

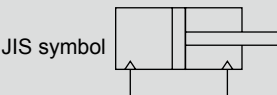
LCM
 LCR
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 LCW
 LCX
 STM
 STG
 STS/STL
 STR2
 UCA2
 ULK*
 JSK/M2
 JSG
 JSC3/JSC4
 USSD
 UFCD
 USC
 UB
 JSB3
 LMB
 LML
 HCM
 HCA
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 CAC4
 UCAC2
 CAC-N
 UCAC-N
 RCS2
 RCC2
 PCC
 SHC
 MCP
 GLC
 MFC
 BBS
 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: ø6, ø10



Specifications

Item	STM-M/B	
Bore size mm	ø6	ø10
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 °C	-10 (14°F) to 60 (140°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 length

Bore size	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length	Min. stroke with switch
ø6	5/10/15	15	5	5
ø10	5/10/15/20	20		

Note: Products other than standard stroke length 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 20 mA	50 mA or less	5 to 20 mA (*2)		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 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-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

How to order

Without switch (built-in magnet for switch)

STM - M - 10 - 15 - A

With switch (built-in magnet for switch)

STM - M - 10 - 15 - F2V - D - A

A Bearing

B Bore size

C Stroke length

D Switch model No.
*1

E Switch quantity

F Option

⚠ Precautions for model No. selection

*1: When using a 2-color display 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 : $\varnothing 10$ mm
- C** Stroke length : 15 mm
- D** Switch model No. : Proximity switch F2H, lead wire 1 m
- E** Switch quantity : 2
- F** Option : Side mounting

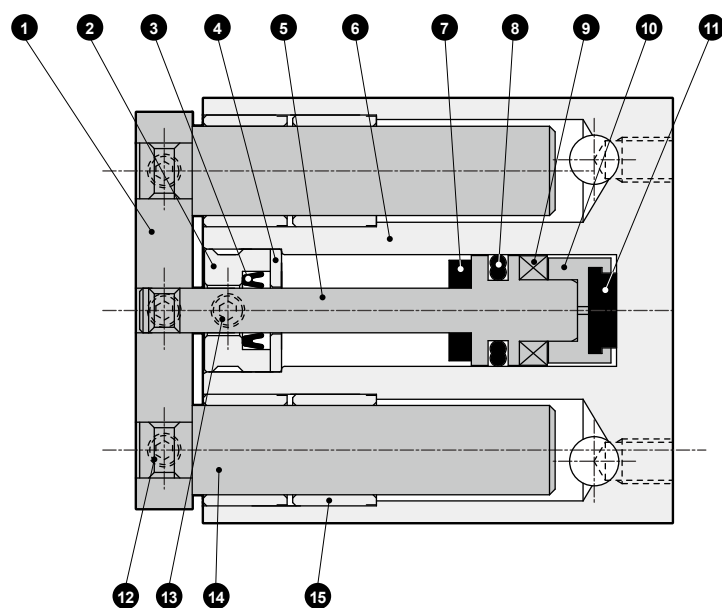
How to order switch

SW - F2V

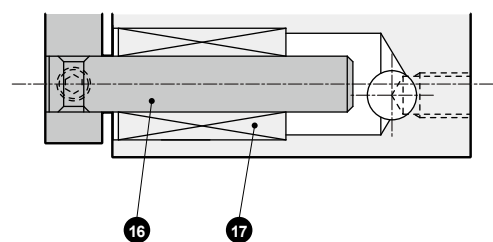
Switch model No.
(Item **D** above)

Code	Description					
A Bearing						
M	Metal bush bearing					
B	Ball bearing					
B Bore size (mm)						
6	ø6					
10	ø10					
C Stroke length (mm)						
		Bore size				
		6	10			
5	5	●	●			
10	10	●	●			
15	15	●	●			
20	20		●			
D Switch model No.						
Axial lead wire	Radial lead wire	Contact	Voltage		Display	Lead wire
			AC	DC		
-	F2S*			●	1-color display	2-wire
F2H*	F2V*			●		3-wire
-	F3S*			●	1 color display (PNP output) (made to order)	
F3H*	F3V*			●		1 color display (PNP output) (made to order)
F3PH*	F3PV*	Proximity		●	3-wire	
F2YH*	F2YV*			●	2-wire	
F3YH*	F3YV*			●	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



Metal bush bearing



Ball bearing

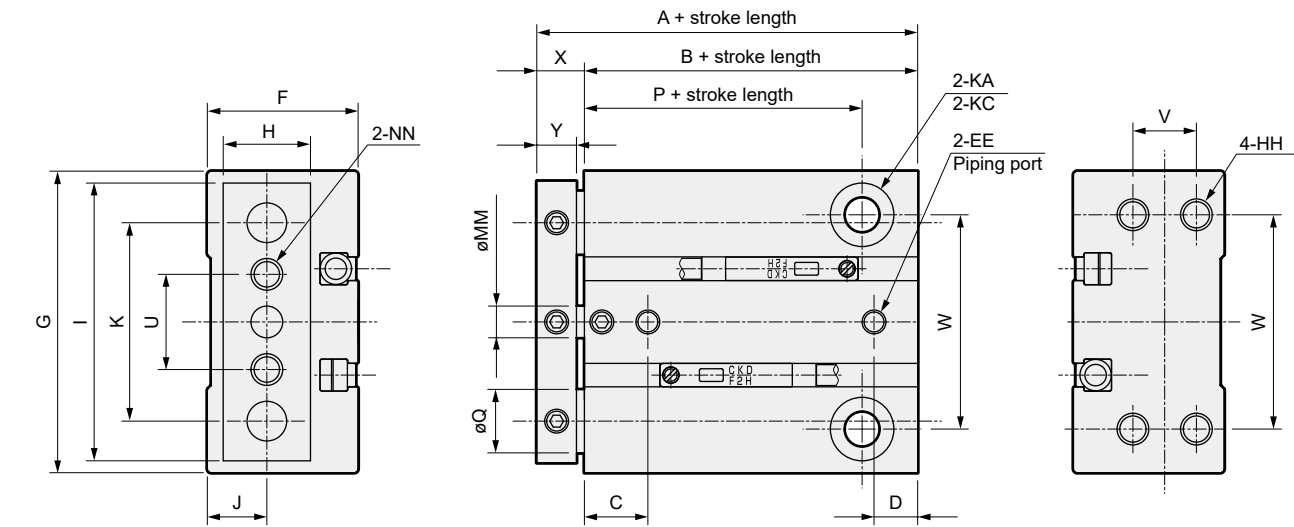
Cannot be disassembled

* 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						

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

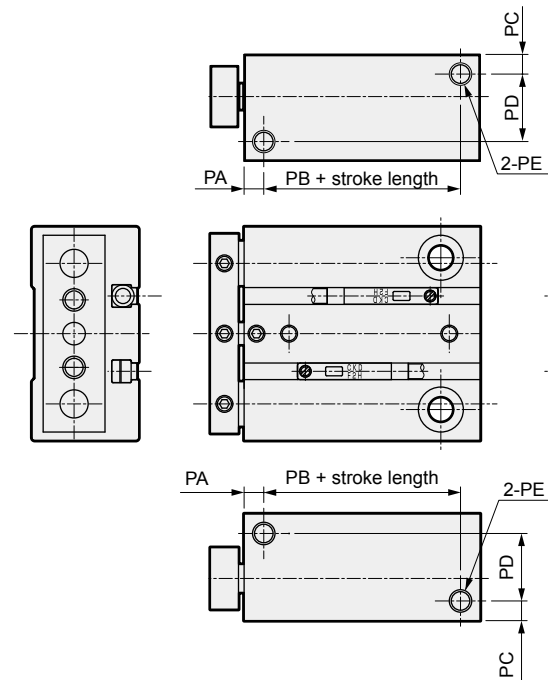
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UFCD
USC
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JSB3
LMB
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HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MecHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending



Code	Standard stroke length	A	B	C	D	EE	F	G	H	HH	I	J	K	KA
Bore size (mm)	(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

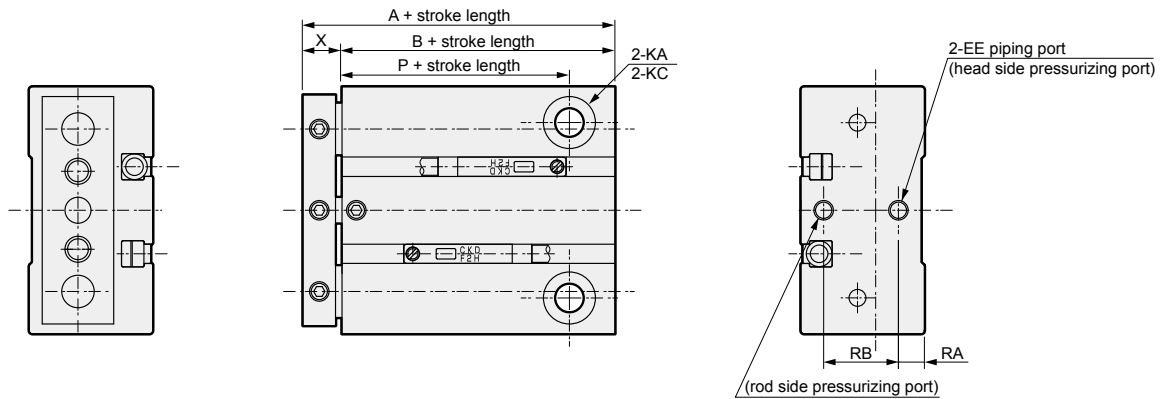
● Side mounting (A)



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

Dimensions with options

● Rear piping (R)



Code	Standard stroke length (mm)	A	B	EE	KA	KC	P	RA	RB
Bore size (mm)									
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

	Lead wire direction		
	H	V	S
Mounting A			
Mounting B *1			

		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
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STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
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CAC-N
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ShkAbs
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FK
SpdContr
Ending

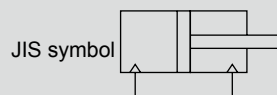
LCM
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 FK
 SpdContr
 Ending



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

STM-B-P7* Series

● Bore size: ø6, ø10



Specifications

Item	STM-B	
Bore size mm	ø6	ø10
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 °C	-10 (14°F) to 60 (140°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 length

Bore size	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length	Min. stroke with switch
ø6	5/10/15	15	5	5
ø10	5/10/15/20	20		

Note: Products other than standard stroke length 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 20 mA	50 mA or less	5 to 20 mA (*2)		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 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 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

STM-B-P7* Series

How to order

Without switch (built-in magnet for switch)

STM - B - 10 - 15 ————— **A - P72**

With switch (built-in magnet for switch)

STM - B - 10 - 15 - F2V - D - A - P72

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

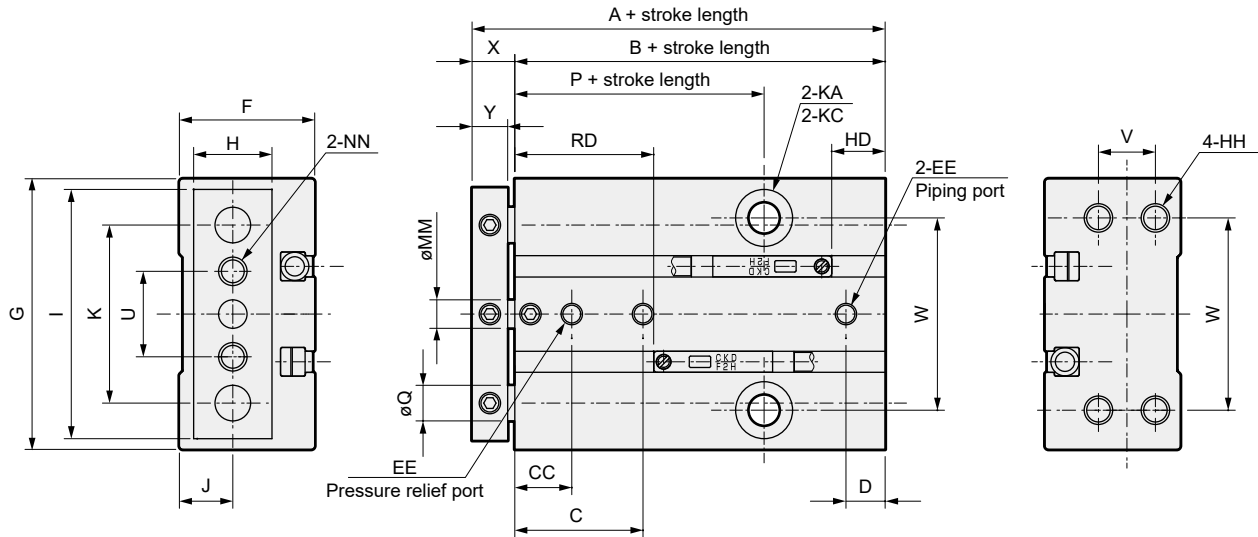
- A** Bearing : Ball bearing
- B** Bore size : ø10 mm
- C** Stroke length : 15 mm
- D** Switch model No. : Proximity switch F2H, lead wire 1 m
- E** Switch quantity : 2
- F** Option : Side mounting
- G** Clean-room specifications : Exhaust port

How to order switch

SW - F2V

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

Code		Description				
A Bearing						
B	Ball bearing					
B Bore size (mm)						
6	ø6					
10	ø10					
C Stroke length (mm)						
		Bore size				
		6	10			
5	5	●	●			
10	10	●	●			
15	15	●	●			
20	20		●			
D Switch model No.						
Axial lead wire	Radial lead wire	Contact	Voltage		Display	Lead wire
			AC	DC		
-	F2S*			●	1-color display	2-wire
F2H*	F2V*			●		
-	F3S*			●		3-wire
F3H*	F3V*			●		
F3PH*	F3PV*	Proximity		●	1 color display (PNP output) (made to order)	3-wire
F2YH*	F2YV*			●	2-color	2-wire
F3YH*	F3YV*			●	display	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					



Code	Standard stroke length (mm)	A	B	C	CC	D	EE	F	G	H	HH	I	J	K	KA
Bore size (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			

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 USSD
 UFCD
 USC
 UB
 JSB3
 LMB
 LML
 HCM
 HCA
 LBC
 CAC4
 UCAC2
 CAC-N
 UCAC-N
 RCS2
 RCC2
 PCC
 SHC
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