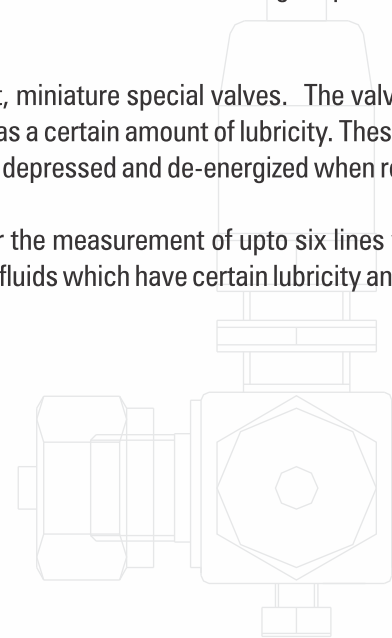
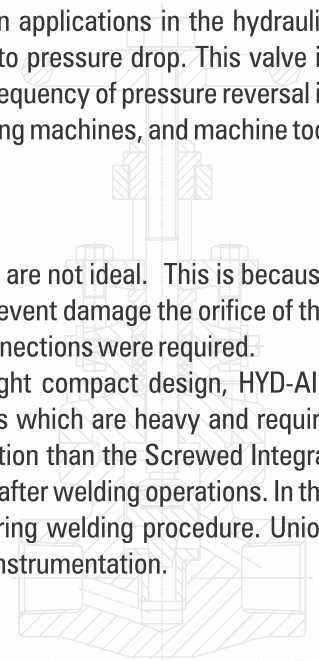
#### **G. Ultra High Pressure Pneumatic Valves**

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. HYD-AIR 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, Aluminium and Bronze. They are ideal for quick valve operations as the handle rotates with finger-tip control.

#### **H. Oil Hydraulic Pressure Gauge Isolators**

HYD-AIR Pressure Gauge Isolator are of the push-to-read design and are, in effect, miniature special valves. The valves have metal-to-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 the gauge.

Multi-station pressure gauge isolator valves? Allow the use of a single gauge for the measurement of upto 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.



**ORDERING CODE FOR NEEDLE & PLUG VALVES**

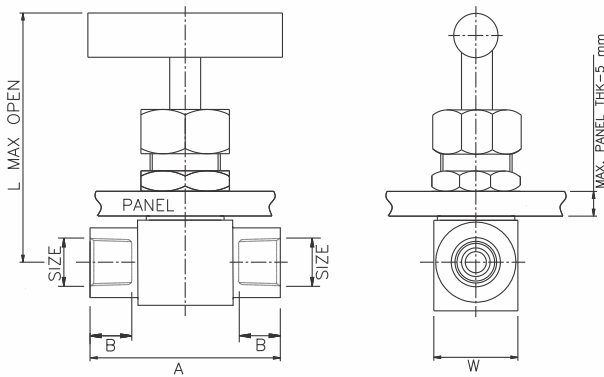
DESCRIPTION	FEATURE	SYMBOL	8	E	NV	F	N	SFT	UB	GOIL	P	SS
SIZE	Thread size in multiple of 1/16" - for example -1/2" = 8 Tube od in multiples of 1/16" for ferrule end connection using inch od tubing For sizes in inches this code will come before type of position code	8,12,16,20,24, 32,40,50										
	Tube 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 continuous improvement & customer interaction designs & specifications may be modified or upgraded without notice.

# 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<sup>2</sup>  
 Seat - 280 Kg/cm<sup>2</sup>  
**Pneumatic** : Seat - 40 Kg/cm<sup>2</sup>  
**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<sup>2</sup>  
Seat - 280 Kg/cm<sup>2</sup>

**Pneumatic** : Seat - 40 Kg/cm<sup>2</sup>

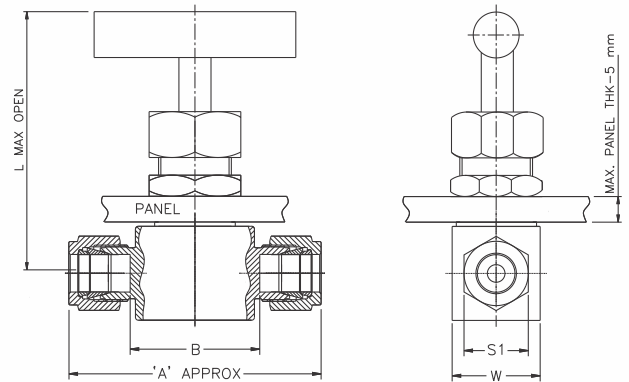
**Gland Packing** : PTFE : Standard  
Graphoil : Temperatures above 180°C

**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

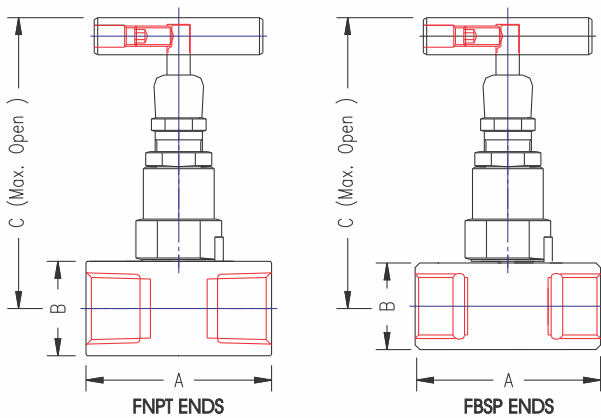


MODEL No. NV - IB - T

# NEEDLE VALVE - INTEGRAL BONNET DOUBLE FERRULE ENDS

# NEEDLE VALVES SCREWED BONNET DESIGN FEMALE ENDS

MODEL No. NVF



## DESCRIPTION

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<sup>2</sup>  
Seat - 413 Kg/cm<sup>2</sup>
- Pneumatic** : Seat - 40 Kg/cm<sup>2</sup>
- Gland Packing** : PTFE : Standard  
Graphoil : Temperatures Above 180°C
- Material** : A 105, A 479 SS 304, A 479 SS 316, A182 Gr F 316 SS  
Monel, Hastelloy
- Finish** : CS zinc plated and dichromated. SS natural

## CONNECTIONS

SIZE	A	B	C	PART No.	SIZE	A	B	C	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



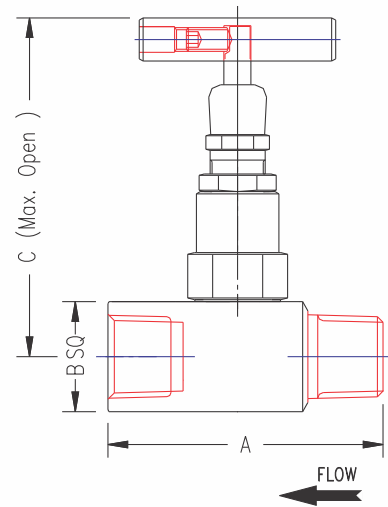
## DESCRIPTION

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.

<b>Test Pressure</b>	:	25°C Room Temperature
<b>Hydrostatic</b>	:	Body - 620 kg/cm <sup>2</sup> Seat - 413 kg/cm <sup>2</sup>
<b>Pneumatic</b>	:	Seat - 40 kg/cm <sup>2</sup>
<b>Gland Packing</b>	:	PTFE : Standard Graphoil : Temperatures above 180°C
<b>Material</b>	:	A 105, A 479 SS304, A 479 SS316, A182 GR F 316 SS Monel, Hastelloy
<b>Finish</b>	:	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

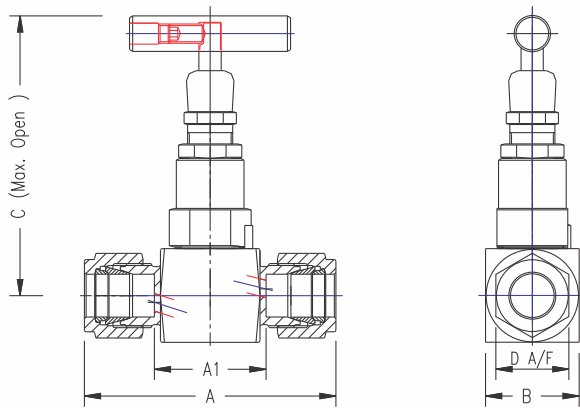


MODEL No. NV M/F

## 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<sup>2</sup>  
Seat - 413 Kg/cm<sup>2</sup>
- Pneumatic** : Seat - 40 Kg/cm<sup>2</sup>
- 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

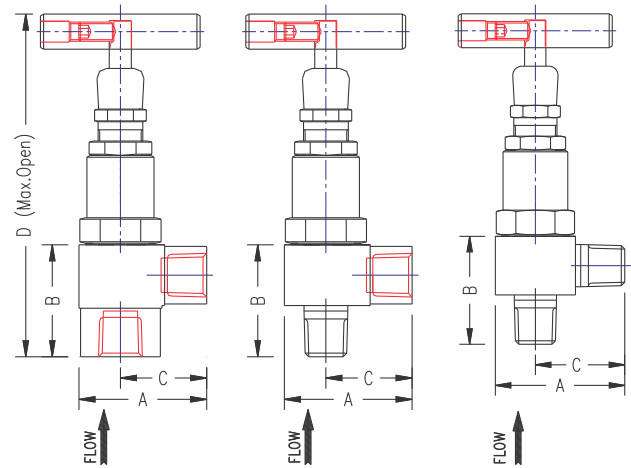
Designed for use in purpose applications for throttling and straight shut off of liquids, gas or vapour service. These needle valves are available with a variety of end connections and stem packing.

<b>Test Pressure</b>	: 25°C Room Temperature
<b>Hydrostatic</b>	: Body - 620 Kg/cm <sup>2</sup> Seat - 413 Kg/cm <sup>2</sup>
<b>Pneumatic</b>	: Seat - 40 Kg/cm <sup>2</sup>
<b>Gland Packing</b>	: PTFE : Standard Graphoil : Temperatures Above 180°C
<b>Material</b>	: A 105, A 479 SS304, A 479 SS316, A182 GR F 316 SS Monel, Hastelloy
<b>Finish</b>	: 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.

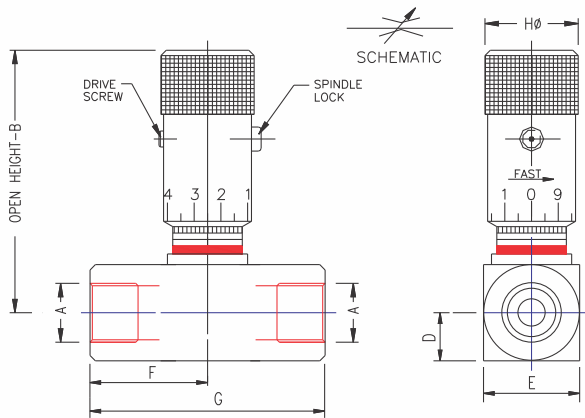


MODEL No. ENV

## ANGLE NEEDLE VALVES SCREWED BONNET DESIGN

# COLOUR FLOW NEEDLE VALVE

MODEL No. CNR

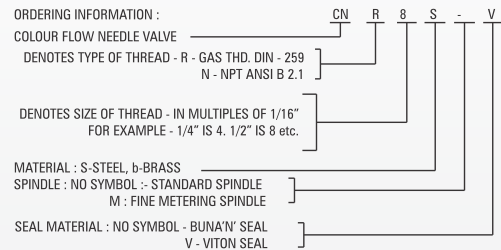


## DESCRIPTION

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

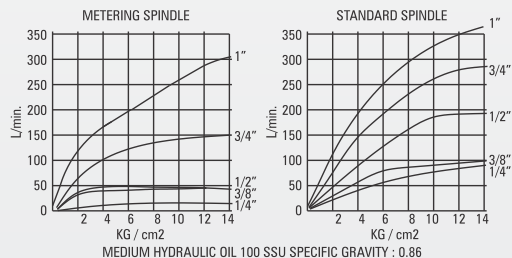
\* CAP WILL BE KNURLED CIRCULAR OF  $\frac{1}{16}$ " H FOR SIZES UP TO 3/4"  
 FOR SIZES 1" AND ABOVE KNURLED PORTION WILL BE HEXAGON A/F OF DIMENSION 'H'  
 \*\* \*SEE ORDERING CODE FOR DETAILED PART NUMBERING SYSTEM.



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 :
- MAX. OPERATIONAL PRESSURE : STEEL : UP TO 1/2" 400 KG/cm<sup>2</sup>  
 3/4" & ABOVE - 300 KG/cm<sup>2</sup>  
 BRASS : UP TO 1" - 150 KG/cm<sup>2</sup>  
 1 - 1/4" & 1 - 1/2" - 50 KG/cm<sup>2</sup>

CONTROLLED FLOW VS PRESSURE DROP : NEEDLE FULLY OPEN



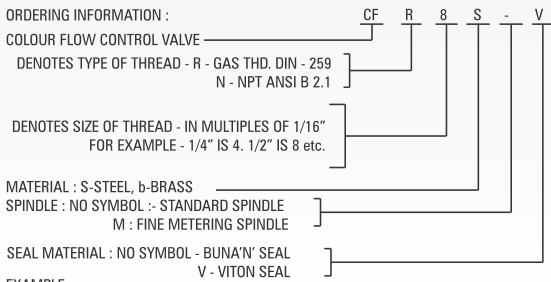
## DESCRIPTION

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	B	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  $\frac{1}{8}$  H FOR SIZES UP TO 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 :

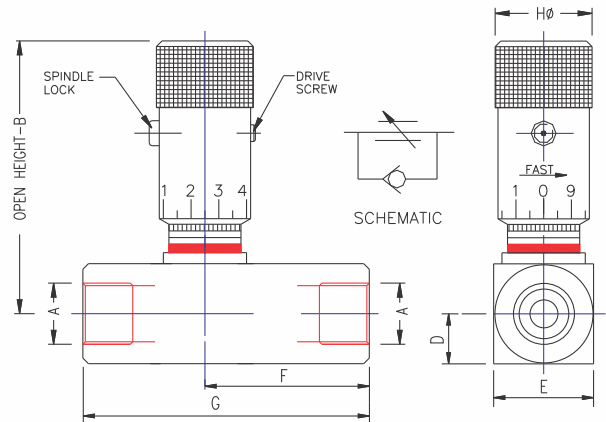
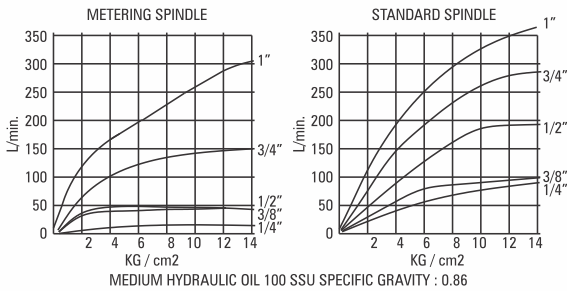


EXAMPLE :  
THE PART NUMBER CF R 8 S-V ABOVE REFERS TO COLOUR FLOW CONTROL VALVE WITH 1/2" BSP (F) ENDS IN STEEL STANDARD SPINDLE AND VITON SEAL.

### NOTE :

- MAX. OPERATIONAL PRESSURE : STEEL : UP TO 1/2" 400 KG/cm<sup>2</sup>  
3/4" & ABOVE - 300 KG/cm<sup>2</sup>  
BRASS : UP TO 1" - 150 KG/cm<sup>2</sup>  
1 - 1/4" & 1 - 1/2" - 50 KG/cm<sup>2</sup>

### CONTROLLED FLOW VS PRESSURE DROP : NEEDLE FULLY OPEN

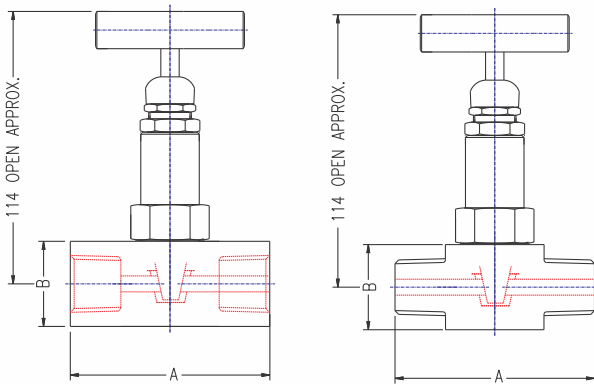


MODEL No. CFR

## COLOUR FLOW CONTROL VALVE

# PLUG VALVES - SCREWED BONNET DESIGN MALE / FEMALE ENDS

MODEL No. PLV - M / F



## DESCRIPTION

HYD-AIR 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° C Room Temperature

**Hydrostatic** : Body - 413 Kg/cm<sup>2</sup>  
Seat - 280 Kg/cm<sup>2</sup>

**Pneumatic** : Seat - 40 Kg/cm<sup>2</sup>

**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" FBSP65	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° C Room Temperature

**Hydrostatic** : Body - 413 Kg/cm<sup>2</sup>  
Seat - 280 Kg/cm<sup>2</sup>

**Pneumatic** : Seat - 40 Kg/cm<sup>2</sup>

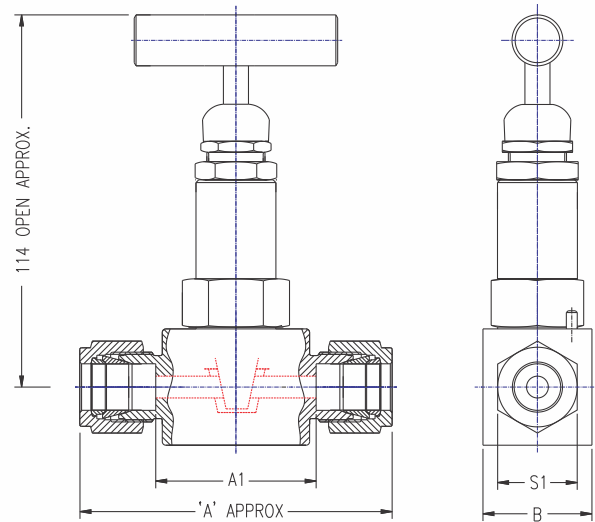
**Gland Packing** : PTFE : Standard  
Graphoil : Temperatures above 180°C

**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

**ORDERING CODES FOR GAUGE VALVES-TWO PORT,THREE PORT & MULTI PORT**

DESCRIPTION	FEATURE	SYMBOL	8	GIV	F	N	OSY	GOIL	SS
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							

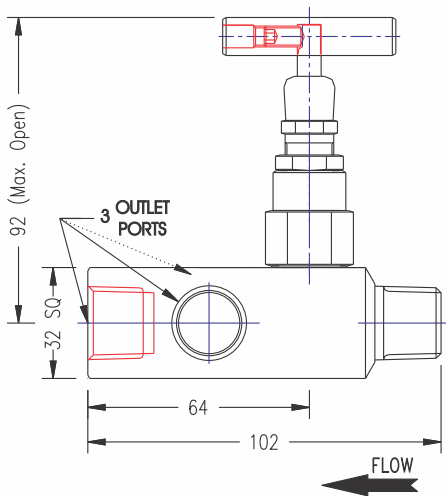
\*\* For material conformity to NACE MR-01-75 USE SUFFIX "NACE" AS S/NACE , SS/NACE,SSL/NACE

Note : Due to continuous 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 valve can be supplied with vent valve and blanking plug separately.

<b>Test Pressure</b>	:	25°C Room temperature
<b>Hydrostatic</b>	:	Body - 620 kg/cm <sup>2</sup> Seat - 413 kg/cm <sup>2</sup>
<b>Pneumatic</b>	:	Seat - 40 kg/cm <sup>2</sup>
<b>Gland Packing</b>	:	PTFE : Standard Graphoil : Temperatures above 180°C
<b>Material</b>	:	A 105, A 479 SS304, A 479 SS316, A182 GRF 316 SS monel, hastelloy
<b>Finish</b>	:	CS zinc plated and dichromated. SS natural
<b>Optional Items</b>	:	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.

## 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<sup>2</sup>  
Seat - 270 Kg/cm<sup>2</sup>

**Pneumatic** : Seat - 40 Kg/cm<sup>2</sup>

**Gland Seal** : BUNA 'N', VITON

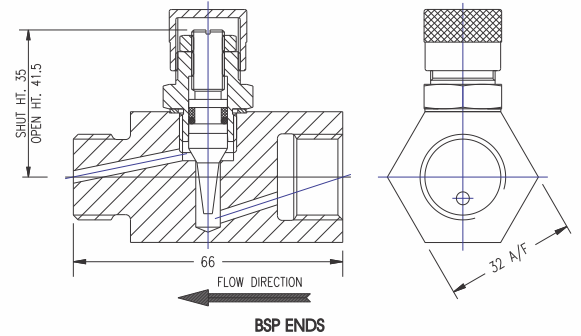
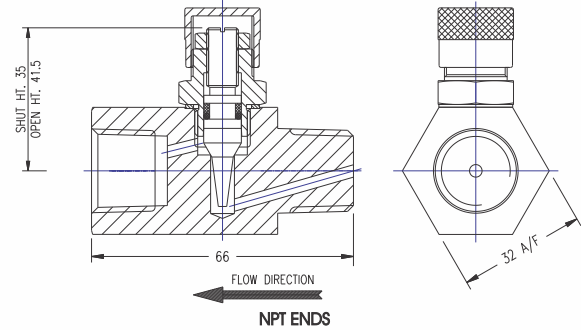
**Material** : A 105, A 276 SS304, A 276 SS 316, Monel, Hastelloy

**Finish** : CS zinc plated and dichromated. SS - Natural

## CONNECTION

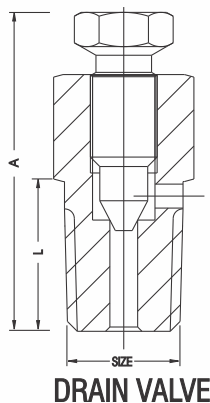
(INLET x OUTLET)	PART No.
1/4"MNPT x 1/4"FNPT	4 PSA - N
3/8"MNPT x 3/8"FNPT	6 PSA - N
1/2"MNPT x 1/2"FNPT	8 PSA - N
3/4"MNPT x 3/4"FNPT	12 PSA - N
1/4"MBSP x 1/4"FBSP	4 PSA - R
3/8"MBSP x 3/8"FBSP	6 PSA - R
1/2"MBSP x 1/2"FBSP	8 PSA - R
3/4"MBSP x 3/4"FBSP	12 PSA - R

# ADJUSTABLE PRESSURE GAUGE SNUBBER



MODEL No. PSAN

## OPTIONAL ITEM



DRAIN VALVE

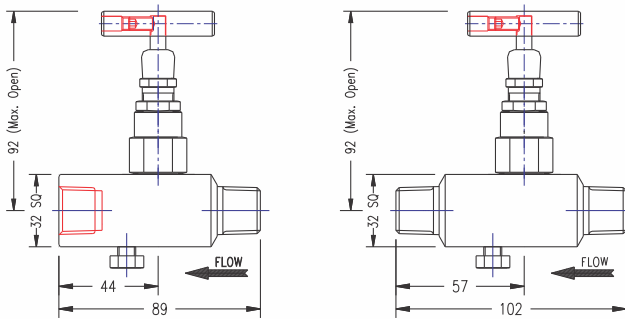
## DRAIN VALVE

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<sup>2</sup>  
Seat - 413 Kg/cm<sup>2</sup>

**Pneumatic** : Seat - 40 Kg/cm<sup>2</sup>

**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

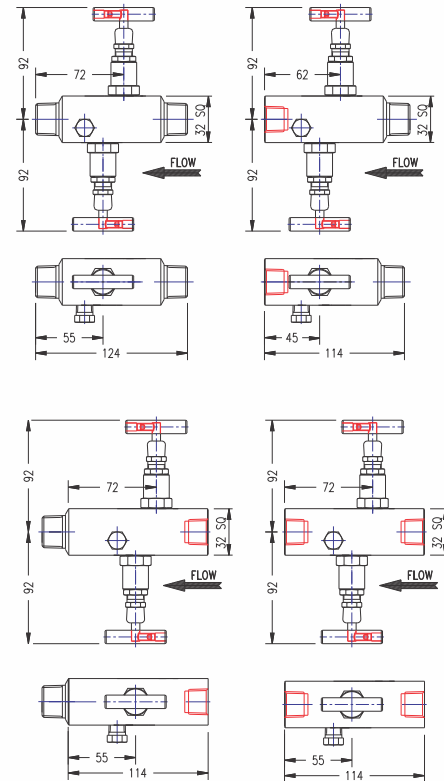
Design for use with gauges switches or Pressure Transmitter. these Gauge Valve incorporates Two-Valve with single outlet that combines isolation, calibration and venting.

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

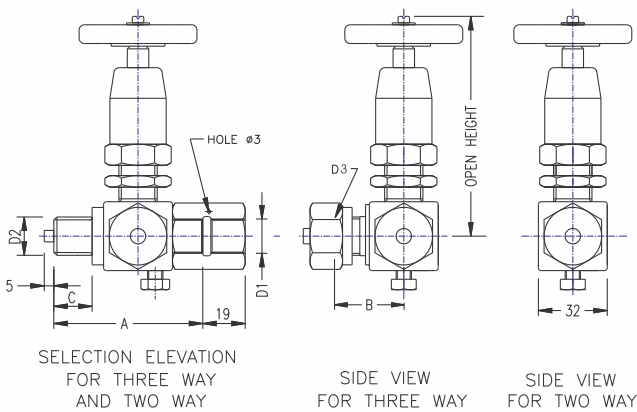


MODEL No. 2 GIV

# DOUBLE BLOCK & BLEED GAUGE VALVES

# PRESSURE GAUGE PIN VALVE UNION BONNET DESIGN

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



## 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<sup>2</sup>  
Seat - 413 Kg/cm<sup>2</sup>
- Pneumatic** : Seat - 60 Kg/cm<sup>2</sup>
- 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

D1	D2	D3	A	B	C	OPEN HT. Approx.	PART No.
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.

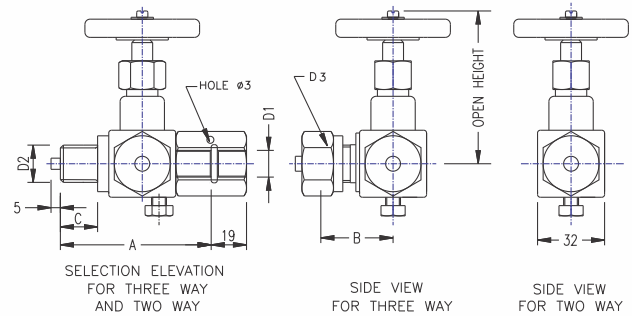
<b>Test Pressure</b>	:	25 <sup>o</sup> C Room Temperature
<b>HYDROSTATIC</b>	:	Body - 620 Kg/cm <sup>2</sup> Seat - 413 Kg/cm <sup>2</sup>
<b>PNEUMATIC</b>	:	Seat - 60 Kg/cm <sup>2</sup>
<b>Gland Packing</b>	:	PTFE : Standard GRAPHOIL : Temperatures above 180°C
<b>Material</b>	:	A 105, A 479 SS304, A 479 SS 316, A 182 Gr F 316 SS A 182 Gr F 304 SS, Monel, Hastelloy
<b>Finish</b>	:	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"

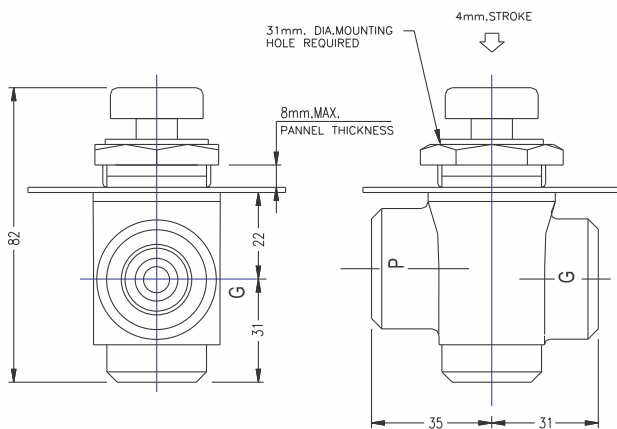


MODEL No.  
THREE WAY PGP TWO WAY PRGG

## 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 upto 5000 psi (352 kg/sq.cm). By using this type of gauge isolator.

Guarantee 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

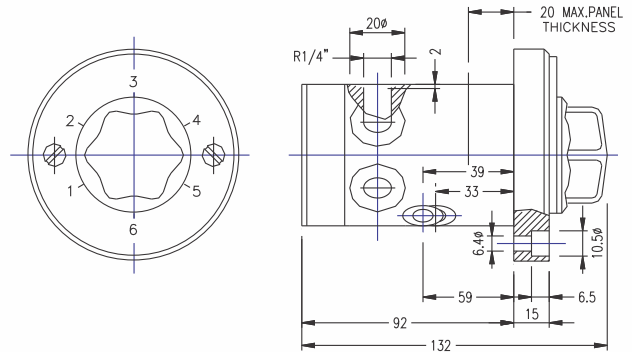
Six station pressure gauge isolator may replace number of pressure-gauges and isolation valves needed to read pressures at various points in multi pressure hydraulics system. The pressure can be read on a single pressure gauge by indexing the knob. Also it eliminates pressure lock-up in Pressure-gauges, 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 1/4" 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



**ORDERING CODE FOR GLOBE ISOLATION VALVES**

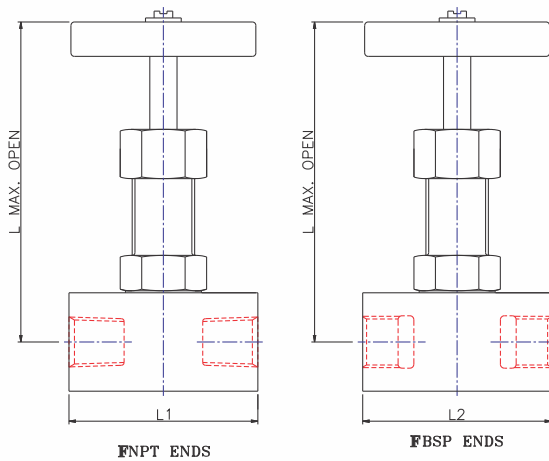
DESCRIPTION	FEATURE	SYMBOL	8	E	SOV	F	N	SFT	UB	GOIL	P	SS
SIZE	Thread size in multiple of 1/16" - for example -1/2" = 8 Tube od in multiples of 1/16" for ferrule end connection using inch od tubing For sizes in inches this code will come before type of position code	8,12,16,20,24, 32,40,50										
	Tube 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 continuous 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°C Room Temperature

**Hydrostatic** : Body - 620 Kg/cm<sup>2</sup>  
Seat - 413 Kg/cm<sup>2</sup>

**Pneumatic** : Seat - 40 Kg/cm<sup>2</sup>

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

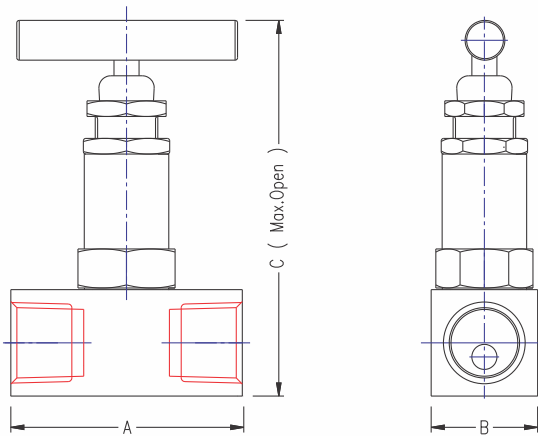
SIZE	L1	L	PART No.	SIZE	L2	L	PART No.
1/8" FNPT	46	90	2 SOVFN	1/8"BSP	46	90	2 SOVFR
1/4" FNPT	58	95	4 SOVFN	1/4"BSP	50	95	4 SOVFR
3/8" FNPT	60	88	6 SOVFN	3/8"BSP	60	88	6 SOVFR
1/2" FNPT	75	94	8 SOVFN	1/2"BSP	75	94	8 SOVFR
3/4" FNPT	84	104	12 SOVFN	3/4"BSP	84	104	12 SOVFR
1" FNPT	135	129	16 SOVFN	1"BSP	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



# 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<sup>o</sup> C room temperature  
3000# / 6000# / 9000#

**Hydrostatic** : Body - 420 Kg/cm<sup>2</sup> / 620 Kg/cm<sup>2</sup> / 950 Kg/cm<sup>2</sup>  
Seat - 260 Kg/cm<sup>2</sup> / 413 Kg/cm<sup>2</sup> / 630 Kg / cm<sup>2</sup>

**Pneumatic** : Seat - 40 Kg/cm<sup>2</sup> / 60 Kg/cm<sup>2</sup> / 90 Kg / cm<sup>2</sup>

**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

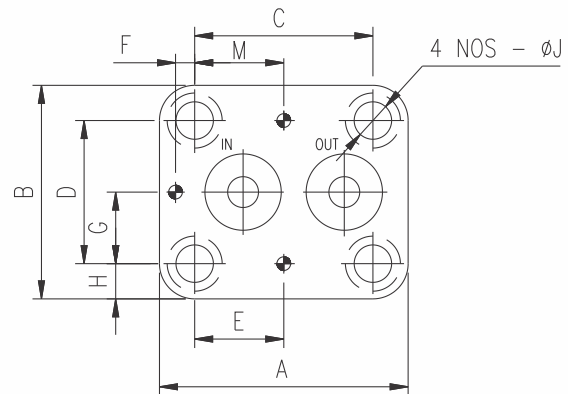
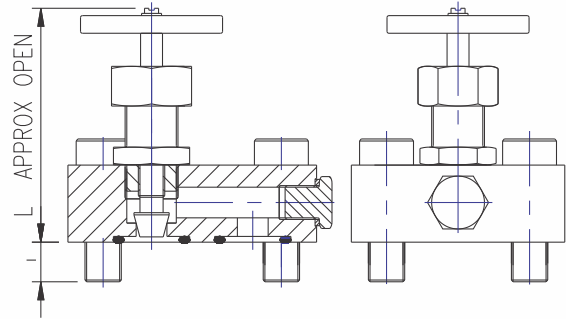
A compact globe type isolation valve for direct fitment on manifolds widely used in oil hydraulics and lubrication.

<b>Test Pressure</b>	: 25° C Room Temperature
<b>Hydrostatic</b>	: Body - 620 Kg/cm <sup>2</sup> Seat - 413 Kg/cm <sup>2</sup>
<b>Pneumatic</b>	: Seat - 60 Kg/cm <sup>2</sup>
<b>Gland Packing</b>	: Standard : PTFE / VITON 'O' Ring / PTFE Pack Max. temp. 100°C
<b>Material</b>	: Carbon steel with SS internals
<b>Finish</b>	: 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



## DESCRIPTION

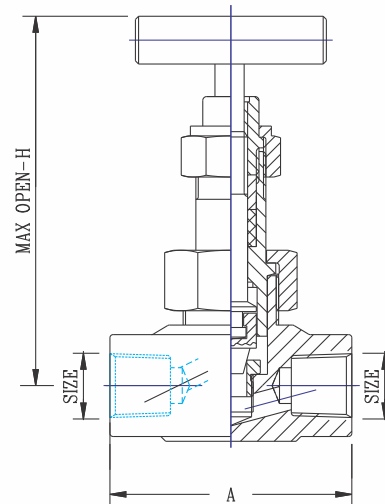
A simple light weight design ideal for use in instrumentation and small installation for isolation in place of heavy bolted bonnet O S & Y type valves.

<b>Test Pressure</b>	: PER ANSI B 16.34, 1996 @ 25°C Room Temperature
	800 #                      1500#              2500#
<b>Hydrostatic</b>	: BODY - 210 Kg/cm <sup>2</sup> - 420Kg/cm <sup>2</sup> - 630 Kg/cm <sup>2</sup>
	: SEAT - 153 Kg/cm <sup>2</sup> - 270 Kg/cm <sup>2</sup> - 420 Kg/cm <sup>2</sup>
<b>Pneumatic</b>	: SEAT - 6 Kg/cm <sup>2</sup> - 6 Kg/cm <sup>2</sup> - 6 Kg/cm <sup>2</sup>
<b>Gland Packing</b>	: PTFE : STANDARD
	: GRAPHOIL : Temperatures Above 180°C
<b>Material</b>	: A 105, A 182 Gr.F 304 SS, A 182 Gr.F 316 SS, A 182 Gr F11, A 182 Gr F 22
<b>Finish</b>	: 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

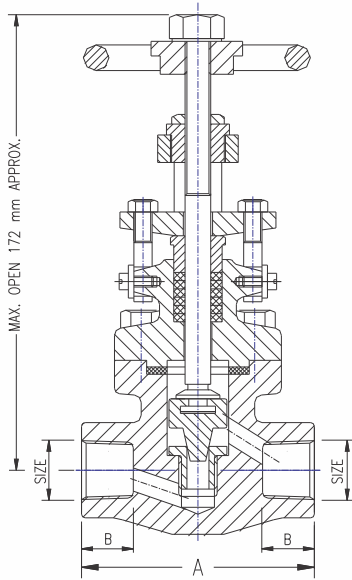


MODEL No. SOV - UB - F

# 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<sup>2</sup> - 420Kg/cm<sup>2</sup> - 630 Kg/cm<sup>2</sup>  
: Seat - 153 Kg/cm<sup>2</sup> - 270 Kg/cm<sup>2</sup> - 420 Kg/cm<sup>2</sup>
- Pneumatic** : Seat - 6 Kg/cm<sup>2</sup> - 6 Kg/cm<sup>2</sup> - 6 Kg/cm<sup>2</sup>
- 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

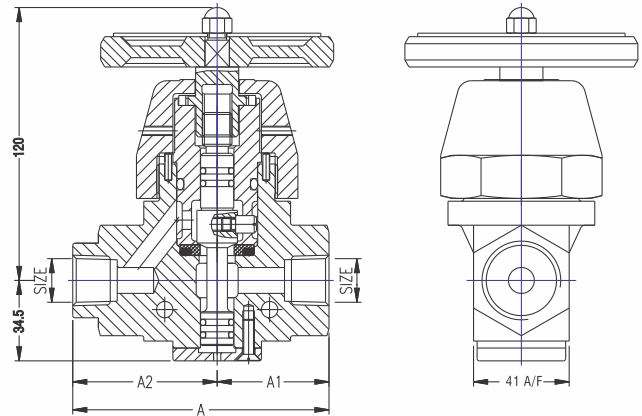
These valves are designed for use in high pressure pneumatic system. Since these valves are fully pressure balanced. The operating torque is minimal at high pressure.

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 <sup>2</sup>
Max. Operating Temperature	: 70° C
Max. Operating Temperature	: 10° C
Hydraulic test pressure	: 600 Kg/cm <sup>2</sup>
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 PISTON STOP VALVE

## ORDERING CODE FOR BALL VALVE

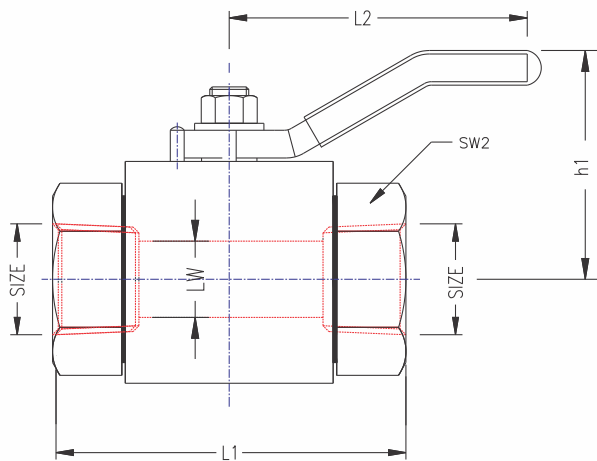
DESCRIPTION	FEATURE	SYMBOL	8	-	3	BLV	F	N	SS
SIZE	Thread size in multiple of 1/16" - for example -1/2" = 8 Tube od in multiples of 1/16" for ferrule end connection using inch od tubing For sizes in inches this code will come before type of position code	8, 12, 16, 20, 24, 32, 40, 50.		-					
	Tube end 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		-					
	DELFIN	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							

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

Note : Due to continuous 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°C Room Temperature
- Hydrostatic** : Body - 270 Kg/cm<sup>2</sup>  
Seat - 200 Kg/cm<sup>2</sup>
- Pneumatic** : Seat - 40 Kg/cm<sup>2</sup>
- 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		PART No.	
					R	N	B.S.P Ends.	N.PT.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

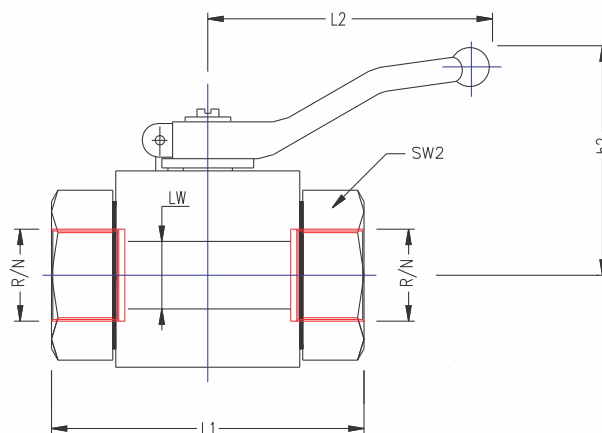
Note : Also available with BSP Taper Pipe Threads.

<b>Test Pressure</b>	:	25° C Room Temperature
<b>Hydrostatic</b>	:	Body - 620 Kg/cm <sup>2</sup> Seat - 413 Kg/cm <sup>2</sup>
<b>Pneumatic</b>	:	Seat - 40 Kg/cm <sup>2</sup>
<b>Ball Seal</b>	:	RPTFE, DELRIN, PEEK
<b>Gland Seal</b>	:	BUNA 'N', VITON
<b>Material</b>	:	A 105, A 479 SS304, A 479 SS316, A 182 Gr F 316 SS, Monel, Hastelloy
<b>Finish</b>	:	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<sup>2</sup> with PEEK seals.

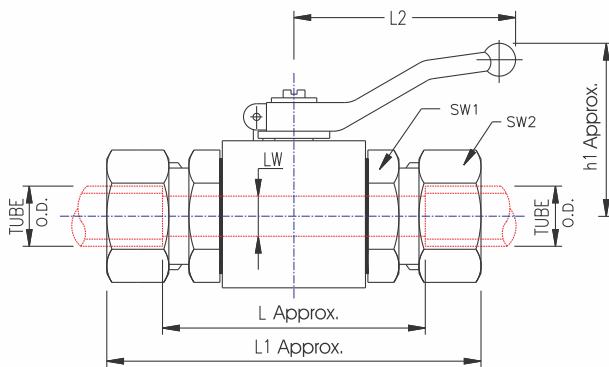


MODEL No. BLV

# 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

<b>L Series</b>	: PN 250	<b>S Series</b>	: PN 400
HYDROSTATIC	: Body - 375 Kg/cm <sup>2</sup> : Seat - 250 Kg/cm <sup>2</sup>	HYDROSTATIC	: Body 630 Kg/cm <sup>2</sup> : Seat - 400 Kg/cm <sup>2</sup>
PNEUMATIC	: Seat - 40 Kg/cm <sup>2</sup>	PNEUMATIC	: Seat - 40 Kg/cm <sup>2</sup>
<b>Ball Seal</b>	: RPTFE, DELRIN, PEEK		
<b>Gland Seal</b>	: BUNA 'N', VITON		
<b>Material</b>	: A 105, IS 2062		
<b>Finish</b>	: 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
S SERIES PN 400	35	115.5	60	50	115	158	300	32	BLV-35-L
	42	115.5	60	60	115	127	300	32	BLV-42-L
	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<sup>2</sup> 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.

<b>Test Pressure</b>	:	25°C Room Temperature
<b>Hydrostatic</b>	:	Body - 420 Kg/cm <sup>2</sup> Seat - 270 Kg/cm <sup>2</sup>
<b>Pneumatic</b>	:	Seat - 40 Kg/cm <sup>2</sup>
<b>Ball Seal</b>	:	RPTFE, DELRIN, PEEK
<b>Gland Seal</b>	:	BUNA 'N', VITON
<b>Material</b>	:	A 105, A 479 SS304, A 479 SS316, A 182 GR F 316 SS, Monel, Hastelloy
<b>Finish</b>	:	CS zinc plated and dichromated. SS - Natural

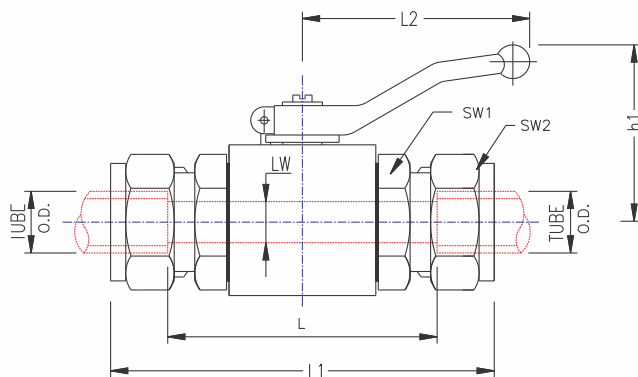
**METRIC DOUBLE FERRULE COMPRESSION TUBE ENDS**

TUBE No.	h1	SW1	SW2	L	L1	L2	LW	PART
<b>OD</b>								
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	h1	SW1	SW2	L	L1	L2	LW	PART No.
<b>OD</b>								
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<sup>2</sup> with DELRIN and 620 kg/cm<sup>2</sup> with PEEK seals.

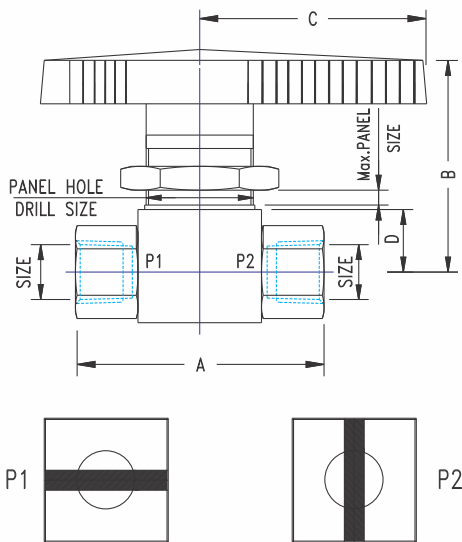


MODEL No. BLV T

## TWO WAY BALL VALVE DOUBLE FERRULE TUBE ENDS

# SWITCHING SERVICE BALL VALVE TWO-WAY; SCREWED ENDS

MODEL No. 2 BLV ( ) - SWS



## DESCRIPTION

Switching service ball valves 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 have provisions for panel mounting and come with a variety of port connections.

**Test Pressure** : 25° C Room Temperature

**Hydrostatic** : Body - 300 Kg/cm<sup>2</sup>  
Seat - 200 Kg/cm<sup>2</sup>  
See note below

**Pneumatic** : Seat - 40 Kg/cm<sup>2</sup>

**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<sup>2</sup> with DELRIN and 620 kg/cm<sup>2</sup> 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<sup>2</sup>  
SEAT - 200 Kg/cm<sup>2</sup>  
See note below

**Pneumatic** : SEAT - 40 Kg/cm<sup>2</sup>

**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



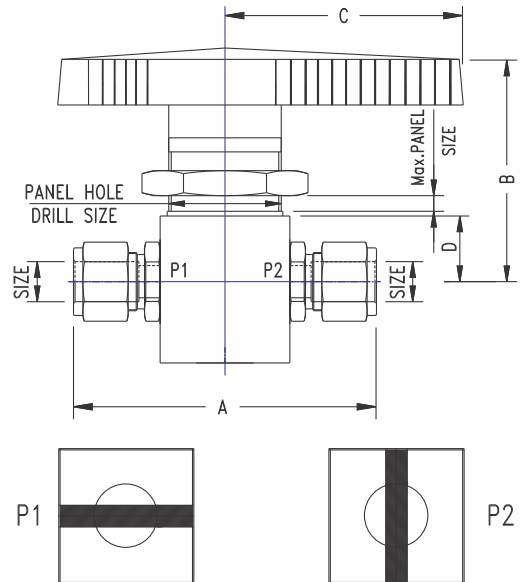
### METRIC DOUBLE FERRULE COMPRESSION TUBE ENDS

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<sup>2</sup> with DELRIN and 620 kg / cm<sup>2</sup> with PEEK seals.



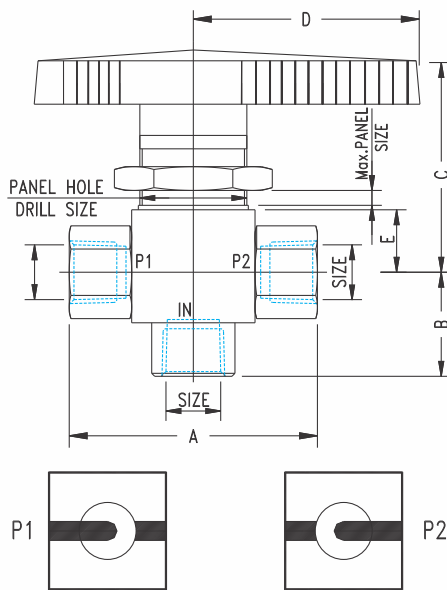
MODEL No. 2 BLV SWS T

## 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<sup>2</sup>  
Seat - 200 Kg/cm<sup>2</sup>  
See note below

**Pneumatic** : Seat - 40 Kg/cm<sup>2</sup>

**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<sup>2</sup> with DELRIN and 620 kg / cm<sup>2</sup> 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 has provisions for panel mounting and comes with a variety of port connections.

**Test Pressure** : 25° C Room Temperature

**Hydrostatic** : Body - 300 Kg/cm<sup>2</sup>  
Seat - 200 Kg/cm<sup>2</sup>  
See note below

**Pneumatic** : Seat - 40 Kg/cm<sup>2</sup>

**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

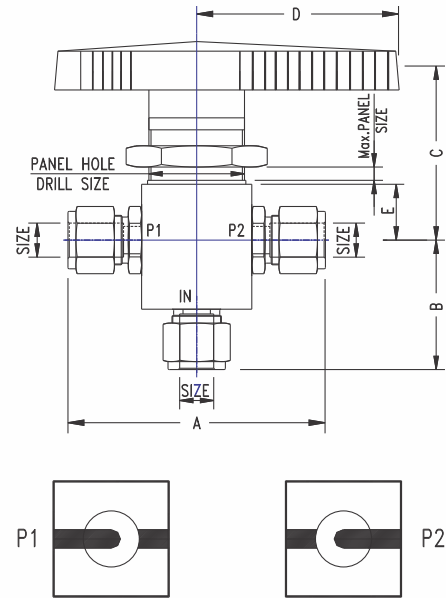
### METRIC DOUBLE FERRULE COMPRESSION TUBE ENDS

SIZE TUBE OD	A	B	C	D	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<sup>2</sup> with DELRIN and 620 kg / cm<sup>2</sup> with PEEK seals.

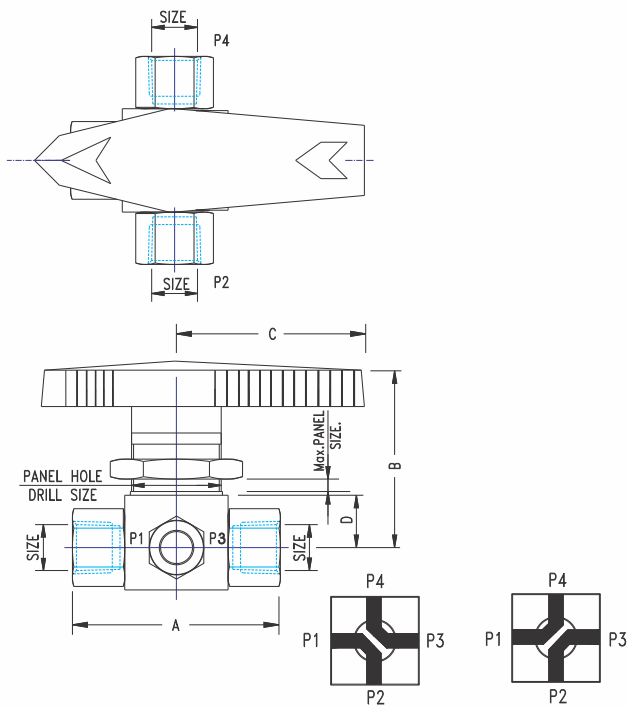


MODEL No. 3 BLV SWS T

## 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<sup>2</sup>  
Seat - 200 Kg/cm<sup>2</sup>  
See note below

**Pneumatic** : Seat - 40 Kg/cm<sup>2</sup>

**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<sup>2</sup> with DELRIN and 620 kg/cm<sup>2</sup> 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<sup>2</sup>  
 Seat - 200 Kg/cm<sup>2</sup>  
 See note below

**Pneumatic** : Seat - 40 Kg/cm<sup>2</sup>

**Ball Seal** : RPTFE, DELRIN, PEEK

**Gland Seal** : BUNA 'N', VITON

**Material** : A 105, A 479 SS 304, A 479 SS 316, A 182 GrF 316 SS

**Finish** : CS zinc plated and dichromated. SS - Natural

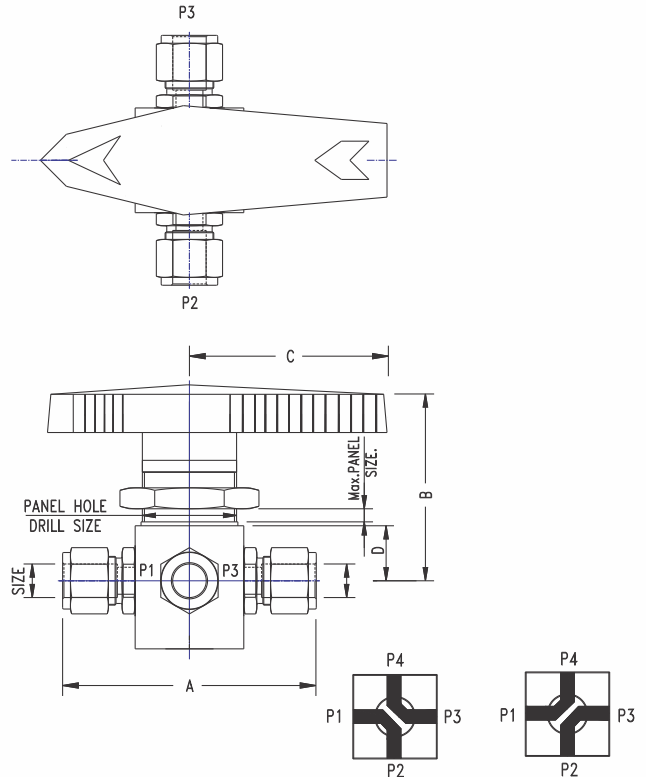
### METRIC DOUBLE FERRULE COMPRESSION TUBE ENDS

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<sup>2</sup> with DELRIN and 620 kg / cm<sup>2</sup> with PEEK seals.

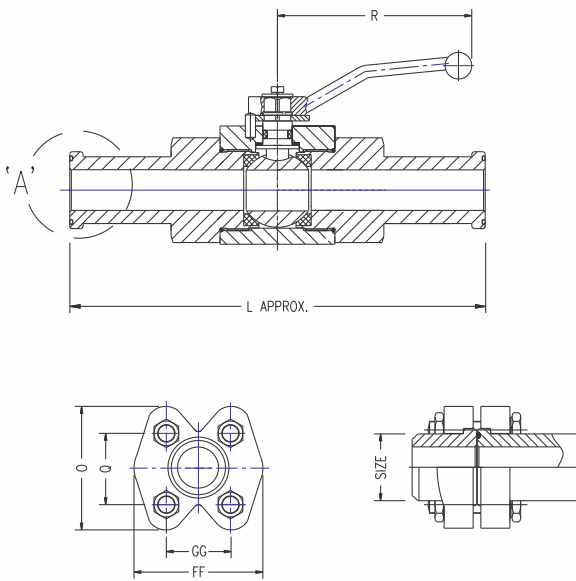


MODEL No. 4 BLV SWS T

# 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 Butt weld 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 loosening 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°C Room Temperature

<b>CODE 61</b>	: 3000 PSI	<b>CODE 62</b>	: 6000 PSI
HYDROSTATIC	: Body - 300 Kg/cm <sup>2</sup>	HYDROSTATIC	: Body - 500 Kg/cm <sup>2</sup>
	: Seat - 200 Kg/cm <sup>2</sup>		: Seat - 420 Kg/cm <sup>2</sup>
PNEUMATIC	: Seat - 40 Kg/cm <sup>2</sup>	PNEUMATIC	: Seat - 40 Kg/cm <sup>2</sup>

**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.
CODE 61 3000 PSI	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
	1"	70	52.4	26.2	59	178	180	16 BLV-SAE-NBBW
	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
CODE 62 6000 PSI	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
	3/4"	71	50.8	23.8	60	180	130	12 BLV-SAE-NBBW
	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 loosening 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 reserved.

**Test Pressure** : 25°C Room Temperature

**CODE 61** : 250 kg/cm<sup>2</sup>      **CODE 62** : 400 kg/cm<sup>2</sup>  
**HYDROSTATIC** : Body - 300 KG/cm<sup>2</sup>      **HYDROSTATIC** : Body - 540 KG/cm<sup>2</sup>  
: Seat - 200 Kg/cm<sup>2</sup>      : Seat - 420 Kg/cm<sup>2</sup>  
**PNEUMATIC** : Seat - 40 Kg/cm<sup>2</sup>      **PNEUMATIC** : Seat - 40 Kg/cm<sup>2</sup>

**Ball Seal** : RPTFE, DELRIN, PEEK

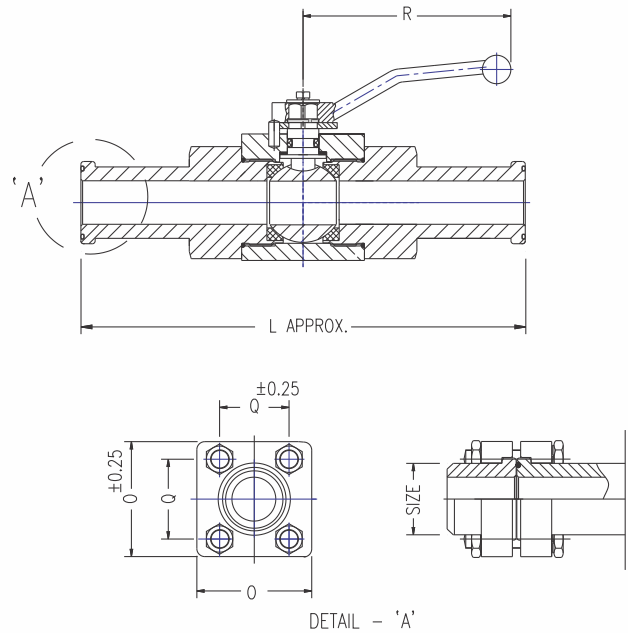
**Gland Seal** : BUNA 'N', VITON

**Material** : A 105, IS 2062

**Finish** : CS zinc plated and dichromated.

SERIES	SIZE	O	Q	L	R	PART No.
CODE 61 250 KG/CM2	1/2"	50	35.3	160	130	8 BLV-CETOP-NBBW
	3/4"	65	43.8	170	130	12 BLV-CETOP-NBBW
	1"	75	51.6	178	180	16 BLV-CETOP-NBBW
	1-1/4"	85	60.0	191	300	20 BLV-CETOP-NBBW
	1-1/2"	100	69.4	231	300	24 BLV-CETOP-NBBW
CODE 64 400 KG/CM2	2"	120	83.4	232	300	32 BLV-CETOP-NBBW
	1/2"	50	35.3	160	130	8 BLV-CETOP-NBBW
	3/4"	65	43.8	180	130	12 BLV-CETOP-NBBW
	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



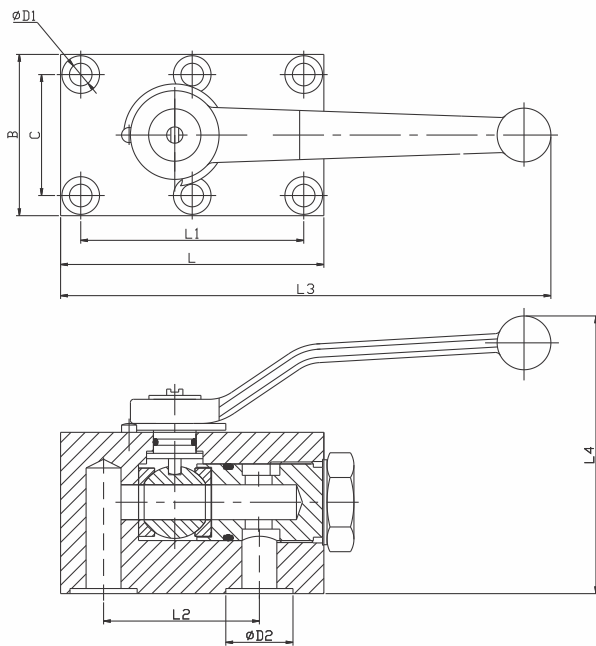
ASSEMBLY CETOP FLANGE WITH BUTT WELD SLEEVE.

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°C Room Temperature

**Hydrostatic** : Body - 620 Kg/cm<sup>2</sup>  
Seat - 413 Kg/cm<sup>2</sup>

**Pneumatic** : Seat - 60 Kg/cm<sup>2</sup>

**Max. Temp.** : 100°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

**ORDERING CODE FOR NON RETURN / CHECK VALVES**

DESCRIPTION	FEATURE	SYMBOL	8	NR	F	N	SS
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					

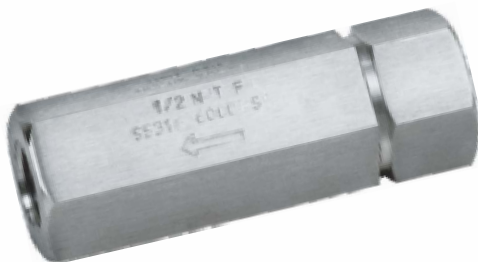
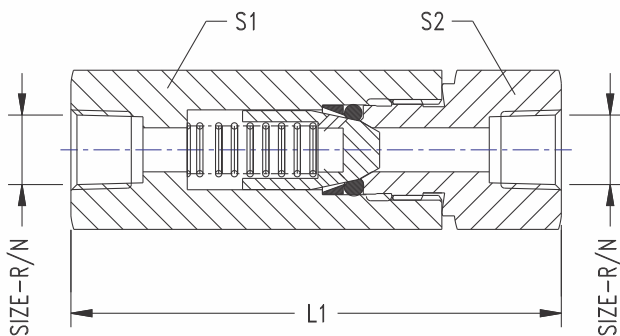
\*\* For material conformity to NACE MR-01-75 USE SUFFIX "NACE" AS S/NACE, SS/NACE,SSL/NACE

Note : Due to continuous 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<sup>2</sup> - Standard  
Special Cracking Pressure Available
- Test Pressure** : 25°C Room Temperature
- Hydrostatic** : Body - 620 Kg/cm<sup>2</sup>  
Seat - 413 Kg/cm<sup>2</sup>
- Pneumatic** : Seat - 60 Kg/cm<sup>2</sup>
- Seal** : BUNA 'N', VITON
- Material** : A 105, A 276 SS304, A 276 SS316,  
Monel, Hastelloy
- Finish** : CS zinc plated & dichromated. SS Natural

SIZE	S <sub>1</sub>	S <sub>2</sub>	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<sup>2</sup> - STANDARD  
Special cracking pressure available

**Test Pressure** : 25°C Room Temperature

**L Series** : PN 250

**S SERIES** : PN 400

HYDROSTATIC : Body - 375 KG/cm<sup>2</sup>    HYDROSTATIC : Body - 630 KG/cm<sup>2</sup>  
                  : Seat - 250 Kg/cm<sup>2</sup>            : Seat - 400 Kg/cm<sup>2</sup>

PNEUMATIC : Seat - 40 Kg/cm<sup>2</sup>            PNEUMATIC : Seat - 40 Kg/cm<sup>2</sup>

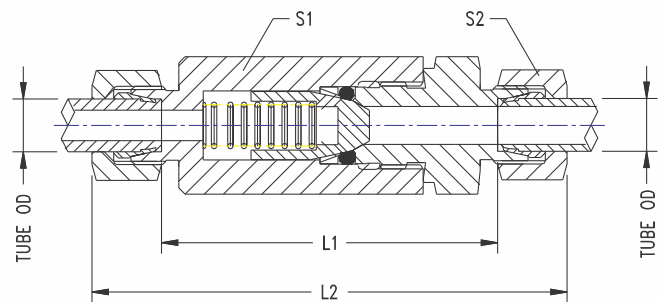
**Seal** : BUNA 'N', VITON

**Material** : A 105, IS 2062

**Finish** : CS zinc plated and dichromated.



SERIES	TUBE O.D	S <sub>1</sub>	S <sub>2</sub>	L <sub>1</sub>	L <sub>2</sub> Approx.	PART No.
L SERIES PN 250	6	22	14	56	86	NRD - 6L
	8	22	17	56	86	NRD - 8L
	10	27	19	69	99	NRD - 10L
	12	27	22	71	101	NRD - 12L
	15	32	27	75	105	NRD - 15L
	18	41	32	85	118	NRD - 18L
	22	41	36	89	122	NRD - 22L
	28	50	41	98	131	NRD - 28L
	35	65	50	118	161	NRD - 35L
S SERIES PN 400	42	65	60	117	163	NRD - 42L
	6	22	17	61	91	NRD - 6S
	8	22	19	61	91	NRD - 8S
	10	27	22	70	103	NRD - 10S
	12	27	24	72	105	NRD - 12S
	14	32	27	77	113	NRD - 14S
	16	32	30	77	114	NRD - 16S
	20	41	36	88	131	NRD - 20S
	25	50	46	97	145	NRD - 25S
	30	50	50	100	153	NRD - 30S
38	65	60	119	181	NRD - 38S	



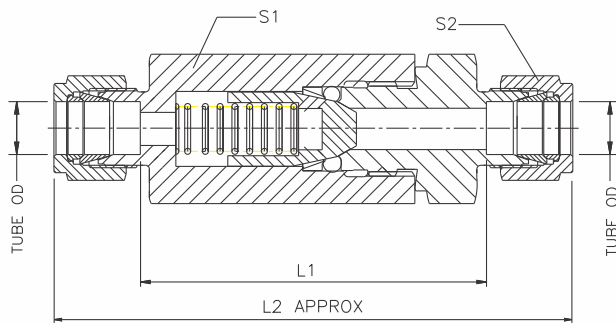
Note : Ends are tube connections to DIN : 2353, BS : 4368, IS : 8805 for metric tube sizes. They are also available in inch OD tubes to BS : 3601/3602/3005 from 1/4" OD to 1- 1/2" OD and nominal bore pipes to BS : 1387-1957/ANSI B 36.10 & 36.19 from 1/8" NB to 1-1/2" NB also available with "O" ring weld 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 400 SINGLE FERRULE METRIC TUBE ENDS

# NON RETURN VALVE-PN 400 DOUBLE FERRULE TUBE ENDS

MODEL No. NRD - T



**Cracking Pressure** : 0.3 to 0.5 Kg / cm<sup>2</sup> - Standard  
Special Cracking Pressure Available

**Test Pressure** : 25<sup>o</sup>C Room Temperature

**Hydrostatic** : Body - 620 Kg/cm<sup>2</sup>  
Seat - 413 Kg/cm<sup>2</sup>

**Pneumatic** : Seat - 60 Kg/cm<sup>2</sup>

**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 <sub>1</sub>	S <sub>2</sub>	L <sub>1</sub>	L <sub>2</sub>	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

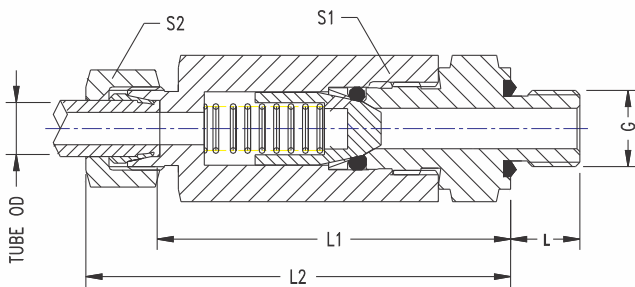


Note : Bigger tube connections up to 1-1/2" OD size available on request.



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

MODEL No. NRV



**Cracking Pressure** : 0.3 to 0.5 Kg/cm<sup>2</sup> - Standard  
Special Cracking Pressure Available

**Test Pressure** : 25°C Room Temperature

<b>L Series</b>	: PN 250	<b>S SERIES</b>	: PN 400
HYDROSTATIC	: Body - 375 Kg/cm <sup>2</sup>	HYDROSTATIC	: Body - 630 Kg/cm <sup>2</sup>
	: Seat - 250 Kg/cm <sup>2</sup>		: Seat - 400 Kg/cm <sup>2</sup>
PNEUMATIC	: Seat - 40 Kg/cm <sup>2</sup>	PNEUMATIC	: Seat - 40 Kg/cm <sup>2</sup>

**Seal** : BUNA 'N', VITON

**Material** : A 105, IS 2062

**Finish** : CS zinc plated and dichromated.

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

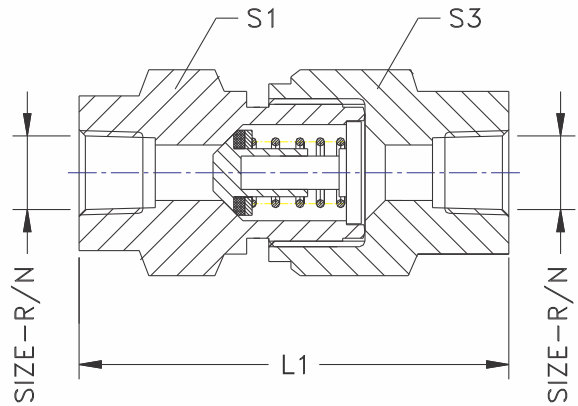
Note : Ends are tube connections to DIN : 2353, BS : 4368, IS : 8805 for metric tube sizes. They are also available in inch OD tubes to BS : 3601/3602/3005 from 1/4" OD to 1-1/2" OD and nominal bore pipes to BS : 1387-1957/ANSI B 36.10 & 36.19 from 1/8" NB to 1-1/2" NB. Also available with "O" ring weld 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.

<b>Cracking Pressure</b>	:	0.3 TO 0.5 Kg / cm <sup>2</sup> - Standard Special Cracking Pressure Available
<b>Test Pressure</b>	:	25°C Room Temperature
<b>Hydrostatic</b>	:	Body - 500 Kg/cm <sup>2</sup> Seat - 413 Kg/cm <sup>2</sup>
<b>Pneumatic</b>	:	Seat - 60 Kg/cm <sup>2</sup>
<b>Seal</b>	:	BUNA 'N', VITON
<b>Material</b>	:	A 105, A 276 SS304, A 276 SS316, MONEL, Hastelloy, Brass
<b>Finish</b>	:	CS zinc plated and dichromated. SS & BRASS - Natural

SIZE	S <sub>1</sub>	S <sub>3</sub>	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



## 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<sup>2</sup> - Standard  
Special Cracking Pressure Available

**Test Pressure** : 25°C Room Temperature

**L Series** : **PN 250**                      **S SERIES** : **PN 400**  
Hydrostatic : Body - 375 Kg/cm<sup>2</sup>      HYDROSTATIC : Body - 630 Kg/cm<sup>2</sup>  
                  : Seat - 250 Kg/cm<sup>2</sup>                 : Seat - 400 Kg/cm<sup>2</sup>  
PNEUMATIC : Seat - 40 Kg/cm<sup>2</sup>      PNEUMATIC : Seat - 40 Kg/cm<sup>2</sup>

**Seal** : BUNA 'N', VITON

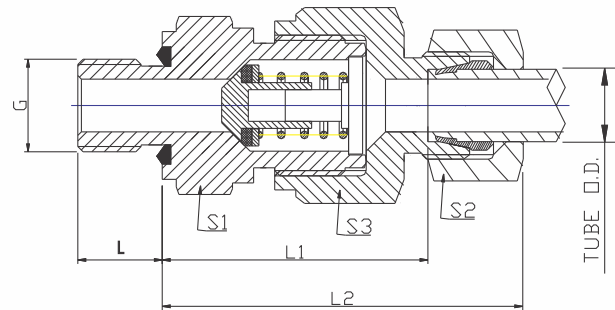
**Material** : A 105, IS 2062

**Finish** : CS zinc plated and dichromated.



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



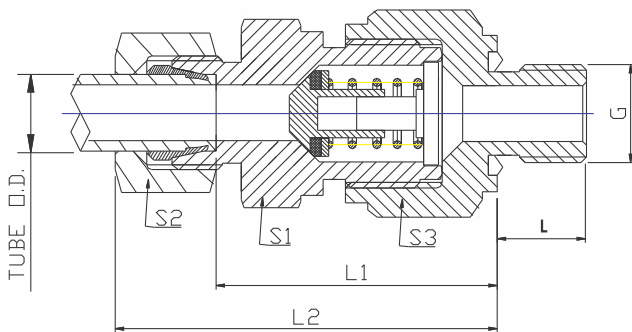
MODEL No. CVV

## COMPACT NON RETURN VALVE SINGLE FERRULE TUBE / PIPE ENDS



# 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<sup>2</sup> - Standard  
Special Cracking Pressure Available

**Test Pressure** : 25° C Room Temperature

**L Series** : **PN 250**

**S SERIES** : **PN 400**

HYDROSTATIC : Body - 375 Kg/cm<sup>2</sup> HYDROSTATIC : Body - 630 Kg/cm<sup>2</sup>

: Seat - 250 Kg/cm<sup>2</sup> : Seat - 400 Kg/cm<sup>2</sup>

PNEUMATIC : Seat - 40 Kg/cm<sup>2</sup> PNEUMATIC : Seat - 40 Kg/cm<sup>2</sup>

**Seal** : BUNA 'N', VITON

**Material** : A 105, IS 2062

**Finish** : CS zinc plated and dichromated.

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



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