

Tie rod cylinder, double acting low speed type

# SCG-O Series

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

JIS symbol



## Specifications

Descriptions		SCG-O					
Bore size	mm	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$
Actuation	Double acting						
Working fluid	Compressed air						
Max. working pressure	MPa			1.0			
Min. working pressure	MPa			0.05			
Withstanding pressure	MPa			1.6			
STK	Ambient temperature	°C	-10 to 60 (no freezing)				
ULK*	Port size	Rc1/8	Rc1/4	Rc3/8	Rc1/2		
JSK/M2	Stroke tolerance	mm	$^{+1.0}_0$ (Up to 360), $^{+1.4}_0$ (361 to 800)				
JSG	Working piston speed	mm/s	10 to 200 (use within the allowable energy absorption.)				
JSC3	Cushion		None				
USSD	Lubrication		Not available				
USC	Allowable energy absorption J	No cushion	0.018	0.032	0.057	0.057	0.112
JSB3			If "No cushion" is selected, the large energy generated by the external load cannot be absorbed. So an external shock absorber should be used.				
LMB							
STG							
STS/L							
LCS							
LCG							
LCM	Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)			
LCT	$\phi 32$	25, 50, 75, 100 150, 200, 250 300, 350, 400	600	1			
LCY	$\phi 40$						
STR2	$\phi 50$						
UCA2	$\phi 63$						
HCM	$\phi 80$						
HCA	$\phi 100$						
SRL2							
SRG							
SRM							
SRT							
MRL2							
MRG2							
SM-25							
CAC3							
UCAC							
RCC2							
MFC							
SHC							
GLC							

Note 1: When using  $\phi 32$  and leaving for a long time, use with a pressure of 0.1 MPa or higher.

## Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
$\phi 32$			
$\phi 40$	25, 50, 75, 100	600	
$\phi 50$	150, 200, 250		
$\phi 63$	300, 350, 400		
$\phi 80$	450, 500	700	
$\phi 100$		800	

Note 1: The custom stroke can be manufactured in 1 mm increments.

Note 2: If the maximum stroke is exceeded, product specifications may not be met, depending on operating conditions. Consult with CKD in this case.

## Min. stroke length with T0/T5 switch

Switch quantity	Different surface installation				Same surface installation				Center trunnion installation				Rod end trunnion installation The position cannot be detected on rod side stroke end.	Head end trunnion installation The position cannot be detected on head side stroke end.
	1	2	3	4	1	2	3	4	1	2	3	4		
Bore size (mm)	1	2	3	4	1	2	3	4	1	2	3	4	1	1
$\phi 32$	9	17	34	51	9	48 (31)	84 (62)	115 (92)	100 (100)	100 (100)	191 (161)	191 (161)	45	45
$\phi 40$	9	18	36	54	9	54 (31)	84 (62)	115 (92)	87 (87)	87 (87)	178 (148)	178 (148)	41	41
$\phi 50$	9	18	36	54	9	18	36	54	116 (116)	116 (116)	121 (121)	121 (121)	54	55
$\phi 63$	10	19	38	57	10	19	38	57	89 (77)	89 (77)	99 (99)	99 (99)	44	44
$\phi 80$	10	20	39	59	10	20	39	59	100 (70)	100 (70)	111 (111)	111 (111)	43	49
$\phi 100$	10	20	40	60	10	20	40	60	105 (75)	105 (75)	117 (117)	117 (117)	49	55

● Note 1: Value in ( ) for T\*V (Radial lead wire).

● Note 2: When stroke length is not greater than 15 mm, two switches could turn ON at the same time. In this case, adjust the distance between switches as far as possible.

## Min. stroke length with T8 switch

Switch quantity	Different surface installation				Same surface installation				Center trunnion installation				Rod end trunnion installation The position cannot be detected on rod side stroke end.	Head end trunnion installation The position cannot be detected on head side stroke end.
	1	2	3	4	1	2	3	4	1	2	3	4		
Bore size (mm)	1	2	3	4	1	2	3	4	1	2	3	4	1	1
$\phi 32$	9	17	34	51	9	54 (31)	84 (62)	115 (92)	100 (100)	100 (100)	191 (161)	191 (161)	45	45
$\phi 40$	9	18	36	54	9	54 (31)	84 (62)	115 (92)	87 (87)	87 (87)	178 (148)	178 (148)	41	41
$\phi 50$	9	18	36	54	9	18	36	54	116 (116)	116 (116)	121 (121)	121 (121)	54	55
$\phi 63$	10	19	38	57	10	19	38	57	89 (77)	89 (77)	99 (99)	99 (99)	44	44
$\phi 80$	10	20	39	59	10	20	39	59	100 (70)	100 (70)	111 (111)	111 (111)	43	49
$\phi 100$	10	20	40	60	10	20	40	60	105 (75)	105 (75)	117 (117)	117 (117)	49	55

● Note 1: Value in ( ) for T\*V (Radial lead wire).

● Note 2: When stroke length is not greater than 15 mm, two switches could turn ON at the same time. In this case, adjust the distance between switches as far as possible.



# SCG-O Series

SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

## How to order

Without switch

**SCG-O - LB - 32 - N - 100 - J - Y**

With switch

**SCG-O - LB - 32 - N - 100 - T2H - R - J - Y**

Model no.

**A Mounting style**  
Note 1

**B Bore size**

**C Port thread type**

**D Cushion**

**E Stroke length**

**F Switch model no.**

**G Switch quantity**

Note 3

**H Option**

Note 4

### ⚠ Note on model no. selection

Note 1: The mounting bracket is shipped with the product.  
(However, trunnion type is installed onto the product when shipped.)

Note 2: Refer to page 386 for min. stroke length with switch.  
Note 3: When selecting TA or TB for mounting, the number of switches is limited to "H" (one on head side) for TA, and "R" (one on rod end) for TB.

Note 4: "I" and "Y" cannot be selected at the same time.

### <Example of model number>

**SCG-O-LB-40N-100-T2H-D-MI**

Model: Tie rod cylinder double acting low speed type

**A Mounting style** : Axial foot type

**B Bore size** :  $\phi$  40 mm

**C Port thread type** : Rc thread

**D Cushion** : No cushion

**E Stroke length** : 100 mm

**F Switch model no.** : Proximity T2H switch, lead wire 1 m

**G Switch quantity** : Two

**H Option** : Piston rod material (stainless steel)

**I Accessory** : Rod eye (attachment)

Symbol	Descriptions		
<b>A Mounting style</b>			
00	Basic type		
LB	Axial foot type		
FA	Rod end flange type		
FB	Head end flange type		
CA	Eye bracket type		
CB	Clevis bracket type (pin and split pin attached)		
TA	Rod end trunnion type		
TB	Head end trunnion type		
TC	Center trunnion type		
<b>B Bore size (mm)</b>			
32	$\phi$ 32		
40	$\phi$ 40		
50	$\phi$ 50		
63	$\phi$ 63		
80	$\phi$ 80		
100	$\phi$ 100		
<b>C Port thread type</b>			
Blank	Rc thread		
N	NPT thread (custom order)		
G	G thread (custom order)		
<b>D Cushion</b>			
N	No cushion		
Note: Consult with CKD for the availability of the type with air cushion and type with rubber cushion.			
<b>E Stroke length (mm)</b>			
<b>Bore size</b>	<b>Stroke length Note 2</b>		
$\phi$ 32	1 to 600		
$\phi$ 40		Per 1 mm increment	
$\phi$ 50			
$\phi$ 63			
$\phi$ 80			1 to 700
$\phi$ 100	1 to 800		
<b>F Switch model no.</b>			
<b>Axial lead wire</b>	<b>Radial lead wire</b>		
T0H*	T0V*		
T5H*	T5V*		
T8H*	T8V*		
T1H*	T1V*		
T2H*	T2V*		
T3H*	T3V*		
T3PH*	T3PV*		
T2YH*	T2YV*		
T3YH*	T3YV*		
T2YFH*	T2YFV*		
T3YFH*	T3YFV*		
T2YMH*	T2YMV*		
T3YMH*	T3YMV*		
T2YD*	-		
T2YDT*	-		
T2JH*	T2JV*		
<b>*Lead wire length</b>			
Blank	1 m (standard)		
3	3 m (option)		
5	5 m (option)		
<b>G Switch quantity</b>			
R	1 on rod end		
H	1 on head end		
D	Two		
T	Three		
<b>H Option</b>			
M	Piston rod material (stainless steel)		
P6	Copper and PTFE free		
<b>I Accessory</b>			
I	Rod eye		
Y	Rod clevis (pin and split pin attached)		
B1	Eye bracket		
B2	Clevis bracket (pin and split pin attached)		
B3	Eye bracket		
B4	Trunnion type No. 2 bracket		

## How to order switch

- Switch body + mounting bracket

**SCG** - **T0H** - **40**

Switch model no.  
(Section F in previous page)

Bore size  
(Section B in previous page)

- Only switch body

**SW** - **T0H**

Switch model no.  
(Section F in previous page)

- Switch bracket set

**SCG** - **T** - **40**

Bracket  
(Section B in previous page)

Bore size  
(Section B in previous page)

Note: Consult with CKD when using  
the environment compatible  
T-type switch.

SCP*2
CMK2
CMA2
SCM
<b>SCG</b>
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

Tie rod cylinder  
Standard type

## How to order mounting bracket

Bore size (mm) Mounting bracket	φ32	φ40	φ50	φ63	φ80	φ100
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
Eye (CA)	SCG-CA-32	SCG-CA-40	SCG-CA-50	SCG-CA-63	SCG-CA-80	SCG-CA-100
Clevis (CB)	SCG-CB-32	SCG-CB-40	SCG-CB-50	SCG-CB-63	SCG-CB-80	SCG-CB-100

Note: 2 piece/set is applied for a foot type mounting bracket.

## Dimensions

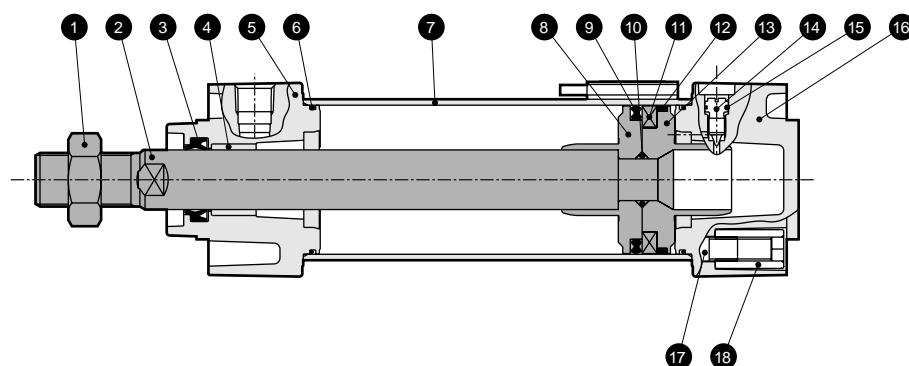
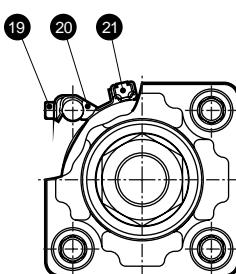
It is same as double acting single rod type. Refer to pages 355 to 363.

# SCG-O Series

## Internal structure and parts list

SCP*2
CMK2
CMA2
SCM
<b>SCG</b>
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC

● SCG-O



No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Rod nut	Steel	Nickel plating	12	Wear ring	Polyacetal resin	
2	Piston rod	Steel	Industrial chrome plating	13	Piston H	$\phi 32$ , $\phi 40$ : aluminum alloy $\phi 50$ to 100: aluminum alloy die-casting	
3	Rod packing seal	Nitrile rubber		14	Cushion needle	Copper alloy	
4	Bush	Oil impregnated bearing alloy		15	Needle gasket	Nitrile rubber	
5	Rod cover	Aluminum alloy die-casting	Paint	16	Head cover	Aluminum alloy die-casting	Paint
6	Cylinder gasket	Nitrile rubber		17	Tie rod	Steel	Zinc chromate plating
7	Cylinder tube	Aluminum alloy	Hard alumite treatment	18	Round nut	Steel	Zinc chromate plating
8	Piston R	$\phi 32$ , $\phi 40$ : aluminum alloy $\phi 50$ to 100: aluminum alloy die-casting		19	Hexagon socket head cap bolt	Stainless steel	
9	Piston packing seal	Nitrile rubber		20	Switch bracket	Stainless steel	
10	Piston gasket	Nitrile rubber		21	Switch		
11	Magnet	Plastic					

## Repair parts list

Bore size (mm)	Kit No.	Repair parts number
$\phi 32$	SCG-O-32NK	
$\phi 40$	SCG-O-40NK	
$\phi 50$	SCG-O-50NK	
$\phi 63$	SCG-O-63NK	③ ⑥ ⑦ ⑨ ⑫ ⑯
$\phi 80$	SCG-O-80NK	
$\phi 100$	SCG-O-100NK	

Note: Specify the kit No. when placing an order.

## Mounting bracket material

Mounting style	Material	Remarks
LB	Steel	Nickel plating
FA/FB	Steel	Paint
CA/CB	Cast iron	Paint
TA/TB/TC	Cast iron	Paint