



Pneumatic Cylinders I  
Catalog No. CB-029S

Tie rod cylinder

# SCG-FP1 Series

● Bore size:  $\varnothing 32/\varnothing 40/\varnothing 50/\varnothing 63/\varnothing 80/\varnothing 100$



## Specifications

Item		SCG					
Bore size mm		$\varnothing 32$	$\varnothing 40$	$\varnothing 50$	$\varnothing 63$	$\varnothing 80$	$\varnothing 100$
Actuation		Double acting					
Working fluid		Compressed air					
Max. working pressure MPa		1.0					
Min. working pressure MPa		0.05					
Proof pressure MPa		1.6					
Ambient temperature °C		-10 to 60 (no freezing)					
Port size		Rc1/8	Rc1/4		Rc3/8		Rc1/2
Stroke tolerance mm	With rubber cushion	${}^{\pm 1.4}_0$ (up to 1000), ${}^{\pm 1.8}_0$ (1001 to 1500)					
	With air cushion	${}^{\pm 1.0}_0$ (up to 360), ${}^{\pm 1.4}_0$ (361 to 1000), ${}^{\pm 1.8}_0$ (1001 to 1500)					
Working piston speed mm/s		30 to 1000 (Operate within the allowable absorbed energy.)					
Cushion		Either air cushion or rubber cushion can be selected					
Effective air cushion length mm		8.6	8.6	13.4	13.4	15.4	15.4
Lubrication		Not required					
Allowable absorbed energy J	With rubber cushion	0.5	0.9	1.6	1.6	3.3	5.8
	With air cushion	2.5	3.7	8.0	14.4	25.4	45.6

\*1: The specifications above are for double acting/single rod.

Each item differs depending on variation. For details, refer to Pneumatic Cylinders I (CB-029SA).

## Stroke

● Variation: blank, G, G2, G3

Bore size(mm)	Standard stroke (mm)	Max. stroke (mm)	Manufacturer/Stroke length compatible with cropping(mm)	Min. stroke (mm)
$\varnothing 32$	25/50/75/100	600	700	1
$\varnothing 40$			800	
$\varnothing 50$			1200	
$\varnothing 63$	300/350/400	1200		
$\varnothing 80$	450/500	700	1400	
$\varnothing 100$		800	1500	

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

\*2: If the max. stroke length is exceeded, product specifications may not be met, depending on operating conditions, Contact CKD for details.

\*3: For the type with bellows, the available stroke length for  $\varnothing 32$  to  $\varnothing 40$  bore size is 500mm and 600mm for  $\varnothing 50$  to  $\varnothing 63$  and 800mm for  $\varnothing 80$  to  $\varnothing 100$ .

\*4: Variation G2 and G3 with bore size  $\varnothing 32$  are not available.

● Variation: M

Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)
$\varnothing 32$	25/50/75/100	600	1
$\varnothing 40$	150/200/250		
$\varnothing 50$	300/350/400		
$\varnothing 63$	450/500		

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

\*2: If the stroke exceeds the max. stroke length, Product specifications may not be met depending on operating conditions, Contact CKD for details.

● Variation: D

Bore size(mm)	Standard stroke (mm)	Max. stroke (mm)	Min. Stroke(mm)
$\varnothing 32$	25/50/75/100	600	1
$\varnothing 40$			
$\varnothing 50$			
$\varnothing 63$	300/350/400		
$\varnothing 80$	450/500	700	
$\varnothing 100$		800	

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

\*2: If the max. stroke length is exceeded, product specifications may not be met, depending on operating conditions. Contact CKD in this case.

\*3: For the type with bellows, the available stroke length for  $\varnothing 32$  to  $\varnothing 40$  bore size is 500mm and 600mm for  $\varnothing 50$  to  $\varnothing 63$  and 800mm for  $\varnothing 80$  to  $\varnothing 100$ .

### How to order

Without switch

**SCG** - **M** - **LB** - **40** - **B** - **100** - **J** FP1 **I**

With switch

**SCG** - **M** - **LB** - **40** - **B** - **100** - **T2H** - **D** - **J** FP1 **I**

Model No.

**A** Variation

**F** Stroke

**B** Mounting  
\*1

**C** Bore size

**D** Port thread

**E** Cushion \*2

**G** Switch model No.

**H** Switch quantity  
\*4

**I** Option  
\*5

\*6

\*7

**I** Accessory \*8

Code	Description						
<b>A Variation</b>							
	Bore size	32	40	50	63	80	100
<b>Blank</b>	Double acting/single rod	●	●	●	●	●	●
<b>D</b>	Double acting/double rod	●	●	●	●	●	●
<b>M</b>	Double acting/rotation-stop	●	●	●	●	●	●
<b>G</b>	Double acting/heavy duty scraper	●	●	●	●	●	●
<b>G2</b>	Double acting/coolant proof (packing NBR)	●	●	●	●	●	●
<b>G3</b>	Double acting/coolant proof (packing FKM)	●	●	●	●	●	●

<b>B Mounting</b>	
<b>00</b>	Basic
<b>LB</b>	Axial foot
<b>FA</b>	Rod side flange
<b>FB</b>	Head side flange
<b>CA</b>	Eye bracket
<b>CB</b>	Clevis bracket (pin and split pin attached)
<b>TA</b>	Rod side trunnion
<b>TB</b>	Head side trunnion
<b>TC</b>	Intermediate trunnion

<b>C Bore size (mm)</b>	
<b>32</b>	ø32
<b>40</b>	ø40
<b>50</b>	ø50
<b>63</b>	ø63
<b>80</b>	ø80
<b>100</b>	ø100

<b>D Port thread</b>	
<b>Blank</b>	Rc thread
<b>N</b>	NPT thread (made to order)
<b>G</b>	G thread (made-to-order product)

<b>E Cushion</b>	
<b>B</b>	Two-sided air cushion
<b>D</b>	Two-sided rubber cushion

Note: The rubber cushioned type has a longer total length than the air cushioned type.

<b>F Stroke length (mm)</b>	
Refer to the stroke length table on page 45.	

<b>G Switch model No.</b>	
Refer to the switch model numbers on the following page.	

<b>H Switch quantity</b>	
<b>R</b>	1 on rod side
<b>H</b>	1 on head side
<b>D</b>	2
<b>T</b>	3

<b>I Option</b>			
		Max. ambient temp	Instantaneous ambient temperature
<b>J</b>	Bellows	60°C	100°C
<b>M</b>	Piston rod material (stainless steel)		

<b>J Accessory</b>	
<b>I</b>	Rod eye
<b>Y</b>	Rod clevis (pin and split pin attached)
<b>B1</b>	Eye bracket
<b>B2</b>	Clevis bracket (pin and split pin attached)
<b>B3</b>	Eye bracket
<b>B4</b>	Trunnion No. 2 bracket (2 pcs./set)

### ⚠ Precautions for model No. selection

- \*1: Mounting bracket will be shipped with the product. (If the product is a trunnion type (TA, TB or TC) with bellows and the mounting bracket is LB or FA, it will be shipped assembled with the product.)
- \*2: For the variation G2 and G3, a model with the two-sided rubber cushion cannot be selected.
- \*3: Refer to Pneumatic Cylinders I (CB-029SA) for the min. stroke length of the switch.
- \*4: When selecting TA or TB mounting, the switch quantity is limited to "H" (1 on head side) for TA, and "R" (1 on rod side) for TB.
- \*5: The instantaneous max. temperature is the temperature when sparks and cutting chips, etc., instantaneously contact the bellows.
- \*6: For the variation M, G2, and G3, the option M is unavailable.
- \*7: For the variation G, G2, and G3, the option J is unavailable.
- \*8: "I" and "Y" cannot be selected together.

### [Model No. example]

#### SCG-M-LB-40B-100-T2H-D-JFP1I

Model: Tie rod 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 : 100mm
- G** Switch model No. : Proximity T2H switch, Lead wire 1 m
- H** Switch quantity : 2 pcs. included
- I** Option : Bellows, max. ambient temperature 60°C, instantaneous max. temperature 100°C
- J** Accessory : Rod eye

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

# SCG-FP1 Series

Switch model No.

● Variation: blank, D, M, G

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)					

● Variation: G2, G3

Switch model No.						
Lead wire Straight	Lead wire L-shaped	Contact	Voltage		Display	Lead wire
			AC	DC		
T2YLH*	T2YLV*	Proximity		●	2-color display	2-wire
T3YLH*	T3YLV*			●		3-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)	ø32	ø40	ø50	ø63	ø80	ø100
<b>Mounting bracket</b>						
Foot(LB)	SCG-LB-32	SCG-LB-40	SCG-LB-50	SCG-LB-63	SCG-LB-80	SCG-LB-100
Flange(FA) (FB) *1	SCG-FA-32	SCG-FA-40	SCG-FA-50	SCG-FA-63	SCG-FA-80	SCG-FA-100
Eye bracket(CA)	SCG-CA-32-FP1	SCG-CA-40-FP1	SCG-CA-50-FP1	SCG-CA-63-FP1	SCG-CA-80-FP1	SCG-CA-100-FP1
Clevis bracket(CB)	SCG-CB-32-FP1	SCG-CB-40-FP1	SCG-CB-50-FP1	SCG-CB-63-FP1	SCG-CB-80-FP1	SCG-CB-100-FP1

\*1: For flange (FA) with bellows, specify SCG-FA-(Bore size)-J".

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

\*3: All mounting brackets have mounting bolts attached.

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