

SCG

Tie Rod Cylinder

ø32, ø40, ø50, ø63, ø80, ø100

General Type



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General Type

SCP□3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

Cylinder Switch

Ending

General Type

SCP□3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

Cylinder Switch

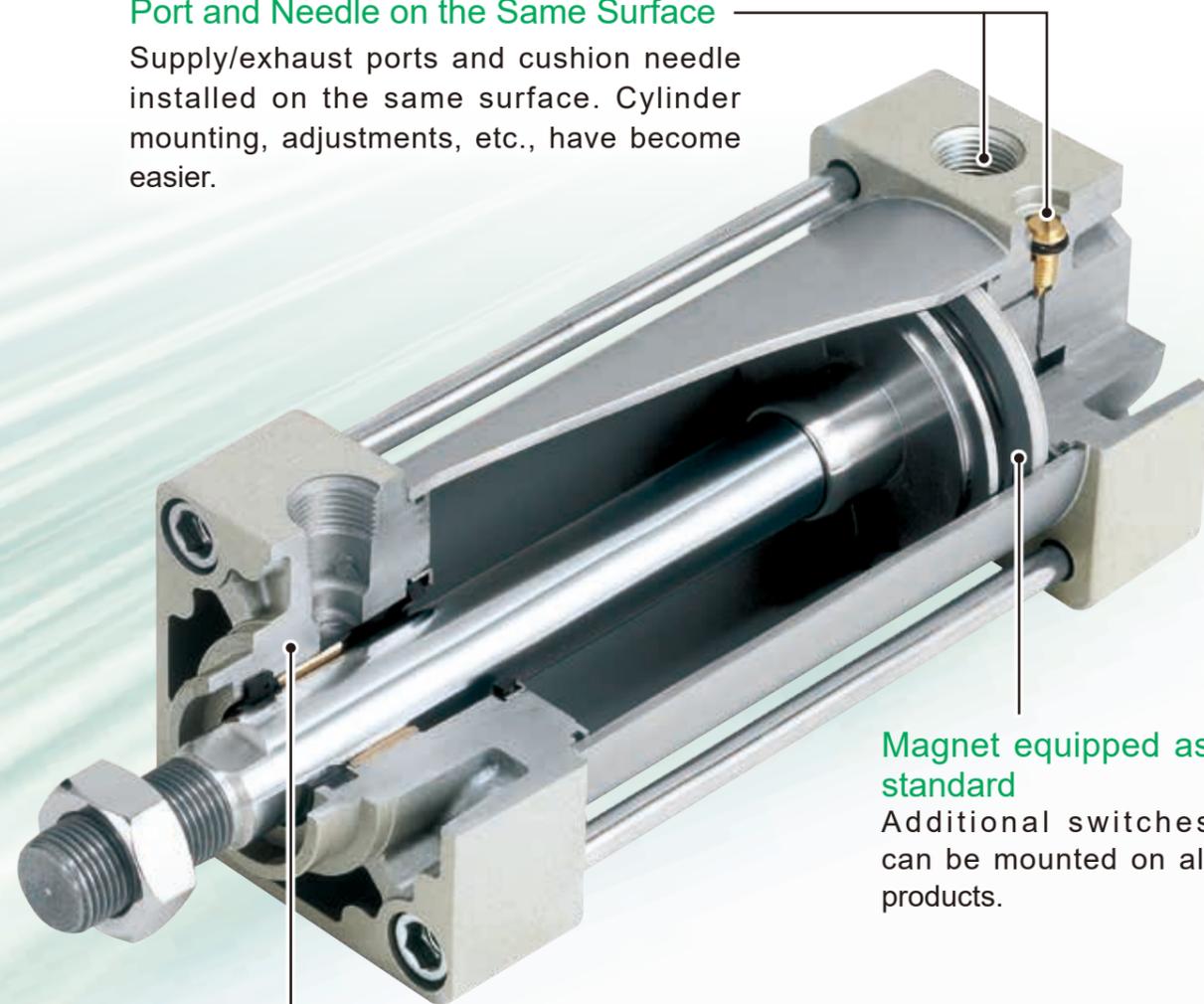
Ending

New type cylinder that is friendly to the global environment

Robust tie-rod type, yet lightweight and space-saving. SCG Series Air Cylinder: Easy to use and available in a wide range of variations. (ø32 to ø100)

Port and Needle on the Same Surface

Supply/exhaust ports and cushion needle installed on the same surface. Cylinder mounting, adjustments, etc., have become easier.



Magnet equipped as standard
Additional switches can be mounted on all products.

Heavy Duty Scraper Type (G)
Coolant Proof Type (G2, G3)
Spatter Adhesion Prevention Type (G4) also has the same dimensions

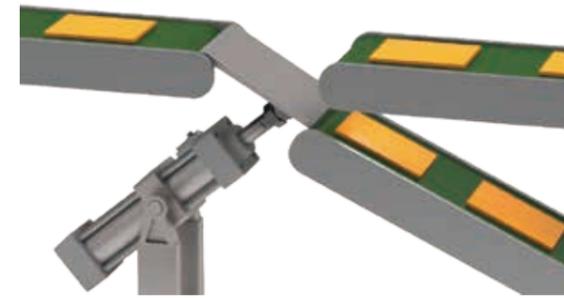
The outer dimensions of the heavy duty scraper type, coolant proof type, and spatter adhesion prevention type have been made the same as the standard type, improving installability.



Photo shows G4.

Application Example

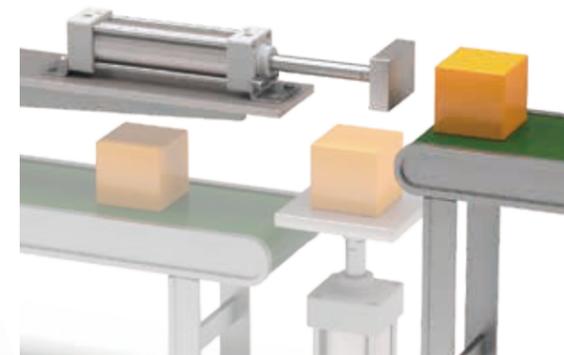
For Conveyor Line Switching



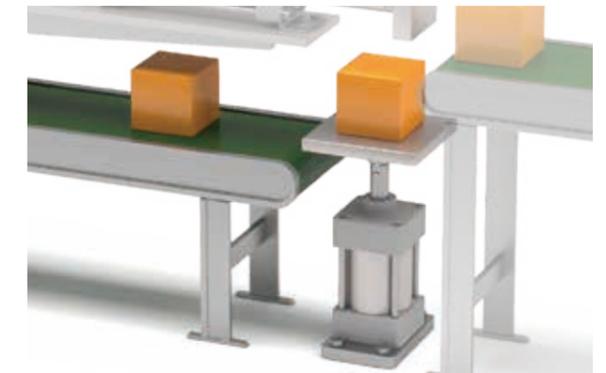
Stopper



Pusher



Lifter



SCG Series Product System

Model variations	Tube I.D.						Stroke (mm)
	ø32	ø40	ø50	ø63	ø80	ø100	
Standard SCG	●	●	●	●	●	●	25 to 500
Position locking SCG-Q	●	●	●	●	●	●	25 to 500
Low speed SCG-O	●	●	●	●	●	●	25 to 500
Low friction SCG-U	●	●	●	●	●	●	25 to 500
Double rod SCG-D	●	●	●	●	●	●	25 to 500
Rotation-stop SCG-M	●	●	●	●	●	●	25 to 500
Rubber scraper SCG-G	●	●	●	●	●	●	25 to 500
Coolant proof SCG-G2, G3	●	●	●	●	●	●	25 to 500
Anti-spatter adherence SCG-G4	●	●	●	●	●	●	25 to 500

General Type

SCP□3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

General Type

SCP□3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

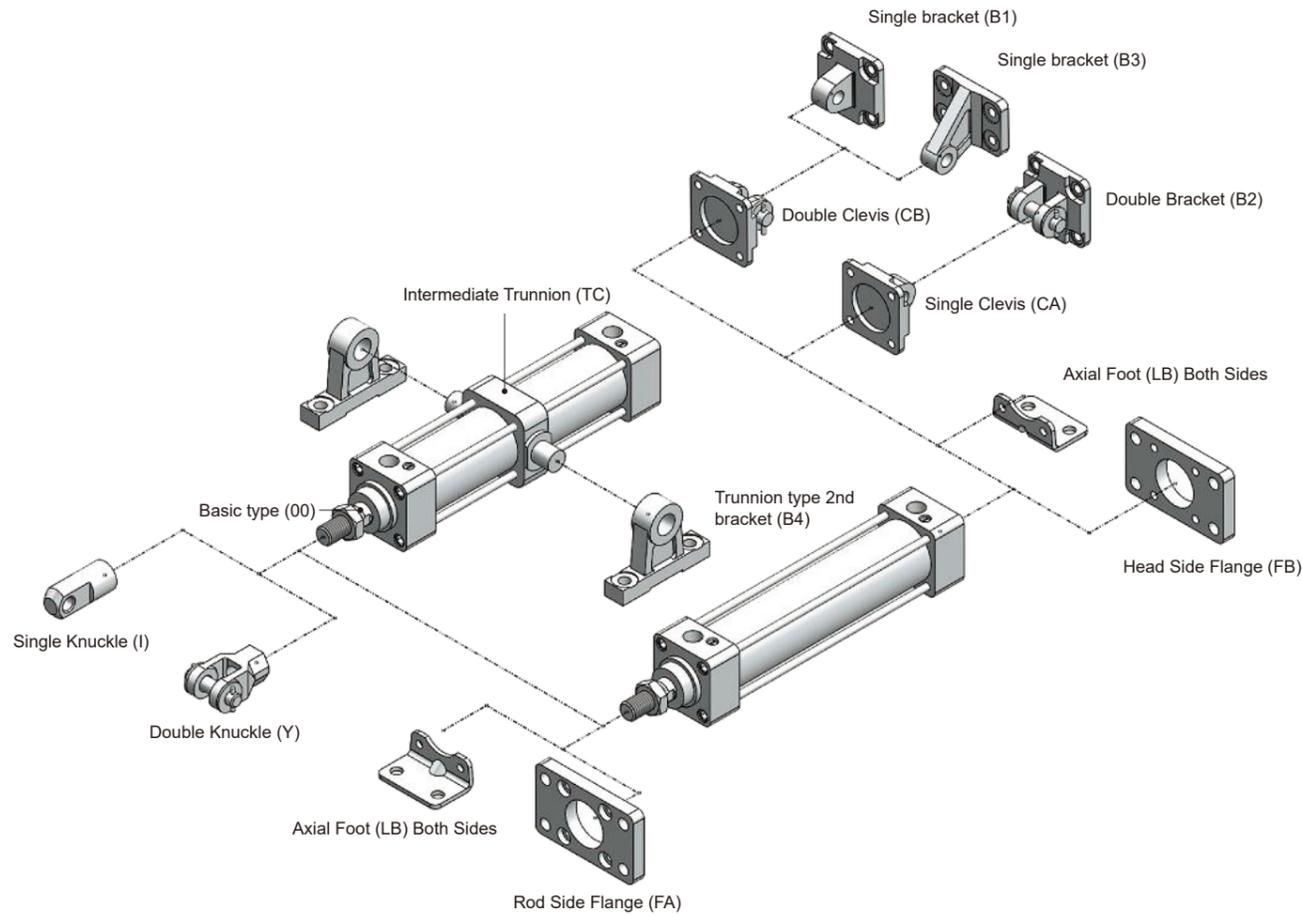
Cylinder Switch

Ending

Cylinder Switch

Ending

Combination of Mounting Brackets and Accessories



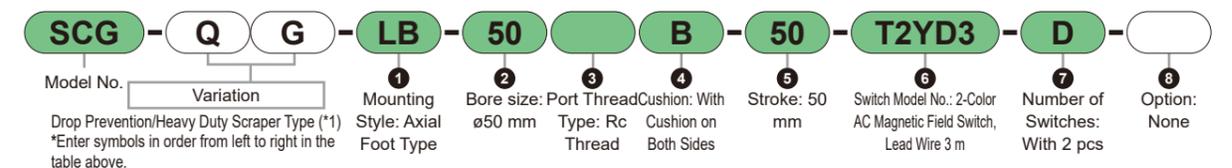
Combination Availability Table for Variations and Option Items

- Mark: Standard
- Mark: Option
- Mark: Custom Products
- △ Mark: Manufacturable depending on conditions (Please consult)
- × Mark: Not manufacturable

Precautions
 *1: Minimum starting pressure increases due to resistance during bellows expansion/contraction.
 *2: Depending on the environment, cutting oil may accumulate inside the bellows.
 *3: The material for ø32 is neoprene.

Category	Category	Variation										Piping thread		Option			
		Double Acting Single Rod Type	Non-Rotating Type	Drop prevention type	Low Speed Type	Low Friction Type	Heavy-Duty Scraper Type	Coolant Proof Scraper (NBR)	Coolant Proof Scraper (FKM)	Sputter adhesion prevention type	NPT	G	With Bellows (Polyolefin) *3	Piston Rod Material (Stainless Steel)			
Variation	Double Acting Single Rod Type	Blank															
	Non-Rotating Type	M		×	×	×	×	×	×								×
	Drop prevention type	Q			△	×	△	△	△							△	○
	Low Speed Type	O				×	×	×	×							*1	○
	Low Friction Type	U					×	×	×	×						×	○
	Heavy-Duty Scraper Type	G						×	×	×							○
	Coolant Proof Scraper (NBR)	G2							×	×							*2
	Coolant Proof Scraper (FKM)	G3								×							×
	Sputter adhesion prevention type	G4									×						
Piping thread	NPT	N											×				
	G	G															
Option	With Bellows (Polyolefin Material) *3	J															
	Piston Rod Material (Stainless Steel)	M															
Accessories	Cylinder Switch	Separately Shown	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	Single Knuckle	I	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	Double Knuckle	Y	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	Single Bracket	B1	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	Double Yoke Bracket	B2	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	Single Bracket	B3	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	Trunnion Type 2nd Bracket	B4	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

[Model No. Notation Method]



*1: There are conditions for combining the drop prevention type with other variations, so please consult us.



Tie Rod Cylinder Double Acting, Single Rod Type

SCG Series

● Bore size: $\phi 32, \phi 40, \phi 50, \phi 63, \phi 80, \phi 100$

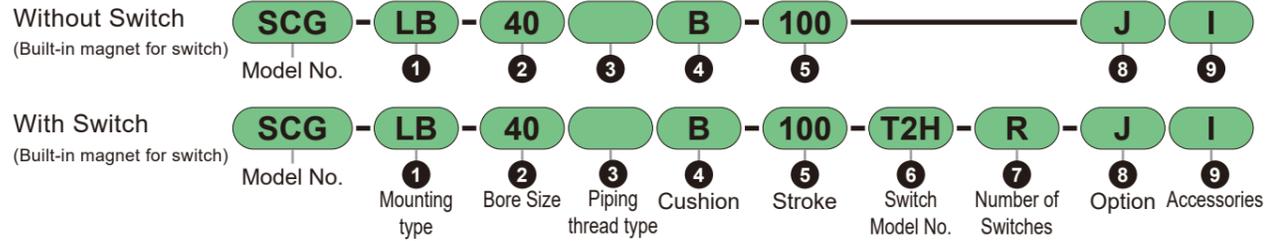
Circuit Diagram Symbol



SCG Series

Model No. Notation Method

Model No. Notation Method



Mounting brackets are included with the product and shipped. However, for trunnion type (TA, TB, TC) or when bellows are included and the mounting bracket is FA, they will be shipped assembled.

1 Mounting type

Code	Content
00	Basic type
LB	Axial Foot Type (Double Side)
FA	Rod Side Flange Type
FB	Head Side Flange Type
CA	Single Clevis Type
CB	Double Clevis Type (Pin and Washer Split Pin Attached)
TA	Rod Side Trunnion Type
TB	Head Side Trunnion Type
TC	Intermediate Trunnion Type

2 Bore Size (mm)

Code	Content
32	$\phi 32$
40	$\phi 40$
50	$\phi 50$
63	$\phi 63$
80	$\phi 80$
100	$\phi 100$

3 Piping thread type

Code	Content
Blank	Rc Thread
N	NPT Thread (Custom Order Product)
G	G Thread (Custom Order Product)

4 Cushion

Code	Content
B	Both Sides Air Cushion
D	Both Sides Rubber Cushion

Note: The rubber cushion type is longer overall than the air cushion type.

5 Stroke (mm)

Bore Size	Stroke	Intermediate Stroke
$\phi 32$	1 to 600	Every 1 mm
$\phi 40$		
$\phi 50$		
$\phi 63$		
$\phi 80$		
$\phi 100$	1 to 700	
	1 to 800	

Note: For minimum stroke with switch, refer to P. 492, 493.

6 Switch Model No.

For switch details, please refer to P. 971. Switches are included with the product and shipped.

Contact	Indicator Lamp Special Function	Wiring (Output)	Load Voltage (V)		Load Current (mA)		Lead Wire *1		
			AC	DC	AC	DC	Straight	L-shape	
Solid State	1-Color	2-wire	85 to 265	—	5 to 100	—	T1H□	T1V□	
			—	10 to 30	—	5 to 20 *2	T2H□	T2V□	
		3-wire (NPN)	—	30 or less	—	100 or less	T3H□	T3V□	
			—	30 or less	—	50 or less	T3PH□	T3PV□	
		2-Color	2-wire	—	24 ± 10%	—	5 to 20	T2WH□	T2WV□
			3-wire (NPN)	—	30 or less	—	50 or less	T3WH□	T3WV□
	Reed	1-Color	2-wire	—	24 ± 10%	—	5 to 20	T2WLH□	T2WLV□
				—	24 ± 10%	—	5 to 20	T2YD□	—
			—	10 to 30	—	5 to 20 *2	T2JH□	T2JV□	
		No Indicator Lamp	2-wire	—	10 to 30	—	5 to 20 *2	T2HR3	T2VR3
				110	12/24	7 to 20	5 to 50	T0H□	T0V□
				110	5/12/24	20 or less	50 or less	T5H□	T5V□
1-Color	2-wire	110/220	12/24	7 to 20 / 7 to 10	5 to 50	T8H□	T8V□		

*Lead wire length, connector specification

Code	Content
Blank	1 m (Standard)
3	3 m (Option)
5	5 m (Option)
W	M8 Connector, 1PIN (+), 4PIN (-) Lead Wire 0.3 m

*5: Only T2WLH and T2WLV can be selected.

Example) Lead wire length
1 m T0H
3 m T0H ③
5 m T0H ⑤

7 Number of Switches

Code	Content
R	With 1 on Rod Side
H	With 1 on Head Side
D	With 2 pcs
T	With 3 pcs

*1: If mounting type TA or TB is selected, the number of switches is limited to "H" (1 on head side) for TA, and "R" (1 on rod side) for TB.

8 Option

Code	Content	Max. Ambient Temperature	Instantaneous Max. Temperature
J	Bellows	100°C	200°C
M	Piston Rod Material (Stainless Steel)		

Note: Instantaneous maximum temperature is the temperature when sparks, chips, etc. momentarily contact the bellows.

9 Accessories

Code	Content
I	Single Knuckle
Y	Double Knuckle (Pin and Split Pin Attached)
B1	Single Bracket
B2	Double Yoke Bracket (Pin and Split Pin Attached)
B3	Single Bracket
B4	Trunnion Type 2nd Bracket (2 pcs/set)

*1: "I" and "Y" cannot be selected at the same time.

* For combinations of variations and options, see P. 489.

About Custom Product Specifications

For details, refer to P. 610 to 613.

Code	Content
-XK◇	Mounting Bracket Rotational Assembly
-XAQ◇	Trunnion Position Specification
-XP7	Knuckle fixed by pin driving
-XJ9	Without Bellows
-T2	Fluorine Packing Type
-A2	With 2 Rod Nuts
Rod End Shape Modification	Refer to Ending P. 11.

Model No. Example)

SCG - - XP7

Food Manufacturing Process Compatible Specification (Catalog No. CC-1271AA)

● Uses food grade grease that can be used in food manufacturing processes

SCG - - FP1

Rechargeable Battery Compatible Specification (Catalog No. CC-1226AA)

● Design compatible with rechargeable battery manufacturing process ● Long-life actuator that can contribute to productivity improvement with stable operation

SCG - - P4*

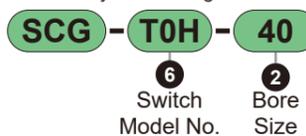
High Durability Components HP Series (Catalog No. CC-1421AA)

SCG - - HP*

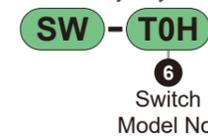
*Please contact us for details.

Switch Single Unit Model No. Notation Method

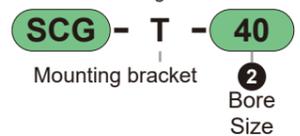
● Switch body + Mounting bracket set



● Switch body only



● Switch mounting bracket set



Note: Please consult us separately if using environmentally compatible T-type switches.

*1: For "□" in the switch model number, enter the code selected from the "Lead wire length, connector specification" table.

*2: The maximum load current value above, 20 mA, is at 25°C. If the switch operating ambient temperature is higher than 25°C, it will be lower than 20 mA. (At 60°C, it will be 5 to 10 mA.)

*3: This does not guarantee the water resistance of the cylinder. When using in a water-resistant environment, use of an improved water resistance cylinder is recommended.

*4: Switches other than the model numbers listed above are also available. (Custom Product) For details, see P. 971.

Specifications

Item		SCG					
Bore Size mm		ø32	ø40	ø50	ø63	ø80	ø100
Actuation method		Double Acting Type					
Operating Fluid		Compressed Air					
Max. Working Pressure MPa		1.0					
Min. Operating 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		^{+1.4} / ₀ (to 1000), ^{+1.8} / ₀ (1001 to 1500)					
Operating Piston Speed mm/s		30 to 1000 (Use within allowable absorbed energy.)					
Cushion		Air cushion/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 (When lubricating, use turbine oil Class 1 ISO VG32)					
Allowable Absorbed Energy J		0.5	0.9	1.6	1.6	3.3	5.8
		2.5	3.7	8.0	14.4	25.4	45.6

Stroke

Bore Size (mm)	Standard Stroke (mm)	Max. Stroke (mm)	Manufacturable Stroke (mm)	Min. Stroke (mm)
ø32	25, 50, 75, 100	600	700	1
ø40			800	
ø50			1200	
ø63			1200	
ø80			1400	
ø100	450, 500	700	1500	
		800		

*1: Intermediate strokes can be manufactured in 1 mm increments.
 *2: If the maximum stroke is exceeded, product specifications may not be met depending on the conditions, so please consult us.
 *3: When bellows are included, the manufacturable stroke for Bore Size ø32 to ø40 is 500 mm, for ø50 to ø63 is 600 mm, and for ø80 to ø100 is 800 mm.

Min. Stroke with Switch

●T0/T5 type switch

Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
	2	1	2	1	2	1	1
ø32	20 (18)	20 (10)	70 (40)	100 (70)	100 (70)	50 (35)	50 (35)
ø40	20 (19)	20 (10)	55 (40)	100 (70)	100 (70)	50 (35)	50 (35)
ø50	21 (19)	21 (10)	21 (19)	102 (72)	102 (72)	49 (34)	51 (36)
ø63	21 (20)	21 (11)	21 (20)	107 (77)	107 (77)	54 (39)	56 (41)
ø80	21 (21)	20 (11)	21 (21)	117 (87)	117 (87)	53 (38)	60 (45)
ø100	21 (21)	19 (11)	21 (21)	126 (96)	126 (96)	64 (49)	69 (54)

Note: Note: () indicates T□V (lead wire L-type).

●T8 type switch

Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
	2	1	2	1	2	1	1
ø32	19 (18)	19 (10)	67 (31)	97 (61)	97 (61)	49 (31)	49 (31)
ø40	19 (19)	19 (10)	52 (31)	97 (61)	97 (61)	49 (31)	49 (31)
ø50	19 (19)	18 (10)	19 (19)	97 (61)	97 (61)	48 (30)	48 (30)
ø63	20 (20)	18 (11)	20 (20)	102 (66)	102 (66)	53 (35)	53 (35)
ø80	21 (21)	17 (11)	21 (21)	112 (76)	112 (76)	51 (33)	57 (39)
ø100	21 (21)	17 (11)	21 (21)	121 (85)	121 (85)	61 (43)	67 (49)

Note: Note: () indicates T□V (lead wire L-type).

Min. Stroke with Switch

●T2/T3 type switch

Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
	2	1	2	1	2	1	1
ø32	20 (11)	20 (6)	70 (40)	100 (70)	100 (70)	50 (35)	50 (35)
ø40	20 (11)	20 (6)	55 (40)	100 (70)	100 (70)	50 (35)	50 (35)
ø50	21 (11)	21 (6)	21 (11)	102 (72)	102 (72)	49 (34)	51 (36)
ø63	21 (12)	21 (7)	21 (12)	107 (77)	107 (77)	54 (39)	56 (41)
ø80	20 (12)	20 (7)	20 (12)	117 (87)	117 (87)	53 (38)	60 (45)
ø100	19 (12)	19 (7)	19 (12)	126 (96)	126 (96)	64 (49)	69 (54)

*1: () indicates T□V (L-shaped lead wire type).
 *2: If the stroke is 15 mm or less, two switches may turn ON simultaneously. In this case, adjust the switch mounting positions so that they are further apart from each other.

●T1 type switch

Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
	2	1	2	1	2	1	1
ø32	19 (11)	19 (6)	68 (38)	98 (68)	98 (68)	49 (34)	49 (34)
ø40	19 (11)	19 (6)	53 (38)	98 (68)	98 (68)	49 (34)	49 (34)
ø50	20 (11)	20 (6)	20 (11)	100 (70)	100 (70)	48 (33)	50 (35)
ø63	20 (12)	20 (7)	20 (12)	105 (75)	105 (75)	53 (38)	55 (40)
ø80	19 (12)	19 (7)	19 (12)	115 (85)	115 (85)	52 (37)	59 (44)
ø100	18 (12)	18 (7)	18 (12)	124 (94)	124 (94)	63 (48)	68 (53)

*1: () indicates T□V (L-shaped lead wire type).
 *2: If the stroke is 15 mm or less, two switches may turn ON simultaneously. In this case, adjust the switch mounting positions so that they are further apart from each other.

●T2W/T3W type switch

Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
	2	1	2	1	2	1	1
ø32	23 (12)	23 (8)	75 (45)	105 (75)	105 (75)	53 (38)	53 (38)
ø40	23 (12)	23 (8)	60 (45)	105 (75)	105 (75)	53 (38)	53 (38)
ø50	23 (13)	23 (8)	23 (13)	107 (77)	107 (77)	51 (36)	53 (38)
ø63	23 (13)	23 (8)	23 (13)	112 (82)	112 (82)	56 (41)	58 (43)
ø80	22 (14)	22 (8)	22 (14)	122 (92)	122 (92)	55 (40)	62 (47)
ø100	22 (14)	22 (8)	22 (14)	131 (101)	131 (101)	66 (51)	72 (57)

*1: () indicates T□V (L-shaped lead wire type).
 *2: If the stroke is 15 mm or less, two switches may turn ON simultaneously. In this case, adjust the switch mounting positions so that they are further apart from each other.

●T2YD type switch

Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
	2	1	2	1	2	1	1
ø32	23	23	75	105	105	53	53
ø40	23	23	60	105	105	53	53
ø50	23	23	23	107	107	51	53
ø63	23	23	23	112	112	56	58
ø80	22	22	22	122	122	55	62
ø100	22	22	22	131	131	66	72

*1: () indicates T□V (L-shaped lead wire type).

●T2WL type switch

Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
	2	1	2	1	2	1	1
ø32	24 (12)	24 (8)	77 (45)	107 (75)	107 (75)	54 (38)	54 (38)
ø40	24 (12)	24 (8)	62 (45)	107 (75)	107 (75)	54 (38)	54 (38)
ø50	24 (13)	24 (8)	24 (13)	109 (77)	109 (77)	52 (36)	54 (38)
ø63	24 (13)	24 (8)	24 (13)	114 (82)	114 (82)	57 (41)	59 (43)
ø80	23 (14)	23 (8)	23 (14)	124 (92)	124 (92)	56 (40)	63 (47)
ø100	23 (14)	23 (8)	23 (14)	133 (101)	133 (101)	67 (51)	73 (57)

*1: () indicates T□V (L-shaped lead wire type).
 *2: If the stroke is 15 mm or less, two switches may turn ON simultaneously. In this case, adjust the switch mounting positions so that they are further apart from each other.

Weight Table

(Unit: kg)

Bore size (mm)	Product Weight at Stroke = 0 mm						Stroke: Added weight per 50 mm	Switch Weight (Per Piece)	Switch Mounting Bracket Weight	Accessory Weight	
	Basic type (00)	Foot Type (LB)	Flange type (FA, FB)	Single Clevis Type (CA)	Double clevis type (CB)	Trunnion Type (TA, TB, TC)				I	Y
ø32	0.50	0.61	0.72	0.65	0.68	0.67	0.12	Refer to the weight listed in the switch specifications on P. 971.	0.024	0.07	0.10
ø40	0.66	0.80	0.94	0.85	0.85	1.00	0.17		0.024	0.07	0.13
ø50	1.13	1.29	1.61	1.54	1.54	1.61	0.23		0.022	0.20	0.30
ø63	1.39	1.73	2.15	1.95	1.96	2.27	0.25		0.022	0.20	0.30
ø80	2.66	3.09	4.23	3.93	3.94	4.15	0.40		0.026	0.52	0.94
ø100	3.77	4.63	6.09	5.49	5.52	6.34	0.51		0.024	0.48	0.92

MEMO

Theoretical Thrust Table

(Unit: N)

Bore Size (mm)	Operating Direction	Operating Pressure MPa											
		0.05	0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø32	Push	40.2	80.4	1.21 × 10 ²	1.61 × 10 ²	2.41 × 10 ²	3.22 × 10 ²	4.02 × 10 ²	4.83 × 10 ²	5.63 × 10 ²	6.43 × 10 ²	7.24 × 10 ²	8.04 × 10 ²
	Pull	34.6	69.1	1.04 × 10 ²	1.38 × 10 ²	2.07 × 10 ²	2.76 × 10 ²	3.46 × 10 ²	4.15 × 10 ²	4.84 × 10 ²	5.53 × 10 ²	6.22 × 10 ²	6.91 × 10 ²
ø40	Push	62.8	1.26 × 10 ²	1.88 × 10 ²	2.51 × 10 ²	3.77 × 10 ²	5.03 × 10 ²	6.28 × 10 ²	7.54 × 10 ²	8.80 × 10 ²	1.01 × 10 ³	1.13 × 10 ³	1.26 × 10 ³
	Pull	52.8	1.06 × 10 ²	1.58 × 10 ²	2.11 × 10 ²	3.17 × 10 ²	4.22 × 10 ²	5.28 × 10 ²	6.33 × 10 ²	7.39 × 10 ²	8.44 × 10 ²	9.50 × 10 ²	1.06 × 10 ³
ø50	Push	98.2	1.96 × 10 ²	2.95 × 10 ²	3.93 × 10 ²	5.89 × 10 ²	7.85 × 10 ²	9.82 × 10 ²	1.18 × 10 ³	1.37 × 10 ³	1.57 × 10 ³	1.77 × 10 ³	1.96 × 10 ³
	Pull	82.5	1.65 × 10 ²	2.47 × 10 ²	3.30 × 10 ²	4.95 × 10 ²	6.60 × 10 ²	8.25 × 10 ²	9.90 × 10 ²	1.15 × 10 ³	1.32 × 10 ³	1.48 × 10 ³	1.65 × 10 ³
ø63	Push	1.56 × 10 ²	3.12 × 10 ²	4.68 × 10 ²	6.23 × 10 ²	9.35 × 10 ²	1.25 × 10 ³	1.56 × 10 ³	1.87 × 10 ³	2.18 × 10 ³	2.49 × 10 ³	2.81 × 10 ³	3.12 × 10 ³
	Pull	1.40 × 10 ²	2.80 × 10 ²	4.20 × 10 ²	5.61 × 10 ²	8.41 × 10 ²	1.12 × 10 ³	1.40 × 10 ³	1.68 × 10 ³	1.96 × 10 ³	2.24 × 10 ³	2.52 × 10 ³	2.80 × 10 ³
ø80	Push	2.51 × 10 ²	5.03 × 10 ²	7.54 × 10 ²	1.01 × 10 ³	1.51 × 10 ³	2.01 × 10 ³	2.51 × 10 ³	3.02 × 10 ³	3.52 × 10 ³	4.02 × 10 ³	4.52 × 10 ³	5.03 × 10 ³
	Pull	2.27 × 10 ²	4.54 × 10 ²	6.80 × 10 ²	9.07 × 10 ²	1.36 × 10 ³	1.81 × 10 ³	2.27 × 10 ³	2.72 × 10 ³	3.17 × 10 ³	3.63 × 10 ³	4.08 × 10 ³	4.54 × 10 ³
ø100	Push	3.93 × 10 ²	7.85 × 10 ²	1.18 × 10 ³	1.57 × 10 ³	2.36 × 10 ³	3.14 × 10 ³	3.93 × 10 ³	4.71 × 10 ³	5.50 × 10 ³	6.28 × 10 ³	7.07 × 10 ³	7.85 × 10 ³
	Pull	3.57 × 10 ²	7.15 × 10 ²	1.07 × 10 ³	1.43 × 10 ³	2.14 × 10 ³	2.86 × 10 ³	3.57 × 10 ³	4.29 × 10 ³	5.00 × 10 ³	5.72 × 10 ³	6.43 × 10 ³	7.15 × 10 ³

Mounting Bracket Model No. Notation Method

Bore Size (mm)	ø32	ø40	ø50	ø63	ø80	ø100
Mounting bracket						
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
Single Clevis (CA)	SCG-CA-32	SCG-CA-40	SCG-CA-50	SCG-CA-63	SCG-CA-80	SCG-CA-100
Double Clevis (CB)	SCG-CB-32	SCG-CB-40	SCG-CB-50	SCG-CB-63	SCG-CB-80	SCG-CB-100

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

*2: Foot type mounting bracket (LB) is 2 pcs/set.

*3: Mounting bolts are included to each mounting bracket.

General Type

General Type

SCP□3

SCP□3

CMK2

CMK2

CMA2

CMA2

SCM

SCM

SCG

SCG

SCA2

SCA2

SCS2

SCS2

Cylinder Switch

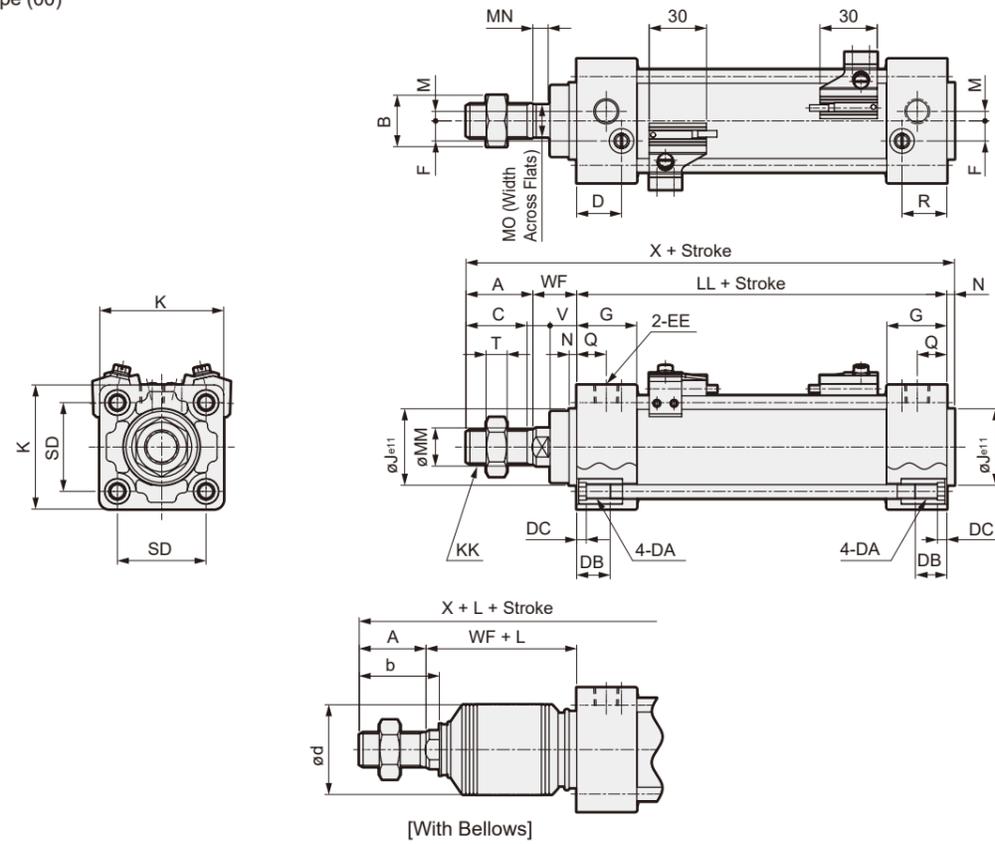
Cylinder Switch

Ending

Ending

Outline Dimension Drawing

● Basic type (00)



Code		Basic Type (00) Basic Dimensions												
Bore Size (mm)		A	B	C	D	DA	DB	DC	EE	F	G	J	K	KK
ø32		22	17	20	19	M6	16	5	Rc1/8	6.5	27	30	46	M10 × 1.25
ø40		30	22	27	19	M6	16	5	Rc1/4	9	27	35	52	M14 × 1.5
ø50		35	27	32	23.5	M8	16	5	Rc1/4	10.5	31.5	40	65	M18 × 1.5
ø63		35	27	32	21.5	M8	16	5	Rc3/8	12	31.5	45	75	M18 × 1.5
ø80		40	32	37	28	M10	16	5	Rc3/8	14	38	45	95	M22 × 1.5
ø100		40	41	37	28	M10	16	5	Rc1/2	15	38	55	114	M26 × 1.5

Code		With Bellows												
Bore Size (mm)		LL *1	M	MM	MN	MO	N	Q	SD	T	V	WF	X *1	
ø32		84 (90)	4	12	5.5	10	4	13	32.5	6	13	25	135 (141)	
ø40		84 (90)	4	16	6	14	4	14	38	8	13	21	139 (145)	
ø50		94 (102)	5	20	8	17	4	15.5	46.5	11	14	23	156 (164)	
ø63		94 (102)	9	20	8	17	4	16.5	56.5	11	14	23	156 (164)	
ø80		114 (124)	11.5	25	11	22	4	19	72	13	20	32	190 (200)	
ø100		114 (124)	17	30	13	27	4	19	89	16	20	32	190 (200)	

Code		With Bellows													
Bore Size (mm)		b	d	L											
				50 or less	Over 50 to 100	Over 100 to 150	Over 150 to 200	Over 200 to 300	Over 300 to 400	Over 400 to 500	Over 500 to 600	Over 600 to 700	Over 700 to 800	When Exceeding 800	
ø32		31.5	38	26	39	51	64	89	114	139	0.35 × Stroke - 37				
ø40		35	40	30	43	55	68	93	118	143	0.35 × Stroke - 32				
ø50		42	47	31	44	56	69	94	119	144	169	0.35 × Stroke - 41			
ø63		42	47	31	44	56	69	94	119	144	169	0.35 × Stroke - 41			
ø80		50	53	29	42	54	67	92	117	142	167	192	217	0.35 × Stroke - 63	
ø100		52.5	61	29	42	54	67	92	117	142	167	192	217	0.35 × Stroke - 63	

*1: Dimensions in () indicate rubber cushion type.

*2: Round up the L dimension to the nearest whole number.

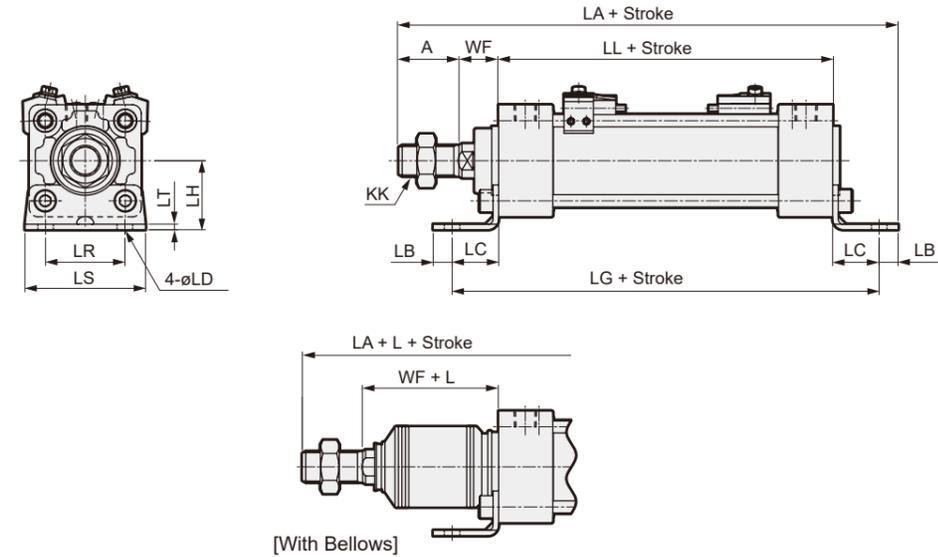
*3: For dimensions with each switch, refer to P. 608, 609.

*4: For outer dimensions diagram of accessories, refer to P. 511.

Double Acting/Single Rod Type

Outline Dimension Drawing

● Axial Foot Type (LB)



Code		Axial Foot Type (LB) Mounting Dimensions												
Bore Size (mm)		A	KK	LL *1	WF	LA *1	LB	LC	LD	LG *1	LH	LR	LS	LT
ø32		22	M10 × 1.25	84 (90)	25	162 (168)	9	22	7	128 (134)	30	32	50	3.2
ø40		30	M14 × 1.5	84 (90)	21	170 (176)	11	24	9	132 (138)	33	38	55	3.2
ø50		35	M18 × 1.5	94 (102)	23	190 (198)	11	27	9	148 (156)	40	46	70	3.2
ø63		35	M18 × 1.5	94 (102)	23	193 (201)	14	27	12	148 (156)	45	56	80	4.5
ø80		40	M22 × 1.5	114 (124)	32	230 (240)	14	30	12	174 (184)	55	72	95	4.5
ø100		40	M26 × 1.5	114 (124)	32	234 (244)	16	32	14	178 (188)	65	89	114	6

Code		With Bellows												
Bore Size (mm)		L												
		50 or less	Over 50 to 100	Over 100 to 150	Over 150 to 200	Over 200 to 300	Over 300 to 400	Over 400 to 500	Over 500 to 600	Over 600 to 700	Over 700 to 800	When Exceeding 800		
ø32		26	39	51	64	89	114	139	0.35 × Stroke - 37					
ø40		30	43	55	68	93	118	143	0.35 × Stroke - 32					
ø50		31	44	56	69	94	119	144	169	0.35 × Stroke - 41				
ø63		31	44	56	69	94	119	144	169	0.35 × Stroke - 41				
ø80		29	42	54	67	92	117	142	167	192	217	0.35 × Stroke - 63		
ø100		29	42	54	67	92	117	142	167	192	217	0.35 × Stroke - 63		

*1: Dimensions in () indicate rubber cushion type.

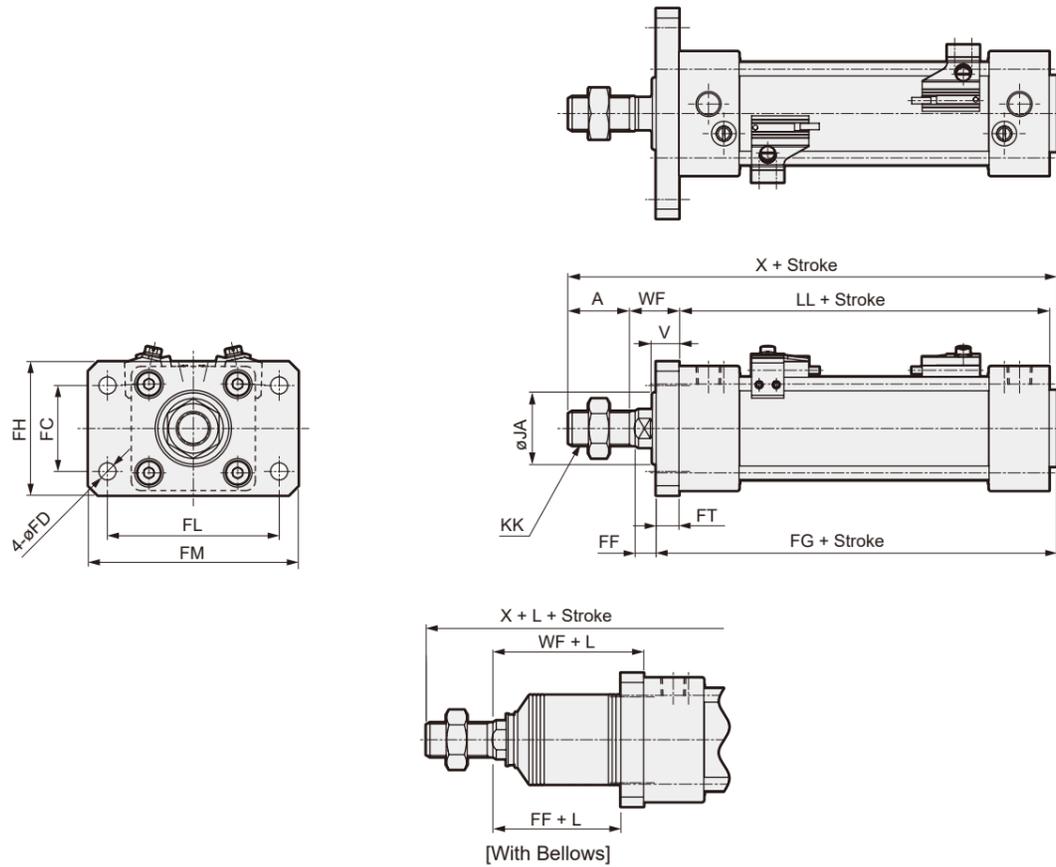
*2: Round up the L dimension to the nearest whole number.

*3: For dimensions with each switch, refer to P. 608, 609.

*4: For outer dimensions diagram of accessories, refer to P. 511.

Outline Dimension Drawing

● Rod Side Flange Type (FA)



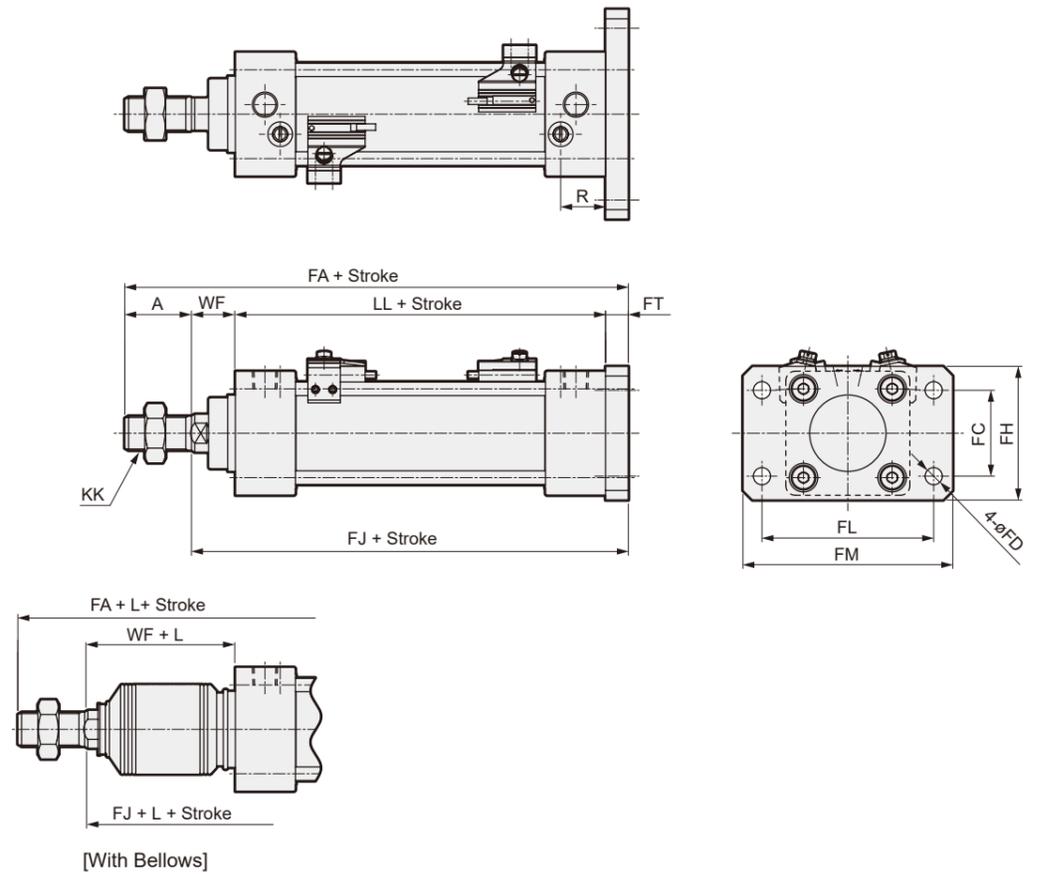
Code	Rod Side Flange Type (FA) Mounting Dimensions														
Bore Size (mm)	A	KK	LL *1	V	WF	X *1	FC	FD	FF	FG *1	FH	JA	FL	FM	FT
ø32	22	M10 × 1.25	84 (90)	13	25	135 (141)	32	7	15	98 (104)	50	29	64	79	10
ø40	30	M14 × 1.5	84 (90)	13	21	139 (145)	36	9	11	98 (104)	55	30	72	90	10
ø50	35	M18 × 1.5	94 (102)	14	23	156 (164)	45	9	11	110 (118)	70	38	90	110	12
ø63	35	M18 × 1.5	94 (102)	14	23	156 (164)	50	9	11	110 (118)	80	38	100	120	12
ø80	40	M22 × 1.5	114 (124)	20	32	190 (200)	63	12	16	134 (144)	100	43	126	153	16
ø100	40	M26 × 1.5	114 (124)	20	32	190 (200)	75	14	16	134 (144)	120	51	150	178	16
Code	With Bellows														
Bore Size (mm)	L														
	50 or less	Over 50 to 100	Over 100 to 150	Over 150 to 200	Over 200 to 300	Over 300 to 400	Over 400 to 500	Over 500 to 600	Over 600 to 700	Over 700 to 800	When Exceeding 800				
ø32	26	39	51	64	89	114	139						0.35 × Stroke - 37		
ø40	30	43	55	68	93	118	143						0.35 × Stroke - 32		
ø50	31	44	56	69	94	119	144	169				0.35 × Stroke - 41			
ø63	31	44	56	69	94	119	144	169				0.35 × Stroke - 41			
ø80	29	42	54	67	92	117	142	167	192	217	0.35 × Stroke - 63				
ø100	29	42	54	67	92	117	142	167	192	217	0.35 × Stroke - 63				

*1: Dimensions in () indicate rubber cushion type.
 *2: Round up the L dimension to the nearest whole number.
 *3: For dimensions with each switch, refer to P. 608, 609.
 *4: For outer dimensions diagram of accessories, refer to P. 511.

Double Acting/Single Rod Type

Outline Dimension Drawing

● Head Side Flange Type (FB)

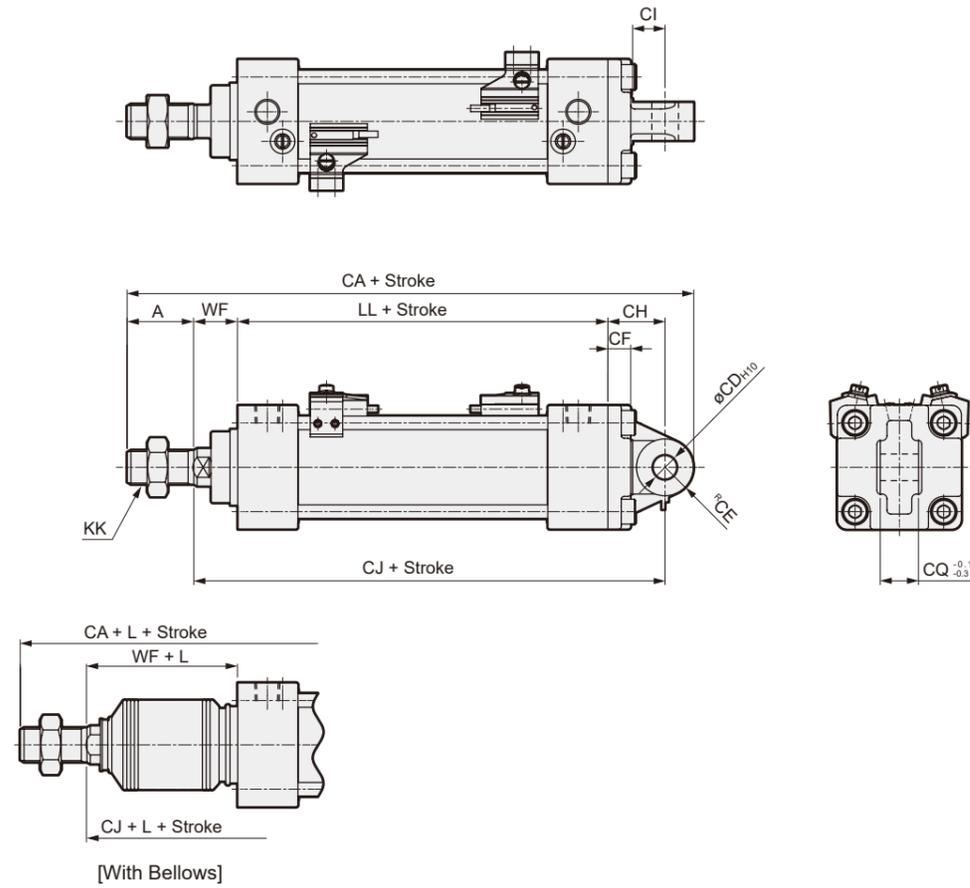


Code	Head Side Flange Type (FB) Mounting Dimensions													
Bore Size (mm)	A	KK	LL *1	WF	FA *1	FC	FD	FH	FJ *1	FL	FM	FT		
ø32	22	M10 × 1.25	84 (90)	25	141 (147)	32	7	50	119 (125)	64	79	10		
ø40	30	M14 × 1.5	84 (90)	21	145 (151)	36	9	55	115 (121)	72	90	10		
ø50	35	M18 × 1.5	94 (102)	23	164 (172)	45	9	70	129 (137)	90	110	12		
ø63	35	M18 × 1.5	94 (102)	23	164 (172)	50	9	80	129 (137)	100	120	12		
ø80	40	M22 × 1.5	114 (124)	32	202 (212)	63	12	100	162 (172)	126	153	16		
ø100	40	M26 × 1.5	114 (124)	32	202 (212)	75	14	120	162 (172)	150	178	16		
Code	With Bellows													
Bore Size (mm)	L													
	50 or less	Over 50 to 100	Over 100 to 150	Over 150 to 200	Over 200 to 300	Over 300 to 400	Over 400 to 500	Over 500 to 600	Over 600 to 700	Over 700 to 800	When Exceeding 800			
ø32	26	39	51	64	89	114	139						0.35 × Stroke - 37	
ø40	30	43	55	68	93	118	143						0.35 × Stroke - 32	
ø50	31	44	56	69	94	119	144	169				0.35 × Stroke - 41		
ø63	31	44	56	69	94	119	144	169				0.35 × Stroke - 41		
ø80	29	42	54	67	92	117	142	167	192	217	0.35 × Stroke - 63			
ø100	29	42	54	67	92	117	142	167	192	217	0.35 × Stroke - 63			

*1: Dimensions in () indicate rubber cushion type.
 *2: Round up the L dimension to the nearest whole number.
 *3: For dimensions with each switch, refer to P. 608, 609.
 *4: For outer dimensions diagram of accessories, refer to P. 511.

Outline Dimension Drawing

●Single Clevis Type (CA)



Code	Single Clevis Type (CA) Mounting Dimensions											
Bore Size (mm)	A	KK	LL *1	WF	CA *1	CD	CE	CF	CH	CI	CJ *1	CQ
ø32	22	M10 × 1.25	84 (90)	25	164.5 (170.5)	10	10.5	9	23	13	132 (138)	14
ø40	30	M14 × 1.5	84 (90)	21	169 (175)	10	11	9	23	13	128 (134)	14
ø50	35	M18 × 1.5	94 (102)	23	197 (205)	14	15	12	30	17	147 (155)	20
ø63	35	M18 × 1.5	94 (102)	23	197 (205)	14	15	12	30	17	147 (155)	20
ø80	40	M22 × 1.5	114 (124)	32	251 (261)	22	23	15	42	26	188 (198)	30
ø100	40	M26 × 1.5	114 (124)	32	251 (261)	22	23	15	42	26	188 (198)	30

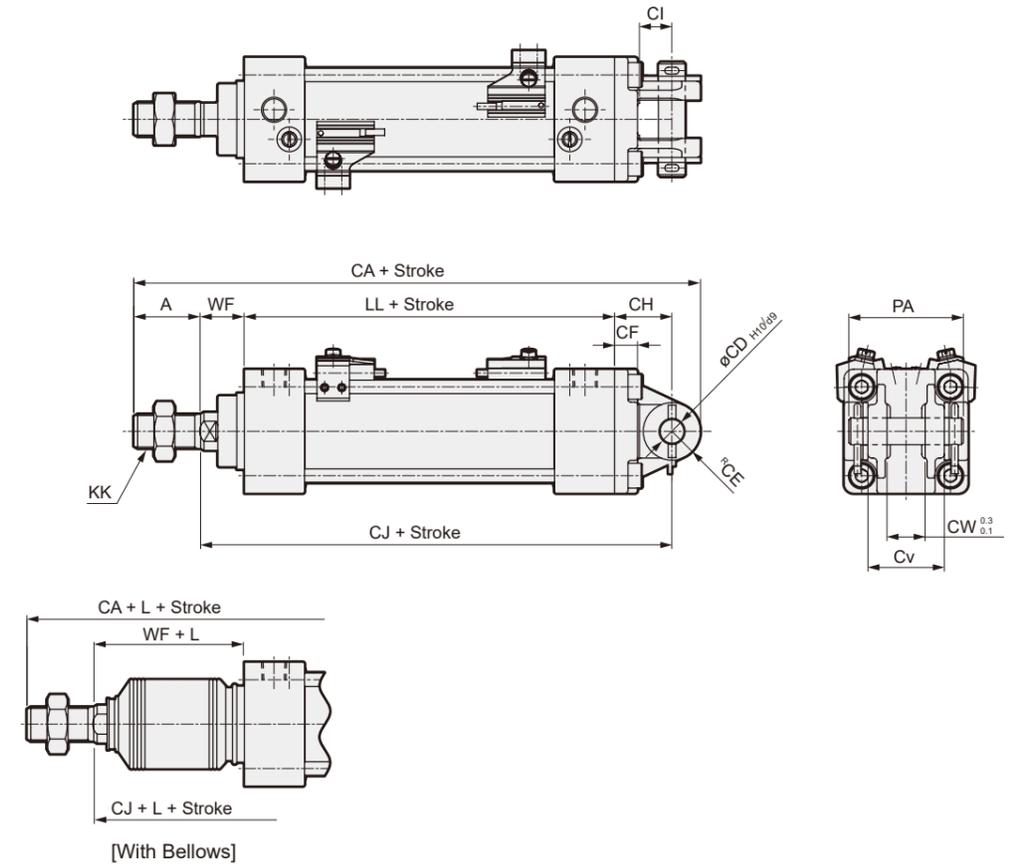
Code	With Bellows											
Bore Size (mm)	L										When Exceeding 800	
	50 or less	Over 50 to 100	Over 100 to 150	Over 150 to 200	Over 200 to 300	Over 300 to 400	Over 400 to 500	Over 500 to 600	Over 600 to 700	Over 700 to 800		
ø32	26	39	51	64	89	114	139	0.35 × Stroke - 37				
ø40	30	43	55	68	93	118	143	0.35 × Stroke - 32				
ø50	31	44	56	69	94	119	144	169	0.35 × Stroke - 41			
ø63	31	44	56	69	94	119	144	169	0.35 × Stroke - 41			
ø80	29	42	54	67	92	117	142	167	192	217	0.35 × Stroke - 63	
ø100	29	42	54	67	92	117	142	167	192	217	0.35 × Stroke - 63	

*1: Dimensions in () indicate rubber cushion type.
 *2: Round up the L dimension to the nearest whole number.
 *3: For dimensions with each switch, refer to P. 608, 609.
 *4: For outer dimensions diagram of accessories, refer to P. 511.

Double Acting/Single Rod Type

Outline Dimension Drawing

●Double clevis type (CB)



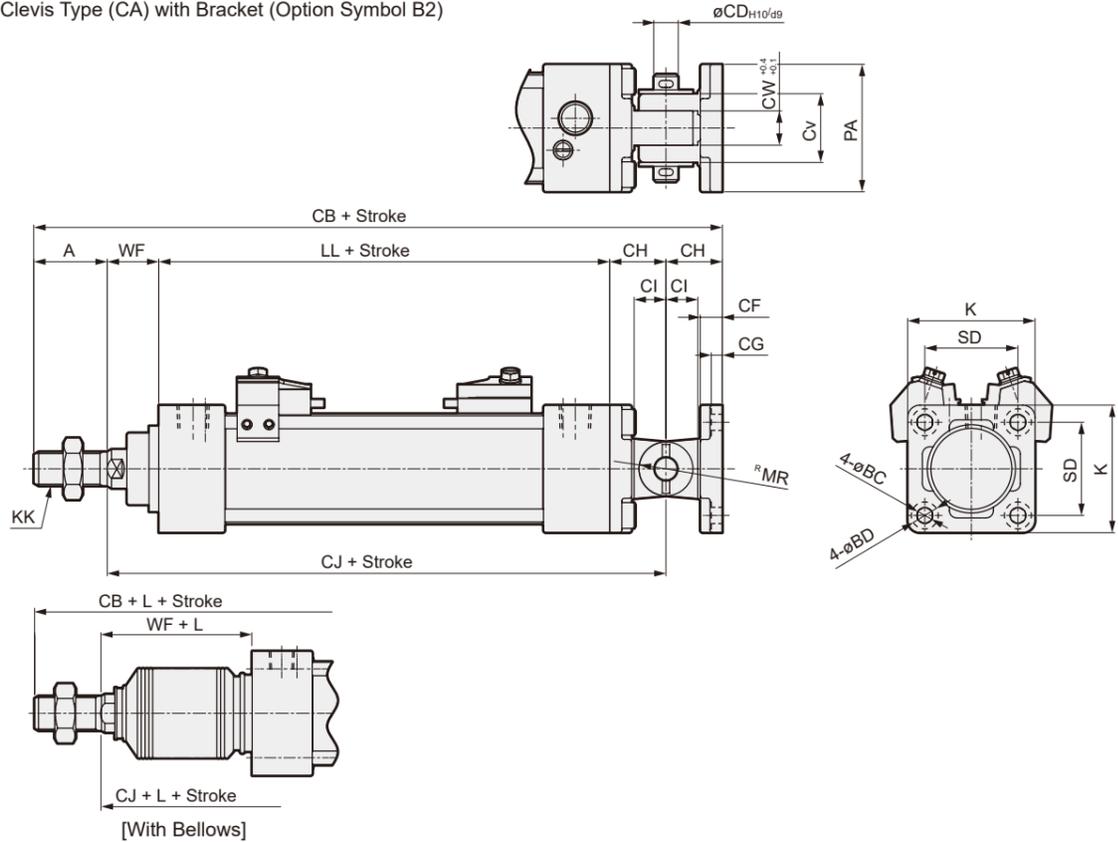
Code	Double Clevis Type (CB) Mounting Dimensions													
Bore Size (mm)	A	KK	LL *1	WF	CA *1	CD	CE	CF	CH	CI	CJ *1	Cv	CW	PA
ø32	22	M10 × 1.25	84 (90)	25	164.5 (170.5)	10	10.5	9	23	13	132 (138)	28	14	44
ø40	30	M14 × 1.5	84 (90)	21	169 (175)	10	11	9	23	13	128 (134)	28	14	44
ø50	35	M18 × 1.5	94 (102)	23	197 (205)	14	15	12	30	17	147 (155)	40	20	60
ø63	35	M18 × 1.5	94 (102)	23	197 (205)	14	15	12	30	17	147 (155)	40	20	60
ø80	40	M22 × 1.5	114 (124)	32	251 (261)	22	23	15	42	26	188 (198)	60	30	82
ø100	40	M26 × 1.5	114 (124)	32	251 (261)	22	23	15	42	26	188 (198)	60	30	82

Code	With Bellows												
Bore Size (mm)	L												When Exceeding 800
	50 or less	Over 50 to 100	Over 100 to 150 or Less	Over 150 to 200 or Less	Over 200 to 300 or Less	Over 300 to 400 or Less	Over 400 to 500 or Less	Over 500 to 600 or Less	Over 600 to 700 or Less	Over 700 to 800 or Less			
ø32	26	39	51	64	89	114	139	0.35 × Stroke - 37					
ø40	30	43	55	68	93	118	143	0.35 × Stroke - 32					
ø50	31	44	56	69	94	119	144	169	0.35 × Stroke - 41				
ø63	31	44	56	69	94	119	144	169	0.35 × Stroke - 41				
ø80	29	42	54	67	92	117	142	167	192	217	0.35 × Stroke - 63		
ø100	29	42	54	67	92	117	142	167	192	217	0.35 × Stroke - 63		

*1: Dimensions in () indicate rubber cushion type.
 *2: Round up the L dimension to the nearest whole number.
 *3: For dimensions with each switch, refer to P. 608, 609.
 *4: For outer dimensions diagram of accessories, refer to P. 511.

Outline Dimension Drawing

● Single Clevis Type (CA) with Bracket (Option Symbol B2)



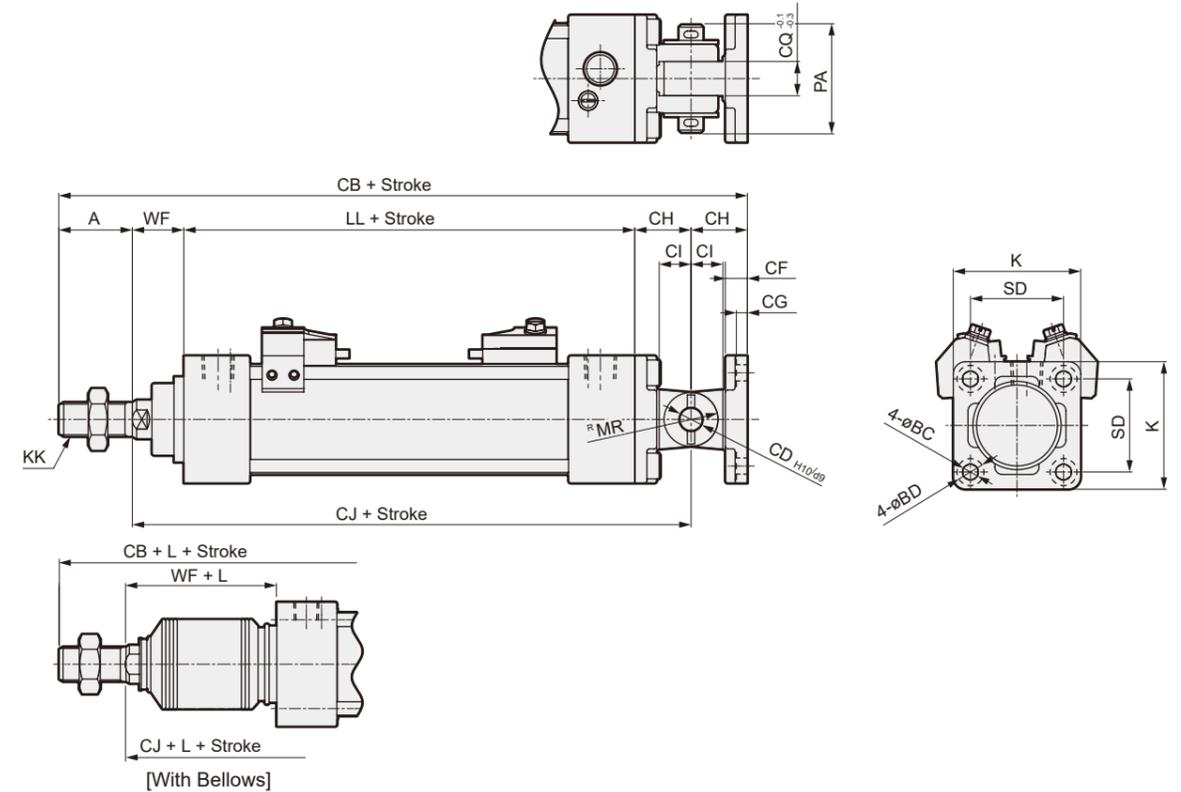
Single Clevis Type (CA) With Bracket (Option Symbol B2) Mounting Dimensions											
Code	A	K	KK	LL *1	WF	CB *1	CD	CF	CG		
ø32	22	46	M10 × 1.25	84 (90)	25	177 (183)	10	9	4.5		
ø40	30	52	M14 × 1.5	84 (90)	21	181 (187)	10	9	4.5		
ø50	35	65	M18 × 1.5	94 (102)	23	212 (220)	14	12	6.5		
ø63	35	75	M18 × 1.5	94 (102)	23	212 (220)	14	12	6.5		
ø80	40	95	M22 × 1.5	114 (124)	32	270 (280)	22	15	8.5		
ø100	40	114	M26 × 1.5	114 (124)	32	270 (280)	22	15	8.5		
Code	CH	CI	CJ *1	Cv	CW	BC	BD	MR	PA	SD	
ø32	23	13	132 (138)	28	14	6.6	11	10.5	44	32.5	
ø40	23	13	128 (134)	28	14	6.6	11	11	44	38	
ø50	30	17	147 (155)	40	20	9	14	15	60	46.5	
ø63	30	17	147 (155)	40	20	9	14	15	60	56.5	
ø80	42	26	188 (198)	60	30	11	17.5	23	82	72	
ø100	42	26	188 (198)	60	30	11	17.5	23	82	89	
With Bellows											
Code	L										
	50 or less	Over 50 to 100	Over 100 to 150	Over 150 to 200	Over 200 to 300	Over 300 to 400	Over 400 to 500	Over 500 to 600	Over 600 to 700	Over 700 to 800	When Exceeding 800
ø32	26	39	51	64	89	114	139	0.35 × Stroke - 37			
ø40	30	43	55	68	93	118	143	0.35 × Stroke - 32			
ø50	31	44	56	69	94	119	144	169	0.35 × Stroke - 41		
ø63	31	44	56	69	94	119	144	169	0.35 × Stroke - 41		
ø80	29	42	54	67	92	117	142	167	192	217	0.35 × Stroke - 63
ø100	29	42	54	67	92	117	142	167	192	217	0.35 × Stroke - 63

*1: Dimensions in () indicate rubber cushion type.
 *2: Round up the L dimension to the nearest whole number.
 *3: For dimensions with each switch, refer to P. 608, 609.
 *4: For outer dimensions diagram of accessories, refer to P. 511.

Double Acting/Single Rod Type

Outline Dimension Drawing

● Single Clevis Type (CB) with Bracket (Option Symbol B1)

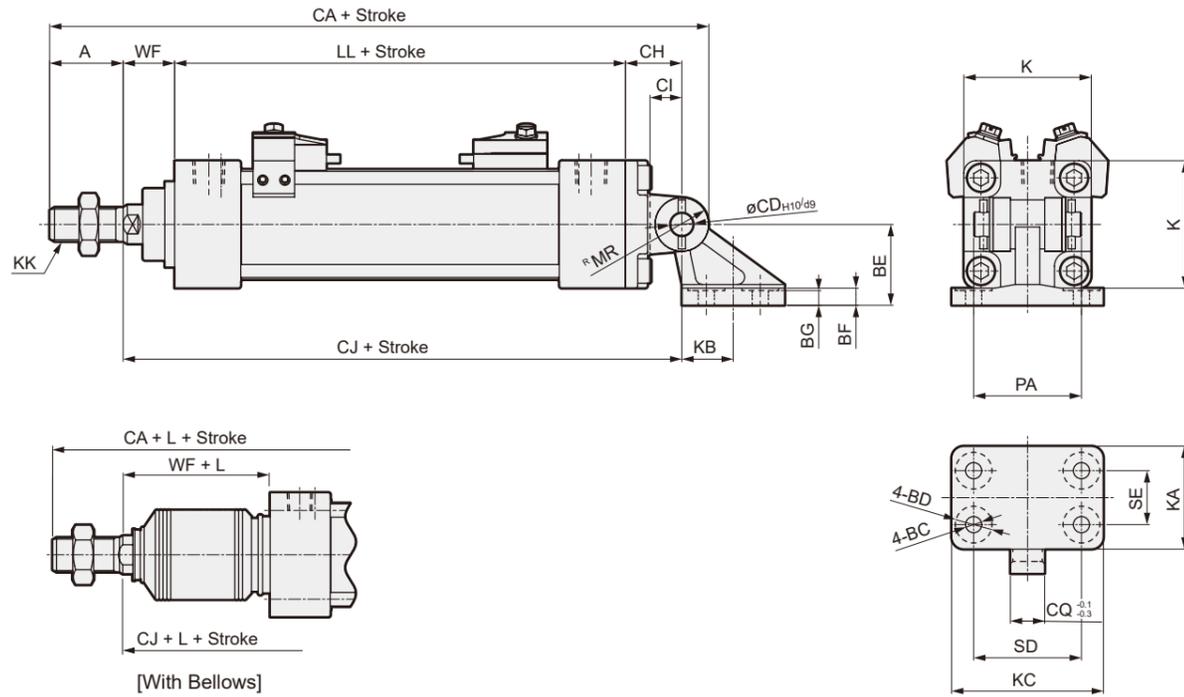


Single Clevis Type (CB) with Bracket (Option Symbol B1) Mounting Dimensions											
Code	A	K	KK	LL *1	WF	CB *1	CD	C			
ø32	22	46	M10 × 1.25	84 (90)	25	177 (183)	10	9			
ø40	30	52	M14 × 1.5	84 (90)	21	181 (187)	10	9			
ø50	35	65	M18 × 1.5	94 (102)	23	212 (220)	14	12			
ø63	35	75	M18 × 1.5	94 (102)	23	212 (220)	14	12			
ø80	40	95	M22 × 1.5	114 (124)	32	270 (280)	22	15			
ø100	40	114	M26 × 1.5	114 (124)	32	270 (280)	22	15			
Code	CG	CH	CI	CJ *1	CQ	BC	BD	MR	PA	SD	
ø32	4.5	23	13	132 (138)	14	6.6	11	10.5	44	32.5	
ø40	4.5	23	13	128 (134)	14	6.6	11	11	44	38	
ø50	6.5	30	17	147 (155)	20	9	14	15	60	46.5	
ø63	6.5	30	17	147 (155)	20	9	14	15	60	56.5	
ø80	8.5	42	26	188 (198)	30	11	17.5	23	82	72	
ø100	8.5	42	26	188 (198)	30	11	17.5	23	82	89	
With Bellows											
Code	L										
	50 or less	Over 50 to 100	Over 100 to 150	Over 150 to 200	Over 200 to 300	Over 300 to 400	Over 400 to 500	Over 500 to 600	Over 600 to 700	Over 700 to 800	When Exceeding 800
ø32	26	39	51	64	89	114	139	0.35 × Stroke - 37			
ø40	30	43	55	68	93	118	143	0.35 × Stroke - 32			
ø50	31	44	56	69	94	119	144	169	0.35 × Stroke - 41		
ø63	31	44	56	69	94	119	144	169	0.35 × Stroke - 41		
ø80	29	42	54	67	92	117	142	167	192	217	0.35 × Stroke - 63
ø100	29	42	54	67	92	117	142	167	192	217	0.35 × Stroke - 63

*1: Dimensions in () indicate rubber cushion type.
 *2: Round up the L dimension to the nearest whole number.
 *3: For dimensions with each switch, refer to P. 608, 609.
 *4: For outer dimensions diagram of accessories, refer to P. 511.

Outline Dimension Drawing

●Single Clevis Type (CB) with Bracket (Option Symbol B3)



Code	Single Clevis Type (CB) with Bracket (Option Symbol B3) Mounting Dimensions										
Bore Size (mm)	A	K	KK	LL *1	WF	CA *1	CD	CH	CI	CJ *1	
ø32	22	46	M10 × 1.25	84 (90)	25	164.5 (170.5)	10	23	13	132 (138)	
ø40	30	52	M14 × 1.5	84 (90)	21	169 (175)	10	23	13	128 (134)	
ø50	35	65	M18 × 1.5	94 (102)	23	197 (205)	14	30	17	147 (155)	
ø63	35	75	M18 × 1.5	94 (102)	23	197 (205)	14	30	17	147 (155)	
ø80	40	95	M22 × 1.5	114 (124)	32	251 (261)	22	42	26	188 (198)	
ø100	40	114	M26 × 1.5	114 (124)	32	251 (261)	22	42	26	188 (198)	

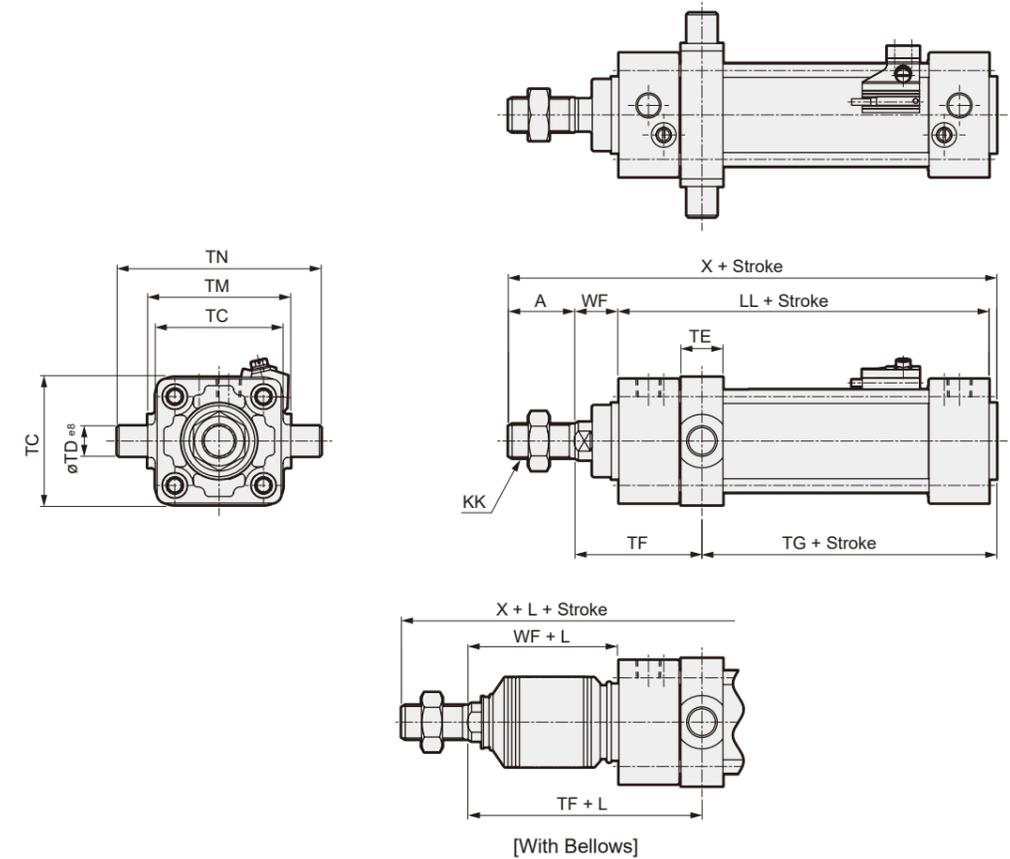
Code	Single Clevis Type (CB) with Bracket (Option Symbol B3) Mounting Dimensions												
Bore Size (mm)	CQ	BC	BD	BE	BF	BG	KA	KB	KC	MR	PA	SD	SE
ø32	14	6.6	15	33	7	6	42	21	62	10	44	44	22
ø40	14	6.6	15	33	7	6	42	21	62	10	44	44	22
ø50	20	9	18	45	8	7	53	28	81	14	60	60	30
ø63	20	9	18	45	8	7	53	28	81	14	60	60	30
ø80	30	11	22	65	10	9	73	41.5	111	22	82	86	45
ø100	30	11	22	65	10	9	73	41.5	111	22	82	86	45

Code	With Bellows											
Bore Size (mm)	L											
	50 or less	Over 50 to 100	Over 100 to 150	Over 150 to 200	Over 200 to 300	Over 300 to 400	Over 400 to 500	Over 500 to 600	Over 600 to 700	Over 700 to 800	When Exceeding 800	
ø32	26	39	51	64	89	114	139	0.35 × Stroke - 37				
ø40	30	43	55	68	93	118	143	0.35 × Stroke - 32				
ø50	31	44	56	69	94	119	144	169	0.35 × Stroke - 41			
ø63	31	44	56	69	94	119	144	169	0.35 × Stroke - 41			
ø80	29	42	54	67	92	117	142	167	192	217	0.35 × Stroke - 63	
ø100	29	42	54	67	92	117	142	167	192	217	0.35 × Stroke - 63	

*1: Dimensions in () indicate rubber cushion type.
 *2: Round up the L dimension to the nearest whole number.
 *3: For dimensions with each switch, refer to P. 608, 609.
 *4: For outer dimensions diagram of accessories, refer to P. 511.

Outline Dimension Drawing

●Rod side trunnion type (TA)



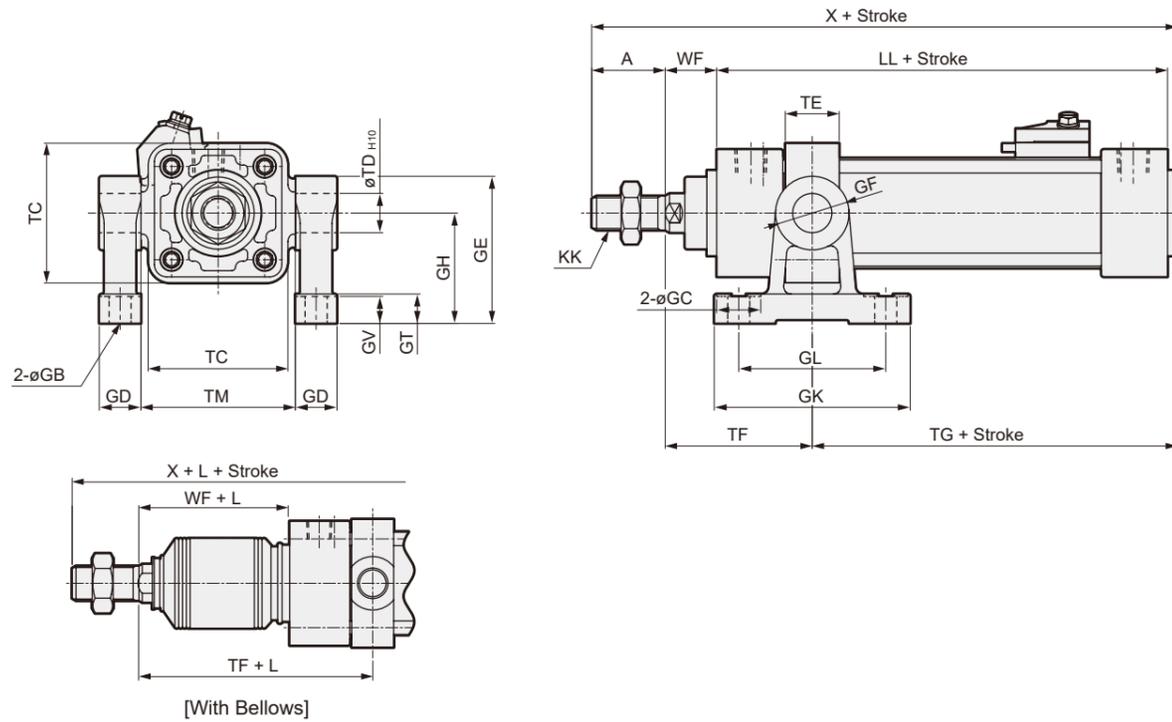
Code	Rod Side Trunnion Type (TA) Mounting Dimensions											
Bore Size (mm)	A	KK	LL *1	WF	X *1	TC	TD	TE	TF	TG *1	TM	TN
ø32	22	M10 × 1.25	84 (90)	25	135 (141)	47	12	17	61.5	51.5 (57.5)	50	74
ø40	30	M14 × 1.5	84 (90)	21	139 (145)	57	16	22	60	49 (55)	63	95
ø50	35	M18 × 1.5	94 (102)	23	156 (164)	67	16	22	66.5	54.5 (62.5)	75	107
ø63	35	M18 × 1.5	94 (102)	23	156 (164)	82	20	28	69.5	51.5 (59.5)	90	130
ø80	40	M22 × 1.5	114 (124)	32	190 (200)	100	20	34	88	62 (72)	110	150
ø100	40	M26 × 1.5	114 (124)	32	190 (200)	121	25	40	91	59 (69)	132	182

Code	With Bellows											
Bore Size (mm)	L											
	50 or less	Over 50 to 100	Over 100 to 150	Over 150 to 200	Over 200 to 300	Over 300 to 400	Over 400 to 500	Over 500 to 600	Over 600 to 700	Over 700 to 800	When Exceeding 800	
ø32	26	39	51	64	89	114	139	0.35 × Stroke - 37				
ø40	30	43	55	68	93	118	143	0.35 × Stroke - 32				
ø50	31	44	56	69	94	119	144	169	0.35 × Stroke - 41			
ø63	31	44	56	69	94	119	144	169	0.35 × Stroke - 41			
ø80	29	42	54	67	92	117	142	167	192	217	0.35 × Stroke - 63	
ø100	29	42	54	67	92	117	142	167	192	217	0.35 × Stroke - 63	

*1: Dimensions in () indicate rubber cushion type.
 *2: Round up the L dimension to the nearest whole number.
 *3: Switch cannot be mounted on the rod side.
 *4: For dimensions with each switch, refer to P. 608, 609.
 *5: For outer dimensions diagram of accessories, refer to P. 511.

Outline Dimension Drawing

●Rod side trunnion type (TA) with bracket (Option code B4)



Code	Rod Side Trunnion Type (TA) with Bracket (Option Symbol B4) Mounting Dimensions										
Bore Size (mm)	A	KK	LL *1	WF	X *1	TC	TD	TE	TF	TG *1	
ø32	22	M10 × 1.25	84 (90)	25	135 (141)	47	12	17	61.5	51.5 (57.5)	
ø40	30	M14 × 1.5	84 (90)	21	139 (145)	57	16	22	60	49 (55)	
ø50	35	M18 × 1.5	94 (102)	23	156 (164)	67	16	22	66.5	54.5 (62.5)	
ø63	35	M18 × 1.5	94 (102)	23	156 (164)	82	20	28	69.5	51.5 (59.5)	
ø80	40	M22 × 1.5	114 (124)	32	190 (200)	100	20	34	88	62 (72)	
ø100	40	M26 × 1.5	114 (124)	32	190 (200)	121	25	40	91	59 (69)	

Code	With Bellows										
Bore Size (mm)	TM	GB	GC	GD	GE	GF	GH	GK	GL	GT	GV
ø32	50	7	13	12	47	24	35	62	45	10	9
ø40	63	9	18	17	60	30	45	80	60	12	11
ø50	75	9	18	17	60	30	45	80	60	12	11
ø63	90	11	22	20	80	40	60	100	70	14	13
ø80	110	11	22	20	80	40	60	100	70	14	13
ø100	132	13.5	24	26	100	50	75	120	90	17	16

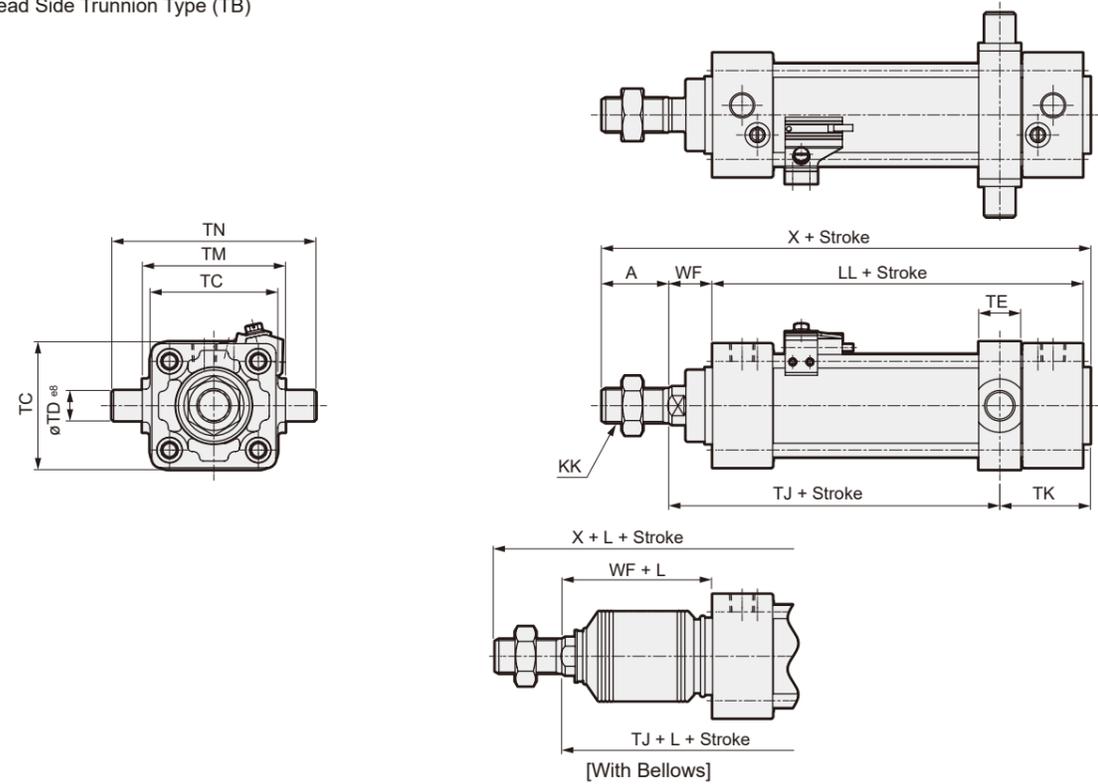
Code	With Bellows											
Bore Size (mm)	L											
	50 or less	Over 50 to 100	Over 100 to 150	Over 150 to 200	Over 200 to 300	Over 300 to 400	Over 400 to 500	Over 500 to 600	Over 600 to 700	Over 700 to 800	When Exceeding 800	
ø32	26	39	51	64	89	114	139	0.35 × Stroke - 37				
ø40	30	43	55	68	93	118	143	0.35 × Stroke - 32				
ø50	31	44	56	69	94	119	144	169	0.35 × Stroke - 41			
ø63	31	44	56	69	94	119	144	169	0.35 × Stroke - 41			
ø80	29	42	54	67	92	117	142	167	192	217	0.35 × Stroke - 63	
ø100	29	42	54	67	92	117	142	167	192	217	0.35 × Stroke - 63	

*1: Dimensions in () indicate rubber cushion type.
 *2: Round up the L dimension to the nearest whole number.
 *3: Switch cannot be mounted on the rod side.
 *4: For dimensions with each switch, refer to P. 608, 609.
 *5: For outer dimensions diagram of accessories, refer to P. 511.

Double Acting/Single Rod Type

Outline Dimension Drawing

●Head Side Trunnion Type (TB)



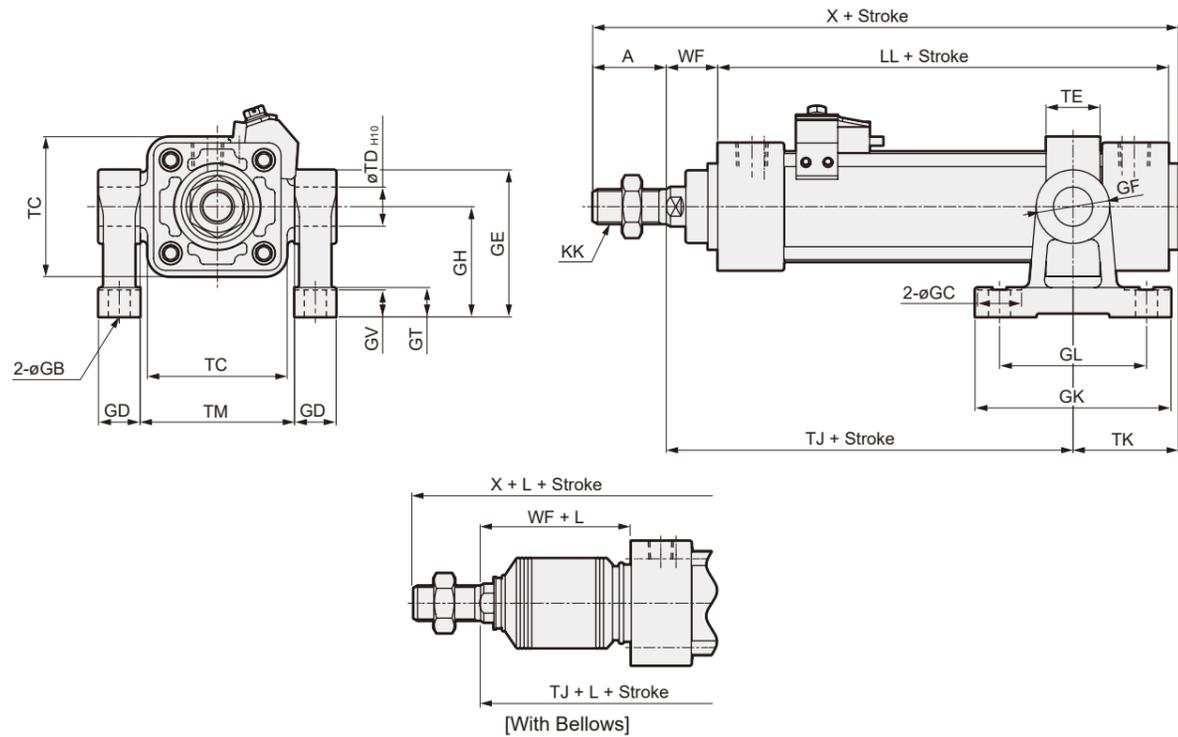
Code	Head Side Trunnion Type (TB) Mounting Dimensions											
Bore Size (mm)	A	KK	LL *1	WF	X *1	TC	TD	TE	TJ *1	TK	TM	TN
ø32	22	M10 × 1.25	84 (90)	25	135 (141)	47	12	17	72.5 (78.5)	40.5	50	74
ø40	30	M14 × 1.5	84 (90)	21	139 (145)	57	16	22	66 (72)	43	63	95
ø50	35	M18 × 1.5	94 (102)	23	156 (164)	67	16	22	73.5 (81.5)	47.5	75	107
ø63	35	M18 × 1.5	94 (102)	23	156 (164)	82	20	28	70.5 (78.5)	50.5	90	130
ø80	40	M22 × 1.5	114 (124)	32	190 (200)	100	20	34	90 (100)	60	110	150
ø100	40	M26 × 1.5	114 (124)	32	190 (200)	121	25	40	87 (97)	63	132	182

Code	With Bellows											
Bore Size (mm)	L											
	50 or less	Over 50 to 100	Over 100 to 150	Over 150 to 200	Over 200 to 300	Over 300 to 400	Over 400 to 500	Over 500 to 600	Over 600 to 700	Over 700 to 800	When Exceeding 800	
ø32	26	39	51	64	89	114	139	0.35 × Stroke - 37				
ø40	30	43	55	68	93	118	143	0.35 × Stroke - 32				
ø50	31	44	56	69	94	119	144	169	0.35 × Stroke - 41			
ø63	31	44	56	69	94	119	144	169	0.35 × Stroke - 41			
ø80	29	42	54	67	92	117	142	167	192	217	0.35 × Stroke - 63	
ø100	29	42	54	67	92	117	142	167	192	217	0.35 × Stroke - 63	

*1: Dimensions in () indicate rubber cushion type.
 *2: Round up the L dimension to the nearest whole number.
 *3: Switch cannot be mounted on the head side.
 *4: For dimensions with each switch, refer to P. 608, 609.
 *5: For outer dimensions diagram of accessories, refer to P. 511.

Outline Dimension Drawing

● Head side trunnion type (TB) with bracket (Option code B4)



Code	Head Side Trunnion Type (TB) with Bracket (Option Symbol B4) Mounting Dimensions									
Bore Size (mm)	A	KK	LL *1	WF	X *1	TC	TD	TE	TJ *1	
ø32	22	M10 × 1.25	84 (90)	25	135 (141)	47	12	17	72.5 (78.5)	
ø40	30	M14 × 1.5	84 (90)	21	139 (145)	57	16	22	66 (72)	
ø50	35	M18 × 1.5	94 (102)	23	156 (164)	67	16	22	73.5 (81.5)	
ø63	35	M18 × 1.5	94 (102)	23	156 (164)	82	20	28	70.5 (78.5)	
ø80	40	M22 × 1.5	114 (124)	32	190 (200)	100	20	34	90 (100)	
ø100	40	M26 × 1.5	114 (124)	32	190 (200)	121	25	40	87 (97)	

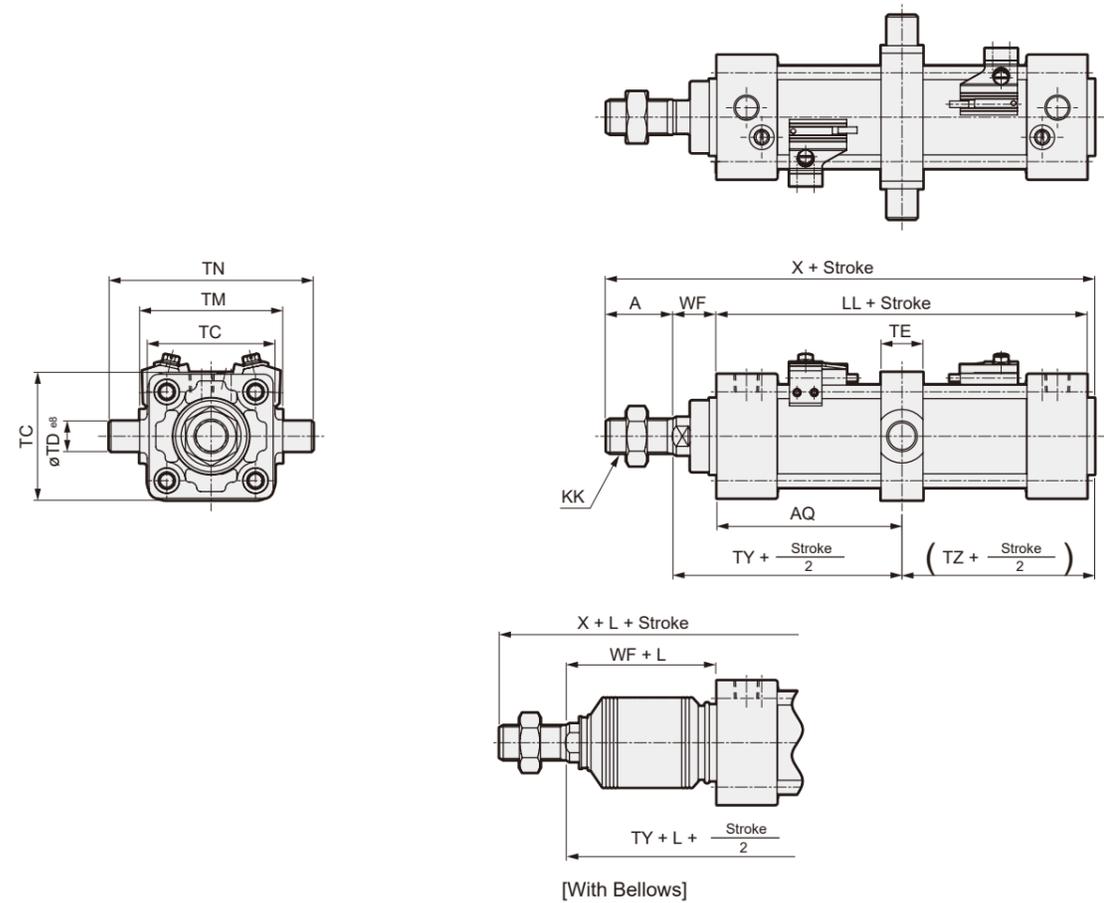
Code	Head Side Trunnion Type (TB) with Bracket (Option Symbol B4) Mounting Dimensions											
Bore Size (mm)	TK	TM	GB	GC	GD	GE	GF	GH	GK	GL	GT	GV
ø32	40.5	50	7	13	12	47	24	35	62	45	10	9
ø40	43	63	9	18	17	60	30	45	80	60	12	11
ø50	47.5	75	9	18	17	60	30	45	80	60	12	11
ø63	50.5	90	11	22	20	80	40	60	100	70	14	13
ø80	60	110	11	22	20	80	40	60	100	70	14	13
ø100	63	132	13.5	24	26	100	50	75	120	90	17	16

Code	With Bellows											
Bore Size (mm)	L											
	50 or less	Over 50 to 100	Over 100 to 150	Over 150 to 200	Over 200 to 300	Over 300 to 400	Over 400 to 500	Over 500 to 600	Over 600 to 700	Over 700 to 800	When Exceeding 800	
ø32	26	39	51	64	89	114	139	0.35 × Stroke - 37				
ø40	30	43	55	68	93	118	143	0.35 × Stroke - 32				
ø50	31	44	56	69	94	119	144	169	0.35 × Stroke - 41			
ø63	31	44	56	69	94	119	144	169	0.35 × Stroke - 41			
ø80	29	42	54	67	92	117	142	167	192	217	0.35 × Stroke - 63	
ø100	29	42	54	67	92	117	142	167	192	217	0.35 × Stroke - 63	

*1: Dimensions in () indicate rubber cushion type.
 *2: Round up the L dimension to the nearest whole number.
 *3: Switch cannot be mounted on the head side.
 *4: For dimensions with each switch, refer to P. 608, 609.
 *5: For outer dimensions diagram of accessories, refer to P. 511.

Outline Dimension Drawing

● Intermediate trunnion type (TC)



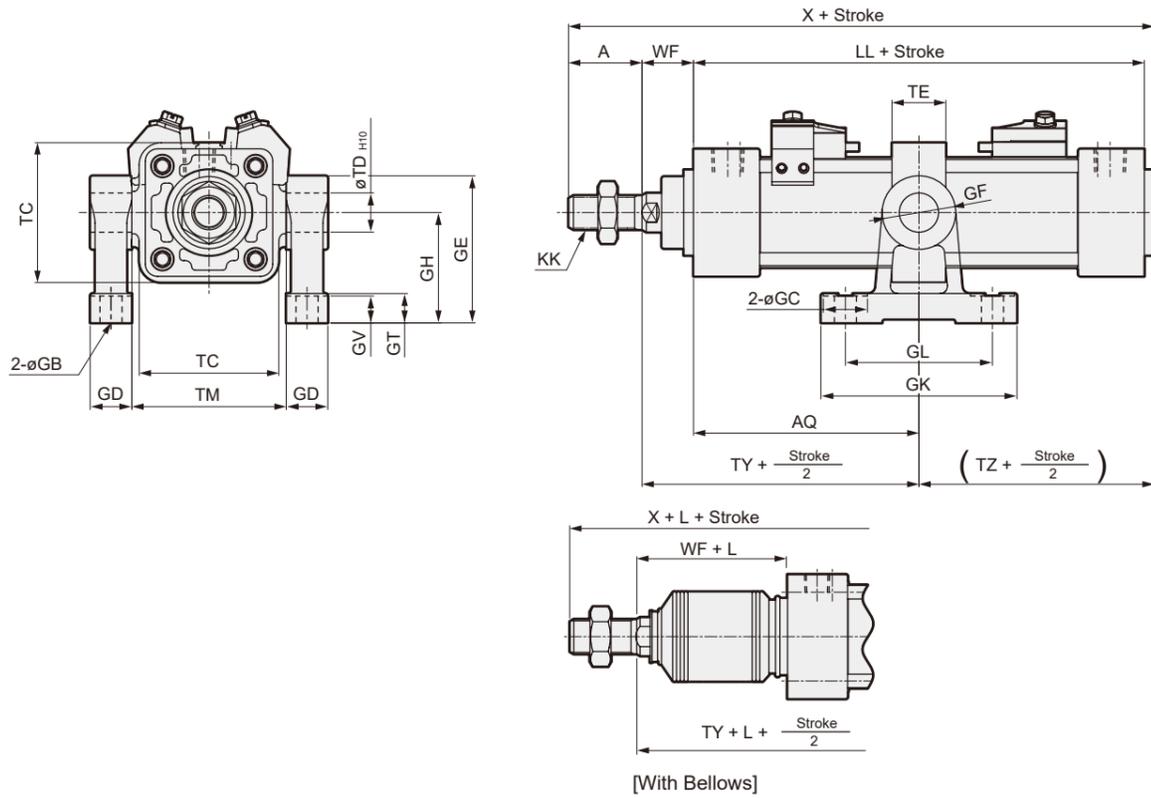
Code	Intermediate Trunnion Type (TC) Mounting Dimensions										
Bore Size (mm)	A	KK	LL *1	WF	X *1	AQ *1	TC	TD	TE	TY *1	TZ *1
ø32	22	M10 × 1.25	84 (90)	25	135 (141)	42 (45) + $\frac{\text{Stroke}}{2}$	47	12	17	67 (70)	46 (49)
ø40	30	M14 × 1.5	84 (90)	21	139 (145)	42 (45) + $\frac{\text{Stroke}}{2}$	57	16	22	63 (66)	46 (49)
ø50	35	M18 × 1.5	94 (102)	23	156 (164)	47 (51) + $\frac{\text{Stroke}}{2}$	67	16	22	70 (74)	51 (55)
ø63	35	M18 × 1.5	94 (102)	23	156 (164)	47 (51) + $\frac{\text{Stroke}}{2}$	82	20	28	70 (74)	51 (55)
ø80	40	M22 × 1.5	114 (124)	32	190 (200)	57 (62) + $\frac{\text{Stroke}}{2}$	100	20	34	89 (94)	61 (66)
ø100	40	M26 × 1.5	114 (124)	32	190 (200)	57 (62) + $\frac{\text{Stroke}}{2}$	121	25	40	89 (94)	61 (66)

Code	With Bellows												
Bore Size (mm)	TM	TN	L										
			50 or less	Over 50 to 100	Over 100 to 150	Over 150 to 200	Over 200 to 300	Over 300 to 400	Over 400 to 500	Over 500 to 600	Over 600 to 700	Over 700 to 800	When Exceeding 800
ø32	50	74	26	39	51	64	89	114	139	0.35 × Stroke - 37			
ø40	63	95	30	43	55	68	93	118	143	0.35 × Stroke - 32			
ø50	75	107	31	44	56	69	94	119	144	169	0.35 × Stroke - 41		
ø63	90	130	31	44	56	69	94	119	144	169	0.35 × Stroke - 41		
ø80	110	150	29	42	54	67	92	117	142	167	192	217	0.35 × Stroke - 63
ø100	132	182	29	42	54	67	92	117	142	167	192	217	0.35 × Stroke - 63

*1: Dimensions in () indicate rubber cushion type.
 *2: Round up the L dimension to the nearest whole number.
 *3: For dimensions with each switch, refer to P. 608, 609.
 *4: For outer dimensions diagram of accessories, refer to P. 511.

Outline Dimension Drawing

●Intermediate trunnion type (TC) with bracket (Option code B4)



Code	Intermediate Trunnion Type (TC) with Bracket (Option Symbol B4) Mounting Dimensions									
Bore Size (mm)	A	KK	LL *1	WF	X *1	AQ *1	TC	TD	TE	
ø32	22	M10 × 1.25	84 (90)	25	135 (141)	42 (45) + $\frac{\text{Stroke}}{2}$	47	12	17	
ø40	30	M14 × 1.5	84 (90)	21	139 (145)	42 (45) + $\frac{\text{Stroke}}{2}$	57	16	22	
ø50	35	M18 × 1.5	94 (102)	23	156 (164)	47 (51) + $\frac{\text{Stroke}}{2}$	67	16	22	
ø63	35	M18 × 1.5	94 (102)	23	156 (164)	47 (51) + $\frac{\text{Stroke}}{2}$	82	20	28	
ø80	40	M22 × 1.5	114 (124)	32	190 (200)	57 (62) + $\frac{\text{Stroke}}{2}$	100	20	34	
ø100	40	M26 × 1.5	114 (124)	32	190 (200)	57 (62) + $\frac{\text{Stroke}}{2}$	121	25	40	

Code	With Bellows												
Bore Size (mm)	L										When Exceeding 800		
	50 or less	Over 50 to 100	Over 100 to 150	Over 150 to 200	Over 200 to 300	Over 300 to 400	Over 400 to 500	Over 500 to 600	Over 600 to 700	Over 700 to 800			
ø32	26	39	51	64	89	114	139	0.35 × Stroke - 37					
ø40	30	43	55	68	93	118	143	0.35 × Stroke - 32					
ø50	31	44	56	69	94	119	144	169	0.35 × Stroke - 41				
ø63	31	44	56	69	94	119	144	169	0.35 × Stroke - 41				
ø80	29	42	54	67	92	117	142	167	192	217	0.35 × Stroke - 63		
ø100	29	42	54	67	92	117	142	167	192	217	0.35 × Stroke - 63		

*1: Dimensions in () indicate rubber cushion type.
 *2: Round up the L dimension to the nearest whole number.
 *3: For dimensions with each switch, refer to P. 608, 609.
 *4: For outer dimensions diagram of accessories, refer to P. 511.

Accessories Outline Dimension Drawing

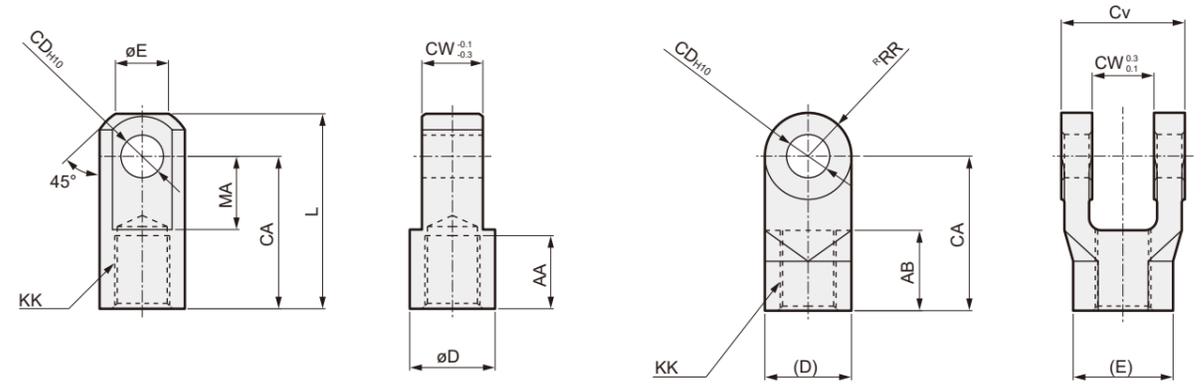
Accessories Outline Dimension Drawing

●Single Knuckle (I)

Material: Steel
Painting

●Double Knuckle (Y)

Material: Cast Iron
Painting



Model No.	Applicable Bore size (mm)	AA	CA	CD	CW	D	E	KK	L	MA	RR	Weight (kg)
SCG-I-32	32	14	30	10	14	20	12	M10 × 1.25	40	16	12	0.07
SCG-I-40	40	19	40	10	14	22	12	M14 × 1.5	50	19	12.5	0.07
SCG-I-50	50, 63	24	50	14	20	28	16	M18 × 1.5	64	24	16.5	0.20
SCG-I-80	80	26	60	22	30	40	24	M22 × 1.5	80	34	23.5	0.52
SCG-I-100	100	26	60	22	30	40	24	M26 × 1.5	80	34	23.5	0.48

Model No.	Applicable Bore size (mm)	AB	CA	CD	Cv	CW	D	E	KK	RR	Weight (kg)
SCG-Y-32	32	14	30	10	28	14	20	20.1	M10 × 1.25	10	0.10
SCG-Y-40	40	21	40	10	28	14	22	22.4	M14 × 1.5	11	0.13
SCG-Y-50	50, 63	26	50	14	40	20	28	29.3	M18 × 1.5	14	0.30
SCG-Y-80	80	31	65	22	60	30	40	43.2	M22 × 1.5	20	0.94
SCG-Y-100	100	31	65	22	60	30	40	43.2	M26 × 1.5	20	0.92

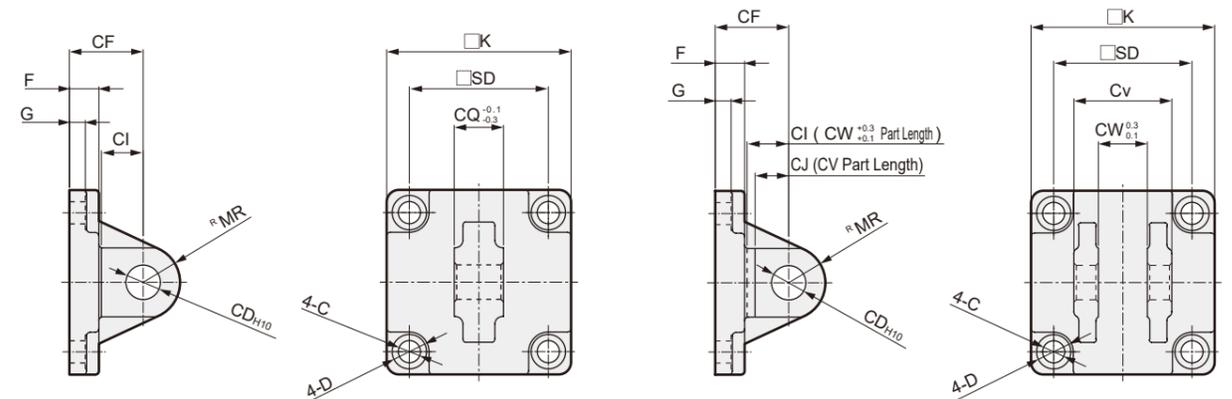
Note: Pin, split pin, and plain washer are included.

●Single Bracket (B1)

Material: Cast Iron
Painting

●Double Bracket (B2)

Material: Cast Iron
Painting



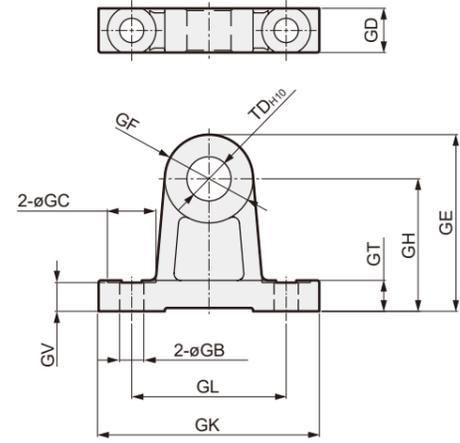
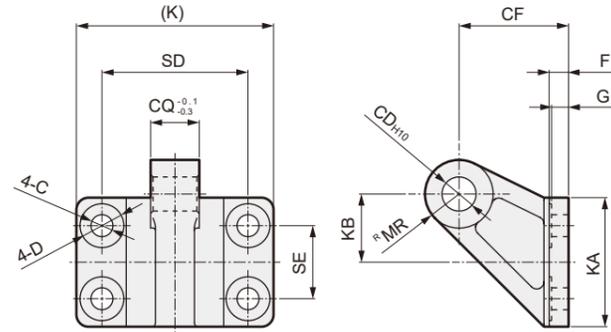
Model No.	Applicable Bore size (mm)	C	CD	CF	CI	CQ	D	F	G	K	MR	SD	Weight (kg)
SCG-B1-32	32	6.6	10	23	13	14	11	9	4.5	46	10.5	32.5	0.13
SCG-B1-40	40	6.6	10	23	13	14	11	9	4.5	52	11	38	0.16
SCG-B1-50	50	9	14	30	17	20	14	12	6.5	65	15	46.5	0.38
SCG-B1-63	63	9	14	30	17	20	14	12	6.5	75	15	56.5	0.48
SCG-B1-80	80	11	22	42	26	30	17.5	15	8.5	95	23	72	1.19
SCG-B1-100	100	11	22	42	26	30	17.5	15	8.5	114	23	89	1.56

Model No.	Applicable Bore size (mm)	C	CD	CF	CI	CJ	Cv	CW	D	F	G	K	MR	SD	Weight (kg)
SCG-B2-32	32	6.6	10	23	13	13	28	14	11	9	4.5	46	10.5	32.5	0.16
SCG-B2-40	40	6.6	10	23	13	13	28	14	11	9	4.5	52	11	38	0.20
SCG-B2-50	50	9	14	30	17	17	40	20	14	12	6.5	65	15	46.5	0.46
SCG-B2-63	63	9	14	30	17	17	40	20	14	12	6.5	75	15	56.5	0.58
SCG-B2-80	80	11	22	42	26	24	60	30	17.5	15	8.5	95	23	72	1.52
SCG-B2-100	100	11	22	42	26	24	60	30	17.5	15	8.5	114	23	89	1.91

Note: Pin, split pin, and plain washer are included.

Accessories Outline Dimension Drawing

●Single Bracket (B1) Material: Cast Iron Painting ●Trunnion type 2nd bracket (B4) Material: Cast Iron Painting

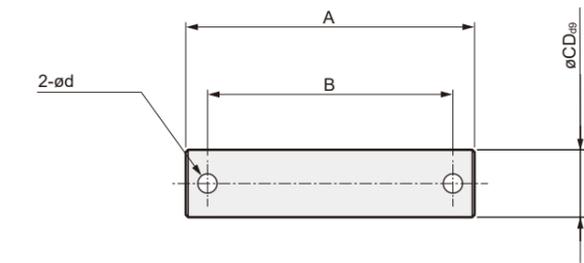


Model No.	Applicable Bore size (mm)	C	CD	CF	CQ	D	F	G	K	KA	KB	MR	SD	SE	Weight (kg)
SCG-B3-32	32, 40	6.6	10	33	14	15	7	6	62	42	21	10	44	22	0.21
SCG-B3-50	50, 63	9	14	45	20	18	8	7	81	53	28	14	60	30	0.45
SCG-B3-80	80, 100	11	22	65	30	22	10	9	111	73	41.5	22	86	45	1.23

Model No.	Applicable Bore size (mm)	GB	GC	GD	GE	GF	GH	GK	GL	GT	GV	TD	Weight (kg)
SCG-B4-32	32	7	13	12	47	24	35	62	45	10	9	12	0.20
SCG-B4-40	40, 50	9	18	17	60	30	45	80	60	12	11	16	0.43
SCG-B4-63	63, 80	11	22	20	80	40	60	100	70	14	13	20	0.87
SCG-B4-100	100	13.5	24	26	100	50	75	120	90	17	16	25	1.75

Note: Brackets come in sets of 2.

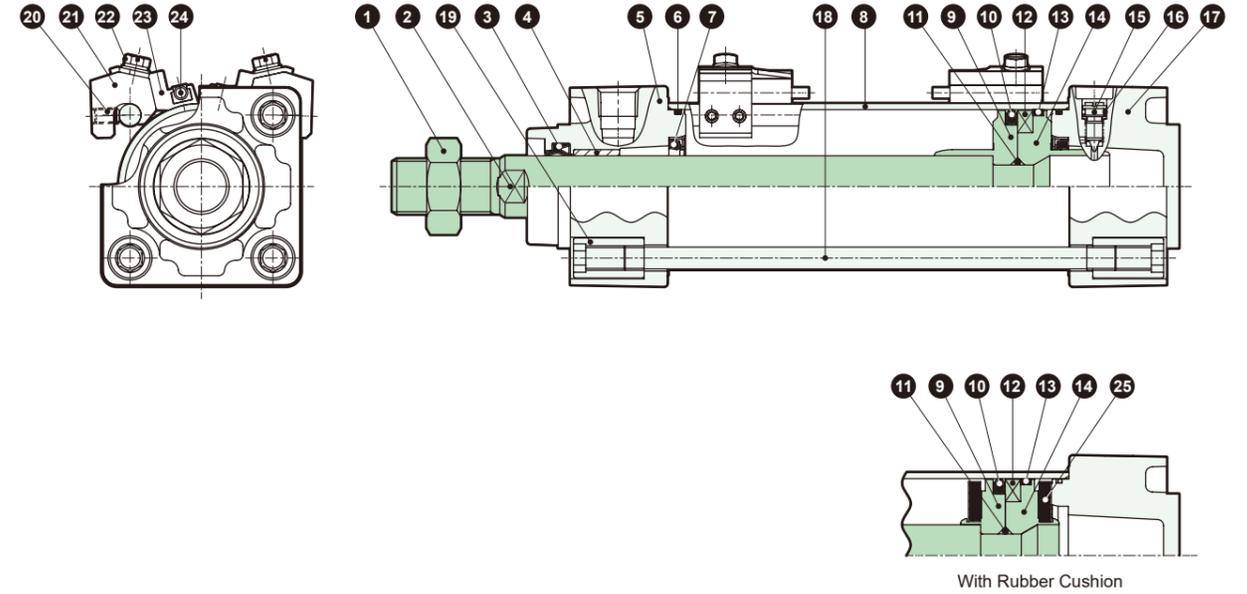
●Pin (P) Material: Steel Trivalent chromate



Model No.	Applicable Bore size (mm)	A	B	CD	d	Weight (kg)
SCG-P-32	32, 40	44	36	10	3	0.04
SCG-P-50	50, 63	60	51	14	4	0.10
SCG-P-80	80, 100	82	72	22	4	0.34

Note: For double clevis type, double knuckle type, double bracket type. Cotter pin and plain washer are attached.

Internal Structure Diagram/Material



Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Rod Nut	Steel	Nickel Plating	14	Piston H	Aluminum Alloy	
2	Piston Rod	Steel	Industrial Hard Chrome Plating	15	Cushion Needle	Copper Alloy	Nickel Plating
3	Rod Packing	Nitrile Rubber		16	Needle Gasket	Nitrile Rubber	
4	Bushing	Oil-impregnated Bearing Alloy		17	Head Cover	Aluminum Alloy	Painting
5	Rod Cover	Aluminum Alloy	Painting	18	Tie Rod	Steel	Zinc Chromate
6	Cylinder Gasket	Nitrile Rubber		19	Round Nut	Steel	Zinc Chromate
7	Cushion Packing	Nitrile Rubber, Steel	Only with air cushion	20	Hexagon socket head set screw	Steel	Black Oxide
8	Cylinder Tube	Aluminum Alloy	Hard Anodized	21	Switch mounting base	Aluminum Alloy	
9	Piston R	Aluminum Alloy		22	Hexagon head bolt with captive washer and slotted head	Stainless Steel	
10	Piston Packing	Nitrile Rubber		23	Switch holder	Aluminum Alloy	
11	Piston Gasket	Nitrile Rubber		24	Cylinder Switch		
12	Magnet	Plastic		25	Cushion Rubber	Urethane Rubber	Only with rubber cushion
13	Wear Ring	Polyacetal Resin					

Mounting Bracket Material

Mounting type	Material	Remarks
Foot (LB)	Steel	Nickel Plating
Flange (FA / FB)	Steel	Painting
Single clevis (CA), Double clevis (CB)	Cast Iron	Painting
Trunnion (TA, TB, TC)	Cast Iron	Painting

Note: Mounting brackets are attached to the product and shipped. However, for trunnion types (TA, TB, TC) and bellows-equipped models with LB or FA mounting type, they will be shipped assembled.

For maintenance parts, please visit the CKD Equipment Product Site (<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts

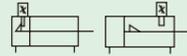


Tie-rod cylinder Double-acting, Drop prevention type

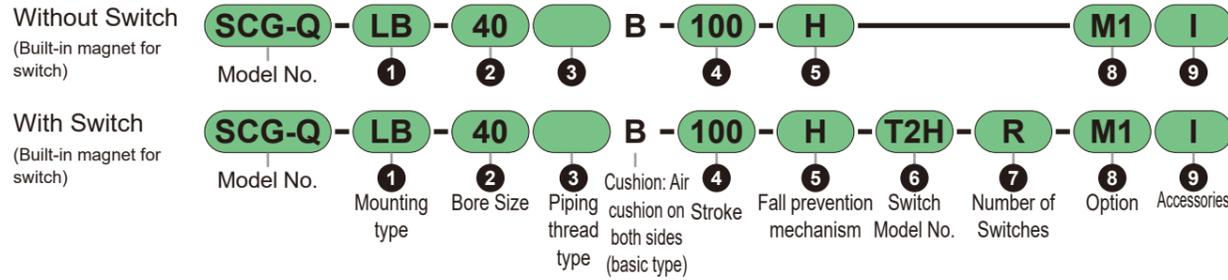
SCG-Q Series

● Bore size: $\phi 32$, $\phi 40$, $\phi 50$, $\phi 63$, $\phi 80$, $\phi 100$

Circuit Diagram Symbol



Model No. Notation Method



1 Mounting type

Mounting brackets are included with the product and shipped. (However, trunnion types are shipped assembled.)

Code	Content
00	Basic type
LB	Axial Foot Type
FA	Rod Side Flange Type
FB	Head Side Flange Type
CA	Single Clevis Type
CB	Double Clevis Type (Pin and Split Pin Attached)
TA	Rod Side Trunnion Type
TB	Head Side Trunnion Type
TC	Intermediate Trunnion Type

*1: Mounting style TA with drop prevention mechanism R cannot be manufactured.
*2: Mounting style TB with drop prevention mechanism H cannot be manufactured.

2 Bore Size (mm)

Code	Content
32	$\phi 32$
40	$\phi 40$
50	$\phi 50$
63	$\phi 63$
80	$\phi 80$
100	$\phi 100$

3 Piping thread type

Code	Content
Blank	Rc Thread
N	NPT Thread (Custom Order Product)
G	G Thread (Custom Order Product)

4 Stroke (mm)

Bore Size	Stroke	Intermediate Stroke
$\phi 32$	5 to 600	Every 1 mm
$\phi 40$		
$\phi 50$		
$\phi 63$	5 to 700	Every 1 mm
$\phi 80$		
$\phi 100$	5 to 800	

Note: For minimum stroke with switch, Please refer to P. 516 and 517.

5 Drop prevention mechanism

Code	Content
H	With head side fall prevention
R	With rod side fall prevention

6 Switch Model No.

For switch details, please refer to P. 971. Switches are included with the product and shipped.

Contact	Indicator Lamp Special Function	Wiring (Output)	Load Voltage (V)		Load Current (mA)		Lead Wire *1		
			AC	DC	AC	DC	Straight	L-shape	
Solid State	1-Color	2-wire	85 to 265	—	5 to 100	—	T1H□	T1V□	
			—	10 to 30	—	5 to 20 *2	T2H□	T2V□	
		3-wire (NPN)	—	30 or less	—	100 or less	T3H□	T3V□	
			—	30 or less	—	50 or less	T3PH□	T3PV□	
		3-wire (PNP)	—	24 ± 10%	—	5 to 20	T2WH□	T2WV□	
			—	30 or less	—	50 or less	T3WH□	T3WV□	
	2-Color	2-wire	—	24 ± 10%	—	5 to 20	T2YD□	—	
			—	—	—	—	T2YDT□	—	
		1-Color Off-Delay Type	2-wire	—	10 to 30	—	5 to 20	T2JH□	T2JV□
				—	10 to 30	—	5 to 20 *2	T2HR3	T2VR3
1-Color Flexible Lead Wire Type	2-wire	110	12/24	7 to 20	5 to 50	T0H□	T0V□		
		110	5/12/24	20 or less	50 or less	T5H□	T5V□		
Reed	1-Color	2-wire	110/220	12/24	7 to 20 / 7 to 10	5 to 50	T8H□	T8V□	

*1: For "□" in the switch model number, enter the code selected from the "Lead wire length" table.
*2: The maximum load current value above, 20 mA, is at 25°C. If the switch operating ambient temperature is higher than 25°C, it will be lower than 20 mA. (At 60°C, it will be 5 to 10 mA.)
*3: Switches other than the model numbers listed above are also available. (Custom Product) For details, see P. 971.

*Lead wire length

Code	Content
Blank	1 m (Standard)
3	3 m (Option)
5	5 m (Option)

Example) Lead wire length
1 m TOH
3 m TOH [3]
5 m TOH [5]

7 Number of Switches

Code	Content
R	With 1 on Rod Side
H	With 1 on Head Side
D	With 2 pcs
T	With 3 pcs

*1: If mounting type TA or TB is selected, the number of switches is limited to "H" (1 on head side) for TA, and "R" (1 on rod side) for TB.

9 Accessories

Code	Content
I	Single Knuckle
Y	Double Knuckle (Pin and Split Pin Attached)
B1	Single Bracket
B2	Double Yoke Bracket (Pin and Split Pin Attached)
B3	Single Bracket
B4	Trunnion Type 2nd Bracket (2 pcs/set)

*1: "I" and "Y" cannot be selected at the same time.

About Custom Product Specifications

For details, refer to P. 610 to 613.

Code	Content
-XK◇	Mounting Bracket Rotational Assembly
-XAQ◇◇	Trunnion Position Specification
-XP7	Knuckle fixed by pin driving
-A2	With 2 Rod Nuts
Rod End Shape Modification	Refer to Ending P. 11.

Model No. Example)

SCG-Q - - XP7

Rechargeable Battery Compatible Specification (Catalog No. CC-1226AA)

● Structure usable in rechargeable battery manufacturing processes

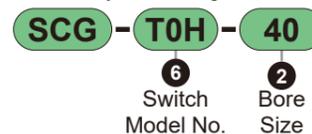
SCG-Q - - P4*

*Please contact us for details.

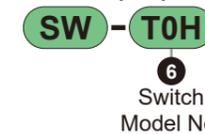
*For combinations of variations and options, see P. 489.

Switch Single Unit Model No. Notation Method

● Switch body + Mounting bracket set



● Switch body only



● Switch mounting bracket set



Note: Please consult us separately if using environmentally compatible T-type switches.

Specifications

Item	SCG-Q						
	mm	ø32	ø40	ø50	ø63	ø80	ø100
Bore Size	mm	ø32	ø40	ø50	ø63	ø80	ø100
Actuation method	Double Acting Type						
Operating Fluid	Compressed Air						
Max. Working Pressure MPa	1.0						
Min. Operating Pressure MPa	0.15						
Proof Pressure MPa	1.6						
Ambient Temperature °C	-10 to 60 (However, no freezing)						
Port Size	Rc1/8	Rc1/4		Rc3/8		Rc1/2	
Stroke tolerance mm	+1.0 0 (Up to 360), +1.4 0 (361 to 1000), +1.8 0 (1001 to 1500)						
Operating Piston Speed mm/s	30 to 1000 (Please use within the allowable absorbed energy.)						
Cushion	Air Cushion						
Effective air cushion length mm	8.6	8.6	13.4	13.4	15.4	15.4	
Fall prevention mechanism	Head side, Rod side						
Holding Force	Max. Thrust × 0.7						
Lubrication	Not required (When lubricating, use turbine oil Class 1 ISO VG32)						
Allowable Absorbed Energy J	2.5	3.7	8.0	14.4	25.4	45.6	

Stroke

Bore Size (mm)	Standard Stroke (mm)	Max. Stroke (mm)	Manufacturable Stroke (mm)	Min. Stroke (mm)
ø32	25, 50, 75, 100	600	700	5
ø40			800	
ø50			1200	
ø63			1200	
ø80			1400	
ø100	450, 500	700	1500	

*1: Intermediate strokes can be manufactured in 1 mm increments.
*2: If the maximum stroke is exceeded, product specifications may not be met depending on the conditions, so please consult us.

Min. Stroke with Switch

●T0/T5 type switch

Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
		1	2	1	2		
2	2	1	2	1	2	1	1
ø32	20 (18)	20 (10)	70 (40)	100 (70)	100 (70)	50 (35)	50 (35)
ø40	20 (19)	20 (10)	55 (40)	100 (70)	100 (70)	50 (35)	50 (35)
ø50	21 (19)	21 (10)	21 (19)	102 (72)	102 (72)	49 (34)	51 (36)
ø63	21 (20)	21 (11)	21 (20)	107 (77)	107 (77)	54 (39)	56 (41)
ø80	21 (21)	20 (11)	21 (21)	117 (87)	117 (87)	53 (38)	60 (45)
ø100	21 (21)	19 (11)	21 (21)	126 (96)	126 (96)	64 (49)	69 (54)

Note: () indicates T□V (lead wire L-type).

●T8 type switch

Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
		1	2	1	2		
2	2	1	2	1	2	1	1
ø32	19 (18)	19 (10)	67 (31)	97 (61)	97 (61)	49 (31)	49 (31)
ø40	19 (19)	19 (10)	52 (31)	97 (61)	97 (61)	49 (31)	49 (31)
ø50	19 (19)	18 (10)	19 (19)	97 (61)	97 (61)	48 (30)	48 (30)
ø63	20 (20)	18 (11)	20 (20)	102 (66)	102 (66)	53 (35)	53 (35)
ø80	21 (21)	17 (11)	21 (21)	112 (76)	112 (76)	51 (33)	57 (39)
ø100	21 (21)	17 (11)	21 (21)	121 (85)	121 (85)	61 (43)	67 (49)

Note: () indicates T□V (lead wire L-type).

Min. Stroke with Switch

●T2/T3 type switch

Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
		1	2	1	2		
2	2	1	2	1	2	1	1
ø32	20 (11)	20 (6)	70 (40)	100 (70)	100 (70)	50 (35)	50 (35)
ø40	20 (11)	20 (6)	55 (40)	100 (70)	100 (70)	50 (35)	50 (35)
ø50	21 (11)	21 (6)	21 (11)	102 (72)	102 (72)	49 (34)	51 (36)
ø63	21 (12)	21 (7)	21 (12)	107 (77)	107 (77)	54 (39)	56 (41)
ø80	20 (12)	20 (7)	20 (12)	117 (87)	117 (87)	53 (38)	60 (45)
ø100	19 (12)	19 (7)	19 (12)	126 (96)	126 (96)	64 (49)	69 (54)

*1: () indicates T□V (L-shaped lead wire type).
*2: If the stroke is 15 mm or less, two switches may turn ON simultaneously. In this case, adjust the switch mounting positions so that they are further apart from each other.

●T1 type switch

Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
		1	2	1	2		
2	2	1	2	1	2	1	1
ø32	19 (11)	19 (6)	68 (38)	98 (68)	98 (68)	49 (34)	49 (34)
ø40	19 (11)	19 (6)	53 (38)	98 (68)	98 (68)	49 (34)	49 (34)
ø50	20 (11)	20 (6)	20 (11)	100 (70)	100 (70)	48 (33)	50 (35)
ø63	20 (12)	20 (7)	20 (12)	105 (75)	105 (75)	53 (38)	55 (40)
ø80	19 (12)	19 (7)	19 (12)	115 (85)	115 (85)	52 (37)	59 (44)
ø100	18 (12)	18 (7)	18 (12)	124 (94)	124 (94)	63 (48)	68 (53)

*1: () indicates T□V (L-shaped lead wire type).
*2: If the stroke is 15 mm or less, two switches may turn ON simultaneously. In this case, adjust the switch mounting positions so that they are further apart from each other.

●T2W/T3W type switch

Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
		1	2	1	2		
2	2	1	2	1	2	1	1
ø32	23 (12)	23 (8)	75 (45)	105 (75)	105 (75)	53 (38)	53 (38)
ø40	23 (12)	23 (8)	60 (45)	105 (75)	105 (75)	53 (38)	53 (38)
ø50	23 (13)	23 (8)	23 (13)	107 (77)	107 (77)	51 (36)	53 (38)
ø63	23 (13)	23 (8)	23 (13)	112 (82)	112 (82)	56 (41)	58 (43)
ø80	22 (14)	22 (8)	22 (14)	122 (92)	122 (92)	55 (40)	62 (47)
ø100	22 (14)	22 (8)	22 (14)	131 (101)	131 (101)	66 (51)	72 (57)

*1: () indicates T□V (L-shaped lead wire type).
*2: If the stroke is 15 mm or less, two switches may turn ON simultaneously. In this case, adjust the switch mounting positions so that they are further apart from each other.

●T2YD type switch

Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
		1	2	1	2		
2	2	1	2	1	2	1	1
ø32	23	23	75	105	105	53	53
ø40	23	23	60	105	105	53	53
ø50	23	23	23	107	107	51	53
ø63	23	23	23	112	112	56	58
ø80	22	22	22	122	122	55	62
ø100	22	22	22	131	131	66	72

Note: () indicates T□V (lead wire L-type).

Weight Table

(Unit: kg)

Bore Size (mm)	Product Weight at Stroke = 0 mm						Stroke: 50 mm Added weight per	Switch Weight (Per Piece)	Switch Mounting bracket Weight	Accessory Weight	
	Basic type (00)	Foot Type (LB)	Flange Type (FA,FB)	Single Clevis Type (CA)	Double Clevis Type (CB)	Trunnion Type (TA, TB, TC)				I	Y
ø32	0.69	0.8	0.91	0.84	0.87	0.86	0.12	Refer to the weight listed in the switch specifications on P. 971.	0.024	0.07	0.10
ø40	1.03	1.17	1.31	1.21	0.85	1.37	0.17		0.024	0.07	0.13
ø50	1.69	1.85	2.17	2.10	2.10	2.17	0.23		0.022	0.20	0.30
ø63	2.03	2.37	2.79	2.59	2.60	2.91	0.25		0.022	0.20	0.30
ø80	3.96	4.39	5.53	5.23	5.24	5.45	0.40		0.026	0.52	0.94
ø100	5.74	6.6	8.06	7.46	7.49	8.31	0.51		0.024	0.48	0.92

MEMO

Theoretical Thrust Table

(Unit: N)

Bore Size (mm)	Operating Direction	Operating Pressure MPa									
		0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø32	Push	1.21 × 10 ²	1.61 × 10 ²	2.41 × 10 ²	3.22 × 10 ²	4.02 × 10 ²	4.83 × 10 ²	5.63 × 10 ²	6.43 × 10 ²	7.24 × 10 ²	8.04 × 10 ²
	Pull	1.04 × 10 ²	1.38 × 10 ²	2.07 × 10 ²	2.76 × 10 ²	3.46 × 10 ²	4.15 × 10 ²	4.84 × 10 ²	5.53 × 10 ²	6.22 × 10 ²	6.91 × 10 ²
ø40	Push	1.88 × 10 ²	2.51 × 10 ²	3.77 × 10 ²	5.03 × 10 ²	6.28 × 10 ²	7.54 × 10 ²	8.80 × 10 ²	1.01 × 10 ³	1.13 × 10 ³	1.26 × 10 ³
	Pull	1.58 × 10 ²	2.11 × 10 ²	3.17 × 10 ²	4.22 × 10 ²	5.28 × 10 ²	6.33 × 10 ²	7.39 × 10 ²	8.44 × 10 ²	9.50 × 10 ²	1.06 × 10 ³
ø50	Push	2.95 × 10 ²	3.93 × 10 ²	5.89 × 10 ²	7.85 × 10 ²	9.82 × 10 ²	1.18 × 10 ³	1.37 × 10 ³	1.57 × 10 ³	1.77 × 10 ³	1.96 × 10 ³
	Pull	2.47 × 10 ²	3.30 × 10 ²	4.95 × 10 ²	6.60 × 10 ²	8.25 × 10 ²	9.90 × 10 ²	1.15 × 10 ³	1.32 × 10 ³	1.48 × 10 ³	1.65 × 10 ³
ø63	Push	4.68 × 10 ²	6.23 × 10 ²	9.35 × 10 ²	1.25 × 10 ³	1.56 × 10 ³	1.87 × 10 ³	2.18 × 10 ³	2.49 × 10 ³	2.81 × 10 ³	3.12 × 10 ³
	Pull	4.20 × 10 ²	5.61 × 10 ²	8.41 × 10 ²	1.12 × 10 ³	1.40 × 10 ³	1.68 × 10 ³	1.96 × 10 ³	2.24 × 10 ³	2.52 × 10 ³	2.80 × 10 ³
ø80	Push	7.54 × 10 ²	1.01 × 10 ³	1.51 × 10 ³	2.01 × 10 ³	2.51 × 10 ³	3.02 × 10 ³	3.52 × 10 ³	4.02 × 10 ³	4.52 × 10 ³	5.03 × 10 ³
	Pull	6.80 × 10 ²	9.07 × 10 ²	1.36 × 10 ³	1.81 × 10 ³	2.27 × 10 ³	2.72 × 10 ³	3.17 × 10 ³	3.63 × 10 ³	4.08 × 10 ³	4.54 × 10 ³
ø100	Push	1.18 × 10 ³	1.57 × 10 ³	2.36 × 10 ³	3.14 × 10 ³	3.93 × 10 ³	4.71 × 10 ³	5.50 × 10 ³	6.28 × 10 ³	7.07 × 10 ³	7.85 × 10 ³
	Pull	1.07 × 10 ³	1.43 × 10 ³	2.14 × 10 ³	2.86 × 10 ³	3.57 × 10 ³	4.29 × 10 ³	5.00 × 10 ³	5.72 × 10 ³	6.43 × 10 ³	7.15 × 10 ³

Mounting Bracket Model No. Notation Method

Bore Size (mm)	ø32	ø40	ø50	ø63	ø80	ø100
Foot (LB)	SCG-LB-32	SCG-LB-40	SCG-LB-50	SCG-LB-63	SCG-LB-80	SCG-LB-100
Flange (FA) (FB)	SCG-FA-32	SCG-FA-40	SCG-FA-50	SCG-FA-63	SCG-FA-80	SCG-FA-100
Single Clevis (CA)	SCG-CA-32	SCG-CA-40	SCG-CA-50	SCG-CA-63	SCG-CA-80	SCG-CA-100
Double Clevis (CB)	SCG-CB-32	SCG-CB-40	SCG-CB-50	SCG-CB-63	SCG-CB-80	SCG-CB-100

*1: Foot type mounting bracket (LB) comes in a set of 2.
*2: Mounting bolts are included to each mounting bracket.

General Type

General Type

SCP□3

SCP□3

CMK2

CMK2

CMA2

CMA2

SCM

SCM

SCG

SCG

SCA2

SCA2

SCS2

SCS2

Cylinder Switch

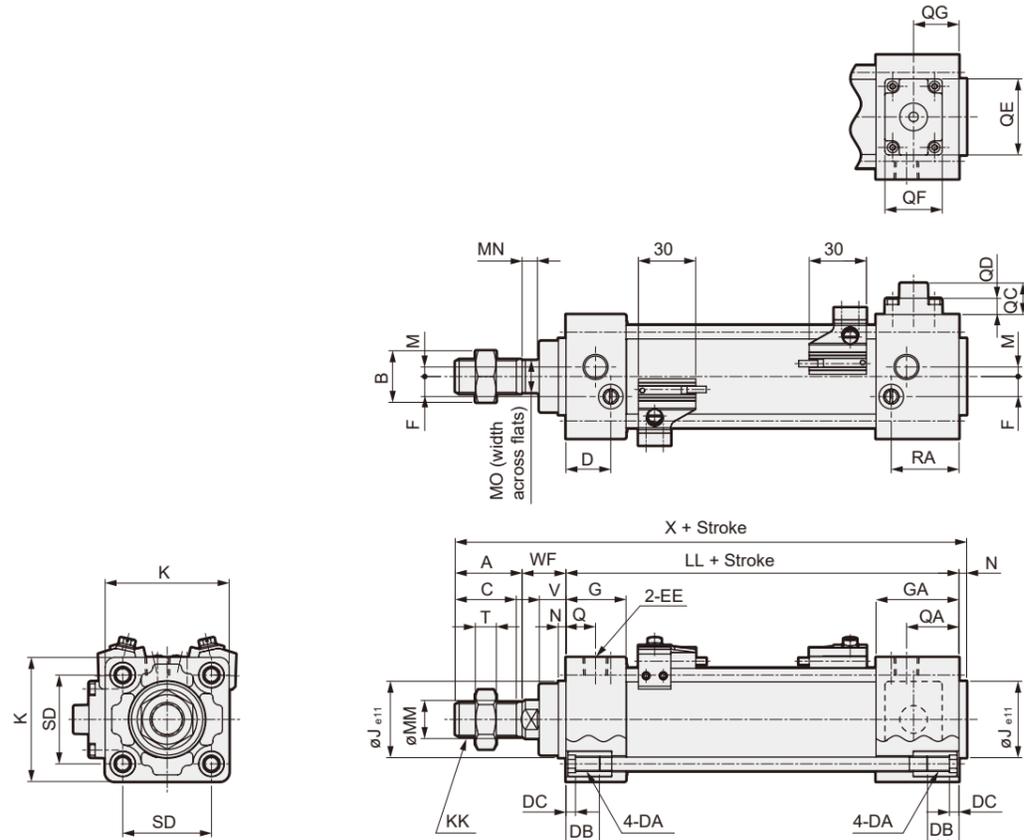
Cylinder Switch

Ending

Ending

Outline Dimension Drawing

● Basic type (00) With head side fall prevention



Code	Basic type (00) With head side fall prevention Basic dimensions																
Bore Size (mm)	A	B	C	D	DA	DB	DC	EE	F	G	GA	J	K	KK	LL	M	
ø32	22	17	19.5	19	M6	16	5	Rc1/8	6.5	27	35	30	46	M10 × 1.25	92	4	
ø40	30	22	27	19	M6	16	5	Rc1/4	9	27	40	35	52	M14 × 1.5	97	4	
ø50	35	27	32	23.5	M8	16	5	Rc1/4	10.5	31.5	43.5	40	65	M18 × 1.5	106	5	
ø63	35	27	32	21.5	M8	16	5	Rc3/8	12	31.5	43.5	45	75	M18 × 1.5	106	9	
ø80	40	32	37	28	M10	16	5	Rc3/8	14	38	56	45	95	M22 × 1.5	132	11.5	
ø100	40	41	37	28	M10	16	5	Rc1/2	15	38	56	55	114	M26 × 1.5	132	17	

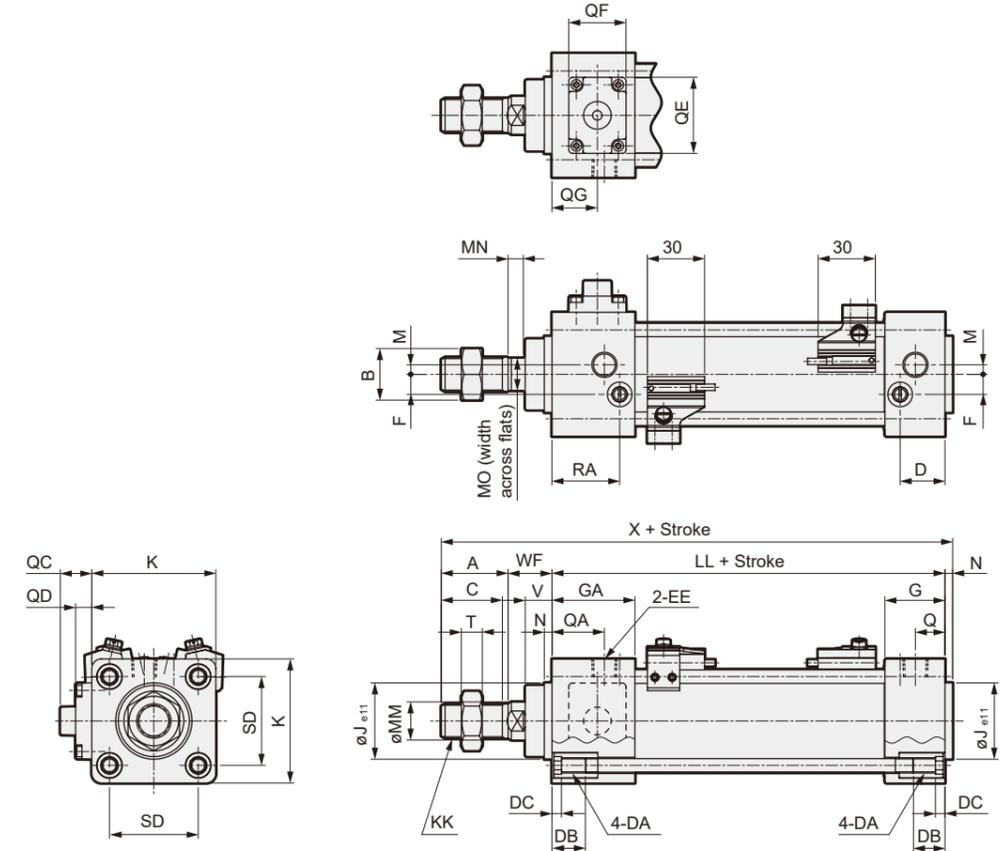
Code	Basic type (00) With head side fall prevention Basic dimensions																
Bore Size (mm)	MM	MN	MO	N	Q	QA	QC	QD	QE	QF	QG	RA	SD	T	V	WF	X
ø32	12	5.5	10	4	13	21	12.5	6.5	22	16	17.5	27	32.5	6	13	25	143
ø40	16	6	14	4	14	27	12	6	22	16	18.5	32	38	8	13	21	152
ø50	20	8	17	4	15.5	27.5	16.5	8.5	40	30	23.8	35.5	46.5	11	14	23	168
ø63	20	8	17	4	16.5	28.5	11.5	3.5	40	30	23.8	33.5	56.5	11	14	23	168
ø80	25	11	22	4	19	38	10	2	40	30	27.5	47	72	13	20	32	208
ø100	30	13	27	4	19	37	11	3	40	30	27.5	46	89	16	20	32	208

*1: For dimensions with each switch, refer to P. 608, 609.
 *2: For outer dimensions diagram of accessories, refer to P. 511.

Double Acting, Drop Prevention Type

Outline Dimension Drawing

● Basic type (00) With rod side fall prevention



Code	Basic type (00) With rod side fall prevention Basic dimensions																
Bore Size (mm)	A	B	C	D	DA	DB	DC	EE	F	G	GA	J	K	KK	LL	M	
ø32	22	17	19.5	19	M6	16	5	Rc1/8	6.5	27	35	30	46	M10 × 1.25	92	4	
ø40	30	22	27	19	M6	16	5	Rc1/4	9	27	40	35	52	M14 × 1.5	97	4	
ø50	35	27	32	23.5	M8	16	5	Rc1/4	10.5	31.5	43.5	40	65	M18 × 1.5	106	5	
ø63	35	27	32	21.5	M8	16	5	Rc3/8	12	31.5	43.5	45	75	M18 × 1.5	106	9	
ø80	40	32	37	28	M10	16	5	Rc3/8	14	38	56	45	95	M22 × 1.5	132	11.5	
ø100	40	41	37	28	M10	16	5	Rc1/2	15	38	56	55	114	M26 × 1.5	132	17	

Code	Basic type (00) With rod side fall prevention Basic dimensions																
Bore Size (mm)	MM	MN	MO	N	Q	QA	QC	QD	QE	QF	QG	RA	SD	T	V	WF	X
ø32	12	5.5	10	4	13	21	12.5	6.5	22	16	17.5	27	32.5	6	13	25	143
ø40	16	6	14	4	14	27	12	6	22	16	18.5	32	38	8	13	21	152
ø50	20	8	17	4	15.5	27.5	16.5	8.5	40	30	23.8	35.5	46.5	11	14	23	168
ø63	20	8	17	4	16.5	28.5	11.5	3.5	40	30	23.8	33.5	56.5	11	14	23	168
ø80	25	11	22	4	19	37	10	2	40	30	27.5	46	72	13	20	32	208
ø100	30	13	27	4	19	37	11	3	40	30	27.5	46	89	16	20	32	208

*1: For dimensions with each switch, refer to P. 608, 609.
 *2: For outer dimensions diagram of accessories, refer to P. 511.

General Type

SCP□3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

General Type

SCP□3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

Cylinder Switch

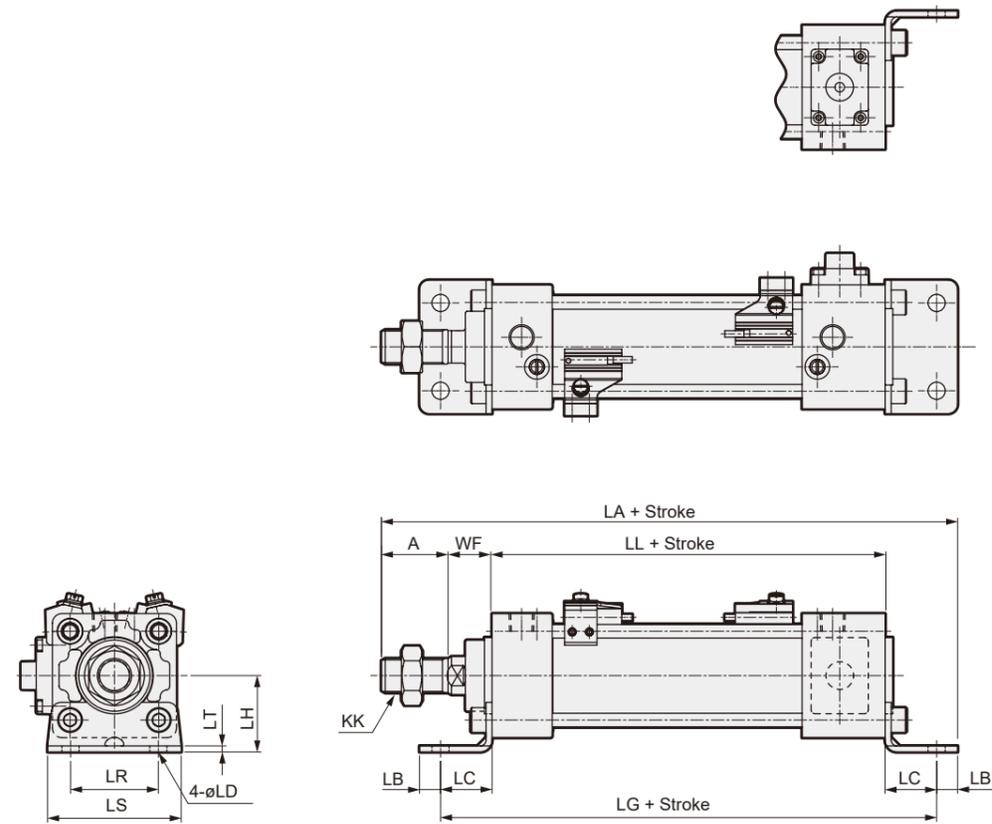
Ending

Cylinder Switch

Ending

Outline Dimension Drawing

● Axial foot type (LB) With head side fall prevention

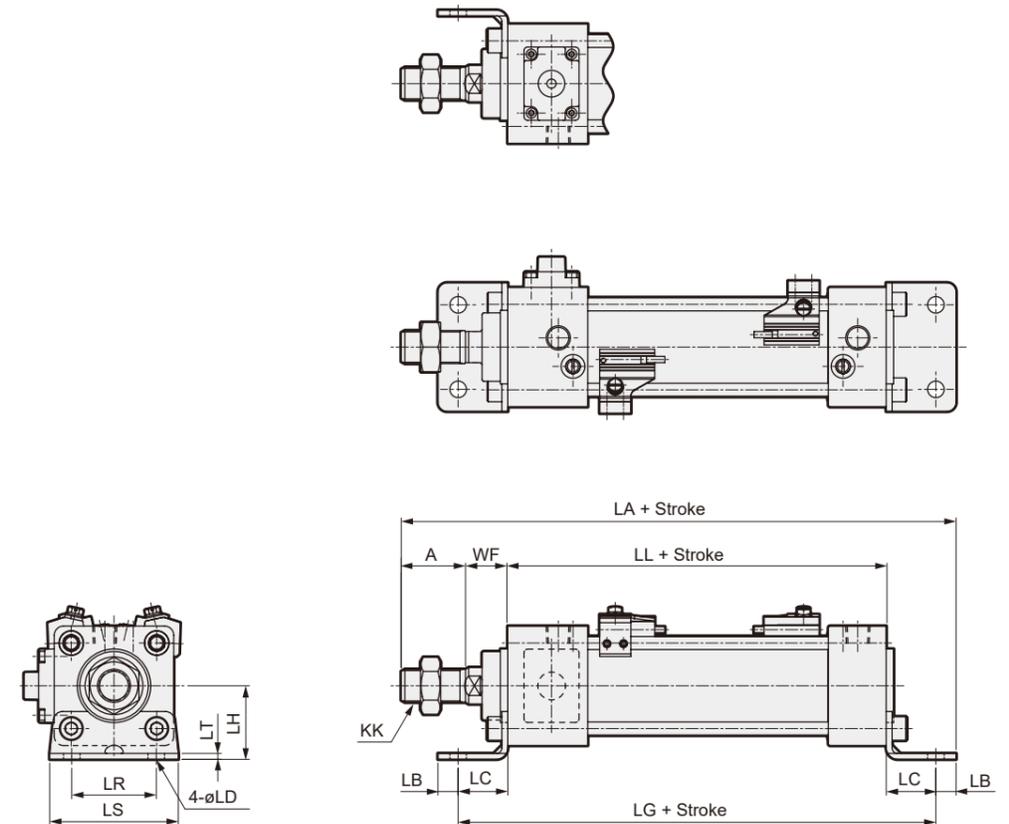


Code	Axial foot type (LB) With head side fall prevention Mounting dimensions												
Bore Size (mm)	A	KK	LL	WF	LA	LB	LC	LD	LG	LH	LR	LS	LT
ø32	22	M18×1.25	92	25	170	9	22	7	136	30	32	50	3.2
ø40	30	M18×1.5	97	21	183	11	24	9	145	33	38	55	3.2
ø50	35	M18×1.5	106	23	202	11	27	9	160	40	46	70	3.2
ø63	35	M18×1.5	106	23	205	14	27	12	160	45	56	80	4.5
ø80	40	M18×1.5	132	32	248	14	30	12	192	55	72	95	4.5
ø100	40	M18×1.5	132	32	252	16	32	14	196	65	89	114	6

*1: For dimensions with each switch, refer to P. 608, 609.
*2: For outer dimensions diagram of accessories, refer to P. 511.

Outline Dimension Drawing

● Axial foot type (LB) With rod side fall prevention



Code	Axial foot type (LB) With rod side fall prevention Mounting dimensions												
Bore Size (mm)	A	KK	LL	WF	LA	LB	LC	LD	LG	LH	LR	LS	LT
ø32	22	M10 × 1.25	92	25	170	9	22	7	136	30	32	50	3.2
ø40	30	M14 × 1.5	97	21	183	11	24	9	145	33	38	55	3.2
ø50	35	M18 × 1.5	106	23	202	11	27	9	160	40	46	70	3.2
ø63	35	M18 × 1.5	106	23	205	14	27	12	160	45	56	80	4.5
ø80	40	M22 × 1.5	132	32	248	14	30	12	192	55	72	95	4.5
ø100	40	M26 × 1.5	132	32	252	16	32	14	196	65	89	114	6

*1: For dimensions with each switch, refer to P. 608, 609.
*2: For outer dimensions diagram of accessories, refer to P. 511.

General Type

SCP□3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

Cylinder Switch

Ending

General Type

SCP□3

CMK2

CMA2

SCM

SCG

SCA2

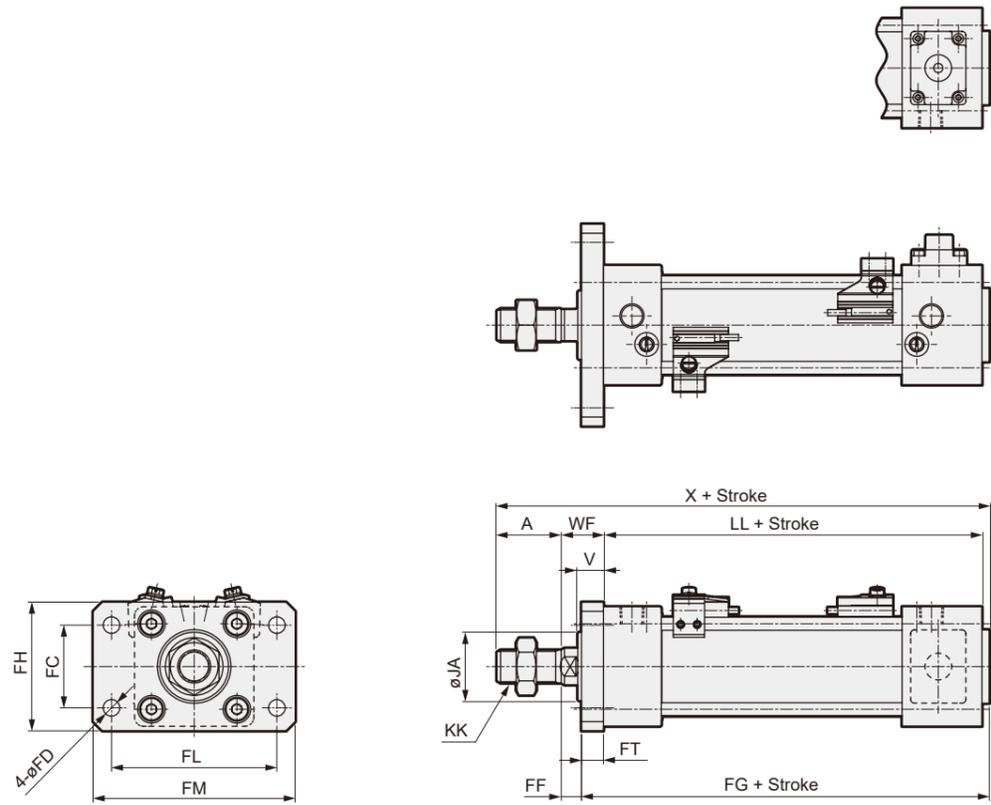
SCS2

Cylinder Switch

Ending

Outline Dimension Drawing

●Rod side flange type (FA) With head side fall prevention



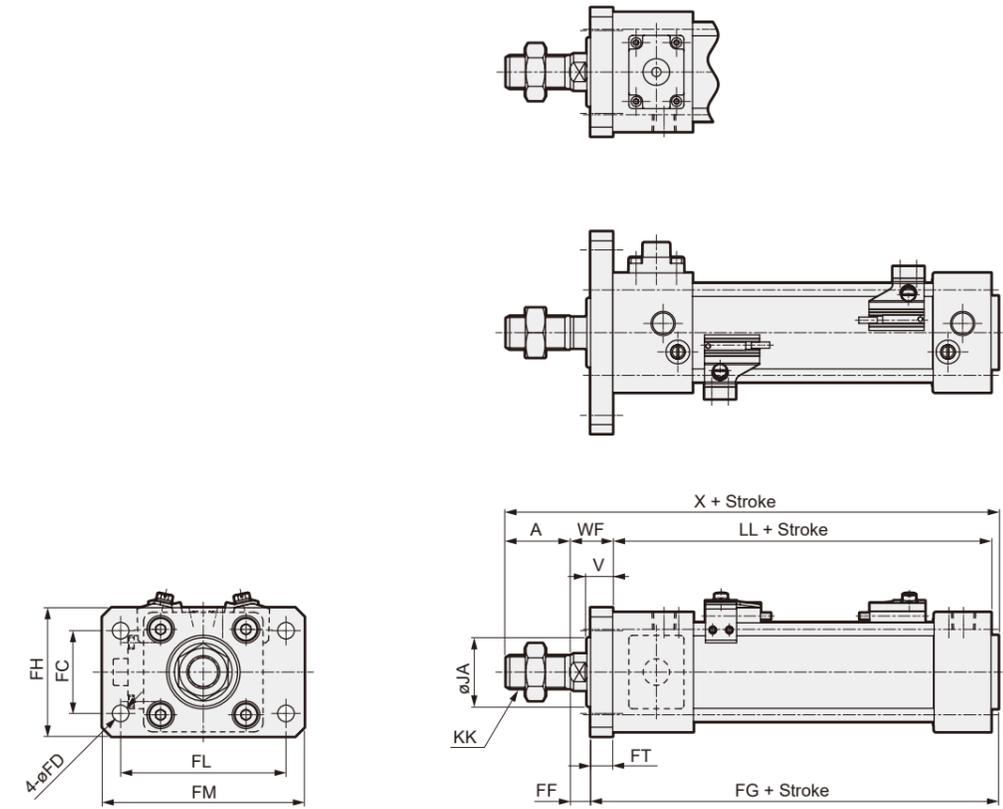
Code	Rod side flange type (FA) With head side fall prevention Mounting dimensions														
Bore Size (mm)	A	KK	LL	V	WF	X	FC	FD	FF	FG	JA	FT	FH	FL	FM
ø32	22	M10 × 1.25	92	13	25	143	32	7	15	106	29	10	50	64	79
ø40	30	M14 × 1.5	97	13	21	152	36	9	11	111	30	10	55	72	90
ø50	35	M18 × 1.5	106	14	23	168	45	9	11	122	38	12	70	90	110
ø63	35	M18 × 1.5	106	14	23	168	50	9	11	122	38	12	80	100	120
ø80	40	M22 × 1.5	132	20	32	208	63	12	16	152	43	16	100	126	153
ø100	40	M26 × 1.5	132	20	32	208	75	14	16	152	51	16	120	150	178

*1: For dimensions with each switch, refer to P. 608, 609.
*2: For outer dimensions diagram of accessories, refer to P. 511.

Double Acting, Drop Prevention Type

Outline Dimension Drawing

●Rod side flange type (FA) With rod side fall prevention

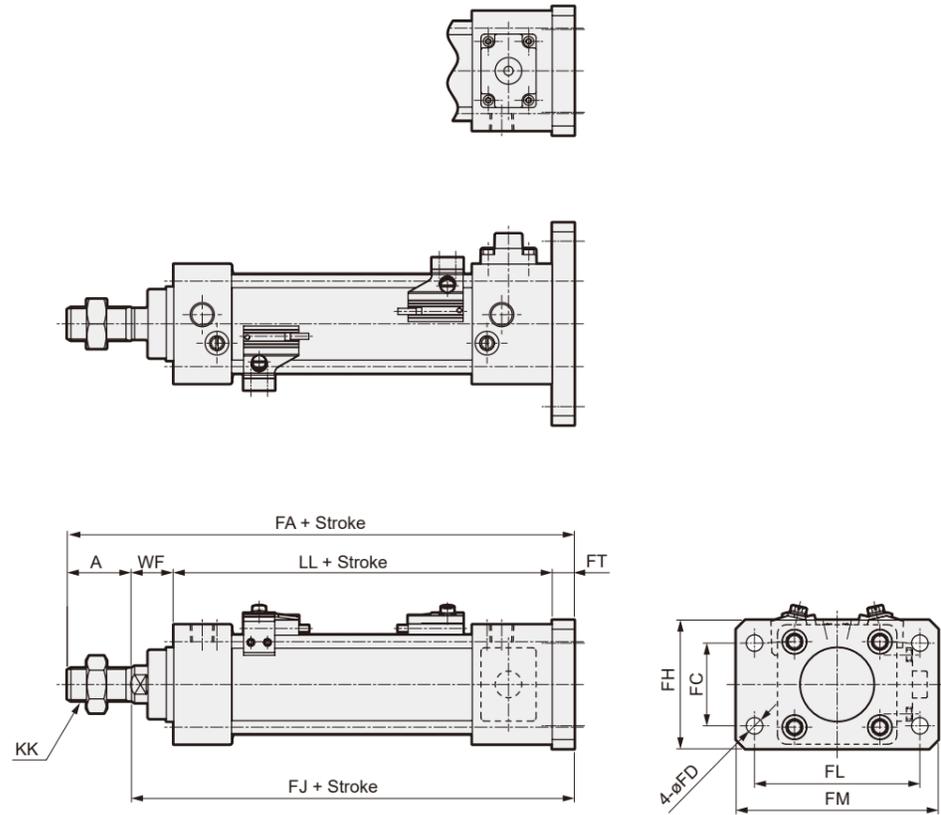


Code	Rod side flange type (FA) With rod side fall prevention Mounting dimensions														
Bore Size (mm)	A	KK	LL	V	WF	X	FC	FD	FF	FG	JA	FT	FH	FL	FM
ø32	22	M10 × 1.25	92	13	25	143	32	7	15	106	29	10	50	64	79
ø40	30	M14 × 1.5	97	13	21	152	36	9	11	111	30	10	55	72	90
ø50	35	M18 × 1.5	106	14	23	168	45	9	11	122	38	12	70	90	110
ø63	35	M18 × 1.5	106	14	23	168	50	9	11	122	38	12	80	100	120
ø80	40	M22 × 1.5	132	20	32	208	63	12	16	152	43	16	100	126	153
ø100	40	M26 × 1.5	132	20	32	208	75	14	16	152	51	16	120	150	178

*1: For dimensions with each switch, refer to P. 608, 609.
*2: For outer dimensions diagram of accessories, refer to P. 511.

Outline Dimension Drawing

●Head side flange type (FB) With head side fall prevention



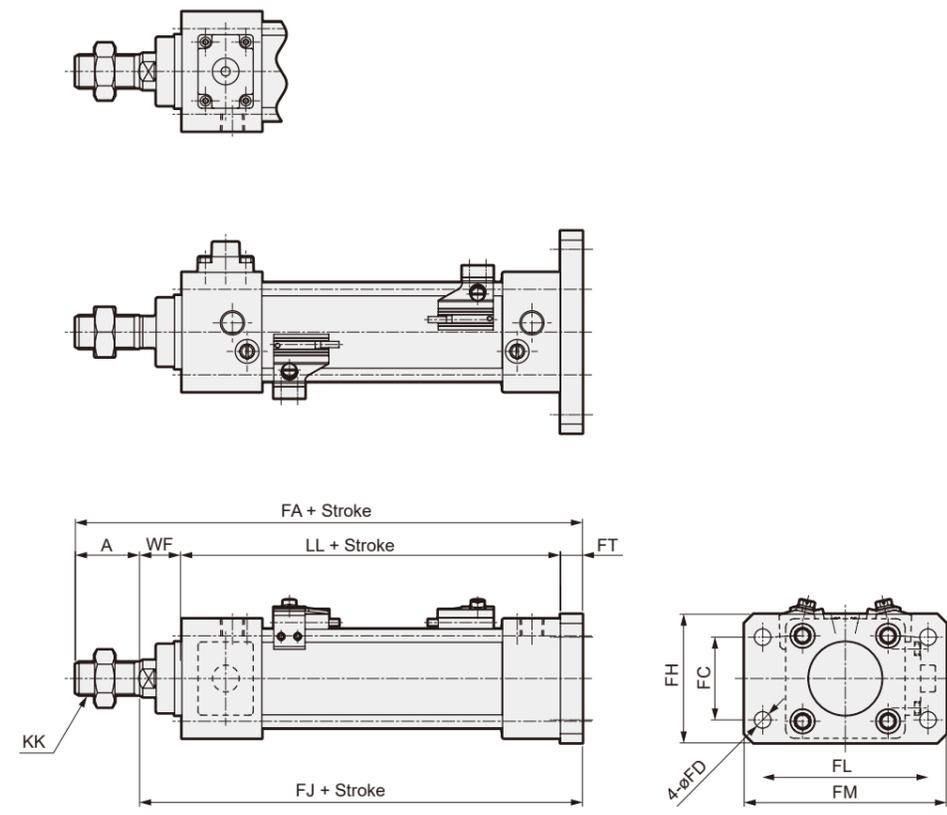
Code	Head side flange type (FB) With head side fall prevention Mounting dimensions											
Bore Size (mm)	A	KK	LL	WF	FA	FC	FD	FH	FJ	FL	FM	FT
ø32	22	M10 × 1.25	92	25	149	32	7	50	127	64	79	10
ø40	30	M14 × 1.5	97	21	158	36	9	55	128	72	90	10
ø50	35	M18 × 1.5	106	23	176	45	9	70	141	90	110	12
ø63	35	M18 × 1.5	106	23	176	50	9	80	141	100	120	12
ø80	40	M22 × 1.5	132	32	220	63	12	100	180	126	153	16
ø100	40	M26 × 1.5	132	32	220	75	14	120	180	150	178	16

*1: For dimensions with each switch, refer to P. 608, 609.
*2: For outer dimensions diagram of accessories, refer to P. 511.

Double Acting, Drop Prevention Type

Outline Dimension Drawing

●Head side flange type (FB) With rod side fall prevention



Code	Head side flange type (FB) With rod side fall prevention Mounting dimensions											
Bore Size (mm)	A	KK	LL	WF	FA	FC	FD	FH	FJ	FL	FM	FT
ø32	22	M10 × 1.25	92	25	149	32	7	50	127	64	79	10
ø40	30	M14 × 1.5	97	21	158	36	9	55	128	72	90	10
ø50	35	M18 × 1.5	106	23	176	45	9	70	141	90	110	12
ø63	35	M18 × 1.5	106	23	176	50	9	80	141	100	120	12
ø80	40	M22 × 1.5	132	32	220	63	12	100	180	126	153	16
ø100	40	M26 × 1.5	132	32	220	75	14	120	180	150	178	16

*1: For dimensions with each switch, refer to P. 608, 609.
*2: For outer dimensions diagram of accessories, refer to P. 511.

General Type

SCP□3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

Cylinder Switch

Ending

General Type

SCP□3

CMK2

CMA2

SCM

SCG

SCA2

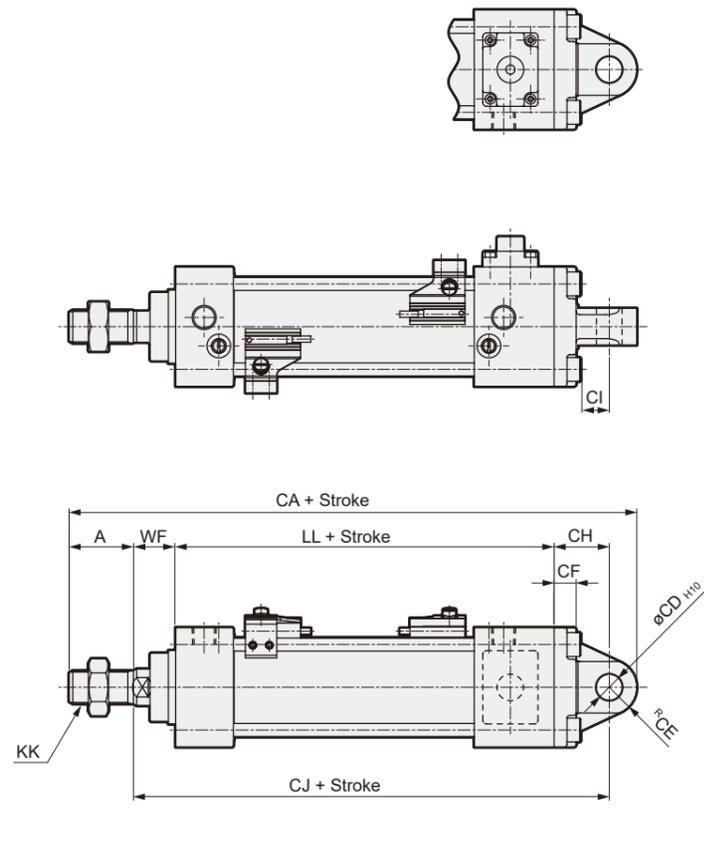
SCS2

Cylinder Switch

Ending

Outline Dimension Drawing

● Single clevis type (CA) With head side fall prevention



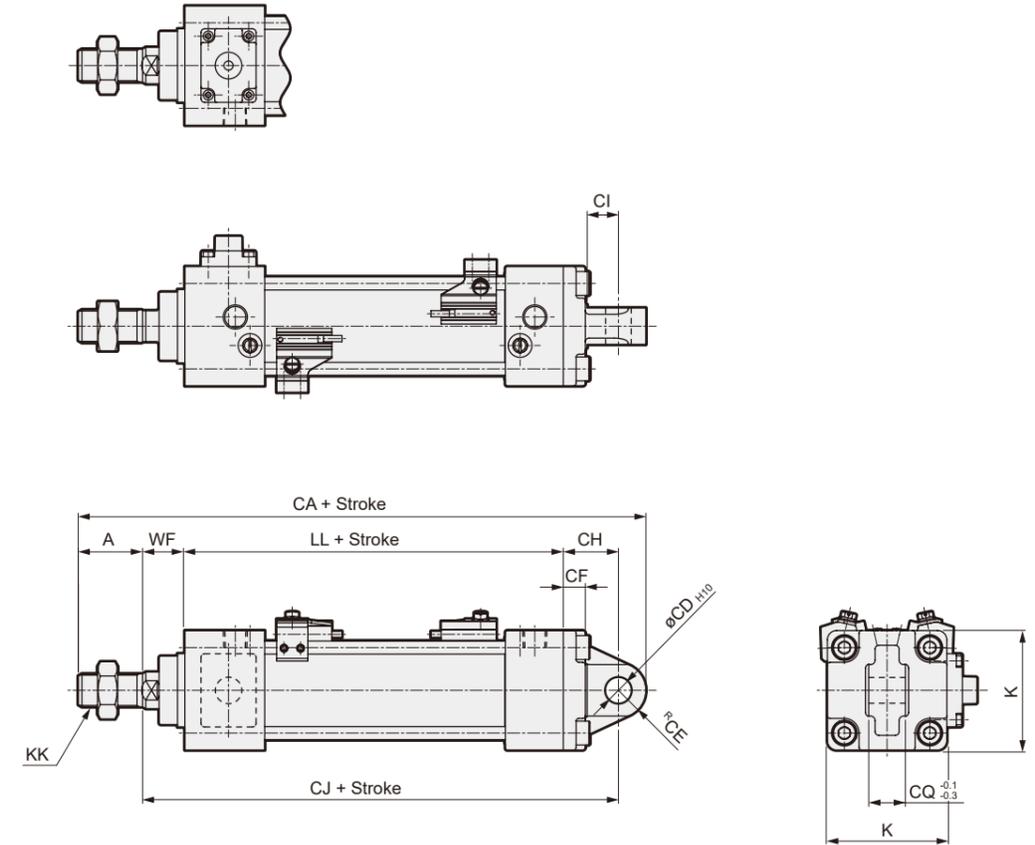
Code	Single clevis type (CA) With head side fall prevention Mounting dimensions												
Bore Size (mm)	A	K	KK	LL	WF	CA	CD	CE	CF	CI	CJ	CQ	CH
ø32	22	46	M10 × 1.25	92	25	172.5	10	10.5	9	13	140	14	23
ø40	30	52	M14 × 1.5	97	21	182	10	11	9	13	141	14	23
ø50	35	65	M18 × 1.5	106	23	209	14	15	12	17	159	20	30
ø63	35	75	M18 × 1.5	106	23	209	14	15	12	17	159	20	30
ø80	40	95	M22 × 1.5	132	32	269	22	23	15	26	206	30	42
ø100	40	114	M26 × 1.5	132	32	269	22	23	15	26	206	30	42

*1: For dimensions with each switch, refer to P. 608, 609.
 *2: For outer dimensions diagram of accessories, refer to P. 511.

Double Acting, Drop Prevention Type

Outline Dimension Drawing

● Single clevis type (CA) With rod side fall prevention



Code	Single clevis type (CA) With rod side fall prevention Mounting dimensions												
Bore Size (mm)	A	K	KK	LL	WF	CA	CD	CE	CF	CI	CJ	CQ	CH
ø32	22	46	M10 × 1.25	92	25	172.5	10	10.5	9	13	140	14	23
ø40	30	52	M14 × 1.5	97	21	182	10	11	9	13	141	14	23
ø50	35	65	M18 × 1.5	106	23	209	14	15	12	17	159	20	30
ø63	35	75	M18 × 1.5	106	23	209	14	15	12	17	159	20	30
ø80	40	95	M22 × 1.5	132	32	269	22	23	15	26	206	30	42
ø100	40	114	M26 × 1.5	132	32	269	22	23	15	26	206	30	42

*1: For dimensions with each switch, refer to P. 608, 609.
 *2: For outer dimensions diagram of accessories, refer to P. 511.

General Type

SCP□3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

General Type

SCP□3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

Cylinder Switch

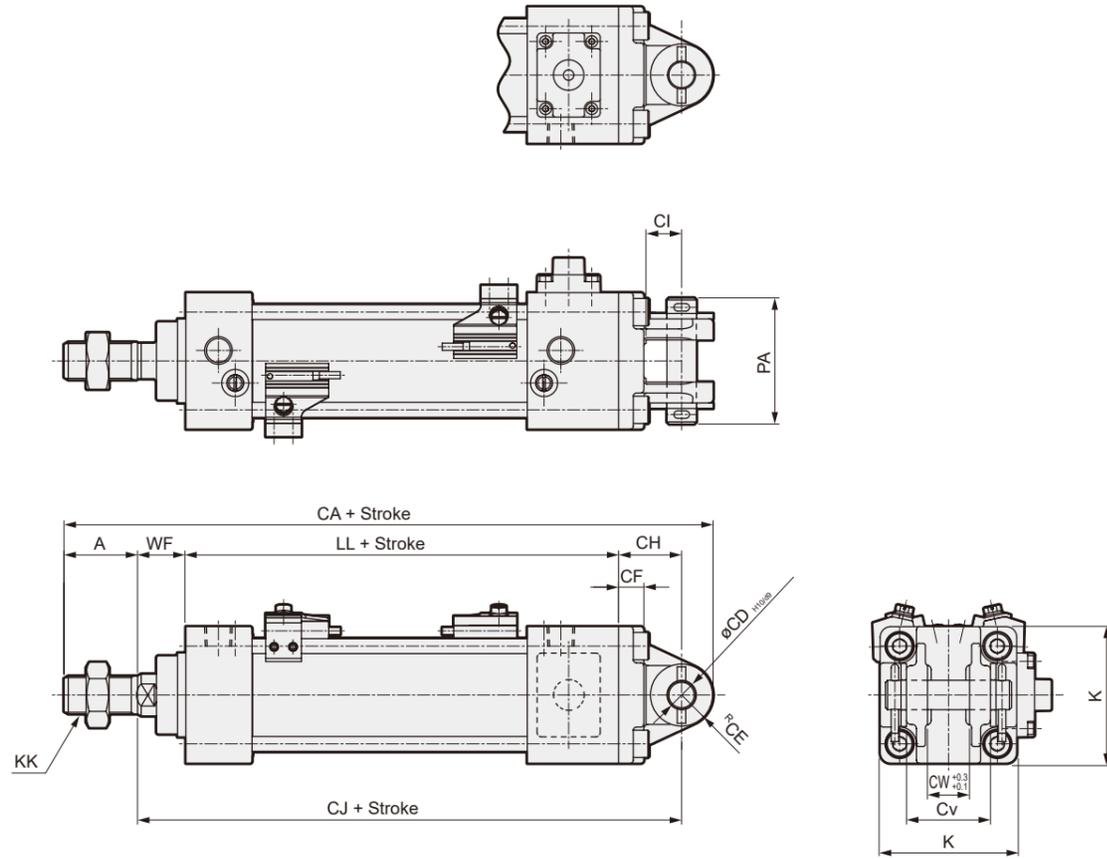
Ending

Cylinder Switch

Ending

Outline Dimension Drawing

● Double clevis type (CB) With head side fall prevention



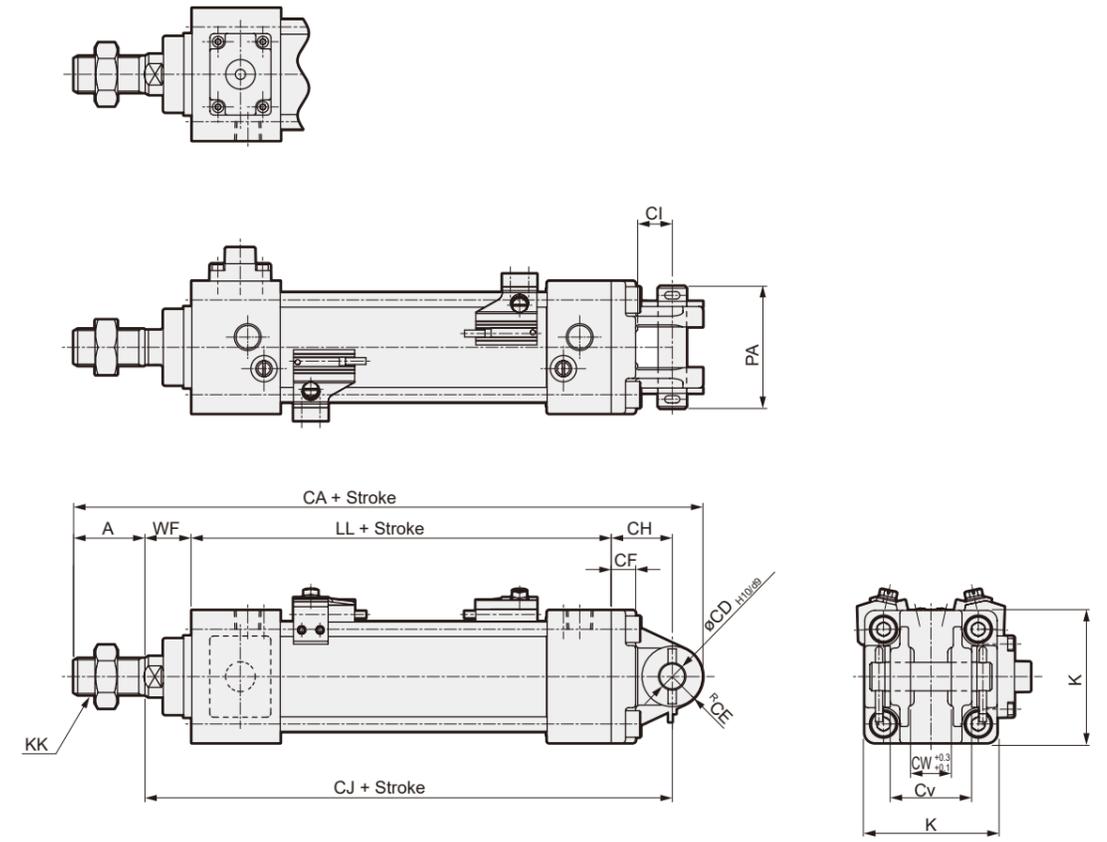
Code	Double clevis type (CB) With head side fall prevention Mounting dimensions														
Bore Size (mm)	A	K	KK	LL	WF	CA	CD	CE	CF	CI	CJ	Cv	CW	CH	PA
ø32	22	46	M10 × 1.25	92	25	172.5	10	10.5	9	13	140	28	14	23	44
ø40	30	52	M14 × 1.5	97	21	182	10	11	9	13	141	28	14	23	44
ø50	35	65	M18 × 1.5	106	23	209	14	15	12	17	159	40	20	30	60
ø63	35	75	M18 × 1.5	106	23	209	14	15	12	17	159	40	20	30	60
ø80	40	95	M22 × 1.5	132	32	269	22	23	15	26	206	60	30	42	82
ø100	40	114	M26 × 1.5	132	32	269	22	23	15	26	206	60	30	42	82

*1: For dimensions with each switch, refer to P. 608, 609.
 *2: For outer dimensions diagram of accessories, refer to P. 511.

Double Acting, Drop Prevention Type

Outline Dimension Drawing

● Double clevis type (CB) With rod side fall prevention



Code	Double clevis type (CB) With rod side fall prevention Mounting dimensions														
Bore Size (mm)	A	K	KK	LL	WF	CA	CD	CE	CF	CI	CJ	Cv	CW	CH	PA
ø32	22	46	M10 × 1.25	92	25	172.5	10	10.5	9	13	140	28	14	23	44
ø40	30	52	M14 × 1.5	97	21	182	10	11	9	13	141	28	14	23	44
ø50	35	65	M18 × 1.5	106	23	209	14	15	12	17	159	40	20	30	60
ø63	35	75	M18 × 1.5	106	23	209	14	15	12	17	159	40	20	30	60
ø80	40	95	M22 × 1.5	132	32	269	22	23	15	26	206	60	30	42	82
ø100	40	114	M26 × 1.5	132	32	269	22	23	15	26	206	60	30	42	82

*1: For dimensions with each switch, refer to P. 608, 609.
 *2: For outer dimensions diagram of accessories, refer to P. 511.

General Type
 SCP□3
 CMK2
 CMA2
 SCM
SCG
 SCA2
 SCS2

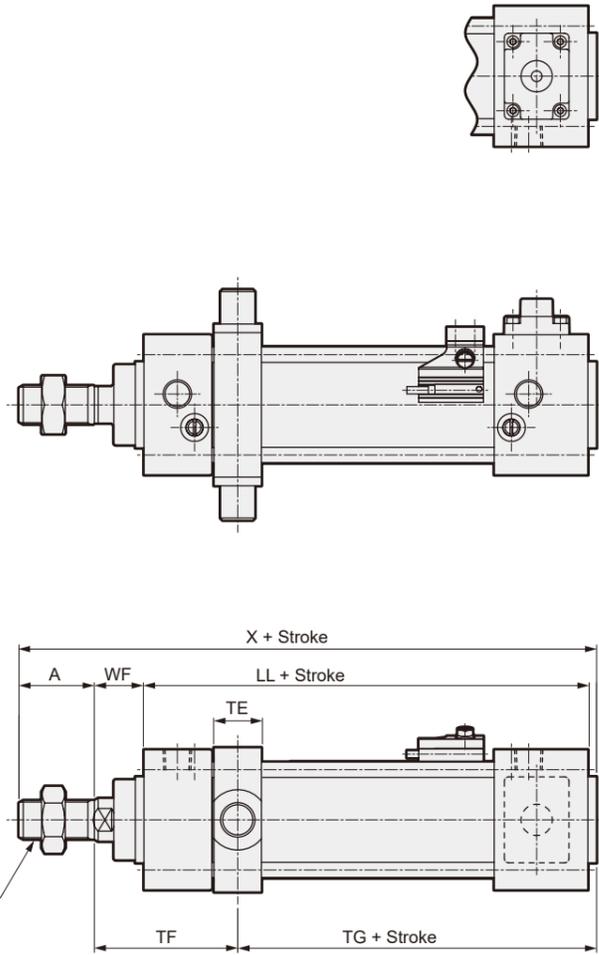
General Type
 SCP□3
 CMK2
 CMA2
 SCM
SCG
 SCA2
 SCS2

Cylinder Switch
 Ending

Cylinder Switch
 Ending

Outline Dimension Drawing

●Rod side trunnion type (TA) With head side fall prevention

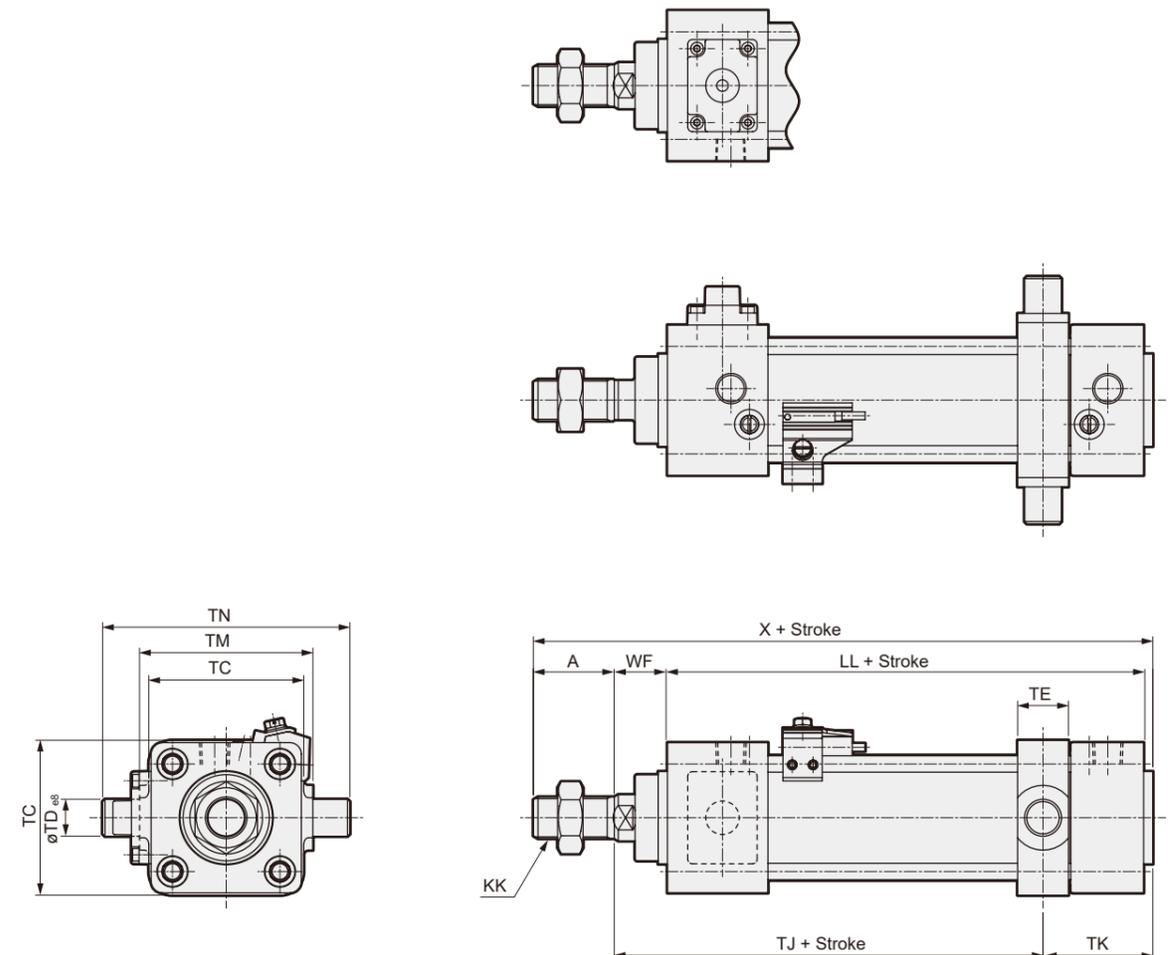


Code	Rod side trunnion type (TA) With head side fall prevention Mounting dimensions											
Bore Size (mm)	A	KK	LL	WF	X	TC	TD	TE	TF	TG	TM	TN
ø32	22	M10 × 1.25	92	25	143	47	12	17	61.5	59.5	50	74
ø40	30	M14 × 1.5	97	21	152	57	16	22	60	62	63	95
ø50	35	M18 × 1.5	106	23	168	67	16	22	66.5	66.5	75	107
ø63	35	M18 × 1.5	106	23	168	82	20	28	69.5	63.5	90	130
ø80	40	M22 × 1.5	132	32	208	100	20	34	88	80	110	150
ø100	40	M26 × 1.5	132	32	208	121	25	40	91	77	132	182

*1: Switch cannot be mounted on the rod side.
*2: For dimensions with each switch, refer to P. 608, 609.
*3: For outer dimensions diagram of accessories, refer to P. 511.

Outline Dimension Drawing

●Head side trunnion type (TB) With rod side fall prevention

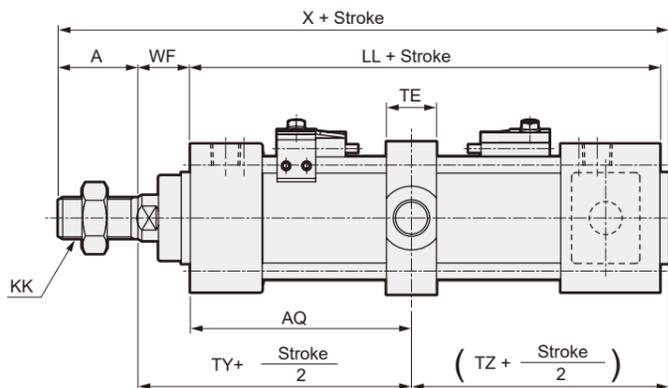
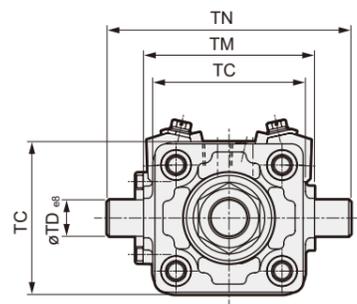
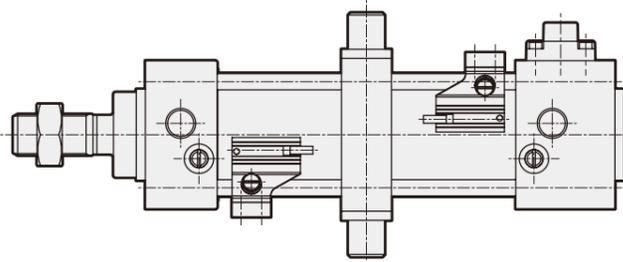
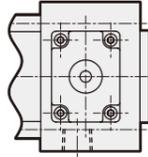


Code	Head side trunnion type (TB) With rod side fall prevention Mounting dimensions											
Bore Size (mm)	A	KK	LL	WF	X	TC	TD	TE	TJ	TK	TM	TN
ø32	22	M10 × 1.25	92	25	143	47	12	17	80.5	40.5	50	74
ø40	30	M14 × 1.5	97	21	152	57	16	22	79	43	63	95
ø50	35	M18 × 1.5	106	23	168	67	16	22	85.5	47.5	75	107
ø63	35	M18 × 1.5	106	23	168	82	20	28	82.5	50.5	90	130
ø80	40	M22 × 1.5	132	32	208	100	20	34	108	60	110	150
ø100	40	M26 × 1.5	132	32	208	121	25	40	105	63	132	182

*1: Switch cannot be mounted on the head side.
*2: For dimensions with each switch, refer to P. 608, 609.
*3: For outer dimensions diagram of accessories, refer to P. 511.

Outline Dimension Drawing

● Intermediate trunnion type (TC) With head side fall prevention



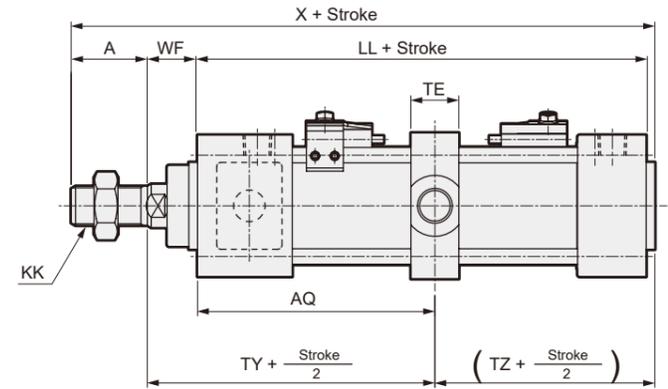
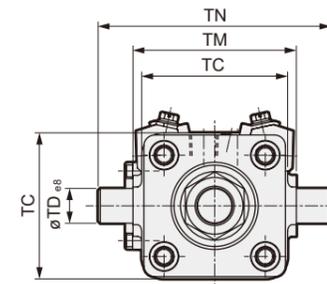
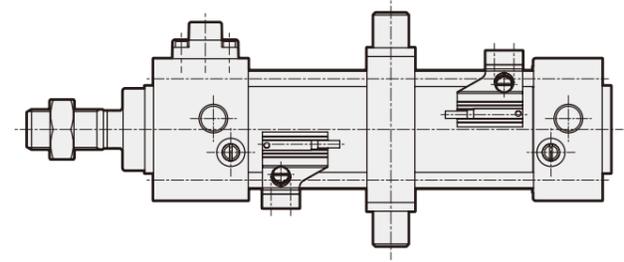
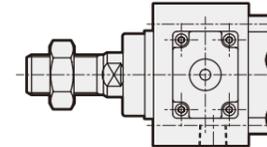
Code	Intermediate trunnion type (TC) With head side fall prevention Mounting dimensions												
Bore Size (mm)	A	KK	LL	WF	X	AQ	TC	TD	TE	TM	TN	TY	TZ
ø32	22	M10 × 1.25	92	25	143	$42 + \frac{\text{Stroke}}{2}$	47	12	17	50	74	67	54
ø40	30	M14 × 1.5	97	21	152	$42 + \frac{\text{Stroke}}{2}$	57	16	22	63	95	63	59
ø50	35	M18 × 1.5	106	23	168	$47 + \frac{\text{Stroke}}{2}$	67	16	22	75	107	70	63
ø63	35	M18 × 1.5	106	23	168	$47 + \frac{\text{Stroke}}{2}$	82	20	28	90	130	70	63
ø80	40	M22 × 1.5	132	32	208	$57 + \frac{\text{Stroke}}{2}$	100	20	34	110	150	89	79
ø100	40	M26 × 1.5	132	32	208	$57 + \frac{\text{Stroke}}{2}$	121	25	40	132	182	89	79

*1: For dimensions with each switch, refer to P. 608, 609.
*2: For outer dimensions diagram of accessories, refer to P. 511.

Double Acting, Drop Prevention Type

Outline Dimension Drawing

● Intermediate trunnion type (TC) With rod side fall prevention



Code	Intermediate trunnion type (TC) With rod side fall prevention Mounting dimensions												
Bore Size (mm)	A	KK	LL	WF	X	AQ	TC	TD	TE	TM	TN	TY	TZ
ø32	22	M10 × 1.25	92	25	143	$50 + \frac{\text{Stroke}}{2}$	47	12	17	50	74	75	46
ø40	30	M14 × 1.5	97	21	152	$55 + \frac{\text{Stroke}}{2}$	57	16	22	63	95	76	46
ø50	35	M18 × 1.5	106	23	168	$59 + \frac{\text{Stroke}}{2}$	67	16	22	75	107	82	51
ø63	35	M18 × 1.5	106	23	168	$59 + \frac{\text{Stroke}}{2}$	82	20	28	90	130	82	51
ø80	40	M22 × 1.5	132	32	208	$75 + \frac{\text{Stroke}}{2}$	100	20	34	110	150	107	61
ø100	40	M26 × 1.5	132	32	208	$75 + \frac{\text{Stroke}}{2}$	121	25	40	132	182	107	61

*1: For dimensions with each switch, refer to P. 608, 609.
*2: For outer dimensions diagram of accessories, refer to P. 511.

General Type

SCP□3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

Cylinder Switch

Ending

General Type

SCP□3

CMK2

CMA2

SCM

SCG

SCA2

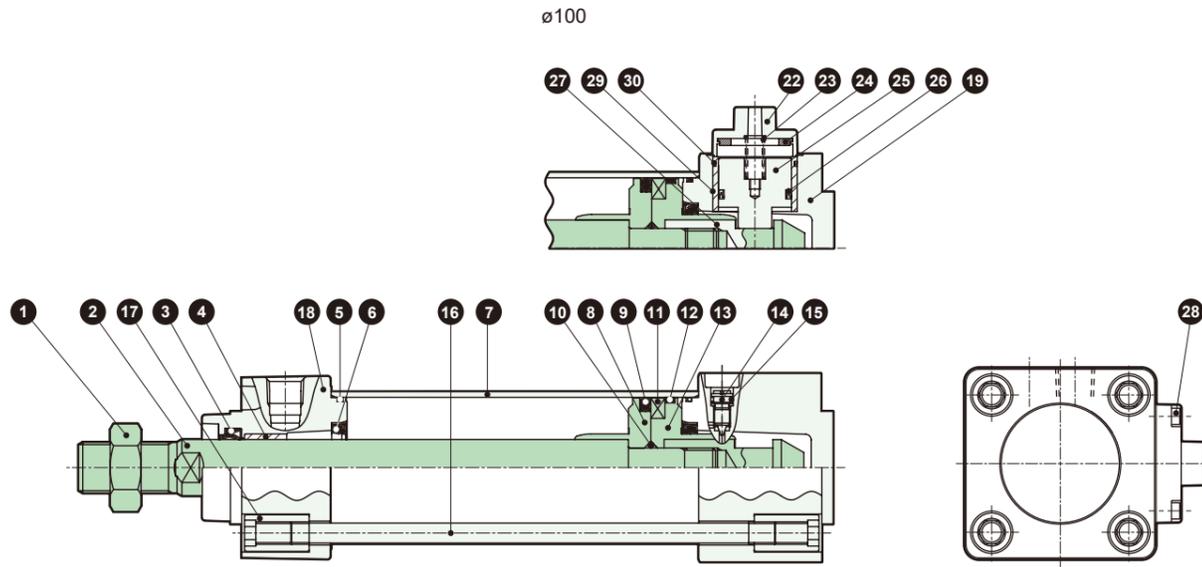
SCS2

Cylinder Switch

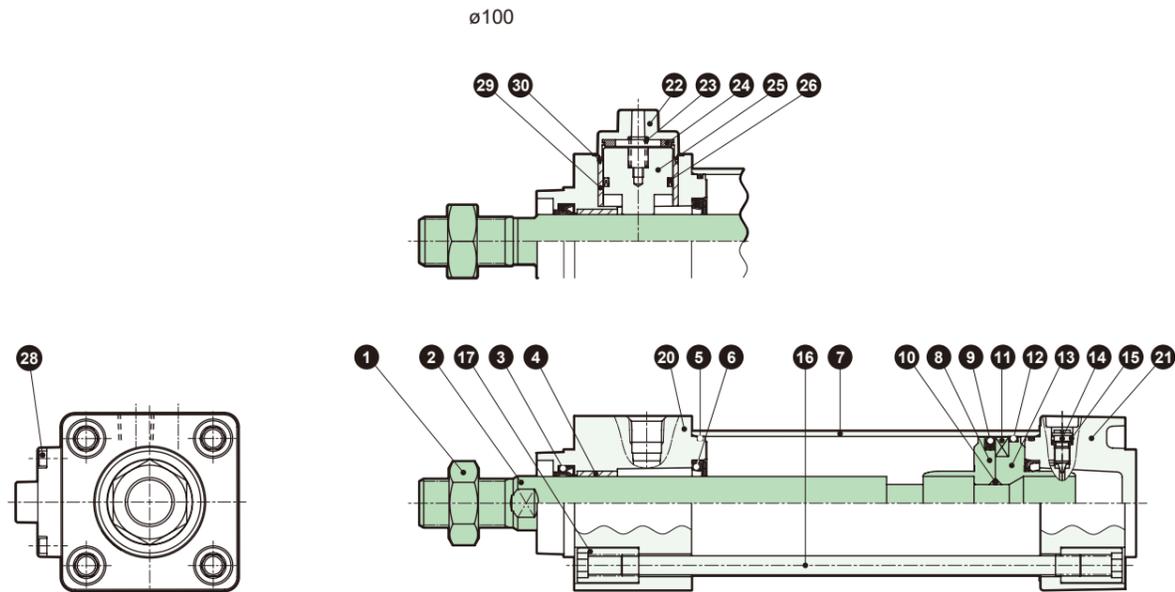
Ending

Internal Structure Diagram/Material

● With head side fall prevention



● With rod side fall prevention



Material

Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Rod Nut	Steel	Nickel Plating	16	Tie Rod	Steel	Zinc Chromate
2	Piston Rod	Steel	Industrial Hard Chrome Plating	17	Round Nut	Steel	Zinc Chromate
3	Rod Packing	Nitrile Rubber		18	Rod cover (1)	Aluminum alloy *1	Painting
4	Bushing	Oil-impregnated Bearing Alloy		19	Head cover (1)	Aluminum alloy *2	Painting
5	Cylinder Gasket	Nitrile Rubber		20	Rod cover (2)	Aluminum alloy *2	Painting
6	Cushion Packing	Nitrile Rubber, Steel		21	Head cover (2)	Aluminum alloy *1	Painting
7	Cylinder Tube	Aluminum Alloy	Hard Anodized	22	Stopper Cover	Aluminum Alloy	Painting
8	Piston R	Aluminum Alloy		23	Spring	Steel	
9	Piston Packing	Nitrile Rubber		24	Cushion rubber B	Urethane Rubber	
10	Piston Gasket	Nitrile Rubber		25	Stopper Piston	Steel	Nitriding Treatment
11	Magnet	Plastic		26	Piston packing B	Nitrile Rubber	
12	Wear Ring	Polyacetal Resin		27	Sleeve	Steel	Nitriding Treatment
13	Piston H	Aluminum Alloy		28	Hexagon Socket Head Cap Screw	Stainless Steel	
14	Cushion Needle	Copper Alloy	Nickel Plating	29	Housing	Aluminum Alloy	For ø100 only
15	Needle Gasket	Nitrile Rubber		30	O-ring	Nitrile Rubber	For ø100 only

*1: (18, 20) indicates aluminum alloy die-cast.
*2: (19, 21) indicates aluminum alloy casting.

Mounting Bracket Material

Mounting type	Material	Remarks
Foot (LB)	Steel	Nickel Plating
Flange (FA / FB)	Steel	Painting
Single clevis (CA), Double clevis (CB)	Cast Iron	Painting
Trunnion (TA, TB, TC)	Cast Iron	Painting

Note: Mounting brackets are attached to the product and shipped. However, for trunnion types (TA, TB, TC) and bellows-equipped models with LB or FA mounting type, they will be shipped assembled.

For maintenance parts, please visit the CKD Equipment Product Site
(<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts



Tie-rod cylinder, Double-acting, Low-speed type

SCG-O Series

● Bore size: $\phi 32, \phi 40, \phi 50, \phi 63, \phi 80, \phi 100$

Circuit Diagram Symbol



6 Number of Switches

Code	Content
R	With 1 on Rod Side
H	With 1 on Head Side
D	With 2 pcs
T	With 3 pcs

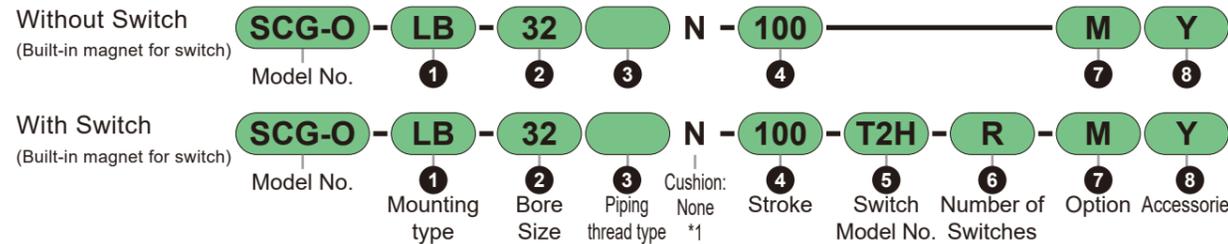
*1
*1

*1: If mounting type TA or TB is selected, the number of switches is limited to "H" (1 on head side) for TA, and "R" (1 on rod side) for TB.

7 Option

Code	Content
M	Piston Rod Material (Stainless Steel)

Model No. Notation Method



Mounting brackets are included with the product and shipped. (However, trunnion types are shipped assembled.)

*1: Contact CKD for availability of the type with air cushion or rubber cushion.

1 Mounting type

Code	Content
00	Basic type
LB	Axial Foot Type (Double Side)
FA	Rod Side Flange Type
FB	Head Side Flange Type
CA	Single Clevis Type
CB	Double Clevis Type (Pin and Washer Split Pin Attached)
TA	Rod Side Trunnion Type
TB	Head Side Trunnion Type
TC	Intermediate Trunnion Type

2 Bore Size (mm)

Code	Content
32	$\phi 32$
40	$\phi 40$
50	$\phi 50$
63	$\phi 63$
80	$\phi 80$
100	$\phi 100$

3 Piping thread type

Code	Content
Blank	Rc Thread
N	NPT Thread (Custom Order Product)
G	G Thread (Custom Order Product)

4 Stroke (mm)

Bore Size	Stroke	Intermediate Stroke
$\phi 32$	1 to 600	Every 1 mm
$\phi 40$		
$\phi 50$		
$\phi 63$		
$\phi 80$	1 to 700	
$\phi 100$	1 to 800	

Note: For minimum stroke with switch, please refer to P. 540 and P. 541.

8 Accessories

Code	Content
I	Single Knuckle
Y	Double Knuckle (Pin and Split Pin Attached)
B1	Single Bracket
B2	Double Yoke Bracket (Pin and Split Pin Attached)
B3	Single Bracket
B4	Trunnion Type 2nd Bracket (2 pcs/set)

*1
*1

*1: "I" and "Y" cannot be selected at the same time.

About Custom Product Specifications

For details, refer to P. 610 to 613.

Code	Content
-XK	Mounting Bracket Rotational Assembly
-XAQ	Trunnion Position Specification
-XP7	Knuckle fixed by pin driving
-A2	With 2 Rod Nuts
Rod End Shape Modification	Refer to Ending P. 11.

Model No. Example)

SCG-O - - **XP7**

*For combinations of variations and options, see P. 489.

5 Switch Model No.

For switch details, please refer to P. 971. Switches are included with the product and shipped.

Contact	Indicator Lamp Special Function	Wiring (Output)	Load Voltage (V)		Load Current (mA)		Lead Wire *1		
			AC	DC	AC	DC	Straight	L-shape	
Solid State	1-Color	2-wire	85 to 265	—	5 to 100	—	T1H	T1V	
			—	10 to 30	—	5 to 20 *2	T2H	T2V	
		3-wire (NPN)	—	—	—	100 or less	—	T3H	T3V
			—	30 or less	—	—	—	T3PH	T3PV
		3-wire (PNP)	—	—	—	—	—	T3WH	T3WV
			—	—	—	—	—	T3WH	T3WV
	2-Color	2-wire	—	24 \pm 10%	—	5 to 20	—	T2WH	T2WV
			—	30 or less	—	50 or less	—	T3WH	T3WV
		3-wire (NPN)	—	24 \pm 10%	—	5 to 20	—	T2WLH	T2WLV
			—	—	—	—	—	T2YD	—
			—	24 \pm 10%	—	5 to 20	—	T2YDT	—
			—	—	—	—	—	T2JH	T2JV
1-Color Off-Delay Type	2-wire	—	10 to 30	—	5 to 20 *2	—	T2JH	T2JV	
		—	10 to 30	—	5 to 20 *2	—	T2HR3	T2VR3	
1-Color Flexible Lead Wire Type	2-wire	—	10 to 30	—	5 to 20 *2	—	T2HR3	T2VR3	
		—	10 to 30	—	5 to 20 *2	—	T2HR3	T2VR3	
Reed	1-Color No Indicator Lamp	2-wire	110	12/24	7 to 20	5 to 50	T0H	T0V	
			110	5/12/24	20 or less	50 or less	T5H	T5V	
	1-Color	2-wire	110/220	12/24	7 to 20 / 7 to 10	5 to 50	T8H	T8V	

*Lead wire length, connector specification

Code	Content
Blank	1 m (Standard)
3	3 m (Option)
5	5 m (Option)
W	M8 Connector, 1PIN (+) 4PIN (-) Lead Wire 0.3 m

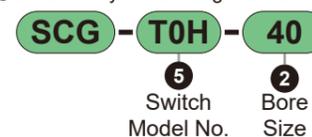
*5

*5: Only T2WLH and T2WLV can be selected.

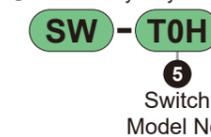
Example) Lead wire length
1 m TOH
3 m TOH [3]
5 m TOH [5]

Switch Single Unit Model No. Notation Method

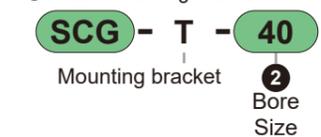
● Switch body + Mounting bracket set



● Switch body only



● Switch mounting bracket set



Note: Please consult us separately if using environmentally compatible T-type switches.

*1: For "□" in the switch model number, enter the code selected from the "Lead wire length, connector specification" table.

*2: The maximum load current value above, 20 mA, is at 25°C. If the switch operating ambient temperature is higher than 25°C, it will be lower than 20 mA. (At 60°C, it will be 5 to 10 mA.)

*3: This does not guarantee the water resistance of the cylinder. When using in a water-resistant environment, use of an improved water resistance cylinder is recommended.

*4: Switches other than the model numbers listed above are also available. (Custom Product) For details, see P. 971.

Specifications

Item		SCG-O					
Bore Size	mm	ø32	ø40	ø50	ø63	ø80	ø100
Actuation method		Double Acting Type					
Operating Fluid		Compressed Air					
Max. Working Pressure	MPa	1.0					
Min. Operating 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	+1.0 0 (Up to 360), +1.4 0 (361 to 800)					
Operating Piston Speed	mm/s	10 to 200 (Please use within the allowable absorbed energy.)					
Cushion		None					
Lubrication		Not Available					
Allowable Absorbed Energy J	Without Cushion	0.018	0.032	0.057	0.057	0.112	0.153
	Cushion	Without cushion, large energy generated by external load cannot be absorbed. It is recommended to use an external shock absorber together.					

Note: For ø32, if left for a long time, please use at a pressure of 0.1 MPa or more.

Stroke

Bore Size (mm)	Standard Stroke (mm)	Max. Stroke (mm)	Min. Stroke (mm)
ø32	25, 50, 75, 100, 150, 200, 250 300, 350, 400, 450, 500	600	1
ø40			
ø50			
ø63			
ø80			
ø100			

Note: Intermediate strokes can be manufactured in 1 mm increments.

Min. Stroke with Switch

●T0/T5 type switch

Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
	2	1	2	1	2	1	1
ø32	20 (18)	20 (10)	70 (40)	100 (70)	100 (70)	50 (35)	50 (35)
ø40	20 (19)	20 (10)	55 (40)	100 (70)	100 (70)	50 (35)	50 (35)
ø50	21 (19)	21 (10)	21 (19)	102 (72)	102 (72)	49 (34)	51 (36)
ø63	21 (20)	21 (11)	21 (20)	107 (77)	107 (77)	54 (39)	56 (41)
ø80	21 (21)	20 (11)	21 (21)	117 (87)	117 (87)	53 (38)	60 (45)
ø100	21 (21)	19 (11)	21 (21)	126 (96)	126 (96)	64 (49)	69 (54)

Note: () indicates T□V (lead wire L-type).

●T8 type switch

Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
	2	1	2	1	2	1	1
ø32	19 (18)	19 (10)	67 (31)	97 (61)	97 (61)	49 (31)	49 (31)
ø40	19 (19)	19 (10)	52 (31)	97 (61)	97 (61)	49 (31)	49 (31)
ø50	19 (19)	18 (10)	19 (19)	97 (61)	97 (61)	48 (30)	48 (30)
ø63	20 (20)	18 (11)	20 (20)	102 (66)	102 (66)	53 (35)	53 (35)
ø80	21 (21)	17 (11)	21 (21)	112 (76)	112 (76)	51 (33)	57 (39)
ø100	21 (21)	17 (11)	21 (21)	121 (85)	121 (85)	61 (43)	67 (49)

Note: () indicates T□V (lead wire L-type).

Min. Stroke with Switch

●T2/T3 type switch

Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
	2	1	2	1	2	1	1
ø32	20 (11)	20 (6)	70 (40)	100 (70)	100 (70)	50 (35)	50 (35)
ø40	20 (11)	20 (6)	55 (40)	100 (70)	100 (70)	50 (35)	50 (35)
ø50	21 (11)	21 (6)	21 (11)	102 (72)	102 (72)	49 (34)	51 (36)
ø63	21 (12)	21 (7)	21 (12)	107 (77)	107 (77)	54 (39)	56 (41)
ø80	20 (12)	20 (7)	20 (12)	117 (87)	117 (87)	53 (38)	60 (45)
ø100	19 (12)	19 (7)	19 (12)	126 (96)	126 (96)	64 (49)	69 (54)

*1: () indicates T□V (L-shaped lead wire type).

*2: If the stroke is 15 mm or less, two switches may turn ON simultaneously. In this case, adjust the switch mounting positions so that they are further apart from each other.

●T1 type switch

Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
	2	1	2	1	2	1	1
ø32	19 (11)	19 (6)	68 (38)	98 (68)	98 (68)	49 (34)	49 (34)
ø40	19 (11)	19 (6)	53 (38)	98 (68)	98 (68)	49 (34)	49 (34)
ø50	20 (11)	20 (6)	20 (11)	100 (70)	100 (70)	48 (33)	50 (35)
ø63	20 (12)	20 (7)	20 (12)	105 (75)	105 (75)	53 (38)	55 (40)
ø80	19 (12)	19 (7)	19 (12)	115 (85)	115 (85)	52 (37)	59 (44)
ø100	18 (12)	18 (7)	18 (12)	124 (94)	124 (94)	63 (48)	68 (53)

*1: () indicates T□V (L-shaped lead wire type).

*2: If the stroke is 15 mm or less, two switches may turn ON simultaneously. In this case, adjust the switch mounting positions so that they are further apart from each other.

●T2W/T3W type switch

Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
	2	1	2	1	2	1	1
ø32	23 (12)	23 (8)	75 (45)	105 (75)	105 (75)	53 (38)	53 (38)
ø40	23 (12)	23 (8)	60 (45)	105 (75)	105 (75)	53 (38)	53 (38)
ø50	23 (13)	23 (8)	23 (13)	107 (77)	107 (77)	51 (36)	53 (38)
ø63	23 (13)	23 (8)	23 (13)	112 (82)	112 (82)	56 (41)	58 (43)
ø80	22 (14)	22 (8)	22 (14)	122 (92)	122 (92)	55 (40)	62 (47)
ø100	22 (14)	22 (8)	22 (14)	131 (101)	131 (101)	66 (51)	72 (57)

*1: () indicates T□V (L-shaped lead wire type).

*2: If the stroke is 15 mm or less, two switches may turn ON simultaneously. In this case, adjust the switch mounting positions so that they are further apart from each other.

●T2YD type switch

Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
	2	1	2	1	2	1	1
ø32	23	23	75	105	105	53	53
ø40	23	23	60	105	105	53	53
ø50	23	23	23	107	107	51	53
ø63	23	23	23	112	112	56	58
ø80	22	22	22	122	122	55	62
ø100	22	22	22	131	131	66	72

Note: () indicates T□V (lead wire L-type).

●T2WL type switch

Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
	2	1	2	1	2	1	1
ø32	24 (12)	24 (8)	77 (45)	107 (75)	107 (75)	54 (38)	54 (38)
ø40	24 (12)	24 (8)	62 (45)	107 (75)	107 (75)	54 (38)	54 (38)
ø50	24 (13)	24 (8)	24 (13)	109 (77)	109 (77)	52 (36)	54 (38)
ø63	24 (13)	24 (8)	24 (13)	114 (82)	114 (82)	57 (41)	59 (43)
ø80	23 (14)	23 (8)	23 (14)	124 (92)	124 (92)	56 (40)	63 (47)
ø100	23 (14)	23 (8)	23 (14)	133 (101)	133 (101)	67 (51)	73 (57)

*1: () indicates T□V (L-shaped lead wire type).

*2: If the stroke is 15 mm or less, two switches may turn ON simultaneously. In this case, adjust the switch mounting positions so that they are further apart from each other.

Weight Table

(Unit: kg)

Bore Size (mm)	Product Weight at Stroke = 0 mm						Stroke: 50 mm Added weight per	Switch Weight (Per Piece)	Switch Mounting Bracket Weight	Accessory Weight	
	Basic type (00)	Foot Type (LB)	Flange type (FA, FB)	Single Clevis Type (CA)	Double clevis type (CB)	Trunnion Type (TA, TB, TC)				I	Y
ø32	0.50	0.61	0.72	0.65	0.68	0.67	0.12	Refer to the mass described in the switch specifications on P. 971	0.024	0.07	0.10
ø40	0.66	0.80	0.94	0.85	0.85	1.00	0.17		0.024	0.07	0.13
ø50	1.13	1.29	1.61	1.54	1.54	1.61	0.23		0.022	0.20	0.30
ø63	1.39	1.73	2.15	1.95	1.96	2.27	0.25		0.022	0.20	0.30
ø80	2.66	3.09	4.23	3.93	3.94	4.15	0.40		0.026	0.52	0.94
ø100	3.77	4.63	6.09	5.49	5.52	6.34	0.51		0.024	0.48	0.92

Theoretical Thrust Table

(Unit: N)

Bore Size (mm)	Operating Direction	Operating Pressure MPa											
		0.05	0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø32	Push	40.2	80.4	1.21 × 10 ²	1.61 × 10 ²	2.41 × 10 ²	3.22 × 10 ²	4.02 × 10 ²	4.83 × 10 ²	5.63 × 10 ²	6.43 × 10 ²	7.24 × 10 ²	8.04 × 10 ²
	Pull	34.6	69.1	1.04 × 10 ²	1.38 × 10 ²	2.07 × 10 ²	2.76 × 10 ²	3.46 × 10 ²	4.15 × 10 ²	4.84 × 10 ²	5.53 × 10 ²	6.22 × 10 ²	6.91 × 10 ²
ø40	Push	62.8	1.26 × 10 ²	1.88 × 10 ²	2.51 × 10 ²	3.77 × 10 ²	5.03 × 10 ²	6.28 × 10 ²	7.54 × 10 ²	8.80 × 10 ²	1.01 × 10 ³	1.13 × 10 ³	1.26 × 10 ³
	Pull	52.8	1.06 × 10 ²	1.58 × 10 ²	2.11 × 10 ²	3.17 × 10 ²	4.22 × 10 ²	5.28 × 10 ²	6.33 × 10 ²	7.39 × 10 ²	8.44 × 10 ²	9.50 × 10 ²	1.06 × 10 ³
ø50	Push	98.2	1.96 × 10 ²	2.95 × 10 ²	3.93 × 10 ²	5.89 × 10 ²	7.85 × 10 ²	9.82 × 10 ²	1.18 × 10 ³	1.37 × 10 ³	1.57 × 10 ³	1.77 × 10 ³	1.96 × 10 ³
	Pull	82.5	1.65 × 10 ²	2.47 × 10 ²	3.30 × 10 ²	4.95 × 10 ²	6.60 × 10 ²	8.25 × 10 ²	9.90 × 10 ²	1.15 × 10 ³	1.32 × 10 ³	1.48 × 10 ³	1.65 × 10 ³
ø63	Push	1.56 × 10 ²	3.12 × 10 ²	4.68 × 10 ²	6.23 × 10 ²	9.35 × 10 ²	1.25 × 10 ³	1.56 × 10 ³	1.87 × 10 ³	2.18 × 10 ³	2.49 × 10 ³	2.81 × 10 ³	3.12 × 10 ³
	Pull	1.40 × 10 ²	2.80 × 10 ²	4.20 × 10 ²	5.61 × 10 ²	8.41 × 10 ²	1.12 × 10 ³	1.40 × 10 ³	1.68 × 10 ³	1.96 × 10 ³	2.24 × 10 ³	2.52 × 10 ³	2.80 × 10 ³
ø80	Push	2.51 × 10 ²	5.03 × 10 ²	7.54 × 10 ²	1.01 × 10 ³	1.51 × 10 ³	2.01 × 10 ³	2.51 × 10 ³	3.02 × 10 ³	3.52 × 10 ³	4.02 × 10 ³	4.52 × 10 ³	5.03 × 10 ³
	Pull	2.27 × 10 ²	4.54 × 10 ²	6.80 × 10 ²	9.07 × 10 ²	1.36 × 10 ³	1.81 × 10 ³	2.27 × 10 ³	2.72 × 10 ³	3.17 × 10 ³	3.63 × 10 ³	4.08 × 10 ³	4.54 × 10 ³
ø100	Push	3.93 × 10 ²	7.85 × 10 ²	1.18 × 10 ³	1.57 × 10 ³	2.36 × 10 ³	3.14 × 10 ³	3.93 × 10 ³	4.71 × 10 ³	5.50 × 10 ³	6.28 × 10 ³	7.07 × 10 ³	7.85 × 10 ³
	Pull	3.57 × 10 ²	7.15 × 10 ²	1.07 × 10 ³	1.43 × 10 ³	2.14 × 10 ³	2.86 × 10 ³	3.57 × 10 ³	4.29 × 10 ³	5.00 × 10 ³	5.72 × 10 ³	6.43 × 10 ³	7.15 × 10 ³

Mounting Bracket Model No. Notation Method

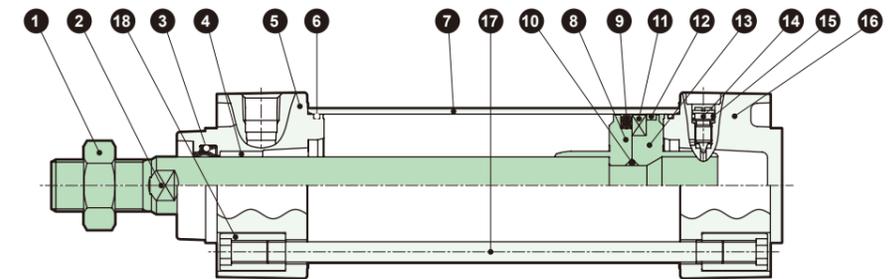
Bore Size (mm)	ø32	ø40	ø50	ø63	ø80	ø100
Mounting bracket						
Foot (LB)	SCG-LB-32	SCG-LB-40	SCG-LB-50	SCG-LB-63	SCG-LB-80	SCG-LB-100
Flange (FA)	SCG-FA-32	SCG-FA-40	SCG-FA-50	SCG-FA-63	SCG-FA-80	SCG-FA-100
Single Clevis (CA)	SCG-CA-32	SCG-CA-40	SCG-CA-50	SCG-CA-63	SCG-CA-80	SCG-CA-100
Double Clevis (CB)	SCG-CB-32	SCG-CB-40	SCG-CB-50	SCG-CB-63	SCG-CB-80	SCG-CB-100

*1: Foot type mounting bracket (LB) comes in a set of 2.
*2: Mounting bolts are included to each mounting bracket.

Outline Dimension Drawing

Same as double acting/single rod type. Please refer to P. 496 to 510.

Internal Structure Diagram/Material



Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Rod Nut	Steel	Nickel Plating	10	Piston Gasket	Nitrile Rubber	
2	Piston Rod	Steel	Industrial Hard Chrome Plating	11	Magnet	Plastic	
3	Rod Packing	Nitrile Rubber		12	Wear Ring	Polyacetal	
4	Bushing	Oil-Impregnated Bearing Alloy		13	Piston H	Aluminum Alloy	
5	Rod Cover	Aluminum Alloy	Painting	14	Cushion Needle	Copper Alloy	Nickel Plating
6	Cylinder Gasket	Nitrile Rubber		15	Needle Gasket	Nitrile Rubber	
7	Cylinder Tube	Aluminum Alloy	Hard Anodized	16	Head Cover	Aluminum Alloy	Painting
8	Piston R	Aluminum Alloy		17	Tie Rod	Steel	Zinc Chromate
9	Piston Packing	Nitrile Rubber		18	Round Nut	Steel	Zinc Chromate

Mounting Bracket Material

Mounting type	Material	Remarks
Foot (LB)	Steel	Nickel Plating
Flange (FA / FB)	Steel	Painting
Single clevis (CA), Double clevis (CB)	Cast Iron	Painting
Trunnion (TA, TB, TC)	Cast Iron	Painting

Note: Mounting brackets are attached to the product and shipped. However, in the case of trunnion types (TA, TB, TC), they will be shipped assembled.

For maintenance parts, please visit the CKD Equipment Product Site (<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts



Tie-rod cylinder Double-acting, Low-friction type

SCG-U Series

● Bore size: ø32, ø40, ø50, ø63, ø80, ø100

Circuit Diagram Symbol



6 Number of Switches

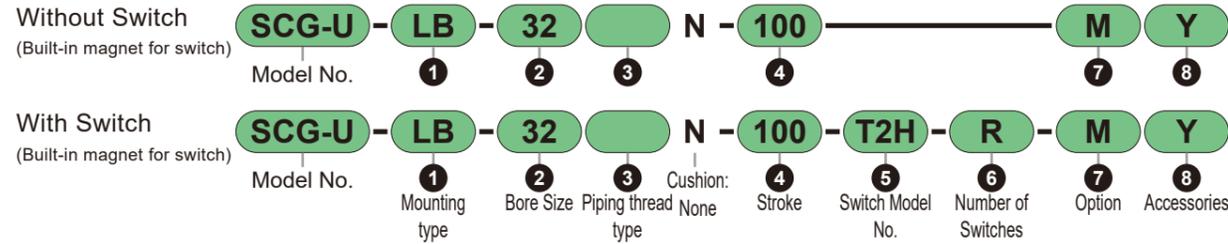
Code	Content
R	With 1 on Rod Side
H	With 1 on Head Side
D	With 2 pcs
T	With 3 pcs

*1: If mounting type TA or TB is selected, the number of switches is limited to "H" (1 on head side) for TA, and "R" (1 on rod side) for TB.

7 Option

Code	Content
M	Piston Rod Material (Stainless Steel)

Model No. Notation Method



Mounting brackets are included with the product and shipped. (However, trunnion types are shipped assembled.)

1 Mounting type

Code	Content
00	Basic type
LB	Axial Foot Type
FA	Rod Side Flange Type
FB	Head Side Flange Type
CA	Single Clevis Type
CB	Double Clevis Type (Pin and Split Pin Attached)
TA	Rod Side Trunnion Type
TB	Head Side Trunnion Type
TC	Intermediate Trunnion Type

2 Bore Size (mm)

Code	Content
32	ø32
40	ø40
50	ø50
63	ø63
80	ø80
100	ø100

3 Piping thread type

Code	Content
Blank	Rc Thread
N	NPT Thread (Custom Order Product)
G	G Thread (Custom Order Product)

4 Stroke (mm)

Bore Size	Stroke	Intermediate Stroke
ø32	1 to 600	Every 1 mm
ø40		
ø50		
ø63		
ø80		
ø100	1 to 700	
	1 to 800	

Note: For minimum stroke with switch, please refer to P. 546 and 547.

5 Switch Model No.

For switch details, please refer to P. 971. Switches are included with the product and shipped.

Contact	Indicator Lamp Special Function	Wiring (Output)	Load Voltage (V)		Load Current (mA)		Lead Wire *1		
			AC	DC	AC	DC	Straight	L-shape	
Solid State	1-Color	2-wire	85 to 265	—	5 to 100	—	T1H□	T1V□	
			—	10 to 30	—	5 to 20 *2	T2H□	T2V□	
		3-wire (NPN)	—	—	100 or less	—	T3H□	T3V□	
			—	30 or less	—	—	T3PH□	T3PV□	
		3-wire (PNP)	—	—	—	—	T2WH□	T2WV□	
			—	24 ± 10%	—	5 to 20	—	T3WH□	T3WV□
	2-Color	2-Color Improved Water Resistance	2-wire	—	24 ± 10%	—	5 to 20	T2WLH□	T2WLV□
				—	—	—	—	T2YD□	—
		2-Color for AC Magnetic Field	2-wire	—	24 ± 10%	—	5 to 20	T2YDT□	—
				—	—	—	—	T2JH□	T2JV□
1-Color Off-Delay Type	2-wire	—	10 to 30	—	5 to 20 *2	T2HR3	T2VR3		
		—	10 to 30	—	5 to 20 *2	T2HR3	T2VR3		
Reed	1-Color No Indicator Lamp	2-wire	110	12/24	7 to 20	5 to 50	T0H□	T0V□	
			110	5/12/24	20 or less	50 or less	T5H□	T5V□	
	1-Color	2-wire	110/220	12/24	7 to 20 / 7 to 10	5 to 50	T8H□	T8V□	

*Lead wire length, connector specification

Code	Content
Blank	1 m (Standard)
3	3 m (Option)
5	5 m (Option)
W	M8 Connector, 1PIN (+) 4PIN (-) Lead Wire 0.3 m

*5: Only T2WLH and T2WLV can be selected.

Example) Lead wire length
1 m TOH
3 m TOH^[3]
5 m TOH^[5]

8 Accessories

Code	Content
I	Single Knuckle
Y	Double Knuckle (Pin and Split Pin Attached)
B1	Single Bracket
B2	Double Yoke Bracket (Pin and Split Pin Attached)
B3	Single Bracket
B4	Trunnion Type 2nd Bracket (2 pcs/set)

*1: "I" and "Y" cannot be selected at the same time.

About Custom Product Specifications

For details, refer to P. 610 to 613.

Code	Content
-XK◇	Mounting Bracket Rotational Assembly
-XAQ◇◇	Trunnion Position Specification
-XP7	Knuckle fixed by pin driving
-A2	With 2 Rod Nuts
Rod End Shape Modification	Refer to Ending P. 11.

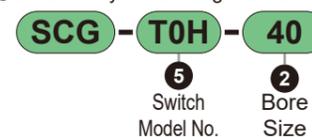
Model No. Example)

SCG-U - - **XP7**

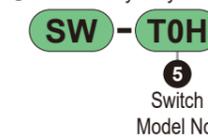
*For combinations of variations and options, see P. 489.

Switch Single Unit Model No. Notation Method

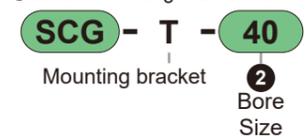
● Switch body + Mounting bracket set



● Switch body only



● Switch mounting bracket set



Note: Please consult us separately if using environmentally compatible T-type switches.

*1: For "□" in the switch model number, enter the code selected from the "Lead wire length, connector specification" table.

*2: The maximum load current value above, 20 mA, is at 25°C. If the switch operating ambient temperature is higher than 25°C, it will be lower than 20 mA. (At 60°C, it will be 5 to 10 mA.)

*3: This does not guarantee the water resistance of the cylinder. When using in a water-resistant environment, use of an improved water resistance cylinder is recommended.

*4: Switches other than the model numbers listed above are also available. (Custom Product) For details, see P. 971.

Specifications

Item	SCG-U						
	Bore Size	mm	ø32	ø40	ø50	ø63	ø80
Actuation method	Double Acting Type						
Operating Fluid	Compressed Air						
Max. Working Pressure	MPa	0.7					
Min. Operating Pressure	MPa	0.03					
Proof Pressure	MPa	1.0					
Ambient Temperature	°C	5 to 60					
Port Size		Rc1/8	Rc1/4		Rc3/8		Rc1/2
Stroke tolerance	mm	+1.0 0 (Up to 360), +1.4 0 (361 to 800)					
Operating Piston Speed	mm/s	10 to 1000 (Please use within the allowable absorbed energy.)					
Cushion		None					
Lubrication		Not Available					
Internal leakage	L/min	5				8	
Allowable Absorbed Energy	J	0.018	0.032	0.057	0.057	0.112	0.153

Note: This product cannot be disassembled.

Stroke

Bore Size (mm)	Standard Stroke (mm)	Max. Stroke (mm)	Min. Stroke (mm)
ø32	25, 50, 75, 100, 150, 200, 250 300, 350, 400, 450, 500	600	1
ø40			
ø50			
ø63			
ø80			
ø100			

Note: Intermediate strokes can be manufactured in 1 mm increments.

Min. Stroke with Switch

●T0/T5 type switch

Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
		1	2	1	2		
Bore Size (mm)	2	1	2	1	2	1	1
ø32	20 (18)	20 (10)	70 (40)	100 (70)	100 (70)	50 (35)	50 (35)
ø40	20 (19)	20 (10)	55 (40)	100 (70)	100 (70)	50 (35)	50 (35)
ø50	21 (19)	21 (10)	21 (19)	102 (72)	102 (72)	49 (34)	51 (36)
ø63	21 (20)	21 (11)	21 (20)	107 (77)	107 (77)	54 (39)	56 (41)
ø80	21 (21)	20 (11)	21 (21)	117 (87)	117 (87)	53 (38)	60 (45)
ø100	21 (21)	19 (11)	21 (21)	126 (96)	126 (96)	64 (49)	69 (54)

Note: () indicates T□V (lead wire L-type).

●T8 type switch

Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
		1	2	1	2		
Bore Size (mm)	2	1	2	1	2	1	1
ø32	19 (18)	19 (10)	67 (31)	97 (61)	97 (61)	49 (31)	49 (31)
ø40	19 (19)	19 (10)	52 (31)	97 (61)	97 (61)	49 (31)	49 (31)
ø50	19 (19)	18 (10)	19 (19)	97 (61)	97 (61)	48 (30)	48 (30)
ø63	20 (20)	18 (11)	20 (20)	102 (66)	102 (66)	53 (35)	53 (35)
ø80	21 (21)	17 (11)	21 (21)	112 (76)	112 (76)	51 (33)	57 (39)
ø100	21 (21)	17 (11)	21 (21)	121 (85)	121 (85)	61 (43)	67 (49)

Note: () indicates T□V (lead wire L-type).

Min. Stroke with Switch

●T2/T3 type switch

Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
		1	2	1	2		
Bore Size (mm)	2	1	2	1	2	1	1
ø32	20 (11)	20 (6)	70 (40)	100 (70)	100 (70)	50 (35)	50 (35)
ø40	20 (11)	20 (6)	55 (40)	100 (70)	100 (70)	50 (35)	50 (35)
ø50	21 (11)	21 (6)	21 (11)	102 (72)	102 (72)	49 (34)	51 (36)
ø63	21 (12)	21 (7)	21 (12)	107 (77)	107 (77)	54 (39)	56 (41)
ø80	20 (12)	20 (7)	20 (12)	117 (87)	117 (87)	53 (38)	60 (45)
ø100	19 (12)	19 (7)	19 (12)	126 (96)	126 (96)	64 (49)	69 (54)

*1: () indicates T□V (L-shaped lead wire type).

*2: If the stroke is 15 mm or less, two switches may turn ON simultaneously. In this case, adjust the switch mounting positions so that they are further apart from each other.

●T1 type switch

Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
		1	2	1	2		
Bore Size (mm)	2	1	2	1	2	1	1
ø32	19 (11)	19 (6)	68 (38)	98 (68)	98 (68)	49 (34)	49 (34)
ø40	19 (11)	19 (6)	53 (38)	98 (68)	98 (68)	49 (34)	49 (34)
ø50	20 (11)	20 (6)	20 (11)	100 (70)	100 (70)	48 (33)	50 (35)
ø63	20 (12)	20 (7)	20 (12)	105 (75)	105 (75)	53 (38)	55 (40)
ø80	19 (12)	19 (7)	19 (12)	115 (85)	115 (85)	52 (37)	59 (44)
ø100	18 (12)	18 (7)	18 (12)	124 (94)	124 (94)	63 (48)	68 (53)

*1: () indicates T□V (L-shaped lead wire type).

*2: If the stroke is 15 mm or less, two switches may turn ON simultaneously. In this case, adjust the switch mounting positions so that they are further apart from each other.

●T2W/T3W type switch

Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
		1	2	1	2		
Bore Size (mm)	2	1	2	1	2	1	1
ø32	23 (12)	23 (8)	75 (45)	105 (75)	105 (75)	53 (38)	53 (38)
ø40	23 (12)	23 (8)	60 (45)	105 (75)	105 (75)	53 (38)	53 (38)
ø50	23 (13)	23 (8)	23 (13)	107 (77)	107 (77)	51 (36)	53 (38)
ø63	23 (13)	23 (8)	23 (13)	112 (82)	112 (82)	56 (41)	58 (43)
ø80	22 (14)	22 (8)	22 (14)	122 (92)	122 (92)	55 (40)	62 (47)
ø100	22 (14)	22 (8)	22 (14)	131 (101)	131 (101)	66 (51)	72 (57)

*1: () indicates T□V (L-shaped lead wire type).

*2: If the stroke is 15 mm or less, two switches may turn ON simultaneously. In this case, adjust the switch mounting positions so that they are further apart from each other.

●T2YD type switch

Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
		1	2	1	2		
Bore Size (mm)	2	1	2	1	2	1	1
ø32	23	23	75	105	105	53	53
ø40	23	23	60	105	105	53	53
ø50	23	23	23	107	107	51	53
ø63	23	23	23	112	112	56	58
ø80	22	22	22	122	122	55	62
ø100	22	22	22	131	131	66	72

Note: () indicates T□V (lead wire L-type).

●T2WL type switch

Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
		1	2	1	2		
Bore Size (mm)	2	1	2	1	2	1	1
ø32	24 (12)	24 (8)	77 (45)	107 (75)	107 (75)	54 (38)	54 (38)
ø40	24 (12)	24 (8)	62 (45)	107 (75)	107 (75)	54 (38)	54 (38)
ø50	24 (13)	24 (8)	24 (13)	109 (77)	109 (77)	52 (36)	54 (38)
ø63	24 (13)	24 (8)	24 (13)	114 (82)	114 (82)	57 (41)	59 (43)
ø80	23 (14)	23 (8)	23 (14)	124 (92)	124 (92)	56 (40)	63 (47)
ø100	23 (14)	23 (8)	23 (14)	133 (101)	133 (101)	67 (51)	73 (57)

*1: () indicates T□V (L-shaped lead wire type).

*2: If the stroke is 15 mm or less, two switches may turn ON simultaneously. In this case, adjust the switch mounting positions so that they are further apart from each other.

Weight Table

(Unit: kg)

Bore Size (mm)	Product Weight at Stroke = 0 mm						Stroke: Added weight per 50 mm	Switch Weight (Per Piece)	Switch Mounting Bracket Weight	Mounting Bracket Weight	
	Basic type (00)	Foot Type (LB)	Flange Type (FA,FB)	Single Clevis Type (CA)	Double Clevis Type (CB)	Trunnion Type (TC)				I	Y
ø32	0.50	0.61	0.58	0.65	0.68	0.67	0.12	Refer to the mass described in the switch specifications on P. 971	0.024	0.07	0.10
ø40	0.66	0.80	0.77	0.85	0.85	1.00	0.17		0.024	0.07	0.13
ø50	1.13	1.29	1.31	1.54	1.54	1.61	0.23		0.022	0.20	0.30
ø63	1.39	1.73	1.68	1.95	1.96	2.27	0.25		0.022	0.20	0.30
ø80	2.66	3.09	4.23	3.93	3.94	4.15	0.40		0.026	0.52	0.94
ø100	3.77	4.63	6.09	5.49	5.52	6.34	0.51		0.024	0.48	0.92

MEMO

Theoretical Thrust Table

(Unit: N)

Bore Size (mm)	Operating Direction	Operating Pressure MPa								
		0.03	0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7
ø32	Push	24.1	80.4	1.21 × 10 ²	1.61 × 10 ²	2.41 × 10 ²	3.22 × 10 ²	4.02 × 10 ²	4.83 × 10 ²	5.63 × 10 ²
	Pull	20.7	69.1	1.04 × 10 ²	1.38 × 10 ²	2.07 × 10 ²	2.76 × 10 ²	3.46 × 10 ²	4.15 × 10 ²	4.84 × 10 ²
ø40	Push	37.8	1.26 × 10 ²	1.88 × 10 ²	2.51 × 10 ²	3.77 × 10 ²	5.03 × 10 ²	6.28 × 10 ²	7.54 × 10 ²	8.80 × 10 ²
	Pull	31.8	1.06 × 10 ²	1.58 × 10 ²	2.11 × 10 ²	3.17 × 10 ²	4.22 × 10 ²	5.28 × 10 ²	6.33 × 10 ²	7.39 × 10 ²
ø50	Push	58.8	1.96 × 10 ²	2.95 × 10 ²	3.93 × 10 ²	5.89 × 10 ²	7.85 × 10 ²	9.82 × 10 ²	1.18 × 10 ³	1.37 × 10 ³
	Pull	49.5	1.65 × 10 ²	2.47 × 10 ²	3.30 × 10 ²	4.95 × 10 ²	6.60 × 10 ²	8.25 × 10 ²	9.90 × 10 ²	1.15 × 10 ³
ø63	Push	93.6	3.12 × 10 ²	4.68 × 10 ²	6.23 × 10 ²	9.35 × 10 ²	1.25 × 10 ³	1.56 × 10 ³	1.87 × 10 ³	2.18 × 10 ³
	Pull	84.0	2.80 × 10 ²	4.20 × 10 ²	5.61 × 10 ²	8.41 × 10 ²	1.12 × 10 ³	1.40 × 10 ³	1.68 × 10 ³	1.96 × 10 ³
ø80	Push	1.51 × 10 ²	5.03 × 10 ²	7.54 × 10 ²	1.01 × 10 ³	1.51 × 10 ³	2.01 × 10 ³	2.51 × 10 ³	3.02 × 10 ³	3.52 × 10 ³
	Pull	1.36 × 10 ²	4.54 × 10 ²	6.80 × 10 ²	9.07 × 10 ²	1.36 × 10 ³	1.81 × 10 ³	2.27 × 10 ³	2.72 × 10 ³	3.17 × 10 ³
ø100	Push	2.36 × 10 ²	7.85 × 10 ²	1.18 × 10 ³	1.57 × 10 ³	2.36 × 10 ³	3.14 × 10 ³	3.93 × 10 ³	4.71 × 10 ³	5.50 × 10 ³
	Pull	2.15 × 10 ²	7.15 × 10 ²	1.07 × 10 ³	1.43 × 10 ³	2.14 × 10 ³	2.86 × 10 ³	3.57 × 10 ³	4.29 × 10 ³	5.00 × 10 ³

Mounting Bracket Model No. Notation Method

Bore Size (mm)	ø32	ø40	ø50	ø63	ø80	ø100
Mounting bracket						
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
Single Clevis (CA)	SCG-CA-32	SCG-CA-40	SCG-CA-50	SCG-CA-63	SCG-CA-80	SCG-CA-100
Double Clevis (CB)	SCG-CB-32	SCG-CB-40	SCG-CB-50	SCG-CB-63	SCG-CB-80	SCG-CB-100

*1: Foot type mounting bracket (LB) comes in a set of 2.

*2: Mounting bolts are included to each mounting bracket.

Outline Dimension Drawing

Same as double-acting, single-rod type SCG series, both-sides air cushion type.

Please refer to P. 496 to 510.



Tie-rod cylinder Double-acting, Double-rod type

SCG-D Series

● Bore size: $\phi 32, \phi 40, \phi 50, \phi 63, \phi 80, \phi 100$

Circuit Diagram Symbol



7 Number of Switches

Code	Content
R	With 1 on Rod Side
H	With 1 on Head Side
D	With 2 pcs
T	With 3 pcs

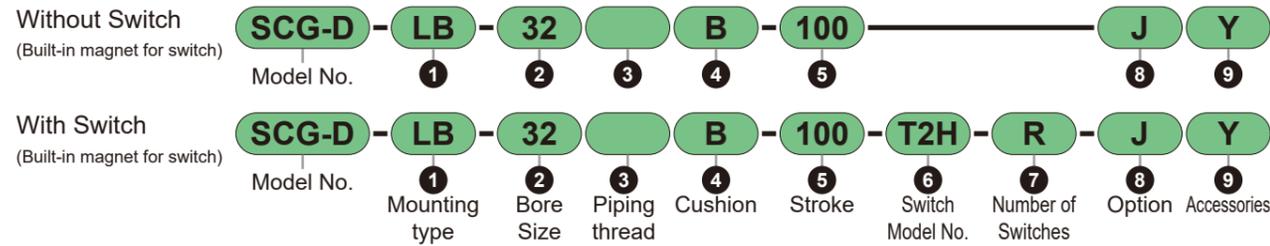
*1: If mounting type TA or TB is selected, the number of switches is limited to "H" (1 on head side) for TA, and "R" (1 on rod side) for TB.

8 Option

Code	Content	Max. Ambient Temperature	Instantaneous Max. Temperature	
J	Bellows	100°C	200°C	
M	Piston Rod Material (Stainless Steel)			

Note: Instantaneous maximum temperature is the temperature when sparks, chips, etc. momentarily contact the bellows.

Model No. Notation Method



Mounting brackets are included with the product and shipped. However, for trunnion type (TA, TB, TC) or when bellows are included and the mounting bracket is FA, they will be shipped assembled.

1 Mounting type

Code	Content	
00	Basic type	
LB	Axial Foot Type	
FA	Rod Side Flange Type	
FB	Head Side Flange Type	
TA	Rod Side Trunnion Type	
TB	Head Side Trunnion Type	
TC	Intermediate Trunnion Type	

2 Bore Size (mm)

Code	Content
32	$\phi 32$
40	$\phi 40$
50	$\phi 50$
63	$\phi 63$
80	$\phi 80$
100	$\phi 100$

3 Piping thread type

Code	Content
Blank	Rc Thread
N	NPT Thread (Custom Order Product)
G	G Thread (Custom Order Product)

4 Cushion

Code	Content
B	Air cushion on both sides (basic type)
D	Both Sides Rubber Cushion

Note: The rubber cushion type is longer overall than the air cushion type.

5 Stroke (mm)

Bore Size	Stroke	Intermediate Stroke
$\phi 32$	1 to 600	Every 1 mm
$\phi 40$		
$\phi 50$		
$\phi 63$		
$\phi 80$	1 to 700	
$\phi 100$	1 to 800	

Note: For minimum stroke with switch, please refer to P. 552 and 553.

6 Switch Model No.

For switch details, please refer to P. 971. Switches are included with the product and shipped.

Contact	Indicator Lamp Special Function	Wiring (Output)	Load Voltage (V)		Load Current (mA)		Lead Wire *1		
			AC	DC	AC	DC	Straight	L-shape	
Solid State	1-Color	2-wire	85 to 265	—	5 to 100	—	T1H□	T1V□	
			—	10 to 30	—	5 to 20 *2	T2H□	T2V□	
		3-wire (NPN)	—	—	100 or less	—	T3H□	T3V□	
			—	30 or less	—	—	T3PH□	T3PV□	
		3-wire (PNP)	—	—	—	—	T2WH□	T2WV□	
			—	24 ± 10%	—	5 to 20	T3WH□	T3WV□	
	2-Color	2-Color Improved Water Resistance	2-wire	—	24 ± 10%	—	5 to 20	T2WLH□	T2WLV□
				—	—	—	—	T2YD□	—
		2-Color for AC Magnetic Field	2-wire	—	24 ± 10%	—	5 to 20	T2YDT□	—
				—	10 to 30	—	5 to 20 *2	T2JH□	T2JV□
1-Color Off-Delay Type	2-wire	—	10 to 30	—	5 to 20 *2	T2HR3	T2VR3		
		—	10 to 30	—	5 to 20 *2	T2HR3	T2VR3		
Reed	1-Color No Indicator Lamp	2-wire	110	12/24	7 to 20	5 to 50	T0H□	T0V□	
			110	5/12/24	20 or less	50 or less	T5H□	T5V□	
1-Color	1-Color Flexible Lead Wire Type	2-wire	110/220	12/24	7 to 20 / 7 to 10	5 to 50	T8H□	T8V□	
			—	—	—	—	—	—	

*Lead wire length, connector specification

Code	Content
Blank	1 m (Standard)
3	3 m (Option)
5	5 m (Option)
W	M8 Connector, 1PIN (+) 4PIN (-) Lead Wire 0.3 m

*5: Only T2WLH and T2WLV can be selected.

Example) Lead wire length
1 m TOH
3 m TOH³
5 m TOH⁵

About Custom Product Specifications

For details, refer to P. 610 to 613.

Code	Content
-XK◇	Mounting Bracket Rotational Assembly
-XAQ◇◇	Trunnion Position Specification
-XP7	Knuckle fixed by pin driving
-XJ9	Without Bellows
-T2	Fluorine Packing Type
-A2	With 2 Rod Nuts
Rod End Shape Modification	Refer to Ending P. 11.

Model No. Example)

SCG-D - - **XP7**

Food Manufacturing Process Compatible Specification (Catalog No. CC-1271AA)

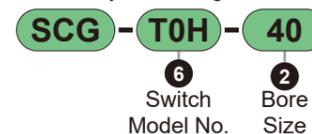
● Uses food-grade lubricant usable in food manufacturing processes

SCG-D - - **FP1**

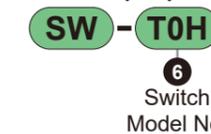
*For combinations of variations and options, see P. 489.

Switch Single Unit Model No. Notation Method

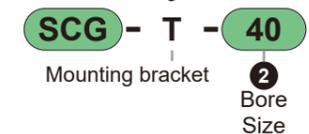
● Switch body + Mounting bracket set



● Switch body only



● Switch mounting bracket set



Note: Please consult us separately if using environmentally compatible T-type switches.

*1: For "□" in the switch model number, enter the code selected from the "Lead wire length, connector specification" table.

*2: The maximum load current value above, 20 mA, is at 25°C. If the switch operating ambient temperature is higher than 25°C, it will be lower than 20 mA. (At 60°C, it will be 5 to 10 mA.)

*3: This does not guarantee the water resistance of the cylinder. When using in a water-resistant environment, use of an improved water resistance cylinder is recommended.

*4: Switches other than the model numbers listed above are also available. (Custom Product) For details, see P. 971.

Specifications

Item		SCG-D					
Bore Size mm		ø32	ø40	ø50	ø63	ø80	ø100
Actuation method		Double Acting Type					
Operating Fluid		Compressed Air					
Max. Working Pressure MPa		1.0					
Min. Operating Pressure MPa		0.1					
Proof Pressure MPa		1.6					
Ambient Temperature °C		-10 to 60 (No freezing)					
Port Size		Rc1/8	Rc1/4	Rc3/8	Rc1/2		
Stroke		+1.4 (Up to 800)					
tolerance mm		+1.0 (Up to 360), +1.4 (361 to 800)					
Operating Piston Speed mm/s		50 to 1000 (Please use within the allowable absorbed energy.)					
Cushion		Air cushion/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 (When lubricating, use turbine oil Class 1 ISO VG32)					
Lubricated allowable absorbed energy J		0.5	0.9	1.6	1.6	3.3	5.8
		2.5	3.7	8.0	14.4	25.4	45.6

Stroke

Bore Size (mm)	Standard Stroke (mm)	Max. Stroke (mm)	Min. Stroke (mm)
ø32	25, 50, 75, 100, 150, 200, 250 300, 350, 400, 450, 500	600	1
ø40			
ø50			
ø63			
ø80			
ø100	700		
	800		

*1: Intermediate strokes can be manufactured in 1 mm increments.
 *2: If the maximum stroke is exceeded, product specifications may not be met depending on the conditions, so please consult us.
 *3: In the case of bellows-equipped models, the producible stroke for Bore sizes ø32 to ø40 is 500 mm, for ø50 to ø63 is 600 mm, and for ø80 to ø100 is 800 mm.

Min. Stroke with Switch

●T0/T5 type switch

Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
	2	1	2	1	2	1	1
ø32	20 (18)	20 (10)	70 (40)	100 (70)	100 (70)	50 (35)	50 (35)
ø40	20 (19)	20 (10)	55 (40)	100 (70)	100 (70)	50 (35)	50 (35)
ø50	21 (19)	21 (10)	21 (19)	102 (72)	102 (72)	49 (34)	51 (36)
ø63	21 (20)	21 (11)	21 (20)	107 (77)	107 (77)	54 (39)	56 (41)
ø80	21 (21)	20 (11)	21 (21)	117 (87)	117 (87)	53 (38)	60 (45)
ø100	21 (21)	19 (11)	21 (21)	126 (96)	126 (96)	64 (49)	69 (54)

Note: Note: () indicates T□V (lead wire L-type).

●T8 type switch

Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
	2	1	2	1	2	1	1
ø32	19 (18)	19 (10)	67 (31)	97 (61)	97 (61)	49 (31)	49 (31)
ø40	19 (19)	19 (10)	52 (31)	97 (61)	97 (61)	49 (31)	49 (31)
ø50	19 (19)	18 (10)	19 (19)	97 (61)	97 (61)	48 (30)	48 (30)
ø63	20 (20)	18 (11)	20 (20)	102 (66)	102 (66)	53 (35)	53 (35)
ø80	21 (21)	17 (11)	21 (21)	112 (76)	112 (76)	51 (33)	57 (39)
ø100	21 (21)	17 (11)	21 (21)	121 (85)	121 (85)	61 (43)	67 (49)

Note: Note: () indicates T□V (lead wire L-type).

Min. Stroke with Switch

●T2/T3 type switch

Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
	2	1	2	1	2	1	1
ø32	20 (11)	20 (6)	70 (40)	100 (70)	100 (70)	50 (35)	50 (35)
ø40	20 (11)	20 (6)	55 (40)	100 (70)	100 (70)	50 (35)	50 (35)
ø50	21 (11)	21 (6)	21 (11)	102 (72)	102 (72)	49 (34)	51 (36)
ø63	21 (12)	21 (7)	21 (12)	107 (77)	107 (77)	54 (39)	56 (41)
ø80	20 (12)	20 (7)	20 (12)	117 (87)	117 (87)	53 (38)	60 (45)
ø100	19 (12)	19 (7)	19 (12)	126 (96)	126 (96)	64 (49)	69 (54)

*1: () indicates T□V (L-shaped lead wire type).
 *2: If the stroke is 15 mm or less, two switches may turn ON simultaneously. In this case, adjust the switch mounting positions so that they are further apart from each other.

●T1 type switch

Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
	2	1	2	1	2	1	1
ø32	19 (11)	19 (6)	68 (38)	98 (68)	98 (68)	49 (34)	49 (34)
ø40	19 (11)	19 (6)	53 (38)	98 (68)	98 (68)	49 (34)	49 (34)
ø50	20 (11)	20 (6)	20 (11)	100 (70)	100 (70)	48 (33)	50 (35)
ø63	20 (12)	20 (7)	20 (12)	105 (75)	105 (75)	53 (38)	55 (40)
ø80	19 (12)	19 (7)	19 (12)	115 (85)	115 (85)	52 (37)	59 (44)
ø100	18 (12)	18 (7)	18 (12)	124 (94)	124 (94)	63 (48)	68 (53)

*1: () indicates T□V (L-shaped lead wire type).
 *2: If the stroke is 15 mm or less, two switches may turn ON simultaneously. In this case, adjust the switch mounting positions so that they are further apart from each other.

●T2W/T3W type switch

Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
	2	1	2	1	2	1	1
ø32	23 (12)	23 (8)	75 (45)	105 (75)	105 (75)	53 (38)	53 (38)
ø40	23 (12)	23 (8)	60 (45)	105 (75)	105 (75)	53 (38)	53 (38)
ø50	23 (13)	23 (8)	23 (13)	107 (77)	107 (77)	51 (36)	53 (38)
ø63	23 (13)	23 (8)	23 (13)	112 (82)	112 (82)	56 (41)	58 (43)
ø80	22 (14)	22 (8)	22 (14)	122 (92)	122 (92)	55 (40)	62 (47)
ø100	22 (14)	22 (8)	22 (14)	131 (101)	131 (101)	66 (51)	72 (57)

*1: () indicates T□V (L-shaped lead wire type).
 *2: If the stroke is 15 mm or less, two switches may turn ON simultaneously. In this case, adjust the switch mounting positions so that they are further apart from each other.

●T2YD type switch

Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
	2	1	2	1	2	1	1
ø32	23	23	75	105	105	53	53
ø40	23	23	60	105	105	53	53
ø50	23	23	23	107	107	51	53
ø63	23	23	23	112	112	56	58
ø80	22	22	22	122	122	55	62
ø100	22	22	22	131	131	66	72

Note: Note: () indicates T□V (lead wire L-type).

●T2WL type switch

Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
	2	1	2	1	2	1	1
ø32	24 (12)	24 (8)	77 (45)	107 (75)	107 (75)	54 (38)	54 (38)
ø40	24 (12)	24 (8)	62 (45)	107 (75)	107 (75)	54 (38)	54 (38)
ø50	24 (13)	24 (8)	24 (13)	109 (77)	109 (77)	52 (36)	54 (38)
ø63	24 (13)	24 (8)	24 (13)	114 (82)	114 (82)	57 (41)	59 (43)
ø80	23 (14)	23 (8)	23 (14)	124 (92)	124 (92)	56 (40)	63 (47)
ø100	23 (14)	23 (8)	23 (14)	133 (101)	133 (101)	67 (51)	73 (57)

*1: () indicates T□V (L-shaped lead wire type).
 *2: If the stroke is 15 mm or less, two switches may turn ON simultaneously. In this case, adjust the switch mounting positions so that they are further apart from each other.

Weight Table

(Unit: kg)

Bore Size (mm)	Product Weight at Stroke = 0 mm				Stroke: Added weight per 50 mm	Switch Weight (Per Piece)	Switch Mounting Bracket Weight	Accessory Weight	
	Basic type (00)	Foot Type (LB)	Flange Type (FA, FB)	Trunnion Type (TA, TB, TC)				I	Y
ø32	0.57	0.68	0.79	0.74	0.16	Refer to the mass described in the switch specifications on P. 971	0.024	0.07	0.10
ø40	0.80	0.94	1.08	1.14	0.25		0.024	0.07	0.13
ø50	1.38	1.54	1.86	1.86	0.35		0.022	0.20	0.30
ø63	1.64	1.98	2.40	2.52	0.37		0.022	0.20	0.30
ø80	3.11	3.54	4.68	4.60	0.59		0.026	0.52	0.94
ø100	4.41	5.27	6.73	6.98	0.79		0.024	0.48	0.92

MEMO

Theoretical Thrust Table

(Unit: N)

Bore Size (mm)	Operating Direction	Operating Pressure MPa										
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø32	Push/Pull	69.1	1.04 × 10 ²	1.38 × 10 ²	2.07 × 10 ²	2.76 × 10 ²	3.46 × 10 ²	4.15 × 10 ²	4.84 × 10 ²	5.53 × 10 ²	6.22 × 10 ²	6.91 × 10 ²
	Push/Pull	1.06 × 10 ²	1.58 × 10 ²	2.11 × 10 ²	3.17 × 10 ²	4.22 × 10 ²	5.28 × 10 ²	6.33 × 10 ²	7.39 × 10 ²	8.44 × 10 ²	9.50 × 10 ²	1.06 × 10 ³
ø40	Push/Pull	1.65 × 10 ²	2.47 × 10 ²	3.30 × 10 ²	4.95 × 10 ²	6.60 × 10 ²	8.25 × 10 ²	9.90 × 10 ²	1.15 × 10 ³	1.32 × 10 ³	1.48 × 10 ³	1.65 × 10 ³
	Push/Pull	2.80 × 10 ²	4.20 × 10 ²	5.61 × 10 ²	8.41 × 10 ²	1.12 × 10 ³	1.40 × 10 ³	1.68 × 10 ³	1.96 × 10 ³	2.24 × 10 ³	2.52 × 10 ³	2.80 × 10 ³
ø50	Push/Pull	4.54 × 10 ²	6.80 × 10 ²	9.07 × 10 ²	1.36 × 10 ³	1.81 × 10 ³	2.27 × 10 ³	2.72 × 10 ³	3.17 × 10 ³	3.63 × 10 ³	4.08 × 10 ³	4.54 × 10 ³
	Push/Pull	7.15 × 10 ²	1.07 × 10 ³	1.43 × 10 ³	2.14 × 10 ³	2.86 × 10 ³	3.57 × 10 ³	4.29 × 10 ³	5.00 × 10 ³	5.72 × 10 ³	6.43 × 10 ³	7.15 × 10 ³

Mounting Bracket Model No. Notation Method

Bore Size (mm)	ø32	ø40	ø50	ø63	ø80	ø100
Mounting bracket						
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

*1: For bellows-equipped flanges (FA, FB), please specify as "SCG-FA-(Bore size)-J".

*2: Foot type mounting bracket (LB) is 2 pcs/set.

*3: Mounting bolts are included to each mounting bracket.

General Type

SCP□3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

Cylinder Switch

Ending

555

General Type

SCP□3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

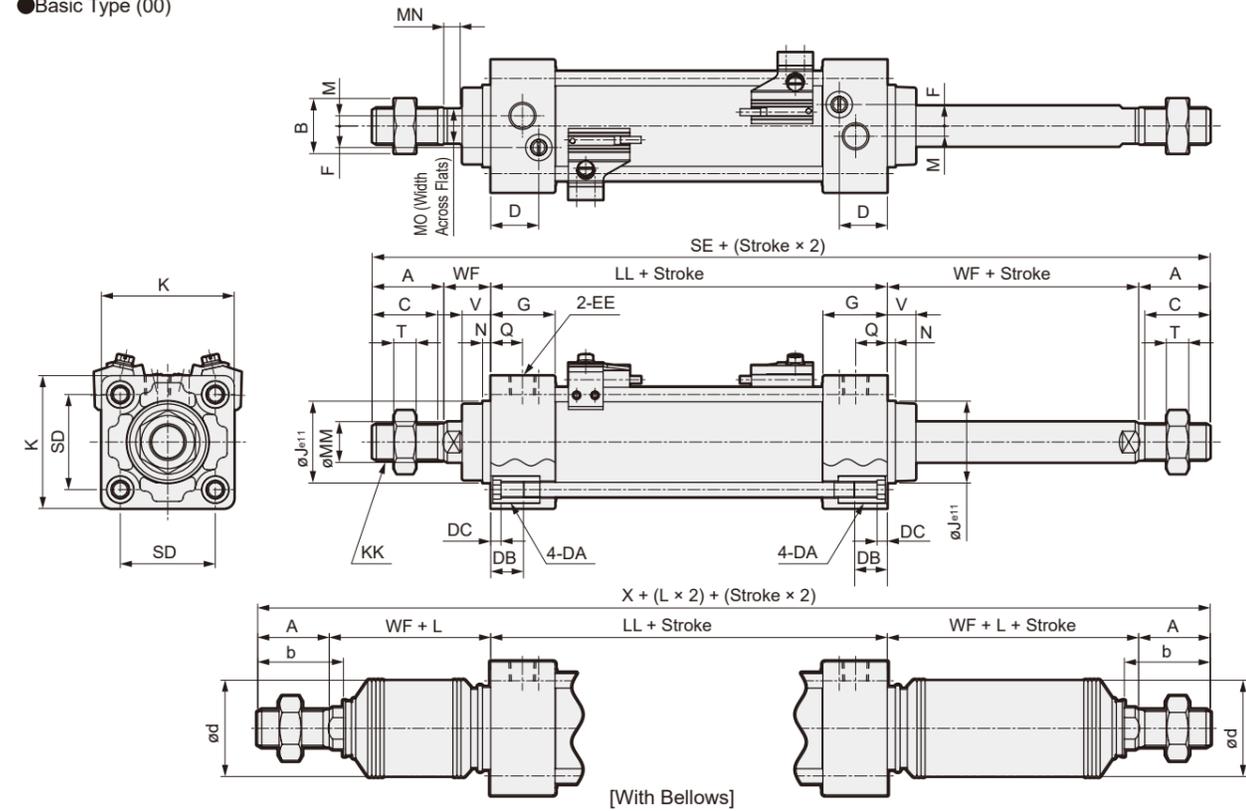
Cylinder Switch

Ending

554

Outline Dimension Drawing

● Basic Type (00)



Code	Basic Type (00) Basic Dimensions												
Bore Size (mm)	A	B	C	D	DA	DB	DC	EE	F	G	J	K	KK
ø32	22	17	20	19	M6	16	5	Rc1/8	6.5	27	30	46	M10 × 1.25
ø40	30	22	27	19	M6	16	5	Rc1/4	9	27	35	52	M14 × 1.5
ø50	35	27	32	23.5	M8	16	5	Rc1/4	10.5	31.5	40	65	M18 × 1.5
ø63	35	27	32	21.5	M8	16	5	Rc3/8	12	31.5	45	75	M18 × 1.5
ø80	40	32	37	28	M10	16	5	Rc3/8	14	38	45	95	M22 × 1.5
ø100	40	41	37	28	M10	16	5	Rc1/2	15	38	55	114	M26 × 1.5

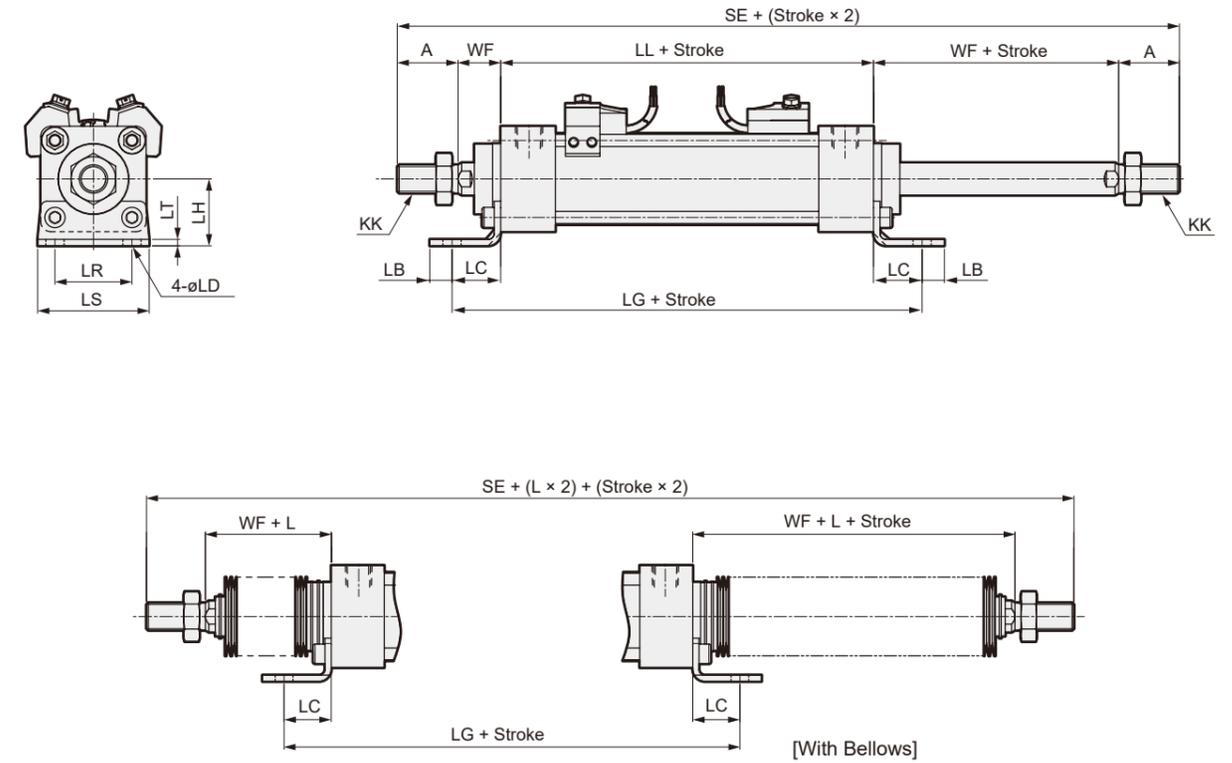
Code	Basic Dimensions												
Bore Size (mm)	LL *1	M	MM	MN	MO	N	Q	SD	SE *1	T	V	WF	
ø32	84 (90)	4	12	5.5	10	4	13	32.5	178 (184)	6	13	25	
ø40	84 (90)	4	16	6	14	4	14	38	186 (192)	8	13	21	
ø50	94 (102)	5	20	8	17	4	15.5	46.5	210 (218)	11	14	23	
ø63	94 (102)	9	20	8	17	4	16.5	56.5	210 (218)	11	14	23	
ø80	114 (124)	11.5	25	11	22	4	19	72	258 (268)	13	20	32	
ø100	114 (124)	17	30	13	27	4	19	89	258 (268)	16	20	32	

Code	With Bellows														
Bore Size (mm)	b	d	L										When Exceeding 800		
			50 or less	Over 50 to 100	Over 100 to 150	Over 150 to 200	Over 200 to 300	Over 300 to 400	Over 400 to 500	Over 500 to 600	Over 600 to 700	Over 700 to 800			
ø32	31.5	38	26	39	51	64	89	114	139	0.35 × Stroke - 37					
ø40	35	40	30	43	55	68	93	118	143	0.35 × Stroke - 32					
ø50	42	47	31	44	56	69	94	119	144	169	0.35 × Stroke - 41				
ø63	42	47	31	44	56	69	94	119	144	169	0.35 × Stroke - 41				
ø80	50	53	29	42	54	67	92	117	142	167	192	217	0.35 × Stroke - 63		
ø100	52.5	61	29	42	54	67	92	117	142	167	192	217	0.35 × Stroke - 63		

*1: Dimensions in () indicate rubber cushion type.
 *2: Round up the L dimension to the nearest whole number.
 *3: For dimensions with each switch, refer to P. 608, 609.
 *4: For outer dimensions diagram of accessories, refer to P. 511.

Outline Dimension Drawing

● Axial Foot Type (LB)



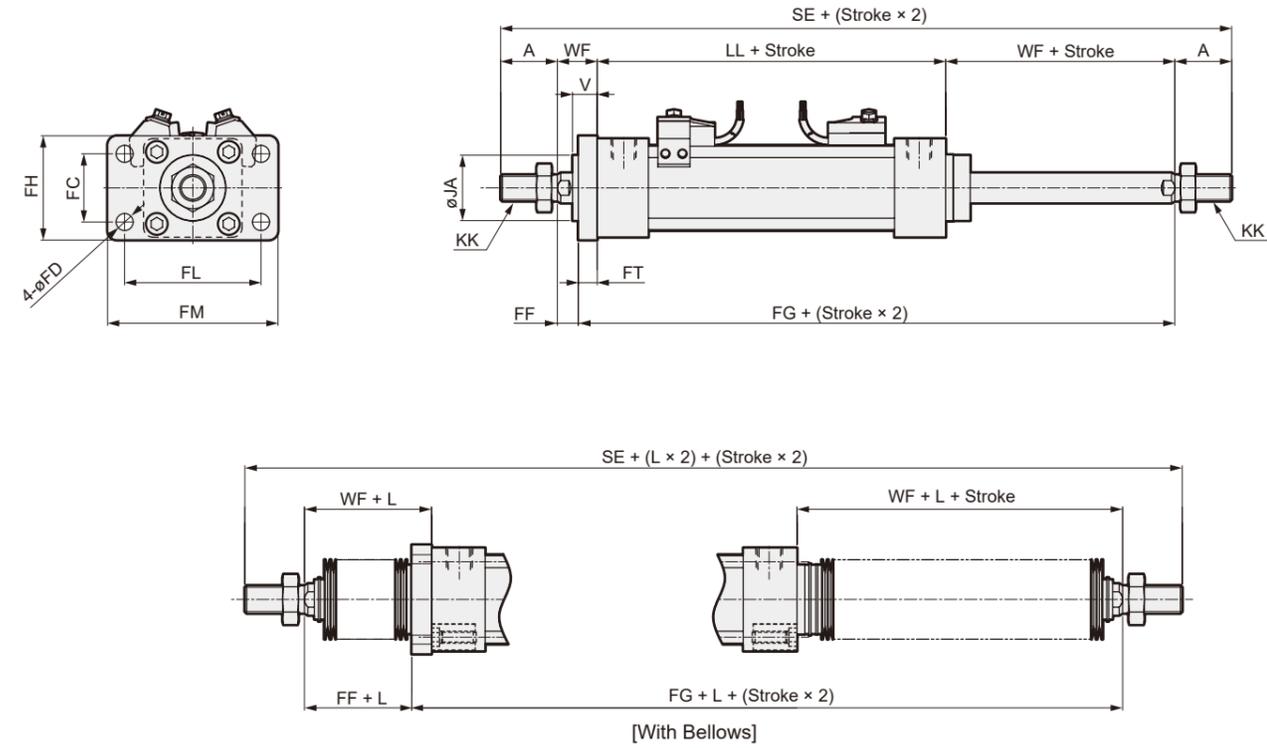
Code	Axial Foot Type (LB) Mounting Dimensions												
Bore Size (mm)	A	KK	LL *1	SE *1	WF	LB	LC	LD	LG *1	LH	LR	LS	LT
ø32	22	M10 × 1.25	84 (90)	178 (184)	25	9	22	7	128 (134)	30	32	50	3.2
ø40	30	M14 × 1.5	84 (90)	186 (192)	21	11	24	9	132 (138)	33	38	55	3.2
ø50	35	M18 × 1.5	94 (102)	210 (218)	23	11	27	9	148 (156)	40	46	70	3.2
ø63	35	M18 × 1.5	94 (102)	210 (218)	23	14	27	12	148 (156)	45	56	80	4.5
ø80	40	M22 × 1.5	114 (124)	258 (268)	32	14	30	12	174 (184)	55	72	95	4.5
ø100	40	M26 × 1.5	114 (124)	258 (268)	32	16	32	14	178 (188)	65	89	114	6

Code	With Bellows												
Bore Size (mm)	b	d	L										When Exceeding 800
			50 or less	Over 50 to 100	Over 100 to 150	Over 150 to 200	Over 200 to 300	Over 300 to 400	Over 400 to 500	Over 500 to 600	Over 600 to 700	Over 700 to 800	
ø32	26	39	51	64	89	114	139	0.35 × Stroke - 37					
ø40	30	43	55	68	93	118	143	0.35 × Stroke - 32					
ø50	31	44	56	69	94	119	144	169	0.35 × Stroke - 41				
ø63	31	44	56	69	94	119	144	169	0.35 × Stroke - 41				
ø80	29	42	54	67	92	117	142	167	192	217	0.35 × Stroke - 63		
ø100	29	42	54	67	92	117	142	167	192	217	0.35 × Stroke - 63		

*1: Dimensions in () indicate rubber cushion type.
 *2: Round up the L dimension to the nearest whole number.
 *3: For dimensions with each switch, refer to P. 608, 609.
 *4: For outer dimensions diagram of accessories, refer to P. 511.

Outline Dimension Drawing

●Rod Side Flange Type (FA)



Code	Rod Side Flange Type (FA) Mounting Dimensions														
Bore Size (mm)	A	JA	KK	LL *1	SE *1	V	WF	FC	FD	FF	FG *1	FH	FL	FM	FT
ø32	22	29	M10 × 1.25	84 (90)	178 (184)	13	25	32	7	15	119 (125)	50	64	79	10
ø40	30	30	M14 × 1.5	84 (90)	186 (192)	13	21	36	9	11	115 (121)	55	72	90	10
ø50	35	38	M18 × 1.5	94 (102)	210 (218)	14	23	45	9	11	129 (137)	70	90	110	12
ø63	35	38	M18 × 1.5	94 (102)	210 (218)	14	23	50	9	11	129 (137)	80	100	120	12
ø80	40	43	M22 × 1.5	114 (124)	258 (268)	20	32	63	12	16	162 (172)	100	126	153	16
ø100	40	51	M26 × 1.5	114 (124)	258 (268)	20	32	75	14	16	162 (172)	120	150	178	16

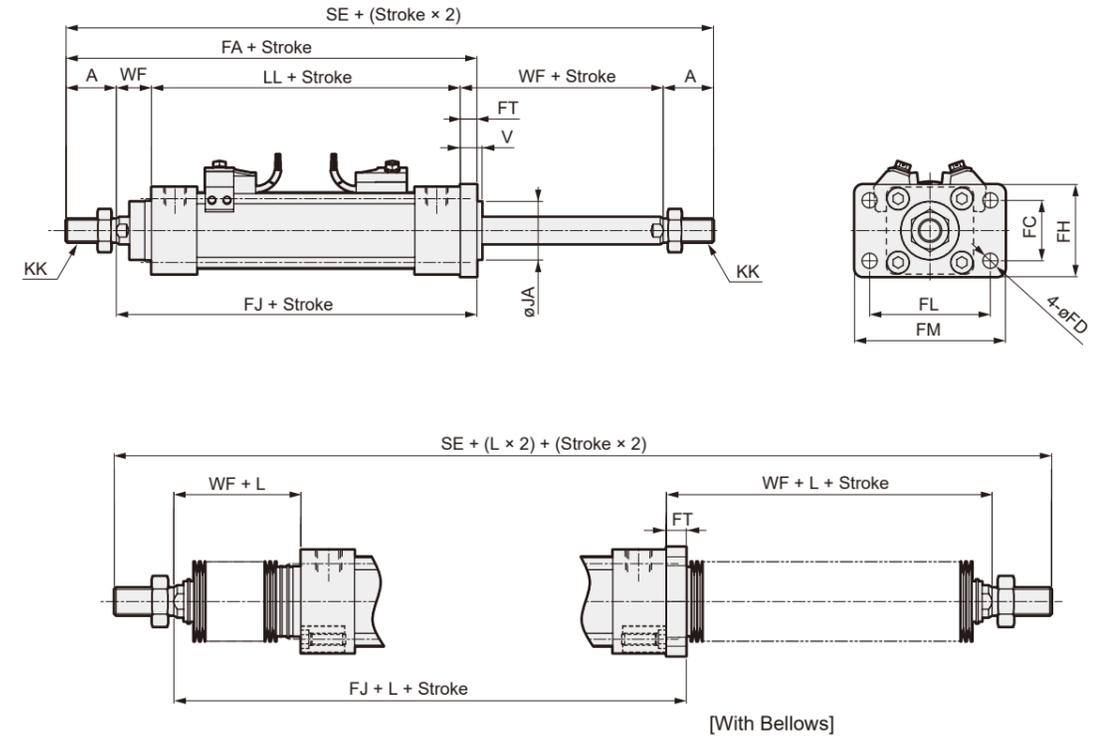
Code	With Bellows												
Bore Size (mm)	FG *1	L											
		50 or less	Over 50 to 100	Over 100 to 150	Over 150 to 200	Over 200 to 300	Over 300 to 400	Over 400 to 500	Over 500 to 600	Over 600 to 700	Over 700 to 800	When Exceeding 800	
ø32	119 (125)	26	39	51	64	89	114	139	0.35 × Stroke - 37				
ø40	115 (121)	30	43	55	68	93	118	143	0.35 × Stroke - 32				
ø50	129 (137)	31	44	56	69	94	119	144	169	0.35 × Stroke - 41			
ø63	129 (137)	31	44	56	69	94	119	144	169	0.35 × Stroke - 41			
ø80	162 (172)	29	42	54	67	92	117	142	167	192	217	0.35 × Stroke - 63	
ø100	162 (172)	29	42	54	67	92	117	142	167	192	217	0.35 × Stroke - 63	

*1: Dimensions in () indicate rubber cushion type.
 *2: Round up the L dimension to the nearest whole number.
 *3: For dimensions with each switch, refer to P. 608, 609.
 *4: For outer dimensions diagram of accessories, refer to P. 511.

Double Acting/Double Rod Type

Outline Dimension Drawing

●Head Side Flange Type (FB)



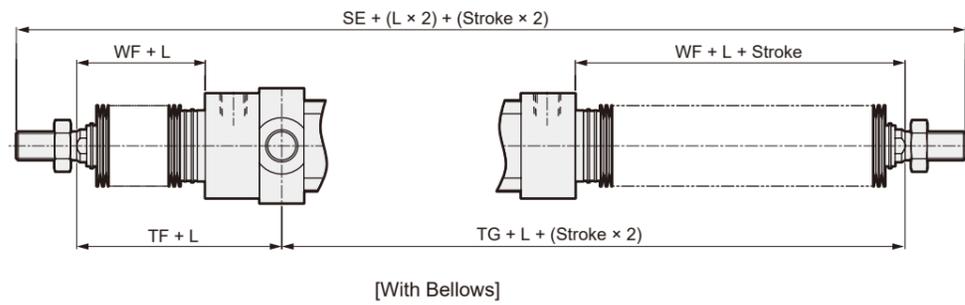
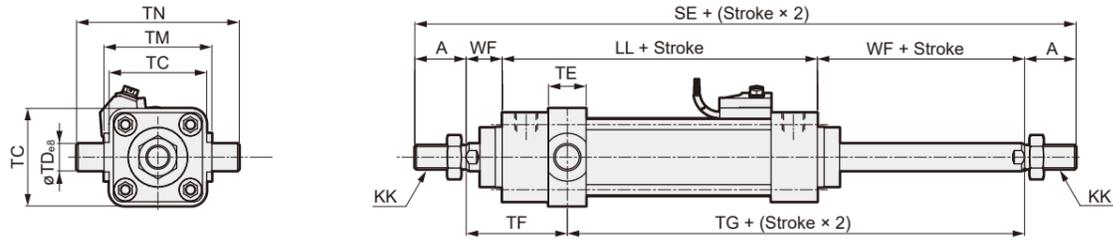
Code	Head Side Flange Type (FB) Mounting Dimensions														
Bore Size (mm)	A	JA	KK	LL *1	SE *1	V	WF	FA *1	FC	FD	FH	FJ *1	FL	FM	FT
ø32	22	29	M10 × 1.25	84 (90)	178 (184)	13	25	141 (147)	32	7	50	119 (125)	64	79	10
ø40	30	30	M14 × 1.5	84 (90)	186 (192)	13	21	145 (151)	36	9	55	115 (121)	72	90	10
ø50	35	38	M18 × 1.5	94 (102)	210 (218)	14	23	164 (172)	45	9	70	129 (137)	90	110	12
ø63	35	38	M18 × 1.5	94 (102)	210 (218)	14	23	164 (172)	50	9	80	129 (137)	100	120	12
ø80	40	43	M22 × 1.5	114 (124)	258 (268)	20	32	202 (212)	63	12	100	162 (172)	126	153	16
ø100	40	51	M26 × 1.5	114 (124)	258 (268)	20	32	202 (212)	75	14	120	162 (172)	150	178	16

Code	With Bellows												
Bore Size (mm)	50 or less	Over 50 to 100	Over 100 to 150	Over 150 to 200	Over 200 to 300	Over 300 to 400	Over 400 to 500	Over 500 to 600	Over 600 to 700	Over 700 to 800	When Exceeding 800		
												L	
ø32	26	39	51	64	89	114	139	0.35 × Stroke - 37					
ø40	30	43	55	68	93	118	143	0.35 × Stroke - 32					
ø50	31	44	56	69	94	119	144	169	0.35 × Stroke - 41				
ø63	31	44	56	69	94	119	144	169	0.35 × Stroke - 41				
ø80	29	42	54	67	92	117	142	167	192	217	0.35 × Stroke - 63		
ø100	29	42	54	67	92	117	142	167	192	217	0.35 × Stroke - 63		

*1: Dimensions in () indicate rubber cushion type.
 *2: Round up the L dimension to the nearest whole number.
 *3: For dimensions with each switch, refer to P. 608, 609.
 *4: For outer dimensions diagram of accessories, refer to P. 511.

Outline Dimension Drawing

●Rod side trunnion type (TA)



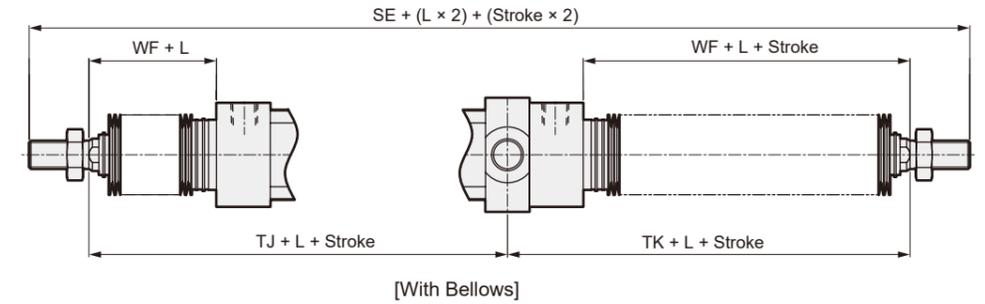
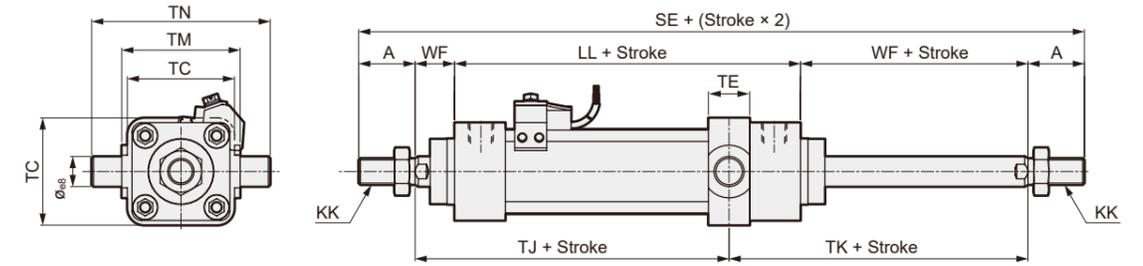
Code	Rod Side Trunnion Type (TA) Mounting Dimensions											
Bore Size (mm)	A	KK	LL *1	SE *1	WF	TC	TD	TE	TF	TG *1	TM	TN
ø32	22	M10 × 1.25	84 (90)	178 (184)	25	47	12	17	61.5	72.5 (78.5)	50	74
ø40	30	M14 × 1.5	84 (90)	186 (192)	21	57	16	22	60	66 (72)	63	95
ø50	35	M18 × 1.5	94 (102)	210 (218)	23	67	16	22	66.5	73.5 (81.5)	75	107
ø63	35	M18 × 1.5	94 (102)	210 (218)	23	82	20	28	69.5	70.5 (78.5)	90	130
ø80	40	M22 × 1.5	114 (124)	258 (268)	32	100	20	34	88	90 (100)	110	150
ø100	40	M26 × 1.5	114 (124)	258 (268)	32	121	25	40	91	87 (97)	132	182

Code	With Bellows											
Bore Size (mm)	L											
	50 or less	Over 50 to 100	Over 100 to 150	Over 150 to 200	Over 200 to 300	Over 300 to 400	Over 400 to 500	Over 500 to 600	Over 600 to 700	Over 700 to 800	When Exceeding 800	
ø32	26	39	51	64	89	114	139	0.35 × Stroke - 37				
ø40	30	43	55	68	93	118	143	0.35 × Stroke - 32				
ø50	31	44	56	69	94	119	144	169	0.35 × Stroke - 41			
ø63	31	44	56	69	94	119	144	169	0.35 × Stroke - 41			
ø80	29	42	54	67	92	117	142	167	192	217	0.35 × Stroke - 63	
ø100	29	42	54	67	92	117	142	167	192	217	0.35 × Stroke - 63	

*1: Dimensions in () indicate rubber cushion type.
 *2: Round up the L dimension to the nearest whole number.
 *3: For dimensions with each switch, refer to P. 608, 609.
 *4: For outer dimensions diagram of accessories, refer to P. 511.

Outline Dimension Drawing

●Head Side Trunnion Type (TB)



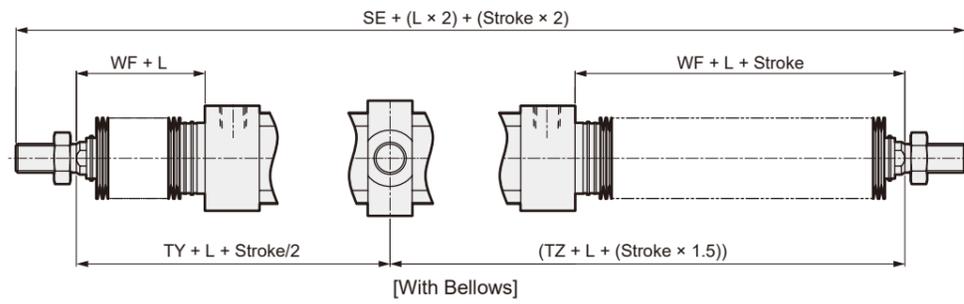
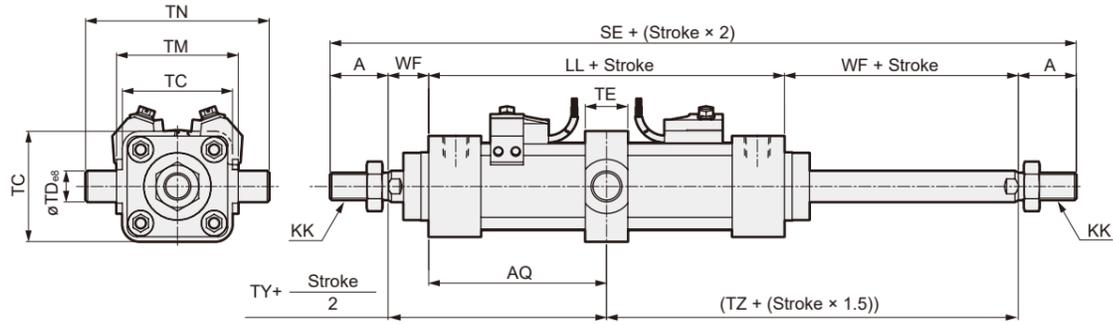
Code	Head Side Trunnion Type (TB) Mounting Dimensions											
Bore Size (mm)	A	KK	LL *1	SE *1	WF	TC	TD	TE	TJ *1	TK	TM	TN
ø32	22	M10 × 1.25	84 (90)	178 (184)	25	47	12	17	72.5 (78.5)	61.5	50	74
ø40	30	M14 × 1.5	84 (90)	186 (192)	21	57	16	22	66 (72)	60	63	95
ø50	35	M18 × 1.5	94 (102)	210 (218)	23	67	16	22	73.5 (81.5)	66.5	75	107
ø63	35	M18 × 1.5	94 (102)	210 (218)	23	82	20	28	70.5 (78.5)	69.5	90	130
ø80	40	M22 × 1.5	114 (124)	258 (268)	32	100	20	34	90 (100)	88	110	150
ø100	40	M26 × 1.5	114 (124)	258 (268)	32	121	25	40	87 (97)	91	132	182

Code	With Bellows											
Bore Size (mm)	L											
	50 or less	Over 50 to 100	Over 100 to 150	Over 150 to 200	Over 200 to 300	Over 300 to 400	Over 400 to 500	Over 500 to 600	Over 600 to 700	Over 700 to 800	When Exceeding 800	
ø32	26	39	51	64	89	114	139	0.35 × Stroke - 37				
ø40	30	43	55	68	93	118	143	0.35 × Stroke - 32				
ø50	31	44	56	69	94	119	144	169	0.35 × Stroke - 41			
ø63	31	44	56	69	94	119	144	169	0.35 × Stroke - 41			
ø80	29	42	54	67	92	117	142	167	192	217	0.35 × Stroke - 63	
ø100	29	42	54	67	92	117	142	167	192	217	0.35 × Stroke - 63	

*1: Dimensions in () indicate rubber cushion type.
 *2: Round up the L dimension to the nearest whole number.
 *3: For dimensions with each switch, refer to P. 608, 609.
 *4: For outer dimensions diagram of accessories, refer to P. 511.

Outline Dimension Drawing

● Intermediate trunnion type (TC)

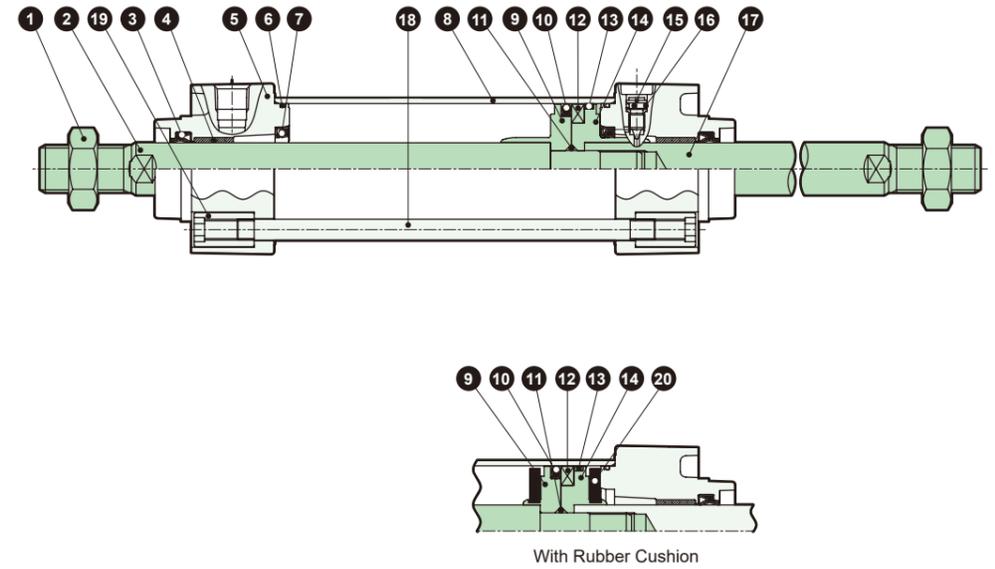


Code	Intermediate Trunnion Type (TC) Mounting Dimensions												
Bore Size (mm)	A	KK	LL *1	SE *1	WF	AQ *1	TC	TD	TE	TY *1	TZ *1	TM	TN
	ø32	22	M10 × 1.25	84 (90)	178 (184)	25	42 (45) + Stroke/2	47	12	17	67 (70)	67 (70)	50
ø40	30	M14 × 1.5	84 (90)	186 (192)	21	42 (45) + Stroke/2	57	16	22	63 (66)	63 (66)	63	95
ø50	35	M18 × 1.5	94 (102)	210 (218)	23	47 (51) + Stroke/2	67	16	22	70 (74)	70 (74)	75	107
ø63	35	M18 × 1.5	94 (102)	210 (218)	23	47 (51) + Stroke/2	82	20	28	70 (74)	70 (74)	90	130
ø80	40	M22 × 1.5	114 (124)	258 (268)	32	57 (62) + Stroke/2	100	20	34	89 (94)	89 (94)	110	150
ø100	40	M26 × 1.5	114 (124)	258 (268)	32	57 (62) + Stroke/2	121	25	40	89 (94)	89 (94)	132	182

Code	With Bellows											
Bore Size (mm)	L											
	50 or less	Over 50 to 100	Over 100 to 150	Over 150 to 200	Over 200 to 300	Over 300 to 400	Over 400 to 500	Over 500 to 600	Over 600 to 700	Over 700 to 800	When Exceeding 800	
ø32	26	39	51	64	89	114	139	0.35 × Stroke - 37				
ø40	30	43	55	68	93	118	143	0.35 × Stroke - 32				
ø50	31	44	56	69	94	119	144	169	0.35 × Stroke - 41			
ø63	31	44	56	69	94	119	144	169	0.35 × Stroke - 41			
ø80	29	42	54	67	92	117	142	167	192	217	0.35 × Stroke - 63	
ø100	29	42	54	67	92	117	142	167	192	217	0.35 × Stroke - 63	

*1: Dimensions in () indicate rubber cushion type.
 *2: Round up the L dimension to the nearest whole number.
 *3: For dimensions with each switch, refer to P. 608, 609.
 *4: For outer dimensions diagram of accessories, refer to P. 511.

Internal Structure Diagram/Material



Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Rod Nut	Steel	Nickel Plating	11	Piston Gasket	Nitrile Rubber	
2	Piston Rod A	Steel	Industrial Hard Chrome Plating	12	Magnet	Plastic	
3	Rod Packing	Nitrile Rubber		13	Wear Ring	Polyacetal	
4	Bushing	Oil-Impregnated Bearing Alloy		14	Piston H	Aluminum Alloy	
5	Rod Cover	Aluminum Alloy	Painting	15	Cushion Needle	Copper Alloy	Nickel Plating
6	Cylinder Gasket	Nitrile Rubber		16	Needle Gasket	Nitrile Rubber	
7	Cushion Packing	Nitrile Rubber, Steel	Only with air cushion	17	Piston Rod B	Steel	Industrial Hard Chrome Plating
8	Cylinder Tube	Aluminum Alloy	Hard Anodized	18	Tie Rod	Steel	Zinc Chromate
9	Piston R	Aluminum Alloy		19	Round Nut	Steel	Zinc Chromate
10	Piston Packing	Nitrile Rubber		20	Cushion Rubber	Urethane Rubber	Only with rubber cushion

Mounting Bracket Material

Mounting type	Material	Remarks
Foot (LB)	Steel	Nickel Plating
Flange (FA / FB)	Steel	Painting
Trunnion (TA, TB, TC)	Cast Iron	Painting

Note: Mounting brackets are attached to the product and shipped. However, for trunnion types (TA, TB, TC) and bellows-equipped models with LB or FA mounting brackets, they will be shipped assembled.

For maintenance parts, please visit the CKD Equipment Product Site
 (<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts

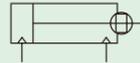


Tie-rod cylinder Double-acting, Non-rotating type

SCG-M Series

● Bore size: $\phi 32$, $\phi 40$, $\phi 50$, $\phi 63$

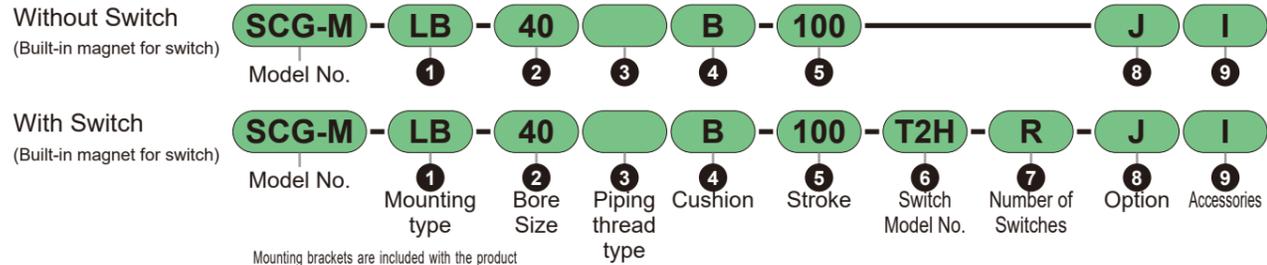
Circuit Diagram Symbol



SCG-M Series

Model No. Notation Method

Model No. Notation Method



Mounting brackets are included with the product and shipped. However, for trunnion type (TA, TB, TC) or when bellows are included and the mounting bracket is FA, they will be shipped assembled.

1 Mounting type

Code	Content
00	Basic type
LB	Axial Foot Type
FA	Rod Side Flange Type
FB	Head Side Flange Type
CA	Single Clevis Type
CB	Double Clevis Type (Pin and Split Pin Attached)
TA	Rod Side Trunnion Type
TB	Head Side Trunnion Type
TC	Intermediate Trunnion Type

2 Bore Size (mm)

Code	Content
32	$\phi 32$
40	$\phi 40$
50	$\phi 50$
63	$\phi 63$

3 Piping thread type

Code	Content
Blank	Rc Thread
N	NPT Thread (Custom Order Product)
G	G Thread (Custom Order Product)

4 Cushion

Code	Content
B	Both Sides Air Cushion
D	Both Sides Rubber Cushion

Note: The rubber cushion type is longer overall than the air cushion type.

5 Stroke (mm)

Bore Size	Stroke	Intermediate Stroke
$\phi 32$	1 to 600	Every 1 mm
$\phi 40$		
$\phi 50$		
$\phi 63$		

Note: For minimum stroke with switch, please refer to P. 566 and 567.

6 Switch Model No.

For switch details, please refer to P. 971. Switches are included with the product and shipped.

Contact	Indicator Lamp Special Function	Wiring (Output)	Load Voltage (V)		Load Current (mA)		Lead Wire *1		
			AC	DC	AC	DC	Straight	L-shape	
Solid State	1-Color	2-wire	85 to 265	—	5 to 100	—	T1H□	T1V□	
			—	10 to 30	—	5 to 20 *2	T2H□	T2V□	
		3-wire (NPN)	—	—	30 or less	—	100 or less	T3H□	T3V□
			—	—	—	—	—	T3PH□	T3PV□
		2-Color	2-wire	—	24 ± 10%	—	5 to 20	T2WH□	T2WV□
				—	30 or less	—	50 or less	T3WH□	T3WV□
	2-Color Improved Water Resistance	2-wire	—	24 ± 10%	—	5 to 20	T2WLH□	T2WLV□	
			—	—	—	—	T2YD□	—	
			—	24 ± 10%	—	5 to 20	T2YDT□	—	
		1-Color Off-Delay Type	2-wire	—	10 to 30	—	5 to 20 *2	T2JH□	T2JV□
				—	—	—	—	T2HR3	T2VR3
				—	10 to 30	—	5 to 20 *2	—	—
Reed	1-Color No Indicator Lamp	2-wire	110	12/24	7 to 20	5 to 50	T0H□	T0V□	
			110	5/12/24	20 or less	50 or less	T5H□	T5V□	
	1-Color	2-wire	110/220	12/24	7 to 20 / 7 to 10	5 to 50	T8H□	T8V□	
			—	—	—	—	—	—	

*Lead wire length, connector specification

Code	Content
Blank	1 m (Standard)
3	3 m (Option)
5	5 m (Option)
W	M8 Connector, 1PIN (+) 4PIN (-) Lead Wire 0.3 m

*5: Only T2WLH and T2WLV can be selected.

Example) Lead wire length
1 m TOH [3]
3 m TOH [3]
5 m TOH [5]

7 Number of Switches

Code	Content
R	With 1 on Rod Side
H	With 1 on Head Side
D	With 2 pcs
T	With 3 pcs

*1: If mounting type TA or TB is selected, the number of switches is limited to "H" (1 on head side) for TA, and "R" (1 on rod side) for TB.

8 Option

Code	Content	Max. Ambient Temperature	Instantaneous Max. Temperature
J	Bellows	100°C	200°C

Note: The instantaneous max. temperature is that at which sparks, cutting chips, etc., instantaneously contact bellows.

9 Accessories

Code	Content
I	Single Knuckle
Y	Double Knuckle (Pin and Split Pin Attached)
B1	Single Bracket
B2	Double Yoke Bracket (Pin and Split Pin Attached)
B3	Single Bracket
B4	Trunnion Type 2nd Bracket (2 pcs/set)

*1: "I" and "Y" cannot be selected at the same time.

About Custom Product Specifications

For details, refer to P. 610 to 613.

Code	Content
-XK◇	Mounting Bracket Rotational Assembly
-XAQ◇◇	Trunnion Position Specification
-XP7	Knuckle fixed by pin driving
-XJ9	Without Bellows
-A2	With 2 Rod Nuts
Rod End Shape Modification	Refer to Ending P. 11.

Model No. Example)

SCG-M - - XP7

Food Manufacturing Process Compatible Specification (Catalog No. CC-1271AA)

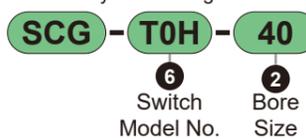
● Uses food-grade lubricant usable in food manufacturing processes

SCG-M - - FP1

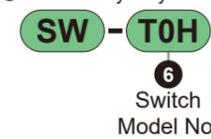
*For combinations of variations and options, see P. 489.

Switch Single Unit Model No. Notation Method

● Switch body + Mounting bracket set



● Switch body only



● Switch mounting bracket set



Note: Please consult us separately if using environmentally compatible T-type switches.

*1: For "□" in the switch model number, enter the code selected from the "Lead wire length, connector specification" table.
*2: The maximum load current value above, 20 mA, is at 25°C. If the switch operating ambient temperature is higher than 25°C, it will be lower than 20 mA. (At 60°C, it will be 5 to 10 mA.)
*3: This does not guarantee the water resistance of the cylinder. When using in a water-resistant environment, use of an improved water resistance cylinder is recommended.
*4: Switches other than the model numbers listed above are also available. (Custom Product) For details, see P. 971.

Specifications

Item		SCG-M			
Bore Size	mm	ø32	ø40	ø50	ø63
Actuation method		Double Acting Type			
Operating Fluid		Compressed Air			
Max. Working Pressure	MPa	1.0			
Min. Operating Pressure	MPa	0.1		0.05	
Proof Pressure	MPa	1.6			
Ambient Temperature	°C	-10 to 60 (No freezing)			
Port Size		Rc1/8	Rc1/4	Rc3/8	
Stroke tolerance mm	With Rubber Cushion	^{+1.4} ₀ (to 600)			
	With Air Cushion	^{+1.0} ₀ (Up to 360), ^{+1.4} ₀ (361 to 600)			
Operating Piston Speed	mm/s	50 to 1000 (Please use within the allowable absorbed energy.)			
Cushion		Air cushion/rubber cushion can be selected			
Effective air cushion length	mm	8.6	8.6	13.4	13.4
Lubrication		Not required (When lubricating, use turbine oil Class 1 ISO VG32)			
Non-rotating accuracy	degrees	±1			
Allowable Absorbed Energy J	With Rubber Cushion	0.5	0.9	1.6	1.6
	With Air Cushion	2.5	3.7	8.0	14.4

Stroke

Bore Size (mm)	Standard Stroke (mm)	Max. Stroke (mm)	Min. Stroke (mm)
ø32	25, 50, 75, 100, 150, 200, 250, 300, 350, 400, 450, 500	600	1
ø40			
ø50			
ø63			

Note: Intermediate strokes can be manufactured in 1 mm increments.

Min. Stroke with Switch

●T0/T5 type switch

Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
	2	1	2	1	2	1	1
ø32	20 (18)	20 (10)	70 (40)	100 (70)	100 (70)	50 (35)	50 (35)
ø40	20 (19)	20 (10)	55 (40)	100 (70)	100 (70)	50 (35)	50 (35)
ø50	21 (19)	21 (10)	21 (19)	102 (72)	102 (72)	49 (34)	51 (36)
ø63	21 (20)	21 (11)	21 (20)	107 (77)	107 (77)	54 (39)	56 (41)

Note: Note: () indicates T□V (lead wire L-type).

●T8 type switch

Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
	2	1	2	1	2	1	1
ø32	19 (18)	19 (10)	67 (31)	97 (61)	97 (61)	49 (31)	49 (31)
ø40	19 (19)	19 (10)	52 (31)	97 (61)	97 (61)	49 (31)	49 (31)
ø50	19 (19)	18 (10)	19 (19)	97 (61)	97 (61)	48 (30)	48 (30)
ø63	20 (20)	18 (11)	20 (20)	102 (66)	102 (66)	53 (35)	53 (35)

Note: Note: () indicates T□V (lead wire L-type).

Min. Stroke with Switch

●T2/T3 type switch

Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
	2	1	2	1	2	1	1
ø32	20 (11)	20 (6)	70 (40)	100 (70)	100 (70)	50 (35)	50 (35)
ø40	20 (11)	20 (6)	55 (40)	100 (70)	100 (70)	50 (35)	50 (35)
ø50	21 (11)	21 (6)	21 (11)	102 (72)	102 (72)	49 (34)	51 (36)
ø63	21 (12)	21 (7)	21 (12)	107 (77)	107 (77)	54 (39)	56 (41)

*1: () indicates T□V (L-shaped lead wire type).

*2: If the stroke is 15 mm or less, two switches may turn ON simultaneously. In this case, adjust the switch mounting positions so that they are further apart from each other.

●T1 type switch

Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
	2	1	2	1	2	1	1
ø32	19 (11)	19 (6)	68 (38)	98 (68)	98 (68)	49 (34)	49 (34)
ø40	19 (11)	19 (6)	53 (38)	98 (68)	98 (68)	49 (34)	49 (34)
ø50	20 (11)	20 (6)	20 (11)	100 (70)	100 (70)	48 (33)	50 (35)
ø63	20 (12)	20 (7)	20 (12)	105 (75)	105 (75)	53 (38)	55 (40)

*1: () indicates T□V (L-shaped lead wire type).

*2: If the stroke is 15 mm or less, two switches may turn ON simultaneously. In this case, adjust the switch mounting positions so that they are further apart from each other.

●T2W/T3W type switch

Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
	2	1	2	1	2	1	1
ø32	23 (12)	23 (8)	75 (45)	105 (75)	105 (75)	53 (38)	53 (38)
ø40	23 (12)	23 (8)	60 (45)	105 (75)	105 (75)	53 (38)	53 (38)
ø50	23 (13)	23 (8)	23 (13)	107 (77)	107 (77)	51 (36)	53 (38)
ø63	23 (13)	23 (8)	23 (13)	112 (82)	112 (82)	56 (41)	58 (43)

*1: () indicates T□V (L-shaped lead wire type).

*2: If the stroke is 15 mm or less, two switches may turn ON simultaneously. In this case, adjust the switch mounting positions so that they are further apart from each other.

●T2YD type switch

Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
	2	1	2	1	2	1	1
ø32	23	23	75	105	105	53	53
ø40	23	23	60	105	105	53	53
ø50	23	23	23	107	107	51	53
ø63	23	23	23	112	112	56	58

Note: Note: () indicates T□V (lead wire L-type).

●T2WL type switch

Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
	2	1	2	1	2	1	1
ø32	24 (12)	24 (8)	77 (45)	107 (75)	107 (75)	54 (38)	54 (38)
ø40	24 (12)	24 (8)	62 (45)	107 (75)	107 (75)	54 (38)	54 (38)
ø50	24 (13)	24 (8)	24 (13)	109 (77)	109 (77)	52 (36)	54 (38)
ø63	24 (13)	24 (8)	24 (13)	114 (82)	114 (82)	57 (41)	59 (43)

*1: () indicates T□V (L-shaped lead wire type).

*2: If the stroke is 15 mm or less, two switches may turn ON simultaneously. In this case, adjust the switch mounting positions so that they are further apart from each other.

Weight Table

(Unit: kg)

Bore Size (mm)	Product Weight at Stroke = 0 mm						Stroke: Added weight per 50 mm	Switch Weight (Per Piece)	Switch Mounting Bracket Weight	Mounting Bracket Weight	
	Basic type (00)	Foot Type (LB)	Flange type (FA, FB)	Single Clevis Type (CA)	Double clevis type (CB)	Trunnion Type (TC)				I	Y
ø32	0.50	0.61	0.58	0.65	0.68	0.67	0.12	Refer to the mass described in the switch specifications on P. 971	0.024	0.07	0.10
ø40	0.66	0.80	0.77	0.85	0.85	1.00	0.17		0.024	0.07	0.13
ø50	1.13	1.29	1.31	1.54	1.54	1.61	0.23		0.022	0.20	0.30
ø63	1.39	1.73	1.68	1.95	1.96	2.27	0.25		0.022	0.20	0.30

MEMO

Theoretical Thrust Table

(Unit: N)

Bore Size (mm)	Operating Direction	Operating Pressure MPa											
		0.05	0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø32	Push	-	80.4	1.21 × 10 ²	1.61 × 10 ²	2.41 × 10 ²	3.22 × 10 ²	4.02 × 10 ²	4.83 × 10 ²	5.63 × 10 ²	6.43 × 10 ²	7.24 × 10 ²	8.04 × 10 ²
	Pull	-	69.1	1.04 × 10 ²	1.38 × 10 ²	2.07 × 10 ²	2.76 × 10 ²	3.46 × 10 ²	4.15 × 10 ²	4.84 × 10 ²	5.53 × 10 ²	6.22 × 10 ²	6.91 × 10 ²
ø40	Push	-	1.26 × 10 ²	1.88 × 10 ²	2.51 × 10 ²	3.77 × 10 ²	5.03 × 10 ²	6.28 × 10 ²	7.54 × 10 ²	8.80 × 10 ²	1.01 × 10 ³	1.13 × 10 ³	1.26 × 10 ³
	Pull	-	1.06 × 10 ²	1.58 × 10 ²	2.11 × 10 ²	3.17 × 10 ²	4.22 × 10 ²	5.28 × 10 ²	6.33 × 10 ²	7.39 × 10 ²	8.44 × 10 ²	9.50 × 10 ²	1.06 × 10 ³
ø50	Push	-	1.96 × 10 ²	2.95 × 10 ²	3.93 × 10 ²	5.89 × 10 ²	7.85 × 10 ²	9.82 × 10 ²	1.18 × 10 ³	1.37 × 10 ³	1.57 × 10 ³	1.77 × 10 ³	1.96 × 10 ³
	Pull	-	1.65 × 10 ²	2.47 × 10 ²	3.30 × 10 ²	4.95 × 10 ²	6.60 × 10 ²	8.25 × 10 ²	9.90 × 10 ²	1.15 × 10 ³	1.32 × 10 ³	1.48 × 10 ³	1.65 × 10 ³
ø63	Push	1.56 × 10 ²	3.12 × 10 ²	4.68 × 10 ²	6.23 × 10 ²	9.35 × 10 ²	1.25 × 10 ³	1.56 × 10 ³	1.87 × 10 ³	2.18 × 10 ³	2.49 × 10 ³	2.81 × 10 ³	3.12 × 10 ³
	Pull	1.40 × 10 ²	2.80 × 10 ²	4.20 × 10 ²	5.61 × 10 ²	8.41 × 10 ²	1.12 × 10 ³	1.40 × 10 ³	1.68 × 10 ³	1.96 × 10 ³	2.24 × 10 ³	2.52 × 10 ³	2.80 × 10 ³

Mounting Bracket Model No. Notation Method

Bore Size (mm)	ø32	ø40	ø50	ø63
Mounting bracket				
Foot (LB)	SCG-LB-32	SCG-LB-40	SCG-LB-50	SCG-LB-63
Flange (FA) (FB) *1	SCG-FA-32	SCG-FA-40	SCG-FA-50	SCG-FA-63
Single Clevis (CA)	SCG-CA-32	SCG-CA-40	SCG-CA-50	SCG-CA-63
Double Clevis (CB)	SCG-CB-32	SCG-CB-40	SCG-CB-50	SCG-CB-63

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

*2: Foot type mounting bracket (LB) is 2 pcs/set.

*3: Mounting bolts are included to each mounting bracket.

General Type

SCP□3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

Cylinder Switch

Ending

569

General Type

SCP□3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

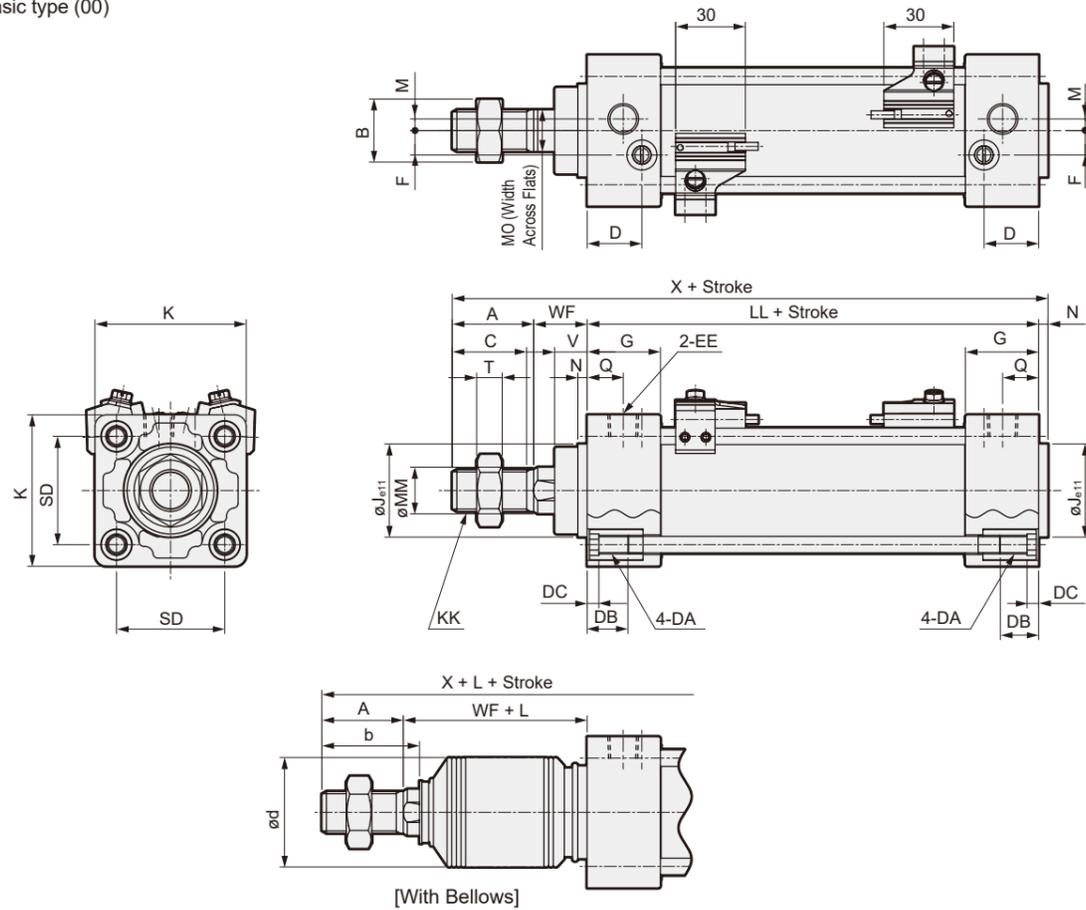
Cylinder Switch

Ending

568

Outline Dimension Drawing

● Basic type (00)



Code	Basic Type (00) Basic Dimensions												
Bore Size (mm)	A	B	C	D	DA	DB	DC	EE	F	G	J	K	KK
ø32	22	17	20	19	M6	16	5	Rc1/8	6.5	27	30	46	M10 × 1.25
ø40	30	22	27	19	M6	16	5	Rc1/4	9	27	35	52	M14 × 1.5
ø50	35	27	32	23.5	M8	16	5	Rc1/4	10.5	31.5	40	65	M18 × 1.5
ø63	35	27	32	21.5	M8	16	5	Rc3/8	12	31.5	45	75	M18 × 1.5

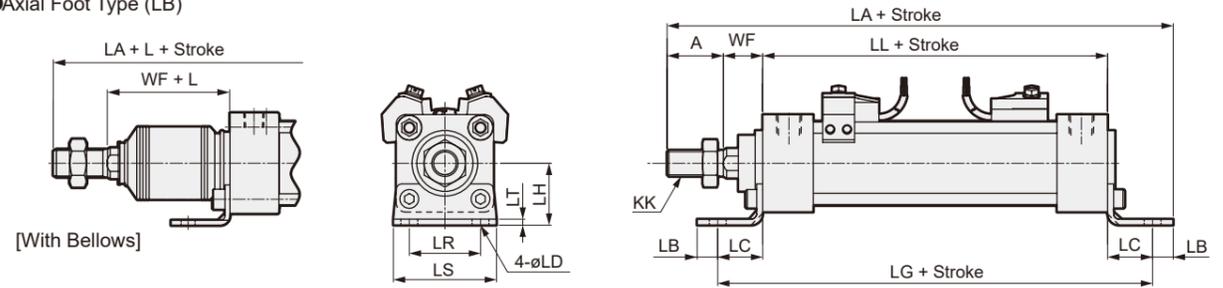
Code	With Bellows												
Bore Size (mm)	LL *1	M	MM	MO	N	Q	SD	T	V	WF	L		
											50 or less	Over 50 to 100	Over 100 to 150
ø32	84 (90)	4	12	10	4	13	32.5	6	13	25	135 (141)		
ø40	84 (90)	4	16	14	4	14	38	8	13	21	139 (145)		
ø50	94 (102)	5	20	18	4	15.5	46.5	11	14	23	156 (164)		
ø63	94 (102)	9	20	18	4	16.5	56.5	11	14	23	156 (164)		

*1: Dimensions in () indicate rubber cushion type.
 *2: Round up the L dimension to the nearest whole number.
 *3: For dimensions with each switch, refer to P. 608, 609.
 *4: For outer dimensions diagram of accessories, refer to P. 511.

Double Acting, Non-Rotating Type

Outline Dimension Drawing

● Axial Foot Type (LB)

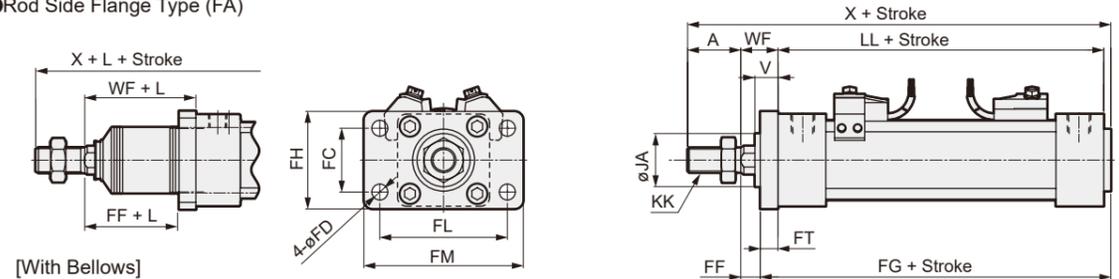


Code	Axial Foot Type (LB) Mounting Dimensions												
Bore Size (mm)	A	KK	LL *1	WF	LA *1	LB	LC	LD	LG *1	LH	LR	LS	LT
ø32	22	M10 × 1.25	84 (90)	25	162 (168)	9	22	7	128 (134)	30	32	50	3.2
ø40	30	M14 × 1.5	84 (90)	21	170 (176)	11	24	9	132 (138)	33	38	55	3.2
ø50	35	M18 × 1.5	94 (102)	23	190 (198)	11	27	9	148 (156)	40	46	70	3.2
ø63	35	M18 × 1.5	94 (102)	23	193 (201)	14	27	12	148 (156)	45	56	80	4.5

Code	With Bellows												
Bore Size (mm)	50 or less	Over 50 to 100	Over 100 to 150	Over 150 to 200	Over 200 to 300	Over 300 to 400	Over 400 to 500	Over 500 to 600	Over 600 to 700	Over 700 to 800	L		
											When Exceeding 800		
ø32	26	39	51	64	89	114	139	0.35 × Stroke - 37					
ø40	30	43	55	68	93	118	143	0.35 × Stroke - 32					
ø50	31	44	56	69	94	119	144	169	0.35 × Stroke - 41				
ø63	31	44	56	69	94	119	144	169	0.35 × Stroke - 41				

*1: Dimensions in () indicate rubber cushion type.
 *2: Round up the L dimension to the nearest whole number.
 *3: For dimensions with each switch, refer to P. 608, 609.
 *4: For outer dimensions diagram of accessories, refer to P. 511.

● Rod Side Flange Type (FA)



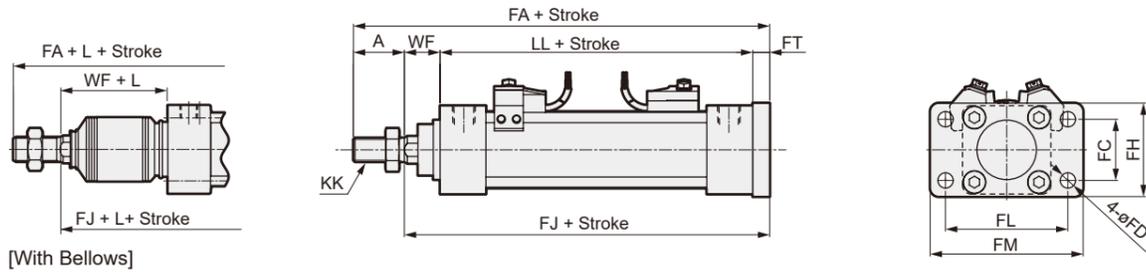
Code	Rod Side Flange Type (FA) Mounting Dimensions														
Bore Size (mm)	A	JA	KK	LL *1	V	WF	X *1	FC	FD	FF	FG *1	FH	FL	FM	FT
ø32	22	29	M10 × 1.25	84 (90)	13	25	135 (141)	32	7	15	98 (104)	50	64	79	10
ø40	30	30	M14 × 1.5	84 (90)	13	21	139 (145)	36	9	11	98 (104)	55	72	90	10
ø50	35	38	M18 × 1.5	94 (102)	14	23	156 (164)	45	9	11	110 (118)	70	90	110	12
ø63	35	38	M18 × 1.5	94 (102)	14	23	156 (164)	50	9	11	110 (118)	80	100	120	12

Code	With Bellows												
Bore Size (mm)	b	d	50 or less	Over 50 to 100	Over 100 to 150	Over 150 to 200	Over 200 to 300	Over 300 to 400	Over 400 to 500	Over 500 to 600	Over 600 to 700	Over 700 to 800	When Exceeding 800
													L
ø32	31.5	38	26	39	51	64	89	114	139	0.35 × Stroke - 37			
ø40	35	40	30	43	55	68	93	118	143	0.35 × Stroke - 32			
ø50	42	47	31	44	56	69	94	119	144	169	0.35 × Stroke - 41		
ø63	42	47	31	44	56	69	94	119	144	169	0.35 × Stroke - 41		

*1: Dimensions in () indicate rubber cushion type.
 *2: Round up the L dimension to the nearest whole number.
 *3: For dimensions with each switch, refer to P. 608, 609.
 *4: For outer dimensions diagram of accessories, refer to P. 511.

Outline Dimension Drawing

●Head Side Flange Type (FB)

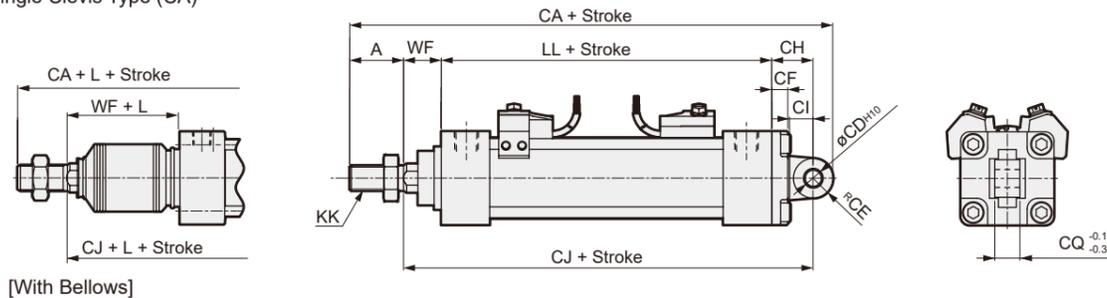


Code	Head Side Flange Type (FB) Mounting Dimensions											
Bore Size (mm)	A	KK	LL *1	WF	FA *1	FC	FD	FH	FJ *1	FL	FM	FT
ø32	22	M10 × 1.25	84 (90)	25	141 (147)	32	7	50	119 (125)	64	79	10
ø40	30	M14 × 1.5	84 (90)	21	145 (151)	36	9	55	115 (121)	72	90	10
ø50	35	M18 × 1.5	94 (102)	23	164 (172)	45	9	70	129 (137)	90	110	12
ø63	35	M18 × 1.5	94 (102)	23	164 (172)	50	9	80	129 (137)	100	120	12

Code	With Bellows											
Bore Size (mm)	b	d	L									
			50 or less	Over 50 to 100	Over 100 to 150	Over 150 to 200	Over 200 to 300	Over 300 to 400	Over 400 to 500	Over 500 to 600	Over 600 to 700	Over 700 to 800
ø32	31.5	38	26	39	51	64	89	114	139	0.35 × Stroke - 37		
ø40	35	40	30	43	55	68	93	118	143	0.35 × Stroke - 32		
ø50	42	47	31	44	56	69	94	119	144	169	0.35 × Stroke - 41	
ø63	42	47	31	44	56	69	94	119	144	169	0.35 × Stroke - 41	

*1: Dimensions in () indicate rubber cushion type.
 *2: Round up the L dimension to the nearest whole number.
 *3: For dimensions with each switch, refer to P. 608, 609.
 *4: For outer dimensions diagram of accessories, refer to P. 511.

●Single Clevis Type (CA)



Code	Single Clevis Type (CA) Mounting Dimensions												
Bore Size (mm)	A	KK	LL *1	WF	CA *1	CD	CE	CF	CH	CI	CJ *1	CQ	
ø32	22	M10 × 1.25	84 (90)	25	164.5 (170.5)	10	10.5	9	23	13	132 (138)	14	
ø40	30	M14 × 1.5	84 (90)	21	169 (175)	10	11	9	23	13	128 (134)	14	
ø50	35	M18 × 1.5	94 (102)	23	197 (205)	14	15	12	30	17	147 (155)	20	
ø63	35	M18 × 1.5	94 (102)	23	197 (205)	14	15	12	30	17	147 (155)	20	

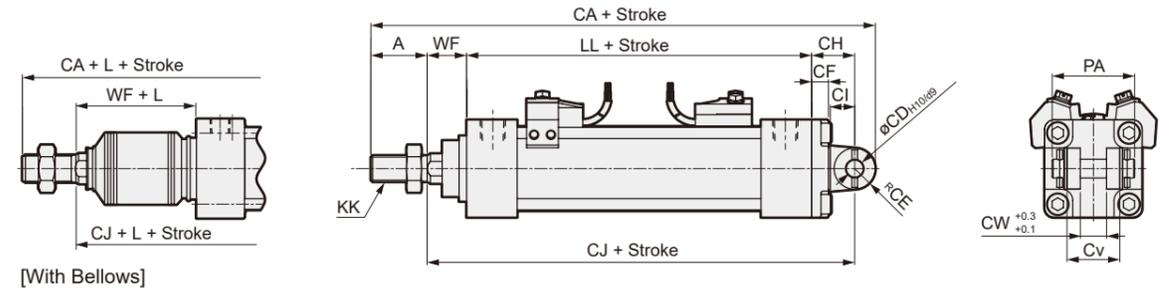
Code	With Bellows											
Bore Size (mm)	50 or less	Over 50 to 100	Over 100 to 150	Over 150 to 200	Over 200 to 300	Over 300 to 400	Over 400 to 500	Over 500 to 600	Over 600 to 700	Over 700 to 800	When Exceeding 800	
												L
ø32	26	39	51	64	89	114	139	0.35 × Stroke - 37				
ø40	30	43	55	68	93	118	143	0.35 × Stroke - 32				
ø50	31	44	56	69	94	119	144	169	0.35 × Stroke - 41			
ø63	31	44	56	69	94	119	144	169	0.35 × Stroke - 41			

*1: Dimensions in () indicate rubber cushion type.
 *2: Round up the L dimension to the nearest whole number.
 *3: For dimensions with each switch, refer to P. 608, 609.
 *4: For outer dimensions diagram of accessories, refer to P. 511.

Double Acting, Non-Rotating Type

Outline Dimension Drawing

●Double Yoke Clevis Type (CB)

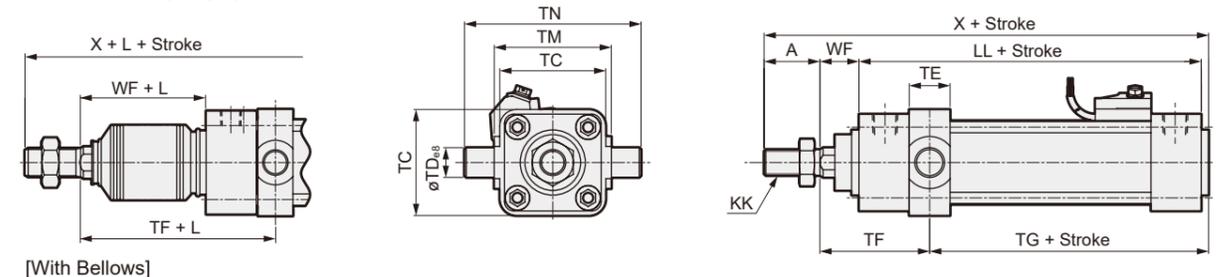


Code	Double clevis type (CB) Mounting dimensions													
Bore Size (mm)	A	KK	LL *1	WF	CA *1	CD	CE	CF	CH	CI	CJ *1	Cv	CW	PA
ø32	22	M10 × 1.25	84 (90)	25	164.5 (170.5)	10	10.5	9	23	13	132 (138)	28	14	44
ø40	30	M14 × 1.5	84 (90)	21	169 (175)	10	11	9	23	13	128 (134)	28	14	44
ø50	35	M18 × 1.5	94 (102)	23	197 (205)	14	15	12	30	17	147 (155)	40	20	60
ø63	35	M18 × 1.5	94 (102)	23	197 (205)	14	15	12	30	17	147 (155)	40	20	60

Code	With Bellows											
Bore Size (mm)	b	d	L									
			50 or less	Over 50 to 100	Over 100 to 150	Over 150 to 200	Over 200 to 300	Over 300 to 400	Over 400 to 500	Over 500 to 600	Over 600 to 700	Over 700 to 800
ø32	31.5	38	26	39	51	64	89	114	139	0.35 × Stroke - 37		
ø40	35	40	30	43	55	68	93	118	143	0.35 × Stroke - 32		
ø50	42	47	31	44	56	69	94	119	144	169	0.35 × Stroke - 41	
ø63	42	47	31	44	56	69	94	119	144	169	0.35 × Stroke - 41	

*1: Dimensions in () indicate rubber cushion type.
 *2: Round up the L dimension to the nearest whole number.
 *3: For dimensions with each switch, refer to P. 608, 609.
 *4: For outer dimensions diagram of accessories, refer to P. 511.

●Rod side trunnion type (TA)



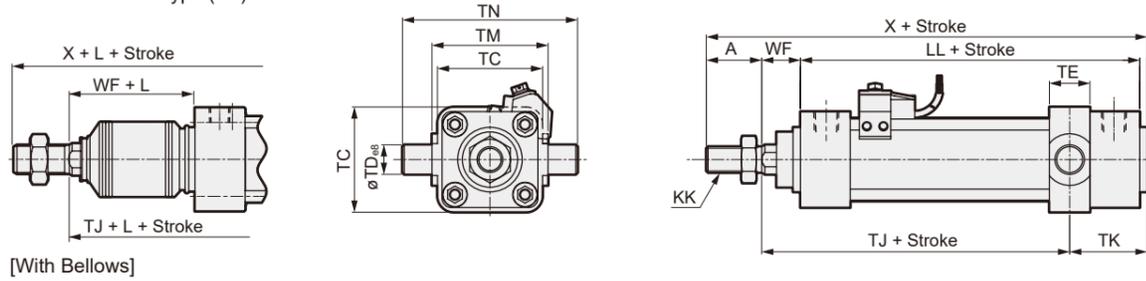
Code	Rod Side Trunnion Type (TA) Mounting Dimensions												
Bore Size (mm)	A	KK	LL *1	WF	X *1	TC	TD	TE	TF	TG *1	TM	TN	
ø32	22	M10 × 1.25	84 (90)	25	135 (141)	47	12	17	61.5	51.5 (57.5)	50	74	
ø40	30	M14 × 1.5	84 (90)	21	139 (145)	57	16	22	60	49 (55)	63	95	
ø50	35	M18 × 1.5	94 (102)	23	156 (164)	67	16	22	66.5	54.5 (62.5)	75	107	
ø63	35	M18 × 1.5	94 (102)	23	156 (164)	82	20	28	69.5	51.5 (59.5)	90	130	

Code	With Bellows											
Bore Size (mm)	50 or less	Over 50 to 100	Over 100 to 150	Over 150 to 200	Over 200 to 300	Over 300 to 400	Over 400 to 500	Over 500 to 600	Over 600 to 700	Over 700 to 800	When Exceeding 800	
												L
ø32	26	39	51	64	89	114	139	0.35 × Stroke - 37				
ø40	30	43	55	68	93	118	143	0.35 × Stroke - 32				
ø50	31	44	56	69	94	119	144	169	0.35 × Stroke - 41			
ø63	31	44	56	69	94	119	144	169	0.35 × Stroke - 41			

*1: Dimensions in () indicate rubber cushion type.
 *2: Round up the L dimension to the nearest whole number.
 *3: For dimensions with each switch, refer to P. 608, 609.
 *4: For outer dimensions diagram of accessories, refer to P. 511.

Outline Dimension Drawing

●Head Side Trunnion Type (TB)



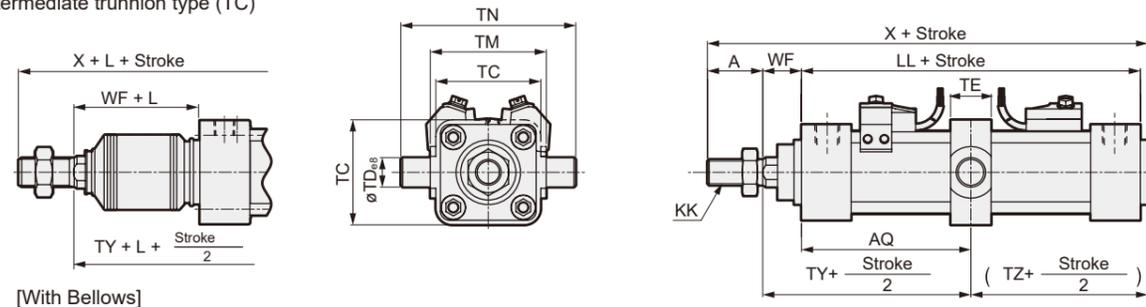
[With Bellows]

Head Side Trunnion Type (TB) Mounting Dimensions												
Code	A	KK	LL *1	WF	X *1	TC	TD	TE	TJ *1	TK	TM	TN
ø32	22	M10 × 1.25	84 (90)	25	135 (141)	47	12	17	72.5 (78.5)	40.5	50	74
ø40	30	M14 × 1.5	84 (90)	21	139 (145)	57	16	22	66 (72)	43	63	95
ø50	35	M18 × 1.5	94 (102)	23	156 (164)	67	16	22	73.5 (81.5)	47.5	75	107
ø63	35	M18 × 1.5	94 (102)	23	156 (164)	82	20	28	70.5 (78.5)	50.5	90	130

With Bellows													
Code	L												
	50 or less	Over 50 to 100	Over 100 to 150	Over 150 to 200	Over 200 to 300	Over 300 to 400	Over 400 to 500	Over 500 to 600	Over 600 to 700	Over 700 to 800	When Exceeding 800		
ø32	26	39	51	64	89	114	139	0.35 × Stroke - 37					
ø40	30	43	55	68	93	118	143	0.35 × Stroke - 32					
ø50	31	44	56	69	94	119	144	169	0.35 × Stroke - 41				
ø63	31	44	56	69	94	119	144	169	0.35 × Stroke - 41				

*1: Dimensions in () indicate rubber cushion type.
 *2: Round up the L dimension to the nearest whole number.
 *3: For dimensions with each switch, refer to P. 608, 609.
 *4: For outer dimensions diagram of accessories, refer to P. 511.

●Intermediate trunnion type (TC)



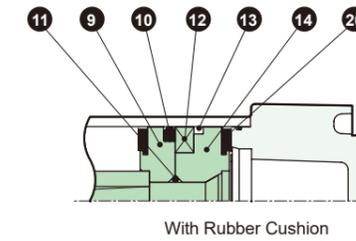
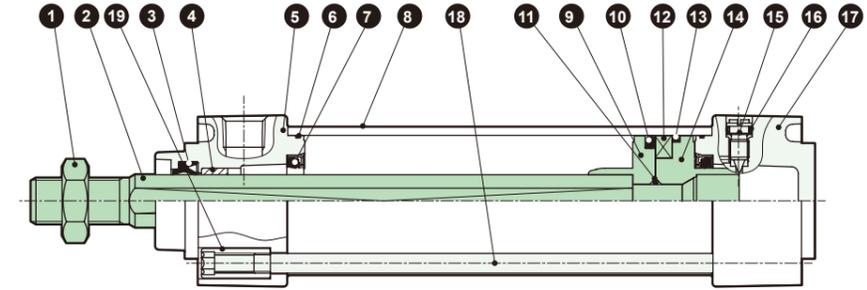
[With Bellows]

Intermediate Trunnion Type (TC) Mounting Dimensions													
Code	A	KK	LL *1	WF	X *1	AQ *1	TC	TD	TE	TY *1	TZ *1	TM	TN
ø32	22	M10 × 1.25	84 (90)	25	135 (141)	42 (45) + Stroke/2	47	12	17	67 (70)	46 (49)	50	74
ø40	30	M14 × 1.5	84 (90)	21	139 (145)	42 (45) + Stroke/2	57	16	22	63 (66)	46 (49)	63	95
ø50	35	M18 × 1.5	94 (102)	23	156 (164)	47 (51) + Stroke/2	67	16	22	70 (74)	51 (55)	75	107
ø63	35	M18 × 1.5	94 (102)	23	156 (164)	47 (51) + Stroke/2	82	20	28	70 (74)	51 (55)	90	130

With Bellows													
Code	L												
	50 or less	Over 50 to 100	Over 100 to 150	Over 150 to 200	Over 200 to 300	Over 300 to 400	Over 400 to 500	Over 500 to 600	Over 600 to 700	Over 700 to 800	When Exceeding 800		
ø32	26	39	51	64	89	114	139	0.35 × Stroke - 37					
ø40	30	43	55	68	93	118	143	0.35 × Stroke - 32					
ø50	31	44	56	69	94	119	144	169	0.35 × Stroke - 41				
ø63	31	44	56	69	94	119	144	169	0.35 × Stroke - 41				

*1: Dimensions in () indicate rubber cushion type.
 *2: Round up the L dimension to the nearest whole number.
 *3: For dimensions with each switch, refer to P. 608, 609.
 *4: For outer dimensions diagram of accessories, refer to P. 511.

Internal Structure Diagram/Material



Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Rod Nut	Steel	Nickel Plating	11	Piston Gasket	Nitrile Rubber	
2	Piston Rod	ø32: Stainless copper ø40 to 63: Steel	Industrial Hard Chrome Plating	12	Magnet	Plastic	
3	Rod Packing	Nitrile Rubber		13	Wear Ring	Polyacetal	
4	Bushing	Oil-impregnated Bearing Alloy		14	Piston H	Aluminum Alloy	
5	Rod Cover	Aluminum Alloy	Painting	15	Cushion Needle	Copper Alloy	Nickel Plating
6	Cylinder Gasket	Nitrile Rubber		16	Needle Gasket	Nitrile Rubber	
7	Cushion Packing	Nitrile Rubber, Steel	Only with air cushion	17	Head Cover	Aluminum Alloy	Painting
8	Cylinder Tube	Aluminum Alloy	Hard Anodized	18	Tie Rod	Steel	Zinc Chromate
9	Piston R	Aluminum Alloy		19	Round Nut	Steel	Zinc Chromate
10	Piston Packing	Nitrile Rubber		20	Cushion Rubber	Urethane Rubber	Only with rubber cushion

Mounting Bracket Material

Mounting type	Material	Remarks
Foot (LB)	Steel	Nickel Plating
Flange (FA / FB)	Steel	Painting
Single clevis (CA), Double clevis (CB)	Cast Iron	Painting
Trunnion (TA, TB, TC)	Cast Iron	Painting

Note: Mounting brackets are included with the product upon shipment. However, for trunnion types (TA, TB, TC) and bellows-equipped models with LB or FA mounting type, they will be shipped assembled.

For maintenance parts, please visit the CKD Equipment Product Site
 (<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts



Tie-rod cylinder Double-acting, Heavy-duty scraper type

SCG-G Series

● Bore size: ø32, ø40, ø50, ø63, ø80, ø100

Circuit Diagram Symbol



7 Number of Switches

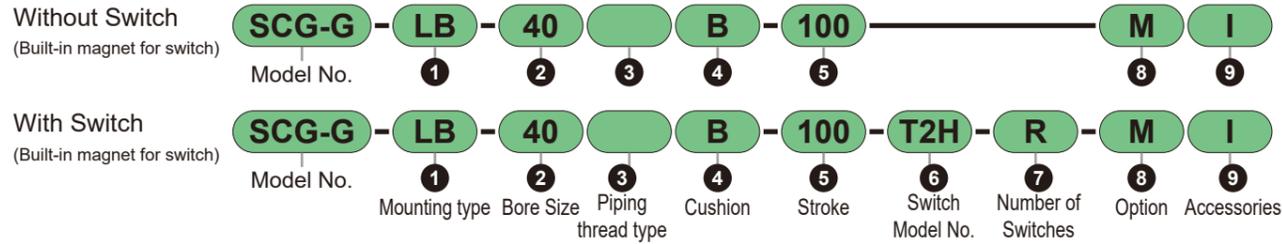
Code	Content
R	With 1 on Rod Side
H	With 1 on Head Side
D	With 2 pcs
T	With 3 pcs

*1: If mounting type TA or TB is selected, the number of switches is limited to "H" (1 on head side) for TA, and "R" (1 on rod side) for TB.

8 Option

Code	Content
M	Piston Rod Material (Stainless Steel)

Model No. Notation Method



Mounting brackets are included with the product and shipped. (However, trunnion types are shipped assembled.)

1 Mounting type

Code	Content
00	Basic type
LB	Axial Foot Type
FA	Rod Side Flange Type
FB	Head Side Flange Type
CA	Single Clevis Type
CB	Double Clevis Type (Pin and Split Pin Attached)
TA	Rod Side Trunnion Type
TB	Head Side Trunnion Type
TC	Intermediate Trunnion Type

2 Bore Size (mm)

Code	Content
32	ø32
40	ø40
50	ø50
63	ø63
80	ø80
100	ø100

3 Piping thread type

Code	Content
Blank	Rc Thread
N	NPT Thread (Custom Order Product)
G	G Thread (Custom Order Product)

4 Cushion

Code	Content
B	Both Sides Air Cushion
D	Both Sides Rubber Cushion

Note: The rubber cushion type is longer overall than the air cushion type.

5 Stroke (mm)

Bore Size	Stroke	Intermediate Stroke
ø32	1 to 600	Every 1 mm
ø40		
ø50		
ø63		
ø80		
ø80	1 to 700	
ø100	1 to 800	

Note: For minimum stroke with switch, please refer to P. 578 and 579.

6 Switch Model No.

For switch details, please refer to P. 971. Switches are included with the product and shipped.

Contact	Indicator Lamp Special Function	Wiring (Output)	Load Voltage (V)		Load Current (mA)		Lead Wire *1			
			AC	DC	AC	DC	Straight	L-shape		
Solid State	1-Color	2-wire	85 to 265	—	5 to 100	—	T1H□	T1V□		
			—	10 to 30	—	5 to 20 *2	T2H□	T2V□		
		3-wire (NPN)	—	30 or less	—	100 or less	T3H□	T3V□		
			3-wire (PNP)	—	—	—	—	T3PH□	T3PV□	
	2-Color	2-wire	—	24 ± 10%	—	5 to 20	T2WH□	T2WV□		
			3-wire (NPN)	—	30 or less	—	50 or less	T3WH□	T3WV□	
		2-Color Improved Water Resistance	2-wire	—	24 ± 10%	—	5 to 20	T2WLH□	T2WLV□	
				—	—	—	—	T2YD□	—	
			2-Color for AC Magnetic Field	2-wire	—	24 ± 10%	—	5 to 20	T2YDT□	—
					—	—	—	—	—	—
1-Color Off-Delay Type	2-wire	—	10 to 30	—	5 to 20 *2	T2JH□	T2JV□			
		—	—	—	—	—	—			
1-Color Flexible Lead Wire Type	2-wire	—	10 to 30	—	5 to 20 *2	T2HR3	T2VR3			
		—	—	—	—	—	—			
Reed	1-Color No Indicator Lamp	2-wire	110	12/24	7 to 20	5 to 50	T0H□	T0V□		
			110	5/12/24	20 or less	50 or less	T5H□	T5V□		
	1-Color	2-wire	110/220	12/24	7 to 20 / 7 to 10	5 to 50	T8H□	T8V□		

*Lead wire length, connector specification

Code	Content
Blank	1 m (Standard)
3	3 m (Option)
5	5 m (Option)
W	M8 Connector, 1PIN (+) 4PIN (-) Lead Wire 0.3 m

*5: Only T2WLH and T2WLV can be selected.

Example) Lead wire length
1 m TOH [3]
3 m TOH [3]
5 m TOH [5]

About Custom Product Specifications

For details, refer to P. 610 to 613.

Code	Content
-XK□	Mounting Bracket Rotational Assembly
-XAQ□□	Trunnion Position Specification
-XP7	Knuckle fixed by pin driving
-A2	With 2 Rod Nuts
Rod End Shape Modification	Refer to Ending P. 11.

Model No. Example)

SCG-G - - XP7

Food Manufacturing Process Compatible Specification (Catalog No. CC-1271AA)

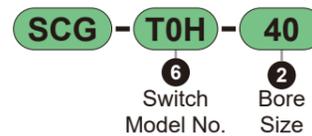
● Uses food-grade lubricant usable in food manufacturing processes

SCG-G - - FP1

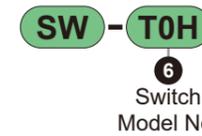
*For combinations of variations and options, see P. 489.

Switch Single Unit Model No. Notation Method

● Switch body + Mounting bracket set



● Switch body only



● Switch mounting bracket set



Note: Please consult us separately if using environmentally compatible T-type switches.

*1: For "□" in the switch model number, enter the code selected from the "Lead wire length, connector specification" table.

*2: The maximum load current value above, 20 mA, is at 25°C. If the switch operating ambient temperature is higher than 25°C, it will be lower than 20 mA. (At 60°C, it will be 5 to 10 mA.)

*3: This does not guarantee the water resistance of the cylinder. When using in a water-resistant environment, use of an improved water resistance cylinder is recommended.

*4: Switches other than the model numbers listed above are also available. (Custom Product) For details, see P. 971.

Specifications

Item		SCG-G					
Bore Size	mm	ø32	ø40	ø50	ø63	ø80	ø100
Actuation method		Double Acting Type					
Operating Fluid		Compressed Air					
Max. Working Pressure	MPa	1.0					
Min. Operating Pressure	MPa	0.1					
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	+1.4 (Up to 1000), +1.8 (1001 to 1500)					
	With Air Cushion	+1.0 (Up to 360), +1.4 (361 to 1000), +1.8 (1001 to 1500)					
Operating Piston Speed	mm/s	50 to 1000 (Please use within the allowable absorbed energy.)					
Cushion		Air cushion/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 (When lubricating, use turbine oil Class 1 ISO VG32)					
Allowable Absorbed Energy	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

Stroke

Bore Size (mm)	Standard Stroke (mm)	Max. Stroke (mm)	Manufacturable Stroke (mm)	Min. Stroke (mm)
ø32	25, 50, 75, 100, 150, 200, 250 300, 350, 400, 450, 500	600	700	1
ø40			800	
ø50			1200	
ø63			1200	
ø80			1400	
ø100			1500	

*1: Intermediate strokes can be manufactured in 1 mm increments.
*2: If the maximum stroke is exceeded, product specifications may not be met depending on the conditions, so please consult us.

Min. Stroke with Switch

●T0/T5 type switch

Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
		1	2	1	2		
Bore Size (mm)	2	1	2	1	2	1	1
ø32	20 (18)	20 (10)	70 (40)	100 (70)	100 (70)	50 (35)	50 (35)
ø40	20 (19)	20 (10)	55 (40)	100 (70)	100 (70)	50 (35)	50 (35)
ø50	21 (19)	21 (10)	21 (19)	102 (72)	102 (72)	49 (34)	51 (36)
ø63	21 (20)	21 (11)	21 (20)	107 (77)	107 (77)	54 (39)	56 (41)
ø80	21 (21)	20 (11)	21 (21)	117 (87)	117 (87)	53 (38)	60 (45)
ø100	21 (21)	19 (11)	21 (21)	126 (96)	126 (96)	64 (49)	69 (54)

Note: Note: () indicates T□V (lead wire L-type).

●T8 type switch

Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
		1	2	1	2		
Bore Size (mm)	2	1	2	1	2	1	1
ø32	19 (18)	19 (10)	67 (31)	97 (61)	97 (61)	49 (31)	49 (31)
ø40	19 (19)	19 (10)	52 (31)	97 (61)	97 (61)	49 (31)	49 (31)
ø50	19 (19)	18 (10)	19 (19)	97 (61)	97 (61)	48 (30)	48 (30)
ø63	20 (20)	18 (11)	20 (20)	102 (66)	102 (66)	53 (35)	53 (35)
ø80	21 (21)	17 (11)	21 (21)	112 (76)	112 (76)	51 (33)	57 (39)
ø100	21 (21)	17 (11)	21 (21)	121 (85)	121 (85)	61 (43)	67 (49)

Note: Note: () indicates T□V (lead wire L-type).

Min. Stroke with Switch

●T2/T3 type switch

Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
		1	2	1	2		
Bore Size (mm)	2	1	2	1	2	1	1
ø32	20 (11)	20 (6)	70 (40)	100 (70)	100 (70)	50 (35)	50 (35)
ø40	20 (11)	20 (6)	55 (40)	100 (70)	100 (70)	50 (35)	50 (35)
ø50	21 (11)	21 (6)	21 (11)	102 (72)	102 (72)	49 (34)	51 (36)
ø63	21 (12)	21 (7)	21 (12)	107 (77)	107 (77)	54 (39)	56 (41)
ø80	20 (12)	20 (7)	20 (12)	117 (87)	117 (87)	53 (38)	60 (45)
ø100	19 (12)	19 (7)	19 (12)	126 (96)	126 (96)	64 (49)	69 (54)

*1: () indicates T□V (L-shaped lead wire type).

*2: If the stroke is 15 mm or less, two switches may turn ON simultaneously. In this case, adjust the switch mounting positions so that they are further apart from each other.

●T1 type switch

Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
		1	2	1	2		
Bore Size (mm)	2	1	2	1	2	1	1
ø32	19 (11)	19 (6)	68 (38)	98 (68)	98 (68)	49 (34)	49 (34)
ø40	19 (11)	19 (6)	53 (38)	98 (68)	98 (68)	49 (34)	49 (34)
ø50	20 (11)	20 (6)	20 (11)	100 (70)	100 (70)	48 (33)	50 (35)
ø63	20 (12)	20 (7)	20 (12)	105 (75)	105 (75)	53 (38)	55 (40)
ø80	19 (12)	19 (7)	19 (12)	115 (85)	115 (85)	52 (37)	59 (44)
ø100	18 (12)	18 (7)	18 (12)	124 (94)	124 (94)	63 (48)	68 (53)

*1: () indicates T□V (L-shaped lead wire type).

*2: If the stroke is 15 mm or less, two switches may turn ON simultaneously. In this case, adjust the switch mounting positions so that they are further apart from each other.

●T2W/T3W type switch

Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
		1	2	1	2		
Bore Size (mm)	2	1	2	1	2	1	1
ø32	23 (12)	23 (8)	75 (45)	105 (75)	105 (75)	53 (38)	53 (38)
ø40	23 (12)	23 (8)	60 (45)	105 (75)	105 (75)	53 (38)	53 (38)
ø50	23 (13)	23 (8)	23 (13)	107 (77)	107 (77)	51 (36)	53 (38)
ø63	23 (13)	23 (8)	23 (13)	112 (82)	112 (82)	56 (41)	58 (43)
ø80	22 (14)	22 (8)	22 (14)	122 (92)	122 (92)	55 (40)	62 (47)
ø100	22 (14)	22 (8)	22 (14)	131 (101)	131 (101)	66 (51)	72 (57)

*1: () indicates T□V (L-shaped lead wire type).

*2: If the stroke is 15 mm or less, two switches may turn ON simultaneously. In this case, adjust the switch mounting positions so that they are further apart from each other.

●T2YD type switch

Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
		1	2	1	2		
Bore Size (mm)	2	1	2	1	2	1	1
ø32	23	23	75	105	105	53	53
ø40	23	23	60	105	105	53	53
ø50	23	23	23	107	107	51	53
ø63	23	23	23	112	112	56	58
ø80	22	22	22	122	122	55	62
ø100	22	22	22	131	131	66	72

Note: Note: () indicates T□V (lead wire L-type).

●T2WL type switch

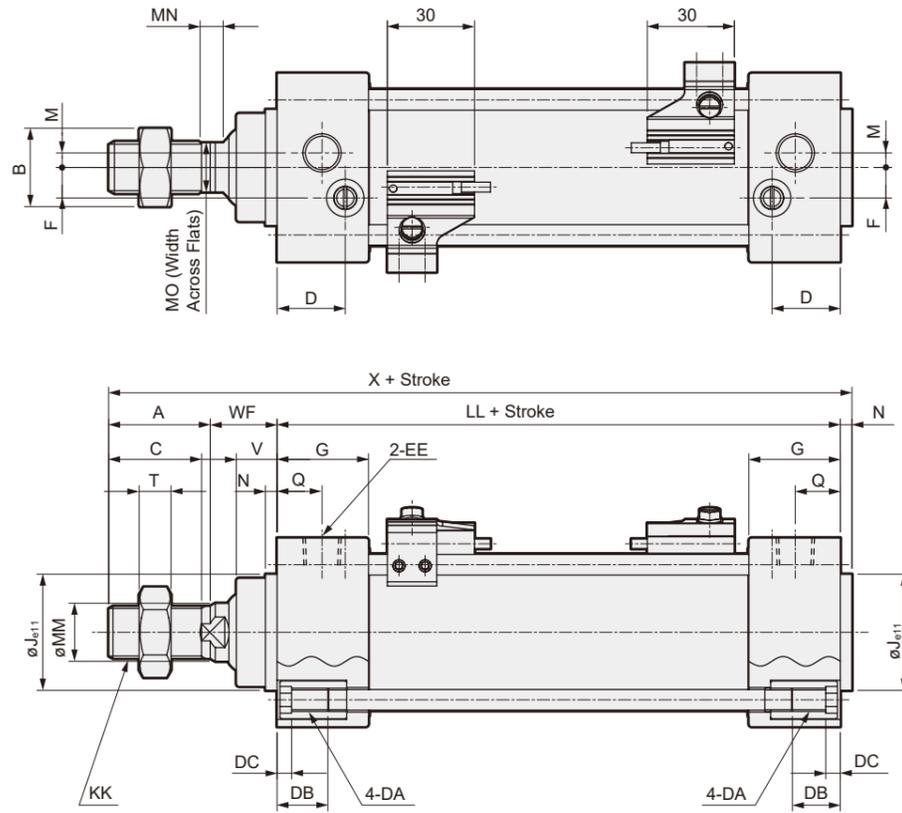
Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
		1	2	1	2		
Bore Size (mm)	2	1	2	1	2	1	1
ø32	24 (12)	24 (8)	77 (45)	107 (75)	107 (75)	54 (38)	54 (38)
ø40	24 (12)	24 (8)	62 (45)	107 (75)	107 (75)	54 (38)	54 (38)
ø50	24 (13)	24 (8)	24 (13)	109 (77)	109 (77)	52 (36)	54 (38)
ø63	24 (13)	24 (8)	24 (13)	114 (82)	114 (82)	57 (41)	59 (43)
ø80	23 (14)	23 (8)	23 (14)	124 (92)	124 (92)	56 (40)	63 (47)
ø100	23 (14)	23 (8)	23 (14)	133 (101)	133 (101)	67 (51)	73 (57)

*1: () indicates T□V (L-shaped lead wire type).

*2: If the stroke is 15 mm or less, two switches may turn ON simultaneously. In this case, adjust the switch mounting positions so that they are further apart from each other.

Outline Dimension Drawing

● Basic Type (00)



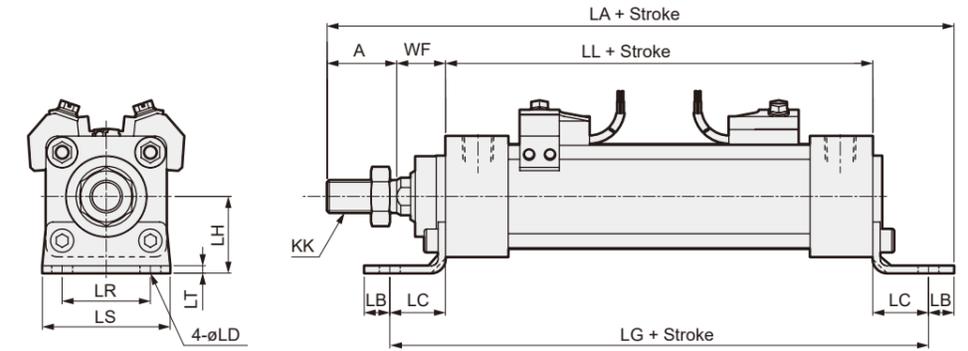
Code	Basic Type (00) Basic Dimensions												
Bore Size (mm)	A	B	C	D	DA	DB	DC	EE	F	G	J	K	KK
ø32	22	17	20	19	M6	16	5	Rc1/8	6.5	27	30	46	M10 × 1.25
ø40	30	22	27	19	M6	16	5	Rc1/4	9	27	35	52	M14 × 1.5
ø50	35	27	32	23.5	M8	16	5	Rc1/4	10.5	31.5	40	65	M18 × 1.5
ø63	35	27	32	21.5	M8	16	5	Rc3/8	12	31.5	45	75	M18 × 1.5
ø80	40	32	37	28	M10	16	5	Rc3/8	14	38	45	95	M22 × 1.5
ø100	40	41	37	28	M10	16	5	Rc1/2	15	38	55	114	M26 × 1.5

Code	Basic Type (00) Basic Dimensions												
Bore Size (mm)	LL *1	M	MM	MN	MO	N	Q	SD	T	V	WF	X *1	
ø32	84 (90)	4	12	5.5	10	4	13	32.5	6	13	25	135 (141)	
ø40	84 (90)	4	16	4.5	14	4	14	38	8	13	21	139 (145)	
ø50	94 (102)	5	20	8	17	4	15.5	46.5	11	14	23	156 (164)	
ø63	94 (102)	9	20	8	17	4	16.5	56.5	11	14	23	156 (164)	
ø80	114 (124)	11.5	25	7.5	22	4	19	72	13	20	32	190 (200)	
ø100	114 (124)	17	30	7	27	4	19	89	16	20	32	190 (200)	

*1: Dimensions in () indicate rubber cushion type.
 *2: For dimensions with each switch, refer to P. 608, 609.
 *3: For outer dimensions diagram of accessories, refer to P. 511.

Outline Dimension Drawing

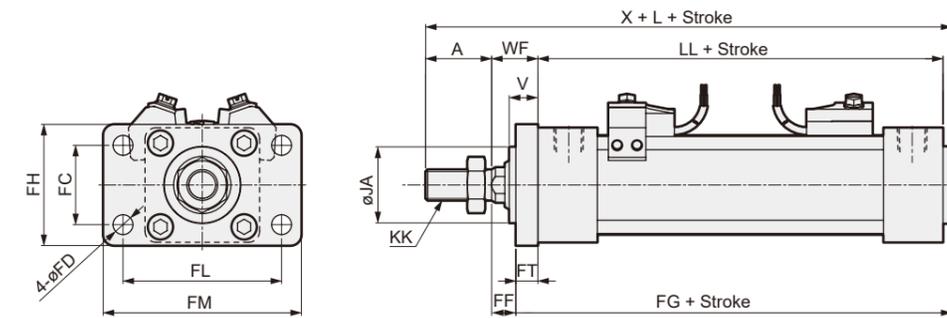
● Axial foot type (LB)



Code	Axial Foot Type (LB) Mounting Dimensions												
Bore Size (mm)	A	KK	LL *1	WF	LA *1	LB	LC	LD	LG *1	LH	LR	LS	LT
ø32	22	M10 × 1.25	84 (90)	25	162 (168)	9	22	7	128 (134)	30	32	50	3.2
ø40	30	M14 × 1.5	84 (90)	21	170 (176)	11	24	9	132 (138)	33	38	55	3.2
ø50	35	M18 × 1.5	94 (102)	23	190 (198)	11	27	9	148 (156)	40	46	70	3.2
ø63	35	M18 × 1.5	94 (102)	23	193 (201)	14	27	12	148 (156)	45	56	80	4.5
ø80	40	M22 × 1.5	114 (124)	32	230 (240)	14	30	12	174 (184)	55	72	95	4.5
ø100	40	M26 × 1.5	114 (124)	32	234 (244)	16	32	14	178 (188)	65	89	114	6

*1: Dimensions in () indicate rubber cushion type.
 *2: Round up the L dimension to the nearest whole number.
 *3: For dimensions with each switch, refer to P. 608, 609.
 *4: For outer dimensions diagram of accessories, refer to P. 511.

● Rod Side Flange Type (FA)

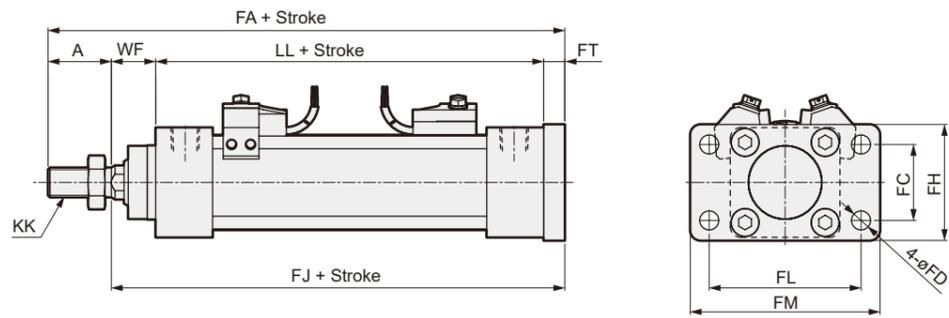


Code	Rod Side Flange Type (FA) Mounting Dimensions														
Bore Size (mm)	A	JA	KK	LL *1	V	WF	X *1	FC	FD	FF	FG *1	FH	FL	FM	FT
ø32	22	29	M10 × 1.25	84 (90)	13	25	135 (141)	32	7	15	98 (104)	50	64	79	10
ø40	30	30	M14 × 1.5	84 (90)	13	21	139 (145)	36	9	11	98 (104)	55	72	90	10
ø50	35	38	M18 × 1.5	94 (102)	14	23	156 (164)	45	9	11	110 (118)	70	90	110	12
ø63	35	38	M18 × 1.5	94 (102)	14	23	156 (164)	50	9	11	110 (118)	80	100	120	12
ø80	40	43	M22 × 1.5	114 (124)	20	32	190 (200)	63	12	16	134 (144)	100	126	153	16
ø100	40	51	M26 × 1.5	114 (124)	20	32	190 (200)	75	14	16	134 (144)	120	150	178	16

*1: Dimensions in () indicate rubber cushion type.
 *2: Round up the L dimension to the nearest whole number.
 *3: For dimensions with each switch, refer to P. 608, 609.
 *4: For outer dimensions diagram of accessories, refer to P. 511.

Outline Dimension Drawing

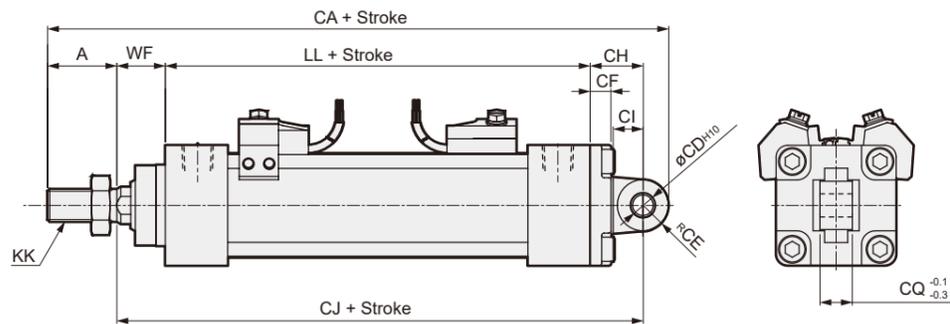
● Head Side Flange Type (FB)



Code	Head Side Flange Type (FB) Mounting Dimensions											
Bore Size (mm)	A	KK	LL *1	WF	FA *1	FC	FD	FH	FJ *1	FL	FM	FT
ø32	22	M10 × 1.25	84 (90)	25	141 (147)	32	7	50	119 (125)	64	79	10
ø40	30	M14 × 1.5	84 (90)	21	145 (151)	36	9	55	115 (121)	72	90	10
ø50	35	M18 × 1.5	94 (102)	23	164 (172)	45	9	70	129 (137)	90	110	12
ø63	35	M18 × 1.5	94 (102)	23	164 (172)	50	9	80	129 (137)	100	120	12
ø80	40	M22 × 1.5	114 (124)	32	202 (212)	63	12	100	162 (172)	126	153	16
ø100	40	M26 × 1.5	114 (124)	32	202 (212)	75	14	120	162 (172)	150	178	16

*1: Dimensions in () indicate rubber cushion type.
 *2: Round up the L dimension to the nearest whole number.
 *3: For dimensions with each switch, refer to P. 608, 609.
 *4: For outer dimensions diagram of accessories, refer to P. 511.

● Single Yoke Clevis Type (CA)

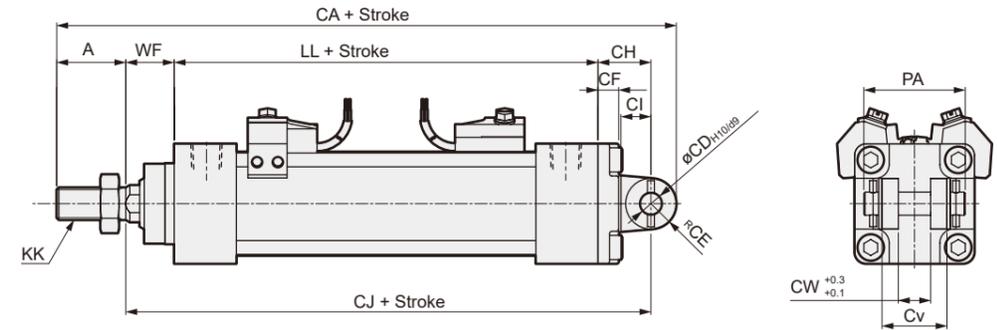


Code	Single Clevis Type (CA) Mounting Dimensions											
Bore Size (mm)	A	KK	LL *1	WF	CA *1	CD	CE	CF	CH	CI	CJ *1	CQ
ø32	22	M10 × 1.25	84 (90)	25	164.5 (170.5)	10	10.5	9	23	13	132 (138)	14
ø40	30	M14 × 1.5	84 (90)	21	169 (175)	10	11	9	23	13	128 (134)	14
ø50	35	M18 × 1.5	94 (102)	23	197 (205)	14	15	12	30	17	147 (155)	20
ø63	35	M18 × 1.5	94 (102)	23	197 (205)	14	15	12	30	17	147 (155)	20
ø80	40	M22 × 1.5	114 (124)	32	251 (261)	22	23	15	42	26	188 (198)	30
ø100	40	M26 × 1.5	114 (124)	32	251 (261)	22	23	15	42	26	188 (198)	30

*1: Dimensions in () indicate rubber cushion type.
 *2: Round up the L dimension to the nearest whole number.
 *3: For dimensions with each switch, refer to P. 608, 609.
 *4: For outer dimensions diagram of accessories, refer to P. 511.

Outline Dimension Drawing

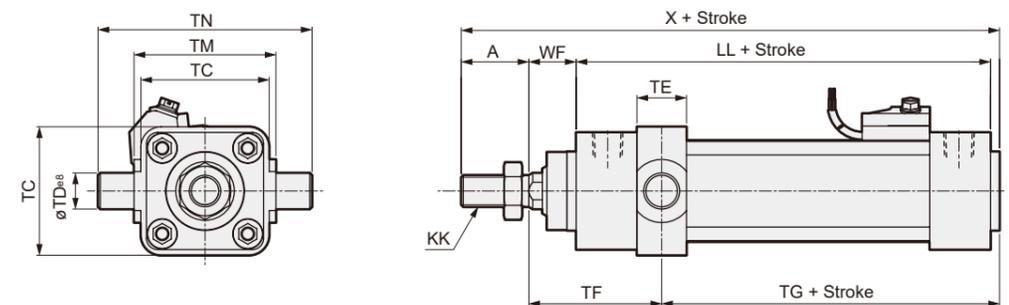
● Double Yoke Clevis Type (CB)



Code	Double Clevis Type (CB) Mounting Dimensions													
Bore Size (mm)	A	KK	LL *1	WF	CA *1	CD	CE	CF	CH	CI	CJ *1	Cv	CW	PA
ø32	22	M10 × 1.25	84 (90)	25	164.5 (170.5)	10	10.5	9	23	13	132 (138)	28	14	44
ø40	30	M14 × 1.5	84 (90)	21	169 (175)	10	11	9	23	13	128 (134)	28	14	44
ø50	35	M18 × 1.5	94 (102)	23	197 (205)	14	15	12	30	17	147 (155)	40	20	60
ø63	35	M18 × 1.5	94 (102)	23	197 (205)	14	15	12	30	17	147 (155)	40	20	60
ø80	40	M22 × 1.5	114 (124)	32	251 (261)	22	23	15	42	26	188 (198)	60	30	82
ø100	40	M26 × 1.5	114 (124)	32	251 (261)	22	23	15	42	26	188 (198)	60	30	82

*1: Dimensions in () indicate rubber cushion type.
 *2: Round up the L dimension to the nearest whole number.
 *3: For dimensions with each switch, refer to P. 608, 609.
 *4: For outer dimensions diagram of accessories, refer to P. 511.

● Rod Side Trunnion Type (TA)

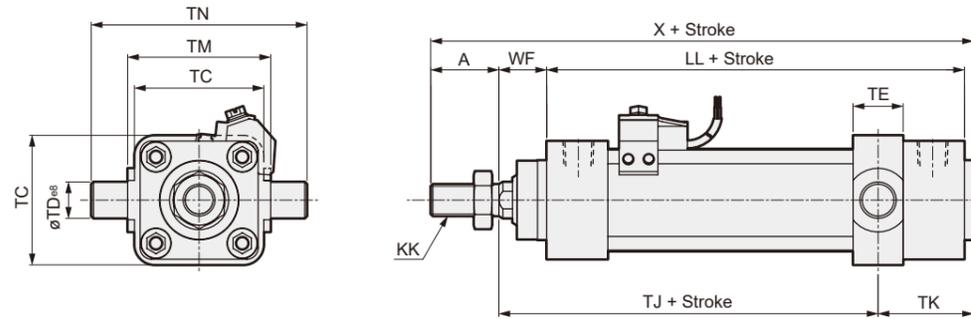


Code	Rod Side Trunnion Type (TA) Mounting Dimensions											
Bore Size (mm)	A	KK	LL *1	WF	X *1	TC	TD	TE	TF	TG *1	TM	TN
ø32	22	M10 × 1.25	84 (90)	25	135 (141)	47	12	17	61.5	51.5 (57.5)	50	74
ø40	30	M14 × 1.5	84 (90)	21	139 (145)	57	16	22	60	49 (55)	63	95
ø50	35	M18 × 1.5	94 (102)	23	156 (164)	67	16	22	66.5	54.5 (62.5)	75	107
ø63	35	M18 × 1.5	94 (102)	23	156 (164)	82	20	28	69.5	51.5 (59.5)	90	130
ø80	40	M22 × 1.5	114 (124)	32	190 (200)	100	20	34	88	62 (72)	110	150
ø100	40	M26 × 1.5	114 (124)	32	190 (200)	121	25	40	91	59 (69)	132	182

*1: Dimensions in () indicate rubber cushion type.
 *2: Round up the L dimension to the nearest whole number.
 *3: For dimensions with each switch, refer to P. 608, 609.
 *4: For outer dimensions diagram of accessories, refer to P. 511.

Outline Dimension Drawing

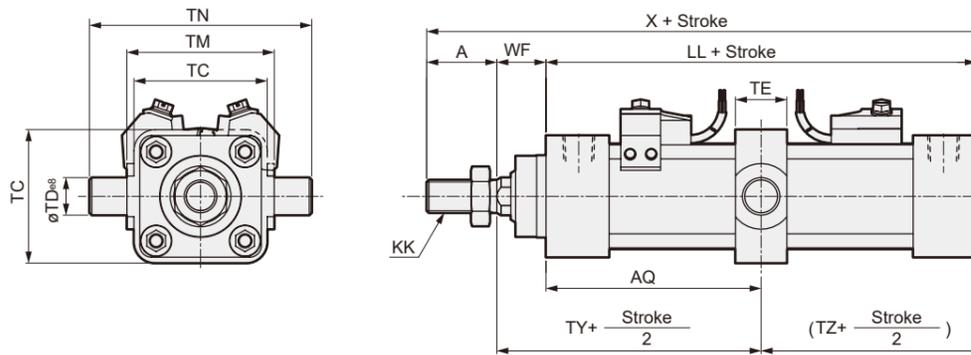
● Head Side Trunnion Type (TB)



Code	Head Side Trunnion Type (TB) Mounting Dimensions											
Bore Size (mm)	A	KK	LL *1	WF	X *1	TC	TD	TE	TJ *1	TK	TM	TN
ø32	22	M10 × 1.25	84 (90)	25	135 (141)	47	12	17	72.5 (78.5)	40.5	50	74
ø40	30	M14 × 1.5	84 (90)	21	139 (145)	57	16	22	66 (72)	43	63	95
ø50	35	M18 × 1.5	94 (102)	23	156 (164)	67	16	22	73.5 (81.5)	47.5	75	107
ø63	35	M18 × 1.5	94 (102)	23	156 (164)	82	20	28	70.5 (78.5)	50.5	90	130
ø80	40	M22 × 1.5	114 (124)	32	190 (200)	100	20	34	90 (100)	60	110	150
ø100	40	M26 × 1.5	114 (124)	32	190 (200)	121	25	40	87 (97)	63	132	182

*1: Dimensions in () indicate rubber cushion type.
 *2: Round up the L dimension to the nearest whole number.
 *3: For dimensions with each switch, refer to P. 608, 609.
 *4: For outer dimensions diagram of accessories, refer to P. 511.

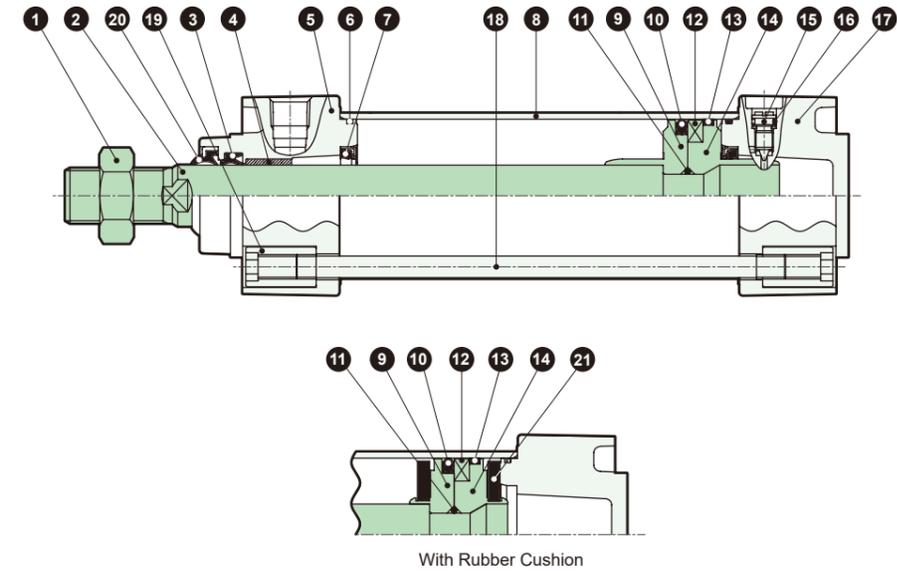
● Intermediate Trunnion Type (TC)



Code	Intermediate Trunnion Type (TC) Mounting Dimensions												
Bore Size (mm)	A	KK	LL *1	WF	X *1	AQ *1	TC	TD	TE	TY *1	TZ *1	TM	TN
ø32	22	M10 × 1.25	84 (90)	25	135 (141)	42 (45) + Stroke/2	47	12	17	67 (70)	46 (49)	50	74
ø40	30	M14 × 1.5	84 (90)	21	139 (145)	42 (45) + Stroke/2	57	16	22	63 (66)	46 (49)	63	95
ø50	35	M18 × 1.5	94 (102)	23	156 (164)	47 (51) + Stroke/2	67	16	22	70 (74)	51 (55)	75	107
ø63	35	M18 × 1.5	94 (102)	23	156 (164)	47 (51) + Stroke/2	82	20	28	70 (74)	51 (55)	90	130
ø80	40	M22 × 1.5	114 (124)	32	190 (200)	57 (62) + Stroke/2	100	20	34	89 (94)	61 (66)	110	150
ø100	40	M26 × 1.5	114 (124)	32	190 (200)	57 (62) + Stroke/2	121	25	40	89 (94)	61 (66)	132	182

*1: Dimensions in () indicate rubber cushion type.
 *2: Round up the L dimension to the nearest whole number.
 *3: For dimensions with each switch, refer to P. 608, 609.
 *4: For outer dimensions diagram of accessories, refer to P. 511.

Internal Structure Diagram/Material



Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Rod Nut	Steel	Nickel Plating	12	Magnet	Plastic	
2	Piston Rod	Steel	Industrial Hard Chrome Plating	13	Wear Ring	Polyacetal	
3	Rod Packing	Nitrile Rubber		14	Piston H	Aluminum Alloy	
4	Bushing	Oil-Impregnated Bearing Alloy		15	Cushion Needle	Copper Alloy	Nickel Plating
5	Rod Cover	Aluminum Alloy	Painting	16	Needle Gasket	Nitrile Rubber	
6	Cylinder Gasket	Nitrile Rubber		17	Head Cover	Aluminum Alloy	Painting
7	Cushion Packing	Nitrile Rubber, Steel	Only with air cushion	18	Tie Rod	Steel	Zinc Chromate
8	Cylinder Tube	Aluminum Alloy	Hard Anodized	19	Round Nut	Steel	Zinc Chromate
9	Piston R	Aluminum Alloy		20	Scraper	Nitrile Rubber, Steel	
10	Piston Packing	Nitrile Rubber		21	Cushion Rubber	Urethane Rubber	Only with rubber cushion
11	Piston Gasket	Nitrile Rubber					

Mounting Bracket Material

Mounting type	Material	Remarks
Foot (LB)	Steel	Nickel Plating
Flange (FA / FB)	Steel	Painting
Single clevis (CA), Double clevis (CB)	Cast Iron	Painting
Trunnion (TA, TB, TC)	Cast Iron	Painting

Note: Mounting brackets are attached to the product and shipped. However, in the case of trunnion types (TA, TB, TC), they will be shipped assembled.

For maintenance parts, please visit the CKD Equipment Product Site
 (<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts



Tie-rod cylinder Double-acting, Cutting oil resistant type

SCG-G²_{G³} Series

● Bore size: ø40, ø50, ø63, ø80, ø100

Circuit Diagram Symbol



SCG-G²_{G³} Series

Model No. Notation Method

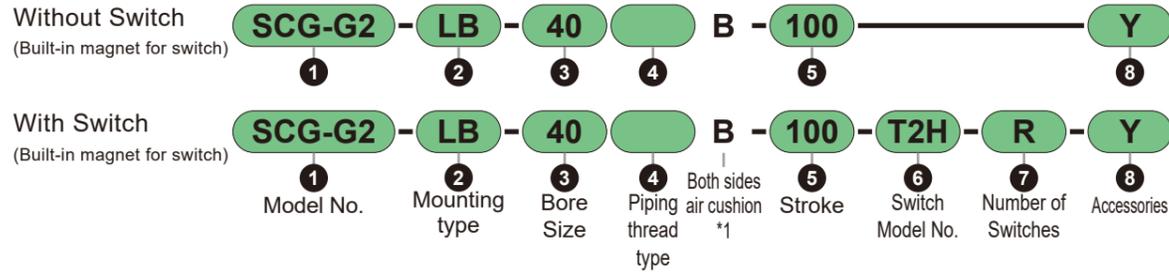
*Lead wire length, connector specification

Code	Content
Blank	1 m (Standard)
3	3 m (Option)
5	5 m (Option)
W	M8 Connector, 1PIN (+), 4PIN (-) Lead Wire 0.3 m

*5: Only T2WLH and T2WLV can be selected.

Example) Lead wire length
1 m T2YLH [3]
3 m T2YLH [3]
5 m T2YLH [5]

Model No. Notation Method



*1: Please consult us regarding the manufacture of models with rubber cushion.

1 Model No.

Code	Content
SCG-G2	Cutting Oil Resistant Scraper + NBR Packing
SCG-G3	Cutting Oil Resistant Scraper + FKM Packing

2 Mounting type

Mounting brackets are included with the product and shipped. (However, trunnion types are shipped assembled.)

Code	Content
00	Basic type
LB	Axial Foot Type
FA	Rod Side Flange Type
FB	Head Side Flange Type
CA	Single Clevis Type
CB	Double Clevis Type (Pin and Split Pin Attached)
TA	Rod Side Trunnion Type
TB	Head Side Trunnion Type
TC	Intermediate Trunnion Type

3 Bore Size (mm)

Code	Content
40	ø40
50	ø50
63	ø63
80	ø80
100	ø100

Note: Please consult us regarding the manufacture of Bore size ø32.

4 Piping thread type

Code	Content
Blank	Rc Thread
N	NPT Thread (Custom Order Product)
G	G Thread (Custom Order Product)

5 Stroke (mm)

Bore Size	Stroke	Intermediate Stroke
ø40	1 to 600	Every 1 mm
ø50		
ø63		
ø80		
ø100		

Note: For minimum stroke with switch, refer to P. 590.

6 Switch Model No.

For switch details, please refer to P. 971. Switches are included with the product and shipped.

Contact	Indicator Lamp Special Function	Wiring (Output)	Load Voltage (V)		Load Current (mA)		Lead Wire *1	
			AC	DC	AC voltage	DC voltage	Straight	L-shape
Solid State	2-Color Improved Water Resistance	2-wire	—	24 ± 10%	—	5 to 20	T2WLH □	T2WLV □
			—	10 to 30	—	5 to 20 *2	T2YLH □	T2YLV □
	For 2-Color Cutting Oil	3-wire (NPN)	—	30 or less	—	50 or less	T3YLH □	T3YLV □

*1: For "□" in the switch model number, enter the code selected from the "Lead wire length, connector specification" table.

*2: The maximum load current value above, 20 mA, is at 25°C. If the switch operating ambient temperature is higher than 25°C, it will be lower than 20 mA. (At 60°C, it will be 5 to 10 mA.)

*3: This does not guarantee the water resistance of the cylinder. When using in a water-resistant environment, use of an improved water resistance cylinder is recommended.

*4: Switches other than the model numbers listed above are also available. (Custom Product) For details, see P. 971.

7 Number of Switches

Code	Content
R	With 1 on Rod Side
H	With 1 on Head Side
D	With 2 pcs
T	With 3 pcs

*1: If mounting type TA or TB is selected, the number of switches is limited to "H" (1 on head side) for TA, and "R" (1 on rod side) for TB.

8 Accessories

Code	Content
I	Single Knuckle
Y	Double Knuckle (Pin and Split Pin Attached)
B1	Single Bracket
B2	Double Yoke Bracket (Pin and Split Pin Attached)
B3	Single Bracket
B4	Trunnion Type 2nd Bracket (2 pcs/set)

*1: "I" and "Y" cannot be selected at the same time.

About Custom Product Specifications

For details, refer to P. 610 to 613.

Code	Content
-XK◇	Mounting Bracket Rotational Assembly
-XAQ◇◇	Trunnion Position Specification
-XP7	Knuckle fixed by pin driving
-A2	With 2 Rod Nuts
Rod End Shape Modification	Refer to Ending P. 11.

Model No. Example)

SCG-G2,G3-.....-XP7

Food Manufacturing Process Compatible Specification (Catalog No. CC-1271AA)

● Uses food-grade lubricant usable in food manufacturing processes

SCG-G²_{G³}-.....-FP1

*For combinations of variations and options, see P. 489.

Switch Single Unit Model No. Notation Method

● Switch body + Mounting bracket set

SCG - T2YLH - 40
7 Switch Model No. 3 Bore Size

● Switch body only

SW - T2YLH
7 Switch Model No.

● Switch mounting bracket set

SCG-G2 - T - 40
Mounting bracket 3 Bore Size

Note: Please consult us separately if using environmentally compatible T-type switches.

General Type

SCP□3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

General Type

SCP□3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

Cylinder Switch

Ending

Cylinder Switch

Ending

Specifications

Item	SCG-G2-G3					
	mm	ø40	ø50	ø63	ø80	ø100
Bore Size	mm	ø40	ø50	ø63	ø80	ø100
Actuation method	Double Acting, Coolant Proof Type					
Operating Fluid	Compressed Air					
Max. Working Pressure	MPa	1.0				
Min. Operating Pressure	MPa	0.1				
Proof Pressure	MPa	1.6				
Ambient Temperature	°C	-10 to 60 (No freezing)				
Port Size		Rc1/4		Rc3/8		Rc1/2
Stroke tolerance	mm	^{+1.0} / ₀ (Up to 360) ^{+1.4} / ₀ (361 to 1000), ^{+1.8} / ₀ (1001 to 1500)				
Operating Piston Speed	mm/s	50 to 1000 (Please use within the allowable absorbed energy.)				
Cushion	Air Cushion					
Effective air cushion length	mm	8.6	13.4	13.4	15.4	15.4
Lubrication	Not required (When lubricating, use turbine oil Class 1 ISO VG32)					
Allowable Absorbed Energy	J	3.7	8.0	14.4	25.4	45.6

*1: Please consult us regarding the manufacture of Bore size ø32.
 *2: Please consult us regarding the manufacture of models with rubber cushion.

Stroke

Bore Size (mm)	Standard Stroke (mm)	Max. Stroke (mm)	Manufacturable Stroke (mm)	Min. Stroke (mm)
ø40	25, 50, 75, 100, 150, 200, 250 300, 350, 400, 450, 500	600	800	1
ø50			1200	
ø63			1200	
ø80			1400	
ø100			1500	

*1: Intermediate strokes can be manufactured in 1 mm increments.
 *2: If the maximum stroke is exceeded, product specifications may not be met depending on the conditions, so please consult us.

Min. Stroke with Switch

● Minimum stroke with T2YL/T3YL type switch

Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
		1	2	1	2	1	1
ø32	26 (12)	26 (8)	82 (45)	112 (75)	112 (75)	56 (38)	56 (38)
ø40	26 (12)	26 (8)	67 (45)	112 (75)	112 (75)	56 (38)	56 (38)
ø50	27 (13)	27 (8)	27 (13)	114 (77)	114 (77)	55 (36)	57 (38)
ø63	27 (13)	27 (8)	27 (13)	119 (82)	119 (82)	60 (41)	62 (43)
ø80	26 (14)	26 (8)	26 (14)	129 (92)	129 (92)	59 (40)	66 (47)
ø100	25 (14)	25 (8)	25 (14)	138 (101)	138 (101)	69 (51)	75 (57)

*1: () indicates T_□V (L-shaped lead wire type).
 *2: If the stroke is 15 mm or less, two switches may turn ON simultaneously. In this case, adjust the switch mounting positions so that they are further apart from each other.

● T2WL type switch

Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
		1	2	1	2	1	1
ø32	24 (12)	24 (8)	77 (45)	107 (75)	107 (75)	54 (38)	54 (38)
ø40	24 (12)	24 (8)	62 (45)	107 (75)	107 (75)	54 (38)	54 (38)
ø50	24 (13)	24 (8)	24 (13)	109 (77)	109 (77)	52 (36)	54 (38)
ø63	24 (13)	24 (8)	24 (13)	114 (82)	114 (82)	57 (41)	59 (43)
ø80	23 (14)	23 (8)	23 (14)	124 (92)	124 (92)	56 (40)	63 (47)
ø100	23 (14)	23 (8)	23 (14)	133 (101)	133 (101)	67 (51)	73 (57)

*1: () indicates T_□V (L-shaped lead wire type).
 *2: If the stroke is 15 mm or less, two switches may turn ON simultaneously. In this case, adjust the switch mounting positions so that they are further apart from each other.

Weight Table

(Unit: kg)

Bore size (mm)	Product Weight at Stroke = 0 mm						Stroke: Added weight per 50 mm	Switch Weight (Per Piece)	Switch Mounting Bracket Weight	Accessory Weight	
	Basic type (00)	Foot Type (LB)	Flange Type (FA,FB)	Single Clevis Type (CA)	Double Clevis Type (CB)	Trunnion Type (TA, TB, TC)				I	Y
ø40	0.66	0.80	0.94	0.85	0.85	1.00	0.17	Please refer to the weight listed in the switch specifications on P. 971.	0.024	0.07	0.13
ø50	1.13	1.29	1.61	1.54	1.54	1.61	0.23		0.022	0.20	0.30
ø63	1.39	1.73	2.15	1.95	1.96	2.27	0.25		0.022	0.20	0.30
ø80	2.66	3.09	4.23	3.93	3.94	4.15	0.40		0.026	0.52	0.94
ø100	3.77	4.63	6.09	5.49	5.52	6.34	0.51		0.024	0.48	0.92

Theoretical Thrust Table

(Unit: N)

Bore Size (mm)	Operating Direction	Operating Pressure MPa										
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø40	Push	1.26 × 10 ²	1.88 × 10 ²	2.51 × 10 ²	3.77 × 10 ²	5.03 × 10 ²	6.28 × 10 ²	7.54 × 10 ²	8.80 × 10 ²	1.01 × 10 ³	1.13 × 10 ³	1.26 × 10 ³
	Pull	1.06 × 10 ²	1.58 × 10 ²	2.11 × 10 ²	3.17 × 10 ²	4.22 × 10 ²	5.28 × 10 ²	6.33 × 10 ²	7.39 × 10 ²	8.44 × 10 ²	9.50 × 10 ²	1.06 × 10 ³
ø50	Push	1.96 × 10 ²	2.95 × 10 ²	3.93 × 10 ²	5.89 × 10 ²	7.85 × 10 ²	9.82 × 10 ²	1.18 × 10 ³	1.37 × 10 ³	1.57 × 10 ³	1.77 × 10 ³	1.96 × 10 ³
	Pull	1.65 × 10 ²	2.47 × 10 ²	3.30 × 10 ²	4.95 × 10 ²	6.60 × 10 ²	8.25 × 10 ²	9.90 × 10 ²	1.15 × 10 ³	1.32 × 10 ³	1.48 × 10 ³	1.65 × 10 ³
ø63	Push	3.12 × 10 ²	4.68 × 10 ²	6.23 × 10 ²	9.35 × 10 ²	1.25 × 10 ³	1.56 × 10 ³	1.87 × 10 ³	2.18 × 10 ³	2.49 × 10 ³	2.81 × 10 ³	3.12 × 10 ³
	Pull	2.80 × 10 ²	4.20 × 10 ²	5.61 × 10 ²	8.41 × 10 ²	1.12 × 10 ³	1.40 × 10 ³	1.68 × 10 ³	1.96 × 10 ³	2.24 × 10 ³	2.52 × 10 ³	2.80 × 10 ³
ø80	Push	5.03 × 10 ²	7.54 × 10 ²	1.01 × 10 ³	1.51 × 10 ³	2.01 × 10 ³	2.51 × 10 ³	3.02 × 10 ³	3.52 × 10 ³	4.02 × 10 ³	4.52 × 10 ³	5.03 × 10 ³
	Pull	4.54 × 10 ²	6.80 × 10 ²	9.07 × 10 ²	1.36 × 10 ³	1.81 × 10 ³	2.27 × 10 ³	2.72 × 10 ³	3.17 × 10 ³	3.63 × 10 ³	4.08 × 10 ³	4.54 × 10 ³
ø100	Push	7.85 × 10 ²	1.18 × 10 ³	1.57 × 10 ³	2.36 × 10 ³	3.14 × 10 ³	3.93 × 10 ³	4.71 × 10 ³	5.50 × 10 ³	6.28 × 10 ³	7.07 × 10 ³	7.85 × 10 ³
	Pull	7.15 × 10 ²	1.07 × 10 ³	1.43 × 10 ³	2.14 × 10 ³	2.86 × 10 ³	3.57 × 10 ³	4.29 × 10 ³	5.00 × 10 ³	5.72 × 10 ³	6.43 × 10 ³	7.15 × 10 ³

Mounting Bracket Model No. Notation Method

Bore Size (mm)	ø40	ø50	ø63	ø80	ø100
Mounting bracket					
Foot (LB)	SCG-LB-40	SCG-LB-50	SCG-LB-63	SCG-LB-80	SCG-LB-100
Flange (FA) (FB)	SCG-FA-40	SCG-FA-50	SCG-FA-63	SCG-FA-80	SCG-FA-100
Single Clevis (CA)	SCG-CA-40	SCG-CA-50	SCG-CA-63	SCG-CA-80	SCG-CA-100
Double Clevis (CB)	SCG-CB-40	SCG-CB-50	SCG-CB-63	SCG-CB-80	SCG-CB-100

Note: Foot type mounting bracket (LB) comes in a set of 2.
 *2: Mounting bolts are included to each mounting bracket.

General Type

SCPG3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

General Type

SCPG3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

Cylinder Switch

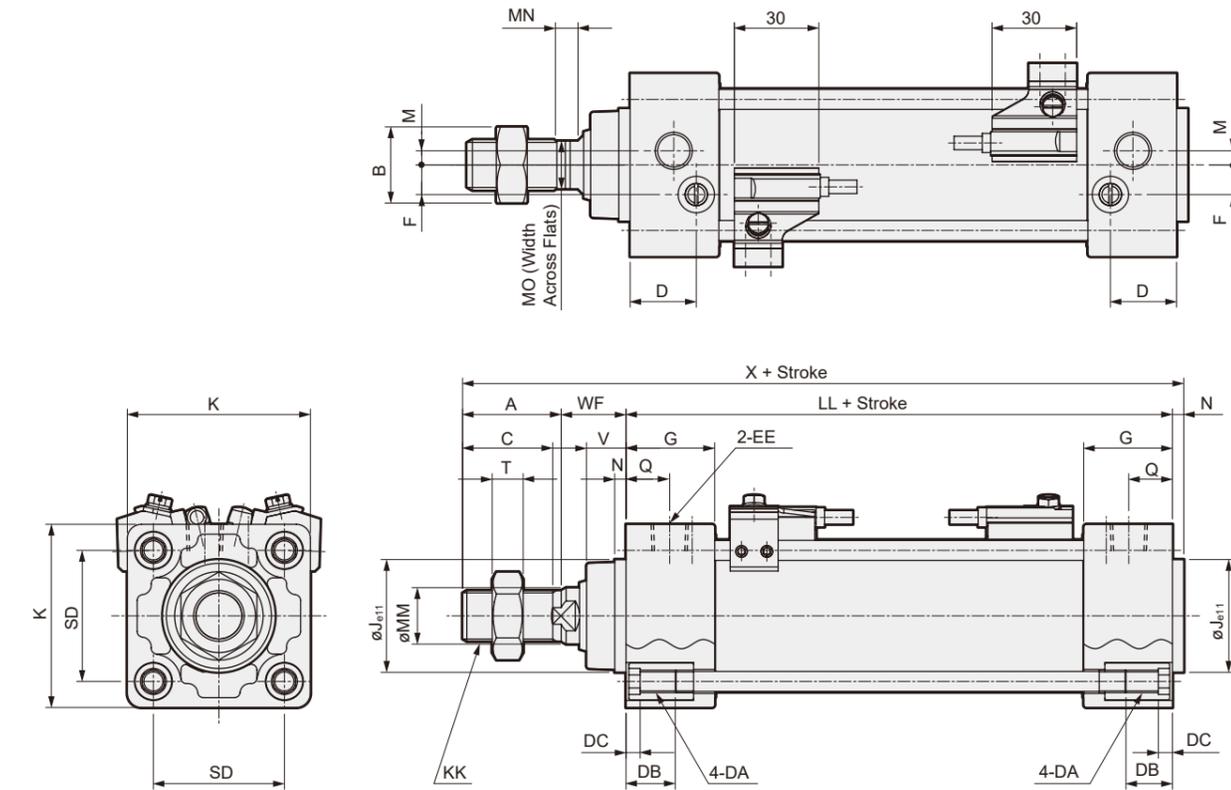
Ending

Cylinder Switch

Ending

Outline Dimension Drawing

● Basic type (00)



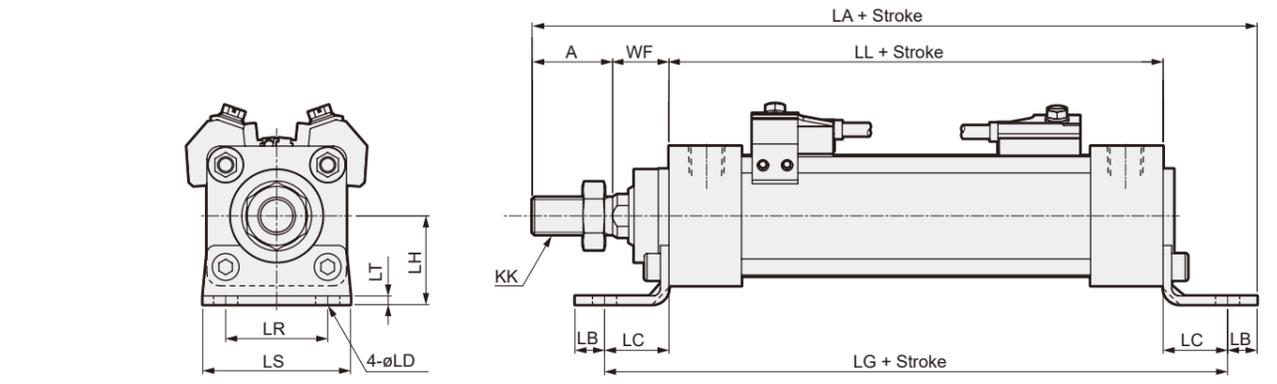
Code	Basic Type (00) Basic Dimensions												
Bore Size (mm)	A	B	C	D	DA	DB	DC	EE	F	G	J	K	KK
ø40	30	22	27	19	M6	16	5	Rc1/4	9	27	35	52	M14 × 1.5
ø50	35	27	32	23.5	M8	16	5	Rc1/4	10.5	31.5	40	65	M18 × 1.5
ø63	35	27	32	21.5	M8	16	5	Rc3/8	12	31.5	45	75	M18 × 1.5
ø80	40	32	37	28	M10	16	5	Rc3/8	14	38	45	95	M22 × 1.5
ø100	40	41	37	28	M10	16	5	Rc1/2	15	38	55	114	M26 × 1.5

Code												
Bore Size (mm)	LL	M	MM	MN	MO	N	Q	SD	T	V	WF	X
ø40	84	4	16	4.5	14	4	14	38	8	13	21	139
ø50	94	5	20	8	17	4	15.5	46.5	11	14	23	156
ø63	94	9	20	8	17	4	16.5	56.5	11	14	23	156
ø80	114	11.5	25	7.5	22	4	19	72	13	20	32	190
ø100	114	17	30	7	27	4	19	89	16	20	32	190

*1: For dimensions with each switch, refer to P. 608, 609.
*2: For outer dimensions diagram of accessories, refer to P. 511.

Outline Dimension Drawing

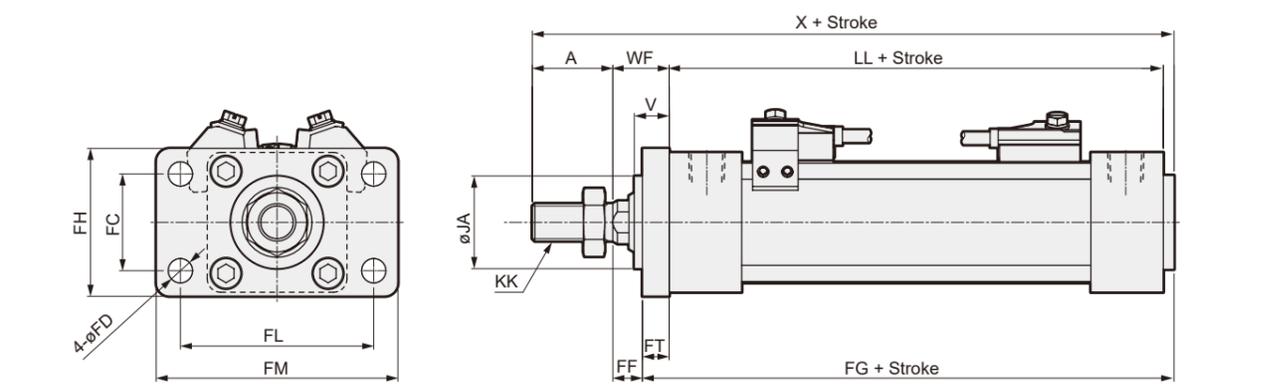
● Axial Foot Type (LB)



Code	Axial Foot Type (LB) Mounting Dimensions												
Bore Size (mm)	A	KK	LL	WF	LA	LB	LC	LD	LG	LH	LR	LS	LT
ø40	30	M14 × 1.5	84	21	170	11	24	9	132	33	38	55	3.2
ø50	35	M18 × 1.5	94	23	190	11	27	9	148	40	46	70	3.2
ø63	35	M18 × 1.5	94	23	193	14	27	12	148	45	56	80	4.5
ø80	40	M22 × 1.5	114	32	230	14	30	12	174	55	72	95	4.5
ø100	40	M26 × 1.5	114	32	234	16	32	14	178	65	89	114	6

*1: For dimensions with each switch, refer to P. 608, 609.
*2: For outer dimensions diagram of accessories, refer to P. 511.

● Rod Side Flange Type (FA)



Code	Rod Side Flange Type (FA) Mounting Dimensions															
Bore Size (mm)	A	JA	KK	LL	V	WF	X	FC	FD	FF	FG	FH	FL	FM	FT	
ø40	30	30	M14 × 1.5	84	13	21	139	36	9	11	98	55	72	90	10	
ø50	35	38	M18 × 1.5	94	14	23	156	45	9	11	110	70	90	110	12	
ø63	35	38	M18 × 1.5	94	14	23	156	50	9	11	110	80	100	120	12	
ø80	40	43	M22 × 1.5	114	20	32	190	63	12	16	134	100	126	153	16	
ø100	40	51	M26 × 1.5	114	20	32	190	75	14	16	134	120	150	178	16	

*1: For dimensions with each switch, refer to P. 608, 609.
*2: For outer dimensions diagram of accessories, refer to P. 511.

General Type

SCP□3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

General Type

SCP□3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

Cylinder Switch

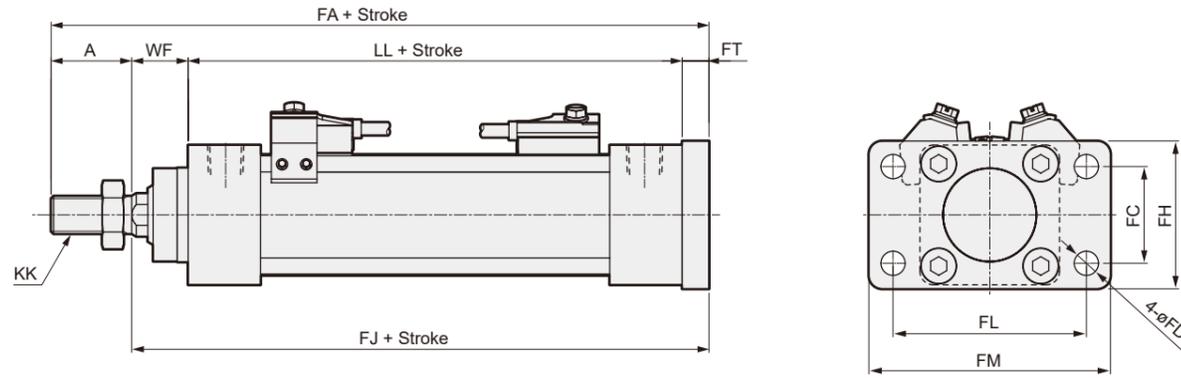
Ending

Cylinder Switch

Ending

Outline Dimension Drawing

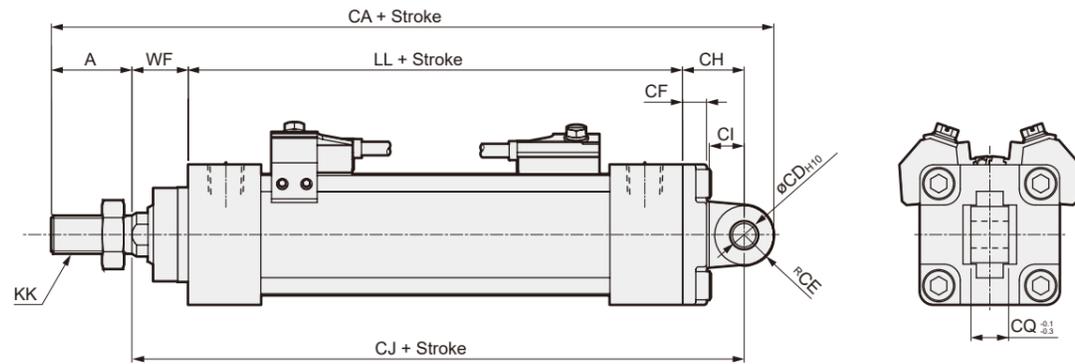
●Head Side Flange Type (FB)



Code	Head Side Flange Type (FB) Mounting Dimensions											
Bore Size (mm)	A	KK	LL	WF	FA	FC	FD	FH	FJ	FL	FM	FT
ø40	30	M14 × 1.5	84	21	145	36	9	55	115	72	90	10
ø50	35	M18 × 1.5	94	23	164	45	9	70	129	90	110	12
ø63	35	M18 × 1.5	94	23	164	50	9	80	129	100	120	12
ø80	40	M22 × 1.5	114	32	202	63	12	100	162	126	153	16
ø100	40	M26 × 1.5	114	32	202	75	14	120	162	150	178	16

*1: For dimensions with each switch, refer to P. 608, 609.
*2: For outer dimensions diagram of accessories, refer to P. 511.

●Single Clevis Type (CA)

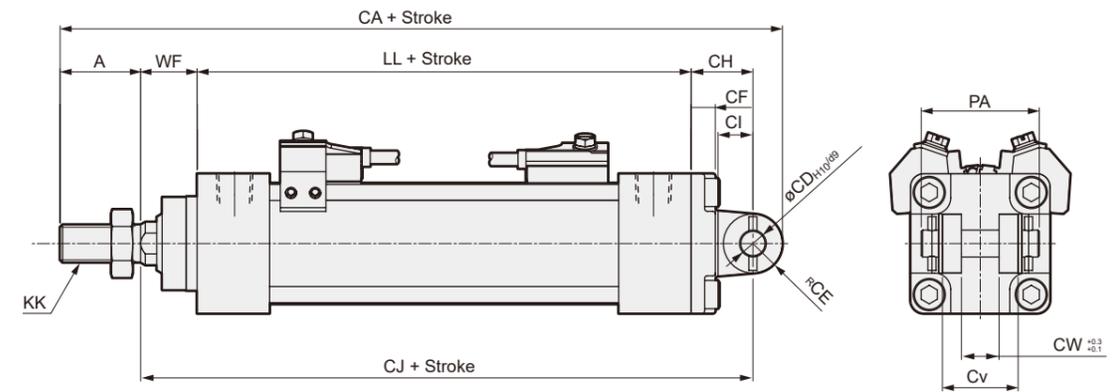


Code	Single Clevis Type (CA) Mounting Dimensions											
Bore Size (mm)	A	KK	LL	WF	CA	CD	CE	CF	CH	CI	CJ	CQ
ø40	30	M14 × 1.5	84	21	169	10	11	9	23	13	128	14
ø50	35	M18 × 1.5	94	23	197	14	15	12	30	17	147	20
ø63	35	M18 × 1.5	94	23	197	14	15	12	30	17	147	20
ø80	40	M22 × 1.5	114	32	251	22	23	15	42	26	188	30
ø100	40	M26 × 1.5	114	32	251	22	23	15	42	26	188	30

*1: For dimensions with each switch, refer to P. 608, 609.
*2: For outer dimensions diagram of accessories, refer to P. 511.

Outline Dimension Drawing

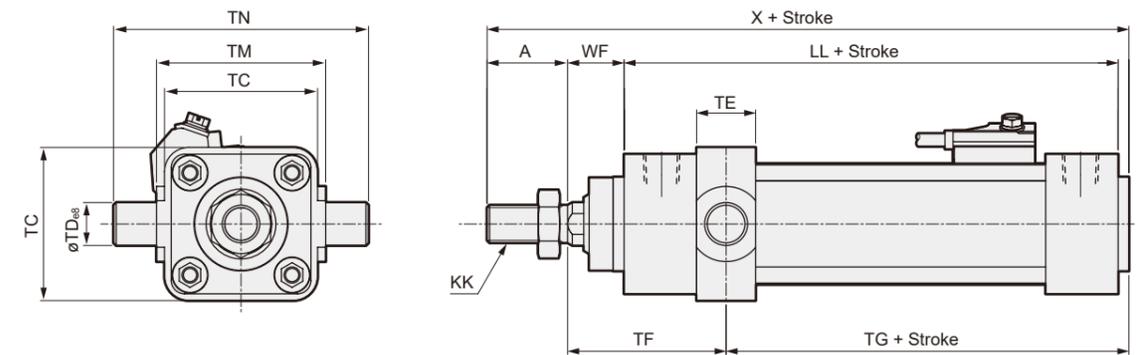
●Double clevis type (CB)



Code	Double Clevis Type (CB) Mounting Dimensions													
Bore Size (mm)	A	KK	LL	WF	CA	CD	CE	CF	CH	CI	CJ	Cv	CW	PA
ø40	30	M14 × 1.5	84	21	169	10	11	9	23	13	128	28	14	44
ø50	35	M18 × 1.5	94	23	197	14	15	12	30	17	147	40	20	60
ø63	35	M18 × 1.5	94	23	197	14	15	12	30	17	147	40	20	60
ø80	40	M22 × 1.5	114	32	251	22	23	15	42	26	188	60	30	82
ø100	40	M26 × 1.5	114	32	251	22	23	15	42	26	188	60	30	82

*1: For dimensions with each switch, refer to P. 608, 609.
*2: For outer dimensions diagram of accessories, refer to P. 511.

●Rod side trunnion type (TA)



Code	Rod Side Trunnion Type (TA) Mounting Dimensions											
Bore Size (mm)	A	KK	LL	WF	X	TC	TD	TE	TF	TG	TM	TN
ø40	30	M14 × 1.5	84	21	139	57	16	22	60	49	63	95
ø50	35	M18 × 1.5	94	23	156	67	16	22	66.5	54.5	75	107
ø63	35	M18 × 1.5	94	23	156	82	20	28	69.5	51.5	90	130
ø80	40	M22 × 1.5	114	32	190	100	20	34	88	62	110	150
ø100	40	M26 × 1.5	114	32	190	121	25	40	91	59	132	182

*1: For dimensions with each switch, refer to P. 608, 609.
*2: For outer dimensions diagram of accessories, refer to P. 511.

General Type

SCP□3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

Cylinder Switch

Ending

General Type

SCP□3

CMK2

CMA2

SCM

SCG

SCA2

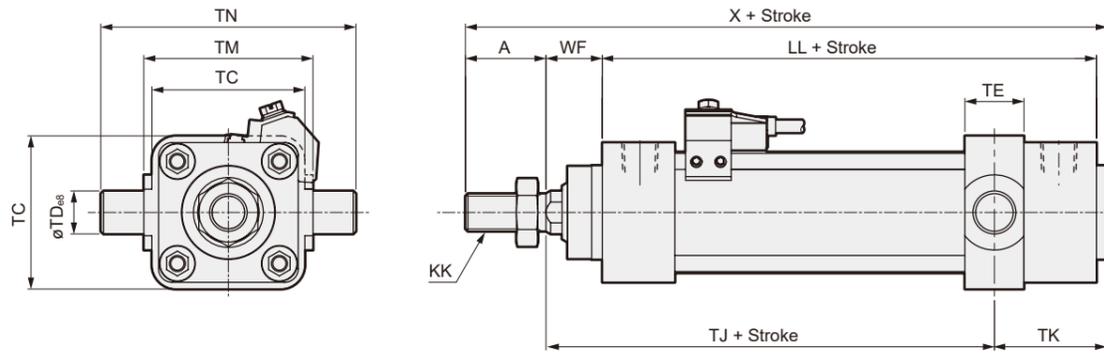
SCS2

Cylinder Switch

Ending

Outline Dimension Drawing

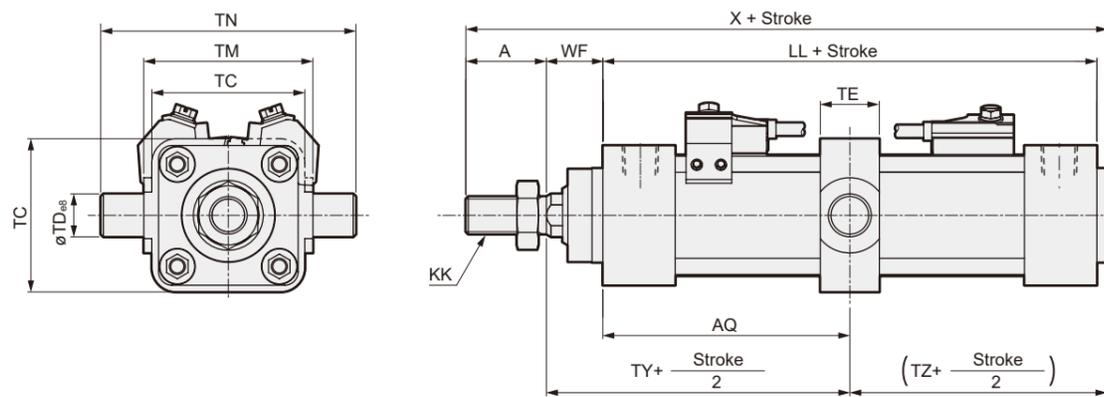
●Head Side Trunnion Type (TB)



Code	Head Side Trunnion Type (TB) Mounting Dimensions											
Bore Size (mm)	A	KK	LL	WF	X	TC	TD	TE	TJ	TK	TM	TN
ø40	30	M14 × 1.5	84	21	139	57	16	22	66	43	63	95
ø50	35	M18 × 1.5	94	23	156	67	16	22	73.5	47.5	75	107
ø63	35	M18 × 1.5	94	23	156	82	20	28	70.5	50.5	90	130
ø80	40	M22 × 1.5	114	32	190	100	20	34	90	60	110	150
ø100	40	M26 × 1.5	114	32	190	121	25	40	87	63	132	182

*1: For dimensions with each switch, refer to P. 608, 609.
*2: For outer dimensions diagram of accessories, refer to P. 511.

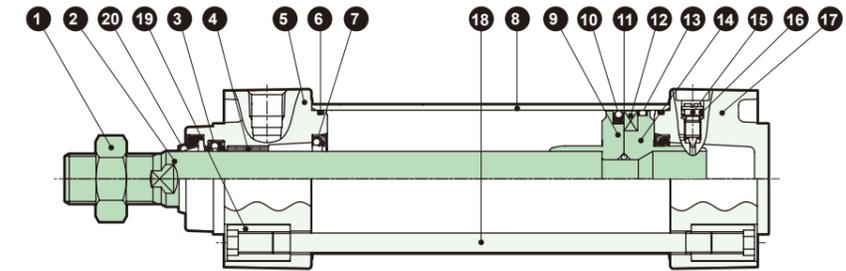
●Intermediate trunnion type (TC)



Code	Intermediate Trunnion Type (TC) Mounting Dimensions												
Bore Size (mm)	A	KK	LL	WF	X	AQ	TC	TD	TE	TY	TZ	TM	TN
ø40	30	M14 × 1.5	84	21	139	42 + Stroke/2	57	16	22	63	46	63	95
ø50	35	M18 × 1.5	94	23	156	47 + Stroke/2	67	16	22	70	51	75	107
ø63	35	M18 × 1.5	94	23	156	47 + Stroke/2	82	20	28	70	51	90	130
ø80	40	M22 × 1.5	114	32	190	57 + Stroke/2	100	20	34	89	61	110	150
ø100	40	M26 × 1.5	114	32	190	57 + Stroke/2	121	25	40	89	61	132	182

*1: For dimensions with each switch, refer to P. 608, 609.
*2: For outer dimensions diagram of accessories, refer to P. 511.

Internal Structure Diagram/Material



Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Rod Nut	Stainless Steel		11	Piston Gasket	G2 Nitrile Rubber G3 Fluoro Rubber	
2	Piston Rod	Stainless Steel	Industrial hard chrome plating	12	Magnet	Plastic	
3	Rod Packing	G2 Nitrile Rubber G3 Fluoro Rubber		13	Wear Ring	Polyacetal	
4	Bushing	Oil-impregnated Bearing Alloy		14	Piston H	Aluminum Alloy	Chromate
5	Rod Cover	Aluminum Alloy	Painting	15	Cushion Needle	Steel alloy	Nickel Plating
6	Cylinder Gasket	G2 Nitrile Rubber G3 Fluoro Rubber		16	Needle Gasket	G2 Nitrile Rubber G3 Fluoro Rubber	
7	Cushion Packing	G2 Nitrile Rubber, Steel G3 Fluororubber, Steel	Only with air cushion	17	Head Cover	Aluminum Alloy	Painting
8	Cylinder Tube	Aluminum Alloy	Hard Anodized	18	Tie Rod	Steel	Zinc Chromate
9	Piston R	Aluminum Alloy	Chromate	19	Round Nut	Steel	Zinc Chromate
10	Piston Packing	G2 Nitrile Rubber G3 Fluoro Rubber		20	Scraper	G2 Nitrile Rubber, Steel G3 Fluororubber, Steel	

Mounting Bracket Material

Mounting type	Material	Remarks
Foot (LB)	Steel	Nickel Plating
Flange (FA / FB)	Steel	Painting
Single clevis (CA), Double clevis (CB)	Cast Iron	Painting
Trunnion (TA, TB, TC)	Cast Iron	Painting

Note: Mounting brackets are attached to the product and shipped. However, in the case of trunnion types (TA, TB, TC), they will be shipped assembled.

For maintenance parts, please visit the CKD Equipment Product Site
(<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts

General Type

General Type

SCP□3

SCP□3

CMK2

CMK2

CMA2

CMA2

SCM

SCM

SCG

SCG

SCA2

SCA2

SCS2

SCS2

Cylinder Switch

Cylinder Switch

Ending

Ending



Tie-rod cylinder Double-acting, Spatter adhesion prevention type

SCG-G4 Series

● Bore size: ø32, ø40, ø50, ø63, ø80, ø100

Circuit Diagram Symbol



SCG-G4 Series

Model No. Notation Method

7 Number of Switches

Code	Content
R	With 1 on Rod Side
H	With 1 on Head Side
D	With 2 pcs
T	With 3 pcs

*1: If mounting type TA or TB is selected, the number of switches is limited to "H" (1 on head side) for TA, and "R" (1 on rod side) for TB.

8 Option

Code	Content
M	Piston Rod Material (Stainless Steel)

9 Accessories

Code	Content	Image
I	Single Knuckle	
Y	Double Knuckle (Pin and Split Pin Attached)	
B1	Single Bracket	
B2	Double Yoke Bracket (Pin and Split Pin Attached)	
B3	Single Bracket	
B4	Trunnion Type 2nd Bracket (2 pcs/set)	

*1: "I" and "Y" cannot be selected at the same time.

About Custom Product Specifications

For details, refer to P. 610 to 613.

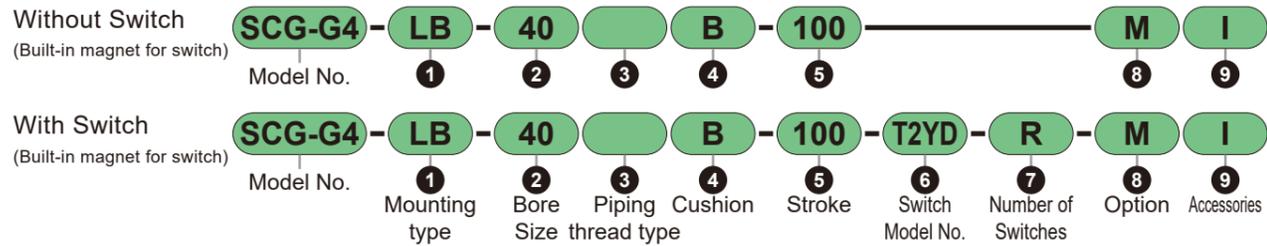
Code	Content
-XK◇	Mounting Bracket Rotational Assembly
-XAQ◇◇	Trunnion Position Specification
-XP7	Knuckle fixed by pin driving
-A2	With 2 Rod Nuts
Rod End Shape Modification	Refer to Ending P. 11.

Model No. Example)

SCG-G4-.....-XP7

*For combinations of variations and options, see P. 489.

Model No. Notation Method



1 Mounting type

Code	Content	Image
00	Basic type	
LB	Axial Foot Type	
FA	Rod Side Flange Type	
FB	Head Side Flange Type	
CA	Single Clevis Type	
CB	Double Clevis Type (Pin and Split Pin Attached)	
TA	Rod Side Trunnion Type	
TB	Head Side Trunnion Type	
TC	Intermediate Trunnion Type	

Mounting brackets are included with the product and shipped. (However, trunnion types are shipped assembled.)

2 Bore Size (mm)

Code	Content
32	ø32
40	ø40
50	ø50
63	ø63
80	ø80
100	ø100

3 Piping thread type

Code	Content
Blank	Rc Thread
N	NPT Thread (Custom Order Product)
G	G Thread (Custom Order Product)

4 Cushion

Code	Content
B	Both Sides Air Cushion
D	Both Sides Rubber Cushion

Note: The rubber cushion type is longer overall than the air cushion type.

5 Stroke (mm)

Bore Size	Stroke	Intermediate Stroke
ø32	1 to 600	Every 1 mm
ø40		
ø50		
ø63		
ø80	1 to 700	
ø100	1 to 800	

Note: For minimum stroke with switch, refer to P. 600.

6 Switch Model No.

For switch details, please refer to P. 971. Switches are included with the product and shipped.

Contact	Indicator Lamp Special Function	Wiring (Output)	Load Voltage (V)		Load Current (mA)		Lead Wire *1	
			AC	DC	AC	DC	Straight	L-shape
Solid State	2-Color for AC Magnetic Field	2-wire	—	24 ± 10%	—	5 to 20	T2YD□	—
			—		—		T2YDT□	—

*1: For "□" in the switch model number, enter the code selected from the "Lead wire length" table.

*2: The maximum load current value above, 20 mA, is at 25°C. If the switch operating ambient temperature is higher than 25°C, it will be lower than 20 mA. (At 60°C, it will be 5 to 10 mA.)

*3: Switches other than the model numbers listed above are also available. (Custom Product) For details, see P. 971.

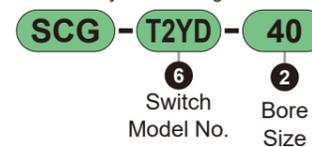
*Lead wire length

Code	Content
Blank	1 m (Standard)
3	3 m (Option)
5	5 m (Option)

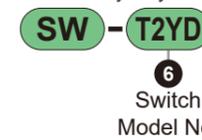
Example) Lead wire length
 1 m T2YD
 3 m T2YD[3]
 5 m T2YD[5]

Switch Single Unit Model No. Notation Method

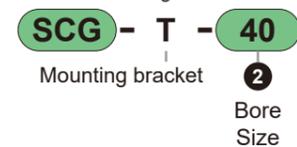
● Switch body + Mounting bracket set



● Switch body only



● Switch mounting bracket set



Note: Please consult us separately if using environmentally compatible T-type switches.

Specifications

Item	SCG-G4						
	Bore Size	mm	ø32	ø40	ø50	ø63	ø80
Actuation method	Double Acting Type						
Operating Fluid	Compressed Air						
Max. Working Pressure	MPa	1.0					
Min. Operating Pressure	MPa	0.1					
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	With Rubber Cushion	$+1.4_0^1$ (Up to 1000), $+1.8_0^1$ (1001 to 1500)					
	With Air Cushion	$+1.0_0^1$ (Up to 360), $+1.4_0^1$ (361 to 1000), $+1.8_0^1$ (1001 to 1500)					
Operating Piston Speed	mm/s	50 to 1000 (Please use within the allowable absorbed energy.)					
Cushion	Air cushion/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 (When lubricating, use turbine oil Class 1 ISO VG32)						
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

Stroke

Bore Size (mm)	Standard Stroke (mm)	Max. Stroke (mm)	Manufacturable Stroke (mm)	Min. Stroke (mm)
ø32	25, 50, 75, 100, 150, 200, 250, 300, 350, 400, 450, 500	600	700	1
ø40			800	
ø50			1200	
ø63			1200	
ø80			1400	
ø100			1500	

*1: Intermediate strokes can be manufactured in 1 mm increments.
*2: If the maximum stroke is exceeded, product specifications may not be met depending on the conditions, so please consult us.

Min. Stroke with Switch

●T2YD type switch

Number of Switches	Different Surface Mounting	Same Surface Mounting		Intermediate Trunnion Mounting		Rod Side Trunnion Mounting	Head Side Trunnion Mounting
		1	2	1	2		
ø32	23	23	75	105	105	53	53
ø40	23	23	60	105	105	53	53
ø50	23	23	23	107	107	51	53
ø63	23	23	23	112	112	56	58
ø80	22	22	22	122	122	55	62
ø100	22	22	22	131	131	66	72

Note: Note: () indicates T□V (lead wire L-type).

Weight Table

(Unit: kg)

Bore Size (mm)	Product Weight at Stroke = 0 mm						Stroke: 50 mm Added weight per	Switch Weight (Per Piece)	Switch Mounting Bracket Weight	Accessory Weight	
	Basic type (00)	Foot Type (LB)	Flange Type (FA,FB)	Single Clevis Type (CA)	Double Clevis Type (CB)	Trunnion Type (TA, TB, TC)				I	Y
ø32	0.51	0.62	0.73	0.66	0.69	0.68	0.12	Refer to the mass described in the switch specifications on P. 971	0.024	0.07	0.10
ø40	0.68	0.82	0.96	0.86	0.86	1.02	0.17		0.024	0.07	0.13
ø50	1.16	1.32	1.64	1.56	1.57	1.64	0.23		0.022	0.20	0.30
ø63	1.42	1.76	2.18	1.97	1.99	2.29	0.25		0.022	0.20	0.30
ø80	2.69	3.12	4.26	3.96	3.96	4.18	0.40		0.026	0.52	0.94
ø100	3.80	4.66	6.12	5.52	5.55	6.37	0.51		0.024	0.48	0.92

Theoretical Thrust Table

(Unit: N)

Bore Size (mm)	Operating Direction	Operating Pressure MPa										
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø32	Push	80.4	1.21 × 10 ²	1.61 × 10 ²	2.41 × 10 ²	3.22 × 10 ²	4.02 × 10 ²	4.83 × 10 ²	5.63 × 10 ²	6.43 × 10 ²	7.24 × 10 ²	8.04 × 10 ²
	Pull	69.1	1.04 × 10 ²	1.38 × 10 ²	2.07 × 10 ²	2.76 × 10 ²	3.46 × 10 ²	4.15 × 10 ²	4.84 × 10 ²	5.53 × 10 ²	6.22 × 10 ²	6.91 × 10 ²
ø40	Push	1.26 × 10 ²	1.88 × 10 ²	2.51 × 10 ²	3.77 × 10 ²	5.03 × 10 ²	6.28 × 10 ²	7.54 × 10 ²	8.80 × 10 ²	1.01 × 10 ³	1.13 × 10 ³	1.26 × 10 ³
	Pull	1.06 × 10 ²	1.58 × 10 ²	2.11 × 10 ²	3.17 × 10 ²	4.22 × 10 ²	5.28 × 10 ²	6.33 × 10 ²	7.39 × 10 ²	8.44 × 10 ²	9.50 × 10 ²	1.06 × 10 ³
ø50	Push	1.96 × 10 ²	2.95 × 10 ²	3.93 × 10 ²	5.89 × 10 ²	7.85 × 10 ²	9.82 × 10 ²	1.18 × 10 ³	1.37 × 10 ³	1.57 × 10 ³	1.77 × 10 ³	1.96 × 10 ³
	Pull	1.65 × 10 ²	2.47 × 10 ²	3.30 × 10 ²	4.95 × 10 ²	6.60 × 10 ²	8.25 × 10 ²	9.90 × 10 ²	1.15 × 10 ³	1.32 × 10 ³	1.48 × 10 ³	1.65 × 10 ³
ø63	Push	3.12 × 10 ²	4.68 × 10 ²	6.23 × 10 ²	9.35 × 10 ²	1.25 × 10 ³	1.56 × 10 ³	1.87 × 10 ³	2.18 × 10 ³	2.49 × 10 ³	2.81 × 10 ³	3.12 × 10 ³
	Pull	2.80 × 10 ²	4.20 × 10 ²	5.61 × 10 ²	8.41 × 10 ²	1.12 × 10 ³	1.40 × 10 ³	1.68 × 10 ³	1.96 × 10 ³	2.24 × 10 ³	2.52 × 10 ³	2.80 × 10 ³
ø80	Push	5.03 × 10 ²	7.54 × 10 ²	1.01 × 10 ³	1.51 × 10 ³	2.01 × 10 ³	2.51 × 10 ³	3.02 × 10 ³	3.52 × 10 ³	4.02 × 10 ³	4.52 × 10 ³	5.03 × 10 ³
	Pull	4.54 × 10 ²	6.80 × 10 ²	9.07 × 10 ²	1.36 × 10 ³	1.81 × 10 ³	2.27 × 10 ³	2.72 × 10 ³	3.17 × 10 ³	3.63 × 10 ³	4.08 × 10 ³	4.54 × 10 ³
ø100	Push	7.85 × 10 ²	1.18 × 10 ³	1.57 × 10 ³	2.36 × 10 ³	3.14 × 10 ³	3.93 × 10 ³	4.71 × 10 ³	5.50 × 10 ³	6.28 × 10 ³	7.07 × 10 ³	7.85 × 10 ³
	Pull	7.15 × 10 ²	1.07 × 10 ³	1.43 × 10 ³	2.14 × 10 ³	2.86 × 10 ³	3.57 × 10 ³	4.29 × 10 ³	5.00 × 10 ³	5.72 × 10 ³	6.43 × 10 ³	7.15 × 10 ³

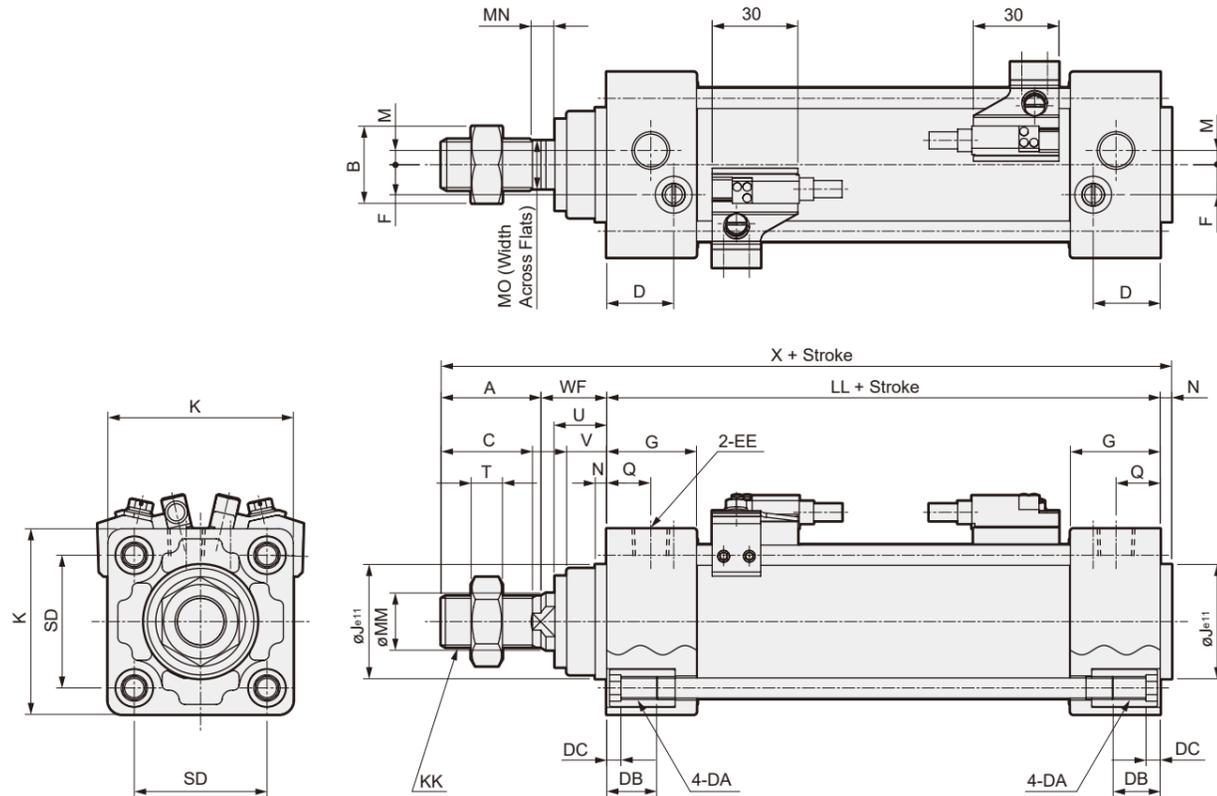
Mounting Bracket Model No. Notation Method

Bore Size (mm)	ø32	ø40	ø50	ø63	ø80	ø100
Mounting bracket						
Foot (LB)	SCG-LB-32	SCG-LB-40	SCG-LB-50	SCG-LB-63	SCG-LB-80	SCG-LB-100
Flange (FA) (FB)	SCG-FA-32	SCG-FA-40	SCG-FA-50	SCG-FA-63	SCG-FA-80	SCG-FA-100
Single Clevis (CA)	SCG-CA-32	SCG-CA-40	SCG-CA-50	SCG-CA-63	SCG-CA-80	SCG-CA-100
Double Clevis (CB)	SCG-CB-32	SCG-CB-40	SCG-CB-50	SCG-CB-63	SCG-CB-80	SCG-CB-100

*1: Foot type mounting bracket (LB) comes in a set of 2.
*2: Mounting bolts are included to each mounting bracket.

Outline Dimension Drawing

● Basic type (00)



Code	Basic Type (00) Basic Dimensions												
Bore Size (mm)	A	B	C	D	DA	DB	DC	EE	F	G	J	K	KK
ø32	22	17	20	19	M6	16	5	Rc1/8	6.5	27	30	46	M10 × 1.25
ø40	30	22	27	19	M6	16	5	Rc1/4	9	27	35	52	M14 × 1.5
ø50	35	27	32	23.5	M8	16	5	Rc1/4	10.5	31.5	40	65	M18 × 1.5
ø63	35	27	32	21.5	M8	16	5	Rc3/8	12	31.5	45	75	M18 × 1.5
ø80	40	32	37	28	M10	16	5	Rc3/8	14	38	45	95	M22 × 1.5
ø100	40	41	37	28	M10	16	5	Rc1/2	15	38	55	114	M26 × 1.5

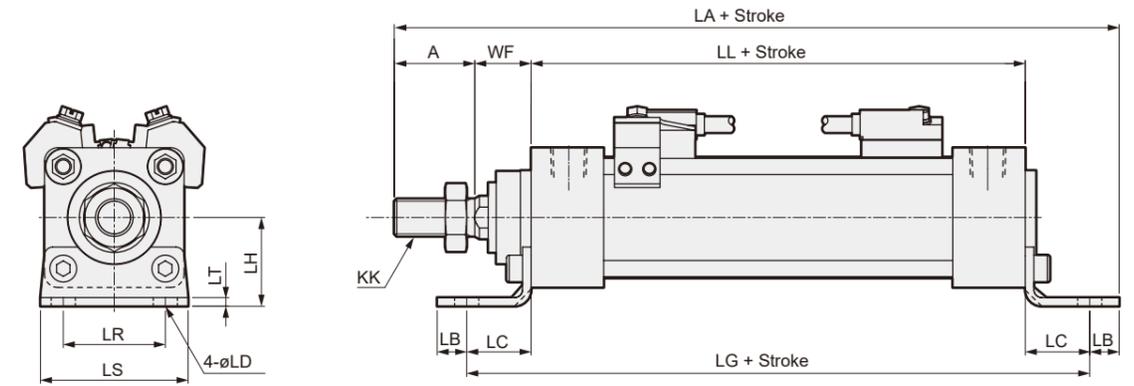
Code	Basic Type (00) Stroke Dimensions												
Bore Size (mm)	LL *1	M	MM	MN	MO	N	Q	SD	T	U	V	WF	X *1
ø32	84 (90)	4	12	5.5	10	4	13	32.5	6	14	13	25	135 (141)
ø40	84 (90)	4	16	4.5	14	4	14	38	8	16	13	21	139 (145)
ø50	94 (102)	5	20	8	17	4	15.5	46.5	11	18	14	23	156 (164)
ø63	94 (102)	9	20	8	17	4	16.5	56.5	11	18	14	23	156 (164)
ø80	114 (124)	11.5	25	7.5	22	4	19	72	13	24	20	32	190 (200)
ø100	114 (124)	17	30	7	27	4	19	89	16	24	20	32	190 (200)

*1: Dimensions in () indicate rubber cushion type.
 *2: For dimensions with each switch, refer to P. 608, 609.
 *3: For outer dimensions diagram of accessories, refer to P. 511.

Double Acting, Spatter Adhesion Prevention Type

Outline Dimension Drawing

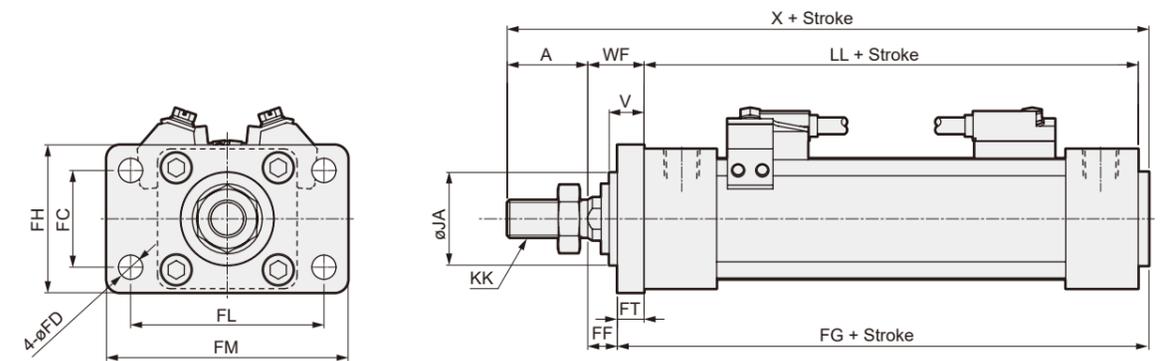
● Axial Foot Type (LB)



Code	Axial Foot Type (LB) Mounting Dimensions												
Bore Size (mm)	A	KK	LL *1	WF	LA *1	LB	LC	LD	LG *1	LH	LR	LS	LT
ø32	22	M10 × 1.25	84 (90)	25	162 (168)	9	22	7	128 (134)	30	32	50	3.2
ø40	30	M14 × 1.5	84 (90)	21	170 (176)	11	24	9	132 (138)	33	38	55	3.2
ø50	35	M18 × 1.5	94 (102)	23	190 (198)	11	27	9	148 (156)	40	46	70	3.2
ø63	35	M18 × 1.5	94 (102)	23	193 (201)	14	27	12	148 (156)	45	56	80	4.5
ø80	40	M22 × 1.5	114 (124)	32	230 (240)	14	30	12	174 (184)	55	72	95	4.5
ø100	40	M26 × 1.5	114 (124)	32	234 (244)	16	32	14	178 (188)	65	89	114	6

*1: Dimensions in () indicate rubber cushion type.
 *2: For dimensions with each switch, refer to P. 608, 609.
 *3: For outer dimensions diagram of accessories, refer to P. 511.

● Rod Side Flange Type (FA)



Code	Rod Side Flange Type (FA) Mounting Dimensions														
Bore Size (mm)	A	KK	LL *1	V	WF	X *1	FC	FD	FF	FG *1	FH	JA	FL	FM	FT
ø32	22	M10 × 1.25	84 (90)	13	25	135 (141)	32	7	15	98 (104)	50	29	64	79	10
ø40	30	M14 × 1.5	84 (90)	13	21	139 (145)	36	9	11	98 (104)	55	30	72	90	10
ø50	35	M18 × 1.5	94 (102)	14	23	156 (164)	45	9	11	110 (118)	70	38	90	110	12
ø63	35	M18 × 1.5	94 (102)	14	23	156 (164)	50	9	11	110 (118)	80	38	100	120	12
ø80	40	M22 × 1.5	114 (124)	20	32	190 (200)	63	12	16	134 (144)	100	43	126	153	16
ø100	40	M26 × 1.5	114 (124)	20	32	190 (200)	75	14	16	134 (144)	120	51	150	178	16

*1: Dimensions in () indicate rubber cushion type.
 *2: For dimensions with each switch, refer to P. 608, 609.
 *3: For outer dimensions diagram of accessories, refer to P. 511.

General Type

SCP□3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

General Type

SCP□3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

Cylinder Switch

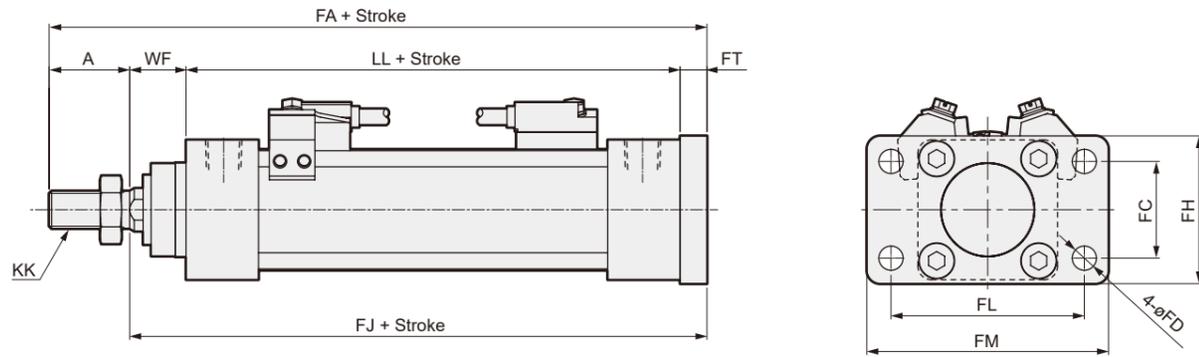
Ending

Cylinder Switch

Ending

Outline Dimension Drawing

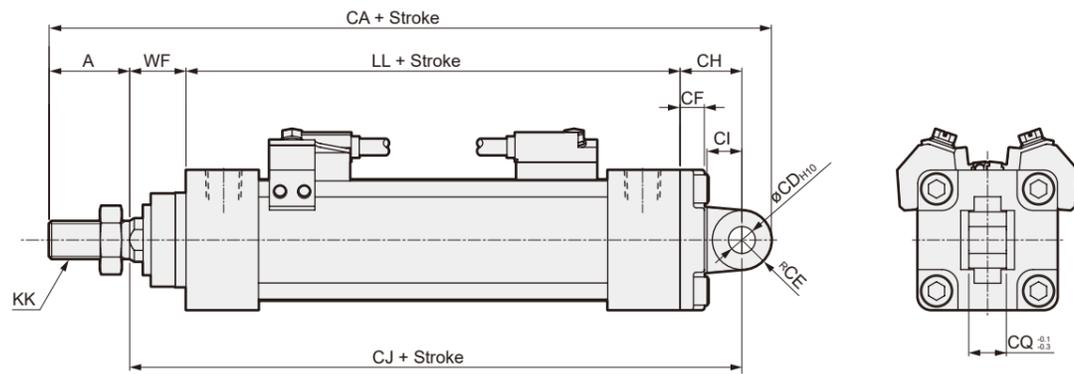
●Rod side flange type (FB)



Code	Rod Side Flange Type (FB) Mounting Dimensions												
	Bore Size (mm)	A	KK	LL *1	WF	FA *1	FC	FD	FH	FJ *1	FL	FM	FT
SCP□3	ø32	22	M10 × 1.25	84 (90)	25	141 (147)	32	7	50	119 (125)	64	79	10
CMK2	ø40	30	M14 × 1.5	84 (90)	21	145 (151)	36	9	55	115 (121)	72	90	10
CMA2	ø50	35	M18 × 1.5	94 (102)	23	164 (172)	45	9	70	129 (137)	90	110	12
	ø63	35	M18 × 1.5	94 (102)	23	164 (172)	50	9	80	129 (137)	100	120	12
SCM	ø80	40	M22 × 1.5	114 (124)	32	202 (212)	63	12	100	162 (172)	126	153	16
	ø100	40	M26 × 1.5	114 (124)	32	202 (212)	75	14	120	162 (172)	150	178	16

*1: Dimensions in () indicate rubber cushion type.
 *2: For dimensions with each switch, refer to P. 608, 609.
 *3: For outer dimensions diagram of accessories, refer to P. 511.

●Single Clevis Type (CA)

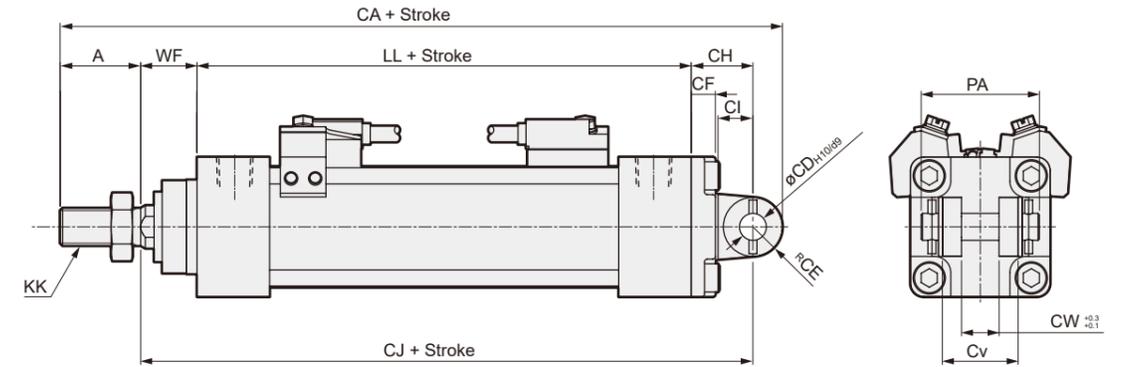


Code	Single Clevis Type (CA) Mounting Dimensions												
	Bore Size (mm)	A	KK	LL *1	WF	CA *1	CD	CE	CF	CH	CI	CJ *1	CQ
SCP□3	ø32	22	M10 × 1.25	84 (90)	25	164.5 (170.5)	10	10.5	9	23	13	132 (138)	14
CMK2	ø40	30	M14 × 1.5	84 (90)	21	169 (175)	10	11	9	23	13	128 (134)	14
CMA2	ø50	35	M18 × 1.5	94 (102)	23	197 (205)	14	15	12	30	17	147 (155)	20
	ø63	35	M18 × 1.5	94 (102)	23	197 (205)	14	15	12	30	17	147 (155)	20
SCM	ø80	40	M22 × 1.5	114 (124)	32	251 (261)	22	23	15	42	26	188 (198)	30
	ø100	40	M26 × 1.5	114 (124)	32	251 (261)	22	23	15	42	26	188 (198)	30

*1: Dimensions in () indicate rubber cushion type.
 *2: For dimensions with each switch, refer to P. 608, 609.
 *3: For outer dimensions diagram of accessories, refer to P. 511.

Outline Dimension Drawing

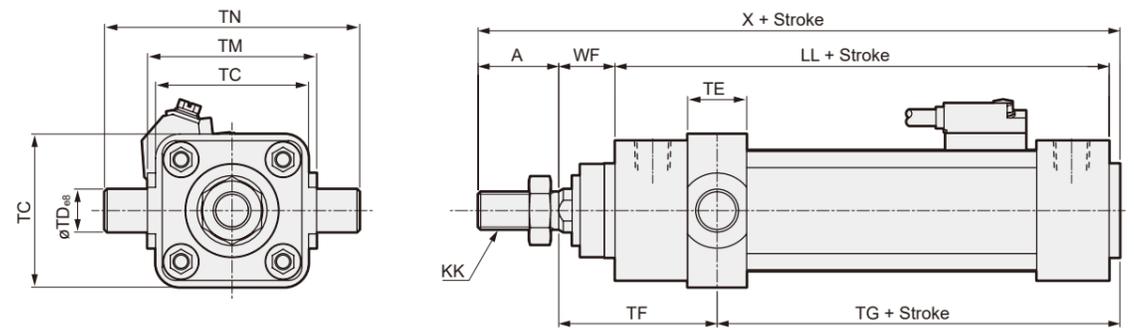
●Double clevis type (CB)



Code	Double Clevis Type (CB) Mounting Dimensions														
	Bore Size (mm)	A	KK	LL *1	WF	CA *1	CD	CE	CF	CH	CI	CJ *1	Cv	CW	PA
SCP□3	ø32	22	M10 × 1.25	84 (90)	25	164.5 (170.5)	10	10.5	9	23	13	132 (138)	28	14	44
CMK2	ø40	30	M14 × 1.5	84 (90)	21	169 (175)	10	11	9	23	13	128 (134)	28	14	44
CMA2	ø50	35	M18 × 1.5	94 (102)	23	197 (205)	14	15	12	30	17	147 (155)	40	20	60
	ø63	35	M18 × 1.5	94 (102)	23	197 (205)	14	15	12	30	17	147 (155)	40	20	60
SCM	ø80	40	M22 × 1.5	114 (124)	32	251 (261)	22	23	15	42	26	188 (198)	60	30	82
	ø100	40	M26 × 1.5	114 (124)	32	251 (261)	22	23	15	42	26	188 (198)	60	30	82

*1: Dimensions in () indicate rubber cushion type.
 *2: For dimensions with each switch, refer to P. 608, 609.
 *3: For outer dimensions diagram of accessories, refer to P. 511.

●Rod side trunnion type (TA)

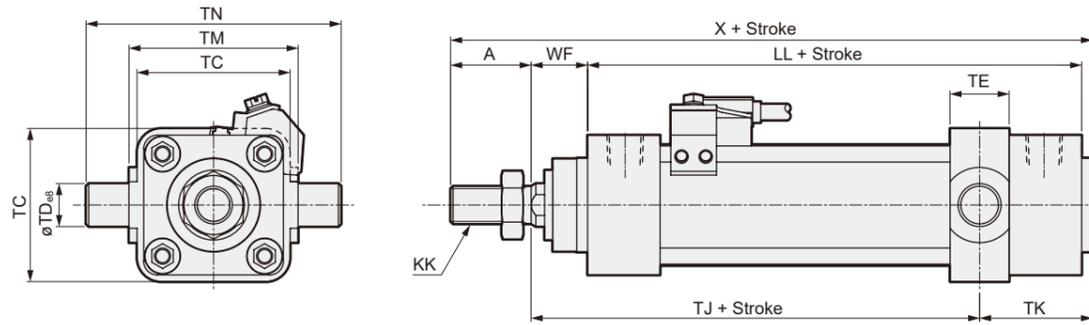


Code	Rod Side Trunnion Type (TA) Mounting Dimensions												
	Bore Size (mm)	A	KK	LL *1	WF	X *1	TC	TD	TE	TF	TG *1	TM	TN
SCP□3	ø32	22	M10 × 1.25	84 (90)	25	135 (141)	47	12	17	61.5	51.5 (57.5)	50	74
CMK2	ø40	30	M14 × 1.5	84 (90)	21	139 (145)	57	16	22	60	49 (55)	63	95
CMA2	ø50	35	M18 × 1.5	94 (102)	23	156 (164)	67	16	22	66.5	54.5 (62.5)	75	107
	ø63	35	M18 × 1.5	94 (102)	23	156 (164)	82	20	28	69.5	51.5 (59.5)	90	130
SCM	ø80	40	M22 × 1.5	114 (124)	32	190 (200)	100	20	34	88	62 (72)	110	150
	ø100	40	M26 × 1.5	114 (124)	32	190 (200)	121	25	40	91	59 (69)	132	182

*1: Dimensions in () indicate rubber cushion type.
 *2: For dimensions with each switch, refer to P. 608, 609.
 *3: For outer dimensions diagram of accessories, refer to P. 511.

Outline Dimension Drawing

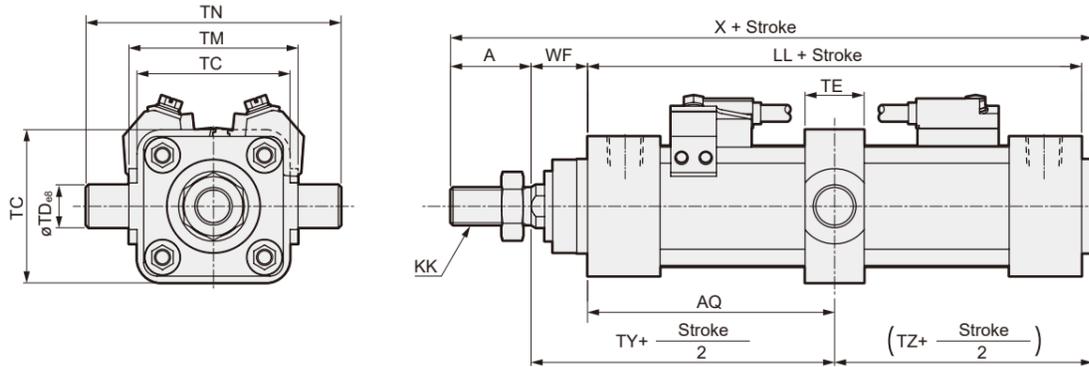
●Head Side Trunnion Type (TB)



Code	Head Side Trunnion Type (TB) Mounting Dimensions												
	Bore Size (mm)	A	KK	LL *1	WF	X *1	TC	TD	TE	TJ *1	TK	TM	TN
SCP□3	ø32	22	M10 × 1.25	84 (90)	25	135 (141)	47	12	17	72.5 (78.5)	40.5	50	74
	ø40	30	M14 × 1.5	84 (90)	21	139 (145)	57	16	22	66 (72)	43	63	95
CMK2	ø50	35	M18 × 1.5	94 (102)	23	156 (164)	67	16	22	73.5 (81.5)	47.5	75	107
	ø63	35	M18 × 1.5	94 (102)	23	156 (164)	82	20	28	70.5 (78.5)	50.5	90	130
CMA2	ø80	40	M22 × 1.5	114 (124)	32	190 (200)	100	20	34	90 (100)	60	110	150
	ø100	40	M26 × 1.5	114 (124)	32	190 (200)	121	25	40	87 (97)	63	132	182

*1: Dimensions in () indicate rubber cushion type.
 *2: For dimensions with each switch, refer to P. 608, 609.
 *3: For outer dimensions diagram of accessories, refer to P. 511.

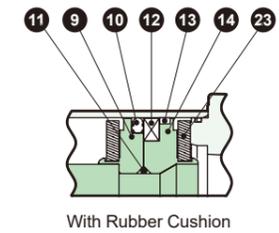
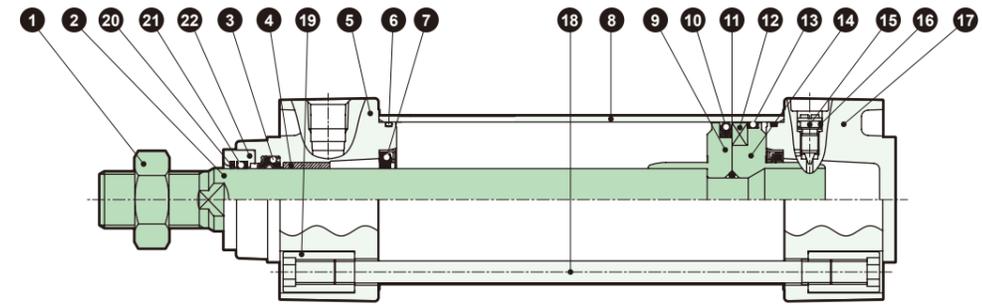
●Intermediate trunnion type (TC)



Code	Intermediate Trunnion Type (TC) Mounting Dimensions													
	Bore Size (mm)	A	KK	LL *1	WF	X *1	AQ *1	TC	TD	TE	TY *1	TZ *1	TM	TN
	ø32	22	M10 × 1.25	84 (90)	25	135 (141)	42 (45) + Stroke/2	47	12	17	67 (70)	46 (49)	50	74
	ø40	30	M14 × 1.5	84 (90)	21	139 (145)	42 (45) + Stroke/2	57	16	22	63 (66)	46 (49)	63	95
	ø50	35	M18 × 1.5	94 (102)	23	156 (164)	47 (51) + Stroke/2	67	16	22	70 (74)	51 (55)	75	107
	ø63	35	M18 × 1.5	94 (102)	23	156 (164)	47 (51) + Stroke/2	82	20	28	70 (74)	51 (55)	90	130
	ø80	40	M22 × 1.5	114 (124)	32	190 (200)	57 (62) + Stroke/2	100	20	34	89 (94)	61 (66)	110	150
	ø100	40	M26 × 1.5	114 (124)	32	190 (200)	57 (62) + Stroke/2	121	25	40	89 (94)	61 (66)	132	182

*1: Dimensions in () indicate rubber cushion type.
 *2: For dimensions with each switch, refer to P. 608, 609.
 *3: For outer dimensions diagram of accessories, refer to P. 511.

Internal Structure Diagram/Material



Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Rod Nut	Steel	Nickel Plating	13	Wear Ring	Polyacetal	
2	Piston Rod	Steel	Industrial Hard Chrome Plating	14	Piston H	Aluminum Alloy	
3	Rod Packing	Nitrile Rubber		15	Cushion Needle	Copper Alloy	Nickel Plating
4	Bushing	Oil-impregnated Bearing Alloy		16	Needle Gasket	Nitrile Rubber	
5	Rod Cover	Aluminum Alloy	Painting	17	Head Cover	Aluminum Alloy	Painting
6	Cylinder Gasket	Nitrile Rubber		18	Tie Rod	Steel	Zinc Chromate
7	Cushion Packing	Nitrile Rubber, Steel	Only with air cushion	19	Round Nut	Steel	Zinc Chromate
8	Cylinder Tube	Aluminum Alloy	Hard Anodized	20	Coil scraper	Copper Alloy	
9	Piston R	Aluminum Alloy		21	Lube keeper	Special Resin	
10	Piston Packing	Nitrile Rubber		22	Adapter	Stainless Steel	
11	Piston Gasket	Nitrile Rubber		23	Cushion Rubber	Urethane Rubber	Only with rubber cushion
12	Magnet	Plastic					

Mounting Bracket Material

Mounting type	Material	Remarks
Foot (LB)	Steel	Nickel Plating
Flange (FA / FB)	Steel	Painting
Single clevis (CA), Double clevis (CB)	Cast Iron	Painting
Trunnion (TA, TB, TC)	Cast Iron	Painting

Note: Mounting brackets are attached to the product and shipped. However, in the case of trunnion types (TA, TB, TC), they will be shipped assembled.

For Maintenance Parts, please visit the CKD Equipment Product Site
 (https://www.ckd.co.jp/kiki/en/) → "model No." → Maintenance Parts

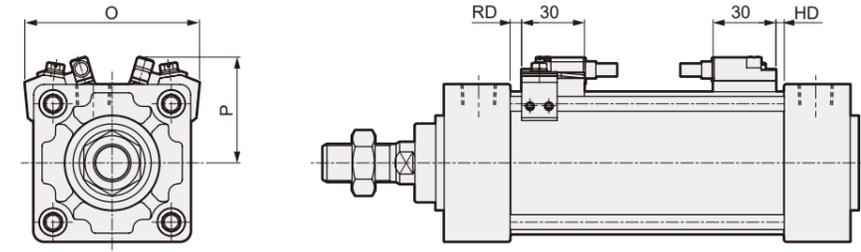
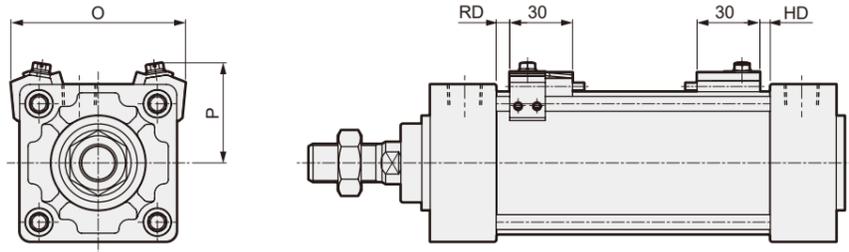
SCG Series Switch-equipped External Dimension Diagram

- T0H/V, T5H/V, T2H/V, T3H/V, T3PH/V, T2[H/V]R3, T2WH/V, T3WH/V, T2WLH/V, T8H/V, T2JH/V, T2YLH, T3YLH
- SCG, SCG-Q-R, SCG-Q-H, SCG-O, SCG-U, SCG-M, SCG-G, SCG-G2, SCG-G3

SCG Series Switch-equipped External Dimension Diagram

- T1H/V, T2YD, T2YDT
- SCG, SCG-Q-R, SCG-Q-H, SCG-O, SCG-U, SCG-M, SCG-G, SCG-G4

General Type



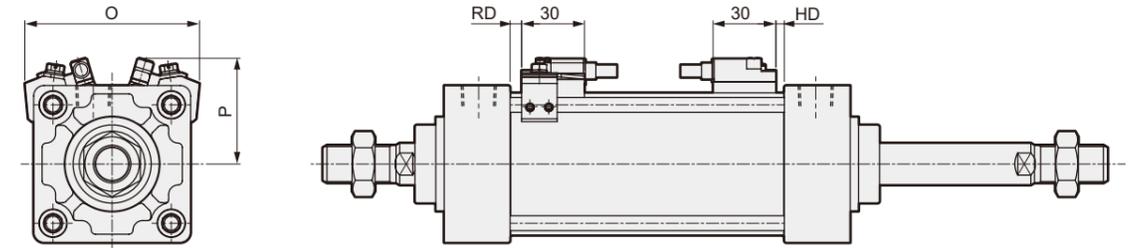
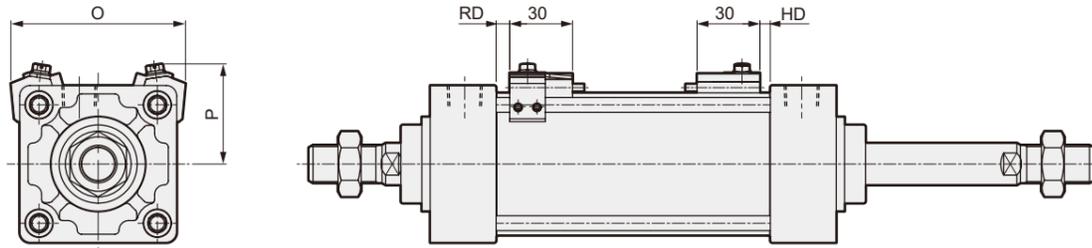
General Type

SCP□3

- SCG-D

- SCG-D

CMK2



SCP□3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CMA2

SCM

SCG

SCA2

SCS2

Code	SCG, SCG-Q-R, SCG-Q-H, SCG-O, SCG-U, SCG-M, SCG-G, SCG-G2, SCG-G3, SCG-D									
	O	P	T0, T5, T2, T3, T3P, T2□R3		T2W, T3W, T2WL		T8		T2J, T2YLH, T3YLH	
			RD	HD	RD	HD	RD	HD	RD	HD
ø32	59	38	5 (8)	5 (8)	7.5 (10.5)	7.5 (10.5)	0 (2)	0 (2)	4 (7)	4 (7)
ø40	66	41	5 (8)	5 (8)	7.5 (10.5)	7.5 (10.5)	0 (2)	0 (2)	4 (7)	4 (7)
ø50	72	43	6.5 (10.5)	5 (9)	9 (13)	7 (11)	0.5 (4.5)	0 (3)	5.5 (9.5)	4 (8)
ø63	83	48	6.5 (10.5)	5 (9)	9 (13)	7 (11)	0.5 (4.5)	0 (3)	5.5 (9.5)	4 (8)
ø80	104	57	12.5 (17.5)	6 (11)	15 (20)	8 (13)	6.5 (11.5)	0 (5)	11.5 (16.5)	5 (10)
ø100	121	63	12 (17)	6.5 (11.5)	14.5 (19.5)	8.5 (13.5)	6 (11)	0.5 (5.5)	11 (16)	5.5 (10.5)

*1: For switch mountability, refer to the model number display method for each variation.
*2: Dimensions in () indicate rubber cushion type.

Code	SCG, SCG-Q-R, SCG-Q-H, SCG-O, SCG-U, SCG-M, SCG-G, SCG-G4, SCG-D			
	O	P	T1, T2YD, T2YDT	
			RD	HD
ø32	59	38	4 (7)	4 (7)
ø40	66	41	4 (7)	4 (7)
ø50	72	44	5.5 (9.5)	4 (8)
ø63	83	50	5.5 (9.5)	4 (8)
ø80	104	57	11.5 (16.5)	5 (10)
ø100	121	64	11 (16)	5.5 (10.5)

*1: For switch mountability, refer to the model number display method for each variation.
*2: Dimensions in () indicate rubber cushion type.

Cylinder Switch

Ending

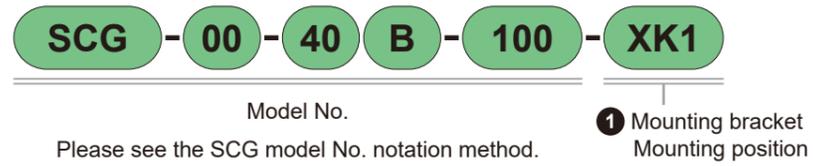
Cylinder Switch

Ending

■ Mounting Bracket Rotated Assembly (-XK□)

Content: Specifies the mounting position of the mounting bracket.

Model No. Notation Method



1 Mounting bracket mounting position

Code	Content
XK1	Rotate mounting bracket 90° clockwise
XK2	Rotate mounting bracket 180° clockwise
XK3	Rotate mounting bracket 270° clockwise

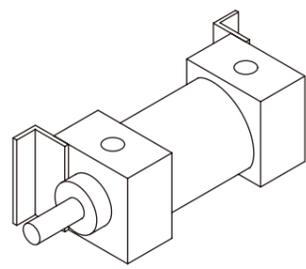
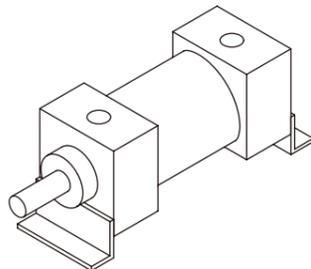
*1: For flanges and trunnions, only XK1 (90° rotation) is applicable.

External view

*Port and cushion needle positions do not change.

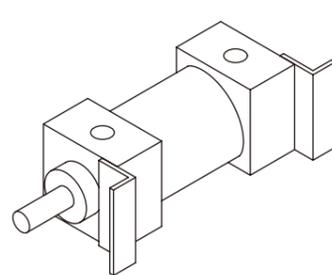
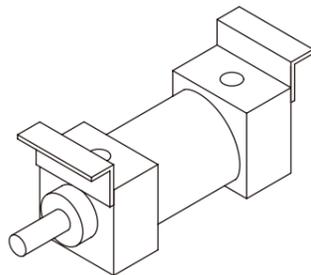
● Basic

● K1



● K2

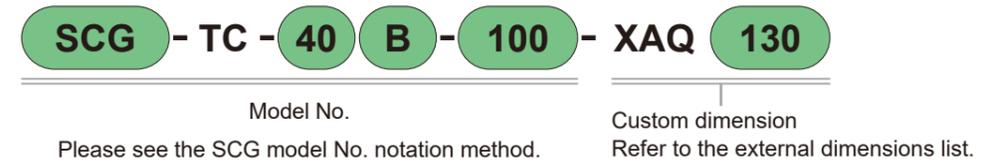
● K3



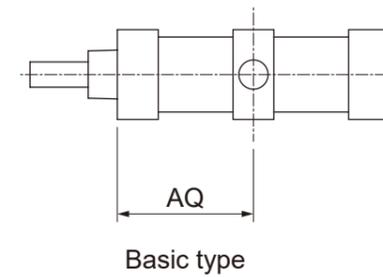
■ Trunnion Position Specification (-XAQ□□)

Content: Specify the dimension from the rod cover end face to the center of the trunnion axis.

Model No. Notation Method



Outer Dimensions Diagram



■ Knuckle Fixed by Pinning (-XP7)

Content: Also, drive a spring pin into the knuckle to prevent loosening.

Model No. Notation Method

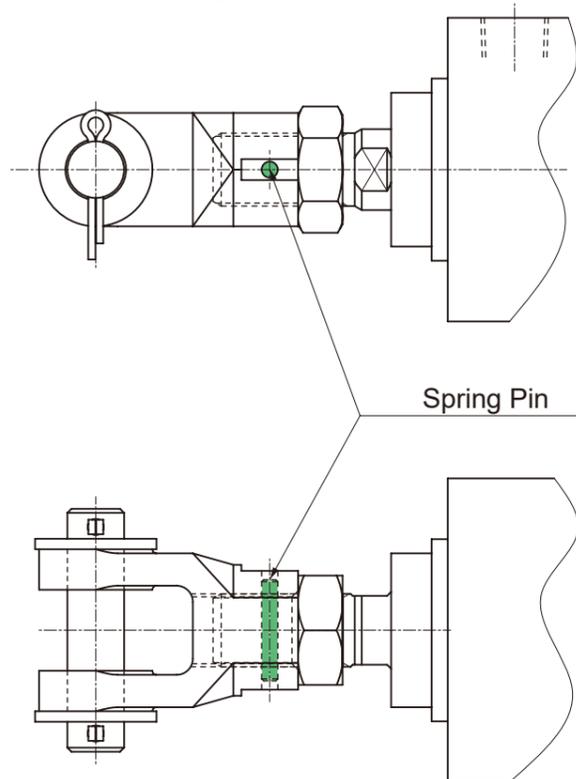
SCG - TC - 40 B - 100 - Y -XP7

Model No.

Please see the SCG model No. notation method.

Outer Dimensions Diagram

Same as with Knuckle specification.
(Spring pin driving direction varies depending on the model.)



■ Without Bellows (-XJ9)

Content: Piston rod with dimensions for bellows, but bellows not assembled

Model No. Notation Method

SCG - 00 - 40 B - 100 - XJ9

Model No.

Please see the SCG model No. notation method.

Outline Dimension Drawing

Same dimensions as with bellows, but bellows are not included.

■ Fluorine Packing Type (-T2)

Content: Change the rod packing, piston packing and O-rings to FKM. (Cushion packing is not changed)

Model No. Notation Method

SCG - T2 - 00 - 40 B - 100

Model No.

Please see the SCG model No. notation method.

Outer Dimensions Diagram

Same as standard type.

■ With 2 Rod Nuts (-A2)

Content: Shipped with 2 rod nuts, same as standard.

Model No. Notation Method

SCG - 00 - 40 B - 100 - A2

Model No.

Please see the SCG model No. notation method.

Outer Dimensions Diagram

Same as standard type except that 2 rod nuts are included.



To Use This Product Safely

Be sure to read this before use.

For general cylinder information, see Intro 41, and for cylinder switches, see P. 1026.

Individual Precautions: Tie-rod cylinder SCG Series

During Design / Selection

1. Common

Caution

- Install a speed controller on the cylinder.
Install a speed controller on the cylinder. Please use within the operating piston speed range of each series.

Caution

- Rubber cushion type and air cushion type are available as cushion mechanisms built into the cylinder. The purpose of the air cushion is to absorb the kinetic energy held by the piston by utilizing the compressibility of air, and to prevent the piston and cover from hitting impulsively at the stroke end. Therefore, the cushion is not for low-speed operation (deceleration operation) of the piston speed from near the stroke end. The table below shows the kinetic energy that can be absorbed by the cushion. If the kinetic energy exceeds this value or if you want to avoid bouncing due to air compressibility, please consider a separate shock absorber.

Bore Size (mm)	Rubber Cushion	Air Cushion	
	Allowable Absorption Energy J	Effective air cushion Length (mm)	Allowable Absorption Energy J
ø32	0.5	8.6	2.5
ø40	0.9	8.6	3.7
ø50	1.6	13.4	8.0
ø63	1.6	13.4	14.4
ø80	3.3	15.4	25.4
ø100	5.8	15.4	45.6

$$\text{Kinetic Energy (J)} = \frac{1}{2} \times \text{Mass (kg)} \times \frac{1}{2} [\text{Speed (m/s)}]^2$$

(Note) How to calculate kinetic energy

The average speed of the cylinder is obtained by $V_a = \frac{L}{T}$. V_a : Average speed (m/s) L : Cylinder stroke (m) T : Operating Time (s)

On the other hand, the cylinder speed just before entering the cushion is It can be obtained by the following simplified formula.

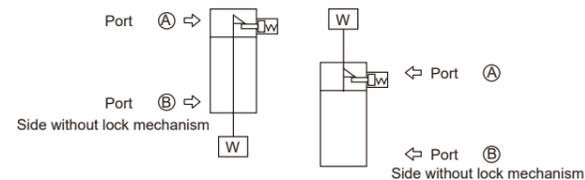
$$V_m = \frac{L}{T} \left(1 + 1.5 \times \frac{\omega}{100} \right)$$

 V_m : Speed just before entering cushion (m/s) ω : Cylinder load factor (%)For calculating kinetic energy, use this V_m value as the speed.

2. Drop prevention type SCG-Q

Warning

- In a locked state, if pressure is supplied to the port (A) from a state where both ports are unpressurized, the lock may not release, or the lock may suddenly release and the piston rod may fly out, which is very dangerous. When releasing the lock mechanism, always supply pressure to the port (B) and release it from a state where no load is applied to the lock mechanism.



- When using a quick exhaust valve to increase the lowering speed, the cylinder body may start moving before the lock pin operates, and normal release may not be possible. Do not use a quick exhaust valve with a drop prevention type cylinder.

- Do not use 3-position valves.

Do not use in combination with 3-position valves (especially closed-center metal seal type). If pressure is sealed in the port on the side with the lock mechanism, the lock will not engage. Also, even if locked, air leaked from the solenoid valve may enter the cylinder, and the lock may be released over time.

Caution

- Keep the cylinder load factor at 50% or less.
If the load factor is high, the lock may not be released, or it may lead to damage to the lock part.
- If back pressure is applied to the lock mechanism side, the lock may be released, so use a single solenoid valve or a manifold with individual exhaust.
- Do not use multiple cylinders synchronized.
Do not use a method where two or more fall prevention type cylinders are synchronized to move one workpiece. The lock of one of the cylinders may become unremovable.

3. Low-friction type SCG-U

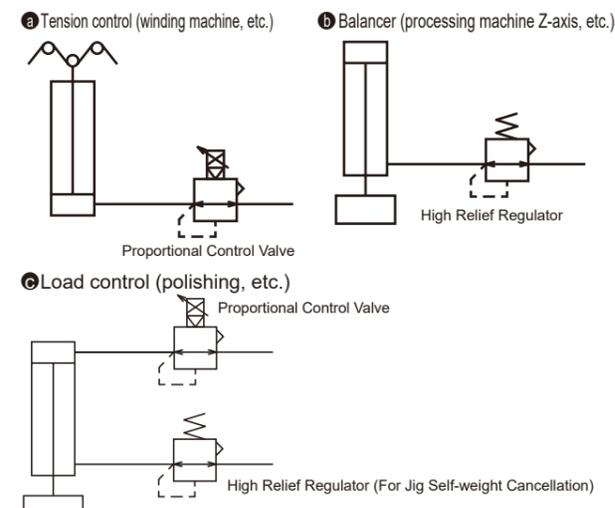
Warning

- Durability varies depending on usage conditions and model characteristics.

This cylinder is a cylinder with internal leakage. For leakage volume, check the specifications (P. 546).

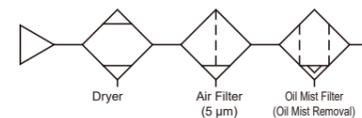
Caution

- When used with a balancer, etc., it may be better not to install a speed controller to improve supply/exhaust efficiency. Depending on the application, circuits (a) to (c) below are recommended.



*To improve supply/exhaust characteristics, maximize piping volume as much as possible.

- Do not lubricate. It will cause characteristics to fluctuate.
- Poor quality air will adversely affect characteristics and durability, so please use clean air with the piping below.



- Install the speed controller near the cylinder.
If installed far from the cylinder, adjustment will be unstable.
- Generally, the higher the air pressure and the lower the load factor, the more stable the speed.
Use with a load factor of 50% or less.

4. Cutting oil resistant type SCG-G2/G3

Caution

- Do not apply an eccentric load to the piston rod.
This may reduce the life of scrapers and bearings.
- Please note that if there is no scattering of cutting oil or water with G2 and G3 series, the lubrication of the piston rod will be cut off and the service life will be reduced. In such cases, please use the G series.

5. Spatter adhesion prevention type SCG-G4

Warning

- This cylinder series has improved durability in a spatter scattering atmosphere compared to general-purpose cylinders. However, please note that durability may be inferior to general type cylinders when used in other atmospheres.

During Use

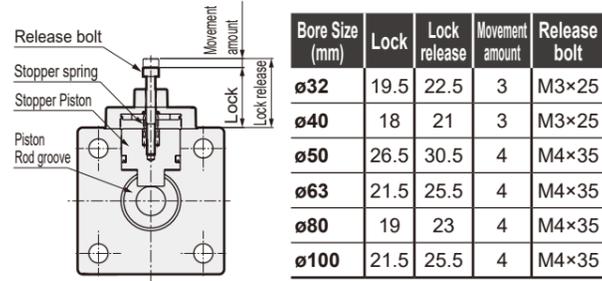
1. Drop prevention type SCG-Q

Caution

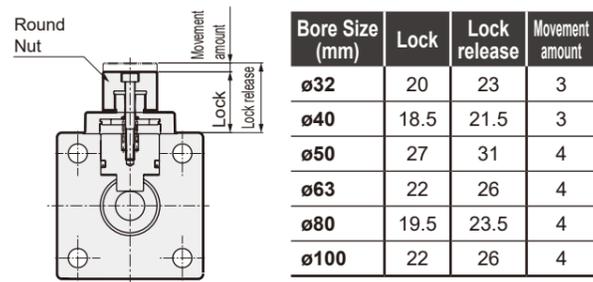
- Supply pressure equal to or higher than the minimum operating pressure to the port on the side with the lock mechanism.
- If the piping on the side with the lock mechanism is thin and long, or if the speed controller is far from the cylinder port, the exhaust speed may be slow and it may take time for the lock to engage, so please be careful.

- Use the speed controller with meter-out control. Lock may not be released with meter-in control.

- Manual operation non-locking type release method
Screw the release bolt into the stopper piston and pull the bolt with a force of 20N or more by the amount of movement, and the stopper piston will move and the lock will be released. (When mounted horizontally with no load or when the opposite port is pressurized) Also, when you release your hand, the built-in spring returns the stopper piston to its original position, and when it re-enters the piston rod groove, the piston will be locked.



- Manual operation locking type release method
When the round nut is turned to the left (counterclockwise), the stopper piston moves and the lock is released. Also, if you turn it to the right to the lock position, the stopper piston will return, and when it re-enters the piston rod groove, the piston will be locked.



2. Low-friction type SCG-U

Caution

- Do not apply lateral load to the cylinder. Also, install the sliding guide so that it does not get twisted.
 - Operation will become unstable if there are fluctuations in load or resistance.
 - In the case of a long stroke, the speed becomes unstable due to the self-weight of the piston rod. Please install and use a guide.
 - Guides with a large difference between static friction and dynamic friction will result in unstable operation.
- Avoid use in places with vibration.
 - Operation becomes unstable due to the influence of vibration.
- Avoid use in steam, humid environments, or alkaline atmospheres.

3. Non-rotating type SCG-M

Caution

- Do not use in a way that applies rotational torque to the piston rod. The non-rotating bushing will deform and the service life will be significantly reduced.

MEMO

For precautions regarding mounting, installation, adjustment, use, and maintenance, please see "Precautions for Use" in this catalog and the CKD Components Product website (<https://www.ckd.co.jp/kiki/en/>) -> "Model No." -> [Instruction Manual](#)