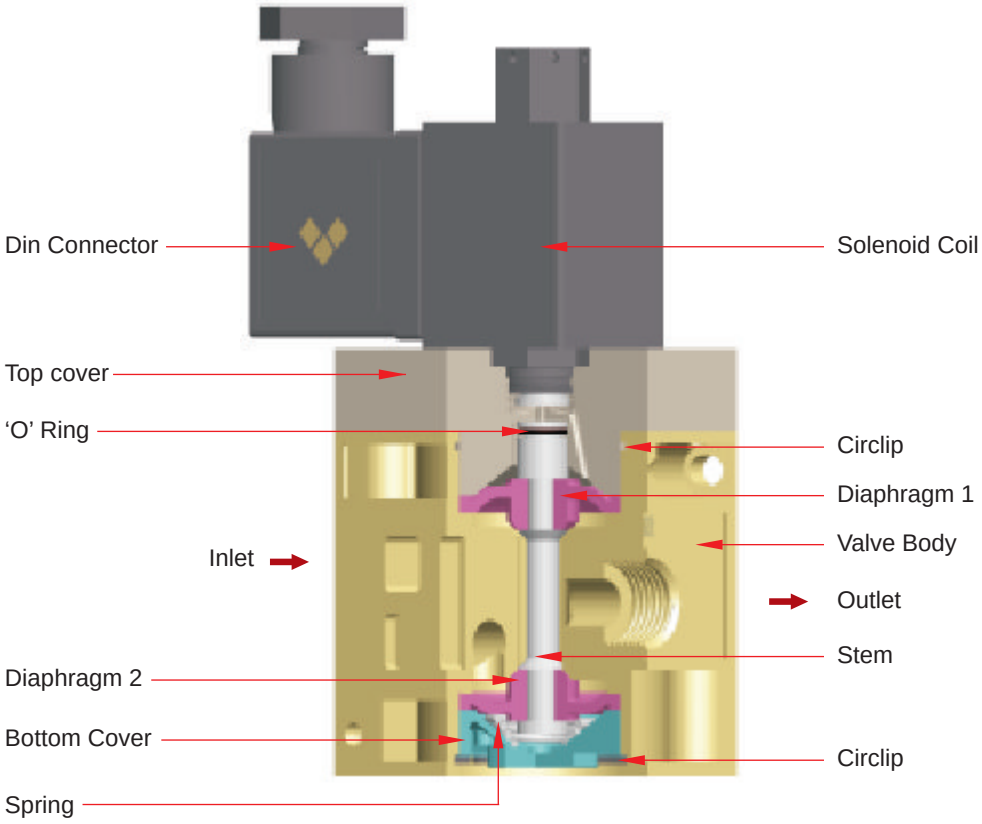
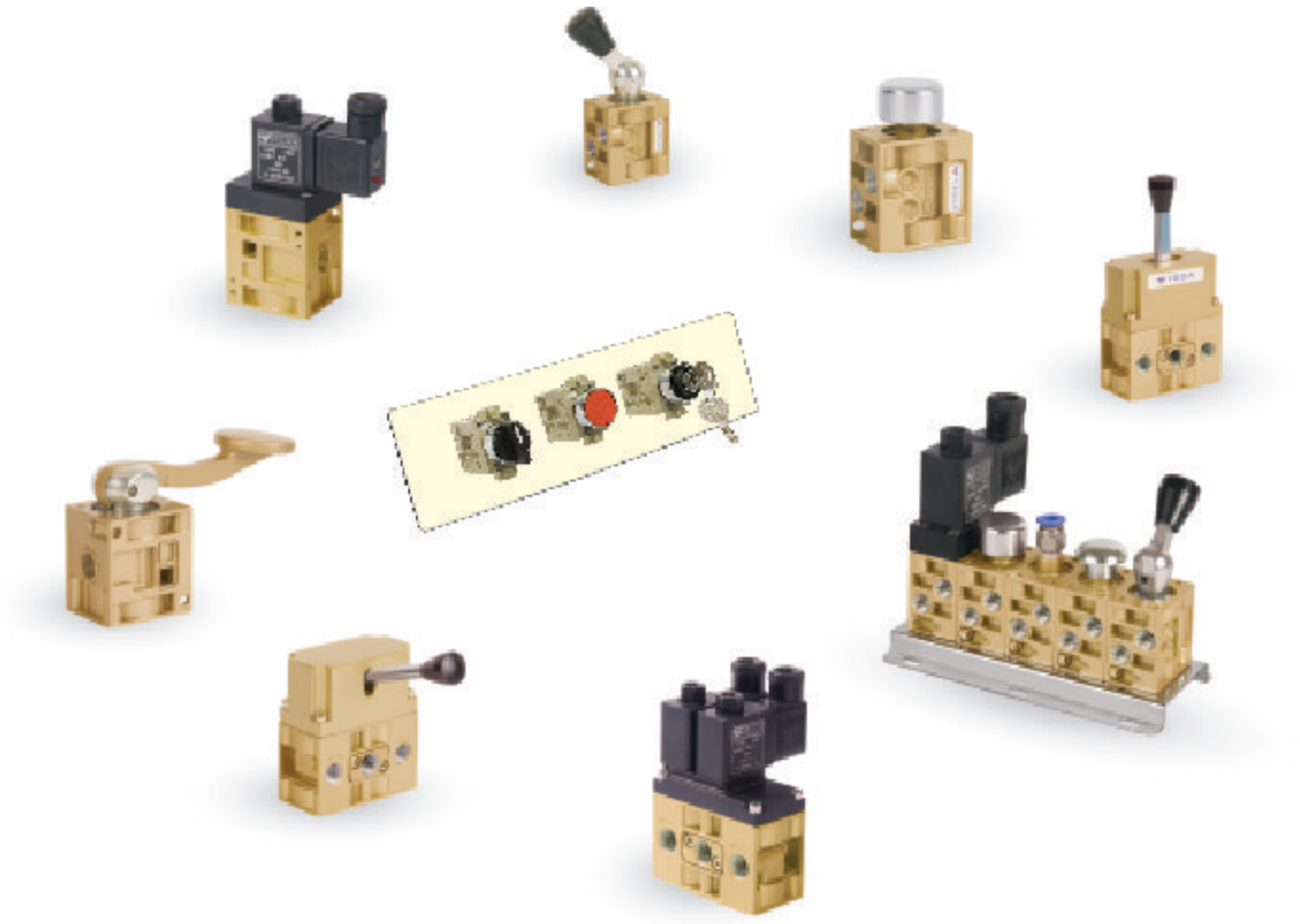
SERIES - D

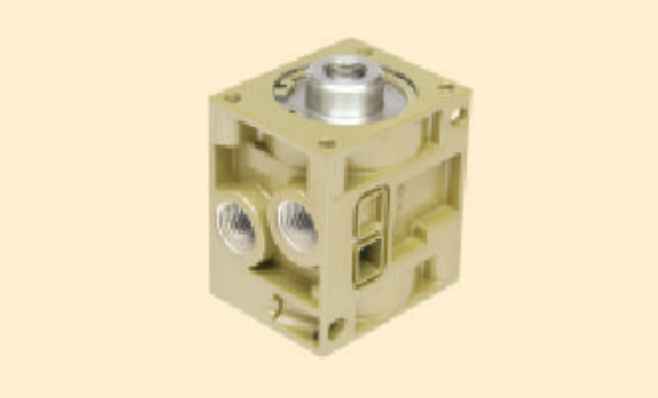

Din Connector
Solenoid Coil
Top cover
'O' Ring
Circlip
Diaphragm 1
Inlet
Valve Body
Outlet
Stem
Diaphragm 2
Bottom Cover
Circlip
Spring

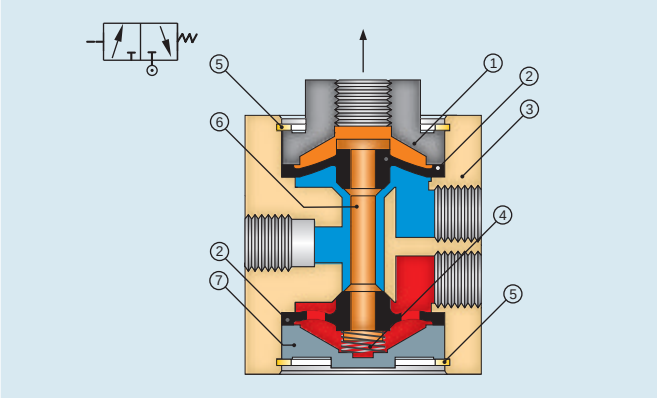


FEATURES:

- High flow valves with compact design
- Simple double diaphragm design ensuring high reliability
- “No stick” valves and requires no lubrication
- Faster response
- Versatile in mounting (base mounted / Panel mounted / Inline mounted)
- Gang mounting facility without manifold
- Available in manual / pilot / electrically operated versions

AIR PILOT TYPE :





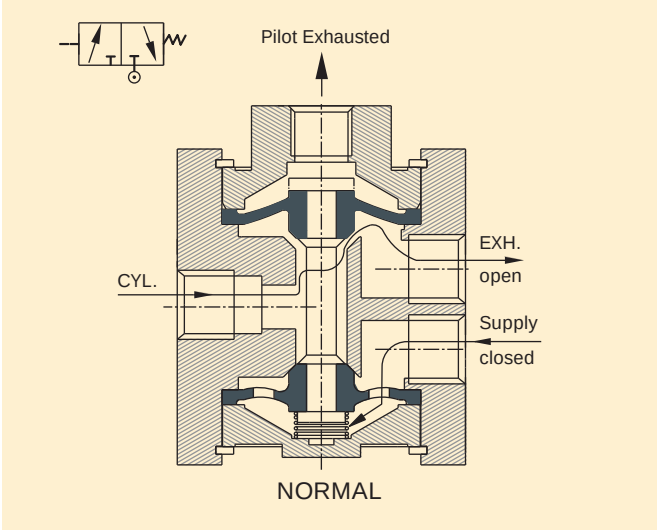
S.No.	Part Name	Material	S.No.	Part Name	Material
1	Top Cover	Aluminum	5	Retaining Ring	Spring Steel
2	Diaphragm	Nitrile	6	Stem	Stainless Steel
3	Valve Body	Casted Aluminum	7	Bottom Cover	Casted Aluminum
4	Spring	Spring Steel			

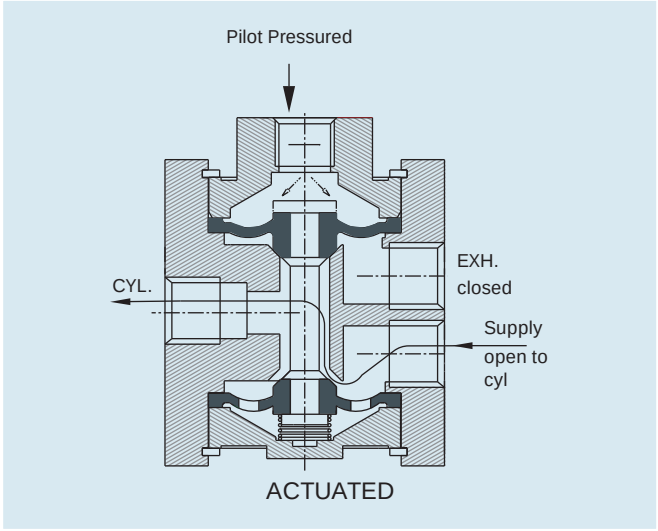
TECHNICAL SPECIFICATIONS :

MODEL	DETAILS	TYPE OF PILOT
DO1 314 01	1/8"-3 Way Normally Closed	Pilot Operated And Spring Return
DO1 314 02	1/8"-3 Way Normally Open	Pilot Operated And Spring Return
DO1 314 11	1/8"-3 Way Normally Closed	Pilot Operated Momentary Impulse
DO1 314 12	1/8"-3 Way Normally Open	Pilot Operated Momentary Impulse
DO2 314 01	1/4"-3 Way Normally Closed	Pilot Operated And Spring Return
DO2 314 02	1/4"-3 Way Normally Open	Pilot Operated And Spring Return
DO2 314 11	1/4"-3 Way Normally Closed	Pilot Operated Momentary Impulse
DO2 314 12	1/4"-3 Way Normally Open	Pilot Operated Momentary Impulse
DO2 514 13	1/4"-4 Way 2 Position	Pilot Operated And Spring Return
DO2 514 14	1/4"-4 Way 3 Position Normally Closed	Pilot Operated And Spring Return
DO3 314 01	3/8"-3 Way Normally Closed	Pilot Operated And Spring Return
DO3 314 02	3/8"-3 Way Normally Open	Pilot Operated And Spring Return
DO3 314 11	3/8"-3 Way Normally Closed	Pilot Operated Momentary Impulse
DO3 314 12	3/8"-3 Way Normally Open	Pilot Operated Momentary Impulse
DO4 314 01	1/2"-3 Way Normally Closed	Pilot Operated And Spring Return
DO4 314 02	1/2"-3 Way Normally Open	Pilot Operated And Spring Return
DO4 314 11	1/2"-3 Way Normally Closed	Pilot Operated Momentary Impulse
DO4 314 12	1/2"-3 Way Normally Open	Pilot Operated Momentary Impulse
DO4 514 13	1/2"-4 Way 2 Position	Pilot Operated And Spring Return
DO4 514 14	1/2"-4 Way 3 Position Normally Closed	Pilot Operated And Spring Return
DO5 314 01	3/4"-3 Way Normally Closed	Pilot Operated And Spring Return
DO5 314 02	3/4"-3 Way Normally Open	Pilot Operated And Spring Return
DO5 314 11	3/4"-3 Way Normally Closed	Pilot Operated Momentary Impulse
DO5 314 12	3/4"-3 Way Normally Open	Pilot Operated Momentary Impulse
DO6 314 01	1"-3 Way Normally Closed	Pilot Operated And Spring Return
DO6 314 02	1"-3 Way Normally Open	Pilot Operated And Spring Return
DO6 314 11	1"-3 Way Normally Closed	Pilot Operated Momentary Impulse
DO6 314 12	1"-3 Way Normally Open	Pilot Operated Momentary Impulse

OPERATING PRINCIPLE (3 WAY VALVE) :

NORMALLY CLOSED TYPE (SPRING RETURN) : MODEL D02 - 314 - 01



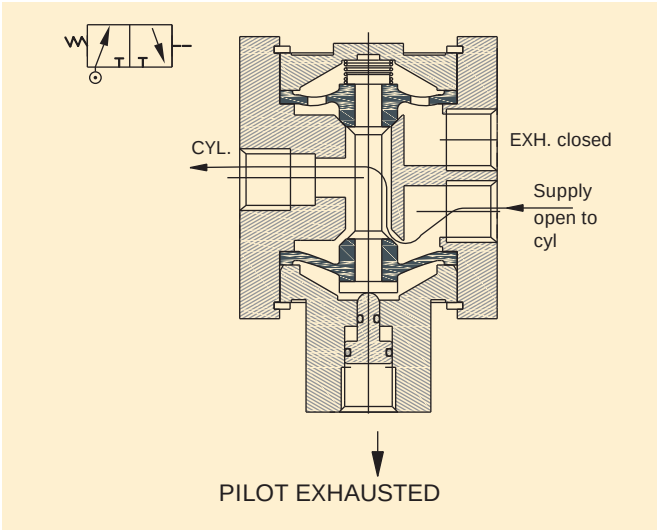


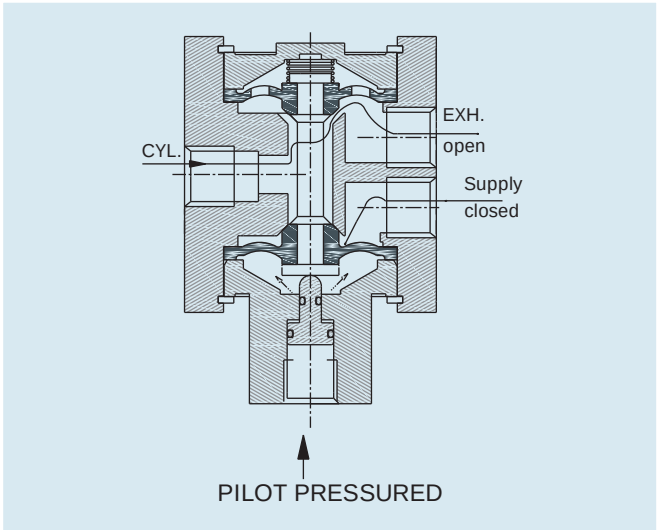
Normally Closed Type:

In normal position supply pressure is applied to the chamber at the bottom side of lower diaphragm that has greater effective area sealing the passage between supply and cylinder ports. At the same time the interconnecting stem between upper and lower diaphragms lifts off the upper diaphragm from it's seat opening the passage between cylinder and exhaust ports.

when pilot pressure is applied to the chamber at the top side of the upper diaphragm that has greater effective area ,then it closes the passage between cylinder and exhaust ports and at the same time the stem between the diaphragms pushes down the lower diaphragm opening the passage between supply and cylinder ports. When the pilot pressure acting on the upper diaphragm is removed and the chamber above the upper diaphragm is exhausted ,the spring below the lower diaphragm assisted by supply pressure again acting on the bottom side of lower diaphragm returns the valve to it's normal position.

NORMALLY OPEN TYPE (SPRING RETURN) : MODEL D02 - 314 - 02



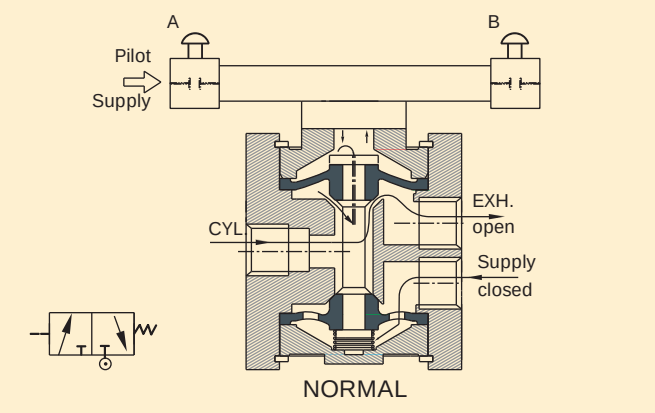


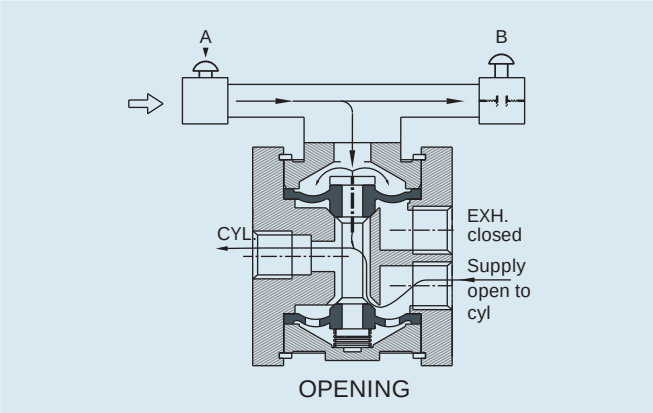
Normally Open Type:

In normal position supply pressure is applied to the chamber at the bottom side of upper diaphragm that has grater effective area opening the passage between supply and cylinder (outlet) ports. At the same time the interconnecting stem between upper and lower diaphragms lift the diaphragm and there by closing the passage between cylinder and exhaust ports.

When pilot pressure is applied to the piston at the top side of the upper diaphragm it pushes down the upper diaphragm closing the passage between cylinder and supply ports and at the same time the stem between the diaphragms pushes down the lower diaphragm opening the passage between cylinder and exhaust ports. When the pilot pressure acting on the piston on top of the upper diaphragm is removed and the chamber exhausted , the spring below the lower diaphragm assisted by supply pressure again acting on the bottom side of upper diaphragm returns the valve to it's normal position.

NORMALLY CLOSED (MOMENTARY PILOT IMPULSE) : MODEL D02 - 314 - 11

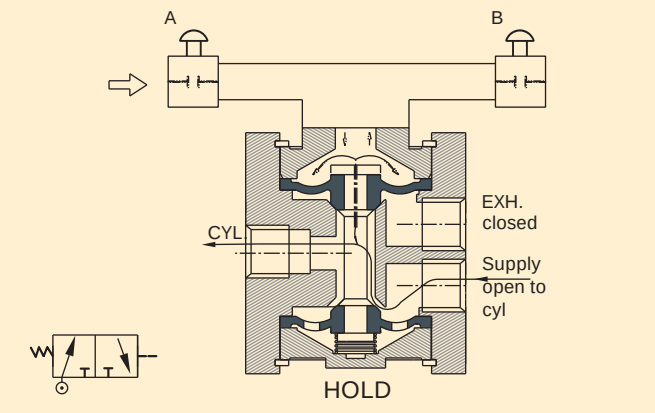


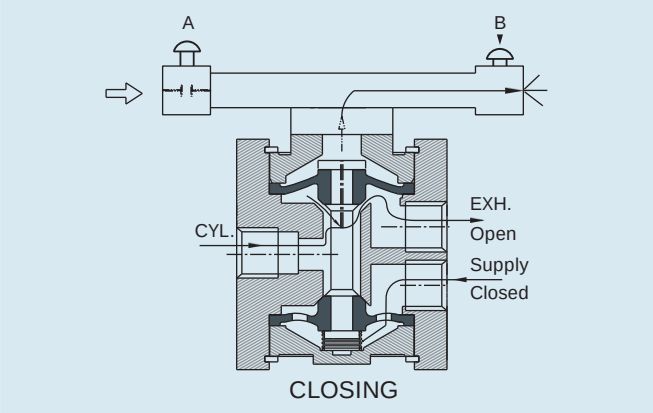


The momentary pilot operated valves facilitates interlocking and sequencing. The design involves the principle of imbalance where in the supply pressure is applied in the chamber at the bottom side of lower Diaphragm that has grater effective area sealing the passage between supply and cylinder ports.

A Momentary signal from the 2-way pilot valve A to the top side of upper diaphragm pushes down the lower diaphragm opening the passage between supply & cylinder ports of main valve. This air flow also feeds to the pilot chamber to ensure lightning - fast opening of the main valve.

NORMALLY OPEN (MOMENTARY PILOT IMPULSE) : MODEL D02 - 314 - 12



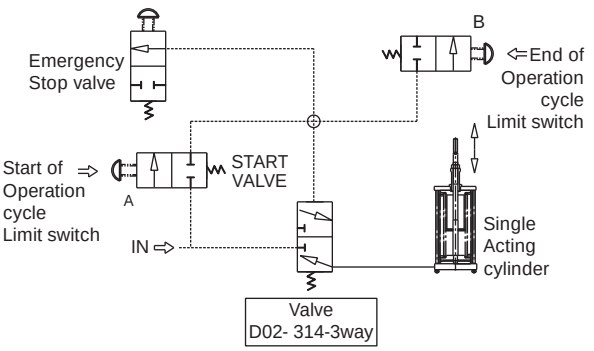


When the signal from the pilot valve A is stopped, the air in the pilot chamber remains locked and there by continuing to hold the main valve in open position. Any minor air leaks from the pilot chamber gets compensated by the flow of supply air in to this chamber thru the compensating hole in the stem between diaphragms.

To bring the valve to it's original closed position, the air pressure in the pilot chamber over upper diaphragm is exhausted by momentarily pressing the 2-way pilot vale B. The spring below the lower diaphragm pushes it up closing the passage between supply and cylinder ports and simultaneously opening the passage between cylinder and exhaust ports. Any residual air in the pilot chamber is evacuated through the internal hole in the stem that opens to the exhaust port.

Note : In these valves due to the internal hole in the stem, the operating media of the 2-way pilot valves and the main valve will mix and also the pilot pressure and supply pressure will tend to equalize. If there is a sudden and large increase in the air flow requirement at the cylinder port (such as due to run away load) resulting in dropping of the pressure in the valve to less than 12 psig then the main valve automatically closes. In such condition the valve can be restored to open position by once again operating the 2-way pilot valve A momentarily. It is also possible to operate the valve from multiple locations by installing more that one set of pilot valves A & B .This feature is useful for location of pilot valves at different convenient locations (such as emergency STOP buttons) to be used to override normal operational sequence of the main valve.

Typical Circuit (for 3-way valve)



APPLICATION DATA

INSTALLATION :

These valves can be mounted in any position. Also the performance of the valves is not easily affected by the contamination in the air.

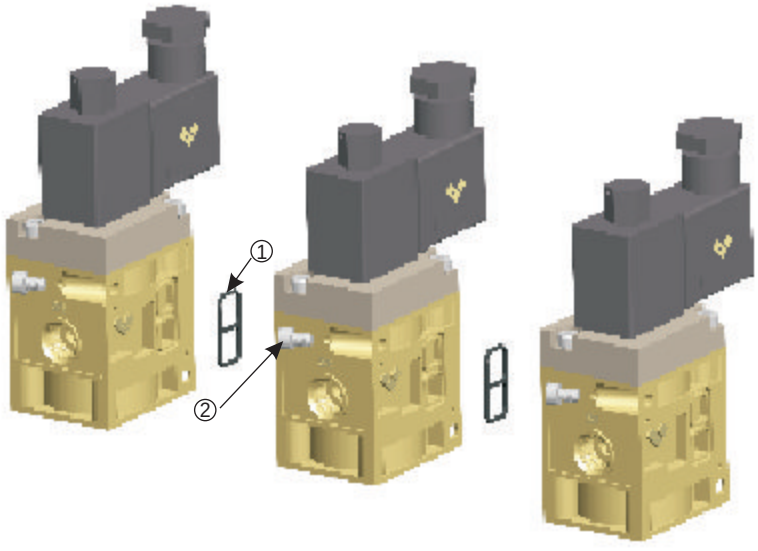
MOUNTING : (Individual Valves)

The valves can be mounted in many ways.
1. Directly inline on the metallic pipes used to carry compressed air.
2. Panel mounting using the tapped holes on the face of the valve
3. Mounting on base plate using the tapped holes at the bottom of the valve

GANG MOUNTING :

Valves can be gang mounted as shown below.

Using diagonally opposite holes / tapped holes on the side face the valves can be joined together by using 2-screws as shown in the sketch below. A gasket is placed in between the valve faces over the supply/exhaust port holes for preventing leakage of air from these at the interface.



1. Gasket

2. CH. Hd. Screw
   (M3 x 5 mm)

The design of 2/3 way valve facilitates gang mounting of the valves without the requirement of manifold

Application of 3 way valves as 2-way valves :

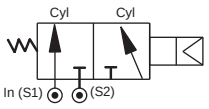
Standard 3-way valves can be used for 2-way application by plugging the exhaust port, and if required, can be converted back to 3 -way type by removing the plug in exhaust port.

Application of 4-way valves as 3-way valves :
4 way valves can be used as 3 way by plugging one of the two cylinder ports. Plug on of the cylinder port for normally closed valve and plug the other cylinder port for a normally open valve.

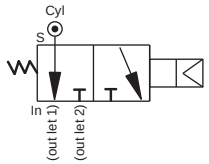
Application as normally closed or open valves :
Models D01 to D06 can be ordered as Normally closed or open type by referring to model key given on page: 23
These models should have minimum supply pressure 1.0 bar

Application as normally open valves :

Application as selector valve :
Model D01, D02 and D03 can be utilised as a Selector valve also. In this application a second supply pressure S2 (which is at a different pressure than the other supply connection S1)is connected at the exhaust port. In the normal position of the valve cylinder port is fed with supply pressure S1 and in the actuated condition the cylinder port is disconnected from supply pressure S1 and connected to supply pressure S2 (see sketch). It is to be ensured that pressures S1 + S2 do not exceed 10 bar.



Application as diverter valve :
Model D01, D02, and D04 can be utilised as a diverter valve. In this type the supply pressure S is connected to the cylinder port CYL .In normal condition S is connected IN port and EXH port is blocked. In actuated condition when pilot pressure is applied to the top side of upper diaphragm, S is diverted to EXH port and IN port is blocked. (see sketch)



Working Media:
These valves are designed for use with compressed air or inert gas, generally from 0 - 10 bar and require no Lubrication, Filtration, (or) Special preparation of media. But the equipment downstream of the valve may have a requirement for certain specified air quality and in such cases appropriate air preparation units (FRL's) are to be installed in the circuit at appropriate location as per the manufacturer's recommendation. Some models of valves may require a minimum supply pressure as specified for them.

Temperature:
The standard valves which are provided with Nitirile rubber diaphragms and seals can be used from -5^0C to + 80^0C. For applications requiring operation of the valve beyond this range please consult us.

Lubrication:
The valves do not require any lubrication . If a lubricator is installed in the line, it should be ensured that the oil used in it is compatible with Nitrile rubber material.

Pilot line piping :
The pilot operated air valves can operate with low pilot pressures and small volume of air. Exceptions to this are the momentary impulse valves which require minimum pilot pressure of 1.4 bar. It is recommended to use ¼" size pipe for pilot lines of not too much length. Small pilot lines and/or long lengths restricting the free and fast flow of pilot air may result in erratic operation of the valve .It is important to check the pilot line tubing as also the connectors to be free from any foreign matter lest in operation they may clog the pilot line and pilot air passages resulting in valve malfunction.

Ports :
Standard valves are supplied with BSP ports. NPT port threads can also be provided on request.

Port identification :
The ports are provided with embossed markings near them as detailed below

3 Way Valve :
IN = Inlet port
CYL = Cylinder port
EXH = Exhaust port

4 Way Valve :
IN = Inlet Port
CYL1 = Cylinder port-1
CYL2 = Cylinder port -2
EXH = Exhaust Port

Flow rate and fill/exhaust time (seconds)

Model	Cv	SCFM @ 100 PSIG	Fill time(Sec.) for 10 cu.in 0 to 90 PSIG	Exhaust time(Sec.) for 10 cu.in 100 to 10 PSIG
			Chamber	Chamber
D01-314-01 (1/8")	0.20	20	0.15	0.2
D02-314-01 (1/4")	0.8	50	0.045	0.08

CALCULATION OF FILL/EXHAUST TIME:

Model : D01-314-02-0

Air line size = 0.125 inch ID x 36 inch length

Air line volume = $0.785 \times (0.125)^2 \times 36 = 0.44$ Cubic inches

Air Cylinder requirements

2 inch bore x 4 inch stroke with 100 PSIG air supply.

Cylinder Volume = $0.785 \times (2)^2 \times 4 = 12.56$ cubic inches.

Total Circuit volume = Cylinder volume + air line volume. = 12.56 + 0.44 = 13.0 cubic inches

Chamber fill time:

Selected Valve flow capacity = 0.15 seconds to fill 10 cubic inches .

Time to fill 13 cubic inches $= \frac{13 \times 0.150}{10} = 0.26$ sec.

Exhaust time:

Selected Valve exhaust flow capacity = 0.20 seconds to Exhaust 10 cubic inches

Time to exhaust 13 cubic inches $= \frac{13 \times 0.2}{10} = 0.195$ sec.

Total cycle time = 0.195 + 0.26 = 0.455 sec.

Flow controls:

Flow Controls can be installed between the valve and the Cylinder being actuated. Installing flow control device in exhaust port is to be avoided as the valve may malfunction due to back pressure developed.

Mufflers:

Mufflers can be installed in valve exhaust ports to suppress exhaust air noise. The mufflers are to be cleaned as a part of preventive maintenance program regularly, (or) replaced as and when necessary as clogged mufflers will develop back pressure in the valve resulting in it's malfunction.

Packaging :

All the valves are packed in independent corrugated boxes for protection. Valve model number is printed over the corrugated box predominantly as a part of easy identification and traceability.

Trouble shooting:

Probable causes for valve malfunction are mainly due to circuit design errors, improper selection of valve in pneumatic circuitry (or) improper plumbing.

Investigative measures to overcome the Valve malfunction problems :-

Check for availability of pilot pressure of minimum required value at the pilot port. Blocked (or) defective fittings that may frequently cause pressure drops which may ultimately lead to circuit start up problems.

In seasons of low ambient temperature diaphragms become stiff and hard. In such circumstances, plan for increasing the pilot pressure for easy actuation.

In applications where valves are used with dirt laden air media, the diaphragm seats of the valve get contaminated with dirt creating problems for easy shifting of the diaphragm. This can be prevented by proper preventive maintenance plan for dismantling and cleaning the valves thoroughly.

If the diaphragm gets ruptured due to prolonged usage, the valve fails to function properly. This can be corrected by replacing the damaged valve parts using proper seals from repair kit.

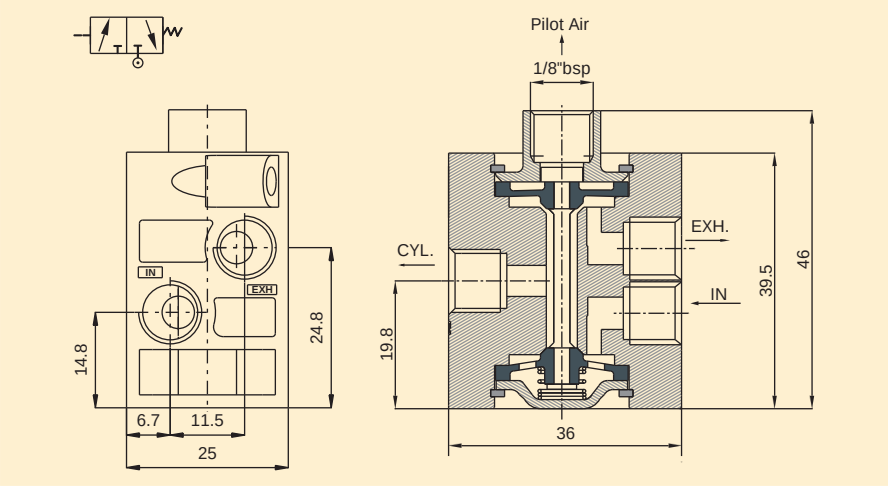
Warranty :

All valves are warrantied for 12 months from the date of manufacture against material & manufacturing defects and workmanship. Valves outside the warranty period may be serviced by purchasing required repair kits.

SERIES : D01 (1/8” AIR PILOT VALVE)

D01 Series Pilot operated diaphragm valves, are simple double diaphragm design, 2- position spring and pressure return, 2 way / 3way valves. These offer high flow rates (27 SCFM at 125 PSIG) and responds very fast on giving the pilot signal. They are available as normally opened or normally closed type.

The Compact light weight double diaphragm no-stick poppet valves require no lubrication and are highly reliable. The D01 series air pilot valves do not contain any sliding seals which are prone to cuts and thereby needing frequent seals replacement and hence they are ideal for use even with contaminated air that is fed direct from the compressor air line. These versatile D01 series are economical and at the same time highly reliable. They can be base mounted / panel mounted or In-line mounted and multiple valves can be gang mounted without the requirement of a manifold .



Specification		Unit	Technical details
Model No		——	Diaphragm - 3 way
Port Size		BSP / NPT	1/8"
Material of Construction	Body	——	Aluminum
	Stem	——	S.S.
	Diaphragm	——	Nitrile
Operating Medium		——	Compressed Air
Max. Operating Temperature		°C	80°
Max. Working Pressure		BAR	10
Weight		Kg	0.065

This valve may also be used as Diverter valve by connecting supplying pressure to Cylinder port, and as a two pressure selector valve by connecting high pressure line to exhaust port EXH (75 PSIG max) and low pressure line to 'IN' port (50 PSIG Max)

PRESSURE DETAILS :

Model : D01-314-01 (1/8”)	Valved Pressure	1.7 bar	5.2 bar	8.6 bar
	Pilot Pressure	1.5 bar	2.5 bar	3.6 bar

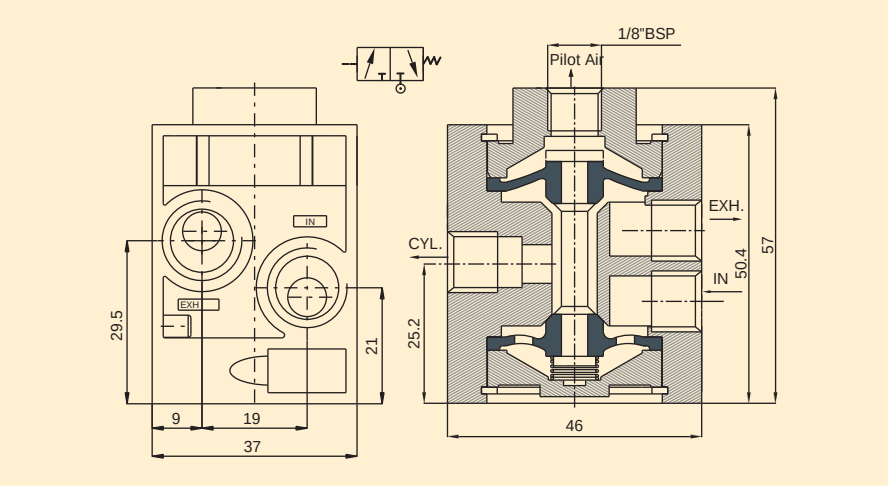
FLOW DETAILS:
Flow rate and fill/exhaust time (seconds)

Model	Cv	SCFM @ 100 PSIG	Fill time(Sec.) for 10 cu.in 0 to 90 PSIG	Exhaust time(Sec.) for 10 cu.in 100 to 10 PSIG
			Chamber	Chamber
D01-314-01 (1/8”)	0.20	20	0.15	0.2

SERIES : D02 (1/4" AIR PILOT VALVE)

D02 Series Pilot operated diaphragm valves, are simple double diaphragm design 2 position spring and pressure return, 2 way / 3way / 4way valves. These offer high flow rates (75 SCFM at 125 PSIG) and respond very fast on giving the pilot signal. They are available as normally opened or normally closed type.

The Compact light weight double diaphragm no-stick poppet valves require no lubrication and are highly reliable . The D02 series air pilot valves do not contain any sliding seals which are prone to cuts and thereby needing frequent seals replacement and hence these are ideal for use even with contaminated air that is fed direct from the compressor air line. These versatile D02 series are economical and at the same time highly reliable. They can be base mounted / panel mounted or In-line mounted and multiple valves can be gang mounted without the requirement of a manifold.



Specification		Unit	Technical details
Model No		——	Diaphragm - 3 way
Port Size		BSP / NPT	1/4"
Material of Construction	Body	——	Aluminum
	Stem	——	S.S.
	Diaphragm	——	Nitrile
Operating Medium		——	Compressed Air
Max. Operating Temperature		°C	80°
Max. Working Pressure		BAR	10
Weight		Kg	0.150

This valve may also be used as Diverter valve by connecting supplying pressure to Cylinder port, and as a two pressure selector valve by connecting high pressure line to exhaust port EXH (75 PSIG max) and low pressure line to 'IN' port (50 PSIG Max)

PRESSURE DETAILS :

Model : D01-314-01 (1/4")	Valved Pressure	1.7 bar	5.2 bar	8.6 bar
	Pilot Pressure	1.5 bar	3.2 bar	5.0 bar

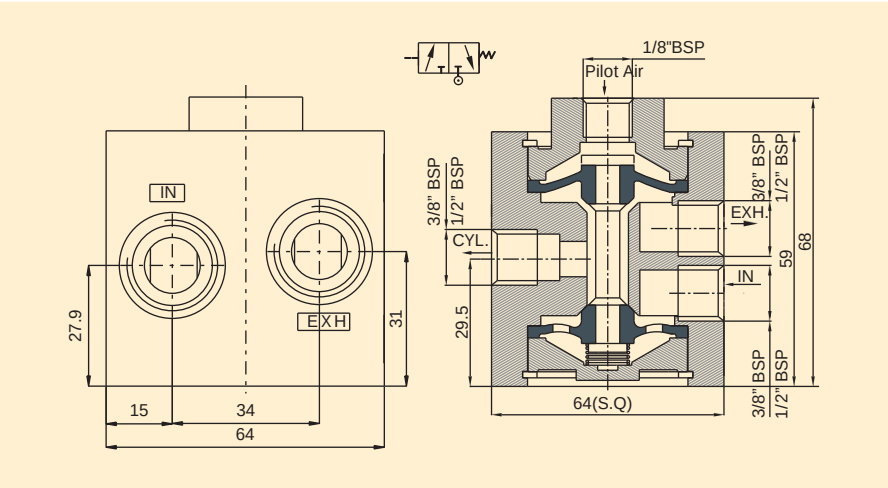
FLOW DETAILS:
Flow rate and fill/exhaust time (seconds)

Model	Cv	SCFM @ 100 PSIG	Fill time(Sec.) for 10 cu.in 0 to 90 PSIG	Exhaust time(Sec.) for 10 cu.in 100 to 10 PSIG
			Chamber	Chamber
D02-314-01 (1/4")	0.8	50	0.045	0.08

SERIES : D03 / D04 (3/8" / 1/ 2" AIR PILOT VALVE)

D03 / D04 Series Pilot operated diaphragm valves, are simple double diaphragm design 2-position spring and pressure return, 2 way / 3way valves. These offer high flow rates (200 SCFM at 125 PSIG) and responds very fast on giving the pilot signal. They are available as normally closed or normally open type.

The Compact light weight double diaphragm no-stick poppet valves require no lubrication and are highly reliable. The D03 / D04 series air pilot valves do not contain sliding seals which are prone to cuts thereby needing frequent seals replacement and hence they are ideal for use even with contaminated air that is fed direct from the compressor air line. These versatile D04 series are economical and at the same time highly reliable. They can be base mounted / panel mounted or In-line mounted.



Specification		Unit	Technical details
Model No		——	Diaphragm - 3 way
Port Size		BSP / NPT	3/8" / 1/2"
Material of Construction	Body	——	Aluminum
	Stem	——	S.S.
	Diaphragm	——	Nitrile
Operating Medium		——	Compressed Air
Max. Operating Temperature		°C	80°
Max. Working Pressure		BAR	10
Weight		Kg	0.375

This valve may also be used as Diverter valve by connecting supplying pressure to Cylinder port, and as a two pressure Selector valve by connecting high pressure to exhaust port EXH (75 PSIG max) and low pressure line to 'IN' port (50 PSIG Max)

PRESSURE DETAILS :

Models : D03-314-01 (3/8") D04-314-01 (1/2")	Valved Pressure	1.7 bar	5.2 bar	8.6 bar
	Pilot Pressure	1.5 bar	3.2 bar	5.0 bar

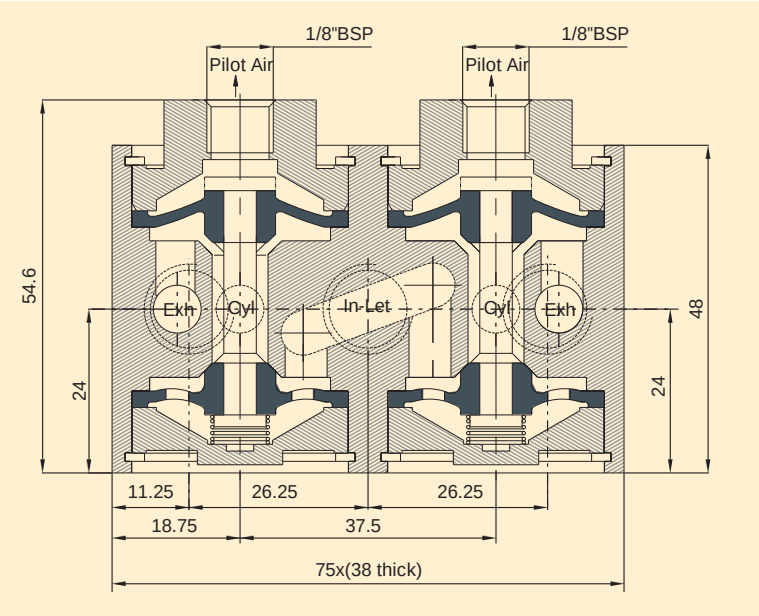
FLOW DETAILS:
Flow rate and fill/exhaust time (seconds)

Model	Cv	SCFM @ 100 PSIG	Fill time(Sec.) for 10 cu.in 0 to 90 PSIG	Exhaust time(Sec.) for 10 cu.in 100 to 10 PSIG
			Chamber	Chamber
D03-314-01 (3/8")	1.3	105	0.025	0.05
D04-314-01 (1/2")	2.2	185	0.013	0.034

SERIES : D02 (1/4” - 4 WAY AIR PILOT VALVE)

D02 Series Pilot operated diaphragm valves, are simple double diaphragm design with spring and pressure return 4-way 5 port valve with common supply and exhaust ports. These offer high flow rates (75 SCFM at 125 PSIG) and respond very fast on giving pilot signal. They are available in 2 position & 3 position types.

These versatile D02 series economical valves can be base mounted / panel mounted / In-line mounted using the fixing provision made on the valve top & bottom faces.



Specification		Unit	Technical details
Model No		——	Diaphragm - 4 way
Port Size		BSP / NPT	1/4”
Material of Construction	Body	——	Aluminum
	Stem	——	S.S.
	Diaphragm	——	Nitrile
Operating Medium		——	Compressed Air
Max. Operating Temperature		°C	80°
Max. Working Pressure		BAR	10
Weight		Kg	0.350

PRESSURE DETAILS :

Model : D02-514-01 (1/4”)	Valved Pressure	1.7 bar	5.2 bar	8.6 bar
	Pilot Pressure	1.5 bar	3.2 bar	5.0 bar

FLOW DETAILS:

Flow rate and fill/exhaust time (seconds)

Model	Cv	SCFM @ 100 PSIG	Fill time(Sec.) for 10 cu.in 0 to 90 PSIG	Exhaust time(Sec.) for 10 cu.in 100 to 10 PSIG
			Chamber	Chamber
D02-514-01 (1/4”)	0.8	50	0.045	0.08

MANUAL OPERATED DIAPHRAGM VALVES

GENERAL DESCRIPTION :

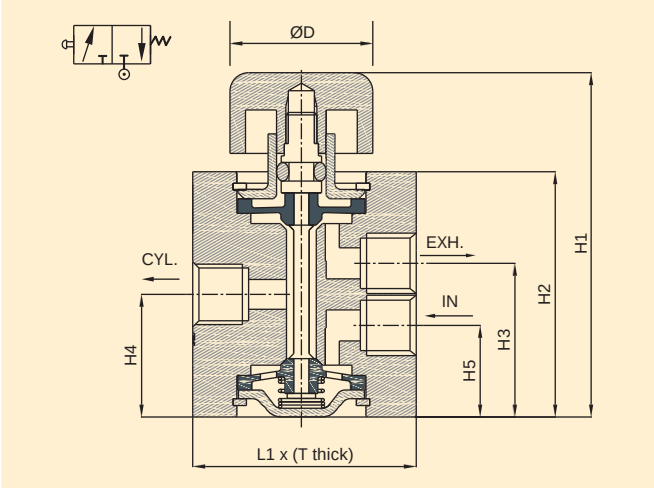
The manual operated diaphragm valves are available in D01 (1/8") , D02 (1/4") and D04 (½") series, in normally closed / normally open type.

THE FOLLOWING ARE THE TYPES OF MANUAL VALVES:

1. Push button operated Diaphragm valve.	3. Handle operated Diaphragm valve.
2. Palm button operated Diaphragm valve.	4. Lever operated Diaphragm valve.

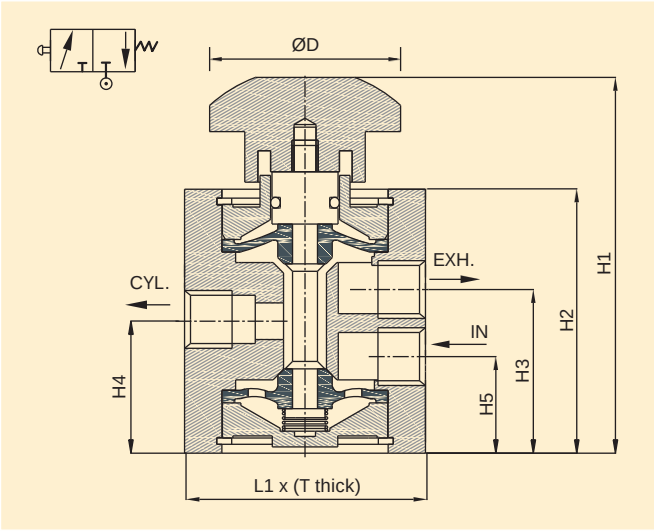
3 WAY VALVES :

1. PUSH BUTTON OPERATED



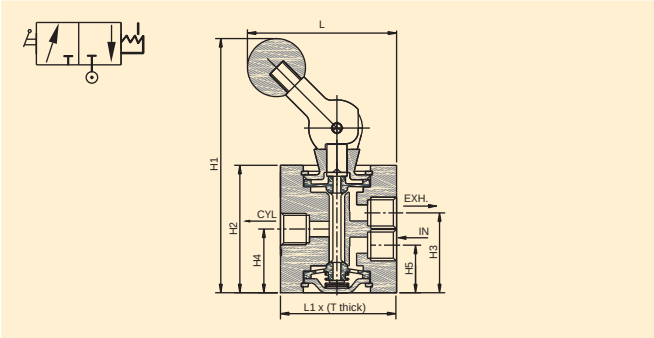
S.no	Port size	H1	H2	H3	H4	H5	L1	T	ØD
1	1/8" (BSP / NPT)	55	39.5	24.8	19.8	14.8	36	25.4	23
2	1/4" (BSP / NPT)	66	50.4	29.5	25.2	21	46	37	23

2. PALM BUTTON OPERATED



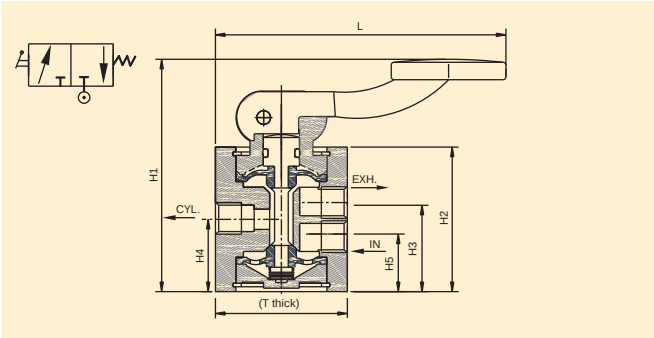
S.no	Port size	H1	H2	H3	H4	H5	L1	T	ØD
1	1/8" (BSP / NPT)	55	39.5	24.8	19.8	14.8	36	25.4	24
2	1/4" (BSP / NPT)	75	50.4	29.5	25.2	21	46	37	36.5

3. HANDLE OPERATED :



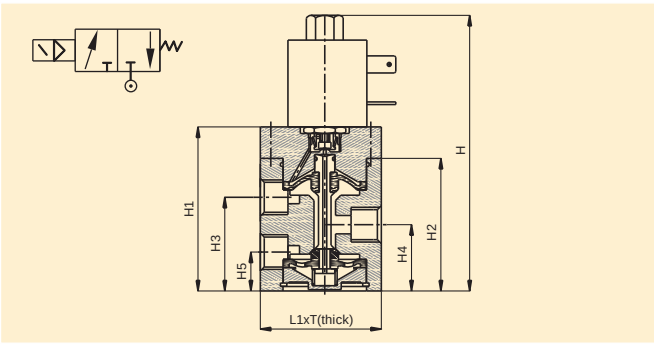
S.no	Port size	H1	H2	H3	H4	H5	L1	T	L
1	1/8" (BSP / NPT)	85	39.5	24.8	19.8	14.8	36	25.7	45
2	1/4" (BSP / NPT)	100	50.4	29.5	25.2	21	46	37	65

4. LEVER OPERATED :



S.no	Port size	H1	H2	H3	H4	H5	L1	T	L
1	1/8" (BSP / NPT)	60	39.5	24.8	19.8	14.8	36	25.4	80
2	1/4" (BSP / NPT)	75	50.4	29.5	25.2	21	46	37	125

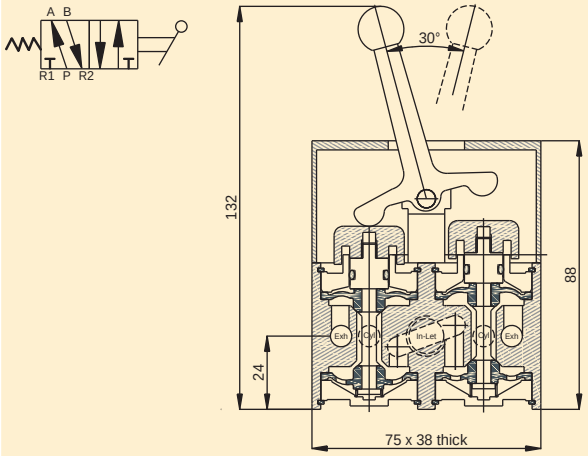
5. SOLENOID OPERATED DIAPHRAGM VALVE :



S.no	Port size	H	H1	H2	H3	H4	H5	L1	T
1	G 1/8" BSP/NPT	85	53	39.5	24.8	19.8	14.8	36	25.4
2	G 1/4" BSP/NPT	105	62.5	50.4	29.5	25.2	21	46	37

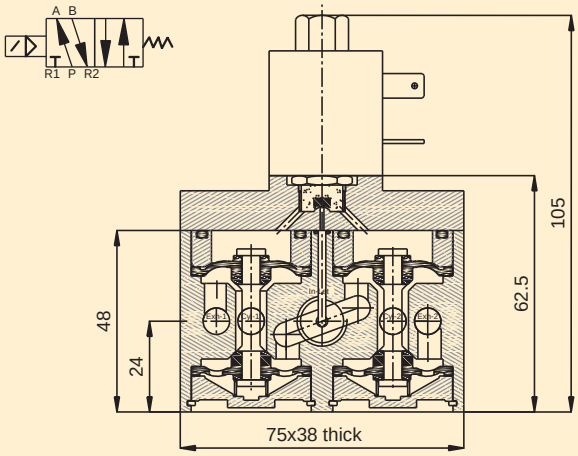
4 WAY VALVE :

1/4” HANDLE OPERATED

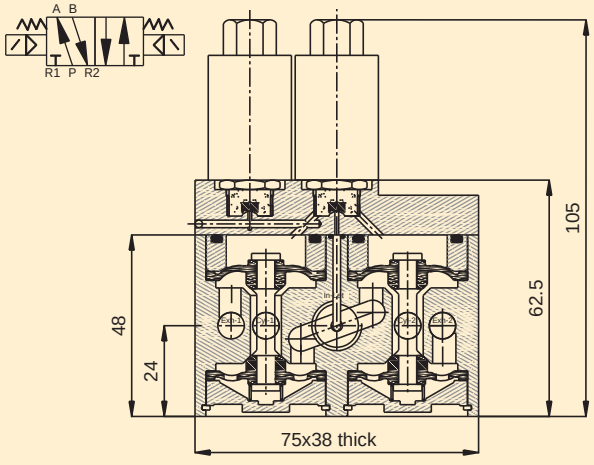


1/4" SINGLE SOLENOID OPERATED:

Photo 4 way
Single solinoid
1/4" Diaphragm valve

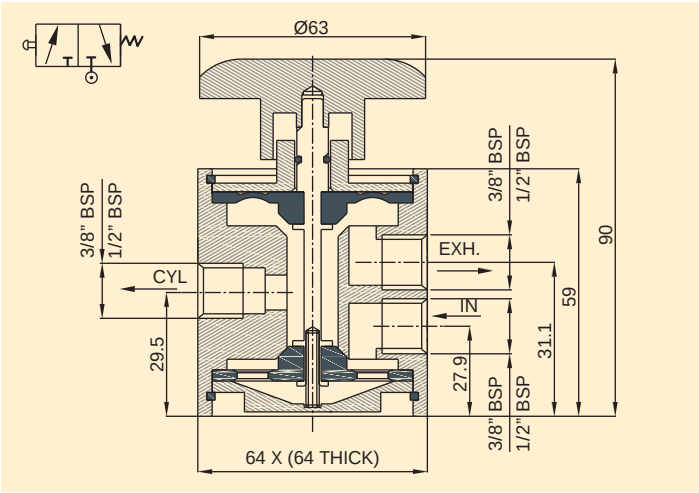


1/4" DOUBLE SOLENOID OPERATED:

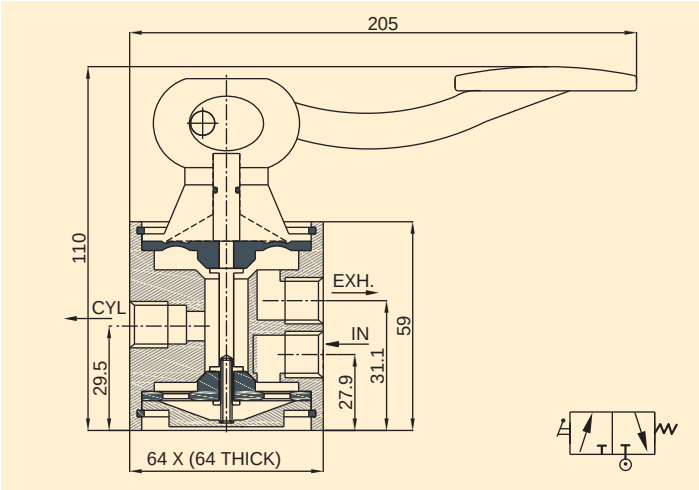


SERIES : D03 /D04 (3/8" / 1/ 2")

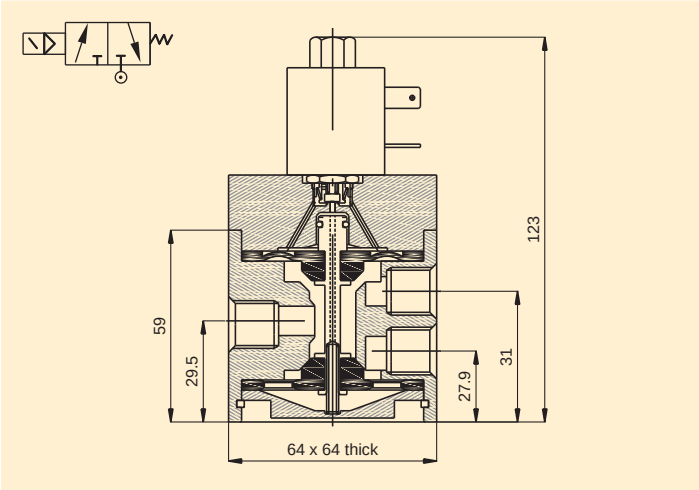
1. PALM BUTTON OPERATED :



2. LEVER OPERATED :

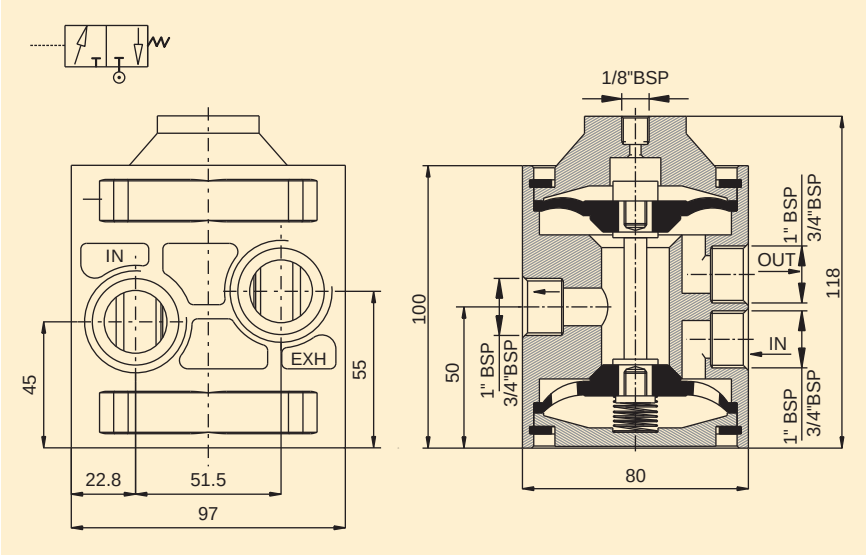


3. SOLENOID OPERATED :

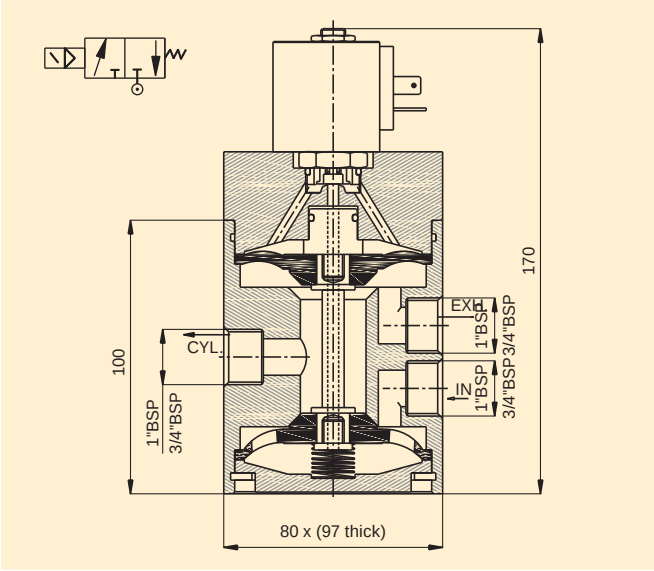


SERIES : D05 / D06 (3/4” / 1”)

1. AIR PILOT OPERATED :

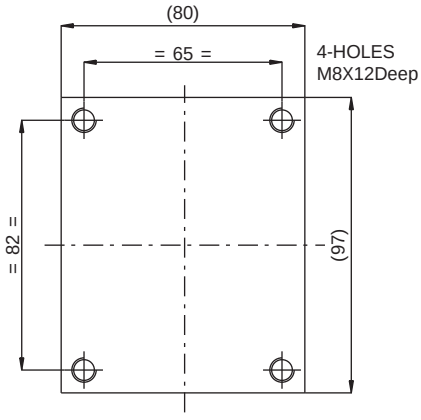


2. SOLENOID OPERATED :



Model	D05-314-01 (3/4”)	D06-314-01 (1”)
Cv	3.8	4.25
SCFM @ 100 PSIG	250	280
Fill time(Sec.) for 10 cu.in 0 to 90 PSIG Chamber	0.0014	0.0016
Exhaust time(Sec.) for 10 cu.in 100 to 10 PSIG Chamber	0.0036	0.004

Base Mounting details

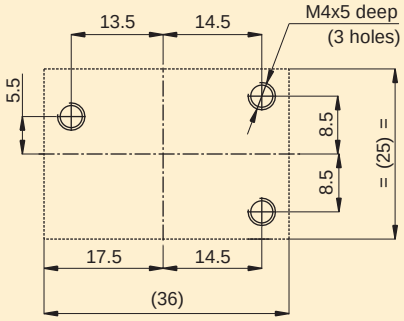


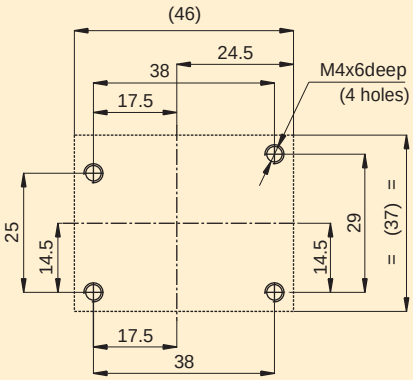
BASE MOUNTING DETAILS

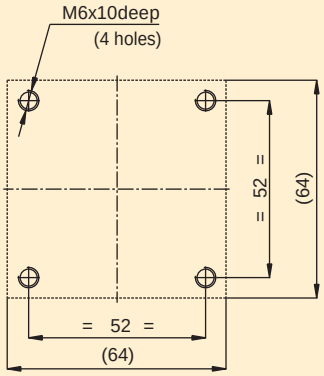
D01 - 314 - 06 (1/8")

D02 - 314 - 05 (1/4")

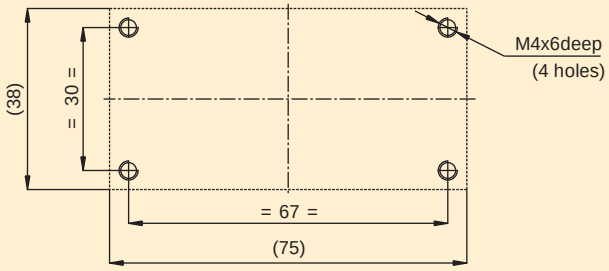
D04 - 314 - 04 (1/2")



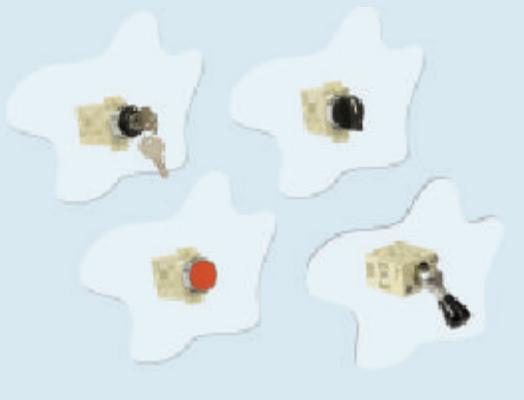




D02 - 514 - 07 (1/4")



Mounting Details



Panel Mounted

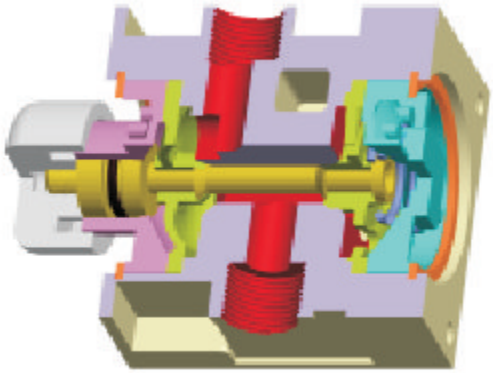
Foot Valve

Mechanical Valves

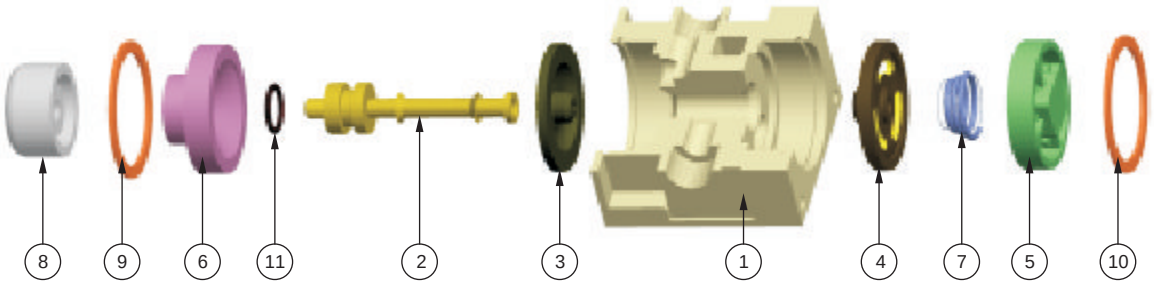
MAINTENANCE / REPAIR KIT

Seal kits are for maintenance/repair are available for most valves. Kit contains all rubber parts and detailed instructions for their fitment. Kits are supplied sealed in plastic bags for cleanliness and protection from damage Etc .and are available ex-stock.

Models for which no Seal Kits are available may be repaired by purchasing the individual parts selected from the parts list.

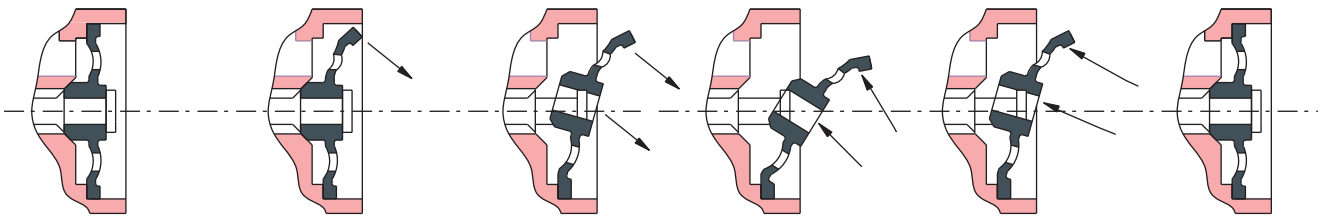


1. Valve Body
2. Stem
3. Diaphragm - 1
4. Diaphragm - 2
5. Bottom Cover
6. Top Cover
7. Spring
8. Knob
9. Circlip - 1
10. Circlip - 2
11. `o' Ring



DISASSEMBLY PROCEDURE

1. Remove Circlip 10, Bottom Cover 5 and Spring 7
2. Remove Diaphragm 4 as shown.



3. Remove Knob 8 from Stem 2
4. Remove Circlip 9 and Top Cover 6
5. Remove Stem 2 and Diaphragm 3 Assembly by noting the relationship to Inlet port to assure correct reassembly.
6. Remove Diaphragm 3 from Stem 2
7. Remove `O' Ring 11 from Stem 2

REASSEMBLY PROCEDURE

1. Insert New Stem 2 and Diaphragm 3 into Valve Body 1 in correct relationship to Inlet port.
2. Assemble new Diaphragm 4 to main Stem 2 as shown.

3. Put Spring 7, Bottom Cover 5 and Circlip 10
4. Add New `O' Ring 11 to Stem 2
5. Assemble Top Cover 6 to Valve Body 1 with Circlip 9
6. Add Knob 8 to Stem 2.

ORDERING CODE

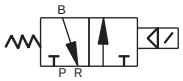
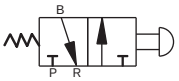
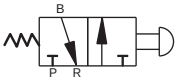
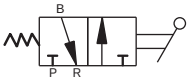
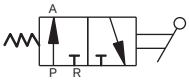
D	01	314	21	3

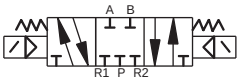
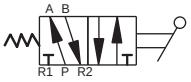
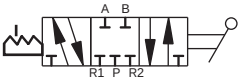
DIAPHRAGM VALVE

SIZE	CODE	
	BSP	NPT
1/8"	01	01N
1/4"	02	02N
3/8"	03	03N
1/2"	04	04N
3/4"	05	05N
1"	06	06N

ELECTRICALS	
0	NO Solenoids
1	230 VAC / DC
2	110 VAC/DC
3	24 VDC

MODEL No.
314 (3 Way)
514 (4 Way)

Function	Function (3 way) (314 Series)	Code
Single Solenoid Spring Return Normally Closed		21
Single Solenoid Spring Return Normally Open		22
Push Button Spring Return Normally Closed		23
Push Button Spring Return Normally Open		24
Palm Button Spring Return Normally Closed		25
Palm Button Spring Return Normally Open		26
Hand Lever Spring Return Normally Closed		27
Hand Lever Spring Return Normally Open		28

Function	Function (4 way) (514 Series)	Code
Single Solenoid Spring Return (4 Way-2 Pos.)		30
Double Solenoid Spring Return (4 Way-2 Pos.)		31
Double Solenoid Spring Return (4 Way-3 Pos.)		32
Hand Lever Spring Return (4 Way-2 Pos.)		33
Hand Lever (4 Way-3 Pos.)		34

Ex : D/01/314/21/3