

Round shaped cylinder

# SCM-FP1 Series

- Bore size:  $\varnothing 20/\varnothing 25/\varnothing 32/\varnothing 40$   
 $\varnothing 50/\varnothing 63/\varnothing 80/\varnothing 100$

Pneumatic Cylinders I  
Catalog No. CB-029SA



## Specifications

Item	SCM								
	$\varnothing 20$	$\varnothing 25$	$\varnothing 32$	$\varnothing 40$	$\varnothing 50$	$\varnothing 63$	$\varnothing 80$	$\varnothing 100$	
Bore size mm	$\varnothing 20$	$\varnothing 25$	$\varnothing 32$	$\varnothing 40$	$\varnothing 50$	$\varnothing 63$	$\varnothing 80$	$\varnothing 100$	
Actuation	Double acting								
Working fluid	Compressed air								
Max. working pressure MPa	1.0								
Min. working pressure MPa	0.1				0.05				
Proof pressure MPa	1.6								
Ambient temperature °C	-10 to 60 (no freezing)								
Port size	With rubber cushion	Rc1/8			Rc1/4		Rc3/8	Rc1/2	
	With air cushion	M5			Rc1/8		Rc1/4	Rc3/8	
Stroke tolerance mm	With rubber cushion	+1.4 0 (up to 1000)		+1.4 0 (up to 1500)	+2.3 0 (up to 1000), +2.7 (up to 1500)				
	With air cushion	+1.4 0 (up to 1000)		+1.4 0 (up to 1500)	+1.4 0 (up to 1000), +1.8 (up to 1500)				
Working piston speed mm/s	30 to 1000 (Operate within the allowable absorbed energy.)								
Cushion	Either rubber cushion or air cushion can be selected.								
Effective air cushion length mm	8.1	8.1	8.6	8.6	13.4	13.4	15.4	15.4	
Lubrication	Not required								
Allowable absorbed energy J	With rubber cushion	0.1	0.2	0.5	0.9	1.6	1.6	3.3	5.8
	With air cushion	0.8	1.2	2.5	3.7	8.0	14.4	25.4	45.6
	Without cushion	-	-	-	-	0.057	0.057	0.112	0.153

\*1: The specifications on the left are for double acting/single rod. Each item differs depending on variation. For details, refer to Pneumatic Cylinders I (CB-029SA).

\*2: The values of allowable absorbed energy for "No cushion" are the allowable absorbed energy on the non-specified side when an air cushion is selected for the other side ("R" → Head side, "H" → Rod side).

\*3: Without a cushion, large energy generated by the external load cannot be absorbed. We recommend using an external shock absorber.

## Stroke

- Variation: blank, R

Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)
$\varnothing 20$	25, 50, 75, 100, 125, 150, 200,	1000	10
$\varnothing 25$			
$\varnothing 32$			
$\varnothing 40$	250, 300	1500	10
$\varnothing 50$			
$\varnothing 63$			
$\varnothing 80$			
$\varnothing 100$			

\*1: The custom stroke length is available in 1 mm increments.

- Variation: X, Y

Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)
$\varnothing 20$	25, 50, 75	200	5
$\varnothing 25$	100, 125		
$\varnothing 32$	150, 200		
$\varnothing 40$			

\*1: The custom stroke length is available in 1 mm increments.

- Variation: P, D, W, W4, M

Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)
$\varnothing 20$	25, 50, 75	600	10
$\varnothing 25$			
$\varnothing 32$			
$\varnothing 40$			
$\varnothing 50$			
$\varnothing 63$			

\*1: The custom stroke length is available in 1 mm increments.

\*2: Stroke length of more than 600 mm will be made to order. Contact CKD for details.

- Variation: B

Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)
$\varnothing 20$	25, 50, 75	500	10
$\varnothing 25$			
$\varnothing 32$			
$\varnothing 40$		750	
$\varnothing 50$			
$\varnothing 63$			

\*1: The custom stroke length is available in 1 mm increments.

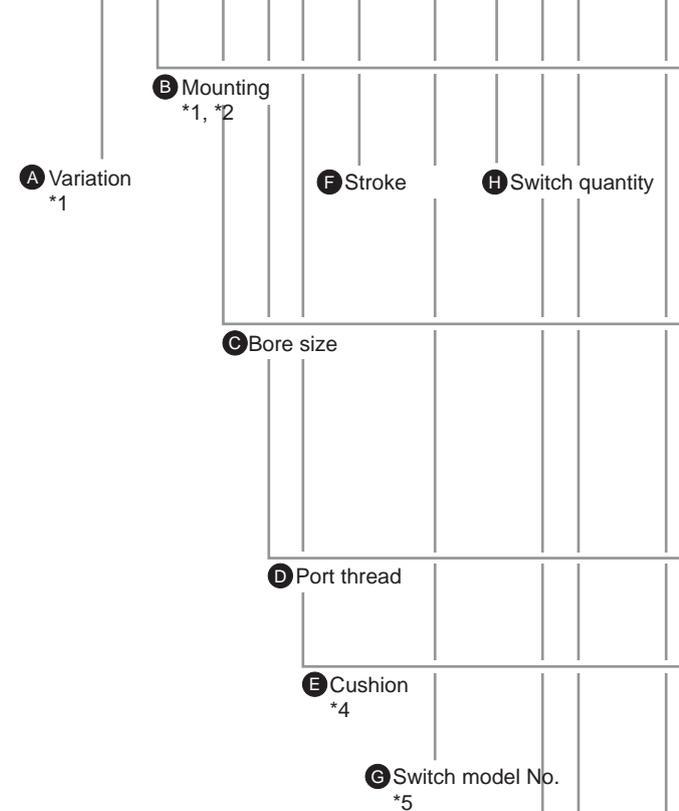
### How to order (Variation: blank, X, Y, D, W4, M)

Without switch

SCM - (M) - LB - 40 - ( ) - B - 100 - ( ) - ( ) - J FP1 I

With switch

SCM - (M) - LB - 40 - ( ) - B - 100 - T2H - D - ( ) - J FP1 I



### ⚠ Precautions for model No. selection

- \*1: Mounting bracket will be shipped with the product.
- \*2: If the product is supplied with bellows and the mounting bracket is LB or FA, it will be shipped assembled with the product.
- \*3: Refer to Pneumatic Cylinders I (CB-029SA) for the switch quantity and the min. stroke length.
- \*4: For the variation X or Y, models with an air cushion cannot be selected.
- \*5: T8H/V switches cannot be mounted when the bore size is ø20 to ø40 and switch built-in is the rail type.
- \*6: The instantaneous max. temperature is the temperature when sparks and cutting chips, etc., instantaneously contact the bellows.
- \*7: Refer to Pneumatic Cylinders I (CB-029SA) for custom specifications of rod end form.
- \*8: "Q" (switch rail attached at shipment) is not available for "Z" switch mounting.
- \*9: "I" and "Y" cannot be selected together.
- \*10: Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.

### [Example of model No.]

**SCM-M-LB-40B-100-T2H-D-JFP1I**

Model: Round shaped cylinder Food-grade grease specifications

- A** Variation : Double acting, rotation-stop
- B** Mounting : Axial foot
- C** Bore size : ø40 mm
- D** Port thread : Rc thread
- E** Cushion : With two-sided air cushion
- F** Stroke length : 100 mm
- G** Switch model No. : Proximity T2H switch, lead wire 1 m
- H** Switch quantity : 2 pcs. included
- I** Switch mounting : Rail
- J** Option : Bellows, max. ambient temp 60°C, instantaneous max. temp 100°C
- K** Accessory : Rod eye

Code	Description								
<b>A Variation</b>									
	Bore size	20	25	32	40	50	63	80	100
Blank	Double acting/single rod	●	●	●	●	●	●	●	●
X	Single acting/push	●	●	●	●				
Y	Single acting/pull	●	●	●	●				
D	Double acting/double rod	●	●	●	●	●	●	●	●
W 4	Double acting/tandem	●	●	●	●	●	●		
M	Double acting/rotation-stop	●	●	●	●	●	●		
<b>B Mounting</b>									
	Bore size	20	25	32	40	50	63	80	100
00	Basic	●	●	●	●	●	●	●	●
LB	Axial foot	●	●	●	●	●	●	●	●
FA	Rod side flange	●	●	●	●	●	●	●	●
FB	Head side flange	●	●	●	●	●	●	●	●
CA	Eye bracket	●	●	●	●	●	●		
CB	Clevis bracket (pin and snap ring attached)							●	●
TA	Rod side trunnion	●	●	●	●	●	●		
TB	Head side trunnion	●	●	●	●	●	●		
<b>C Bore size (mm)</b>									
20	ø20								
25	ø25								
32	ø32								
40	ø40								
50	ø50								
63	ø63								
80	ø80								
100	ø100								
<b>D Port thread</b>									
Blank	Rc thread								
N	NPT thread (made to order) With air cushion: ø32 and over								
G	G thread (made to order) With air cushion: ø32 and over								
<b>E Cushion</b>									
B	With two-sided air cushion								
R	Rod side air cushioned								
H	Head side air cushioned								
D	With two-sided rubber cushion								
<b>F Stroke length (mm)</b>									
Refer to the stroke length table on page 39.									
<b>G Switch model No.</b>									
Refer to the switch model No. on page 43.									
<b>H Switch quantity</b>									
R	1 on rod side								
H	1 on head side								
D	2								
T	3								
4	4 (when there are more than 4 switches, indicate switch quantity.)								
<b>I Switch mounting</b>									
Blank	Rail method								
Z	Band method								
<b>J Option</b>									
		Max. ambient temp		Instantaneous max. temp					
J	Bellows	60°C		100°C					
K	Bellows	100°C		200°C					
L	Bellows	250°C		400°C					
Q	Switch rail attached at shipment								
M	Piston rod material stainless steel								
<b>K Accessory</b>									
	Bore size	20	25	32	40	50	63	80	100
I	Rod eye	●	●	●	●	●	●	●	●
Y	Rod clevis (pin and snap ring attached)	●	●	●	●	●	●	●	●
B1	Eye bracket							●	●
B2	Clevis bracket	●	●	●	●	●	●		

Electric actuator	Pneumatic cylinders	Assistive device	Pneumatic valves	FRL/Auxiliary Components Electronic Component	Vacuum components	Main line components	Fluid control valves	Main line components	Anti-bacterial/bacteria-removing filter	Vacuum components	Fluid control valves
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# SCM-FP1 Series

## How to order (Variation: P, R)

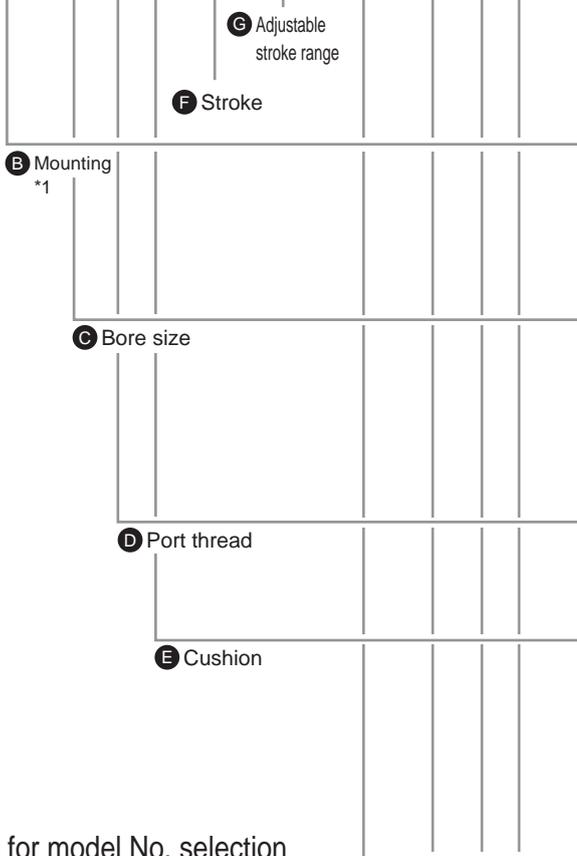
Without switch

**SCM - P - LB - 40 - D - 100 - 25 - J FP1 I**

With switch

**SCM - P - LB - 40 - D - 100 - 25 - T0H - D - J FP1 I**

**L** Accessory \*7



Code	Description		
<b>A Variation</b>			
P	Double acting/adjustable stroke (push)		
R	Double acting/adjustable stroke (pull)		
<b>B Mounting</b>			
00	Basic		
LB	Axial foot		
FA	Rod side flange		
TA	Rod side trunnion		
TB	Head side trunnion		
<b>C Bore size (mm)</b>			
20	ø20		
25	ø25		
32	ø32		
40	ø40		
50	ø50		
63	ø63		
<b>D Port thread</b>			
Blank	Rc thread		
N	NPT thread (made to order)		
G	G thread (made-to-order product)		
<b>E Cushion</b>			
D	With two-sided rubber cushion		
<b>F Stroke length (mm)</b>			
Refer to the stroke length table on page 39.			
<b>G Adjustable stroke range (mm)</b>			
25	25		
50	50		
<b>H Switch model No.</b>			
Refer to the switch model No. on page 43.			
<b>I Switch quantity</b>			
R	1 on rod side		
H	1 on head side		
D	2		
T	3		
4	4 (when there are more than 4 switches, indicate switch quantity.)		
<b>J Switch mounting</b>			
Blank	Rail method		
Z	Band method		
<b>K Option</b>			
		Max. ambient temp	Instantaneous max. temp
J	Bellows	60°C	100°C
K	Bellows	100°C	200°C
L	Bellows	250°C	400°C
Q	Switch rail attached at shipment		
M	Piston rod material (stainless steel)		
<b>L Accessory</b>			
I	Rod eye		
Y	Rod clevis (pin and snap ring attached)		
B2	Clevis bracket		

### ⚠ Precautions for model No. selection

- \*1: Mounting bracket will be shipped assembled with the product if LB, FB, or TB is selected. FA/TA is shipped with the product.
- \*2: For the number of installed switches and the min. stroke length, Pneumatic Cylinders I (CB-029SA).
- \*3: T8H/V switches cannot be mounted when the bore size is ø20 to ø40 and switch built-in is the rail type.
- \*4: The instantaneous max. temperature is the temperature when sparks and cutting chips, etc., instantaneously contact the bellows.
- \*5: For made to order specifications of rod end form, Pneumatic Cylinders I (CB-029SA).
- \*6: "Q" (switch rail attached at shipment) is not available for "Z" switch mounting.
- \*7: "I" and "Y" cannot be selected together.
- \*8: Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.

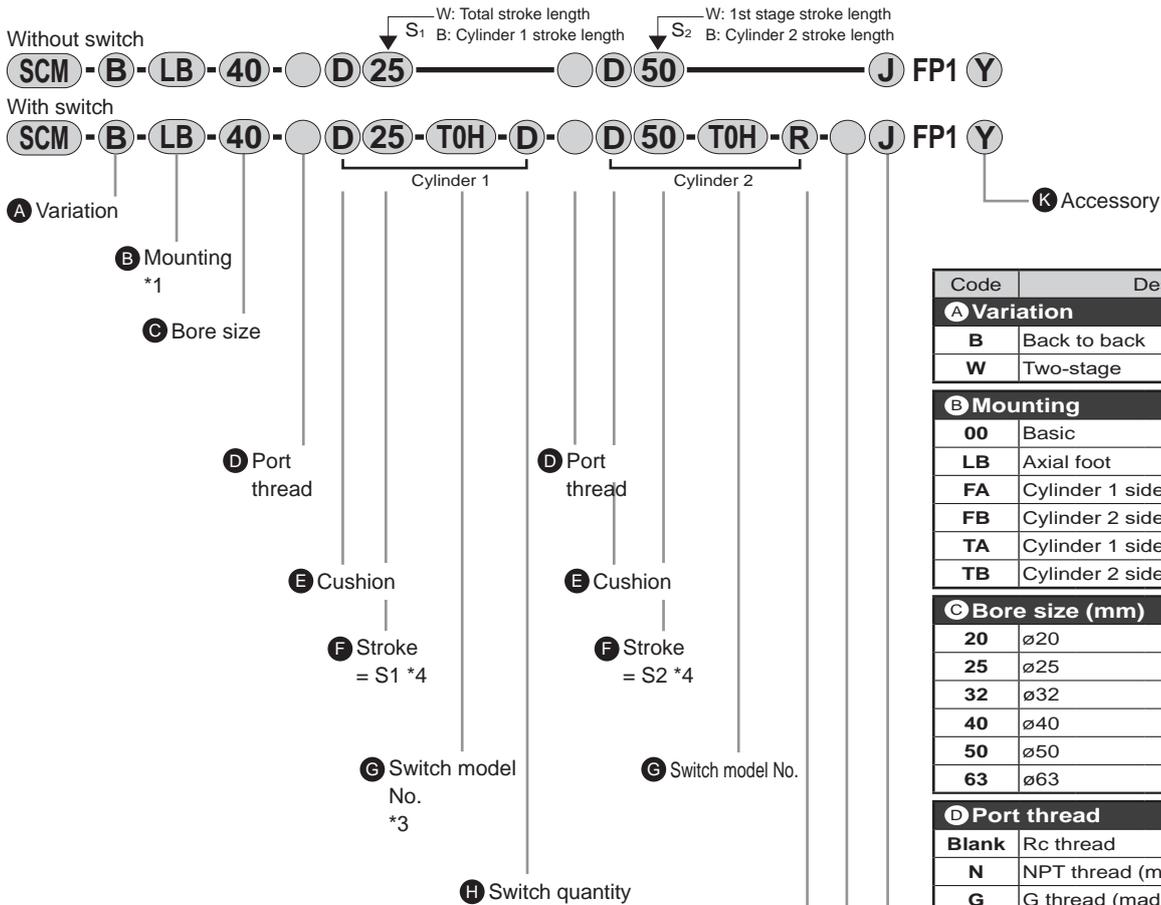
### [Example of model No.]

## SCM-P-LB-40D-100-25-T0H-D-JFP1I

Model: Round shaped cylinder Food-grade grease specifications

- A** Variation: Double acting/stroke adjustable (push)
- B** Mounting: Axial foot
- C** Bore size: ø40 mm
- D** Port thread: Rc thread
- E** Cushion: Two-sided rubber cushion
- F** Stroke length: 100mm
- G** Adjustable stroke range: 25 mm
- H** Switch model No.: Reed T0H switch, lead wire 1 m
- I** Switch quantity: 2 pcs. included
- J** Switch mounting: Rail
- K** Option: Bellows, max. ambient temperature 60°C, instantaneous max. temperature 100°C
- L** Accessory: Rod eye

### How to order (Variation: B, W)



### ⚠ Precautions for model No. selection

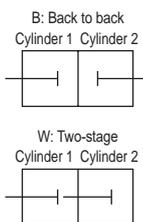
- \*1: Mounting bracket will be shipped with the product.
- \*2: If the product is supplied with bellows and the mounting bracket is LB, FA, or TA, it will be shipped assembled with the product.
- \*3: Refer to Pneumatic Cylinders I (CB-029SA) for the switch quantity and the min. stroke length.
- \*4: For variation W, no value can be selected when stroke S1=S2.
- \*5: T8H/V switches cannot be mounted when the bore size is ø20 to ø40 and switch built-in is the rail type.
- \*6: The instantaneous max. temperature is the temperature when sparks and cutting chips, etc., instantaneously contact the bellows.
- \*7: Refer to Pneumatic Cylinders I (CB-029SA) for custom specifications of rod end form.
- \*8: "Q" (switch rail attached at shipment) is not available for "Z" switch mounting.
- \*9: Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.

### [Example of model No.]

#### SCM-B-LB-40-D25-T0H-D-D50-T0H-R-JFP1Y

Model: Round shaped cylinder Food-grade grease specifications

- A Variation : Double acting/back to back
- B Mounting : Axial foot
- C Bore size : ø40 mm
- D Port thread : Rc thread
- E Cushion : Two-sided rubber cushion } Cylinder 1
- F Stroke length : S1=25mm
- E Cushion : Two-sided rubber cushion } Cylinder 2
- F Stroke length : S2=50mm
- G Switch model No. : Reed T0H switch, Lead wire 1 m
- H Switch quantity : Cylinder 1; 2, Cylinder 2; 1 on rod side
- I Switch mounting : Rail
- J Option : Bellows, max. ambient temperature 60°C, instantaneous max. temperature 100°C
- K Accessory : Rod clevis



Code	Description			
<b>A Variation</b>				
B	Back to back			
W	Two-stage			
<b>B Mounting</b>				
00	Basic			
LB	Axial foot			
FA	Cylinder 1 side flange			
FB	Cylinder 2 side flange			
TA	Cylinder 1 side trunnion			
TB	Cylinder 2 side trunnion			
<b>C Bore size (mm)</b>				
20	ø20			
25	ø25			
32	ø32			
40	ø40			
50	ø50			
63	ø63			
<b>D Port thread</b>				
Blank	Rc thread			
N	NPT thread (made to order)			
G	G thread (made-to-order product)			
<b>E Cushion</b>				
D	With two-sided rubber cushion			
<b>F Stroke length (mm)</b>				
Bore size	B		W *4	
	S1	S2	S1	S2
ø20 to ø32	10 to 500	10 to 500	10 to 600	10 to 200
ø40 to ø63	10 to 750	10 to 750		
<b>G Switch model No.</b>		Refer to the switch model No. on page 43.		
<b>H Switch quantity</b>				
R	1 on rod side			
H	1 on head side			
D	2			
T	3			
4	4 (for four or more switches, indicate switch quantity.)			
<b>I Switch mounting</b>				
Blank	Rail method			
Z	Band method			
<b>J Option</b>				
		Max. ambient temp	Instantaneous max. temp	
J	Bellows	60°C	100°C	
K	Bellows	100°C	200°C	
L	Bellows	250°C	400°C	
Q	Switch rail attached at shipment			
M	Piston rod material (stainless steel)			
<b>K Accessory</b>				
I	Rod eye			
Y	Rod clevis (pin and snap ring attached)			
B2	Clevis bracket			

Electric actuator  
Pneumatic cylinders  
Assistive device  
Pneumatic valves  
FRL/Auxiliary Components  
Electronic Component  
Vacuum components  
Main line components  
Fluid control valves  
Main line components  
Anti-bacterial/bacteria-removing filter  
Vacuum components  
Fluid control valves

FP1

FP2

# SCM-FP1 Series

Switch model No.

Switch model No.						
Lead wire Straight	Lead wire L-shaped	Contact	Voltage		Display	Lead wire
			AC	DC		
T0H*	T0V*	Reed	●	●	1-color display	2-wire
T5H*	T5V*		●	●	Without indicator lamp	
T8H*	T8V*		●	●	1-color display	
T1H*	T1V*	Proximity	●		1-color display	2-wire
T2H*	T2V*			●		
T3H*	T3V*			●	1-color display (made to order)	3-wire
T3PH*	T3PV*			●		
T2WH*	T2WV*			●	2-color display	2-wire
T2YH*	T2YV*			●		
T3WH*	T3WV*			●		3-wire
T3YH*	T3YV*			●		
T2YD*	-			●	2-color display AC magnetic field	2-wire
T2YDT*	-			●		
T2JH*	T2JV*		●	1-color display off-delay	2-wire	
<b>* Lead wire length</b>						
Blank	1m (standard)					
3	3 m (option)					
5	5 m (option)					

How to order mounting brackets

Bore size (mm)	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
<b>Mounting bracket</b>								
Foot (LB)	SCM-LB-20	SCM-LB-25	SCM-LB-32	SCM-LB-40	SCM-LB-50	SCM-LB-63	SCM-LB-80	SCM-LB-100
Flange (FA/FB)	SCM-FA-20	SCM-FA-25	SCM-FA-32	SCM-FA-40	SCM-FA-50	SCM-FA-63	SCM-FA-80	SCM-FA-100
Eye bracket (CA)	SCM-CA-20	SCM-CA-25	SCM-CA-32	SCM-CA-40	SCM-CA-50	SCM-CA-63	-	-
Clevis bracket (CB)	-	-	-	-	-	-	SCM-CB-80-FP1	SCM-CB-100-FP1
Trunnion (TA/TB)	SCM-TA-20-FP1	SCM-TA-25-FP1	SCM-TA-32-FP1	SCM-TA-40-FP1	SCM-TA-50-FP1	SCM-TA-63-FP1	-	-

\*1: All mounting brackets have mounting bolts attached.

\*2: The foot mounting bracket is provided as 2 pcs./set.

For dimensions, refer to the SCM Series in "Pneumatic Cylinders I (CB-029SA)".