







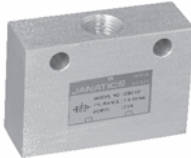
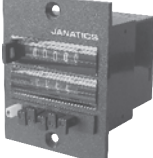




## 3. AIR LINE VALVES

<p><b>Flow Control Valve</b></p> <p>Series GR2 Sizes : Ø4 - 12mm (M5 - 1/2)</p> 	<p><b>Flow Control Valve (Metal)</b></p> <p>Series GR Sizes : M5 - 1/2</p> 	<p><b>Flow Control Valve (Inline type)</b></p> <p>Series GR2 Sizes : Ø4 - 12mm</p> 	<p><b>Quick Exhaust Valve</b></p> <p>Series GQ Sizes : M5 - G1/2</p> 
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<p><b>Pilot Operated Non-Return Valve</b></p> <p>Series GV2 Sizes : G1/8 to G1/2</p> 	<p><b>Pilot Operated Non-Return Valve (Metal)</b></p> <p>Series GV2 Sizes : G1/8 to G1/2</p> 	<p><b>Inline Slide Valve</b></p> <p>Series GS1 Sizes : R1/8 to R3/4</p> 	<p><b>Non Return Valve</b></p> <p>Series GV1 Sizes : G1/8, 1/4, 3/8, 1/2</p> 
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<p><b>Pneumatic Timer</b></p> <p>Series GT Size : M5</p>  <p>Page No. 3.9.5 - 3.9.6</p>			

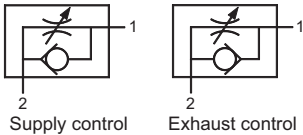


# Air Line Valves

Sizes : M5 to G3/4



- Flow Control Valve (Plastic) - (Ø4 - 12mm)
- Flow Control Valve (Metal) - (M5 - G3/4)
- Flow Control Valve (Inline type) - (Ø4 - 12mm)
- Quick Exhaust Valve - (M5 - G1/2)
- Pilot Operated Non-Return Valve - (G1/8 - G1/2)
- Inline Slide Valve - (R1/8 - R3/4)
- Non-Return Valve - (G1/8 - G1/2)
- AND Valve - (M5, G1/8 & G1/4)
- OR Valve - (M5, G1/8 & G1/4)
- Pneumatic Preset Counter
- Pneumatic Preset Module
- Pneumatic Timer



# FLOW CONTROL VALVE

## Series GR2

Cat No GR2 - 01 - 02

### FLOW CONTROL VALVE

#### Features

- ❑ Directly mountable on cylinder / valve ports
- ❑ Can be rotated by 360°
- ❑ Fine regulation of air flow
- ❑ Nickel plated body
- ❑ Male threads (R) teflon coated
- ❑ Elegant design and finish



#### Function

These valves allow controlled flow of air in one direction and free flow in the other direction. These are available in two versions - a) Supply control version, and b) Exhaust control version.

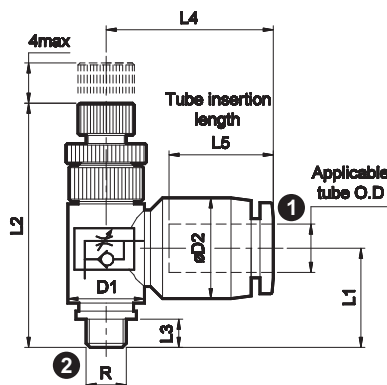
#### Application

These valves are used to control the speed of piston in a pneumatic cylinder.

#### Technical Specifications

Type	Supply control	Exhaust control
Model	GR1	GR5
Free flow	2 → 1	1 → 2
Controlled flow	1 → 2	2 → 1
Medium	Compressed air - Dry / Lubricated	
Operating pressure range	1 - 10 bar	
No. of needle rotations	10	
Ambient Temperature	-10° to +60° C	
Medium Temperature	+5° to +50° C	
Materials of construction	Brass, Acetal, Nitrile	
Applicable tubes	Nylon, Polyurethane	

#### Thread size - M5



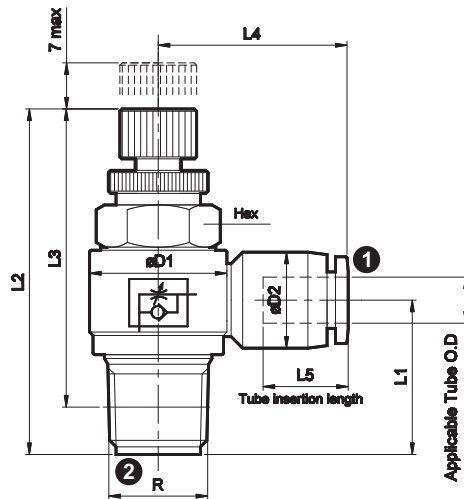
Sl. No	Ordering No.	Thread	Applicable Tube OD	L1	L2	L3	L4	L5	ØD1	ØD2	Free Flow min. Lts/min	Controlled Flow max. Lts/min
1	GR1107004 GR5107004	M5	4	12.5	31	3.5	20	14.5	9.5	10.5	60	45
2	GR1107006 GR5107006		6	12.5	31	3.5	21	15.5	9.5	12.5	100	50

# FLOW CONTROL VALVE

## Series GR2

Cat No GR2 - 01 - 02

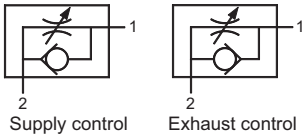
Thread size - R1/8, R1/4, R3/8, R1/2



Sl. No	Ordering No.	Thread	Applicable Tube OD	Hex	L1	L2	L3	L4	L5	ØD1	ØD2	Free Flow min. Lts/min	Controlled Flow max. Lts/min
1	GR1105004 GR5105004	R1/8	4	12	15.5	39	35.5	22	14.5	13.5	10.5	100	100
2	GR1105006 GR5105006		6		16	39	35.5	23	15.5	13.5	12.5	200	140
3	GR1105008 GR5105008		8		18	39	35.5	27	17	13.5	15	200	140
4	GR1105106 GR5105106	R1/4	6	14	20.5	47	41.5	25	15.5	18	12.5	400	350
5	GR1105108 GR5105108		8		21	47	41.5	27.5	17	18	15	550	420
6	GR1105110 GR5105110		10		23	47	41.5	32.5	20	18	18.5	650	450
7	GR1105208 GR5105208	R3/8	8	19	25	53	47	29.5	17	22	15	1100	930
8	GR1105210 GR5105210		10		26	53	47	34.5	20	22	18.5	1300	1000
9	GR1105212 GR5105212		12		27	53	47	36	20.5	22	21	1400	1050
10	GR1105308 GR5105308	R1/2	8	24	27.5	57	49.5	32.5	17	28	15	1400	1250
11	GR1105310 GR5105310		10		28.5	57	49.5	36.5	20	28	18.5	1750	1500
12	GR1105312 GR5105312		12		29.5	57	49.5	37.5	20.5	28	21	1900	1600

### How to order

While ordering Flow control valve, mention the ordering number given in the corresponding tables.



## FLOW CONTROL VALVE

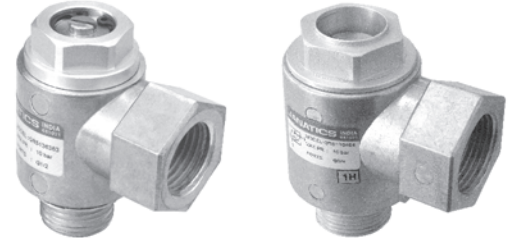
### Series GR

Cat No GR - 01 - 02 - B

### FLOW CONTROL VALVE - M5, G1/8, G1/4, G3/8, G1/2, G3/4

#### Features

- Directly mountable on cylinder
- Fine regulation of air flow
- Male threads (G) with sealing washer
- Elegant design and finish
- Slotted head screw adjusting type



#### Function

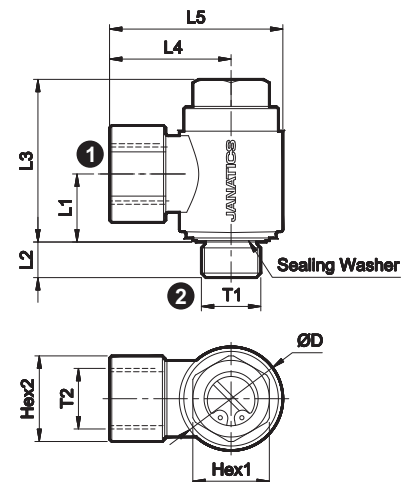
These valves allow controlled flow of air in one direction and free flow in the other direction. These are available in two versions - a) Supply control version, and b) Exhaust control version.

#### Application

These valves are used to control the speed of piston in a pneumatic cylinder.

#### Technical Specifications

Type	Supply control			Exhaust control		
Model	GR1			GR5		
Free flow	2 → 1			1 → 2		
Controlled flow	1 → 2			2 → 1		
Sizes	M5	G1/8	G1/4	G3/8	G1/2	G3/4
No. of needle rotations	9	9	9	9	8	13
Tightening torque in Nm	1.5	5.5	11	20	30	45
Medium	Compressed air - Dry / Lubricated					
Operating pressure range	0.5 - 10 bar					
Ambient Temperature	-10° to +60° C					
Medium Temperature	+5° to +50° C					
Materials of construction	Zinc, Brass, Nitrile, Aluminium, Steel					



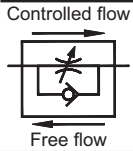
Sl. No	Ordering No.	Thread		Hex1	Hex2	L1	L2	L3	L4	L5	ØD	Free Flow min. <sup>#</sup> Lts/min <sup>@</sup>	Controlled Flow max. <sup>#</sup> Lts/min
		T1	T2										
1	GR1137070	M5	M5	8	9	9	3.7	23	12	18	12	80	0 to 100
2	GR5137070												
3	GR1136060	G1/8	G1/8	13	15	12	5.5	32	19.5	28.5	17.5	300	0 to 400
4	GR5136060												
5	GR1136161	G1/4	G1/4	17	19	15	8	36.5	27	38.5	23	650	0 to 750
6	GR5136161												
7	GR1136262	G3/8	G3/8	21	24	19	9	40.5	29.5	43.5	28	1000	0 to 1500
8	GR5136262												
9	GR1136363	G1/2	G1/2	24	30	24	13	50.3	37	54	34	2250	0 to 2750
10	GR5136363												
11	GR5136464	G3/4	G3/4	30	36	30.3	13.5	61.5	45	66.5	43	4000	0 to 5000

@ - Needle fully closed condition.

# - Inlet pressure 6 bar, and pressure drop 1 bar.

#### How to order

While ordering Flow control valve, mention the ordering number given in the corresponding tables. Subject to change



# FLOW CONTROL VALVE

## Series GR2

Cat No GR2 - 01 - 03

### FLOW CONTROL VALVE - Inline type

#### Features

- Fine regulation of air flow
- Elegant design and finish



#### Function

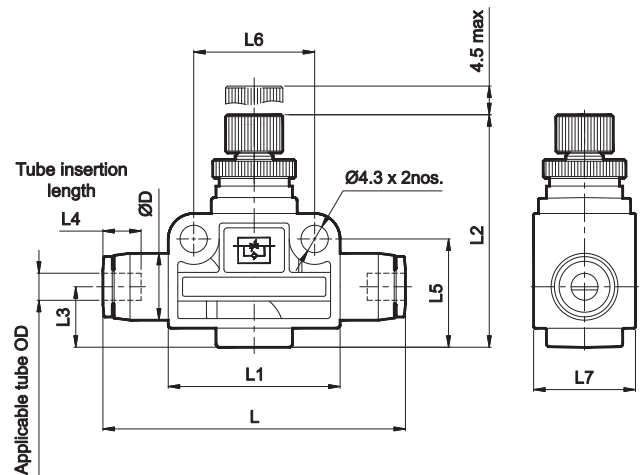
These valves allow controlled flow of air in one direction and free flow in the other direction.

#### Application

These valves are used to control the speed of the pneumatic cylinder.

#### Technical Specifications

Type	Reversing type
Model	GR011
Medium	Compressed air - Dry / Lubricated
Max. operating pressure	10 bar
No. of needle rotations	8
Ambient temperature	-10° to +60° C
Medium temperature	+5° to +50° C
Materials of construction	Brass, Acetal, Nitrile
Applicable tubes	Nylon, Polyurethane



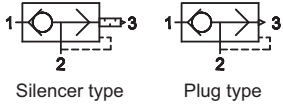
Sl. No	Ordering No.	Applicable Tube OD	L	L1	L2	L3	L4	L5	L6	L7	ØD	Free Flow Lts/min. @	Controlled Flow Lts/min. @
1	GR0110404	4	49.5	27	37.5	9.5	14.5	17	19	16	10.5	50	50
2	GR0110606	6	55	32	43.5	11	15.5	19.5	24	19	12.5	225	200
3	GR0110808	8	58	32	43.5	11	17.5	20.5	24	19	15	450	400
4	GR0111010	10	68.5	33	48	12	20	23.5	25	22	18.5	800	550
5	GR0111212	12	68.5	33	48	12	20.5	24.5	25	22	21	950	900

@ - Inlet pressure 6 bar, and pressure drop 1 bar.

#### How to order

While ordering Flow control valve, mention the ordering number given in the corresponding tables.

Subject to change



# QUICK EXHAUST VALVE

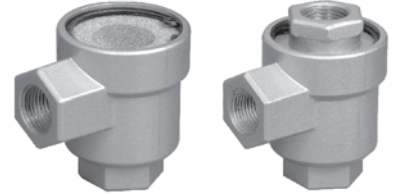
## Series GQ

Cat No GQ - 01 - 01

### QUICK EXHAUST VALVE - M5, G1/8, G1/4, G3/8, G1/2

#### Features

- Increase the speed of the cylinder
- With / without silencer
- Connection - M5, G1/8, G1/4, G3/8, G1/2
- Type GQ01 series is with silencer to reduce the exhaust noise



#### Function

These Quick exhaust valves when fitted to cylinder ports will result in increased speed of the cylinder. The exhaust air is directly connected to atmosphere through a bigger hole, instead of exhaust air going through the directional valve.

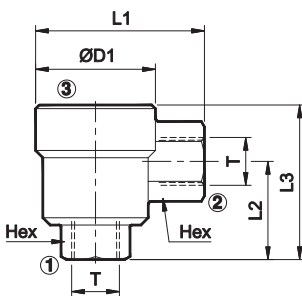
#### Technical Specifications

Type	Silencer type					Plug type					
Model	M5	G1/8	G1/4	G3/8	G1/2	M5	G1/8	G1/4	G3/8	G1/2	
Medium	Compressed air - Dry, Filtered, Lubricated										
Flow @ (lpm)	1 → 2	80	350	1200	3250	4300	80	350	1200	3250	4300
	2 → 3 **	300	1000	3000	5500	9000	150	800	2000	3250	4750
Exhaust noise (db)	80	86	85	83	86	---					
Operating pressure range (bar)	1 to 10	0.5 to 10				1 to 10	0.5 to 10				
Ambient temperature	-10° to +60° C										
Medium temperature	+5° to +50° C										
Materials of construction	Aluminium, Nitrile, Brass, Acetal, Zinc										

® Inlet pressure 6 bar, and pressure drop 1 bar

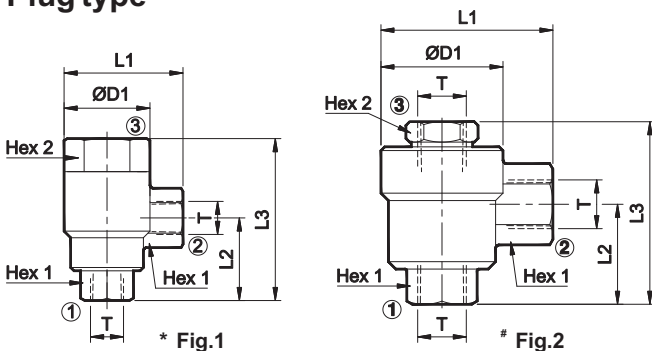
\*\* Pressure 6 bar

#### Silencer type



Thread T	ØD1	L1	L2	L3	Hex	Ordering No
M5 x 0.8	13	18	12.5	23.5	8	GQ0170
G1/8	26	35.5	21	34.5	16	GQ0150
G1/4	33	46.5	27	42.5	19	GQ0151
G3/8	46	60	35	56.5	24	GQ0152
G1/2	55	73	42.5	68	32	GQ0153

#### Plug type



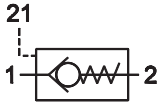
Thread T	ØD1	L1	L2	L3	Hex 1	Hex 2	Ordering No
* M5 x 0.8	13	18	12.5	25	8	12	GQ0270
# G1/8	26	35.5	21	39	16	14	GQ0250
# G1/4	33	46.5	27	50	19	17	GQ0251
# G3/8	46	60	35	67	24	24	GQ0252
# G1/2	55	73	42.5	79	32	32	GQ0253

#### How to order

While ordering Quick Exhaust Valve, mention the ordering number given in the corresponding tables.

Subject to change





# PILOT OPERATED NON-RETURN VALVE

## Series GV2

Cat No GV2 - 01 - 01 - B

### PILOT OPERATED NON-RETURN VALVE - G1/8, G1/4, G3/8, G1/2

#### Features

- Available in two versions
- Low cracking and closing pressure
- Bubble tight - elastomer seat
- Plastic portion can be turned by 360°
- Teflon pre-coated male taper threads



#### Function

Pilot operated non-return valve is used for stopping the cylinder in intermediate position. So long as a pilot signal is applied, air is free to flow to and from the cylinder. When the pilot signal is removed, the valve acts as a conventional non-return valve and prevents air from exhausting from the cylinder, thus stopping movement.

#### Technical Specifications

Model	G1/8	G1/4	G3/8	G1/2
Type	Pilot operated non return valve			
Medium	Compressed air - Dry / Lubricated			
Operating pressure range	0.2 - 10 bar			
Ambient Temperature	-10° to +60° C			
Medium Temperature	+5° to +50° C			
Applicable tubes	Nylon, Polyurethane			

#### Example of circuit

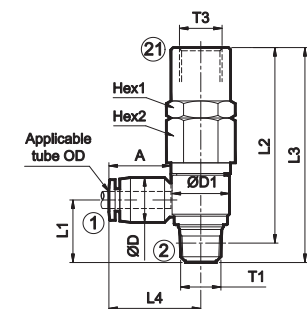
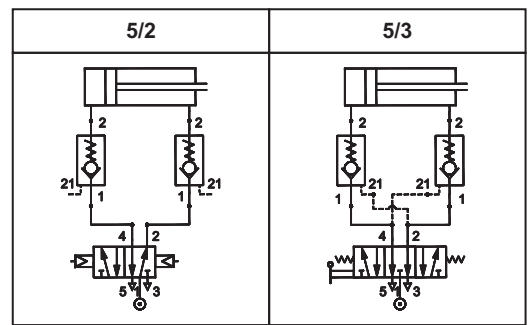


Fig.1

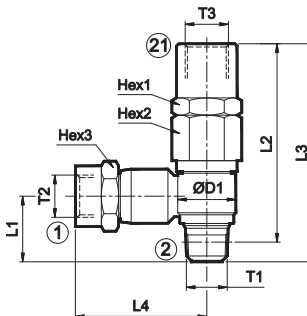


Fig.2

Thread			Applicable tube OD	A	L1	L2	L3	L4	ØD	ØD1	Hex1	Hex2	Hex3	Flow (lpm) @	Ordering No
T1	T2	T3													
R1/8	-	G1/8	4	15	15	46	52	22	10.5	13.5	14	14	-	225	GV210450
			6	15	15	46	52	23	12.5	13.5	14	14	-	250	GV210650
R1/8	G1/8	G1/8	-	-	15	46	52	30	-	13.5	14	14	14	250	GV216050
			R1/4	-	G1/8	6	15.5	20	52	58	25	12.5	18	17	17
8	17	20.5				52	58	27.5	15	18	17	17	-	500	GV210851
R1/4	G1/4	G1/8	10	20	22.5	52	58	32.5	18.5	18	17	17	-	500	GV211051
			-	-	20	52	58	37	-	18	17	17	17	500	GV216151
R3/8	-	G1/8	8	17	23	54.5	61	29	15	22	22	24	-	850	GV210852
			10	18	24	54.5	61	34	18.5	22	22	24	-	900	GV211052
R3/8	G3/8	G1/8	-	-	24	54.5	61	46.4	-	22	22	24	22	900	GV216252
			R1/2	-	G1/2	12	20.5	28.5	57	64.5	37.5	21	28	27	-
-	-	28.5				57	64.5	54	-	28	27	27	27	1100	GV216353

1 - Inlet, 2 - Outlet, 21 - External pilot

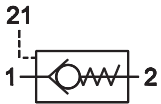
A - Tube insertion length

@ Inlet pressure 6 bar, and pressure drop 1 bar

#### How to order

While ordering Pilot operated non-return valve, mention the ordering number given in the corresponding tables.

Subject to change



# PILOT OPERATED NON-RETURN VALVE

Metal Version - Swivel type - Series GV2

Cat No GV2 - 01 - 02 - B

## PILOT OPERATED NON-RETURN VALVE - G1/8, G1/4, G3/8, G1/2

### Features

- Low cracking pressure
- Bubble tight - elastomer seat
- Can be turned by 360°
- Rigid metal housing



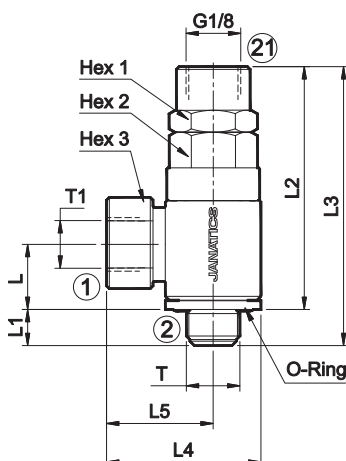
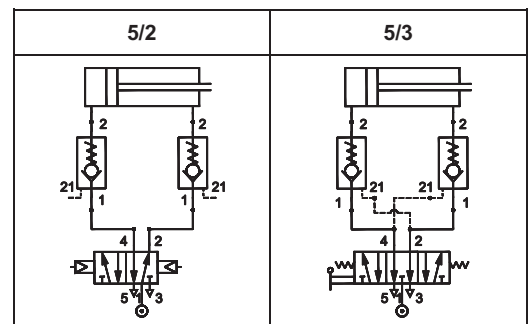
### Function

Pilot operated non-return valve is used for stopping the cylinder in intermediate position. So long as a pilot signal is applied, air is free to flow to and from the cylinder. When the pilot signal is removed, the valve acts as a conventional non-return valve and prevents air from exhausting from the cylinder, thus stopping movement.

### Technical Specifications

Model	G1/8	G1/4	G3/8	G1/2
Type	Pilot operated non return valve			
Medium	Compressed air - Dry / Lubricated			
Working pressure range	0.5 to 10 bar			
Pilot pressure	2 to 10 bar			
Ambient Temperature	-10° to +60° C			
Medium Temperature	+5° to +50° C			

### Example of circuit

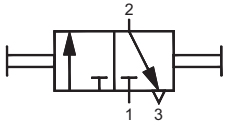


Thread		L	L1	L2	L3	L4	L5	Hex1	Hex2	Hex3	Tightening Torque Nm.	Flow (lpm) @	Ordering No
T	T1												
G1/8	G1/8	12	7	45	53	28.5	19.5	14	14	15	5.5	250	GV21M6060
G1/4	G1/4	15	8	51	59	38.5	27	17	17	19	11	500	GV21M6161
G3/8	G3/8	18	9	57	66	43.5	29.5	22	23	24	20	900	GV21M6262
G1/2	G1/2	22	13	69	82	54	37	27	27	30	30	1100	GV21M6363

1 - Inlet, 2 - Outlet, 21 - External pilot  
@ Inlet pressure 6 bar, and pressure drop 1 bar

### How to order

While ordering Pilot operated non-return valve, mention the ordering number given in the corresponding tables.



# INLINE SLIDE VALVE

## Series GS1

Cat No GS1 - 01

### IN LINE SLIDE VALVE - R1/8, R1/4, R3/8, R1/2, R3/4

#### Features

- Inline mounted
- Sleeve type, saves space
- Smooth, easy operation



#### Application

These valves can be used at the inlet of pneumatic tools like screwdriver, grinder etc., pneumatic systems and near machineries using pneumatic systems, for quick and convenient connecting - disconnecting of compressed air.

#### Technical Specifications

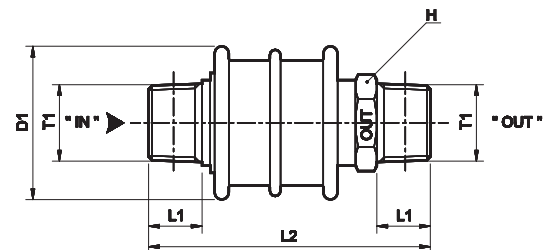
Ordering No	GS150	GS151	GS152	GS153	GS154
Size	R1/8	R1/4	R3/8	R1/2	R3/4
Medium	Compressed air, filtered				
Maximum working pressure	10 bar				
Ambient temperature	-10° to +60° C				
Medium temperature	+5° to +50° C				
Materials of construction	Brass, Aluminium, Nitrile				
NW mm	5	7	11	13	20
Flow rate lts/min @	500	1000	2800	4500	10000
Weight Kg	0.088	0.090	0.224	0.249	0.370

@ Inlet pressure 6 bar, and pressure drop 1 bar

#### Operation

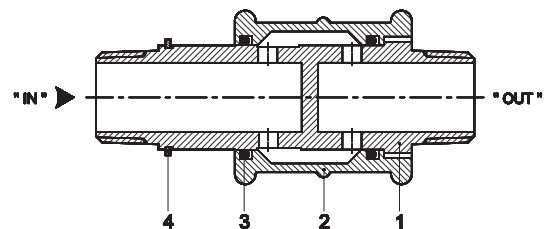
Moving the sleeve towards " OUT ", connects the air line to the system and moving the sleeve in the opposite direction, will close the inlet port and exhaust the down stream air.

Ordering No	T1	D1	L1	L2	H (A/F)
GS150	R1/8	31	8	57	17
GS151	R1/4	31	11	63	17
GS152	R3/8	43	12	74	27
GS153	R1/2	43	15	92	27
GS154	R3/4	50	18	109	32



#### Spare parts list

Ref. no.	No. off	Part Name	Ordering no. for				
			GS150	GS151	GS152	GS153	GS154
1	1	Housing	-	-	-	-	-
2	1	Sleeve	-	-	-	-	-
3	2	'O' ring	650114	650114	650302	650302	650303
4	1	Circlip	-	-	-	-	-



#### Precautions

1. Note the direction of flow before installation and connect piping accordingly.
2. Flush pipings for dirt, dust, rust and other foreign particles.
3. Install in clean atmosphere.
4. Use teflon tape on taper threads. Ensure teflon tape does not enter the unit during tightening.

Subject to change



# NON RETURN VALVE

( Check Valve ) Series GV1

Cat No GV1 - 01

## NON-RETURN VALVE - G1/8, G1/4, G3/8, G1/2

### Features

- Inline mounted
- Low cracking and closing pressure
- Bubble tight - elastomer seat



### Technical Specifications

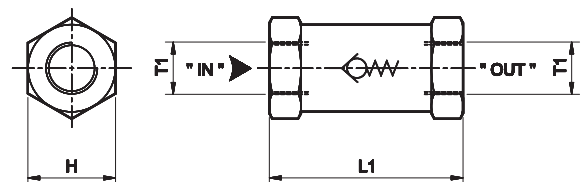
Ordering No	GV160	GV161	GV162	GV163
Size	G1/8	G1/4	G3/8	G1/2
Medium	Compressed air			
Working pressure range	0.4 - 10 bar			
Ambient temperature	-10° to +60° C			
Medium temperature	+5° to +50° C			
Materials of construction	Brass, Nitrile, Acetal			
NW mm	3.5	7	10	13
Flow lts/min @	400	1000	2800	4800
Weight Kg	0.068	0.098	0.102	0.232

@ Inlet pressure 6 bar, and pressure drop 1 bar

### Operation

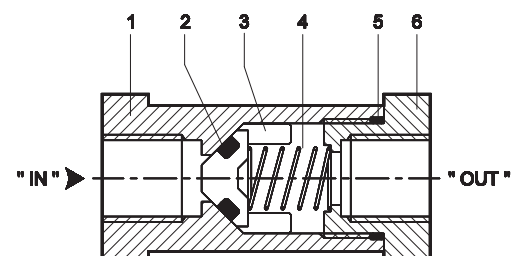
The valve shuts off instantaneously against reverse flow ( from "OUT" port to "IN" port ) and opens at low cracking pressure in the forward direction.

Ordering No	T1	H	L1
GV160	G1/8	19	40
GV161	G1/4	22	51
GV162	G3/8	24	54
GV163	G1/2	32	63



### Spare parts list

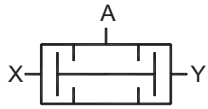
Ref. no.	No. off	Part Name	Ordering no. for			
			GV160	GV161	GV162	GV163
1	1	Housing	-	-	-	-
2	1	'O' ring	650001	650112	650113	650103
3	1	Valve cone	724008	724009	724010	724011
4	1	Spring	-	-	-	-
5	1	'O' ring	650009	650018	650019	650115
6	1	Gland	-	-	-	-



### Precautions

1. Note the direction of flow before installation and connect piping accordingly.
2. Flush pipings for dirt, dust, rust and other foreign particles.
3. Install in clean atmosphere.
4. Nipples of taper threads ( R ) to be used with teflon tape. Ensure Teflon tape doesnot enter the unit during tightening. Straight threads ( G ) to be used with sealing washer.

Subject to change



## AND VALVE

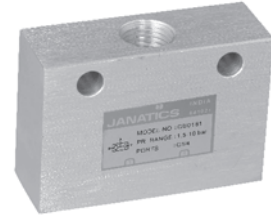
### Series GA

Cat No GA - 01 - 01

### AND VALVE - M5, G1/8, G1/4

#### Function

- AND valve delivers air at the outlet (A) only when air signal is present at both inputs (X and Y)
- If two signals of different pressure is applied, the lower pressure is connected to outlet (A)



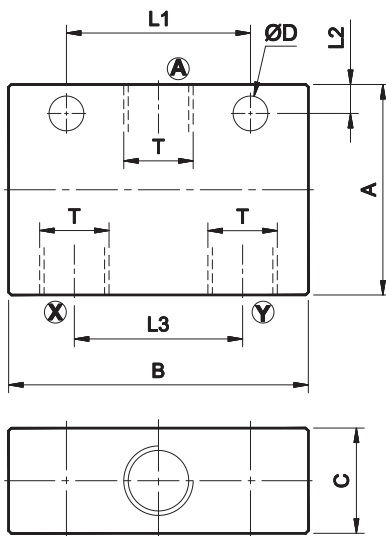
#### Application

An AND valve (or dual pressure valve) is used in cases where at least 2 signals are required to be present before a function is executed. It can be used in safety circuits and logic controls.

#### Technical Specifications

Model	M5	1/8	1/4
Medium	Compressed air - Dry, Filtered, Lubricated		
Operating pressure range	1.5 - 10 bar		
Ambient temperature	-10° to +60° C		
Medium temperature	+5° to +50° C		
Flow @ (X → A) (Y → A)	100 lpm	400 lpm	525 lpm
Materials of construction	Aluminium, Nitrile, Brass, Plastic		

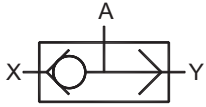
@ Inlet pressure 6 bar, and pressure drop 1 bar



Sl. No	T	A	B	C	L1	L2	L3	ØD	Ordering No
1	M5	25	37	15	10	3.5	20	3.2	GA0170
2	G1/8	30	43	15	24	4	24	4.5	GA0160
3	G1/4	40	57	20	35	5.5	32	6.6	GA0161

#### How to order

While ordering AND valve, mention the ordering number given in the corresponding tables.



## OR VALVE

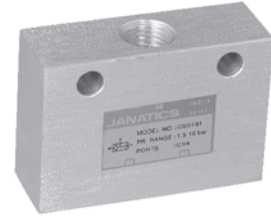
### Series GB

Cat No GB - 01 - 01

### OR VALVE - M5, G1/8, G1/4

#### Function

- OR valve delivers air at the outlet (A) always supplied by higher pressure (X or Y)
- If two signals of different pressure is applied, the higher pressure is connected to outlet (A)



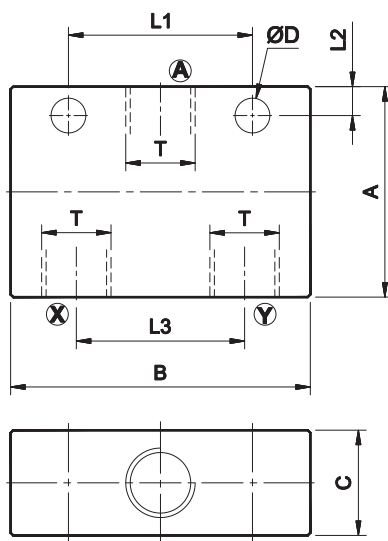
#### Application

An OR valve (or shuttle valve) is used to allow a function to be executed from either of 2 different places. An output signal is present whenever at least one of 2 signal inputs is activated. It can be used in safety circuits and logic controls.

#### Technical Specifications

Model	M5	1/8	1/4
Medium	Compressed air - Dry, Filtered, Lubricated		
Operating pressure range	1.5 - 10 bar		
Ambient temperature	-10° to +60° C		
Medium temperature	+5° to +50° C		
Flow @ (X → A) (Y → A)	120 lpm	250 lpm	550 lpm
Materials of construction	Aluminium, Nitrile, Plastic		

@ Inlet pressure 6 bar, and pressure drop 1 bar



Sl. No	T	A	B	C	L1	L2	L3	ØD	Ordering No
1	M5	25	37	15	10	3.5	20	3.2	GB0170
2	G1/8	30	43	15	24	4	24	4.5	GB0160
3	G1/4	40	57	20	35	5.5	32	6.6	GB0161

#### How to order

While ordering OR valve, mention the ordering number given in the corresponding tables.

Subject to change



# PNEUMATIC PRESET COUNTER

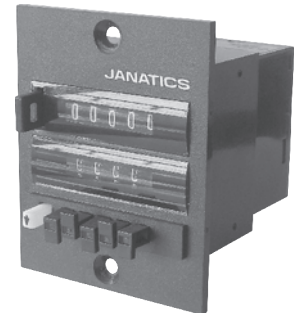
## Series GC

Cat No GC - 01 - 01 - A

### PNEUMATIC PRESET COUNTER

#### Features

- Continuously visible preset
- Integrated pneumatic reset
- 3 or 5 digit display
- Convenient button setting



#### Function

Counters have 5 digit display and count upwards i.e., incoming signals are added. When the counter is reset, 00000 appears. Pneumatic signal increments the counter by a half step and the first half of the digit appears. After completion of the signal, the second half step increment occurs and the digit becomes fully visible. The counter can be reset manually by means of a button. It can also be reset by means of pneumatic signal. A counting signal may not arrive or be present during the resetting procedure.

#### Technical Specifications

Ordering No	<b>GC1M0270</b>
Digit height	4 mm
Operating pressure	2 - 8 bar
Air quality	Oil free
Filter pore width	< 40 µm
Operating temperature	-10° to +60° C
Port size	M5
Mounting	Front panel horizontal roller axis
Mounting position	Horizontal roller axis
Protection Class (IEC 144)	IP 40 with hoses connected
Count input	Adding
Minimum pulse length	8 ms
Max. Counting frequency	20 Hz
Pulse duty factor	1:1
Reset	- Manual with button - By external pneumatic signal, Min. pulse length 180 ms
Reset frequency	Max. 1 per 2s
Signal duration	From when the preset has been reached until reset

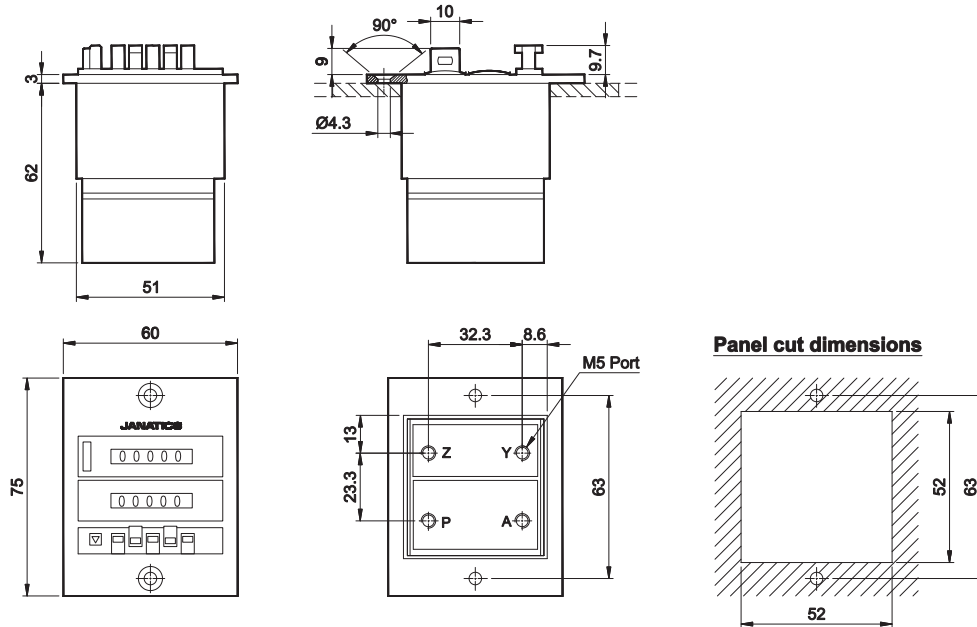
**Attention!** Minimum time period between last count pulse and pneumatic reset is 50 ms.

# PNEUMATIC PRESET COUNTER

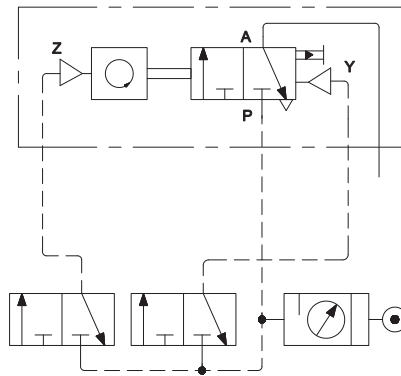
## Series GC

Cat No GC - 01 - 01 - A

### Basic Dimensions

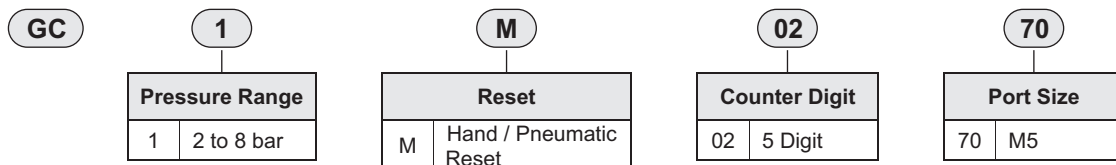


### Connection Diagram



- Z - Pulse input "count"
- Y - Pulse input "reset"
- P - Air input
- A - Output pilot signal

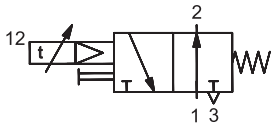
### How to order



### Ordering example:

Ordering no. for Pneumatic Preset Counter : **GC1M0270**





## PNEUMATIC RESET MODULE

### Series GM

Cat No GM - 01 - 01 - A

## PNEUMATIC RESET MODULE

### Features

- Output signal of adjustable length 0.2 to 2 seconds
- Panel mounted
- Provision for DIN rail mounting
- Compact design
- Stationary preset value



### Function

The reset module is used to automatically reset timers at the end of preset time and to generate an output signal of defined duration for control system purposes. The timer can be reset manually by pulling the setting knob on the reset module. This allows the simple creation of pneumatic timer controls with automatically repeating time intervals.

### Technical Specifications

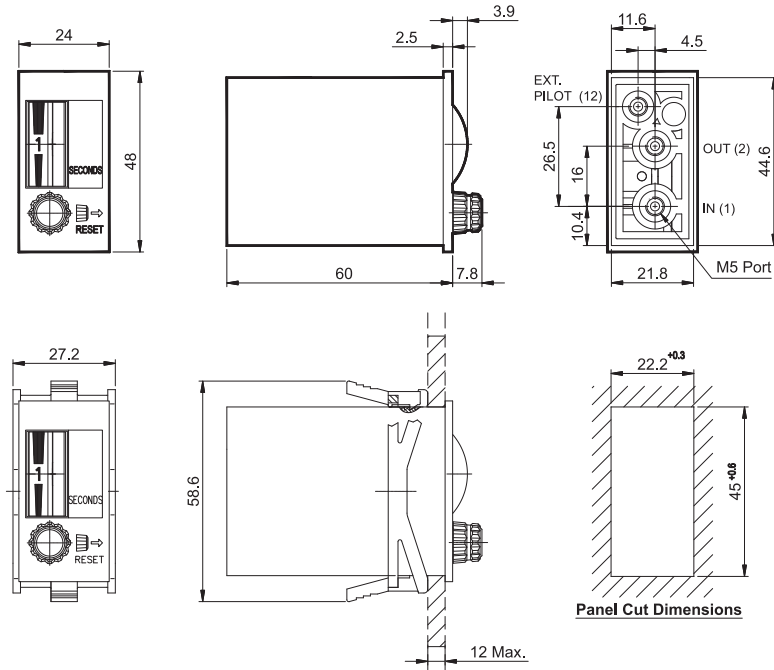
Ordering No	<b>GM10170</b>
Service pressure	2 - 6 bar
Bursting pressure	10 bar
Nominal pressure	4 bar
Air quality	Filtered (40 µm), non-oiled compressed air. Light oil mist permissible
Response pressure	1.2 ± 0.4 bar
Drop pressure	0.3 ± 0.2 bar
Pulse length	Min. 30 ms
Pause for reset	Min. 200 ms
Switching delay time ( $t_r$ )	Adjustable from 0.2 - 2 sec
Signal interruption time ( $t_{si}$ )	Min. 300 ms
Repeating accuracy	± 0.3 s
Storage temperature	-10° to +60° C
Protection class (DIN 40050)	IP 40
Port size	M5
Tightening torque for connections	Max. 250 Nm
Weight	Approx. 50 g

# PNEUMATIC RESET MODULE

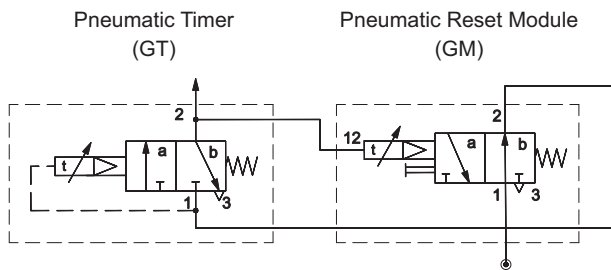
## Series GM

Cat No GM - 01 - 01 - A

### Basic Dimensions

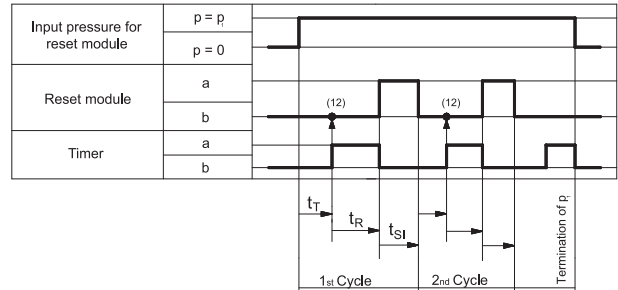


### Connection Diagram



- 1 - Supply port
- 2 - Working or outlet port
- 3 - Exhaust
- 12 - Pilot signal

### Example of Application



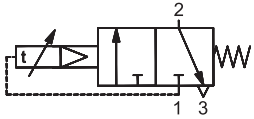
$t_T$ =	Time preset range for timers	$t_{SI}$ =	Signal Interruption period for reset module (= 300ms)
$t_R$ =	Switching delay time for reset module (0.2... 2s)		

### How to order

<b>GM</b>	<b>1</b>	<b>01</b>	<b>70</b>
<b>Pressure Range</b>		<b>Time Range</b>	
1	2 to 6 bar	01	0.2 to 2s
<b>Port Size</b>			
70	M5		

### Ordering example:

Ordering no. for Pneumatic Reset Module : **GM10170**



## PNEUMATIC TIMER

### Series GT

Cat No GT - 01 - 01 - A

## PNEUMATIC TIMER

### Features

- Pressure - independent
- Panel mounted
- Provision for DIN rail mounting
- Requires little space for installation
- No continuous air supply required
- Stationary preset value



### Function

The timer switches input pressure applied to port 1 to port 2 after the preset delay time has expired.

### Technical Specifications

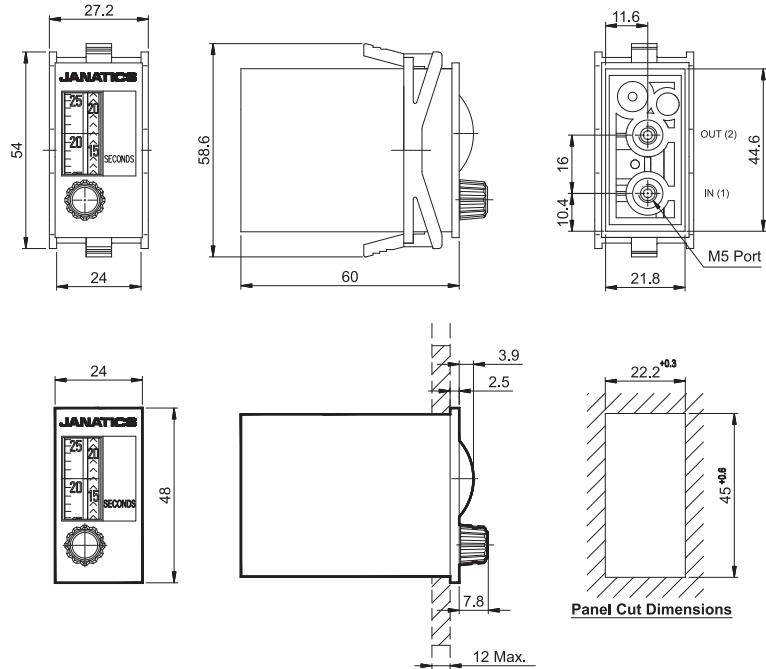
Ordering No	GT10170	GT10270	GT10370	GT10470
Operating pressure	2 - 6 bar			
Air quality	Oil free			
Filter pore width	≤ 40 µm			
Operating temperature	-10° to +60° C			
Port size	M5			
Mounting	Clamping clip			
Protection Class (IEC 144)	IP 40			
Weight (g)	Approx. 50 g			
Timing range	0.2 - 3 s	2 - 30 s	8 - 120s	20 - 300 s
Repeating accuracy	± 0.1 s	± 0.3 s	± 1.2 s	± 3 s
Setting accuracy	± 0.3 s	± 0.6 s	± 3.0 s	± 6 s
Reset	By blocking air intake at input 1			
Reset time	Min. 200 ms			

# PNEUMATIC TIMER

## Series GT

Cat No GT - 01 - 01 - A

### Basic Dimensions



### How to order

GT		1		02		70	
Pressure Range		Time Range		Port Size			
1	2 to 6 bar	01	0.2 to 3s	02	2 to 30s (Standard)	70	M5
		03	8 to 120s				
		04	20 to 300s				

### Ordering example:

Ordering no. for Pneumatic Timer pressure range 2 to 6 bar, time range 2 to 30s, M5 port size : **GT10270**

## Safety Instructions

### Compressed Air Safety



**Following Safety instructions should be strictly followed. Failure to do so may result in accidents, equipment malfunctioning, serious personal injury and / or loss of life.**

*Compressed air is a source of considerable energy. When handling products dealing with compressed air, the following precautions must be taken to prevent accidents.*

1. Human hands or any parts of a human body should not block compressed air. Compressed air should not be allowed to impinge on any portion of the human body.
2. Before connecting any pneumatic equipment to the compressed air supply, all mounted fittings, piping assemblies and electrical connections should be checked for security. All plastic plugs in the equipment used for protection during shipping should be removed.
3. No piping alterations, removal of fittings, repairing of equipment etc. should be attempted with air supplies connected. Air and electrical supplies must be disconnected before beginning any adjustment, maintenance or dismantling of equipment.
4. The maximum allowable operating pressures, temperature, flows etc. must be strictly observed. Failure to do so might result in catastrophic failure of equipment, and result in serious personal injury and / or death. Refer to individual catalogs for this information, and any other operating or application limitations.

### Compressed Air Safety for Pneumatic Equipment :

#### **Warning**



#### **1. Compatibility of pneumatic equipment**

*Ensuring the compatibility of the procured FRL equipment is the responsibility of the person who designs the Pneumatic system and / or System specifications. This should be based on specifications or after analysis and / or tests to meet specific requirements.*

#### **2. Repair & Maintenance**

Assembly, handling, or repair of pneumatic systems should be performed by only trained and experienced operators.

#### **3. Safety First**

Do not service machinery / equipment or attempt to remove any component until safety is confirmed.

- Inspection and maintenance of machinery / equipment should only be performed after confirmation that both compressed air and electrical supply have been positively disconnected and all residual compressed air in the system has been completely exhausted to the atmosphere.

#### **4. Contact Janatics if equipment is to be used in any of the following conditions :**

1. Equipment is to be used in conditions beyond the given specifications, or if equipment is to be used outdoors.
2. Equipment is to be used in conjunction with atomic energy, railroad, air navigation, automobiles or related vehicles, medical equipment or safety equipment.
3. In applications that adversely effect humans, animals, or property requiring special safety analysis.

### Product Selection

#### **Warning**



*Standard Filters, Regulators, Lubricators and Filter- Regulator Combination units should be used in accordance with the specifications mentioned in the catalogs / specification sheets. While installing and using this equipment, please also follow the respective specification & instruction manual available for each product.*



Wherever this symbol is shown, it indicates **Caution!** and / or **Warning!**

It indicates that operator error can lead to damage and malfunctioning of the pneumatic equipment and can lead to serious personal injury or loss of life.

### 1. Air Filter and Lubricator

Standard Filters and Lubricators incorporate polycarbonate bowls and / or observation windows. Do not use filters & lubricators in an environment that will expose the above components to synthetic fluids, organic solvents, corrosive chemicals, cutting lubricants, thread sealant or similar materials.

Make sure that the condensate is periodically drained when using manual drain valves on Filters.

### 2. Regulator

- a. Safety devices shall be placed to prevent secondary (output) pressure from rising past the set pressure. This will ensure that damage to the components on the secondary side will be minimized in the event of a malfunction.
- b. In a standard regulator, when the supply pressure is removed or disconnected, either of the following may happen :
  1. The residual pressure will remain on the secondary side of the regulator.
  2. The pressure on the secondary side of the regulator will exhaust.

The designer should add components to the circuit to compensate for any of the above conditions.

- c. Regulator operation may be affected when used in Balanced or Secondary sealed circuits. Please consult Janatics regarding these applications.

### 3. Lubricators

Ensure proper function of the Lubricator. Minimum airflow rate should be ensured for effective lubrication.

### 4. Automatic Drains - Normally Open

Ensure minimum working pressure for proper functioning of the Auto drain. The Filter unit must be periodically checked for condensate that would not be drained in case of any drain malfunction.

## Compressed Air Safety - Valves

1. Check security of fittings, pipes, valve installation and electrical connections before use.
2. All electrical connections are to be completed by a person qualified to undertake electrical work.
3. Ensure that all air supplies and electrical connections are isolated before dismantling valves from sub plates, or removing fittings, cables or solenoids from valves
4. During prolonged or frequent energisation, valve solenoids can become hot. Ensure that this will not affect surrounding material and components, and that adequate ventilation is provided.
5. The spool and sleeve assemblies of metal seal valves incorporate sharp edges. Protective gloves should be worn for dismantling and maintenance operations.
6. When selecting valves for applications, the design method of actuation and fundamental operating principles of differing valve models and ranges must be considered.
7. Machinery designated as Annex 4 by the EC Directive of Machinery, Which includes pneumatically controlled power presses, have special requirements for control valves and preclude the use of other than specialized equipment.

## Warranty

Janatics products are warranted to be free of defects in design, material or workmanship under proper use, installation, application & maintenance in accordance with Janatics written specifications and Safety Instructions for a period of 12 months from the date of shipment from the factory. Janatics warrants that all the Products are suitable for their intended purposes only. Janatics obligation under this warranty is limited to repair or replacement of the product at the discretion of Janatics and provided such product is returned to Janatics freight prepaid and upon examination by Janatics such is found to be defective.

This is the only authorised Janatics Warranty and is in Lieu of all other expressed or implied warranties or representation including any implied warranties of merchantability or fitness or any other obligations on the part of Janatics

In no event will Janatics be liable for business interruptions, loss of profits, personal injury, cost of delay or for any other special indirect, incidental or consequential losses, cost or damages.

### Not covered under Janatics warranty :

- Normal wear or deterioration of components and product
- Product(s) not used or installed as designed or intended
- Product is not installed or maintained as described and directed in the product installation and operations manual
- Product contains non-original OEM parts, or was previously repaired or serviced by an unauthorised distributor or repair facility

**General:** Due to continuous product improvement, all specifications are subject to change.

## **Instructions for Product Disposal & End of Life treatment**

Ordinary industrial waste (recyclable and non-recyclable) is generated by industrial or commercial activities, but is similar to household waste by its nature and composition. It is not toxic or hazardous and thus requires no special treatment. These non-hazardous wastes can be either recycled & reused or treated & disposed, safeguarding the environment, in compliance with the statutory and regulatory requirements for quality, environment and Occupational Health & Safety (OHS).

Internally every Janatics personal is well informed on disposal categorization of components through the Bill of materials.

### **Disposal method :**

The main parts of the Janatics product are metals & can be recycled to preserve natural resources and energy.

1. Dismantle the product and detach each component separately and dispose according to the legislation of the country
2. Generally all metals such as Steel, Aluminum, Copper and its Alloys, and Precious metals can be recycled again as raw materials according to local regulations.
3. Also some plastics like PET, HDPE, PVC, PA, PoM, & packing materials like PU foam & PE film can be recycled with the aid of local regulations.
4. Other plastics like PP and LDPE are difficult to recycle which requires special processes to avoid adverse environmental impact.
5. Rubber parts can be disposed by land fill or incineration following international and national regulations
6. Electrical & Electronic components like Printed circuit boards and reed switches need selective treatment and IEC 62635 guidelines can be referred.
7. To aid recycling and disposal approach deposition either by own or through the authorized agency to sustain the environment.
8. Remove all organic coatings, paint, and lacquered scrap by thermal decoating treatment prior to melting so as to avoid gaseous emissions and decomposition.
9. Follow national & international regulations for End of Life treatment of all components and consumables.

