



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

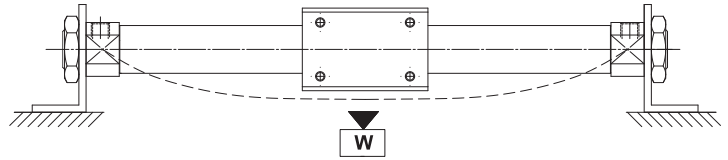
Series A411

Cat No A411 - 01 - 01 - C

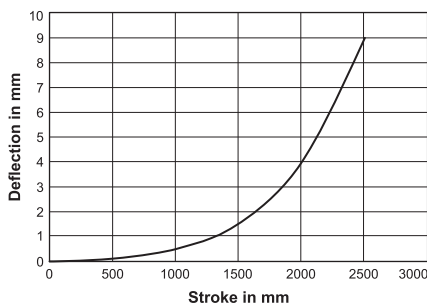
Load mounting / clamping method:

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.

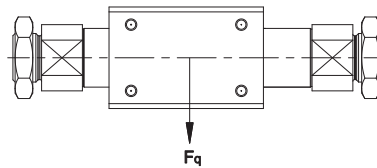
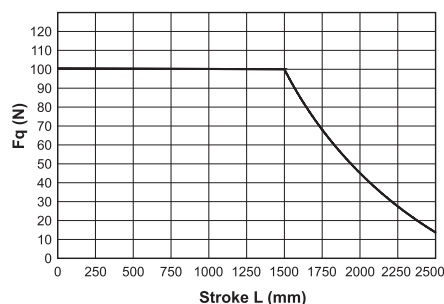


Stroke Vs Deflection

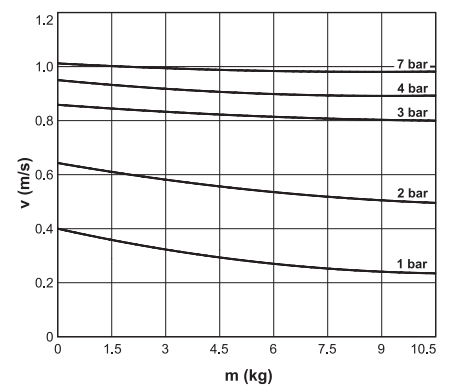


Example: For the stroke length of 1500 mm, the deflection must not exceed above 1.5 mm suitably the load has to be taken care.

Permissible force F_q dependent on stroke length L



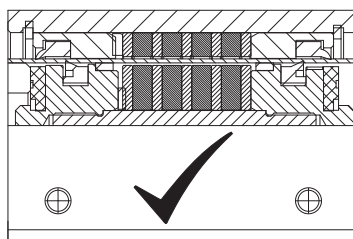
Maximum speed v dependent on the moving mass m



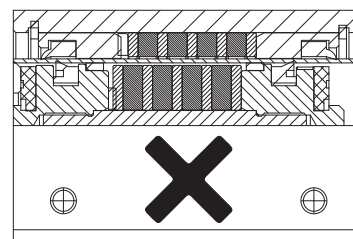
Caution



- **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

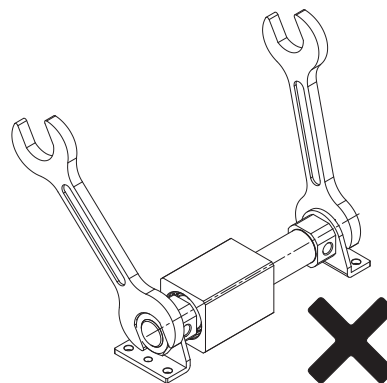
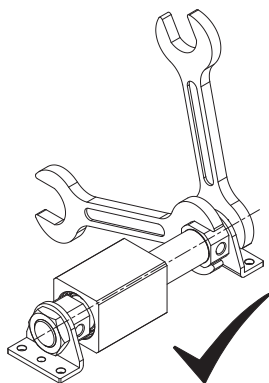
- **Use caution as the attractive power of the magnets is very strong.**
When removing the external slider and magnet-piston assembly from the cylinder tube for maintenance etc., handle with caution, since the magnets installed in each slider have a very strong attractive force.
- **When stopping the 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)	Stroke (mm)	Accessories
	025 - Ø25	0100 - 100 0200 - 200 0300 - 300 0400 - 400 0500 - 500 0600 - 600 0700 - 700 0800 - 800 1000 - 1000	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