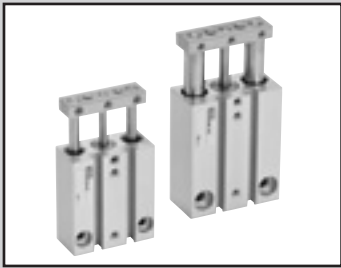


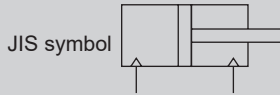
LCM
 LCR
 LCG
 LCW
 LCX
STM
 STG
 STS/STL
 STR2
 UCA2
 ULK*
 JSK/M2
 JSG
 JSC3/JSC4
 USSD
 UFCD
 USC
 UB
 JSB3
 LMB
 LML
 HCM
 HCA
 LBC
 CAC4
 UCAC2
 CAC-N
 UCAC-N
 RCS2
 RCC2
 PCC
 SHC
 MCP
 GLC
 MFC
 BBS
 RRC
 GRC
 RV3*
 NHS
 HRL
 LN
 Hand
 Chuk
 MecHnd/Chuk
 ShkAbs
 FJ
 FK
 SpdContr
 Ending



Guided cylinder, double acting/single rod

STM-M/B Series

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



Specifications

Item		STM-M/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	0.15 (≈ 22 psi, 1.5 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	
Stroke tolerance	mm	+1.5	
		0	
Working piston speed	mm/s	50 to 500	
Cushion		With rubber cushion	
Lubrication		Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)	
Allowable absorbed energy	J	0.008	0.054

Stroke

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

Note: Products other than standard stroke are made-to-order products.

Switch specifications

Item	Proximity 2-wire	Proximity 3-wire	Proximity 2-wire		Proximity 3-wire		
	F2S	F3S	F2H/F2V	F2YH/F2YV	F3H/F3V	F3PH/F3PV (Made to order)	F3YH/F3YV
Applications	Dedicated for programmable controller	For programmable controller, relay	Dedicated for programmable controller		For 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 20mA	50 mA or less	5 to 20 mA (*3)		100 mA or less	50 mA or less	
Indicator lamp	LED (Lit when ON)		Yellow LED (Lit when ON)	Red/green 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 : Refer to Ending Page 1 for detailed switch specifications and dimensions.

*2 : Switches other than the above models, such as switches with connectors, are also available. Refer to Ending Page 1.

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

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

Cylinder weight

Unit: g

Model No.	Stroke (mm)	5	10	15	20	Switch weight
	Bore size (mm)					
STM-M	ø6	45.1	52.5	59.9	-	Refer to the weight in the switch specifications.
	ø10	73.7	84.6	95.4	106.3	
STM-B	ø6	41.9	48.1	54.3	-	
	ø10	67.1	75.5	84.0	92.5	

Theoretical thrust table

Unit: N

Bore size (mm)	Operating direction							
		0.15	0.2	0.3	0.4	0.5	0.6	0.7
ø6	Push	4.24	5.65	8.48	11.3	14.1	17.0	19.8
	Pull	3.18	4.24	6.36	8.48	10.6	12.7	14.8
ø10	Push	11.8	15.7	23.6	31.4	39.3	47.1	55.0
	Pull	9.90	13.2	19.8	26.4	33.0	39.6	46.2

- LCM
- LCR
- LCG
- LCW
- LCX
- STM
- STG
- STS/STL
- STR2
- UCA2
- ULK*
- JSK/M2
- JSG
- JSC3/JSC4
- USSD
- UFCD
- USC
- UB
- JSB3
- LMB
- LML
- HCM
- HCA
- LBC
- CAC4
- UCAC2
- CAC-N
- UCAC-N
- RCS2
- RCC2
- PCC
- SHC
- MCP
- GLC
- MFC
- BBS
- RRC
- GRC
- RV3*
- NHS
- HRL
- LN
- Hand
- Chuk
- MechHnd/Chuk
- ShkAbs
- FJ
- FK
- SpdContr
- Ending

- LCM
- LCR
- LCG
- LCW
- L CX
- STM**
- STG
- STS/STL
- STR2
- UCA2
- ULK*
- JSK/M2
- JSG
- JSC3/JSC4
- USSD
- UFCD
- USC
- UB
- JSB3
- LMB
- LML
- HCM
- HCA
- LBC
- CAC4
- UCAC2
- CAC-N
- UCAC-N
- RCS2
- RCC2
- PCC
- SHC
- MCP
- GLC
- MFC
- BBS
- RRC
- GRC
- RV3*
- NHS
- HRL
- LN
- Hand
- Chuk
- MecHnd/Chuk
- ShkAbs
- FJ
- FK
- SpdContr
- Ending

How to order

Without switch (built-in magnet for switch)



With switch (built-in magnet for switch)



A Bearing

B Bore size

C Stroke

D Switch model No.

*1

E Switch quantity

F Option

⚠ Precautions for model No. selection

*1: When using a 2-color LED proximity switch for STM-B-6, 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-M-10-15-F2H-D-A

Model: Guided cylinder

- A** Bearing : Metal bush bearing
- B** Bore size : $\phi 10$ mm
- C** Stroke: 15 mm
- D** Switch model No. : Proximity switch F2H, lead wire 1 m
- E** Switch quantity : 2
- F** Option : Side mounting

How to order switch



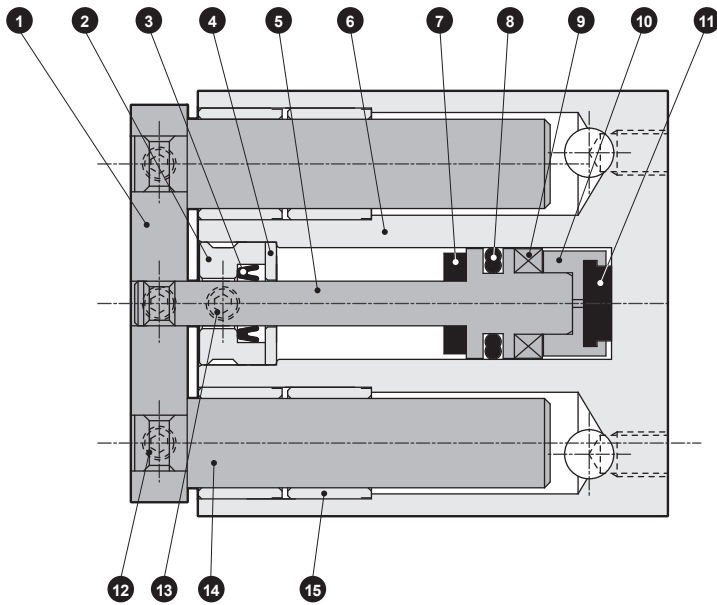
Switch model No.
(Item **D** above)

CKD

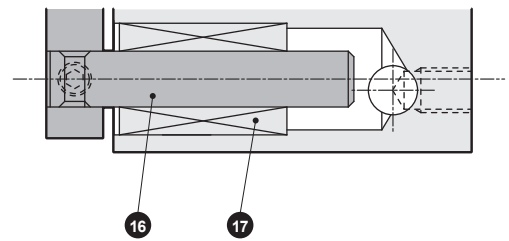
Code	Description					
A Bearing						
M	Metal bush bearing					
B	Ball bearing					
B Bore size (mm)						
6	$\phi 6$					
10	$\phi 10$					
C Stroke (mm)						
				Bore size		
				6	10	
5	5			●	●	
10	10			●	●	
15	15			●	●	
20	20			●	●	
D Switch model No.						
Straight lead wire	L-shaped lead wire	Contact	Voltage		Indicator	Lead wire
			AC	DC		
-	F2S*	Proximity		●	1-color LED	2-wire
F2H*	F2V*			●		
-	F3S*			●	3-wire	
F3H*	F3V*			●		
F3PH*	F3PV*			●	1-color LED (PNP output) (made to order)	3-wire
F2YH*	F2YV*			●	2-color LED	2-wire
F3YH*	F3YV*			●	LED	3-wire
* Lead wire length						
Blank	1 m (standard)					
3	3 m (option)					
E Switch quantity						
R	1 on rod side					
H	1 on head side					
D	2					
F Option						
A	Side mounting					
R	Rear piping					

Internal structure and parts list

LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending



Metal bush bearing



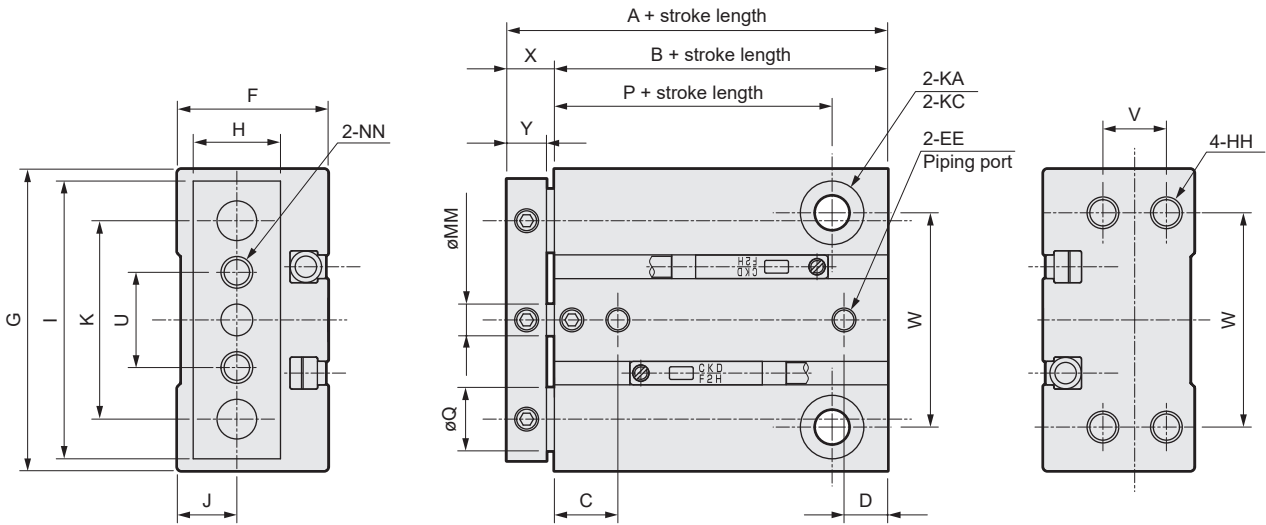
Ball bearing

Cannot be disassembled

* This product cannot be disassembled.

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	End plate	Aluminum alloy	Alumite	10	Adaptor	Aluminum alloy	Chromate
2	Rod metal	Stainless steel		11	Cushion rubber H	Urethane rubber	
3	Rod packing	Nitrile rubber		12	Hexagon socket set screw	Stainless steel	
4	Spacer	Aluminum alloy	Chromate	13	Hexagon socket set screw	Stainless steel	
5	Piston	Stainless steel		14	Guide rod	Stainless steel	Industrial chrome plating (ø10)
6	Cylinder body	Aluminum alloy	Hard alumite	15	Metal	Oil-impregnated copper alloy	
7	Cushion rubber R	Urethane rubber		16	Guide rod	Alloy steel	Industrial chrome plating
8	Piston packing	Nitrile rubber		17	Ball bearing		
9	Piston magnet						

Dimensions

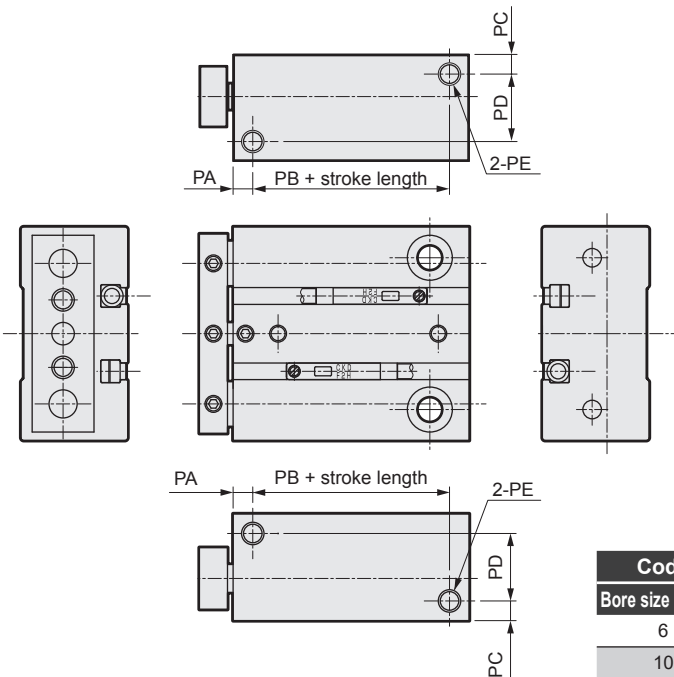


Code	Standard stroke (mm)	A	B	C	D	EE	F	G	H	HH	I	J	K	KA
Bore size (mm)														
6	5/10/15	30	24	7.5	5	M3	15.5	33	9	M3 depth 5	31	6	23	3.4 through
10	5/10/15/20	34	28	8.5	7	M3	19	38	11	M4 depth 5	35	7.5	25	4.3 through

Code	KC	MM	NN	P	Q		U	V	W	X	Y
Bore size (mm)					STM-M	STM-B					
6	6.1 spot face depth 3.3	3	M3 through	17	6	4	12	6	25	6	5
10	8 spot face depth 4.4	4	M4 through	20.5	8	5	12	8	27	6	5

Dimensions with options

● Side mounting (A)

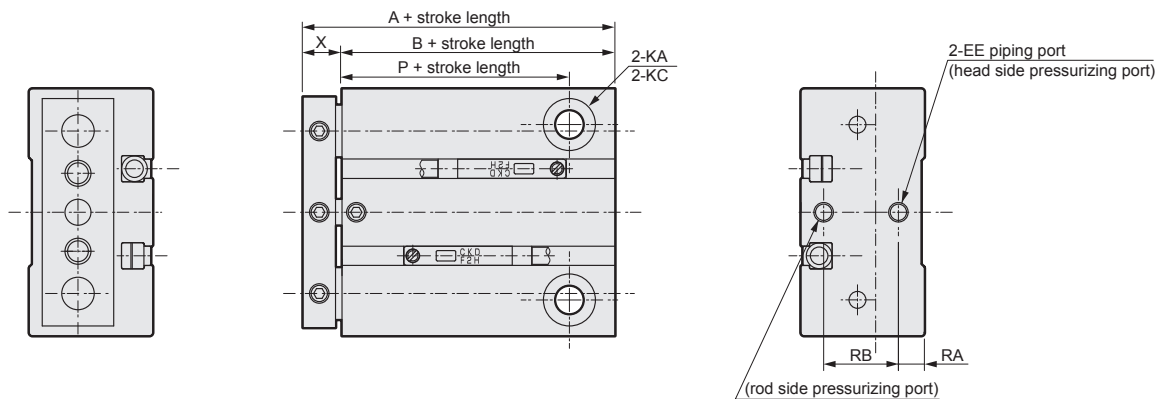


Code	Standard stroke (mm)	PA	PB	PC	PD	PE
Bore size (mm)						
6	5/10/15	3	18	3	10	M3 depth 5
10	5/10/15/20	4	21	4	12	M4 depth 5

- LCM
- LCR
- LCG
- LCW
- LXX
- STM**
- STG
- STS/STL
- STR2
- UCA2
- ULK*
- JSK/M2
- JSG
- JSC3/JSC4
- USSD
- UFCD
- USC
- UB
- JSB3
- LMB
- LML
- HCM
- HCA
- LBC
- CAC4
- UCAC2
- CAC-N
- UCAC-N
- RCS2
- RCC2
- PCC
- SHC
- MCP
- GLC
- MFC
- BBS
- RRC
- GRC
- RV3*
- NHS
- HRL
- LN
- Hand
- Chuk
- MecHnd/Chuk
- ShkAbs
- FJ
- FK
- SpdContr
- Ending

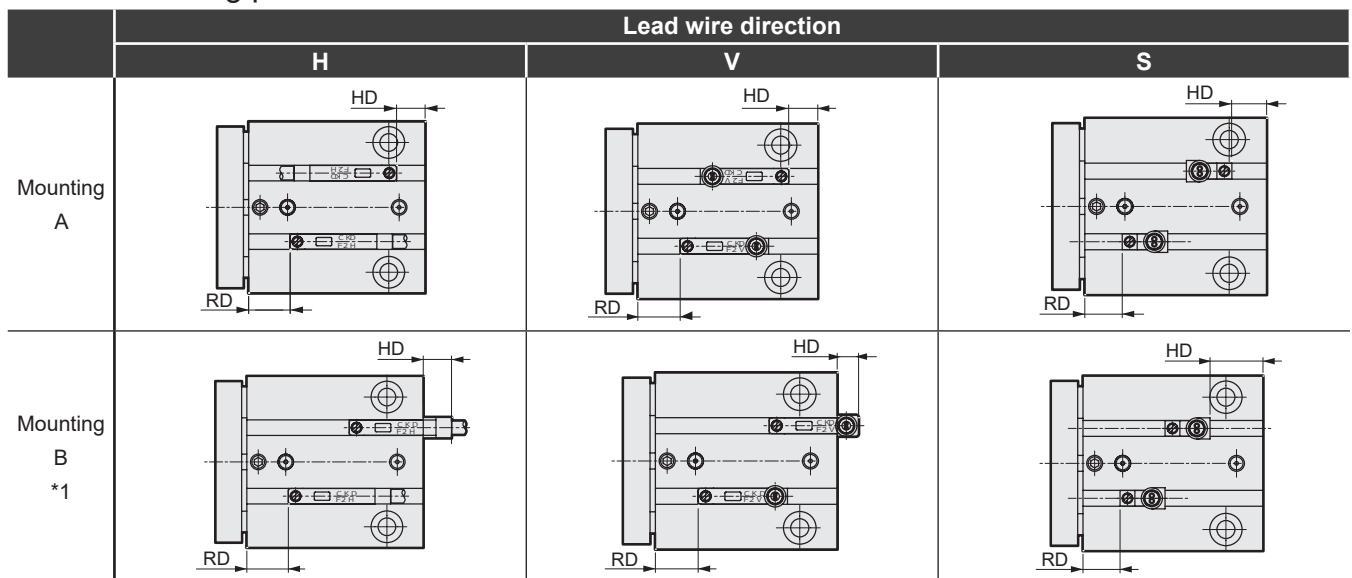
Dimensions with options

● Rear piping (R)



Code	Standard stroke (mm)	A	B	EE	KA	KC	P	RA	RB
6	5, 10, 15	32	26	M3	3.4 through	6.1 spot face depth 3.3	17	4	8
10	5, 10, 15, 20	34	28	M3	4.3 through	8 spot face depth 4.4	20.5	4	12

Switch mounting position



		F2H/V, F3H/V			F2YH/V, F3YH/V, F3PH/V			F2S, F3S	
		RD	HD(H)	HD(V)	RD	HD(H)	HD(V)	RD	HD
Mounting A	ø6	8	5.5(7.5)	5.5(7.5)	8	5.5(7.5)	5.5(7.5)	7	4.5
	ø10	10	7.5	7.5	10	7.5	7.5	9	6.5
Mounting B	ø6	8	-4.5(-6.5)	1.5(3.5)	8	-9(-11)	-6(-8)	7	8
	ø10	10	-3.5	0.5	10	8	-4	9	10

*1: When the switch is mounted as shown in mounting B type, it may project from the body.

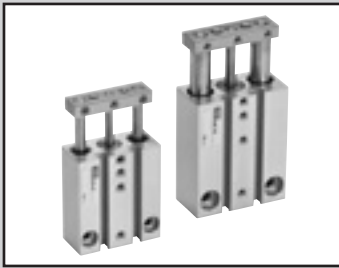
If the switch projects from the body, it will interfere with the equipment if the product is installed on the equipment by head side mounting.

*2: Dimension in () is the dimension for rear piping.

*3: For mounting dimensions in the table, the negative dimensions are the protruding dimensions toward the head side.

- LCM
- LCR
- LCG
- LCW
- LCX
- STM
- STG
- STS/STL
- STR2
- UCA2
- ULK*
- JSK/M2
- JSG
- JSC3/JSC4
- USSD
- UFCD
- USC
- UB
- JSB3
- LMB
- LML
- HCM
- HCA
- LBC
- CAC4
- UCAC2
- CAC-N
- UCAC-N
- RCS2
- RCC2
- PCC
- SHC
- MCP
- GLC
- MFC
- BBS
- RRC
- GRC
- RV3*
- NHS
- HRL
- LN
- Hand
- Chuk
- MechHnd/Chuk
- ShkAbs
- FJ
- FK
- SpdContr
- Ending

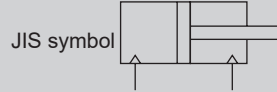
LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MecHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending



Guided cylinder, double acting/single rod/clean-room specifications

STM-B-P7* Series

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



Specifications

Item	STM-B	
	$\varnothing 6$	$\varnothing 10$
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 (pressure 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 absorbed energy J	0.008	0.054

Stroke

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

Note: Products other than standard stroke are made-to-order products.

Switch specifications

Item	Proximity 2-wire	Proximity 3-wire	Proximity 2-wire		Proximity 3-wire		
	F2S	F3S	F2H/F2V	F2YH/F2YV	F3H/F3V	F3PH/F3PV (Made to order)	F3YH/F3YV
Applications	Dedicated for programmable controller	For programmable controller, relay	Dedicated for programmable controller		For 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 20mA	50 mA or less	5 to 20 mA (*3)		100 mA or less	50 mA or less	
Indicator lamp	LED (Lit when ON)		Yellow LED (Lit when ON)	Red/green 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 : Refer to Ending Page 1 for detailed switch specifications and dimensions.

*2 : Switches other than the above models, such as switches with connectors, are also available. Refer to Ending Page 1.

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

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

Cylinder weight

Unit: g

Model No.	Stroke (mm)	5	10	15	20	Switch weight
	Bore size (mm)					
STM-B	ø6	56.2	62.5	68.7	-	Refer to the weight 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

LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

STM-B-P7* Series

- LCM
- LCR
- LCC
- LCW
- LCX
- STM**
- STG
- STS/STL
- STR2
- UCA2
- ULK*
- JSK/M2
- JSG
- JSC3/JSC4
- USSD
- UFCD
- USC
- UB
- JSB3
- LMB
- LML
- HCM
- HCA
- LBC
- CAC4
- UCAC2
- CAC-N
- UCAC-N
- RCS2
- RCC2
- PCC
- SHC
- MCP
- GLC
- MFC
- BBS
- RRC
- GRC
- RV3*
- NHS
- HRL
- LN
- Hand
- Chuk
- MecHnd/Chuk
- ShkAbs
- FJ
- FK
- SpdContr
- Ending

How to order

Without switch (built-in magnet for switch)



With switch (built-in magnet for switch)



A Bearing

B Bore size

C Stroke

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 LED 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 : $\varnothing 10$ mm
- C** Stroke : 15 mm
- D** Switch model No. : Proximity switch F2H, lead wire 1 m
- E** Switch quantity : 2
- F** Option : Side mounting
- G** Clean-room specifications : Exhaust port

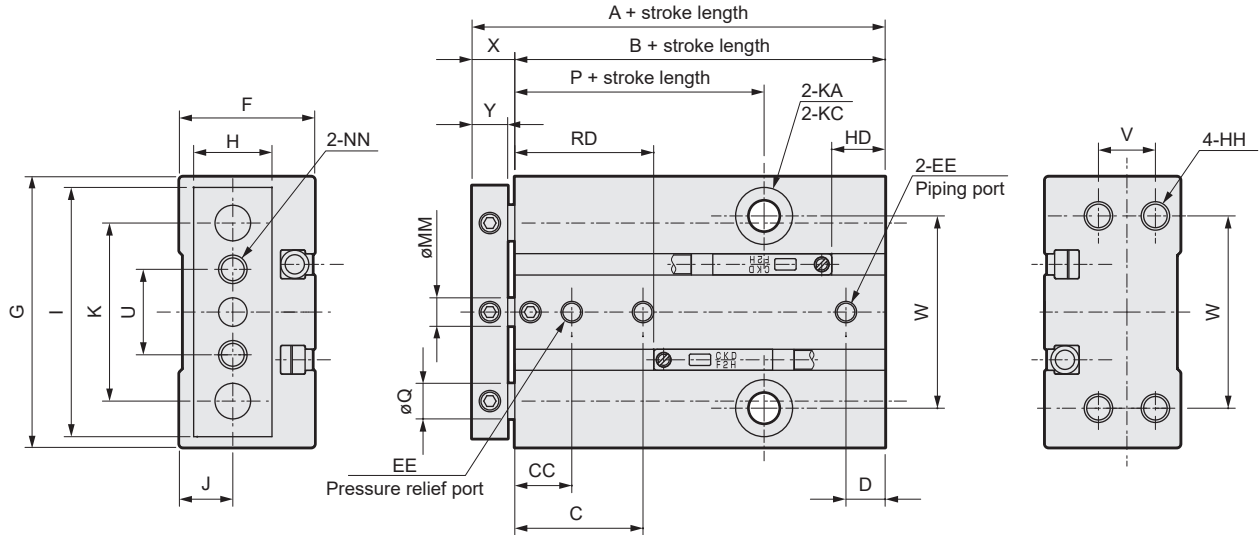
Code	Description					
A Bearing						
B	Ball bearing					
B Bore size (mm)						
6	$\varnothing 6$					
10	$\varnothing 10$					
C Stroke (mm)						
		Bore size				
		6 10				
5	5	● ●				
10	10	● ●				
15	15	● ●				
20	20	●				
D Switch model No.						
Straight lead wire	L-shaped lead wire	Contact	Voltage		Indicator	Lead wire
			AC	DC		
-	F2S*	Proximity		●	1-color LED	2-wire
F2H*	F2V*			●		
-	F3S*			●	3-wire	
F3H*	F3V*		●			
F3PH*	F3PV*			●	1-color LED (PNP output) (made to order)	3-wire
F2YH*	F2YV*			●	2-color	2-wire
F3YH*	F3YV*			●	LED	3-wire
* Lead wire length						
Blank	1 m (standard)					
3	3 m (option)					
E Switch quantity						
R	1 on rod side					
H	1 on head side					
D	2					
F Option						
A	Side mounting					
G Clean-room specifications						
		Structure				
P72	Exhaust port					
P73	Vacuum treatment					

How to order switch



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

CKD



Code	Standard stroke	A	B	C	CC	D	EE	F	G	H	HH	I	J	K	KA
Bore size (mm)	(mm)														
6	5/10/15	40	34	17.5	7.5	5	M3	15.5	33	9	M3 depth 5	31	6	23	3.4 through
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 through
Code	KC		MM	NN	P	Q	U	V	W	X	Y	RD	HD		
Bore size (mm)															
6	6.1 spot face depth 3.3		3	M3 through	17	4	12	6	25	6	5	18	5.5		
10	8 spot face depth 4.4		4	M4 through	20.5	5	12	8	27	6	5	20	7.5		

- LCM
- LCR
- LCG
- LCW
- LCX
- STM**
- STG
- STS/STL
- STR2
- UCA2
- ULK*
- JSK/M2
- JSG
- JSC3/JSC4
- USSD
- UFCD
- USC
- UB
- JSB3
- LMB
- LML
- HCM
- HCA
- LBC
- CAC4
- UCAC2
- CAC-N
- UCAC-N
- RCS2
- RCC2
- PCC
- SHC
- MCP
- GLC
- MFC
- BBS
- RRC
- GRC
- RV3*
- NHS
- HRL
- LN
- Hand
- Chuk
- MechHnd/Chuk
- ShkAbs
- FJ
- FK
- SpdContr
- Ending