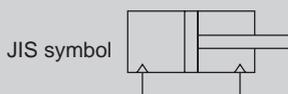


Guided cylinder Double acting/single rod clean room specifications

STM-B Series

● Bore size: $\varnothing 6/\varnothing 10$



Structure and material restriction

	Structure	Model No.
P7 Series	Exhaust treatment	P72
	Vacuum treatment	P73

Specifications

Descriptions	STM-B	
Bore size mm	$\varnothing 6$	$\varnothing 10$
Actuation	Double acting	
Working fluid	Compressed air	
Max. working pressure MPa	0.7 (≈ 100 psi, 7 bar)	
Min. working pressure MPa	0.2 (≈ 29 psi, 2 bar)	
Proof pressure MPa	1.05 (≈ 150 psi, 10.5 bar)	
Ambient temperature $^{\circ}\text{C}$	-10 (14 $^{\circ}\text{F}$) to 60 (140 $^{\circ}\text{F}$) (no freezing)	
Port size	M3	
Port size (relief port)	M3	
Stroke tolerance mm	+1.5	
	0	
Working piston speed mm/s	50 to 500	
Cushion	With rubber cushion	
Lubrication	Not available	
Allowable energy absorption J	0.008	0.054

Stroke length

Bore size	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length	Min. stroke with switch
$\varnothing 6$	5/10/15	15	5	5
$\varnothing 10$	5/10/15/20	20		

Note: Product other than standard stroke length is custom order.

Switch specifications

Descriptions	Proximity 2-wire	Proximity 3-wire	Proximity 2-wire		Proximity 3-wire		
	F2S	F3S	F2H/F2V	F2YH/F2YV	F3H/F3V	F3PH/F3PV (custom order)	F3YH/F3YV
Applications	Programmable controller	Programmable controller, relay	Programmable controller		Programmable controller, relay		
Output method	-	NPN output	-		NPN output	PNP output	NPN output
Power supply voltage	-	10 to 28 VDC	-		10 to 28 VDC	4.5 to 28 VDC	10 to 28 VDC
Load voltage	10 to 30 VDC	30 VDC or less	10 to 30 VDC	24 VDC ±10%	30 VDC or less		
Load current	5 to 20 mA	50 mA or less	5 to 20 mA (*2)		50 mA or less		
Indicator lamp	Red LED (Lit when ON)		LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)
Leakage current	1 mA or less	10 µA or less	1 mA or less		10 µA or less		
Weight	g	1 m: 10 3 m: 29	1 m: 10 3 m: 29	1 m: 10 3 m: 29	1 m: 10 3 m: 29		

*1: Refer to page 309 for detailed switch specifications and dimensions.

*2: Max. load current: 20mA at 25°C. The current is lower than 25 mA if the operating ambient temperature around the switch is higher than 20°C.
(60 to 5 mA at 10°C.)

*3: The F type switch uses a bend-resistant lead wire.

Cylinder weight

Unit: g

Model No.	Stroke length (mm)	5	10	15	20	Switch weight
	Bore size (mm)					
STM-B	ø6	56.2	62.5	68.7	-	Refer to weight information provided in the switch specifications.
	ø10	87.9	96.4	104.8	113.3	

Theoretical thrust table

Unit: N

Bore size (mm)	Operating direction						
		0.2	0.3	0.4	0.5	0.6	0.7
ø6	Push	5.65	8.48	11.3	14.1	17.0	19.8
	Pull	4.24	6.36	8.48	10.6	12.7	14.8
ø10	Push	15.7	23.6	31.4	39.3	47.1	55.0
	Pull	13.2	19.8	26.4	33.0	39.6	46.2

SCPD3

SCM

SSD2

MDC2

SMG

LCM

LCR

LCG

LCX

STM

STG

STR2

MRL2

GRC

Cylinder Switch

MN3E

MN4E

4GA/B

M4GA/B

MN4GA/B

F.R. (module unit)

Clean F.R

Precision R

Press gauge
Diff. press gauge

Electro-pneumatic R

Speed controller

Auxiliary valve

Fitting/tube

Clean air unit

Pressure sensor

Flow rate sensor

Valve for air blow

Ending

- SCPD3
- SCM
- SSD2
- MDC2
- SMG
- LCM
- LCR
- LCG
- LCX
- STM**
- STG
- STR2
- MRL2
- GRC
- Cylinder switch
- MN3E
MN4E
- 4GA/B
- M4GA/B
- MN4GA/B
- F.R (module unit)
- Clean F.R
- Precision R
- Press gauge
Diff. press gauge
- Electro-pneumatic R
- Speed controller
- Auxiliary valve
- Fitting/tube
- Clean air unit
- Pressure sensor
- Flow rate sensor
- Valve for air blow
- Ending

How to order

Without switch (Magnet for switch incorporated)



With switch (Magnet for switch incorporated)



A Bearing

B Bore size

C Stroke length

D Switch model No.
*1

E Switch quantity

F Option

G Clean room specifications

⚠ Precautions for model No. selection

*1: When using a 2-color display proximity switch for STM-B-6-P72/P73, avoid mounting the cylinder on a magnetic substance such as a metal plate. This could lead to switch detection malfunction.

[Example of model No.]

STM-B-10-15-F2H-D-A-P72

Model: Guided cylinder

- A** Bearing : Ball bearing
- B** Bore size : $\phi 10$ mm
- C** Stroke length : 15 mm
- D** Switch model No. : Proximity F2H switch, lead wire 1 m
- E** Switch quantity : 2
- F** Option : Side mounting
- G** Clean room specifications: Exhaust treatment

How to order switch



Switch model No.
(Item **D** above)

CKD

Code	Content
A Bearing	
B	Ball bearing

B Bore size (mm)	
6	$\phi 6$
10	$\phi 10$

C Stroke length (mm)			
		Bore size	
		6	10
5	5	●	●
10	10	●	●
15	15	●	●
20	20		●

D Switch model No.						
Lead wire straight	Lead wire L-shaped	Contact	Voltage		Display	Lead wire
			AC	DC		
-	F2S*	Proximity		●	1-color display	2 wires
F2H*	F2V*			●		
-	F3S*			●	1-color display (custom order)	3 wires
F3H*	F3V*			●		
F3PH*	F3PV*			●	2-color display	2 wires
F2YH*	F2YV*			●		
F3YH*	F3YV*		●	3 wires		

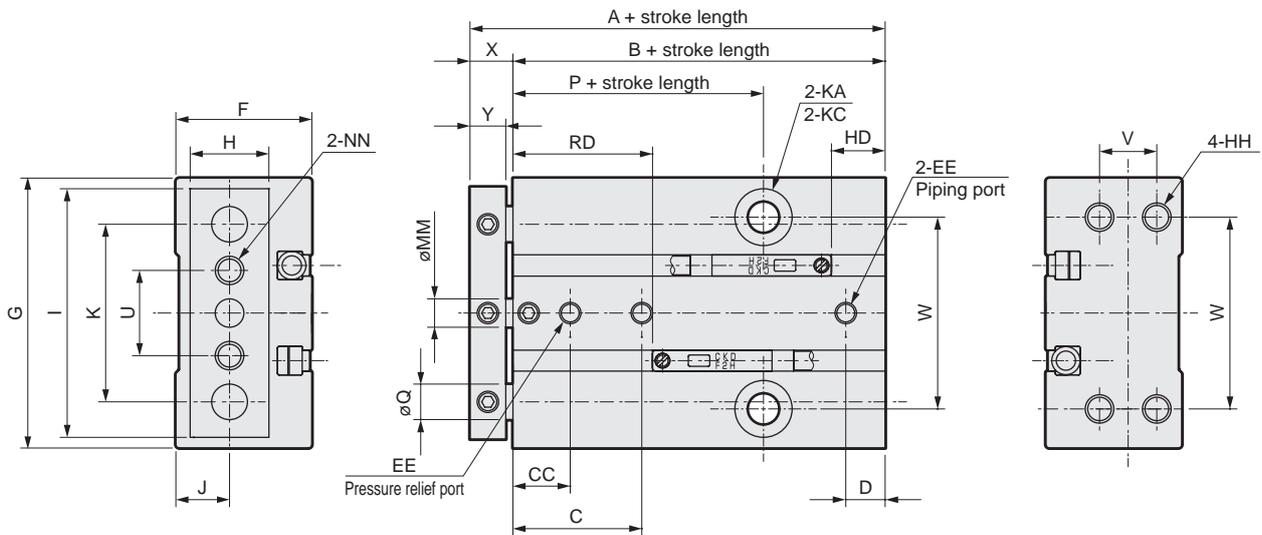
* Lead wire length	
Blank	1 m (standard)
3	3 m (option)

E Switch quantity	
R	1 (on rod end)
H	1 (on head end)
D	2

F Option	
A	Side installation

G Clean room specifications	
Structure	
P72	Exhaust treatment
P73	Vacuum treatment

Dimensions

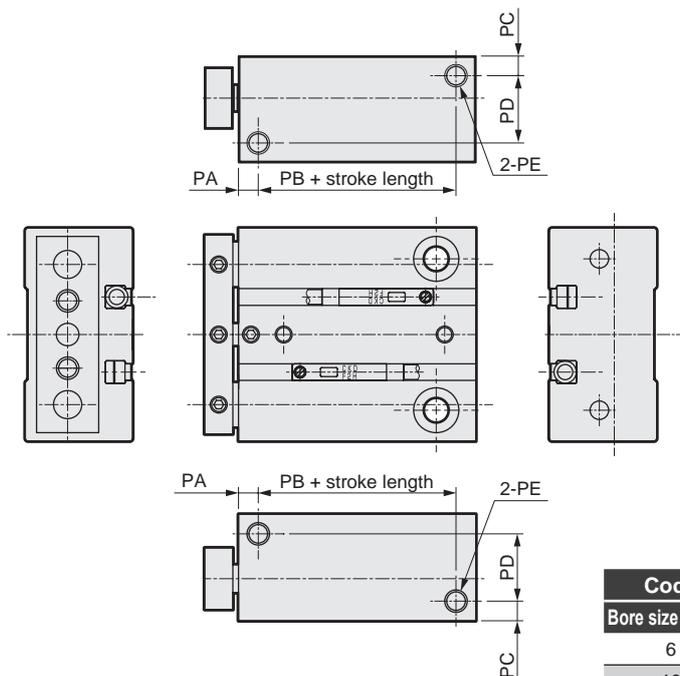


Code	Standard stroke length (mm)	A	B	C	CC	D	EE	F	G	H	HH	I	J	K	KA
6	5/10/15	40	34	17.5	7.5	5	M3	15.5	33	9	M3 depth 5	31	6	23	3.4 penetrating
10	5/10/15/20	44	38	18.5	8.5	7	M3	19	38	11	M4 depth 5	35	7.5	25	4.3 penetrating

Code	KC	MM	NN	P	Q	U	V	W	X	Y	RD	HD
6	6.1 spot face depth 3.3	3	M3 penetrating	17	4	12	6	25	6	5	18	5.5
10	8 spot face depth 4.4	4	M4 penetrating	20.5	5	12	8	27	6	5	20	7.5

Dimensions with options

- Side mounting (A)



Code	Standard stroke length (mm)	PA	PB	PC	PD	PE
6	5/10/15	3	18	3	10	M3 depth 5
10	5/10/15/20	4	21	4	12	M4 depth 5

SCPD3

SCM

SSD2

MDC2

SMG

LCM

LCR

LCG

LCX

STM

STG

STR2

MRL2

GRC

Cylinder Switch

MN3E

MN4E

4GA/B

M4GA/B

MN4GA/B

F.R. (module unit)

Clean F.R

Precision R

Press gauge
Diff. press gauge

Electro-pneumatic R

Speed controller

Auxiliary valve

Fitting/tube

Clean air unit

Pressure sensor

Flow rate sensor

Valve for air blow

Ending