

# New eco-friendly

Remove toxic substances and protect the environment by preventing contamination.

Improved load resistance  
guided cylinder STG Series ( $\phi 12$  to  $\phi 100$ )

# RoHS

## Eco-friendly

All substances, such as lead and hexavalent chromium, which can adversely affect the global environment, have been eliminated from the cylinder and cylinder switch.

This product is compatible with RoHS Directives.  
(Solder and lead wire was made lead free.)

## High load resistance

The guide rod bearing section has been improved, and the metal bush bearing material and bearing structure have been changed.

This new type can handle lateral loads and eccentric loads, and has a higher load resistant performance compared to conventional parts. A stable operation has been realized.

## Perform maintenance with standard tools

The piston rod is mounted with a hexagon wrench. Special tools are no longer needed for maintenance.

## Light weight Resource saving

The cylinder's aluminum body shape has been revised and optimized to create a lighter and resource-saving cylinder compared to conventional products.

# Precise/high rigidity

# STG<sup>M</sup><sub>B</sub> Series

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

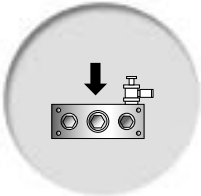
# guided cylinder.



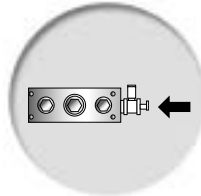
2 directions for piping and 3 types for installation.

● Piping direction

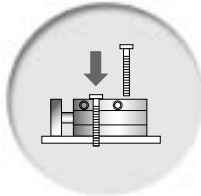
● Installation attitude



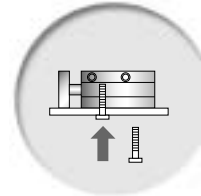
① Front piping



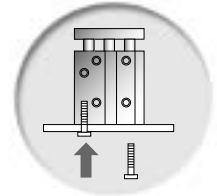
② Side piping



① Front installation



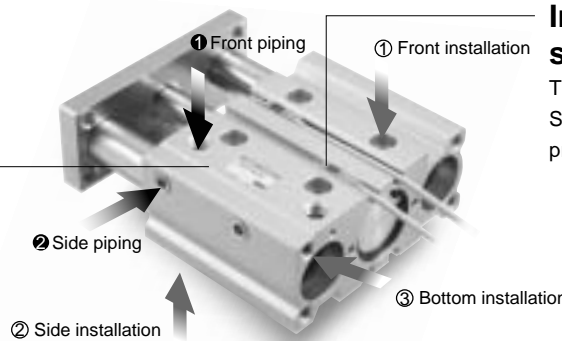
② Side installation



③ Bottom installation

## White color

Products match a variety of equipment with a uniform white exterior.



## Installation of various switches is possible

T type compact switch is incorporated. Space is reduced by eliminating any projections when the switch is mounted.

## Compatible with a variety of applications and environments

Many new models have been added to the line up to answer to diverse applications and environments. A complete series with stable operation has been realized.

## STG series products

Series variation	Bearing method		Bore size (φ)								Clean room spec.	Max. stroke length	Switch	Copper and PTFE free		
	Slide M	Ball B	12	16	20	25	32	40	50	63	80	100	P7 <sup>Note 1</sup>	MAX	SW	P6 <sup>Note 2</sup>
Single rod type	●	●	●	●	●	●	●	●	●	●	●	●	●	400	○	○
Rubber-air cushion type	●	●	●	●	●	●	●	●	●	●	●	●	●	400	○	●
Air cushion type	●	●	●	●	●	●	●	●	●	●	●	●	●	400	○	●
Position locking type	●	●	●	●	●	●	●	●	●	●	●	●	●	400	○	○
Rubber scraper type	●	●	●	●	●	●	●	●	●	●	●	●	●	400	○	○
Coil scraper type	●	●	●	●	●	●	●	●	●	●	●	●	●	400	○	○
Coolant proof type	●	●	●	●	●	●	●	●	●	●	●	●	●	400	○	○
Spatter adherence prevention type	●	●	●	●	●	●	●	●	●	●	●	●	●	400	○	○

Note 1: Only the "B type" φ12 to φ63 rolling bearings are available for the clean room specifications.

Note 2: The copper and PTFE free specifications are used as a standard for the "B type" φ12 to φ32 ball bearings.

Note 3: φ80 to φ100 are available as custom order parts.

- SCP\*2
- CMK2
- CMV2
- SCM
- SCG
- SCA2
- SCS
- CKV2
- CA/OV2
- SSD
- CAT
- MDC2
- MVC
- SMD2
- MSD\*
- FC\*
- STK
- ULK\*
- JSK/M2
- JSG
- JSC3
- USSD
- USC
- JSB3
- LMB
- STG**
- STS/L
- LCS
- LCG
- LCM
- LCT
- LCY
- STR2
- UCA2
- HCM
- HCA
- SRL2
- SRG
- SRM
- SRT
- MRL2
- MRG2
- SM-25
- CAC3
- UCAC
- RCC2
- MFC
- SHC
- GLC

Guided cylinder  
Combined functions

●: Standard, ◎: Option, ○: Custom order, ■: Not available

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

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

Variation	Model no. JIS symbol	Bore size (mm)	Standard stroke length (mm)																	Min. Stroke length (mm) Note 2	Max. Stroke length (mm)	Custom stroke length (per mm) Note 3	Bearing method			Switch	Page
			Standard stroke length (mm)										Standard stroke length (mm)										Slide bearing	Ball bearing	Copper and PTFE free specifications P6 Note 1		
			10	20	25	30	40	50	75	100	125	150	175	200	250	300	350	400	M								
Double acting single rod type	STG-M <sub>B</sub>	φ12, φ16	●	●	■	●	●	●	●	●	■	■	■	■	■	■	■	■	■	■	5	250	5	■	■	■	1450
		φ20, φ25	■	●	■	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	5	400		■	■	■	
		φ32, φ40, φ50, φ63	■	■	●	■	■	●	●	●	●	●	●	●	●	●	●	●	●	●	5	400		■	■	■	
		φ80, φ100	■	■	●	■	■	●	●	●	●	●	●	●	●	●	●	●	●	●	5	400		■	■	■	
Double acting rubber air cushioned	STG-M <sub>B</sub> *C	φ32, φ40, φ50	■	■	●	■	■	●	●	●	■	■	■	■	■	■	■	■	■	5 (10)	400	5	■	■	■	1464	
		φ63	■	■	●	■	■	●	●	●	■	■	■	■	■	■	■	■	■	10	400		■	■	■		
Double acting air cushioned	STG-M <sub>B</sub> C	φ16	■	■	●	■	■	●	●	●	■	■	■	■	■	■	■	■	■	5 (10)	250	1 (Custom order)	■	■	■	1472	
		φ20, φ25	■	■	●	■	■	●	●	●	■	■	■	■	■	■	■	■	■	15	400		■	■	■		
		φ32, φ40, φ50, φ63	■	■	●	■	■	●	●	●	■	■	■	■	■	■	■	■	■	Note 4	400		■	■	■		
Double acting position locking type	STG-M <sub>B</sub> Q	φ20, φ25	■	■	●	■	■	●	●	●	■	■	■	■	■	■	■	■	■	5 (15)	400	5	■	■	■	1482	
		φ32, φ40, φ50, φ63	■	■	●	■	■	●	●	●	■	■	■	■	■	■	■	■	■	Note 5	400		■	■	■		
Double acting rubber scraper type coil scraper type	STG-M <sub>B</sub> G STG-M <sub>B</sub> G1	φ20, φ25	■	●	■	●	●	●	●	●	■	■	■	■	■	■	■	■	■	5	400	5	■	■	■	1490	
		φ32, φ40, φ50, φ63	■	■	●	■	■	●	●	●	■	■	■	■	■	■	■	■	■	(10)	400		■	■	■		
Double acting coolant proof type	STG-MG2 STG-MG3	φ20, φ25	■	●	■	●	●	●	●	●	■	■	■	■	■	■	■	■	■	5	400	5	■	■	■	1496	
		φ32, φ40, φ50, φ63	■	■	●	■	■	●	●	●	■	■	■	■	■	■	■	■	■	(10)	400		■	■	■		
Double acting spatter adherence prevention type	STG-M <sub>B</sub> G4	φ40, φ50, φ63	■	■	●	■	■	●	●	●	■	■	■	■	■	■	■	■	■	5	400	5	■	■	■	1502	
Double acting single rod clean room specifications	STG-P7	φ12, φ16	●	●	■	●	●	●	●	●	■	■	■	■	■	■	■	■	■	5	250	5	■	■	■	1508	
		φ20, φ25	■	●	■	●	●	●	●	●	●	●	●	●	●	●	●	●	●	(10)	400		■	■	■		
		φ32, φ40, φ50, φ63	■	■	●	■	■	●	●	●	■	■	■	■	■	■	■	■	■	■	400		■	■	■		

Note 1: The copper and PTFE free specifications are used as a standard for the "B type" φ12 to φ32 ball bearings.  
 Note 2: The values in parentheses for the minimum stroke indicate the values for the 2 color indication, strong magnetic field proof or preventive maintenance output type switch.  
 Note 3: The custom stroke is handled by mounting a spacer on the standard stroke cylinder. Consult with CKD for dedicated bodies.  
 Note 4: The cushion effect will not be attained with a minimum stroke or less if the air cushion is provided. Select the basic type in this case.  
 Note 5: For the radial lead wire type. Axial lead wire type is 20 (30).

# STG-M (metal bush bearing) Series

Variation and option selection table (metal bush bearing)

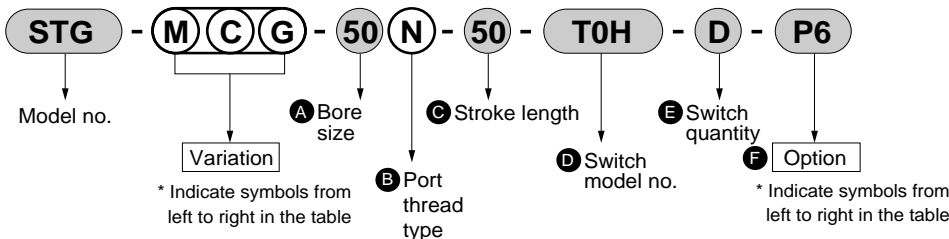
●: Standard      △: Available depending on conditions (consult with CKD)  
 ◎: Option      X: Not available  
 ○: Available (custom order)

Code	Code	Symbol	Variation												Port thread		Cushion	Option		
			M	Q	C	T	T2	O	G	G1	G2	G3	G4	N	G	C	M	P6	P72	P73
	Double acting basic type	M	●	●	○	○	○	○	●	●	●	●	●	○	○	●	△	◎	X	X
	Position locking type	Q			◎	X	X	X	△	△	△	△	△	○	○	Note 2	△	○	X	X
	Air cushioned	C			◎	Note 1	Note 1	○	○	○	○	○	○	○	○	X	△	○	X	X
	Heat resistance type (120°)	T						X	X	○	X	X	X	○	○	X	X	X	X	X
	Packing seal material fluoro rubber	T2						X	X	○	X	Note 3	X	○	○	X	△	○	X	X
	Low speed type	O						X	X	X	X	X	X	○	○	○	△	X	X	X
	Rubber scraper type	G							X	X	X	X	○	○	○	△	○	X	X	
	Coil scraper type	G1								X	X	Note 4	○	○	○	△	X	X	X	
	Coolant proof scraper type (NBR)	G2								X	X	○	○	○	○	△	X	X	X	
	Coolant proof scraper type (FKM)	G3								X	X	○	○	○	○	△	X	X	X	
	Spatter adherence prevention type	G4											○	○	○	△	X	X	X	
	NPT φ20 and over	N											X	○	△	○	X	X		
	G φ20 and over	G												○	△	○	X	X		
	Rubber-air cushioned	C														△	○	X	X	
	Corrosion proof Note 5	M															X	X	X	
	Copper and PTFE free type	P6																X	X	
	Clean room specifications (exhaust treatment) Note 6	P72																	X	
	Clean room specifications (vacuum treatment) Note 6	P73																		X

**Cautions**

- Note 1: φ40 and more is available.
- Note 2: Available only for the opposite side of the position locking mechanism. (Example) When the position locking mechanism is provided on the head side, the cushion can be attached only to the rod side.
- Note 3: With the G3 and T2 combination, all packing will be fluorine rubber since G3 is selected. (The T2 symbol is not required)
- Note 4: The G4 type has a built-in coil scraper.
- Note 5: With the M: corrosion resistant type, the steel parts have been changed to stainless steel, but the bolt (Part No. 7) used to couple the end plate and guide rod is steel due to the manufacturing reasons.
- Note 6: Wear powder is generated from the guide section of the ball bearing type, so use in clean specifications is not possible.

**<Example of model number>**



- Model no. : Guided cylinder
- Variation : Metal bush bearing, air cushioned rubber scraper type
- A Bore size : φ50mm
- B Port thread type : NPT thread
- C Stroke length : 50mm
- D Switch model no. : Reed T0H switch, lead wire 1m
- E Switch quantity : Two
- F Option : Copper and PTFE free type

# STG-B (ball bearing) Series

Variation and option selection table

## Variation and option selection table (ball bearing)

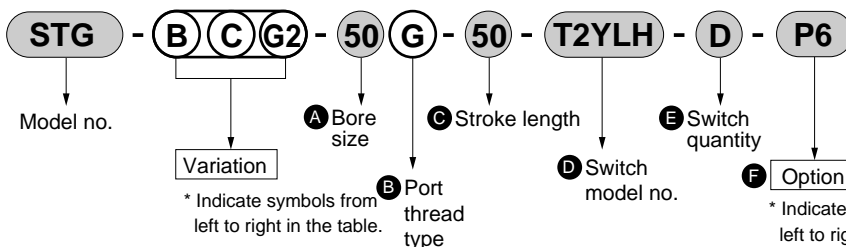
- : Standard
- ⊙ : Option
- : Available (custom order)
- △ : Available depending on conditions (consult with CKD)
- X : Not available

Code	Code	Variation													Port thread	Cushion	Option			
		Symbol	B	Q	C	T	T2	O	G	G1	G2	G3	G4	N	G	C	M	P6	P72	P73
			Double acting basic type	Position locking type	Air cushioned	Heat resistance type (120°C) Note 1	Packing seal material fluoro rubber Note 1	Low speed type	Rubber scraper type	Coil scraper type	coolant proof scraper type (NBR)	Coolant proof scraper type (FKM)	Spatter adherence prevention type	NPT (φ20 and over)	G (φ20 and over)	Rubber-air cushioned	Corrosion proof Note 3	Copper and PTFE free type	Clean room specifications (exhaust treatment)	Clean room specifications (vacuum treatment)
Variation	Double acting basic type	B	●	●	X	X	○	●	●	○	X	●	○	○	●	X	⊙	●	●	
	Position locking type	Q			Note 2	X	X	X	△	△	△	X	△	○	Note 2	X	○	X	X	
	Air cushioned	C				X	X	○	○	○	X	○	○	○	X	X	○	X	X	
	Heat resistance type (120°C) Note 1	T					X	X	X	X	X	X	X	X	X	X	X	X	X	
	Packing seal material fluoro rubber Note 1	T2						X	X	X	X	X	X	X	X	X	X	X	X	
	Low speed type	O							X	X	X	X	X	○	○	○	X	X	○	
	Rubber scraper type	G								X	X	X	X	○	○	○	X	○	X	
	Coil scraper type	G1									X	X	Note 4	○	○	○	X	X	X	
	Coolant proof scraper type (NBR)	G2										X	X	○	○	○	X	○	X	
	Coolant proof scraper type (FKM)	G3										X	○	○	X	X	○	X	X	
	Spatter adherence prevention type	G4											○	○	○	X	X	X	X	
Port thread	NPT (φ20 and over)	N												X	○	X	○	○		
	G (φ20 and over)	G												○	X	○	○	○		
Cushion	Rubber-air cushioned	C													X	○	X	X		
Option	Corrosion proof Note 3	M														X	X	X		
	Copper and PTFE free type	P6															X	X		
	Clean room specifications (exhaust treatment)	P72																X		
	Clean room specifications (vacuum treatment)	P73																	X	

### Cautions

- Note 1: The bearings cannot be manufactured for the heat resistant ball bearings and fluorine rubber packing material.
- Note 2: Available only for the opposite side of the position locking mechanism. (Example) When the position locking mechanism is provided on the head side, the cushion can be attached only to the rod side.
- Note 3: The bearings cannot be manufactured for the corrosion resistant ball bearings.
- Note 4: The G4 type has a built-in coil scraper.

### <Example of model number>



### Model no.

- Variation : Ball bearing, air cushioned coolant proof scraper type (NBR)
- A Bore size : φ50mm
- B Port thread type : G thread
- C Stroke length : 50mm
- D Switch model no. : Proximity T2YLH switch, lead wire 1m
- E Switch quantity : Two
- F Option : Copper and PTFE free type

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

Ending  
Guided cylinder  
Combined functions



# Safety precautions

Always read this section before starting use.

Refer to Intro 71 for general precautions of the cylinder, and to Intro 78 for general precautions of the cylinder switch.

## Guided cylinder STG Series

### Design & Selection

#### 1. Common

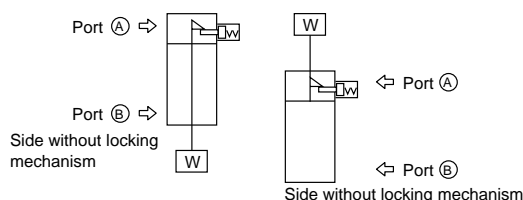
##### CAUTION

- When using the slide bearing type with a long stroke and low speed, stick slipping may occur depending on load conditions. Use the ball bearing type in this case.

#### 2. Position locking type STG-<sup>M</sup><sub>B</sub> Q

##### WARNING

- If pressure is applied from port A in the locked state and with neither port pressurized, it may not be possible to release locks, or the lock may be released suddenly and cause the piston rod to pop out. This is extremely hazardous. When releasing the locking mechanism, supply pressure to port B, and check that there is no load applied to the locking mechanism.



- If lowering speed is to be increased with the quick exhaust valve, the cylinder may move out faster than the lock pin and prevent the locking pin from being released correctly. Do not use a quick exhaust valve with the cylinder with position locking.

- Do not use a 3-position valve.

Do not use this cylinder in combination with a 3-position (especially closed center metal seal type) valve. This kind of use closes the pressure at the locking mechanism side, and is unable to lock the position. Even once locked, air leakage from a solenoid valve will enter to a cylinder and this may release locking.

##### CAUTION

- Cylinder load factor must be 50% or less. If the load factor is high, the lock may not be released or the lock section could be damaged.

- If negative pressure is applied to the locking mechanism, the lock may be released. Use the solenoid valve as a discrete unit, or use an independently exhausted manifold.

- Do not use multiple cylinders synchronized.

Do not move one workpiece using more than two cylinders with position locking mechanism simultaneously. One of the cylinder's locks may not be released.

#### 3. Coolant proof type STG-MG<sup>2</sup><sub>3</sub>

##### CAUTION

- Do not apply the deviated load onto the piston rod. It could shorten scraper and bearing life.

- If coolant or water do not get on the piston rod, select the G or G1 Series.

When using the G2 or G3 series and the coolant or water does not splatter, the piston rod's lubrication could be spent and cause the life to shorten.

#### 4. Spatter adherence prevention type STG-<sup>M</sup><sub>B</sub> G4

##### CAUTION

- This cylinder series has improved durability over the general-purpose cylinder in atmospheres where spatter could occur. But durability may be shorter than the general cylinder when used in other environments.

#### 5. Clean room specifications

##### CAUTION

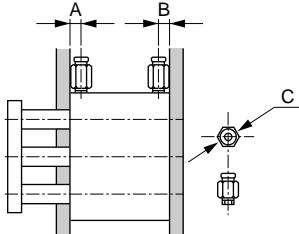
- Precautions for relief port using Atmospheric release (P72) can not be used for vacuum treatment. This also applies for the reverse application. Do not use for this application as it could result in particle scattering or faults.

## Installation & Adjustment

### 1. Common

#### CAUTION

- Install a flow control valve when piping. The applicable joints are shown as below.



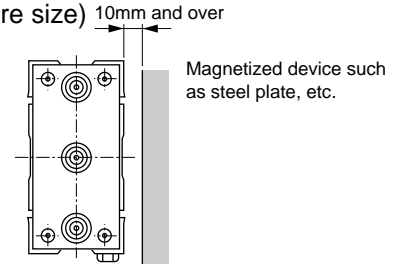
Descriptions Bore size (mm)	Port size	Port dimension		Applicable joints	Joint O.D. φ C
		A	B		
φ12	M5 x 0.8	12	7	SC3W-M5-4 SC3W-M5-6 GWS4-M5-S	φ12 or less
φ16		12	7.5	GWS4-M5 GWL4-M5 GWL6-M5 GWS6-M5	
φ20	Rc1/8	10.5	8.5	SC3W-6-4/6/8	φ15 or less
φ25		11.5	9	GWS4-6 GWS6-6	
φ32		12.5	9	GWS8-6 GWL4-6	
φ40		14	10	GWL6-6	
φ50	Rc1/4	14	11	SC3W-8-6/8/10 GWS4-8 GWS6-8	φ21 or less
φ63		16.5	15	GWS10-8 GWS12-8 GWL4 to 12-8	
φ80	Rc3/8	19	15	SC3W-10-8/10/12 GWS6-10 GWS8-10 GWS10-10 GWL6 to 12-10	φ28 or less
φ100	Rc3/8	17	19	SC3W-10-8/10/12 GWS6-10 GWS8-10 GWS10-10 GWL6 to 12-10	φ28 or less

- Do not make any dents or scratches on the main body (tube) installation surface or end plate surface that may affect the flatness. The flatness of the counterpart onto which the end plate is fitted must be 0.03 mm or less.
- When passing the bolt through the main body and installing, tighten with the following tightening torque.

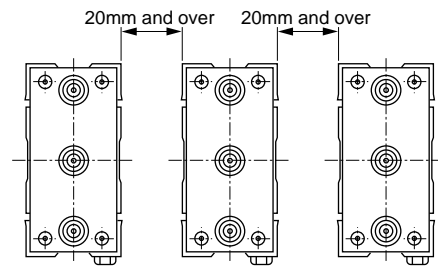
φ12	1.5 to 2.7N·m
φ16	
φ20, φ25	3 to 5.4N·m
φ32, φ40	5.2 to 9.2N·m
φ50, φ63	12.5 to 22N·m
φ80	24.5 to 44N·m
φ100	42 to 76N·m

- Allowable energy absorption  
Use within specified range of the allowable energy absorption. If this is exceeded, install an external damper. Refer to the Specifications or Selection guide for allowable energy absorption values.

- The cylinder may malfunction if a magnetic substance, such as a steel plate, is nearby. Move the magnetic substance to at least 10 mm from the cylinder.  
(Same for all bore size)



- The cylinder switch may malfunction if cylinders are installed adjacently. Separate cylinders by the following distances. (Same for all bore size)



### 2. Position locking type

#### CAUTION

- The lock functions at the stroke end. If the stopper is applied with an external stopper in the middle of the stroke, the lock may not function and result in dropping. Before setting the load, check that the locking mechanism functions correctly.
- Supply a pressure higher than the minimum working pressure to the port having the locking mechanism.
- If piping on the side with the lock is thin and long, or if the speed controller is separated from the cylinder port, exhaust may slow, taking time for the lock to function. This may also occur if the silencer on the valve's EXH port is clogged.
- Cylinder load factor must be 50% or less. If the load factor is high, the lock may not be released or the lock section could be damaged.

### 3. Clean room specifications

#### CAUTION

- Open the product in a clean room.
  - The product is packaged in a clean room. The package should be opened just before piping in the clean room.

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

Guided cylinder  
Combined functions

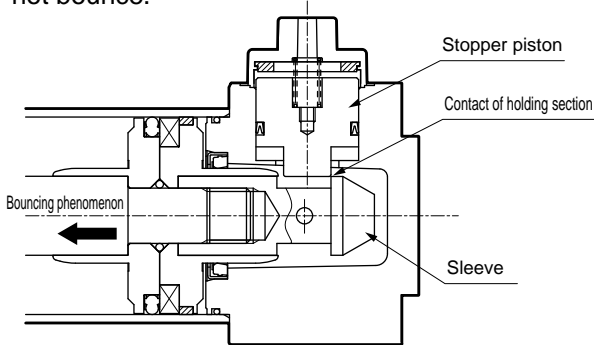
SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
<b>STG</b>
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

## During Use & Maintenance

### 1. Position locking type STG-<sup>M</sup><sub>B</sub> Q

#### ⚠ WARNING

- For safety purposes, prevent the load from dropping under its own weight during maintenance.
- When using the cylinder with air cushion, if the air cushion needle on the lock mechanism side is tightened too tight, the piston could bounce at the stroke end causing the sleeve and stopper piston to collide and damage the locking mechanism. If the air cushion needle is opened too far, the piston could spring back at the stroke end and cause similar damage. Adjust the air cushion needle so that the piston does not bounce.



- When stopping with an external shock absorber, etc., adjust in the same manner so that there is no bouncing. Periodically (once/twice a year) check to make sure that the holding section is not damaged by this type of symptom.

#### ⚠ CAUTION

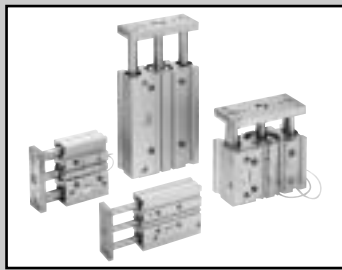
- If the locking mechanism has been manually operated, check and then return it manually to the original position. Do not use a manual override except during adjustment, because this may be dangerous.
- Release the lock when installing or adjusting the cylinder. The lock could be damaged if the cylinder is installed while the lock is applied.
- Use the flow control valve with meter-out control. Locks may not be released during meter-in control.
- Use the side with the lock with the cylinder stroke end. If the cylinder's piston does not reach the stroke end, the lock may not be applied or may not be released.

### 2. Clean room specifications

#### ⚠ WARNING

- Fluorine grease is used in P7 series. Lighting a cigarette with fluorine-based grease on hands generates toxic gases.





Guided cylinder Double acting single rod type

# 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

Descriptions	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										
Min. working pressure	MPa	0.15					0.1					
Withstanding pressure	MPa	1.6										
Ambient temperature	°C	-10 to 60 (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	Rubber cushioned											
Lubrication	Not required (when lubricating, use turbine oil Class 1 ISOVG 32)											
Allowable energy absorption	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 length with switch (mm)
$\phi 12$	10, 20, 30, 40, 50, 75, 100,	250	5	5 (10) Note 2
$\phi 16$	125, 150, 175, 200, 250,			
$\phi 20$	20, 30, 40, 50, 75, 100, 125,			
$\phi 25$	150, 175, 200, 250, 300, 350, 400			
$\phi 32$				
$\phi 40$	25, 50, 75, 100,	400		
$\phi 50$	125, 150, 175,			
$\phi 63$	200, 250, 300,			
$\phi 80$	350, 400			
$\phi 100$				

Note 1: Custom stroke length is available per 5mm increment. Note that the total length is the same as the next longer standard stroke length.

A dedicated body for which the body dimensions have been added to the stroke length is also available. Contact CKD for details.

Note 2: This applies when 1 or 2 switches are installed. Value in ( ) is the min. stroke length of 2 color indicator type switch, strong magnetic field proof, with preventive maintenance output.

### Switch specifications

\* The T0/T5 switch can be used with 220 VAC.  
Consult with CKD for working conditions.

- 1 color/2 color indicator/strong magnetic field proof

Descriptions	Proximity 2-wire			Proximity 3-wire			Reed 2-wire						Proximity 2-wire	
	T1H/T1V	T2H/T2V T2JH/T2JV	T2YH/T2YV	T3H/T3V	T3PH/T3PV (Custom order)	T3YH/T3YV	T0H/T0V		T5H/T5V		T8H/T8V		T2YD/T2YDT	
Applications	Programmable controller relay, small solenoid valve	Programmable controller		Programmable controller, relay			Programmable controller, relay		Programmable controller and relay, IC circuit (without light), serial connection		Programmable controller, relay		Programmable controller	
Output method	-			NPN output	PNP output	NPN output	-							
Power voltage	-			10 to 28 VDC			-							
Load voltage	85 to 265 VAC	10 to 30 VDC		30 VDC or less			12/24 VDC	110 VAC	5/12/24 VDC	110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100mA	5 to 20mA (Note 1)		100mA or less		50mA or less	5 to 50mA	7 to 20mA	50mA or less	20mA or less	5 to 50mA	7 to 20mA	7 to 10mA	5 to 20mA
Light	LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Green LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)		Without indicator light		LED (ON lighting)		Red/green LED (ON lighting)	
Leakage current	1mA or less with 100 VAC 2mA or less with 200 VAC	1mA or less		10 μA or less			0mA						1mA or less	

- With preventive maintenance output

Descriptions	Proximity 3-wire		Proximity 4 wire		Proximity 3-wire		Proximity 4 wire		
	T2YFH/V		T3YFH/V		T2YMH/V		T3YMH/V		
Applications	Programmable controller		Programmable controller, relay		Programmable controller		Programmable controller, relay		
Output method	NPN output								
Light	Red/green LED (ON lighting)								
	Installation position adjustment		-						Yellow LED (ON lighting)
Regular output	Power voltage	-		10 to 28 VDC		-		10 to 28 VDC	
	Load voltage	10 to 30 VDC		30 VDC or less		10 to 30 VDC		30 VDC or less	
	Load current	5 to 20mA		50mA or less		5 to 20mA		50mA or less	
	Leakage current	1mA or less		10 μA or less		1.2mA or less		10 μA or less	
Preventive maintenance output	Load voltage	30 VDC or less							
	Load current	20mA or less		50mA or less		5 to 20mA or less		50mA or less	
	Leakage current	10 μA or less							

Note 1: Refer to Ending 1 for other switch specifications.

Note 2: Maximum load current above: 20mA applies at 25°C. The current will be lower than 20mA if ambient temperature around switch is higher than 20mA. (5 to 10mA when 60°C)

### Cylinder weight

- STG-M

Unit: kg

Descriptions	Stroke length																Switch weight grommet
	10	20	25	30	40	50	75	100	125	150	175	200	250	300	350	400	
φ12	0.23	0.27		0.30	0.34	0.38	0.49	0.57	0.68	0.77	0.86	0.95	1.13				0.018
φ16	0.32	0.37		0.42	0.47	0.51	0.66	0.78	0.94	1.06	1.18	1.31	1.55				0.018
φ20		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	0.018
φ25		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	0.018
φ32			1.64			2.01	2.54	2.94	3.34	3.73	4.12	4.51	5.49	6.27	7.07	7.85	0.018
φ40			1.89			2.30	2.75	3.15	3.57	3.98	4.39	4.80	5.81	6.64	7.47	8.29	0.018
φ50			3.26			3.88	4.59	5.21	5.83	6.45	7.07	7.69	9.25	10.48	11.74	13.00	0.018
φ63			4.05			4.79	5.61	6.34	7.07	7.81	8.54	9.27	11.06	12.51	13.97	15.42	0.018
φ80			7.02			8.12	9.51	10.60	11.70	12.80	13.90	15.00	17.80	19.92	22.10	24.30	0.018
φ100			10.24			11.58	13.29	14.63	15.96	17.30	18.64	19.98	23.27	25.94	28.62	31.29	0.018

- STG-B

Unit: kg

Descriptions	Stroke length																Switch weight grommet
	10	20	25	30	40	50	75	100	125	150	175	200	250	300	350	400	
φ12	0.23	0.26		0.29	0.34	0.38	0.46	0.54	0.64	0.72	0.81	0.88	1.05				0.018
φ16	0.33	0.38		0.42	0.49	0.54	0.65	0.77	0.90	1.01	1.13	1.24	1.46				0.018
φ20		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	0.018
φ25		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	0.018
φ32			1.49			1.79	2.23	2.54	2.90	3.21	3.51	3.82	4.49	5.10	5.71	6.32	0.018
φ40			1.74			2.09	2.56	2.91	3.32	3.67	4.02	4.37	5.12	5.82	6.52	7.22	0.018
φ50			3.02			3.55	4.28	4.81	5.43	5.97	6.50	7.03	8.23	9.28	10.38	11.45	0.018
φ63			3.81			4.45	5.30	5.94	6.67	7.31	7.96	8.60	9.99	11.35	12.61	13.87	0.018
φ80			7.25			8.03	9.27	10.30	11.30	12.10	13.31	14.32	16.60	18.60	20.62	22.64	0.018
φ100			10.15			11.69	13.57	14.81	16.05	17.29	18.52	19.76	22.85	25.32	27.80	30.27	0.018

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

Ending

Guided cylinder  
Combined functions

## How to order

Without switch

**STG** - **M** - **32** - **25** - **P6**

With switch

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

Model no.

**A** Bearing method

**B** Bore size

**C** Port thread type

**D** Stroke length

**E** Switch model no.  
Note 1, Note 3, Note 4

**F** Switch quantity

**G** Option  
Note 2

### ⚠ Note on model no. selection

Note 1: Switches other than **E** switch model no. are available. (Custom order)  
Refer to Ending 1 for the details.

Note 2: Copper and PTFE free of **G** STG-B-80 is custom order.

Note 3: STG-12,16 can not install T8H/V.

Note 4: T1H/V, T8H/V installation is custom order.

<Example of model number>

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

Model: Guided cylinder double acting single rod type

- A** Bearing method : Ball bearing
- B** Bore size :  $\phi$  40mm
- C** Port thread type : Rc thread
- D** Stroke length : 75mm
- E** Switch model no. : Reed T0H switch, lead wire length 1m
- F** Switch quantity : Two

Symbol	Descriptions			
<b>A Bearing method</b>				
<b>M</b>	Metal bush bearing			
<b>B</b>	Ball bearing			
<b>B Bore size (mm)</b>				
<b>12</b>	$\phi$ 12			
<b>16</b>	$\phi$ 16			
<b>20</b>	$\phi$ 20			
<b>25</b>	$\phi$ 25			
<b>32</b>	$\phi$ 32			
<b>40</b>	$\phi$ 40			
<b>50</b>	$\phi$ 50			
<b>63</b>	$\phi$ 63			
<b>80</b>	$\phi$ 80			
<b>100</b>	$\phi$ 100			
<b>C Port thread type</b>				
<b>Blank</b>	M5 ( $\phi$ 12 to $\phi$ 16) Rc thread ( $\phi$ 20 to $\phi$ 100)			
<b>NN</b>	NPT thread ( $\phi$ 20 and over) custom order			
<b>GN</b>	G thread ( $\phi$ 20 and over) custom order			
<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	Indicator	Lead wire
<b>T0H*</b>	<b>T0V*</b>	Reed	1 color indicator type	2-wire
<b>T5H*</b>	<b>T5V*</b>		Without indicator light	
<b>T8H*</b>	<b>T8V*</b>		1 color indicator type	
<b>T1H*</b>	<b>T1V*</b>	Proximity	1 color indicator type	2-wire
<b>T2H*</b>	<b>T2V*</b>			3-wire
<b>T3H*</b>	<b>T3V*</b>		1 color indicator type (custom order)	3-wire
<b>T3PH*</b>	<b>T3PV*</b>		2 color indicator type	2-wire
<b>T2YH*</b>	<b>T2YV*</b>			3-wire
<b>T3YH*</b>	<b>T3YV*</b>		2 color indicator type (w/o indicator light for preventive maintenance output)	3-wire
<b>T2YFH*</b>	<b>T2YFV*</b>			4-wire
<b>T3YFH*</b>	<b>T3YFV*</b>			3-wire
<b>T2YMH*</b>	<b>T2YMV*</b>		2 color indicator type (w/ indicator light for preventive maintenance output (1 color))	3-wire
<b>T3YMH*</b>	<b>T3YMV*</b>			4-wire
<b>T2JH*</b>	<b>T2JV*</b>	Off-delay type	2-wire	
<b>T2YD*</b>	-	Strong magnetic field proof switch		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>	One on rod end			
<b>H</b>	One on head end			
<b>D</b>	Two			
<b>T</b>	Three			
<b>G Option</b>				
<b>P6</b>	Copper and PTFE free (STG-B-12 to 32 is copper and PTFE free as standard.)			

## D Stroke length

Stroke length (mm)	Applicable bore size									
	φ12	φ16	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100
Standard stroke length	10	●	●							
	20	●	●	●	●					
	25					●	●	●	●	●
	30	●	●	●	●					
	40	●	●	●	●					
	50	●	●	●	●	●	●	●	●	●
	75	●	●	●	●	●	●	●	●	●
	100	●	●	●	●	●	●	●	●	●
	125	●	●	●	●	●	●	●	●	●
	150	●	●	●	●	●	●	●	●	●
	175	●	●	●	●	●	●	●	●	●
	200	●	●	●	●	●	●	●	●	●
	250	●	●	●	●	●	●	●	●	●
	300			●	●	●	●	●	●	●
	350			●	●	●	●	●	●	●
400			●	●	●	●	●	●	●	
Min. stroke length Note 3	5 (10)									
Custom stroke length Note 1, Note 2	Per 5mm									

Note 1: The total length is the same as the next longer standard stroke length.

Note 2: A dedicated body for which the body dimensions have been added to the stroke length is also available. Contact CKD for details.

Note 3: Value in ( ) is the min. stroke length of 2 color indicator type switch, strong magnetic field proof, with preventive maintenance output.

## How to order switch

**SW** - **T0V**

Switch model no.  
(Item **E** previous page)

Note: Consult with CKD when using the ecological T type switch.

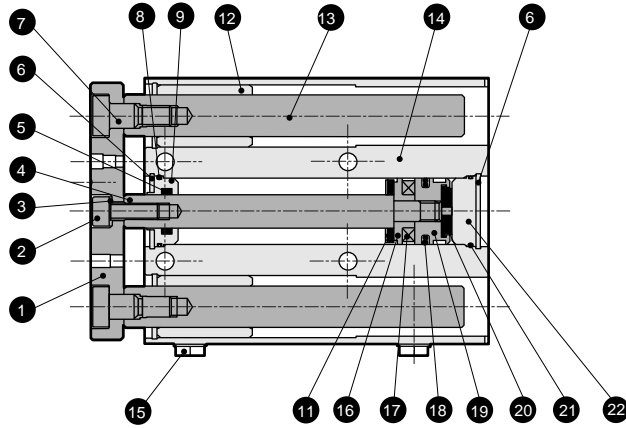
SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
<b>STG</b>
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

Guided cylinder  
Combined functions

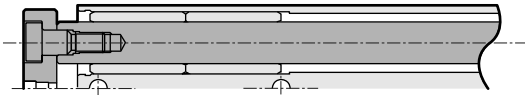
## Internal structure and parts list (STG-M-12 to 25)

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

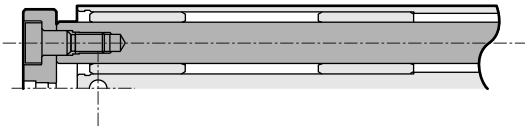
●  $\phi 12, \phi 16$   
 - 50 mm stroke or less



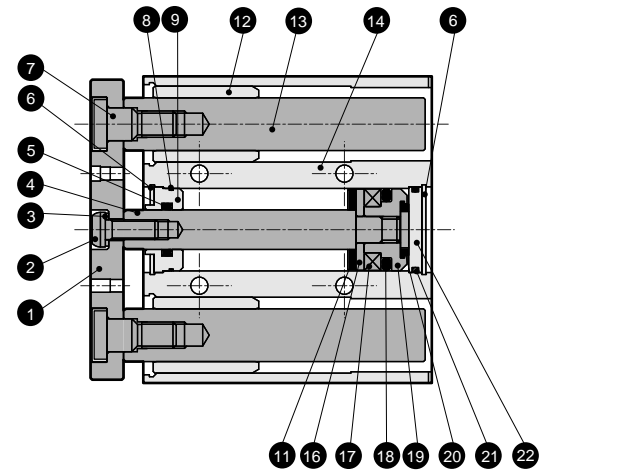
- 50 to 100 mm stroke



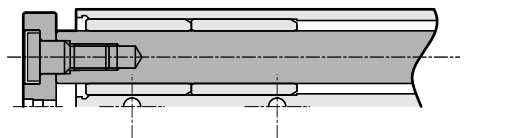
- Over 100 mm stroke



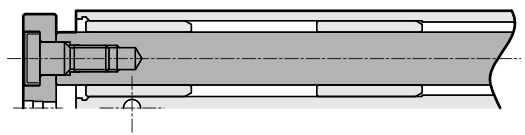
●  $\phi 20, \phi 25$   
 - 50 mm stroke or less



- 50 to 200 mm stroke

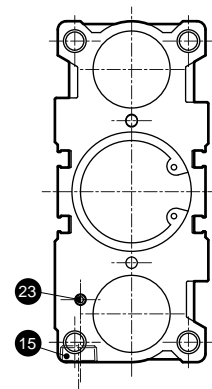
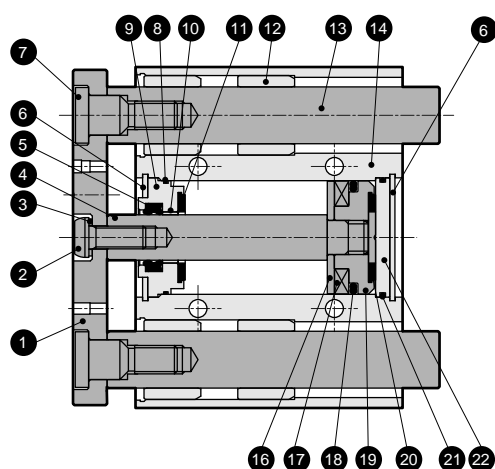


- Over 200 mm stroke



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

●  $\phi 32$  to  $\phi 63$



No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	End plate	Steel	Nickeling	12	Metal	Oil impregnated copper alloy bearing	Note 2
2	Hexagon socket head cap bolt ( $\phi 12$ to $\phi 16$ )	Alloy steel	Zinc chromate	13	Guide rod	Stainless steel ( $\phi 12$ to $\phi 16$ )	Industrial chrome plating
		Alloy steel	Zinc chromate			Steel ( $\phi 20$ to $\phi 63$ )	Industrial chrome plating
3	Conical spring washer	Steel	Blackening	14	Tube body	Aluminum alloy	Hard alumite
4	Piston rod	Stainless steel ( $\phi 12$ to $\phi 25$ )	Industrial chrome plating	15	Plug	Brass or steel	
		Steel ( $\phi 32$ to $\phi 63$ )	Industrial chrome plating	16	Spacer	Aluminum alloy	
5	Rod packing seal	Nitrile rubber		17	Magnet	Plastic	
6	C type snap ring	Steel	Phosphate coating	18	Piston packing seal	Nitrile rubber	
7	Bolt	Alloy steel	Zinc chromate	19	Piston	Aluminum alloy	
8	Metal gasket	Nitrile rubber		20	Cushion rubber	Urethane rubber	
9	Rod bushing	Special aluminum alloy ( $\phi 12$ to $\phi 32$ )	Alumite	21	O ring	Nitrile rubber	
		Aluminum alloy ( $\phi 40$ to $\phi 63$ )	Chromate	22	Base plate	Aluminum alloy	Chromate
10	Bush	Oilless dry met ( $\phi 40$ to $\phi 63$ )	Note 1	23	Hexagon socket head set screw	Stainless steel	
11	Cushion rubber	Urethane rubber		24	Steel ball	Stainless steel	

Note 1: Aluminum is used for copper and PTFE free.

Note 2: Oil impregnated cast iron bearing is used for copper and PTFE free.

### Repair parts list

Bore size (mm)	Kit No.	Repair parts number
	STG-M/B	
$\phi 12$	STG-12K	
$\phi 16$	STG-16K	
$\phi 20$	STG-20K	
$\phi 25$	STG-25K	
$\phi 32$	STG-32K	5 8 11 18 20 21
$\phi 40$	STG-40K	
$\phi 50$	STG-50K	
$\phi 63$	STG-63K	

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

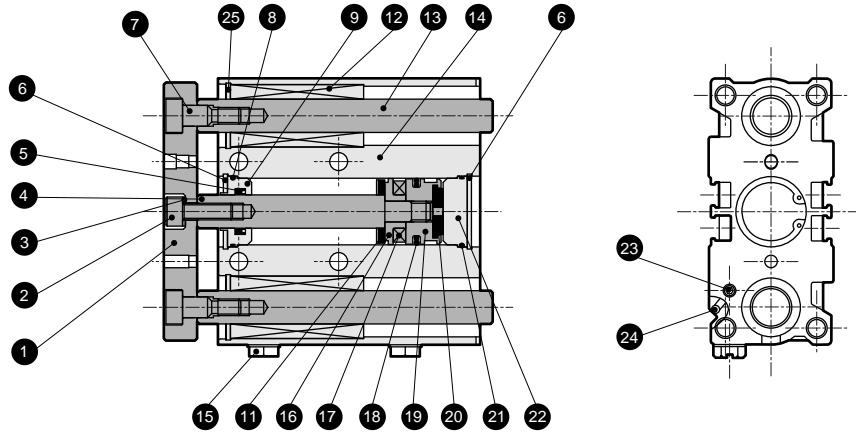
Ending

Guided cylinder  
Combined functions

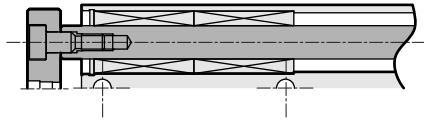
## Internal structure drawing and parts list (STG-B-12 to 25)

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

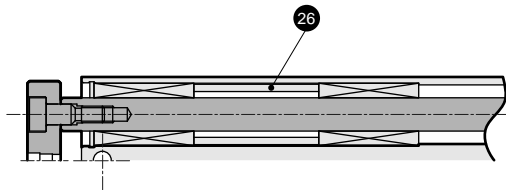
●  $\phi 12, \phi 16$   
 · 30 mm stroke or less



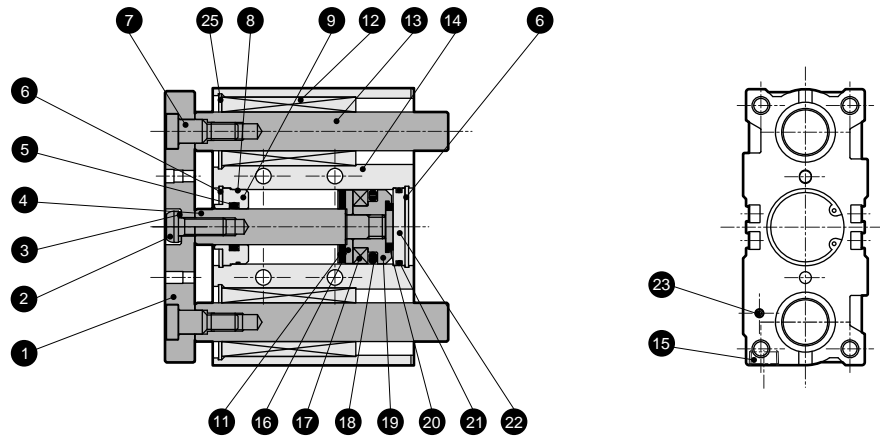
· 30 to 100 mm stroke



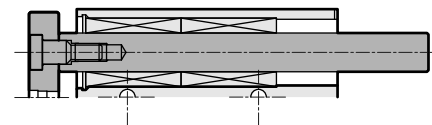
· Over 100 mm stroke



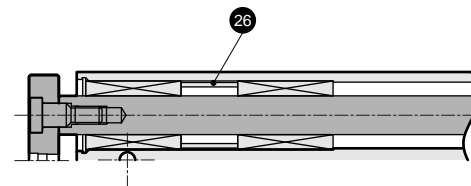
●  $\phi 20, \phi 25$   
 · 30 mm stroke or less



· 30 to 100 mm stroke

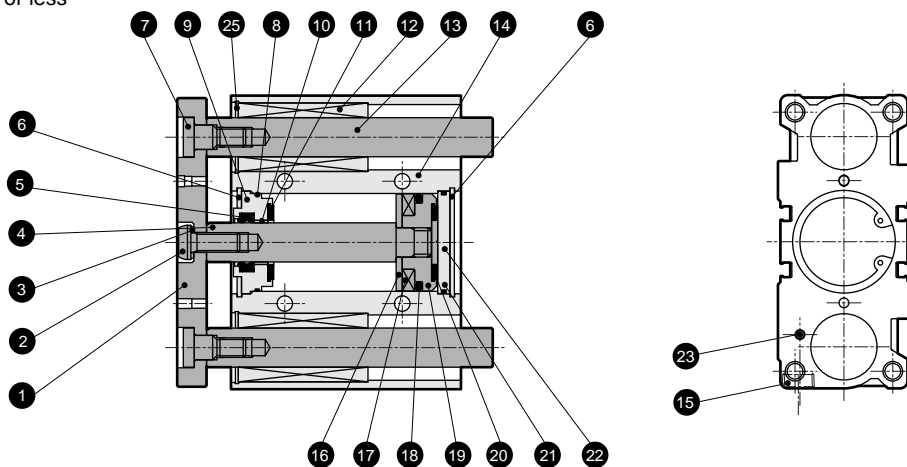


· Over 100 mm stroke

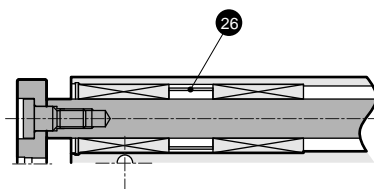


## Internal structure and parts list (STG-B-32 to 63)

- $\phi 32$  to  $\phi 63$
- 100 mm stroke or less



- Over 100 mm stroke



No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	End plate	Steel	Nickeling	13	Guide rod	Alloy steel	Industrial chrome plating
2	Hexagon socket head cap bolt ( $\phi 12$ to $\phi 16$ ) Hexagon socket head button bolt ( $\phi 20$ to $\phi 63$ )	Alloy steel	Zinc chromate	14	Tube body	Aluminum alloy	Hard alumite
		Alloy steel	Zinc chromate	15	Plug	Brass or steel	
3	Conical spring washer	Steel	Blackening	16	Spacer	Aluminum alloy	
4	Piston rod	Stainless steel ( $\phi 12$ to $\phi 25$ )	Industrial chrome plating	17	Magnet	Plastic	
		Steel ( $\phi 32$ to $\phi 63$ )	Industrial chrome plating	18	Piston packing seal	Nitrile rubber	
5	Rod packing seal	Nitrile rubber		19	Piston	Aluminum alloy	
6	C type snap ring	Steel	Phosphate coating	20	Cushion rubber	Urethane rubber	
7	Bolt	Alloy steel	Zinc chromate	21	O ring	Nitrile rubber	
8	Metal gasket	Nitrile rubber		22	Base plate	Aluminum alloy	Chromate
9	Rod bushing	Special aluminum alloy ( $\phi 12$ to $\phi 32$ )	Alumite	23	Hexagon socket head set screw	Stainless steel	
		Aluminum alloy ( $\phi 40$ to $\phi 63$ )	Chromate	24	Steel ball	Stainless steel	
10	Bush	Oilless dry met ( $\phi 40$ to $\phi 63$ )	Note 1	25	C type snap ring	Steel	Phosphate coating
11	Cushion rubber	Urethane rubber		26	Collar	Aluminum alloy	
12	Ball bushing						

Note 1: Aluminum is used for copper and PTFE free.

### Repair parts list

Bore size (mm)	Kit No.	Repair parts number
	STG-M/B	
$\phi 12$	STG-12K	
$\phi 16$	STG-16K	
$\phi 20$	STG-20K	
$\phi 25$	STG-25K	
$\phi 32$	STG-32K	5 8 11 18 20 21
$\phi 40$	STG-40K	
$\phi 50$	STG-50K	
$\phi 63$	STG-63K	

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

Ending

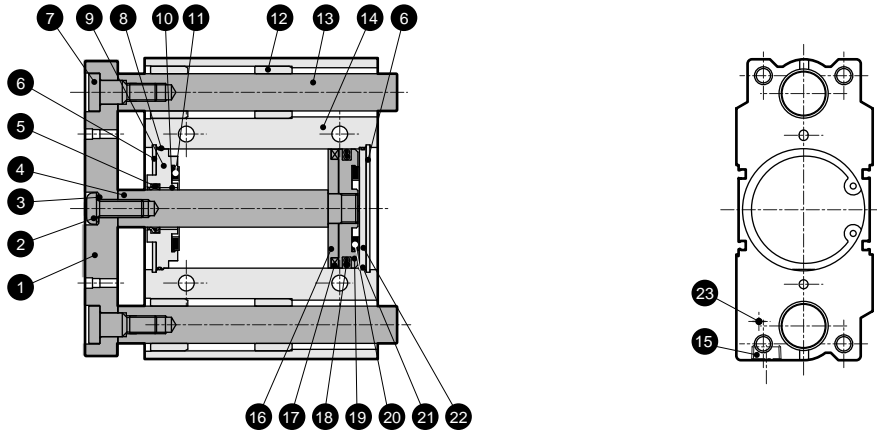
Guided cylinder  
Combined functions



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

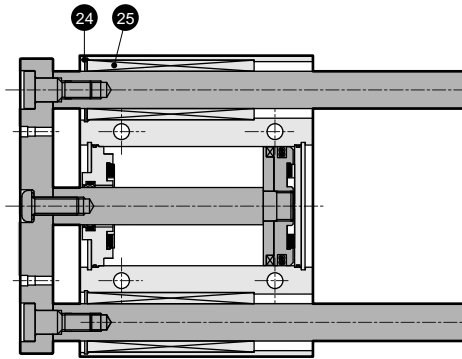
- SCP\*2
- CMK2
- CMA2
- SCM
- SCG
- SCA2
- SCS
- CKV2
- CA/OV2
- SSD
- CAT
- MDC2
- MVC
- SMD2
- MSD\*
- FC\*
- STK
- ULK\*
- JSK/M2
- JSG
- JSC3
- USSD
- USC
- JSB3
- LMB
- STG**
- STS/L
- LCS
- LCG
- LCM
- LCT
- LCY
- STR2
- UCA2
- HCM
- HCA
- SRL2
- SRG
- SRM
- SRT
- MRL2
- MRG2
- SM-25
- CAC3
-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

### ● STG-M-80,100

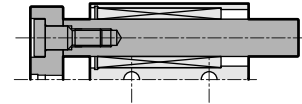


### ● STG-B-80,100

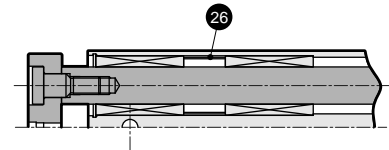
· 50 to 200 mm stroke



· 50 mm stroke or less



· Over 200 mm stroke



No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	End plate	Steel	Nickeling	16	Spacer	Aluminum alloy	
2	Hexagon socket head button bolt	Alloy steel	Zinc chromate	17	Magnet	Plastic	
3	Conical spring washer	Steel	Blackening	18	Piston packing seal	Nitrile rubber	
4	Piston rod	Steel	Industrial chrome plating	19	Piston	Aluminum alloy	
5	Rod packing seal	Nitrile rubber		20	Cushion rubber	Urethane rubber	
6	C type snap ring	Steel	Phosphate coating	21	O ring	Nitrile rubber	
7	Bolt	Alloy steel	Zinc chromate	22	Base plate	Aluminum alloy (φ 80)	Chromate
8	Metal gasket	Nitrile rubber				Steel (φ100)	Zinc chromate
9	Rod bushing	Aluminum alloy	Chromate	23	Hexagon socket head set screw (φ 80)	Stainless steel	
10	Bush	Oilless dry met			Plug (φ100)	Steel	Nickeling
11	Cushion rubber	Urethane rubber		24	C type snap ring	Steel	Phosphate coating
12	Metal	Oil impregnated copper alloy bearing		25	Ball bushing		
13	Guide rod	Alloy or steel	Industrial chrome plating	26	Collar	Aluminum alloy	
14	Tube body	Aluminum alloy	Hard alumite				
15	Plug	Steel					

### Repair parts list

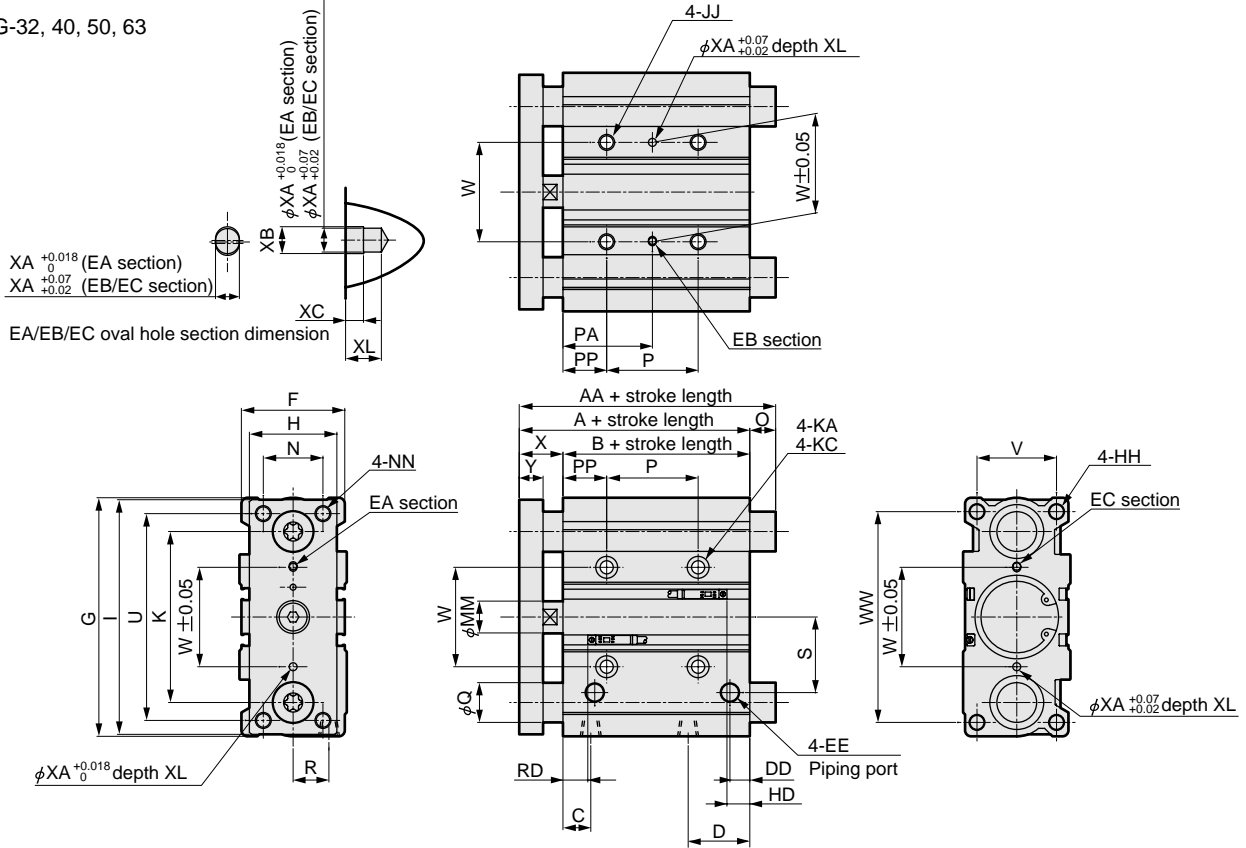
Bore size (mm)	Kit No.	Repair parts number
	STG-M/B	
φ80	STG-80K	5 8 11 18 20 21





## Dimensions (φ32, φ40, φ50, φ63)

### ● STG-32, 40, 50, 63



Note 1: The total length is the same as the next longer standard stroke length for custom stroke length.  
 Note 2: Refer to page 1514 for RD, HD, and projecting dimensions of the 2 color indicator type, preventive maintenance output type, off delay type, strong magnetic field proof type, T1H/V, T8H/V switch.

### ● STG-M/B common

Symbol	Standard stroke length (mm)	A	B	C	D	DD	EE	F	G	H	HH	I	JJ	K	KA
φ32	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 penetrating
φ40		66	44	14	31	10	Rc1/8	54	120	44	M8 depth 20	118	M8 depth 16	86	6.3 penetrating
φ50		72	44	14	35	11	Rc1/4	64	148	60	M10 depth 22	146	M10 depth 20	110	8.6 penetrating
φ63		77	49	16.5	35	15	Rc1/4	78	162	70	M10 depth 22	158	M10 depth 20	124	8.6 penetrating

Symbol	P				PA						
Bore size (mm)	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
φ32	11 spot face depth 7.5	16	30	M8 penetrating	24	48	124	200	300	33	45
φ40	11 spot face depth 7.5	16	30	M8 penetrating	24	48	124	200	300	34	46
φ50	14 spot face depth 9	20	40	M10 penetrating	24	48	124	200	300	36	48
φ63	14 spot face depth 9	20	50	M10 penetrating	28	52	128	200	300	38	50

Symbol	PA								O												
Bore size (mm)	Over 100 to 200		Over 200 to 300		Over 300		PP	R	S	U	V	W	WW	X	Y	RD	HD	XA	XB	XC	XL
φ32	83	121	171	21	15	34	96	34	42	98	22	12	10	8.5	4	4.5	3	6			
φ40	84	122	172	22	18	38	104	40	50	106	22	12	13	12	4	4.5	3	6			
φ50	86	124	174	24	21.5	47	130	46	66	130	28	16	13.5	11.5	5	6	4	8			
φ63	88	124	174	24	28	55	130	58	80	142	28	16	14	16	5	6	4	8			

### ● STG-M

Symbol	AA				O		
Bore size (mm)	50 or less	Over 50 to 200	Over 200	Q	50 or less	Over 50 to 200	Over 200
φ32	79	100	140	20	19.5	40.5	80.5
φ40	79	100	140	20	13	34	74
φ50	91	116	161	25	19	44	89
φ63	91	116	161	25	14	39	84

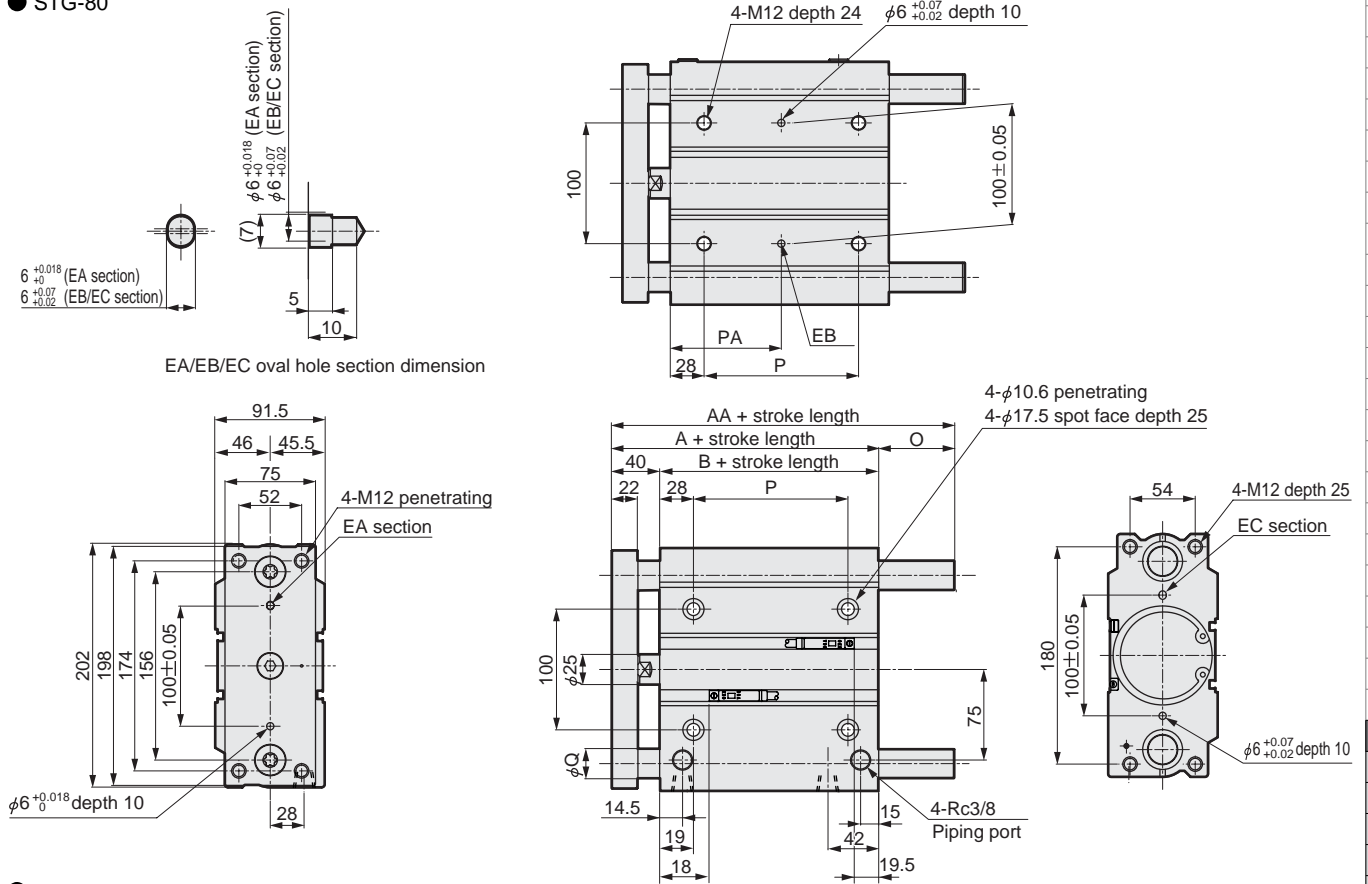
### ● STG-B

Symbol	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
φ32	79	98	118	140	16	19.5	38.5	58.5	80.5
φ40	79	98	118	140	16	13	32	52	74
φ50	91	114	134	161	20	19	42	62	89
φ63	91	114	134	161	20	14	37	57	84

## Dimensions (φ80)



### ● STG-80



### ● STG-M/B common

Standard stroke length	A	B	P					PA				
			25st or less	Over 25st to 100st	Over 100st to 200st	Over 200st to 300st	Over 300st	25st or less	Over 205st to 100st	Over 100st to 200st	Over 200st to 300st	Over 300st
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

### ● STG-M

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

### ● STG-B

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

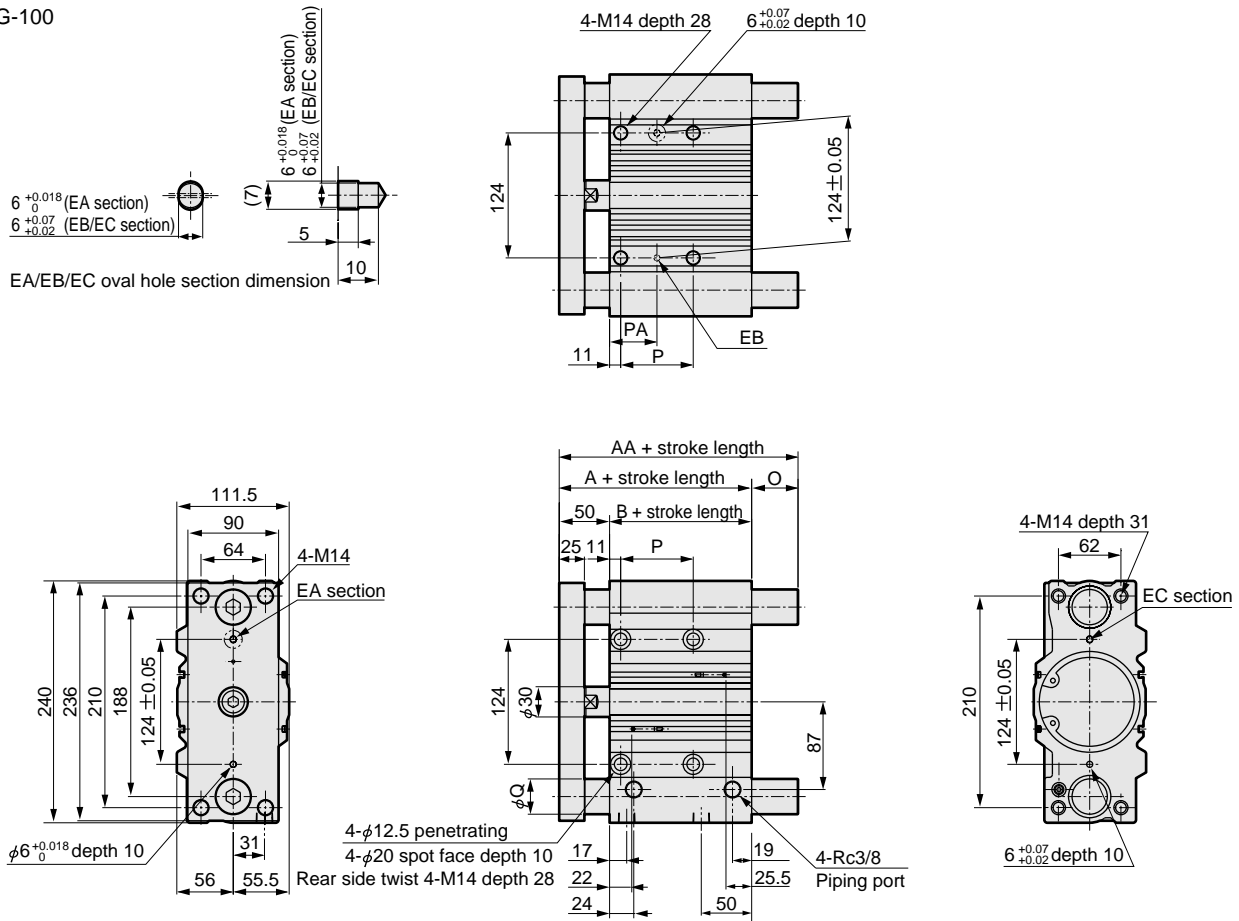
Note 1: Refer to page 1514 for the RD, HD, and projecting dimensions of the 2 color indicator type, preventive maintenance output type, off delay type, strong magnetic field proof type, T1H/V, T8H/V switch.

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

Guided cylinder  
Combined functions

## Dimensions (φ100)

### ● STG-100



### ● STS-M/B common

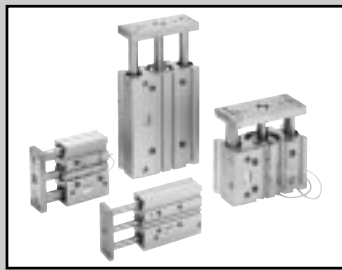
Standard stroke length	A	B	P					PA				
			25st or less	Over 25st to 100st	Over 100st to 200st	Over 200st to 300st	Over 300st	25st or less	Over 25st to 100st	Over 100st to 200st	Over 200st to 300st	Over 300st
25, 50, 75, 100, 125, 150, 175 200, 250, 300, 350, 400	116	66	48	72	148	220	320	35	47	85	121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

### ● STG-M

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

### ● STG-B

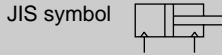
AA				Q	O			
25st or less	Over 25st to 50st	Over 50st to 200st	Over 200st		25st or less	Over 25st to 50st	Over 50st to 200st	Over 200st
121	147	180	203	30	5	31	64	87



Guided cylinder Double acting rubber-air cushioned

# STG-M-B-\*C Series

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



## Specifications

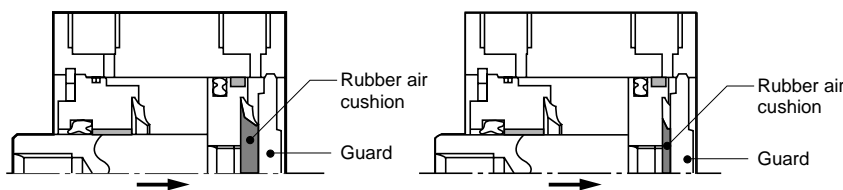
Descriptions		STG-M/B-*C			
Bore size	mm	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$
Actuation		Double acting			
Working fluid		Compressed air			
Max. working pressure	MPa	1.0			
Min. working pressure	MPa	0.2			
Withstanding pressure	MPa	1.6			
Ambient temperature	°C	-10 to 60 (no freezing)			
Port size		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 (when lubricating, use turbine oil Class 1 ISOVG 32)			
Allowable energy absorption	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 length with switch (mm)
$\phi 32$	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400	400	5	5 (10) Note 2
$\phi 40$				
$\phi 50$			10	10
$\phi 63$				

Note 1: Custom stroke length is available per 5mm increment. Note that the total length is the same as the next longer standard stroke length.  
 Note 2: This applies when 1 or 2 switches are installed. Value in ( ) is the min. stroke length of 2 color indicator type switch, strong magnetic field proof, with preventive maintenance output.

## Rubber-air cushion mechanism

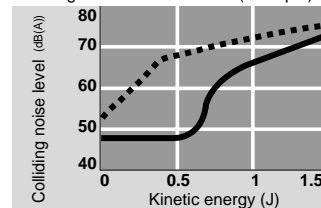


### Explanation at PULL

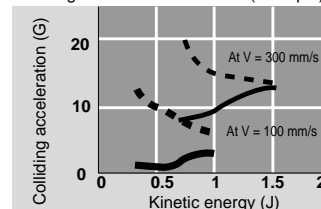
When the piston moves and the rubber air cushion and cover contact, a sealed space of air is formed at the shaded section. The air in the shaded section is compressed as the piston moves, and energy is absorbed. Energy absorbed by the rubber air cushion's compression strain is also calculated at the stroke end.

- Rubber cushioned cylinder
- Rubber-air cushioned cylinder

Colliding noise level decrease (example)



Colliding acceleration decrease (example)



### Switch specifications

● 1 color/2 color indicator/strong magnetic field proof

\* The T0/T5 switch can be used with 220 VAC.  
Consult with CKD for working conditions.

Descriptions	Proximity 2-wire			Proximity 3-wire			Reed 2-wire				Proximity 2-wire			
	T1H/T1 V	T2H/T2V T2JH/T2JV	T2YH/T2YV	T3H/T3V	T3PH/T3PV (Custom order)	T3YH/T3YV	T0H/T0V	T5H/T5V	T8H/T8V	T2YD/T2YDT				
Applications	Programmable controller relay, small solenoid valve	Programmable controller		Programmable controller, relay			Programmable controller, relay	Programmable controller, relay, IC circuit (without light), serial connection		Programmable controller, relay	Programmable controller			
Output method	-			NPN output	PNP output	NPN output	-							
Power voltage	-			10 to 28 VDC			-							
Load voltage	85 to 265 VAC	10 to 30 VDC		30 VDC or less			12/24 VDC	110 VAC	5/12/24 VDC	110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100mA	5 to 20mA (Note 1)		100mA or less		50mA or less	5 to 50mA	7 to 20mA	50mA or less	20mA or less	5 to 50mA	7 to 20mA	7 to 10mA	5 to 20mA
Light	LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Green LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)		Without indicator light		LED (ON lighting)		Red/green LED (ON lighting)	
Leakage current	1mA or less with 100 VAC 2mA or less with 200 VAC	1mA or less		10 μA or less			0mA					1mA or less		

● With preventive maintenance output

Descriptions	Proximity 3-wire	Proximity 4 wire	Proximity 3-wire	Proximity 4 wire
	T2YFH/V	T3YFH/V	T2YMH/V	T3YMH/V
Applications	Programmable controller		Programmable controller, relay	
Output method	NPN output			
Light	Red/green LED (ON lighting)			
	Preventive maintenance output		Yellow LED (ON lighting)	
Regular output	Power voltage	-	10 to 28 VDC	-
	Load voltage	10 to 30 VDC	30 VDC or less	10 to 30 VDC
	Load current	5 to 20mA	50mA or less	5 to 20mA
	Leakage current	1mA or less	10 μA or less	1.2mA or less
Preventive maintenance output	30 VDC or less			
	Load current	20mA or less	50mA or less	5 to 20mA or less
	Leakage current	10 μA or less		

Note 1: Refer to Ending 1 for other switch specifications.

Note 1: Maximum load current above: 20mA applies at 25°C. The current will be lower than 20mA if ambient temperature around switch is higher than 20mA. (5 to 10mA when 60°C)

### Cylinder weight

● STG-M-\*C

Unit: kg

Descriptions	Stroke length												Switch weight grommet
	25	50	75	100	125	150	175	200	250	300	350	400	
φ32	1.64	2.01	2.54	2.94	3.34	3.73	4.12	4.51	5.49	6.27	7.07	7.85	0.018
φ40	1.89	2.30	2.75	3.15	3.57	3.98	4.39	4.80	5.81	6.64	7.47	8.29	0.018
φ50	3.26	3.88	4.59	5.21	5.83	6.45	7.07	7.69	9.25	10.48	11.74	13.00	0.018
φ63	4.05	4.79	5.61	6.34	7.07	7.81	8.54	9.27	11.06	12.51	13.97	15.42	0.018

● STG-B-\*C

Unit: kg

Descriptions	Stroke length												Switch weight grommet
	25	50	75	100	125	150	175	200	250	300	350	400	
φ32	1.49	1.79	2.23	2.54	2.90	3.21	3.51	3.82	4.49	5.10	5.71	6.32	0.018
φ40	1.74	2.09	2.56	2.91	3.32	3.67	4.02	4.37	5.12	5.82	6.52	7.22	0.018
φ50	3.02	3.55	4.28	4.81	5.43	5.97	6.50	7.03	8.23	9.28	10.38	11.45	0.018
φ63	3.81	4.45	5.30	5.94	6.67	7.31	7.96	8.60	9.99	11.35	12.61	13.87	0.018

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

Guided cylinder  
Combined functions

## How to order

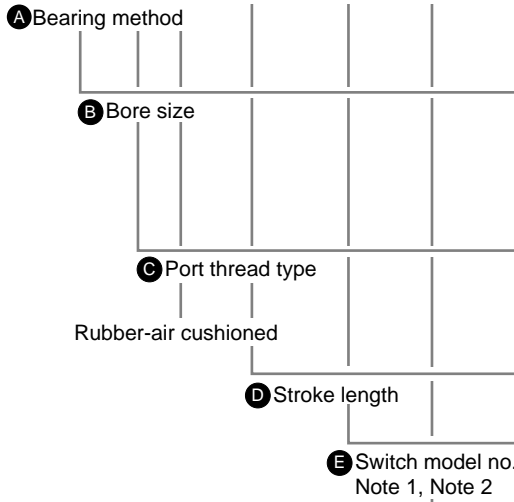
Without switch

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

With switch

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

Model no.



Symbol	Descriptions			
<b>A Bearing method</b>				
<b>M</b>	Metal bush bearing			
<b>B</b>	Ball bearing			
<b>B Bore size (mm)</b>				
<b>32</b>	φ32			
<b>40</b>	φ40			
<b>50</b>	φ50			
<b>63</b>	φ63			
<b>C Port thread type</b>				
<b>Blank</b>	Rc thread			
<b>N</b>	NPT thread (custom order)			
<b>G</b>	G thread (custom order)			
<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	Indicator	Lead wire
<b>T0H*</b>	<b>T0V*</b>	Reed	1 color indicator type	2-wire
<b>T5H*</b>	<b>T5V*</b>		Without indicator light	
<b>T8H*</b>	<b>T8V*</b>		1 color indicator type	
<b>T1H*</b>	<b>T1V*</b>	Proximity	1 color indicator type	2-wire
<b>T2H*</b>	<b>T2V*</b>			3-wire
<b>T3H*</b>	<b>T3V*</b>		1 color indicator type (custom order)	3-wire
<b>T3PH*</b>	<b>T3PV*</b>			3-wire
<b>T2YH*</b>	<b>T2YV*</b>		2 color indicator type	2-wire
<b>T3YH*</b>	<b>T3YV*</b>			3-wire
<b>T2YFH*</b>	<b>T2YFV*</b>		2 color indicator type (w/o indicator light for preventive maintenance output)	3-wire
<b>T3YFH*</b>	<b>T3YFV*</b>			4-wire
<b>T2YMH*</b>	<b>T2YMV*</b>		2 color indicator type (w/ indicator light for preventive maintenance output (1 color))	3-wire
<b>T3YMH*</b>	<b>T3YMV*</b>			4-wire
<b>T2JH*</b>	<b>T2JV*</b>	Off-delay type	2-wire	
<b>T2YD*</b>	-	Strong magnetic field proof switch	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>	One on rod end			
<b>H</b>	One on head end			
<b>D</b>	Two			
<b>T</b>	Three			

### Note on model no. selection

Note 1: Switches other than **E** switch model no. are available. (Custom order)

Refer to Ending 1 for the details.

Note 2: T1H/V, T8H/V installation is custom order.

### <Example of model number>

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

Model: Guided cylinder double acting rubber-air cushioned

- A** Bearing method : Metal bush bearing
- B** Bore size : φ32 mm
- C** Port thread type : Rc thread
- D** Stroke length : 50mm
- E** Switch model no. : Reed T0H switch, lead wire length 1m
- F** Switch quantity : One on rod end



### D Stroke length

Stroke length (mm)	Applicable bore size				
	φ32	φ40	φ50	φ63	
Standard Stroke length	25	●	●	●	●
	50	●	●	●	●
	75	●	●	●	●
	100	●	●	●	●
	125	●	●	●	●
	150	●	●	●	●
	175	●	●	●	●
	200	●	●	●	●
	250	●	●	●	●
	300	●	●	●	●
	350	●	●	●	●
400	●	●	●	●	
Min. stroke length Note 2	5 (10)			10	
Custom stroke length Note 1	Per 5mm increment				

Note 1: The total length is the same as the next longer standard stroke length.

Note 2: Value in ( ) is the min. stroke length of 2 color indicator type switch, strong magnetic field proof, with preventive maintenance output.

### How to order switch

**SW** - **T0V**

Switch model no.  
(Item E) previous page)

Note: Consult with CKD when using the ecological T type switch.

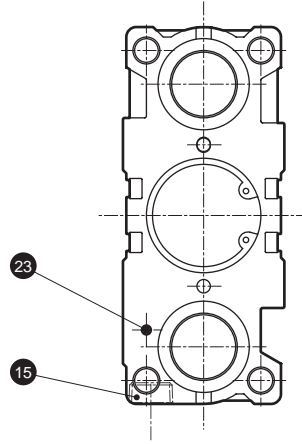
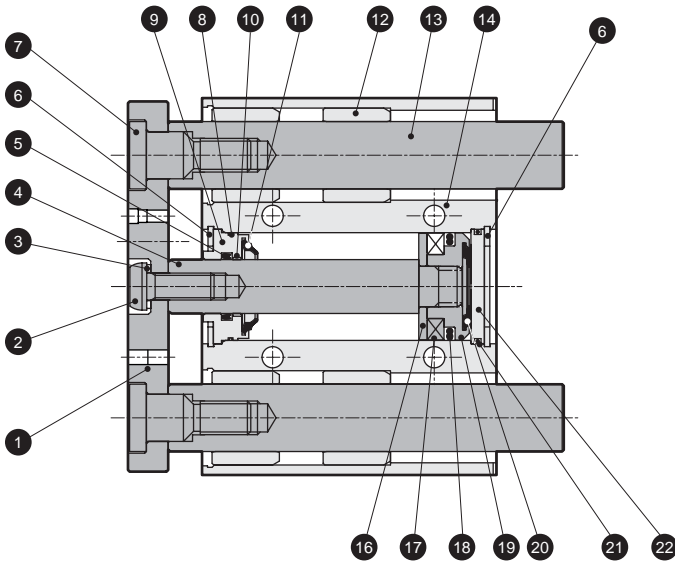
SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
<b>STG</b>
<b>STS/L</b>
<b>LCS</b>
<b>LCG</b>
<b>LCM</b>
<b>LCT</b>
<b>LCY</b>
<b>STR2</b>
<b>UCA2</b>
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

Guided cylinder  
Combined functions

## Internal structure and parts list

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

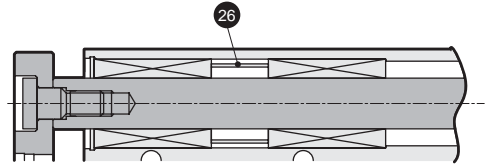
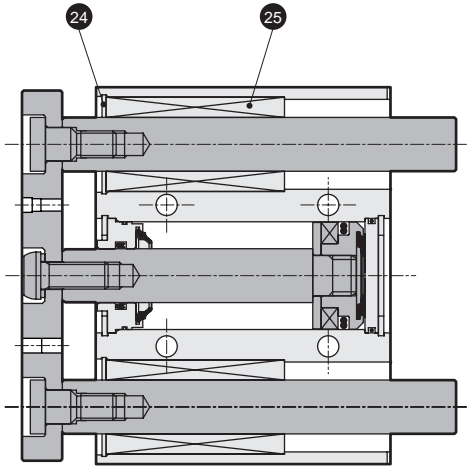
● STG-M-32 to 63 ( $\phi 32$  to  $\phi 63$ )



● STG-B-32 to 63 ( $\phi 32$  to  $\phi 63$ )

· 100 mm stroke or less

· Over 100 mm stroke



### Internal structure and parts list

No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	End plate	Steel	Nickeling	14	Tube body	Aluminum alloy	Hard alumite
2	Hexagon socket head button bolt	Alloy steel	Zinc chromate	15	Plug	Steel	
3	Conical spring washer	Steel	Blackening	16	Spacer	Aluminum alloy	Alumite
4	Piston rod	Steel	Industrial chrome plating	17	Magnet	Plastic	
5	Rod packing seal	Nitrile rubber		18	Piston packing seal	Nitrile rubber	
6	C type snap ring	Steel	Phosphate coating	19	Piston	Aluminum alloy	Alumite
7	Bolt	Alloy steel	Zinc chromate	20	Rubber-air cushion (H)	Special rubber	
8	Metal gasket	Nitrile rubber		21	O ring	Nitrile rubber	
9	Rod bushing	Aluminum alloy	Alumite	22	Base plate	Aluminum alloy	Alumite
10	Bush	Oilless dry met ( $\phi 40$ to $\phi 63$ )		23	Hexagon socket head set screw	Stainless steel	
11	Rubber-air cushion (R)	Special rubber		24	C type snap ring	Steel	Phosphate coating
12	Metal	Oil impregnated copper alloy bearing		25	Ball bushing		
13	Guide rod	Steel	Industrial chrome plating	26	Collar	Aluminum alloy	

### Repair parts list

Bore size (mm)	Kit No.	Repair parts number
	STG-M/B	
$\phi 32$	STG-32CK	5 8 11 18 20 21
$\phi 40$	STG-40CK	
$\phi 50$	STG-50CK	
$\phi 63$	STG-63CK	

### Dimensions

It is the same as the double acting single rod type STG Series. Refer to page 1460.

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

Guided cylinder  
Combined functions

### Technical data

Refer to page 1516 for guided cylinder selection guide.



### (Comparison of colliding noise level performance)

Data show an example of comparison with conditions below.

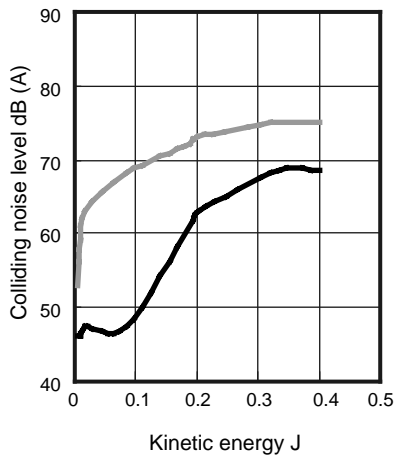
The number varies depending on the frame rigidity, etc, and not guaranteed values.

#### (Test conditions)

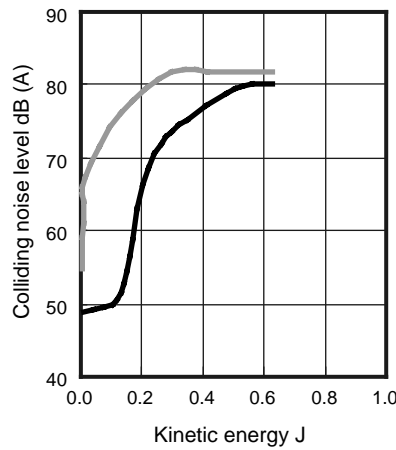
Cylinder type : STG  
 Cylinder installation attitude : Vertical rod upward  
 Cylinder supply pressure : 0.5MPa  
 Noise meter measurement position : 1m from specimen

Standard rubber cushion :   
 Rubber-air cushion : 

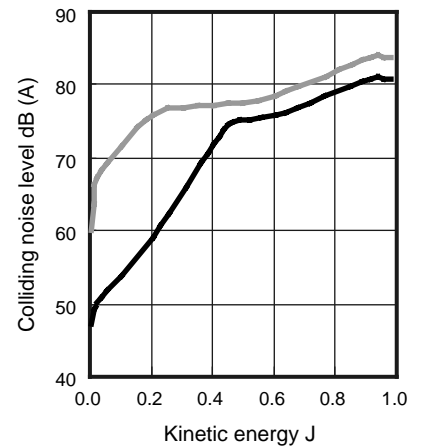
$\phi 32$



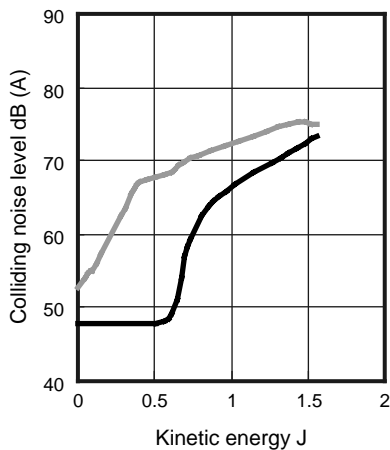
$\phi 40$



$\phi 50$





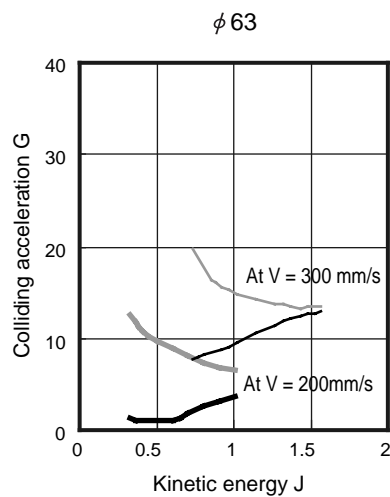
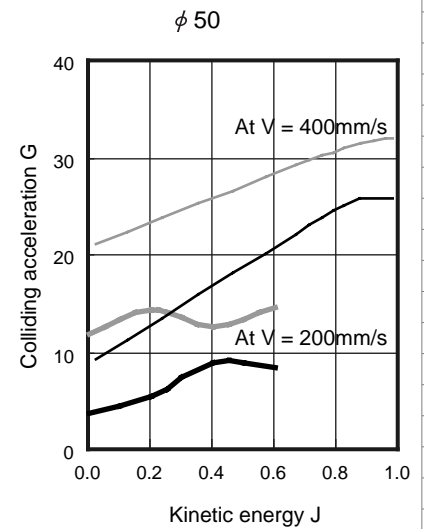
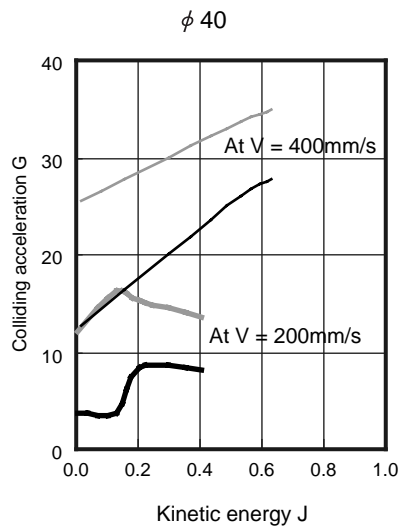
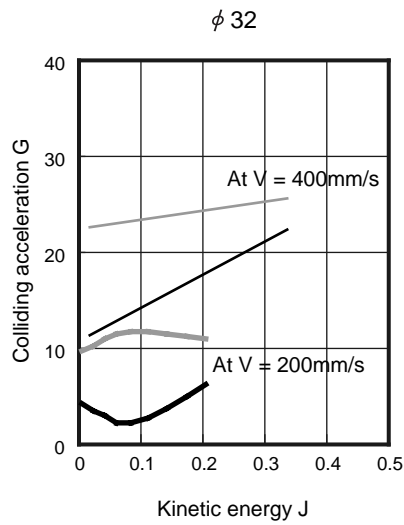
$\phi 63$



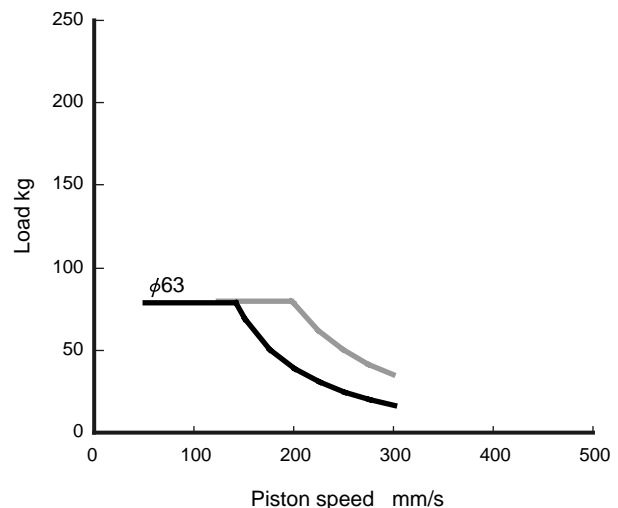
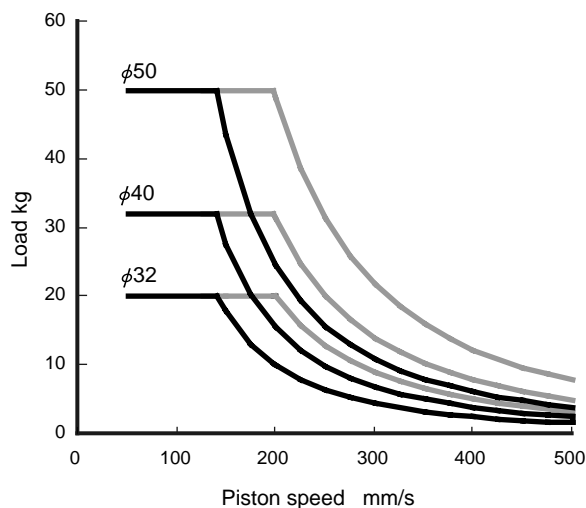
### Technical data

#### (Comparison of colliding acceleration performance)

Standard rubber cushion :   
 Rubber-air cushion : 




#### (Allowable energy)



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

Guided cylinder  
 Combined functions

The product is used in the range at the lower left of the curve.

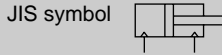
Use is possible within the range shown with the  line in the graph, but to effectively use the silencing effect, the product should be used within the range shown with the solid line.



Guided cylinder Double acting air cushioned

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

- Bore size:  $\phi 16$ ,  $\phi 20$ ,  $\phi 25$ ,  $\phi 32$ ,  $\phi 40$ ,  $\phi 50$ ,  $\phi 63$



## Specifications

Descriptions	STG-M <sub>B</sub> C							
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							
Min. working pressure MPa	0.15				0.1			
Withstanding pressure MPa	1.6							
Ambient temperature °C	-10 to 60 (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	Air cushioned							
Lubrication	Not required (when lubricating, use turbine oil Class 1 ISOVG 32)							
Allowable energy absorption J	0.3	0.7	1.0	2.5	3.7	3.8	5.5	

STG

## Stroke length

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

Note 1: Custom stroke length is available per 1mm increment. Note that the total length must be the next longer standard stroke length. (Custom order)

Note 2: The cushion effect will not be attained with a minimum stroke or less so select the basic type.

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

### Switch specifications

● 1 color/2 color indicator/strong magnetic field proof

\* The T0/T5 switch can be used with 220 VAC.  
Consult with CKD for working conditions.

Descriptions	Proximity 2-wire			Proximity 3-wire			Reed 2-wire						Proximity 2-wire	
	T1H/T1V	T2H/T2V T2JH/T2JV	T2YH/T2YV	T3H/T3V	T3PH/T3PV (Custom order)	T3YH/T3YV	T0H/T0V		T5H/T5V		T8H/T8V		T2YD/T2YDT	
Applications	Programmable controller relay, small solenoid valve	Programmable controller		Programmable controller, relay			Programmable controller, relay		Programmable controller, relay, IC circuit (without light), serial connection		Programmable controller, relay		Programmable controller	
Output method	-			NPN output	PNP output	NPN output	-							
Power voltage	-			10 to 28 VDC			-							
Load voltage	85 to 265 VAC	10 to 30 VDC		30 VDC or less			12/24 VDC	110 VAC	5/12/24 VDC	110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100mA	5 to 20mA (Note 1)		100mA or less		50mA or less	5 to 50mA	7 to 20mA	50mA or less	20mA or less	5 to 50mA	7 to 20mA	7 to 10mA	5 to 20mA
Light	LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Green LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)		Without indicator light		LED (ON lighting)		Red/green LED (ON lighting)	
Leakage current	1mA or less with 100 VAC 2mA or less with 200 VAC	1mA or less		10 μA or less			0mA						1mA or less	

● With preventive maintenance output

Descriptions	Proximity 3-wire		Proximity 4 wire		Proximity 3-wire		Proximity 4 wire			
	T2YFH/V		T3YFH/V		T2YMH/V		T3YMH/V			
Applications	Programmable controller		Programmable controller, relay		Programmable controller		Programmable controller, relay			
Output method	NPN output									
Light	Red/green LED (ON lighting)									
	Installation position adjustment		-						Yellow LED (ON lighting)	
Regular output	Preventive maintenance output		-						Yellow LED (ON lighting)	
	Power voltage		-		10 to 28 VDC		-		10 to 28 VDC	
	Load voltage		10 to 30 VDC		30 VDC or less		10 to 30 VDC		30 VDC or less	
	Load current		5 to 20mA		50mA or less		5 to 20mA		50mA or less	
Preventive maintenance output	Leakage current		1mA or less		10 μA or less		1.2mA or less		10 μA or less	
	Load voltage		30 VDC or less							
	Load current		20mA or less		50mA or less		5 to 20mA or less		50mA or less	
	Leakage current		10 μA or less							

Note 1: Refer to Ending 1 for other switch specifications.

Note 2: Maximum load current above: 20mA applies at 25°C. The current will be lower than 20mA if ambient temperature around switch is higher than 20mA. (5 to 10mA when 60°C)

### Cylinder weight

● STG-M

Unit: kg

Descriptions	Stroke length												Switch weight grommet
	25	50	75	100	125	150	175	200	250	300	350	400	
φ16	0.49	0.61	0.76	0.88	1.04	1.16	1.28	1.41	1.65				0.018
φ20	0.85	1.04	1.30	1.49	1.68	1.87	2.06	2.26	2.71	3.10	3.48	3.87	0.018
φ25	1.19	1.45	1.83	2.09	2.35	2.62	2.89	3.15	3.80	4.32	4.86	5.38	0.018
φ32	1.90	2.26	2.80	3.18	3.58	3.96	4.35	4.73	5.71	6.48	7.26	8.03	0.018
φ40	2.28	2.70	3.16	3.58	4.01	4.43	4.86	5.28	6.31	7.17	8.02	8.87	0.018
φ50	3.87	4.51	5.24	5.88	6.51	7.15	7.79	8.43	10.04	11.30	12.60	13.90	0.018
φ63	4.93	5.69	6.53	7.29	8.04	8.80	9.55	10.31	12.15	13.65	15.15	16.64	0.018

● STG-B

Unit: kg

Descriptions	Stroke length												Switch weight grommet
	25	50	75	100	125	150	175	200	250	300	350	400	
φ16	0.52	0.64	0.75	0.87	1.00	1.11	1.22	1.34	1.55				0.018
φ20	0.90	1.10	1.27	1.43	1.63	1.80	1.97	2.14	2.50	2.84	3.18	3.52	0.018
φ25	1.26	1.52	1.75	1.98	2.24	2.46	2.69	2.91	3.40	3.85	4.30	4.74	0.018
φ32	1.75	2.04	2.47	2.77	3.13	3.43	3.72	4.02	4.68	5.27	5.87	6.46	0.018
φ40	2.12	2.48	2.97	3.33	3.75	4.11	4.47	4.83	5.61	6.32	7.04	7.76	0.018
φ50	3.62	4.17	4.92	5.47	6.10	6.65	7.20	7.75	8.98	10.07	11.20	12.30	0.018
φ63	4.69	5.34	6.21	6.87	7.63	8.29	8.96	9.62	11.05	12.45	13.75	15.05	0.018

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

Guided cylinder  
Combined functions

## How to order

Without switch

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

With switch

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

Model no.

Air cushioned

**A** Bearing method

**B** Bore size

**C** Port thread type

**D** Stroke length

**E** Switch model no.  
Note 1, Note 2

**F** Switch quantity

Symbol	Descriptions			
<b>A Bearing method</b>				
<b>M</b>	Metal bush bearing			
<b>B</b>	Ball bearing			
<b>B Bore size (mm)</b>				
<b>16</b>	φ 16			
<b>20</b>	φ 20			
<b>25</b>	φ 25			
<b>32</b>	φ 32			
<b>40</b>	φ 40			
<b>50</b>	φ 50			
<b>63</b>	φ 63			
<b>C Port thread type</b>				
<b>Blank</b>	M5 (φ 16) Rc thread (φ 20 to φ 63)			
<b>NN</b>	NPT thread (φ 20 and over) custom order			
<b>GN</b>	G thread (φ 20 and over) custom order			
<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	Indicator	Lead wire
<b>T0H*</b>	<b>T0V*</b>	Reed	1 color indicator type	2-wire
<b>T5H*</b>	<b>T5V*</b>		Without indicator light	
<b>T8H*</b>	<b>T8V*</b>		1 color indicator type	
<b>T1H*</b>	<b>T1V*</b>	Proximity	1 color indicator type	2-wire
<b>T2H*</b>	<b>T2V*</b>		1 color indicator type (custom order)	3-wire
<b>T3H*</b>	<b>T3V*</b>			2-wire
<b>T3PH*</b>	<b>T3PV*</b>		2 color indicator type	3-wire
<b>T2YH*</b>	<b>T2YV*</b>		2 color indicator type (w/o indicator light for preventive maintenance output)	3-wire
<b>T3YH*</b>	<b>T3YV*</b>			4-wire
<b>T2YFH*</b>	<b>T2YFV*</b>			3-wire
<b>T3YFH*</b>	<b>T3YFV*</b>			4-wire
<b>T2YMH*</b>	<b>T2YMV*</b>		2 color indicator type (w/ indicator light for preventive maintenance output (1 color))	3-wire
<b>T3YMH*</b>	<b>T3YMV*</b>			4-wire
<b>T2JH*</b>	<b>T2JV*</b>	Off-delay type		2-wire
<b>T2YD*</b>	-	Strong magnetic field proof switch		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>	One on rod end			
<b>H</b>	One on head end			
<b>D</b>	Two			
<b>T</b>	Three			

### ⚠ Note on model no. selection

Note 1: Switches other than **E** switch model no. are available.  
(Custom order)  
Refer to Ending 1 or the details.

Note 2: T1H/V, T8H/V installation is custom order.

### <Example of model number>

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

Model: Guided cylinder double acting air cushioned

- A** Bearing method : Metal bush bearing
- B** Bore size : φ 25mm
- C** Port thread type : Rc thread
- D** Stroke length : 50mm
- E** Switch model no. : Reed T0H switch, lead wire length 3m
- F** Switch quantity : Two

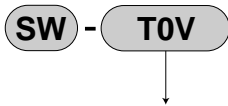


### D Stroke length

Stroke length (mm)		Applicable bore size						
		φ16	φ20	φ25	φ32	φ40	φ50	φ63
Standard stroke length	25	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●
	75	●	●	●	●	●	●	●
	100	●	●	●	●	●	●	●
	125	●	●	●	●	●	●	●
	150	●	●	●	●	●	●	●
	175	●	●	●	●	●	●	●
	200	●	●	●	●	●	●	●
	250	●	●	●	●	●	●	●
	300	■	●	●	●	●	●	●
350	■	●	●	●	●	●	●	
400	■	●	●	●	●	●	●	
Min. stroke length Note 1		15						
Custom stroke length Note 2		Per 1 mm increment (custom order)						

Note 1: The cushion effect will not be attained with a minimum stroke or less so select the basic type.  
 Note 2: The total length is the next longer standard stroke length.

### How to order switch



Switch model no.  
 (Item E previous page)

Note: Consult with CKD when using the ecological T type switch.

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

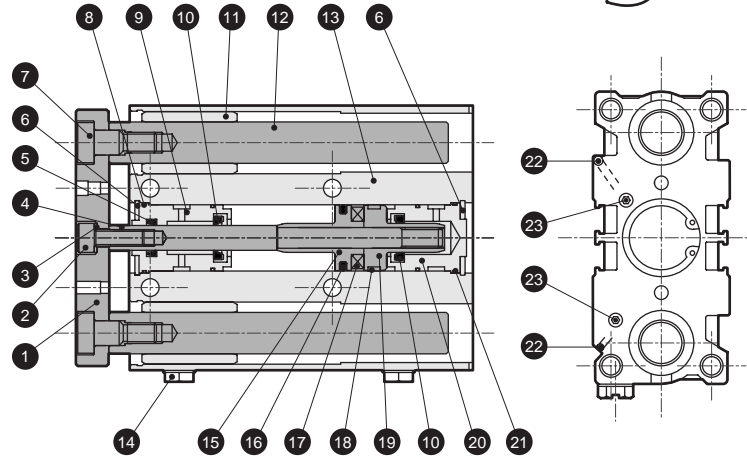
Guided cylinder  
 Combined functions

# STG-MC Series

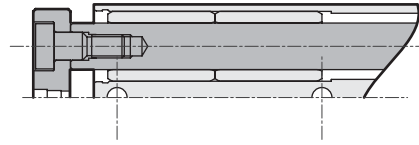
## Internal structure and parts list (STG-MC-16 to 40)

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

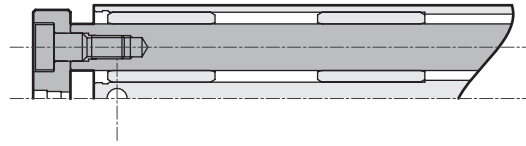
●  $\phi 16$   
· 25 mm stroke



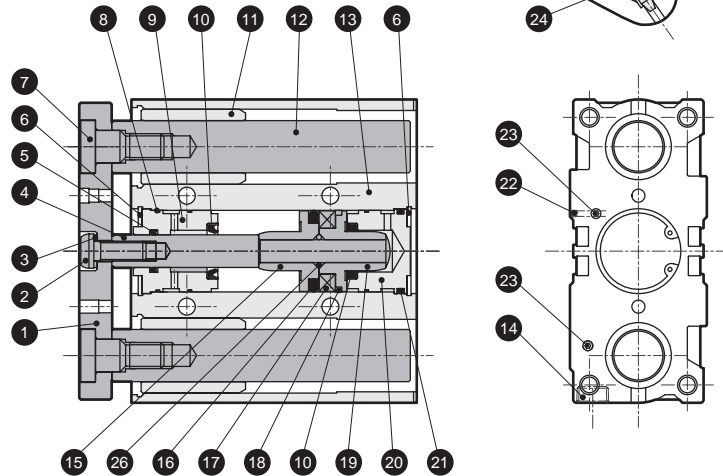
· 25 to 100 mm stroke



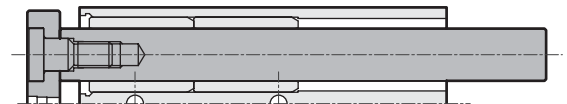
· Over 100 mm stroke



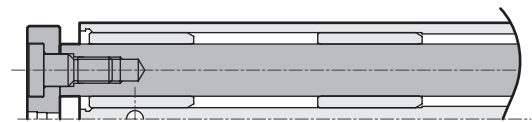
●  $\phi 20$  to  $\phi 40$   
· 25 mm stroke ( $\phi 20, \phi 25$ )



· 25 to 100 mm stroke ( $\phi 20, \phi 25$ )

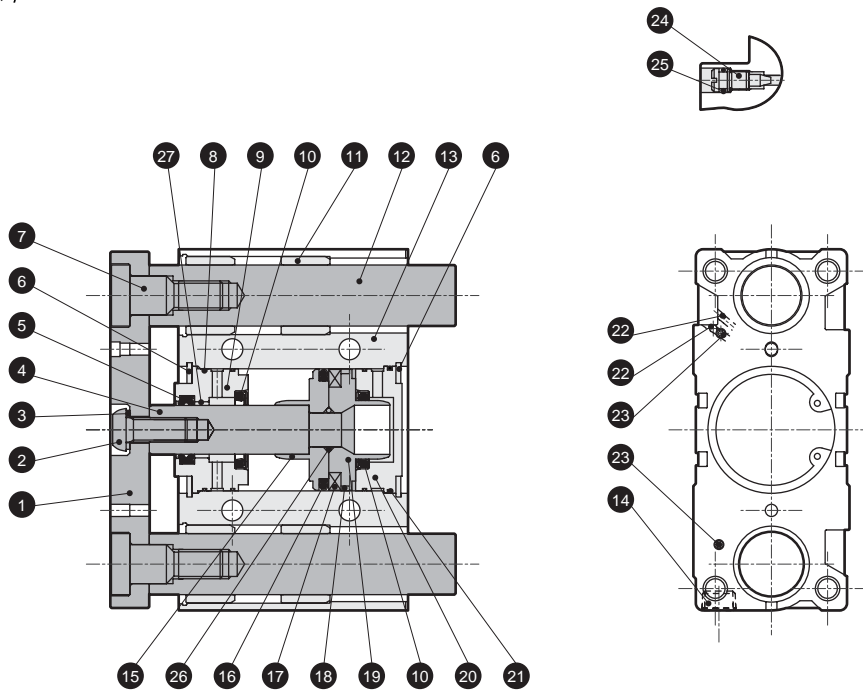


· Over 200 mm stroke ( $\phi 20, \phi 25, \phi 32, \phi 40$ )



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

●  $\phi 50$ ,  $\phi 63$



No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	End plate	Steel	Nickeling	13	Tube body	Aluminum alloy	Hard alumite
2	Hexagon socket head cap bolt ( $\phi 16$ ) Hexagon socket head button bolt ( $\phi 20$ to $\phi 63$ )	Alloy steel	Zinc chromate	14	Plug	Brass or steel	
		Alloy steel	Zinc chromate	15	Piston (R)	Aluminum alloy	Chromate ( $\phi 16$ to $\phi 32$ )
3	Conical spring washer	Steel	Blackening	16	Piston packing seal	Nitrile rubber	
4	Piston rod	Stainless steel ( $\phi 16$ to $\phi 25$ )	Industrial chrome plating	17	Magnet	Plastic	
		Steel ( $\phi 32$ to $\phi 63$ )	Industrial chrome plating	18	Wear ring	Acetar resin	
5	Rod packing seal	Nitrile rubber		19	Piston (H)	Aluminum alloy	Chromate ( $\phi 16$ to $\phi 32$ )
6	C type snap ring	Steel	Phosphate coating	20	Base plate	Aluminum alloy	Chromate
7	Bolt	Alloy steel	Zinc chromate	21	O ring	Nitrile rubber	
8	Metal gasket	Nitrile rubber		22	Steel ball	Stainless steel	
9	Rod bushing	Special aluminum alloy ( $\phi 16$ to $\phi 32$ )	Alumite	23	Hexagon socket head set screw	Stainless steel	
		Aluminum alloy ( $\phi 40$ to $\phi 63$ )	Chromate	24	Cushion needle	Brass	
10	Cushion packing seal	Nitrile rubber, steel		25	Needle gasket	Nitrile rubber	
11	Metal	Oil impregnated bearing alloy		26	Piston gasket	Nitrile rubber	
12	Guide rod	Stainless steel ( $\phi 16$ )	Industrial chrome plating	27	Bush	Oilless dry met ( $\phi 40$ to $\phi 63$ )	
		Steel ( $\phi 20$ to $\phi 63$ )	Industrial chrome plating				

### Repair parts list

Bore size (mm)	Kit No.	Repair parts number
	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	

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

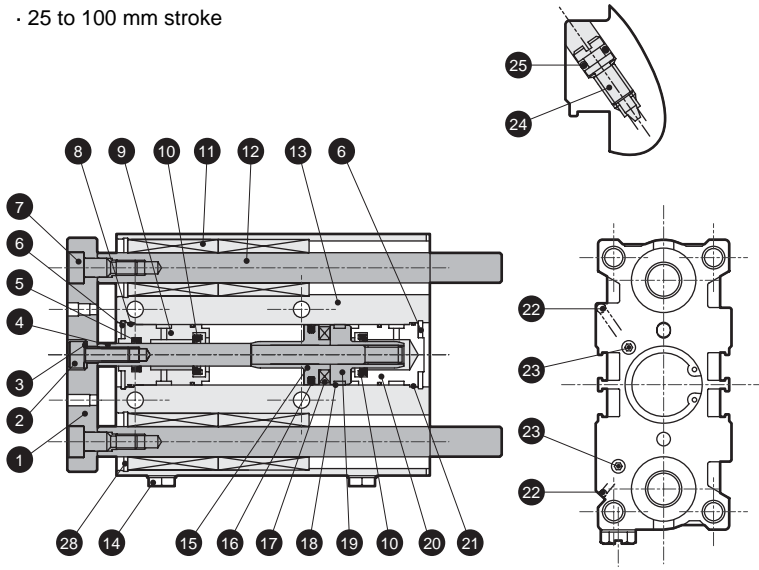
Ending

Guided cylinder  
Combined functions

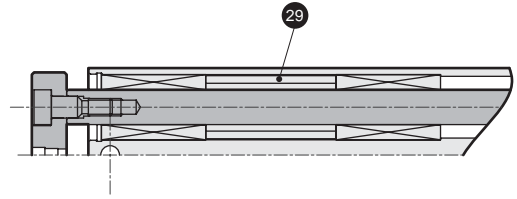
## Internal structure and parts list (STG-BC-16 to 40)

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

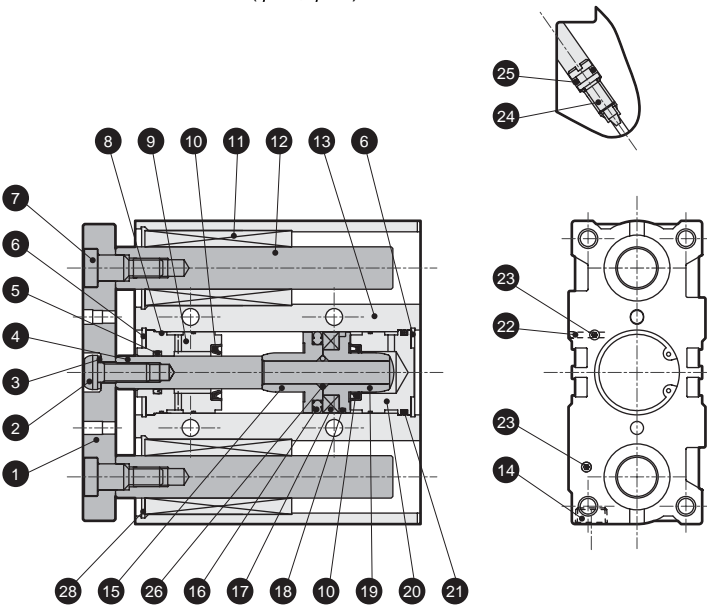
●  $\phi 16$   
 · 25 to 100 mm stroke



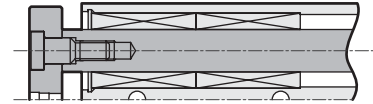
· Over 100 mm stroke



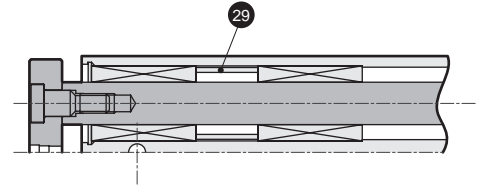
●  $\phi 20$  to  $\phi 40$   
 · 25 mm stroke ( $\phi 20$ ,  $\phi 25$ )  
 · 100 mm stroke or less ( $\phi 32$ ,  $\phi 40$ )



· 25 to 100 mm stroke ( $\phi 20$ )  
 · 25 to 75 mm stroke ( $\phi 25$ )

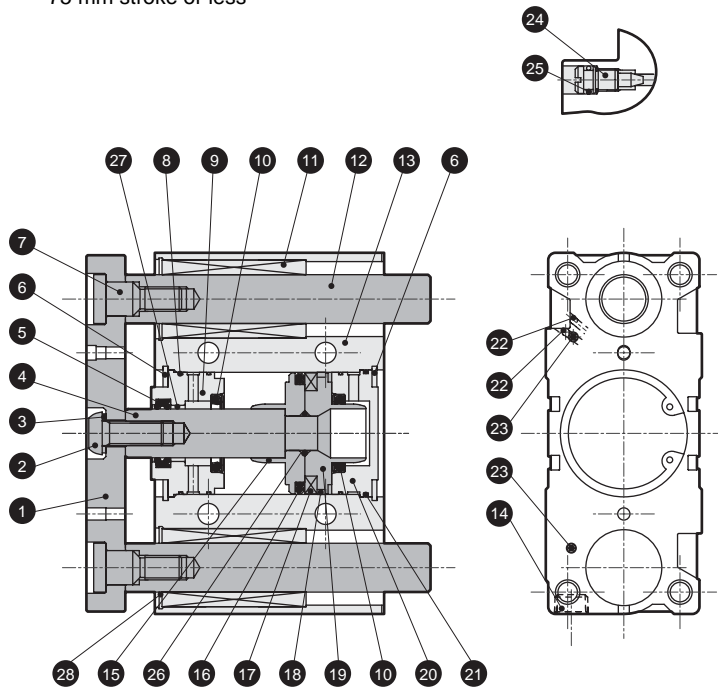


· Over 100 mm stroke ( $\phi 20$ )  
 · Over 75 mm stroke ( $\phi 25$ )  
 · Over 100 mm stroke ( $\phi 32$ ,  $\phi 40$ )



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

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



· Over 75 mm stroke

No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	End plate	Steel	Nickeling	14	Plug	Brass or steel	
2	Hexagon socket head cap bolt ( $\phi 12$ to $\phi 16$ )	Alloy steel	Zinc chromate	15	Piston (R)	Aluminum alloy	Chromate ( $\phi 16$ to $\phi 32$ )
		Alloy steel	Zinc chromate	16	Piston packing seal	Nitrile rubber	
3	Conical spring washer	Steel	Blackening	17	Magnet	Plastic	
4	Piston rod	Stainless steel ( $\phi 16$ to $\phi 25$ )	Industrial chrome plating	18	Wear ring	Acetar resin	
		Steel ( $\phi 32$ to $\phi 63$ )	Industrial chrome plating	19	Piston (H)	Aluminum alloy	Chromate ( $\phi 16$ to $\phi 32$ )
5	Rod packing seal	Nitrile rubber		20	Base plate	Aluminum alloy	Chromate
6	C type snap ring	Steel	Phosphate coating	21	O ring	Nitrile rubber	
7	Bolt	Alloy steel	Zinc chromate	22	Steel ball	Stainless steel	
8	Metal gasket	Nitrile rubber		23	Hexagon socket head set screw	Stainless steel	
9	Rod bushing	Special aluminum alloy ( $\phi 16$ to $\phi 32$ )	Alumite	24	Cushion needle	Brass	
		Aluminum alloy ( $\phi 40$ to $\phi 63$ )	Chromate	25	Needle gasket	Nitrile rubber	
10	Cushion packing seal	Nitrile rubber, steel		26	Piston gasket	Nitrile rubber	
11	Ball bushing			27	Bush	Oilless dry met ( $\phi 40$ to $\phi 63$ )	
12	Guide rod	Alloy steel	Industrial chrome plating	28	C type snap ring	Steel	Phosphate coating
13	Tube body	Aluminum alloy	Hard alumite	29	Collar	Aluminum alloy	

### Repair parts list

Bore size (mm)	Kit No.	Repair parts number
	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	

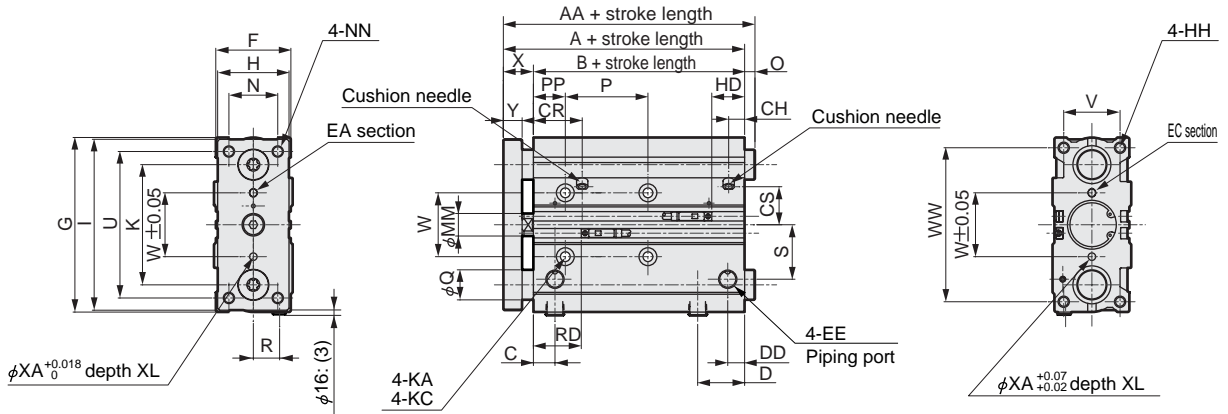
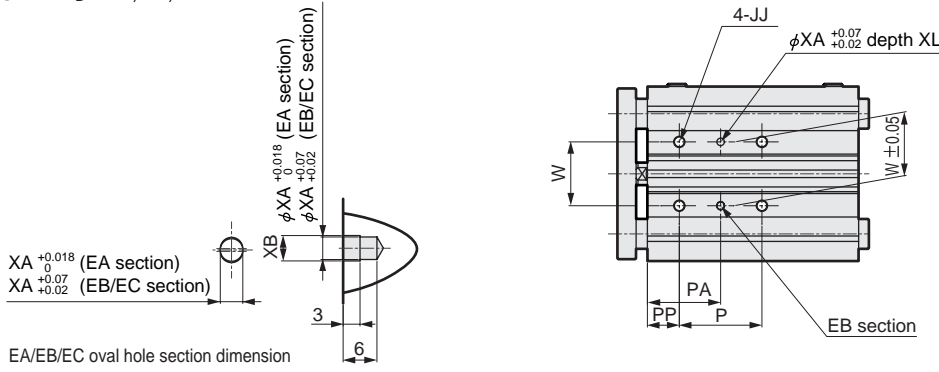
- SCP\*2
- CMK2
- CMA2
- SCM
- SCG
- SCA2
- SCS
- CKV2
- CA/OV2
- SSD
- CAT
- MDC2
- MVC
- SMD2
- MSD\*
- FC\*
- STK
- ULK\*
- JSK/M2
- JSG
- JSC3
- USSD
- USC
- JSB3
- LMB
- STG**
- STG/L
- LCS
- LCG
- LCM
- LCT
- LCY
- STR2
- UCA2
- HCM
- HCA
- SRL2
- SRG
- SRM
- SRT
- MRL2
- MRG2
- SM-25
- CAC3
-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

Guided cylinder  
Combined functions



## Dimensions (φ16, φ20, φ25)

### ● STG-MC-16, 20, 25



### ● STG-MC common

Symbol	Standard stroke length (mm)		A	B	C	D	DD	EE	F	G	H	HH	I	JJ	K	KA	
Bore size (mm)	φ16	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 penetrating	
		φ20	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 penetrating
			φ25	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

Symbol	Bore size (mm)	MM	N	NN	KC	P				PA				PP	R	S																
						75st or less	Over 75st to 175st	Over 175st to 250st	Over 250st to 400st	75st or less	Over 75st to 175st	Over 175st to 250st	Over 250st to 400st																			
Bore size (mm)	φ16	6	16	M5 penetrating	8 spot face depth 4.5	44	110	200	-	27	60	105	-	5	10	18																
																	φ20	8	18	M5 penetrating	9.5 spot face depth 5.5	44	120	200	300	39	77	117	167	17	11	25

Symbol	U	V	W	WW	X	Y	RD	HD	XA	XB	CR	CH	CS
φ16	54	22	24	56	13	8	20.5	18	3	3.5	23.5	9	16
φ20	70	24	28	72	16	10	23.5	19.5	3	3.5	25	11	19
φ25	78	30	34	82	16	10	25.5	17.5	4	4.5	26	8.5	20

### ● STG-MC

Symbol	AA					Q	O				
	25st or less	Over 25st to 50st	Over 50st to 100st	Over 100st to 200st	Over 200st		25st or less	Over 25st to 50st	Over 50st to 100st	Over 100st to 200st	Over 200st
φ16	71	88	71	95	95	10	0	17	0	24	24
φ20	78	84.5	79	79	122	12	0	6.5	1	1	44
φ25	78.5	84	84	84	122	16	0	5.5	5.5	5.5	43.5

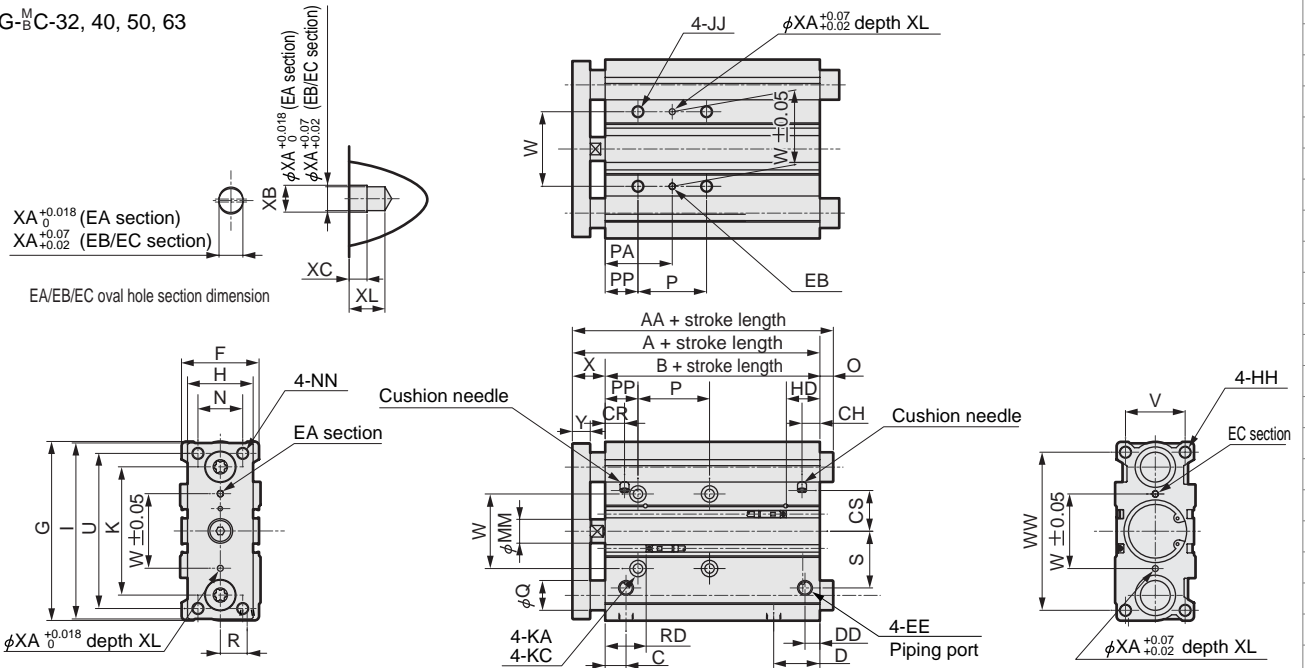
### ● STG-BC

Symbol	AA					Q	O				
	25st or less	Over 25st to 75st	100st	Over 100st to 200st	Over 200st		25st or less	Over 25st to 75st	100st	Over 100st to 200st	Over 200st
φ16	80	71	71	95	95	8	9	0	0	24	24
φ20	93	79	79	100	122	10	15	1	1	22	44
φ25	99	84	103	103	122	13	20.5	5.5	24.5	24.5	43.5

## Dimensions (φ32, φ40, φ50, φ63)



### ● STG-M<sub>B</sub>C-32, 40, 50, 63



Note 1: Refer to page 1514 for the RD, HD, and projecting dimensions of the 2 color indicator type, preventive maintenance output type, off delay type, strong magnetic field proof type, T1H/V, T8H/V switch.

### ● STG-M<sub>B</sub>C common

Symbol	P															
Bore size (mm)	Standard stroke length (mm)	A	B	C	D	DD	EE	F	G	H	HH	I	JJ	K	KA	
		φ32	25, 50, 75, 100, 125,	84.5	62.5	12.5	30.5	9	Rc1/8	48	112	44	M8 depth 20	110	M8 depth 16	78
φ40	150, 175, 200, 250,	91	69	14	31	10	Rc1/8	54	120	44	M8 depth 20	118	M8 depth 16	86	6.3 penetrating	
φ50	300, 350, 400	97	69	14	35	11	Rc1/4	64	148	60	M10 depth 22	146	M10 depth 20	110	8.6 penetrating	
φ63		102	74	16.5	35	15	Rc1/4	78	162	70	M10 depth 22	158	M10 depth 20	124	8.6 penetrating	

Symbol	Bore size (mm)	KC	MM	N	NN	P				PA				PP	R	S	U
						75st or less	Over 75st to 175st	Over 175st to 250st	Over 250st	75st or less	Over 75st to 175st	Over 175st to 250st	Over 250st				
φ32		11 spot face depth 7.5	12	30	M8 penetrating	48	124	200	300	45	83	121	171	21	15	34	96
φ40		11 spot face depth 7.5	16	30	M8 penetrating	48	124	200	300	46	84	122	172	22	18	38	104
φ50		14 spot face depth 9	20	40	M10 penetrating	48	124	200	300	48	86	124	174	24	21.5	47	130
φ63		14 spot face depth 9	20	50	M10 penetrating	52	128	200	300	50	88	124	174	24	28	55	130

Symbol	EA/EB/EC oval hole section dimension													
Bore size (mm)	V	W	WW	X	Y	RD	HD	XA	XB	XC	XL	CR	CH	CS
	φ32	34	42	98	22	12	23.5	20	4	4.5	3	6	12.5	9.2
φ40	40	50	106	22	12	27.5	22.5	4	4.5	3	6	13	12	27.5
φ50	46	66	130	28	16	30	20.5	5	6	4	8	15	12.5	39.5
φ63	58	80	142	28	16	31	24	5	6	4	8	32.5	31.5	45.5

### ● STG-MC

Symbol	AA				Q	O			
	25st	50st	Over 50st to 200st	Over 200st		25st	50st	Over 50st to 200st	Over 200st
φ32	84.5	125	100	140	20	0	40.5	15.5	55.5
φ40	91	125	100	140	20	0	34	9	49
φ50	97	116	116	161	25	0	19	19	64
φ63	102	116	116	161	25	0	14	14	59

### ● STG-BC

Symbol	AA						Q	O					
	25st	50st	75st	100st	Over 100st to 200st	Over 200st		25st	50st	75st	100st	Over 100st to 200st	Over 200st
φ32	84.5	123	98	98	118	140	16	0	38.5	13.5	13.5	33.5	55.5
φ40	91	123	98	98	118	140	16	0	32	7	7	27	49
φ50	97	114	114	159	134	161	20	0	17	17	62	37	64
φ63	102	114	114	159	134	161	20	0	12	12	57	32	59

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

Guided cylinder  
Combined functions

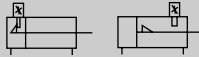


Guided cylinder Double acting position locking type

# STG-M/BQ Series

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

JIS symbol



## Specifications

Descriptions	STG-M/BQ					
Bore size mm	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$
Actuation	Double acting position locking type					
Working fluid	Compressed air					
Max. working pressure MPa	1.0					
Min. working pressure MPa	0.2		0.15			
Withstanding pressure MPa	1.6					
Ambient temperature $^{\circ}\text{C}$	-10 to 60 (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					
Position locking mechanism	Rod end or head end					
Holding force	Maximum thrust x 0.7					
Lubrication	Not required (when lubricating, use turbine oil Class 1 ISOVG 32)					
Allowable energy absorption 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 length with switch (mm)
$\phi 20$	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400	400	5	Refer to the table 1.
$\phi 25$				
$\phi 32$				
$\phi 40$				
$\phi 50$				
$\phi 63$				

Note 1: Custom stroke length is available per 5mm increment. Note that the total length is the same as the next longer standard stroke length.

Table 1

	1 color indicator (excluding T1) T0/T5/T2/T3/T3P	2 color indicator, with preventive maintenance output, strong magnetic field T1/T <sub>3</sub> <sup>2</sup> YF/T <sub>3</sub> <sup>2</sup> YF/T <sub>3</sub> <sup>2</sup> YM/T2J/T2YD/T2YDT
Axial lead wire T*H	20	30
Radial lead wire T*V	5	15

Note 2: When 1 or 2 switches are attached.

**⚠** Read "Safety precautions" **Position locking type** on pages 1446 to 1448 before starting use.



### Switch specifications

● 1 color/2 color indicator/strong magnetic field proof

\* The T0/T5 switch can be used with 220 VAC.  
Consult with CKD for working conditions.

Descriptions	Proximity 2-wire			Proximity 3-wire			Reed 2-wire		Proximity 2-wire		
	T1H/T1 V	T2H/T2V T2JH/T2JV	T2YH/T2YV	T3H/T3V	T3PH/T3PV (Custom order)	T3YH/T3YV	T0H/T0V	T5H/T5V	T2YD/T2YDT		
Applications	Programmable controller relay, small solenoid valve	Programmable controller		Programmable controller, relay			Programmable controller, relay	Programmable controller, relay, IC, circuit (without light), serial connection	Programmable controller		
Output method	-			NPN output	PNP output	NPN output	-				
Power voltage	-			10 to 28 VDC			-				
Load voltage	85 to 265 VAC	10 to 30 VDC		30 VDC or less			12/24 VDC	110 VAC	5/12/24 VDC	110 VAC	24 VDC ±10%
Load current	5 to 100mA	5 to 20mA (Note 1)		100mA or less		50mA or less	5 to 50mA	7 to 20mA	50mA or less	20mA or less	5 to 20mA
Light	LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Green LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Without indicator light		Red/green LED (ON lighting)	
Leakage current	1mA or less with 100 VAC 2mA or less with 200 VAC	1mA or less		10 μA or less			0mA			1mA or less	

● With preventive maintenance output

Descriptions	Proximity 3-wire	Proximity 4 wire	Proximity 3-wire	Proximity 4 wire	
	T2YFH/V	T3YFH/V	T2YMH/V	T3YMH/V	
Applications	Programmable controller	Programmable controller, relay	Programmable controller	Programmable controller, relay	
Output method	NPN output				
Light	Installation position adjustment	Red/green LED (ON lighting)			
	Preventive maintenance output	Yellow LED (ON lighting)			
Regular output	Power voltage	-	10 to 28 VDC	-	10 to 28 VDC
	Load voltage	10 to 30 VDC	30 VDC or less	10 to 30 VDC	30 VDC or less
	Load current	5 to 20mA	50mA or less	5 to 20mA	50mA or less
	Leakage current	1mA or less	10 μA or less	1.2mA or less	10 μA or less
Preventive maintenance output	Load voltage	30 VDC or less			
	Load current	20mA or less	50mA or less	5 to 20mA or less	50mA or less
	Leakage current	10 μA or less			

Note 1: Refer to Ending 1 for other switch specifications.

Note 1: Maximum load current above: 20mA applies at 25°C. The current will be lower than 20mA if ambient temperature around switch is higher than 20mA. (5 to 10mA when 60°C)

### Cylinder weight

● STG-MQ

Unit: kg

Descriptions	Stroke length												Switch weight grommet
	25	50	75	100	125	150	175	200	250	300	350	400	
φ20	0.71	1.15	1.35	1.54	1.73	1.92	2.12	2.35	2.77	3.15	3.54	3.92	0.018
φ25	1.00	1.63	1.90	2.16	2.43	2.69	2.95	3.27	3.85	4.38	4.91	5.43	0.018
φ32	2.06	2.60	2.99	3.39	3.78	4.18	4.57	5.06	5.94	6.73	7.52	8.30	0.018
φ40	2.38	2.83	3.24	3.66	4.06	4.48	4.89	5.39	6.32	7.15	7.97	8.79	0.018
φ50	4.02	4.72	5.34	5.96	6.59	7.21	7.83	8.61	10.01	11.25	12.51	13.77	0.018
φ63	5.01	5.82	6.56	7.29	8.02	8.75	9.49	10.38	12.00	13.45	14.91	16.36	0.018

● STG-BQ

Unit: kg

Descriptions	Stroke length												Switch weight grommet
	25	50	75	100	125	150	175	200	250	300	350	400	
φ20	0.74	1.13	1.29	1.50	1.66	1.84	2.00	2.19	2.54	2.88	3.22	3.56	0.018
φ25	1.03	1.56	1.79	2.05	2.27	2.50	2.72	2.96	3.43	3.88	4.33	4.78	0.018
φ32	1.85	2.29	2.60	2.96	3.27	3.57	3.88	4.22	4.86	5.47	6.08	6.69	0.018
φ40	2.18	2.65	3.00	3.40	3.75	4.10	4.45	4.84	5.56	6.26	6.96	7.66	0.018
φ50	3.69	4.41	4.95	5.57	6.10	6.63	7.17	8.27	8.90	9.97	11.06	12.13	0.018
φ63	4.66	5.51	6.15	6.89	7.53	8.18	8.82	9.51	10.88	12.19	13.45	14.71	0.018

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

Ending  
Guided cylinder  
Combined functions

## How to order

Without switch

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

With switch

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

Model no.

Position locking type

A Bearing method

B Bore size

C Port thread type

D Stroke length

E Position locking mechanism

F Switch model no.

Note 1, Note 2

Note 3, Note 4

Note 6

G

Switch quantity

H

Option Note 5

Symbol	Descriptions			
<b>A Bearing method</b>				
M	Metal bush bearing			
B	Ball bearing			
<b>B Bore size (mm)</b>				
20	φ20			
25	φ25			
32	φ32			
40	φ40			
50	φ50			
63	φ63			
<b>C Port thread type</b>				
Blank	Rc thread			
NN	NPT thread (custom order)			
GN	G thread (custom order)			
<b>D Stroke length (mm)</b>				
Refer to the following page for stroke length table.				
<b>E Position locking mechanism</b>				
H	Head end position locking mechanism			
R	Rod end position locking mechanism			
<b>F Switch model no.</b>				
Axial lead wire	Radial lead wire	Contact	Indicator	Lead wire
T0H*	T0V*	Reed	1 color indicator type	2-wire
T5H*	T5V*		Without indicator light	
T1H*	T1V*	Proximity	1 color indicator type	2-wire
T2H*	T2V*		1 color indicator type	
T3H*	T3V*		1 color indicator type (custom order)	3-wire
T3PH*	T3PV*		2 color indicator type	2-wire
T2YH*	T2YV*			
T3YH*	T3YV*		2 color indicator type (w/ indicator light for preventive maintenance output (1 color))	3-wire
T2YFH*	T2YFV*			2 color indicator type (w/ indicator light for preventive maintenance output (1 color))
T3YFH*	T3YFV*		Off-delay type	
T2YMH*	T2YMV*			Strong magnetic field proof switch
T3YMH*	T3YMV*			
T2JH*	T2JV*			
T2YD*	-			
T2YDT*	-			
<b>*Lead wire length</b>				
Blank	1 m (standard)			
3	3 m (option)			
5	5 m (option)			
<b>G Switch quantity</b>				
R	One on rod end			
H	One on head end			
D	Two			
T	Three			
<b>H Option</b>				
M0	Non-locking manual override (release bolt attached)			
M1	Locking manual override			

### Note on model no. selection

Note 1: Switches other than F switch model no. are available. (Custom order)

Refer to Ending 1 for the details.

Note 2: STG-Q can not install T8H/V.

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

Note 4: When the position locking mechanism is provided on the head side and 25st or less is selected, it may not be possible to insert the switch from the rod side. In this case, temporarily remove the end plate and mount. Contact CKD for information on removing and assembling the end plate.

Note 5: If "M0" or "M1" is not selected for H Options, only the non-locking manual override will be provided. Release bolt is not included.

Note 6: T1H/V installation is custom order.

### <Example of model number>

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

Model: Guided cylinder double acting position locking type

- A Bearing method : Ball bearing
- B Bore size : φ50mm
- C Port thread type : Rc thread
- D Stroke length : 75 mm
- E Position locking mechanism : Head end position locking mechanism
- F Switch model no. : Reed T0H switch, lead wire length 1m
- G Switch quantity : Two
- H Option : Non-locking manual override

### D Stroke length

Stroke length (mm)	Applicable bore size						
	φ20	φ25	φ32	φ40	φ50	φ63	
Standard stroke length	25	●	●	●	●	●	●
	50	●	●	●	●	●	●
	75	●	●	●	●	●	●
	100	●	●	●	●	●	●
	125	●	●	●	●	●	●
	150	●	●	●	●	●	●
	175	●	●	●	●	●	●
	200	●	●	●	●	●	●
	250	●	●	●	●	●	●
	300	●	●	●	●	●	●
350	●	●	●	●	●	●	
400	●	●	●	●	●	●	
Min. stroke length Note 2	Refer to page 1482.						
Custom stroke length Note 1	per 5mm						

Note 1: The total length is the same as the next longer standard stroke length.

### How to order switch

**SW** - **T0V**

Switch model no.  
(Item **E** previous page)

Note: Consult with CKD when using the ecological T type switch.

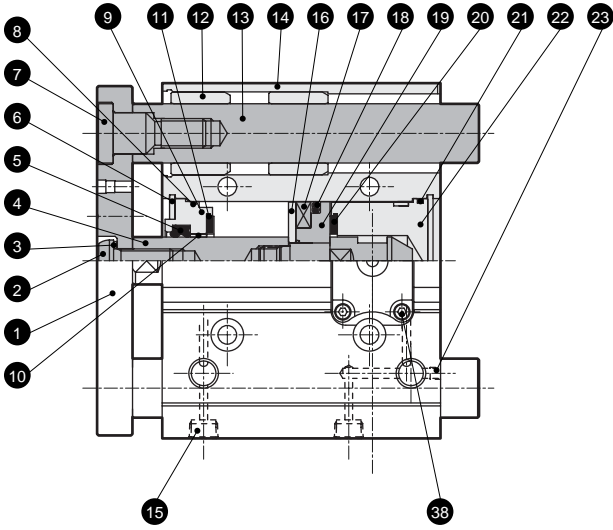
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CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
<b>STG</b>
<b>STS/L</b>
<b>LCS</b>
<b>LCG</b>
<b>LCM</b>
<b>LCT</b>
<b>LCY</b>
<b>STR2</b>
<b>UCA2</b>
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HCA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

Guided cylinder  
Combined functions

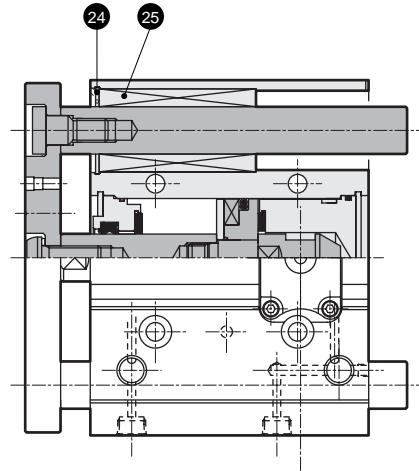
## Internal structure and parts list

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

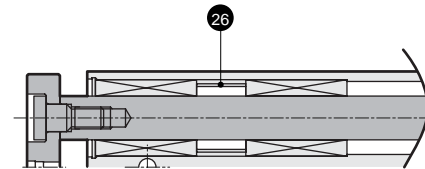
### ● Metal bush bearing type STG-MQ



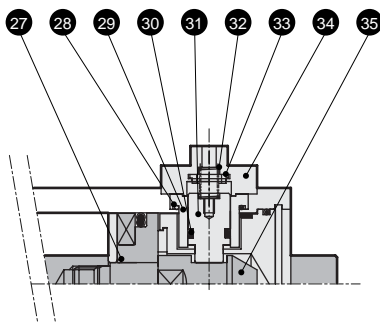
### ● Ball bearing type STG-BQ



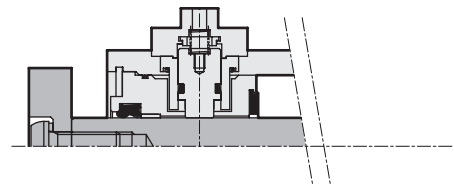
· 100 mm stroke and over



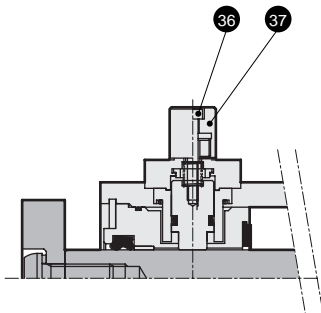
### ● Head end position locking type STG-<sup>M</sup><sub>B</sub>Q-H



### ● Rod end position locking type STG-<sup>M</sup><sub>B</sub>Q-R



### ● Locking manual override (M1)



### Part list

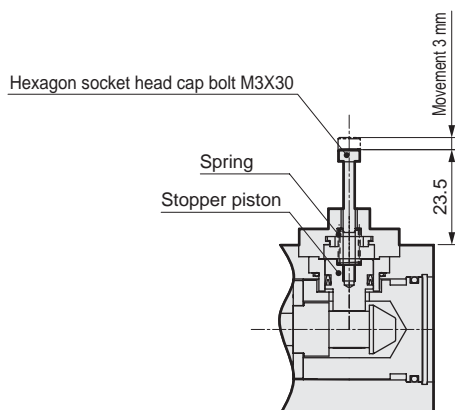
No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	End plate	Steel	Nickeling	20	Cushion rubber	Urethane rubber	
2	Hexagon socket head button bolt	Alloy steel	Zinc chromate	21	O ring	Nitrile rubber	
3	Conical spring washer	Steel	Blackening	22	Head cover	Aluminum alloy	Chromate
4	Piston rod	Stainless steel ( $\phi 20$ to $\phi 25$ )	Industrial chrome plating	23	Hexagon socket head set screw	Stainless steel	
		Steel ( $\phi 32$ to $\phi 63$ )	Industrial chrome plating	24	C type snap ring	Steel	Phosphate coating
5	Rod packing seal	Nitrile rubber		25	Ball bushing		
6	C type snap ring	Steel	Phosphate coating	26	Collar	Aluminum alloy	
7	Bolt	Alloy steel	Zinc chromate	27	O ring	Nitrile rubber	
8	Metal gasket	Nitrile rubber		28	O ring	Nitrile rubber	
9	Rod bushing	Special aluminum alloy ( $\phi 20$ to $\phi 25$ )	Alumite	29	Stopper housing	Aluminum alloy ( $\phi 20$ to $\phi 50$ )	Alumite
		Aluminum alloy ( $\phi 40$ to $\phi 63$ )	Chromate			Alloy steel ( $\phi 63$ )	Chromate
10	Bush	Oilless dry met	H: $\phi 40$ and over	30	Stopper packing seal	Nitrile rubber	
			R: $\phi 32$ and over	31	Stopper piston	Steel	Nitriding
11	Cushion rubber	Urethane rubber		32	Coil spring	Steel	Paint
12	Metal	Oil impregnated bearing alloy		33	Cushion rubber	Urethane rubber	
13	Guide rod	Steel	Industrial chrome plating	34	Stopper cover	Aluminum alloy	Chromate
14	Tube body	Aluminum alloy	Hard alumite	35	Sleeve	Steel	Nitriding
15	Plug	Steel	Nickeling	36	Hexagon socket head cap bolt	Alloy steel	
16	Spacer	Aluminum alloy	Chromate	37	Round nut	Aluminum alloy	
17	Magnet	Plastic		38	Hexagon socket head cap bolt	Alloy steel	
18	Piston packing seal	Nitrile rubber					
19	Piston	Aluminum alloy	Chromate				

### Repair parts list

Bore size (mm)	Kit No.	Repair parts number
$\phi 20$	STG-Q-20K	
$\phi 25$	STG-Q-25K	
$\phi 32$	STG-Q-32K	
$\phi 40$	STG-Q-40K	
$\phi 50$	STG-Q-50K	
$\phi 63$	STG-Q-63K	

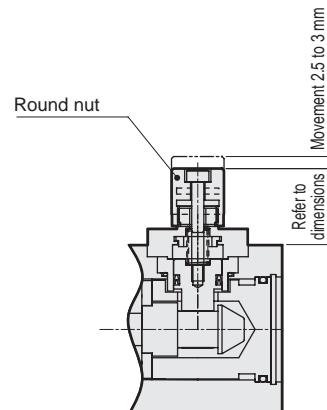
### <Explanation of manual override>

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



Screw a hexagon socket bolt (M3x30) into the stopper piston, and pull the bolt up with a force of 20N or more. The stopper piston will move and the lock will be released. (Operate loadless horizontal installation or opposition side port with pressurized.) When the hand is released from the bolt, and the stopper piston returns by the internal spring and enters the piston rod groove, the piston is locked.

● Locking manual override (option symbol: M1)



When the round nut is turned counterclockwise, the stopper piston will move, and the lock will be released. When the nut is turned clockwise to the lock position, the stopper piston will return. When it fits into the piston rod slot again, the piston will be locked. If the stopper piston is not deeply fit into the slot when locked, damage could occur. Check the round nut fits into the back.

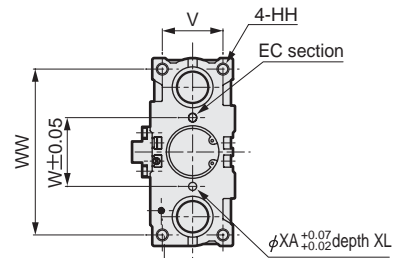
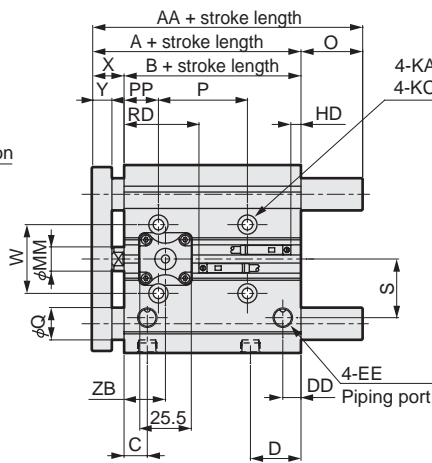
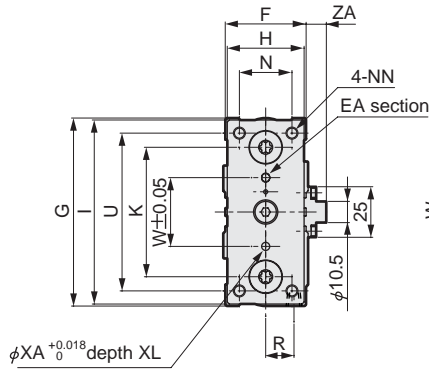
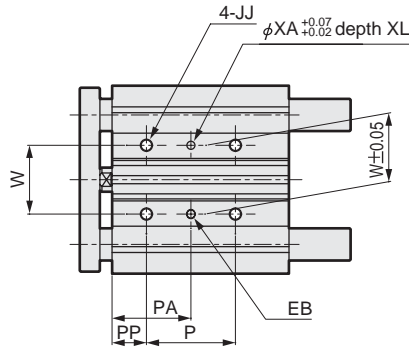
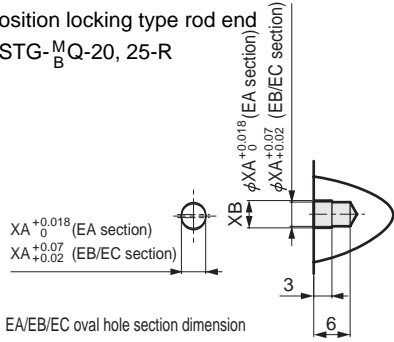
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CMA2  
SCM  
SCG  
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SCS  
CKV2  
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SSD  
CAT  
MDC2  
MVC  
SMD2  
MSD\*  
FC\*  
STK  
ULK\*  
JSK/M2  
JSG  
JSC3  
USSD  
USC  
JSB3  
LMB  
**STG**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

Guided cylinder  
Combined functions

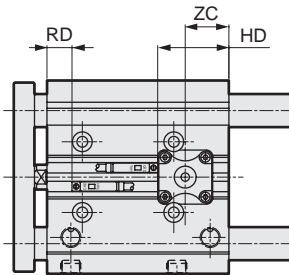
## Dimensions



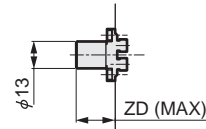
- Position locking type rod end
  - STG-M<sub>B</sub>Q-20, 25-R



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



- Locking manual override type (M1)



Note 1: Refer to page 1514 for the RD, HD, and projecting dimensions of the 2 color indicator type, preventive maintenance output type, off delay type, strong magnetic field proof type, T1H/V, T8H/V switch.

### ● STG-M<sub>B</sub>Q common

Symbol	Standard stroke length (mm)			A	B	C	D	DD	EE	F	G	H	HH	I	JJ	K	KA
Bore size (mm)	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 penetrating
	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 Penetrating
Symbol	MM	N	NN	KC	P			PA			PP	R	S				
					75st or less	75st to 175st	175st to 250st	Over 250st	75st or less	75st to 175st				175st to 250st	Over 250st		
Bore size (mm)	10	18	M5 penetrating	9.5 spot face depth 5.5	44	120	200	300	39	77	117	167	17	11	25		
	12	26	M6 penetrating	9.5 spot face depth 5.5	44	120	200	300	39	77	117	167	17	14	29		
Symbol	U	V	W	WW	X	Y	XA	XB	Position locking mechanism				Head end position locking		Rod end position locking		
									ZA	ZB	ZC	ZD	RD	HD	RD	HD	
Bore size (mm)	70	24	28	72	16	10	3	3.5	11	20	23	23	9.5	36	34.5	8.5	
	78	30	34	82	16	10	4	4.5	9	20.5	21	21	10	34	35	8.5	

### ● STS-MQ

Symbol	AA			Q	O		
	25st or less	25st to 175st	Over 175st		25st or less	25st to 100st	Over 175st
φ20	78	84.5	122	12	0	6.5	44
φ25	78.5	84	122	16	0	5.5	43.5

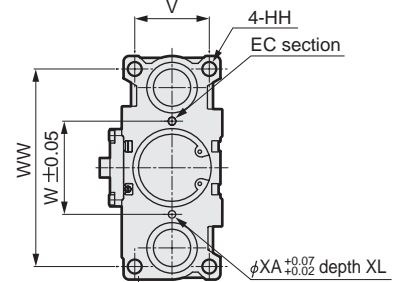
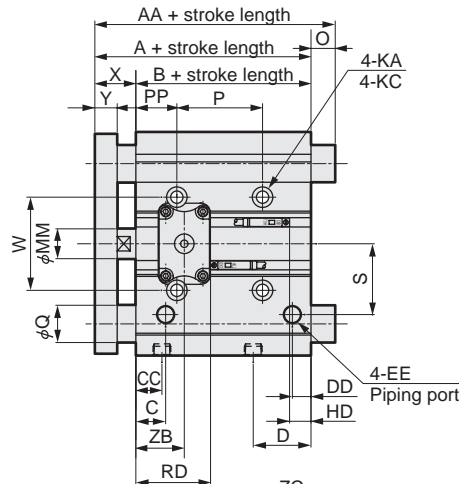
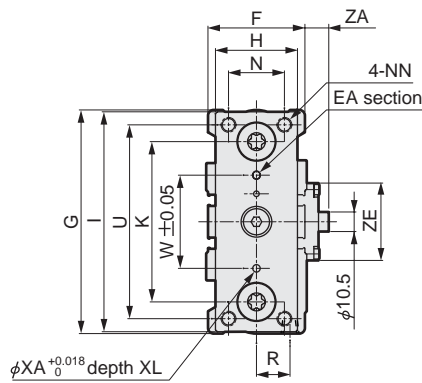
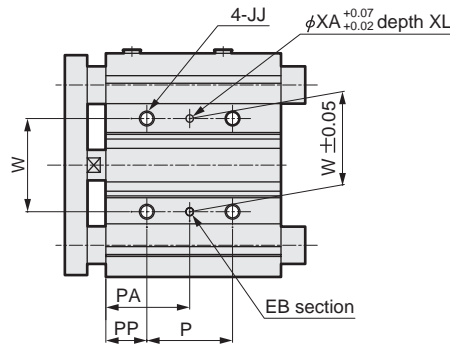
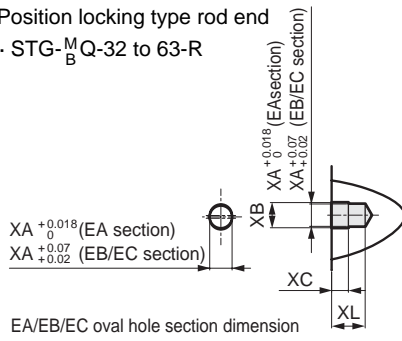
### ● STS-BQ

Symbol	AA			Q	O		
	75st or less	75st to 175st	Over 175st		75st or less	75st to 175st	Over 175st
φ20	80	100	122	10	2	22	44
φ25	84	103	122	13	5.5	24.5	43.5

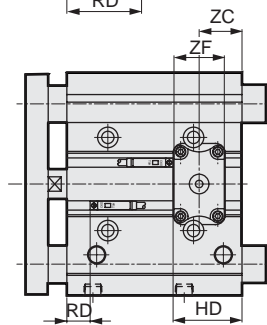
### Dimensions



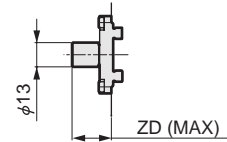
- Position locking type rod end  
- STG-M<sub>B</sub>Q-32 to 63-R



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



- Locking manual override type (M1)



Note 1: Refer to the page 1514 for the RD, HD, and projecting dimensions of the 2 color indicator type, preventive maintenance output type, off delay type, strong magnetic field proof type, T1H/V, T8H/V switch.

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

Symbol	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

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

Symbol	Bore size (mm)	U	V	W	WW	X	Y	XA	XB	XC	XL	Position locking mechanism				Head end position locking		Rod end position locking			
												ZA	ZB	ZC	ZD	ZE	ZF	RD	HD	RD	HD
$\phi 32$		96	34	42	98	22	12	4	4.5	3	6	10	21	21	23.5	33.5	26.5	10	34.5	35	8.5
$\phi 40$		104	40	50	106	22	12	4	4.5	3	6	12	26	23	23.5	41.5	27	13	37	40	12
$\phi 50$		130	46	66	130	28	16	5	6	4	8	12	25	23	24.5	41.5	27	13.5	37	39	11.5
$\phi 63$		130	58	80	142	28	16	5	6	4	8	11.5	25	25.5	24	41.5	27	14	40	39	16

- STG-MQ

Symbol	Bore size (mm)	AA			Q	O		
		25st or less	25st to 100st	Over 175st		25st or less	25st to 100st	Over 175st
$\phi 32$		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-QB

Symbol	Bore size (mm)	AA			Q	O				
		25st or less	25st to 75st	Over 175st		25st or less	25st to 75st	Over 175st		
$\phi 32$		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

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

Guided cylinder  
Combined functions

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



Guided cylinder Double acting rubber scraper type    Guided cylinder Double acting coil scraper type

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

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



## Specifications

Descriptions	STG- <sup>M</sup> / <sub>B</sub> G/STG- <sup>M</sup> / <sub>B</sub> G1					
Bore size mm	$\phi$ 20	$\phi$ 25	$\phi$ 32	$\phi$ 40	$\phi$ 50	$\phi$ 63
Actuation	Double acting scraper type					
Working fluid	Compressed air					
Max. working pressure MPa	1.0					
Min. working pressure MPa	0.2		0.15			
Withstanding pressure MPa	1.6					
Ambient temperature °C	-10 to 60 (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					
Lubrication	Not required (when lubricating, use turbine oil Class 1 ISOVG 32)					
Allowable energy absorption 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 length with switch (mm)
$\phi$ 20	20, 30, 40, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400	400	5	5 (10)
$\phi$ 25				
$\phi$ 32				
$\phi$ 40				
$\phi$ 50				
$\phi$ 63	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400			

Note 1: Custom stroke length is available per 5mm increment. Note that the total length is the same as the next longer standard stroke length.

Note 2: This applies when 1 or 2 switches are installed. Value in ( ) is the min. stroke length of 2 color indicator type switch, strong magnetic field proof, with preventive maintenance output.



### Switch specifications

- 1 color/2 color indicator/strong magnetic field proof

\* The T0/T5 switch can be used with 220 VAC.  
Consult with CKD for working conditions.

Descriptions	Proximity 2-wire			Proximity 3-wire			Reed 2-wire						Proximity 2-wire	
	T1H/T1V	T2H/T2V T2JH/T2JV	T2YH/ T2YV	T3H/ T3V	T3PH/T3PV (Custom order)	T3YH/ T3YV	T0H/T0V	T5H/T5V		T8H/T8V		T2YD/ T2YDT		
Applications	Programmable controller relay, small solenoid valve	Programmable controller		Programmable controller, relay			Programmable controller, relay	Programmable controller, relay, IC circuit (without light), serial connection		Programmable controller, relay		Programmable controller		
Output method	-			NPN output	PNP output	NPN output	-							
Power voltage	-			10 to 28 VDC			-							
Load voltage	85 to 265 VAC	10 to 30 VDC		30 VDC or less			12/24 VDC	110 VAC	5/12/24 VDC	110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100mA	5 to 20mA (Note 1)		100mA or less		50mA or less	5 to 50mA	7 to 20mA	50mA or less	20mA or less	5 to 50mA	7 to 20mA	7 to 10mA	5 to 20mA
Light	LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Green LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Without indicator light		LED (ON lighting)		Red/green LED (ON lighting)		
Leakage current	1mA or less with 100 VAC 2mA or less with 200 VAC	1mA or less		10 μA or less			0mA						1mA or less	

- With preventive maintenance output

Descriptions	Proximity 3-wire	Proximity 4 wire	Proximity 3-wire	Proximity 4 wire
	T2YFH/V	T3YFH/V	T2YMH/V	T3YMH/V
Applications	Programmable controller		Programmable controller, relay	
Output method	NPN output			
Light	Red/green LED (ON lighting)			
	-		Yellow LED (ON lighting)	
Regular output	Power voltage	-	10 to 28 VDC	-
	Load voltage	10 to 30 VDC	30 VDC or less	10 to 30 VDC
	Load current	5 to 20mA	50mA or less	5 to 20mA
	Leakage current	1mA or less	10 μA or less	1.2mA or less
Preventive maintenance output	Load voltage	30 VDC or less		
	Load current	20mA or less	50mA or less	5 to 20mA or less
	Leakage current	10 μA or less		

Note 1: Refer to Ending 1 for other switch specifications.

Note 1: Maximum load current above: 20mA applies at 25°C. The current will be lower than 20mA if ambient temperature around switch is higher than 20mA. (5 to 10mA when 60°C)

### Cylinder weight

- STG-MG/STG-MG1

Unit: kg

Descriptions	Stroke length															Switch weight grommet
	20	25	30	40	50	75	100	125	150	175	200	250	300	350	400	
φ 20	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	0.018
φ 25	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	0.018
φ 32		1.76			2.13	2.66	3.06	3.46	3.85	4.24	4.63	5.61	6.39	7.19	7.97	0.018
φ 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	0.018
φ 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	0.018
φ 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	0.018

- STG-BG/STG-BG1

Unit: kg

Descriptions	Stroke length															Switch weight grommet
	20	25	30	40	50	75	100	125	150	175	200	250	300	350	400	
φ 20	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	0.018
φ 25	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	0.018
φ 32		1.61			1.91	2.35	2.66	3.02	3.33	3.63	3.94	4.61	5.22	5.83	6.44	0.018
φ 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	0.018
φ 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	0.018
φ 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	0.018

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

Guided cylinder  
Combined functions

# STG-MG/STG-MG1 Series

## How to order

Without switch

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

With switch

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

Model no.

**A** Bearing method

**B** Model no.

**C** Bore size

**D** Port thread type

**E** Stroke length

**F** Switch model no.  
Note 1, Note 2

**G** Switch quantity

Symbol	Descriptions			
<b>A Bearing method</b>				
<b>M</b>	Metal bush bearing			
<b>B</b>	Ball bearing			
<b>B Model no.</b>				
<b>G</b>	Rubber scraper type			
<b>G1</b>	Coil scraper type			
<b>C Bore size (mm)</b>				
<b>20</b>	φ 20			
<b>25</b>	φ 25			
<b>32</b>	φ 32			
<b>40</b>	φ 40			
<b>50</b>	φ 50			
<b>63</b>	φ 63			
<b>D Port thread type</b>				
<b>Blank</b>	Rc thread			
<b>NN</b>	NPT thread (custom order)			
<b>GN</b>	G thread (custom order)			
<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	Indicator	Lead wire
<b>T0H*</b>	<b>T0V*</b>	Reed	1 color indicator type	2-wire
<b>T5H*</b>	<b>T5V*</b>		Without indicator light	
<b>T8H*</b>	<b>T8V*</b>		1 color indicator type	
<b>T1H*</b>	<b>T1V*</b>	Proximity	1 color indicator type	2-wire
<b>T2H*</b>	<b>T2V*</b>			3-wire
<b>T3H*</b>	<b>T3V*</b>		1 color indicator type (custom order)	3-wire
<b>T3PH*</b>	<b>T3PV*</b>			
<b>T2YH*</b>	<b>T2YV*</b>		2 color indicator type	2-wire
<b>T3YH*</b>	<b>T3YV*</b>			3-wire
<b>T2YFH*</b>	<b>T2YFV*</b>		2 color indicator type (w/o indicator light for preventive maintenance output)	3-wire
<b>T3YFH*</b>	<b>T3YFV*</b>			4-wire
<b>T2YMH*</b>	<b>T2YMV*</b>		2 color indicator type (w/ indicator light for preventive maintenance output (1 color))	3-wire
<b>T3YMH*</b>	<b>T3YMV*</b>			4-wire
<b>T2JH*</b>	<b>T2JV*</b>		Off-delay type	2-wire
<b>T2YD*</b>	-		Strong magnetic field proof switch	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>G Switch quantity</b>				
<b>R</b>	One on rod end			
<b>H</b>	One on head end			
<b>D</b>	Two			
<b>T</b>	Three			

### Note on model no. selection

Note1: Switches other than **E** switch model no. are available.  
(Custom order)

Refer to Ending 1 for the details.

Note2: T1H/V, T8H/V installation is custom order.

<Example of model number>

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

Model: Guided cylinder double acting coil scraper type

- A** Bearing method : Metal bush bearing
- B** Model no. : Coil scraper type
- C** Bore size : φ40mm
- D** Port thread type : Rc thread
- E** Stroke length : 50mm
- F** Switch model no. : Reed T0H switch, lead wire length 1m
- G** Switch quantity : One on head end

### D Stroke length

Stroke length (mm)	Applicable bore size						
	φ 20	φ 25	φ 32	φ 40	φ 50	φ 63	
Standard stroke length	20	●	●				
	25			●	●	●	●
	30	●	●				
	40	●	●				
	50	●	●	●	●	●	●
	75	●	●	●	●	●	●
	100	●	●	●	●	●	●
	125	●	●	●	●	●	●
	150	●	●	●	●	●	●
	175	●	●	●	●	●	●
	200	●	●	●	●	●	●
	250	●	●	●	●	●	●
	300	●	●	●	●	●	●
	350	●	●	●	●	●	●
400	●	●	●	●	●	●	
Min. stroke length Note 2	5 (10)						
Custom stroke length Note 1	Per 5mm increment						

Note 1: The total length is the same as the next longer standard stroke length.

Note 2: Value in ( ) is the min. stroke length of 2 color indicator type switch, strong magnetic field proof, with preventive maintenance output.

### How to order switch

**SW** - **T0V**

Switch model no.  
(Item (F) previous page)

Note: Consult with CKD when using the ecological T type switch.

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

Guided cylinder  
Combined functions

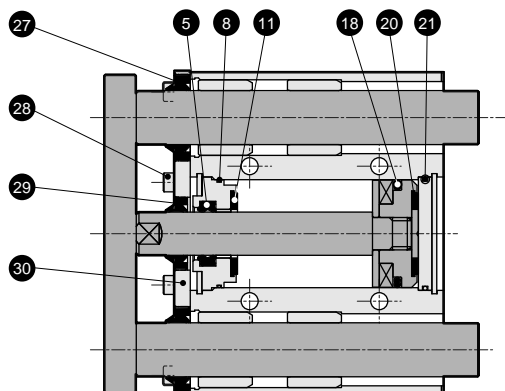
# STG-MG/STG-MG1 Series

## Internal structure and parts list

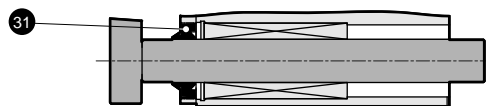
- SCP\*2
- CMK2
- CMA2
- SCM
- SCG
- SCA2
- SCS
- CKV2
- CA/OV2
- SSD
- CAT
- MDC2
- MVC
- SMD2
- MSD\*
- FC\*
- STK
- ULK\*
- JSK/M2
- JSG
- JSC3
- USSD
- USC
- JSB3
- LMB
- STG**
- STS/L
- LCS
- LCG
- LCM
- LCT
- LCY
- STR2
- UCA2

### ● Rubber scraper type

· STG-MG

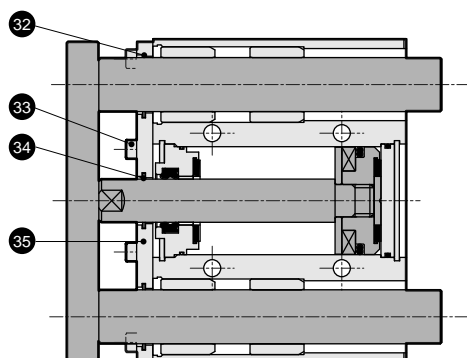


· STG-BG

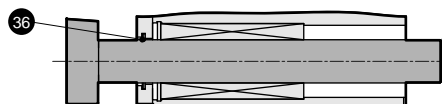


### ● Coil scraper type

· STG-MG1



· STG-BG1



## Parts list

\* Parts other than those listed below are the same as double acting standard single rod type. Refer to pages 1454 to 1457.

No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
STG-M/BG (rubber scraper type)				STG-M/GG1 (coil scraper type)			
27	Rubber scraper	Nitrile rubber + steel		32	Coil scraper	Phosphor bronze	
28	Hexagon socket head cap bolt	Alloy steel	Zinc chromate	33	Hexagon socket head cap bolt	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 placing an order.)

### ● STG-MG (rubber scraper type)

Bore size (mm)	Kit No.	Repair parts number
φ 20	STG-MG-20K	
φ 25	STG-MG-25K	
φ 32	STG-MG-32K	5 8 11 18
φ 40	STG-MG-40K	20 21 27 29
φ 50	STG-MG-50K	
φ 63	STG-MG-63K	

### ● STG-BG (rubber scraper type)

Bore size (mm)	Kit No.	Repair parts number
φ 20	STG-BG-20K	
φ 25	STG-BG-25K	
φ 32	STG-BG-32K	5 8 11 18
φ 40	STG-BG-40K	20 21 29 31
φ 50	STG-BG-50K	
φ 63	STG-BG-63K	

### ● STG-MG1 (coil scraper type)

Bore size (mm)	Kit No.	Repair parts number
φ 20	STG-MG1-20K	
φ 25	STG-MG1-25K	
φ 32	STG-MG1-32K	5 8 11 18
φ 40	STG-MG1-40K	20 21 32 34
φ 50	STG-MG1-50K	
φ 63	STG-MG1-63K	

### ● STG-BG1 (coil scraper type)

Bore size (mm)	Kit No.	Repair parts number
φ 20	STG-BG1-20K	
φ 25	STG-BG1-25K	
φ 32	STG-BG1-32K	5 8 11 18
φ 40	STG-BG1-40K	20 21 34 36
φ 50	STG-BG1-50K	
φ 63	STG-BG1-63K	

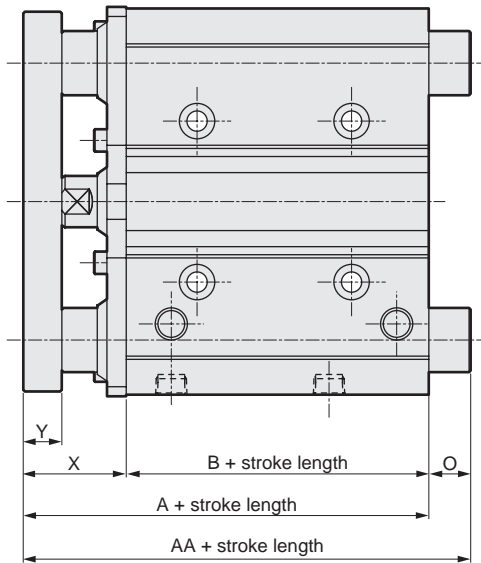
# STG-M<sub>B</sub>G/STG-B<sub>B</sub>G1 Series

Double acting rubber scraper type/double acting coil scraper type

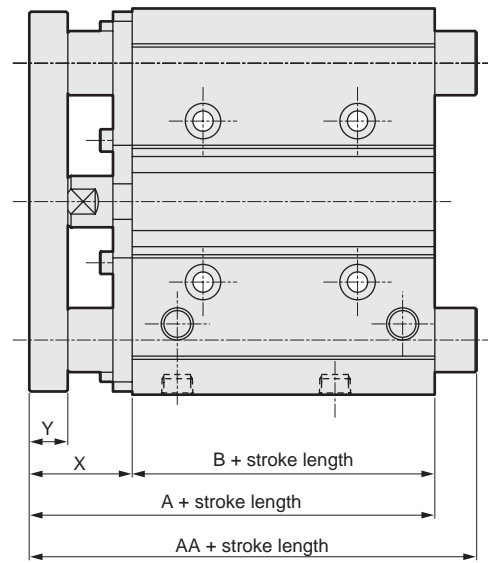
## Dimensions



### ● STG-M<sub>B</sub>G



### ● STG-B<sub>B</sub>G1



### ● STG-M-G/G1

\* Dimensions other than those listed below are the same as the double acting/single rod type on pages 1459 to 1460.

Symbol Bore size (mm)	Standard stroke length	A	AA			B	O			X	Y
			50st or less	Over 50st to 200st	Over 200st		50st or less	Over 50st to 200st	Over 200st		
φ 20	20, 30, 40, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400	63	63	88	132	37	0	25	69	26	10
φ 25		63.5	63.5	94	132	37.5	0	30.5	68.5	26	10
φ 32		69.5	89	110	150	37.5	19.5	40.5	80.5	32	12
φ 40	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400	76	89	110	150	44	13	34	74	32	12
φ 50		82	101	126	171	44	19	44	89	38	16
φ 63		87	101	126	171	49	14	39	84	38	16

### ● STG-B-G/G1

Symbol Bore size (mm)	Standard stroke length	A	AA				B	O				X	Y
			30st or less	Over 30st to 100st	Over 100st to 200st	Over 200st		30st or less	Over 30st to 100st	Over 100st to 200st	Over 200st		
φ 20	20, 30, 40, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400	63	69	88	110	132	37	6	25	47	69	26	10
φ 25		63.5	75	94	113	132	37.5	11.5	30.5	49.5	68.5	26	10
φ 32		69.5	89	108	128	150	37.5	19.5	38.5	58.5	80.5	32	12
φ 40	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400	76	89	108	128	150	44	13	32	52	74	32	12
φ 50		82	101	124	144	171	44	19	42	62	89	38	16
φ 63		87	101	124	144	171	49	14	37	57	84	38	16

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


Guided cylinder  
Combined functions



Guided cylinder Double acting coolant proof type

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

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

JIS symbol 



## Specifications

Descriptions	STG-MG <sup>2</sup> / <sub>3</sub>						
	Bore size	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$
Bore size mm							
Actuation	Double acting coolant proof type						
Working fluid	Compressed air						
Max. working pressure MPa	1.0						
Min. working pressure MPa	0.2				0.15		
Withstanding pressure MPa	1.6						
Ambient temperature °C	-10 to 60 (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 (when lubricating, use turbine oil Class 1 ISOVG 32)						
Allowable energy absorption 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 length with switch (mm)
$\phi 20$	20, 30, 40, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400	400	5	10
$\phi 25$				
$\phi 32$	25, 50, 75, 100, 125, 150, 175,			
$\phi 40$	200, 250, 300, 350, 400			
$\phi 50$				
$\phi 63$				

Note 1: Custom stroke length is available per 5mm increment. Note that the total length is the same as the next longer standard stroke length.  
 Note 2: This applies when 1 or 2 switches are installed.

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

### Switch specifications

Type/model no.	Proximity switch specifications	
Descriptions	T2YLH/T2YLV	T3YLH/T3YLV
Applications	Programmable controller	Programmable controller, relay
Output method	-	NPN output
Power voltage	-	10 to 28 VDC
Load voltage/current	10 to 30 VDC, 5 to 20mA Note 1	30VDC or less, 50mA or less
Light	Red/green LED (ON lighting)	
Leakage current	1mA or less	10 μA or less
Maximum shock resistance	980 m / S <sup>2</sup>	

Note 1: Max. load current above: 20mA at 25°C . The current will be lower than 20mA if ambient temperature around switch is higher than 20mA.  
(5 to 10mA at 60°C)

### Cylinder weight

● STG-MG2/STG-MG3

Unit: kg

Descriptions	Stroke length															Switch weight grommet
	20	25	30	40	50	75	100	125	150	175	200	250	300	350	400	
φ 20	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	0.018
φ 25	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	0.018
φ 32		1.68			2.05	2.58	2.98	3.38	3.77	4.16	4.55	5.53	6.31	7.11	7.89	0.018
φ 40		1.93			2.34	2.79	3.19	3.61	4.02	4.43	4.84	5.85	6.68	7.51	8.33	0.018
φ 50		3.32			3.94	4.65	5.27	5.89	6.51	7.13	7.75	9.31	10.54	11.80	13.06	0.018
φ 63		4.15			4.89	5.71	6.44	7.17	7.91	8.64	9.37	11.16	12.61	14.07	15.52	0.018

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

Guided cylinder  
Combined functions

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

## How to order

Without switch

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

With switch

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

Model no.

**A** Protective structure

**B** Bore size

**C** Port thread type

**D** Stroke length

**E** Switch model no.

**F** Switch quantity

Symbol	Descriptions			
<b>A Protective structure</b>				
<b>G2</b>	Coolant proof scraper + packing seal NBR			
<b>G3</b>	Coolant proof scraper + packing seal FKM			
<b>B Bore size (mm)</b>				
<b>20</b>	φ 20			
<b>25</b>	φ 25			
<b>32</b>	φ 32			
<b>40</b>	φ 40			
<b>50</b>	φ 50			
<b>63</b>	φ 63			
<b>C Port thread type</b>				
<b>Blank</b>	Rc thread			
<b>NN</b>	NPT thread (custom order)			
<b>GN</b>	G thread (custom order)			
<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	Indicator	Lead wire
<b>T2YLH*</b>	<b>T2YLV*</b>	Proximity	2 color indicator type	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>	One on rod end			
<b>H</b>	One on head end			
<b>D</b>	Two			
<b>T</b>	Three			

<Example of model number>

**STG-MG2-20-50-T2YLH-R**

Model: Guided cylinder double acting coolant proof type

- A** Protective structure : Coolant proof scraper + packing seal NBR
- B** Bore size : φ 20mm
- C** Port thread type : Rc thread
- D** Stroke length : 50mm
- E** Switch model no. : Proximity T2YLH switch, lead wire length 1m
- F** Switch quantity : One on rod end



### D Stroke length

Stroke length (mm)	Applicable bore size						
	φ 20	φ 25	φ 32	φ 40	φ 50	φ 63	
Standard stroke length	20	●	●				
	25			●	●	●	●
	30	●	●				
	40	●	●				
	50	●	●	●	●	●	●
	75	●	●	●	●	●	●
	100	●	●	●	●	●	●
	125	●	●	●	●	●	●
	150	●	●	●	●	●	●
	175	●	●	●	●	●	●
	200	●	●	●	●	●	●
	250	●	●	●	●	●	●
	300	●	●	●	●	●	●
	350	●	●	●	●	●	●
400	●	●	●	●	●	●	
Min. stroke length Note 2	5 (10)						
Custom stroke length Note 1	Per 5mm increment						

Note 1: The total length is the same as the next longer standard stroke length.

Note 2: Value in ( ) is for the type with switch.

### How to order switch

**SW** - **T2YLH**

Switch model no.  
(Item **E** previous page)

Note: Consult with CKD when using the ecological T type switch.

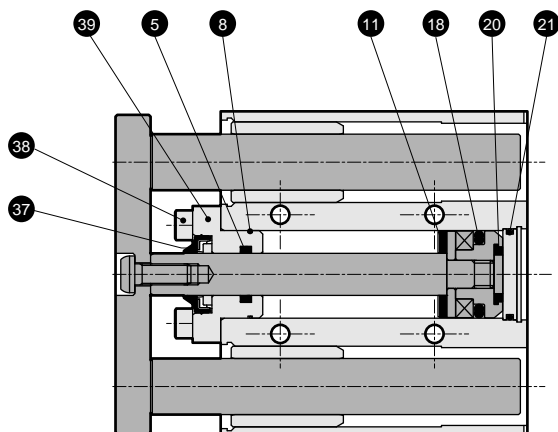
SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
<b>STG</b>
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

Guided cylinder  
Combined functions

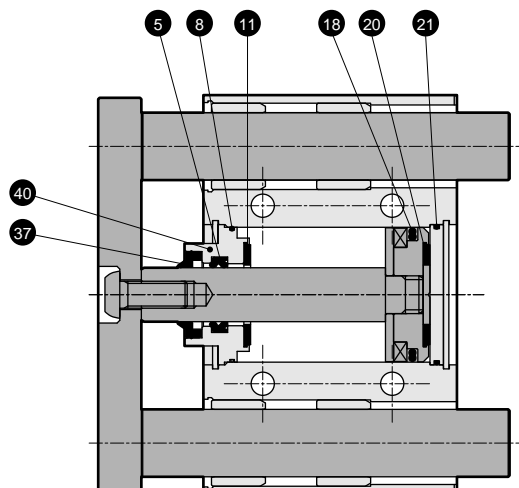
## Internal structure and parts list

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

● STG-MG2/MG3  
·  $\phi$  20 to  $\phi$  32



·  $\phi$  40 to  $\phi$  63



### Parts list

\* Parts other than those listed below are the same as double acting single rod type. Refer to pages 1454 to 1457.

No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
5	Rod packing seal	G2	Nitrile rubber	37	Scrapper	G2	Nitrile rubber
		G3	Fluoro rubber			G3	Fluoro rubber
8	Metal gasket	G2	Nitrile rubber	38	Hexagon socket head cap bolt	Stainless steel	
		G3	Fluoro rubber	39	Rod cover	Aluminum alloy	Alumite treatment
18	Piston packing seal	G2	Nitrile rubber	40	Rod bushing	Aluminum alloy	Alumite treatment
		G3	Fluoro rubber				
21	O ring	G2	Nitrile rubber				
		G3	Fluoro rubber				

### Repair parts list (Note: Specify the kit No. when placing an order.)

● STG-MG2 (packing seal material: nitrile rubber)

Bore size (mm)	Kit No.	Repair parts number
$\phi$ 20	STG-MG2-20K	
$\phi$ 25	STG-MG2-25K	
$\phi$ 32	STG-MG2-32K	
$\phi$ 40	STG-MG2-40K	
$\phi$ 50	STG-MG2-50K	
$\phi$ 63	STG-MG2-63K	

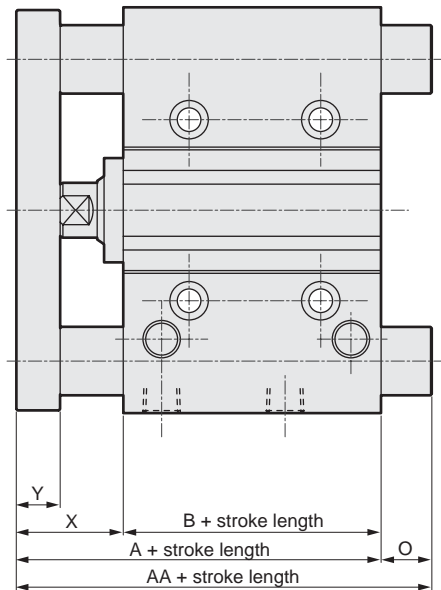
● STG-MG3 (packing seal material: fluoro rubber)

Bore size (mm)	Kit No.	Repair parts number
$\phi$ 20	STG-MG3-20K	
$\phi$ 25	STG-MG3-25K	
$\phi$ 32	STG-MG3-32K	
$\phi$ 40	STG-MG3-40K	
$\phi$ 50	STG-MG3-50K	
$\phi$ 63	STG-MG3-63K	

### Dimensions



#### ● STG-MG<sub>3</sub>



#### ● STG-M-G2/G3

\* Dimensions other than those listed below are the same as the double acting single rod type on pages 1459 to 1460.

Symbol Bore size (mm)	Standard stroke length	A	AA			B	O			X	Y
			50st or less	Over 50st to 200st	Over 200st		50st or less	Over 50st to 200st	Over 200st		
φ 20	20, 30, 40, 50, 75, 100, 125, 150, 175,	66	66	91	135	37	0	25	69	29	10
φ 25	200, 250, 300, 350, 400	67.5	67.5	98	136	37.5	0	30.5	68.5	30	10
φ 32	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	12
φ 40		78	91	112	152	44	13	34	74	34	12
φ 50		83	102	127	172	44	19	44	89	39	16
φ 63		88	102	127	172	49	14	39	84	39	16

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


Guided cylinder  
Combined functions



Guided cylinder Double acting spatter adherence prevention type

# STG-MBG4 Series

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

JIS symbol 



## Specifications

Descriptions	STG-MBG4		
Bore size mm	$\phi$ 40	$\phi$ 50	$\phi$ 63
Actuation	Double acting spatter adherence prevention type		
Working fluid	Compressed air		
Max. working pressure MPa	1.0		
Min. working pressure MPa	0.15		
Withstanding pressure MPa	1.6		
Ambient temperature $^{\circ}$ C	-10 to 60 (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		
Lubrication	Not required (when lubricating, use turbine oil Class 1 ISOVG 32)		
Allowable energy absorption 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 length with switch (mm)
$\phi$ 40	25, 50, 75, 100, 125,	400	5	10 Note 2
$\phi$ 50	150, 175, 200, 250,			
$\phi$ 63	300, 350, 400			

Note 1: Custom stroke length is available per 5mm increment. Note that the total length is the same as the next longer standard stroke length.  
 Note 2: This applies when 1 or 2 switches are installed.

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

### Switch specifications

Descriptions	Proximity 2-wire	
	T2YD	T2YDT
Applications	Programmable controller	
Light	Red/green LED (ON lighting)	
Load voltage	24 VDC $\pm$ 10%	
Load current	5 to 20 mA DC	
Internal voltage drop	6V or less	
Leakage current	1.0 mA or less	
Output delay hour Note 1 (ON, OFF delay)	30 to 60 ms	
Lead wire length Note 2	1 m (oil resistant vinyl cabtire cable 2-conductor 0.5mm <sup>2</sup> ) (standard)	1 m (flame resistant vinyl cabtire cord 2-conductor 0.5mm <sup>2</sup> ) (option)
Insulation resistance	100 M $\Omega$ and over with 500 VDC megger	
Withstand voltage	No abnormality when 1000 VAC is applied for one minute	
Maximum shock resistance	980 m/s <sup>2</sup>	
Ambient temperature	-10 to +60 °C	
Protective structure	JIS C0920 (water tight type), IEC Standard IP67, oil-proof	

Note 1: Indicates the time from detection of the piston magnet by the magnetic sensor to switch output.

Note 2: For lead wire length option, 3m and 5m are available.

### Cylinder weight

#### ● STG-MG4

Unit: kg

Descriptions Bore size (mm)	Stroke length												Switch weight grommet
	25	50	75	100	125	150	175	200	250	300	350	400	
$\phi$ 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	0.018
$\phi$ 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	0.018
$\phi$ 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	0.018

#### ● STG-BG4

Unit: kg

Descriptions Bore size (mm)	Stroke length												Switch weight grommet
	25	50	75	100	125	150	175	200	250	300	350	400	
$\phi$ 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	0.018
$\phi$ 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	0.018
$\phi$ 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	0.018

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

Guided cylinder  
Combined functions

# STG-MBG4 Series

## How to order

Without switch

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

With switch

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

Model no.

Spatter proof adhesion prevention type

**A** Bearing method

**B** Bore size

**C** Port thread type

**D** Stroke length

**E** Switch model no.

**F** Switch quantity

Symbol	Descriptions		
<b>A Bearing method</b>			
<b>M</b>	Metal bush bearing		
<b>B</b>	Ball bearing		
<b>B Bore size (mm)</b>			
<b>40</b>	φ 40		
<b>50</b>	φ 50		
<b>63</b>	φ 63		
<b>C Port thread type</b>			
<b>Blank</b>	Rc thread		
<b>NN</b>	NPT thread (custom order)		
<b>GN</b>	G thread (custom order)		
<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	Contact	Indicator	Lead wire
<b>T2YD*</b>	Proximity	Strong magnetic field proof switch	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>	One on rod end		
<b>H</b>	One on head end		
<b>D</b>	Two		
<b>T</b>	Three		

<Example of model number>

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

Model: Guided cylinder double acting spatter adherence prevention type

- A** Bearing method : Ball bearing
- B** Bore size : φ 50mm
- C** Port thread type : Rc thread
- D** Stroke length : 100mm
- E** Switch model no. : Proximity T2YD switch, lead wire length 3m
- F** Switch quantity : Two

### D Stroke length

Stroke length (mm)	Applicable bore size			
	φ 40	φ 50	φ 63	
Standard stroke length	25	●	●	●
	50	●	●	●
	75	●	●	●
	100	●	●	●
	125	●	●	●
	150	●	●	●
	175	●	●	●
	200	●	●	●
	250	●	●	●
	300	●	●	●
	350	●	●	●
400	●	●	●	
Min. stroke length Note 2	5 (10)			
Custom stroke length Note 1	Per 5mm increment			

Note 1: The total length is the same as the next longer standard stroke length.  
 Note 2: Value in ( ) is for the type with switch.

### How to order switch

**SW** - **T2YD**

↓  
 Switch model no.  
 (Item E) previous page)

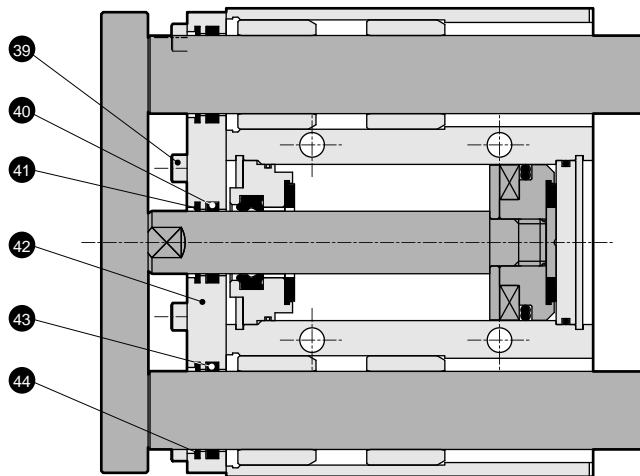
SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
<b>STG</b>
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

Guided cylinder  
 Combined functions

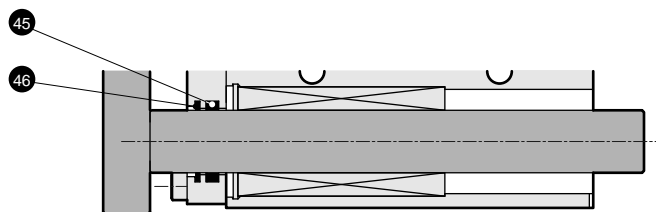
## Internal structure and parts list

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

### ● STG-MG4



### ● STG-BG4



## Parts list

\* Parts other than those listed below are the same as double acting single rod type. Refer to pages 1454 to 1457.

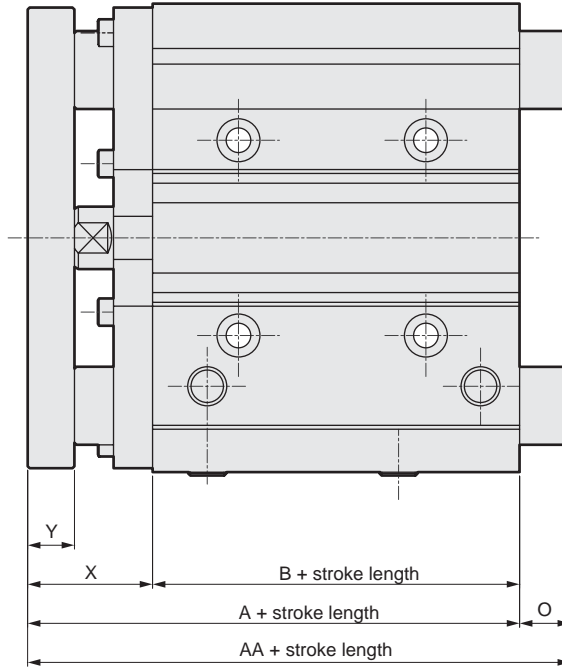
No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
39	Hexagon socket head cap bolt	Alloy steel	Zinc chromate	43	Lube keeping structure	Special rubber	
40	Lube keeping structure	Special rubber		44	Coil scraper	Phosphor bronze	
41	Coil scraper	Phosphor bronze		45	Lube keeping structure	Special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



### Dimensions



#### ● STG-M<sub>B</sub>G4



#### ● STG-MG4

\* Dimensions other than those listed below are the same as the double acting single rod type on pages 1459 to 1460.

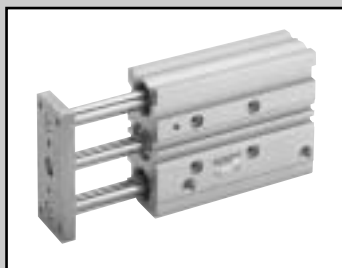
Symbol Bore size (mm)	Standard stroke length	A	AA			B	O			X	Y
			50st or less	Over 50st to 200st	Over 200st		50st or less	Over 50st to 200st	Over 200st		
φ40	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400	76	89	110	150	44	13	34	74	32	12
φ50		82	101	126	171	44	19	44	89	38	16
φ63		87	101	126	171	49	14	39	84	38	16

#### ● STG-BG4

Symbol Bore size (mm)	Standard stroke length	A	AA				B	O				X	Y
			30st or less	Over 30st to 100st	Over 100st to 200st	Over 200st		30st or less	Over 30st to 100st	Over 100st to 200st	Over 200st		
φ40	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400	76	89	108	128	150	44	13	32	52	74	32	12
φ50		82	101	124	144	171	44	19	42	62	89	38	16
φ63		87	101	124	144	171	49	14	37	57	84	38	16

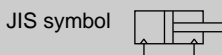
SCP\*2  
CMK2  
CMA2  
SCM  
SCG  
SCA2  
SCS  
CKV2  
CA/OV2  
SSD  
CAT  
MDC2  
MVC  
SMD2  
MSD\*  
FC\*  
STK  
ULK\*  
JSK/M2  
JSG  
JSC3  
USSD  
USC  
JSB3  
LMB  
**STG**  
STS/L  
LCS  
LCG  
LCM  
LCT  
LCY  
STR2  
UCA2  
HCM  
HCA  
SRL2  
SRG  
SRM  
SRT  
MRL2  
MRG2  
SM-25  
CAC3  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

Guided cylinder  
Combined functions



# STG-B -P7\* Series

- Bore size:  $\phi$  12,  $\phi$  16,  $\phi$  20,  $\phi$  25,  $\phi$  32,  $\phi$  40  
 $\phi$  50,  $\phi$  63



## Specifications

Descriptions	STG-B							
	$\phi$ 12	$\phi$ 16	$\phi$ 20	$\phi$ 25	$\phi$ 32	$\phi$ 40	$\phi$ 50	$\phi$ 63
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							
Min. working pressure MPa	0.2		0.15			0.1		
Withstanding pressure MPa	1.6							
Ambient temperature $^{\circ}$ C	-10 to 60 (no freezing)							
Port size	M5		Rc1/8				Rc1/4	
Relief port size	M5							
Stroke tolerance mm	+2.0 0							
Working piston speed mm/s	50 to 500							50 to 300
Cushion	Rubber cushioned							
Lubrication	Not available							
Allowable energy absorption 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 length with switch (mm)
$\phi$ 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		
$\phi$ 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			Note 2

Note 1: Custom stroke length is available per 5mm increment. Note that the total length is the same as the next longer standard stroke length.

Note 2: This applies when 1 or 2 switches are installed. Value in ( ) is the min. stroke length of 2 color indicator type switch, strong magnetic field proof, with preventive maintenance output.

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

### Switch specifications

- 1 color/2 color indicator/strong magnetic field proof

\* The T0/T5 switch can be used with 220 VAC.  
Consult with CKD for working conditions.

Descriptions	Proximity 2-wire			Proximity 3-wire			Reed 2-wire						Proximity 2-wire	
	T1H/T1 V	T2H/T2V T2JH/T2JV	T2YH/ T2YV	T3H/ T3V	T3PH/T3PV (Custom order)	T3YH/ T3YV	T0H/T0V		T5H/T5V		T8H/T8V		T2YD/ T2YDT	
Applications	Programmable controller relay, small solenoid valve	Programmable controller		Programmable controller, relay			Programmable controller, relay		Programmable controller, relay, IC circuit (without light), serial connection		Programmable controller, relay		Programmable controller	
Output method	-			NPN output	PNP output	NPN output	-							
Power voltage	-			10 to 28 VDC			-							
Load voltage	85 to 265 VAC	10 to 30 VDC		30 VDC or less			12/24 VDC	110 VAC	5/12/24 VDC	110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100mA	5 to 20mA (Note 1)		100mA or less		50mA or less	5 to 50mA	7 to 20mA	50mA or less	20mA or less	5 to 50mA	7 to 20mA	7 to 10mA	5 to 20mA
Light	LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Green LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)		Without indicator light		LED (ON lighting)		Red/green LED (ON lighting)	
Leakage current	1mA or less with 100 VAC 2mA or less with 200 VAC	1mA or less		10 μA or less			0mA						1mA or less	

- With preventive maintenance output

Descriptions	Proximity 3-wire			Proximity 4 wire			Proximity 3-wire			Proximity 4 wire			
	T2YFH/V			T3YFH/V			T2YMH/V			T3YMH/V			
Applications	Programmable controller			Programmable controller, relay			Programmable controller			Programmable controller, relay			
Output method	NPN output												
Light	Red/green LED (ON lighting)												
	Yellow LED (ON lighting)												
Regular output	Power voltage	-			10 to 28 VDC			-			10 to 28 VDC		
	Load voltage	10 to 30 VDC			30 VDC or less			10 to 30 VDC			30 VDC or less		
	Load current	5 to 20mA			50mA or less			5 to 20mA			50mA or less		
	Leakage current	1mA or less			10 μA or less			1.2mA or less			10 μA or less		
Preventive maintenance output	30 VDC or less												
	Load current	20mA or less			50mA or less			5 to 20mA or less			50mA or less		
	Leakage current	10 μA or less											

Note 1: Refer to Ending 1 for other switch specifications.

Note 2: Maximum load current above: 20mA applies at 25°C. The current will be lower than 20mA if ambient temperature around switch is higher than 20mA. (5 to 10mA when 60°C)

### Cylinder weight

- STG-B-P7

Unit: kg

Descriptions	Stroke length															Switch weight grommet		
	Bore size (mm)	10	20	25	30	40	50	75	100	125	150	175	200	250	300		350	400
φ12	0.27	0.30		0.33	0.38	0.42	0.50	0.58	0.68	0.76	0.84	0.92	1.09					0.018
φ16	0.38	0.43		0.47	0.54	0.59	0.70	0.82	0.95	1.06	1.17	1.29	1.50					0.018
φ20		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		0.018
φ25		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		0.018
φ32			1.62			1.92	2.36	2.67	3.03	3.34	3.64	3.95	4.62	5.23	5.84	6.45		0.018
φ40			1.90			2.25	2.72	3.07	3.48	3.83	4.18	4.53	5.28	5.98	6.68	7.38		0.018
φ50			3.24			3.78	4.50	5.04	5.66	6.19	6.73	7.26	8.45	9.51	10.61	11.67		0.018
φ63			4.12			4.76	5.61	6.25	6.98	7.62	8.27	8.91	10.30	11.66	12.92	14.18		0.018

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

Guided cylinder  
Combined functions

# STG-B-P7\* Series

## How to order

Without switch

**STG** - **B** - **32** - **25** - \_\_\_\_\_ - **P72**

With switch

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

Model no.

**A** Bearing method

**B** Bore size

**C** Stroke length

**D** Switch model no.  
Note 1, Note 2

**E** Switch quantity

**F** Clean room specifications

### ⚠ Note on model no. selection

Note 1: Switches other than **D** switch model no. are available. (Custom order)

Refer to Ending 1 for the details.

Note 2: T1H/V, T8H/V installation is custom order. Note that  $\phi 12$  can not install T8H/V.

Symbol	Descriptions			
<b>A Bearing method</b>				
<b>B</b>	Ball bearing			
<b>B Bore size (mm)</b>				
<b>12</b>	$\phi 12$			
<b>16</b>	$\phi 16$			
<b>20</b>	$\phi 20$			
<b>25</b>	$\phi 25$			
<b>32</b>	$\phi 32$			
<b>40</b>	$\phi 40$			
<b>50</b>	$\phi 50$			
<b>63</b>	$\phi 63$			
<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	Indicator	Lead wire
<b>T0H*</b>	<b>T0V*</b>	Reed	1 color indicator type	2-wire
<b>T5H*</b>	<b>T5V*</b>		Without indicator light	
<b>T8H*</b>	<b>T8V*</b>		1 color indicator type	
<b>T1H*</b>	<b>T1V*</b>	Proximity	1 color indicator type	2-wire
<b>T2H*</b>	<b>T2V*</b>			3-wire
<b>T3H*</b>	<b>T3V*</b>		1 color indicator type (custom order)	3-wire
<b>T3PH*</b>	<b>T3PV*</b>			2-wire
<b>T2YH*</b>	<b>T2YV*</b>		2 color indicator type	3-wire
<b>T3YH*</b>	<b>T3YV*</b>			3-wire
<b>T2YFH*</b>	<b>T2YFV*</b>		2 color indicator type (w/o indicator light for preventive maintenance output)	3-wire
<b>T3YFH*</b>	<b>T3YFV*</b>			4-wire
<b>T2YMH*</b>	<b>T2YMV*</b>		2 color indicator type (w/ indicator light for preventive maintenance output (1 color))	3-wire
<b>T3YMH*</b>	<b>T3YMV*</b>			4-wire
<b>T2JH*</b>	<b>T2JV*</b>	Off-delay type	2-wire	
<b>T2YD*</b>	-	Strong magnetic field proof switch	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>E Switch quantity</b>				
<b>R</b>	One on rod end			
<b>H</b>	One on head end			
<b>D</b>	Two			
<b>T</b>	Three			
<b>F Clean room specifications</b>				
<b>P72</b>	Exhaust treatment			
<b>P73</b>	Vacuum treatment			

<Example of model number>

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

Model: Guided cylinder double acting single rod type

- A** Bearing method : Ball bearing
- B** Bore size :  $\phi 40$ mm
- C** Stroke length : 75 mm
- D** Switch model no. : Reed T0H switch, lead wire length 1m
- E** Switch quantity : Two
- F** Clean room specifications : Exhaust treatment

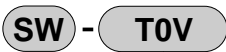
### Stroke length

Stroke length (mm)	Applicable bore size							
	φ 12	φ 16	φ 20	φ 25	φ 32	φ 40	φ 50	φ 63
Standard stroke length	10	●	●					
	20	●	●	●	●			
	25					●	●	●
	30	●	●	●	●			
	40	●	●	●	●			
	50	●	●	●	●	●	●	●
	75	●	●	●	●	●	●	●
	100	●	●	●	●	●	●	●
	125	●	●	●	●	●	●	●
	150	●	●	●	●	●	●	●
	175	●	●	●	●	●	●	●
	200	●	●	●	●	●	●	●
	250	●	●	●	●	●	●	●
	300			●	●	●	●	●
	350			●	●	●	●	●
400			●	●	●	●	●	
Min. stroke length Note 2	5 (10)							
Custom stroke length Note 1	Per 5mm increment							

Note 1: The total length is the same as the next longer standard stroke length.

Note 2: Value in ( ) is the min. stroke length of 2 color indicator type switch, strong magnetic field proof, with preventive maintenance output.

### How to order switch



Switch model no.  
(Item ④ previous page)

Note: Consult with CKD when using the ecological T type switch.

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

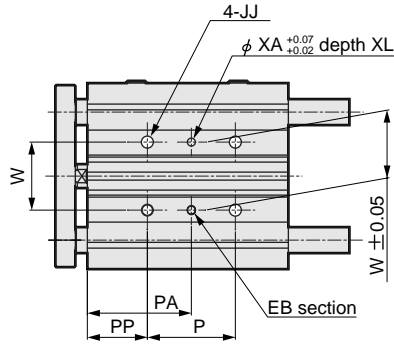
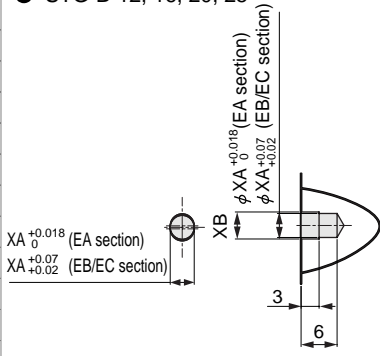
Guided cylinder  
Combined functions

# STG-B-P7\* Series

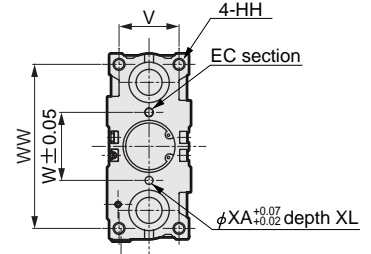
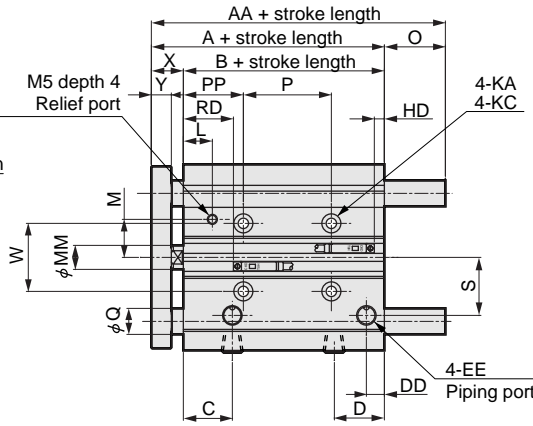
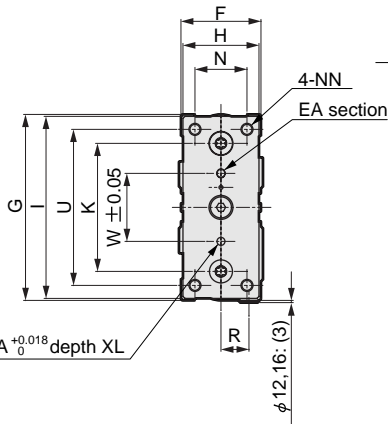


## Dimensions ( $\phi 12, \phi 16, \phi 20, \phi 25$ )

### ● STG-B-12, 16, 20, 25



EA/EB/EC oval hole section dimension



Symbol	Standard stroke length (mm)											
Bore size (mm)	A	B	C	D	DD	EE	F	G	H	HH	I	JJ
$\phi 12$	55	42	25	16	7	M5	26	58	22	M4 depth 10	56	M5 depth 10
$\phi 16$	59	46	25	18	7.5	M5	30	64	25	M5 depth 12	62	M5 depth 10
$\phi 20$	66	50	23.5	24.5	8.5	Rc1/8	36	83	30	M5 depth 13	81	M6 depth 12
$\phi 25$	66.5	50.5	24.5	25	9	Rc1/8	42	93	38	M6 depth 15	91	M6 depth 12

Symbol	P												
Bore size (mm)	K	KA	MM	N	NN	KC	30 or less	Over 30 to 300	Over 100 to 150	Over 200 to 300	Over 300	L	M
$\phi 12$	41	4.3 penetrating	6	14	M4 penetrating	8 spot face depth 4.5	20	40	110	200	-	9	12.5
$\phi 16$	46	4.3 penetrating	8	16	M5 penetrating	8 spot face depth 4.5	24	44	110	200	-	8.5	13
$\phi 20$	54	5.2 penetrating	10	18	M5 penetrating	9.5 spot face depth 5.5	24	44	120	200	300	13.5	14
$\phi 25$	64	5.2 Penetrating	12	26	M6 penetrating	9.5 spot face depth 5.5	24	44	120	200	300	14.5	17

Symbol	PA													
Bore size (mm)	30 or less	Over 30 to 100	Over 100 to 200	Over 200 to 300	Over 300	PP	R	S	U	V	W	WW	X	Y
$\phi 12$	28	38	73	118	-	18	8	17	48	18	23	50	13	8
$\phi 16$	30	40	73	118	-	18	10	18	54	22	24	56	13	8
$\phi 20$	42	52	90	130	180	30	11	25	70	24	28	72	16	10
$\phi 25$	42	52	90	130	180	30	14	29	78	30	34	82	16	10

Symbol	RD				HD				XA				XB			
Bore size (mm)	RD	HD	XA	XB	RD	HD	XA	XB	RD	HD	XA	XB	RD	HD	XA	XB
$\phi 12$	18	5	3	3.5	18	5	3	3.5	18	5	3	3.5	18	5	3	3.5
$\phi 16$	17	10	3	3.5	17	10	3	3.5	17	10	3	3.5	17	10	3	3.5
$\phi 20$	22.5	8.5	3	3.5	22.5	8.5	3	3.5	22.5	8.5	3	3.5	22.5	8.5	3	3.5
$\phi 25$	23	8.5	4	4.5	23	8.5	4	4.5	23	8.5	4	4.5	23	8.5	4	4.5

Note 1: The total length is the same as the next longer standard stroke length for custom stroke length.  
 Note 2: Refer to page 1514 for RD, HD, and projecting dimensions of the 2 color indicator type, preventive maintenance output type, off delay type, strong magnetic field proof type, T1H/V, T8H/V switch.

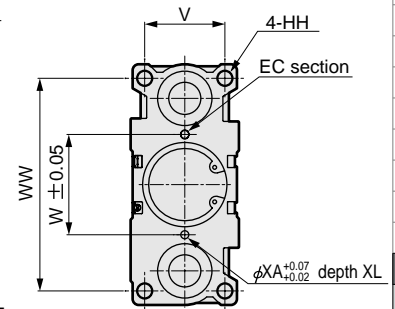
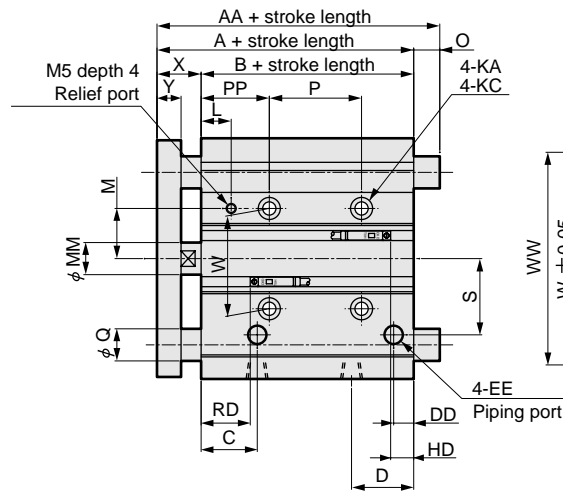
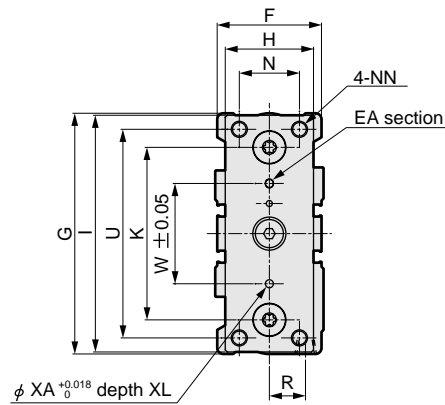
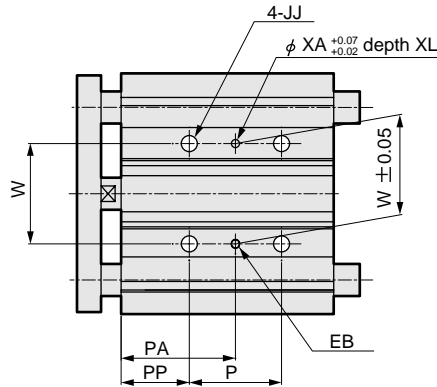
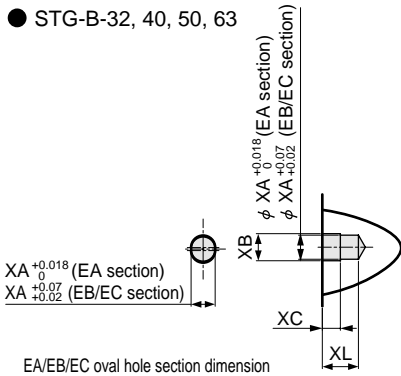
Symbol	AA				O			
Bore size (mm)	30 or less	Over 30 to 100	Over 100	Q	30 or less	Over 30 to 100	Over 100	Q
$\phi 12$	55	55	85	6	0	0	30	6
$\phi 16$	59	65	95	8	0	6	36	8

Symbol	AA				O				
Bore size (mm)	30 or less	Over 30 to 100	Over 100 to 200	Over 200	Q	30 or less	Over 30 to 100	Over 100 to 200	Over 200
$\phi 20$	66	78	100	122	10	0	12	34	56
$\phi 25$	66.5	84	103	122	13	0	17.5	36.5	55.5

### Dimensions (φ 32, φ 40, φ 50, φ 63)



● STG-B-32, 40, 50, 63



Symbol	Standard stroke length (mm)											
Bore size (mm)	A	B	C	D	DD	EE	F	G	H	HH	I	JJ
φ 32	71.5	49.5	24.5	30.5	9	Rc1/8	48	112	44	M8 depth 20	110	M8 depth 16
φ 40	78	56	26	31	10	Rc1/8	54	120	44	M8 depth 20	118	M8 depth 16
φ 50	83	55	25	35	11	Rc1/4	64	148	60	M10 depth 22	146	M10 depth 20
φ 63	88	60	27.5	35	15	Rc1/4	78	162	70	M10 depth 22	158	M10 depth 20

Symbol	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
φ 32	78	6.3 penetrating	11 spot face depth 7.5	16	30	M8 penetrating	24	48	124	200	300	14.5	21
φ 40	86	6.3 penetrating	11 spot face depth 7.5	16	30	M8 penetrating	24	48	124	200	300	15	25
φ 50	110	8.6 penetrating	14 spot face depth 9	20	40	M10 penetrating	24	48	124	200	300	14	33
φ 63	124	8.6 penetrating	14 spot face depth 9	20	50	M10 penetrating	28	52	128	200	300	14.5	40

Symbol	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
φ 32	45	57	95	133	183	33	15	34	96	34	42	98	22	12
φ 40	46	58	96	134	184	34	18	38	104	40	50	106	22	12
φ 50	47	59	97	135	185	35	21.5	47	130	46	66	130	28	16
φ 63	49	61	99	135	185	35	28	55	130	58	80	142	28	16

Symbol	AA					
Bore size (mm)	RD	HD	XA	XB	XC	XL
φ 32	22	8.5	4	4.5	3	6
φ 40	25	12	4	4.5	3	6
φ 50	24.5	11.5	5	6	4	8
φ 63	25	16	5	6	4	8

Symbol	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	
φ 32	79	98	118	140	16	7.5	26.5	46.5	68.5	
φ 40	79	98	118	140	16	1	20	40	62	
φ 50	91	114	134	161	20	8	31	51	78	
φ 63	91	114	134	161	20	3	26	46	73	

Note 1: The total length is the same as the next longer standard stroke length for custom stroke length.

Note 2: Refer to page 1514 for the RD, HD, and projecting dimensions of the 2-color indicator type, preventive maintenance output type, off delay type, strong magnetic field proof type, T1H/V, T8H/V switch.

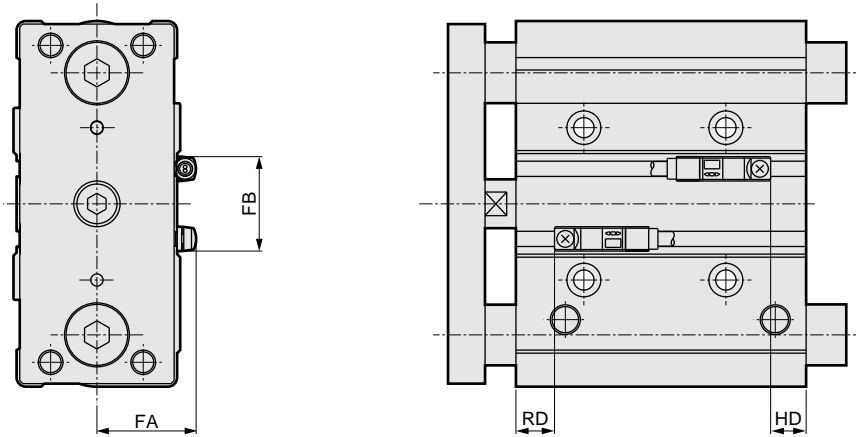
- SCP\*2
- CMK2
- CMA2
- SCM
- SCG
- SCA2
- SCS
- CKV2
- CA/OV2
- SSD
- CAT
- MDC2
- MVC
- SMD2
- MSD\*
- FC\*
- STK
- ULK\*
- JSK/M2
- JSG
- JSC3
- USSD
- USC
- JSB3
- LMB
- STG**
- STS/L
- LCS
- LCG
- LCM
- LCT
- LCY
- STR2
- UCA2
- HCM
- HCA
- SRL2
- SRG
- SRM
- SRT
- MRL2
- MRG2
- SM-25
- CAC3
-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

Ending  
Guided cylinder  
Combined functions



STG Series common (2 color indicator, off-delay type, T8H/V, T1H/V, with preventive maintenance output, switch for strong magnetic field) dimensions

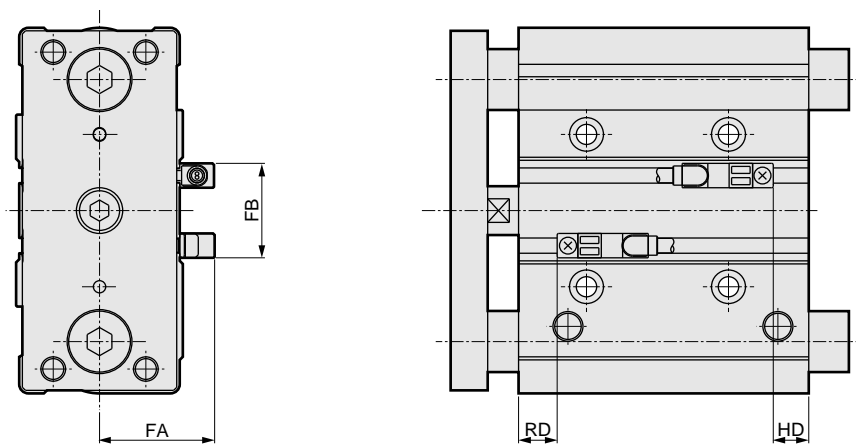
● STG-\*\*-\*\*<sup>2</sup>-T<sub>3</sub>YH/V



Symbol Bore size (mm)	FA	FB	RD						HD								
			T*YH/V, T2JH/V				T8H/V		T*YH/V, T2JH/V				T8H/V				
			STG	STG-P7	STG-C	STG-Q-R Rod end position locking	STG-Q-H Head end position locking	STG	STG-P7	STG-C	STG STG-P7	STG-C	STG-Q-R Rod end position locking	STG-Q-H Head end position locking	STG	STG-P7	STG-C
φ12	19	16	4	17	-	-	-	-Note 1	-Note 1	-	4	-	-	-	-Note 1	-Note 1	-
φ16	21	16	3	16	19.5	-	-	-Note 1	11	14.5	9	17	-	-	-Note 1	4	12
φ20	24	17	8.5	21.5	22.5	34	8.5	3.5	16.5	17.5	7.5	18.5	7.5	36	2.5	2.5	15.5
<b>STG</b>	27	24	9	22	24.5	34.5	9	4	17	19.5	7.5	16.5	7.5	34	2.5	2.5	11.5
STS/L	30	24	9	21	22.5	34.5	9	4	16	17.5	8	19	8	34.5	2.5	2.5	16.5
LCS	33	31	12	24	26.5	39.5	12	7	19	21.5	11	21.5	11	36.5	6	6	16.5
LCG	38	32	12.5	23.5	29	39	12.5	7.5	18.5	24	10.5	19.5	10.5	37	5.5	5.5	16.5
LCM	45	32	13	24	30	39	13	8	19	25	15	23	15	39	10	10	18
LCT	51	56	17	-	-	-	-	12	-	-	18.5	-	-	-	13.5	-	-
LCY	60	62	21	-	-	-	-	16	-	-	24.5	-	-	-	19.5	-	-

Note 1: STG-12, 16, STG-12-P7, STG-Q-20 to 63-(R/H) can not install T8H/V.

● STG-\*\*-\*\*<sup>2</sup>-T<sub>3</sub>YFH/V, T<sub>3</sub>YMH/V, T2YD\*, T1H/V



Symbol Bore size (mm)	FA	FB	RD						HD			
			STG	STG-P7*	STG-C	STG-Q-R Rod end position locking	STG-Q-H Head end position locking	STG STG-P7*	STG-C	STG-Q-R Rod end position locking	STG-Q-H Head end position locking	
			φ12	24	16	4	17	-	-	-	4	-
φ16	26	16	3	16	19.5	-	-	9	17	-	-	
φ20	29	17	8.5	21.5	22.5	34	8.5	7.5	18.5	7.5	36	
φ25	32	24	9	22	24.5	34.5	9	7.5	16.5	7.5	34	
φ32	35	24	9	21	22.5	34.5	9	8	19	8	34.5	
φ40	38	31	12	24	26.5	39.5	12	11	21.5	11	36.5	
φ50	43	32	12.5	23.5	29	39	12.5	10.5	19.5	10.5	37	
φ63	50	32	13	24	30	39	13	15	23	15	39	
φ80	56	56	17	-	-	-	-	18.5	-	-	-	
φ100	65	62	21	-	-	-	-	24.5	-	-	-	



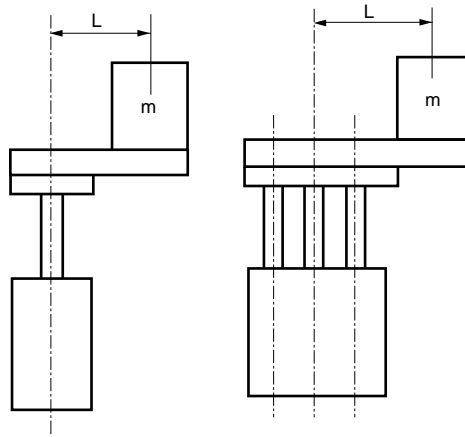
## Selection guide

### At vertical installation

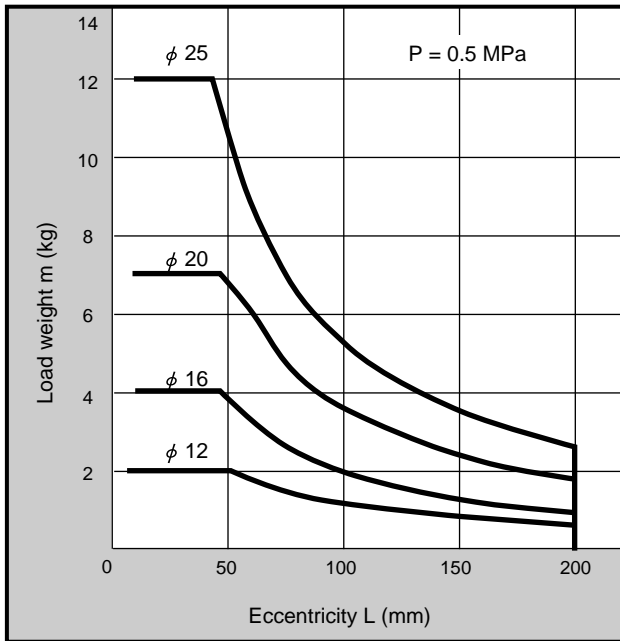
- Select the tube bore size so that the total load rate in respect to the theoretical thrust is less than the values shown below.

Bore size	Load factor for theoretical thrust
12, 16	40% or less
20, 25	50% or less
32 to 80	60% or less
100	60% or less

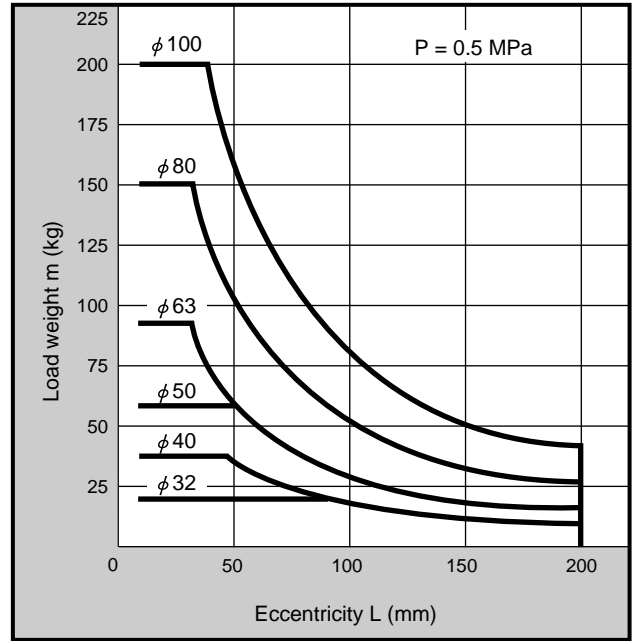
Note 1: When using the PTFE free specifications, design with the following tolerable value x 0.7 only for the M: slide bearings.



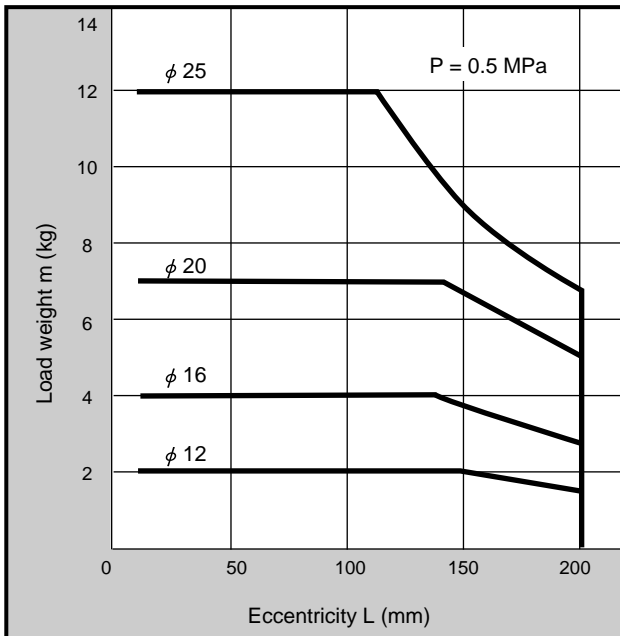
- STG-M-12 to 25  
· 50 mm stroke or less



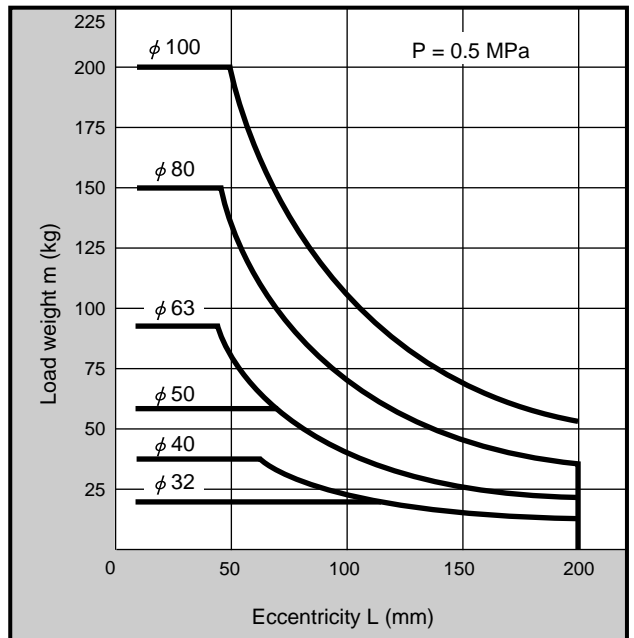
- STG-M-32 to 100  
· 50 mm stroke or less



- STG-M-12 to 25  
· Over 50 mm stroke

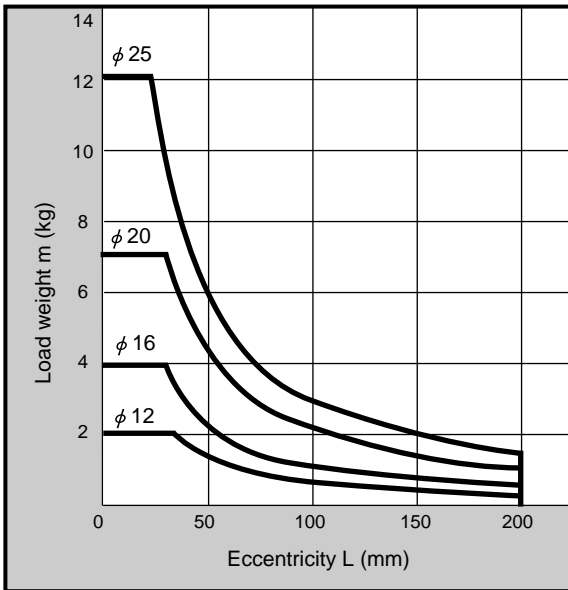


- STG-M-32 to 100  
· Over 50 mm stroke

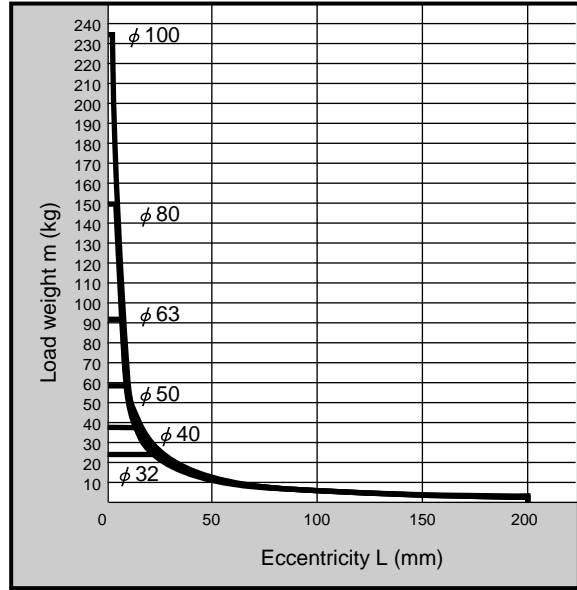


SCP\*2  
CMK2  
CMA2  
SCM  
SCG  
SCA2  
SCS  
CKV2  
CA/OV2  
SSD  
CAT  
MDC2  
MVC  
SMD2  
MSD\*  
FC\*  
STK  
ULK\*  
JSK/M2  
JSG  
JSC3  
USSD  
USC  
JSB3  
LMB  
**STG**  
STS/L  
LCS  
LCG  
LCM  
LCT  
LCY  
STR2  
UCA2  
HCM  
HCA  
SRL2  
SRG  
SRM  
SRT  
MRL2  
MRG2  
SM-25  
CAC3  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

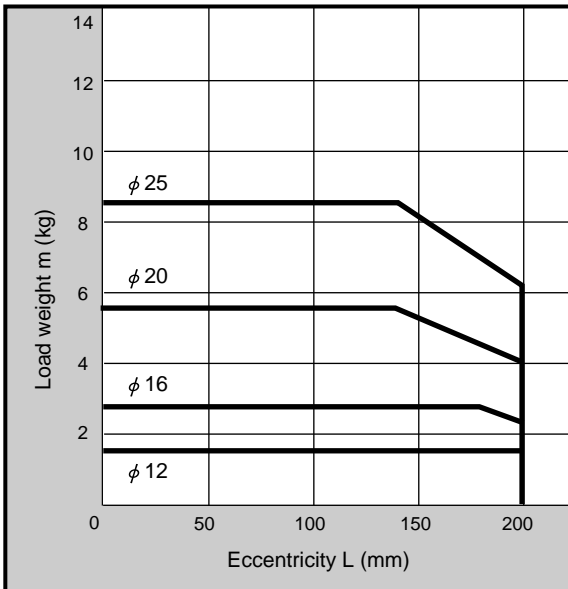
● STG-B-12 to 25  
· 30 mm stroke or less



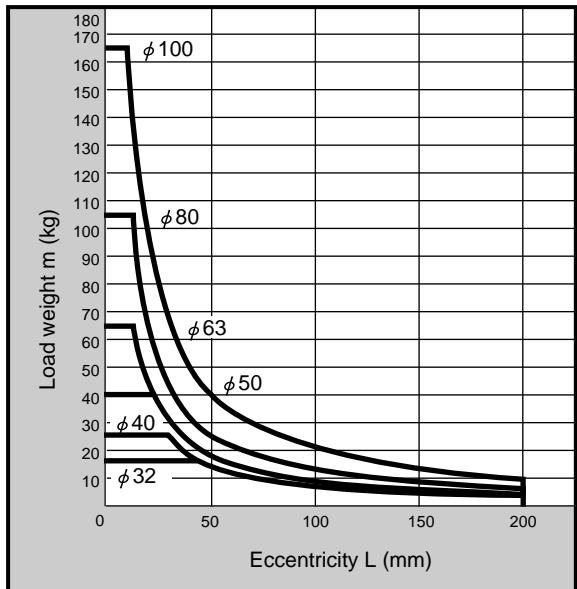
● STG-B-32 to 100  
· 50 mm stroke or less



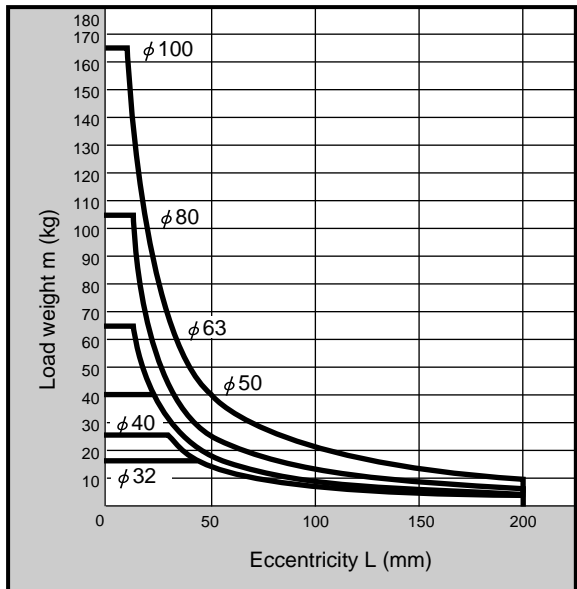
● STG-B-12 to 25  
· 30 to 100 mm stroke



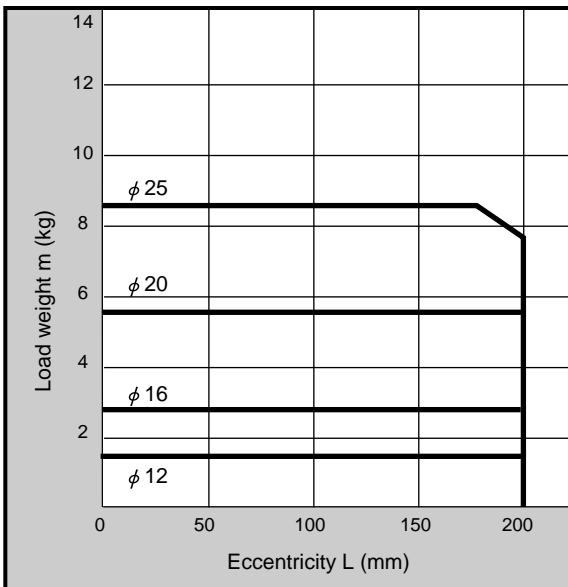
● STG-B-32 to 63  
· 50 to 100 mm stroke



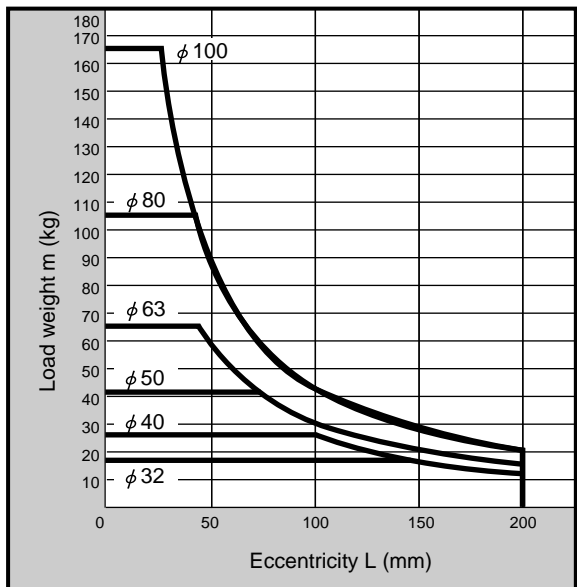
● STG-B-80,100  
· 50 to 200 mm stroke



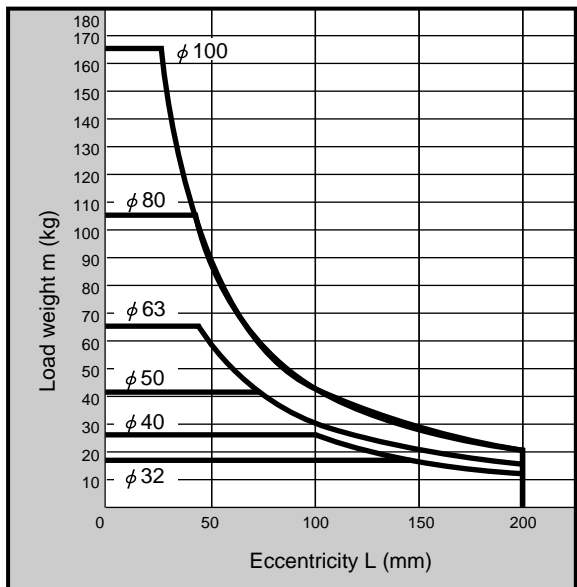
● STG-B-12 to 25  
· Over 100 mm stroke



● STG-B-32 to 63  
· Over 100 mm stroke



● STG-B-80,100  
· Over 200 mm stroke



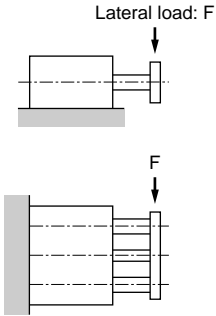
SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
<b>STG</b>
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

Guided cylinder  
Combined functions

## Selection guide

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

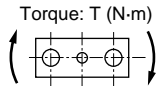
### Allowable lateral load



Bore size (mm)	Model no.	Type of bearing	Stroke length (mm)				
			10	20	25	30	
φ12	STG-M	Metal bush bearing	29	24		20	
	STG-B	Ball bearing	38	27		22	
φ16	STG-M	Metal bush bearing	51	42		36	
	STG-B	Ball bearing	49	35		29	
φ20	STG-M	Metal bush bearing		67		58	
	STG-B	Ball bearing		52		42	
φ25	STG-M	Metal bush bearing		125		110	
	STG-B	Ball bearing		81		66	
φ32	STG-M	Metal bush bearing			223		
	STG-B	Ball bearing			171		
φ40	STG-M	Metal bush bearing			223		
	STG-B	Ball bearing			171		
φ50	STG-M	Metal bush bearing			348		
	STG-B	Ball bearing			181		
φ63	STG-M	Metal bush bearing			348		
	STG-B	Ball bearing			181		
φ80	STG-M	Metal bush bearing			385		
	STG-B	Ball bearing			129		
φ100	STG-M	Metal bush bearing			531		
	STG-B	Ball bearing			171		

Note 1: When using the PTFE free specifications, design with the above tolerable value x 0.7 only for the M: slide bearings. Unit: N

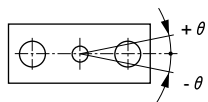
### Allowable torque



Bore size (mm)	Model no.	Type of bearing	Stroke length (mm)				
			10	20	25	30	
φ12	STG-M	Metal bush bearing	0.30	0.25		0.21	
	STG-B	Ball bearing	0.39	0.28		0.23	
φ16	STG-M	Metal bush bearing	0.59	0.49		0.42	
	STG-B	Ball bearing	0.56	0.41		0.33	
φ20	STG-M	Metal bush bearing		0.90		0.78	
	STG-B	Ball bearing		0.70		0.57	
φ25	STG-M	Metal bush bearing		2.00		1.75	
	STG-B	Ball bearing		1.29		1.06	
φ32	STG-M	Metal bush bearing			4.35		
	STG-B	Ball bearing			3.33		
φ40	STG-M	Metal bush bearing			4.80		
	STG-B	Ball bearing			3.68		
φ50	STG-M	Metal bush bearing			9.56		
	STG-B	Ball bearing			4.99		
φ63	STG-M	Metal bush bearing			10.78		
	STG-B	Ball bearing			5.63		
φ80	STG-M	Metal bush bearing			15.01		
	STG-B	Ball bearing			5.02		
φ100	STG-M	Metal bush bearing			24.98		
	STG-B	Ball bearing			8.04		

### Revolvable angle tolerance

(Reference value)



Unit: N												
Stroke length (mm)												
	40	50	75	100	125	150	175	200	250	300	350	400
	18	16	20	17	15	13	12	10	9			
	34	29	21	16	12	11	9	8	6			
	32	28	36	31	27	24	21	19	16			
	50	43	31	25	20	17	15	13	10			
	51	46	60	51	45	40	36	33	28	24	21	19
	76	65	49	38	60	51	44	39	32	27	23	20
	98	88	112	97	85	76	69	63	53	46	41	37
	108	94	70	56	81	69	60	53	42	36	30	27
		180	179	156	138	124	112	103	88	77	68	61
		120	190	159	123	106	93	83	66	56	48	42
		180	179	156	138	124	112	103	88	77	68	61
		120	190	159	123	106	93	83	66	56	48	42
		286	292	257	230	208	190	174	150	132	118	106
		129	215	181	139	121	106	95	78	67	58	50
		286	292	257	230	208	190	174	150	132	118	106
		129	215	181	139	121	106	95	78	67	58	50
		326	345	309	280	256	235	218	190	169	151	137
		183	263	226	199	178	162	148	83	71	62	54
		460	475	429	392	360	333	310	272	243	219	199
		249	330	285	251	226	205	187	122	105	91	81

Unit: N·m												
Stroke length (mm)												
	40	50	75	100	125	150	175	200	250	300	350	400
	0.18	0.16	0.21	0.18	0.15	0.13	0.12	0.11	0.09			
	0.35	0.30	0.21	0.17	0.13	0.11	0.09	0.08	0.07			
	0.36	0.32	0.42	0.35	0.31	0.27	0.24	0.22	0.18			
	0.58	0.50	0.36	0.28	0.23	0.19	0.17	0.15	0.12			
	0.69	0.62	0.80	0.69	0.61	0.54	0.49	0.44	0.37	0.32	0.29	0.26
	1.02	0.88	0.66	0.52	0.80	0.69	0.60	0.53	0.43	0.36	0.31	0.27
	1.56	1.41	1.80	1.55	1.37	1.22	1.10	1.00	0.85	0.74	0.66	0.59
	1.74	1.50	1.13	0.90	1.29	1.11	0.96	0.85	0.68	0.57	0.49	0.42
		3.50	3.48	3.04	2.69	2.42	2.19	2.01	1.72	1.50	1.33	1.20
		2.34	3.70	3.10	2.40	2.07	1.82	1.61	1.29	1.09	0.94	0.82
		3.86	3.84	3.35	2.97	2.66	2.42	2.21	1.89	1.65	1.47	1.32
		2.58	4.08	3.42	2.65	2.28	2.00	1.78	1.43	1.20	1.03	0.90
		7.86	8.02	7.07	6.32	5.71	5.21	4.79	4.13	3.63	3.23	2.92
		3.56	5.90	4.99	3.83	3.32	2.93	2.61	2.16	1.83	1.58	1.39
		8.86	9.04	7.97	7.12	6.44	5.88	5.41	4.66	4.09	3.65	3.29
		4.01	6.66	5.62	4.32	3.75	3.30	2.94	2.43	2.06	1.78	1.57
		12.70	13.46	12.05	10.92	9.98	9.18	8.51	7.42	6.58	5.90	5.36
		7.13	10.25	8.81	7.77	6.96	6.30	5.76	3.23	2.76	2.40	2.12
		21.60	22.32	20.17	18.40	16.92	15.66	14.57	12.79	11.40	10.28	9.37
		11.69	15.53	13.38	11.81	10.60	9.62	8.81	5.75	4.92	4.29	3.79

Descriptions	Revolvable angle tolerance $\theta$ (°)	
	Bore size (mm)	
$\phi$ 12	Metal bush bearing	Ball bearing
$\phi$ 16		
$\phi$ 20		
$\phi$ 25	Metal bush bearing	Ball bearing
$\phi$ 32		
$\phi$ 40		
$\phi$ 50	Metal bush bearing	Ball bearing
$\phi$ 63		
$\phi$ 80		
$\phi$ 100		

(PULL for default) note: Excluding deflection of guide rod

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

Ending

Guided cylinder  
Combined functions

## Selection guide

### ■ Movable part weight table

STG-M movable part weight table

Unit: kg

Bore size (mm)	Stroke length (mm)															
	10	20	25	30	40	50	75	100	125	150	175	200	250	300	350	400
φ 12	0.12	0.13		0.14	0.15	0.16	0.20	0.23	0.27	0.30	0.32	0.35	0.40			
φ 16	0.16	0.18		0.19	0.21	0.22	0.29	0.33	0.41	0.45	0.49	0.53	0.62			
φ 20		0.33		0.35	0.38	0.40	0.52	0.58	0.64	0.70	0.76	0.82	1.00	1.13	1.24	1.35
φ 25		0.52		0.56	0.60	0.64	0.84	0.95	1.05	1.15	1.25	1.34	1.66	1.87	2.06	2.26
φ 32			1.07			1.23	1.42	1.58	1.74	1.90	2.07	2.23	2.73	3.06	3.40	3.71
φ 40			1.14			1.30	1.49	1.65	1.81	1.98	2.14	2.30	2.82	3.13	3.47	3.78
φ 50			2.15			2.40	2.75	3.00	3.26	3.51	3.76	4.02	4.85	5.37	5.88	6.38
φ 63			2.50			2.75	3.09	3.35	3.60	3.86	4.11	4.36	5.19	5.70	6.21	6.72
φ 80			3.76			3.99	4.38	4.61	4.84	5.08	5.31	5.54	6.29	6.76	7.23	7.69
φ 100			6.56			7.08	7.96	8.48	8.99	9.50	10.01	10.53	12.17	13.19	14.22	15.24

STG-B movable part weight table

Unit: kg

Bore size (mm)	Stroke length (mm)															
	10	20	25	30	40	50	75	100	125	150	175	200	250	300	350	400
φ 12	0.11	0.11		0.12	0.13	0.14	0.16	0.17	0.20	0.22	0.23	0.25	0.29			
φ 16	0.15	0.16		0.17	0.20	0.21	0.24	0.27	0.32	0.35	0.38	0.41	0.47			
φ 20		0.31		0.33	0.37	0.39	0.44	0.48	0.56	0.60	0.65	0.70	0.80	0.90	1.00	1.09
φ 25		0.49		0.52	0.58	0.61	0.69	0.76	0.88	0.95	1.02	1.10	1.28	1.44	1.58	1.72
φ 32			0.82			0.94	1.11	1.23	1.40	1.53	1.65	1.77	2.07	2.30	2.54	2.78
φ 40			0.89			1.01	1.18	1.30	1.48	1.60	1.72	1.83	2.14	2.38	2.61	2.84
φ 50			1.77			1.95	2.24	2.45	2.71	1.89	3.08	3.27	3.76	4.13	4.50	4.87
φ 63			2.11			2.30	2.59	2.77	3.05	3.25	3.43	3.61	4.11	4.48	4.84	5.21
φ 80			3.54			3.81	4.12	4.31	4.50	4.69	4.88	5.07	5.58	5.97	6.35	6.73
φ 100			6.21			6.91	7.69	8.10	8.51	8.93	9.34	9.75	10.83	11.65	12.48	13.30

### ■ Calculation of allowable energy absorption

Calculate the kinetic energy of the load actually used, and confirm whether it can be absorbed with the cylinder's allowable energy absorption.

- The values given in the following graph are used for the cylinder's allowable energy absorption (E).
- Formula of load kinetic energy

$$E = \frac{1}{2} \times (W1 + W2) \times V^2$$

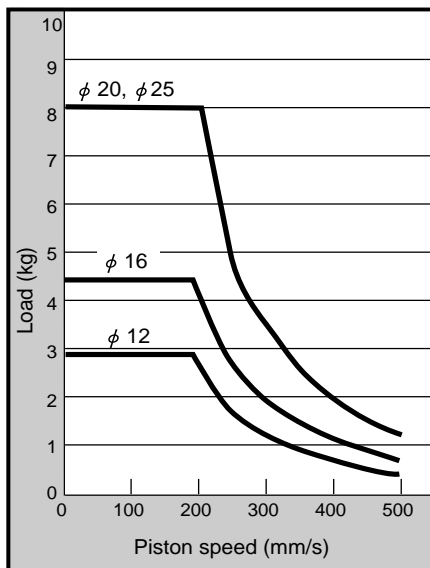
W1: Load (kg)                      W2: Cylinder movable part weight (kg)

V: Cylinder speed (m/s)

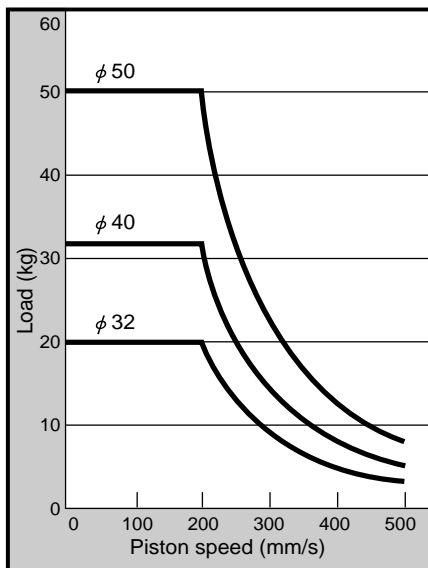
### ■ Allowable energy absorption

The cylinder can be used in the lower left range of the curve. When using in the upper right range, install the external damper.

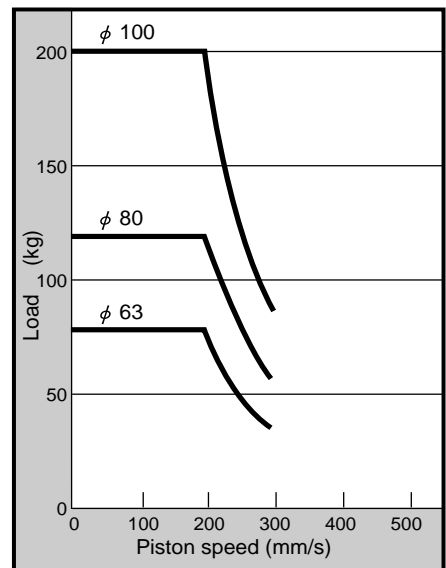
- STG-12 to 25



- STG-32 to 50

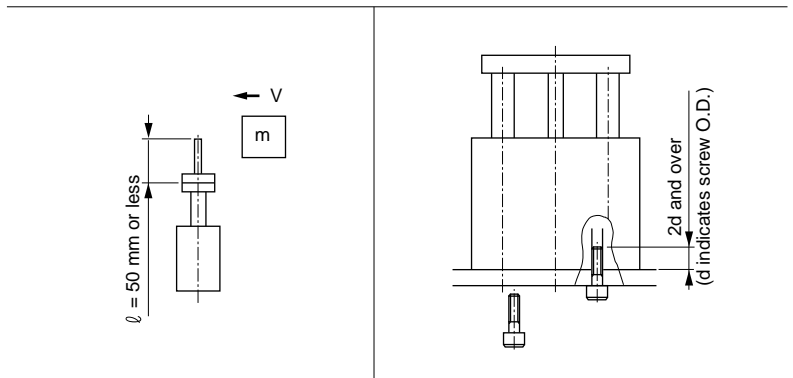
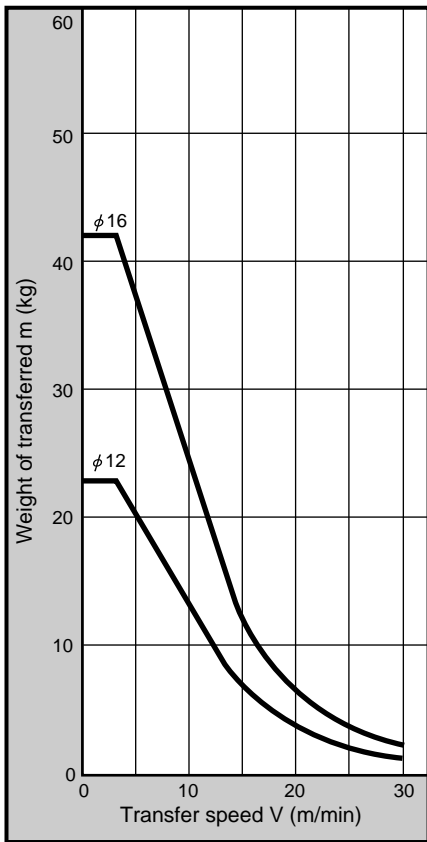


- STG-63 to 100



## Working range when used as a stopper

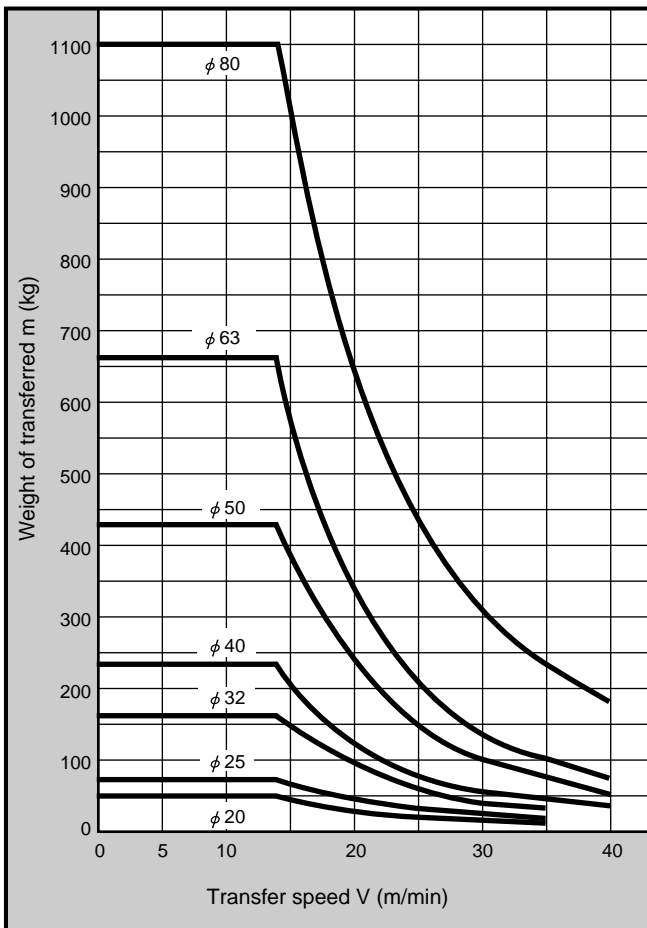
Impact load  
STG-M-12, 16 (metal bush bearing)



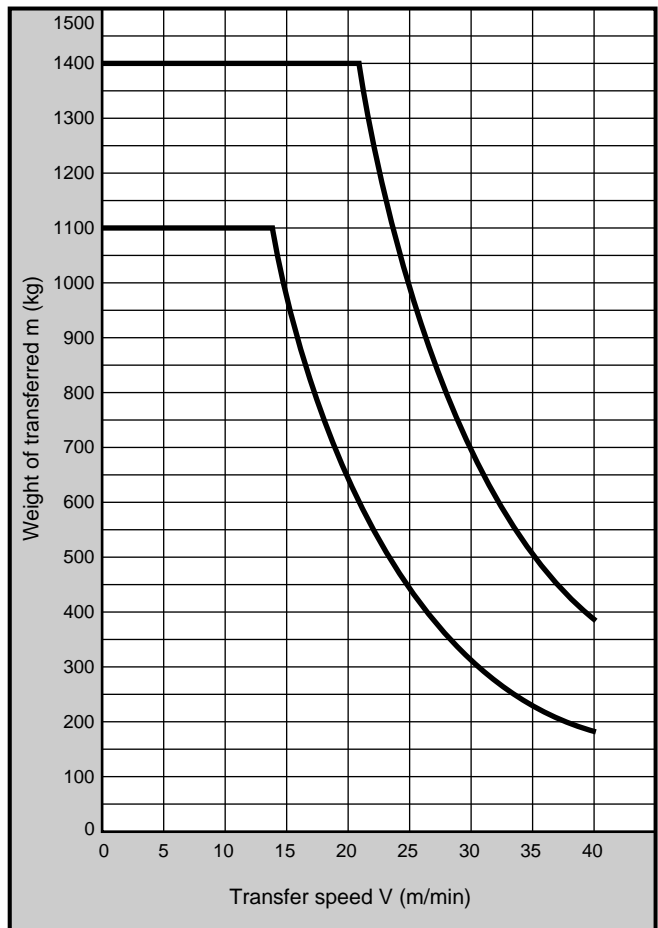
### Safety precautions

- Note 1: When using as a stopper, select a model whose stroke length is not greater than 50mm (STG-M).  
(30 mm stroke or less for  $\phi 12$  to  $\phi 16$ )
- Note 2: Overall length of stopper part must be  $l = 50$  mm or less.
- Note 3: When fixing cylinder main body, bolt screwed depth should be  $2d$  and over, and consider countermeasures for loose prevention (adhesive, spring washer etc.)  
(For  $\phi 80$ , threaded depth should be  $1d$ . "D" means outer diameter.)
- Note 4: STG-B (ball bearing) cannot be used as a stopper.

Impact load  
STG-M-20 to 63 (metal bush bearing)



Impact load  
STG-M-80/100 (impact load)



- SCP\*2
- CMK2
- CMA2
- SCM
- SCG
- SCA2
- SCS
- CKV2
- CA/OV2
- SSD
- CAT
- MDC2
- MVC
- SMD2
- MSD\*
- FC\*
- STK
- ULK\*
- JSK/M2
- JSG
- JSC3
- USSD
- USC
- JSB3
- LMB

- STG**
- STS/L
- LCS
- LCG
- LCM
- LCT
- LCY
- STR2
- UCA2
- HCM
- HCA
- SRL2
- SRG
- SRM
- SRT
- MRL2
- MRG2
- SM-25
- CAC3
- UCAC
- RCC2
- MFC
- SHC
- GLC

- Ending
- Guided cylinder
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