JANATICS
Pneumatic

Supplementary Catalogue 2 - 2023

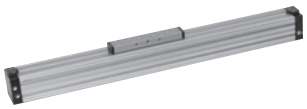
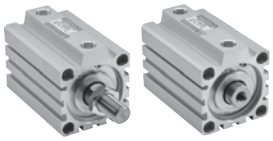
Version : SC2 - 01 / 12 - 2023

JANATICS INDIA PRIVATE LIMITED

Product Selection Guide

JANATICS Pneumatic

PNEUMATIC ACTUATORS

Rodless Cylinder Series A404 Sizes : Ø18 to 50mm	**Magnetically Coupled Rodless Cylinder** Series A411 Sizes : Ø25mm	**Compact Cylinder** Series A83, A84 Sizes : Ø32 to 100 mm	**Air Cylinder Double Acting - Heavy Duty** Series A108, A109 Sizes : Ø160 to 350mm
			
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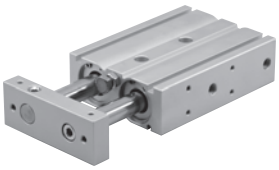
Compact Guided Cylinder With Adjustable Cushioning Series A91AL Sizes : Ø16 to 63mm	**Air Cylinder Double End - With Hollow Piston Rod** Series A85 Sizes : Ø50 & 63mm	**Hydro Check Cylinder** Series AH01 Sizes : Ø40mm	**Twin Piston Cylinder - Single End** Series A1011 Sizes : Ø10 to 32mm
			
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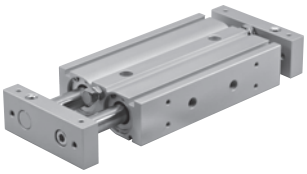
Twin Piston Cylinder - Double End Series A1021 Sizes : Ø10 to 32mm	**Single Acting Cylinder - Tie Rod Type** Series A32, A33 Sizes : Ø32 to 100mm	**Single Acting Cylinder - Square Profile Type** Series A34, A35 Sizes : Ø40mm	**Single Acting Cylinder - Compact ISO Type** Series A67, A68 Sizes : Ø25 to 100mm
			
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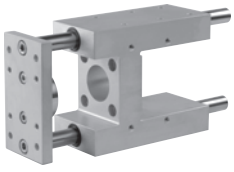
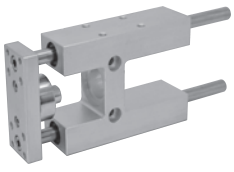
Single Acting Cylinder - Crimping Type Series A81, A82 Sizes : Ø12 to 25mm	**Pneumatic Proximity Switch** Series AM113 Sizes : Ø4mm	**Guide Unit - Suitable for Cylinder A23, A24, A27, A28** Series GU1 Sizes : Ø32 to 100mm	**Guide Unit - Suitable for Cylinder A51, A52, A55, A56** Series GU2 Sizes : Ø20 & 25mm
			
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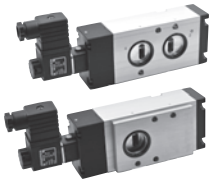
DIRECTIONAL CONTROL VALVES

Solenoid Valve - Poppet Type Series EF Sizes : G1/4	**High Pressure Valve** Series DPS1 Sizes : G1/2	**Dual Pressure Valve** Series DPD1 Size : G1/2	**Compact Valve - NAMUR Standard** Series DS3 Sizes : G1/2
			
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Product Selection Guide

JANATICS Pneumatic

Antenna Valve - NO & NC Series DP Sizes : M5 & G1/8	Pulse Valve Series PV Sizes : G3/4, G1, G1½	2/2 NC, Pilot Operated Solenoid Valve Series DMH Sizes : G1/2	4/3 Rotary Slide Valve (Mid Position Blocked) Series DR2 Sizes : G1/4
			
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3/2 Solenoid Valve - Direct Acting Normally Closed Series E5 Sizes : 17mm	3/2 Solenoid Valve - Direct Acting Normally Closed Series E4 Sizes : 22mm
	
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AIR PREPARATION UNITS

High Pressure Regulator Series R5 Sizes : G1/2	Flow Meter Series FM3 Sizes : G1/4, G1/2, G3/4	FRLM with Metal Bowl Without Piping Adaptor Series FRLM1-MM Sizes : G1/4 to G1”	FRCLM with Metal Bowl Without Piping Adaptor Series FRCLM1-MM Sizes : G1/4 to G1”
			
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Shut Off Valve - Hand Lever Operated Ball Valves Series GS31 Sizes : G1/4 to 2”	Shut Off Valve - Knob Operated Ball Valves Series GS32 Sizes : G1/8 to G1/2
	
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ACCESSORIES

Flow Control Valve Fine Control - Inline Type Series GR014 Sizes : Ø4, 6, 8mm

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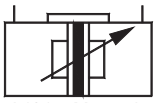


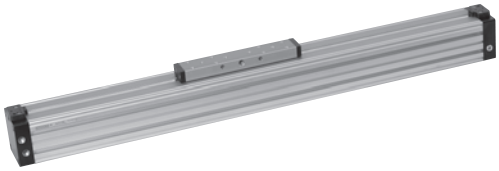
RODLESS CYLINDER

Series A404

RODLESS CYLINDER - Ø18, 25, 32, 40, 50 mm

Features

- ❑ High strength aluminium extrusion
- ❑ With magnetic piston for position sensing
- ❑ Adjustable cushioning at both ends
- ❑ Piston Ø18, 25, 32, 40, 50 mm
- ❑ Air connection can be given in any one of the three sides
- ❑ Inlet & outlet air connection at one end possible
- ❑ Can be installed in any position



Application

This long stroke space saving actuator is widely used for cutting application in Textile, Plastic & Paper, for wiping in pad printing / sorting machines, Door opening / closing etc...

Technical Specifications

Bore dia	(mm)	18	25	32	40	50
Cushion length	(mm)	11.5	14	18	30	
Standard strokes *	(mm)	10 to 2900				
Medium		Compressed air - Filtered & Non-lubricated				
Working pressure		2 to 8 bar				
Ambient temperature		-10° to +60° C				
Medium temperature		+5° to +50° C				
Magnetic sensor		AM42 (Magnetic sensor details, refer Janatics Pneumatic Actuators catalogue page No. 1a.2.1)				
Maximum speed @		2 m/s				
Materials of construction		Aluminium, Nitrile, Stainless steel, Acetal, Polyurethane, Brass, PVC, MoS2 Filled Nylon, En8				

* - For longer stroke cylinders, contact **JANATICS H.O.**

@ - Recommended to use with cushioning only.
Refer speed vs load graph (Page no. 5)

Output force in N (1N = 0.1 kgf)

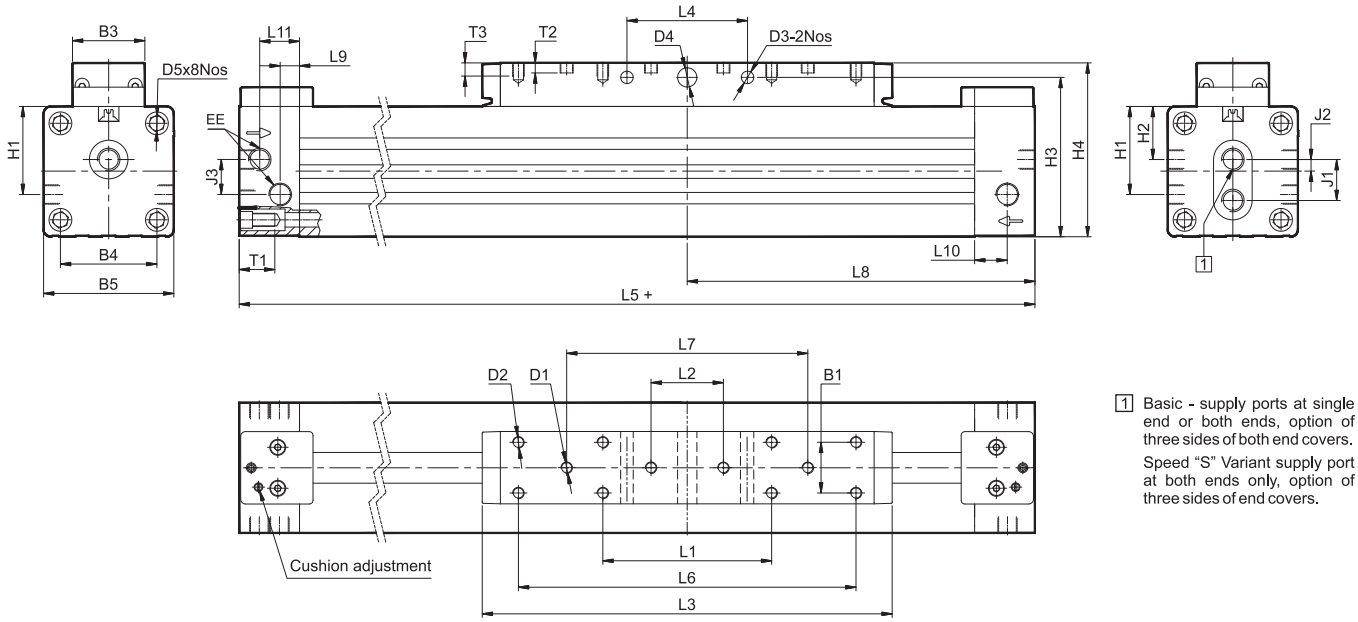
Bore dia (mm)	Working pressure in bar						
	2	3	4	5	6	7	8
18	51	76	102	127	153	178	204
25	98	147	196	245	294	343	393
32	161	241	322	402	482	563	643
40	251	377	502	628	754	879	1005
50	392	589	785	981	1177	1374	1570

RODLESS CYLINDER

Series A404

Cat No A404 - 01 - 01 - B

Basic cylinder - Ø18, 25, 32, 40, 50 mm



[1] Basic - supply ports at single end or both ends, option of three sides of both end covers.

Speed "S" Variant supply port at both ends only, option of three sides of end covers.

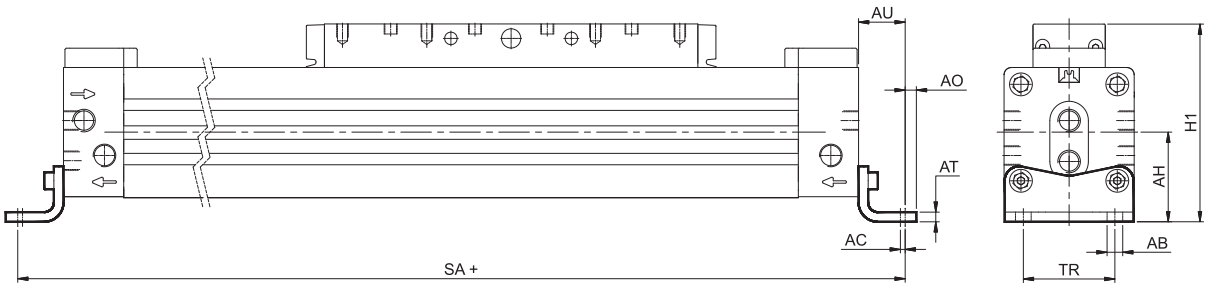
+ = plus stroke length

Bore dia (mm)	B1	B3	B4	B5	D1	D2	D3	D4	D5	EE	H1	H2	H3	H4
Ø18	13	21	SQ25	SQ34	M5x0.8 - 2Nos	M4x0.7 - 4Nos	Ø5.2+0.2	Ø6 H7	M4x0.7 - 8Nos	M5	23	14.5	44	50
Ø25	16	25	SQ32.5	SQ45	M8x1.25 - 2Nos	M4x0.7 - 4Nos	Ø5.2+0.2	Ø8 H10	M5 x 0.8 - 8Nos	G1/8	29.4	17	57	63
Ø32	16	30	SQ40	SQ54	M5x0.8 - 12Nos	M5x0.8 - 12Nos	Ø5.2+0.2	Ø8 H7	M6x1 - 8Nos	G1/8	36.5	22	66	72
Ø40	25	37	SQ49	SQ64	M6x1 - 12Nos	M6x1 - 12Nos	Ø6.5+0.1	Ø10 H10	M6x1 - 8Nos	G1/4	43.5	25	78	86
Ø50	30	45	SQ72	SQ90	M8x1.25 - 12Nos	M8x1.25 - 12Nos	Ø8.5+0.1	Ø12 H10	M8x1.25 - 8Nos	G1/4	62	33.5	106	115

Bore dia (mm)	J1	J2	J3	L1	L2	L3	L4	L5+	Stroke Tol	L6	L7	L8	L9	L10	L11	T1	T2	T3
Ø18	11.1	4.1	8.5	45	NA	92	30	152	+4 -1	NA	60	76	5.5	5.5	13	13	5	8
Ø25	16.7	4.4	11.5	NA	NA	120	30	200		75	50	100	7.5	7.5	17	14.5	8	8
Ø32	17	7.5	14.4	70	30	170	50	250		140	100	125	7	13.5	15.5	14.5	8	8
Ø40	22	4	18.5	85	40	210	70	300		165	130	150	11.5	15	18	17.5	10	10
Ø50	31.8	11.5	28.5	100	50	255	80	350		200	150	175	14	15	18.5	19	12.5	12.5

Mountings for Rodless Cylinder Series A404

Foot bracket



+ = plus stroke length

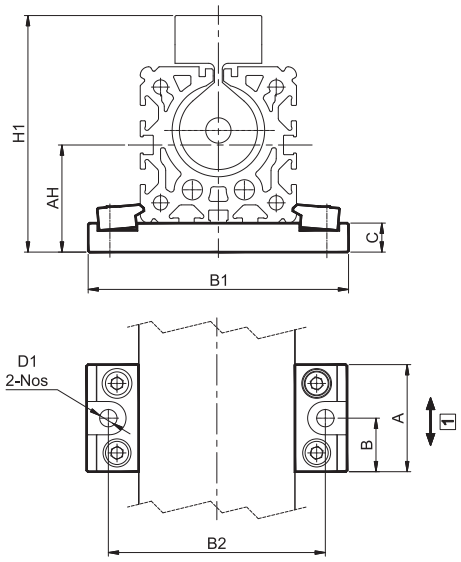
Bore dia (mm)	AB	AC	AH	AO	AT	AU	SA	TR	H1	Ordering No
Ø18	5.5	1	24	5.8	3	12.2	176.5	24	57	ML5018
Ø25	5.5	2	29.5	6	3	13	226	32.5	70	ML5025
Ø32	6.5	2	37	7	4	17	284	38	82	ML5032
Ø40	6.5	2	46	8.5	5	17.5	335	45	100	ML5040
Ø50	9	3	61	11	6	25	400	65	131	ML5050

RODLESS CYLINDER

Series A404

Cat No A404 - 01 - 01 - B

Center support

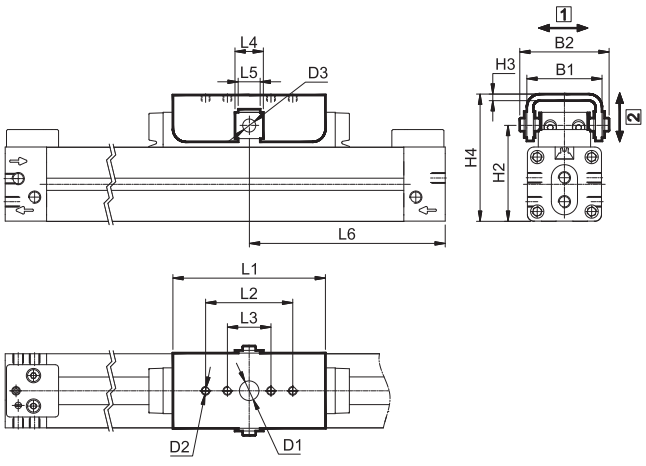


[1] Position of the central support along the profile barrel is freely selectable

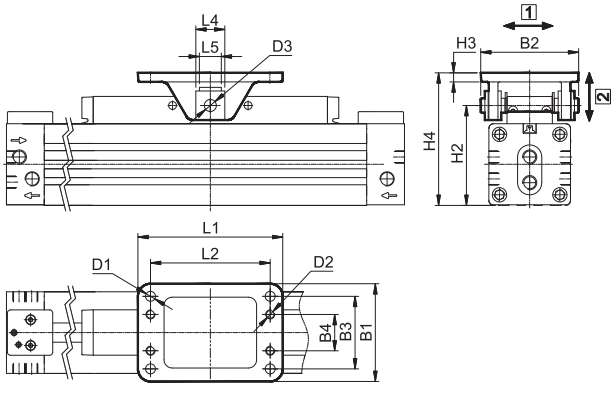
Bore dia (mm)	AH	B1	B2	H1	ØD1	A	B	C	Ordering No
Ø18	24	64	54	57	5.5	30	15	7	MW5018
Ø25	29.5	75	65	70	5.5	30	15	7	MW5025
Ø32	37	90	75	82	6.6	37	18.5	10	MW5032
Ø40	46	108	90	100	11	45	22.5	14	MW5040
Ø50	61	134	116	131	11	52	26	16	MW5050

Moment Compensator

Ø18 mm



Ø25 to 50 mm



Bore dia (mm)	Max. offset between linear drive and external guide 1	2	B1	B2	B3	B4	ØD1	D2	ØD3	H2	H3	H4	L1	L2	L3	L4	L5	L6	Ordering No
Ø18	±2	±1.2	34.5	41	-	-	9-4Nos	M4X0.7-4Nos	6	44	3	58	70	40	20	13	10.1	76	MZ5018
Ø25	±2	±2	54	54	40	20	5.5-4Nos	M5X0.8-4Nos	8	57	5	75	80	66	-	16	12.1	100	MZ5025
Ø32	±2	±2	54	59	40	20	5.5-4Nos	M5X0.8-4Nos	8	66	5	84	80	66	-	16	12.1	125	MZ5032
Ø40	±2	±2	62	65	44	24	6.5-4Nos	M6x1-4Nos	10	78	6	100	90	76	-	18	14.1	150	MZ5040
Ø50	±2	±2	75	80	51	23	9-4Nos	M8x1.25-4Nos	12	106	8	130	122	102	-	22	16.1	175	MZ5050

Basic dimensions refer basic fitment drawing

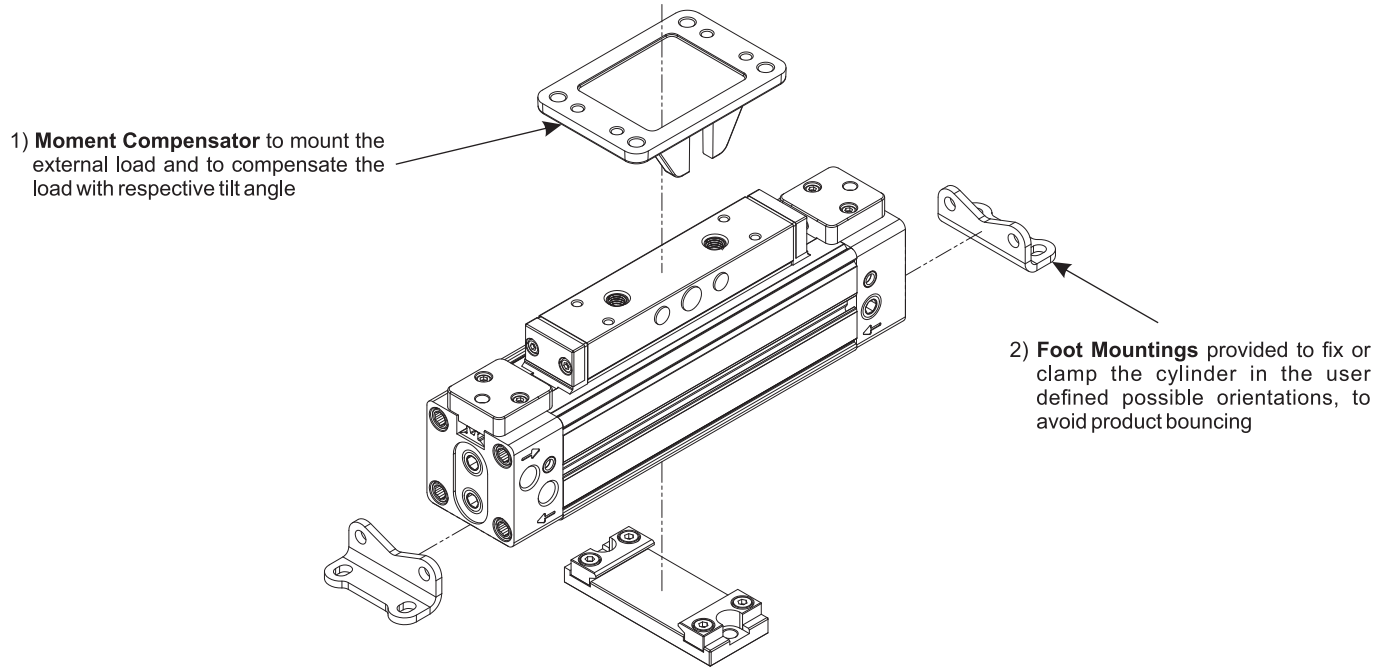
RODLESS CYLINDER

Series A404

Cat No A404 - 01 - 01 - B

Rodless Cylinder (Basic & Speed) - Mountings & Fitment

A404 Rodless - Basic Cylinder Series Mounting / Accessories

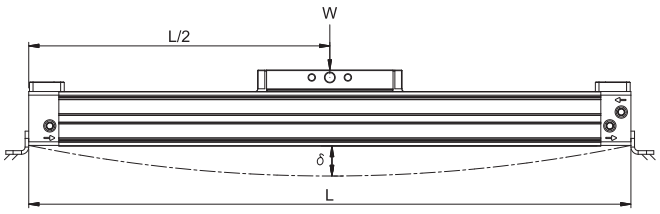


**** Note:**

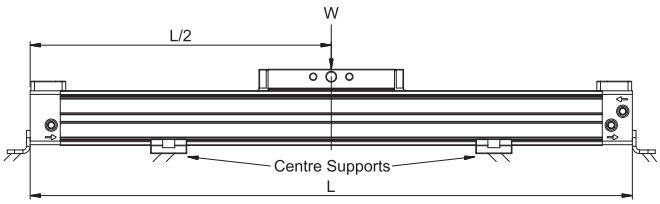
All the subassembly parts / fasteners required for mountings will be supplied along with them.

Distance between center supports

Center supports are the mountings, which is mounted at either the base or sides of the cylinder slots, in order to prevent the deflection / bending moment caused by the cylinder, when an external load (W) is applied on it. It is not only dependent on the load but also based on stroke length.



Deflection / Bending Moment occurs due to external loading, if there is no center support for longer strokes



No Deflection / Bending Moment occurs due to external loading, if there is center support for longer strokes

The number of center supports that has to be equally mounted on basis of stroke length for the load applied is tabulated below:

Stroke Length (m)	No. of Centre Supports required
<1	Not required due to negligible bending
From 1 up to 2	1 No for equal interval as per overall length (or) 2 No's for overall length with equal division
From 2 up to 3	2 No's for equal interval as per overall length (or) 3 No's for overall length with equal division

**** Note:**

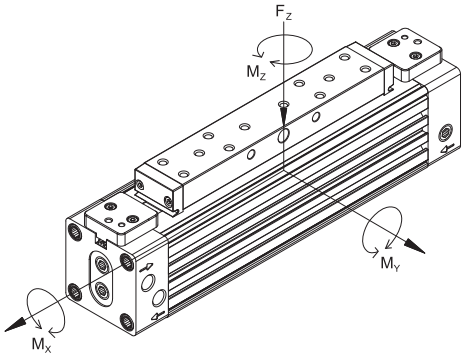
During operation, all the accessories have to be rigidly clamped.

RODLESS CYLINDER

Series A404

Permissible Forces and Torques for Horizontal Mounting

Piston Ø mm		18	25	32	40	50
Fz max	(N)	120	300	480	800	1200
Mx max	(Nm)	0.5	1	2	4	6
My max	(Nm)	5	15	35	50	100
Mz max	(Nm)	1	3	4.5	8	15



Loads & Moments

The loads & moments are calculated based on the speed rating of **v ≤0.5 m/s**. The cylinder when operated at maximum design load has to be operated with 0.5 m/s or lower, with **cushioning effectiveness and Flow Control Valves**. If required with greater speeds, then the load rating has to be decreased with respect to relative speeds (or) use **external dampening units** (such as shock absorbers, stops etc.,), preferably at the center of gravity of mass.

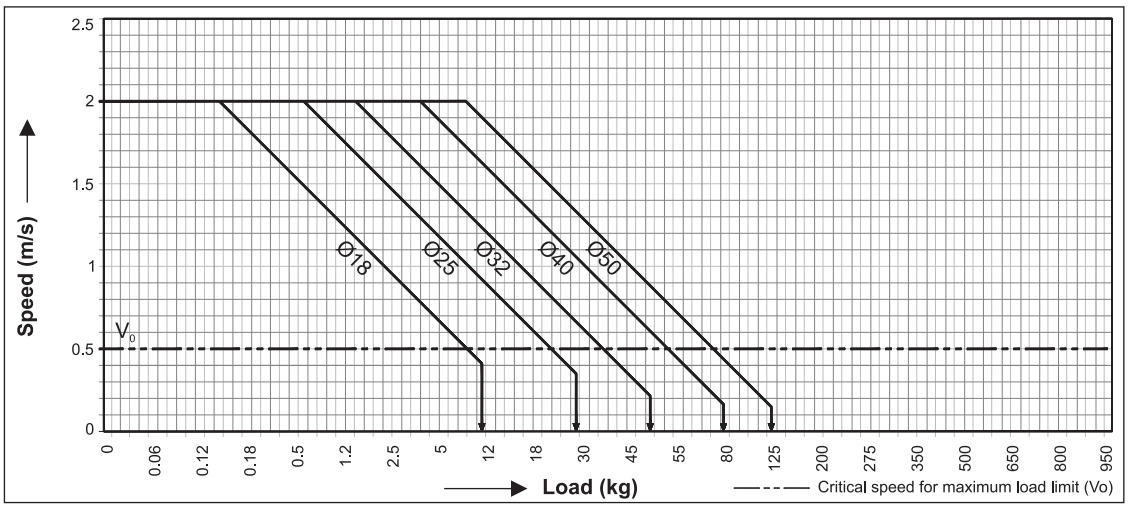
The load when placed eccentrically with respect to maximum design load & maximum bending moment or if more than the external indicated forces, it shall satisfy the equation of load to moment ratio (Guide load condition) as given below:

$$(0.4 * \frac{Fz}{Fz\ max}) + (\frac{Mx}{Mx\ max}) + (\frac{Mys}{Mys\ max}) + (\frac{Myd}{Myd\ max}) + (0.2 * \frac{Mz}{Mz\ max}) \leq 1$$

Key Notation:

F_x F_y F_z : Externally applied Load (N)
M_x : Moment about roll-axis (N-m) at static condition in x-axis
My_s : Moment about pitch-axis (N-m) at static condition in y-axis
My_d : Moment about pitch-axis (N-m) at dynamic condition in y-axis
M_z : Moment about yaw-axis (N-m) at dynamic condition in z-axis
k : Dampening factor from impact load (constant)
F_o : Impact load generated due to collision speed (N)
d_x : Offset distance from yoke center plane with respect to x-axis (m)
d_y : Offset distance from yoke center plane with respect to y-axis (m)
d_z : Offset distance from yoke top mounting face with respect to z-axis (m)
α : Dampening coefficient (For air cushion & shocks, α=0.01)
** **Note** : All permissible static & dynamic loads with coefficient of friction is taken into consideration

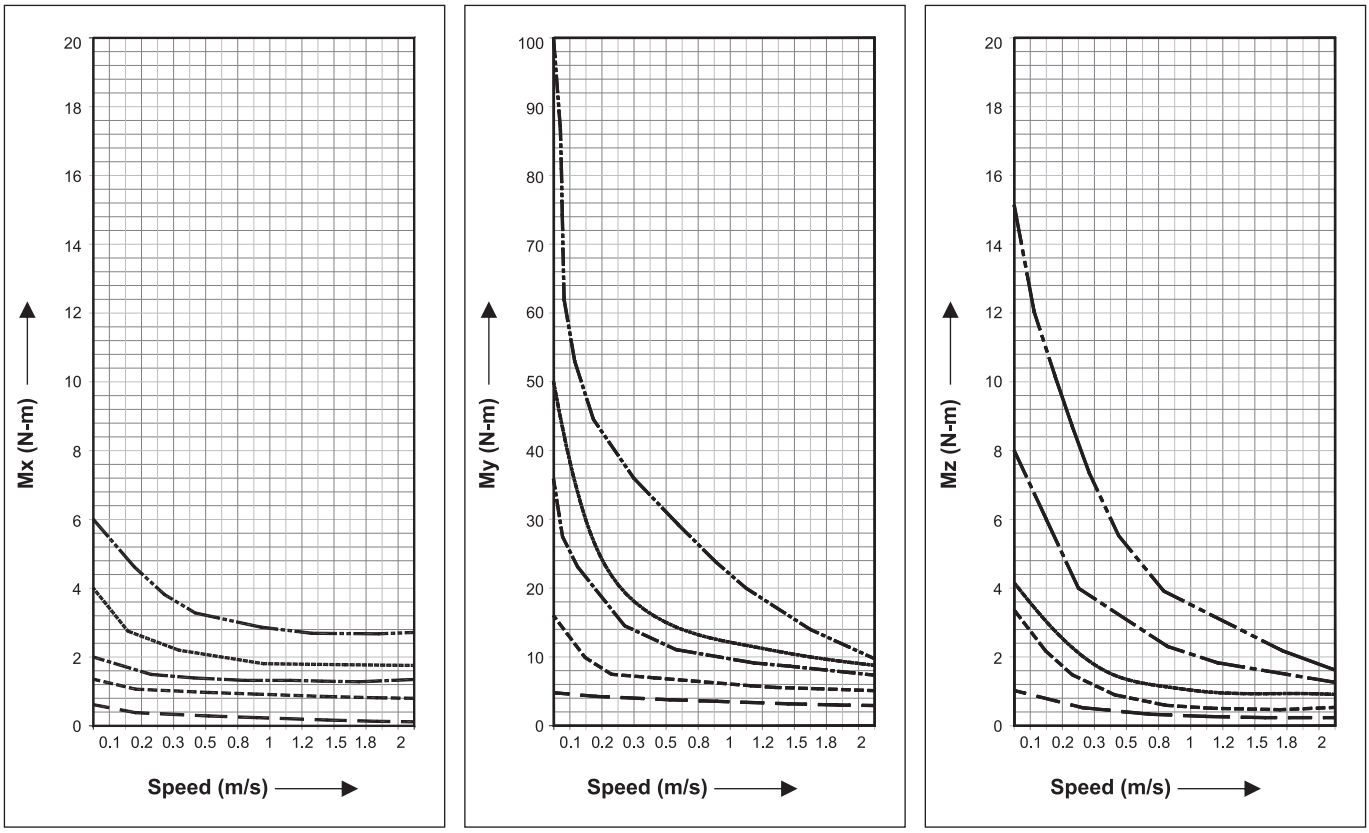
Horizontal Mounting - Load vs Speed graph



RODLESS CYLINDER

Series A404

Permissible Moments for A404 with respect to above load vs speed plot



Permissible Forces and Torques for other mounting

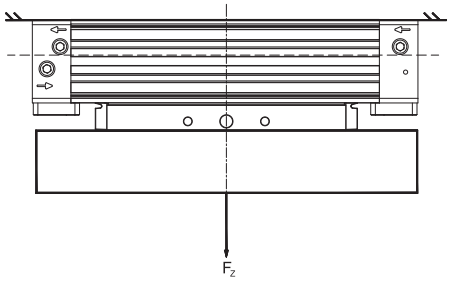
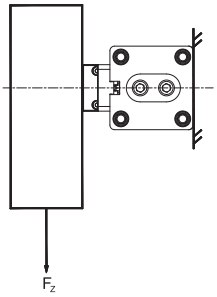
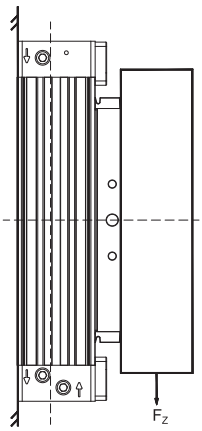
The moment for the cylinder remains same, but apart from horizontal mounting, all other mounting carries floating load with gravitational pull in space.

Due to this, the magnitude is considered to be lower than the highest magnitude in horizontal mounting.

Mounting Orientation	Maximum permissible load for A404 Rodless Basic Series (Fz) (N)				
	Ø18	Ø25	Ø32	Ø40	Ø50
Ceiling	25	60	95	160	240
Side-Wall	30	65	105	175	265
Vertical	50	120	190	320	480

RODLESS CYLINDER

Series A404

Ceiling Mounting	Side-Wall Mounting	Vertical Mounting
		

**** Note:** Since the magnitude is lower, it doesn't mean that the speed shall be increased due to lower magnitude, due to gravitational effect, the cylinder experiences momentum gain and the speed must remain as specified in graph.

Free-Body diagram for weight transfer with consideration of all permissible forces

1) Horizontal Mounting:

a) Static Condition:

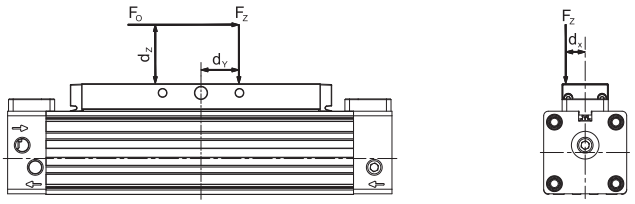
$\mathbf{M_x = F_z * d_x}$

$\mathbf{My_s = F_z * d_y}$

b) Dynamic Condition:

$\mathbf{My_d = k * F_o * d_y}$

$\mathbf{M_z = k * F_o * d_z}$



'F_o' is the impact load generated due to collision speed & kinetic energy due to applied mass. This states that at the time of impact, the **collision speed will tend to produce an effect of about 1.4 to 1.6 times the actual speed** at which the cylinder is operated, also taking **dampenability** into consideration. (Assume k=0.6)

Collision Speed (V_0) = x* Actual Set Speed (V_a) where, x=1.4,…,1.6 & $\mathbf{F_o = V_0 * F_z * \alpha}$

2) Ceiling Mounting:

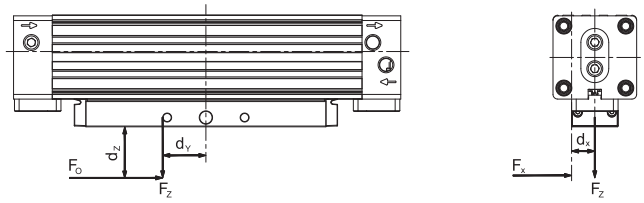
a) Static Condition:

$\mathbf{My_s = F_z * d_y}$

b) Dynamic Condition:

$\mathbf{M_x = k * F_x * d_y}$

$\mathbf{M_z = k * F_o * d_z}$



'F_o' is the impact load generated due to collision speed & kinetic energy due to applied mass. This states that at the time of impact, the **collision speed will tend to produce an effect of about 1.4 to 1.6 times the actual speed** at which the cylinder is operated, also taking **dampenability** into consideration.

RODLESS CYLINDER

Series A404

3) Side-Wall Mounting:

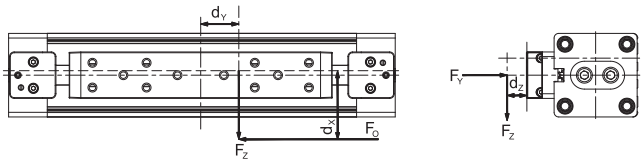
a) Static Condition:

$M_x = F_z * d_x$

b) Dynamic Condition:

$My_d = k * F_y * d_y$

$M_z = k * F_o * d_z$



'F_o' is the impact load generated due to collision speed & kinetic energy due to applied mass. This states that at the time of impact, the **collision speed will tend to produce an effect of about 1.4 to 1.6 times the actual speed** at which the cylinder is operated, also taking **dampenability** into consideration.

4) Vertical Mounting:

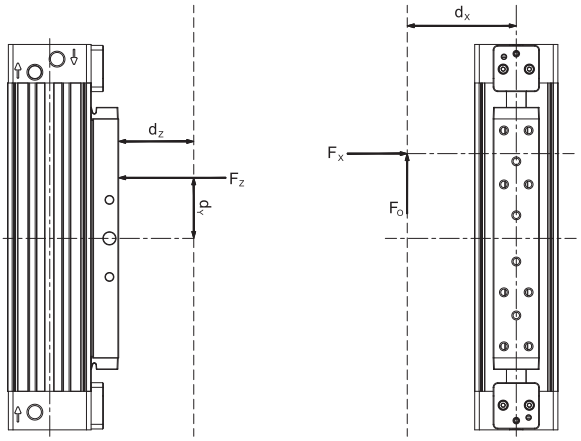
a) Static Condition:

$My_s = F_z * d_y$

b) Dynamic Condition:

$M_x = k * F_x * d_x$

$M_z = k * F_o * d_z$



'F_o' is the impact load generated due to collision speed & kinetic energy due to applied mass. This states that at the time of impact, the **collision speed will tend to produce an effect of about 1.4 to 1.6 times the actual speed** at which the cylinder is operated, also taking **dampenability** into consideration.

**** Note:**

The maximum loading at vertical mounting is taken as 40 to 45% of the total magnitude @ horizontal orientation.

For static design maximum moments, refer to the specification table whereas for dynamic moment, refer to the speed vs moment graph, with respect to which the moment is generated for the design load.

Some of the key considerations / precautions while operating the cylinder:

1) Environmental Operations:

- Ensure that the cylinder operated in an environment shall be neat & clean. The surrounding environment shall be free from dust as it may contaminate the seals present inside the cylinder if gone through fine porous gaps. The seals shall not be subjected to water. Use air gun or dry clothes for cleaning the cylinder.
- Avoid placing the cylinders in a region where the temperature is higher or lower than the maximum & minimum recommended temperature due to the permanent set that may occur with the seals present inside the cylinder and thereby causing leakage.

2) Cushion Adjustments:

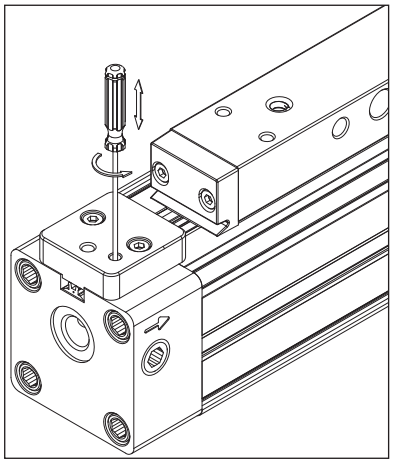
- The cushioning provided must be mandatorily adjusted when the cylinder is operated at high loads, with relatively low speeds in order to avoid seal failure. No overloading has to be provided to the cylinder because overloading the cylinder & functioning will cause seal failure as it is designed for withstanding the recommended design load & speed only.
- Use suitable screw driver for needle adjustments. Do not operate the cylinder at cushion free condition.

RODLESS CYLINDER

Series A404

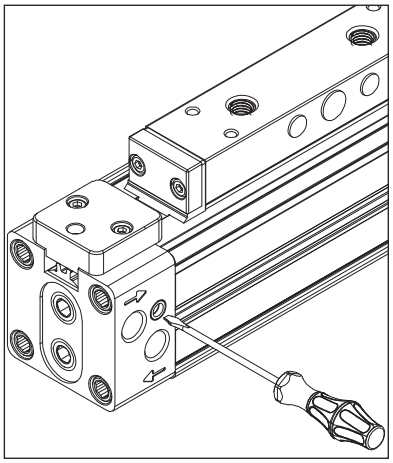
Cat No A404 - 01 - 01 - B

Ø18, 32, 40, 50 mm



Screw driver must slide inside the end plate diametric hole of end plate while adjusting needle. The needle head will be affected due to slippage or tool damage if wrong size screw driver is used.

Ø25 mm



3) Pipe routing:

- The piping provided shall be rust resistant and the air supply provided to the system shall have its pipe routing clean.

4) Quality of compressed air:

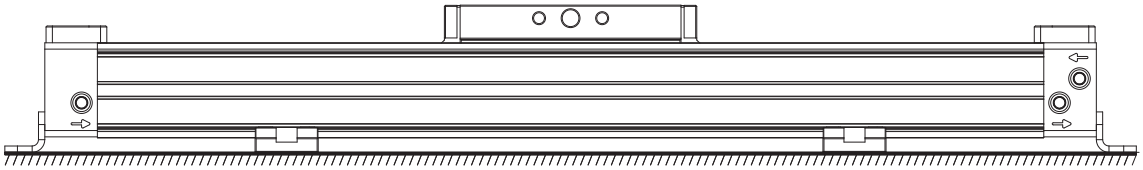
- Use clean & fresh air by using filter. Always ensure that air through the filter from the compressor is regularly filtered in order to avoid contamination and dust particles.

5) Product Maintenance from damages:

- Do not damage or mishandle the product because, if any such exist to the cylinder, then it may affect the cylinder performance & avoiding electrical welding contacts or any hazardous contacts closer to the cylinder is safe, which will result in cylinder destruction if not done.

6) Clamping of cylinder:

- The cylinder when operated at working pressure level (with or without external loads), ensure that the cylinder is rigidly clamped or both the end covers is fixed with end stops, concerning product & user safety. Do not overhang the cylinder. Do not fix the yoke & operate cylinder.



How to order

A404 | **040** | **1000** | **S** | **W**

Bore Ø (mm)
018 - Ø18
025 - Ø25
032 - Ø32
040 - Ø40
050 - Ø50

Stroke (mm)
10 to 2900mm

Supply Ports	
Nil	- basic
S	- Supply port at both ends (Speed Model)

Mountings	
Nil	- Basic
L	- Foot Mounting
W	- Center Support
Z	- Moment Compensator

Ordering Example:

Ordering no. for Rodless cylinder with Ø40 bore, 1000mm stroke, Speed model with Center support :
A4040401000SW

For longer stroke cylinders, contact **JANATICS** Head Office.

Subject to change

A411 - Magnetic

MAGNETICALLY COUPLED RODLESS CYLINDER

Series A411

Cat No A411 - 01 - 01 - C

MAGNETICALLY COUPLED RODLESS CYLINDER - Ø25 mm

Features

- ❑ Double acting magnetically coupled without mechanical connection
- ❑ Stainless steel tube, lightweight & durable
- ❑ Pressure tight & leak-free construction
- ❑ Dirt / Dust proof construction
- ❑ Space saving design construction for long strokes
- ❑ Carriage is free to rotate 360° around the cylinder axis
- ❑ Elastomer end cushioning

Application

This hermetically sealed rodless cylinder is widely used in application like rise sorting where the environment is filled with dust / dirt / husk and also for general applications like Door opening / closing, Packing machinery, Feeding, Pick & Place and transferring application etc.

Technical Specifications

Bore diameter	(mm)	25
Medium		Compressed air - Filtered - Lubricated
Port size		G1/8
Working pressure	(bar)	1.5 to 7
Standard stroke length*	(mm)	100, 150, 200, 250, 300, 350, 400, 450, 500, 600, 700, 800, 1000, 1500
Maximum available stroke length*	(mm)	2500
Stroke tolerance	(mm)	+2.5
Maximum speed	(mm/s)	1000
Maximum allowable load	(N)	100**
Ambient temperature	(C)	-10° to +60°
Medium temperature	(C)	+5° to +50°
Materials of construction		Aluminium, Brass, Stainless Steel, NBR, Magnet, Polyurethane, Steel, Polyamide
Mountings		Both ends are equipped with nuts

* For Non-standard or longer stroke cylinders, contact your regional dealer or **JANATICS H.O.**

** Refer permissible force Fq dependent on stroke length L graph for load selection.

Output force in N (1N = 0.1 kgf)

Cylinder bore Ø25 (in mm)	Working pressure in bar						
	1.5	2	3	4	5	6	7
Theoretical force at 6 bar	66	88	132	176	220	264	308
Break away force of the magnet coupling (N)	400						

Product Weight (g)

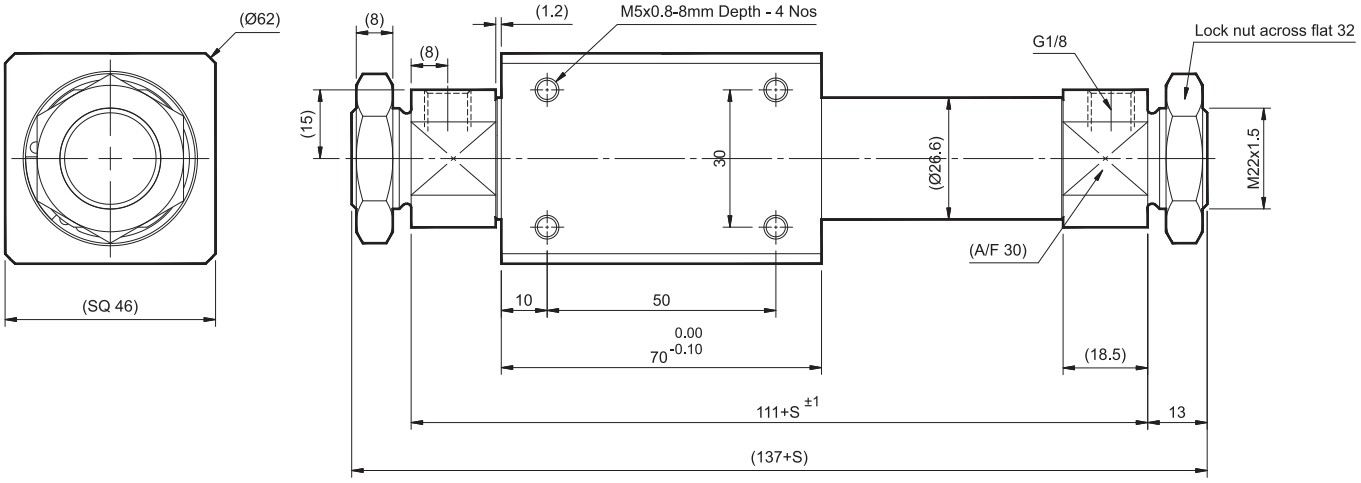
Size	25 mm
Product weight for 0 mm stroke in grams	845
Weight addition for 10mm stroke in grams	5

MAGNETICALLY COUPLED RODLESS CYLINDER

Series A411

Cat No A411 - 01 - 01 - C

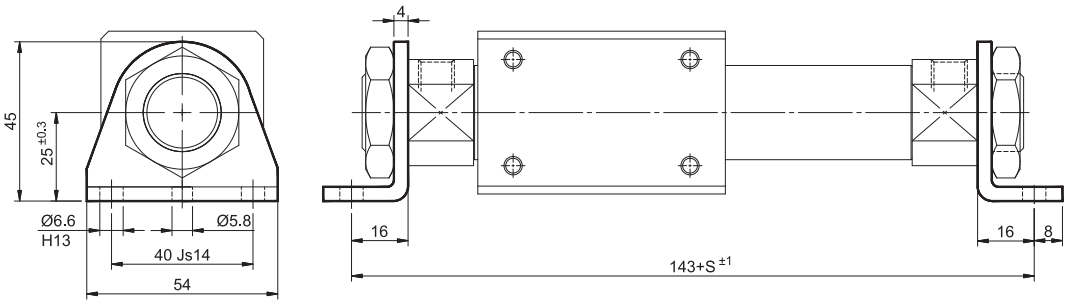
Basic cylinder - Ø25 mm



Mounting For Magnetically Coupled Rodless Cylinder Series A411

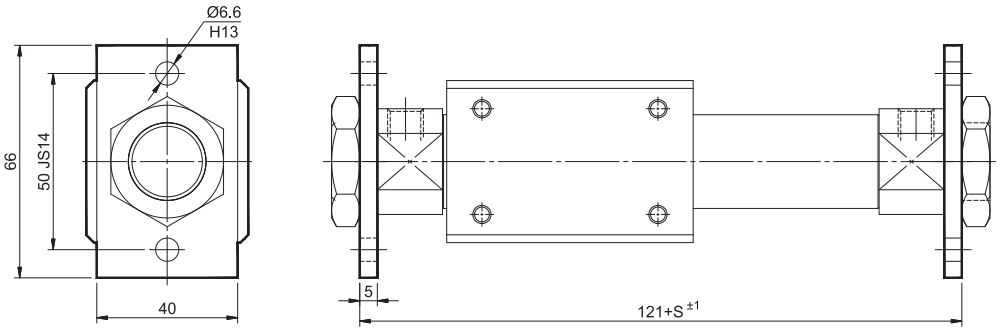
Double Foot Mounting

Ordering No: MS122



Flange Mounting

Ordering No: MF122



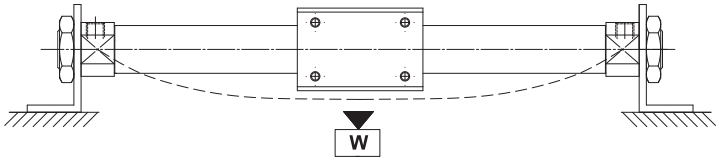
MAGNETICALLY COUPLED RODLESS CYLINDER

Series A411

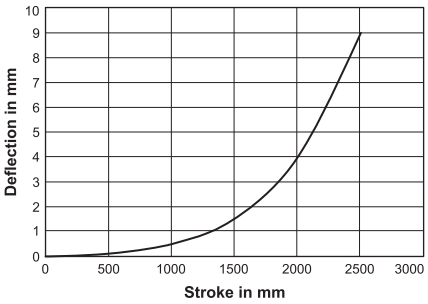
Load mounting / clamping method:

When the cylinder is mounted horizontally, deflection appears to be more at the center of the cylinder due to its weight applied directly to the body as shown below and amount of deflection is higher for longer stroke cylinder. Therefore, a connection method should be considered which can assimilate this deflection.

Note: When the load is applied directly to the body, it should not exceed the maximum value as shown the stroke Vs deflection graph.

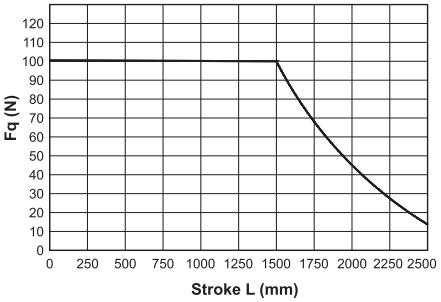


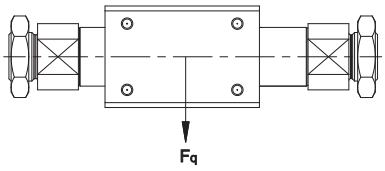
Stroke Vs Deflection



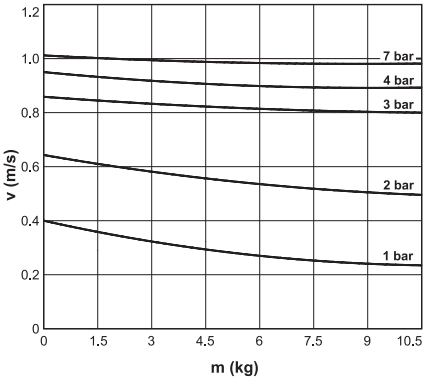
Example: For the stroke length of 1500 mm, the deflection must not exceed above 1.5 mm suitably the load has to be taken care.

Permissible force Fq dependent on stroke length L



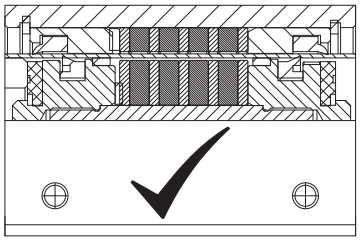


Maximum speed v dependent on the moving mass m

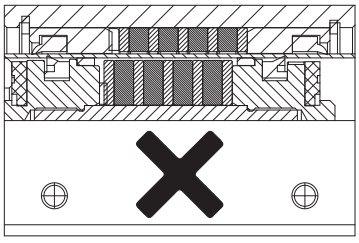


Caution

- **To ensure the stroke length is completed fully.**
  Avoid catching fingers or hands while the cylinder is moving.
- **Do not apply a load exceeding than the allowable specification value.**
- **Do not operate the cylinder with slider fixed condition.**
  Fix the cylinder with the plate on both sides.
- **Do not scratch or dent the periphery of the cylinder tube.**
  Cylinder barrel, wiper, or slider may be damaged and result in operation faults.
- **Pay attention to slider against rotation**
  Slider will rotated 360° freely use external shaft to arrest rotation.
- **The cylinder may malfunction if a magnetic substance, such as a steel plate, is nearby. Move the magnetic substance away from the cylinder.**
- **Check the external slider arrangement and magnet piston.**
  In case the magnetic coupling is out of position (Refer fig-2), push the external slider back into correct position by hand at end of the stroke (or correct the piston assembly by using air pressure)



Correct position



Incorrect position

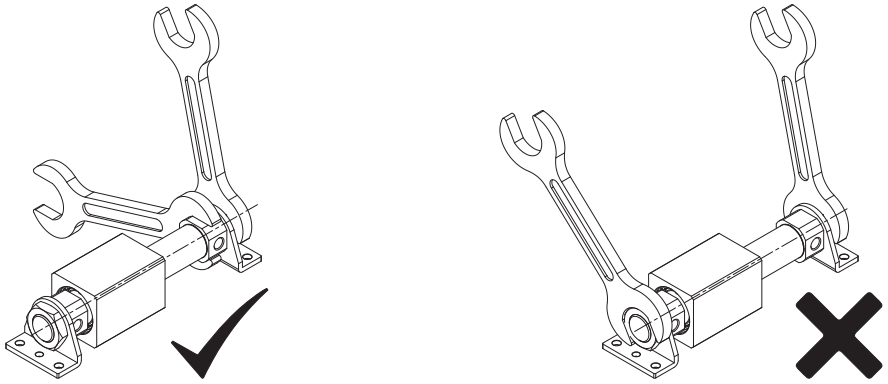
- **Use caution as the attractive power of the magnets is very strong.**
  When removing the external slider and magnet-piston assembly from the cylinder tube for maintenance etc., handle with caution, since the magnets installed in each slider have a very strong attractive force.
- **When stopping the external slider in an intermediate position with an external stopper.**
  If the allowable pressure value is exceeded above 4 bar, the external slider may become detached from the magnetic coupling
- **Do not disassemble the magnetic components in external slider assembly and piston magnet assembly.**
  This can cause loss of holding force and malfunction.

MAGNETICALLY COUPLED RODLESS CYLINDER

Series A411

Cat No A411 - 01 - 01 - C

- **Select the fitting in inlet and outlet port for air connection with the hexagon size of 14 mm maximum.**
- **Do not use the cylinder in an environment condition of expose to moisture, dust or liquid or cutting fluid.**
- **Lock nut tightening method.**
  Before tightening the lock nut, hold the tightening side of end cover firmly using suitable spanner to prevent rotation and then tighten it as per the recommended torque.
  Don't tight the one end of lock nut by holding the other end of lock nut because it will damage the threads in barrel and end covers. Refer attached image for better understanding.



How to order

A411 **025** **0100** **D**

Bore Ø (mm)
025 - Ø25

Stroke (mm)
0100 - 100
0200 - 200
0300 - 300
0400 - 400
0500 - 500
0600 - 600
0700 - 700
0800 - 800
1000 - 1000

Accessories
Nil - Basic with nuts
D - Double foot mounting
F - Flange mounting

Ordering Example:

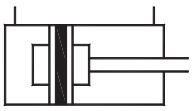
Ordering no. for standard cylinder with 25 dia bore, 100 mm stroke with Double foot mounting: **A411 025 0100 D**

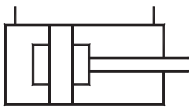
Note:

If ordered as 25 dia 100 mm stroke cylinder, Basic cylinder **A411 025 0100** will be supplied.
For repeat order when the details are taken from cylinder nameplate, mention the mounting style separately.
For ordering Accessories: mention part numbers in corresponding tables.
For ordering individual mounting kits (If needed separately): mention the ordering number as below

Cylinder bore	Double Foot Mounting	Flange Mounting
		
Ø25	MS122	MF122

Subject to change


A83 - Magnetic


A84 - Non-magnetic

AIR CYLINDER

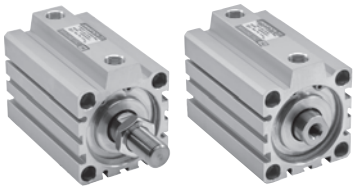
Series A83, A84

Cat No A83, A84 - 01 - 01 - B

COMPACT CYLINDERS DOUBLE ACTING (Ø32 to 63 mm)

Features

- ❑ Compact, light weight and space saving design
- ❑ Large clamping force in relation to their size
- ❑ Low friction, long life seal design
- ❑ Elastomer end cushion
- ❑ Magnetic & Non-magnetic version



Technical Specifications

Cylinder bore Ø	(mm)	32	40	50	63
Standard strokes*	(mm)	5, 10, 15, 20, 25, 30, 40, 50, 60		10, 20, 30, 40, 50, 60, 70, 80	
Medium		Compressed air - Filtered - Lubricated			
Working pressure range		0.5 to 10 bar			
Ambient temperature		-10° to +60° C			
Medium temperature		+5° to +50° C			

* For Non standard or longer stroke cylinders, contact your regional dealer or **JANATICS**

Output force (force in N : 1N = 0.1 kgf)

Cylinder bore Ø (in mm)	Rod Ø (in mm)		Working pressure in bar								
			2	3	4	5	6	7	8	9	10
32	16	Extend	145	217	289	362	434	507	579	651	724
		Retract	108	162	217	271	325	380	434	488	542
40	16	Extend	226	339	452	565	678	792	905	1018	1130
		Retract	190	285	380	475	570	665	760	855	950
50	20	Extend	353	530	706	884	1060	1237	1414	1590	1767
		Retract	297	445	594	742	890	1039	1187	1336	1484
63	20	Extend	561	842	1122	1403	1683	1964	2244	2525	2805
		Retract	505	757	1009	1261	1514	1766	2018	2270	2523

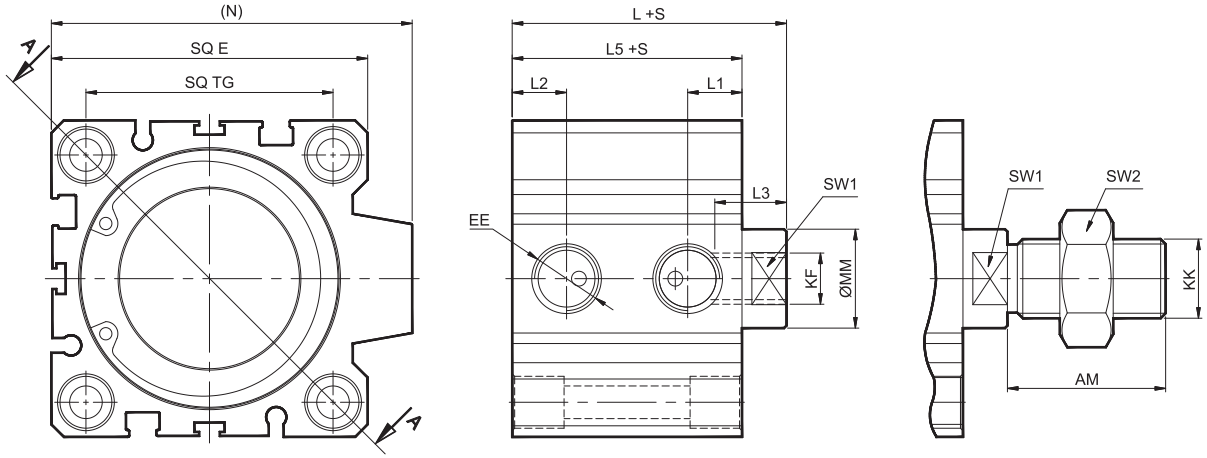
(Above values have been worked out taking frictional loss into consideration)

AIR CYLINDER

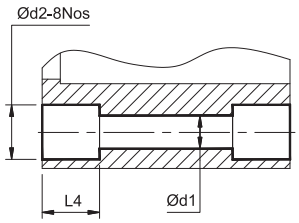
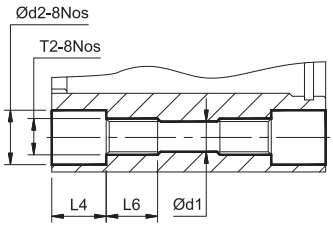
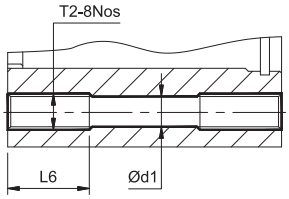
Series A83, A84

Cat No A83, A84 - 01 - 01 - B

Basic cylinder



Section AA

Basic Model	Model 1	Model 2
Counter bore and through hole on both sides	Counter bore and thread on both sides	Thread on both sides
		

Basic Model - Counter bore and through hole on both sides

+ Add stroke

Cylinder bore Ø	KF	MM	L3	SW1	d1	d2	L4	L1 ±0.1	L2 ±0.1	EE	TG	E	N	L5 ±0.3	L ±1	KK	AM	SW2
32	M8 x 1.25	16	13	14	5.5	9	8	9	9	G1/8	34	47.5	53	45	52	M12 x 1.25	24	19
40	M8 x 1.25	16	13	14	5.5	9	9.5	10	10	G1/8	40	55	60.5	41.5	48.5	M12 x 1.25	24	19
50	M10 x 1.5	20	15	17	6.6	10.5	10.5	11	11	G1/4	50	64	73	46.5	54.5	M16 x 1.5	32	24
63	M10 x 1.5	20	15	17	9	13.5	10.5	11	11	G1/4	60	77	86	48.5	56.5	M16 x 1.5	32	24

Model 1 - Counter bore and thread on both sides

+ Add stroke

Cylinder bore Ø	KF	MM	L3	SW1	d1	d2	L4	L1 ±0.1	L2 ±0.1	EE	TG	E	N	L5 ±0.3	L ±1	KK	AM	SW2	T2	L6
32	M8 x 1.25	16	13	14	5.5	9	8	9	9	G1/8	34	47.5	53	45	52	M12 x 1.25	24	19	M6x1	10
40	M8 x 1.25	16	13	14	5.5	9	9.5	10	10	G1/8	40	55	60.5	41.5	48.5	M12 x 1.25	24	19	M6x1	10
50	M10 x 1.5	20	15	17	6.6	10.5	10.5	11	11	G1/4	50	64	73	46.5	54.5	M16 x 1.5	32	24	M8x1.25	13
63	M10 x 1.5	20	15	17	9	13.5	10.5	11	11	G1/4	60	77	86	48.5	56.5	M16 x 1.5	32	24	M10x1.5	16

Model 2 - Thread on both sides

+ Add stroke

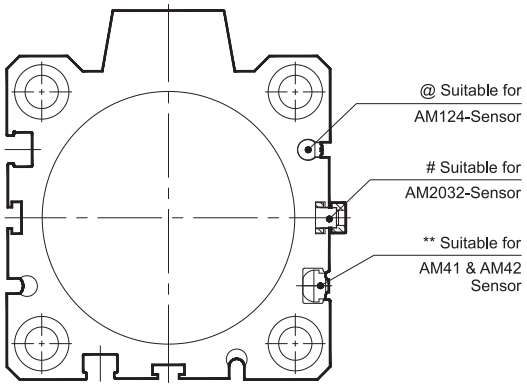
Cylinder bore Ø	KF	MM	L3	SW1	d1	d2	L4	L1 ±0.1	L2 ±0.1	EE	TG	E	N	L5 ±0.3	L ±1	KK	AM	SW2	T2	L6
32	M8 x 1.25	16	13	14	5.5	9	8	9	9	G1/8	34	47.5	53	45	52	M12 x 1.25	24	19	M6x1	10
40	M8 x 1.25	16	13	14	5.5	9	9.5	10	10	G1/8	40	55	60.5	41.5	48.5	M12 x 1.25	24	19	M6x1	10
50	M10 x 1.5	20	15	17	6.6	10.5	10.5	11	11	G1/4	50	64	73	46.5	54.5	M16 x 1.5	32	24	M8x1.25	13
63	M10 x 1.5	20	15	17	9	13.5	10.5	11	11	G1/4	60	77	86	48.5	56.5	M16 x 1.5	32	24	M10x1.5	16

AIR CYLINDER

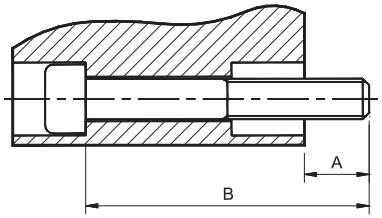
Series A83, A84

Magnetic sensor

Accessories for Magnetic Cylinder



Recommended bolt size for basic model mounting



Ordering no.	A	Bolt size B	Ordering no.	A	Bolt size B	Ordering no.	A	Bolt size B	Ordering no.	A	Bolt size B
A83 032 005	8	M5 x 50	A83 040 005	8	M5 x 45	A83 050 010	9	M6 x 55	A83 063 010	12	M8 x 60
010	8	x 55	010	8	x 50	020	9	x 65	020	12	x 70
015	8	x 60	015	8	x 55	030	9	x 75	030	12	x 80
020	8	x 65	020	8	x 60	040	9	x 85	040	12	x 90
025	8	x 70	025	8	x 65	050	9	x 95	050	12	x 100
030	8	x 75	030	8	x 70	060	9	x 105	060	12	x 110
040	8	x 85	040	8	x 80	070	9	x 115	070	12	x 120
050	8	x 95	050	8	x 90	080	9	x 125	080	12	x 130
060	8	x 105	060	8	x 100						

How to order

A83	040	050	–	0	–	Optional M

Model	
83	Magnetic cylinder
84	Non-Magnetic cylinder

Piston Ø (mm)	
032	- Ø 32
040	- Ø 40
050	- Ø 50
063	- Ø 63

Stroke (mm)	
005	- 5
010	- 10
015	- 15
020	- 20
025	- 25
030	- 30
040	- 40
050	- 50
060	- 60
070	- 70
080	- 80

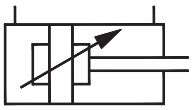
Mounting type	
0	- Basic Counter bore and through hole on both sides
1	- Counter bore and thread on both sides
2	- Thread on both sides

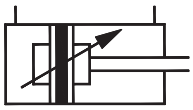
Thread	
Nil	- Female thread
M	- Male thread

Ordering Example:

Ordering no. for Magnetic cylinder with 40dia bore, 50mm stroke with Female thread: **A83040050-0**
Ordering no. for Non-Magnetic cylinder with 63dia bore, 70mm stroke with Male thread: **A84063070-0-M**
Ordering no. for Magnetic cylinder with 63dia bore, 70mm stroke with Counter bore and thread on both sides and Male thread: **A83063070-1-M**
Ordering no. for Non-magnetic cylinder with 63dia bore, 50mm stroke with thread on both sides and Female thread: **A84063050-2**

For your special requirements of cylinders or for further information contact your regional dealer or **JANATICS** Subject to change


A108 - Non-magnetic


A109 - Magnetic

AIR CYLINDER

Series A108, A109 (Heavy Duty)

Cat No A108, A109 - 01 - 01 - A

AIR CYLINDERS Double Acting (Ø160, 200, 250, 320, 350 mm)

Features

- ❑ Barrel made of MS / FRP
- ❑ Long life
- ❑ Low friction
- ❑ Adjustable cushion at both ends
- ❑ FRP Series: - Excellent thermal stability and lower conductivity
  - Shape stability and impact resistance
  - Light weight
  - Magnetic version also available
- ❑ Optional: Non-corrosive stainless steel piston rod and piston rod lock nut (SS 304)

Technical Specifications

Cylinder bore Ø (mm)		160	200	250	320	350
Cushion stroke (mm)		40				
Standard strokes * (mm)		100, 125, 160, 200, 250, 300, 320, 400, 500, 675, 800, 900, 1000				
Medium		Compressed air - Filtered - Lubricated				
Working pressure		0.5 to 10 bar				
Ambient temperature	Regular	-10° to +80° C (Nitrile Seals)				
	High temperature applications	+5° to +150° C max. (Viton Seals)#				
Medium temperature		+5° to +50° C				
Materials of construction		**Barrel**: MS / FRP; **End cover**: Cast iron; **Piston rod**: Stainless steel **Seals**: Nitrile / Viton #; **Others**: Brass, Bronze, Polyurethane				
Accessories		Available on request				

* For Non standard or longer stroke cylinders, contact your regional dealer or **JANATICS**

\# For MS barrel application.

Output force (force in N : 1N = 0.1 kgf)

Cylinder bore Ø (in mm)	Rod Ø (in mm)		Working pressure in bar								
			2	3	4	5	6	7	8	9	10
Ø160	32	Extend	3619	5429	7238	9048	10857	12667	14476	16286	18096
		Retract	3474	5212	6949	8686	10423	12160	13897	15635	17372
Ø200	32	Extend	5655	8482	11310	14137	16965	19792	22619	25447	28274
		Retract	5510	8265	11020	13775	16530	19285	22040	24795	27550
Ø250	40	Extend	8836	13254	17671	22089	26507	30925	35343	39761	44179
		Retract	8610	12914	17219	21524	25829	30133	34438	38743	43048
Ø320	40	Extend	14476	21715	28953	36191	43429	50668	57906	65144	72382
		Retract	14250	21375	28501	35626	42751	49876	57001	64126	71251
Ø350	40	Extend	17318	25977	34636	43295	51954	60613	69272	77931	86590
		Retract	17092	25638	34184	42730	51275	59821	68367	76913	85459

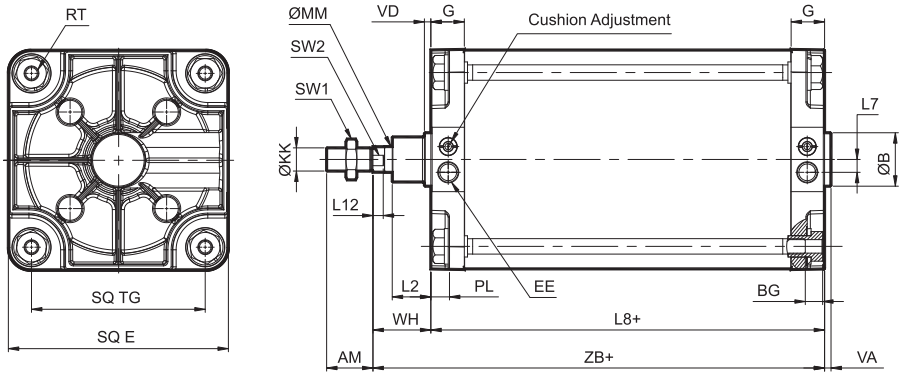
(Above values have been worked out taking frictional loss into consideration)

AIR CYLINDER

Series A108, A109 (Heavy Duty)

Cat No A108, A109 - 01 - 01 - A

Basic cylinder

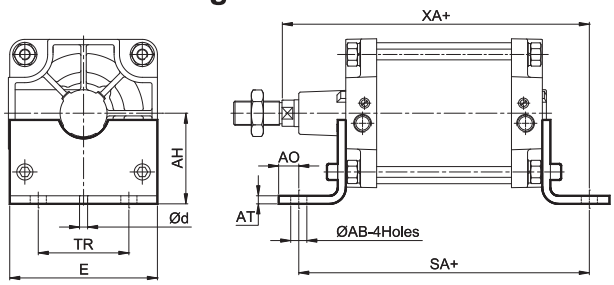


+ Add stroke

Cylinder bore Ø	KK	AM	MM	SW2	L12	SW1	B e11	VD	VA	L2	E max	G	TG	RT	BG min	EE	PL	L7	WH ± 2.2	ZB	L8	Stroke tol
160	M27 x 2	54	32	27	13	41	65	18	18	57	183	36	140	M16	25	G1/2	20	12	78	229±1.1	151±1.5	+4 0
200	M27 x 2	54	32	27	13	41	75	18	18	59	222	36	175	M16	25	G1/2	20	12	79	240±1.6	161±1.5	
250	M36 x 2	72	40	36	16	55	70	15	15	70	270	45	220	M20	25	G3/4	23	15	102	280±2	178±1.6	+5 0
320	M36 x 2	72	40	36	16	55	83	10	10	60	342	52	270	M24	27	G1	27	20	90	302±2	212±2.2	
350	M36 x 2	72	40	36	16	55	83	10	10	60	378	52	290	M24	27	G1	27	20	90	303±2	213±2.2	

MOUNTINGS FOR AIR CYLINDER Series A108, A109

Foot mounting

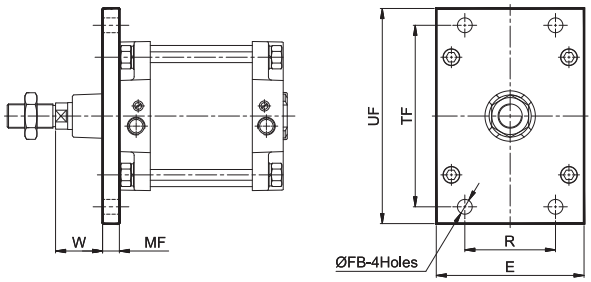


+ Add stroke

Cylinder bore Ø	TR ±0.3	AB H14	AH Js16	AO max	AT	E	SA ±2	d*	XA ±2	Ordering no.
160	115	18.5	115	17	10	182	271	11.8	288	ML0160
200	135	24	135	30	12	222	300	11.8	309	ML0200
250	165	28	165	35	20	265	327	11.8	355	ML0250
320	270	35	200	40	23	335	376	11.8	388	ML0320

* Suitable for reaming

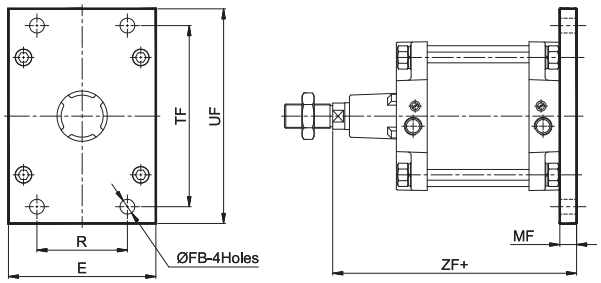
Front flange



+ Add stroke

Cylinder bore Ø	TF ±0.3	R ±0.3	FB H13	MF	UF	E	W ±2.5	Ordering no.
160	230	115	18	20	276	182	59	MF0160
200	270	135	22	25	320	222	54	MF0200
250	330	165	26	25	390	265	77	MF0250
320	400	200	33	30	470	335	60	MF0320

Rear flange



+ Add stroke

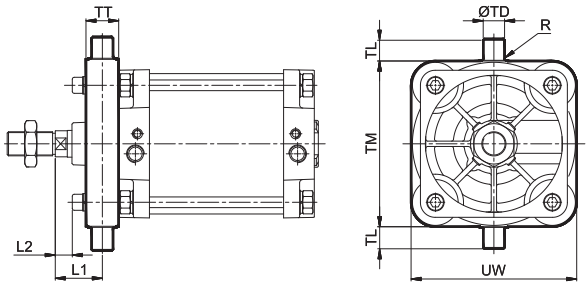
Cylinder bore Ø	TF ±0.3	R ±0.3	FB H13	MF	UF	E	ZF ± 2	Ordering no.
160	230	115	18	20	276	182	249	MF0160
200	270	135	22	25	320	222	264	MF0200
250	330	165	26	25	390	265	301	MF0250
320	400	200	33	30	470	335	332	MF0320

AIR CYLINDER

Series A108, A109 (Heavy Duty)

Cat No A108, A109 - 01 - 01 - A

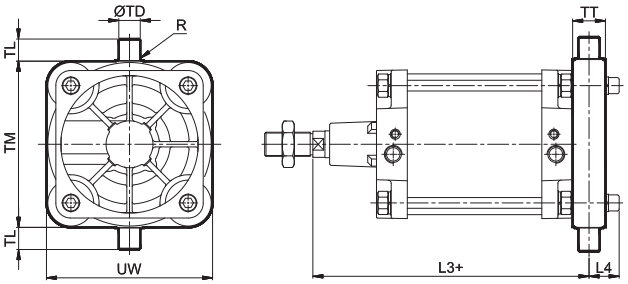
Front trunnion



+ Add stroke

Cylinder bore Ø	TD e9	TL h14	TM h14	UW	TT	R	L1 ±2.5	L2 Approx.	Ordering no.
160	32	32	200	195	49	2.5	53.5	9.5	MT0160
200	32	32	250	248	49	2.5	54.5	10.5	MT0200
250	40	40	320	318	60	3.2	72	18	MT0250
320	50	50	400	398	70	3.2	58	28	MT0320

Rear trunnion

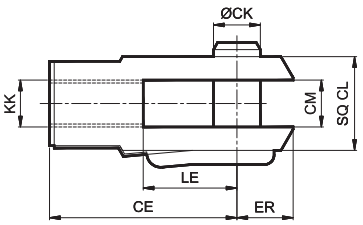


+ Add stroke

Cylinder bore Ø	TD e9	TL h14	TM h14	UW	TT	R	L3 ±1.8	L4	Ordering no.
160	32	32	200	195	49	2.5	253.5	44	MT0160
200	32	32	250	248	49	2.5	263.5	44	MT0200
250	40	40	320	318	60	3.2	310	30	MT0250
320	50	50	400	398	70	3.2	335	30	MT0320

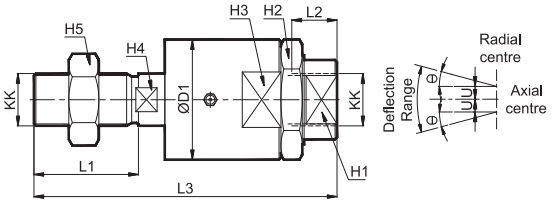
Accessories for Air Cylinder series A108, A109

Rod end fork (ISO 8140)



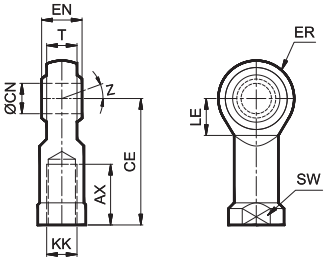
Cylinder bore Ø	KK	CE	CK	CM B12	LE	ER max	CL	Ordering no.
160 & 200	M27 x 2	110	30	30	55	45	55	AF030
250 to 350	M36 x 2	144	35	35	72	53	70	AF035

Rod end aligner



Cylinder bore Ø	KK	L1	L2	L3	H1	H2	H3	H4	H5	ØD1	U	θ°	Ordering no.
160 & 200	M27 x 2	54	42	157	41	55	55	24	41	62	1.5	5	AR027
250 to 350	M36 x 2	72	55	251	60	75	75	32	55	80	1.5	5	AR036

Rod end spherical eye (ISO 8139)



Cylinder bore Ø	KK	CN H9	T	EN h12	CE	LE min	ER max	AX	SW	Z	Ordering no.
160 & 200	M27 x 2	30	25	37	110	36	35	51	41	15°	AP027
250 to 350	M36 x 2	35	28	43	125	41	40	56	50		AP036

AIR CYLINDER

Series A108, A109 (Heavy Duty)

Cat No A108, A109 - 01 - 01 - A

How to order

A — 108 — 160 — 250 — F4 — 2

Model	
108	Non-Magnetic
109	Magnetic

Cylinder bore mm)	
160	- Ø160
200	- Ø200
250	- Ø250
320	- Ø320
350	- Ø350

Stroke (mm)	
100	- 100
125	- 125
160	- 160
200	- 200
250	- 250
300	- 300
320	- 320
400	- 400
500	- 500
575	- 575
675	- 675
775	- 775
900	- 900
1000	- 1000

Mountings & Accessories	
1	- Nil
F5#	- Foot Mounting
F4#	- Front Flange
R1#	- Rear Flange
C1#	- Front Trunnion
C2#	- Rear Trunnion
F1	- Rod End Fork
F2	- Rod End Aligner
F3	- Rod End Spherical Eye

Note: # - Mountings are not available for Ø350 Cylinder

Variables	
1	- Barrel - Mild Steel (Non-Magnetic only) Seals - Nitrile
2	- Barrel - Mild Steel (Non- Magnetic only) Seals - Viton
3	- Barrel - FRP Seals - Nitrile

Ordering Example:

Ordering no. for Non-Magnetic cylinder with 160 dia bore, 250 mm stroke with front flange mounting with high temperature: **A108160250-F4-2**

Note:

If ordered as Magnetic cylinder 250 dia, 200 mm stroke with FRP barrel **A109250200-1-3** will be supplied.

For repeat order when the details are taken from cylinder nameplate, mention the mounting style separately.

For ordering **Accessories** refer corresponding tables for Ordering numbers.

For ordering **Magnetic Sensors**, refer corresponding cylinder bore sizes (Ø160 to 250) from A17 series (Page no. 1.3.6 & 1.3.7).

Magnetic Sensors **AM5024-0-FL-04, AM5024-1-FL-04, AM5024-2-FL-04, AM5024-3-FL-04** can be used for both Ø320 & Ø350.

For ordering individual **Mounting** kits (If needed separately) the order numbers are as below

Cylinder bore Ø	Foot mounting*	Front / Rear flange*	Front / Rear trunnion*
			
160	ML0160	MF0160	MT0160
200	ML0200	MF0200	MT0200
250	ML0250	MF0250	MT0250
320	ML0320	MF0320	MT0320

* Supplied with 4nos. of screws

For your special requirements of cylinders or for further informations contact your regional dealer or **JANATICS**

Subject to change

COMPACT GUIDED CYLINDER

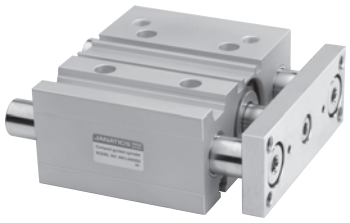
Series A91AL

Cat No A91AL - 01 - 01 - A

COMPACT GUIDED CYLINDER WITH ADJUSTABLE CUSHIONING (Bushing type) - Ø16, 20, 25, 32, 40, 50, 63mm

Features

- For ease of loading & unloading workpiece at restriction
- Compact cylinders with strong clamping force, Ø16 to 63mm
- Improved mounting accuracy. Guide bush and positioning pin hole ensure high-precision mounting
- Body machined from extruded aluminium that mounts directly to equipment for rigid, secure mounting in small space
- Compact equipment design is possible. Suited for electronic parts inspection clamps. Ideal for use in small mounting space



Technical Specifications

Series		A91AL						
Bearing type		Bushing						
Cylinder bore Ø	(mm)	16	20	25	32	40	50	63
Standard stroke *	(mm)	25, 50, 75, 100	25, 50, 75, 100, 125, 150, 175, 200					
Working pressure	(bar)	1.5 to 10	1.2 to 10					
Medium		Compressed air - Filtered - Non-lubricated (without moisture)						
Ambient temperature	C	-10° to +60°						
Medium temperature	C	+5° to +50°						
Materials of construction		Aluminium, Brass, Nitrile, Steel, Gunmetal, Polyurethane						
Cushion		Adjustable cushioning on both ends						
Stroke length tolerance	(mm)	+1.5 0						

Output force (force in N : 1N = 0.1 kgf)

Bore dia (mm)	Rod size (mm)	Operating direction	Piston area (mm^2)	Operating pressure in bar								
				2	3	4	5	6	7	8	9	10
16	8	OUT	201	40	60	80	101	121	141	161	181	201
		IN	151	30	45	60	76	91	106	121	136	151
20	10	OUT	314	63	94	126	157	188	220	251	283	314
		IN	236	47	71	94	118	142	165	189	212	236
25	12	OUT	491	98	147	196	246	295	344	393	442	491
		IN	378	76	113	151	189	227	265	302	340	378
32	16	OUT	804	161	241	322	402	482	563	643	724	804
		IN	603	121	181	241	302	362	422	482	543	603
40	16	OUT	1257	251	377	503	629	754	880	1006	1131	1257
		IN	1056	211	317	422	528	634	739	845	950	1056
50	20	OUT	1963	393	589	785	982	1178	1374	1570	1767	1963
		IN	1649	330	495	660	825	990	1154	1319	1484	1649
63	20	OUT	3117	623	935	1247	1559	1870	2182	2494	2805	3117
		IN	2803	561	841	1121	1402	1682	1962	2242	2523	2803

(Above values have been worked out taking frictional loss into consideration)

COMPACT GUIDED CYLINDER

Series A91AL

Standard Stroke

Model		Standard stroke (mm)	Intermediate stroke
A91AL Bushing	16	25, 50, 75, 100	Contact Janatics
	20, 25, 32, 40, 50, 63	25, 50, 75, 100, 125, 150, 175, 200	

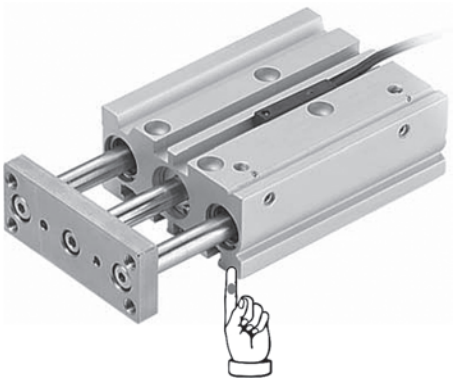
Weight Table - Bushing Type

Unit : (kg)

Bore dia (mm)	Model	Stroke (mm)							
		25	50	75	100	125	150	175	200
16	A91AL	0.51	0.69	0.78	0.91	-	-	-	-
20		0.89	1.14	1.34	1.54	1.74	1.94	2.13	2.33
25		1.23	1.60	1.87	2.14	2.41	2.68	2.95	3.23
32		1.98	2.51	2.77	3.15	3.53	3.91	4.29	4.68
40		2.34	2.91	3.21	3.64	4.06	4.49	4.92	5.34
50		3.92	4.75	5.29	5.93	6.57	7.21	7.85	8.49
63		4.94	5.89	6.54	7.29	8.05	8.81	9.56	10.3

CAUTION NOTES

Be sure to read before handling



Precautions ⚠

1. Never place your hands or fingers between the plate and the body

Be very careful to prevent your hands or fingers from getting caught in the gap between the cylinder body and the plate when the air is applied.

Caution ⚠

1. Do not scratch or gouge the sliding portion of the piston rod and the guide rod

Damaged seals, etc., will result in leakage or malfunction.

2. Bottom of cylinder

The guide rods may protrude from the bottom of the cylinder at the end of the retracting stroke. Therefore, wherever the cylinder is to be bottom mounted, it is necessary to provide bypass ports in the mounting surface for the guide rods, as well as holes for the hexagon socket head screws, which are used for mounting. Moreover, in applications where impact occurs from a stopper, etc., the mounting bolts should be inserted to a depth of 2d or more (1.5d or more for standard).

Warning ⚠

1. Do not open the cushion valve excessively.

Air leakage will occur if operated after opening by 4 rotations or more. Furthermore, a stopper mechanism is provided for the cushion valve, and it should not be forced open beyond that position. Be aware that the cushion valve may jump up from the cover when the air is supplied.

Caution ⚠

1. Be sure to use the cylinder after the air cushion has been adjusted appropriately.

First, fully close the cushion valve. Starts the operation at the cylinder speed to be used with the load applied, and then open the cushion valve gradually to make the adjustment. The optimal adjustment is that the piston reaches its stroke end and the collision sound is minimized. If the cushion valve is used without adjusting the air cushion appropriately, this may cause damage to the retaining ring or piston.

2. Be sure to operate a cylinder equipped with air cushion to the end of the stroke.

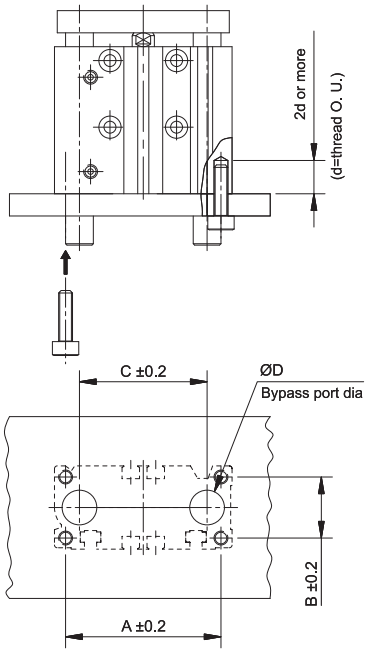
If it is not operated to the end of the stroke, the effect of the air cushion will not be fully exhibited. Consequently, in cases where the stroke is regulated by an external stopper etc., caution must be exercised, as the air cushion may become completely ineffective.

COMPACT GUIDED CYLINDER

Series A91AL

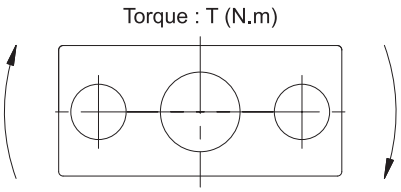
Standard Type

Bore dia (mm)	A	B	C	D	Hex. socket head cap screw
16	56	22	46	12	M5x0.8
20	72	24	54	14	M5x0.8
25	82	30	64	18	M6x1.0
32	98	34	78	22	M8x1.25
40	106	40	86	22	M8x1.25
50	130	46	110	27	M10x1.5
63	142	58	124	27	M10x1.5



Operating Condition

Allowable Rotational Torque of Plate



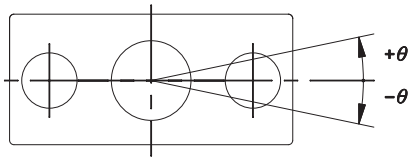
T (N.m)

Bore dia (mm)	Stroke (mm)							
	25	50	75	100	125	150	175	200
16	0.53	0.38	0.69	0.58	-	-	-	-
	1.27	0.86	0.65	0.52	-	-	-	-
20	0.99	0.75	1.88	1.63	1.44	1.28	1.16	1.06
	2.66	1.94	1.52	1.25	1.34	1.17	1.03	0.93
25	1.64	1.25	2.96	2.57	2.26	2.02	1.83	1.67
	4.08	3.02	2.38	1.97	2.05	1.78	1.58	1.41
32	6.35	5.13	5.69	4.97	4.42	3.98	3.61	3.31
	5.95	4.89	5.11	4.51	6.34	5.79	5.33	4.93
40	7.00	5.66	6.27	5.48	4.87	4.38	3.98	3.65
	6.55	5.39	5.62	4.96	6.98	6.38	5.87	5.43
50	13.0	10.8	12.0	10.6	9.50	8.60	7.86	7.24
	9.17	7.62	9.83	8.74	11.6	10.7	9.83	9.12
63	14.7	12.1	13.5	11.9	10.7	9.69	8.86	8.16
	10.2	8.48	11.0	9.74	13.0	11.9	11.0	10.2

1 N.m = 10.2 kgf.cm

Non-Rotating Accuracy of Plate

Non-rotating accuracy θ when retracted and when no load is applied should be not more than the values shown in the table.



Bore dia (mm)	Non-rotating accuracy θ
16	±0.08°
20	±0.07°
25	

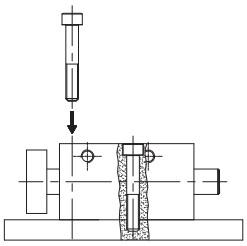
Bore dia (mm)	Non-rotating accuracy θ
32	±0.06°
40	
50	±0.05°
63	

COMPACT GUIDED CYLINDER

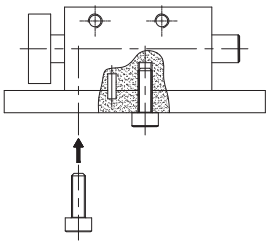
Series A91AL

Four Mounting Style

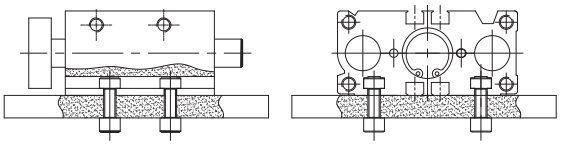
1. Top Mounting



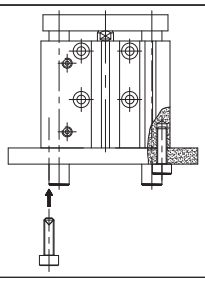
2. Side Mounting



3. T-slot Mounting



4. Bottom Mounting



Easy positioning

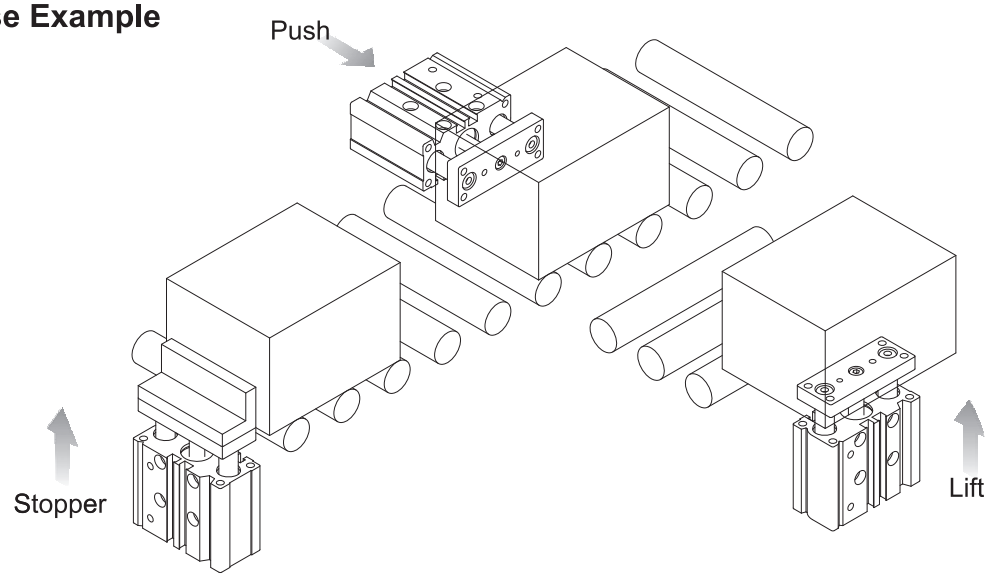
Knock pin holes provided on each mounting surface.

Stroke corresponding list - stroke variations

Bearing type	Bore dia (mm)	Stroke (mm)							
		25	50	75	100	125	150	175	200
A91AL Bushing	16	●	●	●	●	-	-	-	-
	20	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●	●
	32	●	●	●	●	●	●	●	●
	40	●	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●	●
	63	●	●	●	●	●	●	●	●

(●) Standard stroke, for intermediate stroke please contact with us for detailed dimensions.

Multipurpose Example

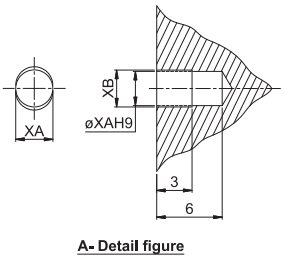


COMPACT GUIDED CYLINDER

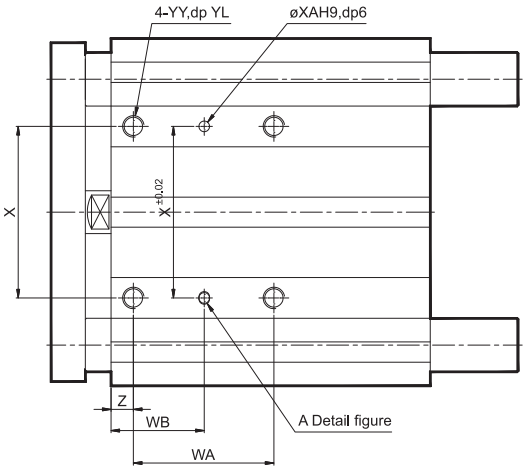
Series A91AL

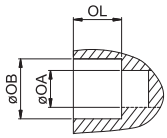
Cat No A91AL - 01 - 01 - A

Basic Dimensions

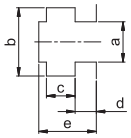


A- Detail figure



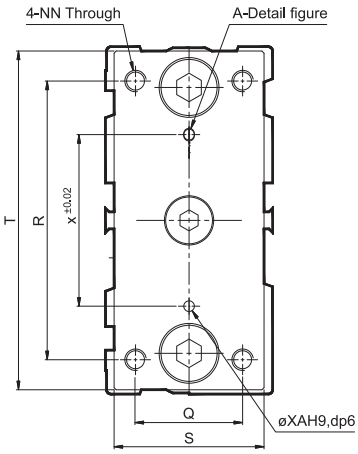


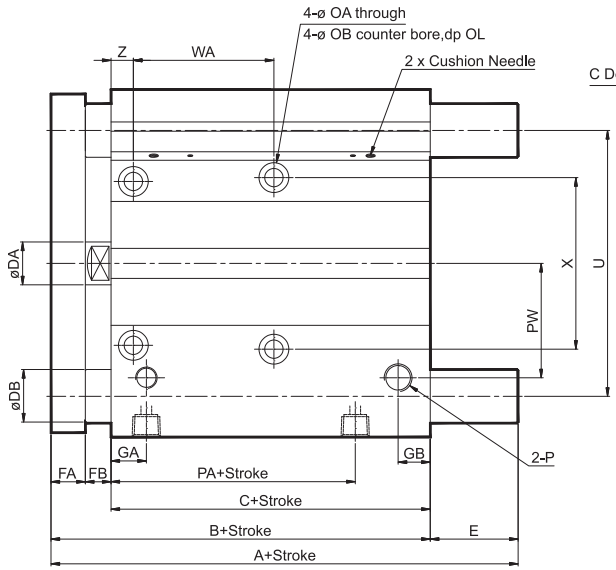
C - Detail figure

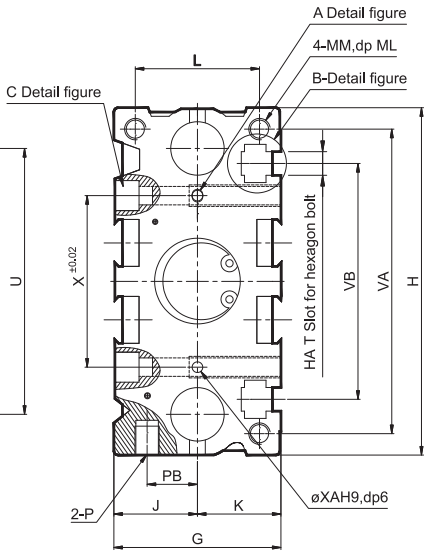


B - Detail figure

Bore	a	b	c	d	e
Ø16	4.4	7.4	3.7	2.5	6.7
Ø20	5.4	8.4	4.5	2.8	7.8
Ø25	5.4	8.4	4.5	3	8.2







A91AL Common Dimensions

Bore	B	C	DA	FA	FB	G	GA	GB	H	HA	J	K	L	MM	ML	NN	OA	OB	OL	P	PA	PB	PW
Ø16	71	58	8	8	5	30	13	9.5	64	M4	15	15	22	M5x0.8	12	M5x0.8	4.3	8	4.5	M5x0.8	39.5	10	19
Ø20	78	62	10	10	6	36	10.5	10.5	83	M5	18	18	24	M5x0.8	13	M5x0.8	5.3	9.5	5.5	G1/8	38.5	10.5	25
Ø25	78.5	62.5	12	10	6	42	11.5	11	93	M5	21	21	30	M6x1.0	15	M6x1.0	5.3	9.5	5.5	G1/8	37.5	13.5	28.5

Bore	Q	R	S	T	U	VA	VB	WA (stroke)				WB (stroke)				X	XA	XB	YY	YL	Z
								From 25 stroke to less than 100 stroke	From 100 stroke to less than 200 stroke	From 200 stroke to less than 300 stroke	From 300 stroke to 400 stroke	From 25 stroke to less than 100 stroke	From 100 stroke to less than 200 stroke	From 200 stroke to less than 300 stroke	From 300 stroke to 400 stroke						
Ø16	16	54	25	62	46	56	38	44	110	200	-	27	60	105	-	24	3	3.5	M5x0.8	10	5
Ø20	18	70	30	81	54	72	44	44	120	200	300	39	77	117	167	28	3	3.5	M6x1.0	12	17
Ø25	26	78	38	91	64	82	50	44	120	200	300	39	77	117	167	34	4	4.5	M6x1.0	12	17

A91AL (Bushing) A / DB / E Dimensions

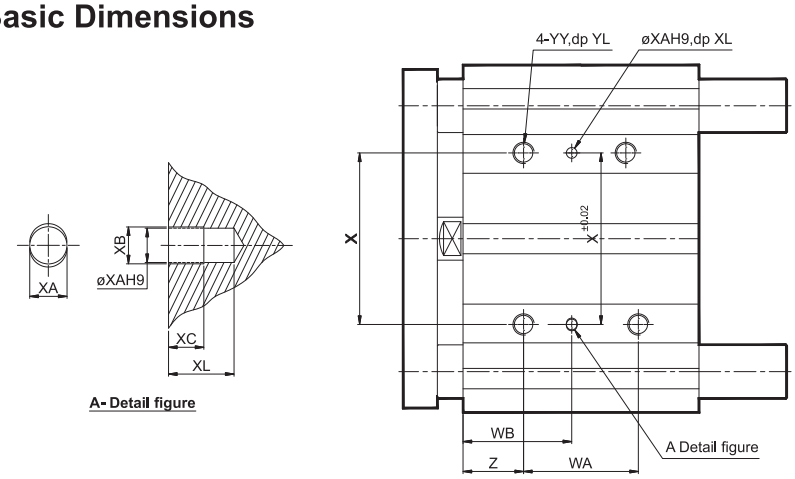
Bore	A (stroke)			DB	E (stroke)		
	From 25 stroke to less than 125 stroke	From 125 stroke to less than 250 stroke	From 250 stroke to 400 stroke		From 25 stroke to less than 125 stroke	From 125 stroke to less than 250 stroke	From 250 stroke to 400 stroke
Ø16	71	92.5	92.5	10	0	21.5	21.5
Ø20	78	78	110	12	0	0	32
Ø25	78.5	78.5	109.5	16	0	0	31

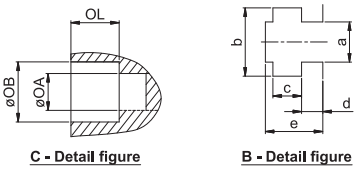
COMPACT GUIDED CYLINDER

Series A91AL

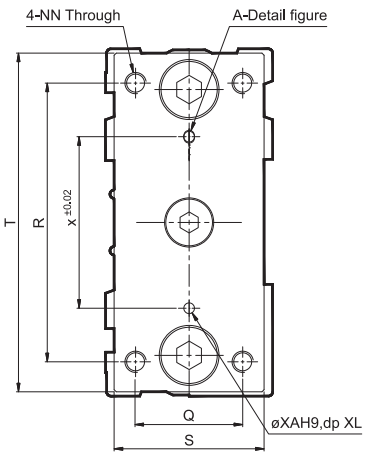
Cat No A91AL - 01 - 01 - A

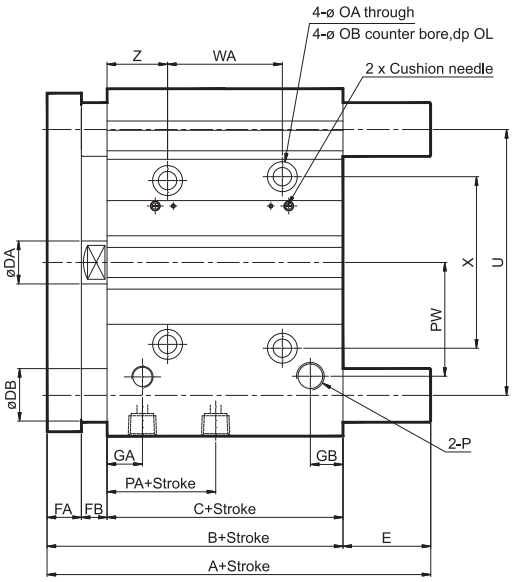
Basic Dimensions

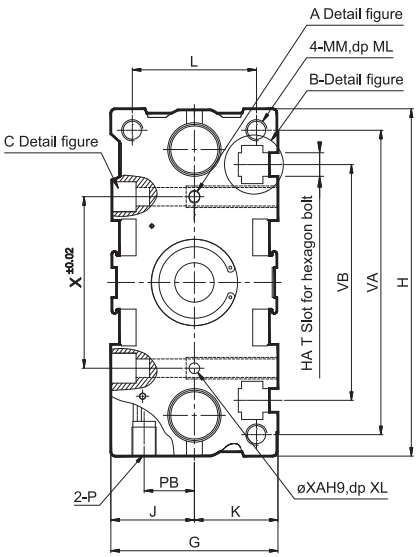




Bore	a	b	c	d	e
Ø32	6.5	10.5	5.5	3.5	9.5
Ø40	6.5	10.5	5.5	4	11
Ø50	8.5	13.5	7.5	4.5	13.5
Ø63	11	17.8	10	7	18.5







A91AL Common Dimensions

Bore	B	C	DA	FA	FB	G	GA	GB	H	HA	J	K	L	MM	ML	NN	OA	OB	OL	P	PA	PB	PW
Ø32	59.5	37.5	16	12	10	48	12.5	11.5	112	M6	24	24	34	M8x1.25	20	M8x1.25	6.6	11	7.5	G1/8	31.5	15	34
Ø40	66	44	16	12	10	54	15	15	120	M6	27	27	40	M8x1.25	20	M8x1.25	6.6	11	7.5	G1/8	38	18	38
Ø50	72	44	20	16	12	64	15.5	14.5	148	M8	32	32	46	M10x1.5	22	M10x1.5	8.6	14	9.5	G1/4	34	21.5	47
Ø63	77	49	20	16	12	78	16.5	15	162	M10	39	39	58	M10x1.5	22	M10x1.5	8.6	14	9.5	G1/4	38	28	58

Bore	Q	R	S	T	U	VA	VB	WA (stroke)				WB (stroke)				X	XA	XB	XC	XL	YY	YL	Z
								From 25 stroke to less than 100 stroke	From 100 stroke to less than 200 stroke	From 200 stroke to less than 300 stroke	From 300 stroke to 400 stroke	From 25 stroke to less than 100 stroke	From 100 stroke to less than 200 stroke	From 200 stroke to less than 300 stroke	From 300 stroke to 400 stroke								
Ø32	30	96	44	110	78	98	63	48	124	200	300	45	83	121	171	42	4	4.5	3	6	M8x1.25	16	21
Ø40	30	104	44	118	86	106	72	48	124	200	300	46	84	122	172	50	4	4.5	3	6	M8x1.25	16	22
Ø50	40	130	60	146	110	130	92	48	124	200	300	48	86	124	174	66	5	6	4	8	M10x1.5	20	24
Ø63	50	130	70	158	124	142	110	52	128	200	300	50	88	124	174	80	5	6	4	8	M10x1.5	20	24

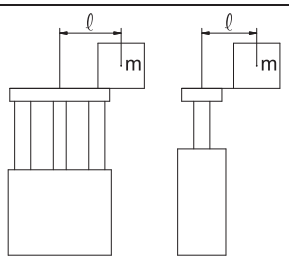
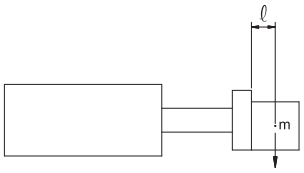
A91AL (Bushing) A / DB / E Dimensions

Bore	A (stroke)			DB	E (stroke)		
	From 25 stroke to less than 50 stroke	From 50 stroke to less than 250 stroke	From 250 stroke to 400 stroke		From 25 stroke to less than 50 stroke	From 50 stroke to less than 250 stroke	From 250 stroke to 400 stroke
Ø32	84.5	93.5	129.5	20	0	9	45
Ø40	91	93.5	129.5	20	0	2.5	38.5
Ø50	97	109.5	150.5	25	0	12.5	53.5
Ø63	102	109.5	150.5	25	0	7.5	48.5

COMPACT GUIDED CYLINDER

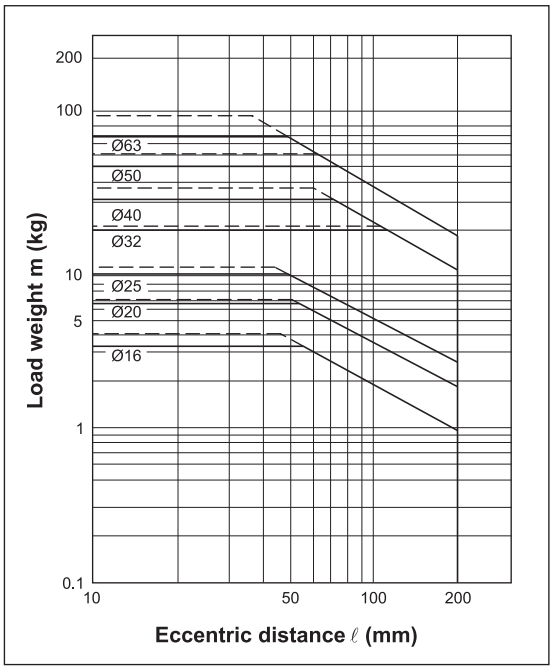
Series A91AL

Model Selection

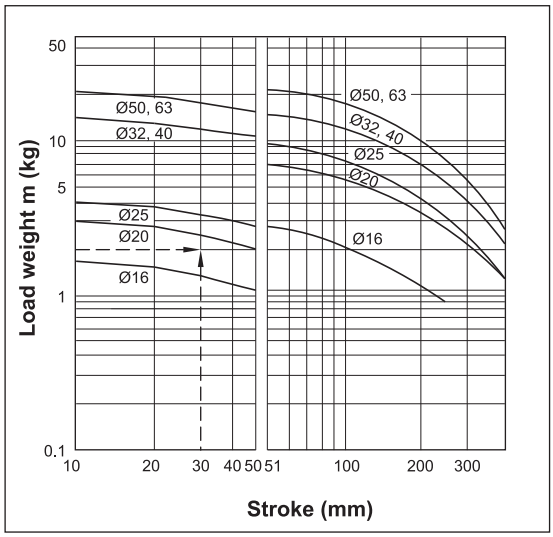
Mounting orientation	Vertical		Horizontal	
				
Max speed (mm/s)	200	400	200	400
Graph (bushing type)	(A), (B)	(C), (D)	(M), (N)	(O), (P)

Selection example 1 (Vertical mounting)	Selection example 1 (Horizontal mounting)
Selection conditions	Selection conditions
Mounting : Vertical	Mounting : Horizontal
Bearing type : Bushing	Bearing type : Bushing
Stroke : 30mm	Distance between plate and load centre of gravity (l): 50mm
Max. speed : 200 mm/s	Max. speed : 200 mm/s
Load weight (m): 3kg	Load weight (m): 2kg
Eccentric distance (l): 90mm	Stroke : 30mm
Find the point of intersection for the load weight of 3kg and the eccentric distance of 90mm on graph (A), based on vertical mounting with bushing type. The stroke is 30mm while the speed is 200 mm/s.	Find the point of intersection for the load weight of 2kg and stroke 30mm on graph (M), based on horizontal mounting with bushing type. The distance is 50mm between the plate and load centre of gravity while the speed is 200 mm/s.
So A91AL25x30 is selected.	So A91AL20x30 is selected.

Graph (A) 50mm stroke or less, V=200mm/s



Graph (M) ℓ=50mm, V=200mm/s



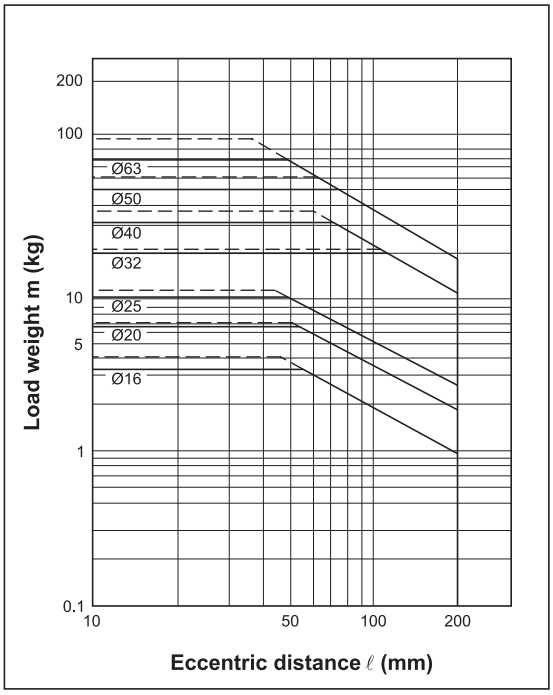
COMPACT GUIDED CYLINDER

Series A91AL

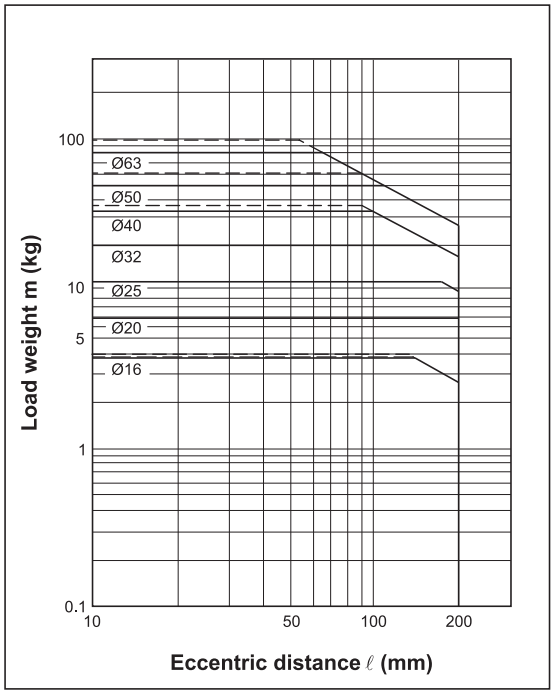
Vertical mounting (Bushing)
- A91AL Ø16 to 63mm

——————— Operating pressure 4 bar
– – – – – – – – – Operating pressure 5 bar or above

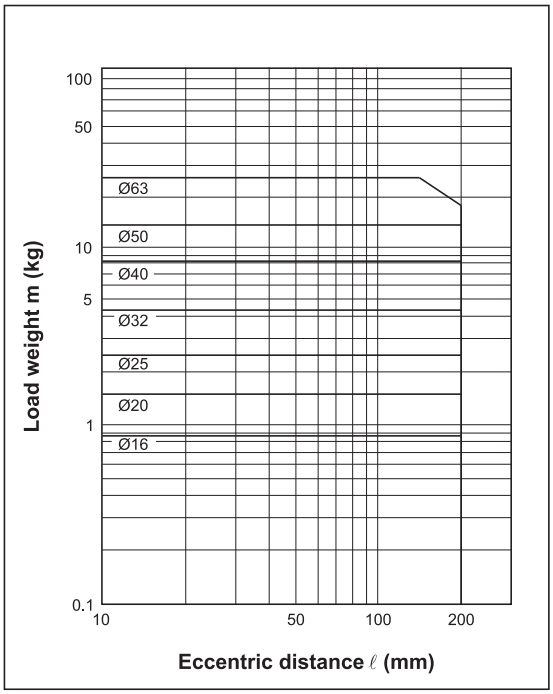
(A) 50mm stroke or less, V=200mm/s



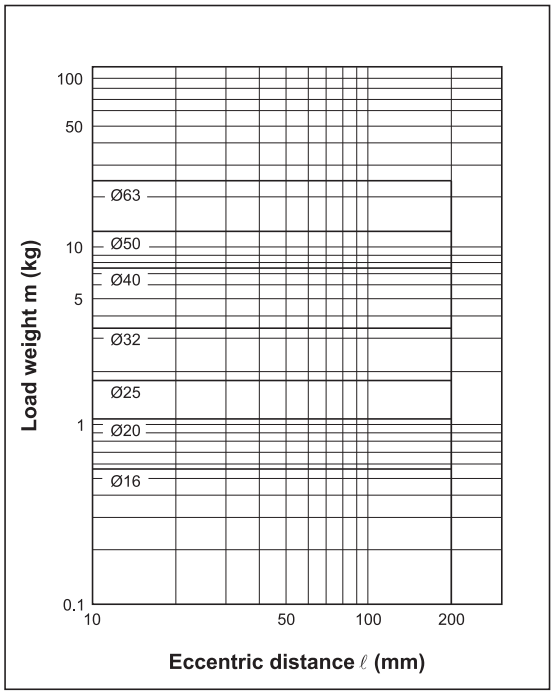
(B) Over 50 stroke, V=200mm/s



(C) 50mm stroke or less, V=400mm/s



(D) Over 50 stroke, V=400mm/s



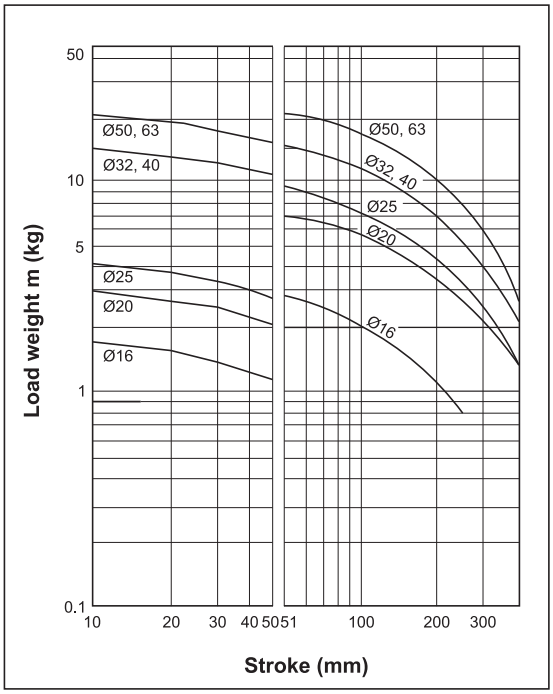
COMPACT GUIDED CYLINDER

Series A91AL

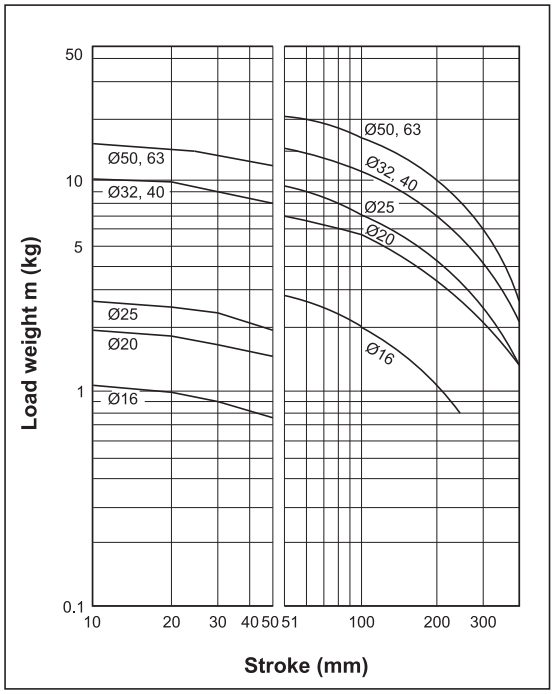
Horizontal mounting (Bushing) - A91AL Ø16 to 63mm

——— Operating pressure 4 bar

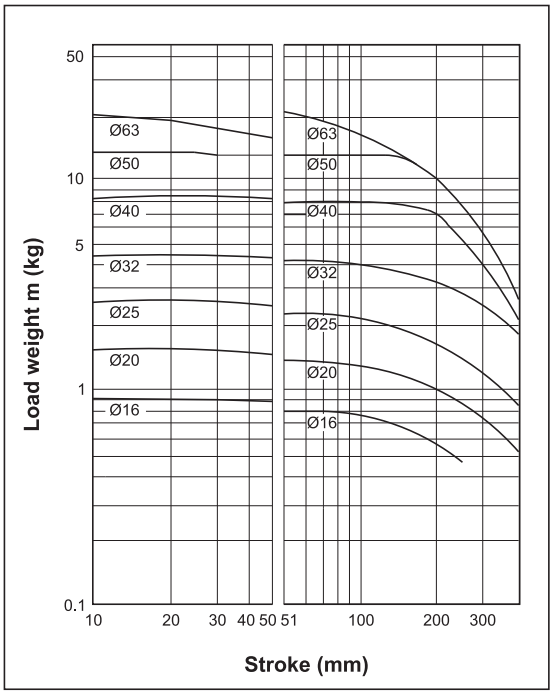
(M) ℓ=50mm, V=200mm/s



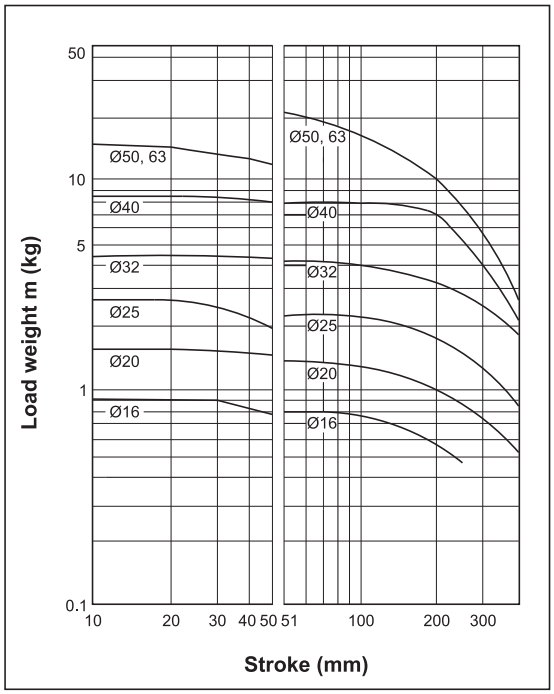
(N) ℓ=100mm, V=200mm/s



(O) ℓ=50mm, V=400mm/s



(P) ℓ=100mm, V=400mm/s

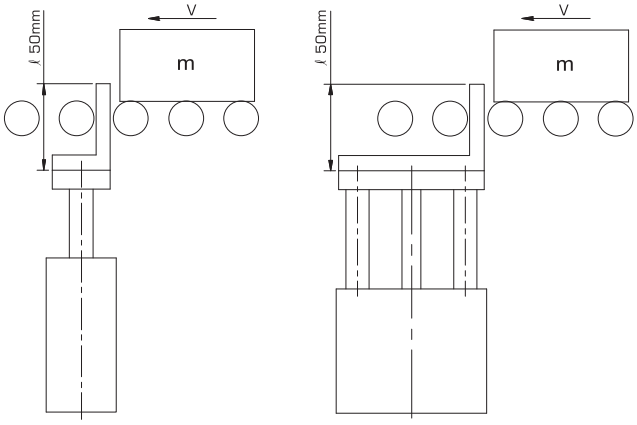


COMPACT GUIDED CYLINDER

Series A91AL

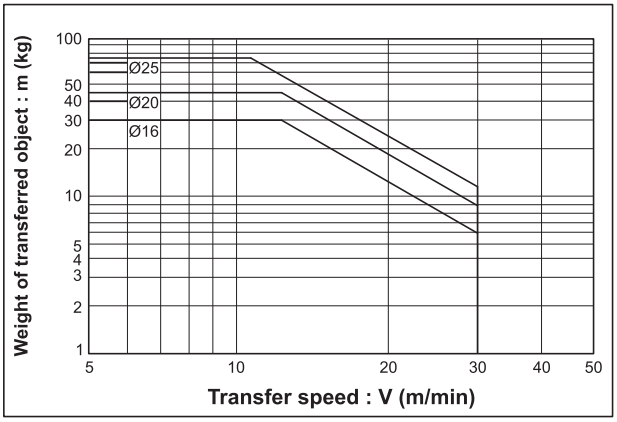
Operating range when used as stopper

Cylinder bore size Ø16 to 25mm (Bushing)



When selecting a model with a longer (ℓ) dimension, be sure to choose a bore size which is sufficiently large.

A91AL Ø16 to 25mm (Bushing)

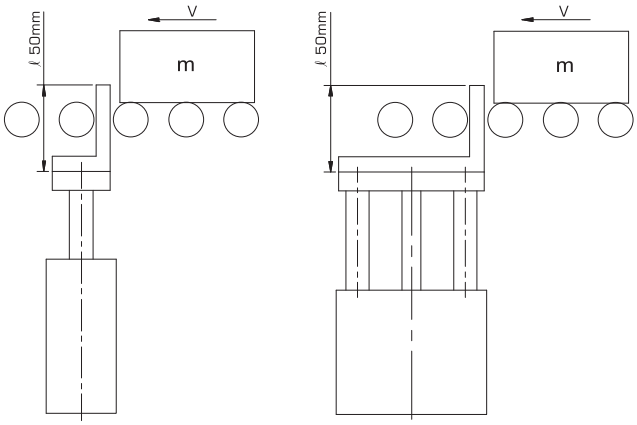


Caution

Caution on handling

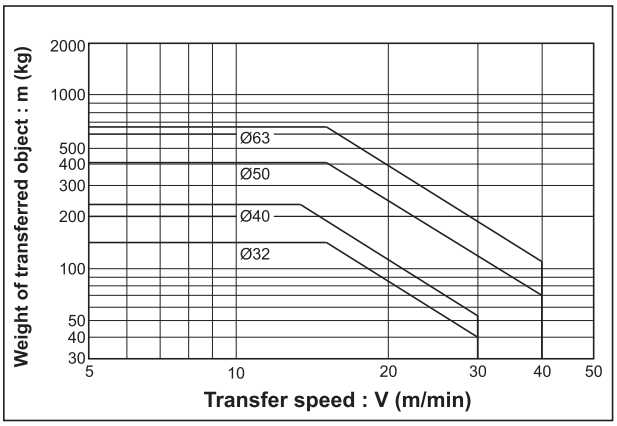
Note 1 : When using as a stopper, select a model with 30 stroke or less.

Cylinder bore size Ø32 to 63mm (Bushing)



When selecting a model with a longer (ℓ) dimension, be sure to choose a bore size which is sufficiently large.

A91AL Ø32 to 63mm (Bushing)



Caution

Caution on handling

Note 1 : When using as a stopper, select a model with 30 stroke or less.

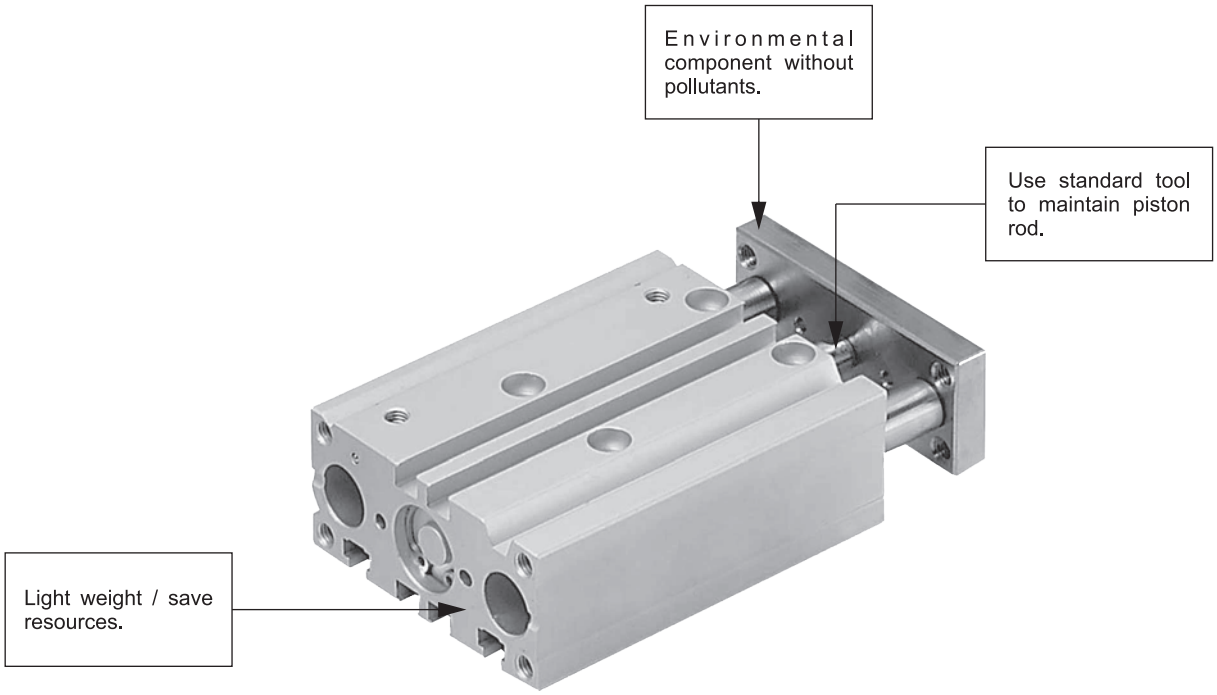
COMPACT GUIDED CYLINDER

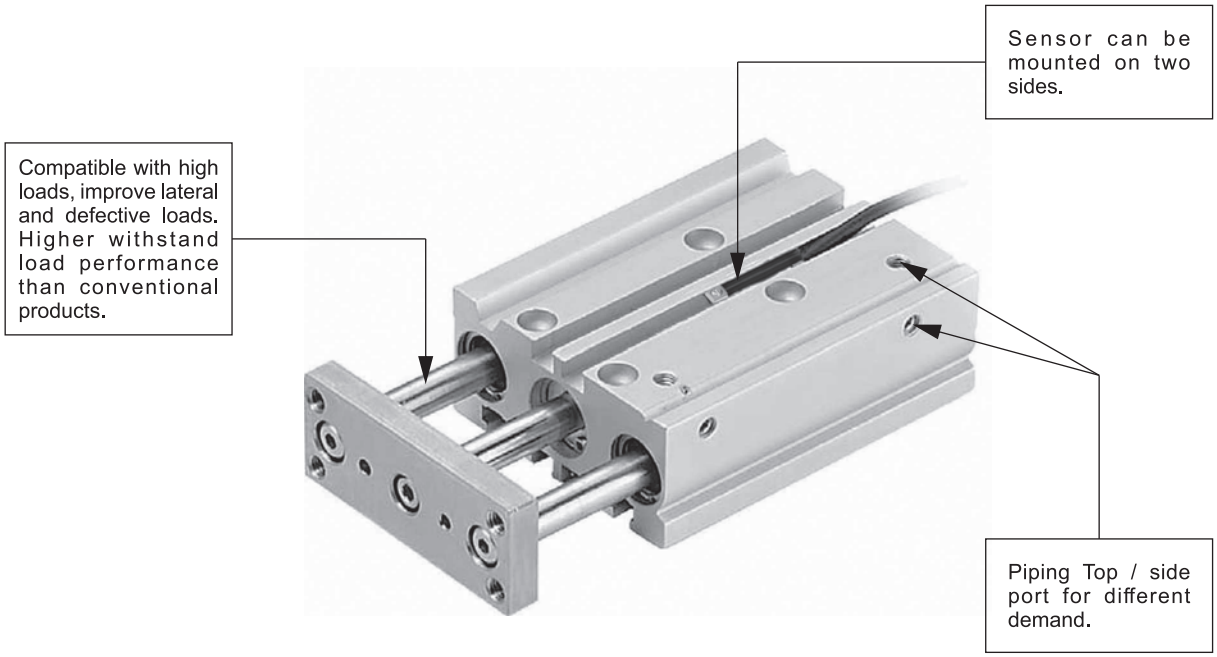
Series A91AL

Sensors can be mounted on two sides

Bushing type

The lateral withstand load is more than twice that of a traditional stopper cylinder (round bar type) and is usable for use with lateral loads accompanied by impact.

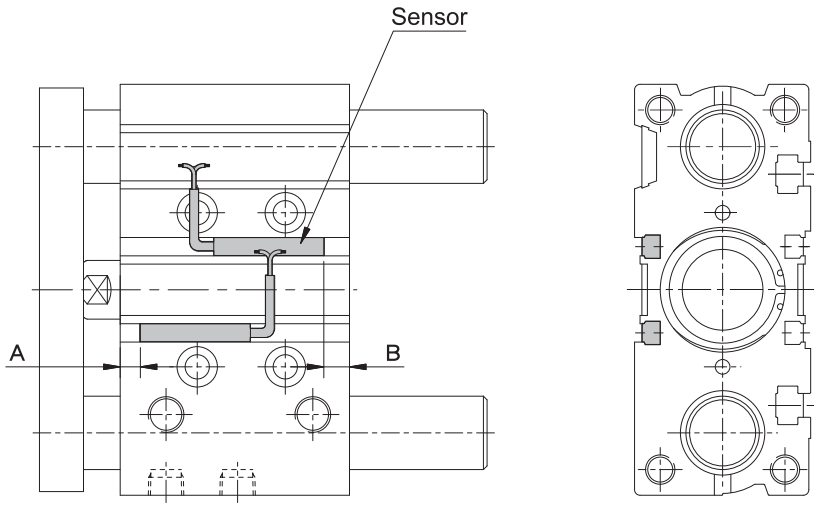




COMPACT GUIDED CYLINDER

Series A91AL

Proper sensor mounting position (Detection at stroke end) and its mounting height



Proper mounting

Cylinder Bore dia (mm)	A	B
16	1.5	1
20	4.5	2
25	2	7

Cylinder Bore dia (mm)	A	B
32	0	7
40	2.5	12
50	10	4.5
63	10.5	9

Reed Switch Mounting

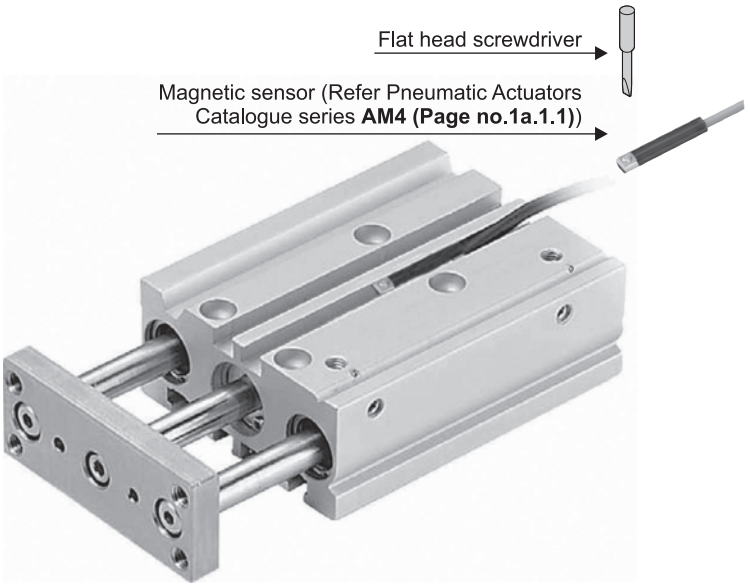
Caution ⚠

Application tool

To tighten the fixed screws on the reed switch, please use Ø5~Ø6 flat head screwdriver.

Torque to tighten

Please tighten when the output is 0.05 to 0.1 Nm (0.51 to 1.02 kgf/cm) then turn round 90° before feeling tight.



COMPACT GUIDED CYLINDER

Series A91AL

Cat No A91AL - 01 - 01 - A

How to order

A91 | A | L | 020 | 100

Cushioning type	
A	Adjustable cushioning

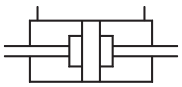
Bearing type	
L	Bushing

Bore dia (mm)	
016	- Ø16
020	- Ø20
025	- Ø25
032	- Ø32
040	- Ø40
050	- Ø50
063	- Ø63

Stroke (mm)
25 to 100
25 to 200

Ordering Example:

Compact guided cylinder adjustable cushioning with bore Ø20mm, stroke 100 mm, bushing type : **A91AL020100**



AIR CYLINDER

Square Cylinder with Hollow Piston Rod

Cat No A85 - 01 - 01 - A

Double End Double Acting Square Cylinder - Ø50 & Ø63 mm - (Hollow Piston Rod)

Features

- ❑ Both ends with elastomer pads
- ❑ Useable for PET moulding
- ❑ Non-magnetic version
- ❑ Piston rod hard chrome plated

Application

This double end, double acting piston rod with through hole (Hollow piston rod) pneumatic square cylinders have been developed for sealing small neck diameter containers. This piston rod has a through hole with bearing bushes to accommodate different sizes of stretch pins.

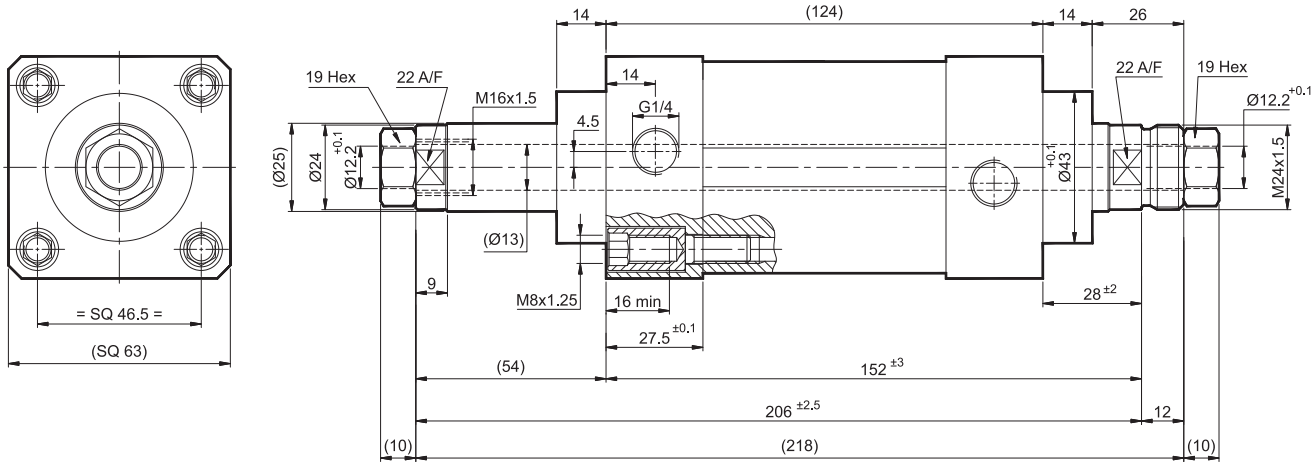
Technical Specifications

Cylinder bore Ø	(mm)	50		63	
Stroke	(mm)	25	35	25	150
Medium		Compressed air - Filtered - Lubricated			
Working pressure		0.5 to 10 bar			
Ambient temperature		-10° to +60° C			
Medium temperature		+5° to +50° C			
Materials of construction		Aluminium, Brass, Nitrile, Steel, Polyurethane, Bronze, Nylon			

* For Non standard or longer stroke cylinders, contact your regional office, dealer or **JANATICS**

Ordering No: A85050025-00001

Ø50 x 25 mm (Hollow piston rod)



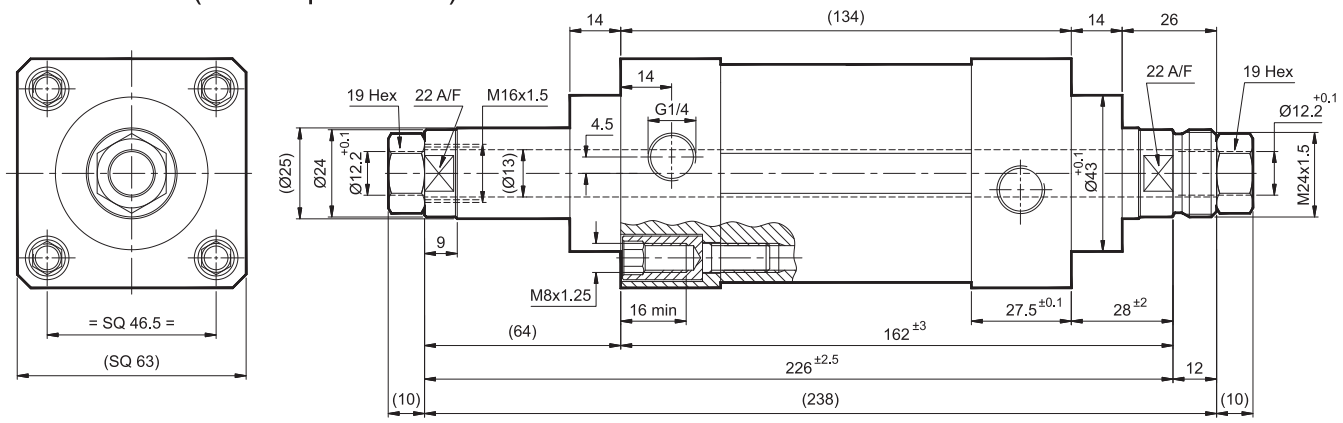
AIR CYLINDER

with Hollow Piston Rod

Cat No A85 - 01 - 01 - A

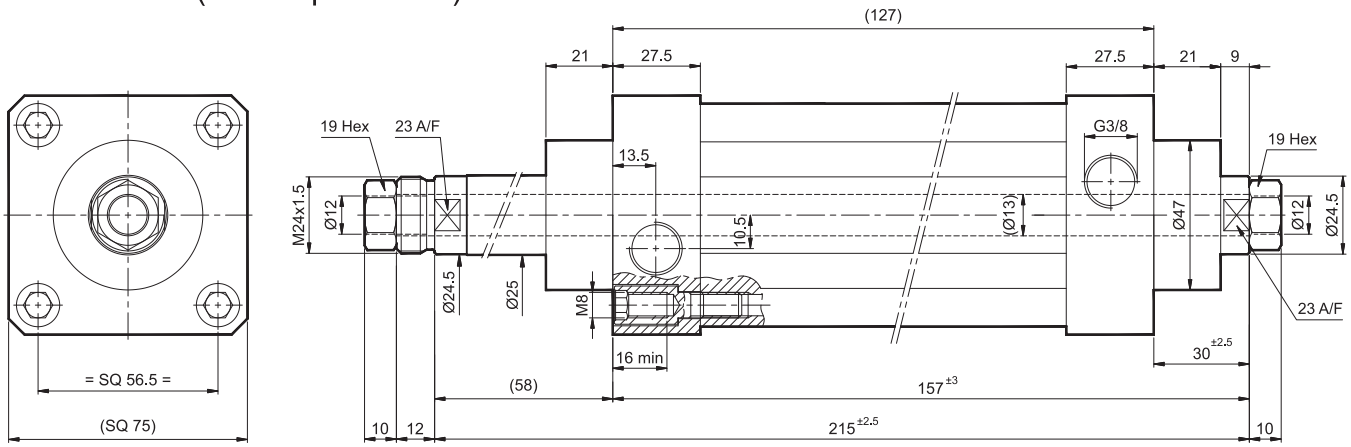
Ordering No: A85050035-00001

Ø50 x 35 mm (Hollow piston rod)



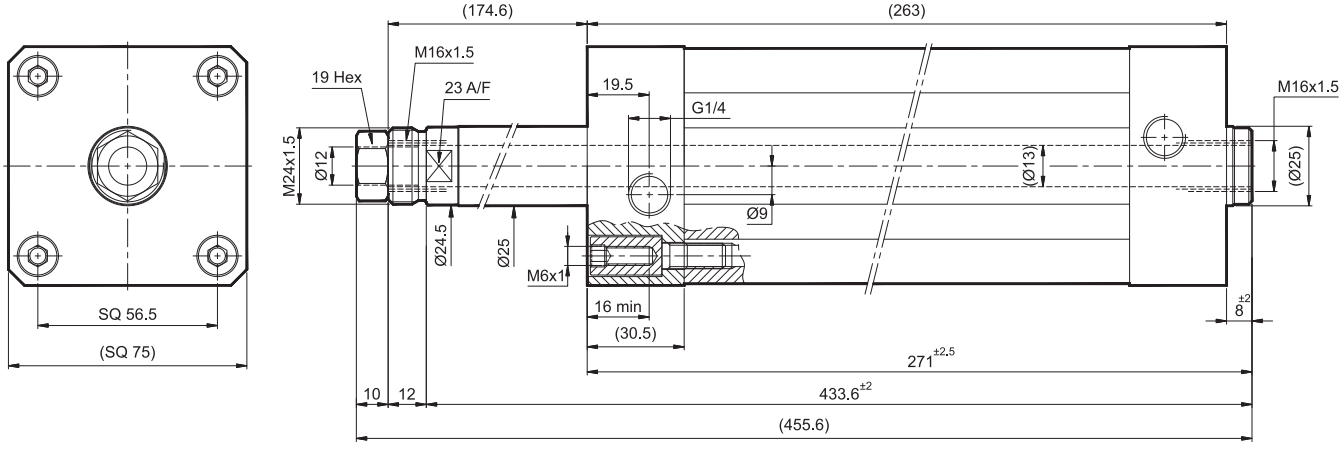
Ordering No: A85063025-00001

Ø63 x 25 mm (Hollow piston rod)



Ordering No: A85063150-00002

Ø63 x 150 mm (Hollow piston rod)



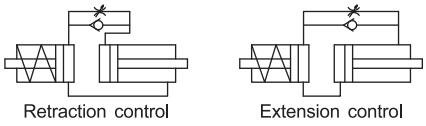
Subject to change

HYDRO CHECK CYLINDER

Series AH01

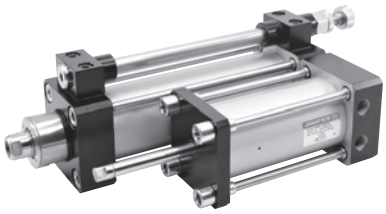
Cat No AH01 - 01 - 01 - C

HYDRO CHECK CYLINDER - Ø40 mm



Features

- ❑ Ideal for achieving accurate, constant speed & uniform feed
- ❑ Available with two types of control - Regulated forward Movement and fast retracted movement, Regulated retracted Movement and fast forward movement
- ❑ Compatible with pneumatic cylinders from Ø40 to Ø160mm bore cylinders
- ❑ Speed variation obtained by means of flow control valve
- ❑ Viton seals to ensure long life when heat build-up occurs



Function

In combination with pneumatic cylinders, Hydro check cylinders ensure a regular advance feed and also control the feed rate. An axial external force is transmitted to the piston rod, and as a result oil flows through a flow control valve from one chamber to another. Due to the almost constant flow rate of the oil, the speed fluctuations of the pneumatic cylinder under changing load conditions are compensated and neutralized.

Application

Hydro check cylinders are widely used for Feed control in machining operations like in Turning, Drilling and Milling etc.

Technical Specifications

Cylinder bore Ø	mm	40
Standard strokes *	mm	50, 100, 150, 200, 250
Medium		Hydraulicoil - VG68
Maximum connecting load	kgf	600
Ambient temperature	C	-10° to +60°
Medium temperature	C	+5° to +50°
Speed	mm/sec	165 Max.
Materials of construction		Carbon steel, Stainless steel, Aluminium, PU, Viton, Brass, Nitrile, etc.

* For Non standard or longer stroke cylinders, contact your regional dealer or **JANATICS**

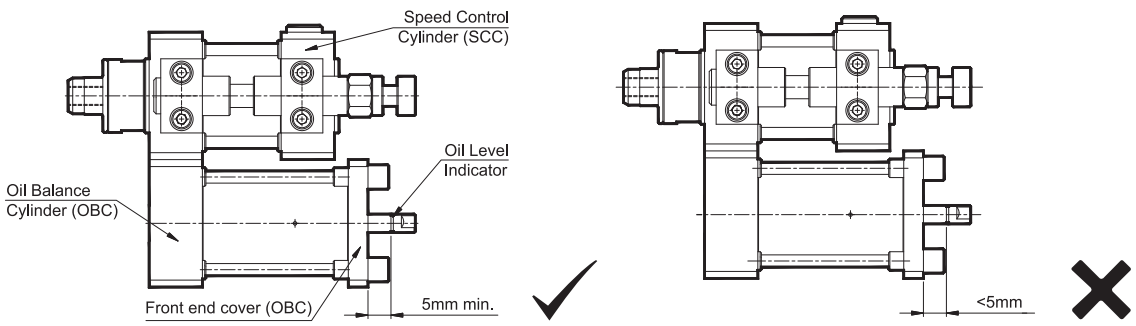
Output force (force in N : 1N = 0.1 kgf)

Cylinder bore Ø (in mm)	Rod Ø (in mm)	Operating direction	Working pressure in bar								
			2	3	4	5	6	7	8	9	10
40	16	Extend	226	339	452	565	678	792	905	1018	1130
		Retract	190	285	380	475	570	665	760	855	950

Precaution

Volume of oil stored Inside the OBC is very critical for proper functioning of the Hydro check cylinder.

During extended position of the SCC, ensure that oil level indication mark is at least 5mm away from front end cover face of OBC

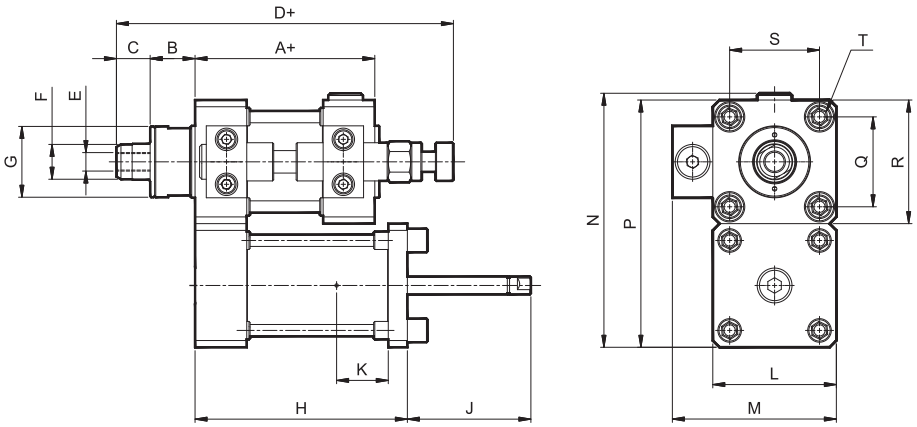


HYDRO CHECK CYLINDER

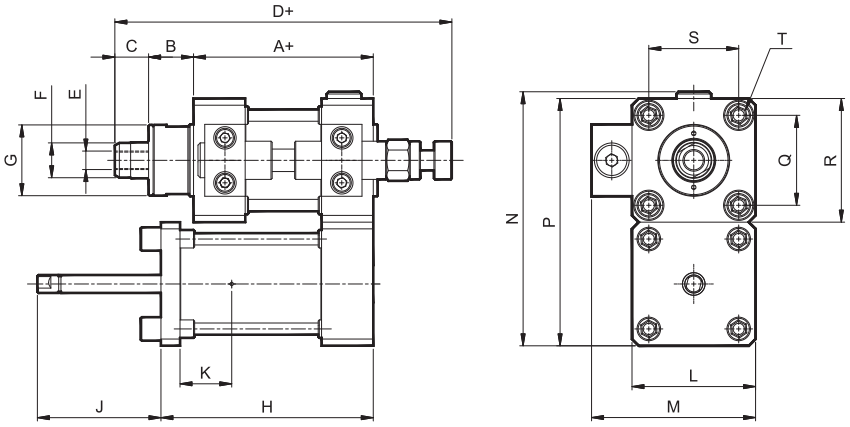
Series AH01

Cat No AH01 - 01 - 01 - C

Retraction (or) Compression control (Ø40 mm) cylinder



Extension (or) Forward Control (Ø40 mm) cylinder



Stroke in mm	H	J@
50	94.5	30mm min
100	119.5	45mm min
150	119.5	35mm min
200	144.5	40^{+2} mm
250	144.5	35mm min

@ Speed control cylinder (SCC) piston rod extended condition

Cylinder bore Ø	A	Tol	B	C	Tol	D	Tol	E	F	G	K	L	M	Tol	N	Tol	P	Tol	Q	R	S	T
40	80	±0.5	20	13.5	±2	163	±5	M10	Ø16	Ø31.5	23	55	73	±0.5	113	±0.5	110	±0.5	40	55	40	M6x1

How to order

AH01 — **P** — **E** — **040** — **100**

Oil balance cylinder position	
P	Parallel

Speed regulation	
E	Extension
R	Retraction

Bore Ø	
040	- 40

Stroke
050
100
150
200
250

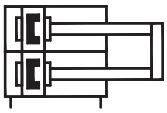
Ordering Example:

Hydro check cylinder, extension (or) forward regulation with parallel tank, bore Ø40, stroke 100mm :
Ordering no: **AH01PE040100**

Hydro check cylinder, Retraction regulation with parallel tank bore Ø40, stroke 100mm :
Ordering no: **AH01PR040100**

For your special requirements of cylinders or for further information contact your regional dealer or **JANATICS**

Subject to change



A1011 - Magnetic

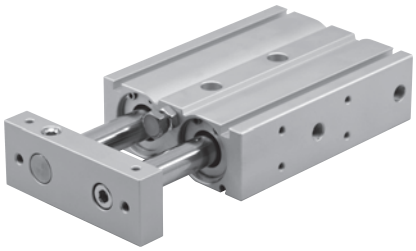
TWIN PISTON CYLINDER

Series A1011

TWIN PISTON CYLINDER - (Ø10, Ø16, Ø20, Ø25, Ø32 mm)

Features

- Body machined from extruded aluminum that mounts directly to equipment for rigid, secure mounting in small place
- Compact equipment design is possible. Suitable for electronic parts inspection clamps. Ideal for use in small mounting place
- Twin piston doubles the force in a compact form factor
- Guide plate for non-rotation of piston rod



Technical Specifications

Series	A1011M			A1011L	
Bearing type	Bushing			Linear ball bearing	
Medium	Compressed air - Filtered - Lubricated				
Piston Ø	10 mm	16 mm	20 mm	25 mm	32 mm
Standard Strokes *	10 to 100 mm				
Working pressure	1 to 7 bar		0.5 to 7 bar		
Ambient / Medium temperature	-10°C to +60°C				
Stroke adjustable range	0 ~ -5mm Compared to standard stroke				
Materials of construction	Aluminium, Nitrile, Steel, Polyurethane, Acetal				

* For Non standard or longer stroke cylinders, contact your regional office, dealer or **JANATICS**

Output force (force in N : 1N = 0.1 kgf)

Cylinder bore Ø (in mm)	Rod Ø (in mm)	Condition	Piston Area (mm^2)	Working pressure in bar						
				1	2	3	4	5	6	7
10	6	Extend	157	15.7	31.4	47.1	62.8	78.5	94.2	110
		Retract	100	10.0	20.0	30.0	40.0	50.0	60.0	70.0
16	8	Extend	353	35.3	70.6	106	141	177	212	247
		Retract	252	25.2	50.4	75.6	101	126	151	176
20	10	Extend	628	62.8	126	188	251	314	377	440
		Retract	471	47.1	94.2	141	188	236	283	330
25	12	Extend	982	98.2	196	295	393	491	589	687
		Retract	756	75.6	151	227	302	378	454	529
32	16	Extend	1608	161	322	482	643	804	965	1126
		Retract	1206	121	241	362	482	603	724	844

TWIN PISTON CYLINDER

Series A1011

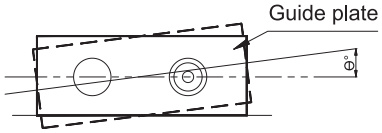
Weight list : (Unit : Kg)

Model	Standard stroke (mm)									
	10	15	20	25	30	40	50	60	75	100
A1011M010	0.15	0.16	0.17	0.18	0.19	0.21	0.23	0.25	0.28	0.33
A1011L010	0.15	0.16	0.17	0.18	0.19	0.21	0.23	0.25	0.28	0.33
A1011M016	0.25	0.265	0.28	0.29	0.30	0.33	0.36	0.39	0.435	0.51
A1011L016	0.27	0.285	0.30	0.31	0.32	0.35	0.38	0.41	0.435	0.53
A1011M020	0.40	0.42	0.44	0.46	0.48	0.51	0.55	0.585	0.65	0.74
A1011L020	0.43	0.445	0.46	0.48	0.50	0.53	0.57	0.605	0.66	0.75
A1011M025	0.61	0.635	0.66	0.69	0.72	0.77	0.83	0.89	0.97	1.10
A1011L025	0.62	0.645	0.67	0.70	0.73	0.78	0.84	0.895	0.98	1.11
A1011M032	1.15	1.19	1.23	1.275	1.32	1.40	1.49	1.58	1.71	1.93
A1011L032	1.16	1.205	1.25	1.295	1.34	1.42	1.51	1.595	1.72	1.94

Non-rotating accuracy:

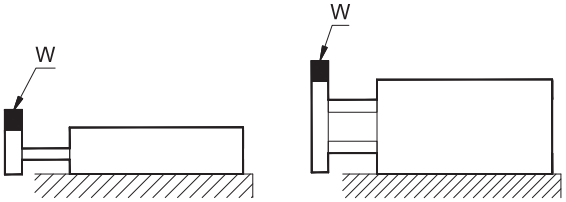
Non-rotating accuracy Θ° without a load should be less than or equal to the value provided in the table below.

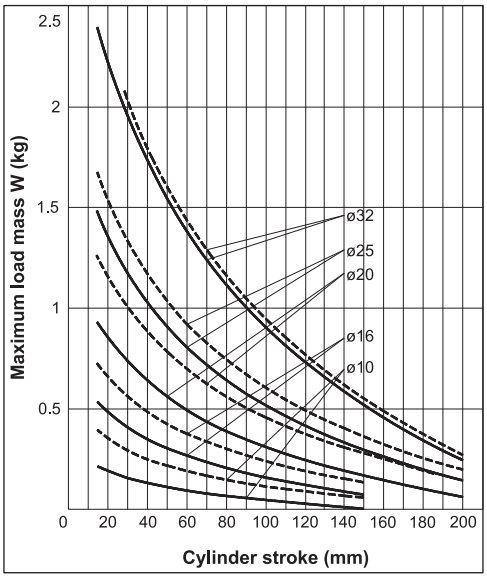
Bore (mm)	Θ° = (Ø10 to Ø32)
A1011M	± 0.1°
A1011L	



Maximum load mass:

When the cylinder is mounted as shown in the diagrams below the maximum load (**W**) Should not exceed the values illustrated in the graph at right.





CAUTION

If the cylinder is horizontally mounted and the guide plate surface does not reach the load (**W**) center of gravity, use formula to calculate overhanging length **L** that includes the distance between the load's center of gravity and guide plate surface. Select the graph that corresponds to the overhanging length **L'**

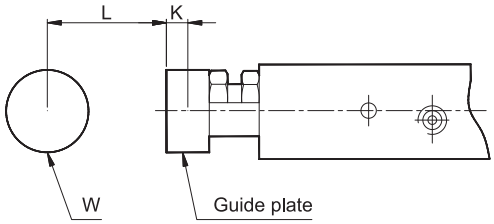
Overhanging length **L' = (Stroke) + K + L**

K: Distance between the center and end of the plate

Example:

When using A1011M10 & L = 15mm
Overhanging Length L' = 10+4+15 = 29

Therefore, the graph used for your Model should be the one for A1011M010030



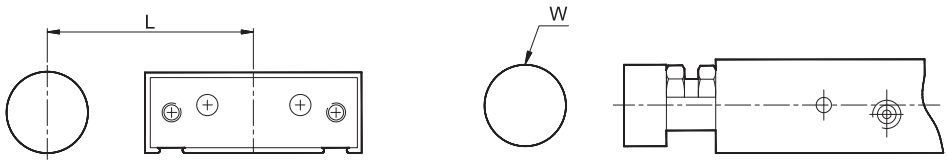
Bore	K
Ø10	4 mm
Ø16	5 mm
Ø20	6 mm
Ø25	6 mm
Ø32	8 mm

TWIN PISTON CYLINDER

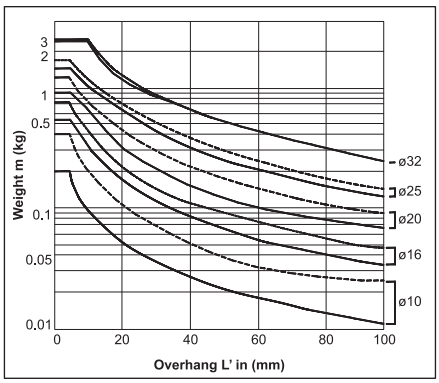
Series A1011

Cat No A1011 - 01 - 01 - C

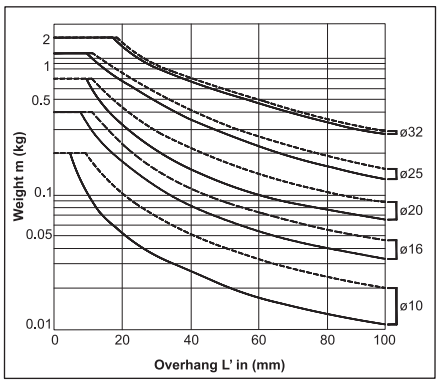
Horizontal Mounting:

Mounting Orientation											
Stroke		Under 10		Under 30		Under 50		Under 75		Under 100	
Max. speed (mm/sec)		Under 400	Over 400	Under 400	Over 400	Under 400	Over 400	Under 400	Over 400	Under 400	Over 400
Selection Graph	Ø10	(1)	(2)	(3)	(4)	(5)	(6)	(7)		(8)	
	Ø16										
	Ø20										
	Ø25										
	Ø32										

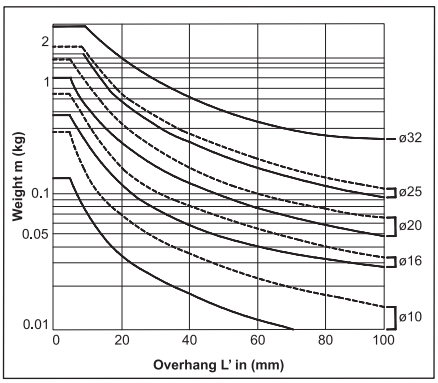
(1) V = under 400mm/s, under 10st



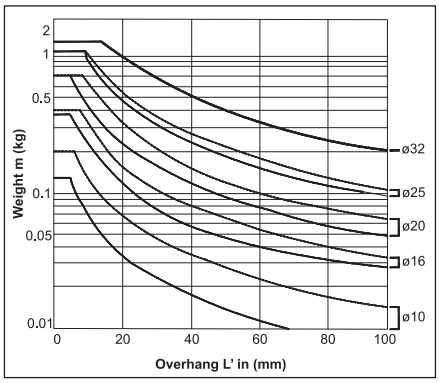
(2) V = over 400mm/s, under 10st



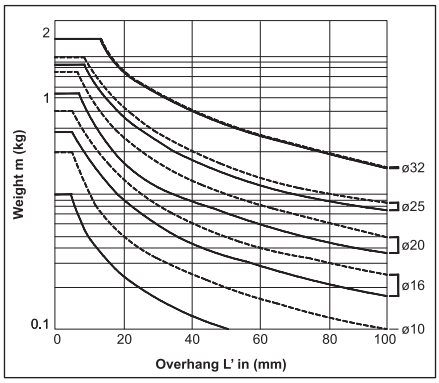
(3) V = under 400 mm/s, under 30st



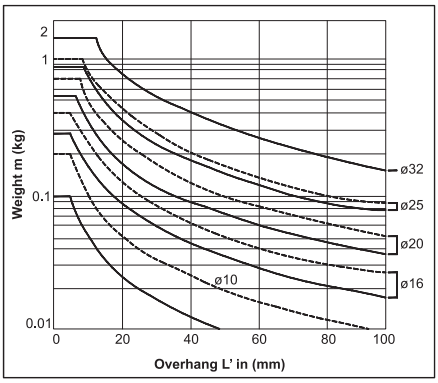
(4) V = over 400mm/s, under 30st



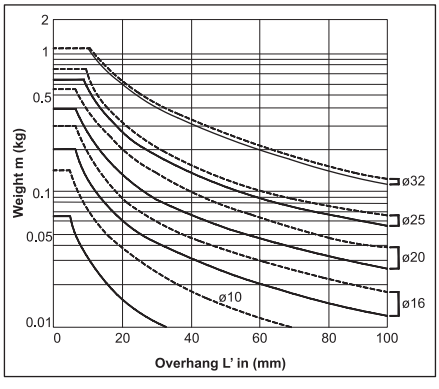
(5) V = under 400mm/s, under 50st



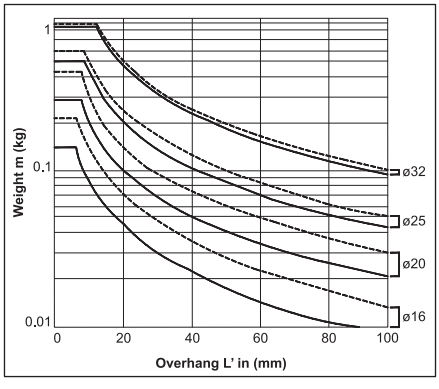
(6) V = over 400 mm/s, under 50st



(7) V = Under & Over 400mm/s, under 75st



(8) V = Under & Over 400mm/s, under 100st

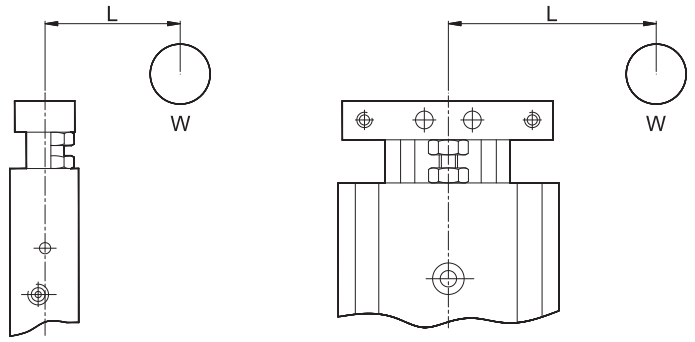


———	**A1011M**
- - - - - - - -	**A1011L**

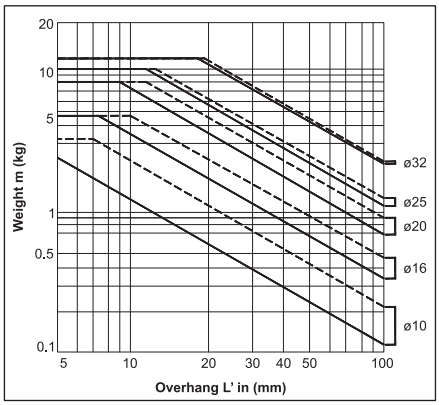
TWIN PISTON CYLINDER

Series A1011

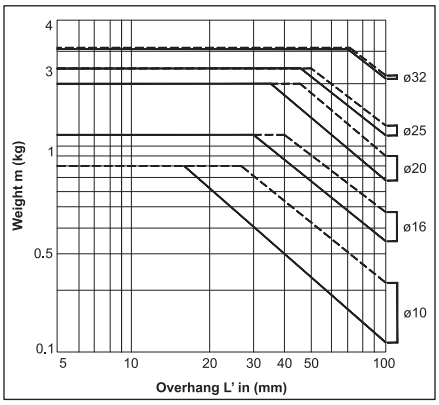
Vertical Mounting:

Mounting Orientation					
Stroke		All Stroke			
Max. speed (mm/sec)		Under 200	Under 400	Under 600	Under 700 (800)
Selection Graph	Ø10	(1)	(2)	(3)	(4)
	Ø16				
	Ø20				
	Ø25				
	Ø32				

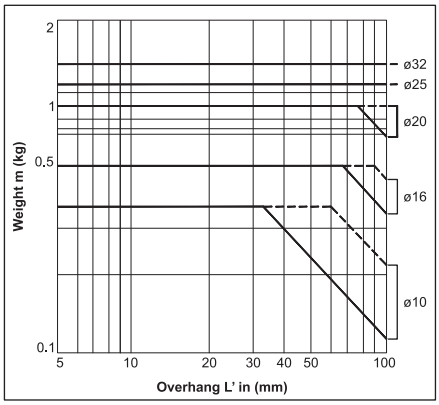
(1) V = 200 mm/s



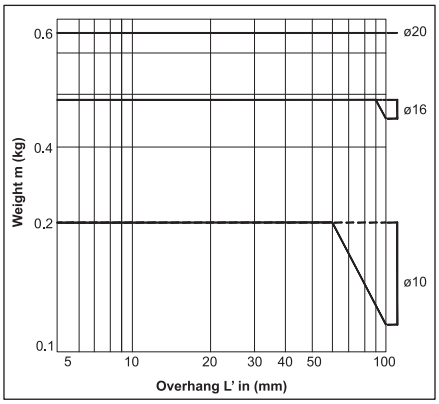
(2) V = 400 mm/s



(3) V = 600 mm/s



(4) V = 700 mm/s (ø10:800mm/s)



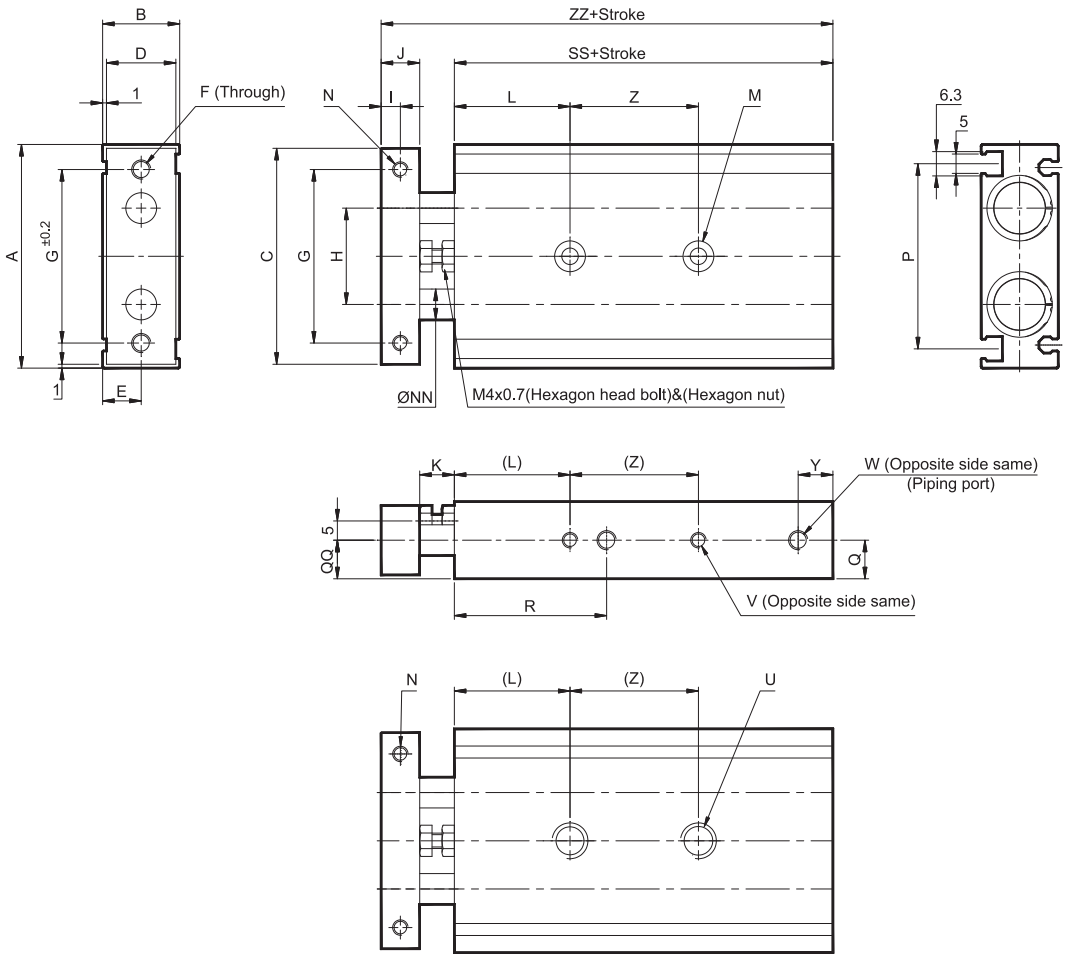
———	A1011M
- - - - - - - -	A1011L

TWIN PISTON CYLINDER

Series A1011

Cat No A1011 - 01 - 01 - C

Basic Dimension - Ø10 & Ø16 mm



Bore	A	B	C	D	E	F	G	H	I	J	K	L	M	N	NN	P	Q	QQ	R	V	W	Y	U
Ø10	46	17	44	15	7.5	2-M4x0.7	35	20	4	8	10	20	2-ø3.4 Through ø6.5 C'bore with dp4	2-M3x0.5 dp5	ø6	35	8.5	7	31.5	4-M3x0.5 dp4.5	4-M5x0.8 dp4.5	9.5	2-M4x0.7 dp8
Ø16	58	20	56	18	9	2-M5x0.8	45	25	5	10	9	30	2-ø4.3 Through ø8 C'bore with dp4.4	2-M4x0.7 dp6	ø8	48	10	10	39.5	4-M4x0.7 dp6	4-M5x0.8 dp4.5	9	2-M5x0.8 dp8

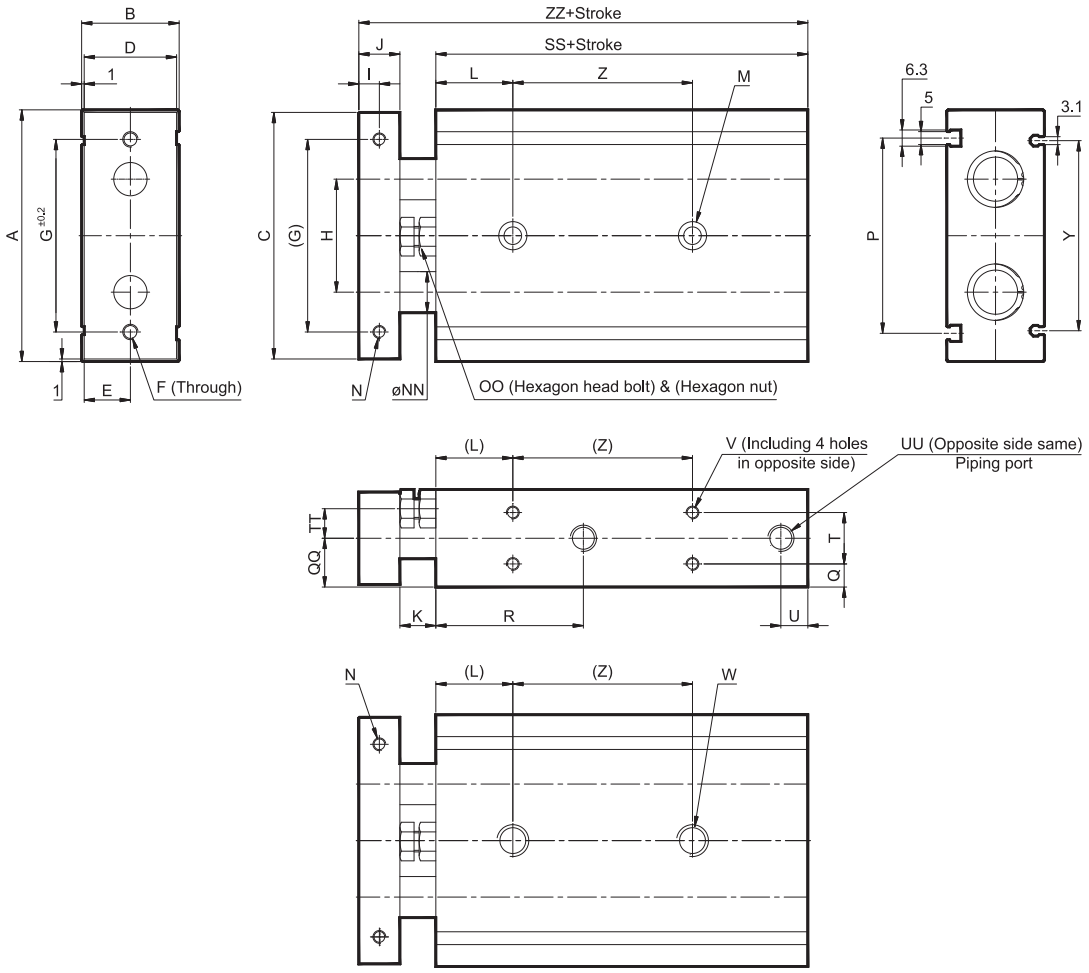
Bore	SS+Stroke	Z (Stroke)				ZZ+Stroke
		10, 15, 20, 25	30, 40, 50	60, 75	100	
Ø10	55+Stroke	30	40	50	60	73+Stroke
Ø16	60+Stroke	25	35	45	55	79+Stroke

TWIN PISTON CYLINDER

Series A1011

Cat No A1011 - 01 - 01 - C

Basic Dimension - Ø20, Ø25, Ø32 mm



Bore	A	B	C	D	E	F	G	H	I	J	K	L	M	N	NN	OO	P
Ø20	64	25	62	23	11.5	2-M5x0.8	50	28	6	12	12	30	2- Ø5 through, Ø9.5 C'bore with, dp5.3	2-M4x0.7 dp6	Ø10	M6x1.0	53
Ø25	80	30	78	28	14	2-M6x1.0	60	35	6	12	12	30	2- Ø6.9 through, Ø11 C'bore with, dp6.3	2-M5x0.8 dp7.5	Ø12	M6x1.0	64
Ø32	98	38	96	36	18	2-M6x1.0	75	44	8	16	14	30	2-Ø6.9 through, Ø11 C'bore with, dp6.3	2-M5x0.8 dp10	Ø16	M8x1.25	76

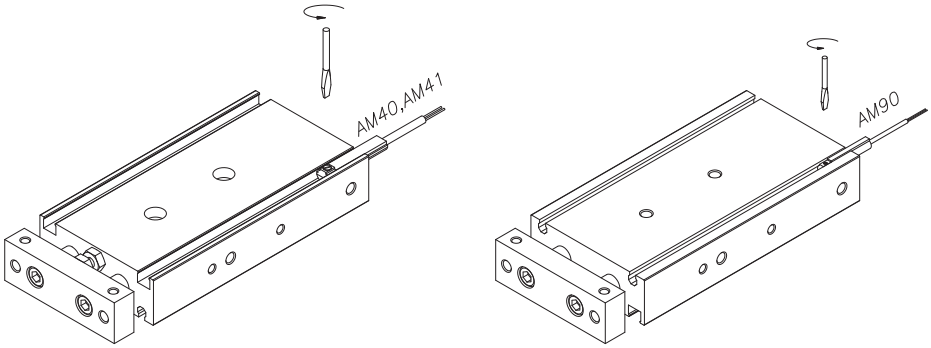
Bore	PP	Q	QQ	R	T	TT	U	UU	V	Y	W
Ø20	M6x1.0	7.75	12.5	45	9.5	6.5	10.5	4-M5x0.8 dp4.5	8-M4x0.7 dp6	51	2-M6x1 dp10
Ø25	M6x1.0	8.5	15	48	13	9	10	4-G1/8" dp6.5	8-M5x0.8 dp7.5	62	2-M8x1.25 dp12
Ø32	M8x1.25	9	19	57.5	20	11.5	10.5	4-G1/8" dp6.5	8-M5x0.8 dp7.5	74	2-M8x1.25 dp12

Bore	SS+Stroke	Z (Stroke)			ZZ+Stroke
		10, 15, 20, 25	30, 40, 50	60, 75, 100	
Ø20	70+Stroke	30	40	60	94+Stroke
Ø25	72+Stroke	30	40	60	96+Stroke
Ø32	82+Stroke	40	50	70	112+Stroke

TWIN PISTON CYLINDER

Series A1011

Sensor mounting



How to order

A1011 **M** **016** **100**

Type	
M	Bushing
L	Linear ball bearing

Bore Ø (mm)	
010	- 10
016	- 16
020	- 20
025	- 25
032	- 32

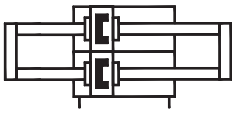
Stroke (mm)	
010	- 10
015	- 15
020	- 20
025	- 25
030	- 30
040	- 40
050	- 50
060	- 60
075	- 75
100	- 100

Ordering example:

Twin piston cylinder,bore Ø16, stroke 100 mm, bushing type : **A1011M016100**

Twin piston cylinder,bore Ø16, stroke 100 mm, linear ball bearing type : **A1011L016100**

Magnetic sensor (Refer Pneumatic Actuator catalogue **Series AM4: AM40 & AM41** (Page no.1a.1.1 & 1a.1.2), **Series A1R: AM090** (Page no.1.12.8 & 1.12.9)



A1021 - Magnetic

TWIN PISTON CYLINDER

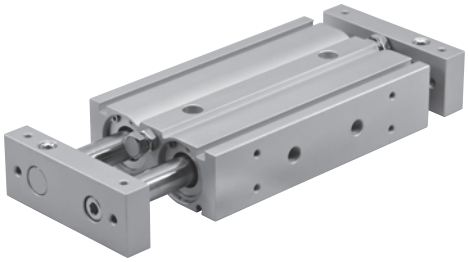
Series A1021

Cat No A1021 - 01 - 01 - C

TWIN PISTON CYLINDER DOUBLE END - (Ø10, Ø16, Ø20, Ø25, Ø32 mm)

Features

- ❑ Body machined from extruded aluminum that mounts directly to equipment for rigid, secure mounting in small place
- ❑ Compact equipment design is possible. Suitable for electronic parts inspection clamps. Ideal for use in small mounting place
- ❑ Suitable for simultaneous pick and place applications
- ❑ Twin piston doubles the force in a compact form factor
- ❑ Guide plate for non-rotation of piston rod



Technical Specifications

Series	A1021M			A1021L	
Bearing type	Bushing			Linear ball bearing	
Medium	Compressed air - Filtered - Lubricated				
Cylinder bore Ø	10 mm	16 mm	20 mm	25 mm	32 mm
Standard Strokes *	10 to 50 mm		10 to 100 mm		
Working pressure	1.5 to 7 bar		1 to 7 bar		
Ambient / Medium temperature	-10°C to +60°C				
Stroke adjustable range	0 ~ -10mm Compared to standard stroke				
Materials of construction	Aluminium, Nitrile, Steel, Polyurethane, Acetal				

* For Non standard or longer stroke cylinders, contact your regional office, dealer or **JANATICS**

Output force (force in N : 1N = 0.1 kgf)

Cylinder bore Ø (in mm)	Rod (in mm)	Piston Area (mm^2)	Working pressure in bar						
			1	2	3	4	5	6	7
10	6	100	10	20	30	40	50	60	70
16	8	252	25.2	50.4	75.6	101	126	151	176
20	10	471	47.1	94.2	141	188	236	283	330
25	12	756	75.6	151	227	302	378	454	529
32	16	1206	121	241	362	482	603	724	844

TWIN PISTON CYLINDER

Series A1021

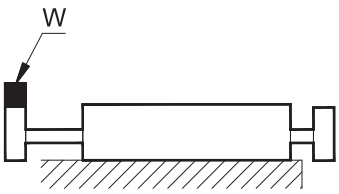
Weight list : (Unit : Kg)

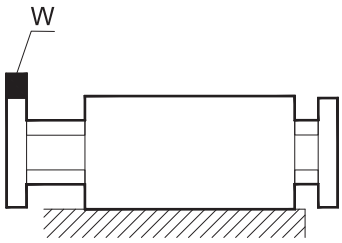
Model	Standard stroke (mm)						
	10	20	30	40	50	75	100
A1021M10	0.24	0.26	0.28	0.3	0.32	-	-
A1021L10	0.25	0.27	0.29	0.31	0.33	-	-
A1021M16	0.43	0.45	0.48	0.51	0.54	-	-
A1021L16	0.47	0.5	0.52	0.55	0.58	-	-
A1021M20	0.71	0.74	0.78	0.82	0.85	0.95	1.04
A1021L20	0.75	0.79	0.82	0.86	0.9	0.99	1.08
A1021M25	1.06	1.11	1.17	1.22	1.28	1.41	1.55
A1021L25	1.07	1.12	1.18	1.23	1.29	1.42	1.56
A1021M32	2.04	2.12	2.21	2.29	2.38	2.59	2.81
A1021L32	2.06	2.15	2.23	2.32	2.41	2.62	2.83

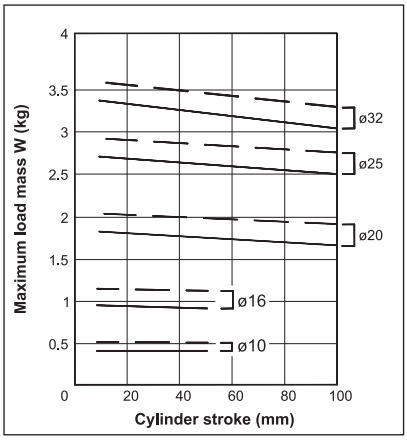
Operating conditions

When the cylinder is mounted as shown in the diagrams below the maximum load (W) should not exceed the values illustrated in the graph

———	A1021M
- - - - - - -	A1021L







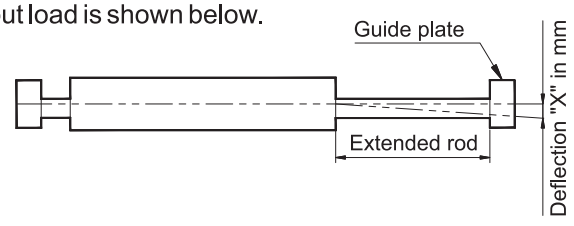
Allowable kinetic energy

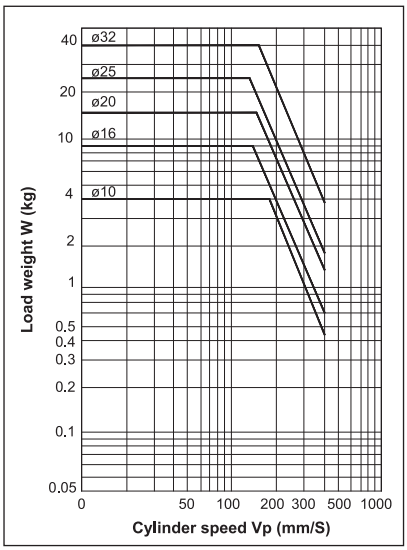
Operate vertically mounted cylinder with load weight and cylinder not exceeding the ranges shown on the graph below. A horizontally mounted cylinder should with less load weight than the ranges given in the graph at right. Cylinder speed should be adjusted using flow control valve.

Deflection at guide plate

Guide plate deflection “X“ without load is shown below.

Bore (mm)	X = (Ø10 to Ø32)
A1021M	± 0.03mm
A1021L	

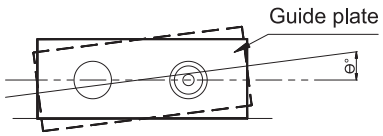




Non-rotating accuracy:

Non-rotating accuracy Θ° without a load should be less than or equal to the value provided in the table below.

Bore (mm)	Θ° = (Ø10 - Ø32)
A1021M	± 0.1°
A1021L	

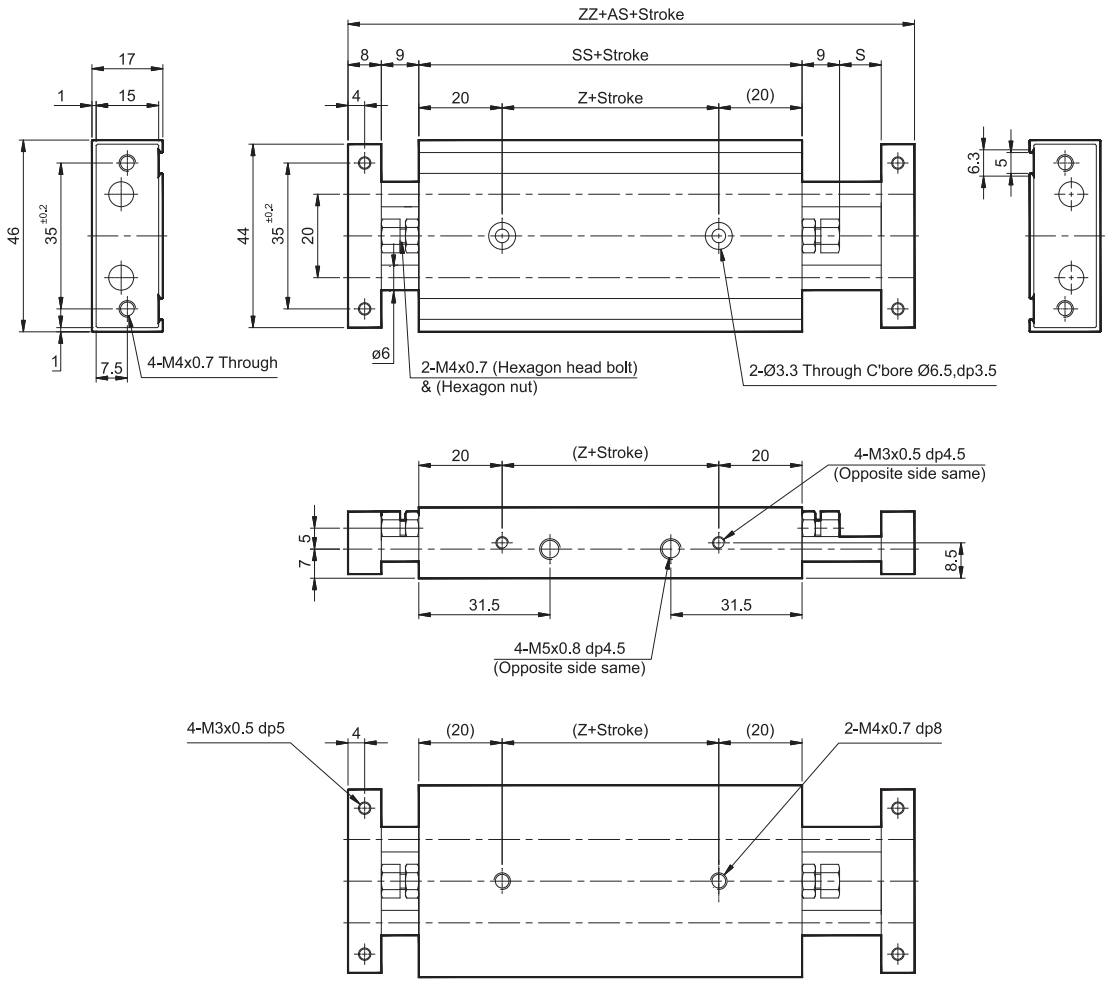


TWIN PISTON CYLINDER

Series A1021

Cat No A1021 - 01 - 01 - C

Basic Dimension - Ø10 mm



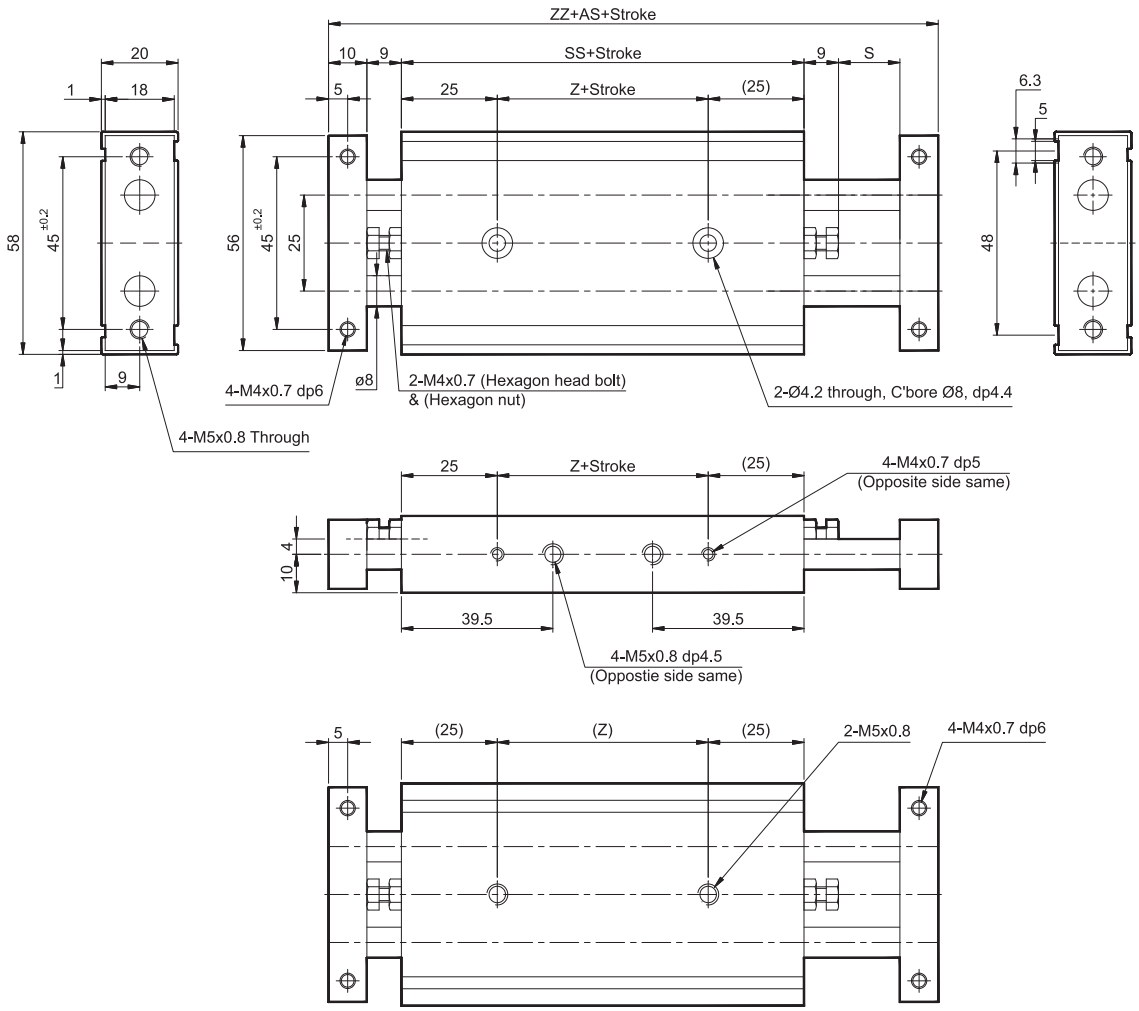
Bore	S	SS+Stroke	Z+Stroke	AS						ZZ+AS+Stroke
				Stroke	10	20	30	40	50	
Ø10	Stroke	82+Stroke	42+Stroke		0	10	20	30	40	126+AS+Stroke

TWIN PISTON CYLINDER

Series A1021

Cat No A1021 - 01 - 01 - C

Basic Dimension - Ø16 mm



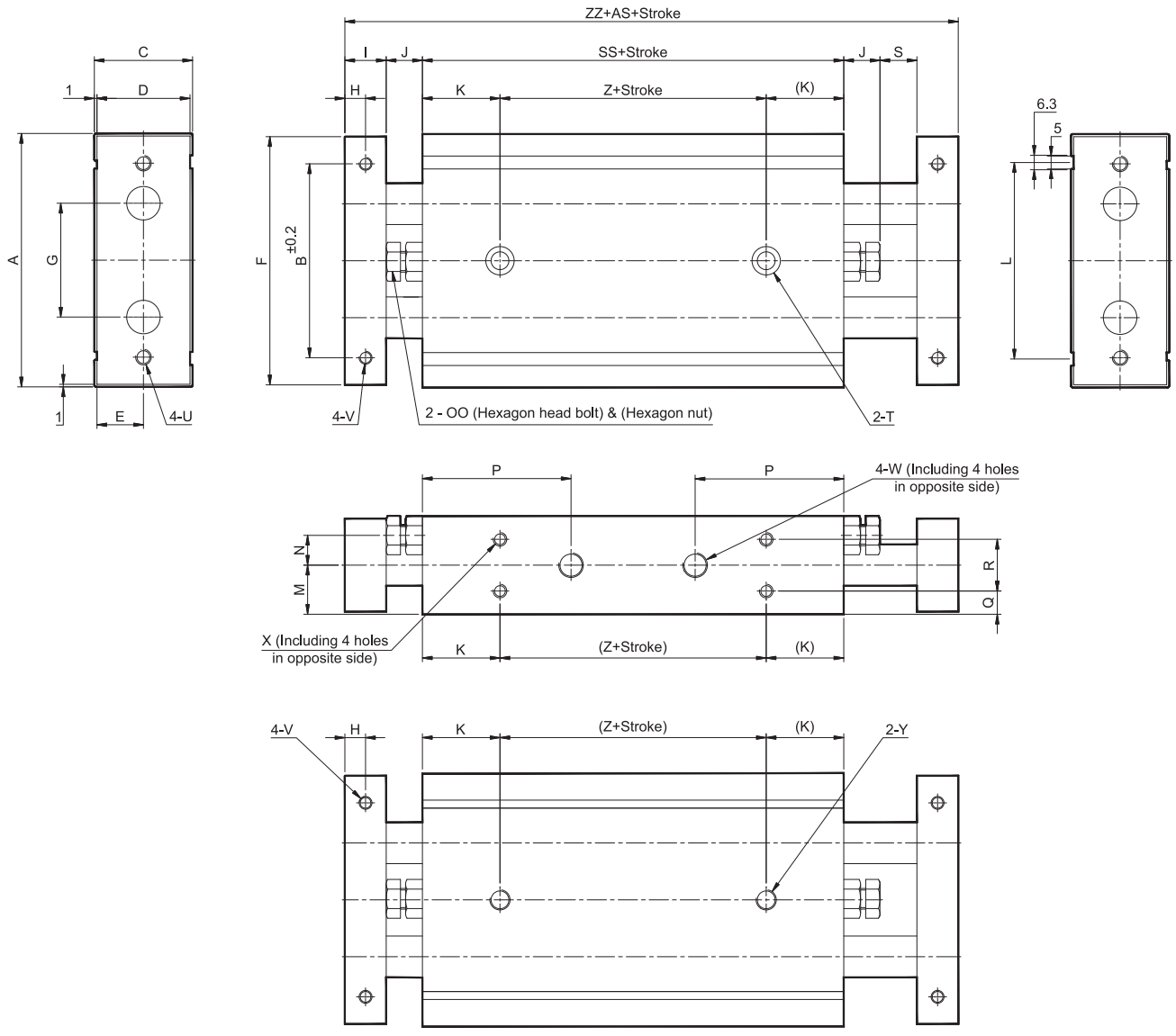
Bore	S	SS+Stroke	Z+Stroke	AS						ZZ+AS+Stroke
				Stroke	10	20	30	40	50	
Ø16	Stroke	95+Stroke	45+Stroke		0	10	20	30	40	143+AS+Stroke

TWIN PISTON CYLINDER

Series A1021

Cat No A1021 - 01 - 01 - C

Basic Dimension - Ø20, Ø25, Ø32 mm



Bore	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	Q	R
Ø20	64	50	25	23	11.5	62	28	6	12	12	30	53	12.5	6.5	45	7.75	9.5
Ø25	80	60	30	28	14	78	35	6	12	12		64	15	9	48	8.5	13
Ø32	98	75	38	36	18	96	44	8	16	14		76	19	11.5	57.5	9	20

Bore	OO	T	U	V	W	X	Y
Ø20	M6x1.0	Ø5through, C'bore ø9.5, dp5.3	M5x0.8 through	M4x0.7 dp 6	M5x0.8 dp4.5	8-M4x0.7 dp6	M6x1.0
Ø25	M6x1.0	Ø6.8through C'bore ø11, dp6.3	M6x1.0 through	M5x0.8 dp 7.5	G1/8" dp6.5	8-M5x0.8 dp7.5	M8x1.25
Ø32	M8x1.25		M6x1.0 through	M5x0.8 dp 10	G1/8" dp6.5	8-M5x0.8 dp7.5	M8x1.25

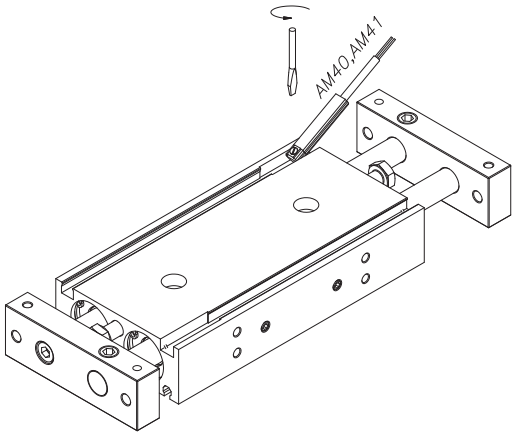
Bore	S	SS+Stroke	Z+Stroke	AS								ZZ+AS+Stroke
				Stroke	10	20	30	40	50	75	100	
Ø20	Stroke	110+Stroke	50+Stroke		0	10	20	30	40	65	90	168+AS+Stroke
Ø25		112+Stoke	52+Stroke									170+AS+Stroke
Ø32		133+Stroke	73+Stroke									203+AS+Stroke

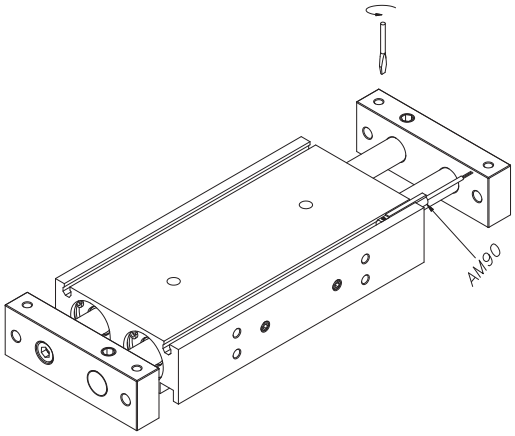
TWIN PISTON CYLINDER

Series A1021

Cat No A1021 - 01 - 01 - C

Sensor mounting





How to order

A1021 | M | 020 | 100

Type	
M	Bushing
L	Linear ball bearing

Bore Ø (mm)	
010	- 10
016	- 16
020	- 20
025	- 25
032	- 32

Stroke (mm)	
010	- 10
020	- 20
030	- 30
040	- 40
050	- 50
075	- 75
100	- 100

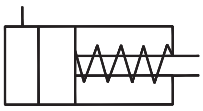
Note:
Ø10 & Ø16 - 75 and 100mm stroke not available

Ordering example:

Twin piston cylinder, bore Ø20, stroke 100 mm, Bushing type : **A1021M020100**

Twin piston cylinder, bore Ø20, stroke 100 mm, Linear ball bearing type : **A1021L020100**

Magnetic sensor (Refer Pneumatic Actuator catalogue **Series AM4: AM40 & AM41** (Page no.1a.1.1 & 1a.1.2), **Series A1R: AM090** (Page no.1.12.8 & 1.12.9)


A32 - Non magnetic


A33 - Magnetic

AIR CYLINDER

Series A32, A33

Cat No A32, A33 - 01 - 01 - B

Single Acting Cylinder (Tie Rod Type) Front Spring (Ø32 to 100 mm)

As per ISO 6431 / CETOP RP43P, RP53P standards

Features

- ❑ Wide varieties of mountings
- ❑ Low friction
- ❑ Long life

Technical Specifications

Cylinder bore Ø	(mm)	32	40	50	63	80	100
Cushion stroke	(mm)	21	23	23	23	28	28
Standard strokes *	(mm)	25, 50, 80					
Medium		Compressed air - Filtered - Lubricated					
Working pressure	(bar)	1.5 to 10					
Ambient temperature	(C)	-10° to +60°					
Medium temperature	(C)	+5° to +50°					
Materials of construction		Aluminium, Brass, Nitrile, Steel, Acetal, Iron, Bronze, Polyurethane					
Mountings		Basic cylinder, Front foot mounting, Front flange, Rear flange, Male Clevis, Female clevis, Front trunnion, Rear trunnion, Centre trunnion					
Accessories		Clevis foot bracket, Wall mounting bracket, Trunnion bracket, Rod end fork, Rod end aligner, Rod end spherical eye					

* For Non standard or longer stroke cylinders, contact your regional dealer or **JANATICS**

** Refer special ordering number.

Note: Mountings and Accessories refer A12, A13 series.

Output force in N (1N = 0.1 kgf) (For 50mm stroke)

Cylinder bore Ø (in mm)	Rod Ø (in mm)		Working pressure in bar								
			2	3	4	5	6	7	8	9	10
32	12	Extend	98	170	242	315	387	460	532	604	677
40	16	Extend	172	285	398	511	624	738	851	964	1076
50	20	Extend	274	451	627	805	981	1158	1335	1511	1687
63	20	Extend	447	728	1008	1289	1569	1850	2130	2408	2691
80	25	Extend	728	1180	1632	2085	2537	2990	3442	3895	4347
100	25	Extend	1227	1933	2641	3347	4054	4761	5468	6175	6882

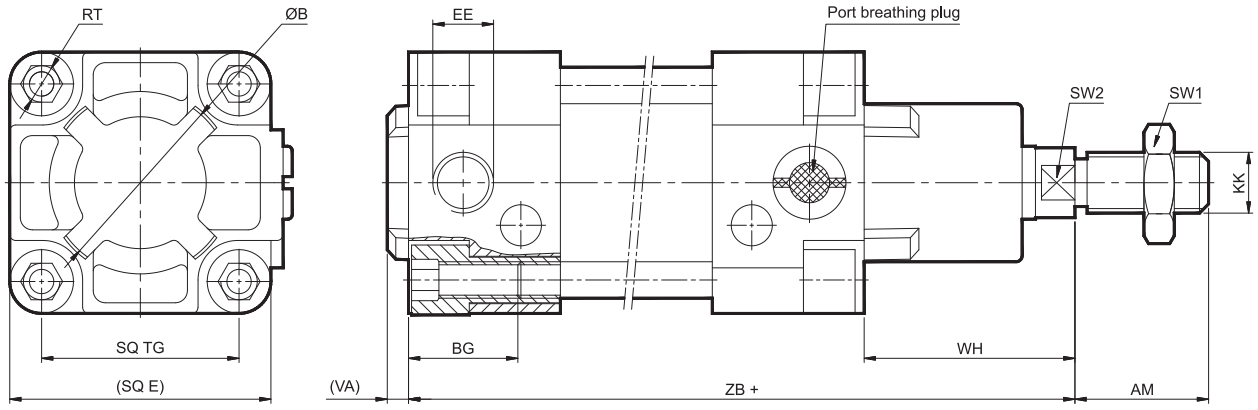
Note: Magnetic sensor details, refer enclosure Series A12, A13 (Page no. 1.1.6 in Pneumatic Actuators catalogue)

AIR CYLINDER

Series A32, A33

Cat No A32, A33 - 01 - 01 - B

Basic cylinder - Ø32 to 100 mm



+ Add stroke

Bore Ø	KK	AM	SW2	SW1	B e11	VA	E Max	TG	RT	BG min	EE	WH	Tol	ZB	Tol	Stroke tol
32	M10 x 1.25	22	10	17	30	3.5	44	32	M6	16	G1/8	26		120		
40	M12 x 1.25	24	13	19	35	4	55	40	M6	16	G1/4	30	±1.3	135	±1	+2 0
50	M16 x 1.5	32	16	24	40	4	63	48	M6	16	G1/4	37		143		
63	M16 x 1.5	32	16	24	45	4	83	60	M8	16	G3/8	37		158		
80	M20 x 1.5	40	21	30	45	4	98	72	M10	16	G3/8	46	±1.7	174	±1.1	+2.5 0
100	M20 x 1.5	40	21	30	55	4	115	89	M10	16	G1/2	51		189		

How to order

A | 32 | 040 | 050 | O

Model	
32	Standard cylinder
33	Magnetic cylinder

Cylinder bore (mm)	
032	- Ø 32
040	- Ø 40
050	- Ø 50
063	- Ø 63
080	- Ø 80
100	- Ø 100

Stroke (mm)	
025	- 25
050	- 50
080	- 80

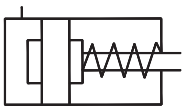
Mountings	
O	- Basic

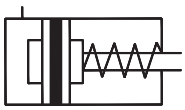
Ordering Example:

Ordering no. for standard cylinder with 40 dia bore, 50 mm stroke: **A32 040 050 O**

For your special requirements of cylinders or for further informations contact your regional dealer or **JANATICS**

Subject to change


A34 - Non magnetic


A35 - Magnetic

AIR CYLINDER

Series A34, A35

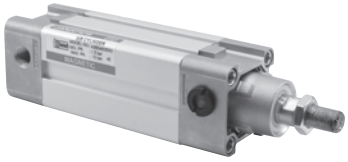
Cat No A34, A35 - 01 - 01 - B

Single Acting Cylinder (Square Type) Front Spring (Ø40) mm

As per ISO 15552 / VDMA 24562 standards

Features

- ❑ Elastomer end cushioning
- ❑ Wide varieties of mounting as per ISO 15552 / VDMA 24562 standards
- ❑ Magnetic and Non magnetic version
- ❑ Aluminium profile (square) cylinder barrel
- ❑ Magnetic sensor common for all sizes (refer Magnetic sensor catalogue)
- ❑ Optional - High temperature (FKM seals) 150° C max **
- ❑ Optional - Non corrosive stainless steel piston rod and piston rod lock nut (SS304) **



Technical Specifications

Cylinder bore Ø	(mm)	40
Cushion stroke	(mm)	23
Standard strokes *	(mm)	25, 50, 80
Medium		Compressed air - Filtered - Lubricated
Working pressure	(bar)	1.5 to 10
Ambient temperature	(C)	-10° to +60°
Medium temperature	(C)	+5° to +50°
Materials of construction		Aluminium, Brass, Nitrile, Steel, Acetal, Polyurethane
Mountings		Basic cylinder, Foot mounting, Front flange, Rear flange, Male Clevis, Male Clevis (with Spherical bearing), Female clevis, Female clevis (King pin), Front trunnion, Rear trunnion, Adjustable trunnion
Accessories		Clevis foot bracket, Clevis foot bracket (Spherical), Wall mounting bracket, Trunnion bracket, Rod end fork, Rod end aligner, Rod end spherical eye

* For Non standard or longer stroke cylinders, contact your regional dealer or **JANATICS**

** Refer Special Ordering number.

Note: Mountings and Accessories refer A23, A24 series.

Output force in N (1N = 0.1 kgf)

Cylinder bore Ø (in mm)	Rod Ø (in mm)		Working pressure in bar								
			2	3	4	5	6	7	8	9	10
40	16	Extend	160	273	386	499	612	726	859	952	1064

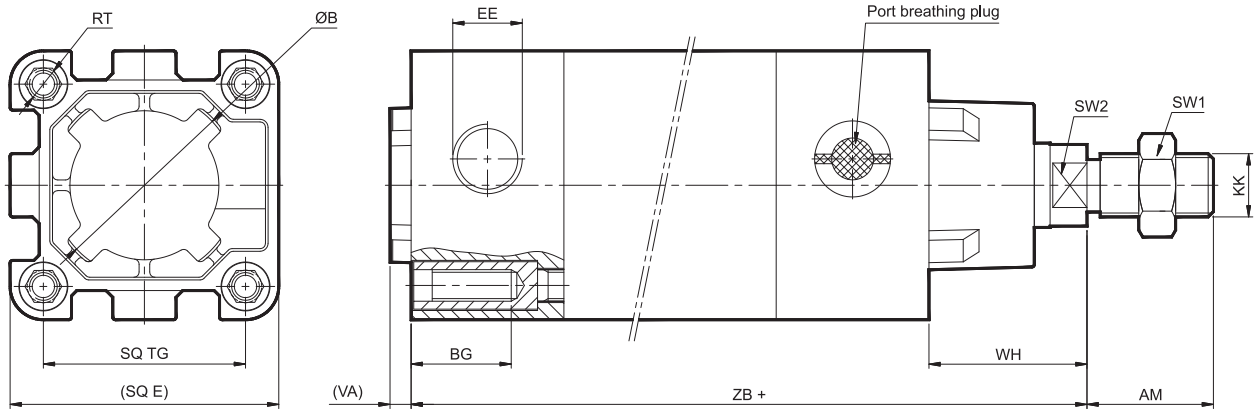
Note: Magnetic sensor details, refer enclosure Series AM4, Series AM42 (Page no. 1a.1.1 & 1a.2.1 in Pneumatic Actuators catalogue)

AIR CYLINDER

Series A34, A35

Cat No A34, A35 - 01 - 01 - B

Basic cylinder - Ø40 mm



+ Add stroke

Bore Ø	KK	AM	SW2	SW1	ØB e11	VA	E Max	TG	RT	BG min	EE	WH	Tol	ZB	Tol	Stroke tol
40	M12 x 1.25	24	13	19	35	4	51	38	M6	16	G1/4	30	±1.3	135	±1	+2 0

How to order

A | 34 | 040 | 050 | O | – | Optional

Model	
34	Standard cylinder
35	Magnetic cylinder

Cylinder bore (mm)	
040	- Ø 40

Stroke (mm)	
025	- 25
050	- 50
080	- 80

Mountings	
O	- Basic

Special Cylinders	
H	- High temp
S	- SS piston rod

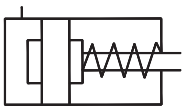
Ordering Example:

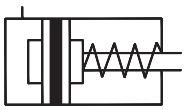
Ordering no. for standard cylinder with 40 dia bore, 50 mm stroke: **A34 040 050 O**

Ordering no. for standard cylinder with 40 dia bore, 50 mm stroke with High temp: **A34 040 050 O - H**

For your special requirements of cylinders or for further informations contact your regional dealer or **JANATICS**

Subject to change


A68 - Non-magnetic


A67 - Magnetic

AIR CYLINDER

Series A67, A68

Cat No A67, A68 - 01 - 01 - B

Single Acting Cylinder (Compact ISO Type) Front Spring (Ø25 to 100 mm)

As per ISO 21287 standards

Features

- ❑ Elastomer end cushioning
- ❑ Wide varieties of mountings
- ❑ Space saving
- ❑ Magnetic and Non magnetic version
- ❑ Aluminium profile (square) cylinder barrel
- ❑ Magnetic sensor common for all sizes (Refer magnetic sensor catalogue)

Technical Specifications

Cylinder bore Ø	(mm)	25	32	40	50	63	80	100
Standard strokes *	(mm)	5, 20	5, 25	10, 25				
Medium		Compressed air - Filtered - Lubricated						
Working pressure	(bar)	1.5 to 10	2 to 10					
Ambient temperature	(C)	-10° to +60°						
Medium temperature	(C)	+5° to +50°						
Materials of construction		Aluminium, Nitrile, Steel, Polyurethane						
Mountings @		Basic cylinder, Foot mounting, Front flange, Rear flange, Male clevis, Female Clevis						
Accessories #		Clevis foot bracket, Wall mounting bracket, Rod end fork, Rod end aligner, Rod end spherical						

* For Non standard or longer stroke cylinders, contact your regional dealer or **JANATICS**

@ Ø25mm Female clevis not available

\# Ø25mm Clevis foot bracket and Wall mounting bracket not available

Note: Mountings and Accessories refer A63, A64 series

Output force in N (1N = 0.1 kgf)

Cylinder bore Ø (in mm)	Rod Ø (in mm)		Working pressure in bar								
			2	3	4	5	6	7	8	9	10
25	10	Extend	61	105	149	193	237	281	325	369	413
32	12	Extend	95	167	239	312	384	457	529	601	674
40	12	Extend	176	289	402	515	628	742	855	968	1080
50	16	Extend	284	461	638	814	991	1168	1344	1521	1698
63	16	Extend	444	725	1005	1286	1566	1847	2127	2408	2688
80	20	Extend	797	1249	1701	2154	2605	3059	3511	3963	4416
100	20	Extend	1232	1938	2645	3352	4059	4766	5473	6180	6886

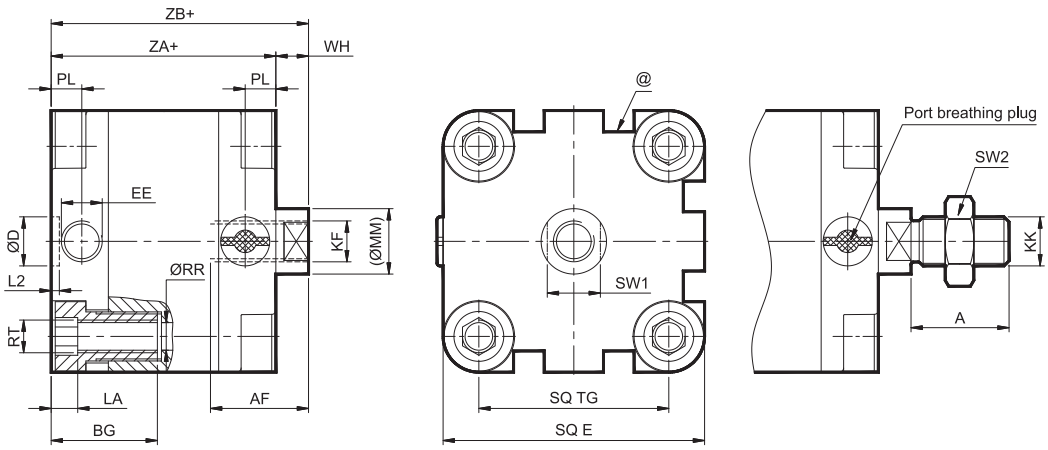
Note: Magnetic sensor details, refer enclosure Series AM4, Series AM42 (Page no. 1a.1.1 & 1a.2.1 in Pneumatic Actuators catalogue)

AIR CYLINDER

Series A67, A68

Cat No A67, A68 - 01 - 01 - B

Basic cylinder - Ø25 to 100 mm



+ Add stroke

Cylinder bore Ø	KF	MM	AF	RR min	RT	SW1	PL	LA	BG min	EE	TG	E max	D H10	L2	ZA	Tol	ZB	Tol	WH	Tol	KK	A -0.5	SW2	Stroke tol
25	M6x1	10	10	4.1	M5	9	6	6	5	M5x0.8	26	40	9	2	39	±0.5	45	±1.4	6	±1.4	M8x1.25	16	13	+2 0
32	M8x1.25	12	12	5.1	M6	10	7.5	5.5	15	G1/8	32.5	45	10	2	44		51	± 1.6	7	±1.6	M10x1.25	19	17	
40	M8x1.25	12	12	5.1	M6	10	7.5	5.5	15	G1/8	38	51	10	2	45	±0.7	52		7		M10x1.25	19	17	
50	M10x1.5	16	16	6.4	M8	13	7.5	5.5	16	G1/8	46.5	64	12	2	45		53		8		M12x1.25	22	19	
63	M10x1.5	16	16	6.4	M8	13	7.5	5.5	16	G1/8	56.5	74	12	2	49	±0.8	57		8		M12x1.25	22	19	+2.5 0
80	M12x1.75	20	20	8.4	M10	17	8	5.5	17	G1/8	72	94	12	2	54		64	± 2	10	±2	M16x1.5	28	24	
100	M12x1.75	20	20	8.4	M10	17	12.5	5.5	17	G1/8	89	111	12	3	67	±1	77		10		M16x1.5	28	24	

How to order

A	68	040	010	O

Model

68	Standard cylinder
67	Magnetic cylinder

Cylinder bore (mm)

025	- Ø 25
032	- Ø 32
040	- Ø 40
050	- Ø 50
063	- Ø 63
080	- Ø 80
100	- Ø 100

Stroke (mm)

005	- 5
020	- 20
005	- 5
025	- 25
010	- 10
025	- 25

Mountings

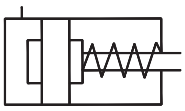
O	- Basic

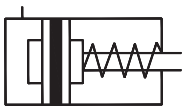
Ordering Example:

Ordering no. for standard cylinder with 40 dia bore, 10 mm stroke: **A68 040 010 O**

For your special requirements of cylinders or for further informations contact your regional dealer or **JANATICS**

Subject to change


A81 - Non-magnetic


A82 - Magnetic

AIR CYLINDER

Series A81, A82

Cat No A81, A82 - 01 - 01 - B

Single Acting Cylinder (Crimping Type) Front Spring (Ø12 to 25 mm)

As per ISO 6432 / CETOP RP52P standards

Features

- ❑ Elastomer end cushioning
- ❑ Wide varieties of mountings
- ❑ Low friction
- ❑ Long life

Technical Specifications

Cylinder bore Ø	(mm)	12	16	20	25
Standard strokes *	(mm)	10, 25, 50			
Medium		Compressed air - Filtered - Lubricated			
Working pressure	(bar)	2 to 10			
Ambient temperature	(C)	-10° to +60°			
Medium temperature	(C)	+5° to +50°			
Materials of construction		Aluminium, Brass, Nitrile, Steel, Acetal, Polyurethane			
Mountings		Front foot mounting, Double foot mounting, Front flange, Rear flange, Front trunnion, Rear trunnion			
Accessories		Clevis foot bracket, Trunnion bracket, Rod end fork, Rod end aligner			

* For Non standard or longer stroke cylinders, contact your regional dealer or **JANATICS**

Note: Mountings and Accessories refer A51, A52 series.

Output force in N (1N = 0.1 kgf)

Cylinder bore Ø (in mm)	Rod Ø (in mm)		Working pressure in bar								
			2	3	4	5	6	7	8	9	10
12	6	Extend	13	23	33	43	53	63	73	83	93
16	6	Extend	22	40	58	76	94	112	130	148	166
20	8	Extend	36	64	92	120	149	176	204	234	262
25	10	Extend	34	78	122	166	210	254	298	342	386

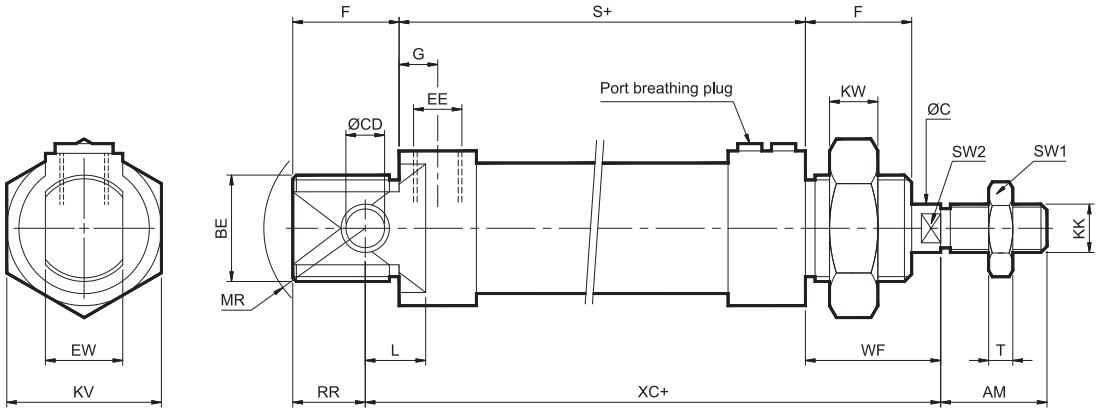
Note: Magnetic sensor details, refer enclosure Series A51, A52 (Page no. 1.7.5 in Pneumatic Actuators catalogue)

AIR CYLINDER

Series A81, A82

Cat No A81, A82 - 01 - 01 - B

Basic cylinder - Ø12 to 25 mm



+ Add stroke

Cylinder bore Ø	MR	BE	F	CD H9	RR	L	G	EE	S	KW	ØC	SW1	SW2	KK	AM	T	WF ±1.2	XC ±1	EW d13	KV	Stroke tol 10 - 100	Stroke tol 125 - 300
12	17	M16x1.5	17	6	15	9	5	M5x0.8	$51^{\pm 0.5}$	8	6	10	5	M6x1	16	3	22	75	12	24		
16	17	M16x1.5	17	6	15	9	5	M5x0.8	$58^{\pm 0.5}$	8	6	10	5	M6x1	16	3	22	82	12	24	+ 1.5 + 0	+ 2.5 + 0
20	20	M22x1.5	20	8	16	12	8	G1/8	$67^{\pm 0.7}$	10	8	13	7	M8x1.25	20	4	24	95	16	32		
25	21	M22x1.5	22	8	17	12	8	G1/8	$71^{\pm 0.7}$	10	10	17	9	M10x1.25	22	5	28	104	16	32		

How to order

A **81** **020** **010** **O**

Model	
81	Standard cylinder
82	Magnetic cylinder

Cylinder bore (mm)	
012	- Ø 12
016	- Ø 16
020	- Ø 20
025	- Ø 25

Stroke (mm)	
010	- 10
025	- 25
050	- 50

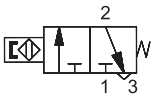
Mountings	
O	- Basic

Ordering Example:

Ordering no. for standard cylinder with 20 dia bore, 10 mm stroke: **A81 020 010 O**

For your special requirements of cylinders or for further informations contact your regional dealer or **JANATICS**

Subject to change



PNEUMATIC PROXIMITY SWITCH

Series AM113

Cat No AM113 - 01 - 01 - A

PNEUMATIC PROXIMITY SWITCH

Features

- ❑ Elegant and compact design
- ❑ Smooth operation
- ❑ Sensor function indication
- ❑ Integrated barbed tube fittings
- ❑ Fast response

Function

The proximity switch is in principle like a 3/2 way valve that is actuated by a magnetic field or an Fe part, that in turn triggers the pneumatic signal.

Application

Contactless sensing of pneumatic cylinder position and similar applications. The pneumatic proximity switch having an internal magnetic sensor gets activated when a cylinder piston fitted with a magnet comes in proximity to the switch.

Technical Specifications

Ordering No.	**AM113-01**
Port Connection	Barbed tube fittings for Ø4 tube (OD - Ø4, ID - Ø2.5) 1 - Inlet, 2 - Outlet, 3 - Exhaust
Medium	Compressed air - Filtered (Non-Lubricated)
Operating pressure	2 to 6 bar
Flow rate	40 lts/min
Distance switch to switch	Min. 20mm
Distance switch to steel parts	Min. 15mm
Ambient / Medium temperature	-15° to +60° C
Materials of construction	Aluminium, Steel, Engineering Plastic, Brass

Operation

A Switch on pneumatic cylinder

The maximum actuating speed when scanning intermediate position can be approx.1m/s (without load volume).This depends on the cylinder, on the subsequent element, on the length of the pipes and on the pressure. The flux density on the face of the proximity switch must be at least 7 Mt.

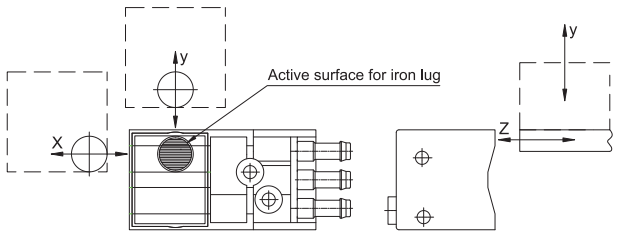
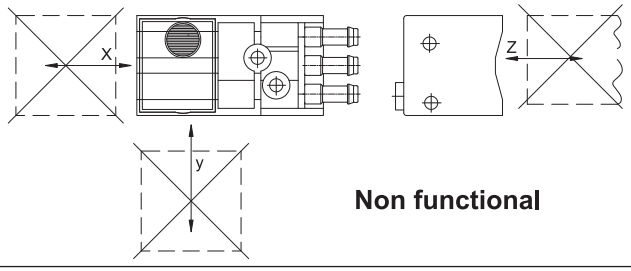
B Switching with Fe

The active surface for switching with Fe parts is marked by a white dot.

Operating distances and hysteresis for actuation in direction Z with an Fe part of 6mm diameter and ≥ 20mm in length

Pressure	**2 bar**	**4 bar**	**6 bar**
Operating pressure	2.7±1mm	2.9±1mm	3.1±1mm
Hysteresis	0.2 - 0.8mm	0.4 - 1.5mm	0.6 - 3mm

You can determine the operating distances and hysteresis for other directions and other kinds of actuating element by experiment.

Three Switching directions (x,y,z) are possible (Refer drawing)	**Applications as shown in the drawing are ineffective**
	

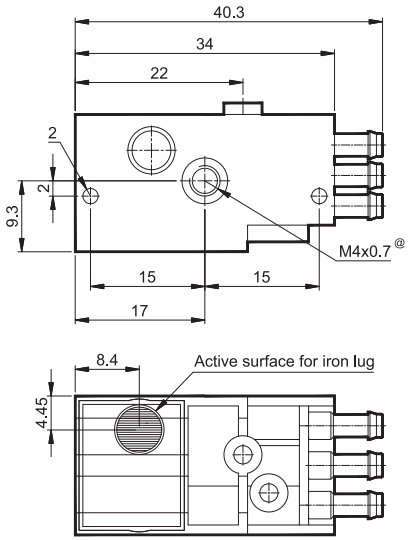
Non functional

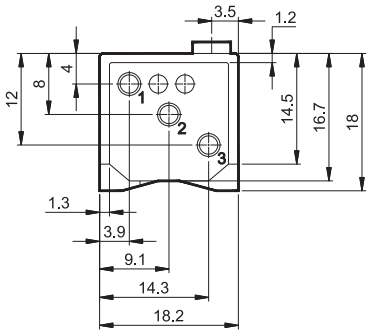
PNEUMATIC PROXIMITY SWITCH

Series AM113

Cat No AM113 - 01 - 01 - A

Dimension Details



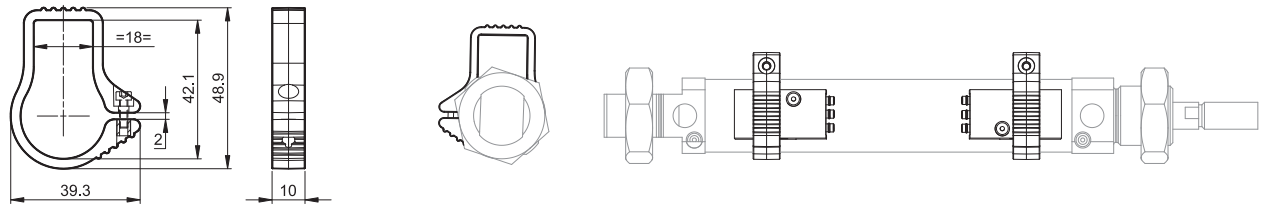


@ - While using M4 thread for mounting purpose, the maximum torque that may be applied is 1.5 Nm.

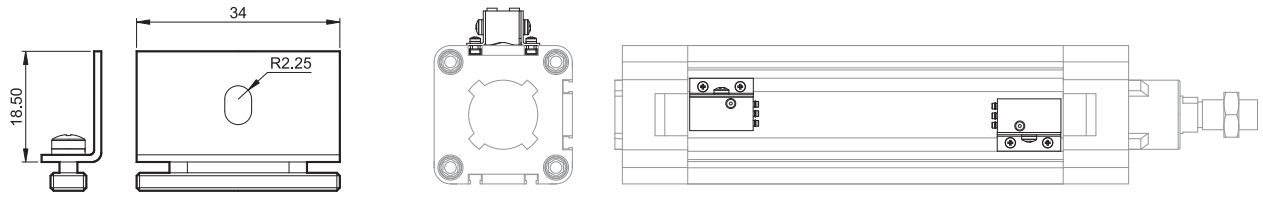
Mountings

Mount the proximity switch with suitable bracket / clamp to the respective cylinders as mentioned below.
A minimum spacing of 20mm between adjacent pneumatic proximity switches will prevent any mutual interference.

Mounting bracket* (Suitable for A52 & A55 series - Ø25 cylinder)	Ordering No. **A90299**



Mounting clamp* (Suitable for Square type profile magnetic cylinders)	Ordering No. **A90300**



* Supplied with mounting screws

Recommended Accessory

PU Tube: OD - Ø4, ID - Ø2.5

Part No: **WH00B04-21**

Caution

1. The spacing away from iron parts must be at least 15mm
2. Keep sensors away from stray magnetic field to prevent malfunctions
3. Make sure that no iron chips get under the switch. The Exhaust port (3) must not be closed because any restriction of the air exhaust can impair the functioning of the switch.

Subject to change

GUIDE UNIT

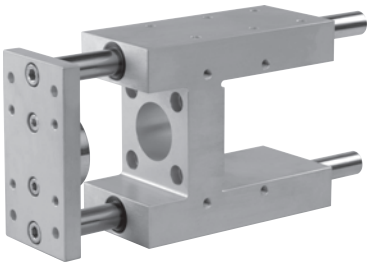
Series GU1

Cat No GU1 - 01 - 01 - C

GUIDE UNIT FOR AIR CYLINDERS

As per ISO 15552 / VDMA 24562 standards.

Features



- ❑ Suitable for cylinder series A23, A24, A27, A28
- ❑ Three variants available (Plain bush bearing & Plastic bearing)
- ❑ Double lip seal provided with Plain bush bearing version helps retain lubrication
- ❑ Flange mounting available

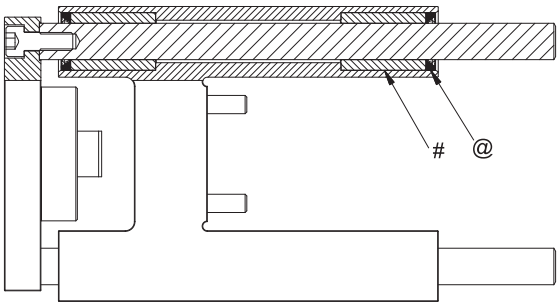
Application

- ❑ Guide unit protects cylinders from non-rotation & high torsion load
- ❑ The Guide unit ensures precise guidance for handling applications

Technical Specifications

Cylinder bore Ø (mm)	32	40	50	63	80	100
Standard Strokes (mm)	25, 50, 80, 100, 160, 200, 250, 300, 320, 400, 500					
Guide	Plain bearing Guide, Recirculating ball bearing Guide, Plastic Bearing Guide					
Lubrication	Industrial Grease (Not Required for Plastic bearing Guide)					
Ambient temperature	-20° to +70° C					
Mounting	Flange mounting					
Materials of construction	Aluminum, Stainless steel, Nitrile, PB ,Steel					

* For Non-standard or longer stroke cylinders, contact your regional dealer or **JANATICS H.O.**



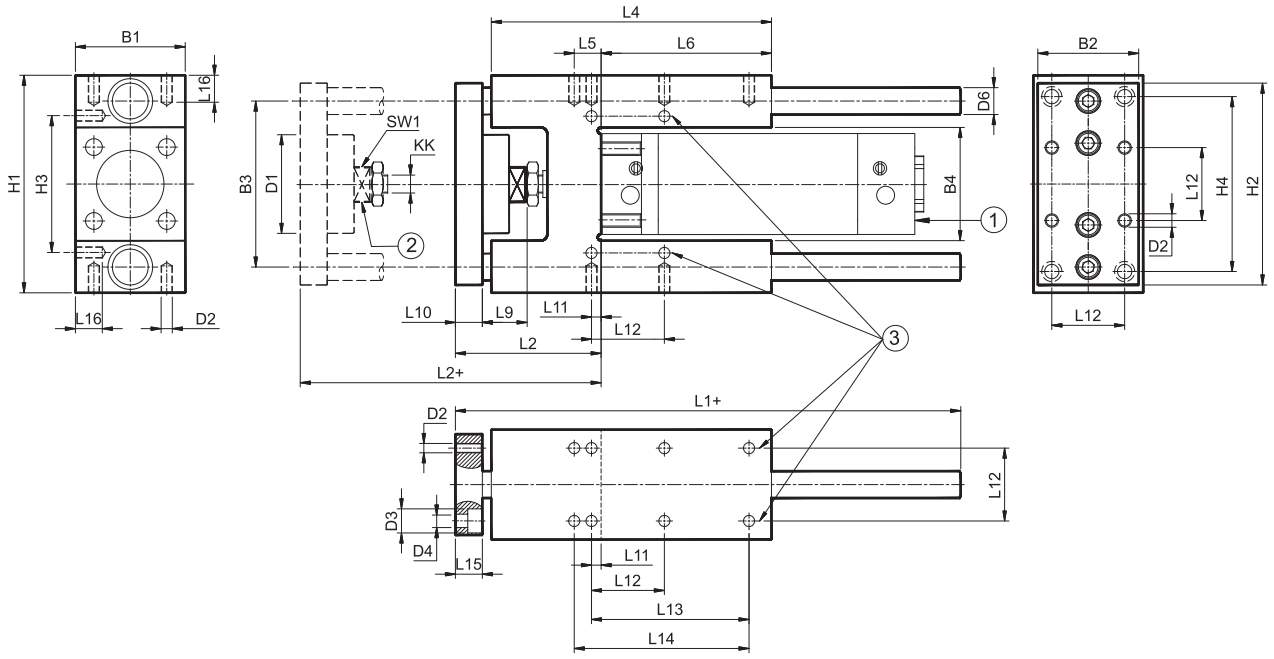
Guide Type - #	Ingress - @
Plain-Bearing	End Seal
Plastic Bearing	Not applicable

GUIDE UNIT

Series GU1

Cat No GU1 - 01 - 01 - C

Model GU1



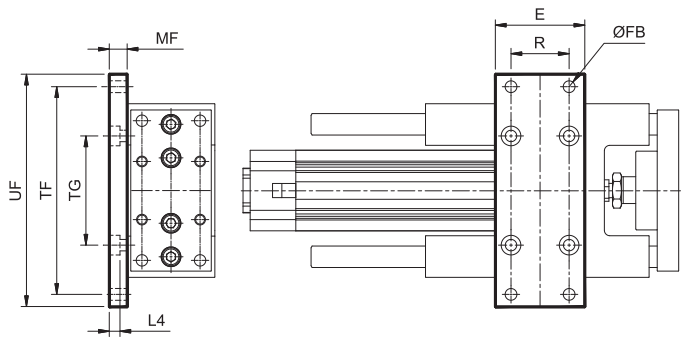
+ Add stroke

Piston Ø (mm)	B1 -0.3	B2	B3 ±0.2	B4	ØD1	D2	ØD3	ØD4	ØD6	H1	H2	H3 ±0.2	H4 ±0.2	KK
32	50	45	74	50.5 $^{\pm0.3}$	44	M6	11	6.6	12	97 $^{-0.4}$	90	61	78	M10X1.25
40	58	54	87	58.5 $^{\pm0.3}$	44	M6	11	6.6	16	115 $^{-0.4}$	110	69	84	M12X1.25
50	70	63	104	70.5 $^{\pm0.3}$	60	M8	15	9	20	137 $^{-0.5}$	130	85	100	M16x1.5
63	85	80	119	85.5 $^{\pm0.3}$	60	M8	15	9	20	152 $^{-0.5}$	145	100	105	M16x1.5
80	105	100	148	106 $^{\pm0.6}$	78	M10	18	11	25	189 $^{-0.5}$	180	130	130	M20X1.5
100	130	120	172	131 $^{\pm0.6}$	78	M10	18	11	25	213 $^{-0.5}$	200	150	150	M20X1.5

Piston Ø (mm)	L1	L2	L3	L4	L5	L6	L9	L10	L11	L12 ±0.2	L13 ±0.2	L14 ±0.2	L15	L16	SW1
32	155	67 $^{+5}$	94	125	24	76	20	12	4.3	32.5	70.3	78	6.5	12	15
40	170	75 $^{+5}$	105	140	28	81	22	12	11	38	84	-	6.5	14	15
50	188	89 $^{+10}$	106	150	34	79	25	15	18.8	46.5	81.8	100	9	16	19
63	220	89 $^{+10}$	121	182	34	111	25	15	15.3	56.5	105	-	9	16	19
80	258	111 $^{+10}$	128	215	40	128	32	20	21	72	-	-	11	20	27
100	263	116 $^{+10}$	138	220	40	128	32	20	24.5	89	-	-	11	20	27

① Cylinder Series A23, A24, A27, A28
② Compensating coupling for Radial and axial alignment
③ User can drill additional mounting holes along these axes as required

Flange Mounting



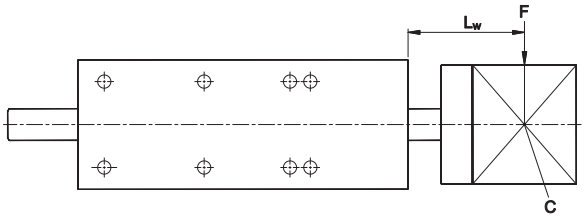
Piston Ø	E	ØFB	L4	MF	R	TF	TG	UF	Ordering No*
32	50	6.6	6.5	10	32.5	116	61	130	GF1032
40	55	9	6.5	10	38	140	69	160	GF1040
50	70	9	8.5	12	46.5	160	85	180	GF1050
63	80	9	8.5	12	56.5	175	100	195	GF1063
80	100	12	10.5	16	72	218	130	242	GF1080
100	120	14	10.5	16	89	245	150	272	GF1100

* Supplied with 4nos. of screw

GUIDE UNIT

Series GU1

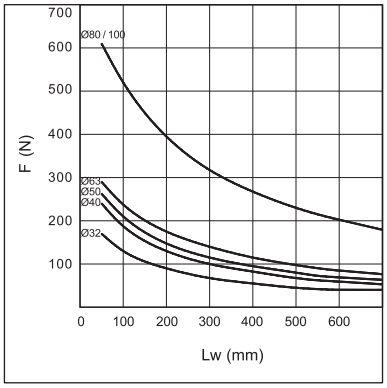
Permissible applicable Load (F)



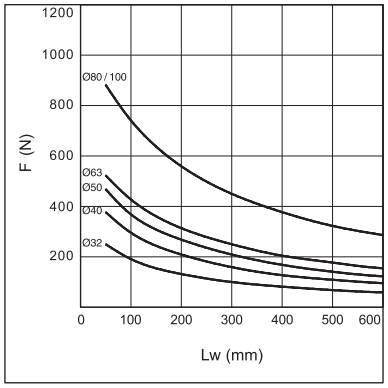
Lw = Load length
F = Permissible applicable load
C = Center of gravity of pay load

Guide unit Ø32 to Ø100 mm

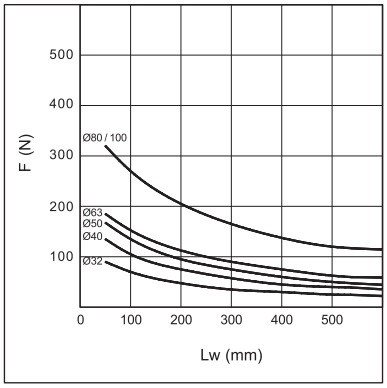
Recirculating ball bearing guide



Plain bearing guide



Plastic bearing guide



How to order

GU1 — 032 — 100 — A

Piston Ø (mm)	
032	- Ø 32
040	- Ø 40
050	- Ø 50
063	- Ø 63
080	- Ø 80
100	- Ø 100

Stroke (mm)	
025	- 25
050	- 50
080	- 80
100	- 100
125	- 125
160	- 160
200	- 200
250	- 250
300	- 300
320	- 320
400	- 400
500	- 500

Model	
A	- Plain bush bearing
B	- Recirculating ball bearing
C	- Plastic bearing

Ordering Example:

Guide Unit for Ø32 cylinder, 100 mm stroke with Plain bush bearing, Ordering No: **GU1 032 100 - A**

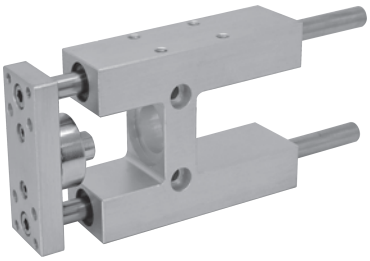
GUIDE UNIT

Series GU2

Cat No GU2 - 01 - 01 - B

GUIDE UNIT FOR AIR CYLINDERS

As per ISO 6432 / CETOP RP52P standards.



Features

- ❑ Suitable for Cylinder series A51, A52, A55, A56
- ❑ Two variants available (Plain bush bearing, Ball bearing)
- ❑ Double lip seal provided with Plain & Recirculating ball bearing version helps retain lubrication

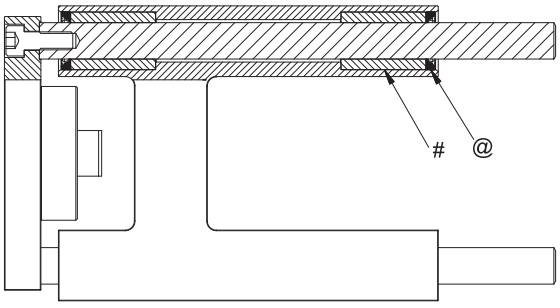
Application

- ❑ Guide unit protects cylinders from non-rotation & high torsion load
- ❑ The Guide unit ensures precise guidance for handling applications

Technical Specifications

Cylinder bore Ø	(mm)	20	25
Standard strokes	(mm)	10, 25, 40, 50, 80, 100, 125, 160, 200, 250, 300	
Guide		Plain bearing Guide, Recirculating ball bearing Guide	
Lubrication		Industrial Grease	
Ambient temperature		-20° to +80° C	
Materials of construction		Aluminum, Stainless steel, Nitrile, PB, Steel	

* For Non-standard or longer stroke cylinders, contact your regional dealer or **JANATICS H.O.**



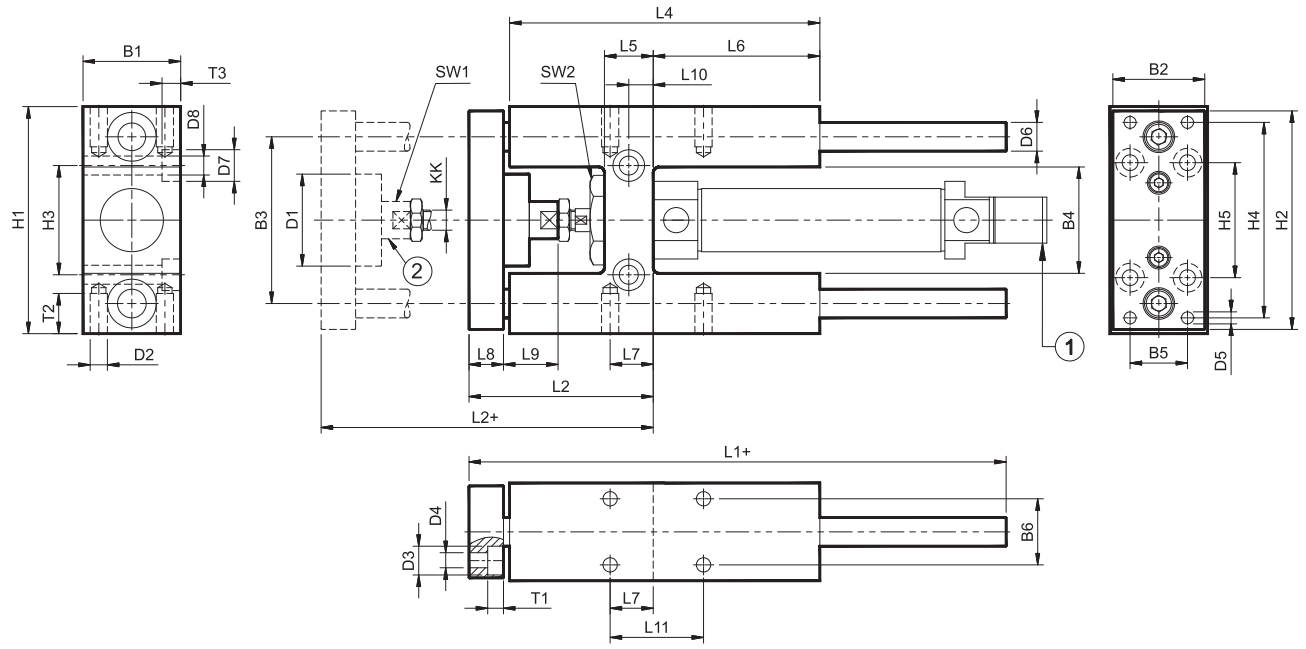
Guide Type - #	Ingress - @
Plain-Bearing	End Seal
Recirculating ball Bearing	End Seal

GUIDE UNIT

Series GU2

Cat No GU2 - 01 - 01 - B

Model GU2



+ Add stroke

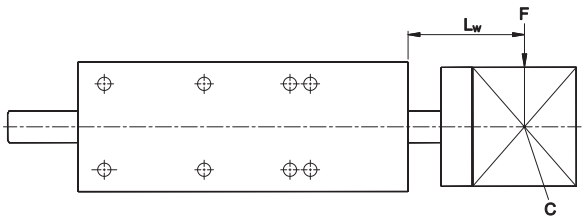
Piston Ø (mm)	B1 -0.3	B2	B3 ±0.2	B4	B5	B6	ØD1	D2	ØD3	ØD4	D5	ØD6	ØD7	ØD8	H1	H2	H3 ±0.2	H4	H5
20	34	32	58	37	20	23	32	M6	10	5.5	M5	10	11	6.6	79	76	38	68	40
25	34	32	58	37	20	23	32	M6	10	5.5	M5	10	11	6.6	79	76	38	68	40

Piston Ø (mm)	KK	L1	L2 +5	L4	L5	L6	L7	L8	L9	L10	L11 ±0.2	T1	T2	T3	SW1	SW2
32	M8	138	65	108	17	58	15	12	22	8.5	32.5	5.5	14	6.5	12	27
40	M10x1.25	138	65	108	17	58	15	12	22	8.5	32.5	5.5	14	6.5	12	27

① Cylinder Series A51, A52, A55, A56
② Compensating coupling for Radial and axial alignment

GUIDE UNIT
Series GU2

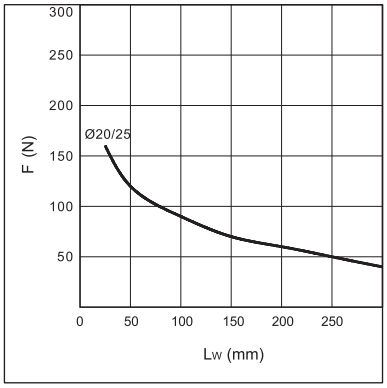
Permissible applicable Load (F)



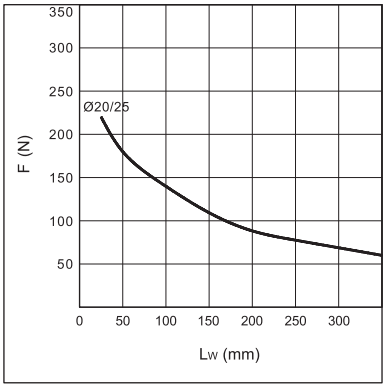
Lw = Load length
F = Permissible applicable load
C = Center of gravity of pay load

Guide unit Ø20 & Ø25 mm

Recirculating ball bearing guide



Plain bearing guide



How to order

GU2 — 020 — 100 — – — A

Bore Ø (mm)	
020	- Ø 20
025	- Ø 25

Stroke (mm)	
010	- 10
025	- 25
040	- 40
050	- 50
080	- 80
100	- 100
125	- 125
160	- 160
200	- 200
250	- 250
300	- 300

Model	
A	- Plain bush bearing
B	- Recirculating ball bearing

Ordering Example:

Guide Unit for Ø20 cylinder, 100 mm stroke with Plain bush bearing, Ordering No: **GU2 020 100 - A**

SOLENOID VALVE

Poppet Type - Series EF

Cat No EF - 01 - 01 - A

POPPET TYPE - G1/4

Features

- ❑ 3/2 NO & NC, 5/2 Spring return and 5/2 Double solenoid
- ❑ No lubrication required
- ❑ Suitable for dirty / dusty environment
- ❑ Mounting provision for individual unit
- ❑ Manual override - (Push, Turn and Lock)
- ❑ Wide range of coil voltages - 12, 24, 48, 110, 220
- ❑ Suitable for manifold mounting (M006, M007, M008 Series)
- ❑ Solenoid coil can be rotated by 360°

Technical Specifications

Model	**NO - EF13615 NC - EF14615**	**EF115615**	**EF125615**
Type	3/2 Spring return	5/2 Spring return	5/2 Double solenoid
Design	Poppet		
Port size	Inlet (1), Outlet (2), Exhaust (3) - G1/4	Inlet (1), Outlet (2, 4), Exhaust (3, 5) - G1/4	
Medium	Compressed air - Filtered - Lubricated / Unlubricated		
Working pressure range	1.5 to 10 bar	2.2 to 10 bar	1.5 to 10 bar
Recommended oil for lubrication	ISO VG32 (Servo system 32)		
Ambient temperature	-10° to +60° C		
Medium temperature	+5° to +50° C		
Flow @	1000 lpm	1000 lpm	1100 lpm
Materials of construction	Aluminium, Nitrile, PU, Brass, Acetal, PBT, Zinc, Steel		
Product weight	0.390 Kg	0.340 Kg	0.450 Kg
Electrical			
Coil width	22 mm		
Voltage (V) ± 10%	AC (50 Hz) - 24, 48, 110, 220		
	DC - 12, 24, 48, 110		
Power consumption	AC - 6 VA, DC - 5 W		
Duty cycle	Continuous		
Class of insulation	Class F		
Type of coil protection	IP65		
Cable entry	PG9 (Suitable for Ø6 - Ø8 OD cable (2wire/3wire)		
Response time ON	14 ms	10 ms	10 ms
Response time OFF	40 ms	47 ms	NA

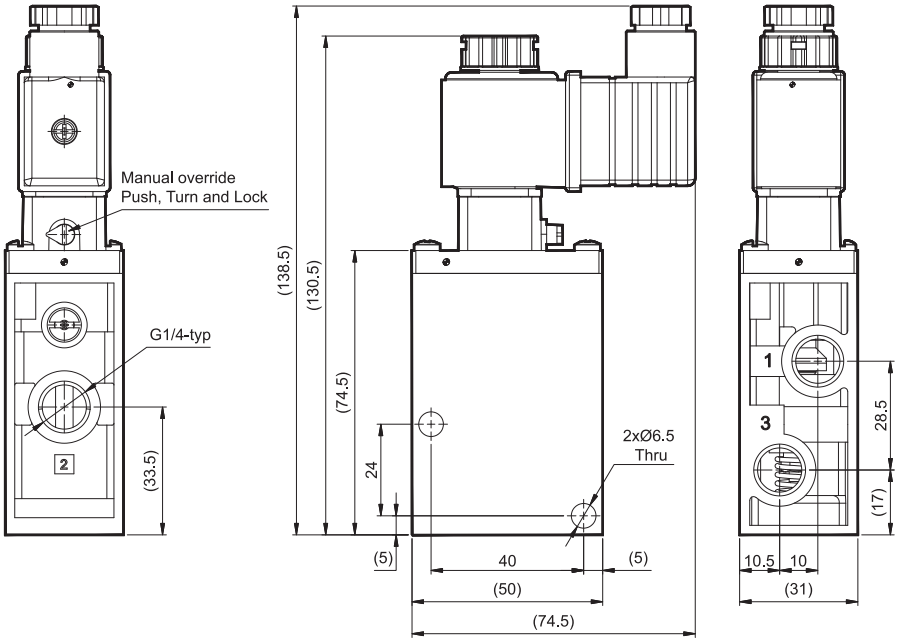
@ - Inlet pressure at 6 bar, and pressure drop at 1 bar

SOLENOID VALVE

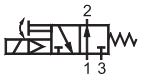
Poppet Type - Series EF

Cat No EF - 01 - 01 - A

3 / 2 Single solenoid spring return valve - Normally Opened

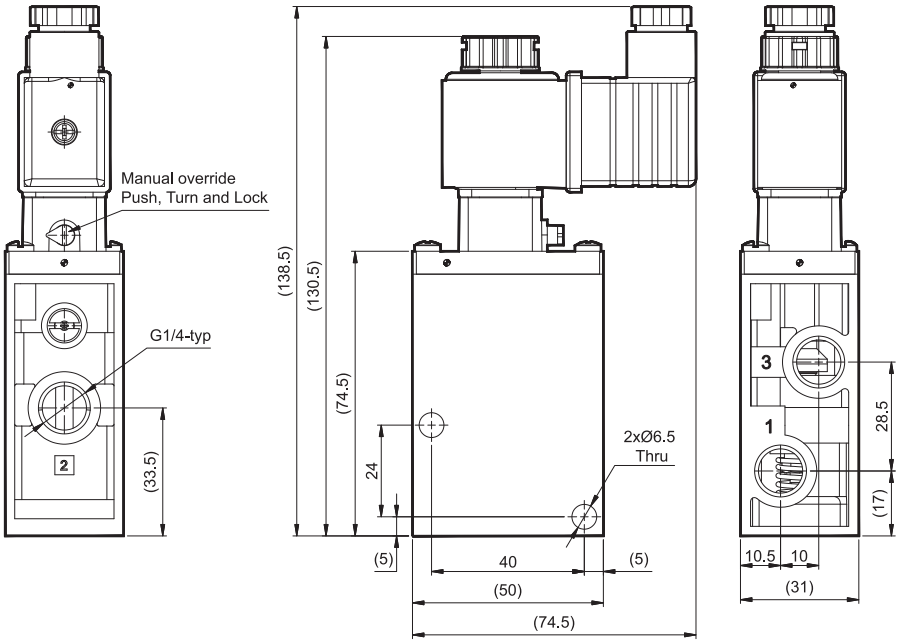


1 - Inlet, 2 - Outlet, 3 - Exhaust

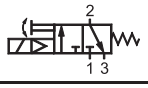
Ordering No*	EF13615
Type	Normally open
Symbol	

* For ordering No, voltage to be added

3 / 2 Single solenoid spring return valve - Normally Closed



1 - Inlet, 2 - Outlet, 3 - Exhaust

Ordering No*	EF14615
Type	Normally closed
Symbol	

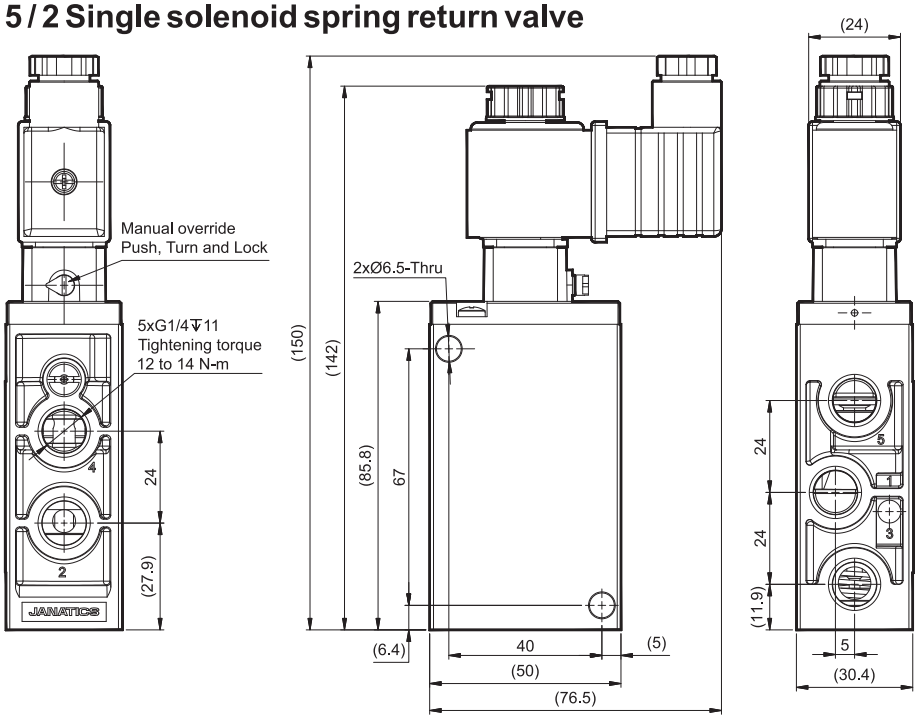
* For ordering No, voltage to be added

SOLENOID VALVE

Poppet Type - Series EF

Cat No EF - 01 - 01 - A

5 / 2 Single solenoid spring return valve

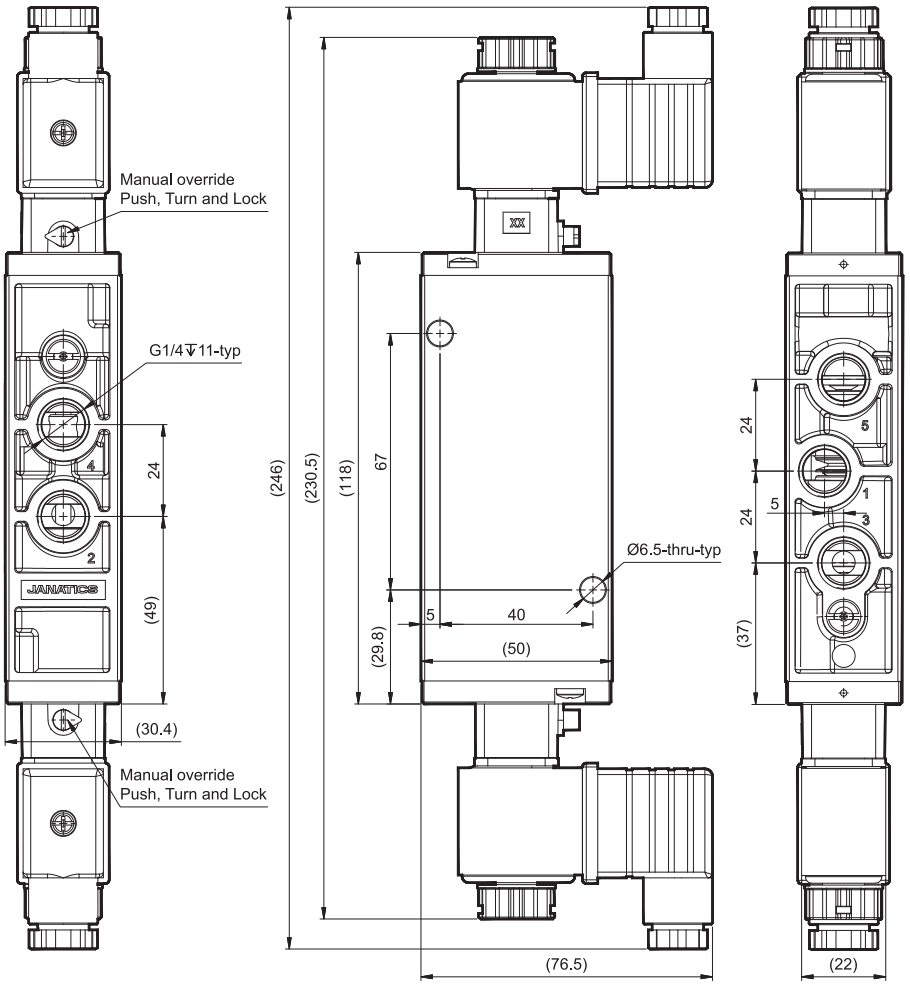


1 - Inlet, 2, 4 - Outlet, 3, 5 - Exhaust

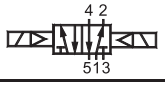
Ordering No*	EF115615
Symbol	

* For ordering No, voltage to be added

5 / 2 Double solenoid valve



1 - Inlet, 2, 4 - Outlet, 3, 5 - Exhaust

Ordering No*	EF125615
Symbol	

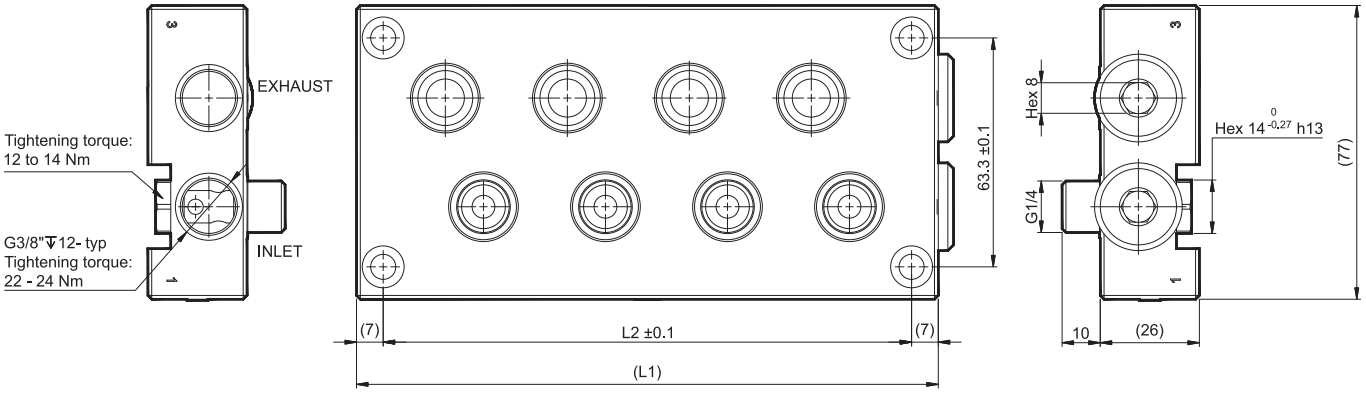
* For ordering No, voltage to be added

SOLENOID VALVE

Poppet Type - Series EF

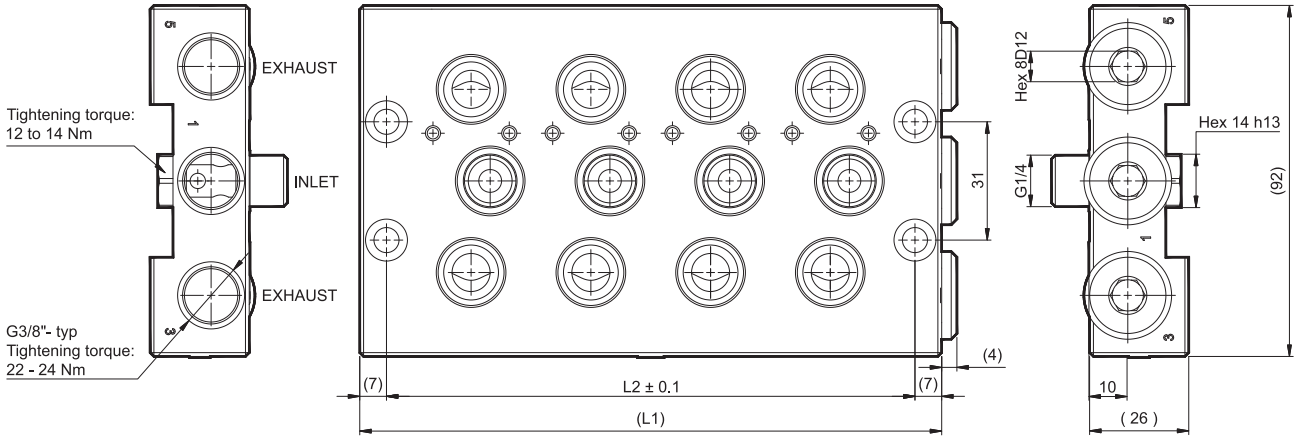
Cat No EF - 01 - 01 - A

Manifold - Type M008 (For 3/2)



Number of valves	L	L1	Ordering no.
2	89.8	75.8	M0080202
4	152.6	138.6	M0080204
6	215.4	201.4	M0080206
8	278.2	264.2	M0080208

Manifold - Type M006 (For 5/2)

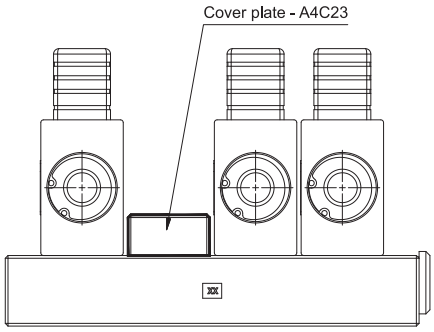


Number of valves	L	L1	Ordering no.
2	89.8	75.8	M0060202
4	152.6	138.6	M0060204
6	215.4	201.4	M0060206
8	278.2	264.2	M0060208

SOLENOID VALVE

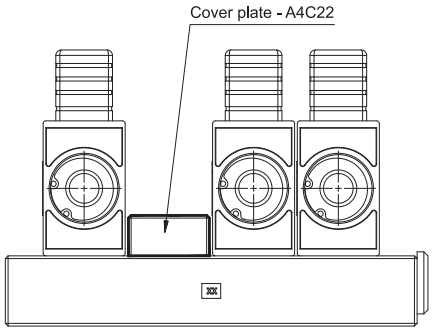
Poppet Type - Series EF

Cover Plate - Type M008 (For 3/2)



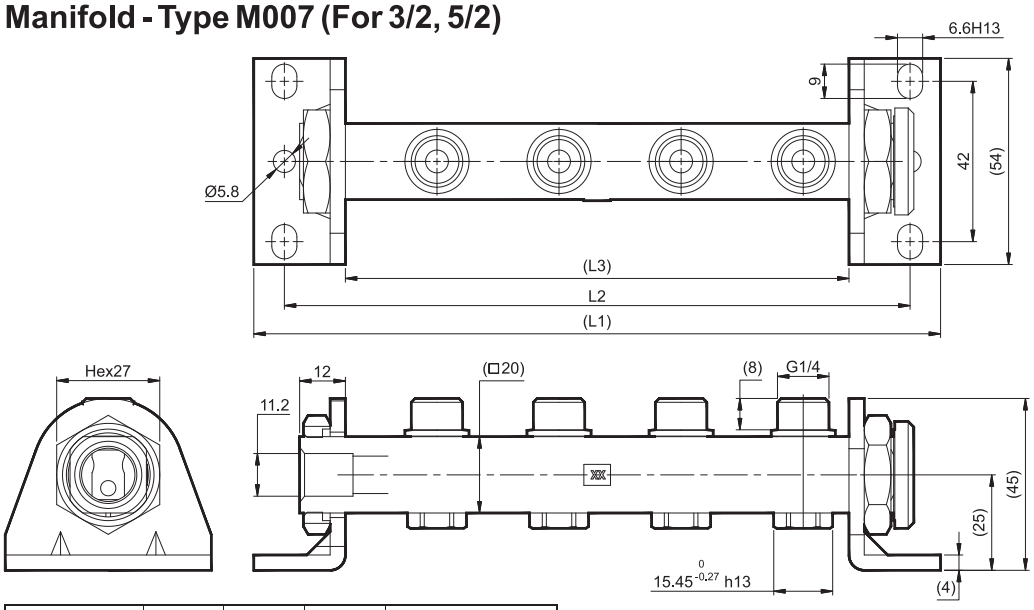
Part name	Ordering No
Cover plate	A4C23

Cover Plate - Type M006 (For 5/2)



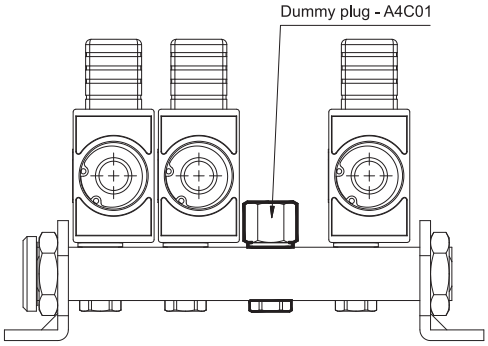
Part name	Ordering No
Cover plate	A4C22

Manifold - Type M007 (For 3/2, 5/2)



Number of valves	L	L1	L3	Ordering no.
2	116	100	68	M0070202
4	180	164	132	M0070204
6	244	228	196	M0070206
8	308	292	260	M0070208

Dummy Plug - Type M007 (For 3/2 & 5/2)



Part name	Ordering No
Dummy plug	A4C01

SOLENOID VALVE

Poppet Type - Series EF

How to order

1. Solenoid valve + " Connectors without LED "

While ordering Solenoid operated valves, please mention the suffix given below along with the model number to indicate the required voltage

A	220V AC	Q	110V DC
B	110V AC	S	48V DC
D	48V AC	W	24V DC
G	24V AC	R	12V DC

Ordering Example:

a. The ordering no. for 3/2 Normally Opened Single solenoid valve, 24V D.C coil with PG cable is **EF13615W**

b. The ordering no. for 3/2 Normally Opened Single solenoid valve, 24V D.C coil with Moulded cable is **EF13615W1**

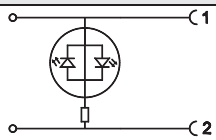
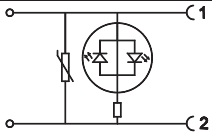
2. Solenoid valve + " Connectors with LED "

While ordering Solenoid operated valves with LED connectors, given below in the corresponding tables.

W

Voltage	
A	220V AC
G	24V AC
W	24V DC

T1

Housing Colour & Indication	
T0	 Transparent housing with Bipolar LED indicator confirming supply voltage
T1	 Transparent housing with Bipolar LED indicator confirming supply voltage plus varistor to give over voltage protection to the source and load

R

LED colour	
R	Red

1

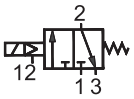
Connection type	
0	PG Cable entry
1	Moulded cable (with 2metre length)

Ordering Example:

The ordering no. for 3/2 Normally Opened Single solenoid valve, 24V DC, connectors with LED of Transparent colour housing with Bipolar LED and varistor, Red colour LED with moulded cable: **EF13615WT1R1**

Coil spare ordering no.

Coil (without connector)	Ordering no.	
Voltage	AC	DC
220	AC23A	- NA -
110	AC23B	DC24Q
48	AC23D	DC24S
24	AC23G	DC24W
12	- NA -	DC24R



HIGH PRESSURE VALVE

Series DPS1

Cat No DPS1 - 01 - 01 - A

HIGH PRESSURE VALVE - G1/2

Features

- ❑ PET Moulding application
- ❑ High pressure range - Maximum 35 bar
- ❑ Mounting provision for individual unit
- ❑ Compact in size
- ❑ Wide range of coil voltages

Function

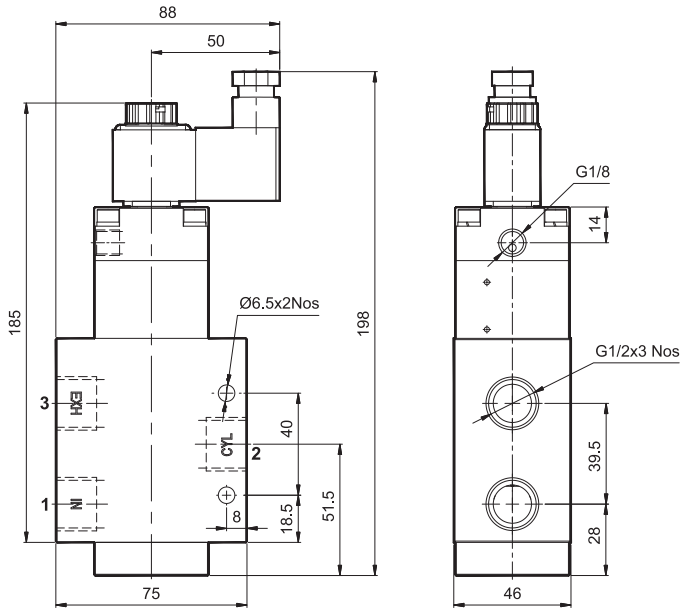
The Single solenoid valve feeds air when the coil is switched 'ON' and Exhaust air when the coil is switched 'OFF'

Technical Specifications

Model	**DPS1476335TR**
Design	Poppet type
Port size	Inlet, Outlet, Exhaust - G1/2, External pilot - G1/8
Medium	Compressed air (Dry) - Filtered - Lubricated
Working pressure range	3 to 35 bar
External pilot pressure	7 to 9 bar
Recommended oil for lubrication	ISO VG32 (Servo system 32)
Ambient temperature	-10° to +60° C
Medium temperature	+5° to +50° C
Flow @	3200 lts/min
Materials of construction	Aluminium, Nitrile, Brass, Acetal, Stainless Steel
Electrical	
Coil width	22 mm
Voltage (V) ± 10%	AC - 24, 48, 110, 220
	DC - 12, 24, 48, 110
Power consumption	AC - 6 VA, DC - 5 W
Response time	45ms to 47ms
On delay	18ms to 23ms
Off delay	90ms to 93ms
Duty cycle	Continuous
Class of insulation	Class F
Type of coil protection	IP65

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

3 / 2 NC Single Solenoid External pilot operated valve with spring return (High Pressure)



1 - Inlet,
2 - Outlet,
3 - Exhaust,
12 - Pilot

HIGH PRESSURE VALVE

Series DPS1

Cat No DPS1 - 01 - 01 - A

How to order

1. High pressure valve + Solenoid coil voltage + "Connector without LED"

While ordering High pressure valve, please mention the suffix given below along with the model number to indicate the required voltage

DPS1476335TR — **W** **1**

Voltage	
A	- 220 AC
B	- 110 AC
D	- 48 AC
G	- 24 AC
P	- 220 DC
Q	- 110 DC
S	- 48 DC
W	- 24 DC
R	- 12 DC

Connector	
Nil	- PG9 / PG7 connector
0	- Without connector
1	- Molded cable connector
2	- JPC connector with 300mm wire

Ordering Example:

a. The ordering no. for G1/2, 3/2 NC, 35 bar Single external pilot operated solenoid valve with 24V D.C coil (22mm) is **DPS1476335TR-W**

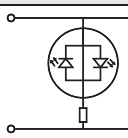
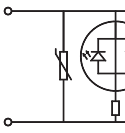
b. The ordering no. for G1/2, 3/2 NC, 35 bar Single external pilot operated solenoid valve with 24V D.C coil (22mm) with Moulded cable is **DPS1476335TR-W1**

2. High pressure valve + Solenoid coil voltage + " Connector with LED "

While ordering High pressure valve with LED connectors, given below in the corresponding tables.

DPS1476335TR — **W** **T1** **R** **1**

Voltage	
A	220V AC
G	24V AC
W	24V DC

Housing Colour & Indication	
T0	 Transparent housing with Bipolar LED indicator confirming supply voltage
T1	 Transparent housing with Bipolar LED indicator confirming supply voltage plus varistor to give over voltage protection to the source and load

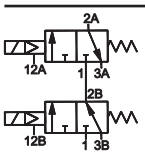
LED colour	
R	Red

Connection type	
0	PG Cable entry
1	Moulded cable (with 2metre length)

Ordering Example:

The ordering no. for G1/2, 3/2 NC, 35 bar Single external pilot operated solenoid valve with 24V D.C coil (22mm) connectors with LED of Transparent colour housing with Bipolar LED and varistor with moulded cable: **DPS1476335TR-WT1R1**

Subject to change



DUAL PRESSURE VALVE

Series DPD1

Cat No DPD1 - 01 - 01 - A

DUAL PRESSURE VALVE - G1/2

Features

- ❑ PET Moulding application
- ❑ High pressure range - Maximum 35 bar
- ❑ Mounting provision for individual unit
- ❑ Compact in size
- ❑ Wide range of coil voltages

Function

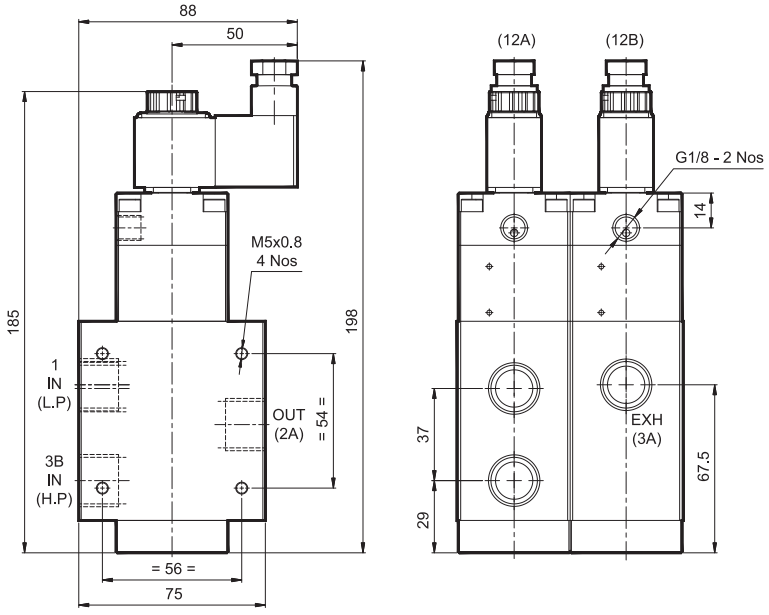
i) Solenoid valve '12A' is ON Low pressure is connected to outlet '2A' (Low Pressure - Pre blow)
ii) Both Solenoid valve 12A & 12B is ON High pressure is connected to out let (High Pressure - blow)
iii) Both Solenoid 'OFF' outlet 2A is connected to Exhaust 3A (Exhaust)

Technical Specifications

Model	**DPD1476335TR**
Design	Poppet type
Port size	Inlet, Outlet, Exhaust - G1/2, External pilot - G1/8
Medium	Compressed air (Dry) - Filtered - Lubricated
Working pressure range	3 to 35 bar
External pilot pressure (ER model)	7 to 9 bar
Recommended oil for lubrication	ISO VG32 (Servo system 32)
Ambient temperature	-10° to +60° C
Medium temperature	+5° to +50° C
Flow @	3200 lts/min
Materials of construction	Aluminium, Nitrile, Brass, Acetal, Stainless Steel
Electrical	
Coil width	22 mm
Voltage (V) ± 10%	AC - 12, 24, 110, 220
	DC - 12, 24, 48, 110
Power consumption	AC - 6 VA, DC - 5 W
Response time	45ms to 47ms
On delay	18ms to 23ms
Off delay	90ms to 93ms
Duty cycle	Continuous
Class of insulation	Class F
Type of coil protection	IP65

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

3 / 2 NC Double Solenoid External pilot operated valve with spring return (Dual Pressure)



1 - Low Pressure Inlet,
3B - High Pressure Inlet,
2A - Outlet,
3A - Exhaust,
12B - External Pilot 1,
12A - External Pilot 2

DUAL PRESSURE VALVE

Series DPD1

Cat No DPD1 - 01 - 01 - A

How to order

1. Dual pressure valve + Solenoid coil voltage + "Connector without LED"

While ordering Dual pressure Valve, please mention the suffix given below along with the model number to indicate the required voltage

DPD1476335TR — W 1

Voltage	
A	- 220 AC
B	- 110 AC
D	- 48 AC
G	- 24 AC
P	- 220 DC
Q	- 110 DC
S	- 48 DC
W	- 24 DC
R	- 12 DC

Connector	
Nil	- PG9 / PG7 connector
0	- Without connector
1	- Molded cable connector
2	- JPC connector with 300mm wire

Ordering Example:

a. The ordering no. for G1/2, 3/2 NC, 35 bar Double external pilot operated solenoid valve with 24V D.C coil (22mm) is **DPD1476335TR-W**

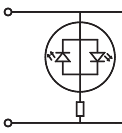
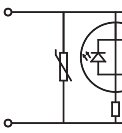
b. The ordering no. for G1/2, 3/2 NC, 35 bar Double external pilot operated solenoid valve with 24V D.C coil (22mm) with Moulded cable is **DPD1476335TR-W1**

2. Dual pressure valve + Solenoid coil voltage + " Connector with LED "

While ordering Dual pressure valve with LED connectors, given below in the corresponding tables.

DPD1476335TR — W T1 R 1

Voltage	
A	220V AC
G	24V AC
W	24V DC

Housing Colour & Indication	
T0	 Transparent housing with Bipolar LED indicator confirming supply voltage
T1	 Transparent housing with Bipolar LED indicator confirming supply voltage plus varistor to give over voltage protection to the source and load

LED colour	
R	Red

Connection type	
0	PG Cable entry
1	Moulded cable (with 2metre length)

Ordering Example:

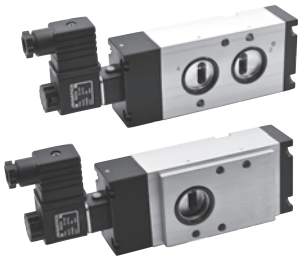
The ordering no. for G1/2, 3/2 NC, 35 bar Double external pilot operated solenoid valve with 24V D.C coil (22mm) connectors with LED of Transparent colour housing with Bipolar LED and varistor with moulded cable: **DPD1476335TR-WT1R1**

Subject to change

COMPACT VALVE
(NAMUR Standard) Series DS3

Cat No DS3 - 01 - 02 - A

COMPACT VALVE - G1/2



Features

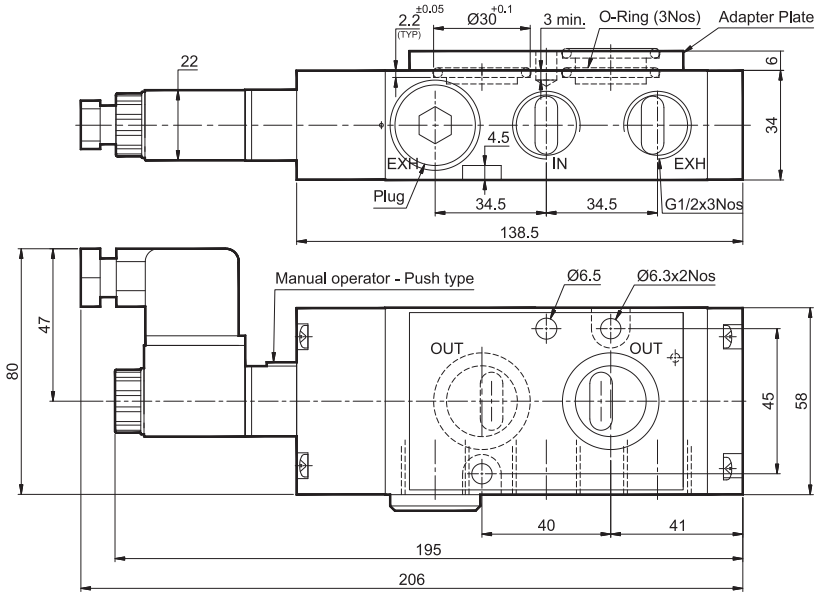
- ❑ Suitable for 'NAMUR' standard fitments
- ❑ Compact size
- ❑ Manual override
- ❑ Wide range of coil voltages
- ❑ Flame proof coil available

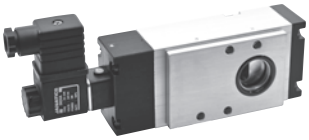
Technical Specifications

Model	DS3	
Type	3/2 & 5/2 Single Solenoid	
Design	Spool type with NAMUR hole pattern	
Port size	Inlet, Exhaust - G1/2; Outlet - NAMUR hole pattern	
Medium	Compressed air - Filtered - Lubricated	
Working pressure range	2 to 10 bar	
Ambient temperature	-10° to +60° C	
Medium temperature	+5° to +50° C	
Flow @	3500 lts/min	
Mounting type	2 holes in Housing to NAMUR standard with Combination head screw (M6x45) - 2nos., O Ring (Ø24.5xØ3) - 3nos.	
Materials of construction	Aluminium, Nitrile, Brass, Steel, Acetal, PBT, Zinc	
Product weight	Single Solenoid - 0.765 Kg	
Electrical		
	Standard	**Flame proof**
Coil width	22 mm	22 mm
Voltage (V) ± 10%	AC (50 Hz) - 24, 48, 110, 220	AC - 220 V
	DC - 12, 24, 48, 110	DC - 24
Power consumption	AC - 6 VA, DC - 5 W	AC - 3 VA, DC - 3 W
Duty cycle	Continuous	Continuous
Class of insulation	Class F	Class H
Type of coil protection	IP65	IP66
Cable entry	PG9 (Suitable for Ø6 - Ø8 OD cable (2wire/3wire)	1.2 meter cable length

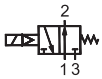
@ - Inlet pressure 6 bar, and pressure drop 1 bar

3 / 2 Single solenoid pilot operated valve with spring return - Normally opened





1 - Inlet, 2 - Outlet, 3 - Exhaust

Ordering No*	DS337SR63
Type	Normally open
Symbol	

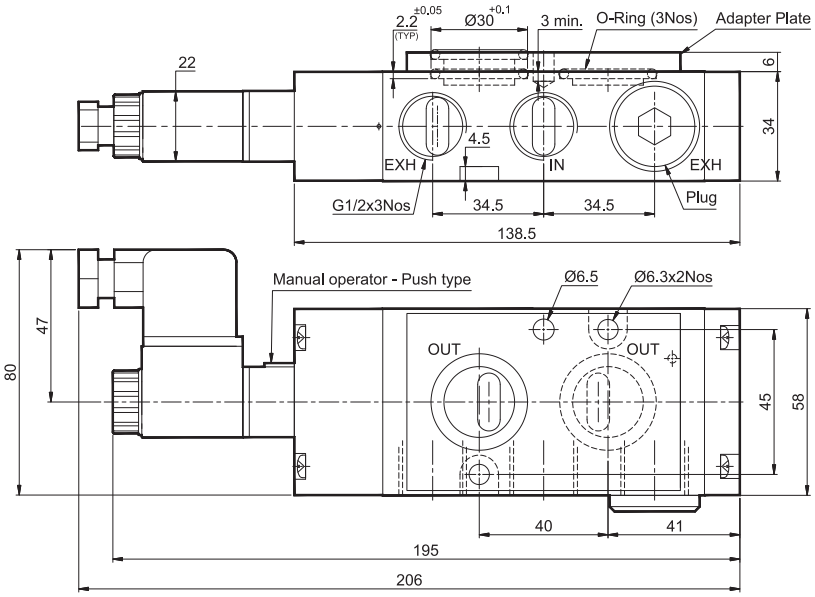
* For Ordering No, voltage to be added

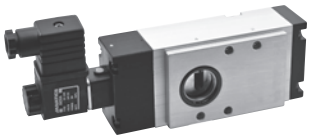
COMPACT VALVE

(NAMUR Standard) Series DS3

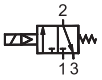
Cat No DS3 - 01 - 02 - A

3 / 2 Single solenoid pilot operated valve with spring return - Normally Closed



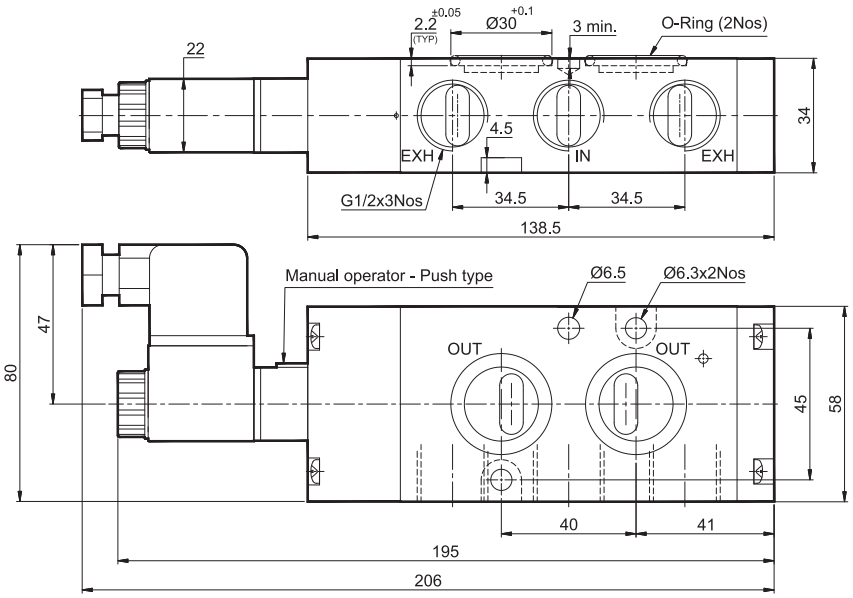


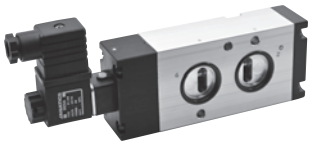
1 - Inlet, 2 - Outlet, 3 - Exhaust

Ordering No*	DS347SR63
Type	Normally closed
Symbol	

* For Ordering No, voltage to be added

5 / 2 Single solenoid pilot operated valve with spring return





1 - Inlet, 2,4 - Outlet, 3,5 - Exhaust

Ordering No*	DS357SR63
Symbol	

* For Ordering No, voltage to be added

COMPACT VALVE
(NAMUR Standard) Series DS3

Cat No DS3 - 01 - 02 - A

How to order

1. Solenoid valve + " Connectors without LED "

While ordering Solenoid operated valves, please mention the suffix given below along with the model number to indicate the required voltage

A	220V AC	Q	110V DC
B	110V AC	S	48V DC
D	48V AC	W	24V DC
G	24V AC	R	12V DC

Ordering Example:

a. The ordering no. for 5/2 Single solenoid spring return valve, 24V D.C coil with PG cable is **DS357SR63-W**

b. The ordering no. for 5/2 Single solenoid spring return valve, 24V D.C coil with Moulded cable is **DS357SR63-W1**

c. The ordering no. for 5/2 Single solenoid spring return valve, 24V D.C with flame proof coil **DS357SR63-WF**

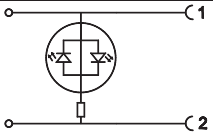
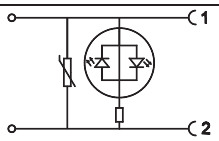
2. Solenoid valve + " Connectors with LED "

While ordering Solenoid operated valves with LED connectors, given below in the corresponding tables.

W

Voltage	
A	220V AC
G	24V AC
W	24V DC

T1

Housing Colour & Indication	
T0	 Transparent housing with Bipolar LED indicator confirming supply voltage
T1	 Transparent housing with Bipolar LED indicator confirming supply voltage plus varistor to give over voltage protection to the source and load

R

LED colour	
R	Red

1

Connection type	
0	PG Cable entry
1	Moulded cable (with 2metre length)

Ordering Example:

The Ordering no for 5/2 Single solenoid valve (1/2"), 24V DC, connectors with LED of Transparent colour housing with Bipolar LED and varistor, Red colour LED with moulded cable: **DS357SR63-WT1R1**

Coil spare ordering no.

Coil (without connector)	Ordering no.	
Voltage	AC	DC
220	AC23A	- NA -
110	AC23B	DC24Q
48	AC23D	DC24S
24	AC23G	DC24W
12	- NA -	DC24R

Flame proof coil spare ordering no.

Coil	Ordering no.	
Voltage	AC	DC
220	SC3056	- NA -
24	- NA -	SC3057

Subject to change

ANTENNA VALVE

DP Series

Cat No DP0 - 01 - 01 - A

3 / 2 ANTENNA VALVE - NO & NC - M5 & G1/8

Features

- ❑ Mechanically actuated valves
- ❑ Electronic controller and Programming effort not required
- ❑ Operator user friendly - easy to adjust and connect
- ❑ External control direct acting type
- ❑ Size: 1/8 & M5 - 3/2 NO & NC
- ❑ Basic valve and Rod lever valve
- ❑ Poppet seating arrangement
- ❑ Nil exhaust overlap

Function

Mechanically actuated valves are used as "signal valves" and it provides a pneumatic signal to the controller. Signal is realized via a stem actuated valve or roller actuated valve. It is used in smaller machines and conveying systems, E.g.. for controlling simple clamping and locking operations in semi-automated assembly and production.

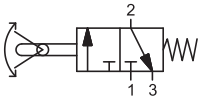
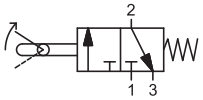
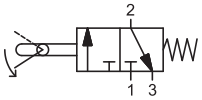
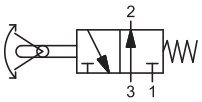
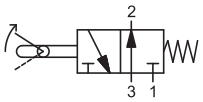
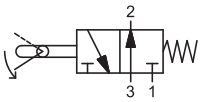
Technical Specifications

Model		DP	
Type		3/2 NO & NC	
Design		Poppet Type	
Port Size		Inlet, Outlet, Exhaust - G1/8	Inlet, Outlet, Exhaust - M5
Medium		Compressed air - Filtered - Lubricated	
Orifice (NW)	mm	4	
Working Pressure range	bar	1 to 8	
Recommended oil for lubrication		ISO VG32 (Servo system 32)	
Ambient temperature	C	-10° to +60°	
Medium temperature	C	+5° to +50°	
Flow @	lpm	NC - 240; NO - 170	NC - 110; NO - 110
Materials of construction		Aluminium, Stainless Steel, Steel, Brass, Polyacetal, Nitrile	
Actuating force	N	28	
Weight	Kg	0.2	

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

3 / 2 Antenna valve - NC & NO Symbol

3 / 2 Antenna Rod lever valve - NC & NO Symbol

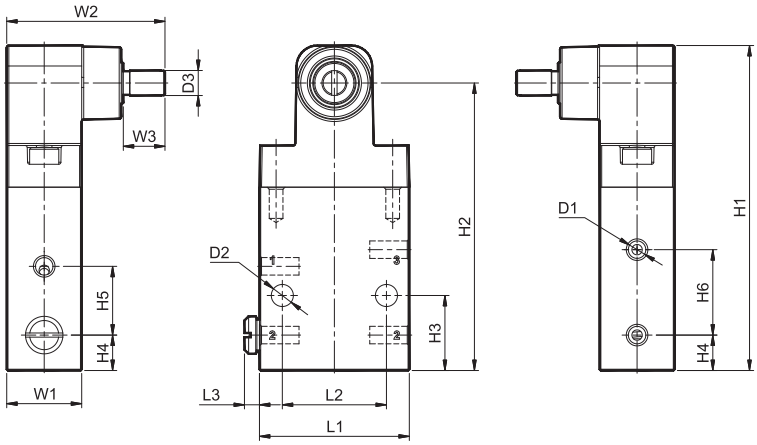
	Valve opens/closes when antenna rod actuates both side	Valve opens/closes when antenna rod actuates right side	Valve opens/closes when antenna rod actuates left side
NC Inlet - 1 Outlet - 2 Exhaust - 3			
NO Inlet - 3 Outlet - 2 Exhaust - 1			

ANTENNA VALVE

DP Series

Cat No DP0 - 01 - 01 - A

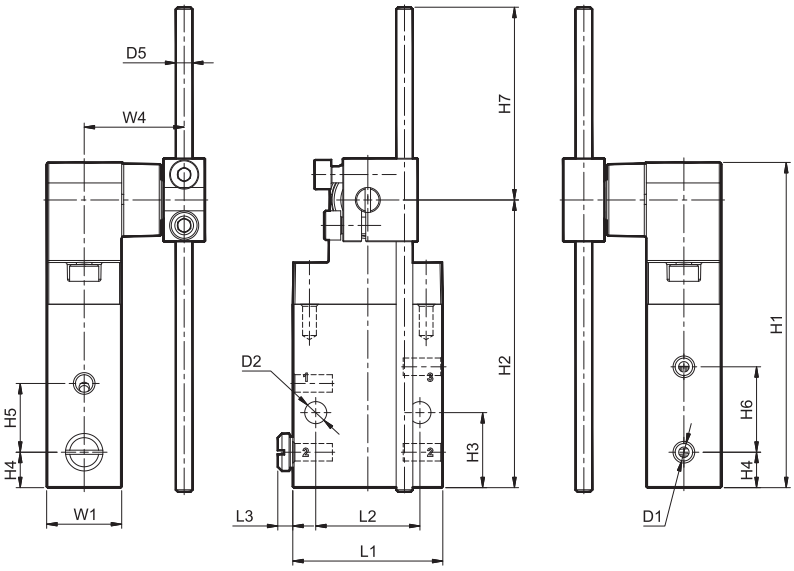
3 / 2 Basic Antenna valve - NC & NO



Ordering No.	Valve opens/closes when antenna rod actuates both side	Valve opens/closes when antenna rod actuates right side	Valve opens/closes when antenna rod actuates left side
M5	DP064O70-BH	DP064O70-RH	DP064O70-LH
G1/8	DP064O60-BH	DP064O60-RH	DP064O60-LH

Size	L1	L2	L3	W1	W2	W3	W4	W5	H1	H2	H3	H4	H5	H6	H7	D1	D2	D3	D4	D5
M5	36	25	3.6	18	38	10	-	-	78	69	18	8.5	16.5	20.5	-	M5	5.3	Ø6	-	-
1/8	36	25	3.3	18	38	10	-	-	78	69	18	8.5	18.5	-	-	G1/8	5.3	Ø6	-	-

3 / 2 Antenna Rod lever valve - NC & NO



Ordering No.	Valve opens/closes when antenna rod actuates both side	Valve opens/closes when antenna rod actuates right side	Valve opens/closes when antenna rod actuates left side
M5	DP064S70-BH	DP064S70-RH	DP064S70-LH
G1/8	DP064S60-BH	DP064S60-RH	DP064S60-LH

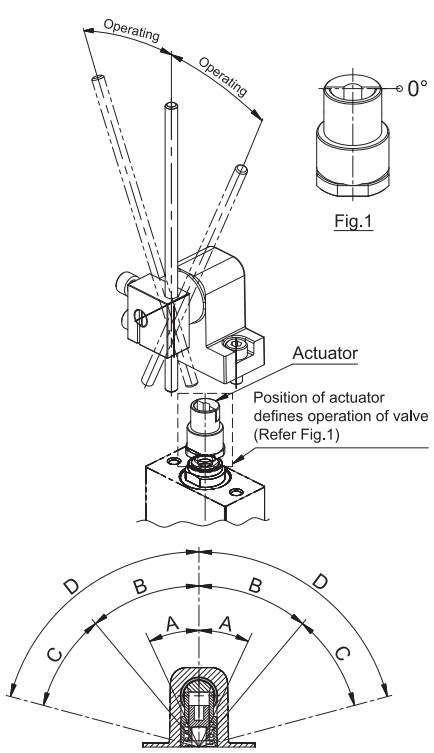
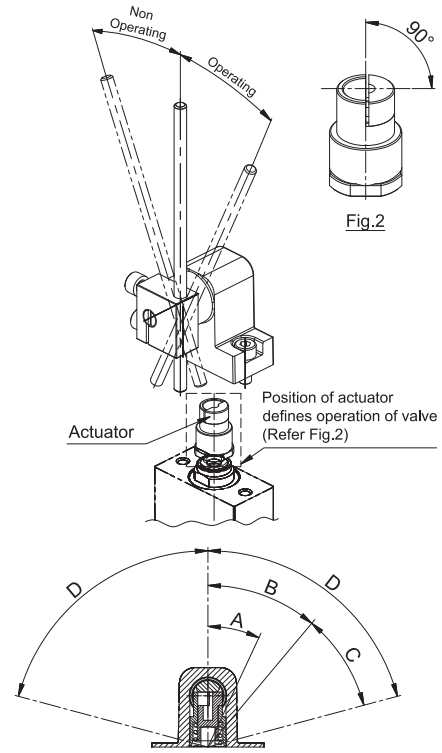
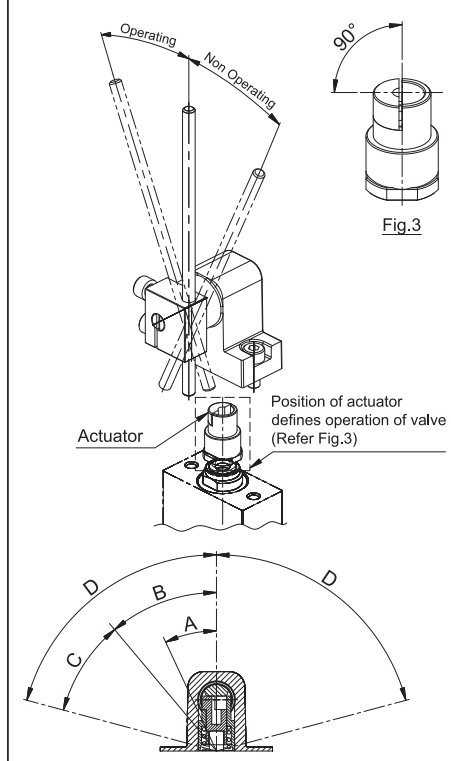
Size	L1	L2	L3	W1	W2	W3	W4	W5	H1	H2	H3	H4	H5	H6	H7	D1	D2	D3	D4	D5
M5	36	25	3.6	18	-	-	24	-	78	69	18	8.5	16.5	20.5	30~140	M5	5.3	-	-	Ø4
1/8	36	25	3.3	18	-	-	24	-	78	69	18	8.5	18.5	-	30~140	G1/8	5.3	-	-	Ø4

ANTENNA VALVE

DP Series

Cat No DP0 - 01 - 01 - A

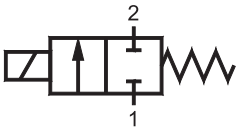
Actuation

Model: BH (Both side actuation)	Model: RH (Right side actuation)	Model: LH (Left side actuation)
Operation - Valve opens / closes when actuated both side	**Operation - Valve opens / closes when actuated right side**	**Operation - Valve opens / closes when actuated left side**
 Fig.1	 Fig.2	 Fig.3

Start of opening (NC)	A	25° ±8°
Start of closing (NO)	A	25° ±8°
Opening angle	B	35° ~ 45°
Over travel angle	C	35° ~ 50°
Travel angle	D	75° ~ 90°

How to order

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



PULSE VALVE

Series PV

Cat No PV - 01 - 01 - B

PULSE VALVE - G3/4", G1", G1½"

Features

- ❑ Compact design, high reliability and Long life
- ❑ Extremely fast opening and closing
- ❑ Continuous duty cycle
- ❑ Good flow characteristics
- ❑ Coil can be rotated by 360°
- ❑ Suitable for dirty / dusty environment

Application

- ❑ Dust filters
- ❑ Bunkers
- ❑ Dust extractors
- ❑ Electrostatic painting cabinets and etc.

Technical Specifications

Model #	**PV0105**	**PV0106**	**PV0108**
Type	2/2 NC		
Port size	3/4"	1"	1½"
Ambient temperature	Thermoplastic diaphragm seal: -20° to +80° C Max. FKM diaphragm seal: -10° to +160° C Max.		
Medium	Compressed air		
Operating pressure range	0.5 to 8 bar		
Response time	100 ms		
Orifice (NW)	25	25	44
Flow rate (lpm)	150	270	774
Electrical			
Coil width	32 mm		
Voltage* ± 10%	AC 230 V	DC 24 V	
Power consumption	24 VA	18 Watts	
Duty cycle	Continuous		
Type of coil protection	IP65		
Class of insulation	Class H		
Materials of construction	Aluminium, Stainless steel, Thermoplastic, Rubber		

For ordering refer How to order page
* Other voltages available on request

Caution:

To ensure proper functioning

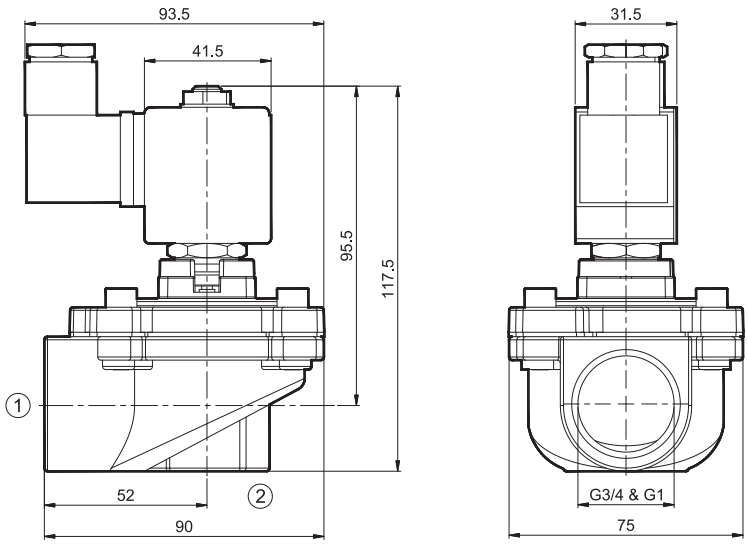
1. Please ensure that inlet port is connected to tubing of ID minimum from the compressor air source.
2. Exhaust should not be restricted.

PULSE VALVE

Series PV

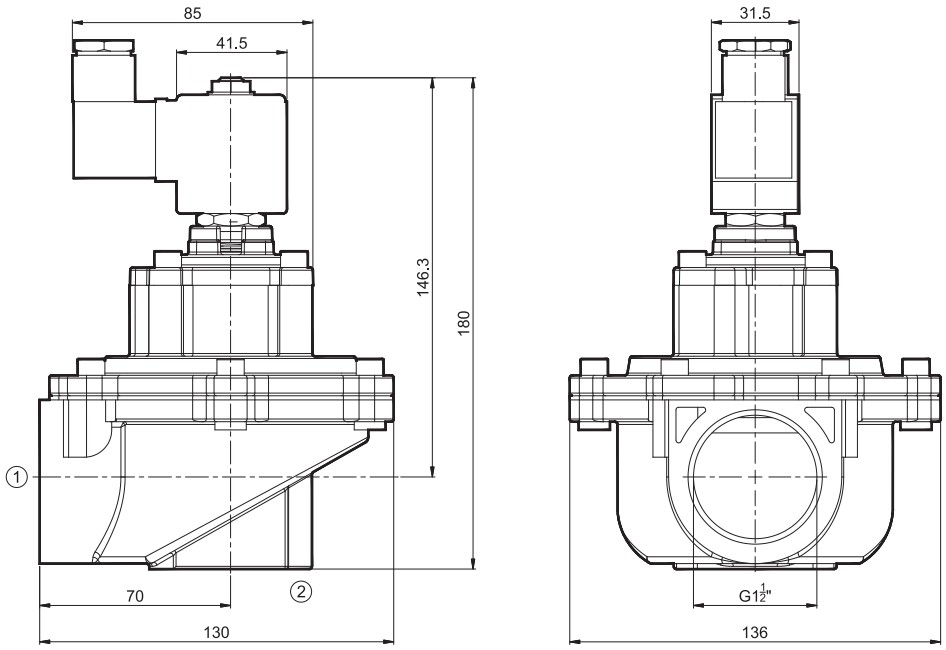
Cat No PV - 01 - 01 - B

2 / 2 Single solenoid pilot operated normally closed Pulse valve - G3/4” & G1”



①-Inlet,
②-Outlet

2 / 2 Single solenoid pilot operated normally closed Pulse valve - G1½”



①-Inlet,
②-Outlet

PULSE VALVE

Series PV

Cat No PV - 01 - 01 - B

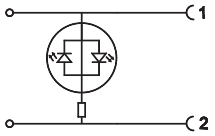
How to order

PV01 | 05 | T | – | W | T0 | R | 0

Port size	
05	G3/4
06	G1
08	G1½

Seals	
T	Thermoplastic
V	FKM

Voltage	
A	230V AC
W	24V DC

Connector type	
Nil	Connector without LED
T0	 Connector with LED - Transparent housing with Bipolar LED indicator confirming supply voltage

LED colour	
Nil	Connector without LED
R	Red

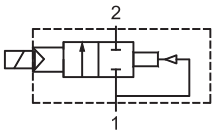
Connection type	
Nil	Connector without LED
0	PG9 Cable entry

*Note: Connector with LED is not applicable for Pulse valve with FKM diaphragm seal.

Ordering Example:

a. The ordering no. for G1½" - 2/2 Single solenoid pilot operated normally closed pulse valve with 24V DC coil and Connector without LED: **PV0108T-W**

b. The ordering no. for G1½" - 2/2 Single solenoid pilot operated normally closed pulse valve with 24V DC coil and Connector with LED (Transparent housing with Bipolar LED indicator, Red colour LED with PG9 cable entry): **PV0108T-WT0R0**



SOLENOID VALVE

Series DMH

Cat No DMH - 01 - 02 - B

2/2 Normally Closed, Pilot operated solenoid valve - G1/2

Features

- ❑ Diaphragm operated poppet seat type
- ❑ Wide range of coil voltages
- ❑ Continues duty cycle
- ❑ Good flow characteristics
- ❑ Compact in size

Technical Specifications

Model		DMH
Type		2/2 NC
Design		Diaphragm type
Port Size		Inlet, Outlet - G1/2
Medium		Water, Hot water, Air
Working pressure range		0.5 to 7 bar
Ambient temperature		-10° to +60° C
Medium Temperature		+5° to +100° C
Type of pilot control		Internal piloted
Type of mounting		In-line installation
Mounting position		Vertical
Nominal size	mm	13
Standard nominal flow rate	lts/min	G1/2 - 2500 (Air flow)
Weight	kg	0.76
Materials of construction		Housing - Brass, Seals: FKM Other components: Stainless Steel, Brass, Copper, Polyamide
Electrical		
Coil width		32 mm
Voltage (V) ± 10%		AC (50 Hz) - 24, 48, 110, 220
		DC - 12, 24, 48, 110
Power consumption		AC - 6W, DC - 8W (12V DC - 9W)
Duty cycle		Continuous
Class of insulation		Class H
Type of coil protection		IP65

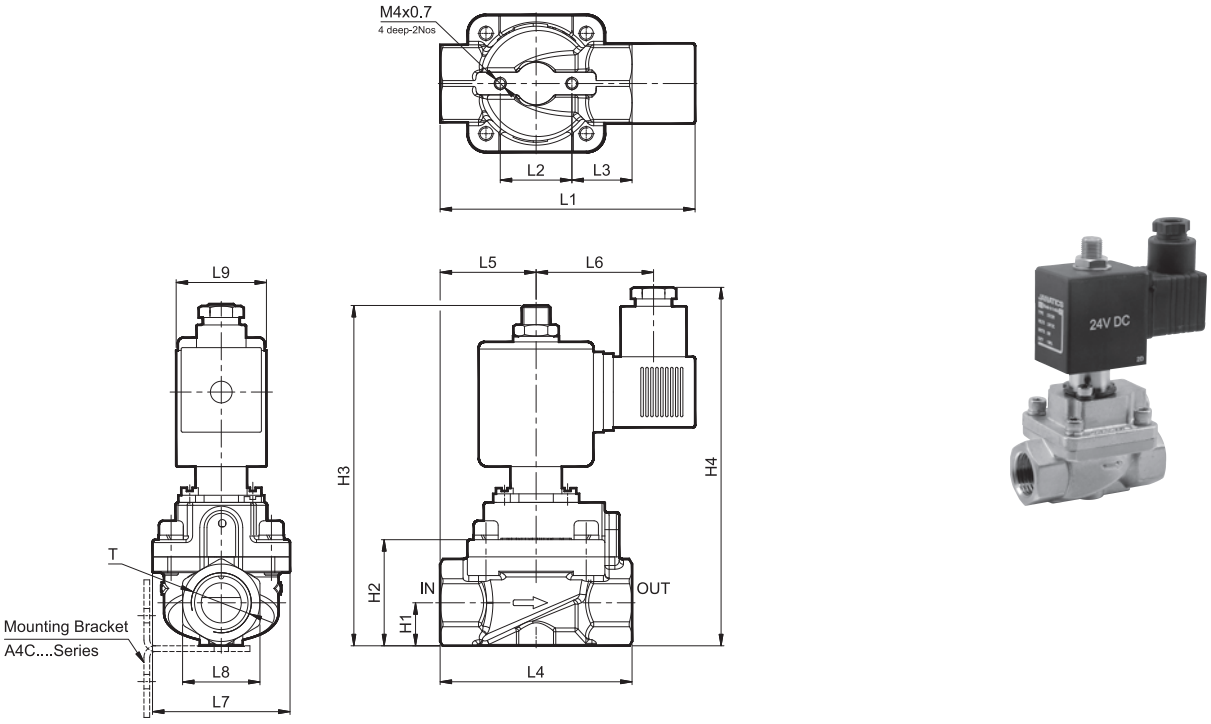
@ Inlet pressure 6 bar, and pressure drop 1 bar

SOLENOID VALVE

Series DMH

Cat No DMH - 01 - 02 - B

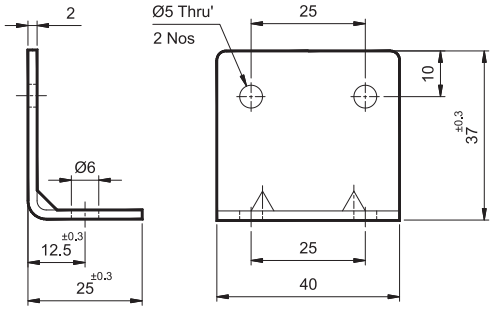
2/2 NC Pilot Operated - G1/2



Model No	T	L1	L2	L3	L4	L5	L6	L7	L8	L9	H1	H2	H3	H4
DMH527B63	G1/2	89	25	21	67	33.5	41	SQ48	27 A/F	32	15	37	120	125

Mounting bracket

Ordering No: A4C18



SOLENOID VALVE

Series DMH

Cat No DMH - 01 - 02 - B

Caution

Air Supply:

1. Use clean air. Do not use compressed air that contains chemicals, synthetic oils, organic solvents, salt, corrosive gases, etc., as it can cause damage or malfunction.
2. Install air filters close to valves on their upstream side. Filtration of 5µm or less should be selected.
3. Compressed air that contains excessive drainage may cause valve malfunctions. To prevent this, install an air dryer, etc.

Water Supply:

1. Use of a fluid containing foreign objects will lead to sticking of foreign objects to the sliding parts of the armature, which can cause malfunction and seal failure. Install a suitable filter (strainer with 100 mesh) immediately upstream from the valve.
2. Install water softening equipment and a filter (strainer) directly upstream from the valve to remove hard sediment or sludge such as calcium and magnesium, since this sludge can cause the valve to malfunction.

Wiring:

1. Install a surge suppressor in parallel with the solenoid to avoid surges.
2. Use a voltage within ±10% of the rated voltage.

Warning

Water Supply:

1. Rapid pressure fluctuation in the system can lead to effects such as water hammer, etc., which may damage the solenoid valve.
2. Before using any fluid, check for material compatibility.
3. When a brass body is used, depending on the water quality, corrosion and internal leakage may occur.
4. The water pressure for tap water is normally 4 bar or less. For a high-rise building, the pressure may be 7 bar. For tap water, take care of the maximum operating pressure differential.
5. When using water or heated water, poor operation or leaks may be caused by dezincification, erosion, corrosion, etc. For corrosion resistance applications, use stainless steel material products.

Design:

1. This valve cannot be used as an emergency shutoff valve, etc.
2. Check the operating conditions before use. Sudden decrease in inlet pressure and sudden increase in outlet pressure repeatedly, the diaphragm will be damaged, leading to the failure of the valve.
3. Extended periods of keeping the solenoid coil in power ON condition will generate heat when continuously energized. Avoid using it in a tightly shut container. Install it in a ventilated area, and do not touch it while it is being energized.

Selection & Mounting:

1. Unstable flow may cause a valve malfunction under any of the following conditions:
   - Low flow from the pump or compressor.
   - Use of several elbows or tees in the circuit.
   - Thin nozzles installed at the end of the piping.
2. Do not mount the coil downward. If the coil position is downward, dust particles in the fluid will cause the actuator assembly to malfunction.
3. If air or water leakage increases, do not operate the product.
4. At the coil area, do not apply external force.

Maintenance:

1. The valve will reach a high temperature during continuous operation. When removing the product, confirm that the valve temperature has dropped to avoid the danger of being burned.

SOLENOID VALVE

Series DMH

Cat No DMH - 01 - 02 - B

Environmental Condition:

1. Use these products within the specified ambient temperature range.
2. Check the compatibility of materials for the specific ambient atmosphere.
3. Check that the product is not in direct contact with corrosive gases, chemicals, seawater, etc.
4. Do not use the product in explosive atmospheres.
5. Do not use the product near sources of radiated heat.

How to order

DM – H – 5 – 2 – 7 – B – 63 – A

Seals	
H	FKM

Material	
5	Brass

Function	
2	NC

NW	
7	13

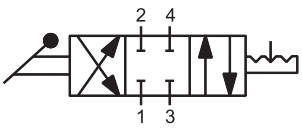
Coil type	
B	32mm

Port	
63	G1/2

Voltage	
A	220V AC
B	110V AC
D	48V AC
G	24V AC
Q	110V DC
S	48V DC
W	24V DC
R	12V DC

Ordering Example:

The ordering no. for Pilot operated valve G1/2, 2/2 NC, 220V AC, FKM seals with Brass body: **DMH527B63-A**



ROTARY SLIDE VALVE

Series DR2

Cat No DR2 - 01 - 01 - A

ROTARY SLIDE VALVE - G1/4

Features

- ❑ Changing the handle from inlet port side to outlet port side is possible at customer end
- ❑ Nil overlap
- ❑ Exhaust port threaded type with silencer
- ❑ Easy handle movement and precise control of the direction
- ❑ Compact and lightweight design
- ❑ Both body mounting and Panel mounting is possible
- ❑ Good flow characteristics

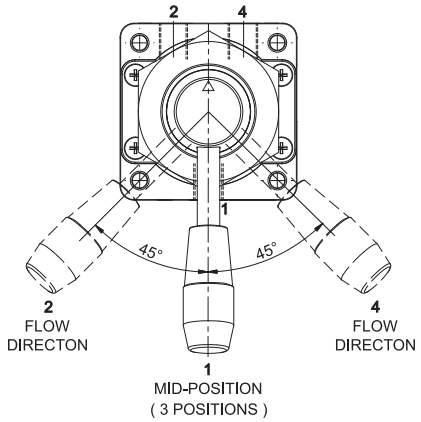
Technical Specifications

Ordering no.		**DR295S61**
Port size		G1/4
Type		4/3 - Hand Lever Operated (Mid-Position Blocked)
Medium		Compressed air - Filtered - Lubricated
Maximum working pressure	bar	10
Recommended oil for lubrication		ISO VG32 (Servo system 32)
Operating Angle		45° (Refer Fig.1&2)
Ambient temperature	C	-10° to +60°
Medium temperature	C	+5° to +50°
Flow @ (1→2, 1→4)	lts/min	650
Materials of construction		Aluminium, Steel, Stainless Steel, Nitrile Rubber, Brass, Ceramic, Polyacetal
Weight	Kg	0.35

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

Handle operation angle and air flow direction

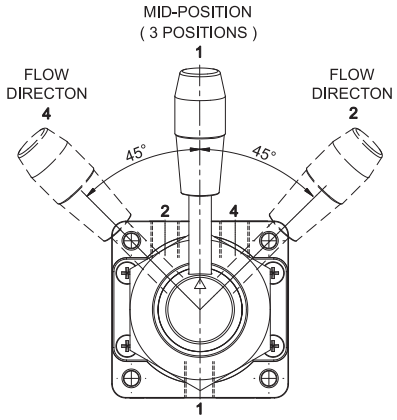
(Handle position inlet port side)



1 - Inlet
2, 4 - Outlet

FIG. 1

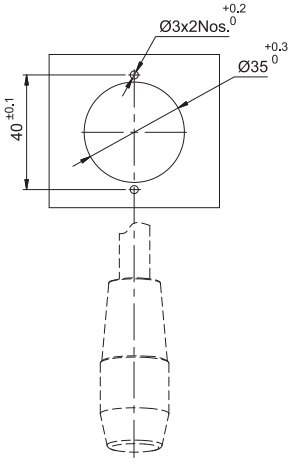
(Handle position outlet port side)



1 - Inlet
2, 4 - Outlet

FIG. 2

Panel cut dimension



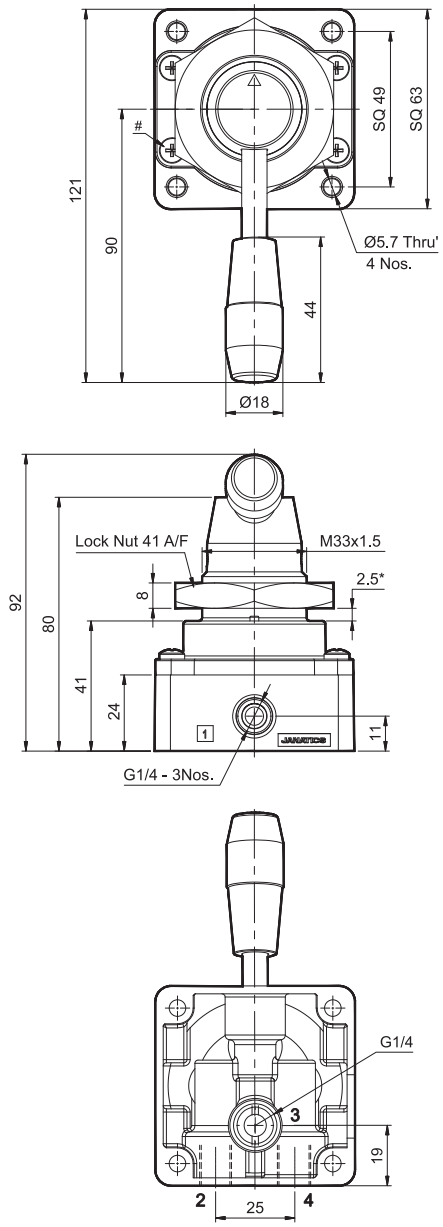
Panel thickness = 3 to 4mm

ROTARY SLIDE VALVE

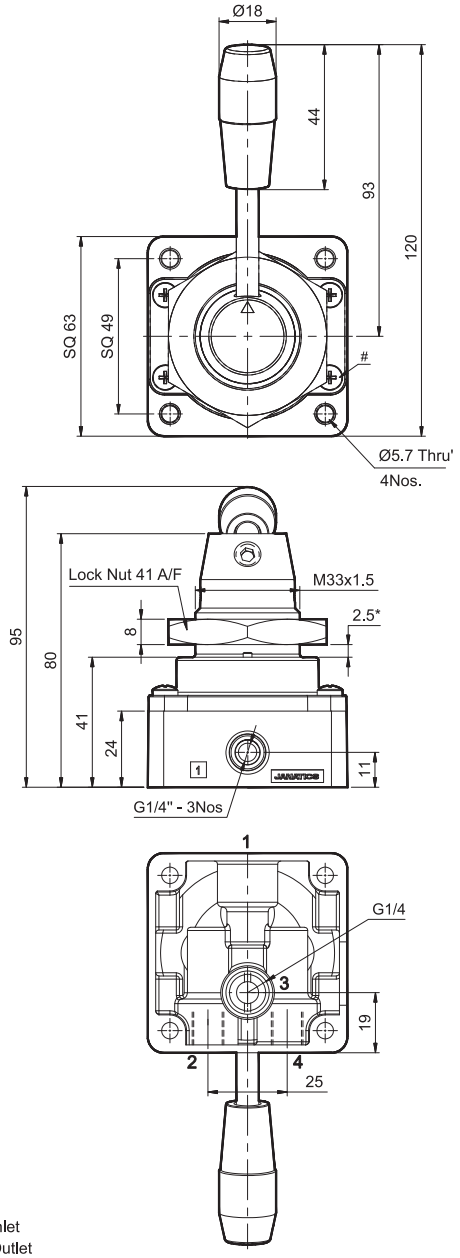
Series DR2

Cat No DR2 - 01 - 01 - A

(Handle position inlet port side)	(Handle position outlet port side)



Screw tightening torque: 2.5 to 3 Nm for M5x0.8

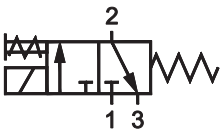


1 - Inlet
2, 4 - Outlet
3 - Exhaust

Caution

Operation method : The valve must be switched to each position correctly. Stopping the handle midway between the extreme positions may cause malfunction

Switch only by hand : Switching the valve by using hammer or other tools or driving it mechanically through the cylinder could cause damage

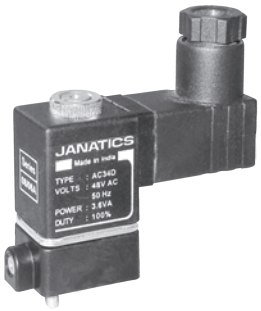


SOLENOID VALVE

Series E5

Cat No E5 - 01 - 01

3 / 2 Direct acting normally closed valve (17 mm)



Features

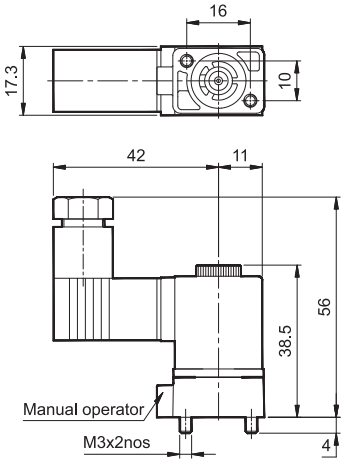
- ❑ Modular type valve
- ❑ Wide range of coil voltages
- ❑ Continuous duty cycle
- ❑ Low temperature of operation
- ❑ Noiseless performance
- ❑ Manual operator - Push type
- ❑ Gang mounting type

Technical Specifications

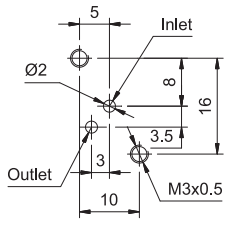
Model	**E54004 ***	
Medium	Compressed air - Filtered	
Ambient temperature	-10° to +60° C	
Medium temperature	+5° to +50° C	
Orifice (NW)	1	
Operating pressure range	8 bar	
Flow rate @	35 lpm	
Electrical		
Coil width	17 mm	
Voltage (V) ± 10%	AC (50 Hz) - 24, 48, 110, 220	DC - 12, 24, 48, 110
Power consumption	3.6 VA	2.5 W
Duty cycle	Continuous	
Type of coil protection	IP65	
Class of insulation	Class F	
Materials of construction	Aluminium, Brass, Stainless Steel, Nitrile, Plastic	

@ Inlet pressure 6 bar, and pressure drop 1 bar

* For Ordering No, voltage to be added. Refer how to order.



Drilling plane detail on mounting base



Caution:

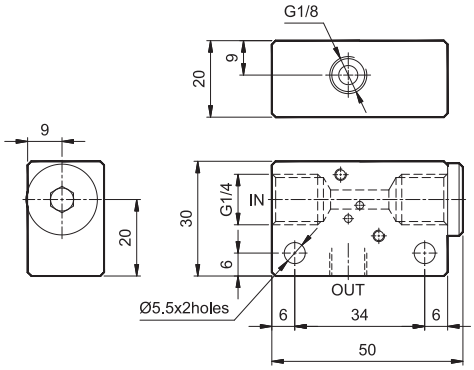
A.C coil can be used on a D.C coil valve, and vice versa.

SOLENOID VALVE

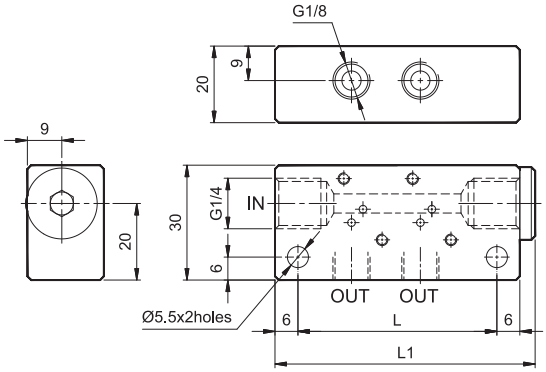
Series E5

Cat No E5 - 01 - 01

Manifold for single valve mounting

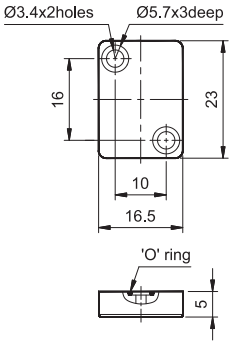


Manifold for 2, 4, 6, 8 valve mounting



For mounting	L	L1	Ordering No.
1 valve	-	-	M170001
2 valves	52	68	M170002
4 valves	88	104	M170004
6 valves	124	140	M170006
8 valves	160	176	M170008

Cover plate assembly



Application:

The cover plate assembly can be used to plug the unutilised position in a manifold.

For eg., if it is required to mount only 3 valves on manifold no. M170004, the fourth position can be plugged and made dummy using one cover plate assembly.

S. No.	Item	Qty	Ordering No
1	Cover plate	1	A3C02
2	O ring	1	
3	Screw - M3 x 6	2	

How to order

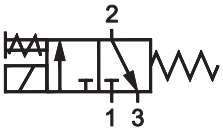
While ordering Solenoid operated valves, please mention this suffix along with the model number to indicate the required voltage

A	220V AC	Q	110V DC
B	110V AC	S	48V DC
D	48V AC	W	24V DC
G	24V AC	R	12V DC

Ordering Example:

The ordering no. for 3/2 direct acting normally closed valve 17mm with 24V D.C coil is **E54004W**

Subject to change



SOLENOID VALVE

Series E4

Cat No E4 - 01 - 01

3 / 2 Direct acting normally closed valve (22 mm)

Features

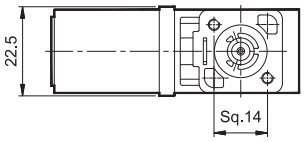
- ❑ Modular type valve
- ❑ Wide range of coil voltages
- ❑ Continuous duty cycle
- ❑ Low temperature of operation
- ❑ Noiseless performance
- ❑ Manual operator - Push type
- ❑ Gang mounting type

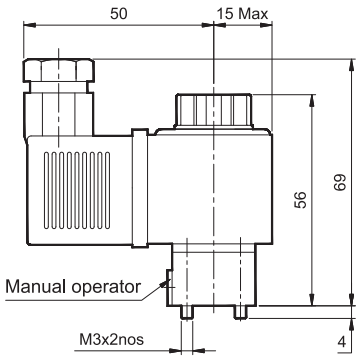
Technical Specifications

Model	E44001 *	
Medium	Compressed air - Filtered	
Ambient temperature	-10° to +60° C	
Medium temperature	+5° to +50° C	
Orifice (NW)	1.2	
Operating pressure range	10 bar	
Flow rate @	50 lpm	
Electrical		
Coil width	22 mm	
Voltage (V) ± 10%	AC (50 Hz) - 24, 48, 110, 220	DC - 12, 24, 48, 110
Power consumption	6 VA	5 W
Duty cycle	Continuous	
Type of coil protection	IP65	
Class of insulation	Class F	
Materials of construction	Aluminium, Brass, Stainless Steel, Nitrile, Plastic	

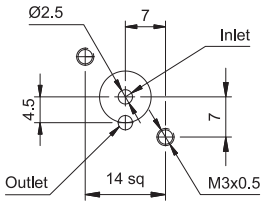
@ Inlet pressure 6 bar, and pressure drop 1 bar

* For Ordering No, voltage to be added. Refer how to order.





Drilling plane detail on mounting base



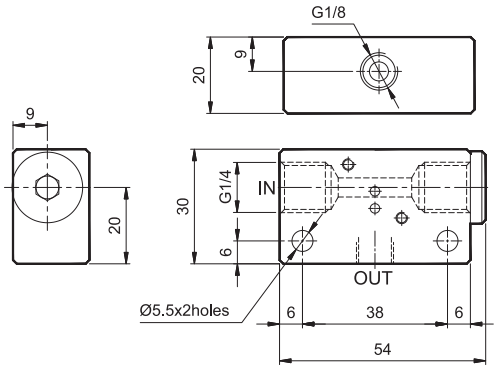
Caution:

A.C coil can be used on a D.C coil valve, and vice versa.

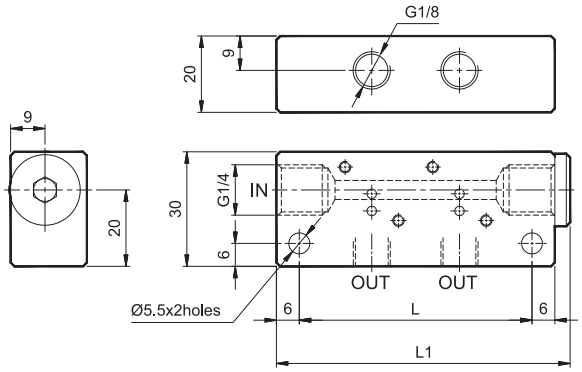
SOLENOID VALVE

Series E4

Manifold for single valve mounting

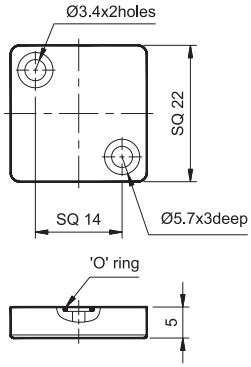


Manifold for 2, 4, 6, 8 valve mounting



For mounting	L	L1	Ordering No
1 valve	-	-	M220001
2 valves	61	77	M220002
4 valves	107	123	M220004
6 valves	153	169	M220006
8 valves	199	215	M220008

Cover plate assembly



Application:

The cover plate assembly can be used to plug the unutilised position in a manifold.

For eg., if it is required to mount only 3 valves on manifold no. M220004, the fourth position can be plugged and made dummy using one cover plate assembly.

S. No.	Item	Qty	Ordering No
1	Cover plate	1	A3C01
2	O ring	1	
3	Screw - M3 x 6	2	

How to order

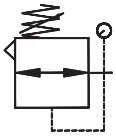
While ordering Solenoid operated valves, please mention this suffix along with the model number to indicate the required voltage

A	220V AC	Q	110V DC
B	110V AC	S	48V DC
D	48V AC	W	24V DC
G	24V AC	R	12V DC

Ordering Example:

The ordering no. for 3/2 direct acting normally closed valve 22mm with 24V D.C coil is **E44001W**

Subject to change



HIGH PRESSURE REGULATOR

Series R5 - G1/2

Cat No R5 - 01 - 01 - A

HIGH PRESSURE REGULATOR - G1/2

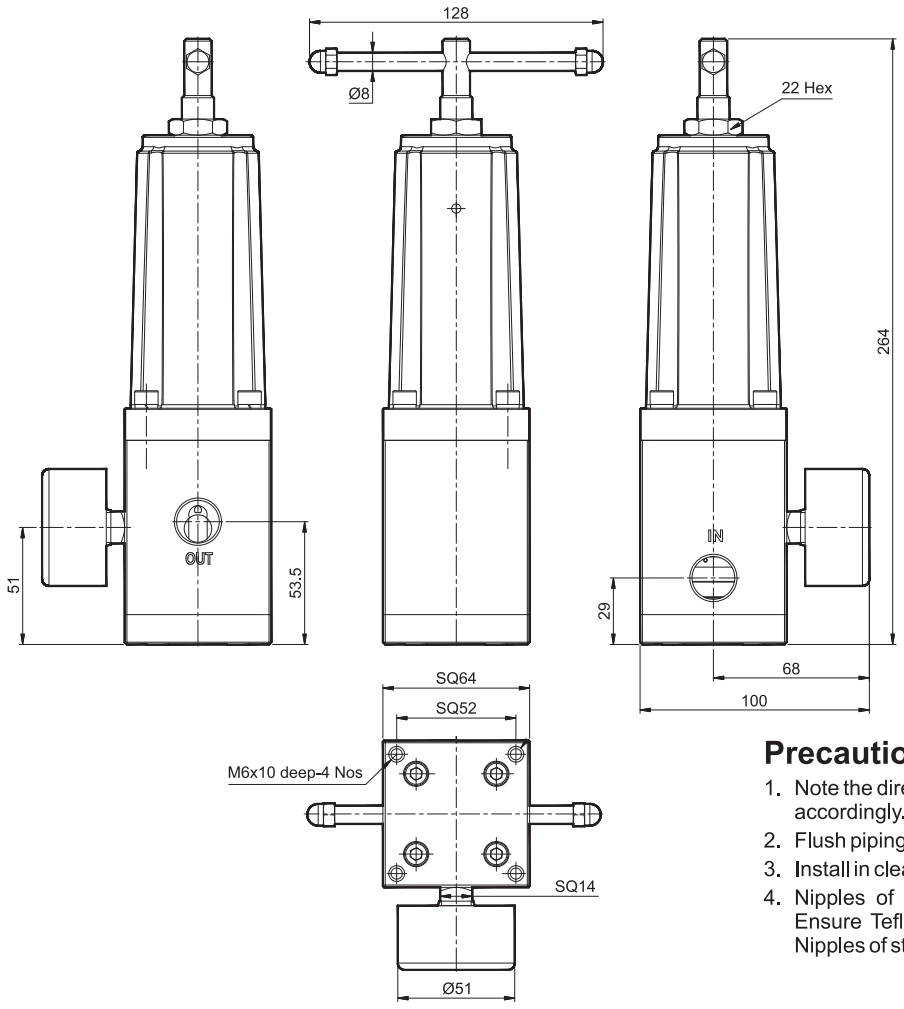
Features

- ❑ Usable for PET moulding
- ❑ High pressure range upto 30 bar
- ❑ Compact easy to service

Technical Specifications

Model	**R55638-F1**
Design	Piston type, Self-relieving
Medium	Compressed air (Dry) - Filtered - Lubricated
Port Size	Inlet, Outlet - G1/2
Pressure gauge port size	G1/8
Flow @	3000 lts/min
Supply pressure range	5 to 30 bar (73 to 450 psi)
Regulating pressure range	0 to 25 bar (0 to 363 psi)
Ambient temperature	-10° to +60° C (14° to 140° F)
Medium temperature	+5° to +50° C (41° to 122° F)
Installation	Vertical
Materials of construction	Aluminium, Nitrile, Brass, Acetal, SG Iron
Weight	2.5 Kg

@ - Supply pressure 7 bar, Set pressure 6 bar.



Precautions

1. Note the direction of flow before installation and connect piping accordingly.
2. Flush piping's 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 doesn't enter the unit during tightening. Nipples of straight threads (G) to be used with sealing washer.

Subject to change

FLOW METER

Series FM3

Cat No FM3 - 01 - 01 - A

FLOW METER - G1/4, G1/2, G3/4

Features

- ❑ 2 line LCD display for monitoring flow rate and total value
- ❑ Fast response
- ❑ Analog output for monitoring flow rate

Application

- ❑ Air audit
- ❑ Leakage detection

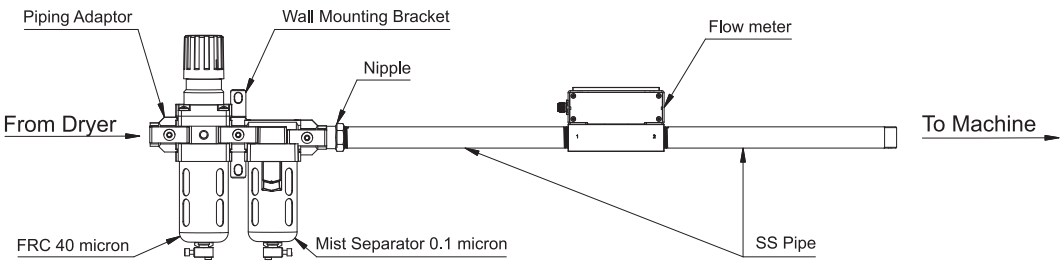
Technical Specifications

Model			FM366XX-WX					
Medium			Compressed air (Filtered# and non-lubricated) or Oxygen					
Port size			G1/4	G1/2			G3/4	
Measuring flow range (ltrs/min)			05 to 250	10 to 500	20 to 1000	30 to 1500	40 to 2000	60 to 3000
Maximum operating pressure			8 bar					
Ambient / Medium temperature			0° to +50° C					
Power supply	Voltage		24V DC ±10%					
	Power consumption		3 Watts					
	Current consumption		0.125A at 24V DC					
Output signal	Analog output	Voltage	0 - 10V (Output impedance 10KΩ, Output accuracy ±3% of full span					
		Current	4 - 20mA (Output impedance 270Ω), Output accuracy ±3% of full span					
	Switch output		Accumulated pulse output, 24V DC, Maximum load current 60mA					
Communication interface			RS485 (MODBUS RTU)					
Accuracy			±4% of full span or less					
Repeatability			±1% of full span or less					
Mounting			Horizontal					
Materials of construction			Aluminium, FKM, Brass					
Weight			1.150 Kg					

- Use a Filter (40 micron) and a Mist separator (0.1 micron) in addition at the inlet.

Precautions

1. Note the direction of air flow before installation and connect piping accordingly.
2. Flush piping 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 does not enter the unit during tightening. Nipples of straight threads (G) to be used with sealing washer.
5. Mount the flow meter in line, next to a dual filter with 40 micron and 0.1 micron respectively coupled with appropriate piping arrangement and maintain the pipe length minimum 300mm as per ISO 6358 standards.

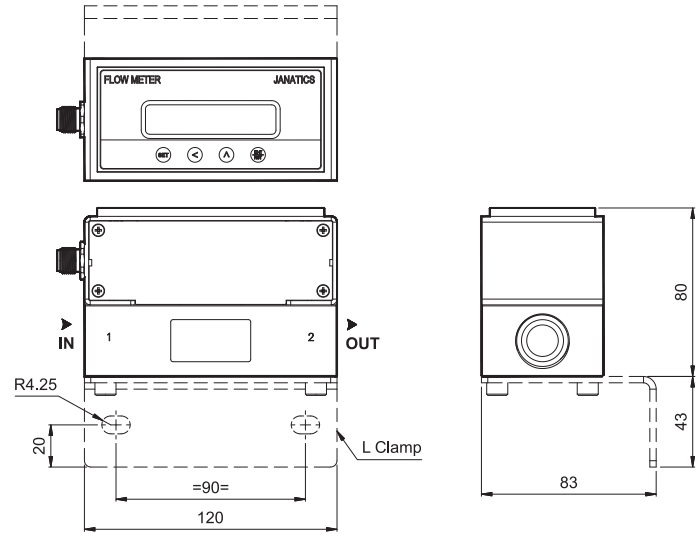


FLOW METER

Series FM3

Cat No FM3 - 01 - 01 - A

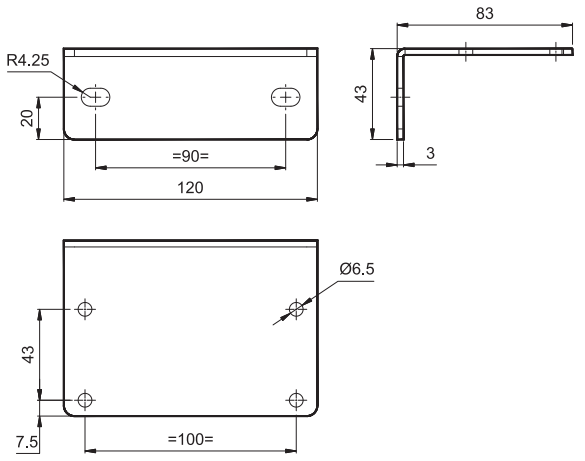
Model FM366XX-WX



Mounting

L Clamp

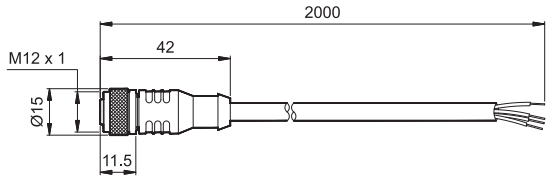
Ordering No: **A90355**



Accessories

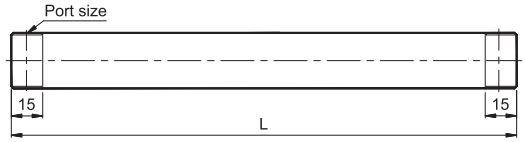
Straight Connector

Ordering No: **AC100-M124S-PVC-2M**



SS Pipe

Port Size	G1/4	G1/2	G3/4
Pipe Length (L)	120	200	300
Ordering No	**A90356**	**A90344**	**A90328**



How to order

FM3 — 664 — 6 — W — 2

Body & Port size	
661	G1/4
663	G1/2
664	G3/4

Flow Range (lpm)	
1	05 to 250 (G1/4)
2	10 to 500 (G1/2)
3	20 to 1000 (G1/2)
4	30 to 1500 (G1/2)
5	40 to 2000 (G3/4)
6	60 to 3000 (G3/4)

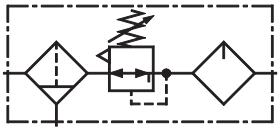
Operating voltage	
W	24V DC

Output signal	
1	0 - 10V DC
2	4 - 20 mA
3	Accumulated pulse
4	RS485

Ordering example:

Flow meter, Port size G3/4, Flow range 60 to 3000 lpm, Operating voltage - 24V DC, Output 4 - 20mA
Ordering No: **FM36646-W2**

Subject to change



AIR PREPARATION UNITS

FRL MODULAR WITH METALBOWL Series FRLM1-MM

Cat No FRLM1-MM/W - 01 - 01 - A

FILTER - REGULATOR - LUBRICATOR, MODULAR - 1/4, 3/8, 1/2, 3/4, 1”

Individual Filter, Regulator & Lubricator units easily removable / mountable without disturbing the pipe line

Features

- ❑ For higher pressure range above 10 bar
- ❑ Modular type for easy and fast maintenance
- ❑ Suitable for wall mounting
- ❑ Filter
  - Bronze filtering element
  - Separator and shield for efficient moisture separation
  - Press type manual drain for easy operation
- ❑ Regulator
  - Diaphragm operated, relieving type
  - Pressure compensated by balanced poppet
  - Flow compensated (with venturi) in models FRLM14, FRLM15 and FRLM17 for faster response
  - Non raising 'Press to lock' adjusting knob for locking at any set pressure
- ❑ Lubricator
  - Fog / Mist type Lubricator
  - Fine adjustment of lubrication
  - Lubrication proportional to flow
- ❑ Metal bowl
  - Aluminium
  - Bayonet type on FRCLM17 models
  - Direct mounting type on FRLM13, FRLM14, FRLM15 models
- ❑ Good flow and regulating characteristics

Model FRLM1.../W

Model FRLM1.../S

Technical Specifications

Model		FRLM13-MM/W FRLM13-MM/S	FRLM14-MM/W FRLM14-MM/S	FRLM15-MM/W FRLM15-MM/S	FRLM17-MM/W FRLM17-MM/S	FRLM17-MM/W FRLM17-MM/S
Medium		Compressed air				
Port size		G1/4	G3/8	G1/2	G3/4	G1
Pressure gauge port size		G1/8			G1/4	
Flow rate in Nl / min @		500	2000	3500	3500	5000
Max supply pressure in bar		20				
Regulating pressure range in bar #		0.2 - 2, 0.2 - 4, 0.5 - 7, 0.5 - 10 (Standard)				
Ambient temperature		-10° to +60° C				
Medium temperature		+5° to +50° C				
Filteration in microns #		1, 5, 25, 40 (standard), 50, 100				
Min operating flow in Nl / min		12	40	45	50	50
Bowl capacity Filter in ml (at maximum condensate level)		9	64	90	165	165
Bowl capacity Lubricator in ml (at maximum condensate level)		20	100	200	200	200
Recommended oil		ISO VG 32 (Servo System 32)				
Bowl material		Aluminium				
Installation		Any position for Regulator. Vertical for Filter and Lubricator				
Materials of construction		Aluminium, Bronze, Brass, Steel, Acetal, SS, Nitrile				
Optional accessories *		Pressure gauge				
Weight in Kg	FRLM1-MM/W	0.64	1.35	2.64	4.57	4.55
	FRLM1-MM/S	0.61	1.30	2.59	4.27	4.15

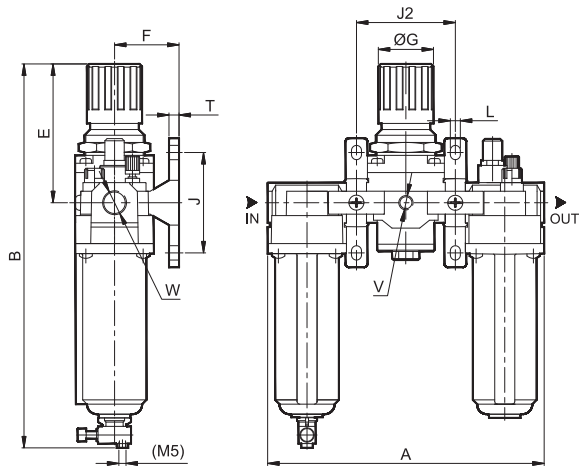
@ Supply pressure 7 bar, Set pressure 6 bar, Pressure drop Dp = 1 bar (For standard models).
# For details see " How to order ".
* For details refer optional accessories Cat No APA - 01 - C

AIR PREPARATION UNITS

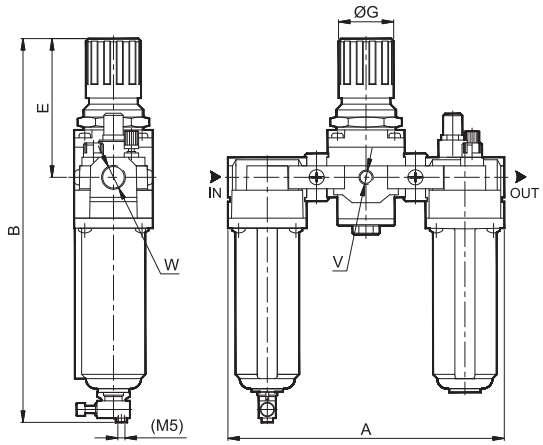
FRL MODULAR WITH METALBOWL Series FRLM1-MM

Cat No FRLM1-MM/W - 01 - 01 - A

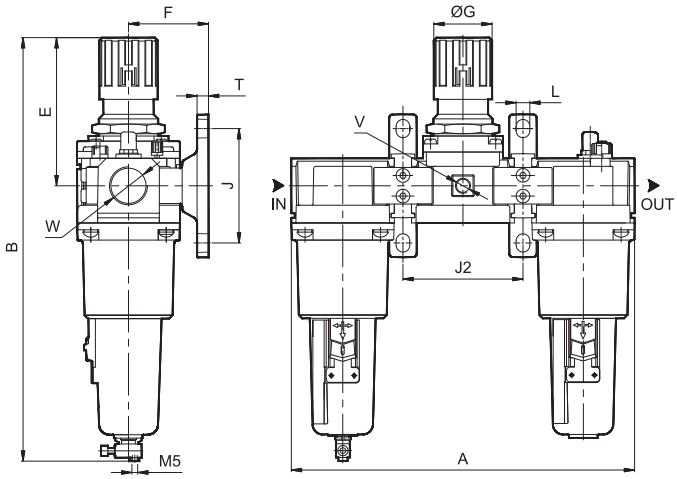
Model FRLM13, 14, 15...-MM/W



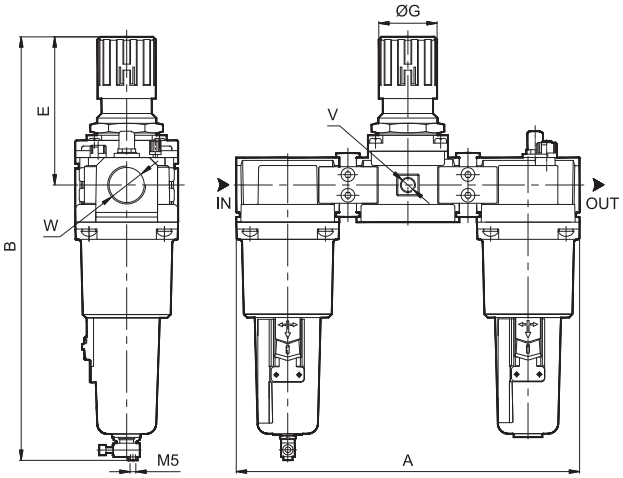
Model FRLM13, 14, 15...-MM/S



Model FRLM17...-MM/W



Model FRLM17...-MM/S



Model	W	V	A	B	E	F	ØG	J	L	T	J2
FRLM13-MM/W	G1/4	G1/8	146	170	68	35	28	50	7	7	52
FRLM14-MM/W	G3/8	G1/8	192	270	95	45	40	70	7	7	69
FRLM15-MM/W	G1/2	G1/8	241	328	125	55	51	90	9	9	86
FRLM17-MM/W	G3/4	G1/4	300	366	130	70	51	100	12	10	105
FRLM17-MM/W	G1	G1/4	300	366	130	70	51	100	12	10	105

Model	W	V	A	B	E	ØG
FRLM13-MM/S	G1/4	G1/8	146	170	68	28
FRLM14-MM/S	G3/8	G1/8	192	270	95	40
FRLM15-MM/S	G1/2	G1/8	241	328	125	51
FRLM17-MM/S	G3/4	G1/4	300	366	130	51
FRLM17-MM/S	G1	G1/4	300	366	130	51

Pressure Setting

Pull the knob and adjust by turning the knob clockwise to increase the pressure. Push the knob back to its locked position. (Turning the knob counter clockwise will reduce the pressure)

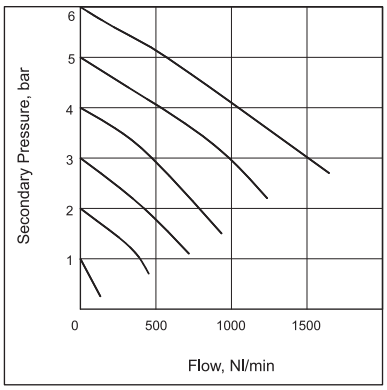
AIR PREPARATION UNITS

FRL MODULAR WITH METALBOWL Series FRLM1-MM

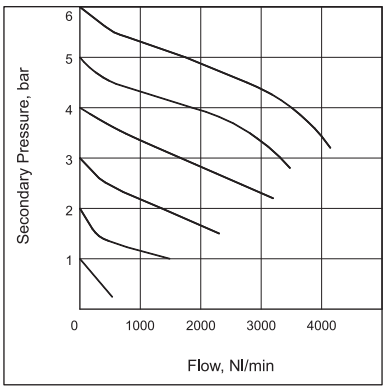
Cat No FRLM1-MM/W - 01 - 01 - A

Flow Graphs

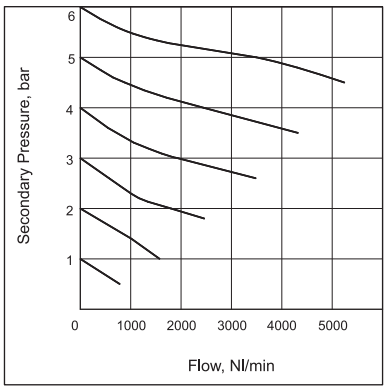
1/4" FRLM



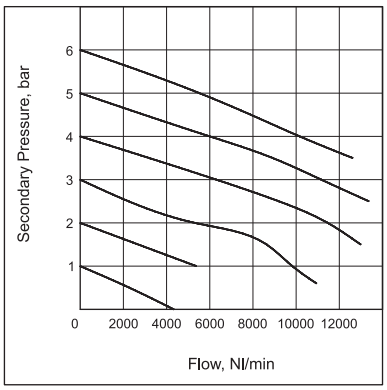
3/8" FRLM



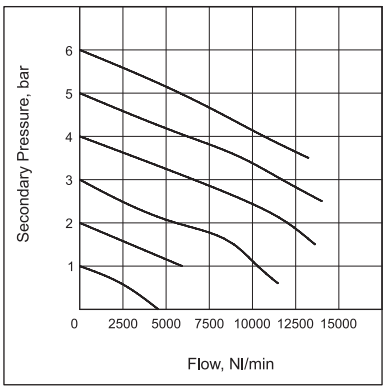
1/2" FRLM



3/4" FRLM



1" FRLM



Flow graphs are for 40µm filtrations only

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 doesn't enter the unit during tightening. Nipples of straight threads (G) to be used with sealing washer.

How to order

FRLM1 — 462 — 3 — 4 — – — M — M — / — W

Body & Port size	
361	G1/4
462	G3/8
563	G1/2
764	G3/4
765	G1

Filtration in µm		
0	- 1	
1	- 5	
2	- 25	
3	- 40	(Standard)
4	- 50	
5	- 100	

Pressure range	
1	0.2 - 2 bar
2	0.2 - 4 bar
3	0.5 - 7 bar
4	0.5 - 10 bar (Standard)

Metal bowl	
M	Without level indicator
L#	With level indicator

- Applicable for L14, L15, L17 models only.

Drain arrangement	
M	Manual drain (Standard)

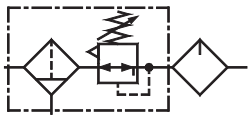
Mounting	
W	Wall mounting bracket
S	Spacer

Ordering example:

Filter Regulator Lubricator Modular - 3/8 size (with G3/8 port) with Wall mounting bracket, 5µm filter and pressure range 0.5 - 7 bar, Metal bowl without level indicator and Manual drain : Ordering No : **FRLM 146213-MM/W**

If ordered as 3/8 FRLM, our standard model **FRLM 146234**, with 40µm Filter and pressure range 0.5 - 10 bar will be supplied.

Subject to change



AIR PREPARATION UNITS

FRCL MODULAR WITH METAL BOWL Series FRCLM1-MM

Cat No FRCLM1-MM/W - 01 - 01 - A

FILTER REGULATOR COMBINATION - LUBRICATOR, MODULAR - 1/4, 3/8, 1/2, 3/4, 1”

Individual Filter- Regulator combination & Lubricator units easily removable / mountable without disturbing the pipe line

Features

- ❑ For higher pressure range above 10 bar
- ❑ Modular type for easy and fast maintenance
- ❑ Suitable for wall mounting
- ❑ Filter
  - Bronze filtering element
  - Separator and shield for efficient moisture separation
  - Press type manual drain for easy operation
- ❑ Regulator
  - Diaphragm operated, relieving type
  - Pressure compensated by balanced poppet
  - Flow compensated (with venturi) in models FRCLM14, FRCLM15 and FRCLM17 for faster response
  - Non raising 'Press to lock' adjusting knob for locking at any set pressure
- ❑ Lubricator
  - Fog / Mist type Lubricator
  - Fine adjustment of lubrication
  - Lubrication proportional to flow
- ❑ Metal bowl
  - Aluminium
  - Bayonet type on FRCLM17 models
  - Direct mounting type on FRCLM13, FRCLM14, FRCLM15 models
- ❑ Good flow and regulating characteristics

Model FRCLM1.../W

Model FRCLM1.../S

Technical Specifications

Model		FRCLM13-MM/W FRCLM13-MM/S	FRCLM14-MM/W FRCLM14-MM/S	FRCLM15-MM/W FRCLM15-MM/W	FRCLM17-MM/W FRCLM17-MM/S	FRCLM17-MM/W FRCLM17-MM/S
Medium		Compressed air				
Port size		G1/4	G3/8	G1/2	G3/4	G1
Pressure gauge port size		G1/8			G1/4	
Flow rate in lts / min @		500	1250	2800	3500	4000
Max supply pressure in bar		20				
Regulating pressure range in bar #		0.2 - 2, 0.2 - 4, 0.5 - 7, 0.5 - 10 (Standard)				
Ambient temperature		-10° to +60° C				
Medium temperature		+5° to +50° C				
Filtration in microns #		1, 5, 25, 40 (standard), 50, 100				
Min operating flow in Nl / min		12	40	45	50	50
Bowl capacity FRC in ml (at maximum condensate level)		9	64	90	165	165
Bowl capacity Lubricator in ml (at maximum condensate level)		20	100	200	200	200
Recommended oil		ISO VG 32 (Servo System 32)				
Bowl material		Aluminium				
Installation		Vertical (as shown in the picture)				
Materials of construction		Aluminium, Bronze, Brass, Steel, Acetal, SS, Nitrile				
Optional accessories *		Pressure gauge				
Weight in Kg	FRCLM1-MM/W	0.55	1.12	2.3	3.79	3.75
	FRCLM1-MM/S	0.52	1.07	2.21	3.65	3.59

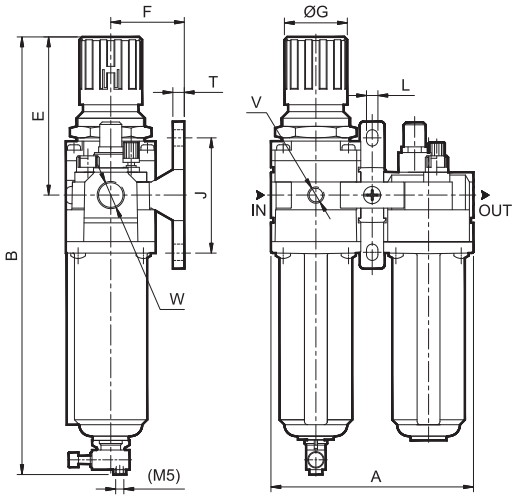
@ Supply pressure 7 bar, Set pressure 6 bar, Pressure drop Δp = 1 bar (For standard models).
# For details see " How to order ".
* For details refer optional accessories Cat No APA - 01 - C

AIR PREPARATION UNITS

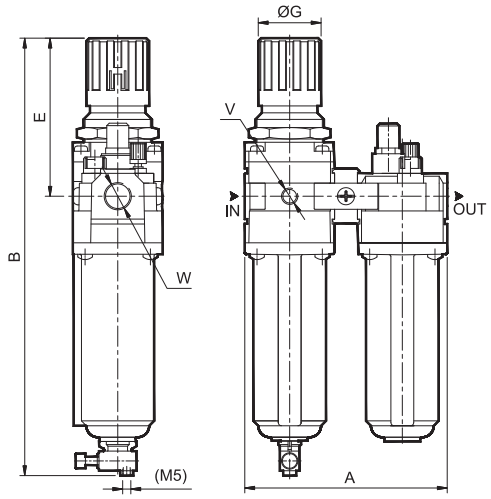
FRCL MODULAR WITH METAL BOWL Series FRCLM1-MM

Cat No FRCLM1-MM/W - 01 - 01 - A

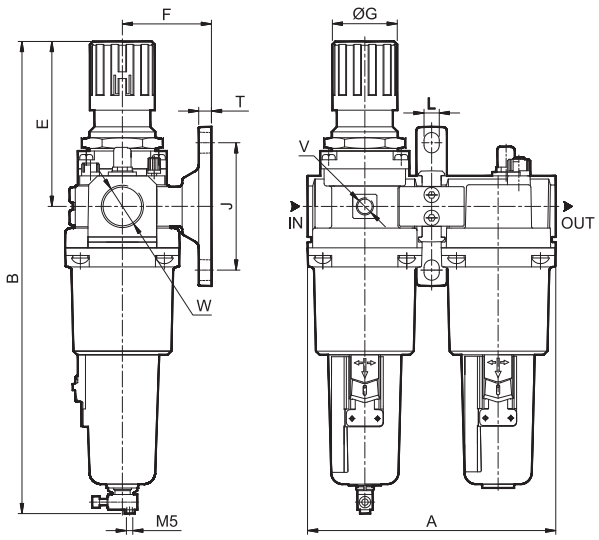
Model FRCLM1...-MM/W



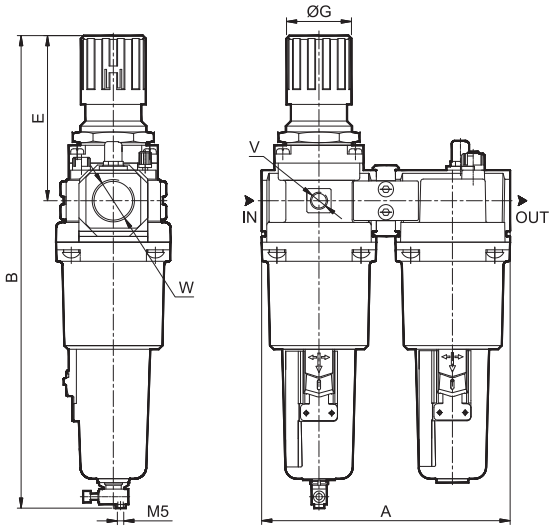
Model FRCLM1...-MM/S



Model FRCLM17...-MM/W



Model FRCLM17...-MM/S



Model	W	V	A	B	E	F	ØG	J	L	T
FRCLM13-MM/W	G1/4	G1/8	92	170	68	35	28	50	7	7
FRCLM14-MM/W	G3/8	G1/8	124	265	95	45	40	70	7	7
FRCLM15-MM/W	G1/2	G1/8	156	330	125	55	51	90	9	9
FRCLM17-MM/W	G3/4	G1/4	200	370	130	70	51	100	12	10
FRCLM17-MM/W	G1	G1/4	200	370	130	70	51	100	12	10

Model	W	V	A	B	E	ØG
FRCLM13-MM/S	G1/4	G1/8	92	170	68	28
FRCLM14-MM/S	G3/8	G1/8	124	265	95	40
FRCLM15-MM/S	G1/2	G1/8	156	330	125	51
FRCLM17-MM/S	G3/4	G1/4	200	370	130	51
FRCLM17-MM/S	G1	G1/4	200	370	130	51

Pressure Setting

Pull the knob and adjust by turning the knob clockwise to increase the pressure. Push the knob back to its locked position. (Turning the knob counter clockwise will reduce the pressure)

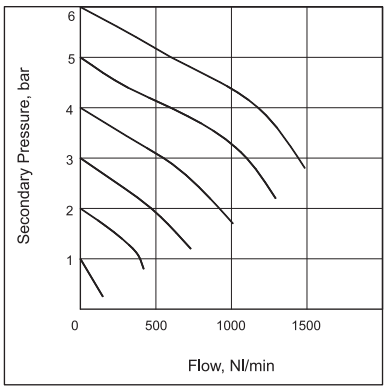
AIR PREPARATION UNITS

FRCL MODULAR WITH METAL BOWL Series FRCLM1-MM

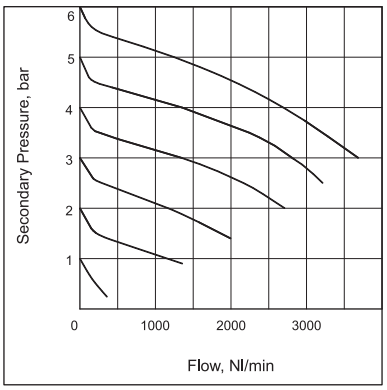
Cat No FRCLM1-MM/W - 01 - 01 - A

Flow Graphs

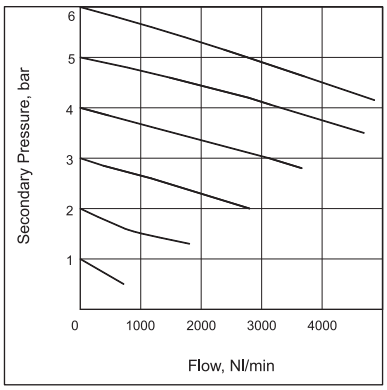
1/4" FRCLM



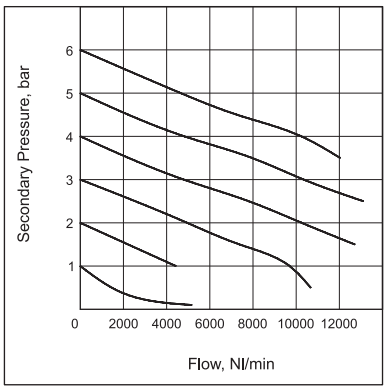
3/8" FRCLM



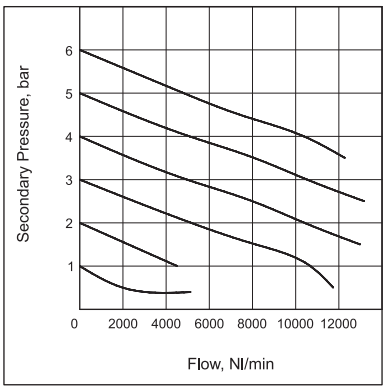
1/2" FRCLM



3/4" FRCLM



1" FRCLM



Flow graphs are for 40µm filtrations only

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. Nipples of straight threads (G) to be used with sealing washer.

How to order

FRCLM1 | 462 | 3 | 4 | – | M | M | / | W

Body & Port size	
361	G1/4
462	G3/8
563	G1/2
764	G3/4
765	G1

Filtration in µm		
0	- 1	
1	- 5	
2	- 25	
3	- 40	(Standard)
4	- 50	
5	- 100	

Pressure range	
1	0.2 - 2 bar
2	0.2 - 4 bar
3	0.5 - 7 bar
4	0.5 - 10 bar (Standard)

Metal bowl	
M	Without level indicator
L#	With level indicator

- Applicable for L14, L15, L17 models only.

Drain arrangement	
M	Manual drain (Standard)

Mounting	
W	Wall mounting bracket
S	Spacer

Ordering example:

Filter Regulator Combination and Lubricator Modular - 3/8 size (with G3/8 port) with Wall mounting bracket, 5µm filter and pressure range 0.5 - 7 bar, Metal bowl without level indicator and Manual drain -
Ordering No: **FRCLM 146213-MM/W**

If ordered as 3/8 FRCLM, our standard model **FRCLM 146234**, with 40µm Filter and pressure range 0.5 - 10 bar will be supplied.

Subject to change

SHUT OFF VALVE

Series GS31

Cat No GS31 - 01 - 01 - A

SHUT OFF VALVE (Hand lever operated ball valves) - G1/4, 3/8, 1/2, 3/4, 1, 1¼, 1½, 2

Features

- ❑ Ball type
- ❑ In line mounting
- ❑ Easy and smooth operation
- ❑ Assembly on rigid pipe system
- ❑ Maintenance free
- ❑ Bubble tight sealing

Application

Ball valves can be used in all compressed air applications. Some of the pneumatic applications include,

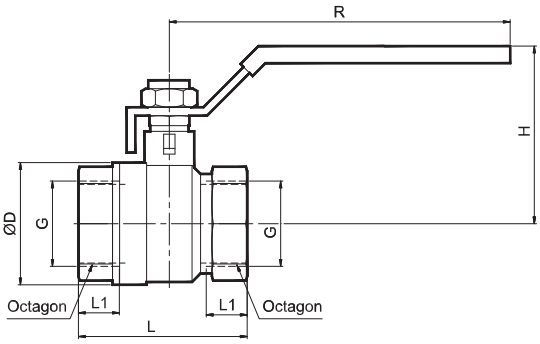
- ❑ All compressed airlines
- ❑ Pneumatic circuits in industry
- ❑ Pneumatic control panels
- ❑ Machine tools
- ❑ Pneumatic systems of machinery

Technical Specifications

Port size	G1/4	G3/8	G1/2	G3/4	G1	G1¼	G1½	G2
Medium *	Compressed air, lubricated / Non lubricated							
Maximum working pressure	10 bar							
Ambient Temperature	-10° to +60° C							
Medium Temperature	+5° to +50° C							
Materials of construction	Brass, EPDM, PTFE, Steel							
NW (mm)	9	10	14.5	19	24	30	37	47
Flow rate lts/min	5900	6600	17900	32400	47300	97900	253000	291500
Weight (kg)	0.104	0.111	0.16	0.248	0.399	0.624	0.87	1.355

* Medium - for other medium requirements, please contact factory

Port size G	Oct	L1	$H^{\pm 2}$	$L^{\pm 1}$	$R^{\pm 2}$	$ØD^{\pm 1}$	Ordering No
1/4	17	10	37.7	39	84.5	22	GS31208H61
3/8	19	10	38.7	45	84.5	24	GS31209H62
1/2	25	10	42	49	84.5	29	GS31210H63
3/4	31	10	52	54	98.5	36	GS31211H64
1	37	12.5	59.5	64	125	44	GS31212H65
1¼	46	14	75	76	140	53	GS31213H66
1½	54	15.5	80	88	140	64	GS31214H67
2	65	15.5	90.5	99	165	79	GS31215H68



Precautions

1. Note the direction of flow before installation & connect piping accordingly
2. Flush piping for dirt, rust and other foreign particles
3. Install in clean atmosphere

How to Order

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

Subject to change

SHUT OFF VALVE

Series GS32

Cat No GS32 - 01 - 01 - A

SHUT OFF VALVE (Knob operated ball valves) - G1/8, 1/4, 3/8, 1/2

Features

- ❑ Ball type
- ❑ In line mounting
- ❑ Easy and smooth operation
- ❑ Assembly on rigid pipe system
- ❑ Maintenance free
- ❑ Bubble tight sealing

Application

Ball valves can be used in all compressed air applications. Some of the pneumatic applications include,

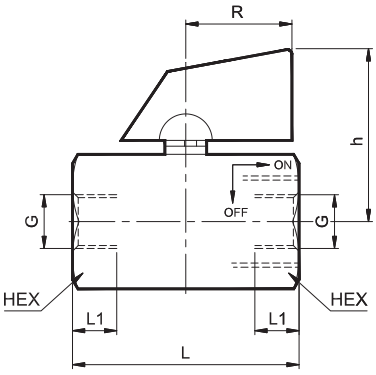
- ❑ All compressed airlines
- ❑ Pneumatic circuits in industry
- ❑ Pneumatic control panels
- ❑ Machine tools
- ❑ Pneumatic systems of machinery

Technical Specifications

Port size	G1/8	G1/4	G3/8	G1/2
Medium *	Compressed air, lubricated / Non lubricated			
Maximum working pressure	10 bar			
Ambient Temperature	-10° to +60° C			
Medium Temperature	+5° to +50° C			
Materials of construction	Brass, NBR, PTFE, ABS			
NW (mm)	6	6	8	10
Flow rate lts/min	2000	2000	4500	5900
Weight (kg)	0.11	0.10	0.09	0.13

* Medium - for other medium requirements, please contact factory

Port size G	Hex	L1	$h^{\pm1}$	$L^{\pm0.5}$	$R^{\pm0.5}$	Ordering No
1/8	17	10	26.5	38	21	GS32205K60
1/4	17	10	26.5	38	21	GS32205K61
3/8	20	10.5	28	42	21	GS32208K62
1/2	24	12	30	48	21	GS32209K63



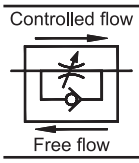
Precautions

1. Note the direction of flow before installation & connect piping accordingly
2. Flush piping for dirt, rust and other foreign particles
3. Install in clean atmosphere

How to Order

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

Subject to change



FLOW CONTROL VALVE

Fine Control - Inline type - Series GR014

Cat No GR014 - 01 - 01 - A

FLOW CONTROL VALVE (Fine Control - Inline type)

Features

- ❑ Fine regulation of air flow
- ❑ Elegant design and finish

Function

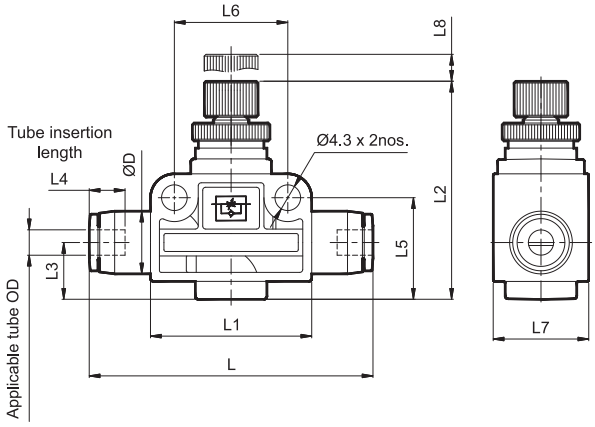
These valves allow controlled flow of air in one direction and free flow in the other direction.

Application

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

Technical Specifications

Type	Reversing type
Model	GR014
Medium	Compressed air - Dry / Lubricated
Maximum operating pressure	10 bar
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	L8	ØD	No. of rotations	Free Flow Lts/min. @	Controlled Flow Lts/min. @
1	GR0140404	4	49.5	27	38.5	9.5	14.5	17	19	16	4.8	10.5	13	≥ 60	≥ 60
2	GR0140606	6	55	32	45.5	11	15.5	19.5	24	19	5.5	12.5	15	≥ 250	≥ 200
3	GR0140808	8	58	32	45.5	11	17.5	20.5	24	19	5.5	15	15	≥ 450	≥ 280

@ - 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.

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 in 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 be 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.