

STG/STG-K

Combined functions cylinder

Guided cylinder

ø12/ø16/ø20/ø25/ø32/ø40
ø50/ø63/ø80/ø100

Overview

Lighter in weight and more effectively saves resources than conventional products. In addition, the guide rod bearing section is improved and the metal bearing material and bearing structure are modified. This improves the lateral load proof characteristics compared to conventional products, realizing stable operation.

Features

Improved maintenance performance

An Allen wrench is used for piston rod mounting. Special tools are not required.

Maintenance performance such as packing replacement is improved.

Supports a wide range of applications and environments.

Various options are provided to support a wide range of applications and environments. As well as the CKD original rubber-air cushion integrated, the rubber scraper and anti-spatter adherence are available. Types that can be used in clean rooms are also available.



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The cylinder switches T2YH, T2YV, T3YH, and T3YV are scheduled for end of production at the end of December 2023.

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

Global environment-friendly,

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

Hazardous substances are eliminated, emphasizing environmental protection and pollution prevention.

Load proof characteristics improved

Guided cylinder STG Series($\phi 12$ to $\phi 100$)

Standard tools can be used for maintenance.

An Allen wrench is used for piston rod mounting. Special tools are not required for maintenance.

Supports high load

The guide rod bearing section is improved and the metal bearing material and bearing structure are modified.

Resistant to lateral and eccentric loads, it has improved load proof characteristics compared to conventional products. Operation is now stabler than ever.

Lighter weight
Resource saving

Aluminum cylinder body shape has been revised and optimized. Lighter in weight and more effectively saves resources than conventional products.

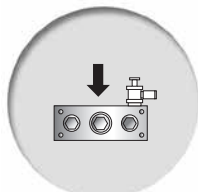
High precision/high rigidity.

STG-M_B
Series

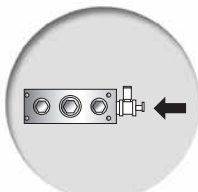
new type guided cylinder.

2 directions for piping, 3 types of mounting

• Piping direction

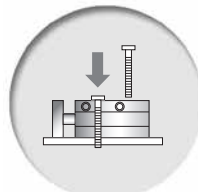


① Front piping

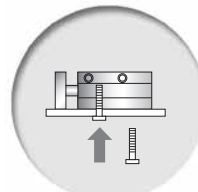


② Side piping

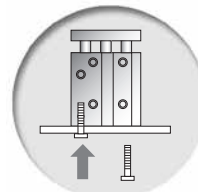
• Mounting direction



① Front mounting



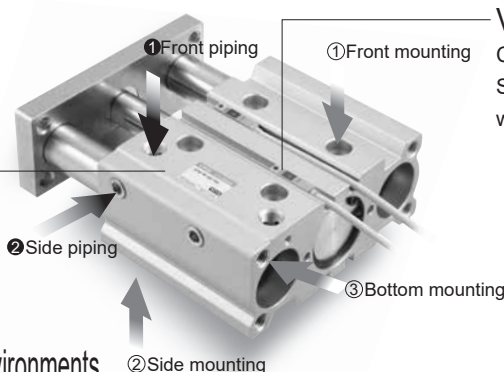
② Side mounting



③ Bottom mounting

Unified white system

The white system surface of the product matches various devices.



Various switches are mountable

Compact T type switch is mounted. Saves space by eliminating protrusions when mounted.

Supports a wide range of applications and environments.

The lineup contains a wide range of new models intended to respond to various applications and environments. Series now offering far more! Operation is now stabler than ever.

■ STG series variation

● Standard ○ Option ● Made to order

Model variations	Bearing		Bore size (ø)								Clean-room specifications	Max. stroke	Switch	Copper and PTFE-free specifications		
	Metal bush	Ball	12	16	20	25	32	40	50	63	80	100	P7 ^{*1}	MAX	SW	P6 ^{*2}
Single rod	●	●	●	●	●	●	●	●	●	●	●	●	●	400	○	○
Rubber-air cushioned	●	●	●	●	●	●	●	●	●	●	●	●	●	400	○	●
Air cushioned	●	●	●	●	●	●	●	●	●	●	●	●	●	400	○	●
Position locking	●	●	●	●	●	●	●	●	●	●	●	●	●	400	○	○
Rubber scraper	●	●	●	●	●	●	●	●	●	●	●	●	●	400	○	○
Coil scraper	●	●	●	●	●	●	●	●	●	●	●	●	●	400	○	○
Coolant proof	●	●	●	●	●	●	●	●	●	●	●	●	●	400	○	○
Anti-spatter adherence	●	●	●	●	●	●	●	●	●	●	●	●	●	400	○	○
Environment-resistant scraper	●	●	●	●	●	●	●	●	●	●	●	●	●	400	○	○
Single rod clean-room specifications	●	●	●	●	●	●	●	●	●	●	●	●	●	400	○	○

*1: For clean-room specifications, only ø12 to ø63 ball bearings "B type" are available.

*2: For ø12 to ø32 ball bearing "B type", copper and PTFE free is available as standard.




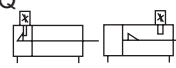





*3: ø80 to ø100 is available as made to order.

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

Series variation

Guided cylinder STG Series

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

Variation	Model No. JIS symbol	Bore size (mm)	Standard stroke (mm)									
			10	20	25	30	40	50	75	100		
Double acting/ single rod	STG-M _B 	ø12/ø16	●	●	■	●	●	●	●	●		
		ø20/ø25	■	●	■	●	●	●	●	●		
		ø32/ø40/ø50/ø63	■	■	●	■	■	●	●	●		
		ø80/ø100	■	■	●	■	■	●	●	●		
Double acting/ rubber-air cushioned	STG-M _B *C 	ø32/ø40/ø50	■	■	●	■	■	●	●	●		
		ø63	■	■	●	■	■	●	●	●		
Double acting/ air cushioned	STG-M _B C 	ø16	■	■	●	■	■	●	●	●		
		ø20/ø25	■	■	●	■	■	●	●	●		
		ø32/ø40/ø50/ø63	■	■	●	■	■	●	●	●		
Double acting/ position locking	STG-M _B Q 	ø20/ø25	■	■	●	■	■	●	●	●		
		ø32/ø40/ø50/ø63	■	■	●	■	■	●	●	●		
Double acting/rubber scraper/coil scraper	STG-M _B G STG-M _B G1 	ø20/ø25	■	●	■	●	●	●	●	●		
		ø32/ø40/ø50/ø63	■	■	●	■	■	●	●	●		
Double acting/ coolant proof	STG-MG2 STG-MG3 	ø20/ø25	■	●	■	●	●	●	●	●		
		ø32/ø40/ø50/ø63	■	■	●	■	■	●	●	●		
Double acting/ anti-spatter adherence	STG-M _B G4 	ø40/ø50/ø63	■	■	●	■	■	●	●	●		
Double acting/ environment- proof scraper	STG-MG5 	ø20/ø25	■	○	■	○	○	○	○	○		
		ø32/ø40/ø50/ø63/ø80/ø100	■	■	○	■	■	○	○	○		
Double acting single rod clean-room specifications	STG-P7 	ø12/ø16	●	●	■	●	●	●	●	●		
		ø20/ø25	■	●	■	●	●	●	●	●		
		ø32/ø40/ø50/ø63	■	■	●	■	■	●	●	●		

●: Standard, ◎: Option, ○: Made to order, ■: Not available

Standard stroke (mm)									Min. stroke (mm)	Max. stroke (mm)	Custom stroke (per mm)	Bearing		Option	Switch	Page
125	150	175	200	250	300	350	400	Metal bush bearing				Ball bearing	Copper and PTFE free specifications			
*2												*3				
●	●	●	●	●	■	■	■	■	5(10)	250	5	●	●	◎	◎	336
●	●	●	●	●	●	●	●	400		●		●	◎			
●	●	●	●	●	●	●	●	400		●		●	◎			
●	●	●	●	●	●	●	●	400		●		●	○			
●	●	●	●	●	●	●	●	5(10) 10	400	5	●	●	○	◎	350	
●	●	●	●	●	■	■	■	15 *4	250	1 (Made to order)	●	●	○	◎	358	
●	●	●	●	●	●	●	●		400		●	●	○			
●	●	●	●	●	●	●	●		400		●	●	○			
●	●	●	●	●	●	●	●	5(15) *5	400	5	●	●	■	◎	368	
●	●	●	●	●	●	●	●	5(10)	400	5	●	●	■	◎	376	
●	●	●	●	●	●	●	●		400		●	●	■			
●	●	●	●	●	●	●	●	5(10)	400	5	●	■	■	◎	382	
●	●	●	●	●	●	●	●		400		●	■	■			
●	●	●	●	●	●	●	●	5(10)	400	5	●	●	■	◎	388	
○	○	○	○	○	○	○	○	5(10)	400	5	○	■	■	○	394	
○	○	○	○	○	○	○	○		400		○	■	■			
●	●	●	●	●	■	■	■	5(10)	250	5	■	●	■	◎	404	
●	●	●	●	●	●	●	●		400		■	●	■			
●	●	●	●	●	●	●	●		400		■	●	■			

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

*1: For ø12 to ø32 ball bearing "B" type, copper and PTFE free is available as standard.
 *2: The value in () for min. stroke is for switches of the 2-color LED, off-delay, strong magnetic field proof, preventive maintenance output.
 *3: Custom stroke is handled by attaching a spacer to the standard stroke cylinder. For a dedicated body, contact CKD separately.
 *4: For types with air cushion at min. stroke and below, select the basic since there is no cushion effect.
 *5: The values are for radial lead wire.
 The value for lead wire straight will be 20 (30).

STG-M (metal bush bearing) Series

Variation and option selection table (metal bush bearing)

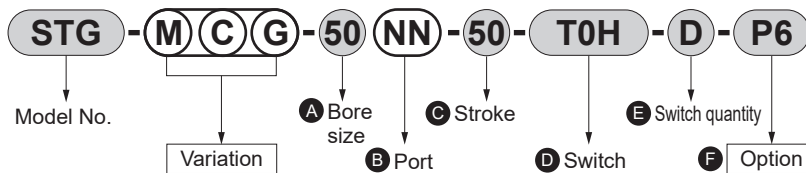
- : Standard
- : Option
- : Available (made-to-order product)
- △ : Available depending on conditions (Contact CKD.)
- × : Not available

Category	Code	Variation										Port thread	Cushion	Option							
		M	Q	C	T	T2	O	G	G1	G2	G3	G4	G5	NN	GN	C	M	P6	P72	P73	
Double acting basic	M	●	●	○	○	○	○	●	●	●	●	○	○	○	○	●	△	○	×	×	
Position locking	Q		*2	×	×	×	×	△	△	△	△	△	△	△	○	○	*2	△	○	×	×
With air cushion	C			*1	*1	○	○	○	○	○	○	*7	○	○	×	△	○	×	×	×	
Heat resistance (120°)	T					×	×	○	×	×	×	×	×	○	○	×	×	×	×	×	
Packing material fluoro rubber	T2					×	×	○	×	*3	×	×	×	○	○	×	△	○	×	×	
Low speed	O							×	×	×	×	×	×	○	○	○	△	×	×	×	
Rubber scraper	G								×	×	×	×	×	○	○	○	△	○	×	×	
Coil scraper	G1									×	×	*4	×	○	○	○	△	×	×	×	
Coolant proof scraper (NBR)	G2									×	×	×	×	○	○	○	△	×	×	×	
Coolant proof scraper (FKM)	G3									×	×	×	×	○	○	○	△	×	×	×	
Anti-spatter adherence	G4									×	×	×	×	○	○	○	△	×	×	×	
Environment-resistant scraper	G5									×	×	×	×	○	○	○	△	×	×	×	
NPT ø20 or more	NN													×	○	△	○	×	×	×	
G ø20 or more	GN													○	△	○	×	×	×	×	
Rubber-air cushioned	C															△	○	×	×	×	
Corrosion proof	M																×	×	×	×	
Copper and PTFE free	P6																	×	×	×	
Clean-room specifications (exhaust port)	*6	P72																		×	
Clean-room specifications (vacuum treatment)	*6	P73																		×	

Caution

- *1: Available for ø40 and over.
- *2: Only the opposite side of the position locking is available. (Example) For head side position locking, the cushion can be attached to the rod side.
- *3: For the combination of G3 and T2, select G3 for all-fluoro rubber packing. (T2 code is not required)
- *4: For G4 type, the coil scraper is integrated.
- *5: For M: corrosion-resistant, iron parts are mainly changed to stainless steel parts. However, the material of the bolt (part No. 6) that connects the end plate with the guide rod will remain iron for reasons of manufacturing.
- *6: Because the metal bush bearing generates abrasive powder from the guide, clean-room specifications are not available.
- *7: Available for ø25 and over.

[Example of model No.]



* Indicate codes from left to right in the left table.

- Model No. : Guided cylinder
- Variations : Metal bush bearing, with air cushion, rubber scraper
- A Bore size : ø50 mm
- B Port thread : NPT thread
- C Stroke : 50 mm
- D Switch model No. : Reed T0H switch, lead wire 1 m
- E Switch quantity : 2
- F Option : Copper and PTFE free

STG-B (ball bearing) series

Variation and option combination selection table

Variation and option combination selection table (ball bearing)

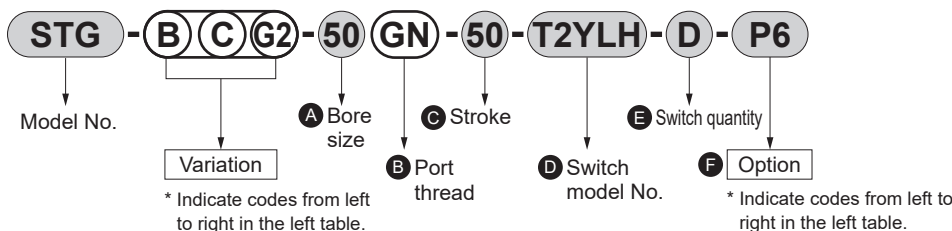
- : Standard
- : Option
- : Available (made-to-order product)
- △ : Available depending on conditions (Contact CKD.)
- × : Not available

Category		Category	Variation													Port thread	Cushion	Option			
		Code	B	Q	C	T	T2	O	G	G1	G2	G3	G4	NN	GN	C	M	P6	P72	P73	
Variation	Double acting basic	B	●	●	×	×	○	●	●	×	×	●	○	○	●	×	○	●	●		
	Position locking	Q			*2	×	×	×	△	△	×	×	△	○	○	*2	×	○	×		
	With air cushion	C				×	×	○	○	○	×	×	○	○	○	×	×	○	×		
	Heat resistance (120°) *1	T					×	×	×	×	×	×	×	×	×	×	×	×	×		
	Packing material fluoro rubber *1	T2						×	×	×	×	×	×	×	×	×	×	×	×		
	Low speed	O							×	×	×	×	×	○	○	○	×	×	○		
	Rubber scraper	G								×	×	×	×	○	○	○	×	○	×		
	Coil scraper	G1									×	×	*4	○	○	○	×	×	×		
	Coolant proof scraper (NBR)	G2										×	×	○	○	○	×	○	×		
	Coolant proof scraper (FKM)	G3											×	○	○	×	×	○	×		
	Anti-spatter adherence	G4												○	○	○	×	×	×		
Port thread	NPT (ø20 or more)	NN												×	○	×	○	○			
	G (ø20 or more)	GN													○	×	○	○			
Cushion	Rubber-air cushioned	C														×	○	×			
Option	Corrosion proof *3	M															×	×			
	Copper and PTFE free	P6																×			
	Clean-room specifications (exhaust port)	P72																			
	Clean-room specifications (vacuum treatment)	P73																			

Caution

- *1: For heat resistance and fluoro rubber packing material ball bearing, bearings are not available.
- *2: Only the opposite side of the position locking is available. (Example) For head side position locking, the cushion can be attached to the rod side.
- *3: For corrosion-resistant ball bearing, the bearing is not available.
- *4: For G4 type, the coil scraper is integrated.

[Example of model No.]

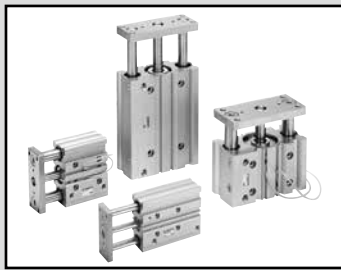


Model No.

- Variation : Ball bearing, with air cushion, coolant proof scraper (NBR)
- A Bore size : ø50 mm
- B Port thread : G thread
- C Stroke : 50 mm
- D Switch model No. : Proximity T2YLH switch, lead wire 1 m
- E Switch quantity : 2
- F Option : Copper and PTFE free

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

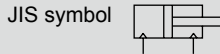
LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFGD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MecHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending



Guided cylinder, double acting/single rod

STG-M/B Series

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



Specifications

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

Stroke length

Bore size	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)	Min. stroke (mm)/(switch)
$\phi 12$	10/20/30/40/50/75/100/	250	5	5(10) *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			
$\phi 100$				

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

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

Theoretical thrust table

(Unit: N)

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

Switch specifications

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

Item	Proximity 2-wire		Proximity 2-wire			Proximity 3-wire				Reed 2-wire				Proximity 2-wire			
	T1H/ T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/ T3V	T3PH/ T3PV	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V	T8H/T8V		T2YD(*4) T2YDT				
Applications	For programmable controller, relay, compact solenoid valve		Dedicated for programmable controller			For programmable controller, relay				For programmable controller, relay		For programmable controller, relay		For programmable controller			
Output method	-					NPN output	PNP output	NPN output	NPN output	-							
Pwr. supp. V.	-					10 to 28 VDC				-							
Load voltage	85 to 265 VAC		10 to 30 VDC		24 VDC ±10%	30 VDC or less				12/24 VDC	100/110 VAC	5/12/24 VDC	100/110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100 mA		5 to 20 mA (*3)			100 mA or less		50 mA or less		5 to 50 mA	7 to 20 mA	50 mA or less	≤20 mA	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA
Indicator lamp	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)		Without indicator lamp		LED (Lit when ON)		Red/green LED (Lit when ON)		
Leakage current	≤1 mA at 100 VAC, ≤2 mA at 200 VAC		1 mA or less			10 µA or less				0 mA					1 mA or less		
Weight g	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80		1 m:33 3 m:87 5 m:142		1 m:61 3 m:166 5 m:272				

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

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

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

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

Cylinder weight

- STG-M

Unit: kg

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

Refer to the weight in the switch specifications.

- STG-B

Unit: kg

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

Refer to the weight in the switch specifications.

How to order

Without switch (built-in magnet for switch)

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

With switch (built-in magnet for switch)

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

Model No.

A Bearing

B Bore size

C Port thread

D Stroke length

E Switch model No. *1 *3 *4

F Switch quantity

G Option *2

Code	Description					
A Bearing						
M	Metal bush bearing					
B	Ball bearing					
B Bore size (mm)						
12	ø12					
16	ø16					
20	ø20					
25	ø25					
32	ø32					
40	ø40					
50	ø50					
63	ø63					
80	ø80					
100	ø100					
C Port thread						
Blank	M5(ø12 to ø16) Rc thread (ø20 to ø100)					
NN	NPT thread (ø20 or more) made-to-order product					
GN	G thread (ø20 or more) made-to-order product					
D Stroke length (mm)						
Refer to the stroke length table on the following page						
E Switch model No.						
Axial lead wire	Radial lead wire	Contact	Voltage		Display	Lead wire
			AC	DC		
T0H*	T0V*	Reed	●	●	1-color display	2-wire
T5H*	T5V*		●	●	Without indicator lamp	
T8H*	T8V*		●	●	1-color display	
T1H*	T1V*	Proximity	●		1-color display	2-wire
T2H*	T2V*			●		
T3H*	T3V*			●	1-color display	3-wire
T3PH*	T3PV*			●	1-color display	3-wire
T2WH*	T2WV*			●	2-color display	2-wire
T2YH*	T2YV*			●		
T3WH*	T3WV*			●	2-color display	3-wire
T3YH*	T3YV*			●		
T2JH*	T2JV*			●	1-color display off-delay	2-wire
T2YD*	-			●	2-color display	2-wire
T2YDT*	-		●	AC magnetic field		
* Lead wire length						
Blank	1 m (standard)					
3	3 m (option)					
5	5 m (option)					
F Switch quantity						
R	1 on rod side					
H	1 on head side					
D	2					
T	3					
G Option						
P6	Copper and PTFE free (for STG-B-12 to 32, copper and PTFE free is provided as standard)					

⚠ Precautions for model No. selection

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

[Example of model No.]

STG-B-40-75-T0H-D

Model: Guided cylinder, double acting/single rod

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

D Stroke length

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

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

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

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

How to order switch

SW - **T0V**

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

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

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

- Design compatible with rechargeable battery manufacturing process.

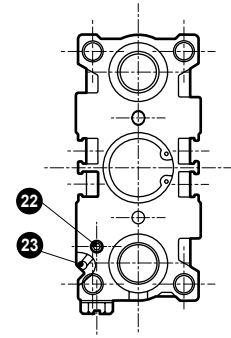
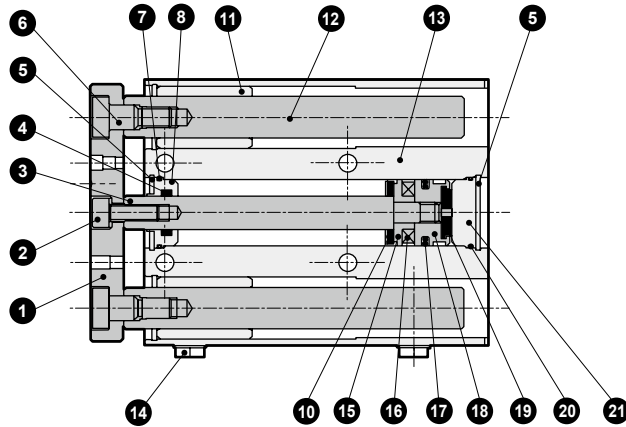
STG - **M** - - **P4***

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

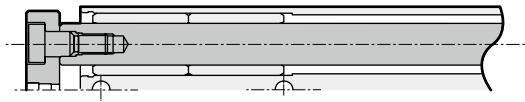
Internal structure and parts list (STG-M-12 to 25)

LCM
LCR
LCG
LCW
LX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
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FK
SpdContr
Ending

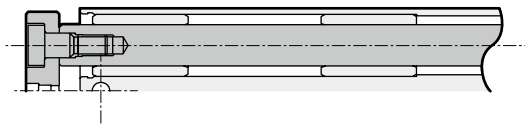
● $\varnothing 12, \varnothing 16$
 · 50 or less stroke length



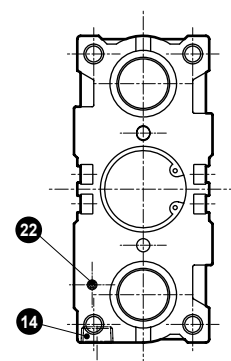
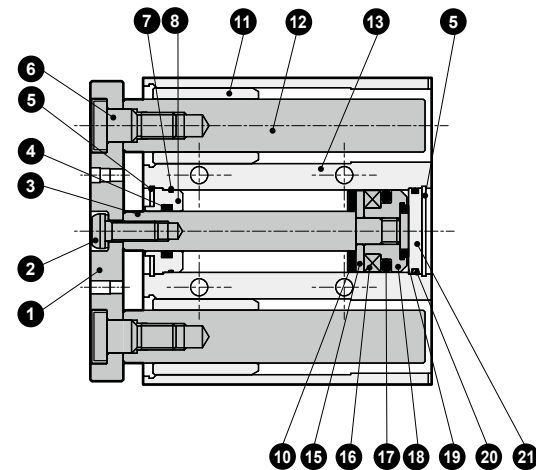
· Over 50 to 100 stroke length



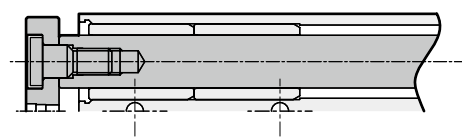
· Over 100 stroke length



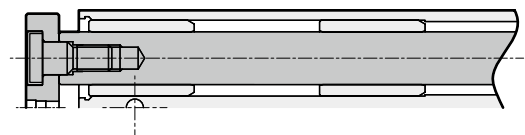
● $\varnothing 20, \varnothing 25$
 · 50 or less stroke length



· Over 50 to 200 stroke length

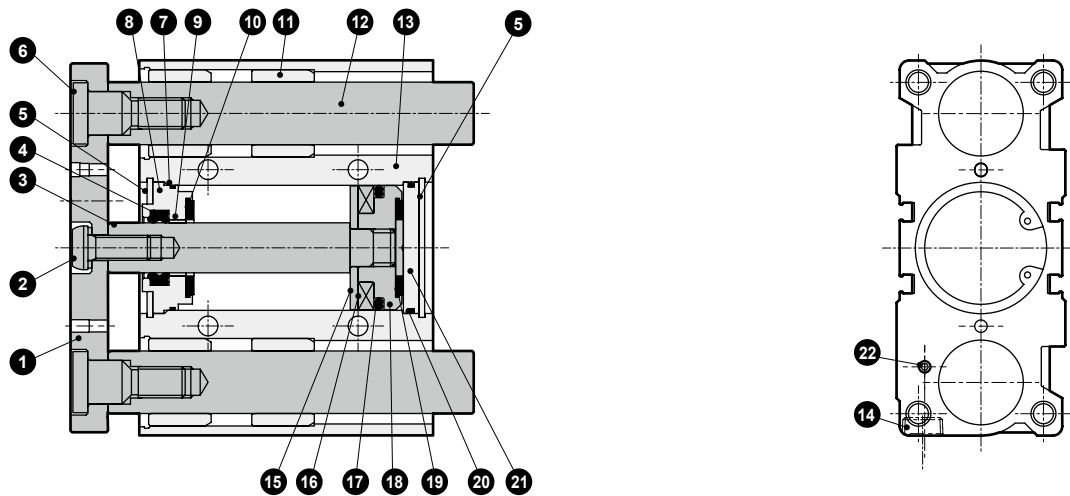


· Over 200 stroke length



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

● ø32 to ø63



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

*1: Aluminum for copper and PTFE free.

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

Repair parts list

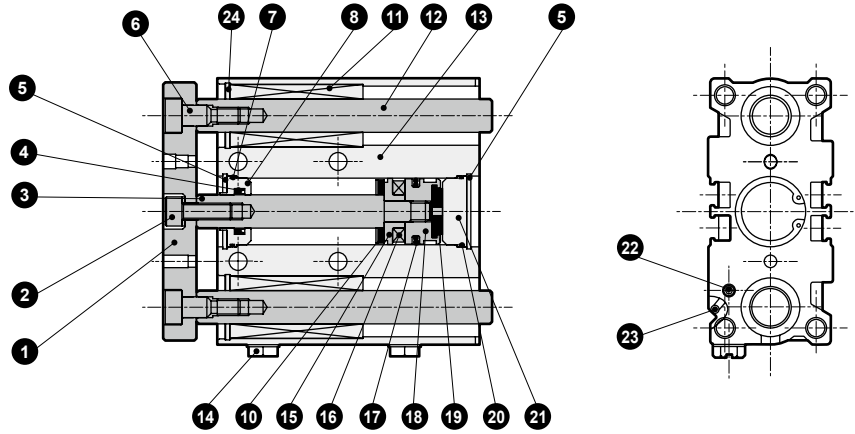
Bore size (mm)	Kit No.	Repair parts No.
	STG-M/B	
ø12	STG-12K	
ø16	STG-16K	
ø20	STG-20K	
ø25	STG-25K	
ø32	STG-32K	4 7 10 17 19 20
ø40	STG-40K	
ø50	STG-50K	
ø63	STG-63K	

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

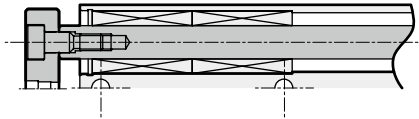
Internal structure and parts list (STG-B-12 to 25)

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

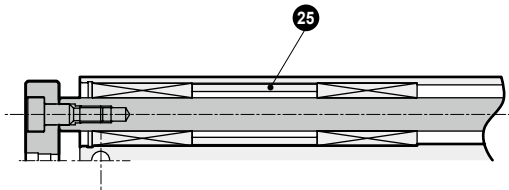
● $\varnothing 12, \varnothing 16$
 · 30 or less stroke length



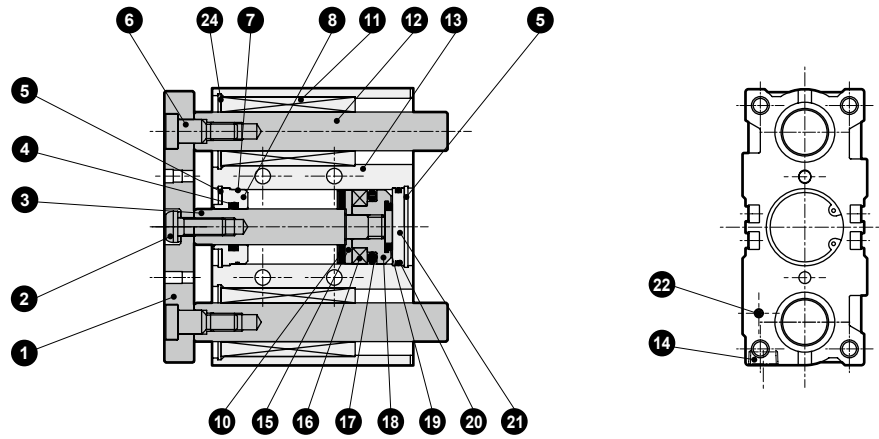
· Over 30 to 100 stroke length



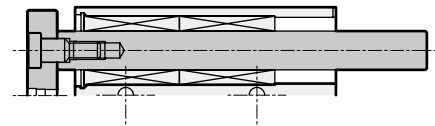
· Over 100 stroke length



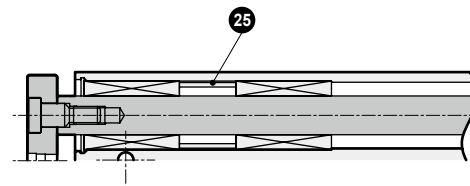
● $\varnothing 20, \varnothing 25$
 · 30 or less stroke length



· Over 30 to 100 stroke length



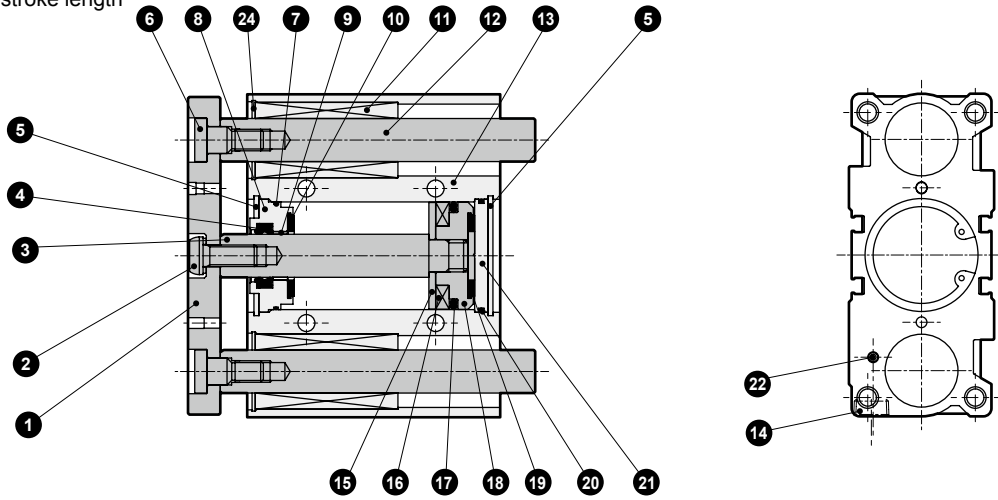
· Over 100 stroke length



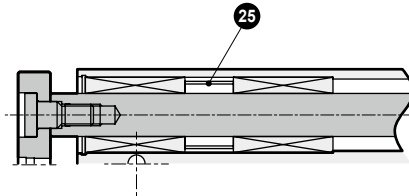
Internal structure and parts list (STG-B-32 to 63)

● $\phi 32$ to $\phi 63$

· 100 or less stroke length



· Over 100 stroke length



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

*1: Aluminum for copper and PTFE free.

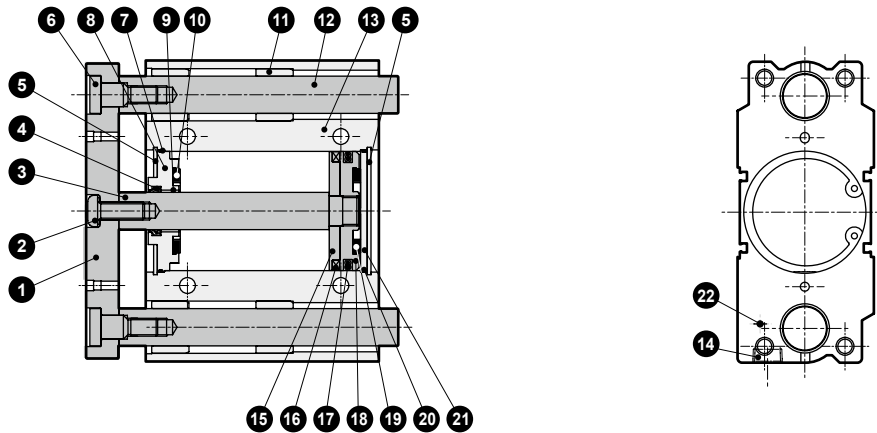
Repair parts list

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

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

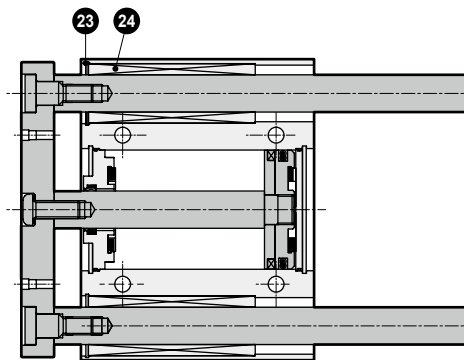
Internal structure and parts list (STG-M-80, 100/STG-B-80, 100)

● STG-M-80,100

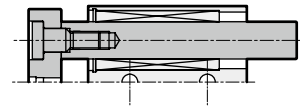


● STG-B-80,100

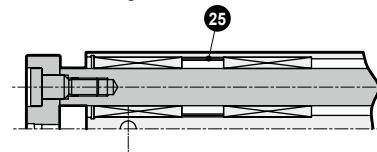
· Over 50 to 200 stroke length



· 50 or less stroke length



· Over 200 stroke length



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

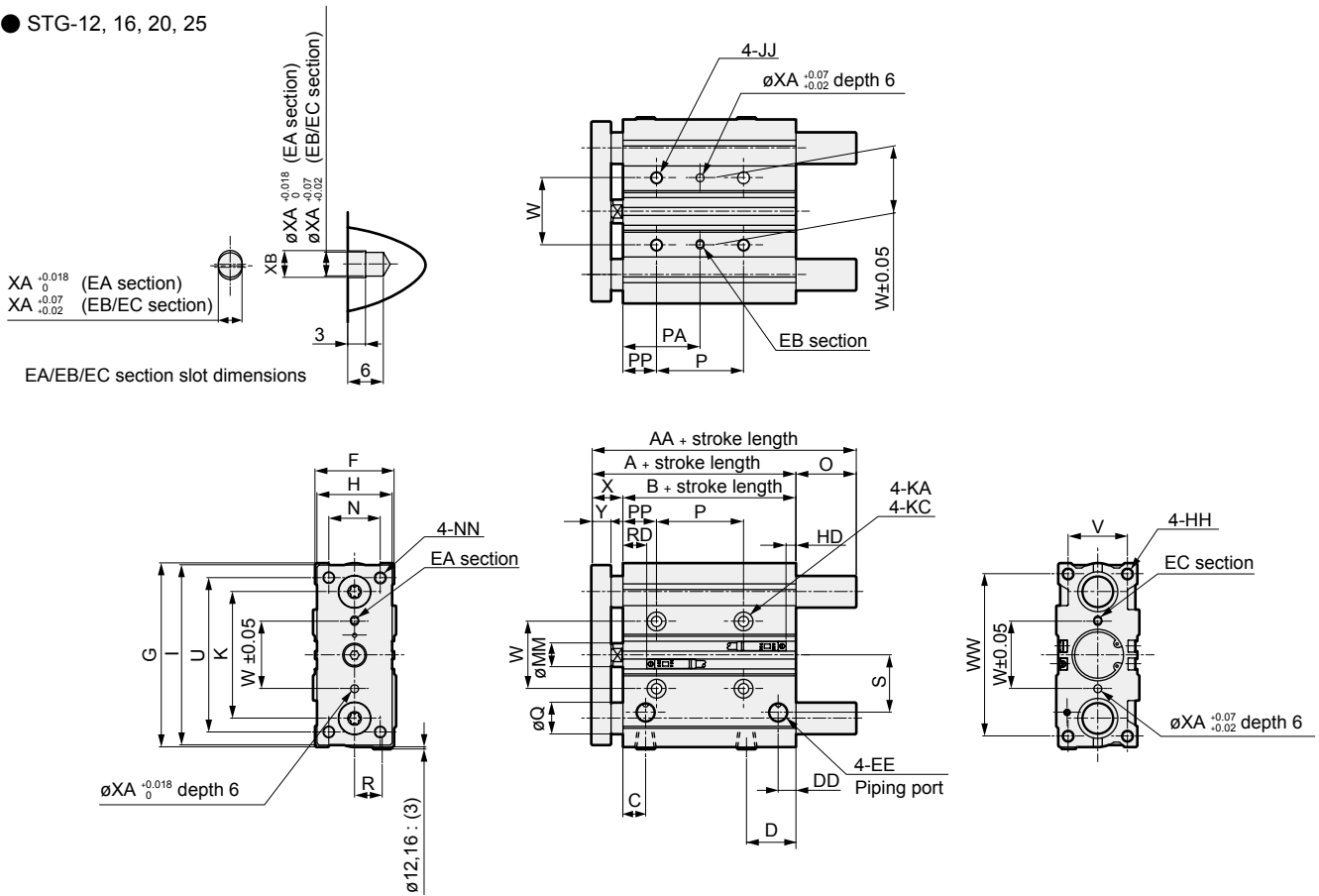
Repair parts list

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

Dimensions (ø12, ø16, ø20, ø25)



● STG-12, 16, 20, 25



● STG-M/B common

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

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

Code	PA											P															
Bore size (mm)	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	T0/T5/T2/T3				T2W/T3W			XA	XB
ø12	15					25	60	105	-	5	8	17	48	18	23	50	13 ^{0.3/5}	7.5	5	5	7	7	3	3.5			
ø16	17					27	60	105	-	5	10	18	54	22	24	56	13 ^{0.3/5}	7.5	4	10	6	12	3	3.5			
ø20	29					39	77	117	167	17	11	25	70	24	28	72	16 ^{0.3/5}	9.5	9.5	8.5	11.5	10.5	3	3.5			
ø25	29					39	77	117	167	17	14	29	78	30	34	82	16 ^{0.3/5}	9.5	10	8.5	12	10.5	4	4.5			

● STG-M

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

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

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

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

● STG-B

Code	AA				Q	O			
Bore size (mm)	30 or less	Over 30 to 100	Over 100	Over 200		30 or less	Over 30 to 100	Over 100 to 200	Over 200
ø12	43	55	85	6	1	13	43		
ø16	49	65	95	8	3	19	49		

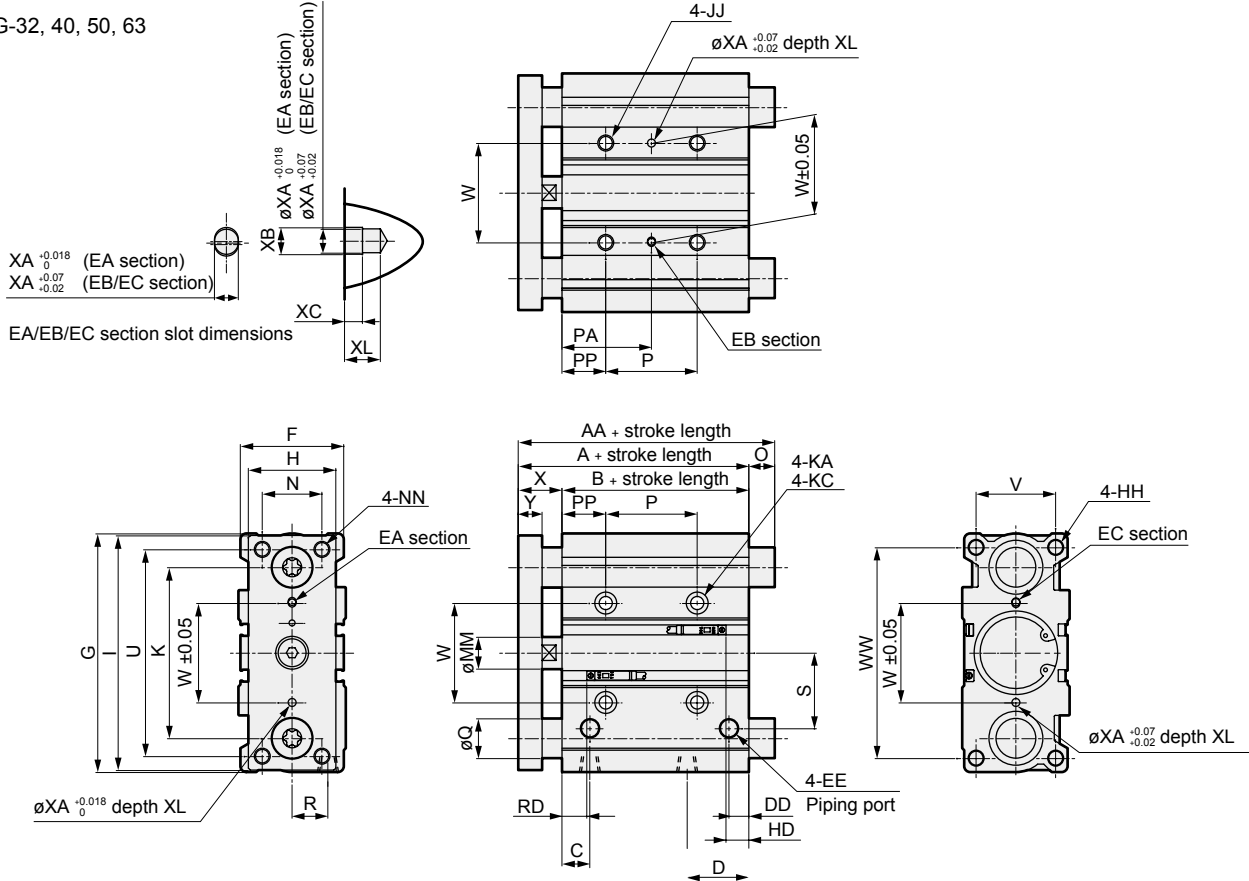
Code	AA				Q	O			
Bore size (mm)	30 or less	Over 30 to 100	Over 100 to 200	Over 200		30 or less	Over 30 to 100	Over 100 to 200	Over 200
ø20	59	78	100	122	10	6	25	47	69
ø25	65	84	103	122	13	11.5	30.5	49.5	68.5

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



Dimensions (ø32, ø40, ø50, ø63)

● STG-32, 40, 50, 63



● STG-M/B common

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

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

Code	Bore size (mm)	PA			PP	R	S	U	V	W	WW	X	Y	T0/T5/T2/T3		T2W/T3W		XA	XB	XC	XL
		Over 100 to 200	Over 200 to 300	Over 300										RD	HD	RD	HD				
ø32	83	121	171	21	15	34	96	34	42	98	22 ^{±0.2}	11.5	10	8.5	12	10.5	4	4.5	3	6	
ø40	84	122	172	22	18	38	104	40	50	106	22 ^{±0.2}	11.5	13	12	15	14	4	4.5	3	6	
ø50	86	124	174	24	21.5	47	130	46	66	130	28 ^{±0.2}	15.5	13.5	11.5	15.5	13.5	5	6	4	8	
ø63	88	124	174	24	28	55	130	58	80	142	28 ^{±0.2}	15.5	14	16	16	18	5	6	4	8	

● STG-M

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

● STG-B

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

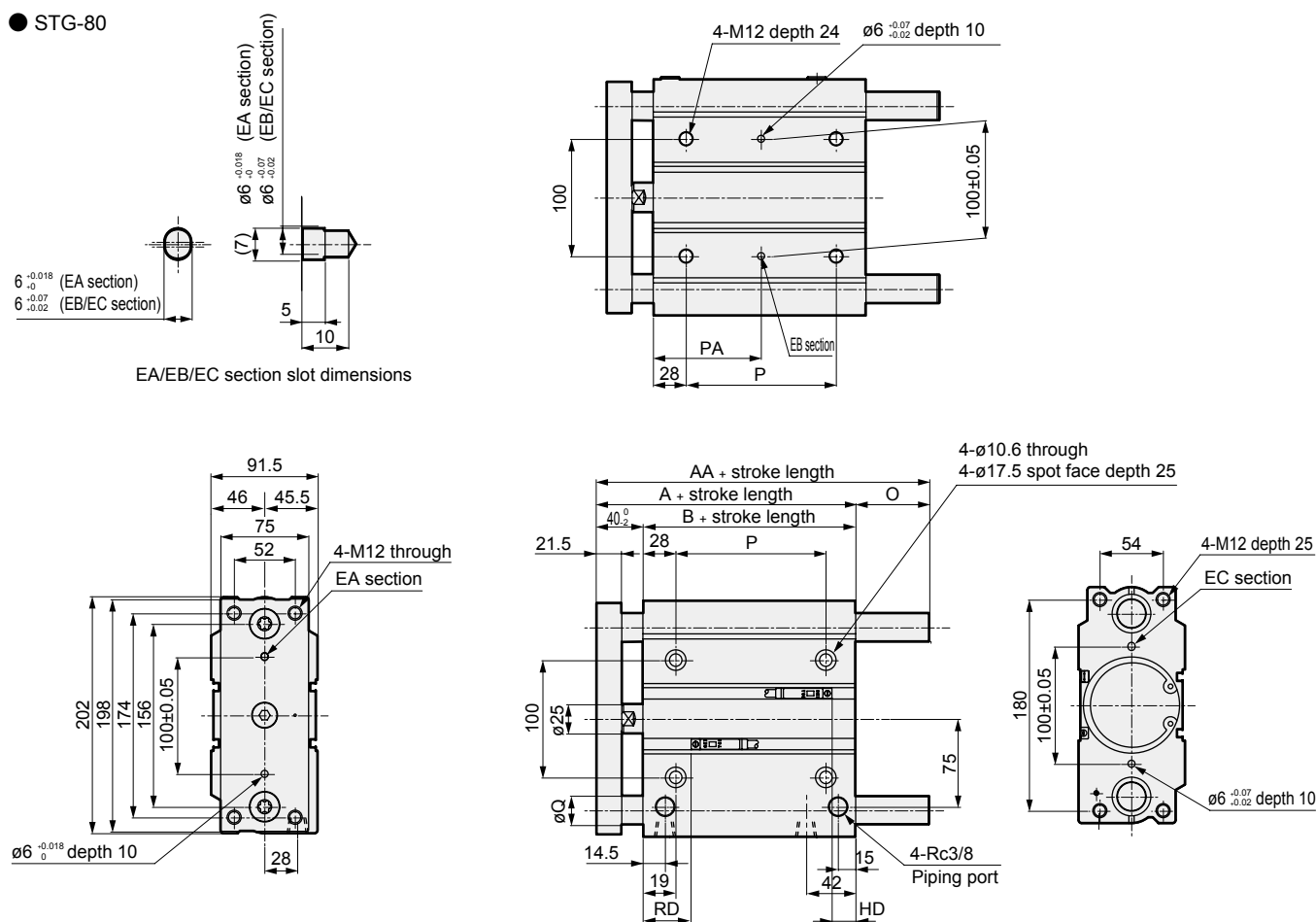
*1 : When using a custom stroke length, the total dimensions are the same as the longer standard stroke length.

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

Dimensions (ø80)



● STG-80



● STG-M/B common

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

● STG-M

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

● STG-B

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

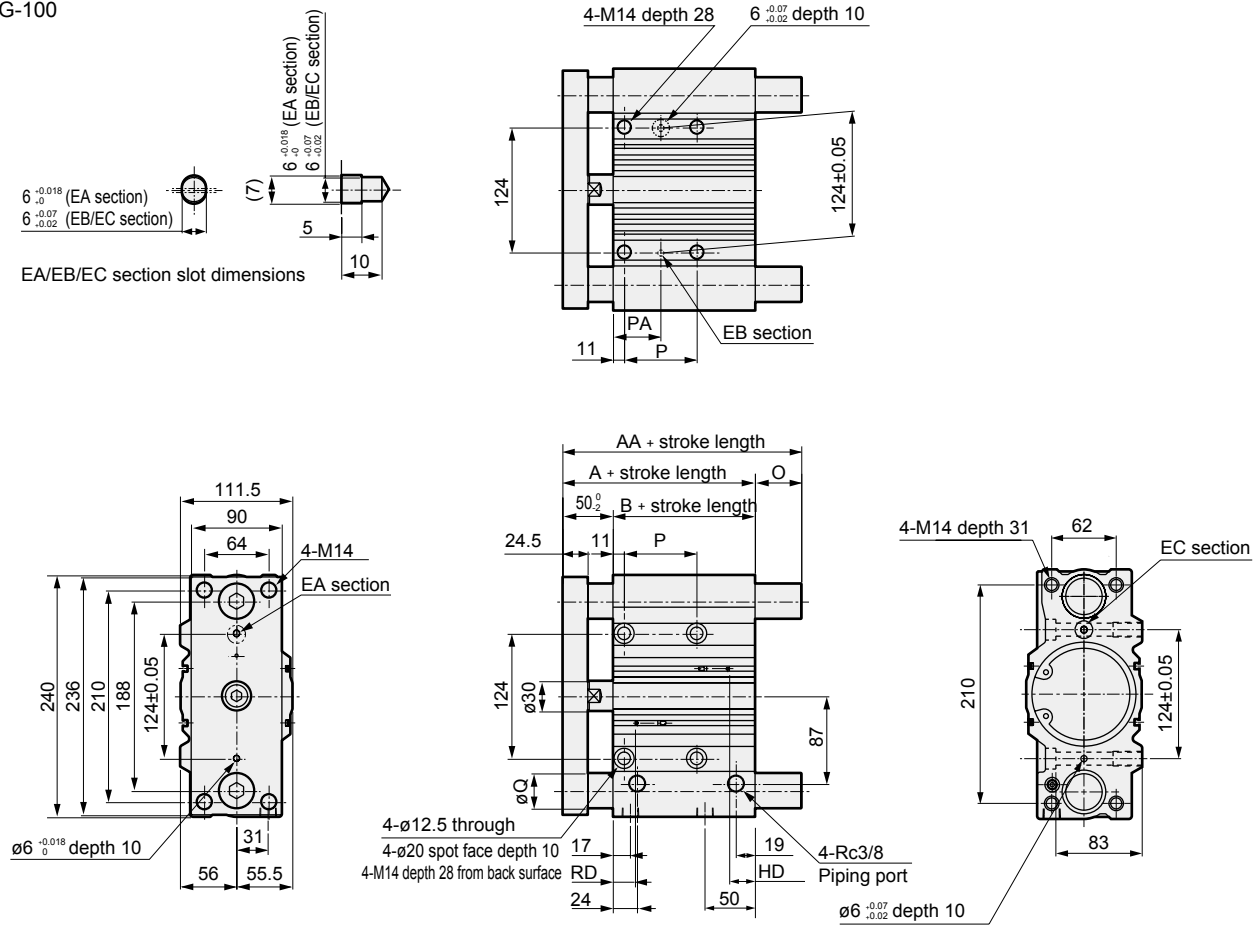
*1 : When using a custom stroke length, the total dimensions are the same as the longer standard stroke length.

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

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

Dimensions (ø100)

● STG-100



● STS-M/B common

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

● STG-M

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

● STG-B

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

MEMO

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

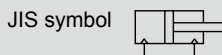
LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MecHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending



Guided cylinder, double acting/rubber-air cushioned

STG-M-B-*C Series

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



Specifications

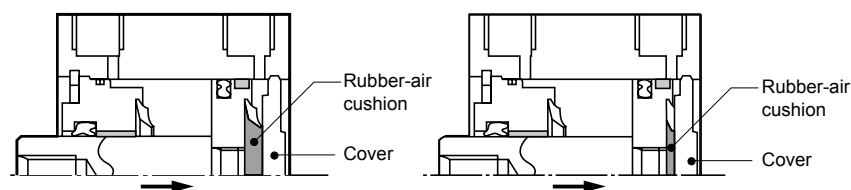
Item		STG-M/B-*C			
Bore size	mm	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$
Actuation		Double acting			
Working fluid		Compressed air			
Max. working pressure	MPa	1.0 (≈ 150 psi, 10 bar)			
Min. working pressure	MPa	0.2 (≈ 29 psi, 2 bar)			
Proof pressure	MPa	1.6 (≈ 230 psi, 16 bar)			
Ambient temperature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

Stroke length

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

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

Rubber-air cushion mechanism

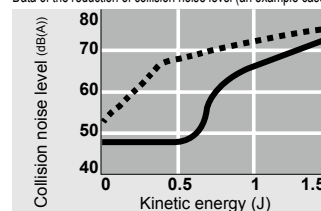


When pulled

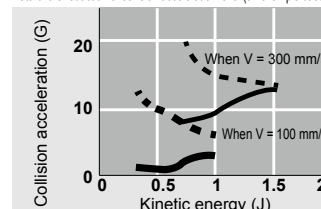
An airtight space is created in the area when the piston operates and the rubber-air cushion and cover make contact. Air in the airtight area is further compressed, absorbing energy as the piston operates. At the end of the stroke, energy generated by compression distortion of the air cushion is also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

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

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



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



Switch specifications

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

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

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

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

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

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

Cylinder weight

● STG-M-*C

Unit: kg

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

● STG-B-*C

Unit: kg

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

Theoretical thrust table

(Unit: N)

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

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

STG-*C Series

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

How to order

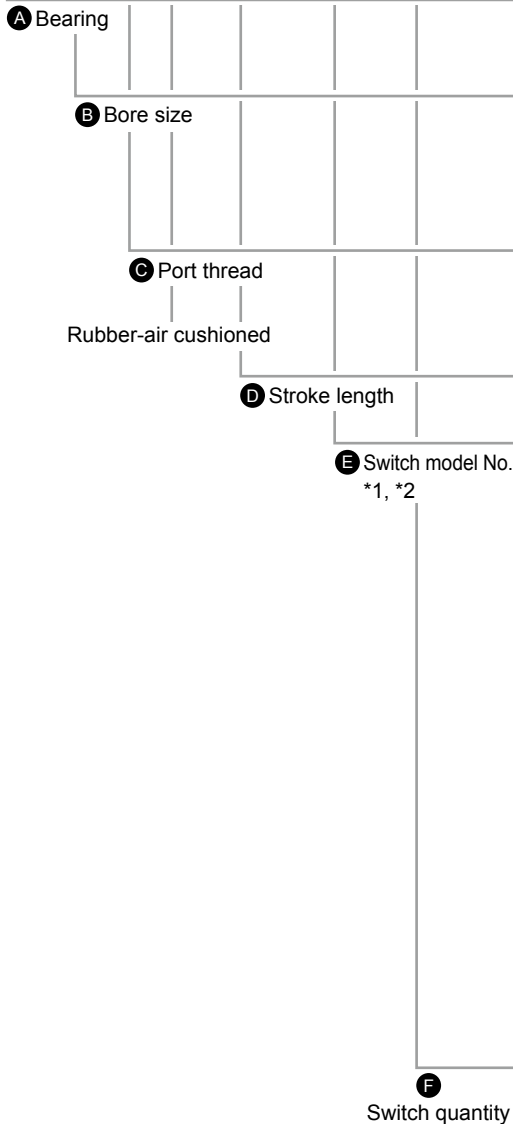
Without switch (built-in magnet for switch)

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

With switch (built-in magnet for switch)

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

Model No.



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

⚠ Precautions for model No. selection

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

[Example of model No.]

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

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

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

D Stroke length

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

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

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

How to order switch

SW - **T0V**

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

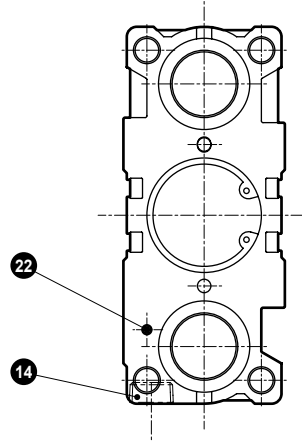
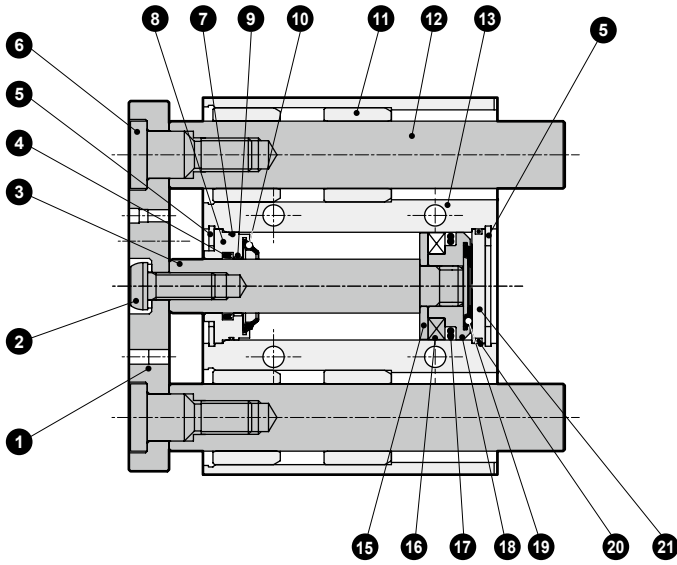
Note: Contact CKD when using
an environment-friendly T switch.

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

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

Internal structure and parts list

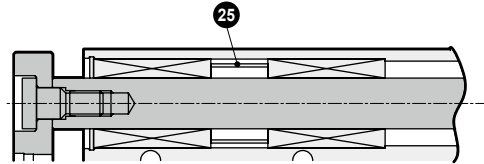
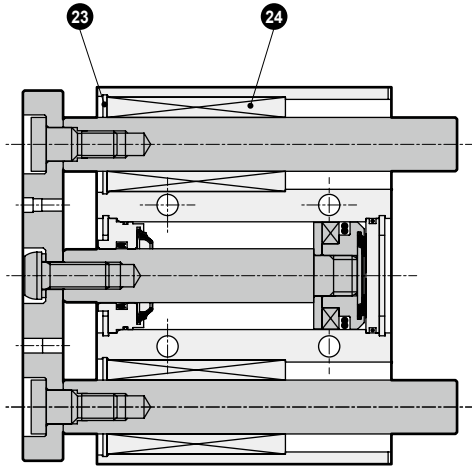
● STG-M-32 to 63(ø32 to ø63)



● STG-B-32 to 63(ø32 to ø63)

· 100 or less stroke length

· Over 100 stroke length



Internal structure and parts list

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

Repair parts list

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

Dimensions

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

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

Technical data



Refer to page 412 for guided cylinder selection guide.

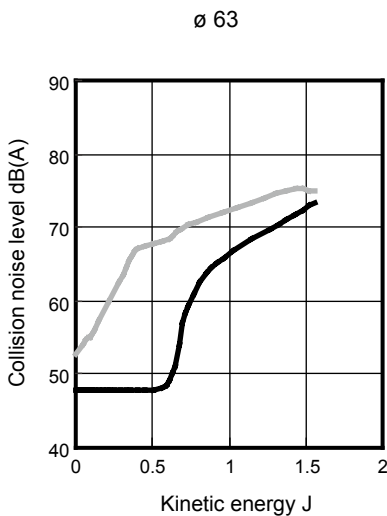
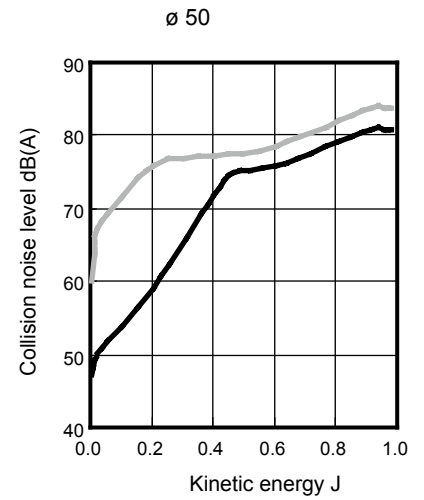
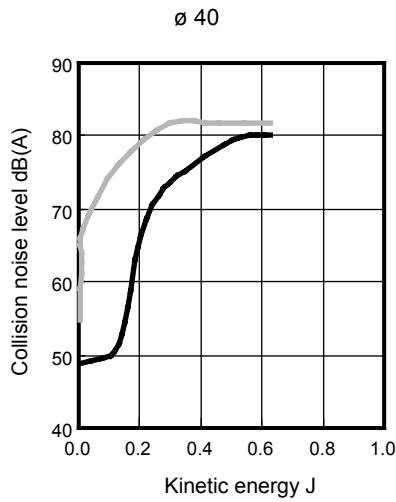
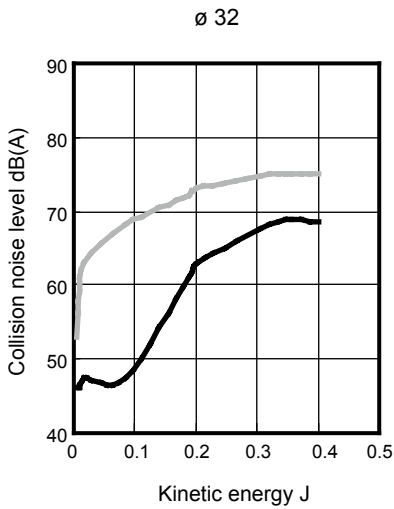
[Comparison of collision noise level]

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

(Test conditions)



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

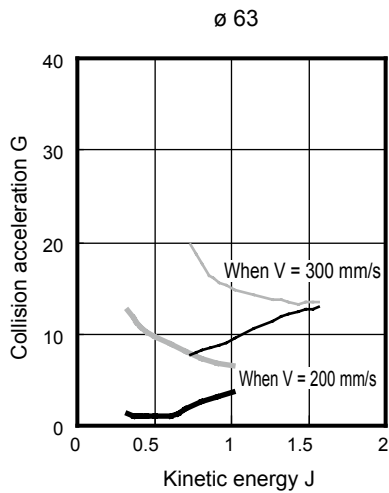
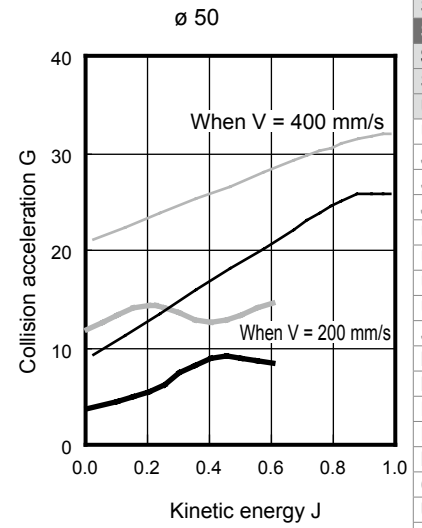
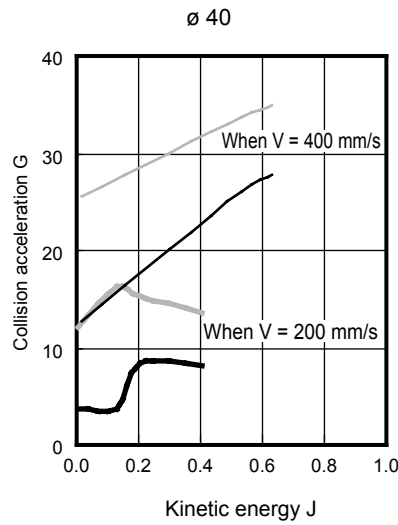
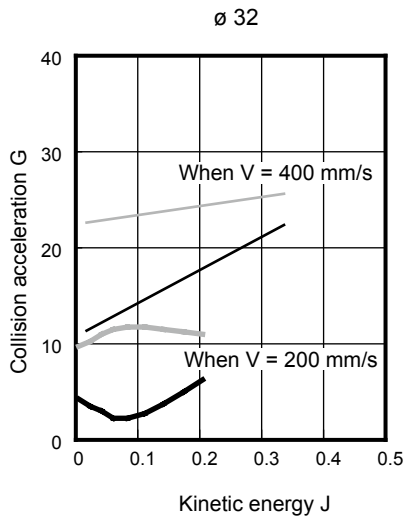
Standard rubber cushion : 
 Rubber-air cushion : 



Technical data

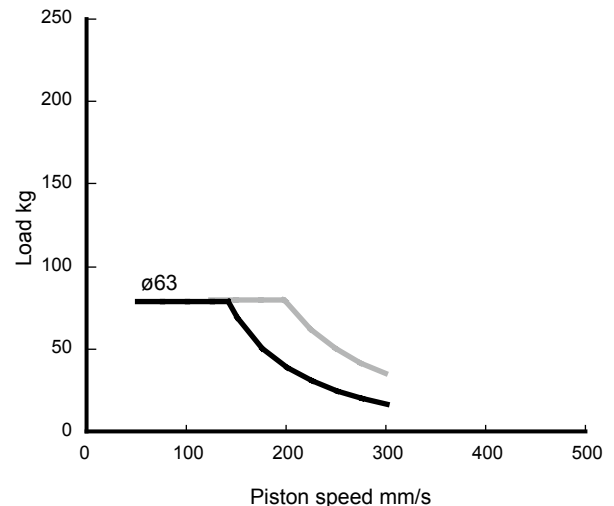
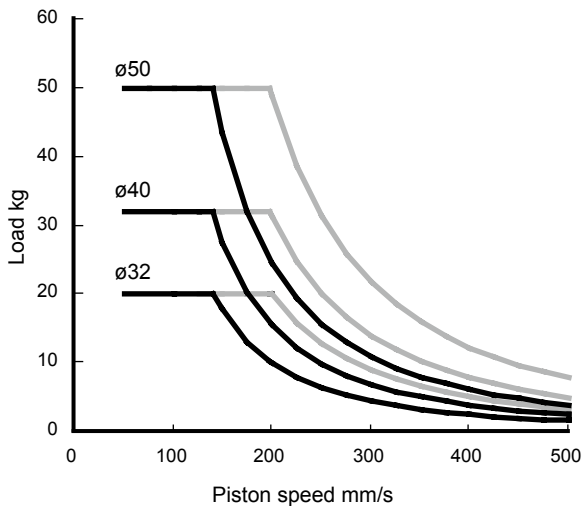
[Comparison of collision acceleration]


Standard rubber cushion: 
 Rubber-air cushion: 



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

[Allowable energy value]



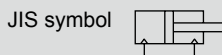
Usable in the range below and to the left of the curve.
 Although it can be used in the range marked with , the use within the range marked with solid line is recommended to maximize the noise reduction effect.



Guided cylinder, double acting/air cushioned

STG-M BC Series

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



Specifications

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

Stroke length

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

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

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

Theoretical thrust table

(Unit: N)

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

Switch specifications

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

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

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

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

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

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

Cylinder weight

- STG-M

Unit: kg

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

- STG-B

Unit: kg

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

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

How to order

Without switch (built-in magnet for switch)

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

With switch (built-in magnet for switch)

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

Model No.

With air cushion

A Bearing

B Bore size

C Port thread

D Stroke length

E Switch model No.
*1, *2

F Switch quantity

Code	Description					
A Bearing						
M	Metal bush bearing					
B	Ball bearing					
B Bore size (mm)						
16	ø16					
20	ø20					
25	ø25					
32	ø32					
40	ø40					
50	ø50					
63	ø63					
C Port thread						
Blank	M5(ø16) Rc thread (ø20 to ø63)					
NN	NPT thread (ø20 or more) made-to-order product					
GN	G thread (ø20 or more) made-to-order product					
D Stroke length (mm)						
Refer to the stroke length table on the following page						
E Switch model No.						
Axial lead wire	Radial lead wire	Contact	Voltage		Display	Lead wire
			AC	DC		
TOH*	T0V*	Reed	●	●	1-color display	2-wire
T5H*	T5V*		●	●	Without indicator lamp	
T8H*	T8V*		●	●	1-color display	
T1H*	T1V*		●		1-color display	
T2H*	T2V*		●	3-wire		
T3H*	T3V*	Proximity		●	1-color display	3-wire
T3PH*	T3PV*			●		
T2WH*	T2WV*			●	2-color display	2-wire
T2YH*	T2YV*			●		
T3WH*	T3WV*			●	2-color display	3-wire
T3YH*	T3YV*			●		
T2JH*	T2JV*			●	1-color display off-delay	2-wire
T2YD*	-			●	2-color display for AC magnetic field	2-wire
T2YDT*	-		●			
* Lead wire length						
Blank	1 m (standard)					
3	3 m (option)					
5	5 m (option)					
F Switch quantity						
R	1 on rod side					
H	1 on head side					
D	2					
T	3					

⚠ Precautions for model No. selection

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

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

*3 : T8H/V switch cannot be installed on STG-M_BC-16.

[Example of model No.]

STG-MC-25-50-T0H3-D

Model: Guided cylinder, double acting/air cushioned

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

D Stroke length

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

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

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

How to order switch

SW - **T0V**

Switch model No.
(Item ⑤ on page 360)

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

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

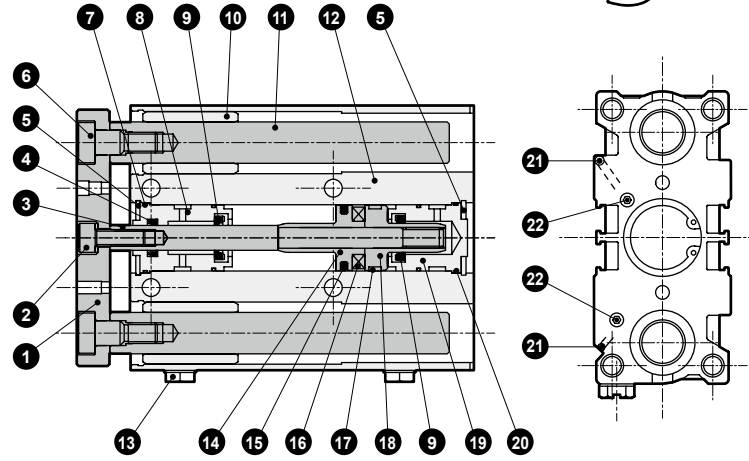
STG-MC Series

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

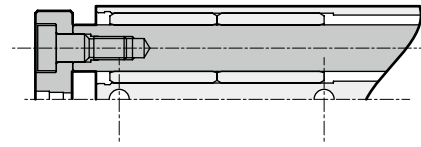
LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MecHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

● $\varnothing 16$

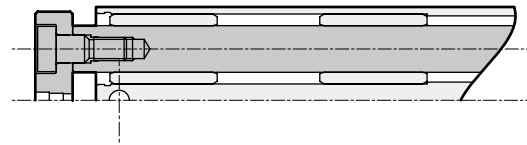
· 25 stroke length



· Over 25 to 100 stroke length

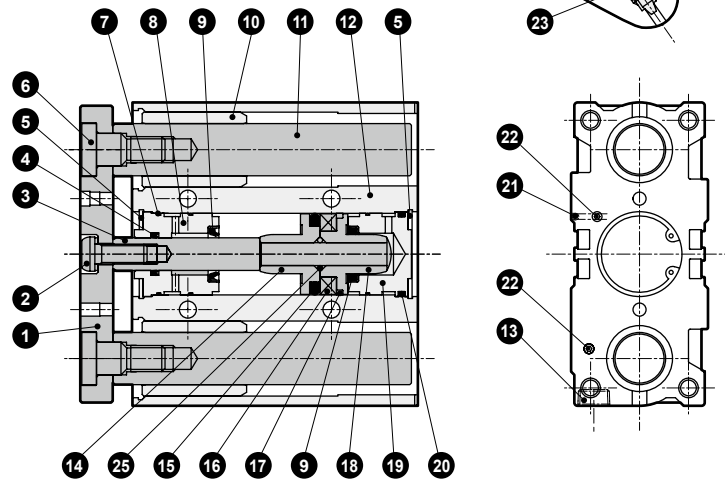


· Over 100 stroke length

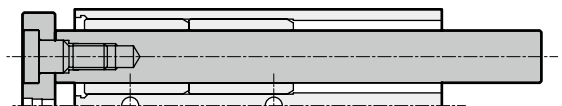


● $\varnothing 20$ to $\varnothing 40$

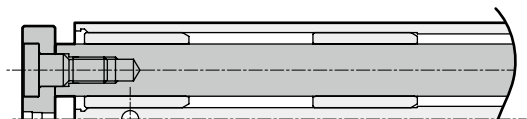
· 25 stroke length ($\varnothing 20$, $\varnothing 25$)



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

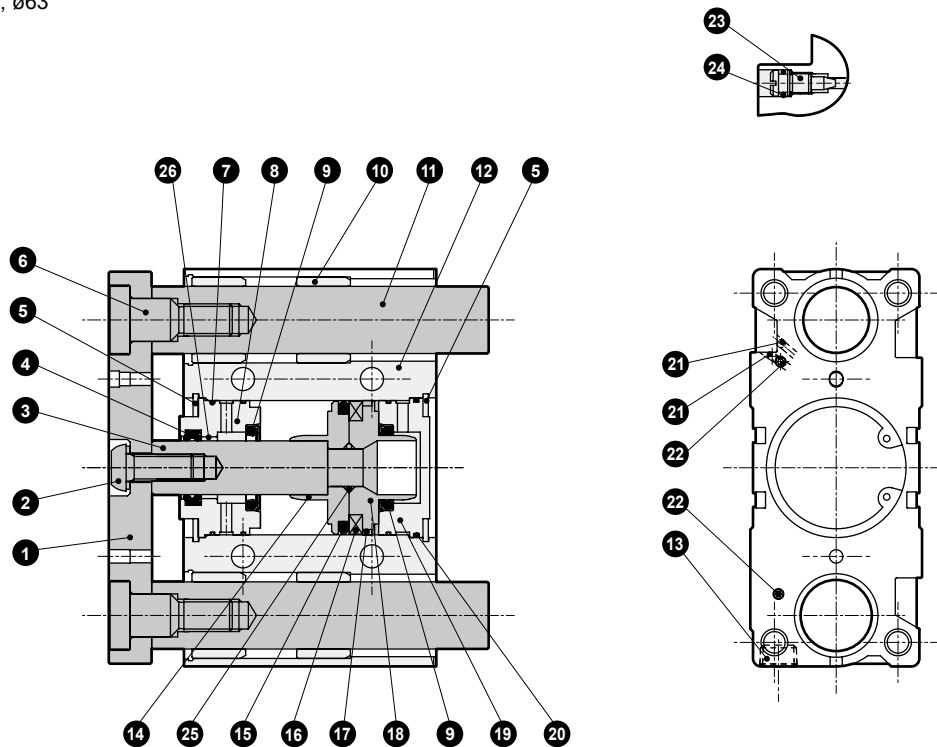


· Over 200 stroke length ($\varnothing 20$, $\varnothing 25$, $\varnothing 32$, $\varnothing 40$)



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

● ø50, ø63



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	End plate	Steel	Nickeling	12	Cylinder body	Aluminum alloy	Hard alumite
2	Hexagon socket head cap screw (ø16) Hex socket button head bolt (ø20 to ø63)	Steel	Zinc chromate	13	Plug	Copper alloy or steel	
		Steel	Zinc chromate	14	Piston (R)	Aluminum alloy	Chromate (ø16 to ø32)
3	Piston rod	Stainless steel (ø16 to ø25)	Industrial chrome plating	15	Piston packing	Nitrile rubber	
		Steel (ø32 to ø63)	Industrial chrome plating	16	Magnet	Plastic	
4	Rod packing	Nitrile rubber		17	Wear ring	Acetal resin	
5	C type snap ring	Steel	Zinc phosphate	18	Piston (H)	Aluminum alloy	Chromate (ø16 to ø32)
6	Bolt	Steel	Zinc chromate	19	Base plate	Aluminum alloy	Chromate
7	Metal gasket	Nitrile rubber		20	O-ring	Nitrile rubber	
8	Rod metal	Special aluminum alloy (ø16 to ø32)	Alumite	21	Steel ball	Stainless steel	
		Aluminum alloy (ø40 to ø63)	Chromate	22	Hexagon socket set screw	Stainless steel	
9	Cushion packing	Nitrile rubber/steel		23	Cushion needle	Copper alloy	
10	Metal	Oil impregnated bearing alloy		24	Needle gasket	Nitrile rubber	
11	Guide rod	Stainless steel (ø16)	Industrial chrome plating	25	Piston gasket	Nitrile rubber	
		Steel (ø20 to ø63)	Industrial chrome plating	26	Bush	Oiles drymet (ø40 to ø63)	

Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
	STG-M/B	
ø16	STG-C-16K	
ø20	STG-C-20K	
ø25	STG-C-25K	
ø32	STG-C-32K	
ø40	STG-C-40K	
ø50	STG-C-50K	
ø63	STG-C-63K	

Note: For support of new and old products, both sizes are available for
 ● O-rings of ø20 to ø50.
 For complete replacement, note that 2 will be left over.

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

STG-BC Series

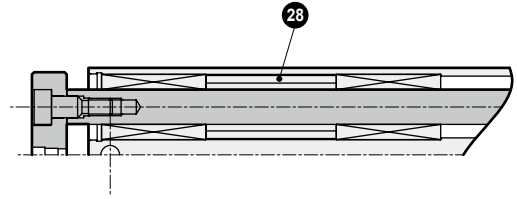
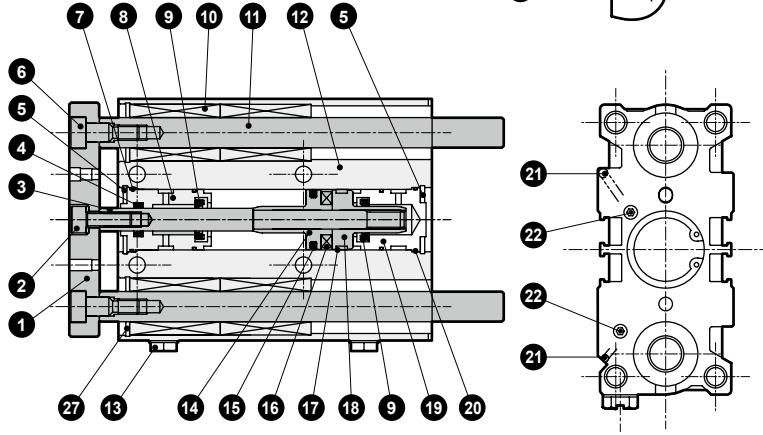
Internal structure and parts list (STG-BC-16 to 40)

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

● $\phi 16$

· Over 25 to 100 stroke length

· Over 100 stroke length



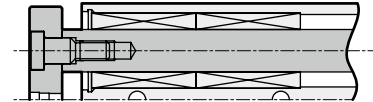
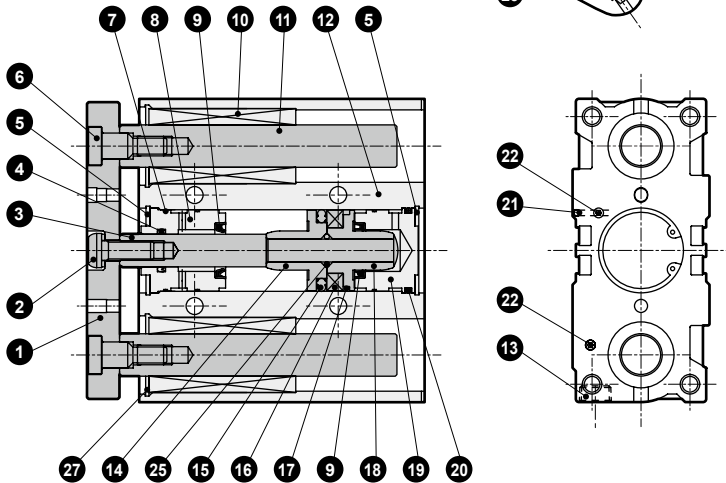
● $\phi 20$ to $\phi 40$

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

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

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

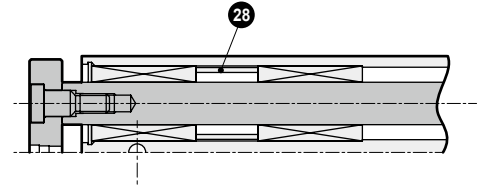
· Over 25 to 75 stroke length ($\phi 25$)



· Over 100 stroke length ($\phi 20$)

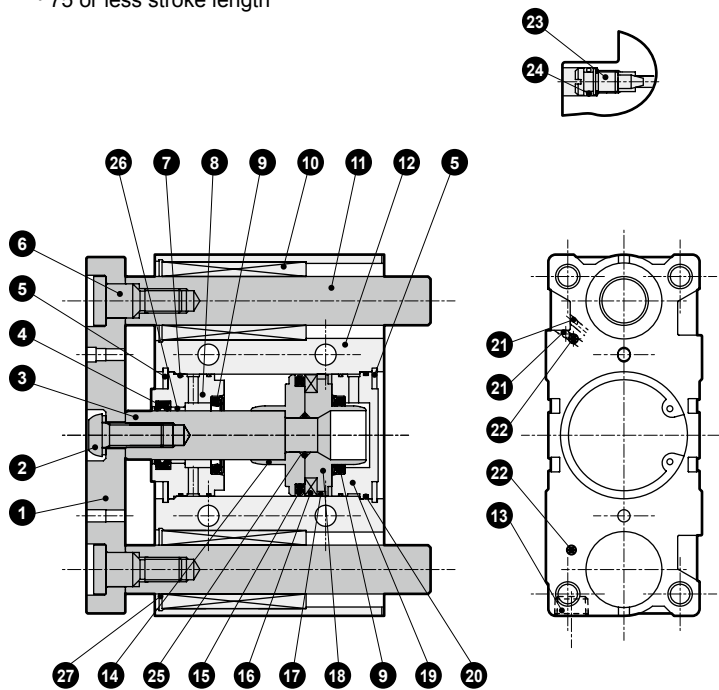
· Over 75 stroke length ($\phi 25$)

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

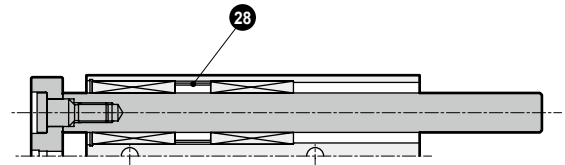


Internal structure and parts list (STG-BC-50, 63)

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



· Over 75 stroke length



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

Repair parts list

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

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

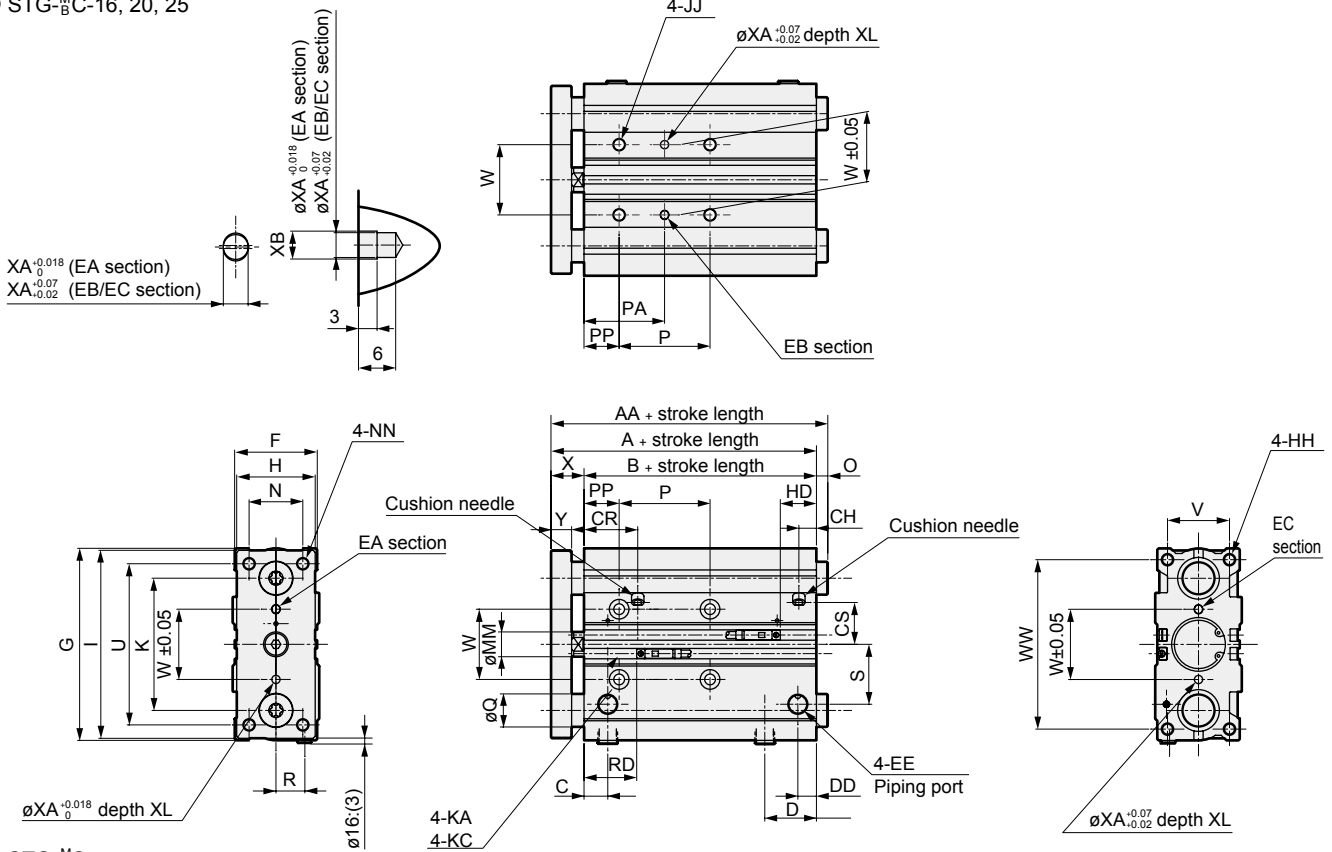
LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

STG-MC Series



Dimensions (ø16, ø20, ø25)

● STG-MC-16, 20, 25



● STG-MC common

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

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

Code	Bore size (mm)	U	V	W	WW	X	Y	T0/T5/T2/T3		T2W/T3W		XA	XB	CR	CH	CS
								RD	HD	RD	HD					
ø16	54	22	24	56	13 ^{0.15}	7.5	20.5	18	22.5	20	3	3.5	23.5	9	16	
ø20	70	24	28	72	16 ^{0.2}	9.5	23.5	19.5	25.5	21.5	3	3.5	25	11	19	
ø25	78	30	34	82	16 ^{0.2}	9.5	25.5	17.5	27.5	19.5	4	4.5	26	8.5	20	

● STG-MC

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

● STG-BC

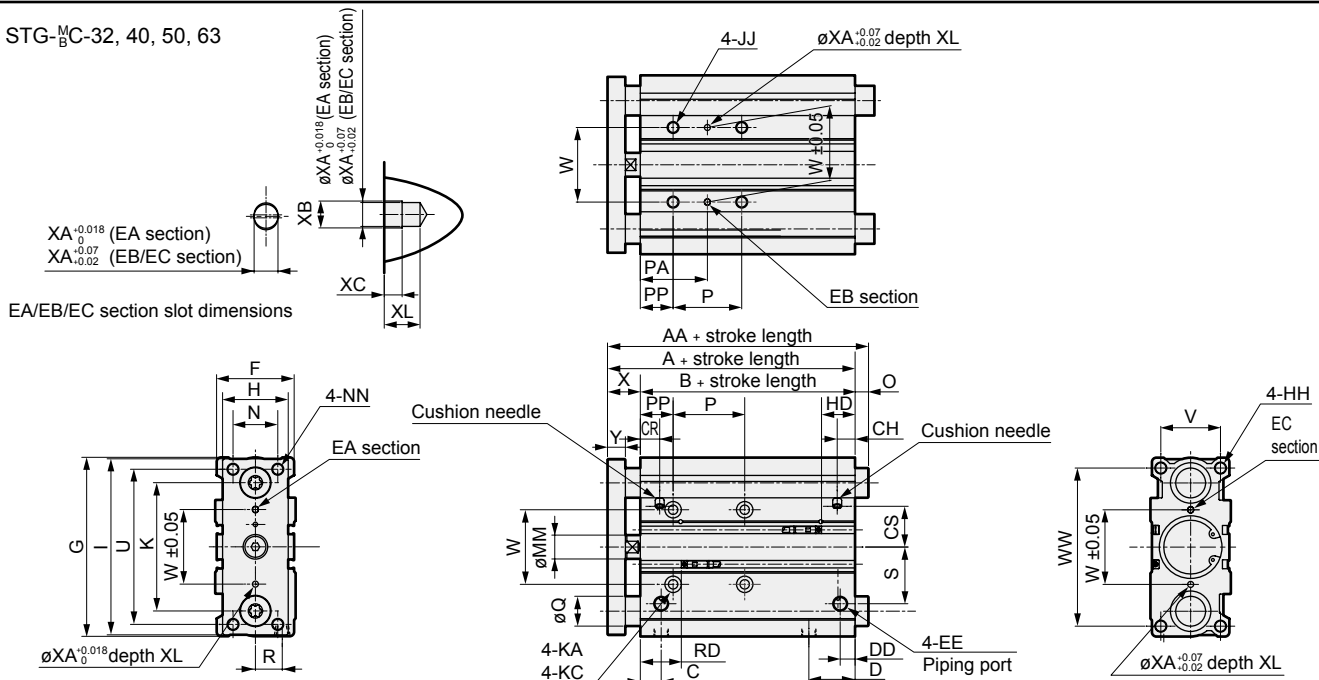
Code	AA					Q	O				
	25 st or less	Over 25 st to 75 st	100st	>100 st, ≤200 st	Over 200 st		25 st or less	Over 25 st to 75 st	100st	>100 st, ≤200 st	Over 200 st
ø16	80	71	71	95	95	8	9	0	0	24	24
ø20	93	79	79	100	122	10	15	1	1	22	44
ø25	99	84	103	103	122	13	20.5	5.5	24.5	24.5	43.5

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

Dimensions (ø32, ø40, ø50, ø63)



● STG-^MBC-32, 40, 50, 63



● STG-^MBC common

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

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

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

● STG-MC

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

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

● STG-BC

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

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

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

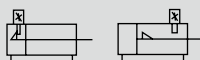


Guided cylinder, double acting/position locking

STG-M/BQ Series

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

JIS symbol



Specifications

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

Stroke length

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

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

Table 1

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

*2: For types with one or two switches.

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

Switch specifications

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

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

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

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

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

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

Cylinder weight

● STG-MQ

Unit: kg

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

● STG-BQ

Unit: kg

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

Theoretical thrust table

(Unit: N)

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

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

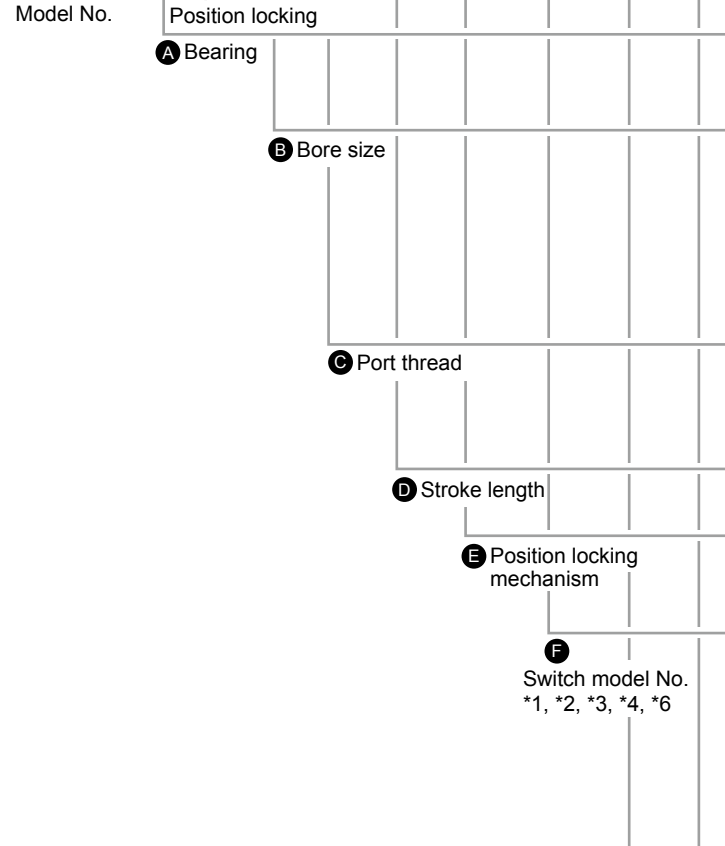
How to order

Without switch (built-in magnet for switch)

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

With switch (built-in magnet for switch)

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



Code	Description				
A Bearing					
M	Metal bush bearing				
B	Ball bearing				
B Bore size (mm)					
20	ø20				
25	ø25				
32	ø32				
40	ø40				
50	ø50				
63	ø63				
C Port thread					
Blank	Rc thread				
NN	NPT thread (made-to-order product)				
GN	G thread (made-to-order product)				
D Stroke length (mm)					
Refer to the stroke length table on the following page					
E Position locking mechanism					
H	Head side position locking mechanism				
R	Rod side position locking mechanism				
F Switch model No.					
Axial lead wire	Radial lead wire	Contact	Voltage	Display	Lead wire
			AC DC		
T0H*	T0V*	Reed	● ●	1-color display	2-wire
T5H*	T5V*		● ●	Without indicator lamp	
T1H*	T1V*		●	1-color display	2-wire
T2H*	T2V*		●	3-wire	
T3H*	T3V*		●		3-wire
T3PH*	T3PV*		●	3-wire	
T2WH*	T2WV*	Proximity	● ●		2-color display
T2YH*	T2YV*		● ●		
T3WH*	T3WV*		● ●		
T3YH*	T3YV*		● ●	2-wire	
T2JH*	T2JV*		●		1-color display off-delay
T2YD*	-		●		2-color display
T2YDT*	-	●	for AC magnetic field	2-wire	
* Lead wire length					
Blank	1 m (standard)				
3	3 m (option)				
5	5 m (option)				
G Switch quantity					
R	1 on rod side				
H	1 on head side				
D	2				
T	3				
H Option					
M0	Non-locking manual override (with release bolt)				
M1	Locking manual override				

⚠ Precautions for model No. selection

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

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

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

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

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

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

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

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

[Example of model No.]

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

Model: Guided cylinder Double acting/position locking

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

D Stroke length

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

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

How to order switch

SW - **T0V**

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

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

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

- Design compatible with rechargeable battery manufacturing process.

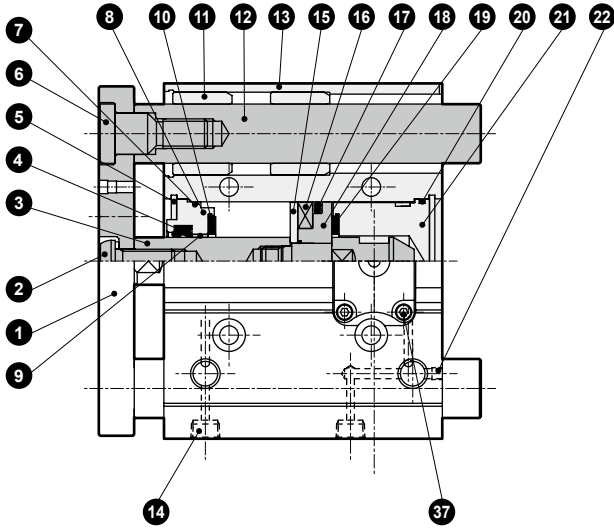
STG-M_BQ - - **P4***

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

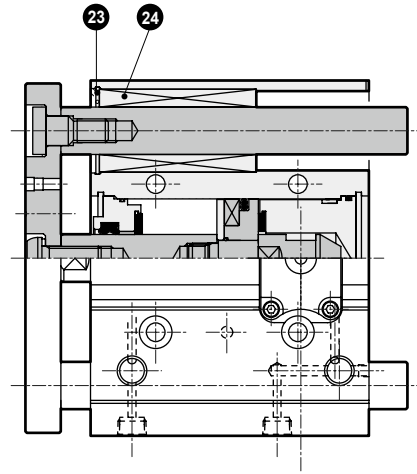
Internal structure and parts list

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

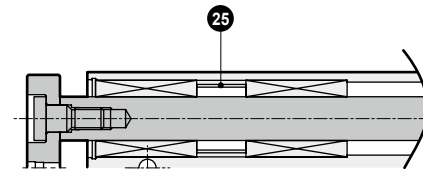
● Metal bush bearing STG-MQ



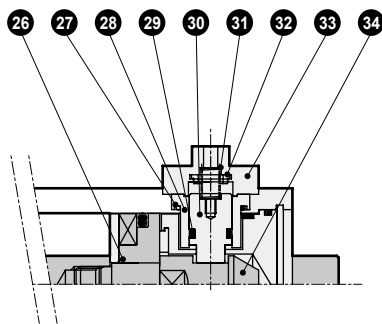
● Ball bearing STG-BQ



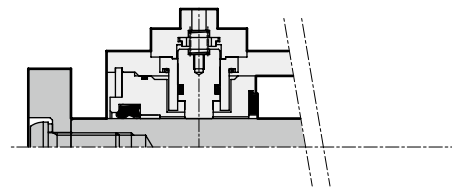
· 100 and over stroke length



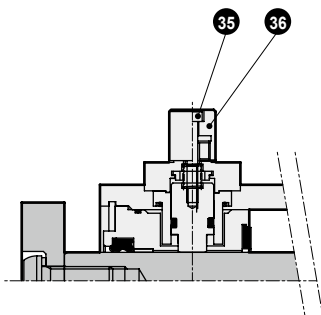
● Head side position locking STG- Q-H_B^M



● Rod side position locking STG- Q-R_B^M



● Locking manual override (M1)



Parts list

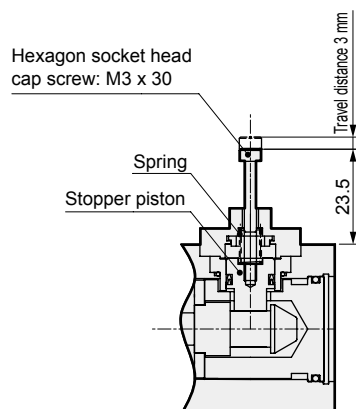
No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	End plate	Steel	Nickeling	19	Cushion rubber	Urethane rubber	
2	Hexagon socket button head bolt	Steel	Zinc chromate	20	O-ring	Nitrile rubber	
3	Piston rod	Stainless steel (ø20 to ø25)	Industrial chrome plating	21	Head cover	Aluminum alloy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

Repair parts list

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

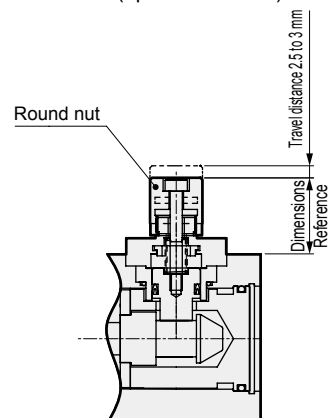
[Explanation of manual override]

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



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

● Locking manual override (option code: M1)



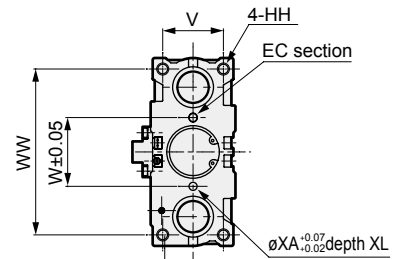
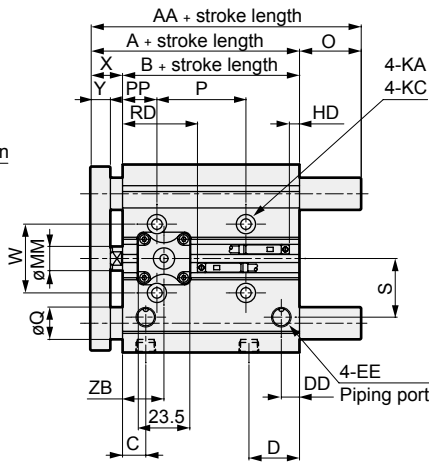
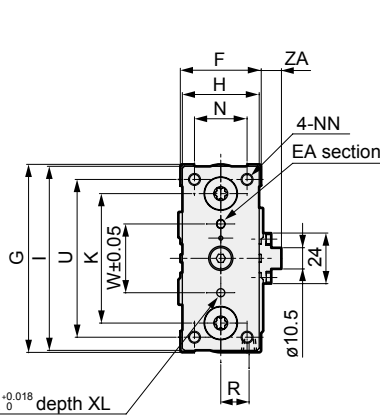
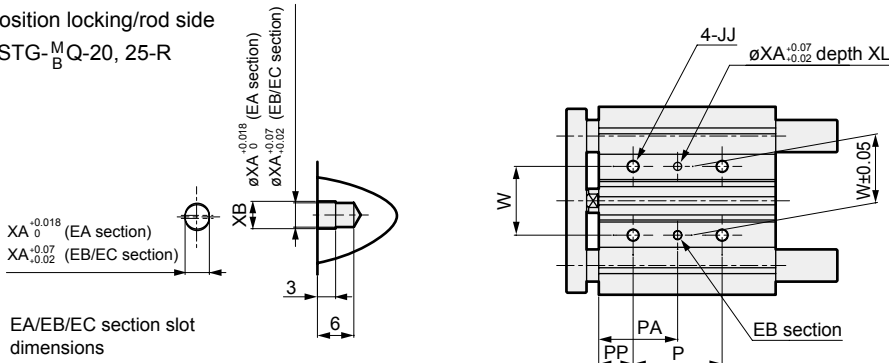
By rotating the round nut leftward (counterclockwise), the stopper piston moves and the lock is released. Locking the round nut by rotating it to the right (clockwise) causes the stopper piston to return. When it fits into the lock groove, the piston is locked. When locking, screw in the round nut fully,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

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

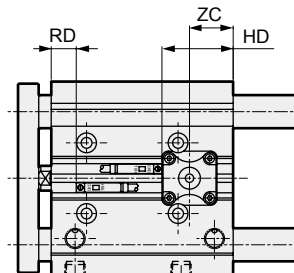
Dimensions



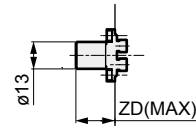
- Position locking/rod side
-STG-M_BQ-20, 25-R



- Position locking/head side
-STG-M_BQ-20, 25-H



- Locking manual (M1)



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

- STG-M_BQ common

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

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

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

- STG-MQ

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

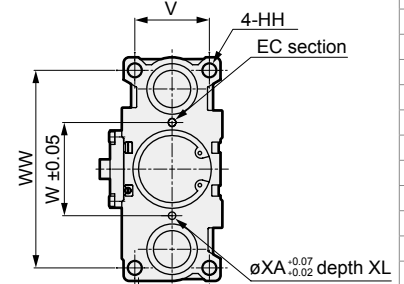
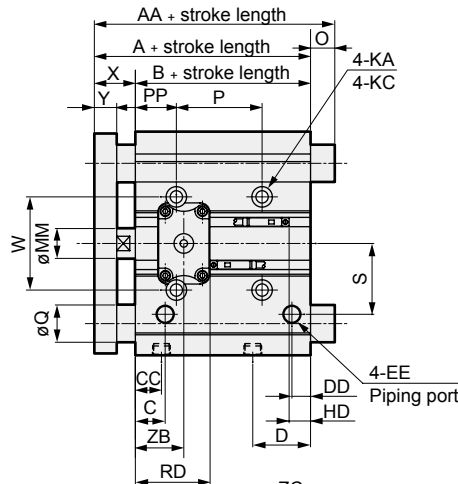
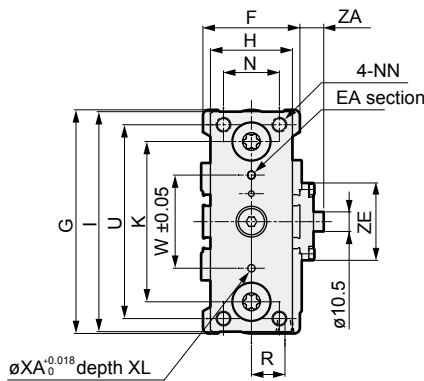
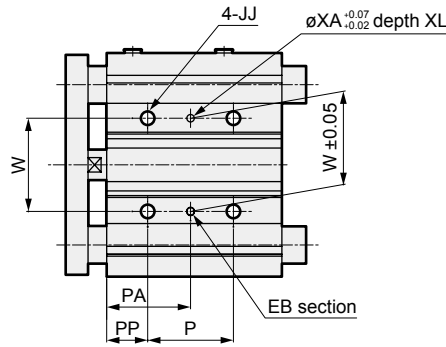
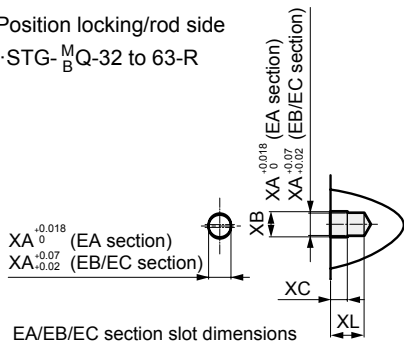
- STG-BQ

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

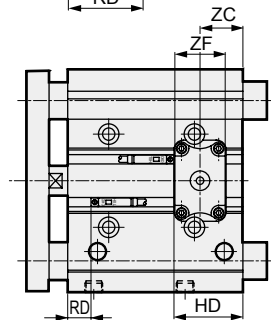
Dimensions



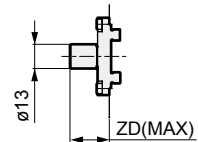
- Position locking/rod side
-STG-M_BQ-32 to 63-R



- Position locking/head side
-STG-M_BQ-32 to 63-H



-Locking manual (M1)



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

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

Code	KA	KC	MM	N	NN	P			PA			PP	R	S		
						75 st or less	Over 75 st to 175 st	Over 175 st to 275 st	Over 275 st	75 st or less	Over 75 st to 175 st				Over 175 st to 275 st	Over 275 st
ø32	6.3 through	11 spot face depth 7.5	16	30	M8 through	48	124	200	300	45	83	121	171	21	15	34
ø40	6.3 through	11 spot face depth 7.5	16	30	M8 through	48	124	200	300	46	84	122	172	22	18	38
ø50	8.6 through	14 spot face depth 9	20	40	M10 through	48	124	200	300	48	86	124	174	24	21.5	47
ø63	8.6 through	14 spot face depth 9	20	50	M10 through	52	128	200	300	50	88	124	174	24	28	55

Code	U	V	W	WW	X	Y	XA	XB	XC	XL	Position locking mechanism						Head side position locking			Rod side position locking				
											ZA	ZB	ZC	ZD	ZE	ZF	T0/T5/T2/T3	RD	HD	T2W/T3W	T0/T5/T2/T3	RD	HD	T2W/T3W
ø32	96	34	42	98	22 $\frac{0}{-0.2}$	11.5	4	4.5	3	6	10	21	20	23.5	32.5	21.5	10	34.5	12	36.5	35	8.5	37	10.5
ø40	104	40	50	106	22 $\frac{0}{-0.2}$	11.5	4	4.5	3	6	12	25	23	23.5	40.5	23	13	37	15	39	40	12	42	14
ø50	130	46	66	130	28 $\frac{0}{-0.2}$	15.5	5	6	4	8	12	25	23	24.5	40.5	23	13.5	37	15.5	39	39	11.5	41	13.5
ø63	130	58	80	142	28 $\frac{0}{-0.2}$	15.5	5	6	4	8	11.5	25	25.5	24	40.5	23	14	40	16	42	39	16	41	18

- STG-MQ

Code	AA			Q	O		
	25 st or less	Over 25 st to 175 st	Over 175 st		25 st or less	Over 25 st to 175 st	Over 175 st
ø32	84.5	100	140	20	0	15.5	55.5
ø40	91	100	140	20	0	9	49
ø50	97	116	161	25	0	19	64
ø63	102	116	161	25	0	14	59

- STG-BQ

Code	AA				Q	O			
	25 st or less	Over 25 st to 75 st	Over 75 st to 175 st	Over 175 st		25 st or less	Over 25 st to 75 st	Over 75 st to 175 st	Over 175 st
ø32	84.5	98	118	140	16	0	13.5	33.5	55.5
ø40	91	98	118	140	16	0	7	27	49
ø50	97	114	134	161	20	0	17	37	64
ø63	102	114	134	161	20	0	12	32	59

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

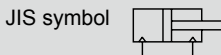
LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MecHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending



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

STG-MG Series STG-MG1 Series

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



Specifications

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

Stroke length

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

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

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

Theoretical thrust table

(Unit: N)

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

Switch specifications

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

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

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

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

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

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

Cylinder weight

- STG-MG/STG-MG1

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

- STG-BG/STG-BG1

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

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

STG-M_BG/STG-M_BG1 Series

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

How to order

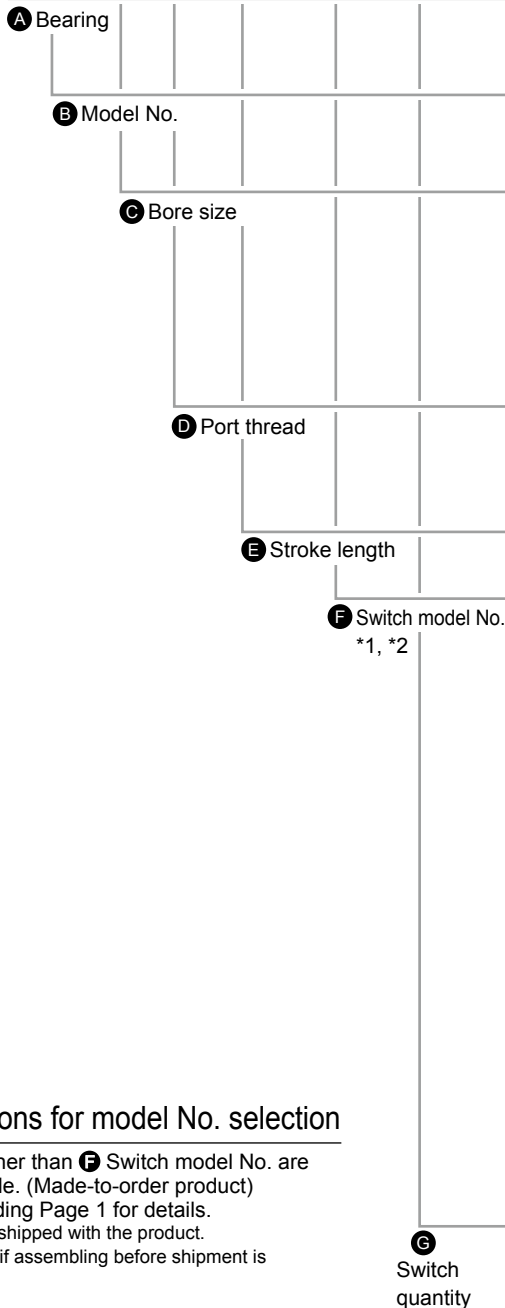
Without switch (built-in magnet for switch)

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

With switch (built-in magnet for switch)

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

Model No.



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

⚠ Precautions for model No. selection

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

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

[Example of model No.]

STG-MG1-40-50-T0H-H

Model: Guided cylinder/double acting/coil scraper

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

Stroke length

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

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

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

How to order switch

SW - T0V

Switch model No.
(Item ⑤ on page 378)

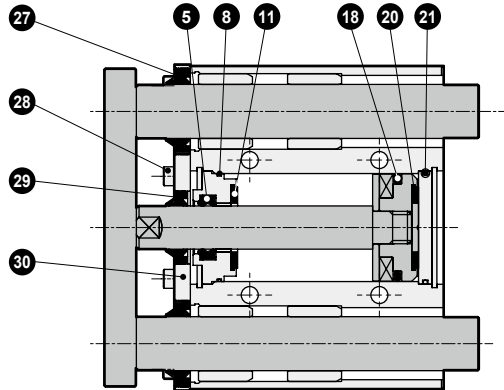
Note: Contact CKD when using
an environment-friendly T switch.

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

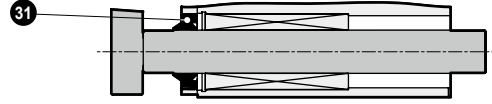
STG-M_BG/STG-B_BG1 Series

Internal structure and parts list

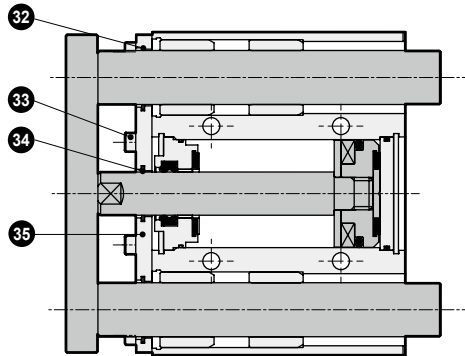
● Rubber scraper
· STG-MG



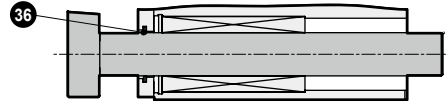
· STG-BG



● Coil scraper
· STG-MG1



· STG-BG1



Parts list

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

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

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

● STG-MG (rubber scraper)

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

● STG-BG (rubber scraper)

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

● STG-MG1 (coil scraper)

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

● STG-BG1 (coil scraper)

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

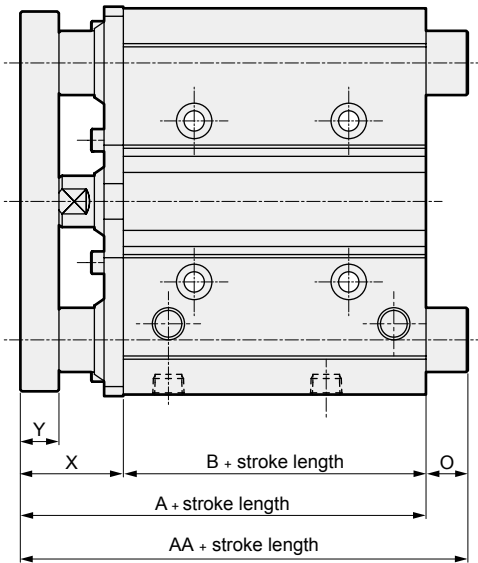
STG-MG/STG-MG1 Series

Double acting/rubber scraper/double acting/coil scraper

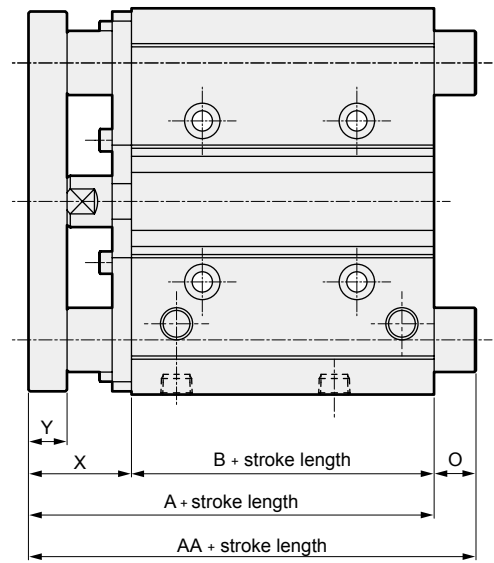
Dimensions



● STG-MG



● STG-MG1



● STG-MG/G1

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

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

● STG-BG/G1

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

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

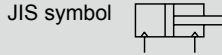
LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MecHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending



Guided cylinder Double acting/coolant proof

STG-MG_{2/3} Series

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



Specifications

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

Stroke length

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

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

*2: For types with one or two switches.

Theoretical thrust table

(Unit: N)

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

Switch specifications

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

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

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

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

Cylinder weight

● STG-MG2/STG-MG3

Unit: kg

Item	Stroke length															Switch weight
	20	25	30	40	50	75	100	125	150	175	200	250	300	350	400	
ø20	0.68		0.76	0.84	0.91	1.16	1.36	1.55	1.74	1.93	2.13	2.58	2.97	3.35	3.74	Refer to the weight in the switch specifications.
ø25	0.96		1.06	1.17	1.27	1.64	1.90	2.16	2.44	2.70	2.96	3.60	4.12	4.66	5.18	
ø32		1.68			2.05	2.58	2.98	3.38	3.77	4.16	4.55	5.53	6.31	7.11	7.89	
ø40		1.93			2.34	2.79	3.19	3.61	4.02	4.43	4.84	5.85	6.68	7.51	8.33	
ø50		3.32			3.94	4.65	5.27	5.89	6.51	7.13	7.75	9.31	10.54	11.80	13.06	
ø63		4.15			4.89	5.71	6.44	7.17	7.91	8.64	9.37	11.16	12.61	14.07	15.52	

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

STG-MG²₃Series

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

How to order

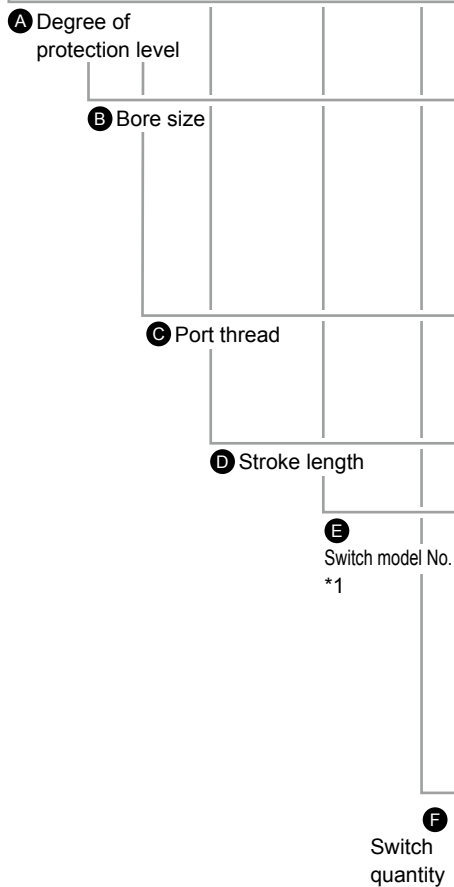
Without switch (built-in magnet for switch)

STG - M G2 - 32 - 25

With switch (built-in magnet for switch)

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

Model No.



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

⚠ Precautions for model No. selection

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

[Example of model No.]

STG-MG2-20-50-T2YLH-R

Model: Guided cylinder, double acting/coolant proof

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

D Stroke length

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

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

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

How to order switch

SW - **T2YLH**

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

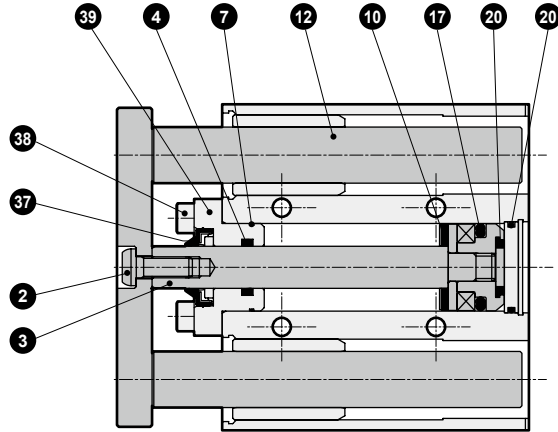
Note: Contact CKD when using
an environment-friendly T switch.

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

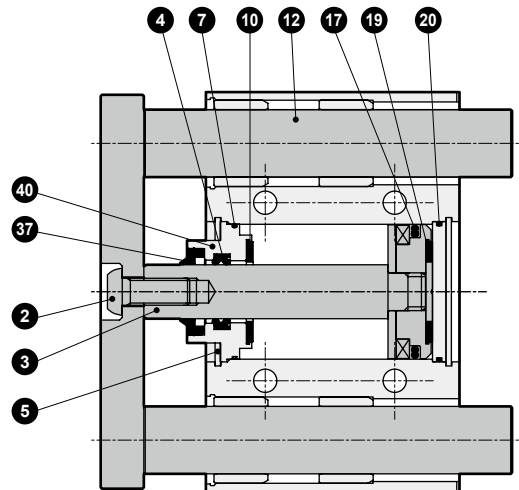
STG-MG₃ Series

Internal structure and parts list

● STG-MG2/MG3
· ø20 to ø32



· ø40 to ø63



Parts list

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

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

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

● STG-MG2 (packing material: nitrile rubber)

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

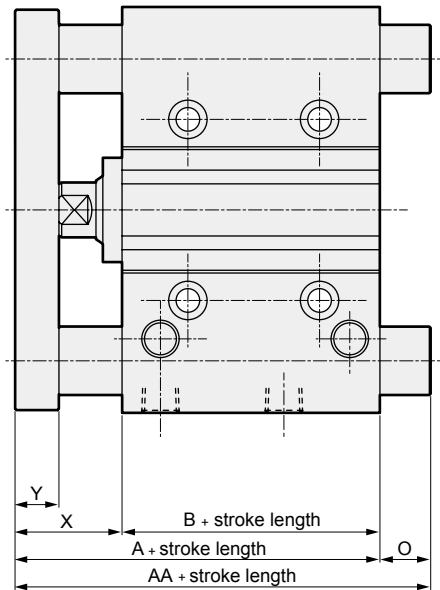
● STG-MG3 (packing material: fluoro rubber)

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

Dimensions



● STG-MG₃



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

● STG-M-G2/G3

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

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

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



Guided cylinder, double acting/anti-spatter adherence

STG-^M_BG4 Series

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

JIS symbol



Specifications

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

Stroke

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

*2

*1: The custom stroke is available in 5 mm increments. However, the total length is the same as that of the next longer standard stroke.
*2: For types with one or two switches.

Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
		$\varnothing 40$	Push	1.88×10^2	2.51×10^2	3.77×10^2	5.03×10^2	6.28×10^2	7.54×10^2	8.80×10^2	1.01×10^3
	Pull	1.58×10^2	2.11×10^2	3.17×10^2	4.22×10^2	5.28×10^2	6.33×10^2	7.39×10^2	8.44×10^2	9.50×10^2	1.06×10^3
$\varnothing 50$	Push	2.95×10^2	3.93×10^2	5.89×10^2	7.85×10^2	9.82×10^2	1.18×10^3	1.37×10^3	1.57×10^3	1.77×10^3	1.96×10^3
	Pull	2.47×10^2	3.30×10^2	4.95×10^2	6.60×10^2	8.25×10^2	9.90×10^2	1.15×10^3	1.32×10^3	1.48×10^3	1.65×10^3
$\varnothing 63$	Push	4.68×10^2	6.23×10^2	9.35×10^2	1.25×10^3	1.56×10^3	1.87×10^3	2.18×10^3	2.49×10^3	2.81×10^3	3.12×10^3
	Pull	4.20×10^2	5.61×10^2	8.41×10^2	1.12×10^3	1.40×10^3	1.68×10^3	1.96×10^3	2.24×10^3	2.52×10^3	2.80×10^3

Switch specifications

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

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

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

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

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

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

Cylinder weight

● STG-MG4

Unit: kg

Item	Stroke												Switch weight
	25	50	75	100	125	150	175	200	250	300	350	400	
Bore size (mm) / ø40	2.03	2.44	2.89	3.29	3.71	4.12	4.53	4.94	5.95	6.78	7.61	8.43	Refer to the weight in the switch specifications.
ø50	3.47	4.09	4.80	5.42	6.04	6.66	7.28	7.90	9.46	10.69	11.95	13.21	
ø63	4.31	5.05	5.87	6.60	7.33	8.07	8.80	9.53	11.32	12.77	14.23	15.68	

● STG-BG4

Unit: kg

Item	Stroke												Switch weight
	25	50	75	100	125	150	175	200	250	300	350	400	
Bore size (mm) / ø40	1.88	2.23	2.70	3.05	3.46	3.81	4.16	4.51	5.26	5.96	6.66	7.36	Refer to the weight in the switch specifications.
ø50	3.23	3.76	4.49	5.02	5.64	6.18	6.71	7.24	8.44	9.49	10.59	11.66	
ø63	4.07	4.71	5.56	6.20	6.93	7.57	8.22	8.86	10.25	11.61	12.87	14.13	

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

STG-M_BG4 Series

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

How to order

Without switch (built-in magnet for switch)

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

With switch (built-in magnet for switch)

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

Model No.

Anti-spatter adherence

A Bearing

B Bore size

C Port thread

D Stroke

E Switch model No. *1

F Switch quantity

⚠ Precautions for model No. selection

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

[Example of model No.]

STG-BG4-50-100-T2YD3-D

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

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

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

D Stroke

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

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

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

How to order switch

SW - T2YD

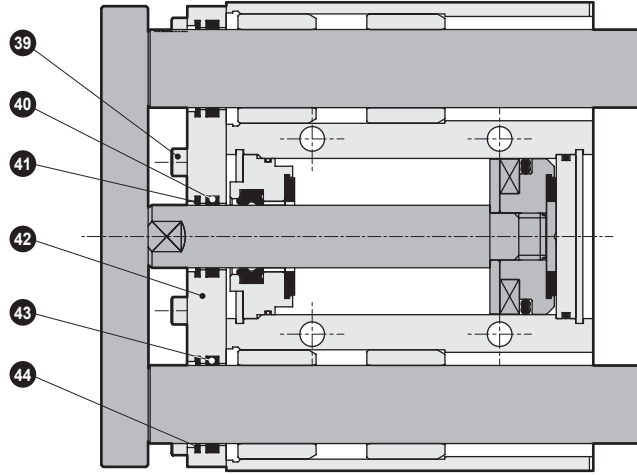
↓
Switch model No.
(Item E) on page 390)

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

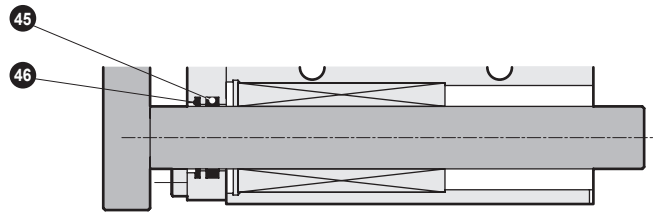
LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MecHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

Internal structure and parts list

● STG-MG4



● STG-BG4



Parts list

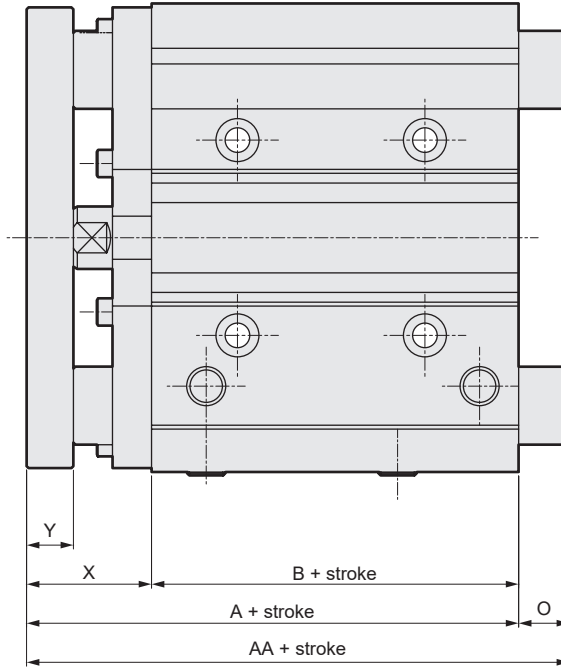
* Parts other than those listed below are the same as those of double acting/single rod. Refer to pages 340 to 343.

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

Dimensions



● STG-MG4



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

● STG-MG4

Code	Standard stroke	A	AA			B	O			X	Y
			50 st or less	Over 50 st to 200 st	Over 200 st		50 st or less	Over 50 st to 200 st	Over 200 st		
ø40	25,50,75,100,125,150,175 200,250,300,350,400	76	89	110	150	44	13	34	74	32 $\frac{1}{2}$	11.5
ø50		82	101	126	171	44	19	44	89	38 $\frac{1}{2}$	15.5
ø63		87	101	126	171	49	14	39	84	38 $\frac{1}{2}$	15.5

● STG-BG4

Code	Standard stroke	A	AA				B	O				X	Y
			30 st or less	Over 30 st to 100 st	Over 100 st to 200 st	Over 200 st		30 st or less	Over 30 st to 100 st	Over 100 st to 200 st	Over 200 st		
ø40	25,50,75,100,125,150,175 200,250,300,350,400	76	89	108	128	150	44	13	32	52	74	32 $\frac{1}{2}$	11.5
ø50		82	101	124	144	171	44	19	42	62	89	38 $\frac{1}{2}$	15.5
ø63		87	101	124	144	171	49	14	37	57	84	38 $\frac{1}{2}$	15.5

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

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

STG-MG5 Series

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

JIS symbol



Specifications

* Made-to-order product.

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

Stroke

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

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

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

Theoretical thrust table (double acting)

(Unit: N)

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

Switch specifications

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

Item	Proximity 2-wire		Proximity 3-wire				Reed 2-wire				Proximity 2-wire						
	T1H/T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/T3V	T3PH/ T3PV	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V	T8H/T8V	T2YD(*4) T2YDT					
Applications	For programmable controller, relay, compact solenoid valve	Dedicated for programmable controller				For programmable controller, relay				For programmable controller, relay	For programmable controller, relay, IC circuit (no indicator lamp), serial connection	For programmable controller, relay	For programmable controller				
Output method	-				NPN output	PNP output	NPN output	NPN output	-				-				
Pwr. supp. V.	-				10 to 28 VDC				-				-				
Load voltage	85 to 265 VAC	10 to 30 VDC	24 VDC ±10%		30 VDC or less				12/24 VDC	100/110 VAC	5/12/24 VDC	100/110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%	
Load current	5 to 100 mA	5 to 20 mA (*3)				100 mA or less		50 mA or less		5 to 50 mA	7 to 20 mA	≤50 mA	≤20 mA	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA
Indicator	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	No indicator lamp	LED (Lit when ON)		Red/green LED (Lit when ON)				
Leakage current	≤1 mA at 100 VAC, ≤2 mA at 200 VAC	1 mA or less				10 µA or less				0 mA				1 mA or less			
Weight g	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:33 3 m:87 5 m:142	1 m:33 3 m:87 5 m:142	1 m:61 3 m:166 5 m:272				

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

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

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

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

Cylinder weight table

(Unit: kg)

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

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

STG-MG5 Series

How to order

Without switch (built-in magnet for switch)

STG - M G5 - 32 - 25

With switch (built-in magnet for switch)

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

Model No.

Metal bush bearing

A Bore size

Environment-resistant scraper

B Port thread

C Stroke

D Switch model No.
*1

E Switch quantity

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

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

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

C Stroke (mm)
Refer to the stroke table on the following page.

D Switch model No.							
Straight lead wire	L-shaped lead wire	Contact	Voltage		Indicator	Lead wire	
			AC	DC			
TOH*	T0V*	Reed	●	●	1-color LED	2-wire	
T5H*	T5V*		●	●	No indicator lamp		
T8H*	T8V*		●	●	1-color LED		
T1H*	T1V*	Proximity	●	●	1-color LED	2-wire	
T2H*	T2V*		●	●		1-color LED	3-wire
T3H*	T3V*		●	●	1-color LED		3-wire
T2WH*	T2WV*		●	●			2-color LED
T2YH*	T2YV*		●	●	2-color LED	3-wire	
T3WH*	T3WV*		●	●			
T3YH*	T3YV*		●	●	1-color LED off-delay	2-wire	
T2JH*	T2JV*	●	●	2-color LED	2-wire		
T2YD*	-	●	●	AC magnetic field	2-wire		
T2YDT*	-	●	●				

* Lead wire length	
Blank	1 m (standard)
3	3 m (option)
5	5 m (option)

E Switch quantity	
R	1 on rod side
H	1 on head side
D	2
T	3

⚠ Precautions for model No. selection

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

[Example of model No.]

STG-MG5-40-75-T0H-D

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

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

Stroke

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

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

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

How to order switch

SW - T0V

Switch model No.
(Item ④ on page 396)

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

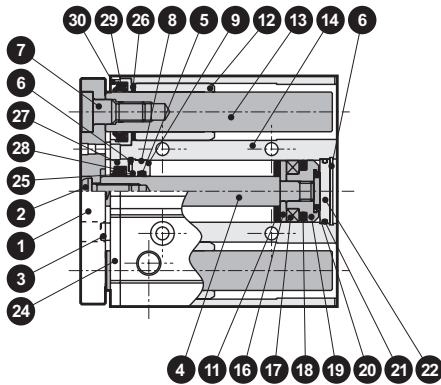
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LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

STG-MG5 Series

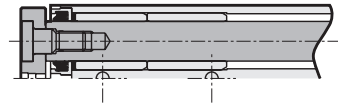
Internal structure and parts list (STG-MG5-20 to 63)

● ø20, ø25

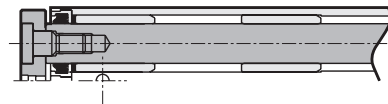
50 stroke length or less



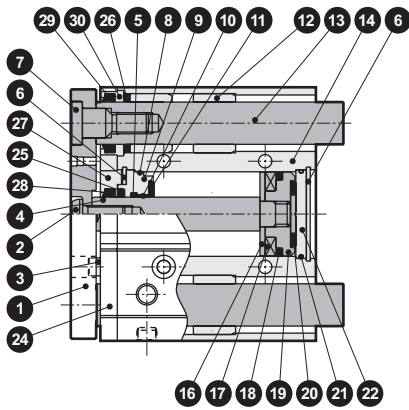
Over 50 to 200 stroke length



Over 200 mm stroke length



● ø32 to ø63



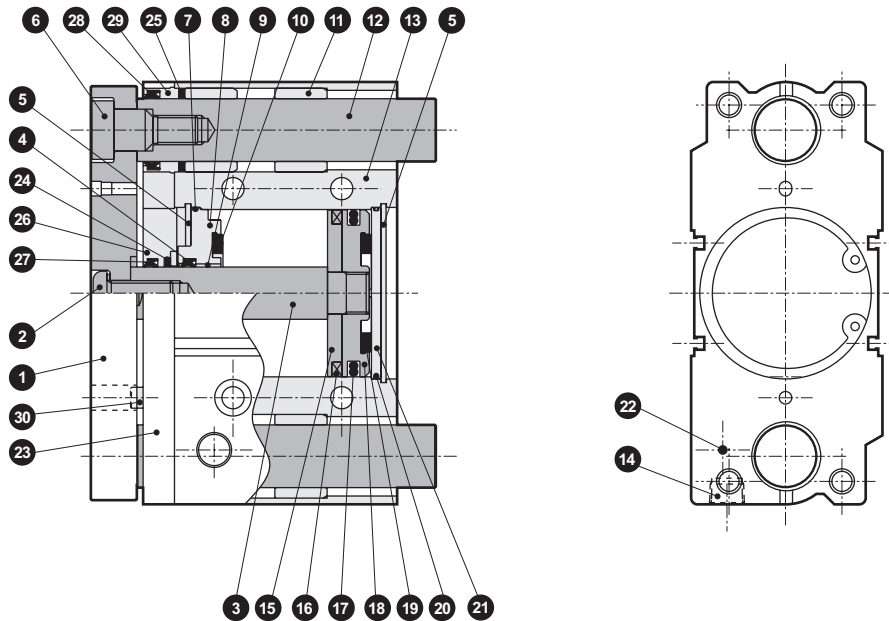
Main parts list

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	End plate	Steel	Nickeling	15	Plug	Copper alloy or steel	
2	Hexagon socket button head bolt	Steel	Zinc chromate	16	Spacer	Aluminum alloy	
3	Hexagon socket head cap screw	Steel	Zinc chromate	17	Magnet		
4	Piston rod	Stainless steel (ø20 to ø25)	Industrial chrome plating	18	Piston packing	Nitrile rubber	
		Steel (ø32 to ø63)	Industrial chrome plating	19	Piston	Aluminum alloy	
5	Rod packing	Nitrile rubber		20	Cushion rubber	Urethane rubber	
6	C-snap ring	Steel	Zinc phosphate	21	O-ring	Nitrile rubber	
7	Bolt	Steel	Zinc chromate	22	Base plate	Aluminum alloy	Chromate
8	Metal gasket	Nitrile rubber		23	Hexagon socket set screw	Stainless steel	
9	Rod metal	Special aluminum alloy (ø20 to ø32)	Alumite	24	Adaptor plate	Aluminum alloy	Alumite
		Aluminum alloy (ø40 to ø63)	Chromate	25	Lube keeping structure	Special rubber	
10	Bush	Oiles drymet		26	Lube keeping structure	Special rubber	
11	Cushion rubber	Urethane rubber		27	Holder R	Aluminum alloy	Chromate
12	Metal	Oil-impregnated copper alloy bearing		28	Scraper	Nitrile rubber	
13	Guide rod	Steel	Industrial chrome plating	29	Scraper	Nitrile rubber	
14	Cylinder body	Aluminum alloy	Hard alumite	30	Holder G	Aluminum alloy	Chromate

Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
ø20	STG-MG5-20K	
ø25	STG-MG5-25K	5 8 11 18 20
ø32	STG-MG5-32K	21 25 26 28 29
ø40	STG-MG5-40K	
ø50	STG-MG5-50K	
ø63	STG-MG5-63K	

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



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

Main parts list

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

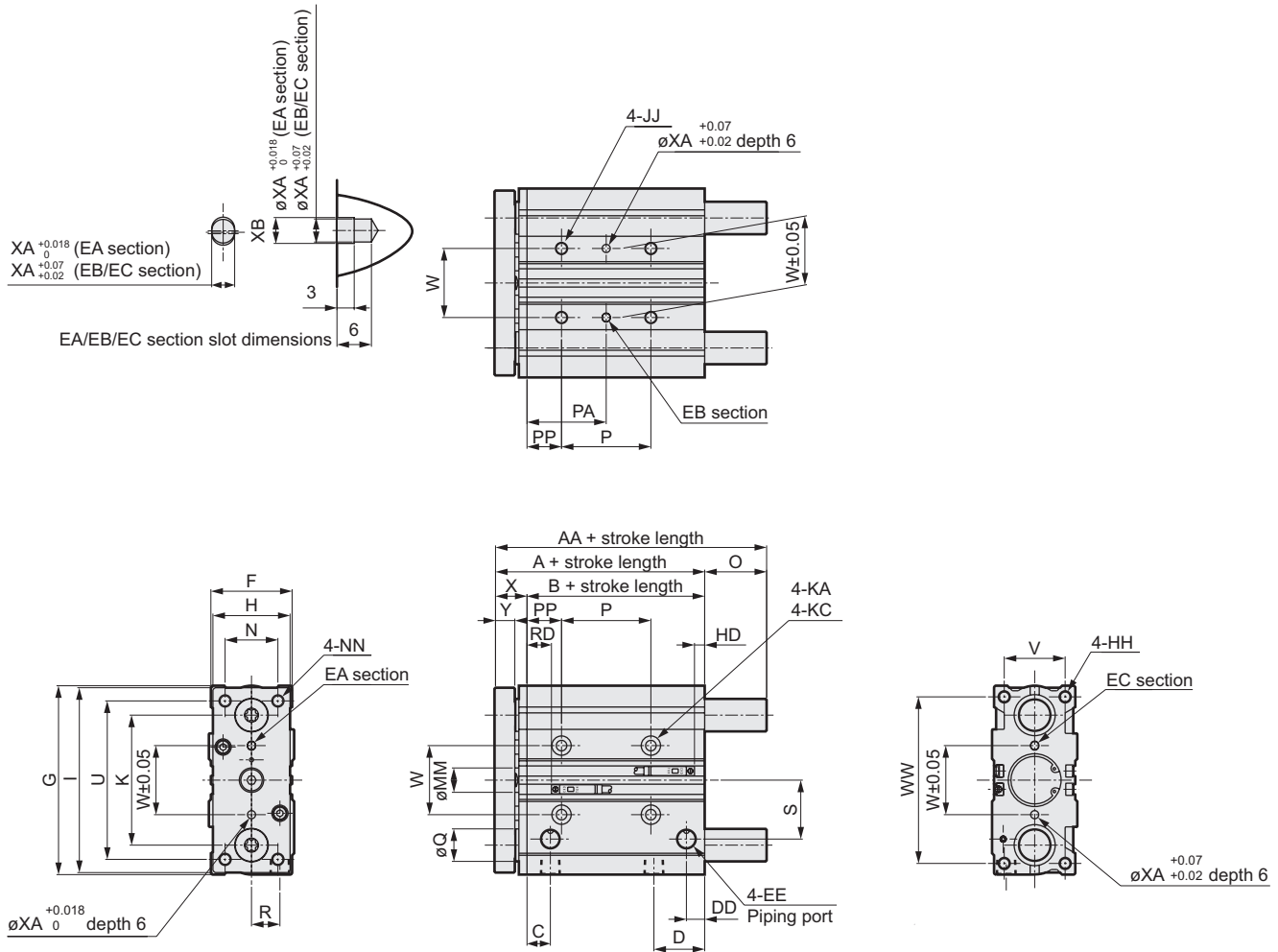
Repair parts list

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

STG-MG5 Series

Dimensions (ø20, ø25)

● STG-MG5-20, 25



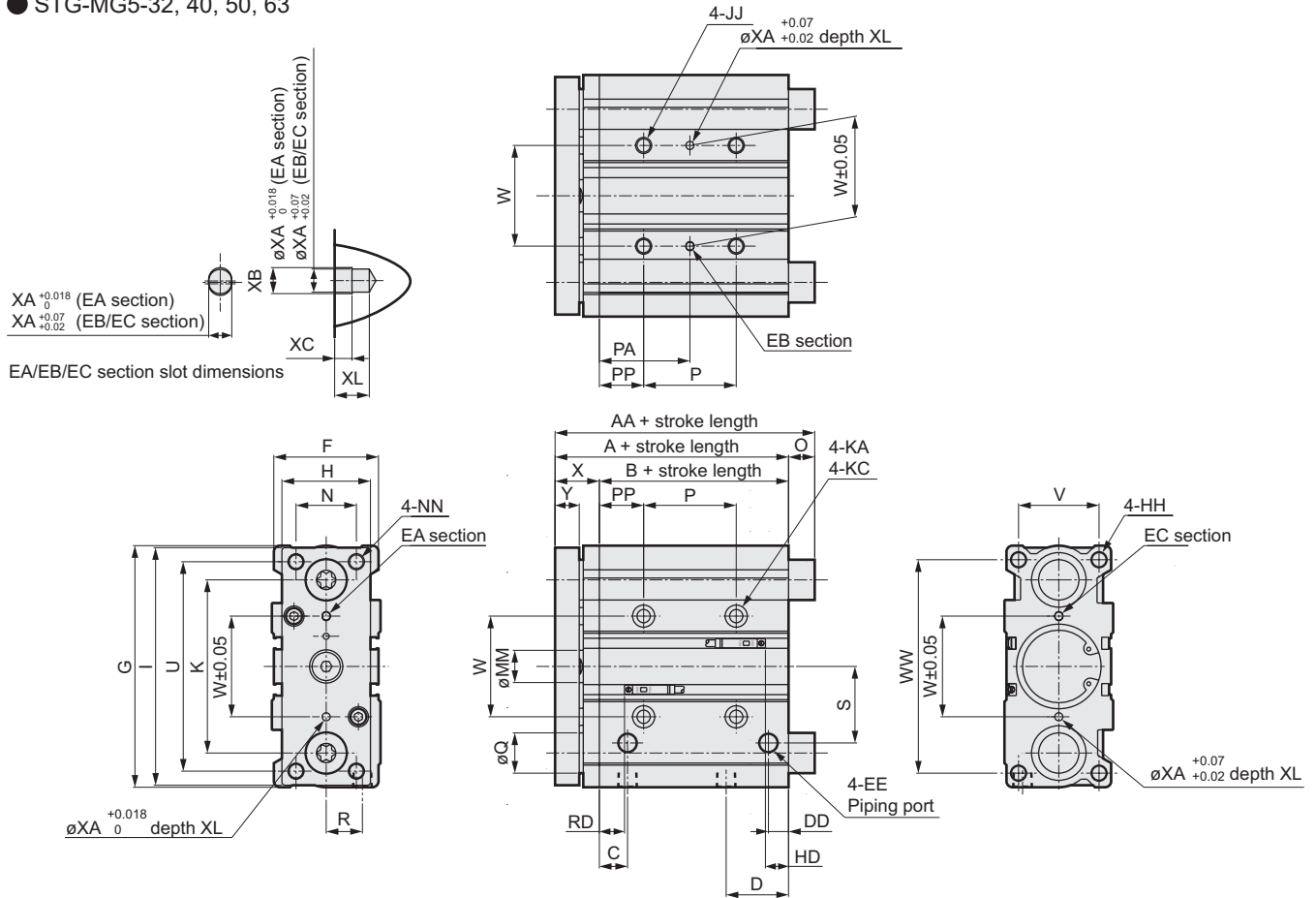
*1: When using a custom stroke, the total dimensions are the same as the longer standard stroke.

Code	Standard stroke (mm)											A	B	C	D	DD	EE	F	G	H	HH	I	JJ
ø20	20,30,40,50,75,100,125,150,											53	37	10.5	24.5	8.5	Rc1/8	36	83	30	M5 depth 13	81	M6 depth 12
ø25	175,200,250,300,350,400											53.5	37.5	11.5	25	9	Rc1/8	42	93	38	M6 depth 15	91	M6 depth 12
Code	K	KA	MM	N	NN	KC	P																
Bore size							30 or less	Over 30 to 100	Over 100 to 200	Over 200 to 300	Over 300												
ø20	54	5.2 through	10	18	M5 through	9.5 spot face depth 5.5	24	44	120	200	300												
ø25	64	5.2 through	12	26	M6 through	9.5 spot face depth 5.5	24	44	120	200	300												
Code	PA					PP	R	S	U	V	W	WW	X	Y	XA	XB							
Bore size	30 or less	Over 30 to 100	Over 100 to 200	Over 200 to 300	Over 300																		
ø20	29	39	77	117	167	17	11	25	70	24	28	72	16	9.5	3	3.5							
ø25	29	39	77	117	167	17	14	29	78	30	34	82	16	9.5	4	4.5							
Code	AA			O																			
Bore size	50 or less	Over 50 to 200	Over 200	Q	50 or less	Over 50 to 200	Over 200																
ø20	53	78	122	12	0	25	69																
ø25	53.5	84	122	16	0	30.5	68.5																

Switch dimensions	T0/T5/T2/T3		T2W/T3W		T*Y		T8	
Bore size	RD	HD	RD	HD	RD	HD	RD	HD
ø20	9.5	8.5	11.5	10.5	8.5	7.5	3.5	2.5
ø25	10	8.5	12	10.5	9	7.5	4	2.5

Dimensions (ø32, ø40, ø50, ø63)

● STG-MG5-32, 40, 50, 63



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

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

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

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

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

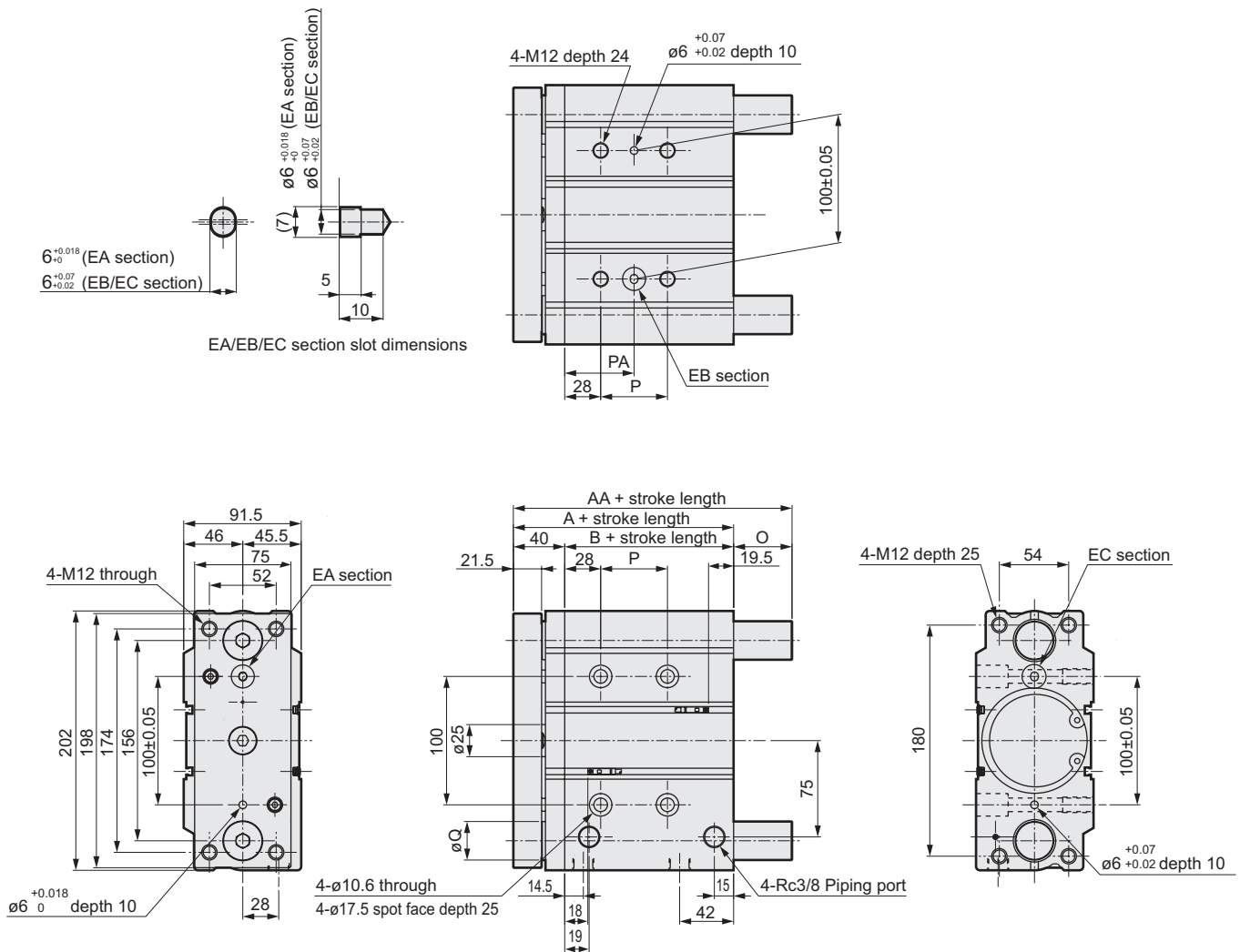
Switch dimensions	T0/T5/T2/T3		T2W/T3W		T*Y		T8	
Bore size	RD	HD	RD	HD	RD	HD	RD	HD
ø32	10	8.5	12	10.5	9	7.5	4	2.5
ø40	13	12	15	14	12	11	7	6
ø50	13.5	11.5	15.5	13.5	12.5	10.5	7.5	5.5
ø63	14	16	16	18	13	15	8	10

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

STG-MG5 Series

Dimensions (ø80)

● STG-MG5-80



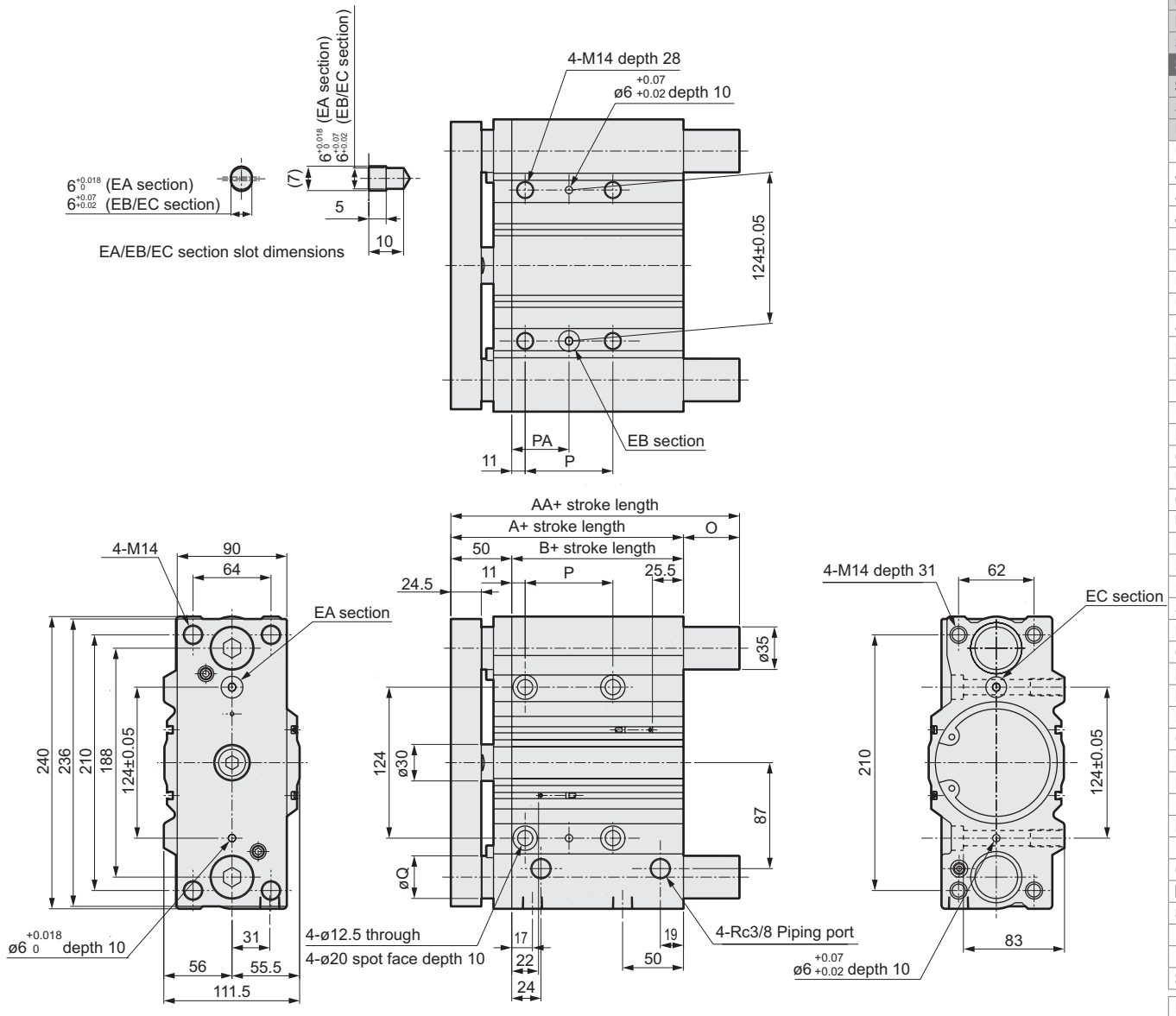
Standard stroke (mm)	A	B	P					PA				
			25 st or less	Over 25 st to 100 st	Over 100 st to 200 st	Over 200 st to 300 st	Over 300 st	25 st or less	Over 25 st to 100 st	Over 100 st to 200 st	Over 200 st to 300 st	Over 300 st
25,50,75,100,125,150,175,200,250,300,350,400	96.5	56.5	28	52	128	200	300	42	54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

● Switch dimensions

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

Dimensions (ø100)

● STG-MG5-100



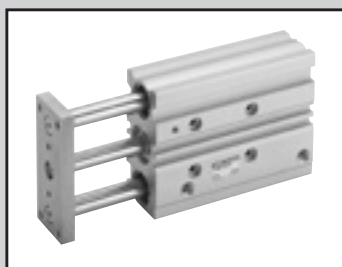
LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

Standard stroke (mm)	A	B	P					PA				
			25 st or less	Over 25 st to 100 st	Over 100 st to 200 st	Over 200 st to 300 st	Over 300 st	25 st or less	Over 25 st to 100 st	Over 100 st to 200 st	Over 200 st to 300 st	Over 300 st
25,50,75,100,125,150,175,200,250,300,350,400	116	66	48	72	148	220	320	35	47	85	121	171
AA			O									
50 st or less	Over 50 st to 200 st	Over 200 st	Q	50 st or less	Over 50 st to 200 st	Over 200 st						
137	162	203	35	21	46	87						

● Switch dimensions

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

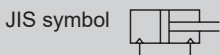
LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MecHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending



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

STG-B -P7* Series

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



Specifications

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

Stroke

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

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

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

Theoretical thrust table

(Unit: N)

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

Switch specifications

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

Item	Proximity 2-wire		Proximity 2-wire			Proximity 3-wire				Reed 2-wire						Proximity 2-wire	
	T1H/T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/T3V	T3PH/ T3PV	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V		T8H/T8V			T2YD(*4) T2YDT		
Applications	For programmable controller, relay, compact solenoid valve	Dedicated for programmable controller			For programmable controller, relay				For programmable controller, relay	For programmable controller, relay, IC circuit (no indicator lamp), serial connection		For programmable controller, relay			For programmable controller		
Output method	-			NPN output	PNP output	NPN output	NPN output	-									
Pwr. supp. V.	-			10 to 28 VDC				-									
Load voltage	85 to 265 VAC	10 to 30 VDC	24 VDC ±10%		30 VDC or less				12/24 VDC	100/110 VAC	5/12/24 VDC	100/110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%	
Load current	5 to 100 mA	5 to 20 mA (*3)			100 mA or less		50 mA or less		5 to 50 mA	7 to 20 mA	≤50 mA	≤20 mA	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA	
Indicator	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)		No indicator lamp		LED (Lit when ON)			Red/green LED (Lit when ON)	
Leakage current	≤1 mA at 100 VAC, ≤2 mA at 200 VAC	1 mA or less			10 µA or less				0 mA						1 mA or less		
Weight g	1 m:33	1 m:18	1 m:33	1 m:18	1 m:18		1 m:33		1 m:18		1 m:18 3 m:49 5 m:80			1 m:33 3 m:87 5 m:142			1 m:61
	3 m:87	3 m:49	3 m:87	3 m:49	3 m:49		3 m:87		3 m:49		1 m:18 3 m:49 5 m:80			1 m:33 3 m:87 5 m:142			3 m:166
	5 m:142	5 m:80	5 m:142	5 m:80	5 m:80		5 m:142		5 m:80		1 m:18 3 m:49 5 m:80			1 m:33 3 m:87 5 m:142			5 m:272

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

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

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

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

Cylinder weight

● STG-B-P7

Unit: kg

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

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

STG-B-P7* Series

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

How to order

Without switch (built-in magnet for switch)

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

With switch (built-in magnet for switch)

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

Model No.

A Bearing

B Bore size

C Stroke

D Switch model No.
*1 *2 *3

E Switch quantity

F Clean-room specifications

Code	Description					
A Bearing						
B	Ball bearing					
B Bore size (mm)						
12	ø12					
16	ø16					
20	ø20					
25	ø25					
32	ø32					
40	ø40					
50	ø50					
63	ø63					
C Stroke (mm)						
Refer to the stroke table on the following page						
D Switch model No.						
Straight lead wire	L-shaped lead wire	Contact	Voltage		Indicator	Lead wire
			AC	DC		
T0H*	T0V*	Reed	●	●	1-color LED	2-wire
T5H*	T5V*		●	●	No indicator lamp	
T8H*	T8V*		●	●	1-color LED	
T1H*	T1V*	Proximity	●	●	1-color LED	2-wire
T2H*	T2V*		●	●		
T3H*	T3V*		●	●	1-color LED	3-wire
T3PH*	T3PV*		●	●		
T2WH*	T2WV*		●	●	2-color LED	2-wire
T2YH*	T2YV*		●	●		
T3WH*	T3WV*	●	●	1-color LED off-delay	2-wire	
T3YH*	T3YV*	●	●			
T2JH*	T2JV*	●	●	2-color LED	2-wire	
T2YD*	-	●	●			
T2YDT*	-	●	●	AC magnetic field	2-wire	
* Lead wire length						
Blank	1 m (standard)					
3	3 m (option)					
5	5 m (option)					
E Switch quantity						
R	1 on rod side					
H	1 on head side					
D	2					
T	3					
F Clean-room specifications						
P72	Exhaust port					
P73	Vacuum treatment					

⚠ Precautions for model No. selection

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

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

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

[Example of model No.]

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

Model: Guided cylinder, double acting/single rod

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

Stroke

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

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

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

How to order switch



Switch model No.
(Item ④ on page 406)

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

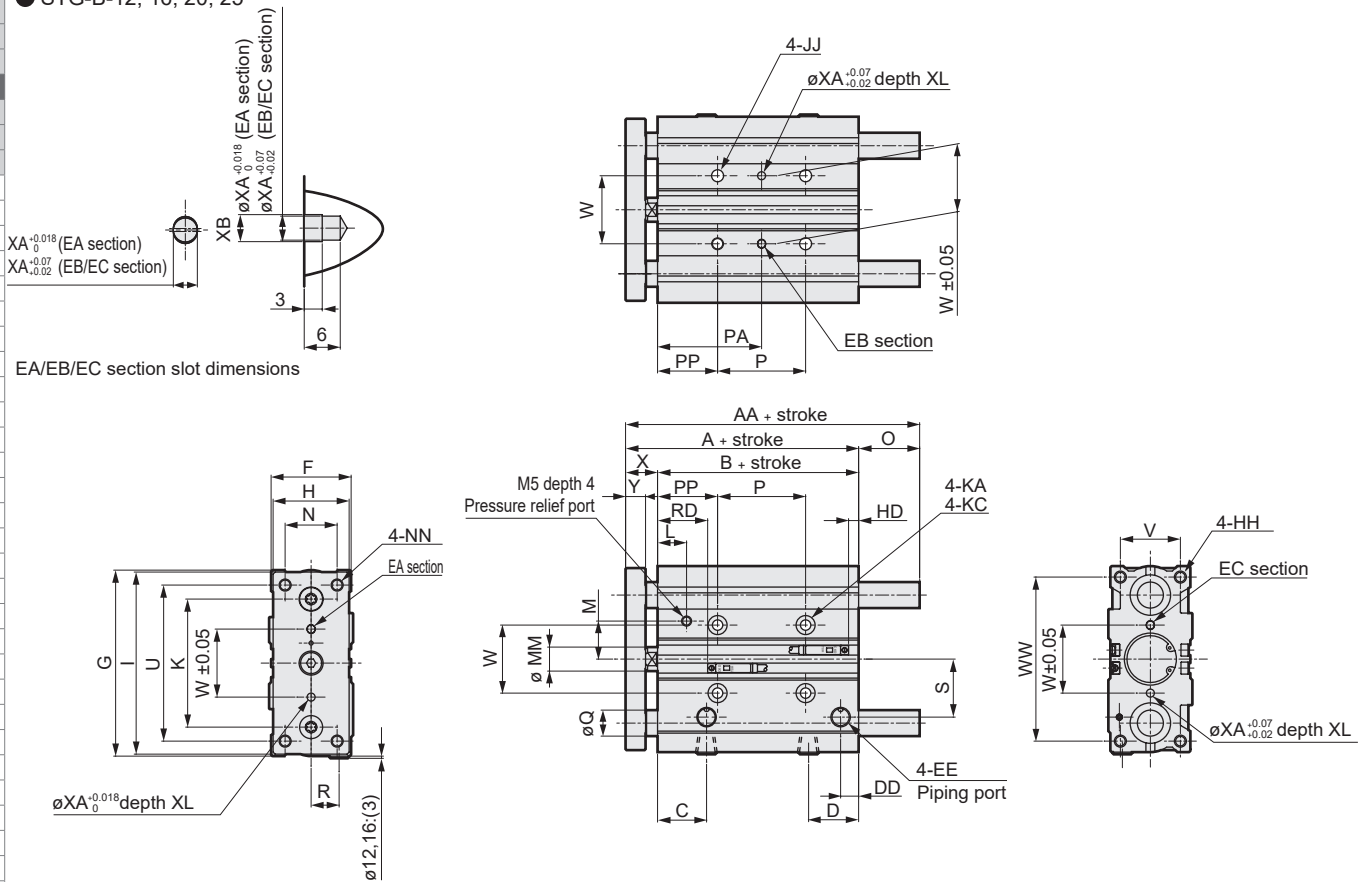
LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

STG-B-P7* Series



Dimensions (ø12, ø16, ø20, ø25)

● STG-B-12, 16, 20, 25



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

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

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

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

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

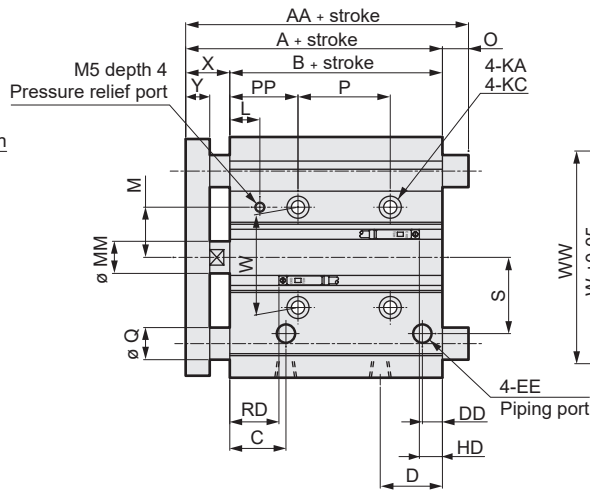
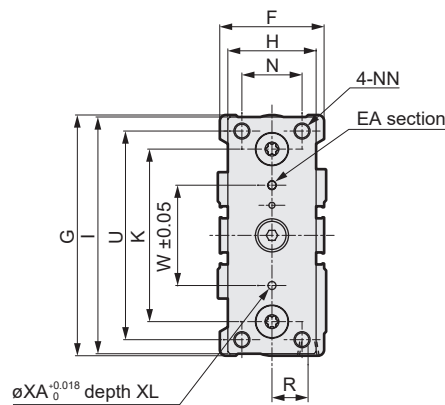
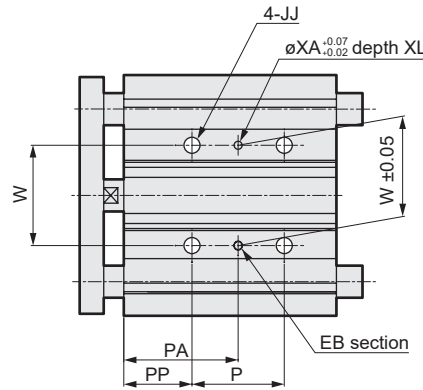
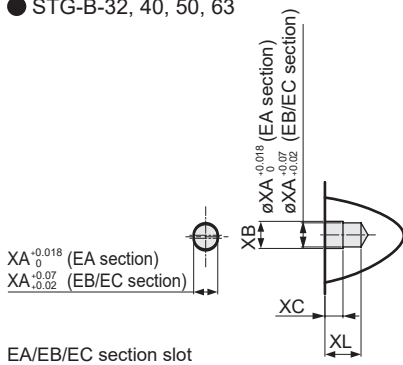
Code	Bore size (mm)	AA				Q	O		
		30 or less	Over 30 to 100	Over 100 to 200	Over 200		30 or less	Over 30 to 100	Over 100
ø12	ø12	55	55	85	6	0	0	30	
ø16	ø16	59	65	95	8	0	6	36	

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

Dimensions (ø32, ø40, ø50, ø63)



● STG-B-32, 40, 50, 63



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

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

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

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

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

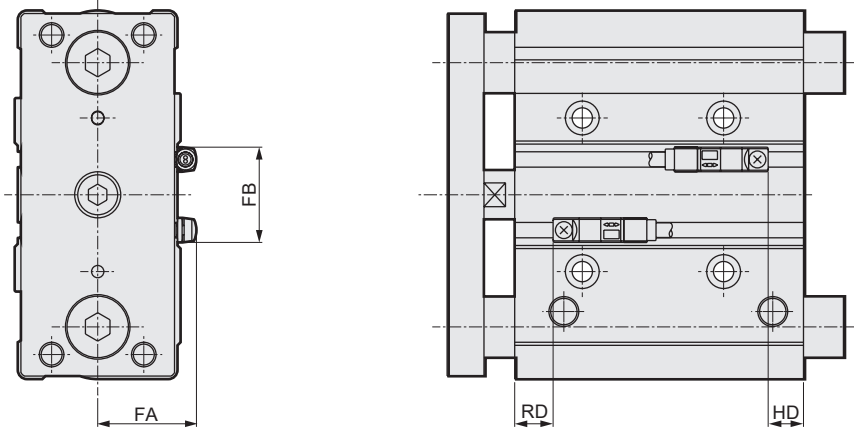
*1 : When using a custom stroke, the total dimensions are the same as the longer standard stroke.
 *2 : Refer to page 410 for RD, HD and protruding dimensions of the 2-color LED (except for T2WH/V and T3WH/V), off-delay, AC magnetic field proof, T1H/V and T8H/V switches.

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



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

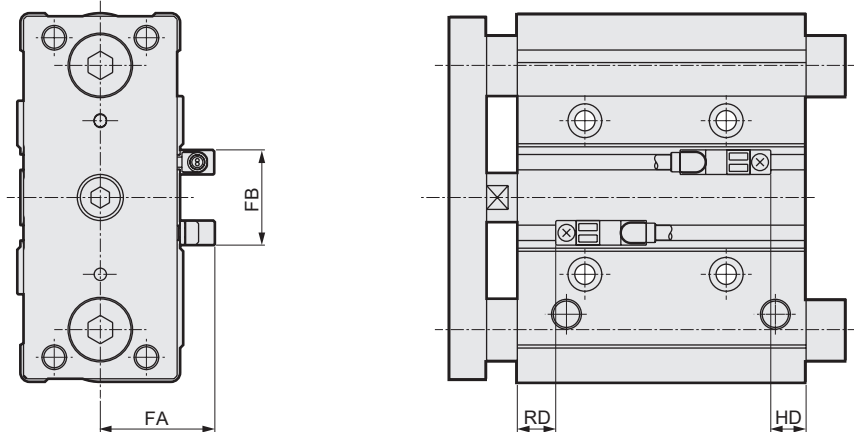
● STG-**-**-T₃ YH/V, T2JH/V, T8H/V



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

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

● STG-**-**-T2YD*, T1H/V



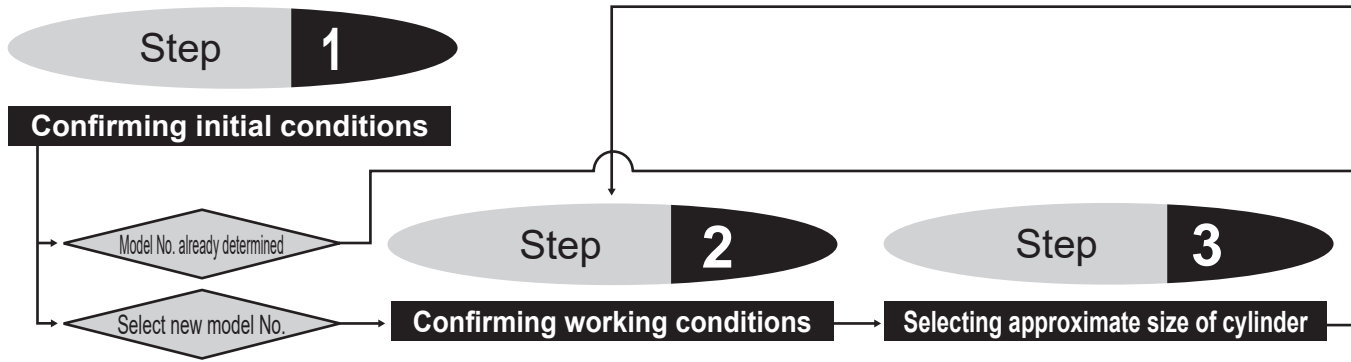
Code	FA	FB	STG		STG-P7		STG-C		STG-Q-R (rod side)		STG-Q-H (head side)	
			RD	HD	RD	HD	RD	HD	RD	HD	RD	HD
ø12	24	16	4	4	17	4	—	—	—	—	—	—
ø16	26	16	3	9	16	9	19.5	17	—	—	—	—
ø20	29	16	8.5	7.5	21.5	7.5	22.5	18.5	34	7.5	5.5	39
ø25	32	17	9	7.5	22	7.5	24.5	16.5	34.5	7.5	9	34
ø32	35	24	9	7.5	21	7.5	22.5	19	34.5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

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

MEMO

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

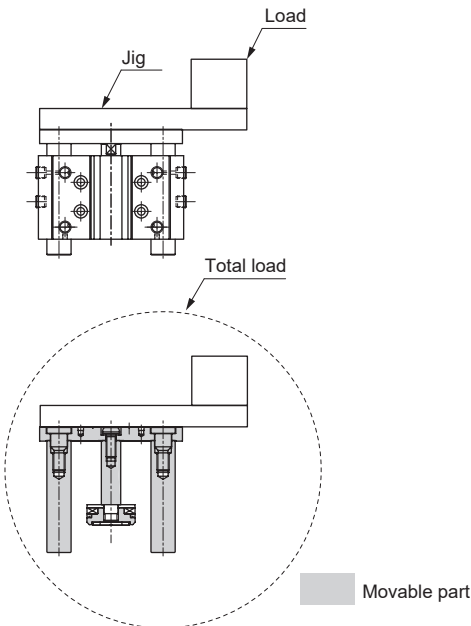
As the selection conditions are different from those of general air cylinders, confirm whether the model is adequate or not according to the selection guide.



Step 2 Confirming working conditions

1. Working pressure P (MPa)
2. Total applied load W (N)
[Total applied load]
When determining the total applied load, take into account the weight of the movable part weight of the cylinder body.
 $W = (\text{Applied load}) + (\text{Jig load}) + (\text{Self weight of movable part: } Fa)$
Calculate the self-weight of movable parts by using the value in movable part weight table on page 425.
 $Fa = \text{Max}10$

Ma : Movable part weight (kg)
Fa : Self-weight of movable part (N)



3. Mounting orientation
[Actuation]
Horizontal, vertical-rise, vertical-decline
4. Stroke ST (mm)
5. Operation time t(s)
6. Stroke end speed V (m/s)
 $V = ST/t \times (1 + 1.5 \times \alpha/100)$
(Note) Load factor α will be calculated in 5-1 ②

Step 3 Selecting approximate size of cylinder

- Formula for calculating cylinder size (bore size)

$$F = \pi/4 \times D^2 \times P$$

$$\therefore D = \sqrt{4F/\pi P}$$

D: Cylinder bore size (mm)
P: Working pressure (MPa)
F: Cylinder theoretical thrust (N)

- When calculating from the theoretical thrust value in Table 1

Approximate required thrust \geq Applied load x 2
("x 2" in "Applied load x 2" is for when the load factor is approx. 50% as a safety coefficient)
[Example] Working pressure 0.5(MPa)

Applied load 25(N)
Required thrust: 25(N)x2=50(N)

The bore size selected from Table 1 with theoretical thrust of 50 N and over at working pressure of 0.5 MPa will be $\phi 12$ or more.
 $D = \phi 12$

[Cylinder theoretical thrust]

Table 1 Cylinder theoretical thrust table

Theoretical thrust table $\phi 12, \phi 16$ Unit: N

Actuation direction	Pressure MPa	Bore size mm	
		$\phi 12$	$\phi 16$
Push	0.15	17	22.6
	0.2	22.6	30.2
	0.3	33.9	45.2
	0.4	45.2	60.3
	0.5	56.6	75.4
	0.6	67.8	90.5
	0.7	79.1	106
	0.8	90.4	121
	0.9	101.8	136

* Refer to page 336 for theoretical thrust table.

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

Step 4

Calculating total applied load (W) and each moment

To the next page

Step 4 Calculating total applied load (W) and each moment

- Calculate the static load (W₀) and the moment (M) based on the load cylinder mounting status.

$$W_0 = (\text{Applied load}) + (\text{Jig load}) \quad (\text{N})$$

$$M_1 = F_1 \times l_1 \quad (\text{N} \cdot \text{m})$$

$$M_2 = F_2 \times l_2 \quad (\text{N} \cdot \text{m})$$

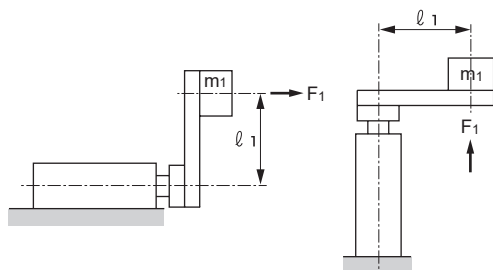
$$M_3 = F_3 \times l_3 \quad (\text{N} \cdot \text{m})$$

For values of F₁, F₂ and F₃, use those shown in Fig. 2.

Fig. 2 Formula for calculating each moment
Calculate each moment from total applied load, inertia force coefficient and eccentric distance.

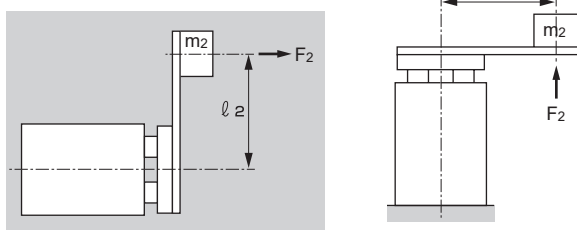
[Bending moment]

$$M_1 = F_1 \times l_1 = 10 \times m_1 \times G \times l_1$$



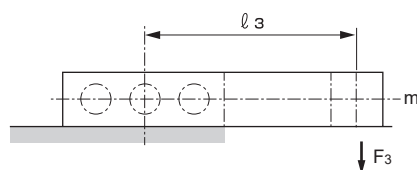
[Radial moment]

$$M_2 = F_2 \times l_2 = 10 \times m_2 \times G \times l_2$$



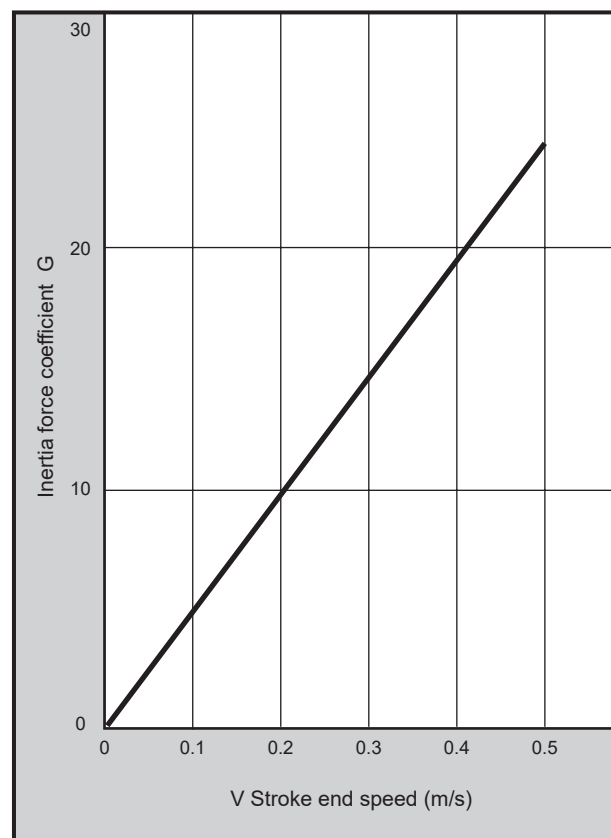
[Torsion moment]

$$M_3 = F_3 \times l_3 = 10 \times m_3 \times G \times l_3$$

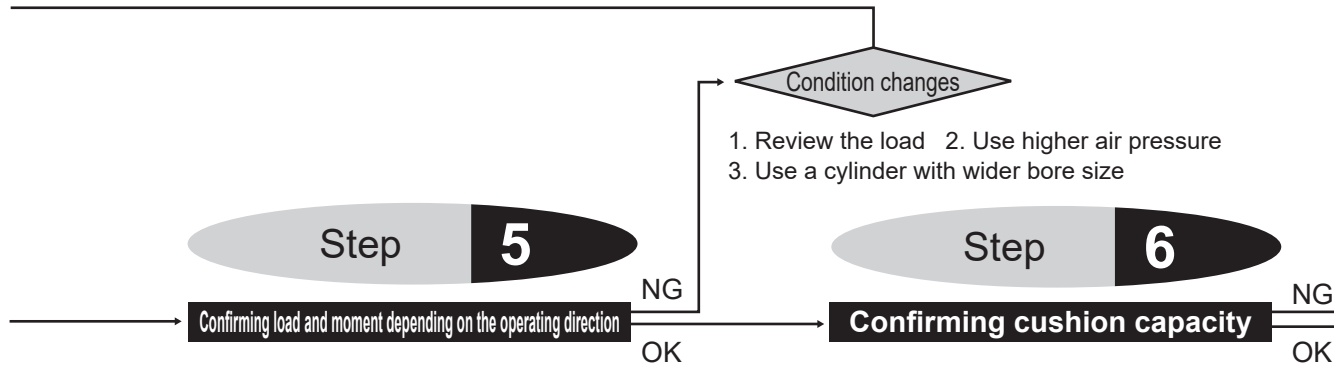


- m1: }
- m2: } Load weight (kg)
- m3: }
- l1: }
- l2: } Eccentric distance (m)
- l3: }
- G: Inertia force coefficient

Fig. 3 Trend of inertia force coefficient for guided cylinder



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



Step 5 Confirming load and moment depending on the operating direction

5-1 Confirming applied load

1 For horizontal operation

The value of static applied load must be the allowable load value or less.

Static applied load W_o Value obtained in Step 4
 Allowable lateral load W_{max} Select from Table 2 or the graph depending on stroke

(When using a custom stroke, select the longer standard stroke)
 $W_o \leq W_{max}$

Table 2 Allowable lateral load

Unit: N

Bore size (mm)	Model No.	Bearing	Stroke (mm)			
			10	20	25	30
ø12	STG-M	Metal bush bearing	29	24		20
	STG-B	Ball bearing	38	27		22
ø16	STG-M	Metal bush bearing	51	42		36
	STG-B	Ball bearing	49	35		29
ø20	STG-M	Metal bush bearing		67		58
	STG-B	Ball bearing		52		42
ø25	STG-M	Metal bush bearing		125		110
	STG-B	Ball bearing		81		66
ø32	STG-M	Metal bush bearing			223	
	STG-B	Ball bearing			171	

* Refer to page 420 for allowable lateral load.

Also refer to the graphs on pages 422 to 424 for eccentric load.

2 For vertical operation

The total applied load value must be the value obtained by applying the load factor to the theoretical thrust

● Calculation of load factor

Total applied load W Value obtained in Step 2
 Theoretical thrust of cylinder F Refer to the theoretical thrust table on page 336 according to the pressure

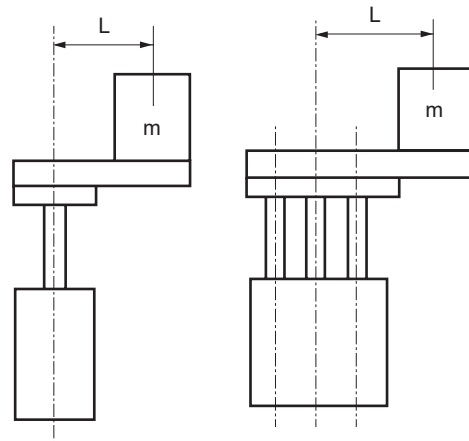
$$\alpha = W/F \times 100 (\%)$$

- Determine the load factor by taking into account the status of utilization such as stability margin and service life of the cylinder. For general use, the value within the range in Table 3 is desirable.

Table 3 Appropriate range of load factor (reference value)

Working pressure (MPa)	Load factor (%)
0.1 to 0.3	$\alpha \leq 40$
0.3 to 0.6	$\alpha \leq 50$
0.6 to 1.0	$\alpha \leq 60$

- Confirm the following when eccentric load is applied
 The value must be the allowable load value or less from the graph of eccentric distance and load weight on pages 416 and 417



5-2 Confirming static moment

- 1 Divide the value of bending moment and radial moment by the value in Table 4 to obtain the moment ratio and check that the total value of the moment ratio is 1.0 or less.

● Calculation of moment ratio

Bending moment M_1 } Calculated value
 Radial moment M_2 } in Step 4

$$M_1/M_{1max} + M_2/M_{2max} \leq 1.0$$



1. Install an external shock absorber
2. Decrease the operation speed
3. Use a cylinder with larger bore size

Selection complete

Table 4 Allowable value of moment (N·m)

Bore size (mm)	Allowable bending moment M _{1 max} , M _{2 max} (N·m)	
	Bearing	
	STG-M Metal bush bearing	STG-B Ball bearing
ø12	11.2	7.0
ø16	19.2	11.2
ø20	35.3	19.2
ø25	51.9	35.3
ø32	171.5	51.9
ø40	171.5	51.9
ø50	294.0	171.5
ø63	294.0	171.5
ø80	509.6	294.0
ø100	793.8	509.6

Step 6 Confirming cushion capacity

Calculate the kinetic energy of the load that is actually to be used, and confirm whether it can be absorbed by the allowable absorbed energy of cylinder or not.

- To obtain the allowable absorbed energy of cylinder (E), use the value in the graphs below.
- Formula for calculating kinetic energy of load

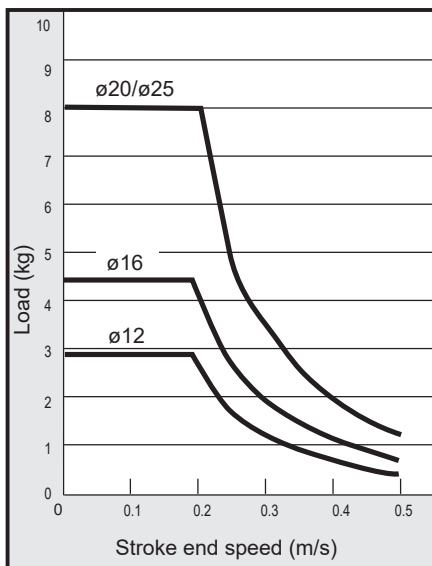
$$E = \frac{1}{2} \times (W_1 + W_2) \times V^2$$

W₁: Applied load (kg) W₂: Movable part weight of cylinder (kg)
V: Stroke end speed (m/s)

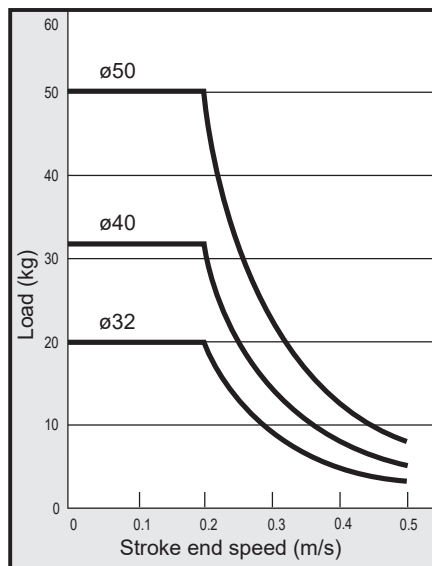
Allowable absorbed energy value

Use in the range below and to the left of the curve. For use in the upper right range, provide an external shock absorber.

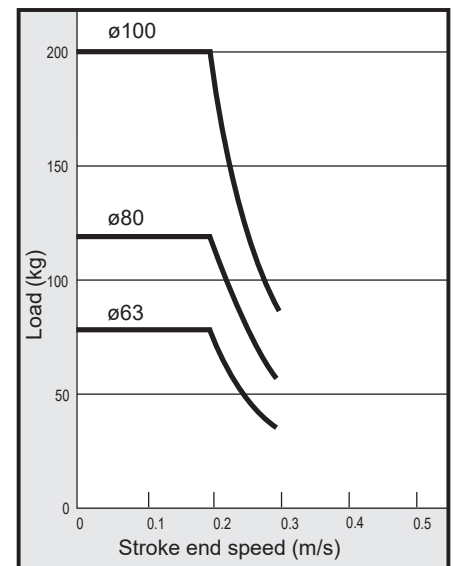
● STG-12 to 25



● STG-32 to 50



● STG-63 to 100



2 The torsion moment must be the allowable torque value or less.

Torsion moment M₃ Value obtained in Step 4
Allowable torque

M_{3max} Select from Table 5 according to the stroke
(When using a custom stroke, select the longer standard stroke)

$$M_3 \leq M_{3max}$$

Table 5 Allowable torque (N·m)

Bore size (mm)	Model No.	Bearing	Stroke (mm)		
			10	20	25
ø12	STG-M	Metal bush bearing	0.30	0.25	
	STG-B	Ball bearing	0.39	0.28	
ø16	STG-M	Metal bush bearing	0.59	0.49	
	STG-B	Ball bearing	0.56	0.41	
ø20	STG-M	Metal bush bearing		0.90	
	STG-B	Ball bearing		0.70	
ø25	STG-M	Metal bush bearing		2.00	
	STG-B	Ball bearing		1.29	
ø32	STG-M	Metal bush bearing			4.35
	STG-B	Ball bearing			3.33
ø40	STG-M	Metal bush bearing			4.80
	STG-B	Ball bearing			3.68
ø50	STG-M	Metal bush bearing			9.56
	STG-B	Ball bearing			4.99
ø63	STG-M	Metal bush bearing			10.78
	STG-B	Ball bearing			5.63
ø80	STG-M	Metal bush bearing			15.01
	STG-B	Ball bearing			5.02
ø100	STG-M	Metal bush bearing			24.98
	STG-B	Ball bearing			8.04

* Refer to page 420 for allowable torque.

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

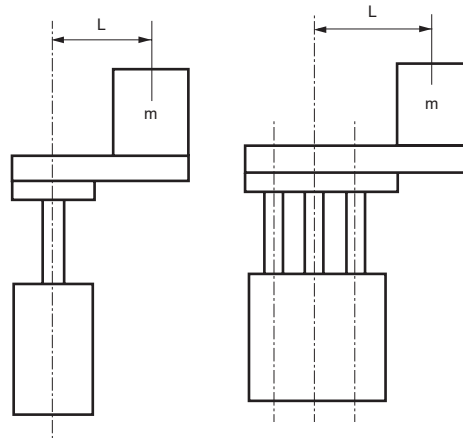
Selection guide

For vertical installation

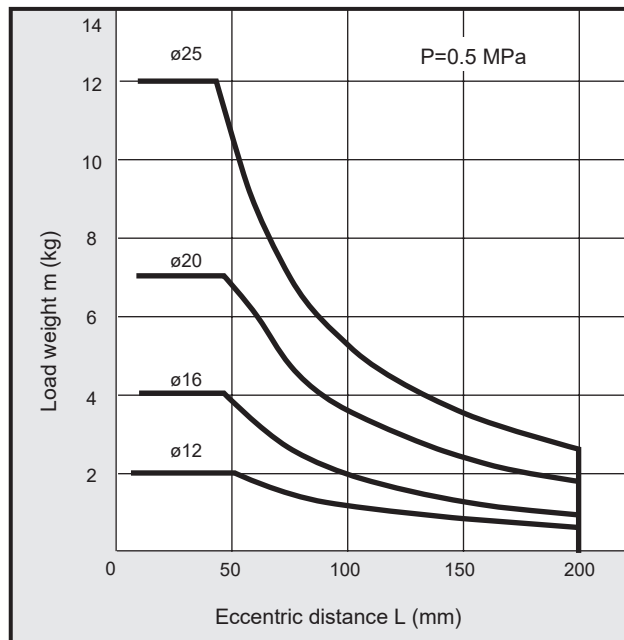
- As for the total load weight, select so that the ratio of the load to the theoretical thrust is within the values in the table below.

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

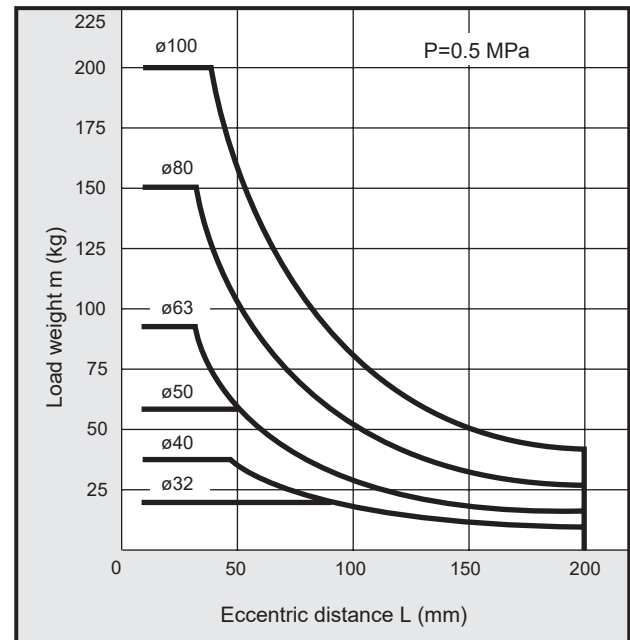
*1 : For copper and PTFE free (M: metal bush bearing only), design the cylinder with the allowable value in the table below x 0.7.



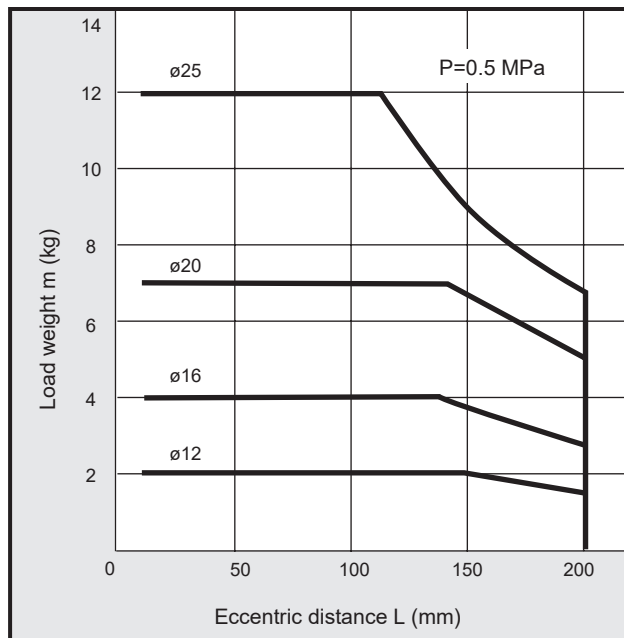
- STG-M-12 to 25
· 50 mm or less stroke



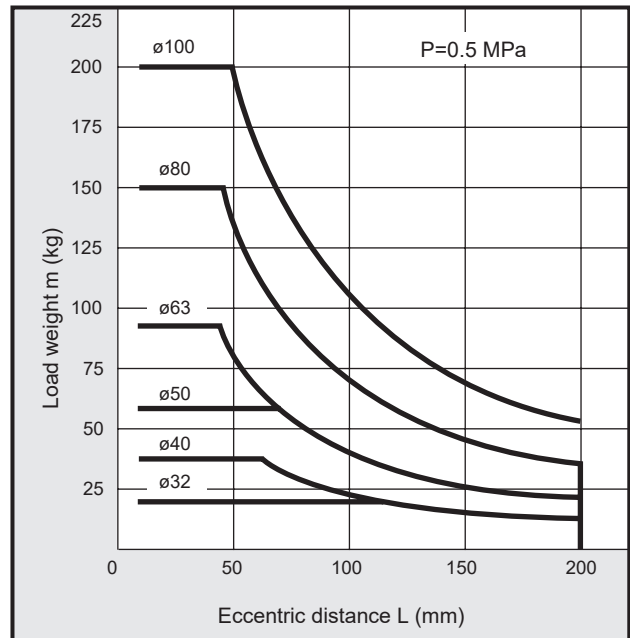
- STG-M-32 to 100
· 50 mm or less stroke



- STG-M-12 to 25
· Over 50 mm stroke

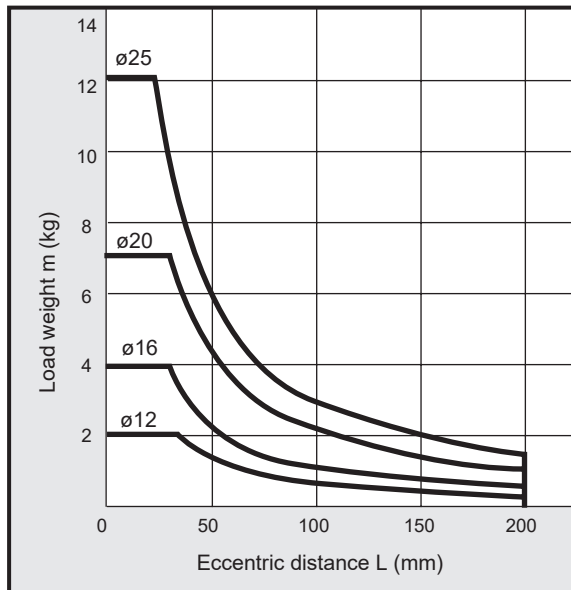


- STG-M-32 to 100
· Over 50 mm stroke

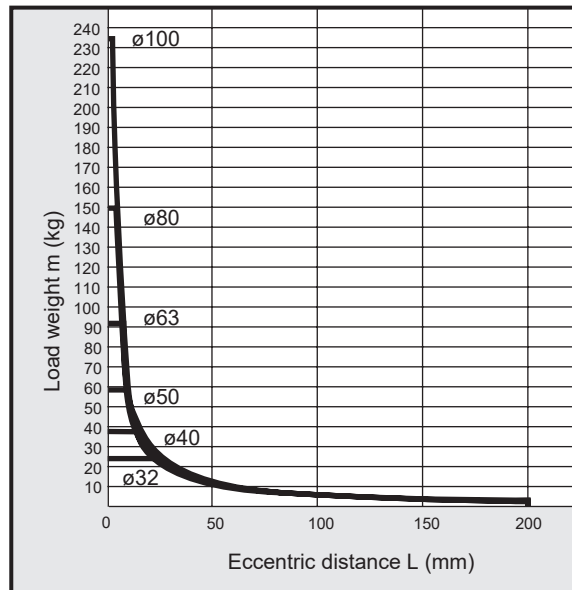


LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MecHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

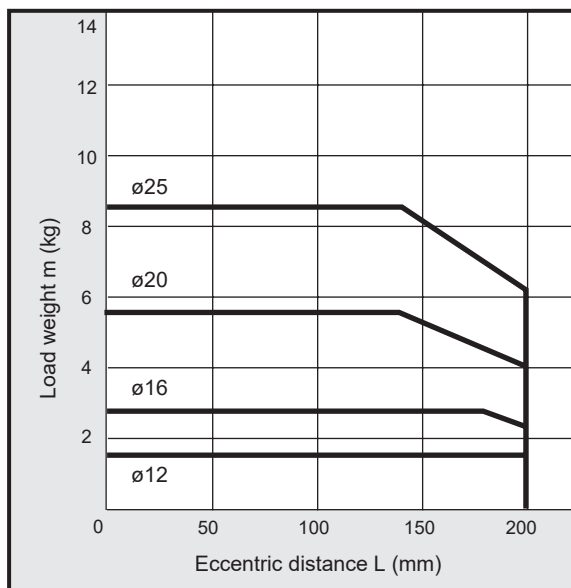
● STG-B-12 to 25
· 30 mm or less stroke



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

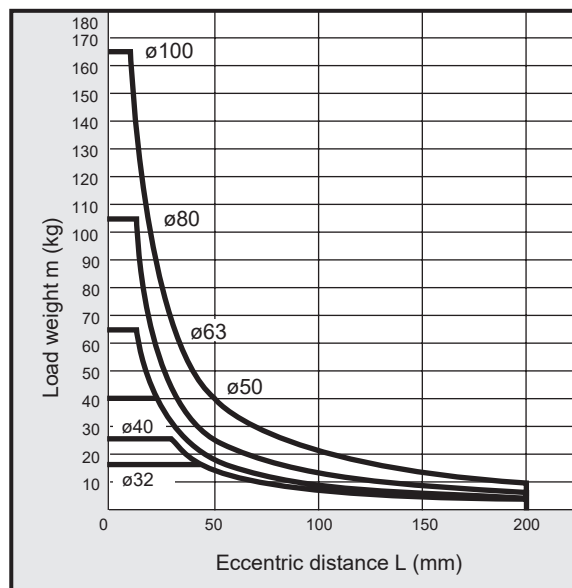


● STG-B-12 to 25
· Over 30 mm to 100 mm stroke

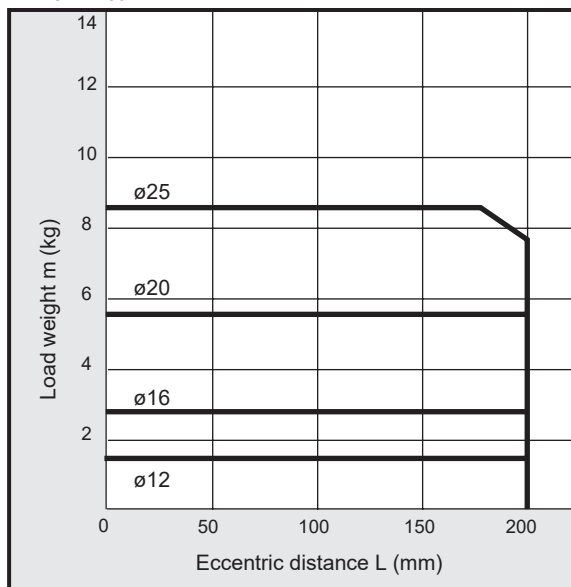


● STG-B-32 to 63
· Over 50 mm to 100 mm stroke

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

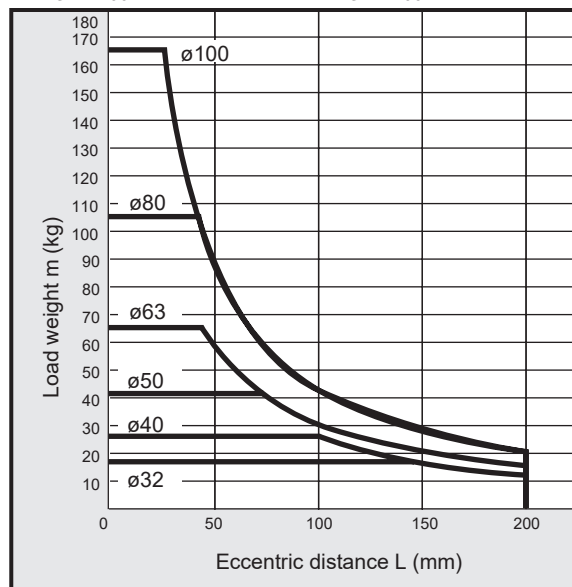


● STG-B-12 to 25
· Over 100 mm stroke



● STG-B-32 to 63
· Over 100 mm stroke

● STG-B-80, 100
· Over 200 mm stroke

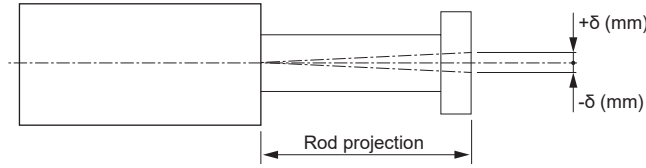


LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

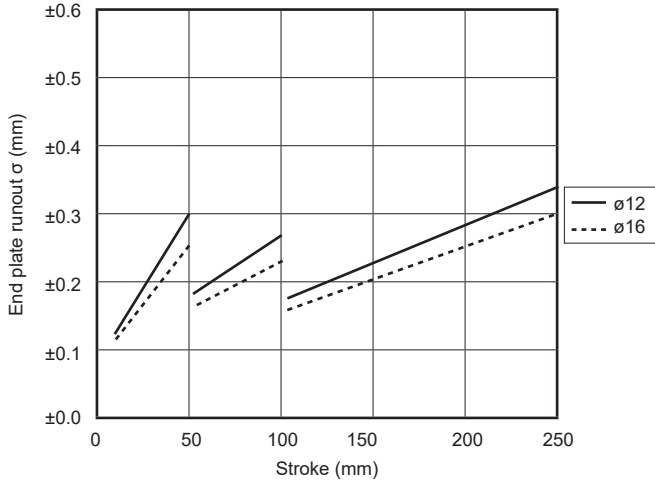
Selection guide

Deflection

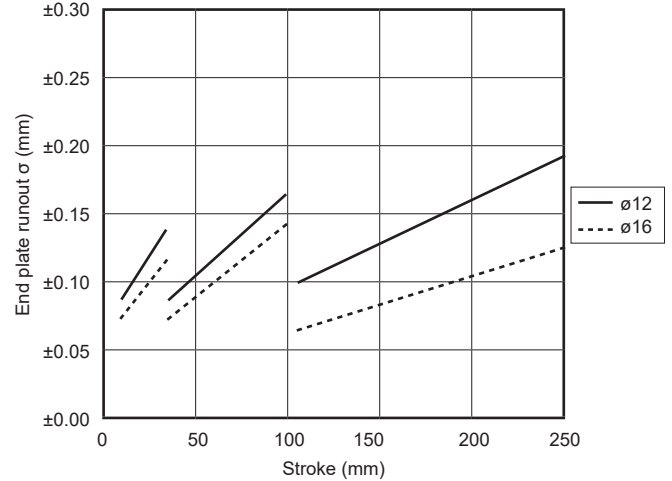
For the runout amount δ produced at the end of the end plate when no load is applied, the value in the graph below is used as a guide. (Excluding deflection of guide rod)



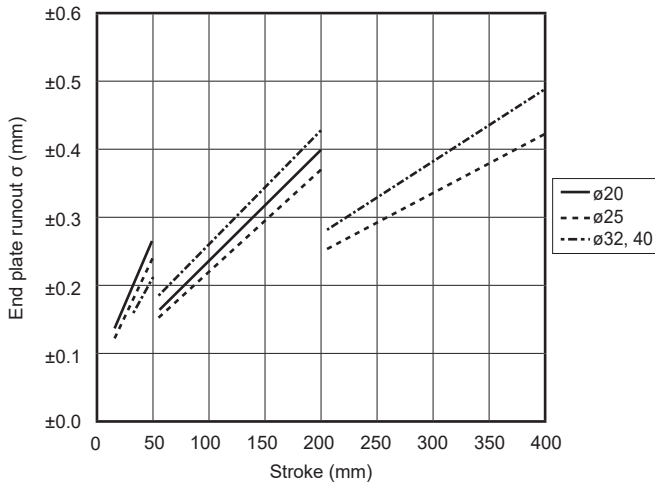
● $\varnothing 12, \varnothing 16$ Metal bush bearing
STG-M



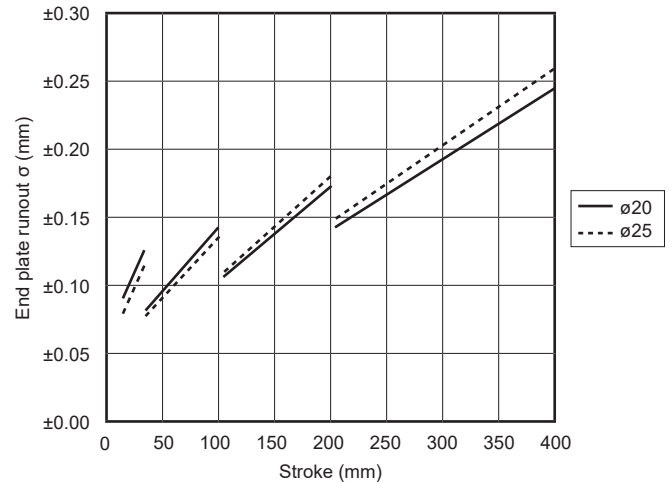
● $\varnothing 12, \varnothing 16$ ball bearing
STG-B



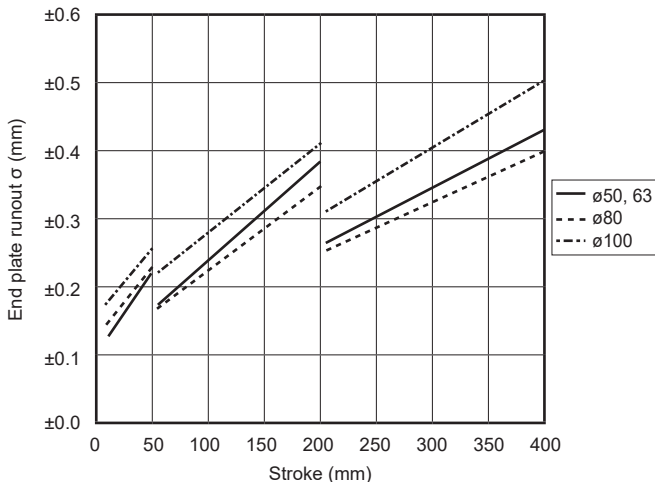
● $\varnothing 20$ to $\varnothing 40$ Metal bush bearing
STG-M



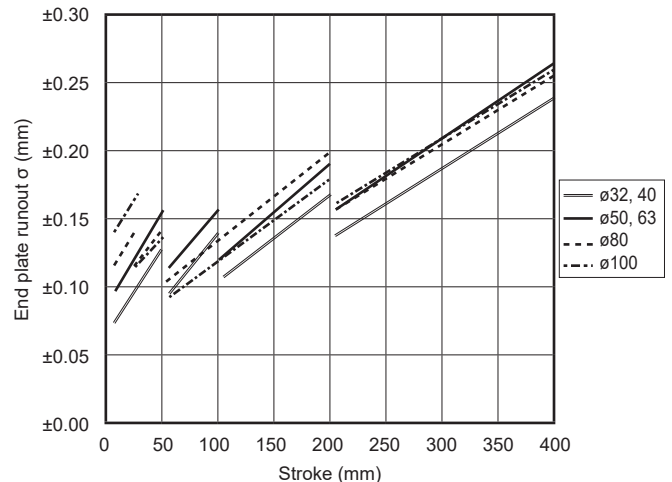
● $\varnothing 20$ to $\varnothing 40$ Ball bearing
STG-B



● $\varnothing 50$ to $\varnothing 100$ Metal bush bearing
STG-M

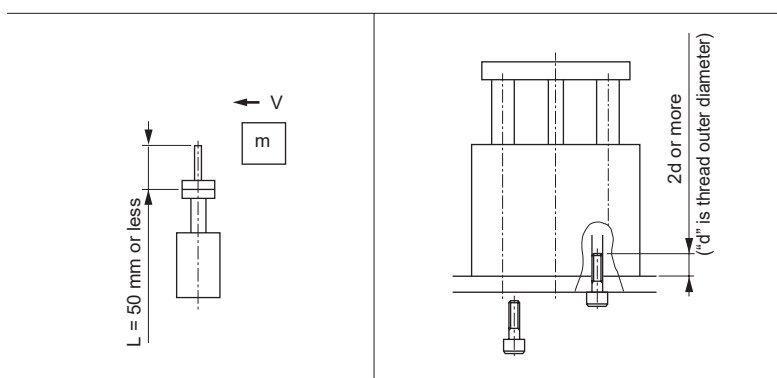
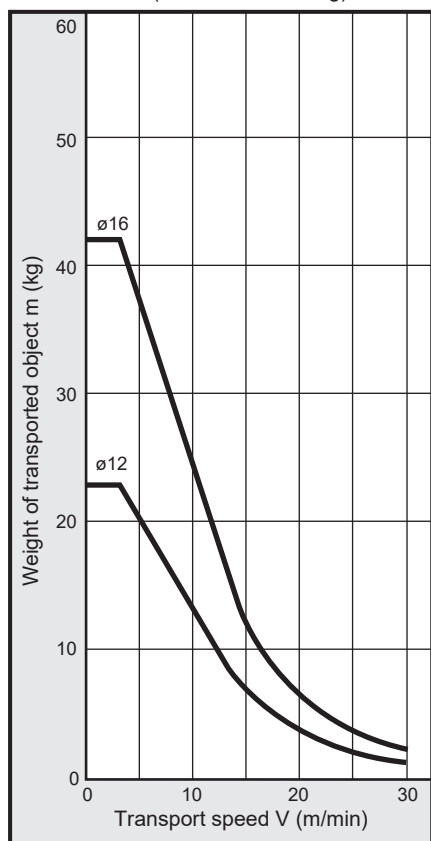


● $\varnothing 50$ to $\varnothing 100$ Ball bearing
STG-B



Specified range when using the product as a stopper

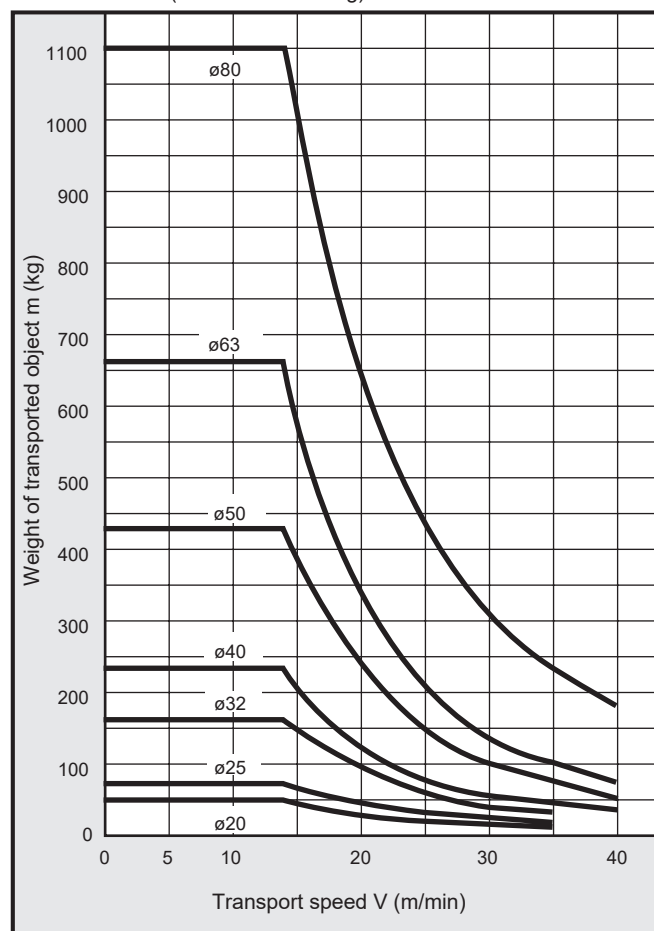
Impact load
STG-M-12, 16 (metal bush bearing)



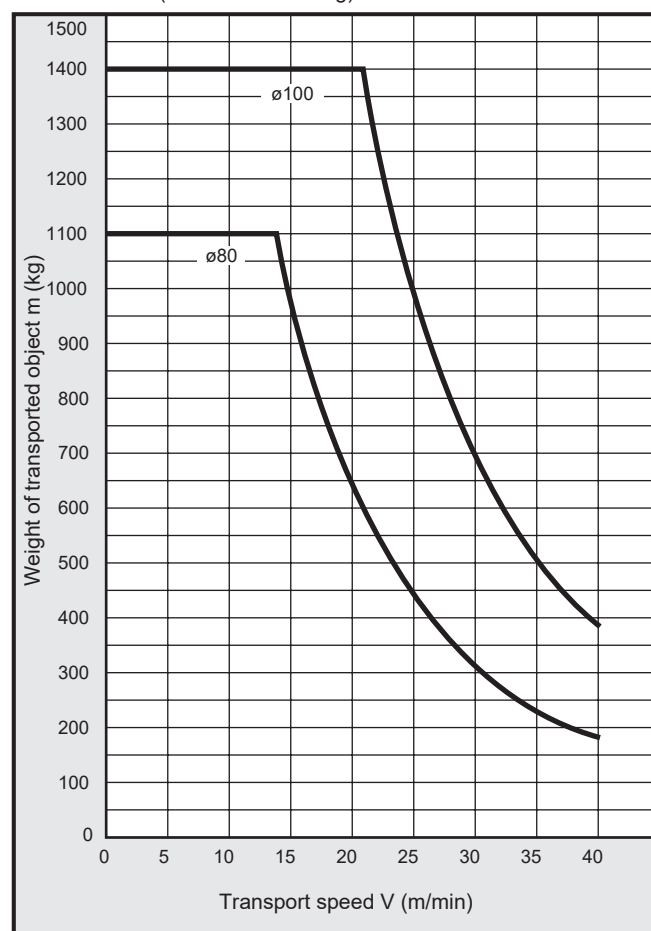
⚠ Safety precautions

- *1 : When using the cylinder as a stopper, select a model with 50 mm stroke or less (STG-M). (30 mm or less stroke for ø12 to ø16)
- *2 : Make sure that the total length of the stopper section L is 50 mm or less.
- *3 : Make sure that the screw insertion depth of the bolt is 2d and over when fixing the cylinder body and consider countermeasures for preventing looseness (adhesive, spring washer, etc.). (for ø80, make sure that the screw insertion depth is 1d. "d" is thread outer diameter)
- *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 (metal bush bearing)

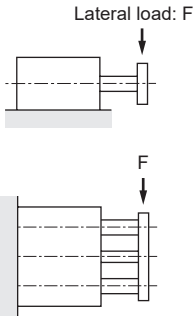


- LCM
- LCR
- LCG
- LCW
- LCX
- STM
- STG**
- STS/STL
- STR2
- UCA2
- ULK*
- JSK/M2
- JSG
- JSC3/JSC4
- USSD
- UFCD
- USC
- UB
- JSB3
- LMB
- LML
- HCM
- HCA
- LBC
- CAC4
- UCAC2
- CAC-N
- UCAC-N
- RCS2
- RCC2
- PCC
- SHC
- MCP
- GLC
- MFC
- BBS
- RRC
- GRC
- RV3*
- NHS
- HRL
- LN
- Hand
- Chuk
- MechHnd/Chuk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

Selection guide

Unit: N

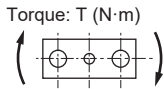
Allowable lateral load



Bore size (mm)	Model No.	Bearing	Stroke (mm)			
			10	20	25	30
ø12	STG-M	Metal bush bearing	29	24		20
	STG-B	Ball bearing	38	27		22
ø16	STG-M	Metal bush bearing	51	42		36
	STG-B	Ball bearing	49	35		29
ø20	STG-M	Metal bush bearing		67		58
	STG-B	Ball bearing		52		42
ø25	STG-M	Metal bush bearing		125		110
	STG-B	Ball bearing		81		66
ø32	STG-M	Metal bush bearing			223	
	STG-B	Ball bearing			171	
ø40	STG-M	Metal bush bearing			223	
	STG-B	Ball bearing			171	
ø50	STG-M	Metal bush bearing			348	
	STG-B	Ball bearing			181	
ø63	STG-M	Metal bush bearing			348	
	STG-B	Ball bearing			181	
ø80	STG-M	Metal bush bearing			385	
	STG-B	Ball bearing			129	
ø100	STG-M	Metal bush bearing			531	
	STG-B	Ball bearing			171	

*1: For copper and PTFE free (M: metal bush bearing only), design the cylinder with the allowable value in the table above x 0.7.
Unit: N·m

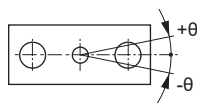
Allowable torque



Bore size (mm)	Model No.	Bearing	Stroke (mm)			
			10	20	25	30
ø12	STG-M	Metal bush bearing	0.30	0.25		0.21
	STG-B	Ball bearing	0.39	0.28		0.23
ø16	STG-M	Metal bush bearing	0.59	0.49		0.42
	STG-B	Ball bearing	0.56	0.41		0.33
ø20	STG-M	Metal bush bearing		0.90		0.78
	STG-B	Ball bearing		0.70		0.57
ø25	STG-M	Metal bush bearing		2.00		1.75
	STG-B	Ball bearing		1.29		1.06
ø32	STG-M	Metal bush bearing			4.35	
	STG-B	Ball bearing			3.33	
ø40	STG-M	Metal bush bearing			4.80	
	STG-B	Ball bearing			3.68	
ø50	STG-M	Metal bush bearing			9.56	
	STG-B	Ball bearing			4.99	
ø63	STG-M	Metal bush bearing			10.78	
	STG-B	Ball bearing			5.63	
ø80	STG-M	Metal bush bearing			15.01	
	STG-B	Ball bearing			5.02	
ø100	STG-M	Metal bush bearing			24.98	
	STG-B	Ball bearing			8.04	

Non-rotating accuracy

(reference value)



Unit: N

Stroke (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 (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

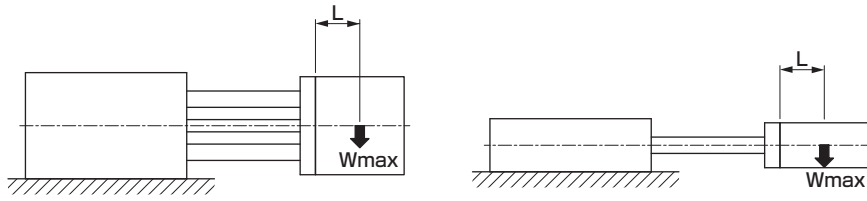
Item	Non-rotating accuracy θ (degrees)	
	Bore size (mm)	
	Metal bush bearing	Ball bearing
$\phi 12$	± 0.08	± 0.06
$\phi 16$		
$\phi 20$		
$\phi 25$	± 0.07	± 0.05
$\phi 32$		
$\phi 40$		
$\phi 50$	± 0.06	± 0.04
$\phi 63$		
$\phi 80$		
$\phi 100$		
	± 0.05	± 0.03

(Default at PULL) Note: Excluding sag of guide rod

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

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

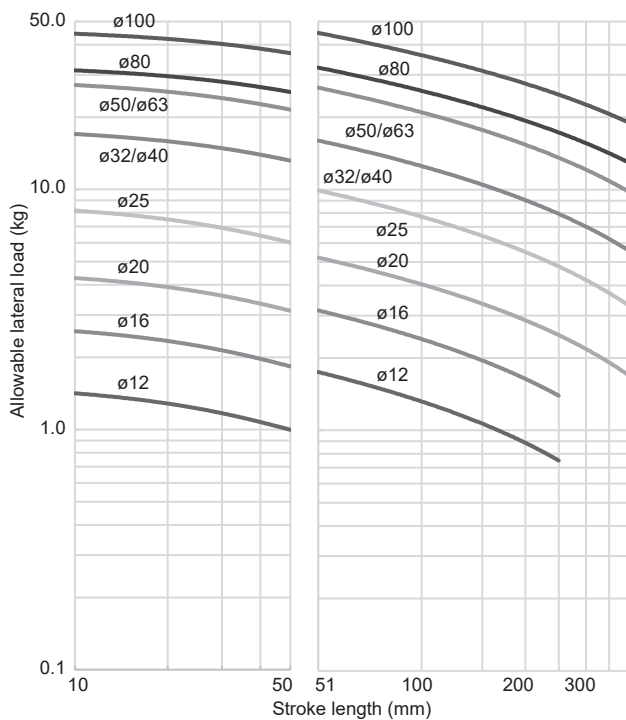
Allowable lateral load Metal bush bearing



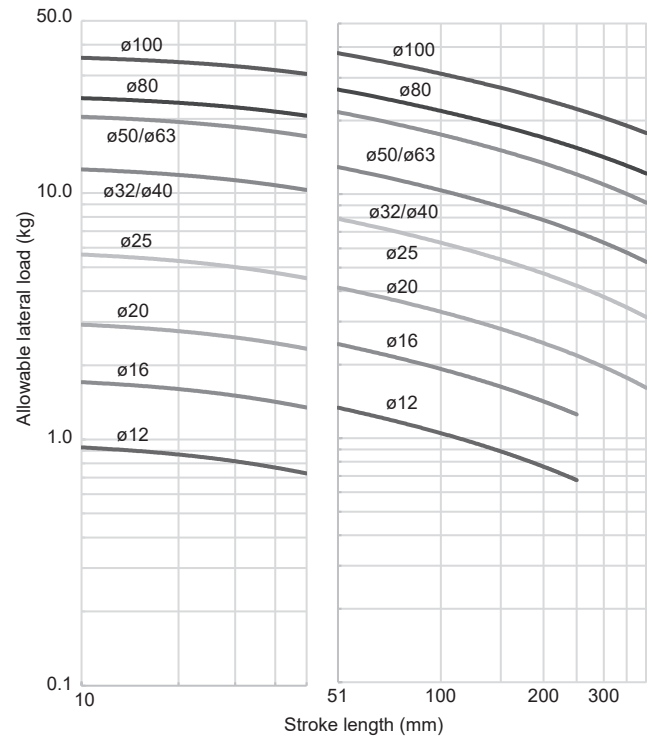
W_{max} : Lateral load (kg)
 L : Load center of gravity position (mm)

STG-M-12 to 100

● When $L = 50$ mm

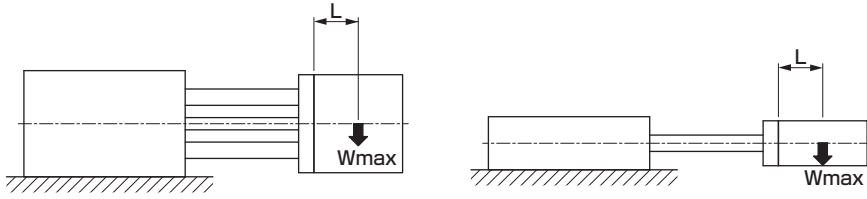


● When $L = 100$ mm



Note: For copper and PTFE free, design with 70% of the values in the graph above.

Allowable lateral load Ball bearing

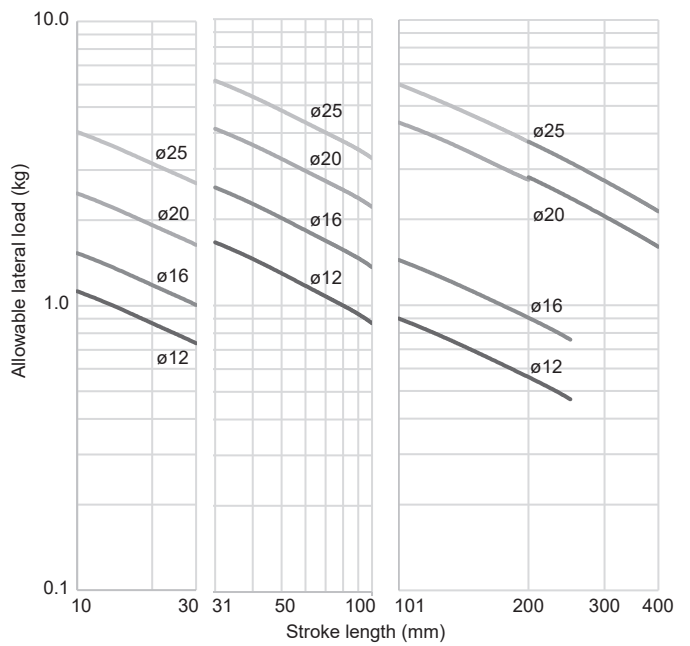
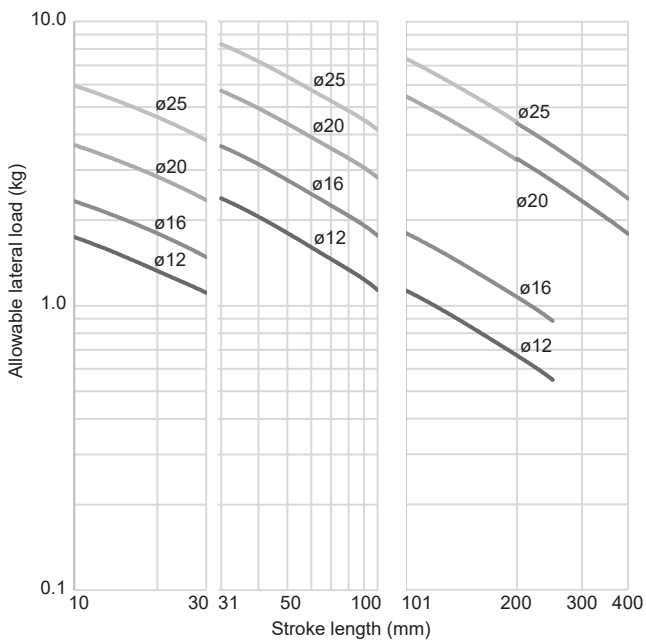


W_{max} : Lateral load (kg)
 L : Load center of gravity position (mm)

STG-B-12 to 25

● When $L = 50$ mm

● When $L = 100$ mm

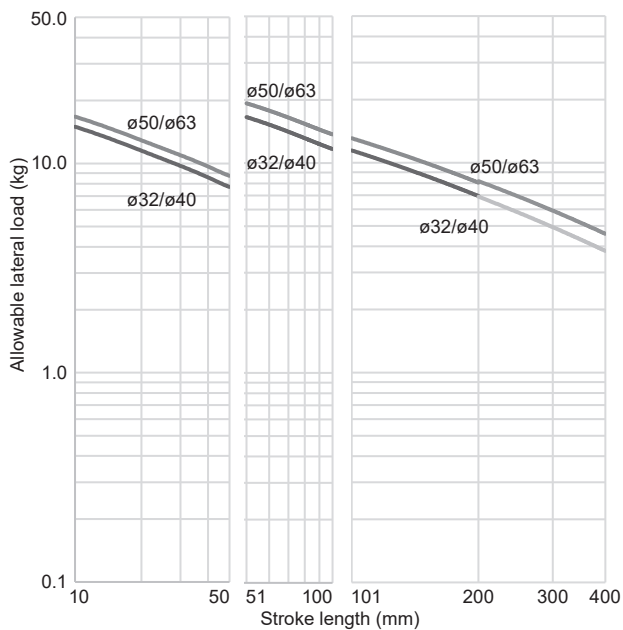


LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

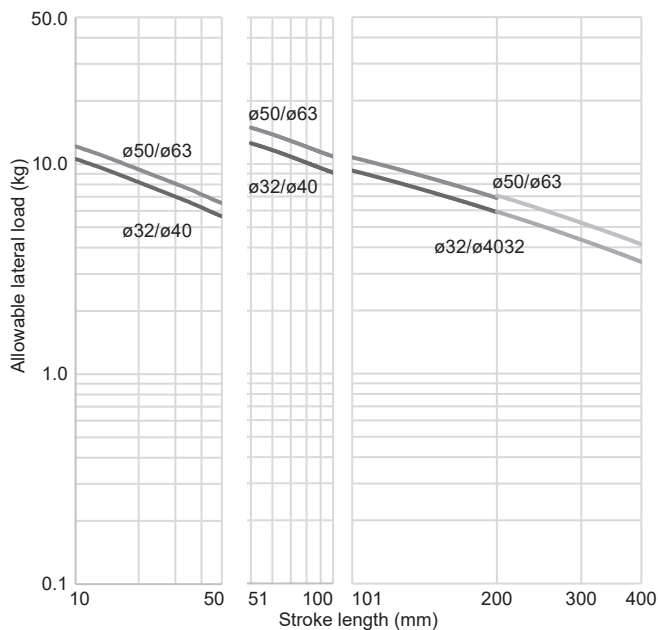
- LCM
- LCR
- LCG
- LCW
- LCX
- STM
- STG**
- STS/STL
- STR2
- UCA2
- ULK*
- JSK/M2
- JSG
- JSC3/JSC4
- USSD
- UFCD
- USC
- UB
- JSB3
- LMB
- LML
- HCM
- HCA
- LBC
- CAC4
- UCAC2
- CAC-N
- UCAC-N
- RCS2
- RCC2
- PCC
- SHC
- MCP
- GLC
- MFC
- BBS
- RRC
- GRC
- RV3*
- NHS
- HRL
- LN
- Hand
- Chuk
- MechHnd/Chuk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

STG-B-32 to 63

● When L = 50 mm

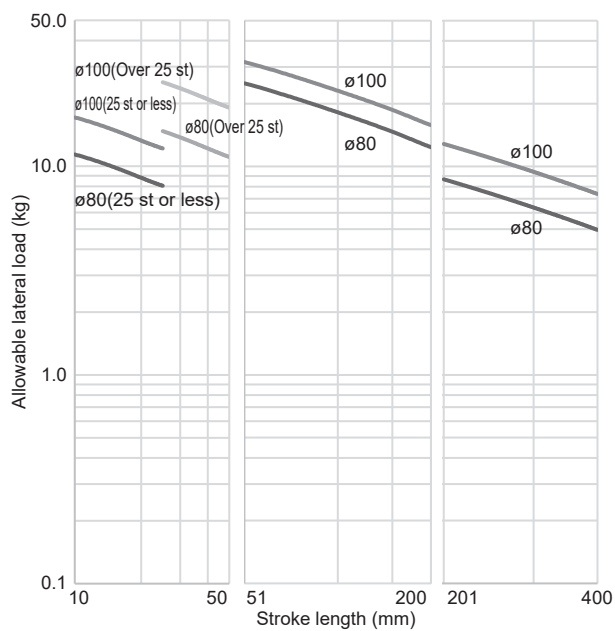


● When L = 100 mm

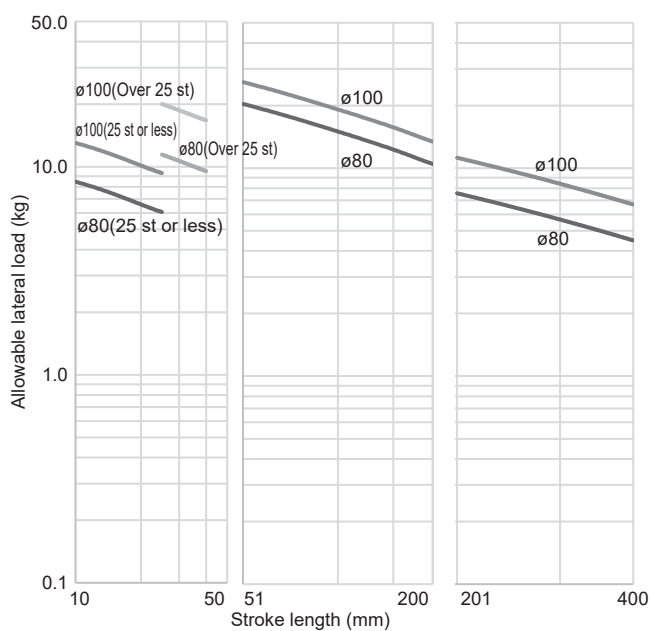


STG-B-80/100

● When L = 50 mm



● When L = 100 mm



Selection guide

■ Movable part weight table

● STG-M movable part weight table

Unit: kg

Bore size (mm)	Stroke (mm)															
	10	20	25	30	40	50	75	100	125	150	175	200	250	300	350	400
ø12	0.12	0.13		0.14	0.15	0.16	0.20	0.23	0.27	0.30	0.32	0.35	0.40			
ø16	0.16	0.18		0.19	0.21	0.22	0.29	0.33	0.41	0.45	0.49	0.53	0.62			
ø20		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
ø25		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
ø32			1.07			1.23	1.42	1.58	1.74	1.90	2.07	2.23	2.73	3.06	3.40	3.71
ø40			1.14			1.30	1.49	1.65	1.81	1.98	2.14	2.30	2.82	3.13	3.47	3.78
ø50			2.15			2.40	2.75	3.00	3.26	3.51	3.76	4.02	4.85	5.37	5.88	6.38
ø63			2.50			2.75	3.09	3.35	3.60	3.86	4.11	4.36	5.19	5.70	6.21	6.72
ø80			3.76			3.99	4.38	4.61	4.84	5.08	5.31	5.54	6.29	6.76	7.23	7.69
ø100			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 (mm)															
	10	20	25	30	40	50	75	100	125	150	175	200	250	300	350	400
ø12	0.11	0.11		0.12	0.13	0.14	0.16	0.17	0.20	0.22	0.23	0.25	0.29			
ø16	0.15	0.16		0.17	0.20	0.21	0.24	0.27	0.32	0.35	0.38	0.41	0.47			
ø20		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
ø25		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
ø32			0.82			0.94	1.11	1.23	1.40	1.53	1.65	1.77	2.07	2.30	2.54	2.78
ø40			0.89			1.01	1.18	1.30	1.48	1.60	1.72	1.83	2.14	2.38	2.61	2.84
ø50			1.77			1.95	2.24	2.45	2.71	1.89	3.08	3.27	3.76	4.13	4.50	4.87
ø63			2.11			2.30	2.59	2.77	3.05	3.25	3.43	3.61	4.11	4.48	4.84	5.21
ø80			3.54			3.81	4.12	4.31	4.50	4.69	4.88	5.07	5.58	5.97	6.35	6.73
ø100			6.21			6.91	7.69	8.10	8.51	8.93	9.34	9.75	10.83	11.65	12.48	13.30

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



Safety Precautions

Be sure to read this section before use.

Refer to Intro Page 73 for general information of the cylinder, and to Intro Page 80 for general information of the cylinder switch.

Product-specific cautions: Guided cylinder STG Series

Design/selection

1. Common

⚠ CAUTION

- When using the metal bush bearing with a long stroke at low speed, stick-slip may occur depending on load conditions. In this case, use the ball bearing.

2. Rubber air-cushioned STG-*C

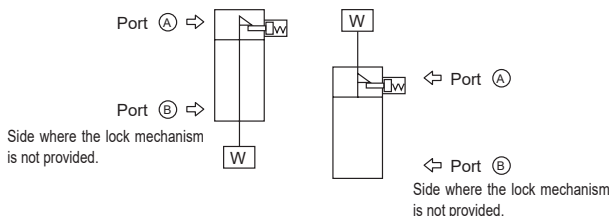
⚠ CAUTION

- Note that, structurally, the stroke end position cannot be retained if air supply is cut off.
When detecting the stroke end by switch, set the switch position with pneumatic pressure applied, as otherwise the position may be out of the detection range.

3. Position locking STG-^M_BQ

⚠ WARNING

- If pressure is supplied to port A when both ports are not pressurized and the piston is locked, the lock may not be released or the piston rod may suddenly pop out just after the lock is released. This can be extremely hazardous. To release the lock mechanism, make sure to supply pressure to port B. Check that load is not applied to the lock mechanism.



- For usage where the drop rate is increased using the quick exhaust valve, the lock may not release normally because the cylinder body starts operating before the lock pin. For the position locking cylinder, do not use the quick exhaust valve.
- Do not use 3-position valves.
Do not use the cylinder by combining with the 3-position (especially, closed center metal seal) valves. If the port at the side where the lock mechanism is provided is pressurized, the lock cannot be engaged.

Even if it is locked once, the air leaked from the valve may enter the cylinder, and the lock may be released after a certain period of time.

⚠ 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 may be damaged.
- If back pressure is applied to the locking mechanism, the lock may be released. Use a single valve, or an individual exhaust manifold.
- Do not use multiple synchronized cylinders.
Do not use so that 1 workpiece is moved by synchronizing 2 or more position locking cylinders. Lock release may fail for one of the cylinders.

4. Coolant proof STG-MG²₃

⚠ CAUTION

- Do not apply an eccentric load to the piston rod.
The service life of the scraper or bearing could be shortened.
- If the piston rod is not exposed to splattered coolant or water, use the G or G1 Series.
In the case that the G2 or G3 Series are not exposed to splattering of coolant or water, the lubrication of the piston rod will run out and the service life will be shortened.

5. Anti-spatter adherence STG-^M_BG4

⚠ CAUTION

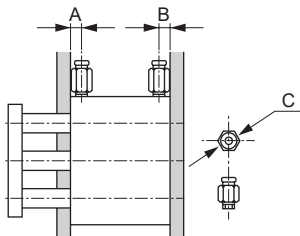
- The durability of this cylinder series is improved in comparison to standard cylinders when used in an atmosphere exposed to spatter. But durability may be shorter than the standard cylinder when used in other atmospheres.

Mounting, installation and adjustment

1 . Common

⚠ CAUTION

- Be sure to attach a speed controller during piping before use. The available fittings are as below.



Item	Port size	Port position		Applicable fittings	Fitting O.D.
		A	B		
ø12	M 5 x 0.8	12	7	SC3W-M5-4 SC3W-M5-6 GWS4-M5-S	ø12 or less
ø16		12	7.5		
ø20	Rc1/8	10.5	8.5	SC3W-6-4/6/8 GWS 4-6 GWS 6-6 GWS 8-6 GWL4-6 GWL6-6	ø15 or less
ø25		11.5	9		
ø32		12.5	9		
ø40		14	10		
ø50	Rc1/4	14	11	SC3W-8-6/8/10 GWS4-8 GWS6-8 GWS10-8 GWS12-8 GWL4 to 12-8	ø21 or less
ø63		16.5	15		
ø80	Rc3/8	19	15	SC3W-10-8/10/12 GWS6-10 GWS8-10 GWS 10-10 GWL6 to 12-10	ø28 or less
ø100	Rc3/8	17	19	SC3W-10-8/10/12 GWS6-10 GWS8-10 GWS 10-10 GWL6 to 12-10	ø28 or less

- Do not damage surface flatness by denting or scratching the tube main body mounting surface or the end plate surface in order to increase sliding resistance. Make sure that the flatness of the mating surface where the end plate will be attached is 0.03 mm or below. If it is difficult to ensure the above flatness, insert a shim (customer-provided) between the end plate and workpiece and adjust the clearance. This may prevent an increase in sliding resistance.

- When mounting the body with the through bolt, tighten with tightening torque as shown in the table below.

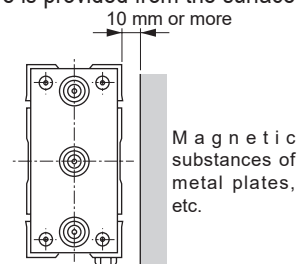
ø12	1.5 to 2.7 N·m
ø16	
ø20/ø25	3 to 5.4 N·m
ø32/ø40	5.2 to 9.2 N·m
ø50/ø63	12.5 to 22 N·m
ø80	24.5 to 44 N·m
ø100	42 to 76 N·m

- Allowable absorbed energy value

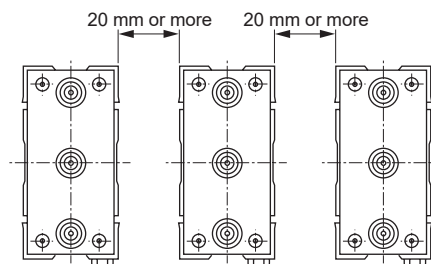
Use this cushion within the range of the allowable absorbed energy. When the unit will be used where the allowable absorbed energy will be exceeded, provide a separate external shock absorber. For details on the allowable absorbed energy value, refer to the specification field or selection guide.

- The cylinder switch may malfunction if there is a magnetic substance such as a metal plate installed adjacently. Check that a distance of 10 mm or more is provided from the surface of the cylinders.

(All bore sizes common)



- The cylinder switch may malfunction if cylinders are installed adjacently. Check that the following distances are provided between cylinders. (All bore sizes common)



- Do not rotate the piston rod, except when disassembling the product for maintenance, etc. Do not rotate the piston rod, as misalignment may occur, destabilizing operation.

2 . Position locking

⚠ CAUTION

- The lock mechanism functions on the stroke end, so that if the stopper is engaged during the stroke by the external stopper, the lock mechanism may not work and the piston could fall. When setting a load, make sure to check that the lock mechanism functions before installing the product.

- Supply pressure equal to or higher than the min. working pressure to the port on the lock mechanism side.

- When the piping at the side where the lock mechanism is provided is long and thin, or when the speed controller is far away from the cylinder port, note that it takes time to engage the lock. Note that clogging in the silencer mounted on the EXH port of the valve may cause the same result.

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

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

3. Clean-room specifications

CAUTION

- Open the package in a cleanroom.
 - This product is packed in a cleanroom. The package should be opened just before piping in the cleanroom.

Use/maintenance

1. Rubber air-cushioned STG-M^B-*C

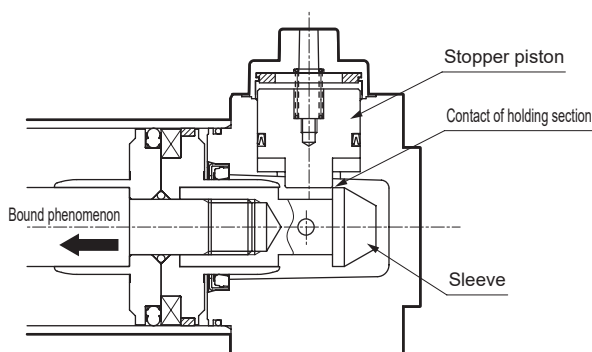
CAUTION

- Do not rapidly discharge air from the cylinder after performing low speed operation outside the catalog specifications range. (Example: Removing piping or coupler, etc.) Otherwise the rubber air cushion may fall. Note that the possibility of occurrence of this may increase especially when the air pressure is high.

2. Position locking STG-M^BQ

WARNING

- For safety purposes, prevent the load from falling under its own weight during maintenance.
- In the case of the cylinder with air cushion, if the air cushion needle at the lock mechanism side is tightened excessively, the piston bounds at the stroke end and the sleeve and stopper piston collide strongly, which may result in damage to the locking mechanism. Also, if the air cushion needle is opened too much, the piston bounces off at the stroke end, which may similarly damage the mechanism. Adjust the needle of the air cushion so that there is no bound.



- When stopping the piston with an external buffer device (shock absorber, etc.), adjust it similarly so that there is no bound. Inspect the piston once or twice a year to make sure there is no damage to the retainer caused by this phenomenon.

CAUTION

- After the lock mechanism is manually operated, make sure to confirm manual operation and return the mechanism to the original state before use. Do not perform manual operation except for adjustment, as it is dangerous.
- When mounting or adjusting the cylinder, release the lock. If mounting work, etc., is done while the lock is engaged, the lock part may be damaged.
- Use the speed controller with meter-out. If the meter-in control is used, the lock may not be able to be released.
- At the side where the lock mechanism is attached, be sure to use the cylinder from the stroke end. If the cylinder piston does not reach the stroke end, the lock may not be engaged or the lock may not be able to be released.

3. Clean-room specifications

WARNING

- Fluorine grease is used for P7 Series. Smoking with hands smeared with fluorine grease could generate harmful gases and cause physical harm.

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

MEMO

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

Series variation

Guided cylinder STG-K Series

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

Load-resistant, shock-resistant STG-K Series

The robust guide rod is tough enough to withstand a high impact.

Powerful

STG-K



- More resistant to load and shock than the conventional guided cylinders. (Compared with our STG-M Series)
- The improved fastening mechanism combines the guide rod and end plate tightly.

Shock resistance ranked two levels higher!

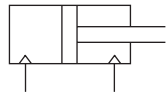
STG-K ø32
(Guide rod diameter 25 mm)

STG-M Series
Covers ø32/40/50
(Guide rod diameter 20 to 25 mm)

STG-K ø50
(Guide rod diameter 30 mm)

STG-M Series
Covers ø50/63/80
(Guide rod diameter 25 to 30 mm)

●: Standard, ○: Option

Variation	Model No. JIS symbol	Bore size (mm)	Standard stroke length (mm)							Min. stroke length (mm) *1	Max. stroke length (mm)	Custom stroke length (per mm) *2	Switch	Page
			25	50	75	100	125	150	175					
Double acting/ guide rod	STG-K 	ø32/ø50	●	●	●	●	●	●	●	5 (10)	200	5	○	432

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

*2 : Custom stroke is handled by attaching a spacer to the standard stroke length cylinder.
For dedicated bodies corresponding to stroke length, contact CKD separately.

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

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



Guided cylinder, double acting/heavy duty guide rod

STG-K Series

● Bore size: $\varnothing 32$, $\varnothing 50$

JIS symbol



Specifications

Item	STG-K	
Bore size	mm	$\varnothing 32$ $\varnothing 50$
Actuation	Double acting	
Working fluid	Compressed air	
Max. working pressure	MPa	1.0 (≈ 150 psi, 10 bar)
Min. working pressure	MPa	0.1 (≈ 15 psi, 1 bar) *1
Proof pressure	MPa	1.6 (≈ 230 psi, 16 bar)
Ambient temperature	$^{\circ}\text{C}$	-10 (14 $^{\circ}\text{F}$) to 60 (140 $^{\circ}\text{F}$) (no freezing)
Port size		Rc1/8 Rc1/4
Stroke tolerance	mm	+2.0
		0
Working piston speed	mm/s	50 to 400
Cushion	With rubber cushion	
Lubrication	Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)	
Allowable absorbed energy	J	0.401 0.980

*1: For rubber-air cushion, this value will be 0.2 MPa.

Stroke length

Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)	Min. stroke with switch (mm)
25/50/75/100/125/150/175/200	200	5	5(10) *2

*1: The custom stroke length is available in 5 mm increments.

However, the total length is the same as that of the next longer standard stroke length.

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

Switch specifications

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

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

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

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

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

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

Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa										
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø32	Push	80.4	1.21x10 ²	1.61x10 ²	2.41x10 ²	3.22x10 ²	4.02x10 ²	4.83x10 ²	5.63x10 ²	6.43x10 ²	7.24x10 ²	8.04x10 ²
	Pull	60.3	90.5	1.21x10 ²	1.81x10 ²	2.41x10 ²	3.02x10 ²	3.62x10 ²	4.22x10 ²	4.83x10 ²	5.43x10 ²	6.03x10 ²
ø50	Push	1.96x10 ²	2.95x10 ²	3.93x10 ²	5.89x10 ²	7.85x10 ²	9.82x10 ²	1.18x10 ³	1.37x10 ³	1.57x10 ³	1.77x10 ³	1.96x10 ³
	Pull	1.65x10 ²	2.47x10 ²	3.30x10 ²	4.95x10 ²	6.60x10 ²	8.25x10 ²	9.90x10 ²	1.15x10 ³	1.32x10 ³	1.48x10 ³	1.65x10 ³

Cylinder weight

Unit: kg

Item	Stroke length								Switch weight
	25	50	75	100	125	150	175	200	
ø32	2.36	2.86	3.54	4.04	4.53	5.03	5.53	6.03	Refer to the weight in the switch specifications.
ø50	3.90	4.64	5.64	6.38	7.13	7.87	8.61	9.36	

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

STG-K Series

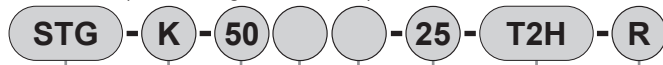
- LCM
- LCR
- LCG
- LCW
- L CX
- STM
- STG**
- STS/STL
- STR2
- UCA2
- ULK*
- JSK/M2
- JSG
- JSC3/JSC4
- USSD
- UFCD
- USC
- UB
- JSB3
- LMB
- LML
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- CAC4
- UCAC2
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- RCC2
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- SHC
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- RRC
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- Hand
- Chuk
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- ShkAbs
- FJ
- FK
- SpdContr
- Ending

How to order

Without switch (built-in magnet for switch)



With switch (built-in magnet for switch)



Model No.

A Variation

B Bore size

C Port thread

D Cushion

E Stroke length

F Switch model No.

*1

*2

■ Custom stroke length
Available in 5 mm increments. However, the total length is the same as that of the next longer standard stroke length.

⚠ Precautions for model No. selection

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

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

[Example of model No.]

STG-K-50-50-T0H-D

Model: Guided cylinder
Double acting/heavy duty guide rod

A Variation : Heavy duty guide rod (metal bush bearing)

B Bore size : $\phi 50$ mm

C Port thread : Rc thread

D Cushion : With rubber cushion

E Stroke length : 50 mm

F Switch model No. : Reed T0H switch, lead wire 1m

G Switch quantity : 2

G Switch quantity

Code	Description					
A Variation						
K	Heavy duty guide rod (metal bush bearing)					
B Bore size (mm)						
32	$\phi 32$					
50	$\phi 50$					
C Port thread						
Blank	Rc thread					
NN	NPT thread (made-to-order product)					
GN	G thread (made-to-order product)					
D Cushion						
Blank	With rubber cushion					
C	Rubber-air cushioned					
E Stroke length (mm)						
25, 50, 75, 100, 125, 150, 175, 200						
F Switch model No.						
Axial lead wire	Radial lead wire	Contact	Voltage		Display	Lead wire
			AC	DC		
T0H*	T0V*	Reed	●	●	1-color display	2-wire
T5H*	T5V*		●	●	Without indicator lamp	
T8H*	T8V*		●	●	1-color display	
T1H*	T1V*	Proximity	●		1-color display	2-wire
T2H*	T2V*			●		
T3H*	T3V*			●	1-color display (PNP output)	3-wire
T3PH*	T3PV*			●		
T2YH*	T2YV*			●		
T2WH*	T2WV*			●		
T3YH*	T3YV*		●	2-color display	3-wire	
T3WH*	T3WV*		●			
T2JH*	T2JV*		●	1-color display off-delay	2-wire	
T2YD*	-		●	2-color display	2-wire	
T2YDT*	-		●	AC magnetic field		
* Lead wire length						
Blank	1 m (standard)					
3	3 m (option)					
5	5 m (option)					
G Switch quantity						
R	1 on rod side					
H	1 on head side					
D	2					
T	3					

How to order switch

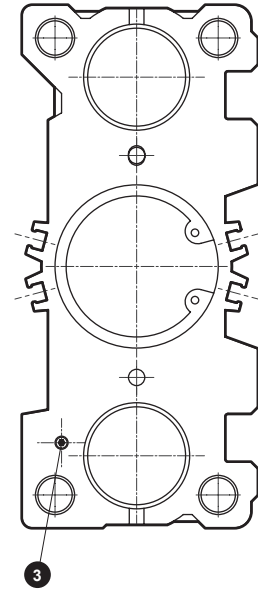
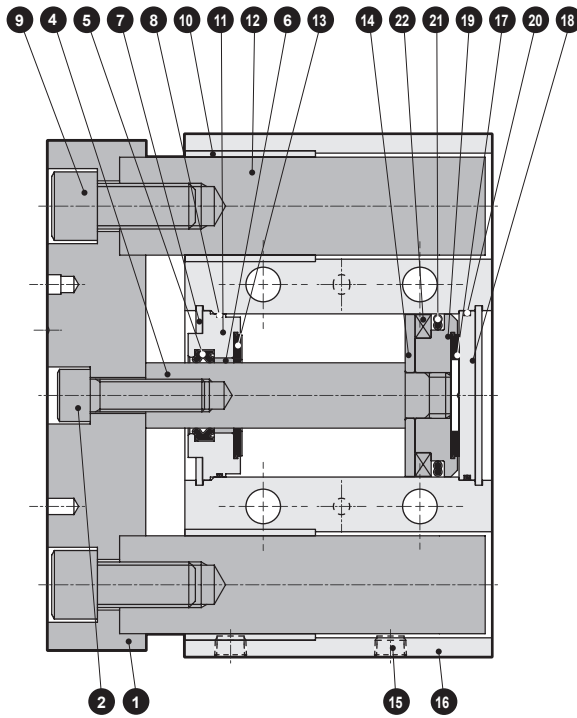


Switch model No.
(Item **F** above)

CKD

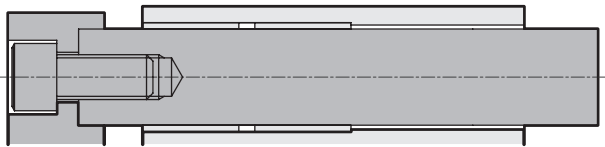
Internal structure and parts list

● $\phi 32, \phi 50$
 · 50 or less stroke length



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

· Over 50 stroke length



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	End plate	Steel	Nickeling	12	Guide rod	Steel	Industrial chrome plating
2	Hexagon socket head cap screw	Steel	Black finish	13	Cushion rubber	Urethane rubber	
3	Hexagon socket set screw	Stainless steel		14	Spacer	Aluminum alloy	
4	Piston rod	Steel	Industrial chrome plating	15	Plug	Steel	
5	Rod packing	Nitrile rubber		16	Cylinder body	Aluminum alloy	Hard alumite
6	Bush	Oiles drymet	$\phi 50$ only	17	Cushion rubber	Urethane rubber	
7	C type snap ring for hole	Steel	Zinc phosphate	18	Cover	Aluminum alloy	Chromate
8	O-ring	Nitrile rubber		19	Piston	Aluminum alloy	
9	Hexagon socket head cap screw	Steel	Black finish	20	O-ring	Nitrile rubber	
10	Metal	Oil-impregnated copper alloy bearing		21	Piston packing	Nitrile rubber	
11	Rod metal	Aluminum alloy	$\phi 32$: Hard alumite $\phi 50$: Chromate	22	Magnet		

Repair parts list

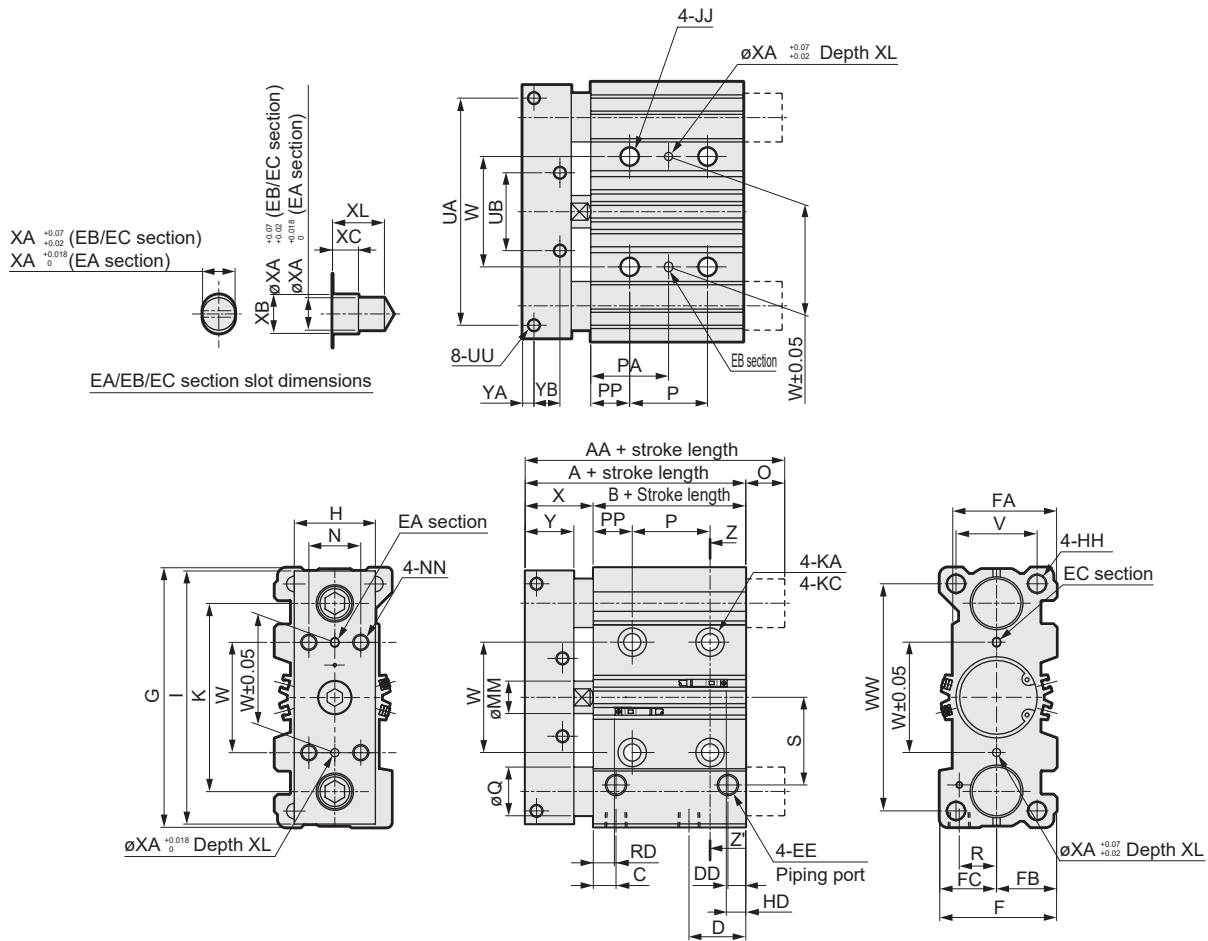
Bore size (mm)	Kit No.	Repair parts No.
$\phi 32$	STG-32K	5 8 13
$\phi 50$	STG-50K	17 20 21

STG-K Series

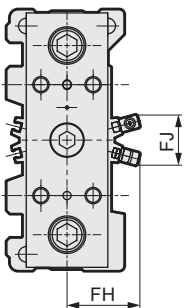
Dimensions



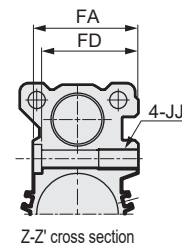
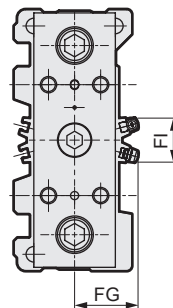
● STG-K- ϕ 32, ϕ 50



● T1H/V, T2YD, T2YDT



● T2YH/V, T3YH/V, T2JH/V, T8H/V



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

Code	A	AA		B	C	D	DD	EE	F	FA	FB	FC	FD	G	H	HH
		25, 50st	Over 50 st													
ϕ 32	72	72	90.5	37.5	12.5	30.5	9	Rc1/8	54	47	27	27	42	130	44	M10 depth 18
ϕ 50	86	86	109	44	14	35	11	Rc1/4	72	64	37	35	59	160	50	M12 depth 20
Code	I	JJ	K	KA	KC	MM	N	NN	O		P			PA		
									25, 50st	Over 50 st	25st	50, 75, 100st	Over 100 st	25st	50, 75, 100st	
ϕ 32	126	M10 depth 20	88	8.6 through	14 spot face depth 5	16	24	M8 depth 16	0	18.5	24	48	124	33	45	
ϕ 50	156	M12 depth 24	116	10.6 through	17.5 spot face depth 5	20	32	M10 depth 20	0	23	24	48	124	36	48	
Code	PA	PP	Q	R	S	UA	UB	UU	V	W	WW	X	XA	XB	XC	XL
ϕ 32	83	21	25	18	39.5	112	27	M6 depth 10	37	44	113	$34.5_{-0.2}^0$	4	4.5	3	6
ϕ 50	86	24	30	23	54	140	48	M8 depth 14	50	68	140	$42_{-0.2}^0$	5	6	4	8
Code	Y	YA	YB	T0H/V, T2H/V, T3H/V, T5/V		T1H/V, T2YH/V, T3YH/V, T2JH/V, T2YD		T2WH/V, T3WH/V		T8H/V		FG	FH	FI	FJ	
				RD	HD	RD	HD	RD	HD	RD	HD					
ϕ 32	25	6	13	10	8.5	9	7.5	12	10.5	4	2.5	30	36	22	26	
ϕ 50	30	7	16	13.5	11.5	12.5	10.5	15.5	13.5	7.5	5.5	39	45	27	31	

MEMO

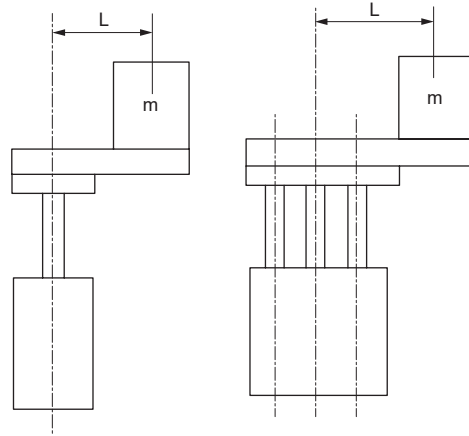
LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

Selection guide

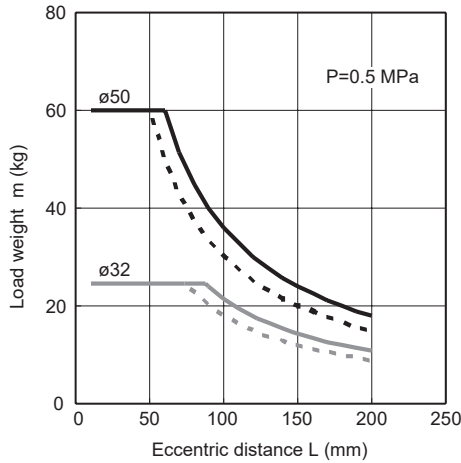
For vertical installation

● As for the total load weight, select so that the ratio of the load to the theoretical thrust is within the values in the table below.

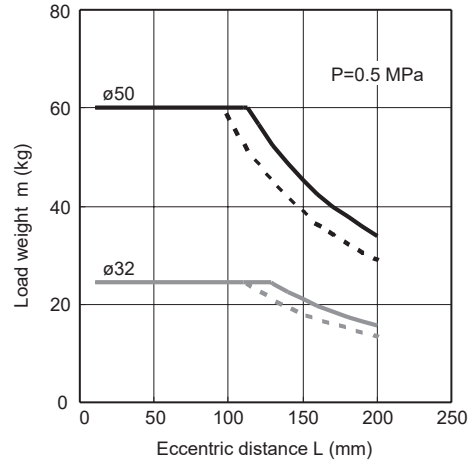
Item	Load factor for theoretical thrust					
<table border="1"> <tr> <th>Bore size (mm)</th> <th>Load factor for theoretical thrust</th> </tr> <tr> <td>ø32</td> <td rowspan="2">60% or less</td> </tr> <tr> <td>ø50</td> </tr> </table>	Bore size (mm)	Load factor for theoretical thrust	ø32	60% or less	ø50	
Bore size (mm)	Load factor for theoretical thrust					
ø32	60% or less					
ø50						



● 50 mm or less stroke length

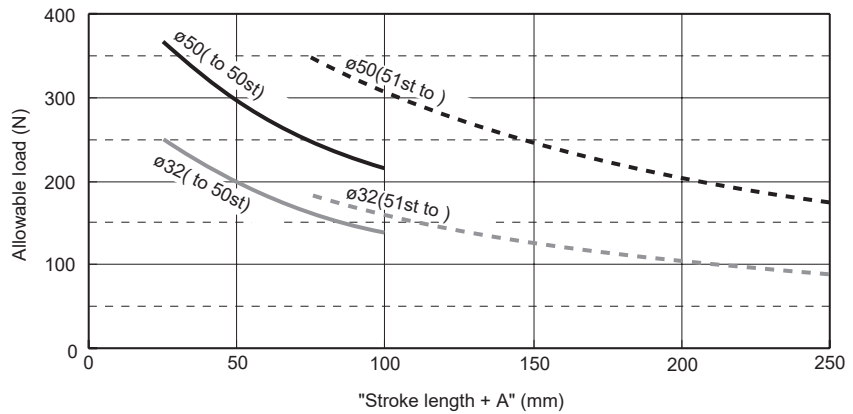
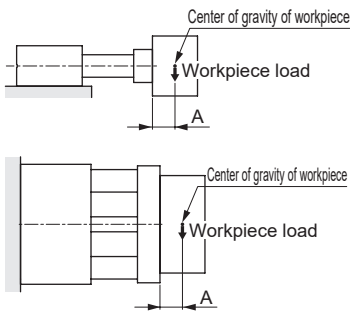


● Over 50 mm stroke length



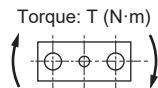
*1 : For operation at low speed, select the model within the dotted line as a guide.

Allowable lateral load

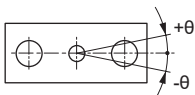


The allowable lateral load is a value for when the load is acting on the end surface of the end plate. When the center of gravity of the workpiece mounted on the end plate will be moved, substitute this distance for the stroke length before selection.

Allowable torque



Non-rotating accuracy



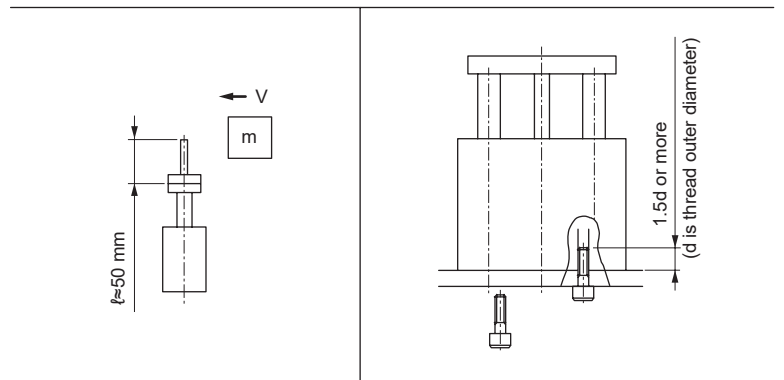
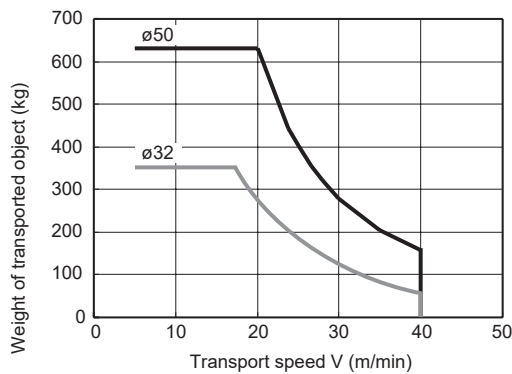
Item	Stroke length (mm)							
	25	50	75	100	125	150	175	200
ø32	8.0	6.3	6.6	5.7	5.1	4.5	4.1	3.7
ø50	15	12	17	15	13	12	11	10

Unit: N·m

Item	Non-rotating accuracy θ (degrees)
ø32	±0.05
ø50	

Selection guide

Specified range when using the product as a stopper



⚠ Safety precautions

- *1 : When using the cylinder as a stopper, select a model with 50 mm stroke or less.
- *2 : Make sure that the total length of the stopper section l is 50 mm or less.
- *3 : Make sure that the screw insertion depth of the bolt is $1.5d$ or more when fixing the cylinder body and consider countermeasures for preventing looseness (adhesive, spring washer, etc.).

Movable part weight table

Unit: kg

Item	Stroke length							
	25	50	75	100	125	150	175	200
ø32	1.62	1.85	2.24	2.47	2.71	2.94	3.17	3.40
ø50	2.71	3.05	3.66	4.00	4.34	4.68	5.01	5.35

Allowable absorbed energy calculation

Calculate the kinetic energy of the load that is actually to be used, and confirm whether it can be absorbed by the allowable absorbed energy of cylinder or not.

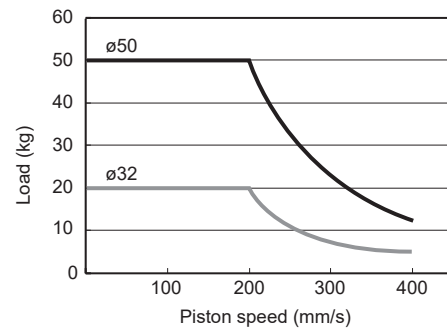
- To obtain the allowable absorbed energy of cylinder (E), use the value in the graph at right.
- Formula for calculating kinetic energy of load

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

W1: Applied load (kg) W2: Movable part weight of cylinder (kg)
V: Cylinder speed (m/s)

Allowable absorbed energy value

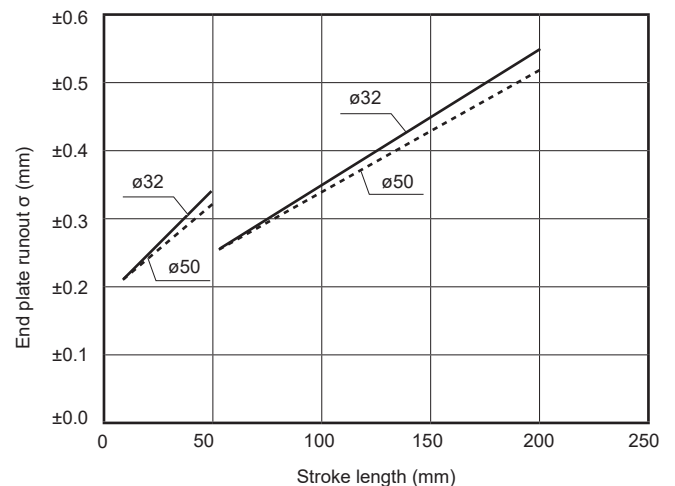
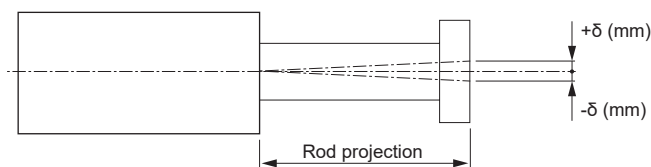
Use in the range below and to the left of the curve. For use in the upper right range, provide an external shock absorber.



Deflection

For the runout amount σ that is produced at the end of the end plate when no load is applied, the value in the graph below is used as a guide.

(Excluding sag of guide rod)





Safety Precautions

Be sure to read this section before use.

Refer to Intro Page 73 for general information of the cylinder, and to Intro Page 80 for general information of the cylinder switch.

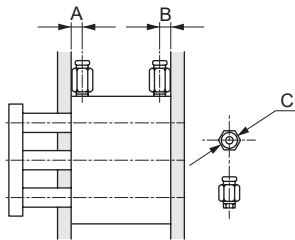
Product-specific cautions: Guided cylinder, heavy duty guide rod STG-K Series

Mounting, installation and adjustment

1. Common

CAUTION

- Be sure to attach a speed controller during piping before use. The available fittings are as below.



Item	Port size	Port position		Applicable fittings	Fitting O.D. øC
		A	B		
ø32	Rc1/8	12.5	9	SC3W-6-4/6/8 GWS4-6 GWS6-6 GWS8-6 GWL4-6 GWL6-6	ø15 or less
ø50	Rc1/4	14	11	SC3W-8-6/8/10 GWS4-8 GWS6-8 GWS10-8 GWS12-8 GWL4 to 12-8	ø21 or less

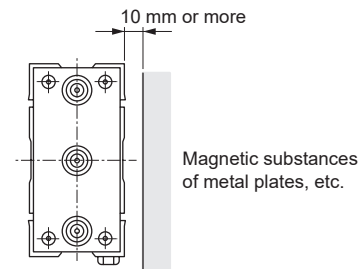
- Do not damage surface flatness by denting or scratching the tube main body mounting surface or the end plate surface in order to increase sliding resistance. Make sure that the flatness of the mating surface where the end plate will be attached is 0.03 mm or below. If it is difficult to ensure the above flatness, insert a shim (customer-provided) between the end plate and workpiece and adjust the clearance. This may prevent an increase in sliding resistance.

- When mounting the body with the through bolt, tighten with tightening torque as shown in the table below.

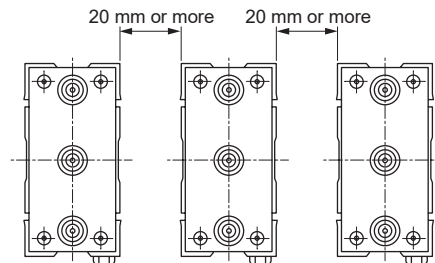
ø32	12.5 to 22 N·m
ø50	24.5 to 44 N·m

- Allowable absorbed energy value
Use this cushion within the range of the allowable absorbed energy. When the unit will be used where the allowable absorbed energy will be exceeded, provide a separate external shock absorber. For details on the allowable absorbed energy value, refer to the specification field or selection guide.

- The cylinder switch may malfunction if there is a magnetic substance such as a metal plate installed adjacently. Check that a distance of 10 mm or more is provided from the surface of the cylinders. (All bore sizes common)



- The cylinder switch may malfunction if cylinders are installed adjacently. Check that the following distances are provided between cylinders. (All bore sizes common)



- Do not rotate the piston rod, except when disassembling the product for maintenance, etc. Be sure not to rotate the piston rod, as misalignment may occur, destabilizing operation.

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