



Pneumatic Components

To Use This Product Safely

Be sure to read this before use.
For general cylinder information, see Intro 41, and for cylinder switches, see P. 924.

Individual Precautions: Small direct mounting cylinder MDC2 Series

During Design/Selection

1. Common

Caution

- When using MDC2 with a contact switch, the cylinder cannot be mounted on a magnetic material (such as an iron plate).
- Use MDC2 with a non-contact switch at an ambient temperature of 40°C or less. This will cause switch detection failure.

2. Single acting type MDC2-X, Y

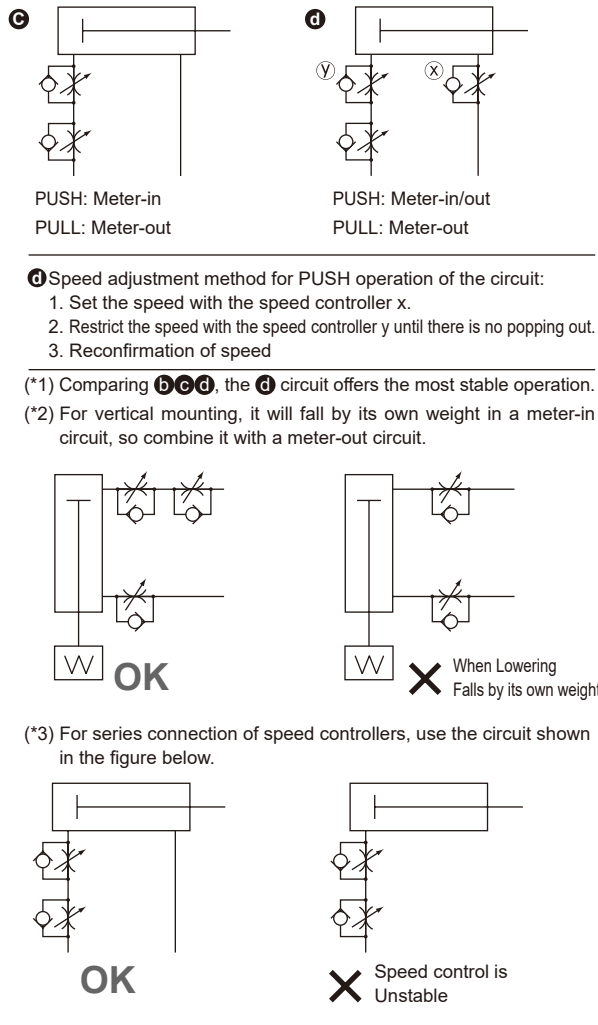
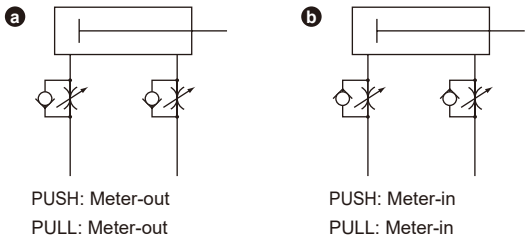
Caution

- Do not leave single-acting cylinders pressurized. If left pressurized, the piston rod may not return by spring force when the pressure is released.
- A breather hole is provided on the main body, so be careful not to block it during installation.
 - This will cause malfunction.

3. Low speed type MDC2-F

Caution

- Use without lubrication.
 - Lubrication may change the characteristics.
- Install the speed controller near the cylinder.
 - If installed far from the cylinder, the speed will become unstable.
 - Use SC-M3/M5-F, SC3W, SCD-M3/M5-F series speed controllers.
- Generally, the higher the air pressure and the lower the load factor, the more stable the speed.
 - Use with a load factor of 50% or less.
- Speed control is stable with a meter-out circuit.
 - When driving a single rod cylinder at fine speed in the PUSH direction, if the load resistance is small, a lunging phenomenon may occur at the start of operation. As countermeasures, use circuits**①**, **②** or **③**. In addition, the **③** circuit is the most stable.



(Guideline for lurching occurrence)
Lurching occurs in the following cases:
• Thrust > Resistance
*Resistance: Thrust due to residual pressure on exhaust side + For horizontal use: Frictional force due to load
(For creep speed type, intake pressure = residual pressure) For vertical use: Dead weight of the load
Avoid use in locations with vibration.

- Operation becomes unstable due to the influence of vibration.

MDC2 Series

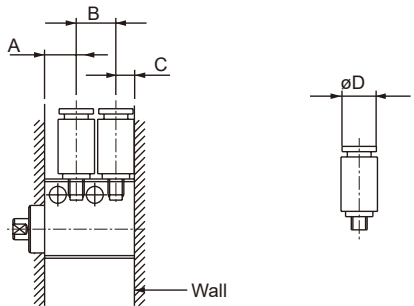
Individual Precautions

During Use

1. Common

Caution

- There are restrictions on the piping fittings that can be used, so please refer to the table below.



Item I.D. (mm)	Port Size	Port position dimension (mm)				With wall		Without wall	
		Stroke	A	B	C	Usable Fittings	Fitting outer diameter øD	Usable Fittings	Fitting outer diameter øD
ø4	M3	3	6.5	7	3.5	GWS3-M3-S FTS4-M3	ø7 or less	GWS3-M3-S SC3W-M3-3 SC3W-M3-4 SC3U-M3-3 SC3U-M3-4	ø7 or less
		6	6.5	10	3.5			GWS3-M3-S GWS4-M3-S FTS4-M3 SC3W-M3-□ SC3U-M3-□	ø10 or less
ø6	M3	4	6	7.5	3.5	GWS3-M3-S FTS4-M3	ø7 or less	GWS4-M3-S SC3W-M3-3 SC3W-M3-4 SC3U-M3-3 SC3U-M3-4	ø7.5 or less
		6	6	9.5	3.5			GWS3-M3-S GWS4-M3-S FTS4-M3 SC3W-M3-□ SC3U-M3-□	ø9.5 or less
		8	6	11.5	3.5			↑	ø11.5 or less
ø8	M3	4	6	7.5	3.5	GWS3-M3-S FTS4-M3	ø7 or less	GWS4-M3-S SC3W-M3-3 SC3W-M3-4 SC3U-M3-3 SC3U-M3-4	ø7.5 or less
		6	6	9.5	3.5			GWS3-M3-S GWS4-M3-S FTS4-M3 SC3W-M3-□ SC3U-M3-□	ø9.5 or less
		8	6	11.5	3.5			↑	ø11.5 or less
ø10	M5	4	7	10	5	GWS□-M5-S SC3W-M5-□ SC3U-M5-□ GWS4-M5-S FTS4-M5 FTS6-M5	ø10 or less	GWS□-M5 GWS6-M5-S	ø10 or less
		6	7	12	5			GWS□-M5-S SC3W-M5-□ SC3U-M5-□ GWS4-M5-S GWS6-M5-S GWS4-M5 FTS4-M5 FTS6-M5	ø12 or less
		10	7	16	5			GWS□-M5-S SC3W-M5-□ SC3U-M5-□ GWS4-M5-S GWS6-M5-S GWS4-M5 GWS6-M5 FTS4-M5 FTS6-M5	ø14 or less

*Port position dimensions are for standard models without switches.

- This cylinder is a non-disassembly type, so do not apply excessive force to the rod metal or cylinder body.

2. Low speed type MDC2-F

⚠Caution

- Adjust alignment, etc., so that no lateral load is applied to the cylinder.
Also, adjust and install so that there is no twisting with respect to the sliding guide.
 - Fluctuations in load or resistance will make operation unstable.
 - Guides with a large difference between static and dynamic friction will have unstable operation.

MEMO

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

FC□

Cylinder Switch

Ending

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

FC□

Cylinder Switch

Ending

For precautions regarding mounting, installation, adjustment, use, and maintenance, please see "Precautions for Use" in this catalog and the CKD Components Product website (<https://www.ckd.co.jp/kiki/en/>) -> "Model No." -> [Instruction Manual](#) .