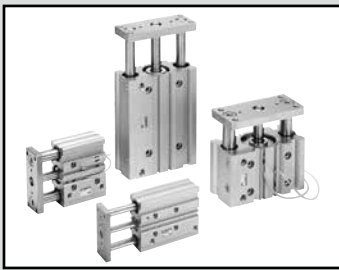


LCM  
LCR  
LCG  
LCW  
LCX  
STM  
STG  
STS/STL  
STR2  
UCA2  
ULK\*  
JSK/M2  
JSG  
JSC3/JSC4  
USSD  
UFCD  
USC  
UB  
JSB3  
LMB  
LML  
HCM  
HCA  
LBC  
CAC4  
UCAC2  
CAC-N  
UCAC-N  
RCS2  
RCC2  
PCC  
SHC  
MCP  
GLC  
MFC  
BBS  
RRC  
GRC  
RV3\*  
NHS  
HRL  
LN  
Hand  
Chuk  
MecHnd/Chuk  
ShkAbs  
FJ  
FK  
SpdContr  
Ending



Guided cylinder, double acting/single rod

# STG-M/B Series

● Bore size:  $\phi 12/\phi 16/\phi 20/\phi 25/\phi 32/\phi 40$   
 $\phi 50/\phi 63/\phi 80/\phi 100$

JIS symbol



## Specifications

Item	STG-M/B											
	Bore size	mm	$\phi 12$	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$
Actuation	Double acting											
Working fluid	Compressed air											
Max. working pressure	MPa	1.0 ( $\approx 150$ psi, 10 bar)										
Min. working pressure	MPa	0.15 ( $\approx 22$ psi, 1.5 bar)					0.1 ( $\approx 15$ psi, 1 bar)					
Proof pressure	MPa	1.6 ( $\approx 230$ psi, 16 bar)										
Ambient temperature	$^{\circ}\text{C}$	-10 ( $14^{\circ}\text{F}$ ) to 60 ( $140^{\circ}\text{F}$ ) (no freezing)										
Port size		M5			Rc1/8				Rc1/4		Rc3/8	
Stroke tolerance	mm	+2.0 0										
Working piston speed	mm/s	50 to 500							50 to 300			
Cushion	With rubber cushion											
Lubrication	Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)											
Allowable absorbed energy	J	0.056	0.088	0.157	0.157	0.401	0.627	0.980	1.560	2.510	3.92	

## Stroke length

Bore size	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)	Min. stroke (mm)/(switch)
$\phi 12$	10/20/30/40/50/75/100/ 125/150/175/200/250	250	5	5(10) *2
$\phi 16$				
$\phi 20$	20/30/40/50/75/100/125/ 150/175/200/250/300/350/400	400	5	5(10) *2
$\phi 25$				
$\phi 32$				
$\phi 40$	25/50/75/100 125/150/175			
$\phi 50$	200/250/300 350/400			
$\phi 63$				
$\phi 80$				
$\phi 100$				

\*1: The custom stroke length is available in 5 mm increments. However, the total dimensions are the same as the longer standard stroke length. A dedicated body with dimensions matched to the stroke length is available. Contact CKD for details.

\*2: For types with one or two switches. The value in ( ) is the min. stroke length for switches of the 2-color display and AC magnetic field proof.

## Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa										
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
$\phi 12$	Push	-	17.0	22.6	33.9	45.2	56.5	67.9	79.2	90.5	$1.02 \times 10^2$	$1.13 \times 10^2$
	Pull	-	12.7	17.0	25.4	33.9	42.4	50.9	59.4	67.9	76.3	84.8
$\phi 16$	Push	-	30.2	40.2	60.3	80.4	$1.01 \times 10^2$	$1.21 \times 10^2$	$1.41 \times 10^2$	$1.61 \times 10^2$	$1.81 \times 10^2$	$2.01 \times 10^2$
	Pull	-	22.6	30.2	45.2	60.3	75.4	90.5	$1.06 \times 10^2$	$1.21 \times 10^2$	$1.36 \times 10^2$	$1.51 \times 10^2$
$\phi 20$	Push	-	47.1	62.8	94.2	$1.26 \times 10^2$	$1.57 \times 10^2$	$1.88 \times 10^2$	$2.20 \times 10^2$	$2.51 \times 10^2$	$2.83 \times 10^2$	$3.14 \times 10^2$
	Pull	-	35.3	47.1	70.7	94.2	$1.18 \times 10^2$	$1.41 \times 10^2$	$1.65 \times 10^2$	$1.88 \times 10^2$	$2.12 \times 10^2$	$2.36 \times 10^2$
$\phi 25$	Push	-	73.6	98.2	$1.47 \times 10^2$	$1.96 \times 10^2$	$2.45 \times 10^2$	$2.95 \times 10^2$	$3.44 \times 10^2$	$3.93 \times 10^2$	$4.42 \times 10^2$	$4.91 \times 10^2$
	Pull	-	56.7	75.6	$1.13 \times 10^2$	$1.51 \times 10^2$	$1.89 \times 10^2$	$2.27 \times 10^2$	$2.64 \times 10^2$	$3.02 \times 10^2$	$3.40 \times 10^2$	$3.78 \times 10^2$
$\phi 32$	Push	80.4	$1.21 \times 10^2$	$1.61 \times 10^2$	$2.41 \times 10^2$	$3.22 \times 10^2$	$4.02 \times 10^2$	$4.83 \times 10^2$	$5.63 \times 10^2$	$6.43 \times 10^2$	$7.24 \times 10^2$	$8.04 \times 10^2$
	Pull	60.3	90.5	$1.21 \times 10^2$	$1.81 \times 10^2$	$2.41 \times 10^2$	$3.02 \times 10^2$	$3.62 \times 10^2$	$4.22 \times 10^2$	$4.83 \times 10^2$	$5.43 \times 10^2$	$6.03 \times 10^2$
$\phi 40$	Push	$1.26 \times 10^2$	$1.88 \times 10^2$	$2.51 \times 10^2$	$3.77 \times 10^2$	$5.03 \times 10^2$	$6.28 \times 10^2$	$7.54 \times 10^2$	$8.80 \times 10^2$	$1.01 \times 10^3$	$1.13 \times 10^3$	$1.26 \times 10^3$
	Pull	$1.06 \times 10^2$	$1.58 \times 10^2$	$2.11 \times 10^2$	$3.17 \times 10^2$	$4.22 \times 10^2$	$5.28 \times 10^2$	$6.33 \times 10^2$	$7.39 \times 10^2$	$8.44 \times 10^2$	$9.50 \times 10^2$	$1.06 \times 10^3$
$\phi 50$	Push	$1.96 \times 10^2$	$2.95 \times 10^2$	$3.93 \times 10^2$	$5.89 \times 10^2$	$7.85 \times 10^2$	$9.82 \times 10^2$	$1.18 \times 10^3$	$1.37 \times 10^3$	$1.57 \times 10^3$	$1.77 \times 10^3$	$1.96 \times 10^3$
	Pull	$1.65 \times 10^2$	$2.47 \times 10^2$	$3.30 \times 10^2$	$4.95 \times 10^2$	$6.60 \times 10^2$	$8.25 \times 10^2$	$9.90 \times 10^2$	$1.15 \times 10^3$	$1.32 \times 10^3$	$1.48 \times 10^3$	$1.65 \times 10^3$
$\phi 63$	Push	$3.12 \times 10^2$	$4.68 \times 10^2$	$6.23 \times 10^2$	$9.35 \times 10^2$	$1.25 \times 10^3$	$1.56 \times 10^3$	$1.87 \times 10^3$	$2.18 \times 10^3$	$2.49 \times 10^3$	$2.81 \times 10^3$	$3.12 \times 10^3$
	Pull	$2.80 \times 10^2$	$4.20 \times 10^2$	$5.61 \times 10^2$	$8.41 \times 10^2$	$1.12 \times 10^3$	$1.40 \times 10^3$	$1.68 \times 10^3$	$1.96 \times 10^3$	$2.24 \times 10^3$	$2.52 \times 10^3$	$2.80 \times 10^3$
$\phi 80$	Push	$5.03 \times 10^2$	$7.54 \times 10^2$	$1.01 \times 10^3$	$1.51 \times 10^3$	$2.01 \times 10^3$	$2.51 \times 10^3$	$3.02 \times 10^3$	$3.52 \times 10^3$	$4.02 \times 10^3$	$4.52 \times 10^3$	$5.03 \times 10^3$
	Pull	$4.54 \times 10^2$	$6.80 \times 10^2$	$9.07 \times 10^2$	$1.36 \times 10^3$	$1.81 \times 10^3$	$2.27 \times 10^3$	$2.72 \times 10^3$	$3.17 \times 10^3$	$3.63 \times 10^3$	$4.08 \times 10^3$	$4.54 \times 10^3$
$\phi 100$	Push	$7.85 \times 10^2$	$1.18 \times 10^3$	$1.57 \times 10^3$	$2.36 \times 10^3$	$3.14 \times 10^3$	$3.93 \times 10^3$	$4.71 \times 10^3$	$5.50 \times 10^3$	$6.28 \times 10^3$	$7.07 \times 10^3$	$7.85 \times 10^3$
	Pull	$7.15 \times 10^2$	$1.07 \times 10^3$	$1.43 \times 10^3$	$2.14 \times 10^3$	$2.86 \times 10^3$	$3.57 \times 10^3$	$4.29 \times 10^3$	$5.00 \times 10^3$	$5.72 \times 10^3$	$6.43 \times 10^3$	$7.15 \times 10^3$

### Switch specifications

- 1-color/2-color display/for AC magnetic field proof

Item	Proximity 2-wire		Proximity 2-wire		Proximity 3-wire				Reed 2-wire				Proximity 2-wire			
	T1H/ T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/ T3V	T3PH/ T3PV	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V	T8H/T8V		T2YD(*4) T2YDT			
Applications	For programmable controller, relay, compact solenoid valve		Dedicated for programmable controller		For programmable controller, relay				For programmable controller, relay	For programmable controller, relay, IC circuit (no indicator lamp), serial connection		For programmable controller, relay		For programmable controller		
Output method	-				NPN output	PNP output	NPN output	NPN output	-							
Pwr. supp. V.	-				10 to 28 VDC				-							
Load voltage	85 to 265 VAC		10 to 30 VDC		24 VDC ±10%		30 VDC or less		12/24 VDC	100/110 VAC	5/12/24 VDC	100/110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100 mA		5 to 20 mA (*3)		100 mA or less		50 mA or less		5 to 50 mA	7 to 20 mA	50 mA or less	≤20 mA	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA
Indicator lamp	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)		Without indicator lamp		LED (Lit when ON)		Red/green LED (Lit when ON)	
Leakage current	≤1 mA at 100 VAC, ≤2 mA at 200 VAC		1 mA or less		10 µA or less				0 mA				1 mA or less			
Weight g	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80		1 m:33 3 m:87 5 m:142		1 m:61 3 m:166 5 m:272				

\*1 : Refer to Ending Page 1 for detailed switch specifications and dimensions.

\*2 : Switches other than the above models, such as switches with connectors, are also available. Refer to Ending Page 1.

\*3 : The max. load current is 20 mA at 25°C. The current is lower than 20 mA if the operating ambient temperature around the switch is higher than 25°C. (5 to 10 mA at 60°C)

\*4 : AC magnetic field proof switch (T2YD/T2YDT) cannot be used in DC magnetic fields.

### Cylinder weight

- STG-M

Unit: kg

Item	Stroke length														Switch weight		
	10	20	25	30	40	50	75	100	125	150	175	200	250	300		350	400
ø12	0.23	0.27		0.30	0.34	0.38	0.49	0.57	0.68	0.77	0.86	0.95	1.13				Refer to the weight in the switch specifications.
ø16	0.32	0.37		0.42	0.47	0.51	0.66	0.78	0.94	1.06	1.18	1.31	1.55				
ø20		0.65		0.73	0.81	0.88	1.13	1.33	1.52	1.71	1.90	2.10	2.55	2.94	3.32	3.71	
ø25		0.92		1.02	1.13	1.23	1.60	1.86	2.12	2.40	2.66	2.92	3.56	4.08	4.62	5.14	
ø32			1.64			2.01	2.54	2.94	3.34	3.73	4.12	4.51	5.49	6.27	7.07	7.85	
ø40			1.89			2.30	2.75	3.15	3.57	3.98	4.39	4.80	5.81	6.64	7.47	8.29	
ø50			3.26			3.88	4.59	5.21	5.83	6.45	7.07	7.69	9.25	10.48	11.74	13.00	
ø63			4.05			4.79	5.61	6.34	7.07	7.81	8.54	9.27	11.06	12.51	13.97	15.42	
ø80			7.02			8.12	9.51	10.60	11.70	12.80	13.90	15.00	17.80	19.92	22.10	24.30	
ø100			10.24			11.58	13.29	14.63	15.96	17.30	18.64	19.98	23.27	25.94	28.62	31.29	

- STG-B

Unit: kg

Item	Stroke length														Switch weight		
	10	20	25	30	40	50	75	100	125	150	175	200	250	300		350	400
ø12	0.23	0.26		0.29	0.34	0.38	0.46	0.54	0.64	0.72	0.81	0.88	1.05				Refer to the weight in the switch specifications.
ø16	0.33	0.38		0.42	0.49	0.54	0.65	0.77	0.90	1.01	1.13	1.24	1.46				
ø20		0.68		0.75	0.86	0.94	1.11	1.27	1.47	1.64	1.81	1.98	2.35	2.69	3.03	3.37	
ø25		0.95		1.04	1.21	1.30	1.52	1.76	2.02	2.24	2.46	2.69	3.17	3.63	4.07	4.52	
ø32			1.49			1.79	2.23	2.54	2.90	3.21	3.51	3.82	4.49	5.10	5.71	6.32	
ø40			1.74			2.09	2.56	2.91	3.32	3.67	4.02	4.37	5.12	5.82	6.52	7.22	
ø50			3.02			3.55	4.28	4.81	5.43	5.97	6.50	7.03	8.23	9.28	10.38	11.45	
ø63			3.81			4.45	5.30	5.94	6.67	7.31	7.96	8.60	9.99	11.35	12.61	13.87	
ø80			7.25			8.03	9.27	10.30	11.30	12.10	13.31	14.32	16.60	18.60	20.62	22.64	
ø100			10.15			11.69	13.57	14.81	16.05	17.29	18.52	19.76	22.85	25.32	27.80	30.27	

## How to order

Without switch (built-in magnet for switch)

**STG** - **(M)** - **(32)** - **(25)** - **(P6)**

With switch (built-in magnet for switch)

**STG** - **(M)** - **(32)** - **(25)** - **(T2H)** - **(R)** - **(P6)**

Model No.

**A** Bearing

**B** Bore size

**C** Port thread

**D** Stroke length

**E** Switch model No. \*1 \*3 \*4

**F** Switch quantity

**G** Option \*2

Code	Description					
<b>A Bearing</b>						
<b>M</b>	Metal bush bearing					
<b>B</b>	Ball bearing					
<b>B Bore size (mm)</b>						
<b>12</b>	ø12					
<b>16</b>	ø16					
<b>20</b>	ø20					
<b>25</b>	ø25					
<b>32</b>	ø32					
<b>40</b>	ø40					
<b>50</b>	ø50					
<b>63</b>	ø63					
<b>80</b>	ø80					
<b>100</b>	ø100					
<b>C Port thread</b>						
<b>Blank</b>	M5(ø12 to ø16) Rc thread (ø20 to ø100)					
<b>NN</b>	NPT thread (ø20 or more) made-to-order product					
<b>GN</b>	G thread (ø20 or more) made-to-order product					
<b>D Stroke length (mm)</b>						
Refer to the stroke length table on the following page						
<b>E Switch model No.</b>						
Axial lead wire	Radial lead wire	Contact	Voltage		Display	Lead wire
			AC	DC		
<b>T0H*</b>	<b>T0V*</b>	Reed	●	●	1-color display	2-wire
			●	●	Without indicator lamp	
			●	●	1-color display	2-wire
					1-color display	
●	●	1-color display	3-wire			
		1-color display				
<b>T1H*</b>	<b>T1V*</b>	Proximity	●	●	1-color display	2-wire
			●	●	1-color display	
			●	●	2-color display	3-wire
					2-color display	
●	●	1-color display off-delay	2-wire			
		2-color display				
<b>T2YD*</b>	-	●	●	●	2-color display	2-wire
			●	●	AC magnetic field	
<b>T2YDT*</b>	-	●	●	AC magnetic field		
<b>* Lead wire length</b>						
<b>Blank</b>	1 m (standard)					
<b>3</b>	3 m (option)					
<b>5</b>	5 m (option)					
<b>F Switch quantity</b>						
<b>R</b>	1 on rod side					
<b>H</b>	1 on head side					
<b>D</b>	2					
<b>T</b>	3					
<b>G Option</b>						
<b>P6</b>	Copper and PTFE free (for STG-B-12 to 32, copper and PTFE free is provided as standard)					

### ⚠ Precautions for model No. selection

- \*1: Switches other than **E** Switch model No. are also available. (Made-to-order product) Refer to Ending Page 1 for details.
- \*2: **C** Copper and PTFE free specifications for STG-**M**-80, 100 must be made to order.
- \*3: T8H/V switch cannot be installed on STG-12 or 16.
- \*4: Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.

[Example of model No.]

**STG-B-40-75-T0H-D**

Model: Guided cylinder, double acting/single rod

- A** Bearing : Ball bearing
- B** Bore size : ø40 mm
- C** Port thread : Rc thread
- D** Stroke length : 75 mm
- E** Switch model No. : Reed T0H switch, lead wire length 1 m
- F** Switch quantity : 2

LCM
LCR
LCC
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MecHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

### D Stroke length

Stroke length (mm)	Applicable bore size										
	ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100	
Standard stroke length	10	●	●								
	20	●	●	●	●						
	25					●	●	●	●	●	●
	30	●	●	●	●						
	40	●	●	●	●						
	50	●	●	●	●	●	●	●	●	●	●
	75	●	●	●	●	●	●	●	●	●	●
	100	●	●	●	●	●	●	●	●	●	●
	125	●	●	●	●	●	●	●	●	●	●
	150	●	●	●	●	●	●	●	●	●	●
	175	●	●	●	●	●	●	●	●	●	●
	200	●	●	●	●	●	●	●	●	●	●
	250	●	●	●	●	●	●	●	●	●	●
	300			●	●	●	●	●	●	●	●
	350			●	●	●	●	●	●	●	●
400			●	●	●	●	●	●	●	●	
Min. stroke length	*3 5(10)										
Custom stroke length	*1, *2 In 5 mm increments										

\*1: The total dimensions are the same as the longer standard stroke length.

\*2: A dedicated body with dimensions matched to the stroke length is available. Contact CKD for details.

\*3: The value in ( ) is the min. stroke length for switches of the 2-color display and AC magnetic field proof.

### How to order switch

**SW** - **T0V**

Switch model No.  
(Item **E** on page 338)

Note: Contact CKD when using  
an environment-friendly T switch.

### Specifications for rechargeable battery (Catalog No. CC-1226A)

- Design compatible with rechargeable battery manufacturing process.

**STG** - **M** - ..... - **P4\***

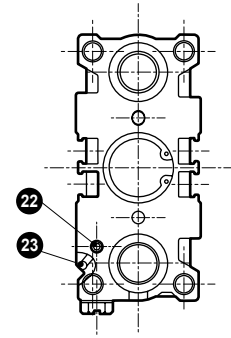
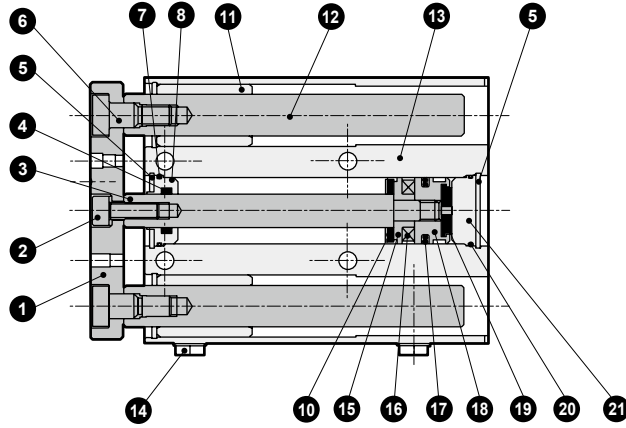
LCM
LCR
LCG
LCW
LCX
STM
<b>STG</b>
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

# STG-M Series

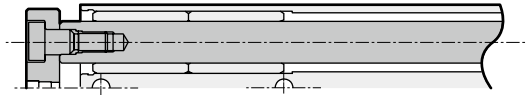
## Internal structure and parts list (STG-M-12 to 25)

LCM
LCR
LCG
LCW
LX
STM
<b>STG</b>
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MecHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

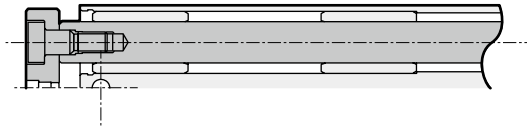
●  $\phi 12, \phi 16$   
 · 50 or less stroke length



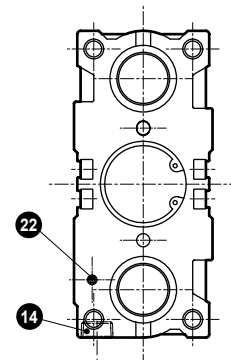
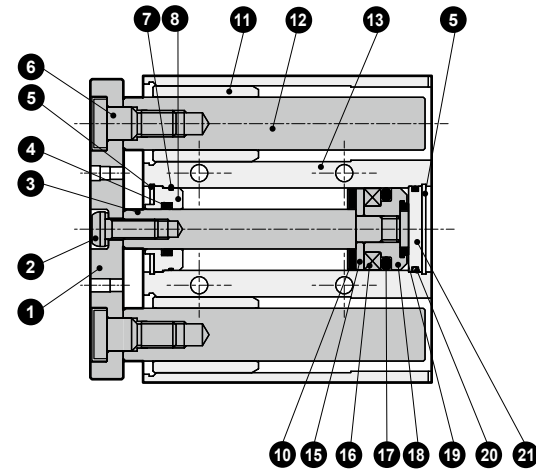
· Over 50 to 100 stroke length



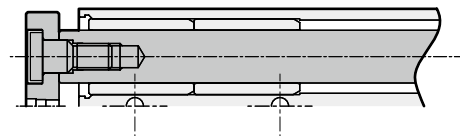
· Over 100 stroke length



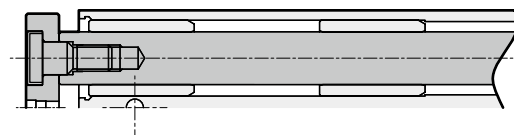
●  $\phi 20, \phi 25$   
 · 50 or less stroke length



· Over 50 to 200 stroke length

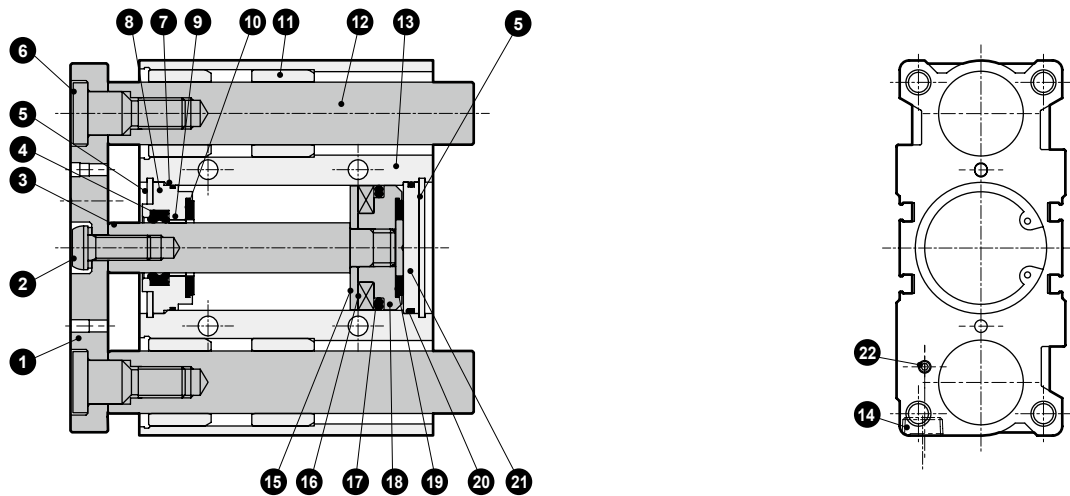


· Over 200 stroke length



### Internal structure and parts list (STG-M-32 to 63)

● ø32 to ø63



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	End plate	Steel	Nickeling	12	Guide rod	Stainless steel (ø12 to ø16)	Industrial chrome plating
2	Hex socket head cap screw (ø12 to ø16)	Steel	Zinc chromate	13	Cylinder body	Aluminum alloy	Hard alumite
		Steel	Zinc chromate			Steel (ø20 to ø63)	Industrial chrome plating
3	Piston rod	Stainless steel (ø12 to ø25)	Industrial chrome plating	14	Plug	Copper alloy or steel	
		Steel (ø32 to ø63)	Industrial chrome plating	15	Spacer	Aluminum alloy	
4	Rod packing	Nitrile rubber		16	Magnet		
5	C type snap ring	Steel	Zinc phosphate	17	Piston packing	Nitrile rubber	
6	Bolt	Steel	Zinc chromate	18	Piston	Aluminum alloy	
7	Metal gasket	Nitrile rubber		19	Cushion rubber	Urethane rubber	
		Aluminum alloy (ø40 to ø63)	Chromate	20	O-ring	Nitrile rubber	
8	Rod metal	Special aluminum alloy (ø12 to ø32)	Alumite	21	Base plate	Aluminum alloy	Chromate
9	Bush	Oiles drymet (ø40 to ø63)	*1	22	Hexagon socket set screw	Stainless steel	
10	Cushion rubber	Urethane rubber		23	Steel ball	Stainless steel	
11	Metal	Oil-impregnated copper alloy bearing	*2				

\*1: Aluminum for copper and PTFE free.

\*2: Oil-impregnated cast iron bearing for copper and PTFE free.

### Repair parts list

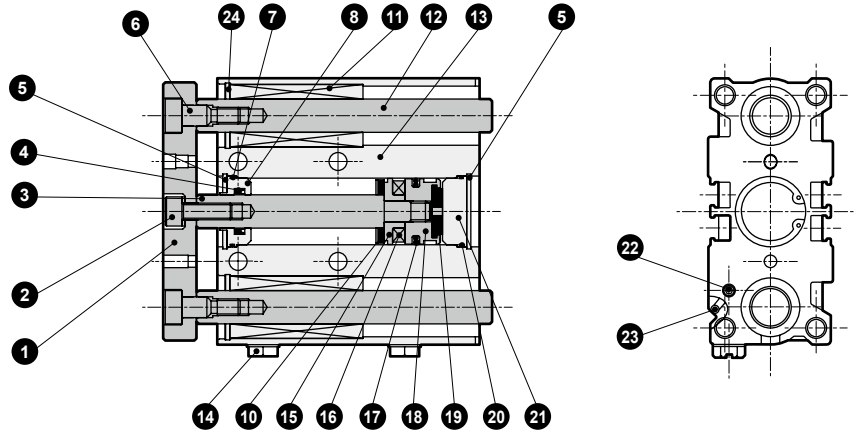
Bore size (mm)	Kit No.	Repair parts No.
	STG-M/B	
ø12	STG-12K	
ø16	STG-16K	
ø20	STG-20K	
ø25	STG-25K	
ø32	STG-32K	4 7 10 17 19 20
ø40	STG-40K	
ø50	STG-50K	
ø63	STG-63K	

LCM
LCR
LCG
LCW
LCX
STM
<b>STG</b>
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

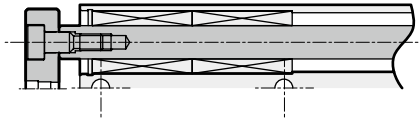
## Internal structure and parts list (STG-B-12 to 25)

LCM
LCR
LCG
LCW
LCX
STM
<b>STG</b>
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MecHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

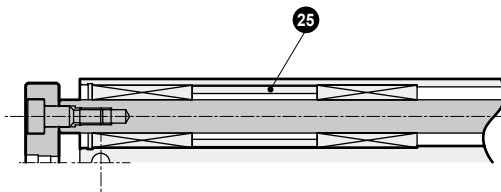
●  $\varnothing 12, \varnothing 16$   
 · 30 or less stroke length



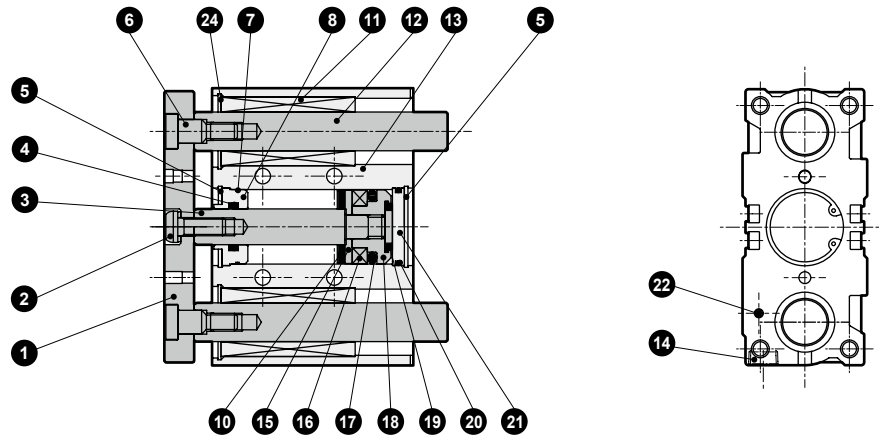
· Over 30 to 100 stroke length



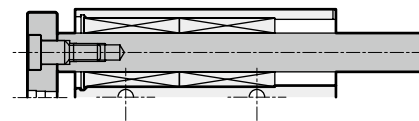
· Over 100 stroke length



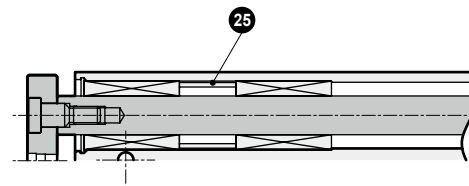
●  $\varnothing 20, \varnothing 25$   
 · 30 or less stroke length



· Over 30 to 100 stroke length



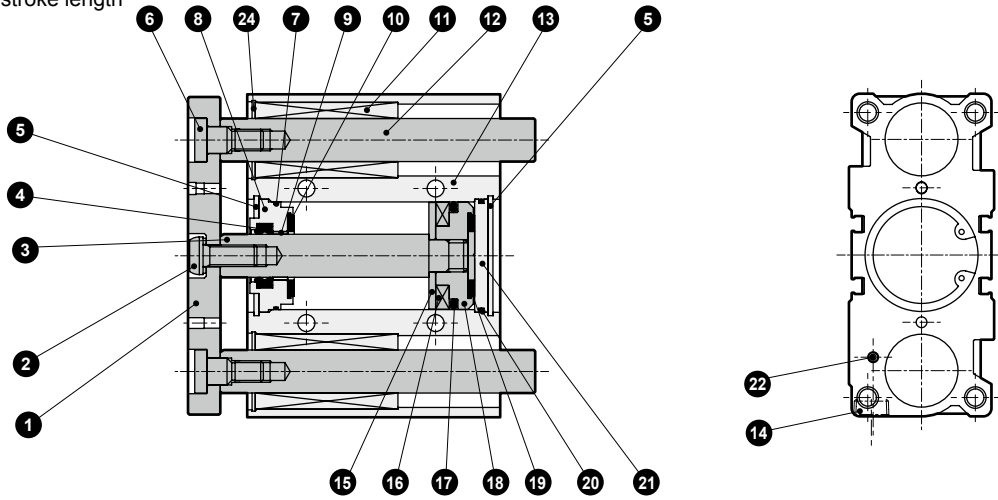
· Over 100 stroke length



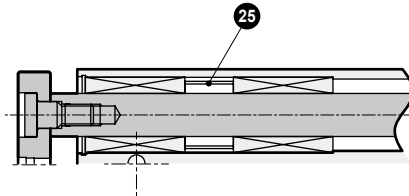
## Internal structure and parts list (STG-B-32 to 63)

●  $\phi 32$  to  $\phi 63$

· 100 or less stroke length



· Over 100 stroke length



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	End plate	Steel	Nickeling	12	Guide rod	Steel	Industrial chrome plating
2	Hex socket head cap screw ( $\phi 12$ to $\phi 16$ )	Steel	Zinc chromate	13	Cylinder body	Aluminum alloy	Hard alumite
		Steel	Zinc chromate	14	Plug	Copper alloy or steel	
3	Piston rod	Stainless steel ( $\phi 12$ to $\phi 25$ )	Industrial chrome plating	15	Spacer	Aluminum alloy	
		Steel ( $\phi 32$ to $\phi 63$ )	Industrial chrome plating	16	Magnet		
4	Rod packing	Nitrile rubber		17	Piston packing	Nitrile rubber	
5	C type snap ring	Steel	Zinc phosphate	18	Piston	Aluminum alloy	
6	Bolt	Steel	Zinc chromate	19	Cushion rubber	Urethane rubber	
7	Metal gasket	Nitrile rubber		20	O-ring	Nitrile rubber	
8	Rod metal	Special aluminum alloy ( $\phi 12$ to $\phi 32$ )	Alumite	21	Base plate	Aluminum alloy	Chromate
		Aluminum alloy ( $\phi 40$ to $\phi 63$ )	Chromate	22	Hexagon socket set screw	Stainless steel	
9	Bush	Dry bearing ( $\phi 40$ to $\phi 63$ )	*1	23	Steel ball	Stainless steel	
10	Cushion rubber	Urethane rubber		24	C type snap ring	Steel	Zinc phosphate
11	Ball bushing			25	Collar	Aluminum alloy	

\*1: Aluminum for copper and PTFE free.

## Repair parts list

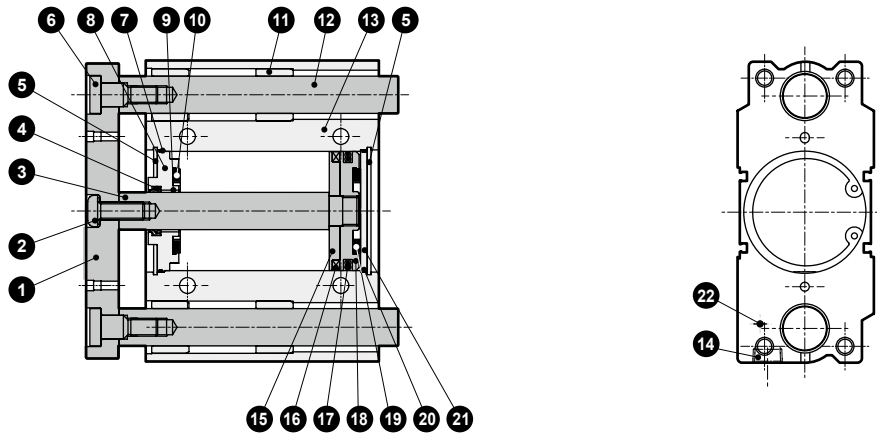
Bore size (mm)	Kit No.	Repair parts No.
	STG-M/B	
$\phi 12$	STG-12K	
$\phi 16$	STG-16K	
$\phi 20$	STG-20K	
$\phi 25$	STG-25K	
$\phi 32$	STG-32K	4 7 10 17 19 20
$\phi 40$	STG-40K	
$\phi 50$	STG-50K	
$\phi 63$	STG-63K	

- LCM
- LCR
- LCG
- LCW
- LCX
- STM
- STG**
- STS/STL
- STR2
- UCA2
- ULK\*
- JSK/M2
- JSG
- JSC3/JSC4
- USSD
- UFCD
- USC
- UB
- JSB3
- LMB
- LML
- HCM
- HCA
- LBC
- CAC4
- UCAC2
- CAC-N
- UCAC-N
- RCS2
- RCC2
- PCC
- SHC
- MCP
- GLC
- MFC
- BBS
- RRC
- GRC
- RV3\*
- NHS
- HRL
- LN
- Hand
- Chuk
- MechHnd/Chuk
- ShkAbs
- FJ
- FK
- SpdContr
- Ending



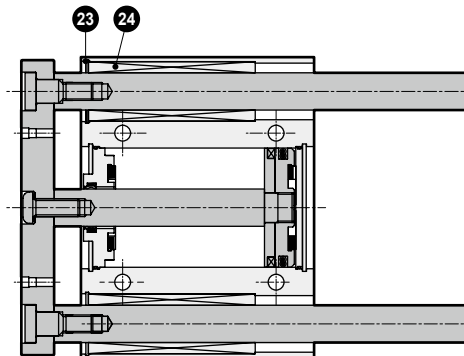
## Internal structure and parts list (STG-M-80, 100/STG-B-80, 100)

### ● STG-M-80,100

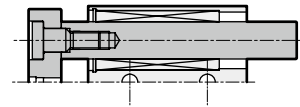


### ● STG-B-80,100

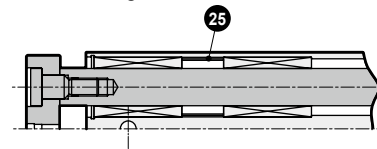
· Over 50 to 200 stroke length



· 50 or less stroke length



· Over 200 stroke length



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	End plate	Steel	Nickeling	14	Plug	Steel	
2	Hexagon socket button head bolt	Steel	Zinc chromate	15	Spacer	Aluminum alloy	
3	Piston rod	Steel	Industrial chrome plating	16	Magnet		
4	Rod packing	Nitrile rubber		17	Piston packing	Nitrile rubber	
5	C type snap ring	Steel	Zinc phosphate	18	Piston	Aluminum alloy	
6	Bolt	Steel	Zinc chromate	19	Cushion rubber	Urethane rubber	
7	Metal gasket	Nitrile rubber		20	O-ring	Nitrile rubber	
8	Rod metal	Aluminum alloy	Chromate	21	Base plate	Steel	Zinc chromate
9	Bush	Oiles drymet		22	Hexagon socket set screw (ø80)	Stainless steel	
10	Cushion rubber	Urethane rubber			Plug (ø100)	Steel	Nickeling
11	Metal	Oil-impregnated copper alloy bearing		23	C type snap ring	Steel	Zinc phosphate
12	Guide rod	Steel	Industrial chrome plating	24	Ball bushing		
13	Cylinder body	Aluminum alloy	Hard alumite	25	Collar	Aluminum alloy	

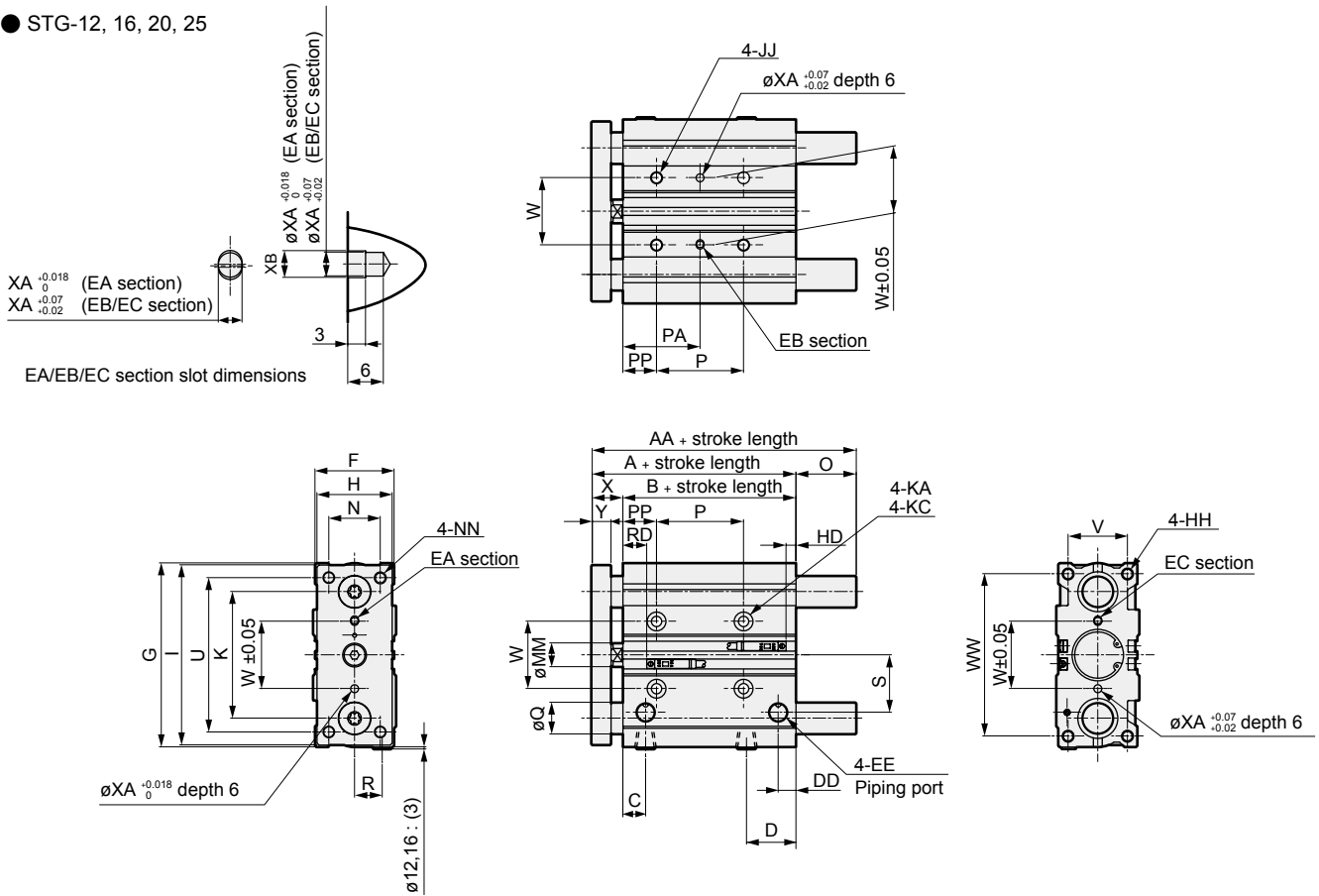
### Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
	STG-M/B	
ø80	STG-80K	4 7 10 17 19 20
ø100	STG-100K	

## Dimensions (ø12, ø16, ø20, ø25)



● STG-12, 16, 20, 25



● STG-M/B common

Code	Standard stroke length (mm)												A	B	C	D	DD	EE	F	G	H	HH	I	JJ
ø12	10,20,30,40,50,75,100,125												42	29	12	16	7	M5	26	58	22	M4 depth 10	56	M5 depth 10
ø16	150,175,200,250												46	33	12	18	7.5	M5	30	64	25	M5 depth 12	62	M5 depth 10
ø20	20,30,40,50,75,100,125,150												53	37	10.5	24.5	8.5	Rc1/8	36	83	30	M5 depth 13	81	M6 depth 12
ø25	175,200,250,300,350,400												53.5	37.5	11.5	25	9	Rc1/8	42	93	38	M6 depth 15	91	M6 depth 12

Code	P										
Bore size (mm)	K	KA	MM	N	NN	KC	P				
							30 or less	Over 30 to 100	Over 100 to 200	Over 200 to 300	Over 300
ø12	41	4.3 through	6	14	M4 through	7.5 spot face depth 4.5	20	40	110	200	-
ø16	46	4.3 through	8	16	M5 through	8 spot face depth 4.5	24	44	110	200	-
ø20	54	5.2 through	10	18	M5 through	9.5 spot face depth 5.5	24	44	120	200	300
ø25	64	5.2 through	12	26	M6 through	9.5 spot face depth 5.5	24	44	120	200	300

Code	PA										P										
Bore size (mm)	PA					PP	R	S	U	V	W	WW	X	Y	T0/T5/T2/T3/T2W/T3W					XA	XB
	30 or less	Over 30 to 100	Over 100 to 200	Over 200 to 300	Over 300										RD	HD	RD	HD	RD		
ø12	15	25	60	105	-	5	8	17	48	18	23	50	13 <sup>0.3/0.5</sup>	7.5	5	5	7	7	3	3.5	
ø16	17	27	60	105	-	5	10	18	54	22	24	56	13 <sup>0.3/0.5</sup>	7.5	4	10	6	12	3	3.5	
ø20	29	39	77	117	167	17	11	25	70	24	28	72	16 <sup>0.3/0.5</sup>	9.5	9.5	8.5	11.5	10.5	3	3.5	
ø25	29	39	77	117	167	17	14	29	78	30	34	82	16 <sup>0.3/0.5</sup>	9.5	10	8.5	12	10.5	4	4.5	

● STG-M

Code	AA				Q	O		
Bore size (mm)	50 or less	Over 50 to 100	Over 100	Over 100		50 or less	Over 50 to 100	Over 100
ø12	42	55	85	8	0	13	43	
ø16	46	63	95	10	0	17	49	

Code	AA				Q	O		
Bore size (mm)	50 or less	Over 50 to 200	Over 200	Over 200		50 or less	Over 50 to 200	Over 200
ø20	53	78	122	12	0	25	69	
ø25	53.5	84	122	16	0	30.5	68.5	

\*1 : When using a custom stroke length, the total dimensions are the same as the longer standard stroke length.

\*2 : Refer to page 410 for RD, HD and protruding dimensions of the 2-color display (except for T2WH/V and T3WH/V), off-delay, AC magnetic field proof, T1H/V and T8H/V switches.

● STG-B

Code	AA				Q	O			
Bore size (mm)	30 or less	Over 30 to 100	Over 100	Over 100		30 or less	Over 30 to 100	Over 100	Over 100
ø12	43	55	85	6	1	13	43		
ø16	49	65	95	8	3	19	49		

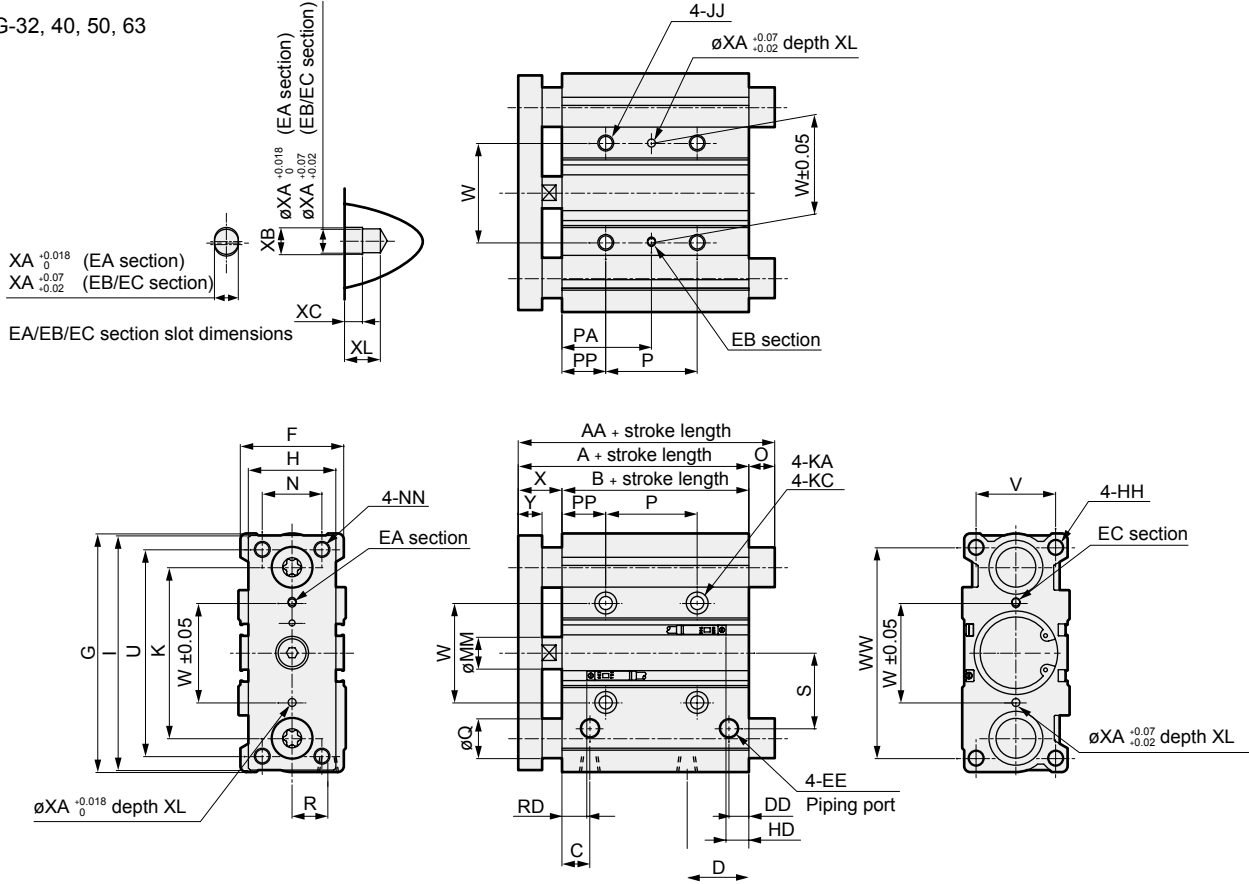
Code	AA				Q	O			
Bore size (mm)	30 or less	Over 30 to 100	Over 100 to 200	Over 200		30 or less	Over 30 to 100	Over 100 to 200	Over 200
ø20	59	78	100	122	10	6	25	69	
ø25	65	84	103	122	13	11.5	30.5	68.5	

LCM
LCR
LCG
LCW
LCX
STM
<b>STG</b>
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending



## Dimensions (ø32, ø40, ø50, ø63)

### ● STG-32, 40, 50, 63



### ● STG-M/B common

Code	Standard stroke length (mm)	A	B	C	D	DD	EE	F	G	H	HH	I	JJ	K	KA	
ø32	25,50,75,100,125, 150,175,200,250, 300,350,400	59.5	37.5	12.5	30.5	9	Rc1/8	48	112	44	M8 depth 20	110	M8 depth 16	78	6.3 through	
ø40		66	44	14	31	10	Rc1/8	54	120	44	M8 depth 20	118	M8 depth 16	86	6.3 through	
ø50		72	44	14	35	11	M10 depth 22	146	64	148	60	M10 depth 22	146	M10 depth 20	110	8.6 through
ø63		77	49	16.5	35	15	Rc1/4	78	162	70	M10 depth 22	158	M10 depth 20	124	8.6 through	

Code	Bore size (mm)	P										PA	
		KC	MM	N	NN	25 or less	Over 25 to 100	Over 100 to 200	Over 200 to 300	Over 300	25 or less	Over 25 to 100	
ø32	ø32	11 spot face depth 7.5	16	30	M8 through	24	48	124	200	300	33	45	
ø40	ø40	11 spot face depth 7.5	16	30	M8 through	24	48	124	200	300	34	46	
ø50	ø50	14 spot face depth 9	20	40	M10 through	24	48	124	200	300	36	48	
ø63	ø63	14 spot face depth 9	20	50	M10 through	28	52	128	200	300	38	50	

Code	Bore size (mm)	PA			PP	R	S	U	V	W	WW	X	Y	T0/T5/T2/T3		T2W/T3W		XA	XB	XC	XL
		Over 100 to 200	Over 200 to 300	Over 300										RD	HD	RD	HD				
ø32	ø32	83	121	171	21	15	34	96	34	42	98	22 <sup>0/2</sup>	11.5	10	8.5	12	10.5	4	4.5	3	6
ø40	ø40	84	122	172	22	18	38	104	40	50	106	22 <sup>0/2</sup>	11.5	13	12	15	14	4	4.5	3	6
ø50	ø50	86	124	174	24	21.5	47	130	46	66	130	28 <sup>0/2</sup>	15.5	13.5	11.5	15.5	13.5	5	6	4	8
ø63	ø63	88	124	174	24	28	55	130	58	80	142	28 <sup>0/2</sup>	15.5	14	16	16	18	5	6	4	8

### ● STG-M

Code	Bore size (mm)	AA			Q	O		
		50 or less	Over 50 to 200	Over 200		50 or less	Over 50 to 200	200 Over
ø32	ø32	79	100	140	20	19.5	40.5	80.5
ø40	ø40	79	100	140	20	13	34	74
ø50	ø50	91	116	161	25	19	44	89
ø63	ø63	91	116	161	25	14	39	84

### ● STG-B

Code	Bore size (mm)	AA				Q	O			
		50 or less	Over 50 to 100	Over 100 to 200	Over 200		50 or less	Over 50 to 100	Over 100 to 200	Over 200
ø32	ø32	79	98	118	140	16	19.5	38.5	58.5	80.5
ø40	ø40	79	98	118	140	16	13	32	52	74
ø50	ø50	91	114	134	161	20	19	42	62	89
ø63	ø63	91	114	134	161	20	14	37	57	84

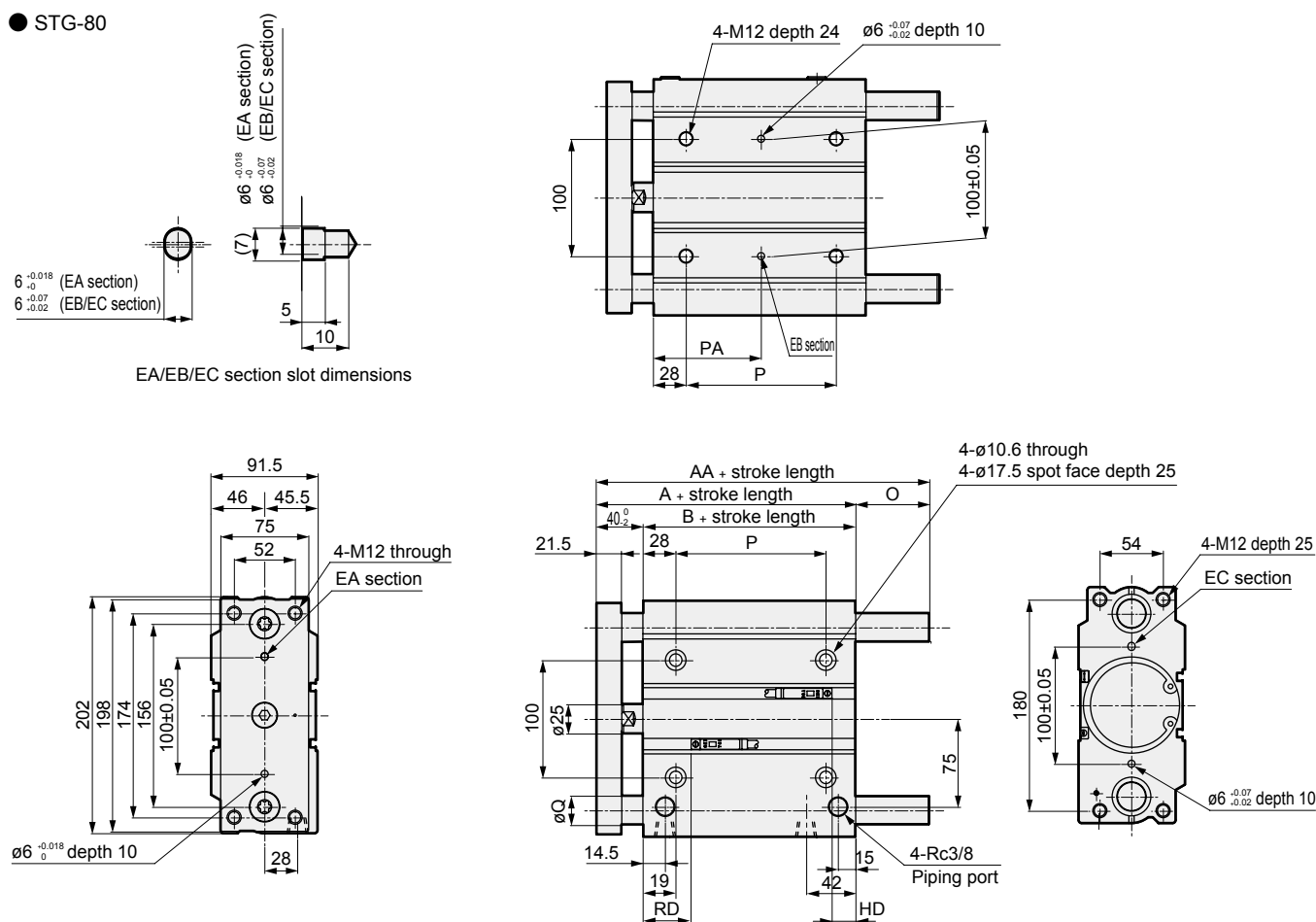
\*1 : When using a custom stroke length, the total dimensions are the same as the longer standard stroke length.

\*2 : Refer to page 410 for RD, HD and protruding dimensions of the 2-color display (except for T2WH/V and T3WH/V), off-delay, AC magnetic field proof, T1H/V and T8H/V switches.

## Dimensions (ø80)



### ● STG-80



### ● STG-M/B common

Standard stroke length	A	B	P					PA					T0/T5/T2/T3		T2W/T3W	
			25 st or less	Over 25 st to 100 st	Over 100 st to 200 st	Over 200 st to 300 st	Over 300 st	25 st or less	Over 25 st to 100 st	Over 100 st to 200 st	Over 200 st to 300 st	Over 300 st	RD	HD	RD	HD
25,50,75,100,125,150,175,200,250,300,350,400	96.5	56.5	28	52	128	200	300	42	54	92	128	178	18	19.5	20	21.5

### ● STG-M

AA			Q	O		
50 st or less	Over 50 st to 200 st	Over 200 st		50 st or less	Over 50 st to 200 st	Over 200 st
115	142	193	30	18.5	45.5	96.5

### ● STG-B

AA				Q	O			
25 st or less	Over 25 st to 50 st	Over 50 st to 200 st	Over 200 st		25 st or less	Over 25 st to 50 st	Over 50 st to 200 st	Over 200 st
109.5	130	160	193	25	13	33.5	63.5	96.5

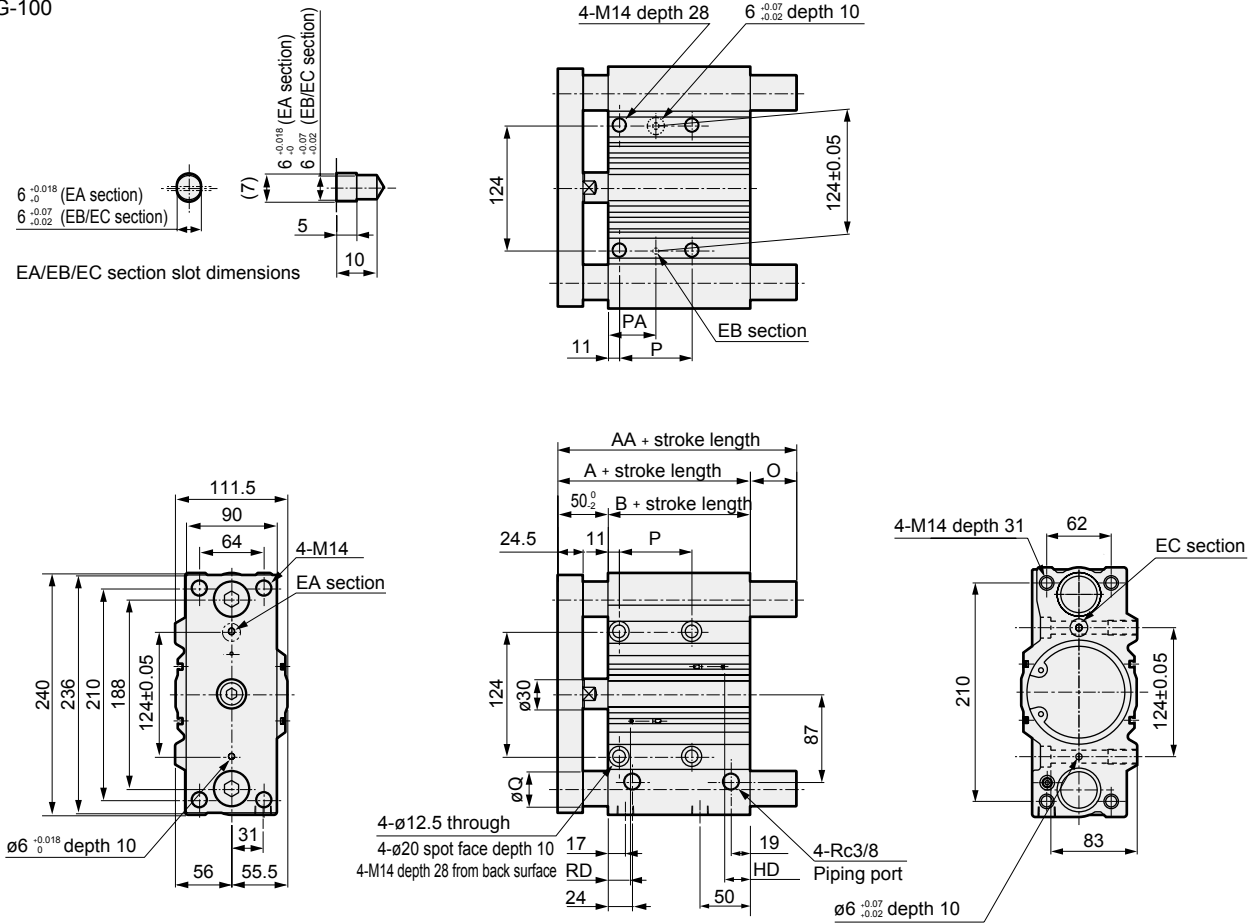
\*1 : When using a custom stroke length, the total dimensions are the same as the longer standard stroke length.

\*2 : Refer to page 410 for RD, HD and protruding dimensions of the 2-color display (except for T2WH/V and T3WH/V), off-delay, AC magnetic field proof, T1H/V and T8H/V switches.

LCM
LCR
LCG
LCW
LCX
STM
<b>STG</b>
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

## Dimensions (ø100)

### ● STG-100



### ● STS-M/B common

Standard stroke length	A	B	P					PA					T0/T5/T2/T3		T2W/T3W	
			25 st or less	Over 25 st to 100 st	Over 100 st to 200 st	Over 200 st to 300 st	Over 300 st	25 st or less	Over 25 st to 100 st	Over 100 st to 200 st	Over 200 st to 300 st	Over 300 st	RD	HD	RD	HD
25,50,75,100,125,150,175,200,250,300,350,400	116	66	48	72	148	220	320	35	47	85	121	171	22	25.5	24	27.5

### ● STG-M

AA			Q	O		
50 st or less	Over 50 st to 200 st	Over 200 st		50 st or less	Over 50 st to 200 st	Over 200 st
137	162	203	35	21	46	87

### ● STG-B

AA				Q	O			
25 st or less	Over 25 st to 50 st	Over 50 st to 200 st	Over 200 st		25 st or less	Over 25 st to 50 st	Over 50 st to 200 st	Over 200 st
121	147	180	203	30	5	31	64	87

---

# MEMO

---

LCM
LCR
LCG
LCW
LCX
STM
<b>STG</b>
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

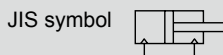
LCM  
LCR  
LCG  
LCW  
LCX  
STM  
STG  
STS/STL  
STR2  
UCA2  
ULK\*  
JSK/M2  
JSG  
JSC3/JSC4  
USSD  
UFCD  
USC  
UB  
JSB3  
LMB  
LML  
HCM  
HCA  
LBC  
CAC4  
UCAC2  
CAC-N  
UCAC-N  
RCS2  
RCC2  
PCC  
SHC  
MCP  
GLC  
MFC  
BBS  
RRC  
GRC  
RV3\*  
NHS  
HRL  
LN  
Hand  
Chuk  
MecHnd/Chuk  
ShkAbs  
FJ  
FK  
SpdContr  
Ending



Guided cylinder, double acting/rubber-air cushioned

# STG-M-B-\*C Series

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



## Specifications

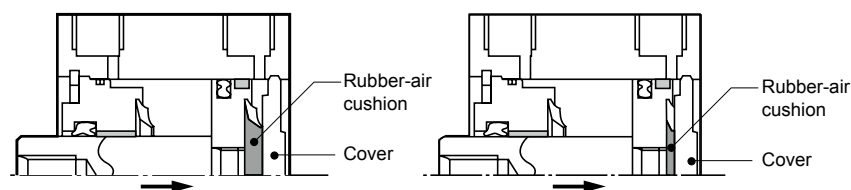
Item		STG-M/B-*C			
Bore size	mm	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$
Actuation		Double acting			
Working fluid		Compressed air			
Max. working pressure	MPa	1.0 ( $\approx 150$ psi, 10 bar)			
Min. working pressure	MPa	0.2 ( $\approx 29$ psi, 2 bar)			
Proof pressure	MPa	1.6 ( $\approx 230$ psi, 16 bar)			
Ambient temperature	$^{\circ}\text{C}$	-10 (14 $^{\circ}\text{F}$ ) to 60 (140 $^{\circ}\text{F}$ ) (no freezing)			
Port size		Rc1/8		Rc1/4	
Stroke tolerance	mm	+2.0 0			
Working piston speed	mm/s	50 to 500			50 to 300
Cushion		Rubber-air cushioned			
Lubrication		Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)			
Allowable absorbed energy	J	0.401	0.627	0.980	1.560

## Stroke length

Bore size	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)	Min. stroke (mm)(switch)
$\phi 32$	25/50/75/100 125/150/175 200/250/300 350/400	400	5	5(10)
$\phi 40$				
$\phi 50$			10	10
$\phi 63$				

\*1: The custom stroke length is available in 5 mm increments. However, the total dimensions are the same as the longer standard stroke length.  
\*2: For types with one or two switches. The value in ( ) is the min. stroke length for switches of the 2-color display and AC magnetic field proof.

## Rubber-air cushion mechanism

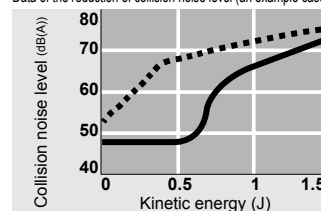


### When pulled

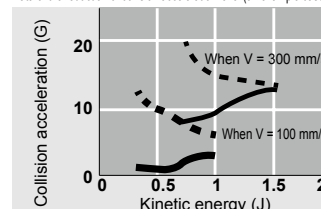
An airtight space is created in the  area when the piston operates and the rubber-air cushion and cover make contact. Air in the airtight area is further compressed, absorbing energy as the piston operates. At the end of the stroke, energy generated by compression distortion of the air cushion is also added.

--- Cylinder with rubber cushion  
— Cylinder with rubber-air cushion

Data of the reduction of collision noise level (an example case)



Data of the reduction of collision acceleration level (an example case)



### Switch specifications

● 1-color/2-color display/for AC magnetic field proof

Item	Proximity 2-wire		Proximity 2-wire				Proximity 3-wire				Reed 2-wire				Proximity 2-wire			
	T1H/ T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/ T3V	T3PH/ T3PV	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V		T8H/T8V		T2YD(*4) T2YDT				
Applications	For programmable controller, relay, compact solenoid valve	Dedicated for programmable controller				For programmable controller, relay				For programmable controller, relay	For programmable controller, relay, IC circuit (no indicator lamp), serial connection		For programmable controller, relay		For programmable controller			
Output method	-				NPN output	PNP output	NPN output	NPN output	-									
Pwr. supp. V.	-				10 to 28 VDC				-									
Load voltage	85 to 265 VAC		10 to 30 VDC		24 VDC ±10%		30 VDC or less				12/24 VDC	100/110 VAC	5/12/24 VDC	100/110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100 mA		5 to 20 mA (*3)				100 mA or less		50 mA or less		5 to 50 mA	7 to 20 mA	≤50 mA	≤20 mA	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA
Indicator lamp	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)		Without indicator lamp		LED (Lit when ON)		Red/green LED (Lit when ON)			
Leakage current	≤1 mA at 100 VAC, ≤2 mA at 200 VAC		1 mA or less				10 µA or less				0 mA				1 mA or less			
Weight g	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80		1 m:33 3 m:87 5 m:142		1 m:18 3 m:49 5 m:80		1 m:18 3 m:49 5 m:80		1 m:33 3 m:87 5 m:142		1 m:61 3 m:166 5 m:272			

\*1 : Refer to Ending Page 1 for detailed switch specifications and dimensions.

\*2 : Switches other than the above models, such as switches with connectors, are also available. Refer to Ending Page 1.

\*3 : The max. load current is 20 mA at 25°C. The current is lower than 20 mA if the operating ambient temperature around the switch is higher than 25°C. (5 to 10 mA at 60°C)

\*4 : AC magnetic field proof switch (T2YD/T2YDT) cannot be used in DC magnetic fields.

### Cylinder weight

● STG-M-\*C

Unit: kg

Item	Stroke length												Switch weight		
	Bore size (mm)		25	50	75	100	125	150	175	200	250	300		350	400
ø32			1.64	2.01	2.54	2.94	3.34	3.73	4.12	4.51	5.49	6.27	7.07	7.85	Refer to the weight in the switch specifications.
ø40			1.89	2.30	2.75	3.15	3.57	3.98	4.39	4.80	5.81	6.64	7.47	8.29	
ø50			3.26	3.88	4.59	5.21	5.83	6.45	7.07	7.69	9.25	10.48	11.74	13.00	
ø63			4.05	4.79	5.61	6.34	7.07	7.81	8.54	9.27	11.06	12.51	13.97	15.42	

● STG-B-\*C

Unit: kg

Item	Stroke length												Switch weight		
	Bore size (mm)		25	50	75	100	125	150	175	200	250	300		350	400
ø32			1.49	1.79	2.23	2.54	2.90	3.21	3.51	3.82	4.49	5.10	5.71	6.32	Refer to the weight in the switch specifications.
ø40			1.74	2.09	2.56	2.91	3.32	3.67	4.02	4.37	5.12	5.82	6.52	7.22	
ø50			3.02	3.55	4.28	4.81	5.43	5.97	6.50	7.03	8.23	9.28	10.38	11.45	
ø63			3.81	4.45	5.30	5.94	6.67	7.31	7.96	8.60	9.99	11.35	12.61	13.87	

### Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa									
		0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	
ø32	Push	1.61 × 10 <sup>2</sup>	2.41 × 10 <sup>2</sup>	3.22 × 10 <sup>2</sup>	4.02 × 10 <sup>2</sup>	4.83 × 10 <sup>2</sup>	5.63 × 10 <sup>2</sup>	6.43 × 10 <sup>2</sup>	7.24 × 10 <sup>2</sup>	8.04 × 10 <sup>2</sup>	
	Pull	1.21 × 10 <sup>2</sup>	1.81 × 10 <sup>2</sup>	2.41 × 10 <sup>2</sup>	3.02 × 10 <sup>2</sup>	3.62 × 10 <sup>2</sup>	4.22 × 10 <sup>2</sup>	4.83 × 10 <sup>2</sup>	5.43 × 10 <sup>2</sup>	6.03 × 10 <sup>2</sup>	
ø40	Push	2.51 × 10 <sup>2</sup>	3.77 × 10 <sup>2</sup>	5.03 × 10 <sup>2</sup>	6.28 × 10 <sup>2</sup>	7.54 × 10 <sup>2</sup>	8.80 × 10 <sup>2</sup>	1.01 × 10 <sup>3</sup>	1.13 × 10 <sup>3</sup>	1.26 × 10 <sup>3</sup>	
	Pull	2.11 × 10 <sup>2</sup>	3.17 × 10 <sup>2</sup>	4.22 × 10 <sup>2</sup>	5.28 × 10 <sup>2</sup>	6.33 × 10 <sup>2</sup>	7.39 × 10 <sup>2</sup>	8.44 × 10 <sup>2</sup>	9.50 × 10 <sup>2</sup>	1.06 × 10 <sup>3</sup>	
ø50	Push	3.93 × 10 <sup>2</sup>	5.89 × 10 <sup>2</sup>	7.85 × 10 <sup>2</sup>	9.82 × 10 <sup>2</sup>	1.18 × 10 <sup>3</sup>	1.37 × 10 <sup>3</sup>	1.57 × 10 <sup>3</sup>	1.77 × 10 <sup>3</sup>	1.96 × 10 <sup>3</sup>	
	Pull	3.30 × 10 <sup>2</sup>	4.95 × 10 <sup>2</sup>	6.60 × 10 <sup>2</sup>	8.25 × 10 <sup>2</sup>	9.90 × 10 <sup>2</sup>	1.15 × 10 <sup>3</sup>	1.32 × 10 <sup>3</sup>	1.48 × 10 <sup>3</sup>	1.65 × 10 <sup>3</sup>	
ø63	Push	6.23 × 10 <sup>2</sup>	9.35 × 10 <sup>2</sup>	1.25 × 10 <sup>3</sup>	1.56 × 10 <sup>3</sup>	1.87 × 10 <sup>3</sup>	2.18 × 10 <sup>3</sup>	2.49 × 10 <sup>3</sup>	2.81 × 10 <sup>3</sup>	3.12 × 10 <sup>3</sup>	
	Pull	5.61 × 10 <sup>2</sup>	8.41 × 10 <sup>2</sup>	1.12 × 10 <sup>3</sup>	1.40 × 10 <sup>3</sup>	1.68 × 10 <sup>3</sup>	1.96 × 10 <sup>3</sup>	2.24 × 10 <sup>3</sup>	2.52 × 10 <sup>3</sup>	2.80 × 10 <sup>3</sup>	

- LCM
- LCR
- LCG
- LCW
- LCX
- STM
- STG
- STS/STL
- STR2
- UCA2
- ULK\*
- JSK/M2
- JSG
- JSC3/JSC4
- USSD
- UFCD
- USC
- UB
- JSB3
- LMB
- LML
- HCM
- HCA
- LBC
- CAC4
- UCAC2
- CAC-N
- UCAC-N
- RCS2
- RCC2
- PCC
- SHC
- MCP
- GLC
- MFC
- BBS
- RRC
- GRC
- RV3\*
- NHS
- HRL
- LN
- Hand
- Chuk
- MechHnd/Chuk
- ShkAbs
- FJ
- FK
- SpdContr
- Ending



# STG-\*C Series

- LCM
- LCR
- LCC
- LCW
- LCC
- STM
- STG**
- STS/STL
- STR2
- UCA2
- ULK\*
- JSK/M2
- JSG
- JSC3/JSC4
- USSD
- UFCD
- USC
- UB
- JSB3
- LMB
- LML
- HCM
- HCA
- LBC
- CAC4
- UCAC2
- CAC-N
- UCAC-N
- RCS2
- RCC2
- PCC
- SHC
- MCP
- GLC
- MFC
- BBS
- RRC
- GRC
- RV3\*
- NHS
- HRL
- LN
- Hand
- Chuk
- MecHnd/Chuk
- ShkAbs
- FJ
- FK
- SpdContr
- Ending

## How to order

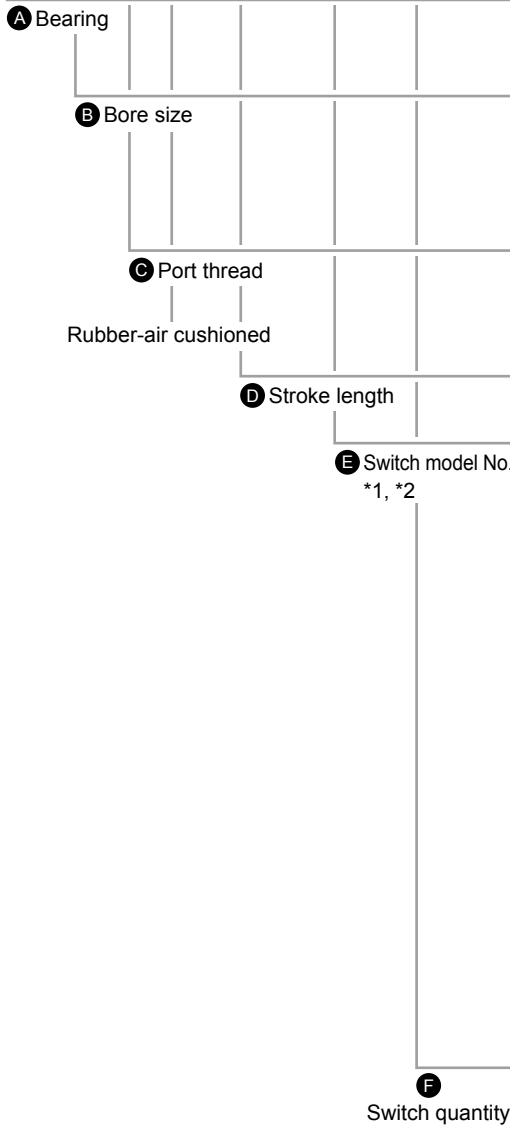
Without switch (built-in magnet for switch)

**STG** - **M** - **32** - **C** - **25**

With switch (built-in magnet for switch)

**STG** - **M** - **32** - **C** - **25** - **T2H** - **R**

Model No.



Code	Description					
<b>A Bearing</b>						
<b>M</b>	Metal bush bearing					
<b>B</b>	Ball bearing					
<b>B Bore size (mm)</b>						
<b>32</b>	ø32					
<b>40</b>	ø40					
<b>50</b>	ø50					
<b>63</b>	ø63					
<b>C Port thread</b>						
<b>Blank</b>	Rc thread					
<b>N</b>	NPT thread (made-to-order product)					
<b>G</b>	G thread (made-to-order product)					
<b>D Stroke length (mm)</b>						
Refer to the stroke length table on the following page						
<b>E Switch model No.</b>						
Axial lead wire	Radial lead wire	Contact	Voltage		Display	Lead wire
			AC	DC		
<b>T0H*</b>	<b>T0V*</b>	Reed	●	●	1-color display	2-wire
<b>T5H*</b>	<b>T5V*</b>		●	●	Without indicator lamp	
<b>T8H*</b>	<b>T8V*</b>		●	●	1-color display	
<b>T1H*</b>	<b>T1V*</b>	Proximity	●		1-color display	2-wire
<b>T2H*</b>	<b>T2V*</b>			●		
<b>T3H*</b>	<b>T3V*</b>			●	1-color display	3-wire
<b>T3PH*</b>	<b>T3PV*</b>			●	1-color display	3-wire
<b>T2WH*</b>	<b>T2WV*</b>			●	2-color display	2-wire
<b>T2YH*</b>	<b>T2YV*</b>			●		
<b>T3WH*</b>	<b>T3WV*</b>			●		3-wire
<b>T3YH*</b>	<b>T3YV*</b>			●	1-color display off-delay	2-wire
<b>T2JH*</b>	<b>T2JV*</b>			●		
<b>T2YD*</b>	-			●	2-color display	2-wire
<b>T2YDT*</b>	-		●	for AC magnetic field		
<b>* Lead wire length</b>						
<b>Blank</b>	1 m (standard)					
<b>3</b>	3 m (option)					
<b>5</b>	5 m (option)					
<b>F Switch quantity</b>						
<b>R</b>	1 on rod side					
<b>H</b>	1 on head side					
<b>D</b>	2					
<b>T</b>	3					

## ⚠ Precautions for model No. selection

- \*1 : Switches other than **E** Switch model No. are also available. (Made-to-order product) Refer to Ending Page 1 for details.
- \*2 : Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.

[Example of model No.]

### STG-M-32C-50-T0H-R

Model: Guided cylinder double acting/with rubber-air cushioned

- A** Bearing : Metal bush bearing
- B** Bore size : ø32 mm
- C** Port thread : Rc thread
- D** Stroke length : 50 mm
- E** Switch model No. : Reed T0H switch, lead wire length 1 m
- F** Switch quantity : 1 on rod side

### D Stroke length

Stroke length (mm)	Applicable bore size				
	ø32	ø40	ø50	ø63	
Standard stroke length	25	●	●	●	●
	50	●	●	●	●
	75	●	●	●	●
	100	●	●	●	●
	125	●	●	●	●
	150	●	●	●	●
	175	●	●	●	●
	200	●	●	●	●
	250	●	●	●	●
	300	●	●	●	●
350	●	●	●	●	
400	●	●	●	●	
Min. stroke length *2	5(10)			10	
Custom stroke length *1	In 5 mm increments				

\*1: The total dimensions are the same as the longer standard stroke length.

\*2: The value in ( ) is the min. stroke length for switches of the 2-color display and AC magnetic field proof.

### How to order switch



Switch model No.  
(Item (E) on page 352)

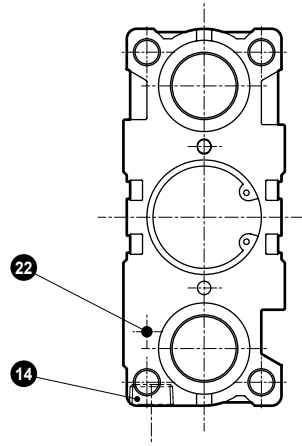
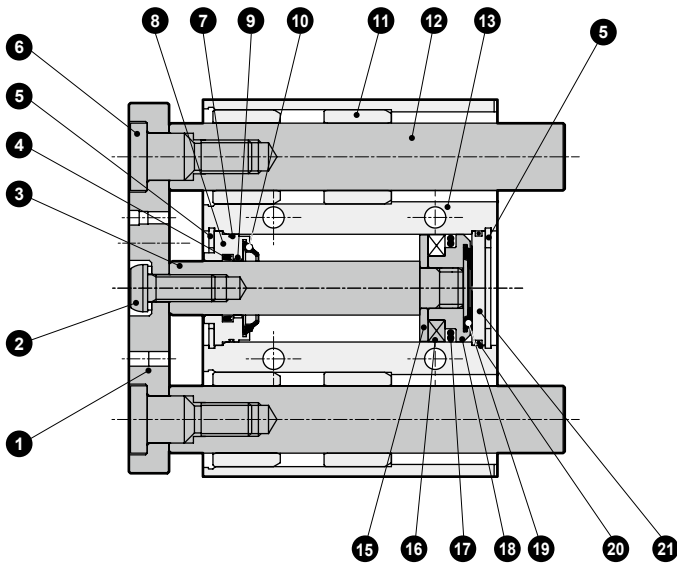
Note: Contact CKD when using  
an environment-friendly T switch.

LCM
LCR
LCG
LCW
LCX
STM
<b>STG</b>
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

## Internal structure and parts list

LCM
LCR
LCG
LCW
LCX
STM
<b>STG</b>
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MecHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

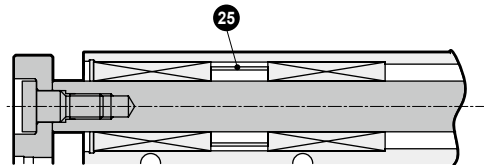
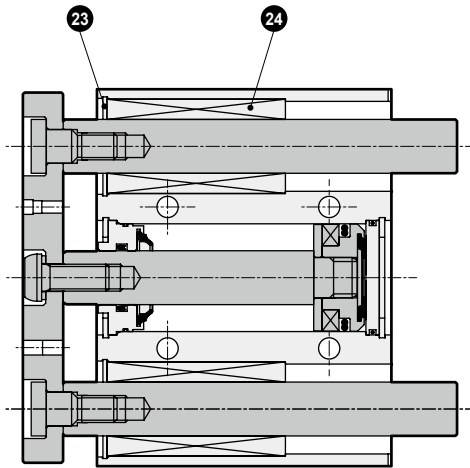
● STG-M-32 to 63(ø32 to ø63)



● STG-B-32 to 63(ø32 to ø63)

· 100 or less stroke length

· Over 100 stroke length



### Internal structure and parts list

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	End plate	Steel	Nickeling	14	Plug	Steel	
2	Hexagon socket button head bolt	Alloy steel	Zinc chromate	15	Spacer	Aluminum alloy	Alumite
3	Piston rod	Steel	Industrial chrome plating	16	Magnet	Plastic	
4	Rod packing	Nitrile rubber		17	Piston packing	Nitrile rubber	
5	C type snap ring	Steel	Zinc phosphate	18	Piston	Aluminum alloy	Alumite
6	Bolt	Alloy steel	Zinc chromate	19	Rubber air cushion (H)	Special rubber	
7	Metal gasket	Nitrile rubber		20	O-ring	Nitrile rubber	
8	Rod metal	Aluminum alloy	Alumite	21	Base plate	Aluminum alloy	Alumite
9	Bush	Oiles drymet (ø40 to ø63)		22	Hexagon socket set screw	Stainless steel	
10	Rubber air cushion (R)	Special rubber		23	C type snap ring	Steel	Zinc phosphate
11	Metal	Oil-impregnated copper alloy bearing		24	Ball bushing		
12	Guide rod	Steel	Industrial chrome plating	25	Collar	Aluminum alloy	
13	Cylinder body	Aluminum alloy	Hard alumite				

### Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
	STG-M/B	
ø32	STG-32CK	
ø40	STG-40CK	4 7 10 17 19 20
ø50	STG-50CK	
ø63	STG-63CK	

### Dimensions

Same as STG Series (double acting/single rod). Refer to page 346.

LCM  
LCR  
LCG  
LCW  
LCX  
STM  
STG  
STS/STL  
STR2  
UCA2  
ULK\*  
JSK/M2  
JSG  
JSC3/JSC4  
USSD  
UFCD  
USC  
UB  
JSB3  
LMB  
LML  
HCM  
HCA  
LBC  
CAC4  
UCAC2  
CAC-N  
UCAC-N  
RCS2  
RCC2  
PCC  
SHC  
MCP  
GLC  
MFC  
BBS  
RRC  
GRC  
RV3\*  
NHS  
HRL  
LN  
Hand  
Chuk  
MechHnd/Chuk  
ShkAbs  
FJ  
FK  
SpdContr  
Ending

### Technical data



Refer to page 412 for guided cylinder selection guide.

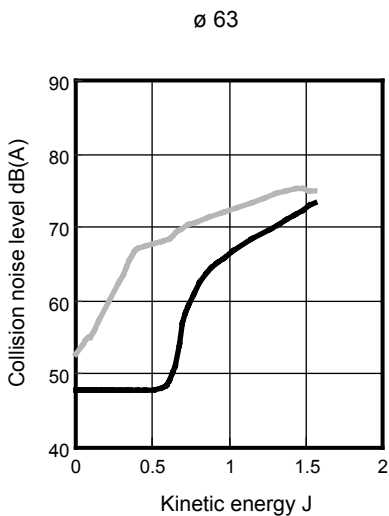
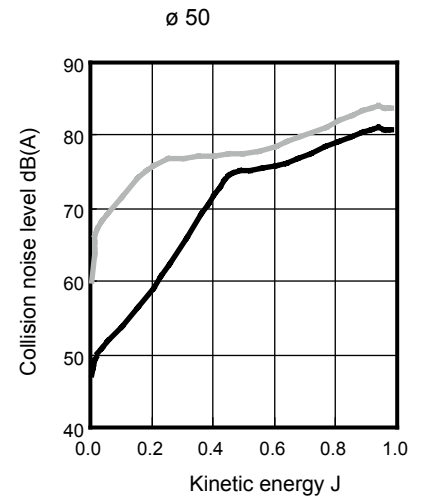
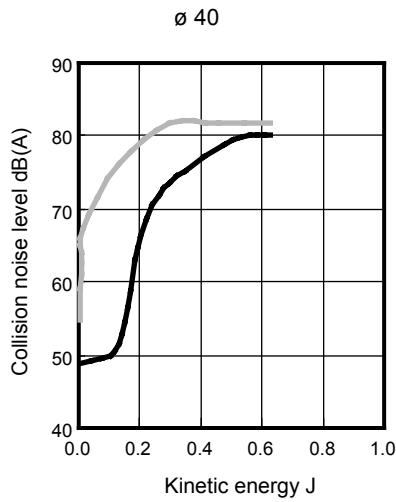
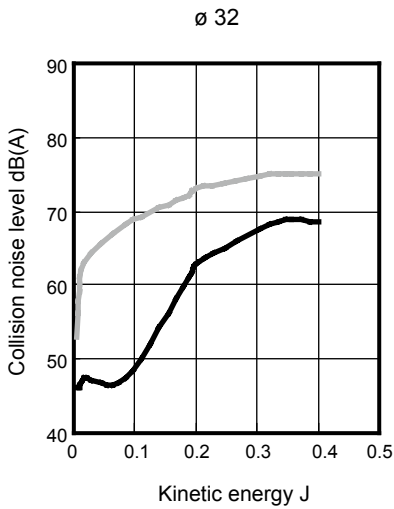
### [Comparison of collision noise level]

Values are comparison samples obtained under the conditions below.  
As the values vary with base rigidity, etc., they are not guaranteed.

#### (Test conditions)



Cylinder : STG  
 Mounting direction of cylinder : Vertical with rod upward  
 Cylinder supply pressure : 0.5 MPa  
 Measurement position of sound level meter : 1 m from sample

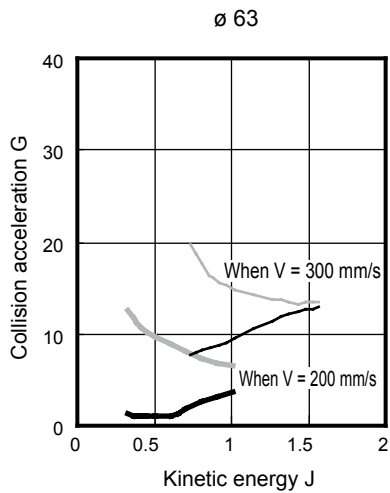
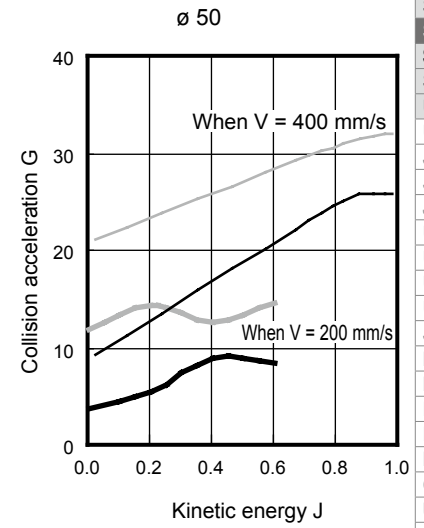
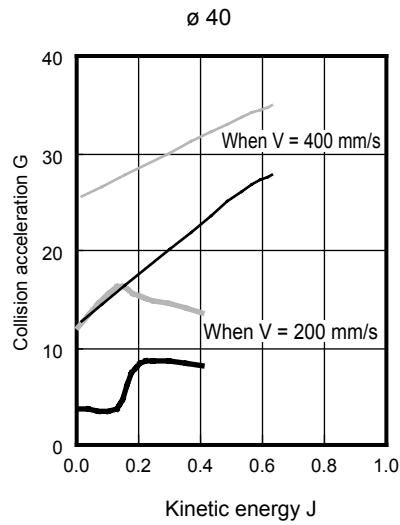
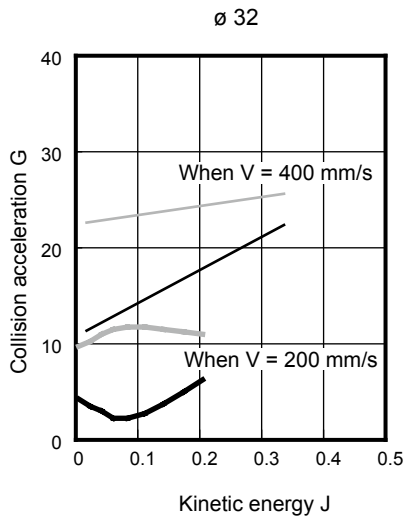
Standard rubber cushion :   
 Rubber-air cushion : 



## Technical data

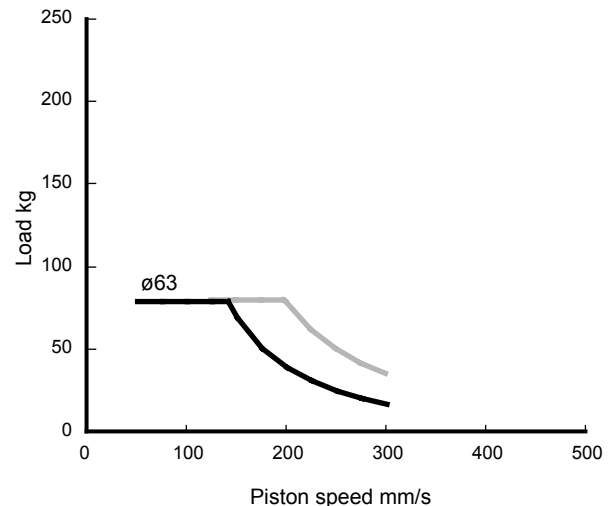
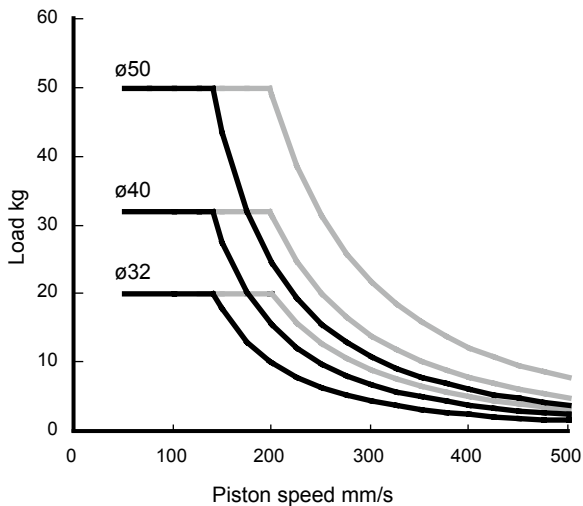
### [Comparison of collision acceleration]

Standard rubber cushion:   
 Rubber-air cushion: 



LCM
LCR
LCG
LCW
LCX
STM
<b>STG</b>
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

### [Allowable energy value]



Usable in the range below and to the left of the curve.

Although it can be used in the range marked with , the use within the range marked with solid line is recommended to maximize the noise reduction effect.



Guided cylinder, double acting/air cushioned

# STG-M BC Series

● Bore size:  $\phi 16/\phi 20/\phi 25/\phi 32/\phi 40/\phi 50/\phi 63$

JIS symbol



## Specifications

Item	STG-M BC								
Bore size	mm	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	
Actuation	Double acting/air cushioned								
Working fluid	Compressed air								
Max. working pressure	MPa	1.0 ( $\approx 150$ psi, 10 bar)							
Min. working pressure	MPa	0.15 ( $\approx 22$ psi, 1.5 bar)			0.1 ( $\approx 15$ psi, 1 bar)				
Proof pressure	MPa	1.6 ( $\approx 230$ psi, 16 bar)							
Ambient temperature	$^{\circ}\text{C}$	-10 ( $14^{\circ}\text{F}$ ) to 60 ( $140^{\circ}\text{F}$ ) (no freezing)							
Port size		M5	Rc1/8				Rc1/4		
Stroke tolerance	mm	+2.0						0	
Working piston speed	mm/s	50 to 500						50 to 300	
Cushion	With air cushion								
Lubrication	Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)								
Allowable absorbed energy	J	0.3	0.7	1.0	2.5	3.7	3.8	5.5	

## Stroke length

Bore size	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)	Min. stroke (mm)(switch)
$\phi 16$	25/50/75/100/125/150/175/200/250	250		
$\phi 20$				
$\phi 25$	25/50/75/100	400	15	15
$\phi 32$	125/150/175			
$\phi 40$	200/250/300			
$\phi 50$	350/400			
$\phi 63$			*2	

\*1: The custom stroke length is available in 1 mm increments. However, the total dimensions are the same as the longer standard stroke length. (Made to order)

\*2: For min. stroke length and below, select the basic since there is no cushion effect.

## Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa										
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
$\phi 16$	Push	-	30.2	40.2	60.3	80.4	$1.01 \times 10^2$	$1.21 \times 10^2$	$1.41 \times 10^2$	$1.61 \times 10^2$	$1.81 \times 10^2$	$2.01 \times 10^2$
	Pull	-	22.6	30.2	45.2	60.3	75.4	90.5	$1.06 \times 10^2$	$1.21 \times 10^2$	$1.36 \times 10^2$	$1.51 \times 10^2$
$\phi 20$	Push	-	47.1	62.8	94.2	$1.26 \times 10^2$	$1.57 \times 10^2$	$1.88 \times 10^2$	$2.20 \times 10^2$	$2.51 \times 10^2$	$2.83 \times 10^2$	$3.14 \times 10^2$
	Pull	-	35.3	47.1	70.7	94.2	$1.18 \times 10^2$	$1.41 \times 10^2$	$1.65 \times 10^2$	$1.88 \times 10^2$	$2.12 \times 10^2$	$2.36 \times 10^2$
$\phi 25$	Push	-	73.6	98.2	$1.47 \times 10^2$	$1.96 \times 10^2$	$2.45 \times 10^2$	$2.95 \times 10^2$	$3.44 \times 10^2$	$3.93 \times 10^2$	$4.42 \times 10^2$	$4.91 \times 10^2$
	Pull	-	56.7	75.6	$1.13 \times 10^2$	$1.51 \times 10^2$	$1.89 \times 10^2$	$2.27 \times 10^2$	$2.64 \times 10^2$	$3.02 \times 10^2$	$3.40 \times 10^2$	$3.78 \times 10^2$
$\phi 32$	Push	80.4	$1.21 \times 10^2$	$1.61 \times 10^2$	$2.41 \times 10^2$	$3.22 \times 10^2$	$4.02 \times 10^2$	$4.83 \times 10^2$	$5.63 \times 10^2$	$6.43 \times 10^2$	$7.24 \times 10^2$	$8.04 \times 10^2$
	Pull	60.3	90.5	$1.21 \times 10^2$	$1.81 \times 10^2$	$2.41 \times 10^2$	$3.02 \times 10^2$	$3.62 \times 10^2$	$4.22 \times 10^2$	$4.83 \times 10^2$	$5.43 \times 10^2$	$6.03 \times 10^2$
$\phi 40$	Push	$1.26 \times 10^2$	$1.88 \times 10^2$	$2.51 \times 10^2$	$3.77 \times 10^2$	$5.03 \times 10^2$	$6.28 \times 10^2$	$7.54 \times 10^2$	$8.80 \times 10^2$	$1.01 \times 10^3$	$1.13 \times 10^3$	$1.26 \times 10^3$
	Pull	$1.06 \times 10^2$	$1.58 \times 10^2$	$2.11 \times 10^2$	$3.17 \times 10^2$	$4.22 \times 10^2$	$5.28 \times 10^2$	$6.33 \times 10^2$	$7.39 \times 10^2$	$8.44 \times 10^2$	$9.50 \times 10^2$	$1.06 \times 10^3$
$\phi 50$	Push	$1.96 \times 10^2$	$2.95 \times 10^2$	$3.93 \times 10^2$	$5.89 \times 10^2$	$7.85 \times 10^2$	$9.82 \times 10^2$	$1.18 \times 10^3$	$1.37 \times 10^3$	$1.57 \times 10^3$	$1.77 \times 10^3$	$1.96 \times 10^3$
	Pull	$1.65 \times 10^2$	$2.47 \times 10^2$	$3.30 \times 10^2$	$4.95 \times 10^2$	$6.60 \times 10^2$	$8.25 \times 10^2$	$9.90 \times 10^2$	$1.15 \times 10^3$	$1.32 \times 10^3$	$1.48 \times 10^3$	$1.65 \times 10^3$
$\phi 63$	Push	$3.12 \times 10^2$	$4.68 \times 10^2$	$6.23 \times 10^2$	$9.35 \times 10^2$	$1.25 \times 10^3$	$1.56 \times 10^3$	$1.87 \times 10^3$	$2.18 \times 10^3$	$2.49 \times 10^3$	$2.81 \times 10^3$	$3.12 \times 10^3$
	Pull	$2.80 \times 10^2$	$4.20 \times 10^2$	$5.61 \times 10^2$	$8.41 \times 10^2$	$1.12 \times 10^3$	$1.40 \times 10^3$	$1.68 \times 10^3$	$1.96 \times 10^3$	$2.24 \times 10^3$	$2.52 \times 10^3$	$2.80 \times 10^3$

### Switch specifications

- 1-color/2-color display/for AC magnetic field proof

Item	Proximity 2-wire		Proximity 2-wire			Proximity 3-wire				Reed 2-wire			Proximity 2-wire				
	T1H/ T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/ T3V	T3PH/ T3PV	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V	T8H/T8V		T2YD(*4) T2YDT				
Applications	For programmable controller, relay, compact solenoid valve		Dedicated for programmable controller			For programmable controller, relay				For programmable controller, relay	For programmable controller, relay, IC circuit (no indicator lamp), serial connection		For programmable controller, relay	For programmable controller			
Output method	-			NPN output	PNP output	NPN output	NPN output	-									
Pwr. supp. V.	-			10 to 28 VDC				-									
Load voltage	85 to 265 VAC		10 to 30 VDC		24 VDC ±10%	30 VDC or less				12/24 VDC	100/110 VAC	5/12/24 VDC	100/110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100 mA		5 to 20 mA (*3)			100 mA or less		50 mA or less		5 to 50 mA	7 to 20 mA	≤50 mA	≤20 mA	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA
Indicator lamp	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)		Without indicator lamp		LED (Lit when ON)		Red/green LED (Lit when ON)		
Leakage current	≤ 1 mA at 100 VAC, ≤ 2 mA at 200 VAC		1 mA or less			10 µA or less				0 mA						1 mA or less	
Weight g	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80			1 m:33 3 m:87 5 m:142		1 m:61 3 m:166 5 m:272			

\*1 : Refer to Ending Page 1 for detailed switch specifications and dimensions.

\*2 : Switches other than the above models, such as switches with connectors, are also available. Refer to Ending Page 1.

\*3 : The max. load current is 20 mA at 25°C. The current is lower than 20 mA if the operating ambient temperature around the switch is higher than 25°C. (5 to 10 mA at 60°C)

\*4 : AC magnetic field proof switch (T2YD/T2YDT) cannot be used in DC magnetic fields.

### Cylinder weight

- STG-M

Unit: kg

Item	Stroke length												Switch weight
	Bore size (mm)												
	25	50	75	100	125	150	175	200	250	300	350	400	
ø16	0.49	0.61	0.76	0.88	1.04	1.16	1.28	1.41	1.65				Refer to the weight in the switch specifications.
ø20	0.85	1.04	1.30	1.49	1.68	1.87	2.06	2.26	2.71	3.10	3.48	3.87	
ø25	1.19	1.45	1.83	2.09	2.35	2.62	2.89	3.15	3.80	4.32	4.86	5.38	
ø32	1.90	2.26	2.80	3.18	3.58	3.96	4.35	4.73	5.71	6.48	7.26	8.03	
ø40	2.28	2.70	3.16	3.58	4.01	4.43	4.86	5.28	6.31	7.17	8.02	8.87	
ø50	3.87	4.51	5.24	5.88	6.51	7.15	7.79	8.43	10.04	11.30	12.60	13.90	
ø63	4.93	5.69	6.53	7.29	8.04	8.80	9.55	10.31	12.15	13.65	15.15	16.64	

- STG-B

Unit: kg

Item	Stroke length												Switch weight
	Bore size (mm)												
	25	50	75	100	125	150	175	200	250	300	350	400	
ø16	0.52	0.64	0.75	0.87	1.00	1.11	1.22	1.34	1.55				Refer to the weight in the switch specifications.
ø20	0.90	1.10	1.27	1.43	1.63	1.80	1.97	2.14	2.50	2.84	3.18	3.52	
ø25	1.26	1.52	1.75	1.98	2.24	2.46	2.69	2.91	3.40	3.85	4.30	4.74	
ø32	1.75	2.04	2.47	2.77	3.13	3.43	3.72	4.02	4.68	5.27	5.87	6.46	
ø40	2.12	2.48	2.97	3.33	3.75	4.11	4.47	4.83	5.61	6.32	7.04	7.76	
ø50	3.62	4.17	4.92	5.47	6.10	6.65	7.20	7.75	8.98	10.07	11.20	12.30	
ø63	4.69	5.34	6.21	6.87	7.63	8.29	8.96	9.62	11.05	12.45	13.75	15.05	

- LCM
- LCR
- LCG
- LCW
- LCX
- STM
- STG
- STS/STL
- STR2
- UCA2
- ULK\*
- JSK/M2
- JSG
- JSC3/JSC4
- USSD
- UFCD
- USC
- UB
- JSB3
- LMB
- LML
- HCM
- HCA
- LBC
- CAC4
- UCAC2
- CAC-N
- UCAC-N
- RCS2
- RCC2
- PCC
- SHC
- MCP
- GLC
- MFC
- BBS
- RRC
- GRC
- RV3\*
- NHS
- HRL
- LN
- Hand
- Chuk
- MechHnd/Chuk
- ShkAbs
- FJ
- FK
- SpdContr
- Ending



- LCM
- LCR
- LCG
- LCW
- LX
- STM
- STG**
- STS/STL
- STR2
- UCA2
- ULK\*
- JSK/M2
- JSG
- JSC3/JSC4
- USSD
- UFCD
- USC
- UB
- JSB3
- LMB
- LML
- HCM
- HCA
- LBC
- CAC4
- UCAC2
- CAC-N
- UCAC-N
- RCS2
- RCC2
- PCC
- SHC
- MCP
- GLC
- MFC
- BBS
- RRC
- GRC
- RV3\*
- NHS
- HRL
- LN
- Hand
- Chuk
- MecHnd/Chuk
- ShkAbs
- FJ
- FK
- SpdContr
- Ending

## How to order

Without switch (built-in magnet for switch)

**STG** - **M** **C** - **32** - **25**

With switch (built-in magnet for switch)

**STG** - **M** **C** - **32** - **25** - **T2H** - **R**

Model No.

With air cushion

**A** Bearing

**B** Bore size

**C** Port thread

**D** Stroke length

**E** Switch model No.  
\*1, \*2

**F** Switch quantity

Code	Description				
<b>A Bearing</b>					
<b>M</b>	Metal bush bearing				
<b>B</b>	Ball bearing				
<b>B Bore size (mm)</b>					
<b>16</b>	ø16				
<b>20</b>	ø20				
<b>25</b>	ø25				
<b>32</b>	ø32				
<b>40</b>	ø40				
<b>50</b>	ø50				
<b>63</b>	ø63				
<b>C Port thread</b>					
<b>Blank</b>	M5(ø16) Rc thread (ø20 to ø63)				
<b>NN</b>	NPT thread (ø20 or more) made-to-order product				
<b>GN</b>	G thread (ø20 or more) made-to-order product				
<b>D Stroke length (mm)</b>					
Refer to the stroke length table on the following page					
<b>E Switch model No.</b>					
Axial lead wire	Radial lead wire	Contact	Voltage AC DC	Display	Lead wire
<b>T0H*</b>	<b>T0V*</b>	Reed	● ●	1-color display	2-wire
<b>T5H*</b>	<b>T5V*</b>		● ●	Without indicator lamp	
<b>T8H*</b>	<b>T8V*</b>		● ●	1-color display	
<b>T1H*</b>	<b>T1V*</b>		●	1-color display	
<b>T2H*</b>	<b>T2V*</b>		3-wire		
<b>T3H*</b>	<b>T3V*</b>		3-wire		
<b>T2WH*</b>	<b>T2WV*</b>	Proximity	●	1-color display	2-wire
<b>T2YH*</b>	<b>T2YV*</b>		●		
<b>T3WH*</b>	<b>T3WV*</b>		●		
<b>T2YH*</b>	<b>T2YV*</b>		●	3-wire	
<b>T3YH*</b>	<b>T3YV*</b>		●		
<b>T2JH*</b>	<b>T2JV*</b>		●		1-color display off-delay
<b>T2YD*</b>	-	●	2-color display for AC magnetic field	2-wire	
<b>T2YDT*</b>	-	●			
<b>* Lead wire length</b>					
<b>Blank</b>	1 m (standard)				
<b>3</b>	3 m (option)				
<b>5</b>	5 m (option)				
<b>F Switch quantity</b>					
<b>R</b>	1 on rod side				
<b>H</b>	1 on head side				
<b>D</b>	2				
<b>T</b>	3				

### ⚠ Precautions for model No. selection

- \*1 : Switches other than **E** Switch model No. are also available. (Made-to-order product) Refer to Ending Page 1 for details.
- \*2 : Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.
- \*3 : T8H/V switch cannot be installed on STG-M<sub>B</sub>C-16.

[Example of model No.]

### STG-MC-25-50-T0H3-D

Model: Guided cylinder, double acting/air cushioned

- A** Bearing : Metal bush bearing
- B** Bore size : ø25 mm
- C** Port thread : Rc thread
- D** Stroke length : 50 mm
- E** Switch model No. : Reed T0H switch, lead wire length 3 m
- F** Switch quantity : 2

## D Stroke length

Stroke length (mm)	Applicable bore size							
	ø16	ø20	ø25	ø32	ø40	ø50	ø63	
Standard stroke length	25	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●
	75	●	●	●	●	●	●	●
	100	●	●	●	●	●	●	●
	125	●	●	●	●	●	●	●
	150	●	●	●	●	●	●	●
	175	●	●	●	●	●	●	●
	200	●	●	●	●	●	●	●
	250	●	●	●	●	●	●	●
	300	■	●	●	●	●	●	●
350	■	●	●	●	●	●	●	
400	■	●	●	●	●	●	●	
Min. stroke length *1	15							
Custom stroke length *2	In 1 mm increments (made to order)							

\*1: For min. stroke length and below, select the basic since there is no cushion effect.

\*2: The total dimensions are the same as the longer standard stroke length.

## How to order switch

**SW** - **T0V**

Switch model No.  
(Item ⑤ on page 360)

Note: Contact CKD when using  
an environment-friendly T switch.

LCM
LCR
LCG
LCW
LCX
STM
<b>STG</b>
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MechMod/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

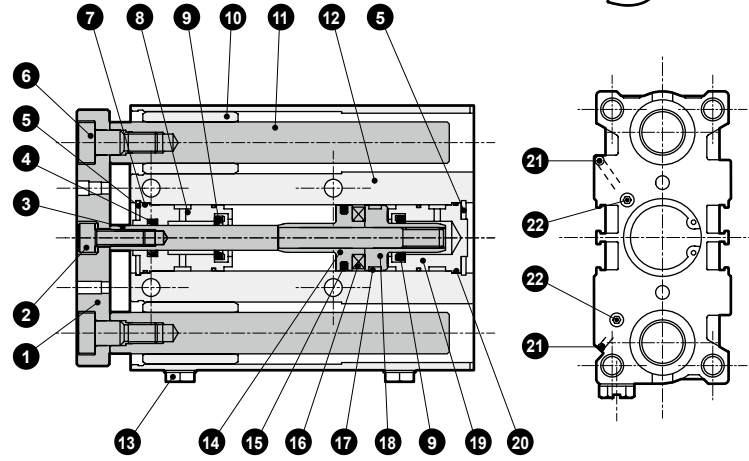
# STG-MC Series

## Internal structure and parts list (STG-MC-16 to 40)

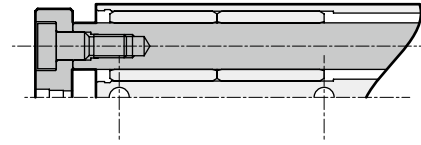
LCM
LCR
LCG
LCW
LCX
STM
<b>STG</b>
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MecHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

●  $\varnothing 16$

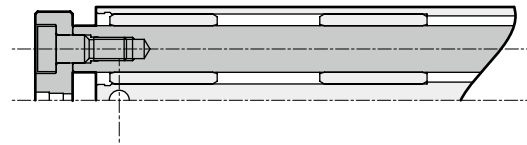
· 25 stroke length



· Over 25 to 100 stroke length

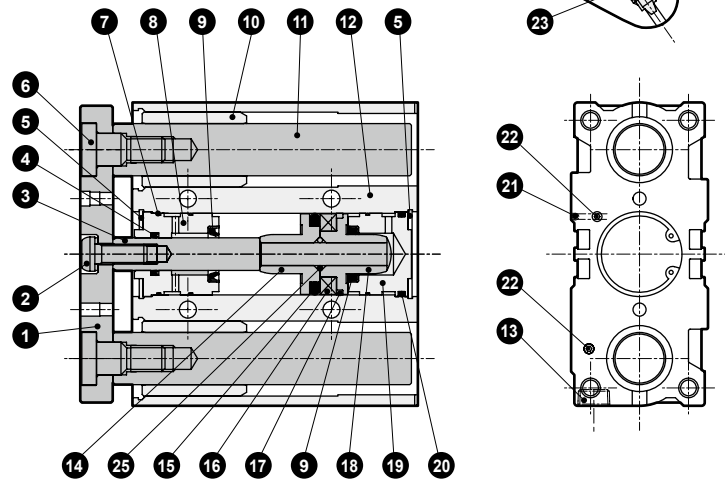


· Over 100 stroke length

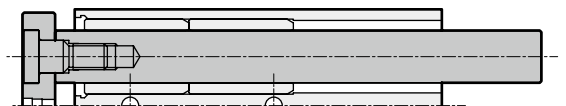


●  $\varnothing 20$  to  $\varnothing 40$

· 25 stroke length ( $\varnothing 20, \varnothing 25$ )



· Over 25 to 200 stroke length ( $\varnothing 20, \varnothing 25$ )

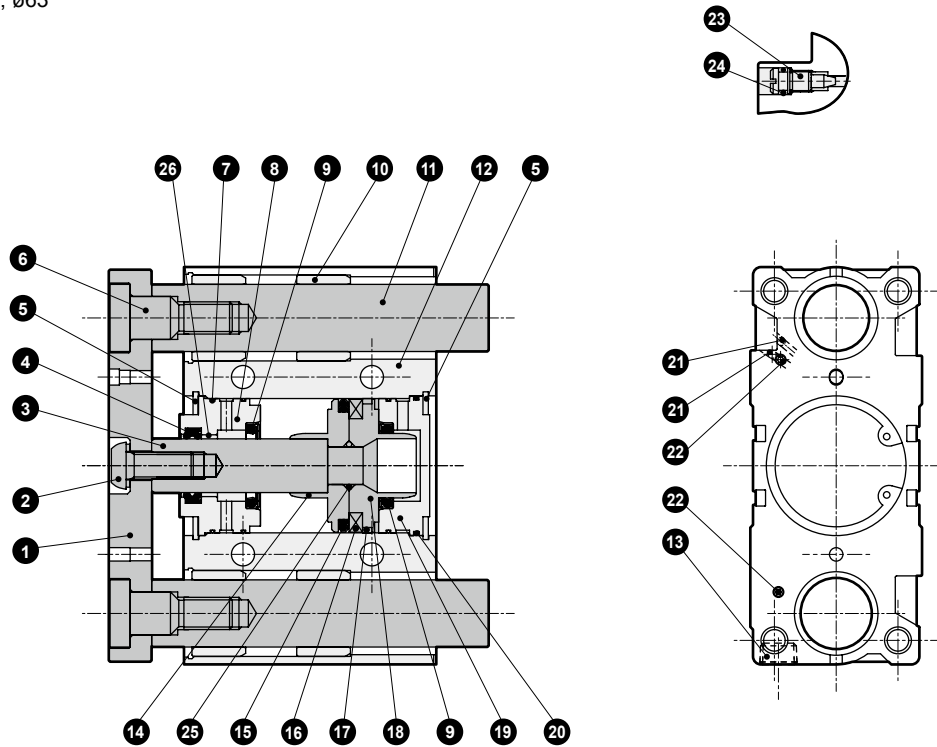


· Over 200 stroke length ( $\varnothing 20, \varnothing 25, \varnothing 32, \varnothing 40$ )



### Internal structure and parts list (STG-MC-50, 63)

●  $\phi 50, \phi 63$



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	End plate	Steel	Nickeling	12	Cylinder body	Aluminum alloy	Hard alumite
2	Hexagon socket head cap screw ( $\phi 16$ ) Hex socket button head bolt ( $\phi 20$ to $\phi 63$ )	Steel	Zinc chromate	13	Plug	Copper alloy or steel	
		Steel	Zinc chromate	14	Piston (R)	Aluminum alloy	Chromate ( $\phi 16$ to $\phi 32$ )
3	Piston rod	Stainless steel ( $\phi 16$ to $\phi 25$ )	Industrial chrome plating	15	Piston packing	Nitrile rubber	
		Steel ( $\phi 32$ to $\phi 63$ )	Industrial chrome plating	16	Magnet	Plastic	
4	Rod packing	Nitrile rubber		17	Wear ring	Acetal resin	
5	C type snap ring	Steel	Zinc phosphate	18	Piston (H)	Aluminum alloy	Chromate ( $\phi 16$ to $\phi 32$ )
6	Bolt	Steel	Zinc chromate	19	Base plate	Aluminum alloy	Chromate
7	Metal gasket	Nitrile rubber		20	O-ring	Nitrile rubber	
8	Rod metal	Special aluminum alloy ( $\phi 16$ to $\phi 32$ )	Alumite	21	Steel ball	Stainless steel	
		Aluminum alloy ( $\phi 40$ to $\phi 63$ )	Chromate	22	Hexagon socket set screw	Stainless steel	
9	Cushion packing	Nitrile rubber/steel		23	Cushion needle	Copper alloy	
10	Metal	Oil impregnated bearing alloy		24	Needle gasket	Nitrile rubber	
11	Guide rod	Stainless steel ( $\phi 16$ )	Industrial chrome plating	25	Piston gasket	Nitrile rubber	
		Steel ( $\phi 20$ to $\phi 63$ )	Industrial chrome plating	26	Bush	Oiles drymet ( $\phi 40$ to $\phi 63$ )	

### Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
	STG-M/B	
$\phi 16$	STG-C-16K	
$\phi 20$	STG-C-20K	
$\phi 25$	STG-C-25K	
$\phi 32$	STG-C-32K	
$\phi 40$	STG-C-40K	
$\phi 50$	STG-C-50K	
$\phi 63$	STG-C-63K	

Note: For support of new and old products, both sizes are available for **20** O-rings of  $\phi 20$  to  $\phi 50$ .  
For complete replacement, note that 2 will be left over.

LCM  
LCR  
LCG  
LCW  
LCX  
STM  
**STG**  
STS/STL  
STR2  
UCA2  
ULK\*  
JSK/M2  
JSG  
JSC3/JSC4  
USSD  
UFCD  
USC  
UB  
JSB3  
LMB  
LML  
HCM  
HCA  
LBC  
CAC4  
UCAC2  
CAC-N  
UCAC-N  
RCS2  
RCC2  
PCC  
SHC  
MCP  
GLC  
MFC  
BBS  
RRC  
GRC  
RV3\*  
NHS  
HRL  
LN  
Hand  
Chuk  
Mech/nd/Chuk  
ShkAbs  
FJ  
FK  
SpdContr  
Ending

# STG-BC Series

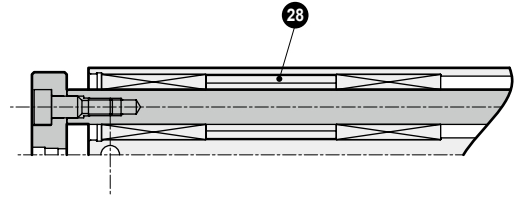
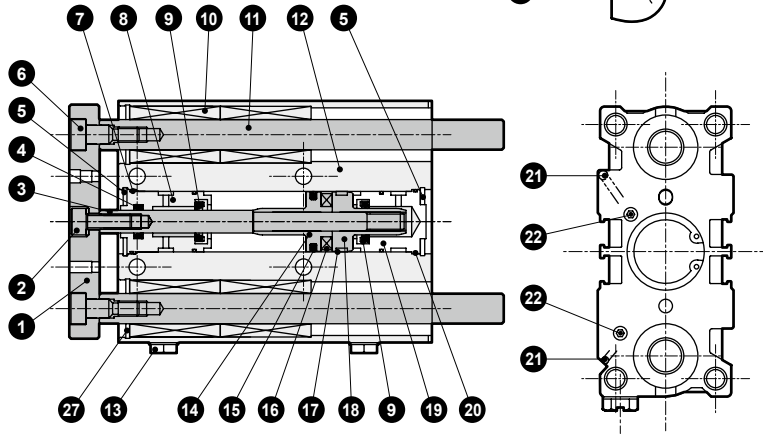
## Internal structure and parts list (STG-BC-16 to 40)

LCM
LCR
LCG
LCW
LCX
STM
<b>STG</b>
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MecHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

●  $\phi 16$

· Over 25 to 100 stroke length

· Over 100 stroke length



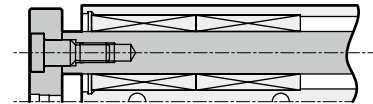
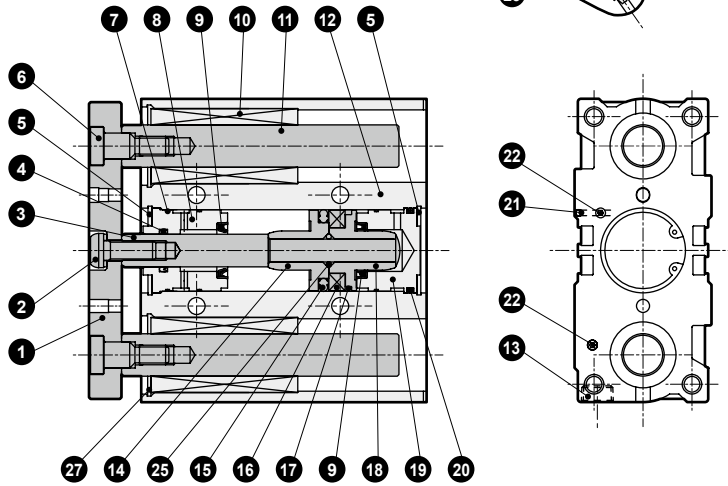
●  $\phi 20$  to  $\phi 40$

· 25 stroke length ( $\phi 20$ ,  $\phi 25$ )

· 100 mm stroke length or less ( $\phi 32$ ,  $\phi 40$ )

· Over 25 to 100 stroke length ( $\phi 20$ )

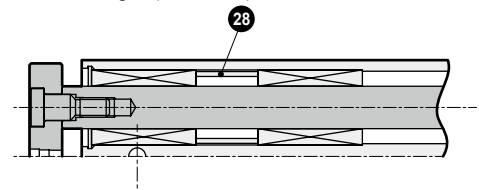
· Over 25 to 75 stroke length ( $\phi 25$ )



· Over 100 stroke length ( $\phi 20$ )

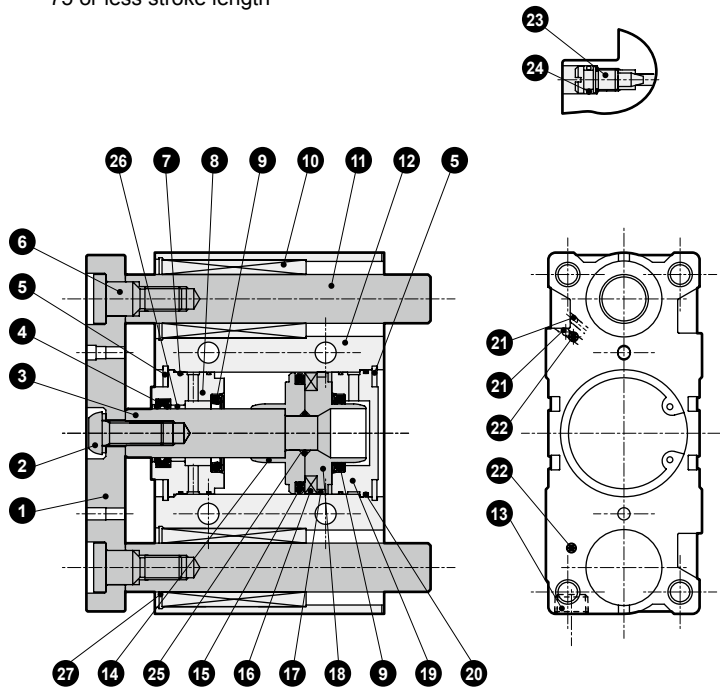
· Over 75 stroke length ( $\phi 25$ )

· Over 100 stroke length ( $\phi 32$ ,  $\phi 40$ )

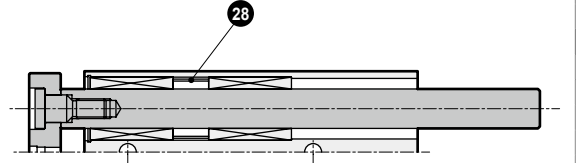


### Internal structure and parts list (STG-BC-50, 63)

- $\phi 50, \phi 63$
- 75 or less stroke length



· Over 75 stroke length



- LCM
- LCR
- LCG
- LCW
- LCX
- STM
- STG**
- STS/STL
- STR2
- UCA2
- ULK\*
- JSK/M2
- JSG
- JSC3/JSC4
- USSD
- UFCD
- USC
- UB
- JSB3
- LMB
- LML
- HCM
- HCA
- LBC
- CAC4
- UCAC2
- CAC-N
- UCAC-N
- RCS2
- RCC2
- PCC
- SHC
- MCP
- GLC
- MFC
- BBS
- RRC
- GRC
- RV3\*
- NHS
- HRL
- LN
- Hand
- Chuk
- MechHnd/Chuk
- ShkAbs
- FJ
- FK
- SpdContr
- Ending

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	End plate	Steel	Nickeling	14	Piston (R)	Aluminum alloy	Chromate ( $\phi 16$ to $\phi 32$ )
2	Hex socket head cap screw ( $\phi 12$ to $\phi 16$ )	Steel	Zinc chromate	15	Piston packing	Nitrile rubber	
	Hex socket button head bolt ( $\phi 20$ to $\phi 63$ )	Steel	Zinc chromate	16	Magnet		
3	Piston rod	Stainless steel ( $\phi 16$ to $\phi 25$ )	Industrial chrome plating	17	Wear ring	Acetal resin	
		Steel ( $\phi 32$ to $\phi 63$ )	Industrial chrome plating	18	Piston (H)	Aluminum alloy	Chromate ( $\phi 16$ to $\phi 32$ )
4	Rod packing	Nitrile rubber		19	Base plate	Aluminum alloy	Chromate
5	C type snap ring	Steel	Zinc phosphate	20	O-ring	Nitrile rubber	
6	Bolt	Steel	Zinc chromate	21	Steel ball	Stainless steel	
7	Metal gasket	Nitrile rubber		22	Hexagon socket set screw	Stainless steel	
8	Rod metal	Special aluminum alloy ( $\phi 16$ to $\phi 32$ )	Alumite	23	Cushion needle	Copper alloy	
		Aluminum alloy ( $\phi 40$ to $\phi 63$ )	Chromate	24	Needle gasket	Nitrile rubber	
9	Cushion packing	Nitrile rubber/steel		25	Piston gasket	Nitrile rubber	
10	Ball bushing			26	Bush	Oiles drymet ( $\phi 40$ to $\phi 63$ )	
11	Guide rod	Steel	Industrial chrome plating	27	C type snap ring	Steel	Zinc phosphate
12	Cylinder body	Aluminum alloy	Hard alumite	28	Collar	Aluminum alloy	
13	Plug	Copper alloy or steel					

### Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
	STG-M/B	
$\phi 16$	STG-C-16K	<div style="display: flex; flex-wrap: wrap; justify-content: center; gap: 10px;"> <span>4</span> <span>7</span> <span>9</span> <span>15</span> <span>17</span> <span>20</span> <span>24</span> </div>
$\phi 20$	STG-C-20K	
$\phi 25$	STG-C-25K	
$\phi 32$	STG-C-32K	
$\phi 40$	STG-C-40K	
$\phi 50$	STG-C-50K	
$\phi 63$	STG-C-63K	

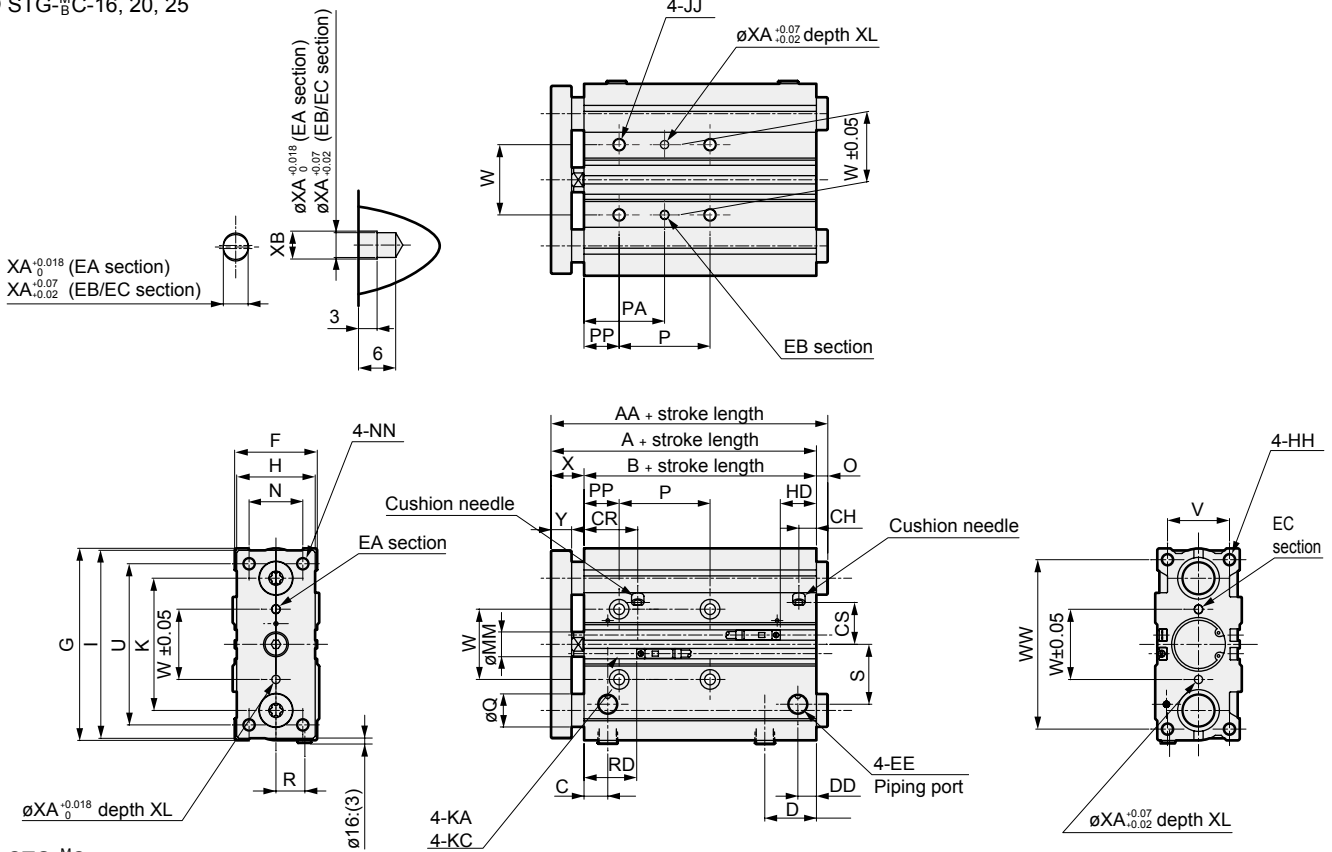
Note: For support of new and old products, both sizes are available for **20** O-rings of  $\phi 20$  to  $\phi 50$ . For complete replacement, note that 2 will be left over.

# STG-MC Series



## Dimensions (ø16, ø20, ø25)

### ● STG-MC-16, 20, 25



### ● STG-MC common

Code	Standard stroke length (mm)		A	B	C	D	DD	EE	F	G	H	HH	I	JJ	K	KA
ø16	25,50,75,100,125,150,175,200,250		71	58	12	18	7.5	M5	30	64	25	M5 depth 12	62	M5 depth 10	46	4.3 through
ø20	25,50,75,100,125,150		78	62	10.5	24.5	8.5	Rc1/8	36	83	30	M5 depth 13	81	M6 depth 12	54	5.2 through
ø25	175,200,250,300,350,400		78.5	62.5	11.5	25	9	Rc1/8	42	93	38	M6 depth 15	91	M6 depth 12	64	5.2 through

Code	Bore size (mm)	P			PA				PP	R	S				
		MM	N	NN	KC	75 st or less	Over 75 st to 175 st	>175 st, ≤250 st				>250 st, ≤400 st	75 st or less	Over 75 st to 175 st	>175 st, ≤250 st
ø16	6	16	M5 through	8 spot face depth 4.5	44	110	200	-	27	60	105	-	5	10	18
ø20	8	18	M5 through	9.5 spot face depth 5.5	44	120	200	300	39	77	117	167	17	11	25
ø25	10	26	M6 through	9.5 spot face depth 5.5	44	120	200	300	39	77	117	167	17	14	29

Code	Bore size (mm)	T0/T5/T2/T3						T2W/T3W				XA	XB	CR	CH	CS
		U	V	W	WW	X	Y	RD	HD	RD	HD					
ø16	54	22	24	56	$13_{-1.5}^0$	7.5	20.5	18	22.5	20	3	3.5	23.5	9	16	
ø20	70	24	28	72	$16_{-2}^0$	9.5	23.5	19.5	25.5	21.5	3	3.5	25	11	19	
ø25	78	30	34	82	$16_{-2}^0$	9.5	25.5	17.5	27.5	19.5	4	4.5	26	8.5	20	

### ● STG-MC

Code	AA					Q	O				
	25 st or less	Over 25 st to 50 st	Over 50 st to 100 st	>100 st, ≤200 st	Over 200 st		25 st or less	Over 25 st to 50 st	Over 50 st to 100 st	>100 st, ≤200 st	Over 200 st
ø16	71	88	71	95	95	10	0	17	0	24	24
ø20	78	84.5	79	79	122	12	0	6.5	1	1	44
ø25	78.5	84	84	84	122	16	0	5.5	5.5	5.5	43.5

### ● STG-BC

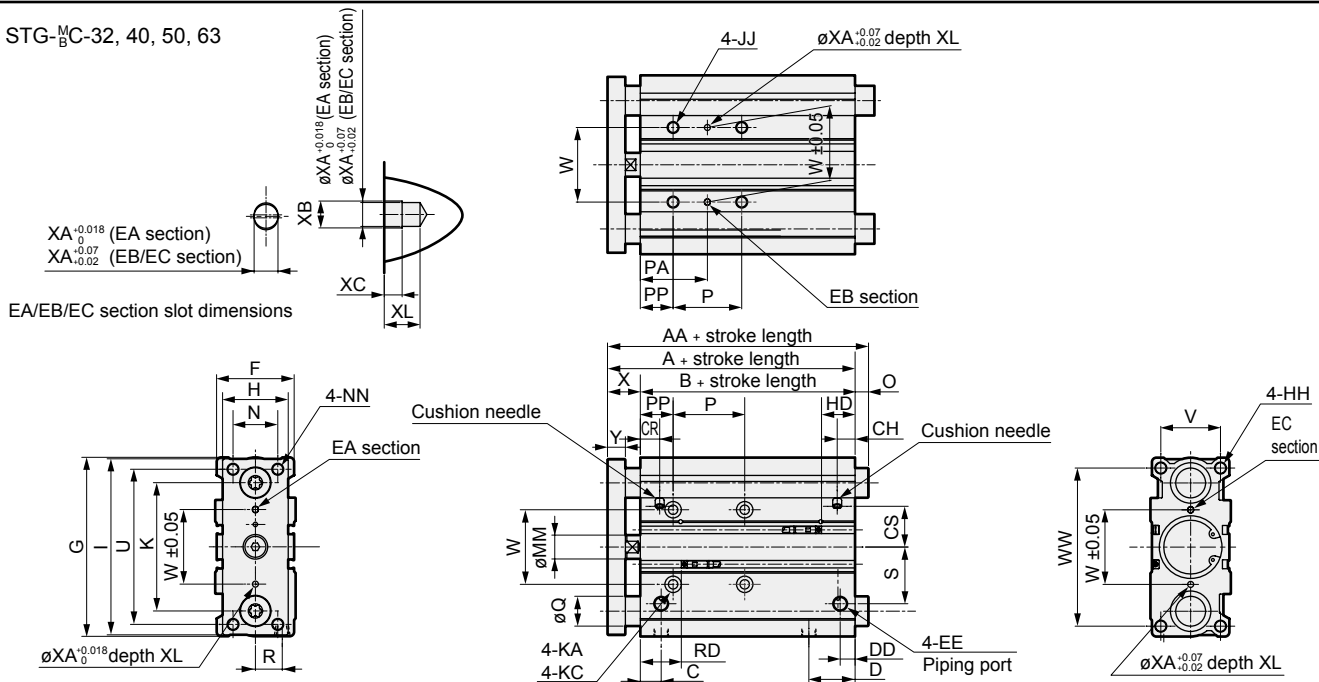
Code	AA					Q	O				
	25 st or less	Over 25 st to 75 st	100st	>100 st, ≤200 st	Over 200 st		25 st or less	Over 25 st to 75 st	100st	>100 st, ≤200 st	Over 200 st
ø16	80	71	71	95	95	8	9	0	0	24	24
ø20	93	79	79	100	122	10	15	1	1	22	44
ø25	99	84	103	103	122	13	20.5	5.5	24.5	24.5	43.5

\*1: Refer to page 410 for RD, HD and protruding dimensions of the 2-color display (except for T2WH/V and T3WH/V), off-delay, AC magnetic field proof, T1H/V and T8H/V switches.

## Dimensions (ø32, ø40, ø50, ø63)



### ● STG-MC-32, 40, 50, 63



### ● STG-MC common

Code	Standard stroke length (mm)	A	B	C	D	DD	EE	F	G	H	HH	I	JJ	K	KA
ø32	25,50,75,100,125, 150,175,200,250, 300,350,400	84.5	62.5	12.5	30.5	9	Rc1/8	48	112	44	M8 depth 20	110	M8 depth 16	78	6.3 through
ø40		91	69	14	31	10	Rc1/8	54	120	44	M8 depth 20	118	M8 depth 16	86	6.3 through
ø50		97	69	14	35	11	Rc1/4	64	148	60	M10 depth 22	146	M10 depth 20	110	8.6 through
ø63		102	74	16.5	35	15	Rc1/4	78	162	70	M10 depth 22	158	M10 depth 20	124	8.6 through

Code	Bore size (mm)	KC	MM	N	NN	P				PA				PP	R	S	U
						75 st or less	Over 75 st to 175 st	>175 st, ≤250 st	Over 250 st	75 st or less	Over 75 st to 175 st	>175 st, ≤250 st	Over 250 st				
ø32	11 spot face depth 7.5	12	30	M8 through	48	124	200	300	45	83	121	171	21	15	34	96	
ø40	11 spot face depth 7.5	16	30	M8 through	48	124	200	300	46	84	122	172	22	18	38	104	
ø50	14 spot face depth 9	20	40	M10 through	48	124	200	300	48	86	124	174	24	21.5	47	130	
ø63	14 spot face depth 9	20	50	M10 through	52	128	200	300	50	88	124	174	24	28	55	130	

Code	Bore size (mm)	V	W	WW	X	Y	T0/T5/T2/T3		T2W/T3W		XA	XB	XC	XL	CR	CH	CS
							RD	HD	RD	HD							
ø32	34	42	98	22 $\frac{3}{4}$	11.5	23.5	20	25.5	22	4	4.5	3	6	12.5	9.2	25	
ø40	40	50	106	22 $\frac{3}{4}$	11.5	27.5	22.5	29.5	24.5	4	4.5	3	6	13	12	27.5	
ø50	46	66	130	28 $\frac{3}{4}$	15.5	30	20.5	32	22.5	5	6	4	8	15	12.5	39.5	
ø63	58	80	142	28 $\frac{3}{4}$	15.5	31	24	33	26	5	6	4	8	32.5	31.5	45.5	

### ● STG-MC

Code	AA				Q	O			
	25st	50st	Over 50 st to 200 st	Over 200 st		25st	50st	Over 50 st to 200 st	Over 200 st
ø32	84.5	125	100	140	20	0	40.5	15.5	55.5
ø40	91	125	100	140	20	0	34	9	49
ø50	97	116	116	161	25	0	19	19	64
ø63	102	116	116	161	25	0	14	14	59

\*1: Refer to page 410 for RD, HD and protruding dimensions of the 2-color display (except for T2WH/V and T3WH/V), off-delay, AC magnetic field proof, T1H/V and T8H/V switches.

### ● STG-BC

Code	AA						Q	O					
	25st	50st	75st	100st	>100 st, ≤200 st	Over 200 st		25st	50st	75st	100st	>100 st, ≤200 st	Over 200 st
ø32	84.5	123	98	98	118	140	16	0	38.5	13.5	13.5	33.5	55.5
ø40	91	123	98	98	118	140	16	0	32	7	7	27	49
ø50	97	114	114	159	134	161	20	0	17	17	62	37	64
ø63	102	114	114	159	134	161	20	0	12	12	57	32	59

LCM
LCR
LCG
LCW
LCX
STM
<b>STG</b>
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending



LCM  
LCR  
LCG  
LCW  
LCX  
STM  
STG  
STS/STL  
STR2  
UCA2  
ULK\*  
JSK/M2  
JSG  
JSC3/JSC4  
USSD  
UFCD  
USC  
UB  
JSB3  
LMB  
LML  
HCM  
HCA  
LBC  
CAC4  
UCAC2  
CAC-N  
UCAC-N  
RCS2  
RCC2  
PCC  
SHC  
MCP  
GLC  
MFC  
BBS  
RRC  
GRC  
RV3\*  
NHS  
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LN  
Hand  
Chuk  
MechHnd/Chuk  
ShkAbs  
FJ  
FK  
SpdContr  
Ending

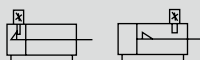


Guided cylinder, double acting/position locking

# STG-M/BQ Series

● Bore size:  $\phi 20/\phi 25/\phi 32/\phi 40/\phi 50/\phi 63$

JIS symbol



## Specifications

Item	STG-M/BQ					
Bore size mm	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$
Actuation	Double acting/position locking					
Working fluid	Compressed air					
Max. working pressure MPa	1.0 ( $\approx 150$ psi, 10 bar)					
Min. working pressure MPa	0.2 ( $\approx 29$ psi, 2 bar)		0.15 ( $\approx 22$ psi, 1.5 bar)			
Proof pressure MPa	1.6 ( $\approx 230$ psi, 16 bar)					
Ambient temperature $^{\circ}\text{C}$	-10 ( $14^{\circ}\text{F}$ ) to 60 ( $140^{\circ}\text{F}$ ) (no freezing)					
Port size	Rc1/8			Rc1/4		
Stroke tolerance mm	+2.0 0					
Working piston speed mm/s	50 to 500				50 to 300	
Cushion	With rubber cushion					
Position locking mechanism	Rod side or head side					
Holding force	Max. thrust x 0.7					
Lubrication	Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)					
Allowable absorbed energy J	0.157	0.157	0.401	0.627	0.980	1.560

## Stroke length

Bore size	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)	Min. stroke (mm)/switch
$\phi 20$	25/50/75/100 125/150/175 200/250/300 350/400	400	5	Refer to Table 1
$\phi 25$				
$\phi 32$				
$\phi 40$				
$\phi 50$				
$\phi 63$				

\*1: The custom stroke length is available in 5 mm increments. However, the total length is the same as that of the next longer standard stroke length.

Table 1

	1-color display (excluding T1) T0/T5/T2/T3/T3P	2-color display, strong magnetic field proof T1/T <sub>3</sub> Y/T2J/T2YD/T2YDT
Axial lead wire T*H	20	30
Radial lead wire T*V	5	15

\*2: For types with one or two switches.

**⚠** Be sure to read the "Safety precautions" **Position locking** on pages 426 to 428 before use.

### Switch specifications

● 1-color/2-color display/for AC magnetic field proof

Item	Proximity 2-wire		Proximity 2-wire		Proximity 3-wire				Reed 2-wire			Proximity 2-wire				
	T1H/ T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/ T3V	T3PH/ T3PV	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V	T8H/T8V		T2YD(*4) T2YDT			
Applications	For programmable controller, relay, compact solenoid valve	Dedicated for programmable controller			For programmable controller, relay				For programmable controller, relay	For programmable controller, relay, IC circuit (no indicator lamp), serial connection	For programmable controller, relay		For programmable controller			
Output method	-				NPN output	PNP output	NPN output	NPN output	-							
Pwr. supp. V.	-				10 to 28 VDC				-							
Load voltage	85 to 265 VAC	10 to 30 VDC	24 VDC ±10%		30 VDC or less				12/24 VDC	100/110 VAC	5/12/24 VDC	100/110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100 mA	5 to 20 mA (*3)			100 mA or less		50 mA or less		5 to 50 mA	7 to 20 mA	≤50 mA	≤20 mA	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA
Indicator lamp	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)		Without indicator lamp		LED (Lit when ON)		Red/green LED (Lit when ON)	
Leakage current	≤1 mA at 100 VAC, ≤2 mA at 200 VAC	1 mA or less			10 µA or less				0 mA					1 mA or less		
Weight g	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80			1 m:33 3 m:87 5 m:142		3 m:166 5 m:272		

\*1 : Refer to Ending Page 1 for detailed switch specifications and dimensions.

\*2 : Switches other than the above models, such as switches with connectors, are also available. Refer to Ending Page 1.

\*3 : The max. load current is 20 mA at 25°C. The current is lower than 20 mA if the operating ambient temperature around the switch is higher than 25°C. (5 to 10 mA at 60°C)

\*4 : AC magnetic field proof switch (T2YD/T2YDT) cannot be used in DC magnetic fields.

### Cylinder weight

● STG-MQ

Unit: kg

Item	Stroke length												Switch weight
	Bore size (mm)												
	25	50	75	100	125	150	175	200	250	300	350	400	
ø20	0.71	1.15	1.35	1.54	1.73	1.92	2.12	2.35	2.77	3.15	3.54	3.92	Refer to the weight in the switch specifications.
ø25	1.00	1.63	1.90	2.16	2.43	2.69	2.95	3.27	3.85	4.38	4.91	5.43	
ø32	2.06	2.60	2.99	3.39	3.78	4.18	4.57	5.06	5.94	6.73	7.52	8.30	
ø40	2.38	2.83	3.24	3.66	4.06	4.48	4.89	5.39	6.32	7.15	7.97	8.79	
ø50	4.02	4.72	5.34	5.96	6.59	7.21	7.83	8.61	10.01	11.25	12.51	13.77	
ø63	5.01	5.82	6.56	7.29	8.02	8.75	9.49	10.38	12.00	13.45	14.91	16.36	

● STG-BQ

Unit: kg

Item	Stroke length												Switch weight
	Bore size (mm)												
	25	50	75	100	125	150	175	200	250	300	350	400	
ø20	0.74	1.13	1.29	1.50	1.66	1.84	2.00	2.19	2.54	2.88	3.22	3.56	Refer to the weight in the switch specifications.
ø25	1.03	1.56	1.79	2.05	2.27	2.50	2.72	2.96	3.43	3.88	4.33	4.78	
ø32	1.85	2.29	2.60	2.96	3.27	3.57	3.88	4.22	4.86	5.47	6.08	6.69	
ø40	2.18	2.65	3.00	3.40	3.75	4.10	4.45	4.84	5.56	6.26	6.96	7.66	
ø50	3.69	4.41	4.95	5.57	6.10	6.63	7.17	8.27	8.90	9.97	11.06	12.13	
ø63	4.66	5.51	6.15	6.89	7.53	8.18	8.82	9.51	10.88	12.19	13.45	14.71	

### Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa									
		0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø20	Push	-	62.8	94.2	1.26 × 10 <sup>2</sup>	1.57 × 10 <sup>2</sup>	1.88 × 10 <sup>2</sup>	2.20 × 10 <sup>2</sup>	2.51 × 10 <sup>2</sup>	2.83 × 10 <sup>2</sup>	3.14 × 10 <sup>2</sup>
	Pull	-	47.1	70.7	94.2	1.18 × 10 <sup>2</sup>	1.41 × 10 <sup>2</sup>	1.65 × 10 <sup>2</sup>	1.88 × 10 <sup>2</sup>	2.12 × 10 <sup>2</sup>	2.36 × 10 <sup>2</sup>
ø25	Push	-	98.2	1.47 × 10 <sup>2</sup>	1.96 × 10 <sup>2</sup>	2.45 × 10 <sup>2</sup>	2.95 × 10 <sup>2</sup>	3.44 × 10 <sup>2</sup>	3.93 × 10 <sup>2</sup>	4.42 × 10 <sup>2</sup>	4.91 × 10 <sup>2</sup>
	Pull	-	75.6	1.13 × 10 <sup>2</sup>	1.51 × 10 <sup>2</sup>	1.89 × 10 <sup>2</sup>	2.27 × 10 <sup>2</sup>	2.64 × 10 <sup>2</sup>	3.02 × 10 <sup>2</sup>	3.40 × 10 <sup>2</sup>	3.78 × 10 <sup>2</sup>
ø32	Push	1.21 × 10 <sup>2</sup>	1.61 × 10 <sup>2</sup>	2.41 × 10 <sup>2</sup>	3.22 × 10 <sup>2</sup>	4.02 × 10 <sup>2</sup>	4.83 × 10 <sup>2</sup>	5.63 × 10 <sup>2</sup>	6.43 × 10 <sup>2</sup>	7.24 × 10 <sup>2</sup>	8.04 × 10 <sup>2</sup>
	Pull	90.5	1.21 × 10 <sup>2</sup>	1.81 × 10 <sup>2</sup>	2.41 × 10 <sup>2</sup>	3.02 × 10 <sup>2</sup>	3.62 × 10 <sup>2</sup>	4.22 × 10 <sup>2</sup>	4.83 × 10 <sup>2</sup>	5.43 × 10 <sup>2</sup>	6.03 × 10 <sup>2</sup>
ø40	Push	1.88 × 10 <sup>2</sup>	2.51 × 10 <sup>2</sup>	3.77 × 10 <sup>2</sup>	5.03 × 10 <sup>2</sup>	6.28 × 10 <sup>2</sup>	7.54 × 10 <sup>2</sup>	8.80 × 10 <sup>2</sup>	1.01 × 10 <sup>3</sup>	1.13 × 10 <sup>3</sup>	1.26 × 10 <sup>3</sup>
	Pull	1.58 × 10 <sup>2</sup>	2.11 × 10 <sup>2</sup>	3.17 × 10 <sup>2</sup>	4.22 × 10 <sup>2</sup>	5.28 × 10 <sup>2</sup>	6.33 × 10 <sup>2</sup>	7.39 × 10 <sup>2</sup>	8.44 × 10 <sup>2</sup>	9.50 × 10 <sup>2</sup>	1.06 × 10 <sup>3</sup>
ø50	Push	2.95 × 10 <sup>2</sup>	3.93 × 10 <sup>2</sup>	5.89 × 10 <sup>2</sup>	7.85 × 10 <sup>2</sup>	9.82 × 10 <sup>2</sup>	1.18 × 10 <sup>3</sup>	1.37 × 10 <sup>3</sup>	1.57 × 10 <sup>3</sup>	1.77 × 10 <sup>3</sup>	1.96 × 10 <sup>3</sup>
	Pull	2.47 × 10 <sup>2</sup>	3.30 × 10 <sup>2</sup>	4.95 × 10 <sup>2</sup>	6.60 × 10 <sup>2</sup>	8.25 × 10 <sup>2</sup>	9.90 × 10 <sup>2</sup>	1.15 × 10 <sup>3</sup>	1.32 × 10 <sup>3</sup>	1.48 × 10 <sup>3</sup>	1.65 × 10 <sup>3</sup>
ø63	Push	4.68 × 10 <sup>2</sup>	6.23 × 10 <sup>2</sup>	9.35 × 10 <sup>2</sup>	1.25 × 10 <sup>3</sup>	1.56 × 10 <sup>3</sup>	1.87 × 10 <sup>3</sup>	2.18 × 10 <sup>3</sup>	2.49 × 10 <sup>3</sup>	2.81 × 10 <sup>3</sup>	3.12 × 10 <sup>3</sup>
	Pull	4.20 × 10 <sup>2</sup>	5.61 × 10 <sup>2</sup>	8.41 × 10 <sup>2</sup>	1.12 × 10 <sup>3</sup>	1.40 × 10 <sup>3</sup>	1.68 × 10 <sup>3</sup>	1.96 × 10 <sup>3</sup>	2.24 × 10 <sup>3</sup>	2.52 × 10 <sup>3</sup>	2.80 × 10 <sup>3</sup>

- LCM
- LCR
- LCG
- LCW
- LCX
- STM
- STG
- STS/STL
- STR2
- UCA2
- ULK\*
- JSK/M2
- JSG
- JSC3/JSC4
- USSD
- UFCD
- USC
- UB
- JSB3
- LMB
- LML
- HCM
- HCA
- LBC
- CAC4
- UCAC2
- CAC-N
- UCAC-N
- RCS2
- RCC2
- PCC
- SHC
- MCP
- GLC
- MFC
- BBS
- RRC
- GRC
- RV3\*
- NHS
- HRL
- LN
- Hand
- Chuk
- MechHnd/Chuk
- ShkAbs
- FJ
- FK
- SpdContr
- Ending

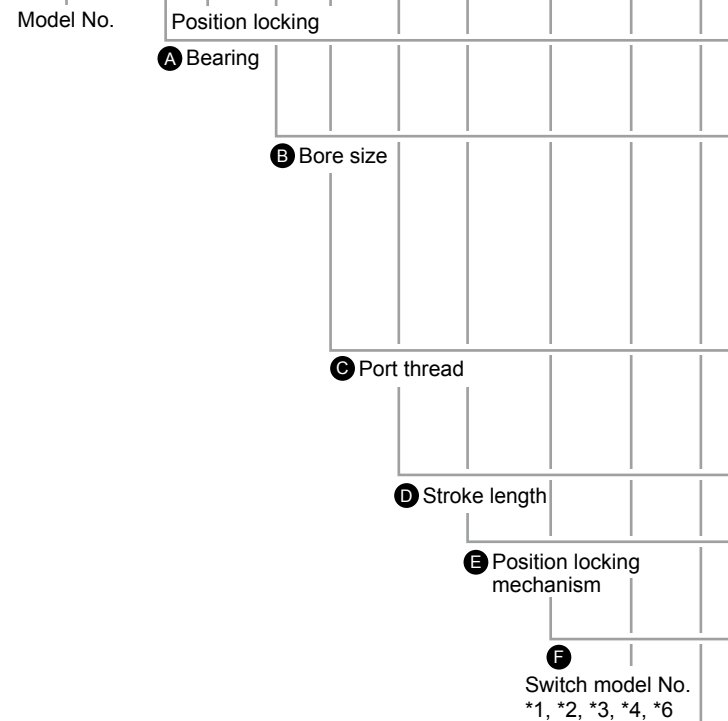
## How to order

Without switch (built-in magnet for switch)

STG - M Q - 32 - 25 - H - M1

With switch (built-in magnet for switch)

STG - M Q - 32 - 25 - H - T2H - R - M1



Code	Description				
<b>A Bearing</b>					
M	Metal bush bearing				
B	Ball bearing				
<b>B Bore size (mm)</b>					
20	ø20				
25	ø25				
32	ø32				
40	ø40				
50	ø50				
63	ø63				
<b>C Port thread</b>					
Blank	Rc thread				
NN	NPT thread (made-to-order product)				
GN	G thread (made-to-order product)				
<b>D Stroke length (mm)</b>					
Refer to the stroke length table on the following page					
<b>E Position locking mechanism</b>					
H	Head side position locking mechanism				
R	Rod side position locking mechanism				
<b>F Switch model No.</b>					
Axial lead wire	Radial lead wire	Contact	Voltage	Display	Lead wire
			AC DC		
T0H*	T0V*	Reed	● ●	1-color display	2-wire
T5H*	T5V*		● ●	Without indicator lamp	
T1H*	T1V*		●	1-color display	2-wire
T2H*	T2V*		●	1-color display	
T3H*	T3V*		●	1-color display	3-wire
T3PH*	T3PV*		●	1-color display	3-wire
T2WH*	T2WV*	Proximity	● ●	2-color display	2-wire
T2YH*	T2YV*		● ●		
T3WH*	T3WV*		● ●	2-color display	3-wire
T3YH*	T3YV*		● ●		
T2JH*	T2JV*		●	1-color display off-delay	2-wire
T2YD*	-	●	2-color display	2-wire	
T2YDT*	-	●	for AC magnetic field		
<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 side				
H	1 on head side				
D	2				
T	3				
<b>H Option</b>					
M0	Non-locking manual override (with release bolt)				
M1	Locking manual override				

### ⚠ Precautions for model No. selection

\*1 : Switches other than F Switch model No. are also available. (Made-to-order product) Refer to Ending Page 1 for details.

\*2 : T8H/V switch cannot be installed on STG-Q.

\*3 : Note that the min. stroke length varies depending on the switch.

\*4 : In some cases, a switch cannot be inserted from the rod side of the head side position locking of 25 mm or less stroke length.

In this case, temporarily remove the end plate and install the switch.

Contact CKD to inquire about the removal and assembling method of the end plate.

\*5 : Only non-locking manual override is available if "M0" or "M1" of H Option is not selected. Release bolt is not included.

\*6 : Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.

[Example of model No.]

**STG-BQ-50-75-H-T0H-D-M0**

Model: Guided cylinder Double acting/position locking

- A Bearing : Ball bearing
- B Bore size : ø50 mm
- C Port thread : Rc thread
- D Stroke length : 75 mm
- E Position locking mechanism : Head side position locking mechanism
- F Switch model No. : Reed T0H switch, lead wire length 1 m
- G Switch quantity : 2
- H Option : Non-locking manual override

## D Stroke length

Stroke length (mm)		Applicable bore size					
		ø20	ø25	ø32	ø40	ø50	ø63
Standard stroke length	25	●	●	●	●	●	●
	50	●	●	●	●	●	●
	75	●	●	●	●	●	●
	100	●	●	●	●	●	●
	125	●	●	●	●	●	●
	150	●	●	●	●	●	●
	175	●	●	●	●	●	●
	200	●	●	●	●	●	●
	250	●	●	●	●	●	●
	300	●	●	●	●	●	●
350	●	●	●	●	●	●	
400	●	●	●	●	●	●	
Min. stroke length	*2	Refer to page 368.					
Custom stroke length	*1	In 5 mm increments					

\*1: The total dimensions are the same as the longer standard stroke length.

## How to order switch

**SW** - **T0V**

Switch model No.  
(Item **F** on page 370)

Note: Contact CKD when using  
an environment-friendly T switch.

## Specifications for rechargeable battery (Catalog No. CC-1226A)

- Design compatible with rechargeable battery manufacturing process.

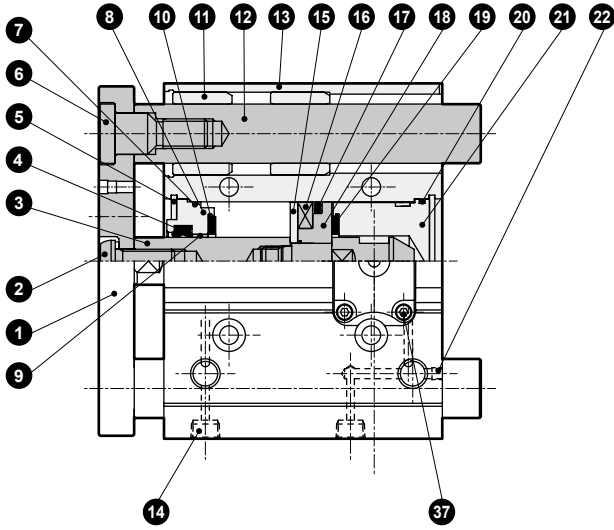
**STG-M<sub>B</sub>Q** - ..... - **P4\***

LCM
LCR
LCG
LCW
LCX
STM
<b>STG</b>
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

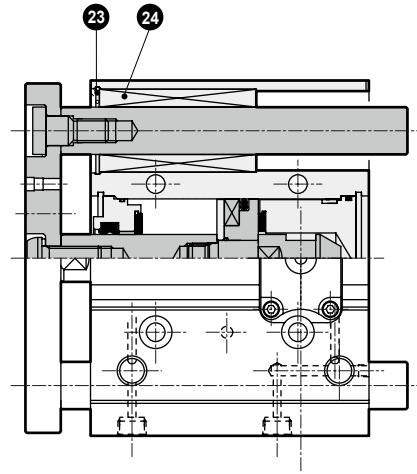
## Internal structure and parts list

LCM
LCR
LCG
LCW
L CX
STM
<b>STG</b>
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MecHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

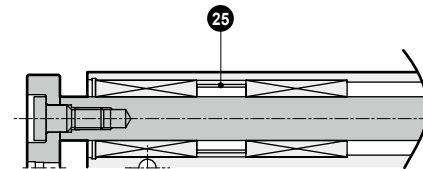
● Metal bush bearing STG-MQ



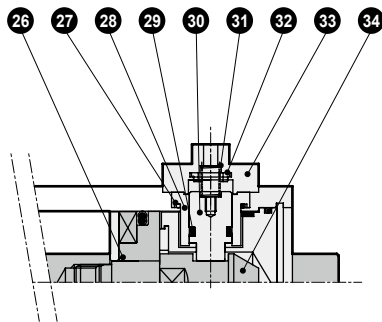
● Ball bearing STG-BQ



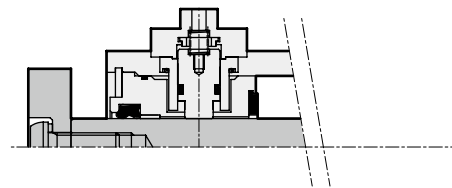
· 100 and over stroke length



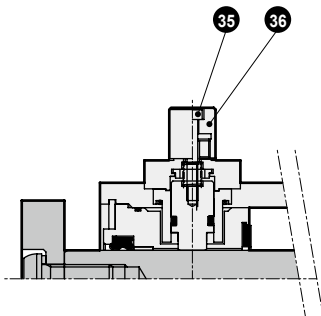
● Head side position locking STG- Q-H<sub>B</sub><sup>M</sup>



● Rod side position locking STG- Q-R<sub>B</sub><sup>M</sup>



● Locking manual override (M1)



### Parts list

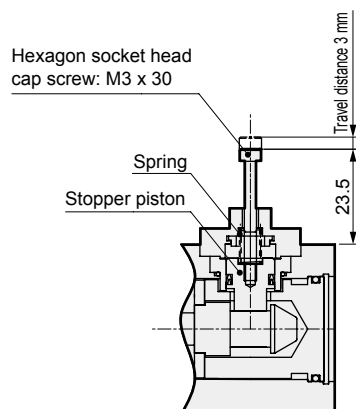
No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	End plate	Steel	Nickeling	19	Cushion rubber	Urethane rubber	
2	Hexagon socket button head bolt	Steel	Zinc chromate	20	O-ring	Nitrile rubber	
3	Piston rod	Stainless steel (ø20 to ø25)	Industrial chrome plating	21	Head cover	Aluminum alloy	Chromate
		Steel (ø32 to ø63)	Industrial chrome plating	22	Hexagon socket set screw	Stainless steel	
4	Rod packing	Nitrile rubber		23	C type snap ring	Steel	Zinc phosphate
5	C type snap ring	Steel	Zinc phosphate	24	Ball bushing		
6	Bolt	Steel	Zinc chromate	25	Collar	Aluminum alloy	
7	Metal gasket	Nitrile rubber		26	O-ring	Nitrile rubber	
8	Rod metal	Special aluminum alloy (ø20 to ø25)	Alumite	27	O-ring	Nitrile rubber	
		Aluminum alloy (ø40 to ø63)	Chromate	28	Stopper housing	Aluminum alloy (ø20 to ø50)	Alumite
9	Bush	Oiles drymet	H: ø40 and over			Steel (ø63)	Chromate
			R: ø32 and over		29	Stopper packing	Nitrile rubber
10	Cushion rubber	Urethane rubber		30	Stopper piston	Steel	Nitriding
11	Metal	Oil impregnated bearing alloy		31	Coil spring	Steel	Paint
12	Guide rod	Steel	Industrial chrome plating	32	Cushion rubber	Urethane rubber	
13	Cylinder body	Aluminum alloy	Hard alumite	33	Stopper cover	Aluminum alloy	Chromate
14	Plug	Steel	Nickeling	34	Sleeve	Steel	Nitriding
15	Spacer	Aluminum alloy	Chromate	35	Hexagon socket head cap screw	Steel	
16	Magnet			36	Round nut	Aluminum alloy	
17	Piston packing	Nitrile rubber		37	Hexagon socket head cap screw	Steel	
18	Piston	Aluminum alloy	Chromate				

### Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
ø20	STG-Q-H-20K	
	STG-Q-R-20K	
ø25	STG-Q-H-25K	
	STG-Q-R-25K	
ø32	STG-Q-32K	
ø40	STG-Q-40K	
ø50	STG-Q-50K	
ø63	STG-Q-63K	

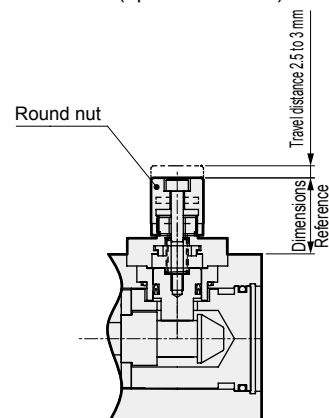
### [Explanation of manual override]

● Non-locking manual override (option code: M0)



By screwing the hexagon socket head cap screw (M3 x 30) into the stopper piston and pulling the bolt with force of 20 N or more, the stopper piston moves and the lock is released. (Carry out work when the cylinder is horizontally installed with no load or when the opposite side port is pressurized.) When the bolt is released from the hand, the stopper piston is returned to the original position by the built-in spring and engaged in the groove, and the piston is locked.

● Locking manual override (option code: M1)



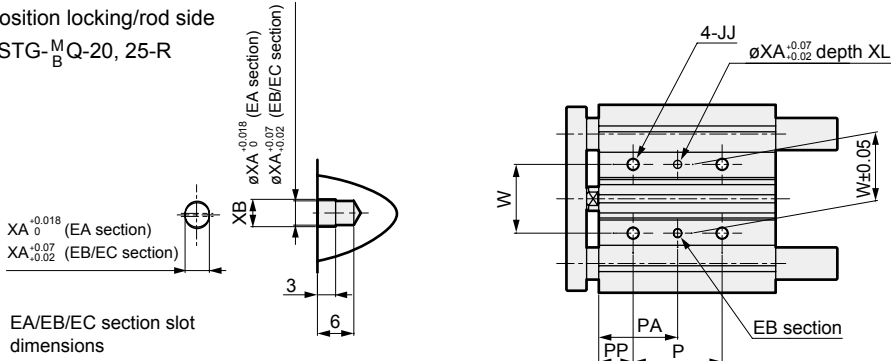
By rotating the round nut leftward (counterclockwise), the stopper piston moves and the lock is released. Locking the round nut by rotating it to the right (clockwise) causes the stopper piston to return. When it fits into the lock groove, the piston is locked. When locking, screw in the round nut fully, since the cylinder may be damaged if the stopper piston is not securely locked in the groove.

LCM  
LCR  
LCG  
LCW  
LCX  
STM  
STG  
STS/STL  
STR2  
UCA2  
ULK\*  
JSK/M2  
JSG  
JSC3/JSC4  
USSD  
UFCD  
USC  
UB  
JSB3  
LMB  
LML  
HCM  
HCA  
LBC  
CAC4  
UCAC2  
CAC-N  
UCAC-N  
RCS2  
RCC2  
PCC  
SHC  
MCP  
GLC  
MFC  
BBS  
RRC  
GRC  
RV3\*  
NHS  
HRL  
LN  
Hand  
Chuk  
MechHnd/Chuk  
ShkAbs  
FJ  
FK  
SpdContr  
Ending

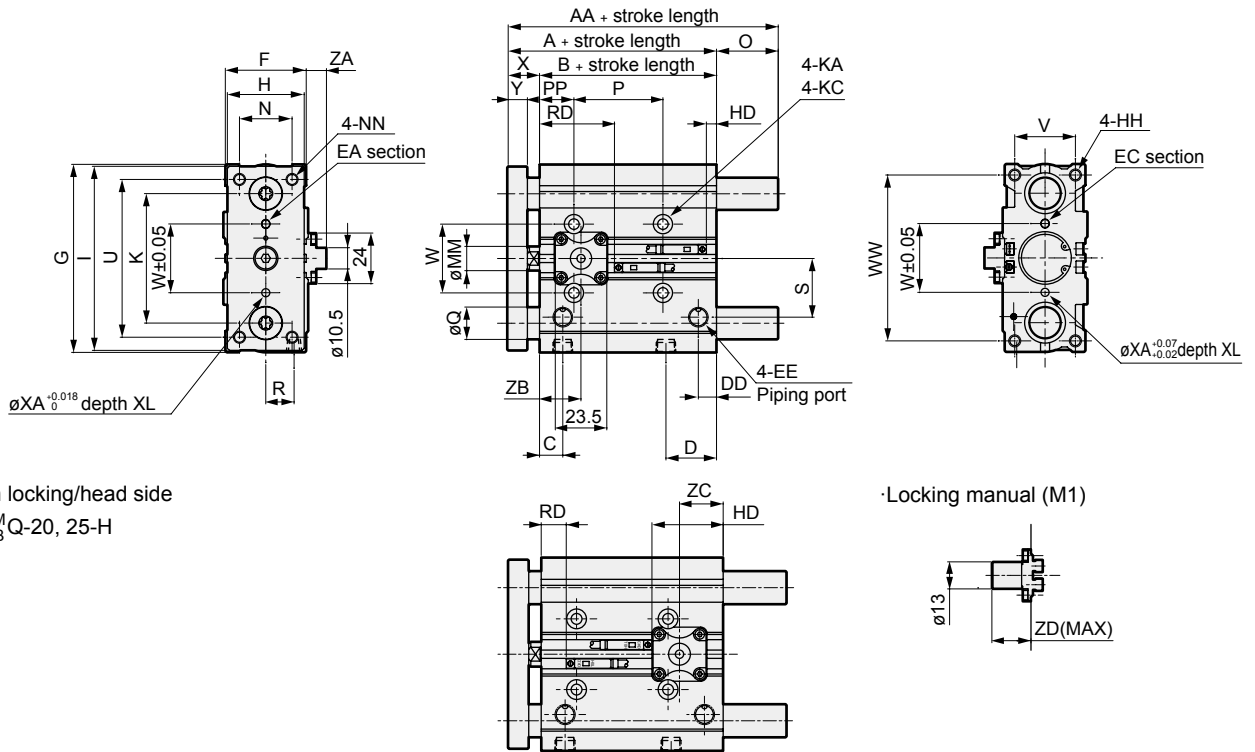
## Dimensions



- Position locking/rod side  
-STG-M<sub>B</sub>Q-20, 25-R



- Position locking/head side  
-STG-M<sub>B</sub>Q-20, 25-H



\*1 : When using a custom stroke length, the total dimensions are the same as the longer standard stroke length.  
\*2 : Refer to page 410 for RD, HD and protruding dimensions of the 2-color display (except for T2WH/V and T3WH/V), off-delay, AC magnetic field proof, and T1H/V switches.

- STG-M<sub>B</sub>Q common

Code	Standard stroke length (mm)		A	B	C	D	DD	EE	F	G	H	HH	I	JJ	K	KA
$\phi 20$	25,50,75,100,125,150		78	62	10.5	24.5	8.5	Rc1/8	36	83	30	M5 depth 13	81	M6 depth 12	54	5.2 through
$\phi 25$	175,200,250,300,350,400		78.5	62.5	11.5	25	9	Rc1/8	42	93	38	M6 depth 15	91	M6 depth 12	64	5.2 through

Code	Bore size (mm)	MM	N	NN	KC	P				PA				PP	R	S
						75 st or less	Over 75 st to 175 st	>175 st, $\leq 250$ st	Over 250 st	75 st or less	Over 75 st to 175 st	>175 st, $\leq 250$ st	Over 250 st			
$\phi 20$		10	18	M5 through	9.5 spot face depth 5.5	44	120	200	300	39	77	117	167	17	11	25
$\phi 25$		12	26	M6 through	9.5 spot face depth 5.5	44	120	200	300	39	77	117	167	17	14	29

Code	Bore size (mm)	U	V	W	WW	X	Y	XA	XB	Position locking mechanism				Head side position locking		Rod side position locking					
										ZA	ZB	ZC	ZD	T0/T5/T2/T3		T2W/T3W		T0/T5/T2/T3		T2W/T3W	
														RD	HD	RD	HD	RD	HD	RD	HD
$\phi 20$		70	24	28	72	16 $\frac{1}{2}$	9.5	3	3.5	11	20	23	23	6.5	39	8.5	41	34.5	8.5	36.5	10.5
$\phi 25$		78	30	34	82	16 $\frac{1}{2}$	9.5	4	4.5	9	20.5	19	21	10	34	12	36	35	8.5	37	10.5

- STG-MQ

Code	AA			Q	O		
	25 st or less	Over 25 st to 175 st	Over 175 st		25 st or less	Over 25 st to 175 st	Over 175 st
$\phi 20$	78	84.5	122	12	0	6.5	44
$\phi 25$	78.5	84	122	16	0	5.5	43.5

- STG-BQ

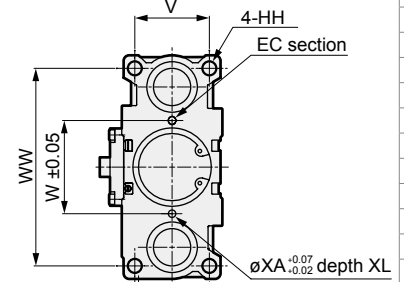
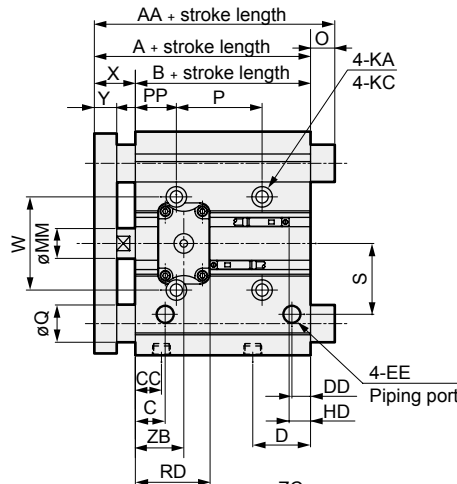
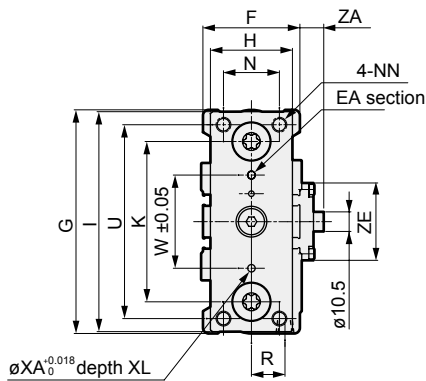
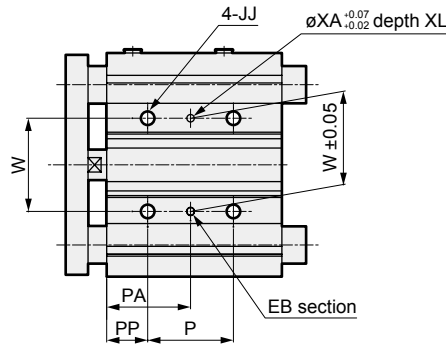
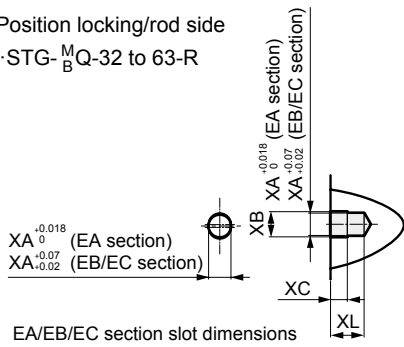
Code	AA			Q	O		
	75 st or less	Over 75 st to 175 st	Over 175 st		75 st or less	Over 75 st to 175 st	Over 175 st
$\phi 20$	80	100	122	10	2	22	44
$\phi 25$	84	103	122	13	5.5	24.5	43.5



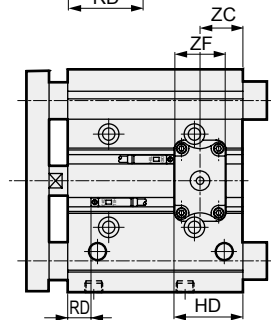
### Dimensions



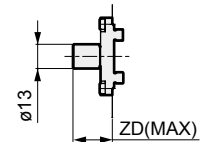
- Position locking/rod side  
·STG-M<sub>B</sub>Q-32 to 63-R



- Position locking/head side  
·STG-M<sub>B</sub>Q-32 to 63-H



·Locking manual (M1)



- STG-M<sub>B</sub>Q common
- \*1 : When using a custom stroke length, the total dimensions are the same as the longer standard stroke length.
- \*2 : Refer to page 410 for RD, HD and protruding dimensions of the 2-color display (except for T2WH/V and T3WH/V), off-delay, AC magnetic field proof, T1H/V switches.

Code	Standard stroke length (mm)	A	B	C	D	DD	EE	F	G	H	HH	I	JJ	K
$\phi 32$	25,50,75,100,125, 150,175,200,250, 300,350,400	84.5	62.5	12.5	30.5	9	Rc1/8	48	112	44	M8 depth 20	110	M8 depth 16	78
$\phi 40$		91	69	14	31	10	Rc1/8	54	120	44	M8 depth 20	118	M8 depth 16	86
$\phi 50$		97	69	14	35	11	Rc1/4	64	148	60	M10 depth 22	146	M10 depth 20	110
$\phi 63$		102	74	16.5	35	15	Rc1/4	78	162	70	M10 depth 22	158	M10 depth 20	124

Code	KA	KC	MM	N	NN	P				PA				PP	R	S
						75 st or less	Over 75 st to 175 st	Over 175 st to 275 st	Over 275 st	75 st or less	Over 75 st to 175 st	Over 175 st to 275 st	Over 275 st			
$\phi 32$	6.3 through	11 spot face depth 7.5	16	30	M8 through	48	124	200	300	45	83	121	171	21	15	34
$\phi 40$	6.3 through	11 spot face depth 7.5	16	30	M8 through	48	124	200	300	46	84	122	172	22	18	38
$\phi 50$	8.6 through	14 spot face depth 9	20	40	M10 through	48	124	200	300	48	86	124	174	24	21.5	47
$\phi 63$	8.6 through	14 spot face depth 9	20	50	M10 through	52	128	200	300	50	88	124	174	24	28	55

Code	U	V	W	WW	X	Y	XA	XB	XC	XL	Position locking mechanism						Head side position locking				Rod side position locking			
											ZA	ZB	ZC	ZD	ZE	ZF	T0/T5/T2/T3	RD	HD	RD	HD	T0/T5/T2/T3	RD	HD
$\phi 32$	96	34	42	98	22 $\frac{0}{2}$	11.5	4	4.5	3	6	10	21	20	23.5	32.5	21.5	10	34.5	12	36.5	35	8.5	37	10.5
$\phi 40$	104	40	50	106	22 $\frac{0}{2}$	11.5	4	4.5	3	6	12	25	23	23.5	40.5	23	13	37	15	39	40	12	42	14
$\phi 50$	130	46	66	130	28 $\frac{0}{2}$	15.5	5	6	4	8	12	25	23	24.5	40.5	23	13.5	37	15.5	39	39	11.5	41	13.5
$\phi 63$	130	58	80	142	28 $\frac{0}{2}$	15.5	5	6	4	8	11.5	25	25.5	24	40.5	23	14	40	16	42	39	16	41	18

- STG-MQ

Code	AA			Q	O		
	25 st or less	Over 25 st to 175 st	Over 175 st		25 st or less	Over 25 st to 175 st	Over 175 st
$\phi 32$	84.5	100	140	20	0	15.5	55.5
$\phi 40$	91	100	140	20	0	9	49
$\phi 50$	97	116	161	25	0	19	64
$\phi 63$	102	116	161	25	0	14	59

- STG-BQ

Code	AA				Q	O			
	25 st or less	Over 25 st to 75 st	Over 75 st to 175 st	Over 175 st		25 st or less	Over 25 st to 75 st	Over 75 st to 175 st	Over 175 st
$\phi 32$	84.5	98	118	140	16	0	13.5	33.5	55.5
$\phi 40$	91	98	118	140	16	0	7	27	49
$\phi 50$	97	114	134	161	20	0	17	37	64
$\phi 63$	102	114	134	161	20	0	12	32	59

LCM
LCR
LCG
LCW
LCX
STM
<b>STG</b>
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending



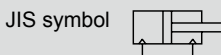
LCM  
LCR  
LCG  
LCW  
LCX  
STM  
STG  
STS/STL  
STR2  
UCA2  
ULK\*  
JSK/M2  
JSG  
JSC3/JSC4  
USSD  
UFCD  
USC  
UB  
JSB3  
LMB  
LML  
HCM  
HCA  
LBC  
CAC4  
UCAC2  
CAC-N  
UCAC-N  
RCS2  
RCC2  
PCC  
SHC  
MCP  
GLC  
MFC  
BBS  
RRC  
GRC  
RV3\*  
NHS  
HRL  
LN  
Hand  
Chuk  
MecHnd/Chuk  
ShkAbs  
FJ  
FK  
SpdContr  
Ending



Guided cylinder, double acting/rubber scraper  
Guided cylinder, double acting/coil scraper

# STG-MG Series STG-MG1 Series

● Bore size:  $\phi 20/\phi 25/\phi 32/\phi 40/\phi 50/\phi 63$



## Specifications

Item	STG-MG/STG-MG1					
Bore size mm	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$
Actuation	Double acting/scraper					
Working fluid	Compressed air					
Max. working pressure MPa	1.0 ( $\approx 150$ psi, 10 bar)					
Min. working pressure MPa	0.2 ( $\approx 29$ psi, 2 bar)		0.15 ( $\approx 22$ psi, 1.5 bar)			
Proof pressure MPa	1.6 ( $\approx 230$ psi, 16 bar)					
Ambient temperature $^{\circ}\text{C}$	-10 (14 $^{\circ}\text{F}$ ) to 60 (140 $^{\circ}\text{F}$ ) (no freezing)					
Port size	Rc1/8			Rc1/4		
Stroke tolerance mm	+2.0 0					
Working piston speed mm/s	50 to 500				50 to 300	
Cushion	With rubber cushion					
Lubrication	Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)					
Allowable absorbed energy J	0.157	0.157	0.401	0.627	0.980	1.560

## Stroke length

Bore size	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)	Min. stroke (mm)(switch)
$\phi 20$	20/30/40/50/75/100/125	400	5	5(10) *2
$\phi 25$	150/175/200/250/300/350/400			
$\phi 32$	25/50/75/100			
$\phi 40$	125/150/175			
$\phi 50$	200/250/300			
$\phi 63$	350/400			

\*1: The custom stroke length is available in 5 mm increments. However, the total length is the same as that of the next longer standard stroke length.

\*2: For types with one or two switches. The value in ( ) is the min. stroke length for switches of the 2-color display and AC magnetic field proof.

## Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa									
		0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
$\phi 20$	Push	-	62.8	94.2	$1.26 \times 10^2$	$1.57 \times 10^2$	$1.88 \times 10^2$	$2.20 \times 10^2$	$2.51 \times 10^2$	$2.83 \times 10^2$	$3.14 \times 10^2$
	Pull	-	47.1	70.7	94.2	$1.18 \times 10^2$	$1.41 \times 10^2$	$1.65 \times 10^2$	$1.88 \times 10^2$	$2.12 \times 10^2$	$2.36 \times 10^2$
$\phi 25$	Push	-	98.2	$1.47 \times 10^2$	$1.96 \times 10^2$	$2.45 \times 10^2$	$2.95 \times 10^2$	$3.44 \times 10^2$	$3.93 \times 10^2$	$4.42 \times 10^2$	$4.91 \times 10^2$
	Pull	-	75.6	$1.13 \times 10^2$	$1.51 \times 10^2$	$1.89 \times 10^2$	$2.27 \times 10^2$	$2.64 \times 10^2$	$3.02 \times 10^2$	$3.40 \times 10^2$	$3.78 \times 10^2$
$\phi 32$	Push	$1.21 \times 10^2$	$1.61 \times 10^2$	$2.41 \times 10^2$	$3.22 \times 10^2$	$4.02 \times 10^2$	$4.83 \times 10^2$	$5.63 \times 10^2$	$6.43 \times 10^2$	$7.24 \times 10^2$	$8.04 \times 10^2$
	Pull	90.5	$1.21 \times 10^2$	$1.81 \times 10^2$	$2.41 \times 10^2$	$3.02 \times 10^2$	$3.62 \times 10^2$	$4.22 \times 10^2$	$4.83 \times 10^2$	$5.43 \times 10^2$	$6.03 \times 10^2$
$\phi 40$	Push	$1.88 \times 10^2$	$2.51 \times 10^2$	$3.77 \times 10^2$	$5.03 \times 10^2$	$6.28 \times 10^2$	$7.54 \times 10^2$	$8.80 \times 10^2$	$1.01 \times 10^3$	$1.13 \times 10^3$	$1.26 \times 10^3$
	Pull	$1.58 \times 10^2$	$2.11 \times 10^2$	$3.17 \times 10^2$	$4.22 \times 10^2$	$5.28 \times 10^2$	$6.33 \times 10^2$	$7.39 \times 10^2$	$8.44 \times 10^2$	$9.50 \times 10^2$	$1.06 \times 10^3$
$\phi 50$	Push	$2.95 \times 10^2$	$3.93 \times 10^2$	$5.89 \times 10^2$	$7.85 \times 10^2$	$9.82 \times 10^2$	$1.18 \times 10^3$	$1.37 \times 10^3$	$1.57 \times 10^3$	$1.77 \times 10^3$	$1.96 \times 10^3$
	Pull	$2.47 \times 10^2$	$3.30 \times 10^2$	$4.95 \times 10^2$	$6.60 \times 10^2$	$8.25 \times 10^2$	$9.90 \times 10^2$	$1.15 \times 10^3$	$1.32 \times 10^3$	$1.48 \times 10^3$	$1.65 \times 10^3$
$\phi 63$	Push	$4.68 \times 10^2$	$6.23 \times 10^2$	$9.35 \times 10^2$	$1.25 \times 10^3$	$1.56 \times 10^3$	$1.87 \times 10^3$	$2.18 \times 10^3$	$2.49 \times 10^3$	$2.81 \times 10^3$	$3.12 \times 10^3$
	Pull	$4.20 \times 10^2$	$5.61 \times 10^2$	$8.41 \times 10^2$	$1.12 \times 10^3$	$1.40 \times 10^3$	$1.68 \times 10^3$	$1.96 \times 10^3$	$2.24 \times 10^3$	$2.52 \times 10^3$	$2.80 \times 10^3$

### Switch specifications

- 1-color/2-color display/for AC magnetic field proof

Item	Proximity 2-wire		Proximity 2-wire			Proximity 3-wire				Reed 2-wire						Proximity 2-wire	
	T1H/ T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/ T3V	T3PH/ T3PV	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V		T8H/T8V			T2YD(*4) T2YDT		
Applications	For programmable controller, relay, compact solenoid valve		Dedicated for programmable controller			For programmable controller, relay				For programmable controller, relay		For programmable controller, relay, IC circuit (no indicator lamp), serial connection			For programmable controller, relay		For programmable controller
Output method	-					NPN output	PNP output	NPN output	NPN output	-							
Pwr. supp. V.	-					10 to 28 VDC				-							
Load voltage	85 to 265 VAC		10 to 30 VDC		24 VDC ±10%	30 VDC or less				12/24 VDC	100/110 VAC	5/12/24 VDC	100/110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100 mA		5 to 20 mA (*3)			100 mA or less		50 mA or less		5 to 50 mA	7 to 20 mA	≤50 mA	≤20 mA	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA
Indicator lamp	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Without indicator lamp		LED (Lit when ON)			Red/green LED (Lit when ON)		
Leakage current	≤1 mA at 100 VAC, ≤2 mA at 200 VAC		1 mA or less			10 µA or less				0 mA						1 mA or less	
Weight g	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80			1 m:33 3 m:87 5 m:142			1 m:61 3 m:166 5 m:272	

\*1 : Refer to Ending Page 1 for detailed switch specifications and dimensions.

\*2 : Switches other than the above models, such as switches with connectors, are also available. Refer to Ending Page 1.

\*3 : The max. load current is 20 mA at 25°C. The current is lower than 20 mA if the operating ambient temperature around the switch is higher than 25°C. (5 to 10 mA at 60°C)

\*4 : AC magnetic field proof switch (T2YD/T2YDT) cannot be used in DC magnetic fields.

### Cylinder weight

- STG-MG/STG-MG1

Item	Stroke length														Switch weight		
	Unit: kg																
Bore size (mm)	20	25	30	40	50	75	100	125	150	175	200	250	300	350	400	Refer to the weight in the switch specifications.	
ø20	0.69		0.77	0.85	0.92	1.17	1.37	1.56	1.75	1.94	2.14	2.59	2.98	3.36	3.75		Refer to the weight in the switch specifications.
ø25	0.98		1.08	1.19	1.29	1.66	1.92	2.18	2.46	2.72	2.98	3.62	4.14	4.68	5.20		
ø32		1.76			2.13	2.66	3.06	3.46	3.85	4.24	4.63	5.61	6.39	7.19	7.97		
ø40		2.03			2.44	2.89	3.29	3.71	4.12	4.53	4.94	5.95	6.78	7.61	8.43		
ø50		3.47			4.09	4.80	5.42	6.04	6.66	7.28	7.90	9.46	10.69	11.95	13.21		
ø63		4.31			5.05	5.87	6.60	7.33	8.07	8.80	9.53	11.32	12.77	14.23	15.68		

- STG-BG/STG-BG1

Item	Stroke length														Switch weight		
	Unit: kg																
Bore size (mm)	20	25	30	40	50	75	100	125	150	175	200	250	300	350	400	Refer to the weight in the switch specifications.	
ø20	0.72		0.79	0.90	0.98	1.15	1.31	1.51	1.68	1.85	2.02	2.39	2.73	3.07	3.41		Refer to the weight in the switch specifications.
ø25	1.01		1.10	1.27	1.36	1.58	1.82	2.08	2.30	2.52	2.75	3.23	3.69	4.13	4.58		
ø32		1.61			1.91	2.35	2.66	3.02	3.33	3.63	3.94	4.61	5.22	5.83	6.44		
ø40		1.88			2.23	2.70	3.05	3.46	3.81	4.16	4.51	5.26	5.96	6.66	7.36		
ø50		3.23			3.76	4.49	5.02	5.64	6.18	6.71	7.24	8.44	9.49	10.59	11.66		
ø63		4.07			4.71	5.56	6.20	6.93	7.57	8.22	8.86	10.25	11.61	12.87	14.13		

LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

# STG-MG/STG-MG1 Series

## How to order

Without switch (built-in magnet for switch)

**STG** - **M** **G** - **32** - **25**

With switch (built-in magnet for switch)

**STG** - **M** **G** - **32** - **25** - **T2H** - **R**

Model No.

**A** Bearing

**B** Model No.

**C** Bore size

**D** Port thread

**E** Stroke length

**F** Switch model No.  
\*1, \*2

**G** Switch quantity

LCM
LCR
LCC
LCW
LCC
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MecHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

Code	Description						
<b>A Bearing</b>							
<b>M</b>	Metal bush bearing						
<b>B</b>	Ball bearing						
<b>B Model No.</b>							
<b>G</b>	Rubber scraper						
<b>G1</b>	Coil scraper						
<b>C Bore size (mm)</b>							
<b>20</b>	ø20						
<b>25</b>	ø25						
<b>32</b>	ø32						
<b>40</b>	ø40						
<b>50</b>	ø50						
<b>63</b>	ø63						
<b>D Port thread</b>							
<b>Blank</b>	Rc thread						
<b>NN</b>	NPT thread (made-to-order product)						
<b>GN</b>	G thread (made-to-order product)						
<b>E Stroke length (mm)</b>							
Refer to the stroke length table on the following page							
<b>F Switch model No.</b>							
Axial lead wire	Radial lead wire	Contact	Voltage		Display	Lead wire	
			AC	DC			
T0H*	T0V*	Reed	●	●	1-color display	2-wire	
			●	●	Without indicator lamp		
			●	●	1-color display		
			●	●	1-color display		
		Proximity	T1V*	●	●	1-color display	2-wire
				●	●	1-color display	3-wire
				●	●	1-color display	3-wire
				●	●	2-color display	2-wire
				●	●	2-color display	3-wire
				●	●	1-color display off-delay	2-wire
T2YD*	-	●	●	2-color display	2-wire		
T2YDT*	-	●	●	for AC magnetic field	2-wire		
<b>* Lead wire length</b>							
<b>Blank</b>	1 m (standard)						
<b>3</b>	3 m (option)						
<b>5</b>	5 m (option)						
<b>G Switch quantity</b>							
<b>R</b>	1 on rod side						
<b>H</b>	1 on head side						
<b>D</b>	2						
<b>T</b>	3						

### ⚠ Precautions for model No. selection

\*1 : Switches other than **F** Switch model No. are also available. (Made-to-order product)  
Refer to Ending Page 1 for details.

\*2 : Switches are shipped with the product.  
Contact CKD if assembling before shipment is necessary.

[Example of model No.]

### STG-MG1-40-50-T0H-H

Model: Guided cylinder/double acting/coil scraper

- A** Bearing : Metal bush bearing
- B** Model No. : Coil scraper
- C** Bore size : ø40 mm
- D** Port thread : Rc thread
- E** Stroke length : 50 mm
- F** Switch model No. : Reed T0H switch, lead wire length 1 m
- G** Switch quantity : 1 on head side

### Stroke length

Stroke length (mm)	Applicable bore size						
	ø20	ø25	ø32	ø40	ø50	ø63	
Standard stroke length	20	●	●				
	25			●	●	●	●
	30	●	●				
	40	●	●				
	50	●	●	●	●	●	●
	75	●	●	●	●	●	●
	100	●	●	●	●	●	●
	125	●	●	●	●	●	●
	150	●	●	●	●	●	●
	175	●	●	●	●	●	●
	200	●	●	●	●	●	●
	250	●	●	●	●	●	●
	300	●	●	●	●	●	●
350	●	●	●	●	●	●	
400	●	●	●	●	●	●	
Min. stroke length	*2	5(10)					
Custom stroke length	*1	In 5 mm increments					

\*1: The total dimensions are the same as the longer standard stroke length.

\*2: The value in ( ) is the min. stroke length for switches of the 2-color display and AC magnetic field proof.

### How to order switch

**SW - T0V**

Switch model No.  
(Item ⑤ on page 378)

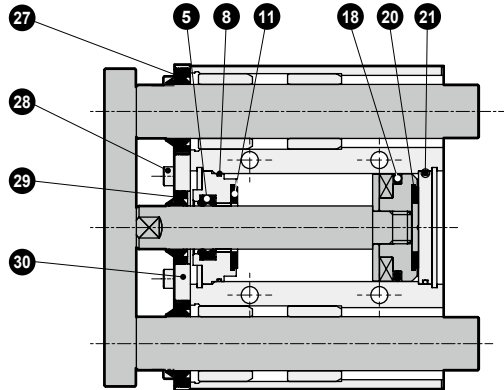
Note: Contact CKD when using  
an environment-friendly T switch.

LCM
LCR
LCG
LCW
LCX
STM
<b>STG</b>
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

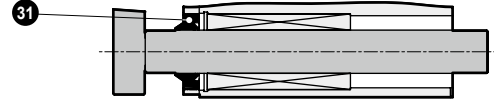
# STG-M<sub>B</sub>G/STG-B<sub>B</sub>G1 Series

## Internal structure and parts list

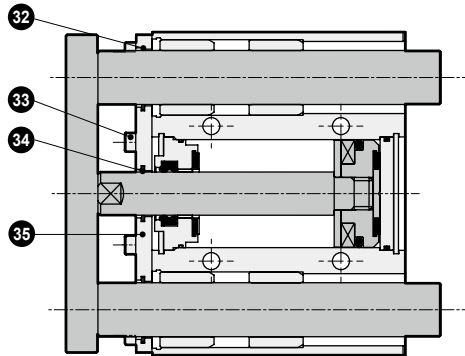
● Rubber scraper  
· STG-MG



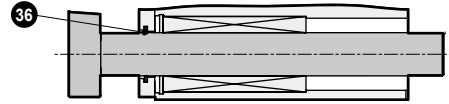
· STG-BG



● Coil scraper  
· STG-MG1



· STG-BG1



### Parts list

\* Parts other than those listed below are the same as those of double acting/standard single rod. Refer to pages 340 to 343.

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
<b>STG-M/BG (rubber scraper)</b>				<b>STG-M/GG1 (coil scraper)</b>			
27	Rubber scraper	Nitrile rubber + steel		32	Coil scraper	Phosphor bronze	
28	Hexagon socket head cap screw	Alloy steel	Zinc chromate	33	Hexagon socket head cap screw	Alloy steel	Zinc chromate
29	Rubber scraper	Nitrile rubber + steel		34	Coil scraper	Phosphor bronze	
30	Adaptor plate A	Aluminum alloy	Chromate	35	Adaptor plate B	Aluminum alloy	Alumite
31	Rubber scraper	Nitrile rubber + steel		36	Coil scraper	Phosphor bronze	

### Repair parts list (Note: specify the kit No. when ordering repair parts.)

● STG-MG (rubber scraper)

Bore size (mm)	Kit No.	Repair parts No.
ø20	STG-MG-20K	
ø25	STG-MG-25K	
ø32	STG-MG-32K	4 7 10 17
ø40	STG-MG-40K	19 20 27 29
ø50	STG-MG-50K	
ø63	STG-MG-63K	

● STG-BG (rubber scraper)

Bore size (mm)	Kit No.	Repair parts No.
ø20	STG-BG-20K	
ø25	STG-BG-25K	
ø32	STG-BG-32K	4 7 10 17
ø40	STG-BG-40K	19 20 29 31
ø50	STG-BG-50K	
ø63	STG-BG-63K	

● STG-MG1 (coil scraper)

Bore size (mm)	Kit No.	Repair parts No.
ø20	STG-MG1-20K	
ø25	STG-MG1-25K	
ø32	STG-MG1-32K	4 7 10 19
ø40	STG-MG1-40K	20 32 34
ø50	STG-MG1-50K	
ø63	STG-MG1-63K	

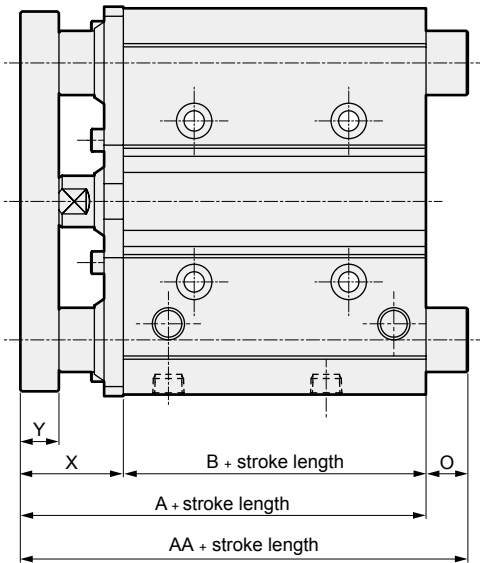
● STG-BG1 (coil scraper)

Bore size (mm)	Kit No.	Repair parts No.
ø20	STG-BG1-20K	
ø25	STG-BG1-25K	
ø32	STG-BG1-32K	4 7 10 17
ø40	STG-BG1-40K	19 20 34 36
ø50	STG-BG1-50K	
ø63	STG-BG1-63K	

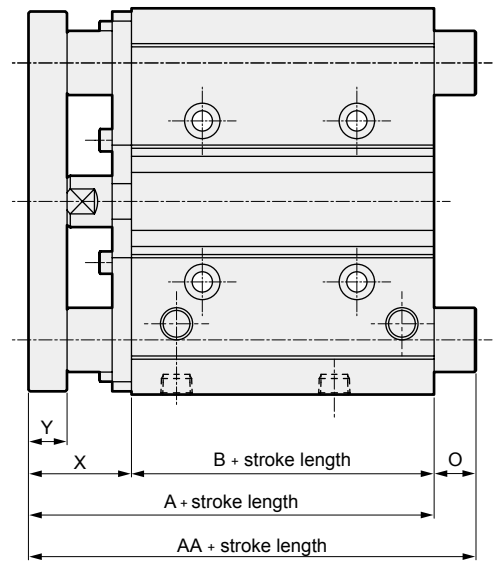
### Dimensions



#### ● STG-MG



#### ● STG-MG1



#### ● STG-MG/G1

\* Dimensions not listed below are the same as those of double acting/single rod on pages 345 and 346.  
\*1: When using a custom stroke length, the total dimensions are the same as the longer standard stroke length.

Code Bore size (mm)	Standard stroke length	A	AA			B	O			X	Y
			50 st or less	Over 50 st to 200 st	Over 200 st		50 st or less	Over 50 st to 200 st	Over 200 st		
ø20	20,30,40,50,75,100,125,150,175	63	63	88	132	37	0	25	69	26 <sup>0</sup> <sub>-2.0</sub>	9.5
	200,250,300,350,400	63.5	63.5	94	132	37.5	0	30.5	68.5	26 <sup>0</sup> <sub>-2.0</sub>	9.5
ø32	25,50,75,100,125,150,175 200,250,300,350,400	69.5	89	110	150	37.5	19.5	40.5	80.5	32 <sup>0</sup> <sub>-2.0</sub>	11.5
ø40		76	89	110	150	44	13	34	74	32 <sup>0</sup> <sub>-2.0</sub>	11.5
ø50		82	101	126	171	44	19	44	89	38 <sup>0</sup> <sub>-2.0</sub>	15.5
ø63		87	101	126	171	49	14	39	84	38 <sup>0</sup> <sub>-2.0</sub>	15.5

#### ● STG-BG/G1

Code Bore size (mm)	Standard stroke length	A	AA				B	O				X	Y					
			30 st or less	Over 30 st to 100 st	Over 100 st to 200 st	Over 200 st		30 st or less	Over 30 st to 100 st	Over 100 st to 200 st	Over 200 st							
ø20	20,30,40,50,75,100,125,150,175	63	69	88	110	132	37	6	25	47	69	26 <sup>0</sup> <sub>-2</sub>	9.5					
	200,250,300,350,400	63.5	75	94	113	132	37.5	11.5	30.5	49.5	68.5	26 <sup>0</sup> <sub>-2</sub>	9.5					
Code Bore size (mm)	Standard stroke length	A	AA				B <th colspan="4">O</th> <td rowspan="4">X</td> <td rowspan="4">Y</td>	O				X	Y					
			50 st or less	Over 50 st to 100 st	Over 100 st to 200 st	Over 200 st		50 st or less	Over 50 st to 100 st	Over 100 st to 200 st	Over 200 st							
			ø32	69.5	89	108		128	150	37.5	19.5			38.5	58.5	80.5	32 <sup>0</sup> <sub>-2</sub>	11.5
			ø40	76	89	108		128	150	44	13			32	52	74	32 <sup>0</sup> <sub>-2</sub>	11.5
ø50	82	101	124	144	171	44	19	42	62	89	38 <sup>0</sup> <sub>-2</sub>	15.5						
ø63	87	101	124	144	171	49	14	37	57	84	38 <sup>0</sup> <sub>-2</sub>	15.5						

- LCM
- LCR
- LCG
- LCW
- LCX
- STM
- STG**
- STS/STL
- STR2
- UCA2
- ULK\*
- JSK/M2
- JSG
- JSC3/JSC4
- USSD
- UFCD
- USC
- UB
- JSB3
- LMB
- LML
- HCM
- HCA
- LBC
- CAC4
- UCAC2
- CAC-N
- UCAC-N
- RCS2
- RCC2
- PCC
- SHC
- MCP
- GLC
- MFC
- BBS
- RRC
- GRC
- RV3\*
- NHS
- HRL
- LN
- Hand
- Chuk
- MechHnd/Chuk
- ShkAbs
- FJ
- FK
- SpdContr
- Ending

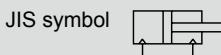
LCM  
LCR  
LCG  
LCW  
LCX  
STM  
STG  
STS/STL  
STR2  
UCA2  
ULK\*  
JSK/M2  
JSG  
JSC3/JSC4  
USSD  
UFCD  
USC  
UB  
JSB3  
LMB  
LML  
HCM  
HCA  
LBC  
CAC4  
UCAC2  
CAC-N  
UCAC-N  
RCS2  
RCC2  
PCC  
SHC  
MCP  
GLC  
MFC  
BBS  
RRC  
GRC  
RV3\*  
NHS  
HRL  
LN  
Hand  
Chuk  
MecHnd/Chuk  
ShkAbs  
FJ  
FK  
SpdContr  
Ending



Guided cylinder Double acting/coolant proof

# STG-MG<sub>2/3</sub> Series

● Bore size:  $\phi 20/\phi 25/\phi 32/\phi 40/\phi 50/\phi 63$



## Specifications

Item	STG-MG <sub>2/3</sub>					
Bore size mm	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$
Actuation	Double acting/coolant proof					
Working fluid	Compressed air					
Max. working pressure MPa	1.0 ( $\approx 150$ psi, 10 bar)					
Min. working pressure MPa	0.2 ( $\approx 29$ psi, 2 bar)		0.15 ( $\approx 22$ psi, 1.5 bar)			
Proof pressure MPa	1.6 ( $\approx 230$ psi, 16 bar)					
Ambient temperature $^{\circ}\text{C}$	-10 ( $14^{\circ}\text{F}$ ) to 60 ( $140^{\circ}\text{F}$ ) (no freezing)					
Port size	Rc1/8			Rc1/4		
Stroke tolerance mm	+2.0 0					
Working piston speed mm/s	50 to 500				50 to 300	
Cushion	Rubber cushioned (urethane rubber)					
Lubrication	Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)					
Allowable absorbed energy J	0.157	0.157	0.401	0.627	0.980	1.560

## Stroke length

Bore size	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)	Min. stroke (mm)/switch
$\phi 20$	20/30/40/50/75/100/125/	400	5	10
$\phi 25$	150/175/200/250/300/350/400			
$\phi 32$	25/50/75/100			
$\phi 40$	125/150/175			
$\phi 50$	200/250/300			
$\phi 63$	350/400			

\*1: The custom stroke length is available in 5 mm increments. However, the total length is the same as that of the next longer standard stroke length.

\*2: For types with one or two switches.

## Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa									
		0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
$\phi 20$	Push	-	62.8	94.2	$1.26 \times 10^2$	$1.57 \times 10^2$	$1.88 \times 10^2$	$2.20 \times 10^2$	$2.51 \times 10^2$	$2.83 \times 10^2$	$3.14 \times 10^2$
	Pull	-	47.1	70.7	94.2	$1.18 \times 10^2$	$1.41 \times 10^2$	$1.65 \times 10^2$	$1.88 \times 10^2$	$2.12 \times 10^2$	$2.36 \times 10^2$
$\phi 25$	Push	-	98.2	$1.47 \times 10^2$	$1.96 \times 10^2$	$2.45 \times 10^2$	$2.95 \times 10^2$	$3.44 \times 10^2$	$3.93 \times 10^2$	$4.42 \times 10^2$	$4.91 \times 10^2$
	Pull	-	75.6	$1.13 \times 10^2$	$1.51 \times 10^2$	$1.89 \times 10^2$	$2.27 \times 10^2$	$2.64 \times 10^2$	$3.02 \times 10^2$	$3.40 \times 10^2$	$3.78 \times 10^2$
$\phi 32$	Push	$1.21 \times 10^2$	$1.61 \times 10^2$	$2.41 \times 10^2$	$3.22 \times 10^2$	$4.02 \times 10^2$	$4.83 \times 10^2$	$5.63 \times 10^2$	$6.43 \times 10^2$	$7.24 \times 10^2$	$8.04 \times 10^2$
	Pull	90.5	$1.21 \times 10^2$	$1.81 \times 10^2$	$2.41 \times 10^2$	$3.02 \times 10^2$	$3.62 \times 10^2$	$4.22 \times 10^2$	$4.83 \times 10^2$	$5.43 \times 10^2$	$6.03 \times 10^2$
$\phi 40$	Push	$1.88 \times 10^2$	$2.51 \times 10^2$	$3.77 \times 10^2$	$5.03 \times 10^2$	$6.28 \times 10^2$	$7.54 \times 10^2$	$8.80 \times 10^2$	$1.01 \times 10^3$	$1.13 \times 10^3$	$1.26 \times 10^3$
	Pull	$1.58 \times 10^2$	$2.11 \times 10^2$	$3.17 \times 10^2$	$4.22 \times 10^2$	$5.28 \times 10^2$	$6.33 \times 10^2$	$7.39 \times 10^2$	$8.44 \times 10^2$	$9.50 \times 10^2$	$1.06 \times 10^3$
$\phi 50$	Push	$2.95 \times 10^2$	$3.93 \times 10^2$	$5.89 \times 10^2$	$7.85 \times 10^2$	$9.82 \times 10^2$	$1.18 \times 10^3$	$1.37 \times 10^3$	$1.57 \times 10^3$	$1.77 \times 10^3$	$1.96 \times 10^3$
	Pull	$2.47 \times 10^2$	$3.30 \times 10^2$	$4.95 \times 10^2$	$6.60 \times 10^2$	$8.25 \times 10^2$	$9.90 \times 10^2$	$1.15 \times 10^3$	$1.32 \times 10^3$	$1.48 \times 10^3$	$1.65 \times 10^3$
$\phi 63$	Push	$4.68 \times 10^2$	$6.23 \times 10^2$	$9.35 \times 10^2$	$1.25 \times 10^3$	$1.56 \times 10^3$	$1.87 \times 10^3$	$2.18 \times 10^3$	$2.49 \times 10^3$	$2.81 \times 10^3$	$3.12 \times 10^3$
	Pull	$4.20 \times 10^2$	$5.61 \times 10^2$	$8.41 \times 10^2$	$1.12 \times 10^3$	$1.40 \times 10^3$	$1.68 \times 10^3$	$1.96 \times 10^3$	$2.24 \times 10^3$	$2.52 \times 10^3$	$2.80 \times 10^3$

## Switch specifications

Type/model No.	Proximity switch specifications	
Item	T2YLH/T2YLV	T3YLH/T3YLV
Applications	Dedicated for programmable controller	Programmable controller, relay
Output method	-	NPN output
Power supply voltage	-	10 to 28 VDC
Load voltage/current	10 to 30 VDC, 5 to 20 mA *3	30 VDC or less, 50 mA or less
Indicator lamp	Red/green LED (Lit when ON)	
Leakage current	1 mA or less	10 µA or less
Shock resistance	980 m/s <sup>2</sup>	
Weight	g 1 m:33 3 m:87 5 m:142	

\*1 : Refer to Ending Page 1 for detailed switch specifications and dimensions.

\*2 : Switches with connectors are also available. Refer to Ending Page 28.

\*3 : The max. load current is 20 mA at 25°C. The current is lower than 20 mA if the operating ambient temperature around the switch is higher than 25°C.  
(5 to 10 mA at 60°C)

## Cylinder weight

● STG-MG2/STG-MG3

Unit: kg

Item	Stroke length															Switch weight
	Bore size (mm)	20	25	30	40	50	75	100	125	150	175	200	250	300	350	
ø20	0.68		0.76	0.84	0.91	1.16	1.36	1.55	1.74	1.93	2.13	2.58	2.97	3.35	3.74	Refer to the weight in the switch specifications.
ø25	0.96		1.06	1.17	1.27	1.64	1.90	2.16	2.44	2.70	2.96	3.60	4.12	4.66	5.18	
ø32		1.68			2.05	2.58	2.98	3.38	3.77	4.16	4.55	5.53	6.31	7.11	7.89	
ø40		1.93			2.34	2.79	3.19	3.61	4.02	4.43	4.84	5.85	6.68	7.51	8.33	
ø50		3.32			3.94	4.65	5.27	5.89	6.51	7.13	7.75	9.31	10.54	11.80	13.06	
ø63		4.15			4.89	5.71	6.44	7.17	7.91	8.64	9.37	11.16	12.61	14.07	15.52	

- LCM
- LCR
- LCG
- LCW
- LCX
- STM
- STG**
- STS/STL
- STR2
- UCA2
- ULK\*
- JSK/M2
- JSG
- JSC3/JSC4
- USSD
- UFCD
- USC
- UB
- JSB3
- LMB
- LML
- HCM
- HCA
- LBC
- CAC4
- UCAC2
- CAC-N
- UCAC-N
- RCS2
- RCC2
- PCC
- SHC
- MCP
- GLC
- MFC
- BBS
- RRC
- GRC
- RV3\*
- NHS
- HRL
- LN
- Hand
- Chuk
- MechHnd/Chuk
- ShkAbs
- FJ
- FK
- SpdContr
- Ending



# STG-MG<sup>2</sup><sub>3</sub>Series

LCM
LCR
LCC
LCW
LCC
STM
<b>STG</b>
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MecHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

## How to order

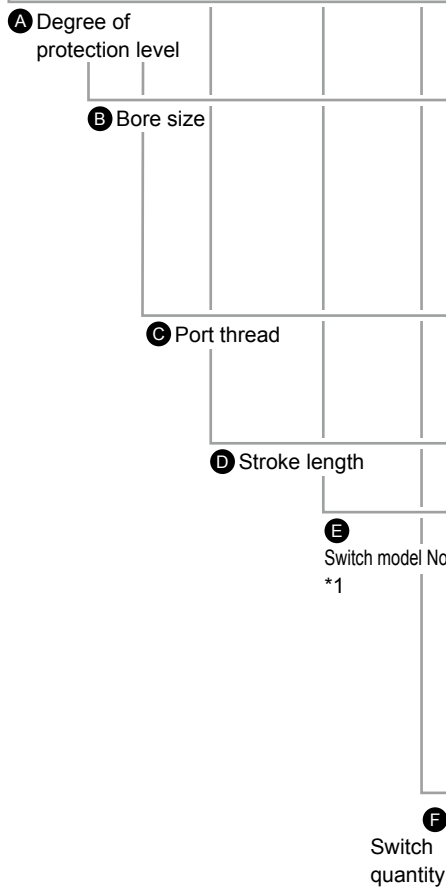
Without switch (built-in magnet for switch)

**STG - M G2 - 32 - 25**

With switch (built-in magnet for switch)

**STG - M G2 - 32 - 25 - T2YLH - R**

Model No.



Code	Description				
<b>A Degree of protection level</b>					
<b>G2</b>	Coolant proof scraper + packing NBR				
<b>G3</b>	Coolant proof scraper + packing FKM				
<b>B Bore size (mm)</b>					
<b>20</b>	ø20				
<b>25</b>	ø25				
<b>32</b>	ø32				
<b>40</b>	ø40				
<b>50</b>	ø50				
<b>63</b>	ø63				
<b>C Port thread</b>					
<b>Blank</b>	Rc thread				
<b>NN</b>	NPT thread (made-to-order product)				
<b>GN</b>	G thread (made-to-order product)				
<b>D Stroke length (mm)</b>					
Refer to the stroke length table on the following page					
<b>E Switch model No.</b>					
<b>Axial lead wire</b>	<b>Radial lead wire</b>	<b>Contact</b>	<b>Voltage</b>	<b>Indicator</b>	<b>Lead wire</b>
<b>T2YLH*</b>	<b>T2YLV*</b>	Proximity	DC	2-color display	2-wire
<b>T3YLH*</b>	<b>T3YLV*</b>				3-wire
<b>* Lead wire length</b>					
<b>Blank</b>	1 m (standard)				
<b>3</b>	3 m (option)				
<b>5</b>	5 m (option)				
<b>F Switch quantity</b>					
<b>R</b>	1 on rod side				
<b>H</b>	1 on head side				
<b>D</b>	2				
<b>T</b>	3				

## ⚠ Precautions for model No. selection

\*1: Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.

[Example of model No.]

### STG-MG2-20-50-T2YLH-R

Model: Guided cylinder, double acting/coolant proof

- A** Degree of protection level : Coolant proof scraper + packing NBR
- B** Bore size : ø20 mm
- C** Port thread : Rc thread
- D** Stroke length : 50 mm
- E** Switch model No. : Proximity T2YLH switch, lead wire length 1 m
- F** Switch quantity : 1 on rod side

### D Stroke length

Stroke length (mm)	Applicable bore size						
	ø20	ø25	ø32	ø40	ø50	ø63	
Standard stroke length	20	●	●				
	25			●	●	●	●
	30	●	●				
	40	●	●				
	50	●	●	●	●	●	●
	75	●	●	●	●	●	●
	100	●	●	●	●	●	●
	125	●	●	●	●	●	●
	150	●	●	●	●	●	●
	175	●	●	●	●	●	●
	200	●	●	●	●	●	●
	250	●	●	●	●	●	●
	300	●	●	●	●	●	●
350	●	●	●	●	●	●	
400	●	●	●	●	●	●	
Min. stroke length	*2	5(10)					
Custom stroke length	*1	In 5 mm increments					

\*1: The total dimensions are the same as the longer standard stroke length.

\*2: The value in ( ) is for type with switch.

### How to order switch

**SW** - **T2YLH**

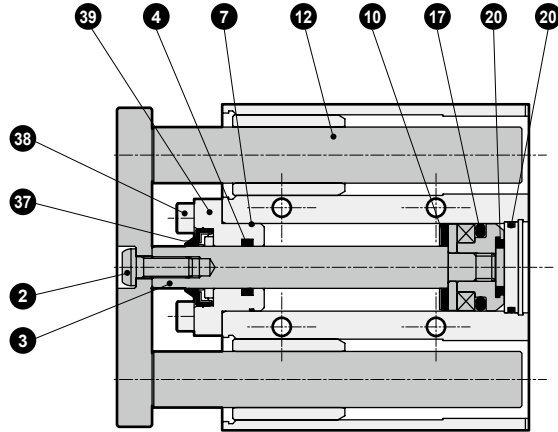
Switch model No.  
(Item **E** on page 384)

Note: Contact CKD when using  
an environment-friendly T switch.

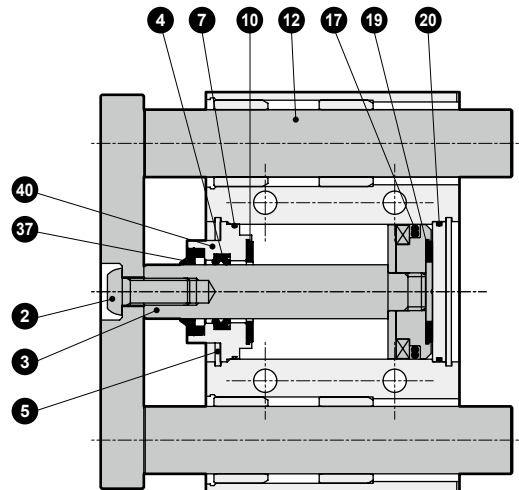
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LCW
LCX
STM
<b>STG</b>
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MechMod/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

## Internal structure and parts list

- STG-MG2/MG3
- ø20 to ø32



- ø40 to ø63



### Parts list

\* Parts other than those listed below are the same as those of double acting/single rod. Refer to pages 340 to 343.

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
2	Hexagon socket button head bolt	Stainless steel		17	Piston packing	G2 Nitrile rubber	
3	Piston rod	Stainless steel				G3 Fluoro rubber	
4	Rod packing	G2	Nitrile rubber	20	O-ring	G2	Nitrile rubber
		G3	Fluoro rubber			G3	Fluoro rubber
5	C type snap ring	Stainless steel		37	Scraper	G2	Nitrile rubber
7	Metal gasket	G2	Nitrile rubber			G3	Fluoro rubber
		G3	Fluoro rubber				
12	Guide rod	Stainless steel		38	Hexagon socket head cap screw	Stainless steel	
14	Plug	Stainless steel		39	Rod cover	Aluminum alloy	Alumite
				40	Rod metal	Aluminum alloy	Alumite

### Repair parts list (Note: specify the kit No. when ordering repair parts.)

- STG-MG2 (packing material: nitrile rubber)

Bore size (mm)	Kit No.	Repair parts No.
ø20	STG-MG2-20K	
ø25	STG-MG2-25K	
ø32	STG-MG2-32K	
ø40	STG-MG2-40K	
ø50	STG-MG2-50K	
ø63	STG-MG2-63K	

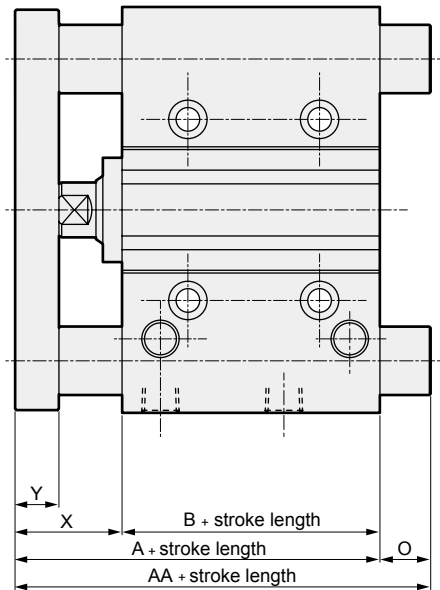
- STG-MG3 (packing material: fluoro rubber)

Bore size (mm)	Kit No.	Repair parts No.
ø20	STG-MG3-20K	
ø25	STG-MG3-25K	
ø32	STG-MG3-32K	
ø40	STG-MG3-40K	
ø50	STG-MG3-50K	
ø63	STG-MG3-63K	

## Dimensions



### ● STG-MG<sub>3</sub>



\* Dimensions not listed below are the same as those of double acting/single rod on pages 345 and 346.  
 \*1: When using a custom stroke length, the total dimensions are the same as the longer standard stroke length.

### ● STG-M-G2/G3

Code Bore size (mm)	Standard stroke length	A	AA			B	O			X	Y
			50 st or less	Over 50 st to 200 st	Over 200 st		50 st or less	Over 50 st to 200 st	Over 200 st		
ø20	20,30,40,50,75,100,125,150,175	66	66	91	135	37	0	25	69	29 <sup>0</sup> <sub>±0.1</sub>	9.5
ø25	200,250,300,350,400	67.5	67.5	98	136	37.5	0	30.5	68.5	30 <sup>0</sup> <sub>±0.1</sub>	9.5
ø32	25,50,75,100,125,150,175 200,250,300,350,400	71.5	91	112	152	37.5	19.5	40.5	80.5	34 <sup>0</sup> <sub>±0.1</sub>	11.5
ø40		78	91	112	152	44	13	34	74	34 <sup>0</sup> <sub>±0.1</sub>	11.5
ø50		83	102	127	172	44	19	44	89	39 <sup>0</sup> <sub>±0.1</sub>	15.5
ø63		88	102	127	172	49	14	39	84	39 <sup>0</sup> <sub>±0.1</sub>	15.5

- LCM
- LCR
- LCG
- LCW
- LCX
- STM
- STG**
- STS/STL
- STR2
- UCA2
- ULK\*
- JSK/M2
- JSG
- JSC3/JSC4
- USSD
- UFCD
- USC
- UB
- JSB3
- LMB
- LML
- HCM
- HCA
- LBC
- CAC4
- UCAC2
- CAC-N
- UCAC-N
- RCS2
- RCC2
- PCC
- SHC
- MCP
- GLC
- MFC
- BBS
- RRC
- GRC
- RV3\*
- NHS
- HRL
- LN
- Hand
- Chuk
- MechHnd/Chuk
- ShkAbs
- FJ
- FK
- SpdContr
- Ending

LCM  
 LCR  
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 LCX  
 STM  
**STG**  
 STS/STL  
 STR2  
 UCA2  
 ULK\*  
 JSK/M2  
 JSG  
 JSC3/JSC4  
 USSD  
 UFCD  
 USC  
 UB  
 JSB3  
 LMB  
 LML  
 HCM  
 HCA  
 LBC  
 CAC4  
 UCAC2  
 CAC-N  
 UCAC-N  
 RCS2  
 RCC2  
 PCC  
 SHC  
 MCP  
 GLC  
 MFC  
 BBS  
 RRC  
 GRC  
 RV3\*  
 NHS  
 HRL  
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 Hand  
 Chuk  
 MecHnd/Chuk  
 ShkAbs  
 FJ  
 FK  
 SpdContr  
 Ending



Guided cylinder, double acting/anti-spatter adherence

# STG-M<sub>B</sub>G4 Series

● Bore size:  $\varnothing 40/\varnothing 50/\varnothing 63$

JIS symbol



## Specifications

Item	STG-M <sub>B</sub> G4		
Bore size mm	$\varnothing 40$	$\varnothing 50$	$\varnothing 63$
Actuation	Double acting/anti-spatter adherence		
Working fluid	Compressed air		
Max. working pressure MPa	1.0 ( $\approx 150$ psi, 10 bar)		
Min. working pressure MPa	0.15 ( $\approx 22$ psi, 1.5 bar)		
Proof pressure MPa	1.6 ( $\approx 230$ psi, 16 bar)		
Ambient temperature $^{\circ}\text{C}$	-10 (14 $^{\circ}\text{F}$ ) to 60 (140 $^{\circ}\text{F}$ ) (no freezing)		
Port size	Rc1/8	Rc1/4	
Stroke tolerance mm	+2.0 0		
Working piston speed mm/s	50 to 500		50 to 300
Cushion	With rubber cushion		
Lubrication	Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)		
Allowable absorbed energy J	0.627	0.980	1.560

## Stroke length

Bore size	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)	Min. stroke (mm)(switch)
$\varnothing 40$	25/50/75/100/125	400	5	10
$\varnothing 50$	150/175/200/250			
$\varnothing 63$	300/350/400			

\*2

\*1: The custom stroke length is available in 5 mm increments. However, the total length is the same as that of the next longer standard stroke length.

\*2: For types with one or two switches.

## 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
$\varnothing 40$	Push	$1.88 \times 10^2$	$2.51 \times 10^2$	$3.77 \times 10^2$	$5.03 \times 10^2$	$6.28 \times 10^2$	$7.54 \times 10^2$	$8.80 \times 10^2$	$1.01 \times 10^3$	$1.13 \times 10^3$	$1.26 \times 10^3$
	Pull	$1.58 \times 10^2$	$2.11 \times 10^2$	$3.17 \times 10^2$	$4.22 \times 10^2$	$5.28 \times 10^2$	$6.33 \times 10^2$	$7.39 \times 10^2$	$8.44 \times 10^2$	$9.50 \times 10^2$	$1.06 \times 10^3$
$\varnothing 50$	Push	$2.95 \times 10^2$	$3.93 \times 10^2$	$5.89 \times 10^2$	$7.85 \times 10^2$	$9.82 \times 10^2$	$1.18 \times 10^3$	$1.37 \times 10^3$	$1.57 \times 10^3$	$1.77 \times 10^3$	$1.96 \times 10^3$
	Pull	$2.47 \times 10^2$	$3.30 \times 10^2$	$4.95 \times 10^2$	$6.60 \times 10^2$	$8.25 \times 10^2$	$9.90 \times 10^2$	$1.15 \times 10^3$	$1.32 \times 10^3$	$1.48 \times 10^3$	$1.65 \times 10^3$
$\varnothing 63$	Push	$4.68 \times 10^2$	$6.23 \times 10^2$	$9.35 \times 10^2$	$1.25 \times 10^3$	$1.56 \times 10^3$	$1.87 \times 10^3$	$2.18 \times 10^3$	$2.49 \times 10^3$	$2.81 \times 10^3$	$3.12 \times 10^3$
	Pull	$4.20 \times 10^2$	$5.61 \times 10^2$	$8.41 \times 10^2$	$1.12 \times 10^3$	$1.40 \times 10^3$	$1.68 \times 10^3$	$1.96 \times 10^3$	$2.24 \times 10^3$	$2.52 \times 10^3$	$2.80 \times 10^3$

### Switch specifications

Item	Proximity 2-wire	
	T2YD	T2YDT
Applications	Dedicated for programmable controller	
Indicator lamp	Red/green LED (Lit when ON)	
Load voltage	24 VDC ±10%	
Load current	DC5 to 20 mA	
Internal voltage drop	6V or less	
Leakage current	1.0 mA or less	
Output delay time *1 (ON delay, OFF delay)	60 ms or less	
Lead wire length *2	1 m (oil-resistant vinyl cabtyre cable 2-conductor 0.5 mm <sup>2</sup> ) (standard)	1 m (flame-resistant vinyl cabtyre cable 2-conductor 0.5 mm <sup>2</sup> ) (option)
Insulation resistance	100 MΩ and over at 500 VDC megger	
Withstand voltage	No failure after 1 minute of 1,000 VAC application.	
Shock resistance	980 m/s <sup>2</sup>	
Ambient temperature	-10 to +60°C	
Degree of protection	JIS C0920 (water-tight), IEC standards IP67, oil resistance	
Weight g	1 m:61 3 m:166 5 m:272	

\*1: Indicates the time from magnetic sensor detection of the piston magnet until switch output.

\*2: 3 m and 5 m lead wires are available as options.

\*3: This switch cannot be used in DC magnetic field.

\*4: Refer to Ending Page 1 for detailed switch specifications and dimensions.

\*5: Switches with connectors are also available. Refer to Ending Page 28.

### Cylinder weight

#### ● STG-MG4

Unit: kg

Item	Stroke length												Switch weight
	25	50	75	100	125	150	175	200	250	300	350	400	
∅40	2.03	2.44	2.89	3.29	3.71	4.12	4.53	4.94	5.95	6.78	7.61	8.43	Refer to the weight in the switch specifications.
∅50	3.47	4.09	4.80	5.42	6.04	6.66	7.28	7.90	9.46	10.69	11.95	13.21	
∅63	4.31	5.05	5.87	6.60	7.33	8.07	8.80	9.53	11.32	12.77	14.23	15.68	

#### ● STG-BG4

Unit: kg

Item	Stroke length												Switch weight
	25	50	75	100	125	150	175	200	250	300	350	400	
∅40	1.88	2.23	2.70	3.05	3.46	3.81	4.16	4.51	5.26	5.96	6.66	7.36	Refer to the weight in the switch specifications.
∅50	3.23	3.76	4.49	5.02	5.64	6.18	6.71	7.24	8.44	9.49	10.59	11.66	
∅63	4.07	4.71	5.56	6.20	6.93	7.57	8.22	8.86	10.25	11.61	12.87	14.13	

LCM
LCR
LCG
LCW
LCX
STM
<b>STG</b>
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

# STG-M<sub>B</sub>G4 Series

LCM  
LCR  
LCG  
LCW  
LCX  
STM  
STG  
STS/STL  
STR2  
UCA2  
ULK\*  
JSK/M2  
JSG  
JSC3/JSC4  
USSD  
UFCD  
USC  
UB  
JSB3  
LMB  
LML  
HCM  
HCA  
LBC  
CAC4  
UCAC2  
CAC-N  
UCAC-N  
RCS2  
RCC2  
PCC  
SHC  
MCP  
GLC  
MFC  
BBS  
RRC  
GRC  
RV3\*  
NHS  
HRL  
LN  
Hand  
Chuk  
MecHnd/Chuk  
ShkAbs  
FJ  
FK  
SpdContr  
Ending

## How to order

Without switch (built-in magnet for switch)

**STG** - **M** **G4** - **40** - **25**

With switch (built-in magnet for switch)

**STG** - **M** **G4** - **40** - **25** - **T2H** - **R**

Model No.

Anti-spatter adherence

**A** Bearing

**B** Bore size

**C** Port thread

**D** Stroke length

**E** Switch model No. \*1

**F** Switch quantity

### ⚠ Precautions for model No. selection

\*1: Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.

[Example of model No.]

**STG-BG4-50-100-T2YD3-D**

Model: Guided cylinder, double acting/anti-spatter adherence

- A** Bearing : Ball bearing
- B** Bore size : ø50 mm
- C** Port thread : Rc thread
- D** Stroke length : 100 mm
- E** Switch model No.: Proximity switch T2YD, lead wire length 3 m
- F** Switch quantity : 2

Code	Description			
<b>A Bearing</b>				
<b>M</b>	Metal bush bearing			
<b>B</b>	Ball bearing			
<b>B Bore size (mm)</b>				
<b>40</b>	ø40			
<b>50</b>	ø50			
<b>63</b>	ø63			
<b>C Port thread</b>				
<b>Blank</b>	Rc thread			
<b>NN</b>	NPT thread (made-to-order product)			
<b>GN</b>	G thread (made-to-order product)			
<b>D Stroke length (mm)</b>				
Refer to the stroke length table on the following page				
<b>E Switch model No.</b>				
<b>Axial lead wire</b>	<b>Contact</b>	<b>Voltage</b>	<b>Display</b>	<b>Lead wire</b>
<b>T2YD*</b>	Proximity	DC	Strong magn field proof (For AC magnetic field)	2-wire
<b>T2YDT*</b>				
<b>* Lead wire length</b>				
<b>Blank</b>	1 m (standard)			
<b>3</b>	3 m (option)			
<b>5</b>	5 m (option)			
<b>F Switch quantity</b>				
<b>R</b>	1 on rod side			
<b>H</b>	1 on head side			
<b>D</b>	2			
<b>T</b>	3			

### D Stroke length

Stroke length (mm)		Applicable bore size		
		ø40	ø50	ø63
Standard stroke length	25	●	●	●
	50	●	●	●
	75	●	●	●
	100	●	●	●
	125	●	●	●
	150	●	●	●
	175	●	●	●
	200	●	●	●
	250	●	●	●
	300	●	●	●
	350	●	●	●
400	●	●	●	
Min. stroke length	*2	<b>5(10)</b>		
Custom stroke length	*1	<b>In 5 mm increments</b>		

\*1: The total dimensions are the same as the longer standard stroke length.

\*2: The value in ( ) is for type with switch.

### How to order switch

**SW - T2YD**

↓  
Switch model No.  
(Item E) on page 390)

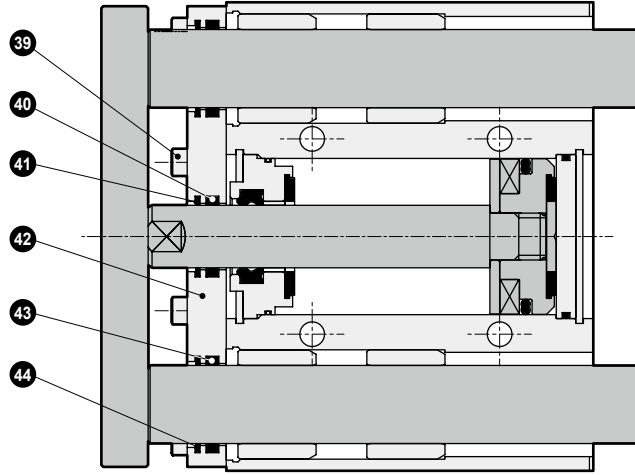
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STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
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Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending



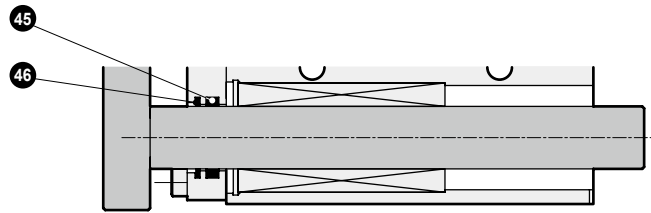
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STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MecHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

## Internal structure and parts list

### ● STG-MG4



### ● STG-BG4



## Parts list

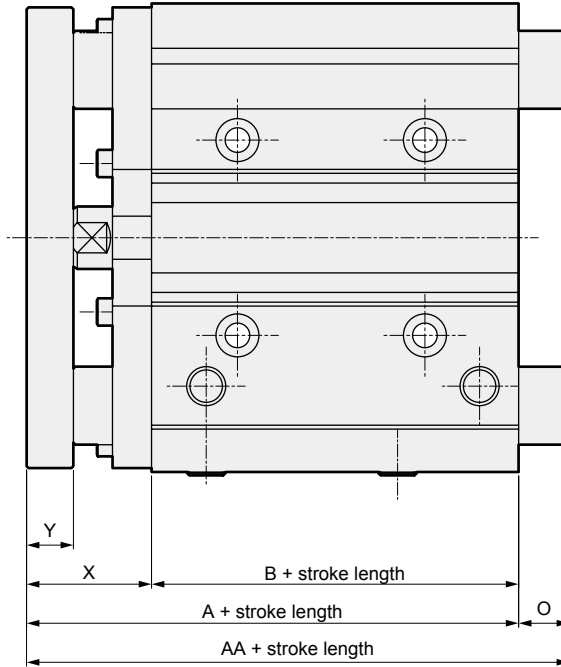
\* Parts other than those listed below are the same as those of double acting/single rod. Refer to pages 340 to 343.

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
39	Hexagon socket head cap screw	Alloy steel	Zinc chromate	43	Lube keeping structure	Special rubber	
40	Lube keeping structure	Special rubber		44	Coil scraper	Phosphor bronze	
41	Coil scraper	Phosphor bronze		45	Lube keeping structure	Special rubber	
42	Adaptor	Aluminum alloy	Alumite	46	Coil scraper	Phosphor bronze	

### Dimensions



#### ● STG-MG4



\* Dimensions not listed below are the same as those on page 346 (double acting/single rod).  
 \*1: When using a custom stroke length, the total dimensions are the same as the longer standard stroke length.

#### ● STG-MG4

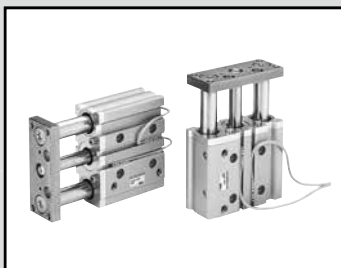
Code	Standard stroke length	A	AA			B	O			X	Y
			50 st or less	Over 50 st to 200 st	Over 200 st		50 st or less	Over 50 st to 200 st	Over 200 st		
ø40	25,50,75,100,125,150,175 200,250,300,350,400	76	89	110	150	44	13	34	74	32 ½	11.5
ø50		82	101	126	171	44	19	44	89	38 ½	15.5
ø63		87	101	126	171	49	14	39	84	38 ½	15.5

#### ● STG-BG4

Code	Standard stroke length	A	AA				B	O				X	Y
			30 st or less	Over 30 st to 100 st	Over 100 st to 200 st	Over 200 st		30 st or less	Over 30 st to 100 st	Over 100 st to 200 st	Over 200 st		
ø40	25,50,75,100,125,150,175 200,250,300,350,400	76	89	108	128	150	44	13	32	52	74	32 ½	11.5
ø50		82	101	124	144	171	44	19	42	62	89	38 ½	15.5
ø63		87	101	124	144	171	49	14	37	57	84	38 ½	15.5

- LCM
- LCR
- LCG
- LCW
- LCX
- STM
- STG**
- STS/STL
- STR2
- UCA2
- ULK\*
- JSK/M2
- JSG
- JSC3/JSC4
- USSD
- UFCD
- USC
- UB
- JSB3
- LMB
- LML
- HCM
- HCA
- LBC
- CAC4
- UCAC2
- CAC-N
- UCAC-N
- RCS2
- RCC2
- PCC
- SHC
- MCP
- GLC
- MFC
- BBS
- RRC
- GRC
- RV3\*
- NHS
- HRL
- LN
- Hand
- Chuk
- MechHnd/Chuk
- ShkAbs
- FJ
- FK
- SpdContr
- Ending

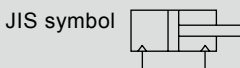
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UCA2  
ULK\*  
JSK/M2  
JSG  
JSC3/JSC4  
USSD  
UFCD  
USC  
UB  
JSB3  
LMB  
LML  
HCM  
HCA  
LBC  
CAC4  
UCAC2  
CAC-N  
UCAC-N  
RCS2  
RCC2  
PCC  
SHC  
MCP  
GLC  
MFC  
BBS  
RRC  
GRC  
RV3\*  
NHS  
HRL  
LN  
Hand  
Chuk  
MecHnd/Chuk  
ShkAbs  
FJ  
FK  
SpdContr  
Ending



Guided cylinder double acting/single rod/environment-resistant scraper

# STG-MG5 Series

● Bore size:  $\phi 20/\phi 25/\phi 32/\phi 40/\phi 50/\phi 63/\phi 80/\phi 100$



## Specifications

\* Made-to-order product.

Item	STG-MG5									
	Bore size	mm	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$
Bore size	mm	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$	
Actuation		Double acting								
Working fluid		Compressed air								
Max. working pressure	MPa	1.0 ( $\approx 150$ psi, 10 bar)								
Min. working pressure	MPa	0.25 ( $\approx 36$ psi, 2.5 bar)						0.2 ( $\approx 29$ psi, 2 bar)		
Proof pressure	MPa	1.6 ( $\approx 230$ psi, 16 bar)								
Ambient temperature	$^{\circ}\text{C}$	-10 ( $14^{\circ}\text{F}$ ) to 60 ( $140^{\circ}\text{F}$ ) (no freezing)								
Port size		Rc1/8			Rc1/4			Rc3/8		
Stroke tolerance	mm	+2.0 0								
Working piston speed	mm/s	50 to 500						50 to 300		
Cushion		With rubber cushion								
Lubrication		Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)								
Allowable absorbed energy	J	0.157	0.157	0.401	0.627	0.980	1.560	2.510	3.92	

## Stroke length

Bore size	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)	Min. stroke with switch (mm)
$\phi 20$	20/30/40/50/75/100/125/150/ 175/200/250/300/350/400	400	5	5(10) *2
$\phi 25$				
$\phi 32$				
$\phi 40$				
$\phi 50$	25/50/75/100/125/150/175/ 200/250/300/350/400			
$\phi 63$				
$\phi 80$				
$\phi 100$				

\*1: The custom stroke length is available in 5 mm increments. However, the total dimensions are the same as the longer standard stroke length.

\*2: For types with one or two switches. The value in ( ) is the min. stroke length for switches of the 2-color display and AC magnetic field proof.

## Theoretical thrust table (double acting)

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa									
		0.2	0.25	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
$\phi 20$	Push	-	78.5	94.2	$1.26 \times 10^2$	$1.57 \times 10^2$	$1.88 \times 10^2$	$2.20 \times 10^2$	$2.51 \times 10^2$	$2.83 \times 10^2$	$3.14 \times 10^2$
	Pull	-	58.9	70.7	94.2	$1.18 \times 10^2$	$1.41 \times 10^2$	$1.65 \times 10^2$	$1.88 \times 10^2$	$2.12 \times 10^2$	$2.36 \times 10^2$
$\phi 25$	Push	-	$1.23 \times 10^2$	$1.47 \times 10^2$	$1.96 \times 10^2$	$2.45 \times 10^2$	$2.95 \times 10^2$	$3.44 \times 10^2$	$3.93 \times 10^2$	$4.42 \times 10^2$	$4.91 \times 10^2$
	Pull	-	94.4	$1.13 \times 10^2$	$1.51 \times 10^2$	$1.89 \times 10^2$	$2.27 \times 10^2$	$2.64 \times 10^2$	$3.02 \times 10^2$	$3.40 \times 10^2$	$3.78 \times 10^2$
$\phi 32$	Push	-	$2.01 \times 10^2$	$2.41 \times 10^2$	$3.22 \times 10^2$	$4.02 \times 10^2$	$4.83 \times 10^2$	$5.63 \times 10^2$	$6.43 \times 10^2$	$7.24 \times 10^2$	$8.04 \times 10^2$
	Pull	-	$1.51 \times 10^2$	$1.81 \times 10^2$	$2.41 \times 10^2$	$3.02 \times 10^2$	$3.62 \times 10^2$	$4.22 \times 10^2$	$4.83 \times 10^2$	$5.43 \times 10^2$	$6.03 \times 10^2$
$\phi 40$	Push	-	$3.14 \times 10^2$	$3.77 \times 10^2$	$5.03 \times 10^2$	$6.28 \times 10^2$	$7.54 \times 10^2$	$8.80 \times 10^2$	$1.01 \times 10^3$	$1.13 \times 10^3$	$1.26 \times 10^3$
	Pull	-	$2.64 \times 10^2$	$3.17 \times 10^2$	$4.22 \times 10^2$	$5.28 \times 10^2$	$6.33 \times 10^2$	$7.39 \times 10^2$	$8.44 \times 10^2$	$9.50 \times 10^2$	$1.06 \times 10^3$
$\phi 50$	Push	-	$4.91 \times 10^2$	$5.89 \times 10^2$	$7.85 \times 10^2$	$9.82 \times 10^2$	$1.18 \times 10^3$	$1.37 \times 10^3$	$1.57 \times 10^3$	$1.77 \times 10^3$	$1.96 \times 10^3$
	Pull	-	$4.12 \times 10^2$	$4.95 \times 10^2$	$6.60 \times 10^2$	$8.25 \times 10^2$	$9.90 \times 10^2$	$1.15 \times 10^3$	$1.32 \times 10^3$	$1.48 \times 10^3$	$1.65 \times 10^3$
$\phi 63$	Push	$6.23 \times 10^2$	$7.79 \times 10^2$	$9.35 \times 10^2$	$1.25 \times 10^3$	$1.56 \times 10^3$	$1.87 \times 10^3$	$2.18 \times 10^3$	$2.49 \times 10^3$	$2.81 \times 10^3$	$3.12 \times 10^3$
	Pull	$5.61 \times 10^2$	$7.01 \times 10^2$	$8.41 \times 10^2$	$1.12 \times 10^3$	$1.40 \times 10^3$	$1.68 \times 10^3$	$1.96 \times 10^3$	$2.24 \times 10^3$	$2.52 \times 10^3$	$2.80 \times 10^3$
$\phi 80$	Push	$1.01 \times 10^3$	$1.26 \times 10^3$	$1.51 \times 10^3$	$2.01 \times 10^3$	$2.51 \times 10^3$	$3.02 \times 10^3$	$3.52 \times 10^3$	$4.02 \times 10^3$	$4.52 \times 10^3$	$5.03 \times 10^3$
	Pull	$9.07 \times 10^2$	$1.13 \times 10^3$	$1.36 \times 10^3$	$1.81 \times 10^3$	$2.27 \times 10^3$	$2.72 \times 10^3$	$3.17 \times 10^3$	$3.63 \times 10^3$	$4.08 \times 10^3$	$4.54 \times 10^3$
$\phi 100$	Push	$1.57 \times 10^3$	$1.96 \times 10^3$	$2.36 \times 10^3$	$3.14 \times 10^3$	$3.93 \times 10^3$	$4.71 \times 10^3$	$5.50 \times 10^3$	$6.28 \times 10^3$	$7.07 \times 10^3$	$7.85 \times 10^3$
	Pull	$1.43 \times 10^3$	$1.79 \times 10^3$	$2.14 \times 10^3$	$2.86 \times 10^3$	$3.57 \times 10^3$	$4.29 \times 10^3$	$5.00 \times 10^3$	$5.72 \times 10^3$	$6.43 \times 10^3$	$7.15 \times 10^3$

### Switch specifications

● 1-color/2-color display/for AC magnetic field

Item	Proximity 2-wire		Proximity 2-wire		Proximity 3-wire				Reed 2-wire			Proximity 2-wire				
	T1H/T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/T3V	T3PH/ T3PV	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V	T8H/T8V	T2YD(*4) T2YDT				
Applications	For programmable controller, relay, compact solenoid valve	Dedicated for programmable controller			For programmable controller, relay				For programmable controller, relay	For programmable controller, relay, IC circuit (no indicator lamp), serial connection	For programmable controller, relay	For programmable controller				
Output method	-				NPN output	PNP output	NPN output	NPN output	-							
Pwr. supp. V.	-				10 to 28 VDC				-							
Load voltage	85 to 265 VAC	10 to 30 VDC	24 VDC ±10%		30 VDC or less				12/24 VDC	100/110 VAC	5/12/24 VDC	100/110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100 mA	5 to 20 mA (*3)			100 mA or less		50 mA or less		5 to 50 mA	7 to 20 mA	≤50 mA	≤20 mA	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA
Indicator lamp	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Without indicator lamp	LED (Lit when ON)	LED (Lit when ON)	LED (Lit when ON)	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)
Leakage current	≤1 mA at 100 VAC, ≤2 mA at 200 VAC	1 mA or less			10 µA or less				0 mA				1 mA or less			
Weight g	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80		1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80			1 m:33 3 m:87 5 m:142			1 m:61 3 m:166 5 m:272	

\*1: Refer to Ending Page 1 for detailed switch specifications and dimensions.

\*2: Switches other than the above models, such as switches with connectors, are also available. Refer to Ending Page 1.

\*3: The max. load current is 20 mA at 25°C. The current is lower than 20 mA if the operating ambient temperature around the switch is higher than 25°C. (5 to 10 mA at 60°C)

\*4: AC magnetic field proof switch (T2YD/T2YDT) cannot be used in DC magnetic fields.

### Cylinder weight table

(Unit: kg)

Item	Stroke length															Switch weight
	20	25	30	40	50	75	100	125	150	175	200	250	300	350	400	
ø20	0.68		0.75	0.83	0.91	1.16	1.35	1.55	1.73	1.93	2.12	2.58	2.96	3.34	3.73	Refer to the weight in the switch specifications.
ø25	0.95		1.05	1.16	1.26	1.63	1.89	2.16	2.43	2.69	2.95	3.59	4.12	4.65	5.17	
ø32		1.73			2.10	2.63	3.02	3.43	3.82	4.21	4.60	5.58	6.36	7.15	7.94	
ø40		2.00			2.41	2.86	3.27	3.68	4.09	4.51	4.91	5.92	6.76	7.58	8.41	
ø50		3.44			4.06	4.77	5.39	6.01	6.63	7.25	7.87	9.44	10.66	11.92	13.18	
ø63		4.31			5.05	5.87	6.60	7.33	8.07	8.80	9.53	11.32	12.77	14.23	15.68	
ø80		7.65			8.75	10.14	11.23	12.33	13.43	14.53	15.63	18.43	20.55	22.73	24.93	
ø100		11.04			12.38	14.09	15.43	16.76	18.10	19.44	20.78	24.07	26.74	29.42	32.09	

LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

# STG-MG5 Series

## How to order

Without switch (built-in magnet for switch)

**STG - M G5 - 32 - 25**

With switch (built-in magnet for switch)

**STG - M G5 - 32 - 25 - T2H - R**

Model No.

Metal bush bearing

**A** Bore size

Environment-resistant scraper

**B** Port thread

**C** Stroke length

**D** Switch model No.  
\*1

**E** Switch quantity

Code	Description
<b>A Bore size (mm)</b>	
20	ø20
25	ø25
32	ø32
40	ø40
50	ø50
63	ø63
80	ø80
100	ø100

<b>B Port thread</b>	
Blank	Rc thread
NN	NPT thread (made-to-order product)
GN	G thread (made-to-order product)

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

<b>D Switch model No.</b>						
Axial lead wire	Radial lead wire	Contact	Voltage		Display	Lead wire
			AC	DC		
T0H*	T0V*	Reed	●	●	1-color display	2-wire
T5H*	T5V*		●	●	Without indicator lamp	
T8H*	T8V*		●	●	1-color display	
T1H*	T1V*	Proximity	●		1-color display	2-wire
T2H*	T2V*			●		
T3PH*	T3PV*			●	1-color display	3-wire
T2WH*	T2WV*			●	2-color display	2-wire
T2YH*	T2YV*			●		
T3WH*	T3WV*			●		
T3YH*	T3YV*			●		3-wire
T2JH*	T2JV*			●	1-color display off-delay	2-wire
T2YD*	-			●	2-color display	2-wire
T2YDT*	-			●	AC magnetic field	

<b>* Lead wire length</b>	
Blank	1 m (standard)
3	3 m (option)
5	5 m (option)

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

## ⚠ Precautions for model No. selection

\*1: Switches are shipped with the product.  
Contact CKD if assembling before shipment is necessary.

[Example of model No.]

### STG-MG5-40-75-T0H-D

Model: Guided cylinder double acting/single rod/environment-resistant scraper

- A** Bore size : ø40 mm
- B** Port thread : Rc thread
- C** Stroke length : 75 mm
- D** Switch model No. : Reed T0H switch  
Lead wire length 1 m
- E** Switch quantity : 2

[Stroke length table]

Stroke length (mm)		Applicable bore size							
		ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Standard stroke length	10								
	20	●	●						
	25			●	●	●	●	●	●
	30	●	●						
	40	●	●						
	50	●	●	●	●	●	●	●	●
	75	●	●	●	●	●	●	●	●
	100	●	●	●	●	●	●	●	●
	125	●	●	●	●	●	●	●	●
	150	●	●	●	●	●	●	●	●
	175	●	●	●	●	●	●	●	●
	200	●	●	●	●	●	●	●	●
	250	●	●	●	●	●	●	●	●
	300	●	●	●	●	●	●	●	●
350	●	●	●	●	●	●	●	●	
400	●	●	●	●	●	●	●	●	
Min. stroke length (mm)	*2	5(10)							
Custom stroke length	*1	In 5 mm increments							

\*1: The total dimensions are the same as the longer standard stroke length.

\*2: The value in ( ) is the min. stroke length for switches of the 2-color display and AC magnetic field proof.

### How to order switch

**SW - T0V**

Switch model No.  
(Item ① on page 396)

Note: Contact CKD when using an environment-friendly T switch.

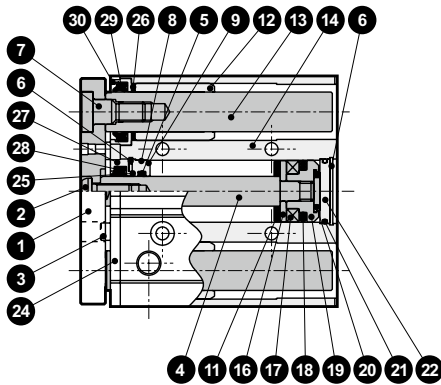
LCM
LCR
LCG
LCW
LCX
STM
<b>STG</b>
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

# STG-MG5 Series

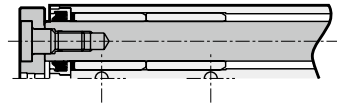
## Internal structure and parts list (STG-MG5-20 to 63)

●  $\phi 20, \phi 25$

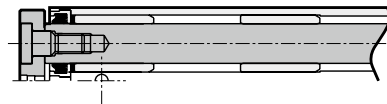
50 stroke length or less



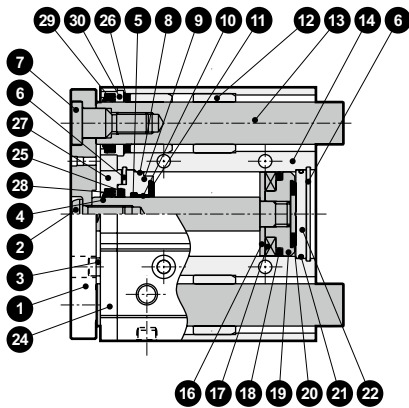
Over 50 to 200 stroke length



Over 200 mm stroke length



●  $\phi 32$  to  $\phi 63$



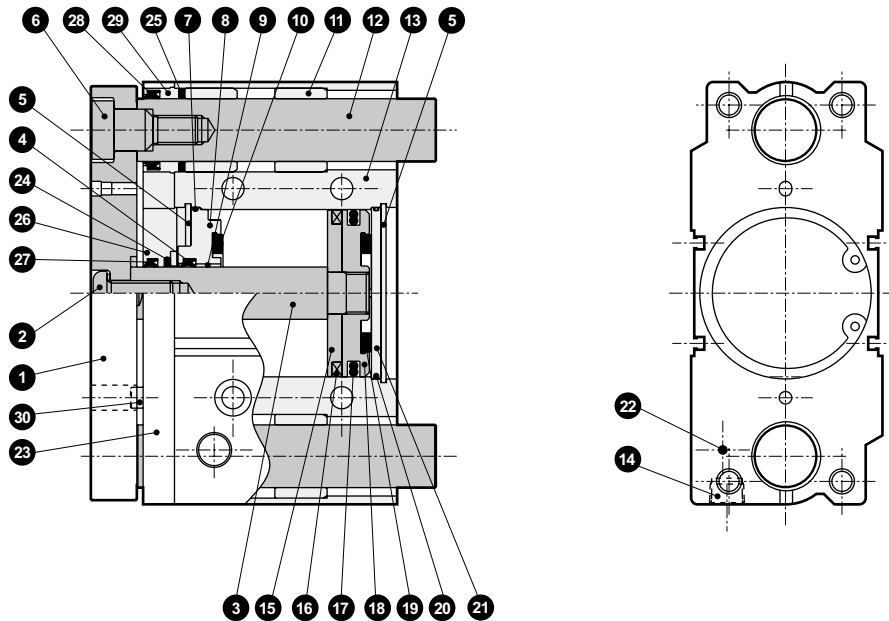
### Main parts list

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	End plate	Steel	Nickeling	15	Plug	Copper alloy or steel	
2	Hexagon socket button head bolt	Steel	Zinc chromate	16	Spacer	Aluminum alloy	
3	Hexagon socket head cap screw	Steel	Zinc chromate	17	Magnet		
4	Piston rod	Stainless steel ( $\phi 20$ to $\phi 25$ )	Industrial chrome plating	18	Piston packing	Nitrile rubber	
		Steel ( $\phi 32$ to $\phi 63$ )	Industrial chrome plating	19	Piston	Aluminum alloy	
5	Rod packing	Nitrile rubber		20	Cushion rubber	Urethane rubber	
6	C type snap ring	Steel	Zinc phosphate	21	O-ring	Nitrile rubber	
7	Bolt	Steel	Zinc chromate	22	Base plate	Aluminum alloy	Chromate
8	Metal gasket	Nitrile rubber		23	Hexagon socket set screw	Stainless steel	
9	Rod metal	Special aluminum alloy ( $\phi 20$ to $\phi 32$ )	Alumite	24	Adaptor plate	Aluminum alloy	Alumite
		Aluminum alloy ( $\phi 40$ to $\phi 63$ )	Chromate	25	Lube keeping structure	Special rubber	
10	Bush	Oiles drymet		26	Lube keeping structure	Special rubber	
11	Cushion rubber	Urethane rubber		27	Holder R	Aluminum alloy	Chromate
12	Metal	Oil-impregnated copper alloy bearing		28	Scraper	Nitrile rubber	
13	Guide rod	Steel	Industrial chrome plating	29	Scraper	Nitrile rubber	
14	Cylinder body	Aluminum alloy	Hard alumite	30	Holder G	Aluminum alloy	Chromate

### Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
$\phi 20$	STG-MG5-20K	
$\phi 25$	STG-MG5-25K	5 8 11 18 20
$\phi 32$	STG-MG5-32K	21 25 26 28 29
$\phi 40$	STG-MG5-40K	
$\phi 50$	STG-MG5-50K	
$\phi 63$	STG-MG5-63K	

## Internal structure and parts list (STG-MG5-80 to 100)



LCM
LCR
LCG
LCW
LCX
STM
<b>STG</b>
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

### Main parts list

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	End plate	Steel	Nickeling	17	Piston packing	Nitrile rubber	
2	Hexagon socket button head bolt	Steel	Zinc chromate	18	Piston	Aluminum alloy	
3	Piston rod	Steel	Industrial chrome plating	19	Cushion rubber	Urethane rubber	
4	Rod packing	Nitrile rubber		20	O-ring	Nitrile rubber	
5	C type snap ring	Steel	Zinc phosphate	21	Base plate	Aluminum alloy (ø80)	Chromate
6	Bolt	Steel	Zinc chromate		Hexagon socket set screw (ø80)	Stainless steel	
7	Metal gasket	Nitrile rubber		22	Plug (ø100)	Steel	Nickeling
8	Rod metal	Aluminum alloy	Chromate	23	Adaptor plate	Aluminum alloy	Alumite
9	Bush	Oiles drymet		24	Lube keeping structure	Special rubber	
10	Cushion rubber	Urethane rubber		25	Lube keeping structure	Special rubber	
11	Metal	Oil-impregnated copper alloy bearing		26	Holder R	Aluminum alloy	Chromate
12	Guide rod	Steel	Industrial chrome plating	27	Scraper	Nitrile rubber	
13	Cylinder body	Aluminum alloy	Hard alumite	28	Scraper	Nitrile rubber	
14	Plug	Steel		29	Holder G	Aluminum alloy	Chromate
15	Spacer	Aluminum alloy		30	Hexagon socket head cap screw	Steel	Zinc chromate
16	Magnet						

### Repair parts list

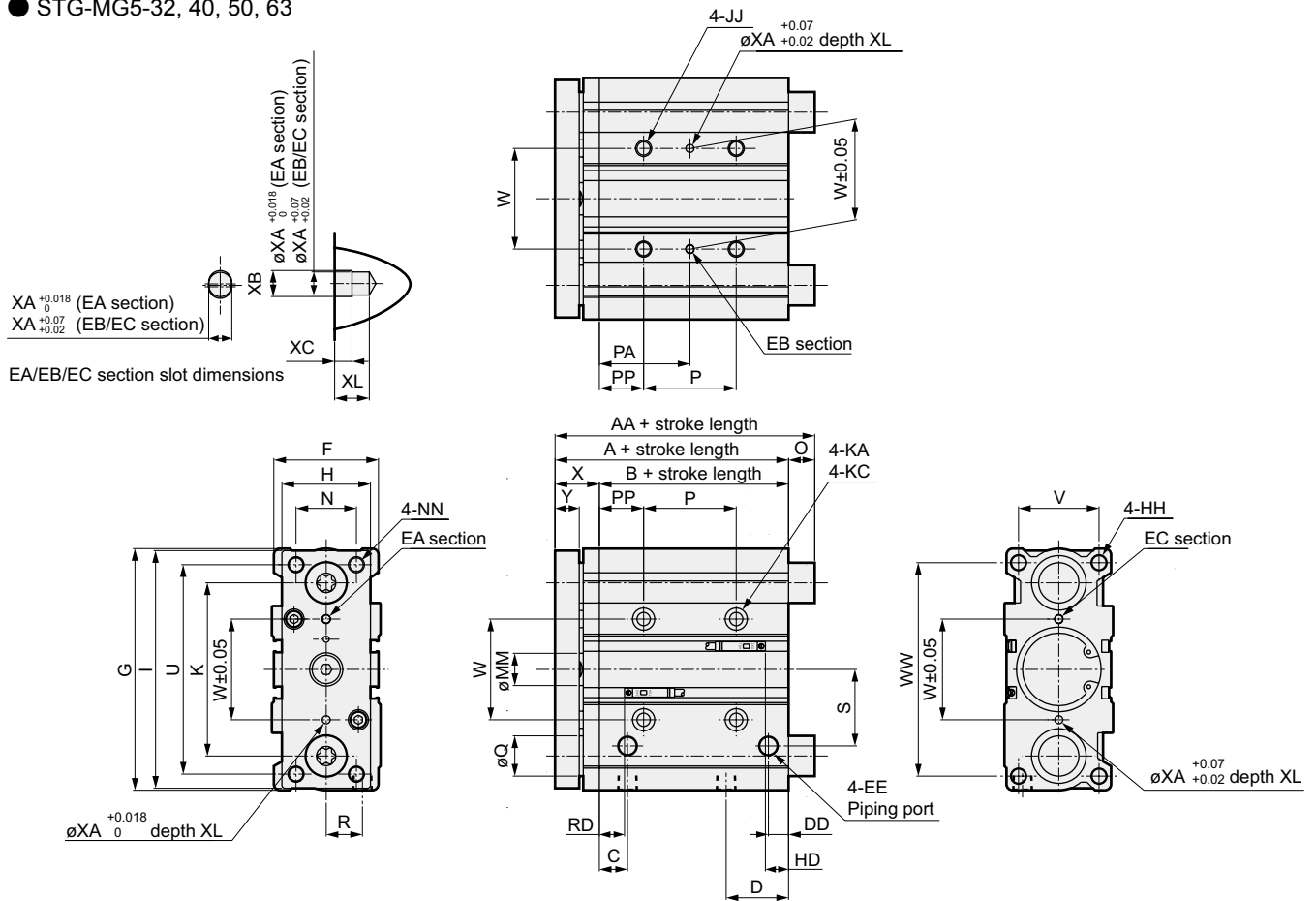
Bore size (mm)	Kit No.	Repair parts No.
ø80	STG-MG5-80K	4 7 10 17 19
ø100	STG-MG5-100K	20 24 25 27 28





### Dimensions (ø32, ø40, ø50, ø63)

● STG-MG5-32, 40, 50, 63



\*1: When using a custom stroke length, the total dimensions are the same as the longer standard stroke length.

Code	Standard stroke length (mm)	A	B	C	D	DD	EE	F	G	H	HH	I	JJ	K	KA
ø32	25,50,75,100,125,	59.5	37.5	12.5	30.5	9	Rc1/8	48	112	44	M8 depth 20	110	M8 depth 16	78	6.3 through
ø40	150,175,200,250,	66	44	14	31	10	Rc1/8	54	120	44	M8 depth 20	118	M8 depth 16	86	6.3 through
ø50	300,350,400	72	44	14	35	11	Rc1/4	64	148	60	M10 depth 22	146	M10 depth 20	110	8.6 through
ø63		77	49	16.5	35	15	Rc1/4	78	162	70	M10 depth 22	158	M10 depth 20	124	8.6 through

Code	KC	MM	N	NN	P					PA	
					25 or less	Over 25 to 100	Over 100 to 200	Over 200 to 300	Over 300	25 or less	Over 25 to 100
ø32	11 spot face depth 7.5	16	30	M8 through	24	48	124	200	300	33	45
ø40	11 spot face depth 7.5	16	30	M8 through	24	48	124	200	300	34	46
ø50	14 spot face depth 9	20	40	M10 through	24	48	124	200	300	36	48
ø63	14 spot face depth 9	20	50	M10 through	28	52	128	200	300	38	50

Code	PA			PP	R	S	U	V	W	WW	X	Y	XA	XB	XC	XL
	Over 100 to 200	Over 200 to 300	Over 300													
ø32	83	121	171	21	15	34	96	34	42	98	22	11.5	4	4.5	3	6
ø40	84	122	172	22	18	38	104	40	50	106	22	11.5	4	4.5	3	6
ø50	86	124	174	24	21.5	47	130	46	66	130	28	15.5	5	6	4	8
ø63	88	124	174	24	28	55	130	58	80	142	28	15.5	5	6	4	8

Code	AA			Q	O		
	50 or less	Over 50 to 200	Over 200		50 or less	Over 50 to 200	Over 200
ø32	79	100	140	20	19.5	40.5	80.5
ø40	79	100	140	20	13	34	74
ø50	91	116	161	25	19	44	89
ø63	91	116	161	25	14	39	84

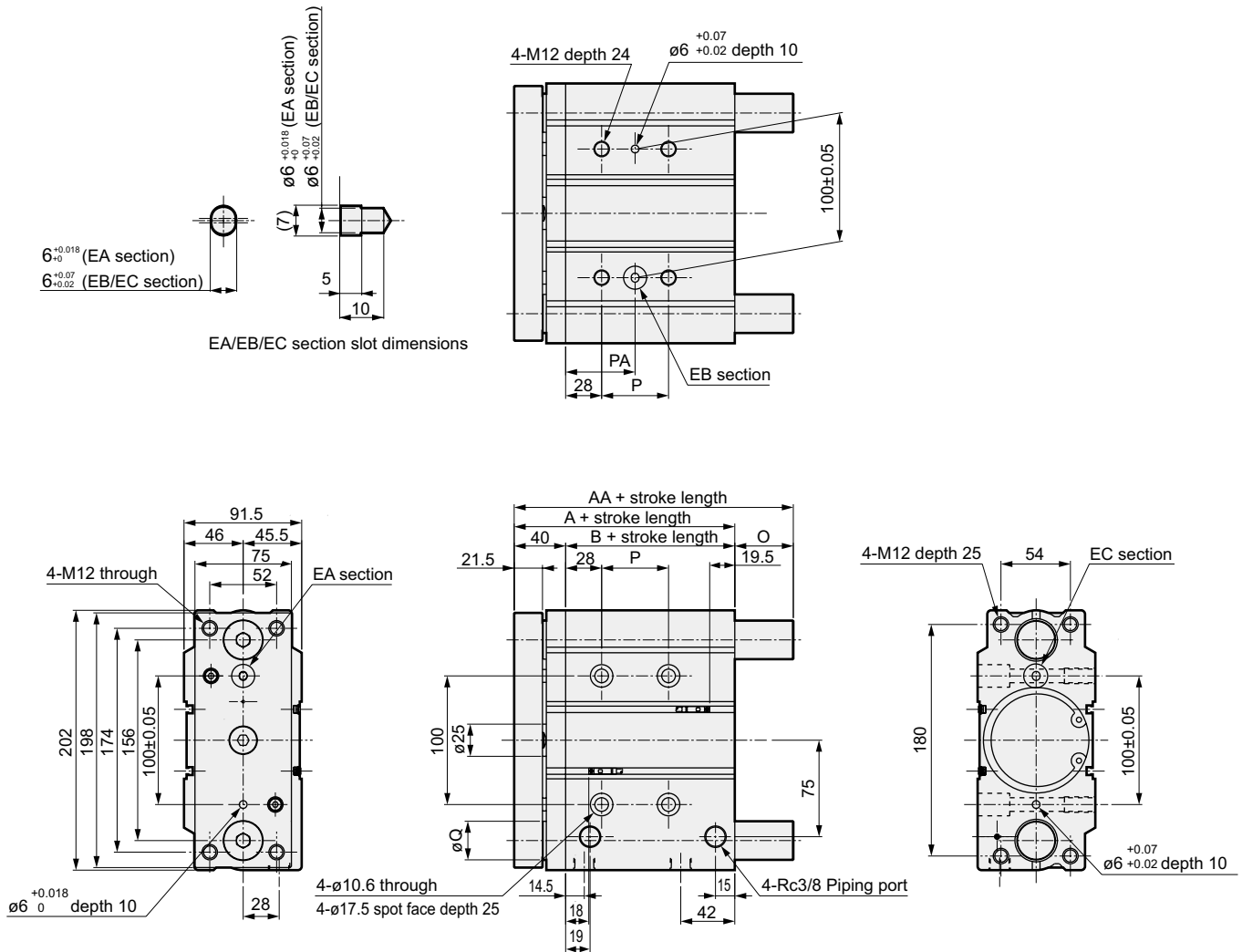
Switch dimensions	T0/T5/T2/T3		T2W/T3W		T*Y		T8	
	RD	HD	RD	HD	RD	HD	RD	HD
ø32	10	8.5	12	10.5	9	7.5	4	2.5
ø40	13	12	15	14	12	11	7	6
ø50	13.5	11.5	15.5	13.5	12.5	10.5	7.5	5.5
ø63	14	16	16	18	13	15	8	10

LCM  
LCR  
LCG  
LCW  
LCX  
STM  
**STG**  
STS/STL  
STR2  
UCA2  
ULK\*  
JSK/M2  
JSG  
JSC3/JSC4  
USSD  
UFCD  
USC  
UB  
JSB3  
LMB  
LML  
HCM  
HCA  
LBC  
CAC4  
UCAC2  
CAC-N  
UCAC-N  
RCS2  
RCC2  
PCC  
SHC  
MCP  
GLC  
MFC  
BBS  
RRC  
GRC  
RV3\*  
NHS  
HRL  
LN  
Hand  
Chuk  
MechHnd/Chuk  
ShkAbs  
FJ  
FK  
SpdContr  
Ending

# STG-MG5 Series

## Dimensions (ø80)

### ● STG-MG5-80



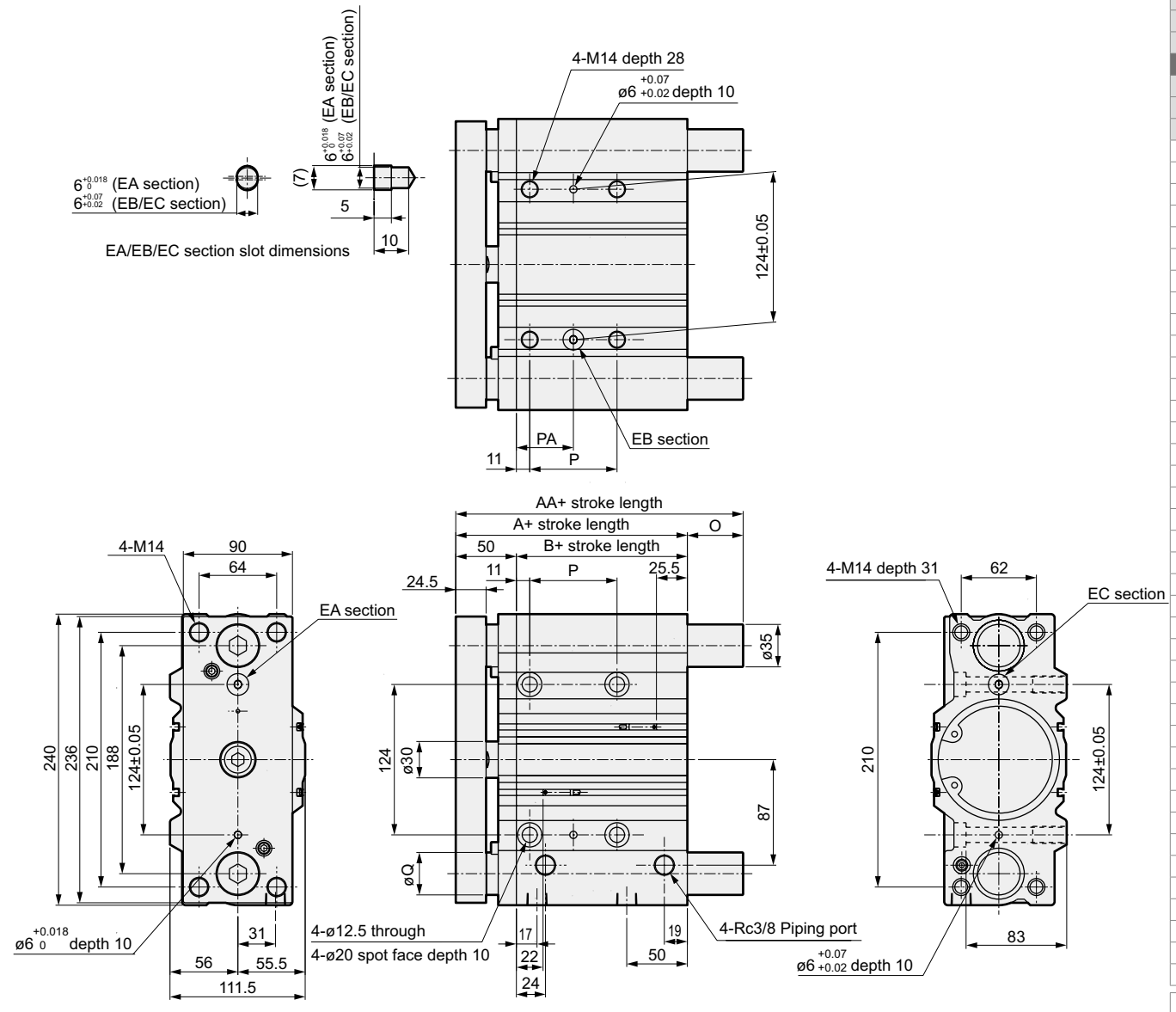
Standard stroke length (mm)	A	B	P					PA				
			25 st or less	Over 25 st to 100 st	Over 100 st to 200 st	Over 200 st to 300 st	Over 300 st	25 st or less	Over 25 st to 100 st	Over 100 st to 200 st	Over 200 st to 300 st	Over 300 st
25,50,75,100,125,150,175,200,250,300,350,400	96.5	56.5	28	52	128	200	300	42	54	92	128	178
AA			O									
50 st or less	Over 50 st to 200 st	Over 200 st	Q	50 st or less	Over 50 st to 200 st	Over 200 st						
115	142	193	30	18.5	45.5	96.5						

### ● Switch dimensions

T0/T5/T2/T3		T2W/T3W		T*Y		T8	
RD	HD	RD	HD	RD	HD	RD	HD
18	19.5	20	21.5	17	18.5	12	13.5

### Dimensions (ø100)

#### ● STG-MG5-100



LCM
LCR
LCG
LCW
LCX
STM
<b>STG</b>
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

Standard stroke length (mm)	A	B	P					PA				
			25 st or less	Over 25 st to 100 st	Over 100 st to 200 st	Over 200 st to 300 st	Over 300 st	25 st or less	Over 25 st to 100 st	Over 100 st to 200 st	Over 200 st to 300 st	Over 300 st
25,50,75,100,125,150,175,200,250,300,350,400	116	66	48	72	148	220	320	35	47	85	121	171

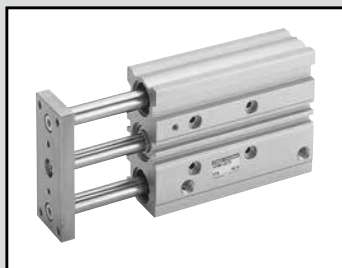
  

AA			Q	O		
50 st or less	Over 50 st to 200 st	Over 200 st		50 st or less	Over 50 st to 200 st	Over 200 st
137	162	203	35	21	46	87

#### ● Switch dimensions

T0/T5/T2/T3		T2W/T3W		T*Y		T8	
RD	HD	RD	HD	RD	HD	RD	HD
22	25.5	24	27.5	21	24.5	16	19.5

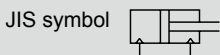
LCM  
LCR  
LCG  
LCW  
LCX  
STM  
STG  
STS/STL  
STR2  
UCA2  
ULK\*  
JSK/M2  
JSG  
JSC3/JSC4  
USSD  
UFCD  
USC  
UB  
JSB3  
LMB  
LML  
HCM  
HCA  
LBC  
CAC4  
UCAC2  
CAC-N  
UCAC-N  
RCS2  
RCC2  
PCC  
SHC  
MCP  
GLC  
MFC  
BBS  
RRC  
GRC  
RV3\*  
NHS  
HRL  
LN  
Hand  
Chuk  
MecHnd/Chuk  
ShkAbs  
FJ  
FK  
SpdContr  
Ending



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

# STG-B -P7\* Series

● Bore size:  $\phi 12/\phi 16/\phi 20/\phi 25/\phi 32/\phi 40/\phi 50/\phi 63$



## Specifications

Item	STG-B							
Bore size mm	$\phi 12$	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$
Actuation	Double acting							
Working fluid	Compressed air							
Max. working pressure MPa	1.0 ( $\approx 150$ psi, 10 bar)							
Min. working pressure MPa	0.2 ( $\approx 29$ psi, 2 bar)		0.15 ( $\approx 22$ psi, 1.5 bar)			0.1 ( $\approx 15$ psi, 1 bar)		
Proof pressure MPa	1.6 ( $\approx 230$ psi, 16 bar)							
Ambient temperature $^{\circ}\text{C}$	-10 ( $14^{\circ}\text{F}$ ) to 60 ( $140^{\circ}\text{F}$ ) (no freezing)							
Port size	M5		Rc1/8				Rc1/4	
Port size (pressure relief port)	M5							
Stroke tolerance mm	+2.0 0							
Working piston speed mm/s	50 to 500							50 to 300
Cushion	With rubber cushion							
Lubrication	Not available							
Allowable absorbed energy J	0.056	0.088	0.157	0.157	0.401	0.627	0.980	1.560

## Stroke length

Bore size	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)	Min. stroke (mm) (switch)
$\phi 12$	10/20/30/40/50/75/100	250	5	5(10)
$\phi 16$	125/150/175/200/250			
$\phi 20$	20/30/40/50/75/100/125	400	5	5(10)
$\phi 25$	150/175/200/250/300/350/400			
$\phi 32$	25/50/75/100			
$\phi 40$	125/150/175			
$\phi 50$	200/250/300			
$\phi 63$	350/400			*2

\*1: The custom stroke length is available in 5 mm increments. However, the total dimensions are the same as the longer standard stroke length.

\*2: For types with one or two switches. The value in ( ) is the min. stroke length for switches of the 2-color display and AC magnetic field proof.

## Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa										
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
$\phi 12$	Push	-	-	22.6	33.9	45.2	56.5	67.9	79.2	90.5	$1.02 \times 10^2$	$1.13 \times 10^2$
	Pull	-	-	17.0	25.4	33.9	42.4	50.9	59.4	67.9	76.3	84.8
$\phi 16$	Push	-	-	40.2	60.3	80.4	$1.01 \times 10^2$	$1.21 \times 10^2$	$1.41 \times 10^2$	$1.61 \times 10^2$	$1.81 \times 10^2$	$2.01 \times 10^2$
	Pull	-	-	30.2	45.2	60.3	75.4	90.5	$1.06 \times 10^2$	$1.21 \times 10^2$	$1.36 \times 10^2$	$1.51 \times 10^2$
$\phi 20$	Push	-	47.1	62.8	94.2	$1.26 \times 10^2$	$1.57 \times 10^2$	$1.88 \times 10^2$	$2.20 \times 10^2$	$2.51 \times 10^2$	$2.83 \times 10^2$	$3.14 \times 10^2$
	Pull	-	35.3	47.1	70.7	94.2	$1.18 \times 10^2$	$1.41 \times 10^2$	$1.65 \times 10^2$	$1.88 \times 10^2$	$2.12 \times 10^2$	$2.36 \times 10^2$
$\phi 25$	Push	-	73.6	98.2	$1.47 \times 10^2$	$1.96 \times 10^2$	$2.45 \times 10^2$	$2.95 \times 10^2$	$3.44 \times 10^2$	$3.93 \times 10^2$	$4.42 \times 10^2$	$4.91 \times 10^2$
	Pull	-	56.7	75.6	$1.13 \times 10^2$	$1.51 \times 10^2$	$1.89 \times 10^2$	$2.27 \times 10^2$	$2.64 \times 10^2$	$3.02 \times 10^2$	$3.40 \times 10^2$	$3.78 \times 10^2$
$\phi 32$	Push	80.4	$1.21 \times 10^2$	$1.61 \times 10^2$	$2.41 \times 10^2$	$3.22 \times 10^2$	$4.02 \times 10^2$	$4.83 \times 10^2$	$5.63 \times 10^2$	$6.43 \times 10^2$	$7.24 \times 10^2$	$8.04 \times 10^2$
	Pull	60.3	90.5	$1.21 \times 10^2$	$1.81 \times 10^2$	$2.41 \times 10^2$	$3.02 \times 10^2$	$3.62 \times 10^2$	$4.22 \times 10^2$	$4.83 \times 10^2$	$5.43 \times 10^2$	$6.03 \times 10^2$
$\phi 40$	Push	$1.26 \times 10^2$	$1.88 \times 10^2$	$2.51 \times 10^2$	$3.77 \times 10^2$	$5.03 \times 10^2$	$6.28 \times 10^2$	$7.54 \times 10^2$	$8.80 \times 10^2$	$1.01 \times 10^3$	$1.13 \times 10^3$	$1.26 \times 10^3$
	Pull	$1.06 \times 10^2$	$1.58 \times 10^2$	$2.11 \times 10^2$	$3.17 \times 10^2$	$4.22 \times 10^2$	$5.28 \times 10^2$	$6.33 \times 10^2$	$7.39 \times 10^2$	$8.44 \times 10^2$	$9.50 \times 10^2$	$1.06 \times 10^3$
$\phi 50$	Push	$1.96 \times 10^2$	$2.95 \times 10^2$	$3.93 \times 10^2$	$5.89 \times 10^2$	$7.85 \times 10^2$	$9.82 \times 10^2$	$1.18 \times 10^3$	$1.37 \times 10^3$	$1.57 \times 10^3$	$1.77 \times 10^3$	$1.96 \times 10^3$
	Pull	$1.65 \times 10^2$	$2.47 \times 10^2$	$3.30 \times 10^2$	$4.95 \times 10^2$	$6.60 \times 10^2$	$8.25 \times 10^2$	$9.90 \times 10^2$	$1.15 \times 10^3$	$1.32 \times 10^3$	$1.48 \times 10^3$	$1.65 \times 10^3$
$\phi 63$	Push	$3.12 \times 10^2$	$4.68 \times 10^2$	$6.23 \times 10^2$	$9.35 \times 10^2$	$1.25 \times 10^3$	$1.56 \times 10^3$	$1.87 \times 10^3$	$2.18 \times 10^3$	$2.49 \times 10^3$	$2.81 \times 10^3$	$3.12 \times 10^3$
	Pull	$2.80 \times 10^2$	$4.20 \times 10^2$	$5.61 \times 10^2$	$8.41 \times 10^2$	$1.12 \times 10^3$	$1.40 \times 10^3$	$1.68 \times 10^3$	$1.96 \times 10^3$	$2.24 \times 10^3$	$2.52 \times 10^3$	$2.80 \times 10^3$

### Switch specifications

● 1-color/2-color display/for AC magnetic field proof

Item	Proximity 2-wire	Proximity 2-wire			Proximity 3-wire				Reed 2-wire						Proximity 2-wire		
	T1H/T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/T3V	T3PH/ T3PV	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V		T5H/T5V		T8H/T8V		T2YD(*4) T2YDT		
Applications	For programmable controller, relay, compact solenoid valve	Dedicated for programmable controller			For programmable controller, relay				For programmable controller, relay		For programmable controller, relay, IC circuit (no indicator lamp), serial connection		For programmable controller, relay		For programmable controller		
Output method	-			NPN output	PNP output	NPN output	NPN output	-									
Pwr. supp. V.	-			10 to 28 VDC				-									
Load voltage	85 to 265 VAC	10 to 30 VDC	24 VDC ±10%		30 VDC or less				12/24 VDC	100/110 VAC	5/12/24 VDC	100/110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%	
Load current	5 to 100 mA	5 to 20 mA (*3)			100 mA or less		50 mA or less		5 to 50 mA	7 to 20 mA	≤50 mA	≤20 mA	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA	
Indicator lamp	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)		Without indicator lamp		LED (Lit when ON)		Red/green LED (Lit when ON)		
Leakage current	≤1 mA at 100 VAC, ≤2 mA at 200 VAC	1 mA or less			10 µA or less				0 mA						1 mA or less		
Weight g	1 m:33	1 m:18	1 m:33	1 m:18	1 m:18		1 m:33	1 m:18							1 m:61		
	3 m:87	3 m:49	3 m:87	3 m:49	3 m:49		3 m:87	3 m:49	1 m:18		3 m:49	5 m:80	1 m:33		3 m:87	5 m:142	3 m:166
	5 m:142	5 m:80	5 m:142	5 m:80	5 m:80		5 m:142	5 m:80							5 m:272		

\*1 : Refer to Ending Page 1 for detailed switch specifications and dimensions.

\*2 : Switches other than the above models, such as switches with connectors, are also available. Refer to Ending Page 1.

\*3 : The max. load current is 20 mA at 25°C. The current is lower than 20 mA if the operating ambient temperature around the switch is higher than 25°C. (5 to 10 mA at 60°C)

\*4 : AC magnetic field proof switch (T2YD/T2YDT) cannot be used in DC magnetic fields.

### Cylinder weight

● STG-B-P7

Unit: kg

Item	Stroke length																Switch weight	
	Bore size (mm)		10	20	25	30	40	50	75	100	125	150	175	200	250	300		350
Refer to the weight in the switch specifications.	ø12		0.27	0.30		0.33	0.38	0.42	0.50	0.58	0.68	0.76	0.84	0.92	1.09			
	ø16		0.38	0.43		0.47	0.54	0.59	0.70	0.82	0.95	1.06	1.17	1.29	1.50			
	ø20			0.76		0.83	0.94	1.02	1.18	1.35	1.55	1.72	1.89	2.06	2.43	2.77	3.10	3.44
	ø25			1.06		1.14	1.32	1.41	1.63	1.86	2.12	2.35	2.57	2.79	3.28	3.73	4.18	4.63
	ø32				1.62			1.92	2.36	2.67	3.03	3.34	3.64	3.95	4.62	5.23	5.84	6.45
	ø40				1.90			2.25	2.72	3.07	3.48	3.83	4.18	4.53	5.28	5.98	6.68	7.38
	ø50				3.24			3.78	4.50	5.04	5.66	6.19	6.73	7.26	8.45	9.51	10.61	11.67
	ø63				4.12			4.76	5.61	6.25	6.98	7.62	8.27	8.91	10.30	11.66	12.92	14.18

LCM  
LCR  
LCG  
LCW  
LCX  
STM  
STG  
STS/STL  
STR2  
UCA2  
ULK\*  
JSK/M2  
JSG  
JSC3/JSC4  
USSD  
UFCD  
USC  
UB  
JSB3  
LMB  
LML  
HCM  
HCA  
LBC  
CAC4  
UCAC2  
CAC-N  
UCAC-N  
RCS2  
RCC2  
PCC  
SHC  
MCP  
GLC  
MFC  
BBS  
RRC  
GRC  
RV3\*  
NHS  
HRL  
LN  
Hand  
Chuk  
MechHnd/Chuk  
ShkAbs  
FJ  
FK  
SpdContr  
Ending

# STG-B-P7\* Series

## How to order

Without switch (built-in magnet for switch)

**STG** - **B** - **32** - **25** - **P72**

With switch (built-in magnet for switch)

**STG** - **B** - **32** - **25** - **T2H** - **R** - **P72**

Model No.

**A** Bearing

**B** Bore size

**C** Stroke length

**D** Switch model No.  
\*1 \*2 \*3

**E** Switch quantity

**F** Clean-room specifications

Code	Description					
<b>A Bearing</b>						
<b>B</b>	Ball bearing					
<b>B Bore size (mm)</b>						
<b>12</b>	ø12					
<b>16</b>	ø16					
<b>20</b>	ø20					
<b>25</b>	ø25					
<b>32</b>	ø32					
<b>40</b>	ø40					
<b>50</b>	ø50					
<b>63</b>	ø63					
<b>C Stroke length (mm)</b>						
Refer to the stroke length table on the following page						
<b>D Switch model No.</b>						
Axial lead wire	Radial lead wire	Contact	Voltage		Display	Lead wire
			AC	DC		
<b>T0H*</b>	<b>T0V*</b>	Reed	●	●	1-color display	2-wire
<b>T5H*</b>	<b>T5V*</b>		●	●	Without indicator lamp	
<b>T8H*</b>	<b>T8V*</b>		●	●	1-color display	
<b>T1H*</b>	<b>T1V*</b>	Proximity	●		1-color display	2-wire
<b>T2H*</b>	<b>T2V*</b>			●		
<b>T3H*</b>	<b>T3V*</b>			●	1-color display	3-wire
<b>T3PH*</b>	<b>T3PV*</b>			●		
<b>T2WH*</b>	<b>T2WV*</b>			●	2-color display	2-wire
<b>T2YH*</b>	<b>T2YV*</b>			●		
<b>T3WH*</b>	<b>T3WV*</b>			●		
<b>T3YH*</b>	<b>T3YV*</b>		●	1-color display off-delay	2-wire	
<b>T2JH*</b>	<b>T2JV*</b>		●			
<b>T2YD*</b>	-		●	2-color display	2-wire	
<b>T2YDT*</b>	-		●	AC magnetic field		
<b>* Lead wire length</b>						
<b>Blank</b>	1 m (standard)					
<b>3</b>	3 m (option)					
<b>5</b>	5 m (option)					
<b>E Switch quantity</b>						
<b>R</b>	1 on rod side					
<b>H</b>	1 on head side					
<b>D</b>	2					
<b>T</b>	3					
<b>F Clean-room specifications</b>						
<b>P72</b>	Exhaust port					
<b>P73</b>	Vacuum treatment					

### ⚠ Precautions for model No. selection

\*1 : Switches other than **D** Switch model No. are also available. (Made-to-order product)  
Refer to Ending Page 1 for details.

\*2 : T8H/V cannot be installed on ø12 and ø16.

\*3 : Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.

[Example of model No.]

### STG-B-40-75-T0H-D-P72

Model: Guided cylinder, double acting/single rod

- A** Bearing : Ball bearing
- B** Bore size : ø40 mm
- C** Stroke length : 75 mm
- D** Switch model No. : Reed T0H switch, lead wire length 1 m
- E** Switch quantity : 2
- F** Clean-room specifications: Exhaust port

LCM
LCR
LCC
LCW
LCC
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MecHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

### Stroke length

Stroke length (mm)	Applicable bore size							
	ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63
Standard stroke length	10	●	●					
	20	●	●	●	●			
	25					●	●	●
	30	●	●	●	●			
	40	●	●	●	●			
	50	●	●	●	●	●	●	●
	75	●	●	●	●	●	●	●
	100	●	●	●	●	●	●	●
	125	●	●	●	●	●	●	●
	150	●	●	●	●	●	●	●
	175	●	●	●	●	●	●	●
	200	●	●	●	●	●	●	●
	250	●	●	●	●	●	●	●
	300			●	●	●	●	●
	350			●	●	●	●	●
400			●	●	●	●	●	
Min. stroke length *2	5(10)							
Custom stroke length *1	In 5 mm increments							

\*1: The total dimensions are the same as the longer standard stroke length.

\*2: The value in ( ) is the min. stroke length for switches of the 2-color display and AC magnetic field proof.

### How to order switch



Switch model No.  
(Item ④ on page 406)

Note: Contact CKD when using an environment-friendly T switch.

LCM
LCR
LCG
LCW
LCX
STM
<b>STG</b>
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MechMod/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

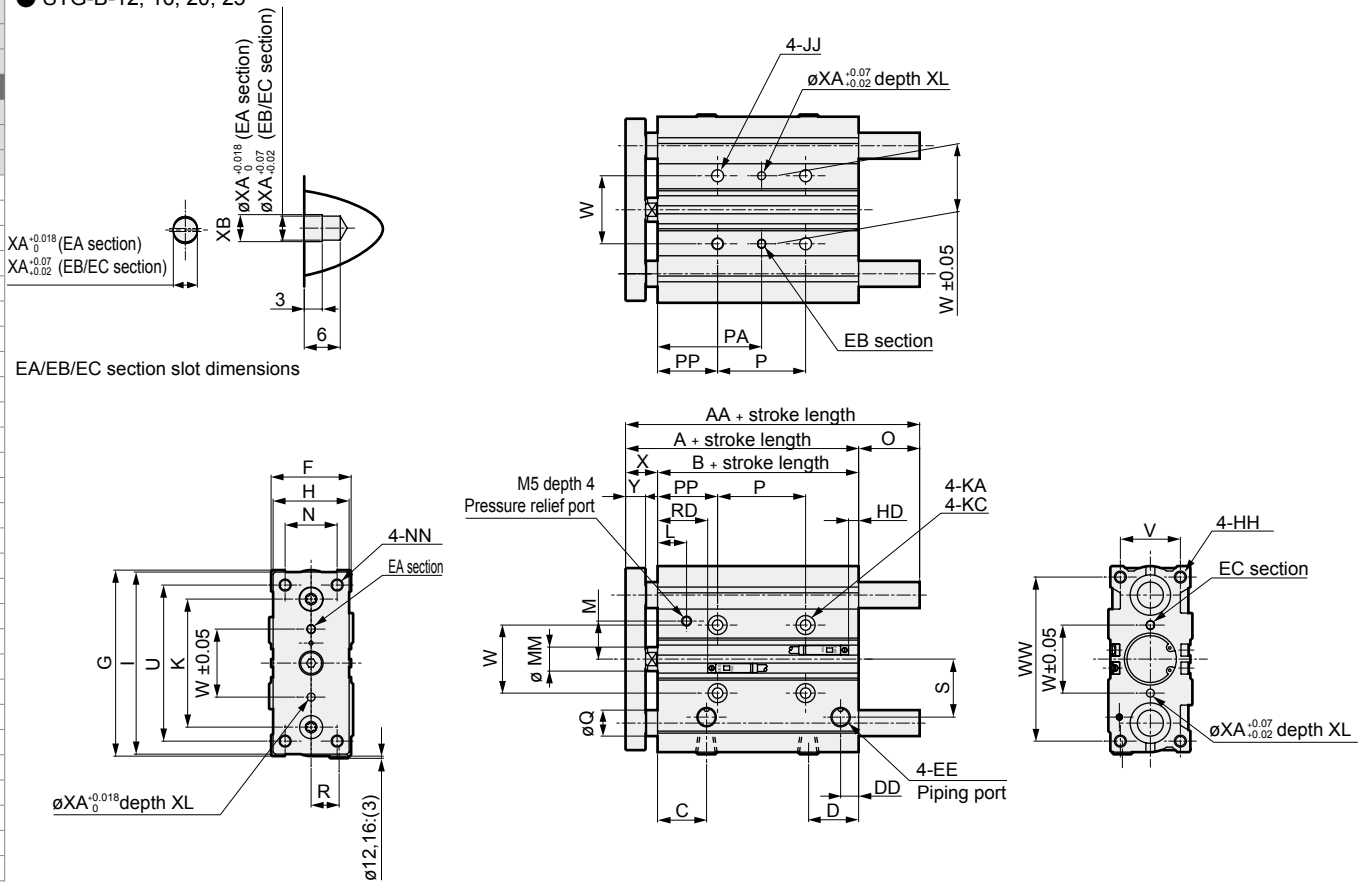


# STG-B-P7\* Series



## Dimensions (ø12, ø16, ø20, ø25)

● STG-B-12, 16, 20, 25



Code	Bore size (mm)	Standard stroke length (mm)	A	B	C	D	DD	EE	F	G	H	HH	I	JJ
	ø12	10,20,30,40,50,75,100,125	55	42	25	16	7	M5	26	58	22	M4 depth 10	56	M5 depth 10
	ø16	150,175,200,250	59	46	25	18	7.5	M5	30	64	25	M5 depth 12	62	M5 depth 10
	ø20	20,30,40,50,75,100,125,150	66	50	23.5	24.5	8.5	Rc1/8	36	83	30	M5 depth 13	81	M6 depth 12
	ø25	175,200,250,300,350,400	66.5	50.5	24.5	25	9	Rc1/8	42	93	38	M6 depth 15	91	M6 depth 12

Code	Bore size (mm)	K	KA	MM	N	NN	KC	P					L	M
								30 or less	Over 30 to 100	Over 100 to 200	Over 200 to 300	Over 300		
	ø12	41	4.3 through	6	14	M4 through	7.5 spot face depth 4.5	20	40	110	200	—	9	12.5
	ø16	46	4.3 through	8	16	M5 through	8 spot face depth 4.5	24	44	110	200	—	8.5	13
	ø20	54	5.2 through	10	18	M5 through	9.5 spot face depth 5.5	24	44	120	200	300	13.5	14
	ø25	64	5.2 through	12	26	M6 through	9.5 spot face depth 5.5	24	44	120	200	300	14.5	17

Code	Bore size (mm)	PA					PP	R	S	U	V	W	WW	X	Y
		30 or less	Over 30 to 100	Over 100 to 200	Over 200 to 300	300 Over									
	ø12	28	38	73	118	—	18	8	17	48	18	23	50	13 <sup>0.5</sup>	7.5
	ø16	30	40	73	118	—	18	10	18	54	22	24	56	13 <sup>0.5</sup>	7.5
	ø20	42	52	90	130	180	30	11	25	70	24	28	72	16 <sup>0.2</sup>	9.5
	ø25	42	52	90	130	180	30	14	29	78	30	34	82	16 <sup>0.2</sup>	9.5

Code	Bore size (mm)	T0/T5/T2/T3		T2W/T3W		XA	XB
		RD	HD	RD	HD		
	ø12	18	5	20	7	3	3.5
	ø16	17	10	19	12	3	3.5
	ø20	22.5	8.5	24.5	10.5	3	3.5
	ø25	23	8.5	25	10.5	4	4.5

\*1 : When using a custom stroke length, the total dimensions are the same as the longer standard stroke length.  
 \*2 : Refer to page 410 for RD, HD and protruding dimensions of the 2-color display (except for T2WH/V and T3WH/V), off-delay, AC magnetic field proof, T1H/V and T8H/V switches.

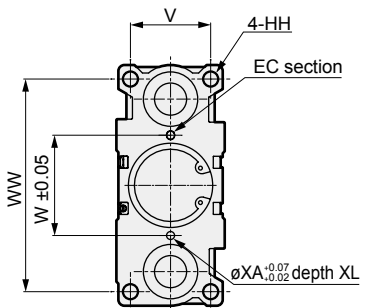
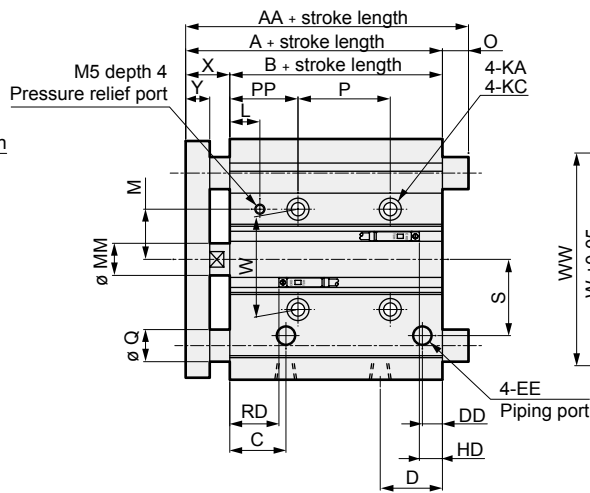
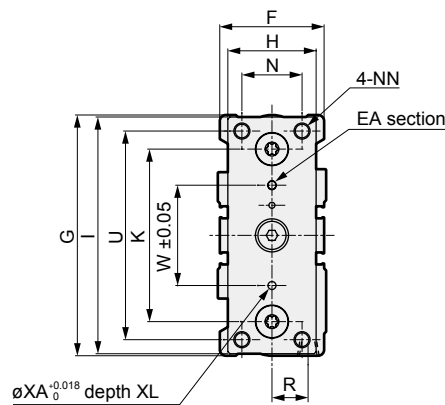
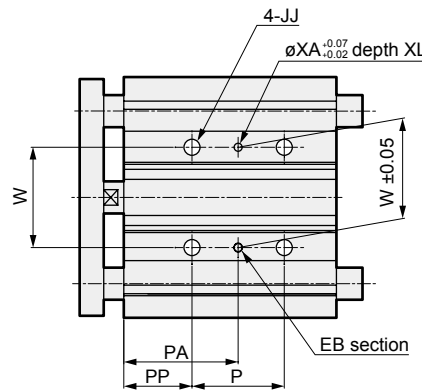
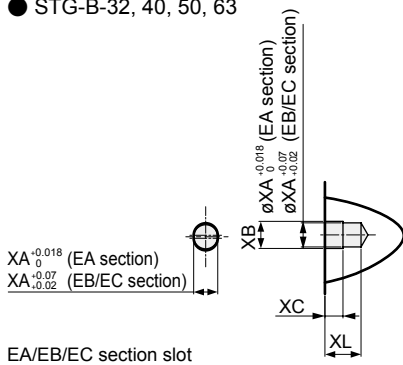
Code	Bore size (mm)	AA				Q	O		
		30 or less	Over 30 to 100	Over 100 to 200	Over 200		30 or less	Over 30 to 100	Over 100
	ø12	55	55	85	6	0	0	30	
	ø16	59	65	95	8	0	6	36	

Code	Bore size (mm)	AA				Q	O			
		30 or less	Over 30 to 100	Over 100 to 200	Over 200		30 or less	Over 30 to 100	Over 100 to 200	Over 200
	ø20	66	78	100	122	10	0	12	34	56
	ø25	66.5	84	103	122	13	0	17.5	36.5	55.5

## Dimensions (ø32, ø40, ø50, ø63)



● STG-B-32, 40, 50, 63



Code	Standard stroke length (mm)											
Bore size (mm)	A	B	C	D	DD	EE	F	G	H	HH	I	JJ
ø32	71.5	49.5	24.5	30.5	9	Rc1/8	48	112	44	M8 depth 20	110	M8 depth 16
ø40	78	56	26	31	10	Rc1/8	54	120	44	M8 depth 20	118	M8 depth 16
ø50	83	55	25	35	11	Rc1/4	64	148	60	M10 depth 22	146	M10 depth 20
ø63	88	60	27.5	35	15	Rc1/4	78	162	70	M10 depth 22	158	M10 depth 20

Code	P												
Bore size (mm)	K	KA	KC	MM	N	NN	25 or less	Over 25 to 100	Over 100 to 200	Over 200 to 300	Over 300	L	M
ø32	78	6.3 through	11 spot face depth 7.5	16	30	M8 through	24	48	124	200	300	14.5	21
ø40	86	6.3 through	11 spot face depth 7.5	16	30	M8 through	24	48	124	200	300	15	25
ø50	110	8.6 through	14 spot face depth 9	20	40	M10 through	24	48	124	200	300	14	33
ø63	124	8.6 through	14 spot face depth 9	20	50	M10 through	28	52	128	200	300	14.5	40

Code	PA													
Bore size (mm)	25 or less	Over 25 to 100	Over 100 to 200	Over 200 to 300	Over 300	PP	R	S	U	V	W	WW	X	Y
ø32	45	57	95	133	183	33	15	34	96	34	42	98	22 $\frac{0}{2}$	11.5
ø40	46	58	96	134	184	34	18	38	104	40	50	106	22 $\frac{0}{2}$	11.5
ø50	47	59	97	135	185	35	21.5	47	130	46	66	130	28 $\frac{0}{2}$	15.5
ø63	49	61	99	135	185	35	28	55	130	58	80	142	28 $\frac{0}{2}$	15.5

Code	T0/T5/T2/T3								T2W/T3W			
Bore size (mm)	RD	HD	RD	HD	XA	XB	XC	XL	XA	XB	XC	XL
ø32	22	8.5	24	10.5	4	4.5	3	6				
ø40	25	12	27	14	4	4.5	3	6				
ø50	24.5	11.5	26.5	13.5	5	6	4	8				
ø63	25	16	27	18	5	6	4	8				

Code	AA					O			
Bore size (mm)	50 or less	Over 50 to 100	Over 100 to 200	Over 200	Q	50 or less	Over 50 to 100	Over 100 to 200	Over 200
ø32	79	98	118	140	16	7.5	26.5	46.5	68.5
ø40	79	98	118	140	16	1	20	40	62
ø50	91	114	134	161	20	8	31	51	78
ø63	91	114	134	161	20	3	26	46	73

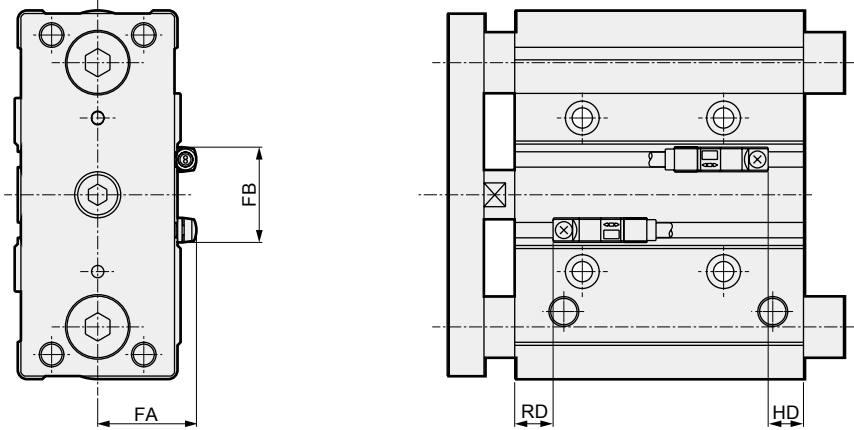
\*1 : When using a custom stroke length, the total dimensions are the same as the longer standard stroke length.  
\*2 : Refer to page 410 for RD, HD and protruding dimensions of the 2-color display (except for T2WH/V and T3WH/V), off-delay, AC magnetic field proof, T1H/V and T8H/V switches.

- LCM
- LCR
- LCG
- LCW
- LCX
- STM
- STG**
- STS/STL
- STR2
- UCA2
- ULK\*
- JSK/M2
- JSG
- JSC3/JSC4
- USSD
- UFCD
- USC
- UB
- JSB3
- LMB
- LML
- HCM
- HCA
- LBC
- CAC4
- UCAC2
- CAC-N
- UCAC-N
- RCS2
- RCC2
- PCC
- SHC
- MCP
- GLC
- MFC
- BBS
- RRC
- GRC
- RV3\*
- NHS
- HRL
- LN
- Hand
- Chuk
- MechHnd/Chuk
- ShkAbs
- FJ
- FK
- SpdContr
- Ending



STG Series common dimensions (Switches of the 2-color display, off-delay, AC magnetic field proof, T8H/V and T1H/V)

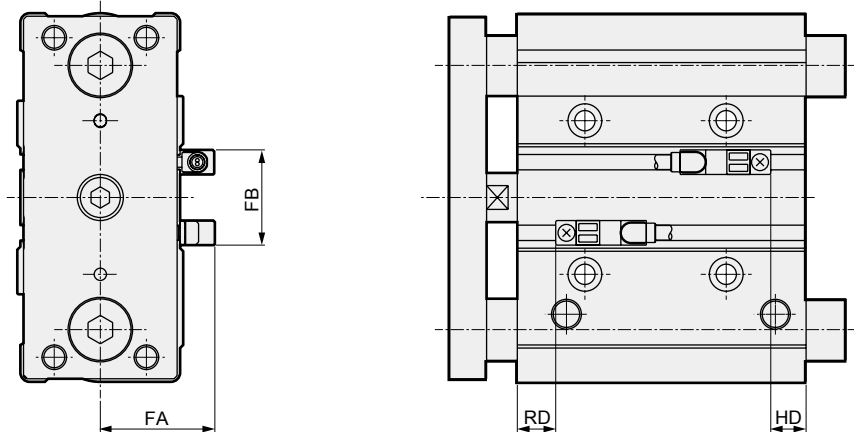
● STG-\*\*-\*\*-T<sub>3</sub> YH/V, T2JH/V, T8H/V



Code	FA	FB	STG				STG-P7				STG-C				STG-Q-R (rod side)		STG-Q-H (head side)	
			T*YH/V T2JH/V		T8H/V		T*YH/V T2JH/V		T8H/V		T*YH/V T2JH/V		T8H/V		T*YH/V T2JH/V		T*YH/V T2JH/V	
			RD	HD	RD	HD	RD	HD	RD	HD	RD	HD	RD	HD	RD	HD	RD	HD
ø12	19	16	4	4	—*1	—*1	17	4	—*1	—*1	—	—	—	—	—	—	—	—
ø16	21	16	3	9	—*1	—*1	16	9	—*1	—*1	19.5	17	—*1	—*1	—	—	—	—
ø20	24	16	8.5	7.5	3.5	2.5	21.5	7.5	16.5	2.5	22.5	18.5	17.5	13.5	34	7.5	5.5	39
ø25	27	17	9	7.5	4	2.5	22	7.5	17	2.5	24.5	16.5	19.5	11.5	34.5	7.5	9	34
ø32	30	24	9	7.5	4	2.5	21	7.5	16	2.5	22.5	19	17.5	14	34.5	8	9	34.5
ø40	33	31	12	11	7	6	24	11	19	6	26.5	21.5	21.5	16.5	39.5	11	12	36.5
ø50	38	32	12.5	10.5	7.5	5.5	23.5	10.5	18.5	5.5	29	19.5	24	14.5	39	10.5	12.5	37
ø63	45	32	13	15	8	10	24	15	19	10	30	23	25	18	39	15	13	39
ø80	51	56	17	18.5	12	13.5	—	—	—	—	—	—	—	—	—	—	—	—
ø100	60	62	21	24.5	16	19.5	—	—	—	—	—	—	—	—	—	—	—	—

\*1: T8H/V switch cannot be installed on STG-12, 16, STG-12, 16-P7, or STG-Q-20 to 63-(R/H).

● STG-\*\*-\*\*-T2YD\*, T1H/V



Code	FA	FB	STG		STG-P7		STG-C		STG-Q-R (rod side)		STG-Q-H (head side)	
			RD	HD	RD	HD	RD	HD	RD	HD	RD	HD
ø12	24	16	4	4	17	4	—	—	—	—	—	—
ø16	26	16	3	9	16	9	19.5	17	—	—	—	—
ø20	29	16	8.5	7.5	21.5	7.5	22.5	18.5	34	7.5	5.5	39
ø25	32	17	9	7.5	22	7.5	24.5	16.5	34.5	7.5	9	34
ø32	35	24	9	7.5	21	7.5	22.5	19	34.5	8	9	34.5
ø40	38	31	12	11	24	11	26.5	21.5	39.5	11	12	36.5
ø50	43	32	12.5	10.5	23.5	10.5	29	19.5	39	10.5	12.5	37
ø63	50	32	13	15	24	15	30	23	39	15	13	39
ø80	56	56	17	18.5	—	—	—	—	—	—	—	—
ø100	65	62	21	24.5	—	—	—	—	—	—	—	—

- LCM
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- LCW
- LCX
- STM
- STG**
- STS/STL
- STR2
- UCA2
- ULK\*
- JSK/M2
- JSG
- JSC3/JSC4
- USSD
- UFCD
- USC
- UB
- JSB3
- LMB
- LML
- HCM
- HCA
- LBC
- CAC4
- UCAC2
- CAC-N
- UCAC-N
- RCS2
- RCC2
- PCC
- SHC
- MCP
- GLC
- MFC
- BBS
- RRC
- GRC
- RV3\*
- NHS
- HRL
- LN
- Hand
- Chuk
- MecHnd/Chuk
- ShkAbs
- FJ
- FK
- SpdContr
- Ending