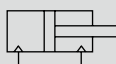


Stopper cylinder double acting/round rod end form

STK Series

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

JIS symbol



Double acting



Specifications

1 MPa = 10 bar

| Descriptions | STK | | | | |
|---------------------------|--------------------|--|--------------------------------|-----------|-----------|
| | mm | $\phi 20$ | $\phi 32$ | $\phi 40$ | $\phi 50$ |
| Bore size | mm | $\phi 20$ | $\phi 32$ | $\phi 40$ | $\phi 50$ |
| 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) | 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 | | | |
| Cushion | | With rubber cushion | | | |
| Lubrication | | Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication) | | | |
| Rod end form | | Round rod type | | | |
| Allowable absorbed energy | J | Refer to page 1544. | | | |

Stroke length

| Bore size (mm) | Stroke length (mm) | Max. stroke length (mm) | Min. stroke length (mm) | Min. stroke with switch (mm) |
|----------------|--------------------|-------------------------|-------------------------|------------------------------|
| $\phi 20$ | 10, 15, 20 | 20 | 10 | 10 |
| $\phi 32$ | | | | |
| $\phi 40$ | 20, 25, 30 | 30 | 20 | 20 |
| $\phi 50$ | | | | |

Note: Products other than standard stroke length are custom order products.

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/
COVPIN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/
MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd
Contr
Ending

Switch specifications

- 1-color/2-color display

| Descriptions | Proximity 2-wire | | Proximity 2-wire | | | | Proximity 3-wire | | | | Reed 2-wire | | | | | | | | | | | | | |
|-----------------|--|-----------------------|---------------------------------------|---------------|--------------------------------|-----------------------|------------------------------------|---------------|-----------------------------|---------|------------------------------------|---------|--|--|------------------------------------|--|-----------------------------|--|------------------------|--|----------------------|--|------------|--|
| | T1H/T1V | T2H/T2V/ T2JH/T2JV | T2YH/ T2YV | T2WH/ T2WV | T3H/ T3V | T3PH/T3PV (custom) | T3YH/ T3YV | T3WH/ T3WV | T0H/T0V | T5H/T5V | | T8H/T8V | | | | | | | | | | | | |
| Applications | For programmable controller, relay, compact solenoid valve | | Dedicated for programmable controller | | | | For programmable controller, relay | | | | For programmable controller, relay | | For programmable controller, relay (no lamp), serial | | For programmable controller, relay | | | | | | | | | |
| 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 | | 24VDC ±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 | |
| Load current | 5 to 100 mA | | 5 to 20 mA (*2) | | | | 100 mA or less | | 50 mA or less | | 5 to 50 mA | | 7 to 20 mA | | 50 mA or less | | 20 mA or less | | 5 to 50 mA | | 7 to 20 mA | | 7 to 10 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) | | | |
| Leakage current | ≤ 1 mA at 100 VAC, ≤ 2 mA at 200 VAC | | 1 mA or less | | | | 10 µA or less | | | | 0 mA | | | | | | | | | | | | | |
| 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: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: Refer to Ending Page 1 for other switch specifications.

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

*3: The T0/T5 switch can also be used with 220 VAC. Contact CKD about working conditions.

*4: Dimensions depend on switch model No. Refer to Ending Page 18 for details.

Cylinder weight table

(Unit: g)

| Stroke length | 10 | 15 | 20 | 25 | 30 | Switch weight (Grommet) |
|---------------|-----|-----|------|------|------|---|
| φ20 | 214 | 229 | 243 | - | - | Refer to the weight in the switch specifications. |
| φ32 | 438 | 463 | 488 | - | - | |
| φ40 | - | - | 793 | 834 | 875 | |
| φ50 | - | - | 1285 | 1311 | 1337 | |

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 |
| φ20 | 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 | - | - | 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 |
| φ32 | 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 | 49.0 | 73.5 | 98.0 | 1.47 × 10 ² | 1.96 × 10 ² | 2.45 × 10 ² | 2.94 × 10 ² | 3.43 × 10 ² | 3.92 × 10 ² | 4.41 × 10 ² | 4.90 × 10 ² |
| φ40 | 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 | 76.6 | 1.15 × 10 ² | 1.53 × 10 ² | 2.30 × 10 ² | 3.06 × 10 ² | 3.83 × 10 ² | 4.59 × 10 ² | 5.36 × 10 ² | 6.13 × 10 ² | 6.89 × 10 ² | 7.66 × 10 ² |
| φ50 | 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 | 1.26 × 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 |

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/
COVPIN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/
MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd
Contr
Ending

How to order

Without switch (built-in magnet for switch)

STK - **20** - **10** - **N11**

With switch (built-in magnet for switch)

STK - **20** - **10** - **T0H** - **R** - **N11**

A Bore size

B Port thread

C Stroke length

D Switch model No.

*1

*2

E Switch quantity

⚠ Precautions for model No. selection

*1 : Switches other than **D** Switch model No. are also available. (Custom order)
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.]

STK-20-10-T0H-R-N11

Model: Stopper cylinder double acting/round rod end form

A Bore size : φ20 mm

B Port thread : Rc thread

C Stroke length : 10 mm

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

E Switch quantity : 1 on rod side

F Option : With rod end female thread

F Option

| Code | Content |
|-------------------------|---------|
| A Bore size (mm) | |
| 20 | φ20 |
| 32 | φ32 |
| 40 | φ40 |
| 50 | φ50 |

| B Port thread | |
|----------------------|--|
| Blank | Rc thread |
| NN | NPT thread (φ32 and over) (custom order product) |
| GN | G thread (φ32 and over) (custom order product) |

| C Stroke length (mm) | | | | |
|-----------------------------|-----|-----|-----|-----|
| Bore size | φ20 | φ32 | φ40 | φ50 |
| 10 | 10 | ● | ● | |
| 15 | 15 | ● | ● | |
| 20 | 20 | ● | ● | ● |
| 25 | 25 | | | ● |
| 30 | 30 | | | ● |

| D 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 (custom order) | 3-wire |
| T3PH* | T3PV* | | | ● | | |
| T2WH* | T2WV* | | | ● | 2-color display | 2-wire |
| T2YH* | T2YV* | | | ● | | |
| T3WH* | T3WV* | | ● | | | |
| T3YH* | T3YV* | | ● | 1-color display off-delay | 2-wire | |
| T2JH* | T2JV* | | ● | | | |

| * Lead wire length (m) | |
|-------------------------------|----------------|
| 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 |

| F Option | |
|-----------------|----------------------------|
| Blank | Rod end no thread |
| N11 | With rod end female thread |

How to order switch

SW - **T0H**

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

Specifications for rechargeable battery

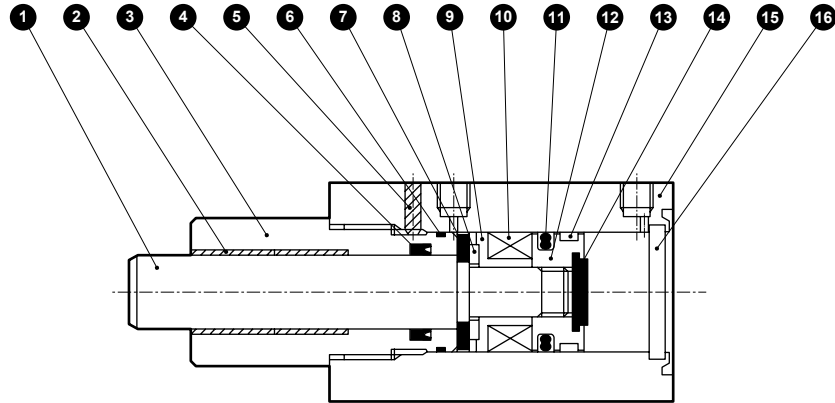
(Catalog No. CC-1226A)

● Design compatible with rechargeable battery manufacturing process

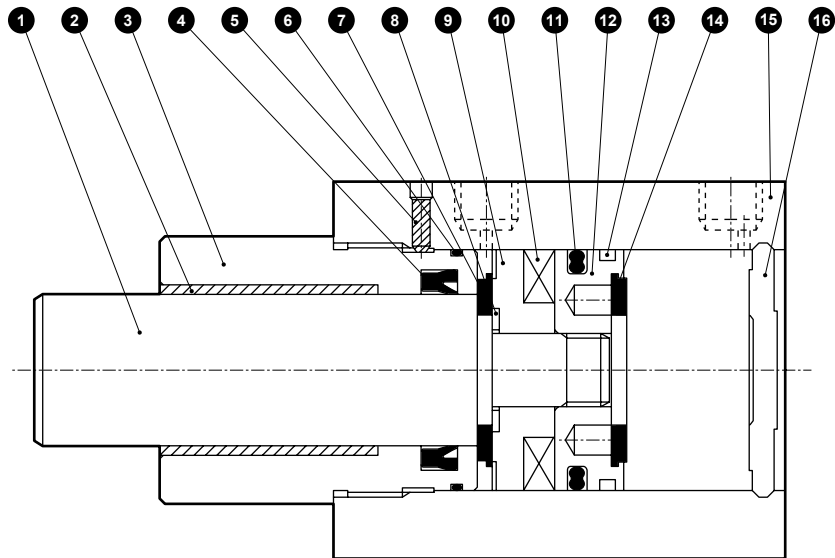
STK **P4***

Internal structure and parts list

● STK-20



● STK-32/40/50



| No. | Part name | Material | Remarks | No. | Part name | Material | Remarks |
|-----|--------------------------|---|---------------------------|-----|------------------|--|---------------------|
| 1 | Piston rod | φ20: Stainless steel φ32 to φ50: Steel | Industrial chrome plating | 9 | Spacer | Polyamide | |
| 2 | Bush | Dry bearing | | 10 | Magnet | Plastic | |
| 3 | Rod cover | Aluminum alloy | Alumite | 11 | Piston packing | Nitrile rubber | |
| 4 | Rod packing | Nitrile rubber | | 12 | Piston | Aluminum alloy | Chromate |
| 5 | Hexagon socket set screw | Steel | Black finish | 13 | Wear ring | Acetal resin | |
| 6 | Metal gasket | Nitrile rubber | | 14 | Cushion rubber H | Urethane rubber | |
| 7 | Cushion rubber R | Urethane rubber | | 15 | Body | Aluminum alloy | Hard alumite |
| 8 | Spacer washer | Stainless steel | | 16 | Cover | φ20: Stainless steel φ32 to φ50: Aluminum alloy | φ32 to 50: Chromate |

Repair parts list

| Bore size (mm) | Kit No. | Repair parts No. |
|----------------|---------|------------------|
| φ20 | STK-20K | |
| φ32 | STK-32K | 4 6 11 |
| φ40 | STK-40K | 13 14 |
| φ50 | STK-50K | |

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

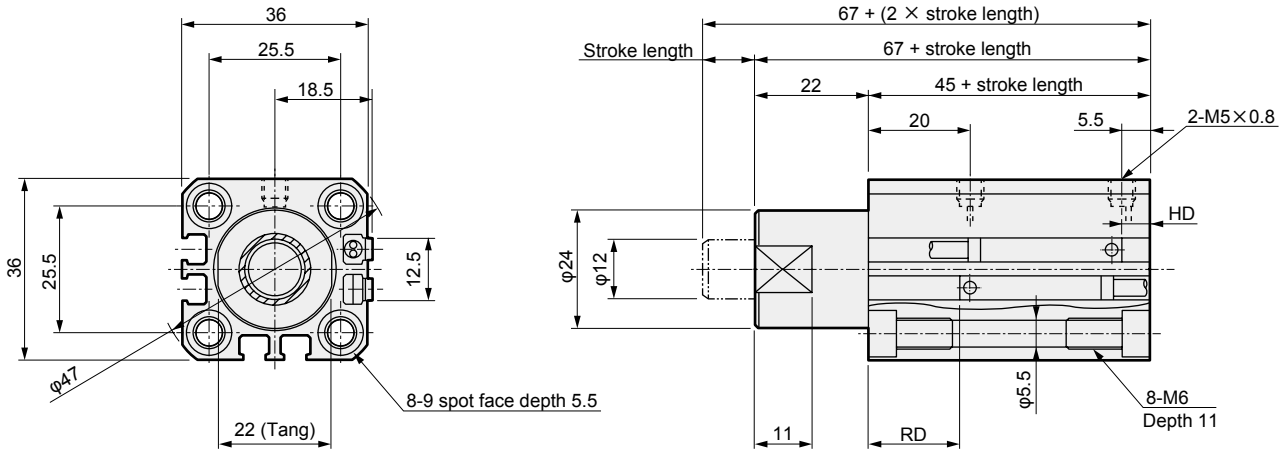
Spd
Contr

Ending

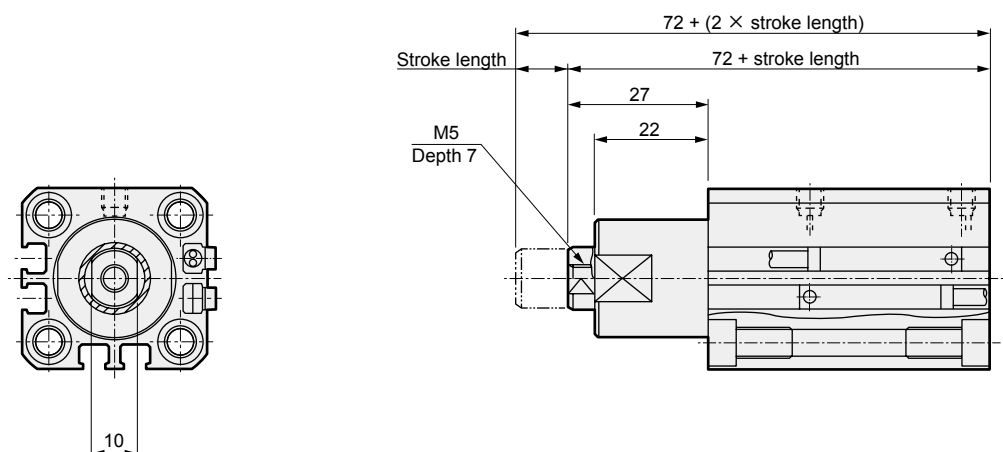


Dimensions

● STK-20



● STK-20-N11 (Dimensions other than displayed dimensions are the same as those of the above (STK-20).)



Dimensions with switch

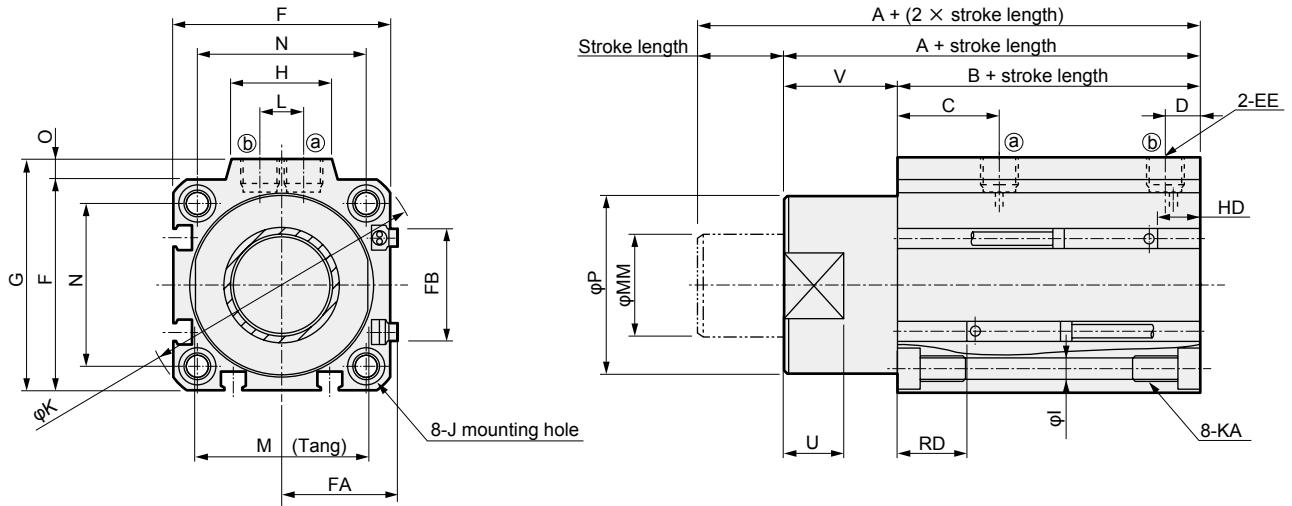
| Bore size | Reed T0H/T0V/T5H/T5V | | Proximity T2H/T2V/T3H/T3V | | Proximity T2WH/T2WV/T3WH/T3WV | |
|-----------|----------------------|----|---------------------------|----|-------------------------------|------|
| | HD | RD | HD | RD | HD | RD |
| φ20 | 5.5 | 21 | 5.5 | 21 | 7.0 | 22.5 |

Note: Refer to page 1541 for HD, RD and protruding dimensions of the 2-color display, off-delay, T1* and T8* switches.

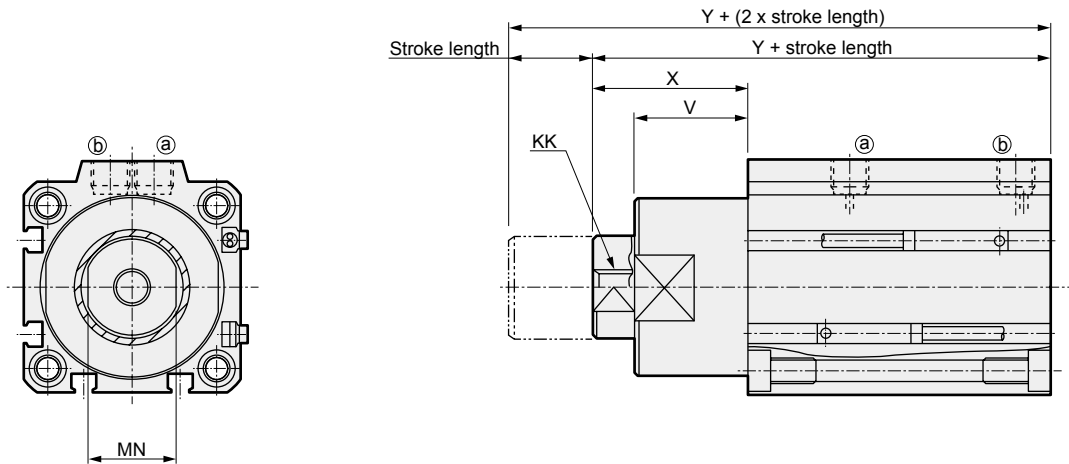
Dimensions



● STK-32/40/50



● STK-32/40/50-N11 (Dimensions other than displayed dimensions are the same as those of the above (STK-32/40/50).)

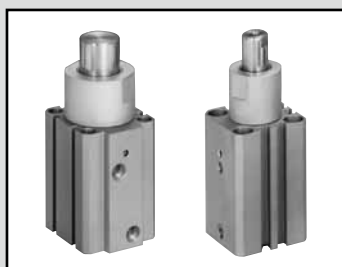


| Code | A | B | C | D | EE | F | FA | FB | G | H | I | J | K | KA | KK | L | M | MM | MN | N | O | P | U | V | X | Y |
|------|------|------|------|------|-------|----|------|------|------|----|-----|------------------------|----|-------------|--------------|----|----|----|----|----|-----|----|----|----|----|------|
| φ32 | 68 | 48 | 20 | 8 | Rc1/8 | 45 | 23 | 20.5 | 49.5 | 24 | 5.5 | 9 spot face depth 5.5 | 60 | M6 depth 11 | M8 depth 13 | 10 | 32 | 20 | 17 | 34 | 4.5 | 36 | 13 | 20 | 30 | 78 |
| φ40 | 80.5 | 52.5 | 24.5 | 8.5 | Rc1/8 | 52 | 26.5 | 27.5 | 57 | 24 | 5.5 | 9 spot face depth 5.5 | 69 | M6 depth 11 | M8 depth 13 | 10 | 41 | 25 | 22 | 40 | 5 | 44 | 15 | 28 | 38 | 90.5 |
| φ50 | 82 | 54 | 24.5 | 10.5 | Rc1/4 | 64 | 32.5 | 28.5 | 71 | 33 | 6.9 | 11 spot face depth 6.5 | 86 | M8 depth 13 | M10 depth 15 | 15 | 50 | 30 | 27 | 50 | 7 | 56 | 15 | 28 | 43 | 97 |

| Dimensions with switch | | | | | | |
|------------------------|----------------------|----|---------------------------|----|-------------------------------|------|
| Bore size | Reed T0H/T0V/T5H/T5V | | Proximity T2H/T2V/T3H/T3V | | Proximity T2WH/T2WV/T3WH/T3WV | |
| | HD | RD | HD | RD | HD | RD |
| φ32 | 9.5 | 21 | 9 | 21 | 10.5 | 22.5 |
| φ40 | 10.5 | 24 | 10.5 | 24 | 12 | 25.5 |
| φ50 | 11.5 | 24 | 11.5 | 24 | 13 | 25.5 |

Note: Refer to page 1541 for HD, RD and protruding dimensions of the 2-color display, off-delay, T1* and T8* switches.

- SCP*3
- CMK2
- CMA2
- SCM
- SCG
- SCA2
- SCS2
- CKV2
- CAV2/COVP/N2
- SSD2
- SSG
- SSD
- CAT
- MDC2
- MVC
- SMG
- MSD/MSDG
- FC*
- STK**
- SRL3
- SRG3
- SRM3
- SRT3
- MRL2
- MRG2
- SM-25
- ShkAbs
- FJ
- FK
- Spd Contr
- Ending



Stopper cylinder single acting/pull, round rod end form

STK-Y Series

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



Single acting/pull



Specifications

1 MPa = 10 bar

| Descriptions | STK-Y | | | | |
|---------------------------|--------------------|--|-----------------------------------|-----------|-----------|
| | mm | $\phi 20$ | $\phi 32$ | $\phi 40$ | $\phi 50$ |
| Actuation | | Single acting pull | | | |
| Working fluid | | Compressed air | | | |
| Max. working pressure | MPa | 1.0 (≈ 150 psi, 10 bar) | | | |
| Min. working pressure | MPa | 0.22 (≈ 32 psi) | 0.12 (≈ 17 psi, 1.2 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 | | M5 | Rc1/8 | Rc1/4 | |
| Stroke tolerance | mm | +2.0 | | | 0 |
| Working piston speed | mm/s | 50 to 500 | | | |
| Cushion | | With rubber cushion | | | |
| Lubrication | | Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication) | | | |
| Rod end form | | Round rod type | | | |
| Allowable absorbed energy | J | Refer to page 1544. | | | |

Stroke length

| Bore size (mm) | Stroke length (mm) | Max. stroke length (mm) | Min. stroke length (mm) | Min. stroke with switch (mm) |
|----------------|--------------------|-------------------------|-------------------------|------------------------------|
| $\phi 20$ | 10, 15, 20 | 20 | 10 | 10 |
| $\phi 32$ | | | | |
| $\phi 40$ | 20, 25, 30 | 30 | 20 | 20 |
| $\phi 50$ | | | | |

Note: Products other than standard stroke length are custom order products.

Spring load

(Unit: N)

| Bore size (mm) | Stroke length (mm) | When stroke length = 0 | At full stroke length operation |
|----------------|--------------------|------------------------|---------------------------------|
| $\phi 20$ | 10 | 11.5 | 14.7 |
| | 15 | 9.9 | |
| | 20 | 8.2 | |
| $\phi 32$ | 10 | 24.5 | 31.4 |
| | 15 | 21.1 | |
| | 20 | 17.6 | |
| | 20 | 29.0 | |
| $\phi 40$ | 25 | 25.3 | 44.4 |
| | 30 | 21.5 | |
| | 20 | 55.4 | |
| $\phi 50$ | 25 | 48.0 | 84.8 |
| | 30 | 40.7 | |

Switch specifications

- 1-color/2-color display

| Descriptions | Proximity 2-wire | | Proximity 2-wire | | | | Proximity 3-wire | | | | Reed 2-wire | | | | | | | |
|-----------------|--|-----------------------|---------------------------------------|--------------------------------|--------------------------------|-----------------------|------------------------------------|--------------------------------|--------------------------------|------------------------|------------------------------------|------------------------|--|----------------------|------------------------------------|------------|------------|--|
| | T1H/T1V | T2H/T2V/ T2JH/T2JV | T2YH/ T2YV | T2WH/ T2WV | T3H/ T3V | T3PH/T3PV (custom) | T3YH/ T3YV | T3WH/ T3WV | T0H/T0V | T5H/T5V | | T8H/T8V | | | | | | |
| Applications | For programmable controller, relay, compact solenoid valve | | Dedicated for programmable controller | | | | For programmable controller, relay | | | | For programmable controller, relay | | For programmable controller, relay (no lamp), serial | | For programmable controller, relay | | | |
| 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 | |
| Load current | 5 to 100 mA | | 5 to 20 mA (*2) | | | | 100 mA or less | | 50 mA or less | | 5 to 50 mA | 7 to 20 mA | 50 mA or less | 20 mA or less | 5 to 50 mA | 7 to 20 mA | 7 to 10 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) | | | | |
| Leakage current | ≤ 1 mA at 100 VAC, ≤ 2 mA at 200 VAC | | 1 mA or less | | | | 10 µA or less | | | | 0 mA | | | | | | | |
| 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 | | 3 m:49 | 3 m:87 | 3 m:49 | 3 m:49 | | 3 m:87 | 3 m:49 | 3 m:49 5 m:80 7 m:142 | | | | 3 m:87 | | | | |
| | 5 m:142 | | 5 m:80 | 5 m:142 | 5 m:80 | 5 m:80 | | 5 m:142 | 5 m:80 | 5 m:80 7 m:142 9 m:200 | | | | 5 m:142 | | | | |

*1: Refer to Ending Page 1 for other switch specifications.

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

*3: The T0/T5 switch can also be used with 220 VAC. Contact CKD about working conditions.

*4: Dimensions depend on switch model No. Refer to Ending Page 18 for details.

Cylinder weight table

(Unit: g)

| Stroke length | 10 | 15 | 20 | 25 | 30 | Switch weight (Grommet) |
|---------------|-----|-----|------|------|------|-------------------------|
| Bore size | | | | | | |
| φ20 | 217 | 232 | 246 | - | - | |
| φ32 | 454 | 479 | 504 | - | - | |
| φ40 | - | - | 809 | 850 | 891 | |
| φ50 | - | - | 1299 | 1325 | 1351 | |

Theoretical thrust table

(Unit: N)

| Bore size (mm) | Working pressure MPa | | | | | | | | |
|----------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | 1.0 |
| φ20 | - | 45.6 | 65.7 | 85.8 | 1.06 × 10 ² | 1.26 × 10 ² | 1.46 × 10 ² | 1.66 × 10 ² | 1.86 × 10 ² |
| φ32 | 66.6 | 1.16 × 10 ² | 1.65 × 10 ² | 2.14 × 10 ² | 2.63 × 10 ² | 3.12 × 10 ² | 3.61 × 10 ² | 4.10 × 10 ² | 4.59 × 10 ² |
| φ40 | 1.09 × 10 ² | 1.85 × 10 ² | 2.62 × 10 ² | 3.38 × 10 ² | 4.15 × 10 ² | 4.92 × 10 ² | 5.68 × 10 ² | 6.45 × 10 ² | 7.21 × 10 ² |
| φ50 | 1.67 × 10 ² | 2.92 × 10 ² | 4.18 × 10 ² | 5.44 × 10 ² | 6.69 × 10 ² | 7.95 × 10 ² | 9.21 × 10 ² | 1.05 × 10 ³ | 1.17 × 10 ³ |

STK-Y Series

How to order

Without switch (built-in magnet for switch)

STK-Y - 20 - 10 - N11

With switch (built-in magnet for switch)

STK-Y - 20 - 10 - T0H - R - N11

A Bore size

B Port thread

C Stroke length

D Switch model No.

*1

*2

E Switch quantity

F Option

| Code | Content |
|-------------------------|---------|
| A Bore size (mm) | |
| 20 | φ20 |
| 32 | φ32 |
| 40 | φ40 |
| 50 | φ50 |

| B Port thread | |
|----------------------|--|
| Blank | Rc thread |
| NN | NPT thread (φ32 and over) (custom order product) |
| GN | G thread (φ32 and over) (custom order product) |

| C Stroke length | | | | | |
|------------------------|----|-----|-----|-----|-----|
| Bore size | | φ20 | φ32 | φ40 | φ50 |
| 10 | 10 | ● | ● | | |
| 15 | 15 | ● | ● | | |
| 20 | 20 | ● | ● | ● | ● |
| 25 | 25 | | | ● | ● |
| 30 | 30 | | | ● | ● |

| D 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 (custom order) | 3-wire |
| T3PH* | T3PV* | | | ● | | |
| T2WH* | T2WV* | | | ● | 2-color display | 2-wire |
| T2YH* | T2YV* | | | ● | | |
| T3WH* | T3WV* | | | ● | | 3-wire |
| T3YH* | T3YV* | | | ● | | |
| T2JH* | T2JV* | | ● | 1-color display off-delay | 2-wire | |

| * Lead wire length (m) | |
|-------------------------------|----------------|
| 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 |

| F Option | |
|-----------------|----------------------------|
| Blank | Rod end no thread |
| N11 | With rod end female thread |

⚠ Precautions for model No. selection

*1: Switches other than **D** Switch model No. are also available. (Custom order)

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.]

STK-Y-20-10-T0H-R-N11

Model: Stopper cylinder single acting/pull, round rod end form

- A** Bore size : φ20 mm
- B** Port thread : Rc thread
- C** Stroke length : 10 mm
- D** Switch model No. : Reed T0H switch, Lead wire 1m
- E** Switch quantity : 1 on rod side
- F** Option : With rod end female thread

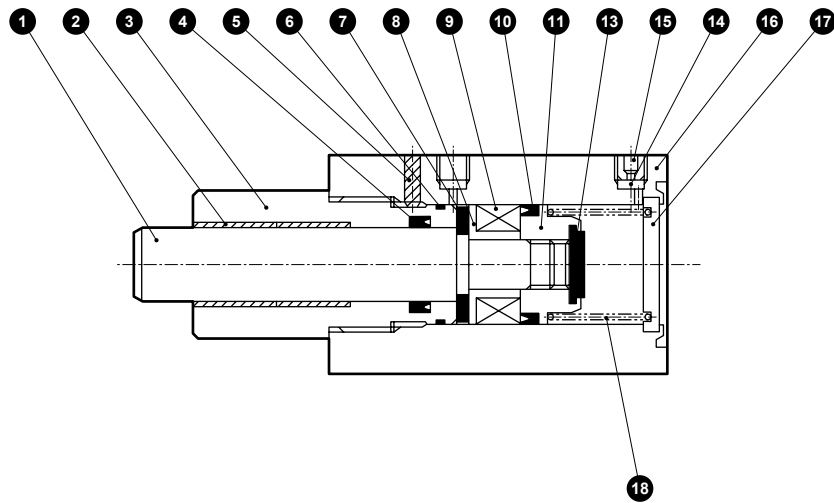
How to order switch

SW - T0H

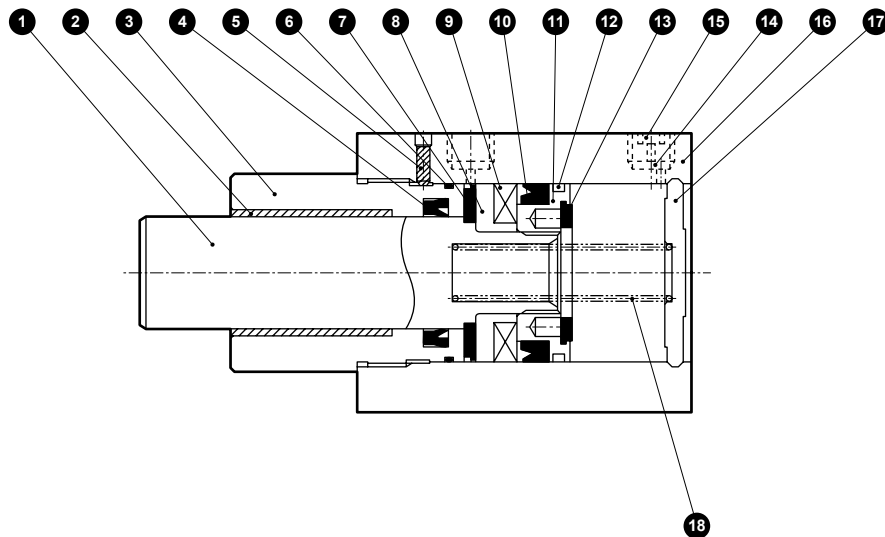
Switch model No.
(Item **D** above)

Internal structure and parts list

● STK-Y-20



● STK-Y-32/40/50



| No. | Part name | Material | Remarks | No. | Part name | Material | Remarks |
|-----|--------------------------|---|---------------------------|-----|---------------------------|--|---|
| 1 | Piston rod | φ20: Stainless steel φ32 to φ50: Steel | Industrial chrome plating | 10 | Piston packing | Nitrile rubber | |
| 2 | Bush | Dry bearing | | 11 | Piston | Aluminum alloy | Chromate |
| 3 | Rod cover | Aluminum alloy | Alumite | 12 | Wear ring | Acetal resin | |
| 4 | Rod packing | Nitrile rubber | | 13 | Cushion rubber H | Urethane rubber | |
| 5 | Hexagon socket set screw | Steel | Black finish | 14 | Stainless steel wire mesh | Stainless steel | |
| 6 | Metal gasket | Nitrile rubber | | 15 | Plug | Stainless steel | |
| 7 | Cushion rubber R | Urethane rubber | | 16 | Body | Aluminum alloy | Hard alumite |
| 8 | Spacer | Aluminum alloy | Chromate | 17 | Cover | φ20: Steel φ32 to φ50: Aluminum alloy | φ20: Galvanizing φ32 to 50: Chromate |
| 9 | Magnet | Plastic | | 18 | Coil spring | Steel | Electrodeposition |

Repair parts list

| Bore size (mm) | Kit No. | Repair parts No. |
|----------------|-----------|------------------|
| φ20 | STK-Y-20K | |
| φ32 | STK-Y-32K | 4 6 10 |
| φ40 | STK-Y-40K | 12 13 |
| φ50 | STK-Y-50K | |

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

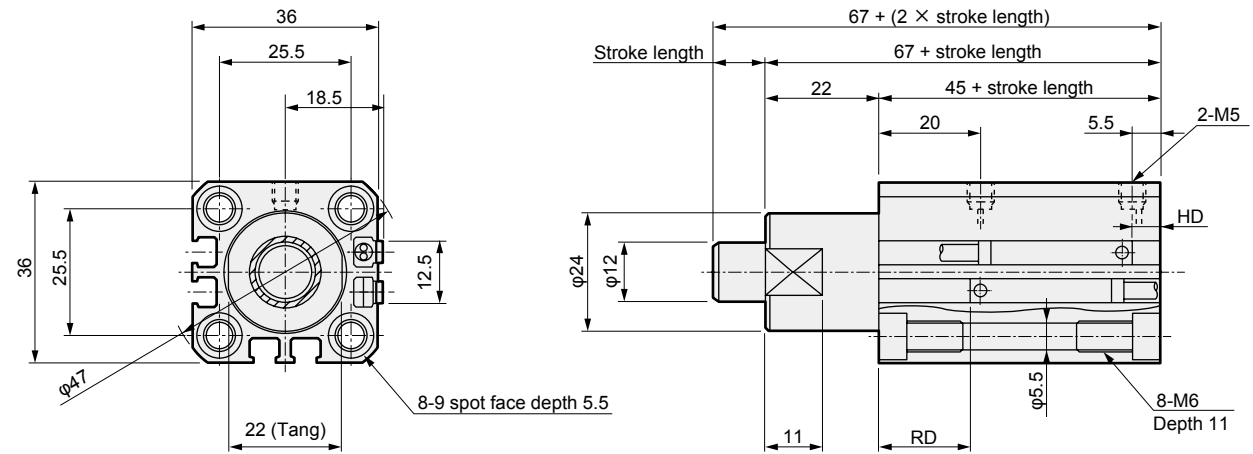
Spd
Contr

Ending

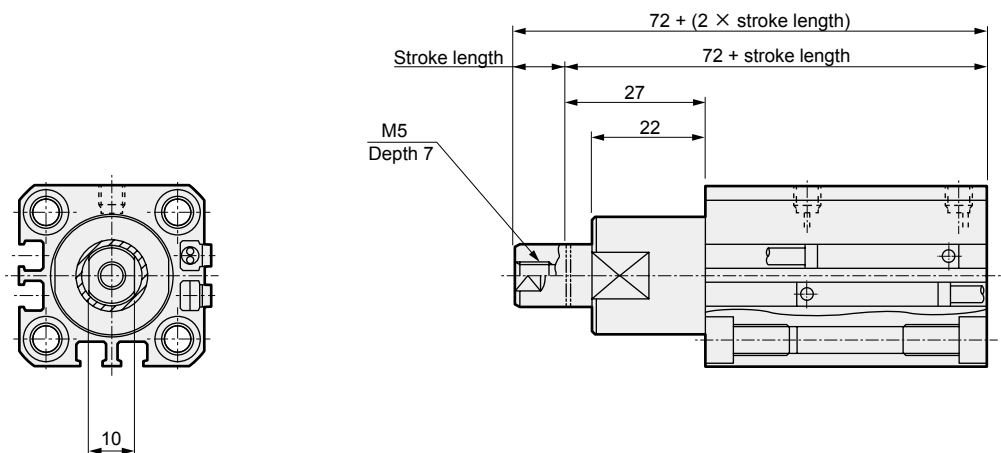


Dimensions

● STK-Y-20



● STK-Y-20-N11 (Dimensions other than displayed dimensions are the same as those of the above (STK-Y-20).)



Dimensions with switch

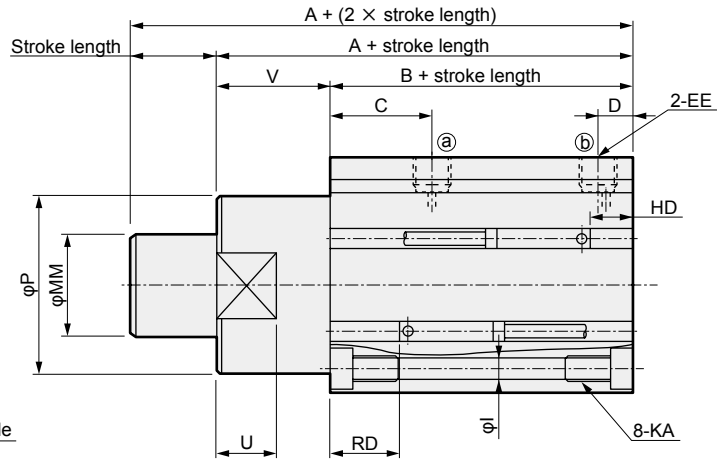
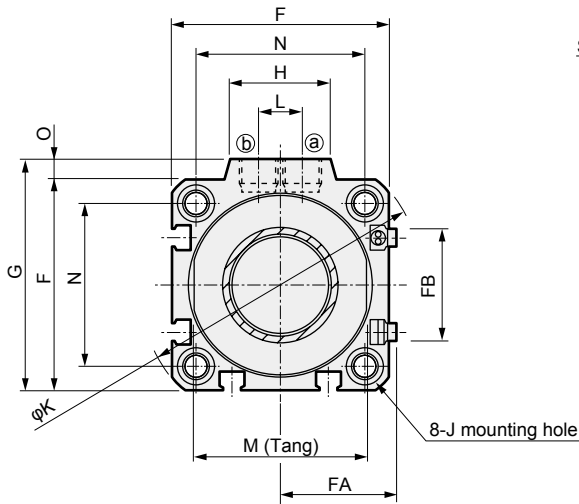
| Bore size | Reed T0H/T0V/T5H/T5V | | Proximity T2H/T2V/T3H/T3V | | Proximity T2WH/T2WV/T3WH/T3WV | |
|-----------|----------------------|------|---------------------------|------|-------------------------------|----|
| | HD | RD | HD | RD | HD | RD |
| $\phi 20$ | 7 | 19.5 | 7 | 19.5 | 8.5 | 21 |

Note: Refer to page 1542 for HD, RD and protruding dimensions of the 2-color display, off-delay, T1* and T8* switches.

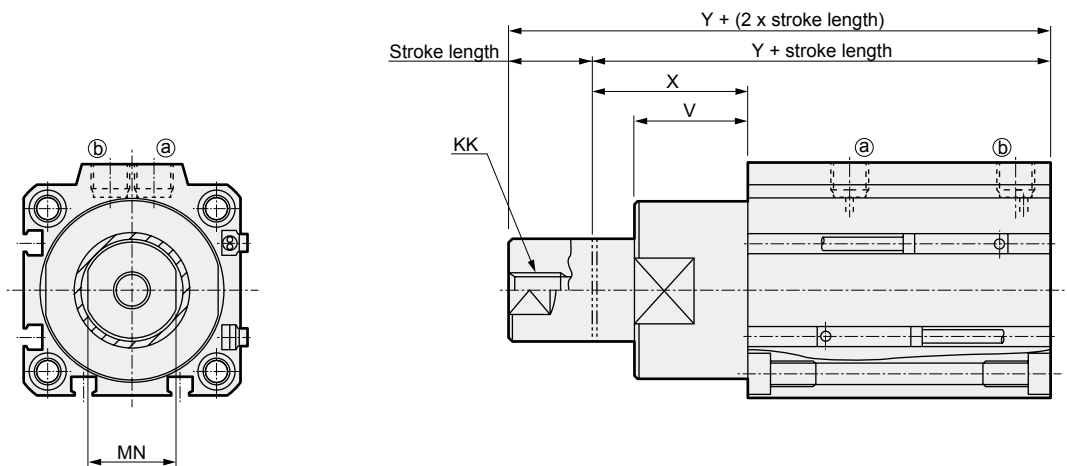
Dimensions



● STK-Y-32/40/50



● STK-Y-32/40/50-N11 (Dimensions other than displayed dimensions are the same as those of the above (STK-Y-32/40/50).)



| Code | A | B | C | D | EE | F | FA | FB | G | H | I | J | K | KA | KK | L | M | MM | MN | N | O | P | U | V | X | Y |
|------|------|------|------|------|-------|----|------|------|------|----|-----|------------------------|----|-------------|--------------|----|----|----|----|----|-----|----|----|----|----|------|
| φ32 | 68 | 48 | 20 | 8 | Rc1/8 | 45 | 23 | 20.5 | 49.5 | 24 | 5.5 | 9 spot face depth 5.5 | 60 | M6 depth 11 | M8 depth 13 | 10 | 32 | 20 | 17 | 34 | 4.5 | 36 | 13 | 20 | 30 | 78 |
| φ40 | 80.5 | 52.5 | 24.5 | 8.5 | Rc1/8 | 52 | 26.5 | 27.5 | 57 | 24 | 5.5 | 9 spot face depth 5.5 | 69 | M6 depth 11 | M8 depth 13 | 10 | 41 | 25 | 22 | 40 | 5 | 44 | 15 | 28 | 38 | 90.5 |
| φ50 | 82 | 54 | 24.5 | 10.5 | Rc1/4 | 64 | 32.5 | 28.5 | 71 | 33 | 6.9 | 11 spot face depth 6.5 | 86 | M8 depth 13 | M10 depth 15 | 15 | 50 | 30 | 27 | 50 | 7 | 56 | 15 | 28 | 43 | 97 |

| Dimensions with switch | | | | | | |
|------------------------|----------------------|----|---------------------------|----|-------------------------------|------|
| Bore size | Reed T0H/T0V/T5H/T5V | | Proximity T2H/T2V/T3H/T3V | | Proximity T2WH/T2WV/T3WH/T3WV | |
| | HD | RD | HD | RD | HD | RD |
| φ32 | 10.5 | 20 | 10.5 | 20 | 12 | 21.5 |
| φ40 | 11.5 | 23 | 11.5 | 23 | 13 | 24.5 |
| φ50 | 12.5 | 23 | 12.5 | 23 | 14 | 24.5 |

Note: Refer to page 1542 for HD, RD and protruding dimensions of the 2-color display, off-delay, T1* and T8* switches.

- SCP*3
- CMK2
- CMA2
- SCM
- SCG
- SCA2
- SCS2
- CKV2
- CAV2/COVP/N2
- SSD2
- SSG
- SSD
- CAT
- MDC2
- MVC
- SMG
- MSD/MSDG
- FC*
- STK**
- SRL3
- SRG3
- SRM3
- SRT3
- MRL2
- MRG2
- SM-25
- ShkAbs
- FJ
- FK
- Spd Contr
- Ending



Stopper cylinder double acting/spring integrated/round rod end form

STK-Y1 Series

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



Double acting/spring integrated



Specifications

1 MPa = 10 bar

| Descriptions | STK-Y1 | | | |
|--|--|-----------------------------------|-----------|-----------|
| Bore size mm | $\phi 20$ | $\phi 32$ | $\phi 40$ | $\phi 50$ |
| Actuation | Double acting/spring integrated | | | |
| Working fluid | Compressed air | | | |
| Max. working pressure MPa | 1.0 (≈ 150 psi, 10 bar) | | | |
| Min. working pressure MPa | 0.22 (≈ 32 psi) | 0.12 (≈ 17 psi, 1.2 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 | M5 | Rc1/8 | Rc1/4 | |
| Stroke tolerance mm | +2.0 0 | | | |
| Working piston speed mm/s | 50 to 500 | | | |
| Cushion | With rubber cushion | | | |
| Lubrication | Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication) | | | |
| Rod end form | Round rod type | | | |
| Allowable absorbed energy J | Refer to page 1544. | | | |

Stroke length

| Bore size (mm) | Stroke length (mm) | Max. stroke length (mm) | Min. stroke length (mm) | Min. stroke with switch (mm) |
|----------------|--------------------|-------------------------|-------------------------|------------------------------|
| $\phi 20$ | 10, 15, 20 | 20 | 10 | 10 |
| $\phi 32$ | | | | |
| $\phi 40$ | 20, 25, 30 | 30 | 20 | 20 |
| $\phi 50$ | | | | |

Note: Products other than standard stroke length are custom order products.

Spring load

(Unit: N)

| Bore size (mm) | Stroke length (mm) | When stroke length = 0 | At full stroke length operation |
|----------------|--------------------|------------------------|---------------------------------|
| $\phi 20$ | 10 | 11.5 | 14.7 |
| | 15 | 9.9 | |
| | 20 | 8.2 | |
| $\phi 32$ | 10 | 24.5 | 31.4 |
| | 15 | 21.1 | |
| | 20 | 17.6 | |
| $\phi 40$ | 20 | 29.0 | 44.4 |
| | 25 | 25.3 | |
| | 30 | 21.5 | |
| $\phi 50$ | 20 | 55.4 | 84.8 |
| | 25 | 48.0 | |
| | 30 | 40.7 | |

Switch specifications

- 1-color/2-color display

| Descriptions | Proximity 2-wire | | Proximity 2-wire | | Proximity 3-wire | | | | Reed 2-wire | | | | | | |
|-----------------|--|---------------------------------------|--------------------------------|------------------------------------|----------------------------|-----------------------------|--------------------------------|------------------------------------|--|------------------------------------|------------------------|-----------------------------|------------|------------|---------|
| | T1H/T1V | T2H/T2V/ T2JH/T2JV | T2YH/ T2YV | T2WH/ T2WV | T3H/ T3V | T3PH/T3PV (custom) | T3YH/ T3YV | T3WH/ T3WV | T0H/T0V | T5H/T5V | T8H/T8V | | | | |
| Applications | For programmable controller, relay, compact solenoid valve | Dedicated for programmable controller | | For programmable controller, relay | | | | For programmable controller, relay | For programmable controller, relay (no lamp), serial | For programmable controller, relay | | | | | |
| 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 |
| Load current | 5 to 100 mA | 5 to 20 mA (*2) | | 100 mA or less | | 50 mA or less | | 5 to 50 mA | 7 to 20 mA | 50 mA or less | 20 mA or less | 5 to 50 mA | 7 to 20 mA | 7 to 10 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) | | | |
| Leakage current | ≤ 1 mA at 100 VAC, ≤ 2 mA at 200 VAC | 1 mA or less | | 10 µA or less | | | | 0 mA | | | | | | | |
| 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: Refer to Ending Page 1 for other switch specifications.

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

*3: The T0/T5 switch can also be used with 220 VAC. Contact CKD about working conditions.

*4: Dimensions depend on switch model No. Refer to Ending Page 18 for details.

Cylinder weight table

(Unit: g)

| Stroke length | 10 | 15 | 20 | 25 | 30 | Switch weight (Grommet) |
|---------------|-----|-----|------|------|------|---|
| Bore size | | | | | | Refer to the weight in the switch specifications. |
| φ20 | 217 | 232 | 246 | - | - | |
| φ32 | 454 | 479 | 504 | - | - | |
| φ40 | - | - | 809 | 850 | 891 | |
| φ50 | - | - | 1299 | 1325 | 1351 | |

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 |
| φ20 | Push | - | - | - | 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 | - | - | - | 45.6 | 65.7 | 85.8 | 1.06 × 10 ² | 1.26 × 10 ² | 1.46 × 10 ² | 1.66 × 10 ² | 1.86 × 10 ² |
| φ32 | 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 | 17.6 | 42.1 | 66.6 | 1.16 × 10 ² | 1.65 × 10 ² | 2.14 × 10 ² | 2.63 × 10 ² | 3.12 × 10 ² | 3.61 × 10 ² | 4.10 × 10 ² | 4.59 × 10 ² |
| φ40 | 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 | 32.2 | 70.5 | 1.09 × 10 ² | 1.85 × 10 ² | 2.62 × 10 ² | 3.38 × 10 ² | 4.15 × 10 ² | 4.92 × 10 ² | 5.68 × 10 ² | 6.45 × 10 ² | 7.21 × 10 ² |
| φ50 | 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 | 40.9 | 1.04 × 10 ² | 1.67 × 10 ² | 2.92 × 10 ² | 4.18 × 10 ² | 5.44 × 10 ² | 6.69 × 10 ² | 7.95 × 10 ² | 9.21 × 10 ² | 1.05 × 10 ³ | 1.17 × 10 ³ |

STK-Y1 Series

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/
COVPIN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/
MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd
Contr
Ending

How to order

Without switch (built-in magnet for switch)

STK-Y1 - 20 - 10 - N11

With switch (built-in magnet for switch)

STK-Y1 - 20 - 10 - T0H - R - N11

A Bore size

B Port thread

C Stroke length

D Switch model No.

*1

*2

E Switch quantity

F Option

⚠ Precautions for model No. selection

*1: Switches other than **D** Switch model No. are also available. (Custom order)
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.]

STK-Y1-20-10-T0H-R-N11

Model: Stopper cylinder double acting/spring integrated, round rod end form type

- A** Bore size : $\phi 20$ mm
- B** Port thread : Rc thread
- C** Stroke length : 10 mm
- D** Switch model No. : Reed T0H switch, Lead wire 1m
- E** Switch quantity : 1 on rod side
- F** Option : With rod end female thread

| Code | Content |
|-------------------------|-----------|
| A Bore size (mm) | |
| 20 | $\phi 20$ |
| 32 | $\phi 32$ |
| 40 | $\phi 40$ |
| 50 | $\phi 50$ |

| Code | Content |
|----------------------|---|
| B Port thread | |
| Blank | Rc thread |
| NN | NPT thread ($\phi 32$ and over) (custom order product) |
| GN | G thread ($\phi 32$ and over) (custom order product) |

| C Stroke length (mm) | | | | |
|-----------------------------|-----------|-----------|-----------|-----------|
| Bore size | $\phi 20$ | $\phi 32$ | $\phi 40$ | $\phi 50$ |
| 10 | 10 | ● | ● | |
| 15 | 15 | ● | ● | |
| 20 | 20 | ● | ● | ● |
| 25 | 25 | | | ● |
| 30 | 30 | | | ● |

| D 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* | | ● | | 1-color display | 2-wire |
| T2H* | T2V* | | ● | | | |
| T3H* | T3V* | | ● | 1-color display (custom order) | 3-wire | |
| T3PH* | T3PV* | | ● | | | |
| T2WH* | T2WV* | Proximity | | ● | 2-color display | 2-wire |
| T2YH* | T2YV* | | | ● | | |
| T3WH* | T3WV* | | | ● | 2-color display | 3-wire |
| T3YH* | T3YV* | | | ● | | |
| T2JH* | T2JV* | | ● | 1-color display off-delay | 2-wire | |

| * Lead wire length (m) | |
|-------------------------------|----------------|
| 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 |

| F Option | |
|-----------------|----------------------------|
| Blank | Rod end no thread |
| N11 | With rod end female thread |

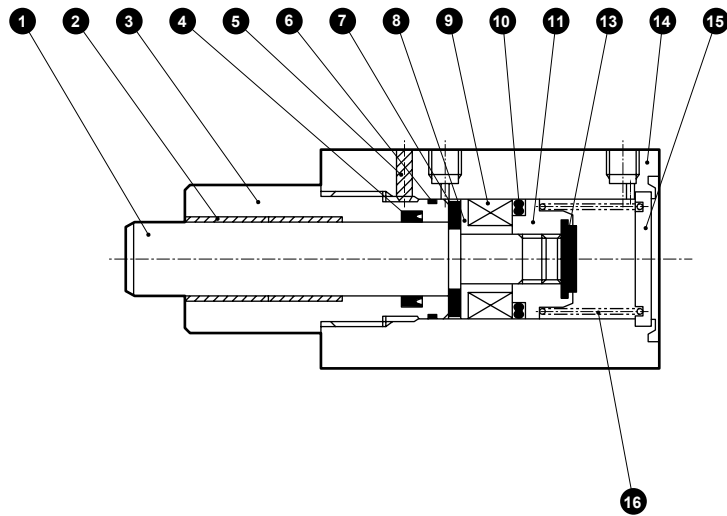
Discrete switch model No.

SW - T0H

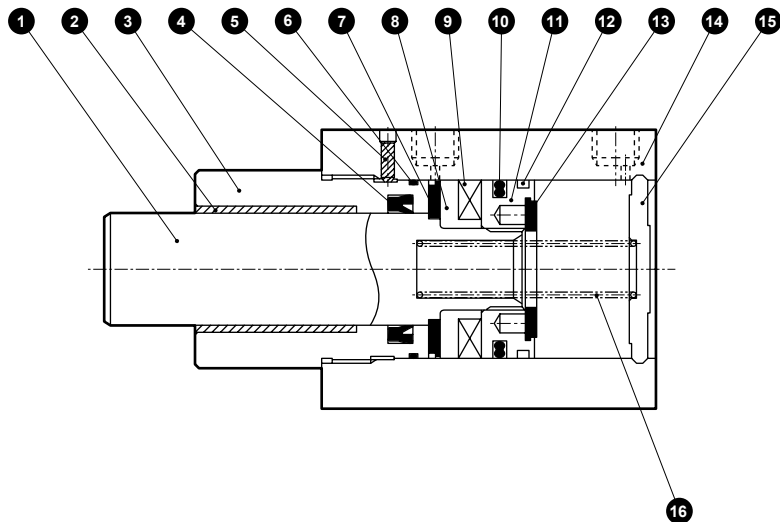
Switch model No.
(Item **D** above)

Internal structure and parts list

● STK-Y1-20



● STK-Y1-32/40/50



| No. | Part name | Material | Remarks | No. | Part name | Material | Remarks |
|-----|--------------------------|---|---------------------------|-----|------------------|--|---|
| 1 | Piston rod | φ20: Stainless steel φ32 to φ50: Steel | Industrial chrome plating | 9 | Magnet | Plastic | |
| 2 | Bush | Dry bearing | | 10 | Piston packing | Nitrile rubber | |
| 3 | Rod cover | Aluminum alloy | Alumite | 11 | Piston | Aluminum alloy | Chromate |
| 4 | Rod packing | Nitrile rubber | | 12 | Wear ring | Acetal resin | |
| 5 | Hexagon socket set screw | Steel | Black finish | 13 | Cushion rubber H | Urethane rubber | |
| 6 | Metal gasket | Nitrile rubber | | 14 | Body | Aluminum alloy | Hard alumite |
| 7 | Cushion rubber R | Urethane rubber | | 15 | Cover | φ20: Steel φ32 to φ50: Aluminum alloy | φ20: Galvanizing φ32 to 50: Chromate |
| 8 | Spacer | Aluminum alloy | Chromate | 16 | Coil spring | Steel | Electrodeposition |

Repair parts list

| Bore size (mm) | Kit No. | Repair parts No. |
|----------------|------------|------------------|
| φ20 | STK-Y1-20K | |
| φ32 | STK-Y1-32K | 4 6 10 |
| φ40 | STK-Y1-40K | 12 13 |
| φ50 | STK-Y1-50K | |

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

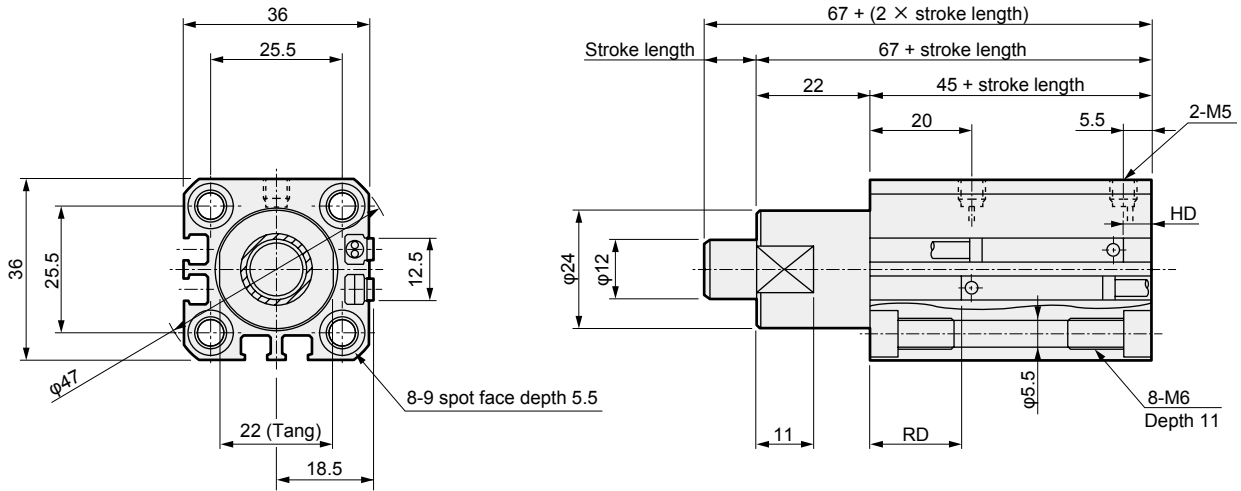
Ending

STK-Y1 Series

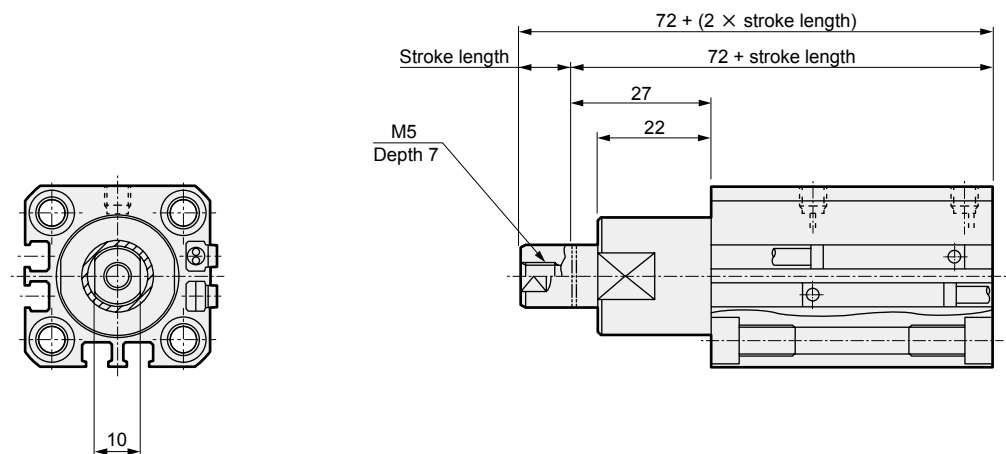
Dimensions



● STK-Y1-20



● STK-Y1-20-N11 (Dimensions other than displayed dimensions are the same as those of the above (STK-Y1-20).)



STK-Y1 Dimensions with switch

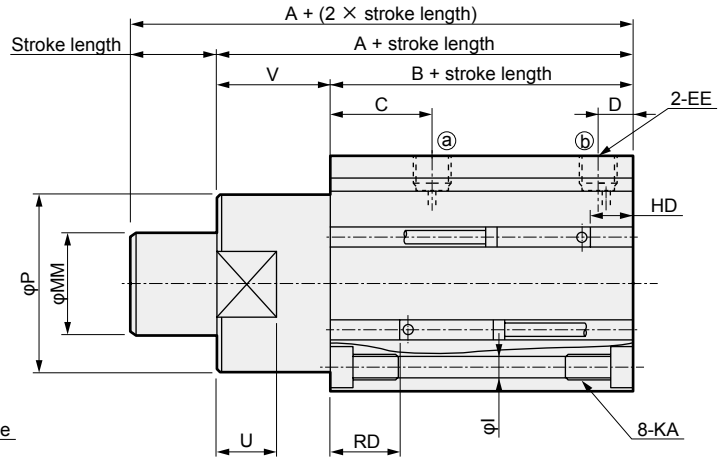
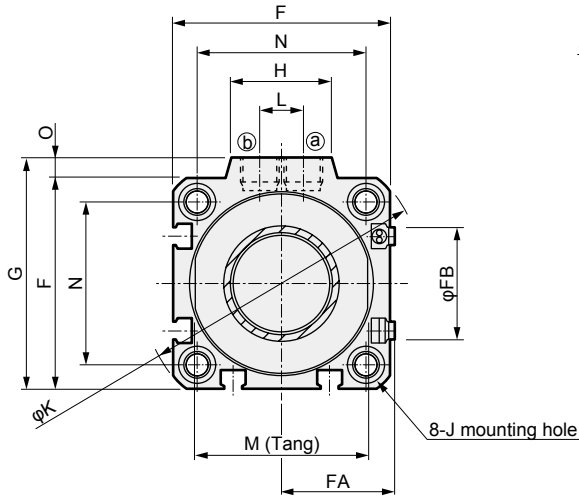
| Bore size | Reed T0H/T0V/T5H/T5V | | Proximity T2H/T2V/T3H/T3V | | Proximity T2WH/T2WV/T3WH/T3WV | |
|-----------|----------------------|------|---------------------------|------|-------------------------------|----|
| | HD | RD | HD | RD | HD | RD |
| $\phi 20$ | 7 | 19.5 | 7 | 19.5 | 8.5 | 21 |

Note: Refer to page 1542 for HD, RD and protruding dimensions of the 2-color display, off-delay, T1* and T8* switches.

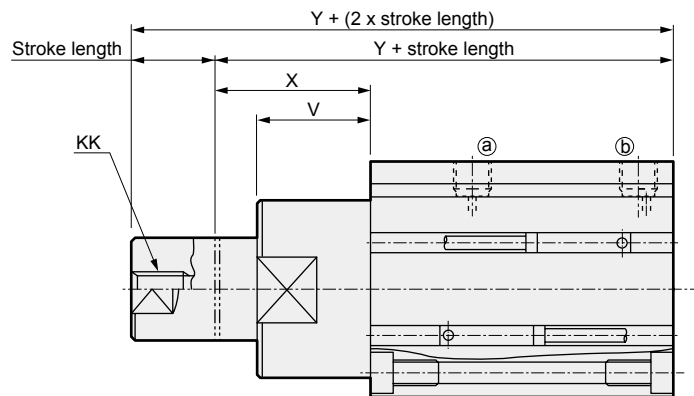
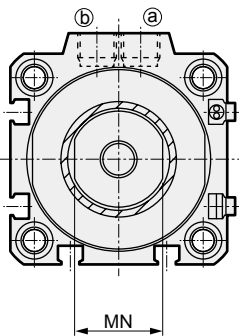
Dimensions



● STK-Y1-32/40/50



● STK-Y1-32/40/50-N11 (Dimensions other than displayed dimensions are the same as those of the above (STK-Y1-32/40/50).)



| Code | A | B | C | D | EE | F | FA | FB | G | H | I | J | K | KA | KK | L | M | MM | MN | N | O | P | U | V | X | Y |
|------|------|------|------|------|-------|----|------|------|------|----|-----|------------------------|----|-------------|--------------|----|----|----|----|----|-----|----|----|----|----|------|
| φ32 | 68 | 48 | 20 | 8 | Rc1/8 | 45 | 23 | 20.5 | 49.5 | 24 | 5.5 | 9 spot face depth 5.5 | 60 | M6 depth 11 | M8 depth 13 | 10 | 32 | 20 | 17 | 34 | 4.5 | 36 | 13 | 20 | 30 | 78 |
| φ40 | 80.5 | 52.5 | 24.5 | 8.5 | Rc1/8 | 52 | 26.5 | 27.5 | 57 | 24 | 5.5 | 9 spot face depth 5.5 | 69 | M6 depth 11 | M8 depth 13 | 10 | 41 | 25 | 22 | 40 | 5 | 44 | 15 | 28 | 38 | 90.5 |
| φ50 | 82 | 54 | 24.5 | 10.5 | Rc1/4 | 64 | 32.5 | 28.5 | 71 | 33 | 6.9 | 11 spot face depth 6.5 | 86 | M8 depth 13 | M10 depth 15 | 15 | 50 | 30 | 27 | 50 | 7 | 56 | 15 | 28 | 43 | 97 |

Dimensions with switch

| Bore size | Reed T0H/T0V/T5H/T5V | | Proximity T2H/T2V/T3H/T3V | | Proximity T2WH/T2WV/T3WH/T3WV | |
|-----------|----------------------|----|---------------------------|----|-------------------------------|------|
| | HD | RD | HD | RD | HD | RD |
| φ32 | 10.5 | 20 | 10.5 | 20 | 12 | 21.5 |
| φ40 | 11.5 | 23 | 11.5 | 23 | 13 | 24.5 |
| φ50 | 12.5 | 23 | 12.5 | 23 | 14 | 24.5 |

Note: Refer to page 1542 for HD, RD and protruding dimensions of the 2-color display, off-delay, T1* and T8* switches.

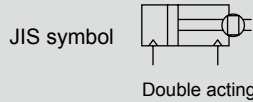
- SCP*3
- CMK2
- CMA2
- SCM
- SCG
- SCA2
- SCS2
- CKV2
- CAV2/COVP/N2
- SSD2
- SSG
- SSD
- CAT
- MDC2
- MVC
- SMG
- MSD/MSDG
- FC*
- STK**
- SRL3
- SRG3
- SRM3
- SRT3
- MRL2
- MRG2
- SM-25
- ShkAbs
- FJ
- FK
- Spd Contr
- Ending



Stopper cylinder double acting/rod end form chamfered type

STK-M Series

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



Specifications

1 MPa = 10 bar

| Descriptions | STK-M | | | |
|--|--|--------------------------------|-----------|-----------|
| Bore size mm | $\phi 20$ | $\phi 32$ | $\phi 40$ | $\phi 50$ |
| 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) | 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 | | | |
| Cushion | With rubber cushion | | | |
| Lubrication | Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication) | | | |
| Rod end form | Chamfered type | | | |
| Allowable absorbed energy J | Refer to page 1544. | | | |

Stroke length

| Bore size (mm) | Stroke length (mm) | Max. stroke length (mm) | Min. stroke length (mm) | Min. stroke with switch (mm) |
|----------------|--------------------|-------------------------|-------------------------|------------------------------|
| $\phi 20$ | 10, 15, 20 | 20 | 10 | 10 |
| $\phi 32$ | | | | |
| $\phi 40$ | 20, 25, 30 | 30 | 20 | 20 |
| $\phi 50$ | | | | |

Note: Products other than standard stroke length are custom order products.

- SCP*3
- CMK2
- CMA2
- SCM
- SCG
- SCA2
- SCS2
- CKV2
- CAV2/
COVPIN2
- SSD2
- SSG
- SSD
- CAT
- MDC2
- MVC
- SMG
- MSD/
MSDG
- FC*
- STK**
- SRL3
- SRG3
- SRM3
- SRT3
- MRL2
- MRG2
- SM-25
- ShkAbs
- FJ
- FK
- Spd
Contr
- Ending

Switch specifications

- 1-color/2-color display

| Descriptions | Proximity 2-wire | | Proximity 2-wire | | Proximity 3-wire | | | | Reed 2-wire | | | | | | |
|-----------------|--|---------------------------------------|--------------------------------|------------------------------------|----------------------------|-----------------------------|--------------------------------|------------------------------------|--|------------------------------------|-----------------------------|-------------|----------------------|------------|---------|
| | T1H/T1V | T2H/T2V/ T2JH/T2JV | T2YH/ T2YV | T2WH/ T2WV | T3H/ T3V | T3PH/T3PV (custom) | T3YH/ T3YV | T3WH/ T3WV | T0H/T0V | T5H/T5V | T8H/T8V | | | | |
| Applications | For programmable controller, relay, compact solenoid valve | Dedicated for programmable controller | | For programmable controller, relay | | | | For programmable controller, relay | For programmable controller, relay (no lamp), serial | For programmable controller, relay | | | | | |
| 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 |
| Load current | 5 to 100 mA | 5 to 20 mA (*2) | | 100 mA or less | | 50 mA or less | | 5 to 50 mA | 7 to 20 mA | 50 mA or less | 20 mA or less | 5 to 50 mA | 7 to 20 mA | 7 to 10 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) | | |
| Leakage current | ≤ 1 mA at 100 VAC, ≤ 2 mA at 200 VAC | 1 mA or less | | 10 µA or less | | | | 0 mA | | | | | | | |
| 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: Refer to Ending Page 1 for other switch specifications.

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

*3: The T0/T5 switch can also be used with 220 VAC. Contact CKD about working conditions.

*4: Dimensions depend on switch model No. Refer to Ending Page 18 for details.

Cylinder weight table

(Unit: g)

| Stroke length | 10 | 15 | 20 | 25 | 30 | Switch weight (Grommet) |
|---------------|-----|-----|------|------|------|-------------------------|
| Bore size | | | | | | |
| φ20 | 215 | 230 | 244 | - | - | |
| φ32 | 441 | 466 | 491 | - | - | |
| φ40 | - | - | 796 | 837 | 878 | |
| φ50 | - | - | 1288 | 1314 | 1340 | |

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 |
| φ20 | 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 | - | - | 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 |
| φ32 | 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 | 49.0 | 73.5 | 98.0 | 1.47 × 10 ² | 1.96 × 10 ² | 2.45 × 10 ² | 2.94 × 10 ² | 3.43 × 10 ² | 3.92 × 10 ² | 4.41 × 10 ² | 4.90 × 10 ² |
| φ40 | 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 | 76.6 | 1.15 × 10 ² | 1.53 × 10 ² | 2.30 × 10 ² | 3.06 × 10 ² | 3.83 × 10 ² | 4.59 × 10 ² | 5.36 × 10 ² | 6.13 × 10 ² | 6.89 × 10 ² | 7.66 × 10 ² |
| φ50 | 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 | 1.26 × 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 |

How to order

Without switch (built-in magnet for switch)

STK-M - **20** - **10** - **N11**

With switch (built-in magnet for switch)

STK-M - **20** - **10** - **T0H** - **R** - **N11**

A Bore size

B Port thread

C Stroke length

D Switch model No.

*1

*2

E Switch quantity

F Option

⚠ Precautions for model No. selection

*1: Switches other than **D** Switch model No. are also available. (Custom order)
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.]

STK-M-20-10-T0H-R-N11

Model: Stopper cylinder double acting/rod end form chamfered type

A Bore size : $\phi 20$ mm

B Port thread : Rc thread

C Stroke length : 10 mm

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

E Switch quantity : 1 on rod side

F Option : With rod end female thread

| Code | Content |
|-------------------------|-----------|
| A Bore size (mm) | |
| 20 | $\phi 20$ |
| 32 | $\phi 32$ |
| 40 | $\phi 40$ |
| 50 | $\phi 50$ |

| Code | Content |
|----------------------|---|
| B Port thread | |
| Blank | Rc thread |
| NN | NPT thread ($\phi 32$ and over) (custom order product) |
| GN | G thread ($\phi 32$ and over) (custom order product) |

| C Stroke length (mm) | | | | |
|-----------------------------|-----------|-----------|-----------|-----------|
| Bore size | $\phi 20$ | $\phi 32$ | $\phi 40$ | $\phi 50$ |
| 10 | 10 | ● | ● | |
| 15 | 15 | ● | ● | |
| 20 | 20 | ● | ● | ● |
| 25 | 25 | | | ● |
| 30 | 30 | | | ● |

| D 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* | | ● | | 1-color display | 2-wire | |
| T2H* | T2V* | | ● | | | | |
| T3H* | T3V* | | ● | 1-color display (custom order) | | 3-wire | |
| T3PH* | T3PV* | Proximity | ● | | | | |
| T2WH* | T2WV* | | ● | | | 2-color display | 2-wire |
| T2YH* | T2YV* | | ● | | | | |
| T3WH* | T3WV* | | ● | | 3-wire | | |
| T3YH* | T3YV* | ● | | | | | |
| T2JH* | T2JV* | | ● | 1-color display off-delay | 2-wire | | |

| * Lead wire length (m) | |
|-------------------------------|----------------|
| 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 |

| F Option | |
|-----------------|----------------------------|
| Blank | Rod end no thread |
| N11 | With rod end female thread |

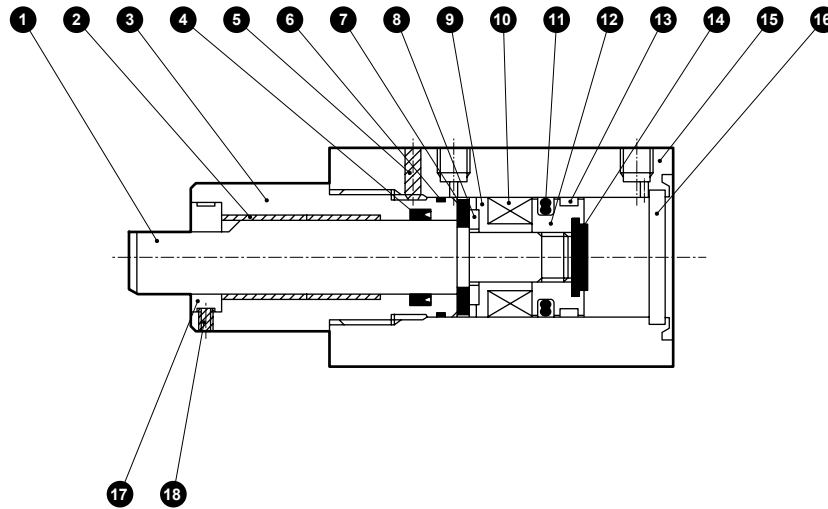
How to order switch

SW - **T0H**

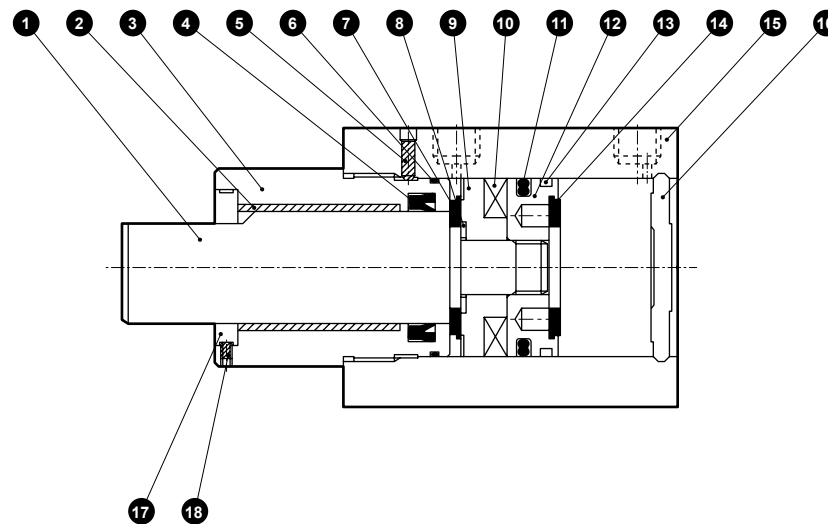
Switch model No.
(Item **D** above)

Internal structure and parts list

● STK-M-20



● STK-M-32/40/50



| No. | Part name | Material | Remarks | No. | Part name | Material | Remarks |
|-----|--------------------------|-----------------|---------------------------|-----|--------------------------|--|---------------------|
| 1 | Piston rod | Stainless steel | Industrial chrome plating | 11 | Piston packing | Nitrile rubber | |
| 2 | Bush | Dry bearing | | 12 | Piston | Aluminum alloy | Chromate |
| 3 | Rod cover | Aluminum alloy | Alumite | 13 | Wear ring | Acetal resin | |
| 4 | Rod packing | Nitrile rubber | | 14 | Cushion rubber H | Urethane rubber | |
| 5 | Hexagon socket set screw | Steel | Black finish | 15 | Body | Aluminum alloy | Hard alumite |
| 6 | Metal gasket | Nitrile rubber | | 16 | Cover | φ20: Stainless steel φ32 to φ50: Aluminum alloy | φ32 to 50: Chromate |
| 7 | Cushion rubber R | Urethane rubber | | 17 | Rotation-stop spacer | Steel | Nickeling |
| 8 | Spacer washer | Stainless steel | | 18 | Hexagon socket set screw | Steel | Black finish |
| 9 | Spacer | Polyamide | | | | | |
| 10 | Magnet | Plastic | | | | | |

Repair parts list

| Bore size (mm) | Kit No. | Repair parts No. |
|----------------|---------|------------------|
| φ20 | STK-20K | |
| φ32 | STK-32K | 4 6 11 |
| φ40 | STK-40K | 13 14 |
| φ50 | STK-50K | |

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

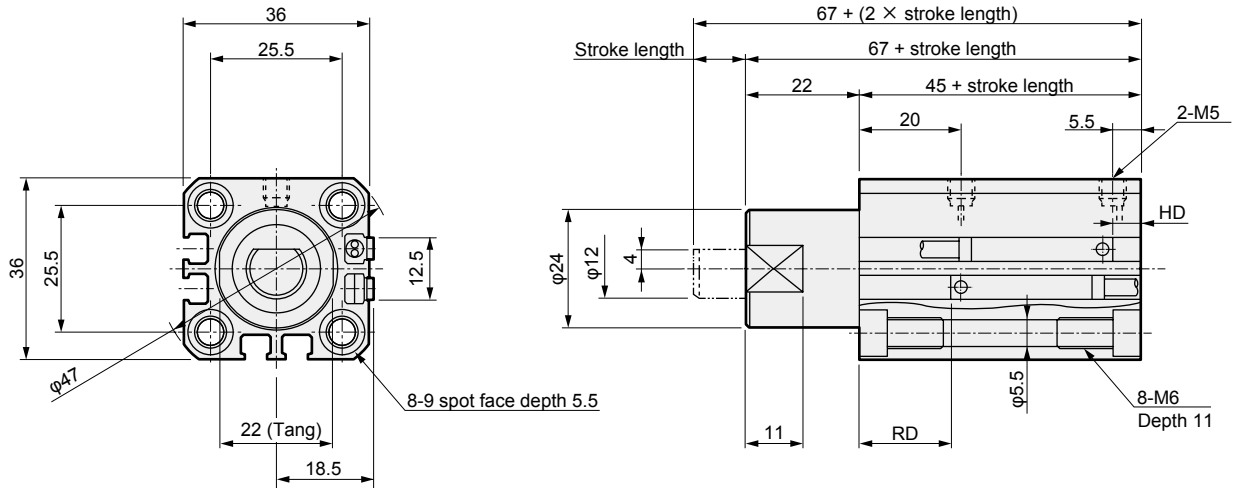
Spd
Contr

Ending

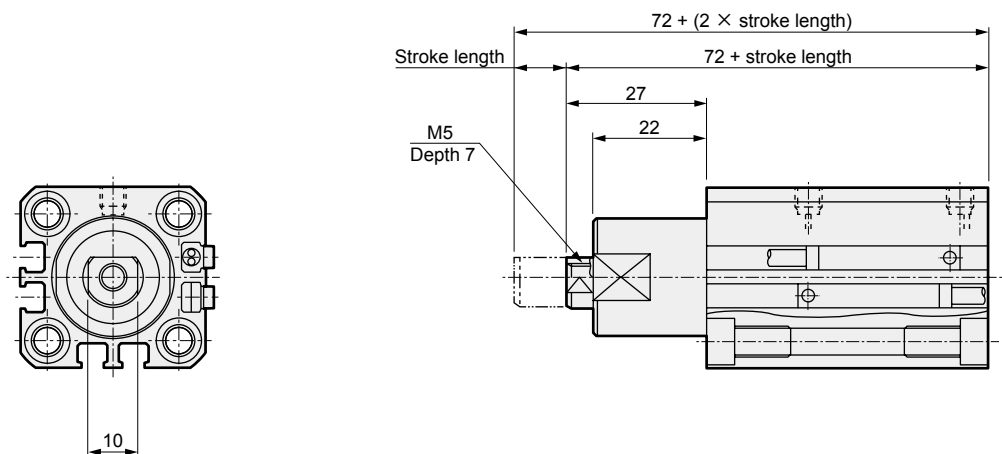
Dimensions



● STK-M-20



● STK-M-20-N11 (Dimensions other than displayed dimensions are the same as those of the above (STK-M-20).)



STK-M Dimensions with switch

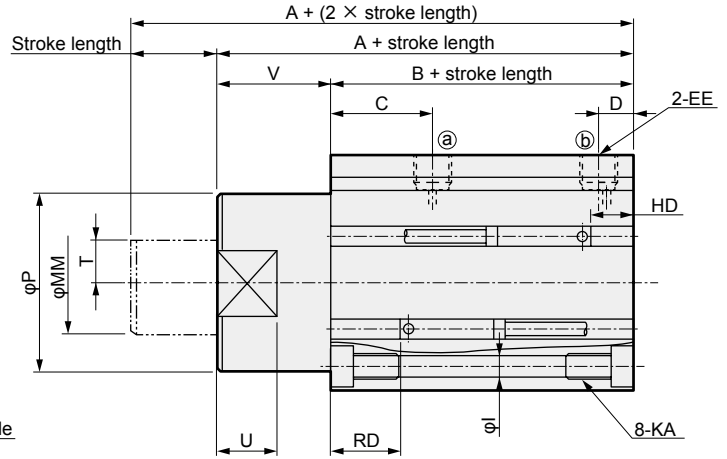
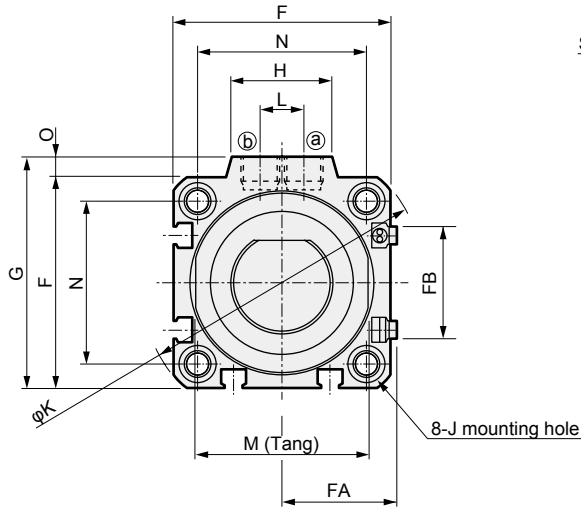
| Bore size | Reed T0H/T0V/T5H/T5V | | Proximity T2H/T2V/T3H/T3V | | Proximity T2WH/T2WV/T3WH/T3WV | |
|-----------|----------------------|----|---------------------------|----|-------------------------------|------|
| | HD | RD | HD | RD | HD | RD |
| $\phi 20$ | 5.5 | 21 | 5.5 | 21 | 7 | 22.5 |

Note: Refer to page 1541 for HD, RD and protruding dimensions of the 2-color display, off-delay, T1* and T8* switches.

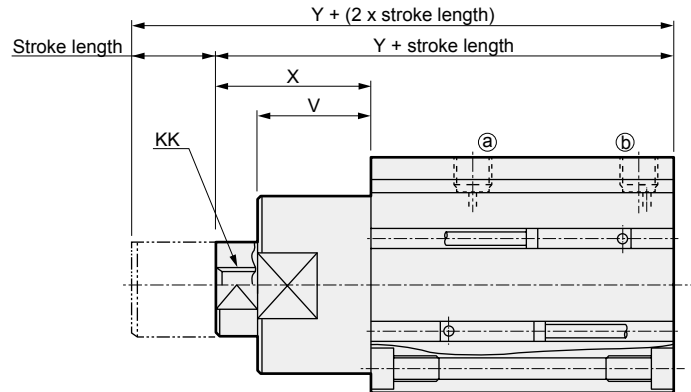
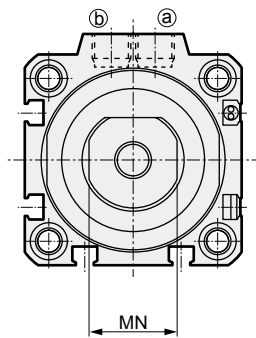
Dimensions



● STK-M-32/40/50



● STK-M-32/40/50-N11 (Dimensions other than displayed dimensions are the same as those of the above (STK-M-32/40/50).)



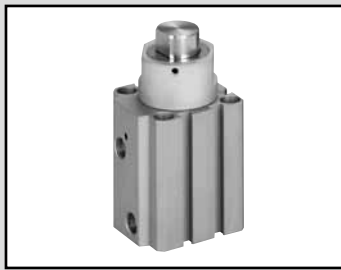
| Code | A | B | C | D | EE | F | FA | FB | G | H | I | J | K | KA | KK | L | M | MM | MN | N | O | P | T | U | V | X | Y |
|------|------|------|------|------|-------|----|------|------|------|----|-----|------------------------|----|-------------|--------------|----|----|----|----|----|-----|----|----|----|----|----|------|
| φ32 | 68 | 48 | 20 | 8 | Rc1/8 | 45 | 23 | 20.5 | 49.5 | 24 | 5.5 | 9 spot face depth 5.5 | 60 | M6 depth 11 | M8 depth 13 | 10 | 32 | 20 | 17 | 34 | 4.5 | 36 | 8 | 13 | 20 | 30 | 78 |
| φ40 | 80.5 | 52.5 | 24.5 | 8.5 | Rc1/8 | 52 | 26.5 | 27.5 | 57 | 24 | 5.5 | 9 spot face depth 5.5 | 69 | M6 depth 11 | M8 depth 13 | 10 | 41 | 25 | 22 | 40 | 5 | 44 | 10 | 15 | 28 | 38 | 90.5 |
| φ50 | 82 | 54 | 24.5 | 10.5 | Rc1/4 | 64 | 32.5 | 28.5 | 71 | 33 | 6.9 | 11 spot face depth 6.5 | 86 | M8 depth 13 | M10 depth 15 | 15 | 50 | 30 | 27 | 50 | 7 | 56 | 12 | 15 | 28 | 43 | 97 |

Dimensions with switch

| Bore size | Reed T0H/T0V/T5H/T5V | | Proximity T2H/T2V/T3H/T3V | | Proximity T2WH/T2WV/T3WH/T3WV | |
|-----------|----------------------|----|---------------------------|----|-------------------------------|------|
| | HD | RD | HD | RD | HD | RD |
| φ32 | 9.5 | 21 | 9.5 | 21 | 11 | 22.5 |
| φ40 | 10.5 | 24 | 10.5 | 24 | 12 | 25.5 |
| φ50 | 11.5 | 24 | 11.5 | 24 | 13 | 25.5 |

Note: Refer to page 1541 for HD, RD and protruding dimensions of the 2-color display, off-delay, T1* and T8* switches.

- SCP*3
- CMK2
- CMA2
- SCM
- SCG
- SCA2
- SCS2
- CKV2
- CAV2/COVP/N2
- SSD2
- SSG
- SSD
- CAT
- MDC2
- MVC
- SMG
- MSD/MSDG
- FC*
- STK**
- SRL3
- SRG3
- SRM3
- SRT3
- MRL2
- MRG2
- SM-25
- ShkAbs
- FJ
- FK
- Spd Contr
- Ending



Stopper cylinder single acting/pull/rod end form chamfered type

STK-MY Series

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

JIS symbol



Single acting/pull



Specifications

1 MPa = 10 bar

| Descriptions | STK-MY | | | |
|--|--|-----------------------------------|-----------|-----------|
| Bore size mm | $\phi 20$ | $\phi 32$ | $\phi 40$ | $\phi 50$ |
| Actuation | Single acting pull | | | |
| Working fluid | Compressed air | | | |
| Max. working pressure MPa | 1.0 (≈ 150 psi, 10 bar) | | | |
| Min. working pressure MPa | 0.22 (≈ 32 psi) | 0.12 (≈ 17 psi, 1.2 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 | M5 | Rc1/8 | Rc1/4 | |
| Stroke tolerance mm | +2.0 0 | | | |
| Working piston speed mm/s | 50 to 500 | | | |
| Cushion | With rubber cushion | | | |
| Lubrication | Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication) | | | |
| Rod end form | Chamfered type | | | |
| Allowable absorbed energy J | Refer to page 1544. | | | |

Stroke length

| Bore size (mm) | Stroke length (mm) | Max. stroke length (mm) | Min. stroke length (mm) | Min. stroke with switch (mm) |
|----------------|--------------------|-------------------------|-------------------------|------------------------------|
| $\phi 20$ | 10, 15, 20 | 20 | 10 | 10 |
| $\phi 32$ | | | | |
| $\phi 40$ | 20, 25, 30 | 30 | 20 | 20 |
| $\phi 50$ | | | | |

Note: Products other than standard stroke length are custom order products.

Spring load

(Unit: N)

| Bore size (mm) | Stroke length (mm) | When stroke length = 0 | At full stroke length operation |
|----------------|--------------------|------------------------|---------------------------------|
| $\phi 20$ | 10 | 11.5 | 14.7 |
| | 15 | 9.9 | |
| | 20 | 8.2 | |
| $\phi 32$ | 10 | 24.5 | 31.4 |
| | 15 | 21.1 | |
| | 20 | 17.6 | |
| $\phi 40$ | 20 | 29.0 | 44.4 |
| | 25 | 25.3 | |
| | 30 | 21.5 | |
| $\phi 50$ | 20 | 55.4 | 84.8 |
| | 25 | 48.0 | |
| | 30 | 40.7 | |

Switch specifications

- 1-color/2-color display

| Descriptions | Proximity 2-wire | Proximity 2-wire | | | Proximity 3-wire | | | | Reed 2-wire | | | | | | |
|-----------------|--|---------------------------------------|--------------------------------|--------------------------------|------------------------------------|-----------------------------|--------------------------------|--------------------------------|------------------------------------|--|------------------------|------------------------------------|----------------------|------------|------------|
| | T1H/T1V | T2H/T2V/ T2JH/T2JV | T2YH/ T2YV | T2WH/ T2WV | T3H/ T3V | T3PH/T3PV (custom) | T3YH/ T3YV | T3WH/ T3WV | T0H/T0V | | T5H/T5V | | T8H/T8V | | |
| Applications | For programmable controller, relay, compact solenoid valve | Dedicated for programmable controller | | | For programmable controller, relay | | | | For programmable controller, relay | For programmable controller, relay (no lamp), serial | | For programmable controller, relay | | | |
| 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 |
| Load current | 5 to 100 mA | 5 to 20 mA (*2) | | | 100 mA or less | | 50 mA or less | | 5 to 50 mA | 7 to 20 mA | 50 mA or less | 20 mA or less | 5 to 50 mA | 7 to 20 mA | 7 to 10 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) | | |
| Leakage current | ≤ 1 mA at 100 VAC, ≤ 2 mA at 200 VAC | 1 mA or less | | | 10 μA or less | | | | 0 mA | | | | | | |
| 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 | 3 m:49 | 3 m:87 | 3 m:49 | 3 m:49 | 3 m:87 | 3 m:49 | 3 m:49 5 m:80 | | | | | 3 m:87 | | |
| | 5 m:142 | 5 m:80 | 5 m:142 | 5 m:80 | 5 m:80 | 5 m:142 | 5 m:80 | 5 m:80 | | | | | 5 m:142 | | |

*1: Refer to Ending Page 1 for other switch specifications.

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

*3: The T0/T5 switch can also be used with 220 VAC. Contact CKD about working conditions.

*4: Dimensions depend on switch model No. Refer to Ending Page 18 for details.

Cylinder weight table

(Unit: g)

| Stroke length | 10 | 15 | 20 | 25 | 30 | Switch weight (Grommet) |
|---------------|-----|-----|------|------|------|-------------------------|
| Bores size | | | | | | |
| φ20 | 218 | 233 | 247 | - | - | |
| φ32 | 457 | 482 | 507 | - | - | |
| φ40 | - | - | 812 | 853 | 894 | |
| φ50 | - | - | 1302 | 1328 | 1354 | |

Theoretical thrust table

(Unit: N)

| Bore size (mm) | Working pressure MPa | | | | | | | | |
|----------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | 1.0 |
| φ20 | - | 45.6 | 65.7 | 85.8 | 1.06 × 10 ² | 1.26 × 10 ² | 1.46 × 10 ² | 1.66 × 10 ² | 1.86 × 10 ² |
| φ32 | 66.6 | 1.16 × 10 ² | 1.65 × 10 ² | 2.14 × 10 ² | 2.63 × 10 ² | 3.12 × 10 ² | 3.61 × 10 ² | 4.10 × 10 ² | 4.59 × 10 ² |
| φ40 | 1.09 × 10 ² | 1.85 × 10 ² | 2.62 × 10 ² | 3.38 × 10 ² | 4.15 × 10 ² | 4.92 × 10 ² | 5.68 × 10 ² | 6.45 × 10 ² | 7.21 × 10 ² |
| φ50 | 1.67 × 10 ² | 2.92 × 10 ² | 4.18 × 10 ² | 5.44 × 10 ² | 6.69 × 10 ² | 7.95 × 10 ² | 9.21 × 10 ² | 1.05 × 10 ³ | 1.17 × 10 ³ |

STK-MY Series

How to order

Without switch (built-in magnet for switch)

STK-MY - 20 - 10 - N11

With switch (built-in magnet for switch)

STK-MY - 20 - 10 - T0H - R - N11

A Bore size

B Port thread

C Stroke length

D Switch model No.

*1

*2

E Switch quantity

F Option

| Code | Content |
|-------------------------|---------|
| A Bore size (mm) | |
| 20 | φ20 |
| 32 | φ32 |
| 40 | φ40 |
| 50 | φ50 |

| B Port thread | |
|----------------------|--|
| Blank | Rc thread |
| NN | NPT thread (φ32 and over) (custom order product) |
| GN | G thread (φ32 and over) (custom order product) |

| C Stroke length (mm) | | | | | |
|-----------------------------|----|-----|-----|-----|-----|
| Bore size | | φ20 | φ32 | φ40 | φ50 |
| 10 | 10 | ● | ● | | |
| 15 | 15 | ● | ● | | |
| 20 | 20 | ● | ● | ● | ● |
| 25 | 25 | | | ● | ● |
| 30 | 30 | | | ● | ● |

| D 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 (custom order) | 3-wire |
| T3PH* | T3PV* | | | ● | | |
| T2WH* | T2WV* | | | ● | 2-color display | 2-wire |
| T2YH* | T2YV* | | | ● | | |
| T3WH* | T3WV* | | | ● | | 3-wire |
| T3YH* | T3YV* | | | ● | | |
| T2JH* | T2JV* | | ● | 1-color display off-delay | 2-wire | |

* Lead wire length (m)

| | |
|-------|----------------|
| 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 |

| F Option | |
|-----------------|----------------------------|
| Blank | Rod end no thread |
| N11 | With rod end female thread |

⚠ Precautions for model No. selection

*1 : Switches other than **D** Switch model No. are also available. (Custom order)
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.]

STK-MY-20-10-T0H-R-N11

Model: Stopper cylinder single acting/pull, rod end form chamfered type

- A** Bore size : φ20 mm
- B** Port thread : Rc thread
- C** Stroke length : 10 mm
- D** Switch model No. : Reed T0H switch, Lead wire 1m
- E** Switch quantity : 1 on rod side
- F** Option : With rod end female thread

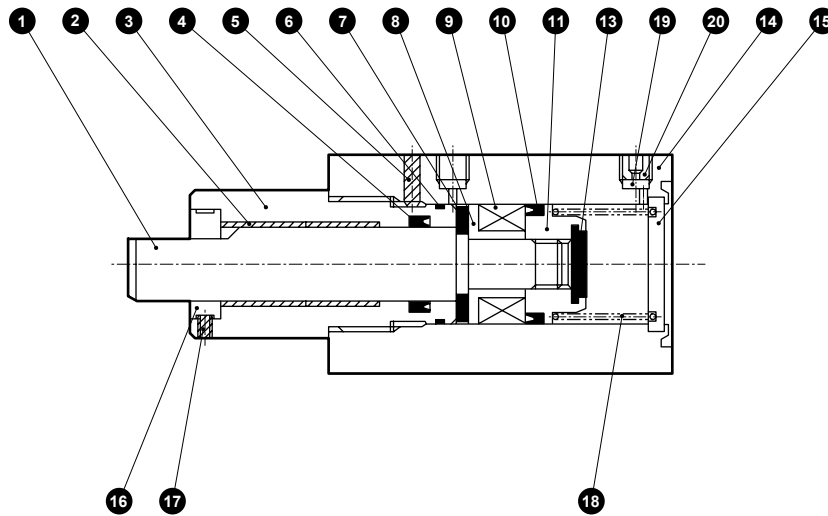
How to order switch

SW - T0H

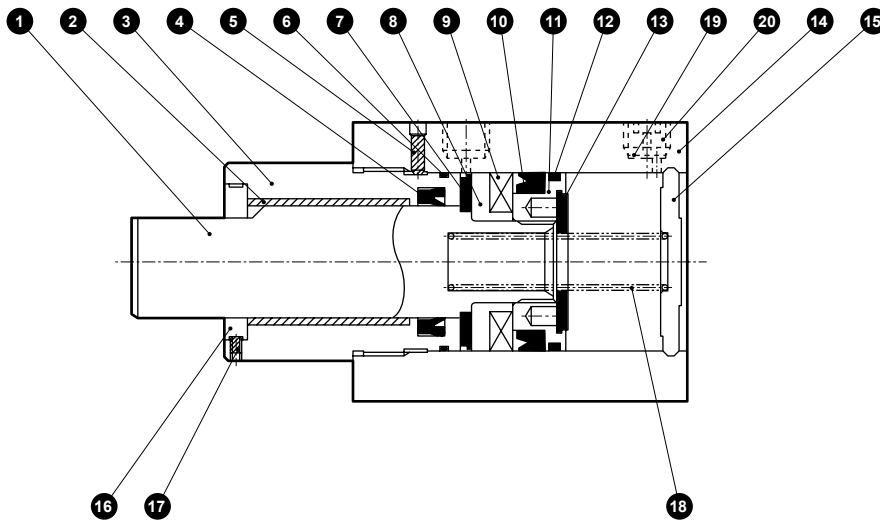
Switch model No.
(Item **D** above)

Internal structure and parts list

● STK-MY-20



● STK-MY-32/40/50



| No. | Part name | Material | Remarks | No. | Part name | Material | Remarks |
|-----|--------------------------|-----------------|---------------------------|-----|---------------------------|--|---|
| 1 | Piston rod | Stainless steel | Industrial chrome plating | 12 | Wear ring | Acetal resin | |
| 2 | Bush | Dry bearing | | 13 | Cushion rubber H | Urethane rubber | |
| 3 | Rod cover | Aluminum alloy | Alumite | 14 | Body | Aluminum alloy | Hard alumite |
| 4 | Rod packing | Nitrile rubber | | 15 | Cover | φ20: Steel φ32 to φ50: Aluminum alloy | φ20: Galvanizing φ32 to 50: Chromate |
| 5 | Hexagon socket set screw | Steel | Black finish | 16 | Rotation-stop spacer | Steel | Nickeling |
| 6 | Metal gasket | Nitrile rubber | | 17 | Hexagon socket set screw | Steel | Black finish |
| 7 | Cushion rubber R | Urethane rubber | | 18 | Coil spring | Steel | Electrodeposition |
| 8 | Spacer | Aluminum alloy | | 19 | Stainless steel wire mesh | Stainless steel | |
| 9 | Magnet | Plastic | Chromate | 20 | Plug | Stainless steel | |
| 10 | Piston packing | Nitrile rubber | | | | | |
| 11 | Piston | Aluminum alloy | Chromate | | | | |

Repair parts list

| Bore size (mm) | Kit No. | Repair parts No. |
|----------------|-----------|------------------|
| φ20 | STK-Y-20K | |
| φ32 | STK-Y-32K | 4 6 10 |
| φ40 | STK-Y-40K | 12 13 |
| φ50 | STK-Y-50K | |

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/IN2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

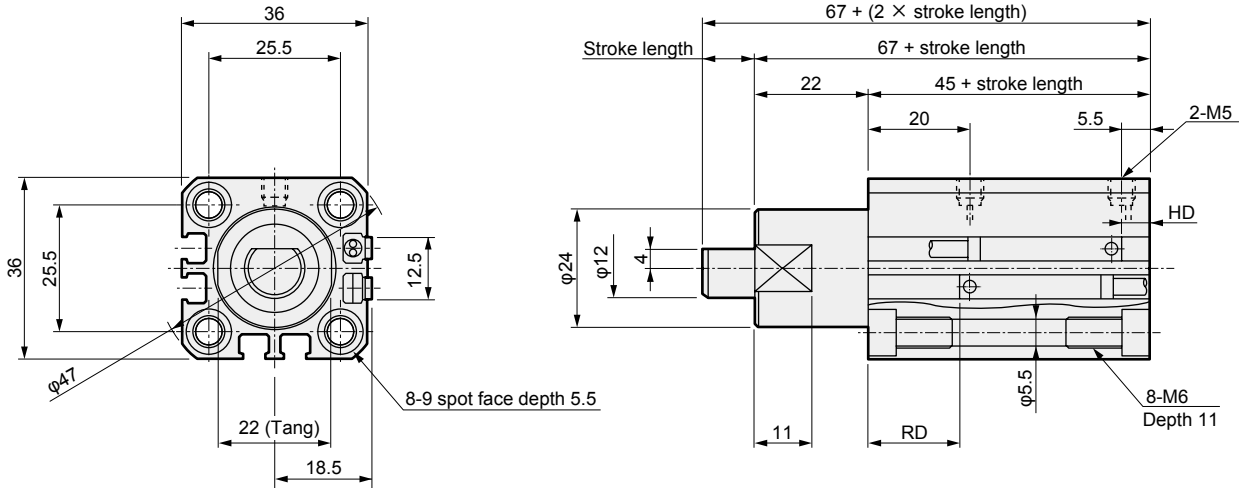
Ending

STK-MY Series

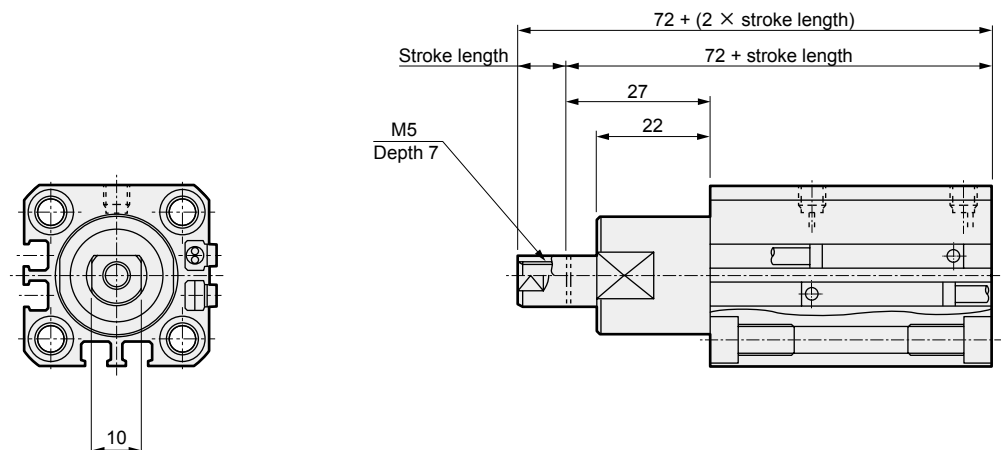
Dimensions



● STK-MY-20



● STK-MY-20-N11 (Dimensions other than displayed dimensions are the same as those of the above (STK-MY-20).)



Dimensions with switch

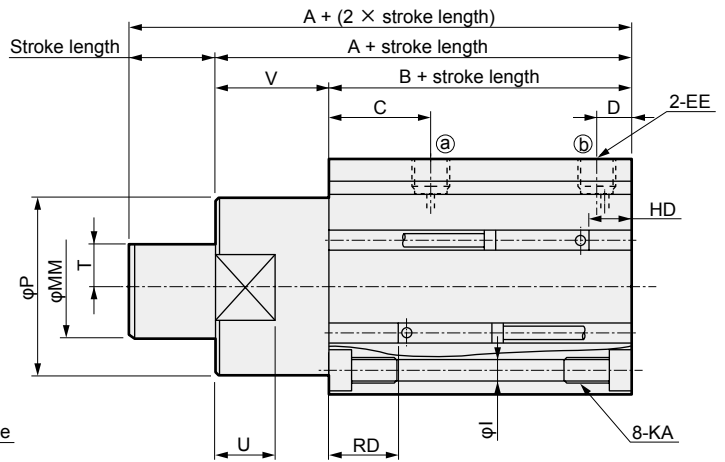
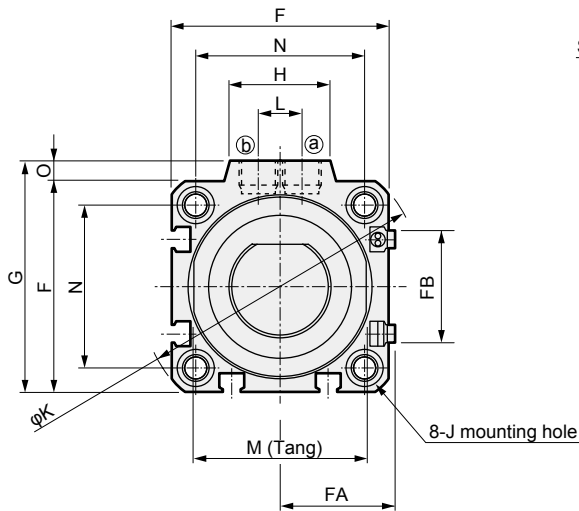
| Bore size | Reed T0H/T0V/T5H/T5V | | Proximity T2H/T2V/T3H/T3V | | Proximity T2WH/T2WV/T3WH/T3WV | |
|-----------|----------------------|------|---------------------------|------|-------------------------------|----|
| | HD | RD | HD | RD | HD | RD |
| $\phi 20$ | 7 | 19.5 | 7 | 19.5 | 8.5 | 21 |

Note: Refer to page 1542 for HD, RD and protruding dimensions of the 2-color display, off-delay, T1* and T8* switches.

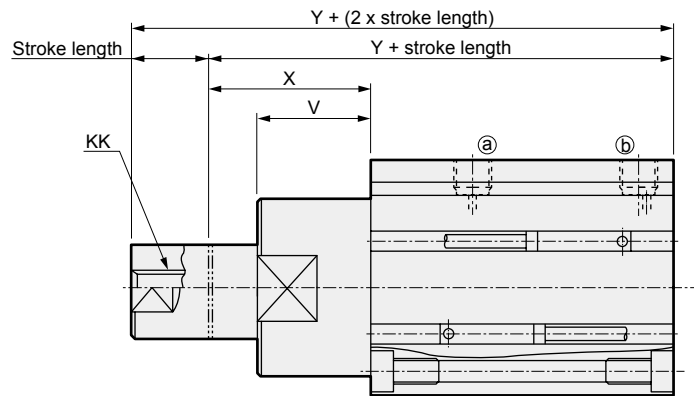
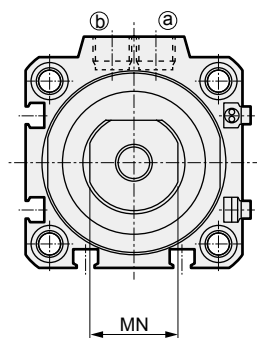
Dimensions



● STK-MY-32/40/50



● STK-MY-32/40/50-N11 (Dimensions other than displayed dimensions are the same as those of the above (STK-MY-32/40/50).)



| Code | A | B | C | D | EE | F | FA | FB | G | H | I | J | K | KA | KK | L | M | MM | MN | N | O | P | T | U | V | X | Y |
|------|------|------|------|------|-------|----|------|------|------|----|-----|------------------------|----|-------------|--------------|----|----|----|----|----|-----|----|----|----|----|----|------|
| φ32 | 68 | 48 | 20 | 8 | Rc1/8 | 45 | 23 | 20.5 | 49.5 | 24 | 5.5 | 9 spot face depth 5.5 | 60 | M6 depth 11 | M8 depth 13 | 10 | 32 | 20 | 17 | 34 | 4.5 | 36 | 8 | 13 | 20 | 30 | 78 |
| φ40 | 80.5 | 52.5 | 24.5 | 8.5 | Rc1/8 | 52 | 26.5 | 27.5 | 57 | 24 | 5.5 | 9 spot face depth 5.5 | 69 | M6 depth 11 | M8 depth 13 | 10 | 41 | 25 | 22 | 40 | 5 | 44 | 10 | 15 | 28 | 38 | 90.5 |
| φ50 | 82 | 54 | 24.5 | 10.5 | Rc1/4 | 64 | 32.5 | 28.5 | 71 | 33 | 6.9 | 11 spot face depth 6.5 | 86 | M8 depth 13 | M10 depth 15 | 15 | 50 | 30 | 27 | 50 | 7 | 56 | 12 | 15 | 28 | 43 | 97 |

Dimensions with switch

| Bore size | Reed T0H/T0V/T5H/T5V | | Proximity T2H/T2V/T3H/T3V | | Proximity T2WH/T2WV/T3WH/T3WV | |
|-----------|----------------------|----|---------------------------|----|-------------------------------|------|
| | HD | RD | HD | RD | HD | RD |
| φ32 | 10.5 | 20 | 10.5 | 20 | 12 | 21.5 |
| φ40 | 11.5 | 23 | 11.5 | 23 | 13 | 24.5 |
| φ50 | 12.5 | 23 | 12.5 | 23 | 14 | 24.5 |

Note: Refer to page 1542 for HD, RD and protruding dimensions of the 2-color display, off-delay, T1* and T8* switches.

- SCP*3
- CMK2
- CMA2
- SCM
- SCG
- SCA2
- SCS2
- CKV2
- CAV2/COVP/N2
- SSD2
- SSG
- SSD
- CAT
- MDC2
- MVC
- SMG
- MSD/MSDG
- FC*
- STK**
- SRL3
- SRG3
- SRM3
- SRT3
- MRL2
- MRG2
- SM-25
- ShkAbs
- FJ
- FK
- Spd Contr
- Ending



Stopper cylinder double acting/spring integrated
rod end form chamfered type

STK-MY1 Series

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

JIS symbol



Double acting/spring integrated



Specifications

1 MPa = 10 bar

| Descriptions | STK-MY1 | | | |
|--|--|-----------------------------------|-----------|-----------|
| Bore size mm | $\phi 20$ | $\phi 32$ | $\phi 40$ | $\phi 50$ |
| Actuation | Double acting/spring integrated | | | |
| Working fluid | Compressed air | | | |
| Max. working pressure MPa | 1.0 (≈ 150 psi, 10 bar) | | | |
| Min. working pressure MPa | 0.22 (≈ 32 psi) | 0.12 (≈ 17 psi, 1.2 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 | M5 | Rc1/8 | Rc1/4 | |
| Stroke tolerance mm | +2.0 0 | | | |
| Working piston speed mm/s | 50 to 500 | | | |
| Cushion | With rubber cushion | | | |
| Lubrication | Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication) | | | |
| Rod end form | Chamfered type | | | |
| Allowable absorbed energy J | Refer to page 1544. | | | |

Stroke length

| Bore size (mm) | Stroke length (mm) | Max. stroke length (mm) | Min. stroke length (mm) | Min. stroke with switch (mm) |
|----------------|--------------------|-------------------------|-------------------------|------------------------------|
| $\phi 20$ | 10, 15, 20 | 20 | 10 | 10 |
| $\phi 32$ | | | | |
| $\phi 40$ | 20, 25, 30 | 30 | 20 | 20 |
| $\phi 50$ | | | | |

Note: Products other than standard stroke length are custom order products.

Spring load

(Unit: N)

| Bore size (mm) | Stroke length (mm) | When stroke length = 0 | At full stroke length operation |
|----------------|--------------------|------------------------|---------------------------------|
| $\phi 20$ | 10 | 11.5 | 14.7 |
| | 15 | 9.9 | |
| | 20 | 8.2 | |
| $\phi 32$ | 10 | 24.5 | 31.4 |
| | 15 | 21.1 | |
| | 20 | 17.6 | |
| $\phi 40$ | 20 | 29.0 | 44.4 |
| | 25 | 25.3 | |
| | 30 | 21.5 | |
| $\phi 50$ | 20 | 55.4 | 84.8 |
| | 25 | 48.0 | |
| | 30 | 40.7 | |

Switch specifications

- 1-color/2-color display

| Descriptions | Proximity 2-wire | | Proximity 2-wire | | | | Proximity 3-wire | | | | Reed 2-wire | | | | | | |
|-----------------|--|----------------------|---------------------------------------|-----------------------------------|----------------------|-----------------------------|------------------------------------|-----------------------------------|----------------------|----------------------|------------------------------------|-------------|--|---------------|------------------------------------|------------|------------|
| | T1H/T1V | T2JH/T2JV | T2YH/T2YV | T2WH/T2WV | T3H/T3V | T3PH/T3PV (custom) | T3YH/T3YV | T3WH/T3WV | T0H/T0V | T5H/T5V | | T8H/T8V | | | | | |
| Applications | For programmable controller, relay, compact solenoid valve | | Dedicated for programmable controller | | | | For programmable controller, relay | | | | For programmable controller, relay | | For programmable controller, relay (no lamp), serial | | For programmable controller, relay | | |
| 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 |
| Load current | 5 to 100 mA | | 5 to 20 mA (*2) | | | | 100 mA or less | | 50 mA or less | | 5 to 50 mA | 7 to 20 mA | 50 mA or less | 20 mA or less | 5 to 50 mA | 7 to 20 mA | 7 to 10 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) | | | | |
| Leakage current | ≤ 1 mA at 100 VAC, ≤ 2 mA at 200 VAC | | 1 mA or less | | | | 10 µA or less | | | | 0 mA | | | | | | |
| 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 | | 3 m:49 | 3 m:87 | 3 m:49 | 3 m:49 | | 3 m:87 | 3 m:49 | | | | 3 m:87 | | | | |
| | 5 m:142 | | 5 m:80 | 5 m:142 | 5 m:80 | 5 m:80 | | 5 m:142 | 5 m:80 | | | | 5 m:142 | | | | |

*1: Refer to Ending Page 1 for other switch specifications.

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

*3: The T0/T5 switch can also be used with 220 VAC. Contact CKD about working conditions.

*4: Dimensions depend on switch model No. Refer to Ending Page 18 for details.

Cylinder weight

(Unit: g)

| Stroke length | 10 | 15 | 20 | 25 | 30 | Switch weight (Grommet) |
|---------------|-----|-----|------|------|------|-------------------------|
| φ20 | 218 | 233 | 247 | - | - | |
| φ32 | 457 | 482 | 507 | - | - | |
| φ40 | - | - | 812 | 853 | 894 | |
| φ50 | - | - | 1302 | 1328 | 1354 | |

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 |
| φ20 | Push | - | - | - | 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 | - | - | - | 45.6 | 65.7 | 85.8 | 1.06×10 ² | 1.26×10 ² | 1.46×10 ² | 1.66×10 ² | 1.86×10 ² |
| φ32 | 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 | 17.6 | 42.1 | 66.6 | 1.16×10 ² | 1.65×10 ² | 2.14×10 ² | 2.63×10 ² | 3.12×10 ² | 3.61×10 ² | 4.10×10 ² | 4.59×10 ² |
| φ40 | 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 | 32.2 | 70.5 | 1.09×10 ² | 1.85×10 ² | 2.62×10 ² | 3.38×10 ² | 4.15×10 ² | 4.92×10 ² | 5.68×10 ² | 6.45×10 ² | 7.21×10 ² |
| φ50 | 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 | 40.9 | 1.04×10 ² | 1.67×10 ² | 2.92×10 ² | 4.18×10 ² | 5.44×10 ² | 6.69×10 ² | 7.95×10 ² | 9.21×10 ² | 1.05×10 ³ | 1.17×10 ³ |

STK-MY1 Series

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/
COVPIN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/
MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd
Contr
Ending

How to order

Without switch (built-in magnet for switch)

STK-MY1 - **20** - **10** - **N11**

With switch (built-in magnet for switch)

STK-MY1 - **20** - **10** - **T0H** - **R** - **N11**

A Bore size

B Port thread

C Stroke length

D Switch model No.
*1
*2

E Switch quantity

F Option

⚠ Precautions for model No. selection

*1: Switches other than **D** Switch model No. are also available. (Custom order)
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.]

STK-MY1-20-10-T0H-R-N11

Model: Stopper cylinder

Double acting/spring integrated/rod end form chamfered type

- A** Bore size : $\phi 20$ mm
- B** Port thread : Rc thread
- C** Stroke length : 10mm
- D** Switch model No. : Reed T0H switch,
Lead wire 1m
- E** Switch quantity : 1 on rod side
- F** Option : Rod end female thread

| Code | Content |
|-------------------------|-----------|
| A Bore size (mm) | |
| 20 | $\phi 20$ |
| 32 | $\phi 32$ |
| 40 | $\phi 40$ |
| 50 | $\phi 50$ |

| B Port thread | |
|----------------------|---|
| Blank | Rc thread |
| NN | NPT thread ($\phi 32$ and over) (custom order product) |
| GN | G thread ($\phi 32$ and over) (custom order product) |

| C Stroke length (mm) | | | | | |
|-----------------------------|----|-----------|-----------|-----------|-----------|
| Bore size | | $\phi 20$ | $\phi 32$ | $\phi 40$ | $\phi 50$ |
| 10 | 10 | ● | ● | | |
| 15 | 15 | ● | ● | | |
| 20 | 20 | ● | ● | ● | ● |
| 25 | 25 | | | ● | ● |
| 30 | 30 | | | ● | ● |

| D 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 (custom order) | 3-wire |
| T3PH* | T3PV* | | | ● | | |
| T2WH* | T2WV* | | | ● | 2-color display | 2-wire |
| T2YH* | T2YV* | | | ● | | |
| T3WH* | T3WV* | | ● | | | |
| T3YH* | T3YV* | | ● | 1-color display off-delay | 2-wire | |
| T2JH* | T2JV* | | ● | | | |

| * Lead wire length (m) | |
|-------------------------------|----------------|
| 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 |

| F Option | |
|-----------------|----------------------------|
| Blank | Rod end no thread |
| N11 | With rod end female thread |

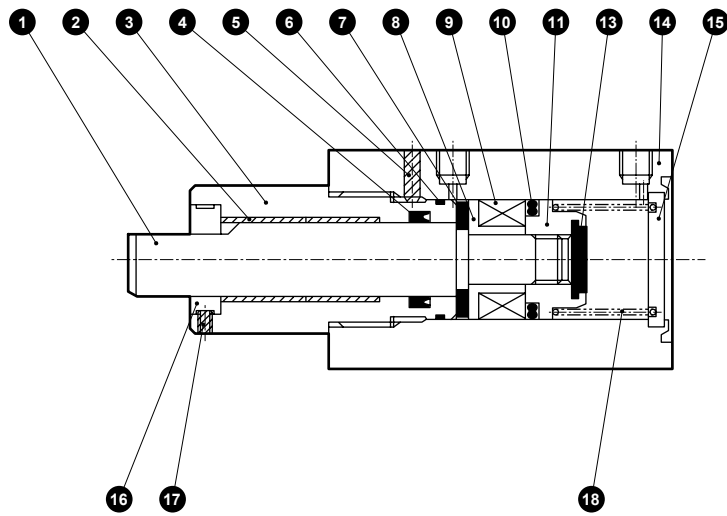
How to order switch

SW - **T0H**

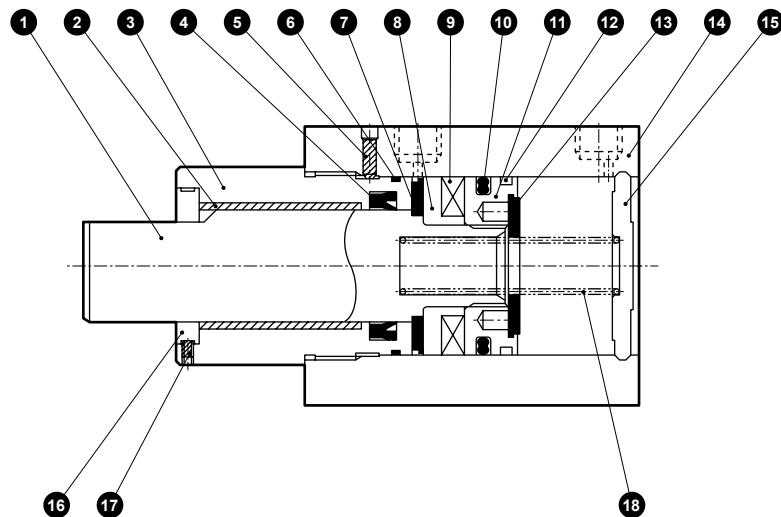
Switch model No.
(Item **D** above)

Internal structure and parts list

● STK-MY1-20



● STK-MY1-32/40/50



| No. | Part name | Material | Remarks | No. | Part name | Material | Remarks |
|-----|--------------------------|-----------------|---------------------------|-----|--------------------------|--|---|
| 1 | Piston rod | Stainless steel | Industrial chrome plating | 11 | Piston | Aluminum alloy | Chromate |
| 2 | Bush | Dry bearing | | 12 | Wear ring | Acetal resin | |
| 3 | Rod cover | Aluminum alloy | Alumite | 13 | Cushion rubber H | Urethane rubber | |
| 4 | Rod packing | Nitrile rubber | | 14 | Body | Aluminum alloy | Hard alumite |
| 5 | Hexagon socket set screw | Steel | Black finish | 15 | Cover | φ20: Steel φ32 to φ50: Aluminum alloy | φ20: Galvanizing φ32 to 50: Chromate |
| 6 | Metal gasket | Nitrile rubber | | 16 | Rotation-stop spacer | Steel | Nickeling |
| 7 | Cushion rubber R | Urethane rubber | | 17 | Hexagon socket set screw | Steel | Black finish |
| 8 | Spacer | Aluminum alloy | Chromate | 18 | Coil spring | Steel | Electrodeposition |
| 9 | Magnet | Plastic | | | | | |
| 10 | Piston packing | Nitrile rubber | | | | | |

Repair parts list

| Bore size (mm) | Kit No. | Repair parts No. |
|----------------|------------|------------------|
| φ20 | STK-Y1-20K | |
| φ32 | STK-Y1-32K | 4 6 10 |
| φ40 | STK-Y1-40K | 12 13 |
| φ50 | STK-Y1-50K | |

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

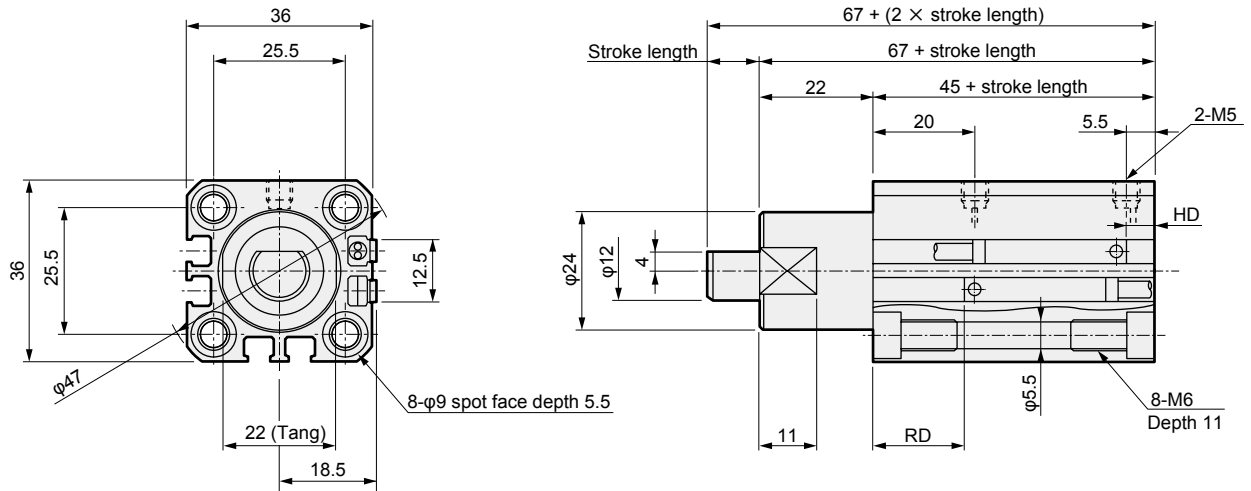
Ending

STK-MY1 Series

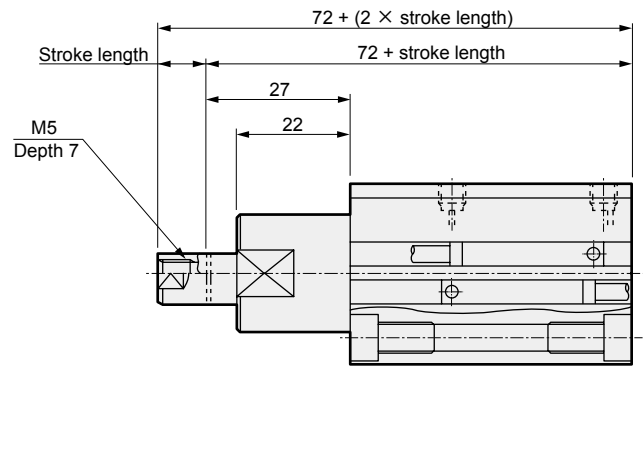
Dimensions



● STK-MY1-20



● STK-MY1-20-N11 (Dimensions other than displayed dimensions are the same as those of the above (STK-MY1-20).)



Dimensions with switch

| Bore size | Reed T0H/T0V/T5H/T5V | | Proximity T2H/T2V/T3H/T3V | | Proximity T2WH/T2WV/T3WH/T3WV | |
|-----------|----------------------|------|---------------------------|------|-------------------------------|----|
| | HD | RD | HD | RD | HD | RD |
| $\phi 20$ | 7 | 19.5 | 7 | 19.5 | 8.5 | 21 |

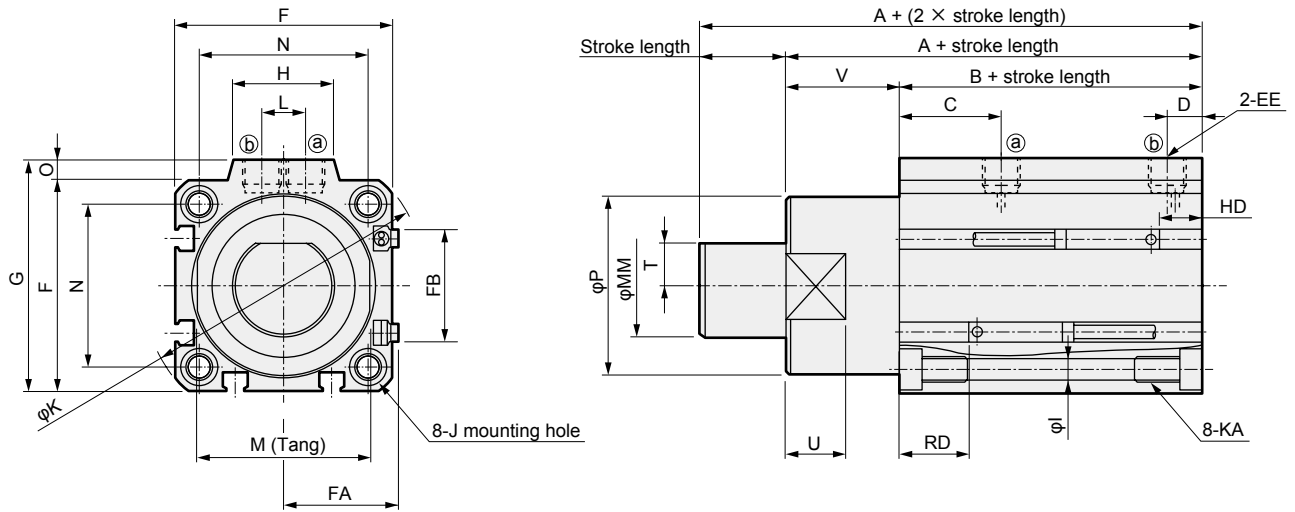
Note: Refer to page 1542 for HD, RD and protruding dimensions of the 2-color display, off-delay, T1* and T8* switches.

STK-MY1 Series

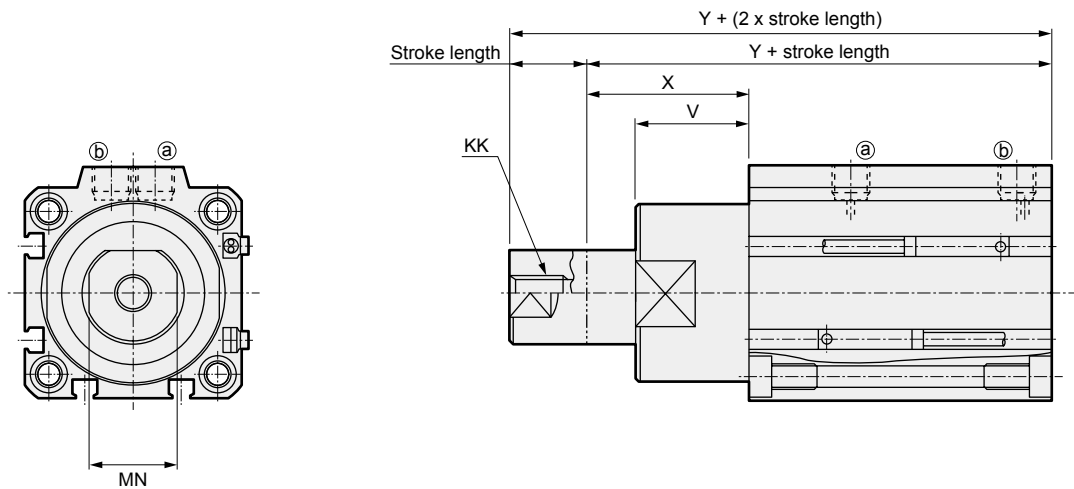
Double acting/spring integrated/rod end form chamfered type

Dimensions

● STK-MY1-32/40/50



● STK-MY1-32/40/50-N11 (Dimensions other than displayed dimensions are the same as those of the above (STK-MY1-32/40/50).)



| Code | A | B | C | D | EE | F | FA | FB | G | H | I | J | K | KA | KK | L | M | MM | MN | N | O | P | T | U | V | X | Y |
|------|------|------|------|------|-------|----|------|------|------|----|-----|------------------------|----|-------------|--------------|----|----|----|----|----|-----|----|----|----|----|----|------|
| φ32 | 68 | 48 | 20 | 8 | Rc1/8 | 45 | 23 | 20.5 | 49.5 | 24 | 5.5 | 9 spot face depth 5.5 | 60 | M6 depth 11 | M8 depth 13 | 10 | 32 | 20 | 17 | 34 | 4.5 | 36 | 8 | 13 | 20 | 30 | 78 |
| φ40 | 80.5 | 52.5 | 24.5 | 8.5 | Rc1/8 | 52 | 26.5 | 27.5 | 57 | 24 | 5.5 | 9 spot face depth 5.5 | 69 | M6 depth 11 | M8 depth 13 | 10 | 41 | 25 | 22 | 40 | 5 | 44 | 10 | 15 | 28 | 38 | 90.5 |
| φ50 | 82 | 54 | 24.5 | 10.5 | Rc1/4 | 64 | 32.5 | 28.5 | 71 | 33 | 6.9 | 11 spot face depth 6.5 | 86 | M8 depth 13 | M10 depth 15 | 15 | 50 | 30 | 27 | 50 | 7 | 56 | 12 | 15 | 28 | 43 | 97 |

Dimensions with switch

| Bore size | Reed T0H/T0V/T5H/T5V | | Proximity T2H/T2V/T3H/T3V | | Proximity T2WH/T2WV/T3WH/T3WV | |
|-----------|----------------------|----|---------------------------|----|-------------------------------|------|
| | HD | RD | HD | RD | HD | RD |
| φ32 | 10.5 | 20 | 10.5 | 20 | 12 | 21.5 |
| φ40 | 11.5 | 23 | 11.5 | 23 | 13 | 24.5 |
| φ50 | 12.5 | 23 | 12.5 | 23 | 14 | 24.5 |

Note: Refer to page 1542 for HD, RD and protruding dimensions of the 2-color display, off-delay, T1* and T8* switches.

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/
COVP/N2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/
MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd
Contr
Ending



Stopper cylinder single acting/pull/rod end form roller

STK-JY Series

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



Single acting/pull



Specifications

1 MPa = 10 bar

| Descriptions | STK-JY | | | |
|--|--|-----------------------------------|-----------|-----------|
| | $\phi 20$ | $\phi 32$ | $\phi 40$ | $\phi 50$ |
| Bore size mm | $\phi 20$ | $\phi 32$ | $\phi 40$ | $\phi 50$ |
| Actuation | Single acting pull | | | |
| Working fluid | Compressed air | | | |
| Max. working pressure MPa | 1.0 (≈ 150 psi, 10 bar) | | | |
| Min. working pressure MPa | 0.22 (≈ 32 psi) | 0.12 (≈ 17 psi, 1.2 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 | M5 | Rc1/8 | Rc1/4 | |
| Stroke tolerance mm | +2.0 0 | | | |
| Working piston speed mm/s | 50 to 500 | | | |
| Cushion | With rubber cushion | | | |
| Lubrication | Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication) | | | |
| Rod end form | Roller | | | |
| Allowable absorbed energy J | Refer to page 1544. | | | |

Stroke length

| Bore size (mm) | Stroke length (mm) | Max. stroke length (mm) | Min. stroke length (mm) | Min. stroke with switch (mm) |
|----------------|--------------------|-------------------------|-------------------------|------------------------------|
| $\phi 20$ | 10, 15, 20 | 20 | 10 | 10 |
| $\phi 32$ | | | | |
| $\phi 40$ | 20, 25, 30 | 30 | 20 | 20 |
| $\phi 50$ | | | | |

Note: Products other than standard stroke length are custom order products.

Spring load

(Unit: N)

| Bore size (mm) | Stroke length (mm) | When stroke length = 0 | At full stroke length operation |
|----------------|--------------------|------------------------|---------------------------------|
| $\phi 20$ | 10 | 11.5 | 14.7 |
| | 15 | 9.9 | |
| | 20 | 8.2 | |
| $\phi 32$ | 10 | 24.5 | 31.4 |
| | 15 | 21.1 | |
| | 20 | 17.6 | |
| $\phi 40$ | 20 | 29.0 | 44.4 |
| | 25 | 25.3 | |
| | 30 | 21.5 | |
| $\phi 50$ | 20 | 55.4 | 84.8 |
| | 25 | 48.0 | |
| | 30 | 40.7 | |

Switch specifications

● 1-color/2-color display

| Descriptions | Proximity 2-wire | | Proximity 2-wire | | | | Proximity 3-wire | | | | Reed 2-wire | | | | | | |
|-----------------|--|-----------------------|---------------------------------------|--------------------------------|--------------------------------|-----------------------|------------------------------------|--------------------------------|--------------------------------|----------------------|------------------------------------|------------------------|--|----------------------|------------------------------------|------------|------------|
| | T1H/T1V | T2H/T2V/ T2JH/T2JV | T2YH/ T2YV | T2WH/ T2WV | T3H/ T3V | T3PH/T3PV (custom) | T3YH/ T3YV | T3WH/ T3WV | T0H/T0V | T5H/T5V | | T8H/T8V | | | | | |
| Applications | For programmable controller, relay, compact solenoid valve | | Dedicated for programmable controller | | | | For programmable controller, relay | | | | For programmable controller, relay | | For programmable controller, relay (no lamp), serial | | For programmable controller, relay | | |
| 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 |
| Load current | 5 to 100 mA | | 5 to 20 mA (*2) | | | | 100 mA or less | | 50 mA or less | | 5 to 50 mA | 7 to 20 mA | 50 mA or less | 20 mA or less | 5 to 50 mA | 7 to 20 mA | 7 to 10 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) | | | |
| Leakage current | ≤ 1 mA at 100 VAC, ≤ 2 mA at 200 VAC | | 1 mA or less | | | | 10 μA or less | | | | 0 mA | | | | | | |
| 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 | | 3 m:49 | 3 m:87 | 3 m:49 | 3 m:49 | | 3 m:87 | 3 m:49 | | | | 3 m:87 | | | | |
| | 5 m:142 | | 5 m:80 | 5 m:142 | 5 m:80 | 5 m:80 | | 5 m:142 | 5 m:80 | | | | 5 m:142 | | | | |

*1: Refer to Ending Page 1 for other switch specifications.

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

*3: The T0/T5 switch can also be used with 220 VAC. Contact CKD about working conditions.

*4: Dimensions depend on switch model No. Refer to Ending Page 18 for details.

Cylinder weight

(Unit: g)

| Stroke length | 10 | 15 | 20 | 25 | 30 | Switch weight (Grommet) |
|---------------|-----|-----|------|------|------|-------------------------|
| φ20 | 225 | 240 | 254 | - | - | |
| φ32 | 482 | 507 | 532 | - | - | |
| φ40 | - | - | 862 | 903 | 944 | |
| φ50 | - | - | 1362 | 1388 | 1414 | |

Theoretical thrust table

(Unit: N)

| Bore size (mm) | Working pressure MPa | | | | | | | | |
|----------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | 1.0 |
| φ20 | - | 45.6 | 65.7 | 85.8 | 1.06 × 10 ² | 1.26 × 10 ² | 1.46 × 10 ² | 1.66 × 10 ² | 1.86 × 10 ² |
| φ32 | 66.6 | 1.16 × 10 ² | 1.65 × 10 ² | 2.14 × 10 ² | 2.63 × 10 ² | 3.12 × 10 ² | 3.61 × 10 ² | 4.10 × 10 ² | 4.59 × 10 ² |
| φ40 | 1.09 × 10 ² | 1.85 × 10 ² | 2.62 × 10 ² | 3.38 × 10 ² | 4.15 × 10 ² | 4.92 × 10 ² | 5.68 × 10 ² | 6.45 × 10 ² | 7.21 × 10 ² |
| φ50 | 1.67 × 10 ² | 2.92 × 10 ² | 4.18 × 10 ² | 5.44 × 10 ² | 6.69 × 10 ² | 7.95 × 10 ² | 9.21 × 10 ² | 1.05 × 10 ³ | 1.17 × 10 ³ |

STK-JY Series

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/
COVPIN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/
MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd
Contr
Ending

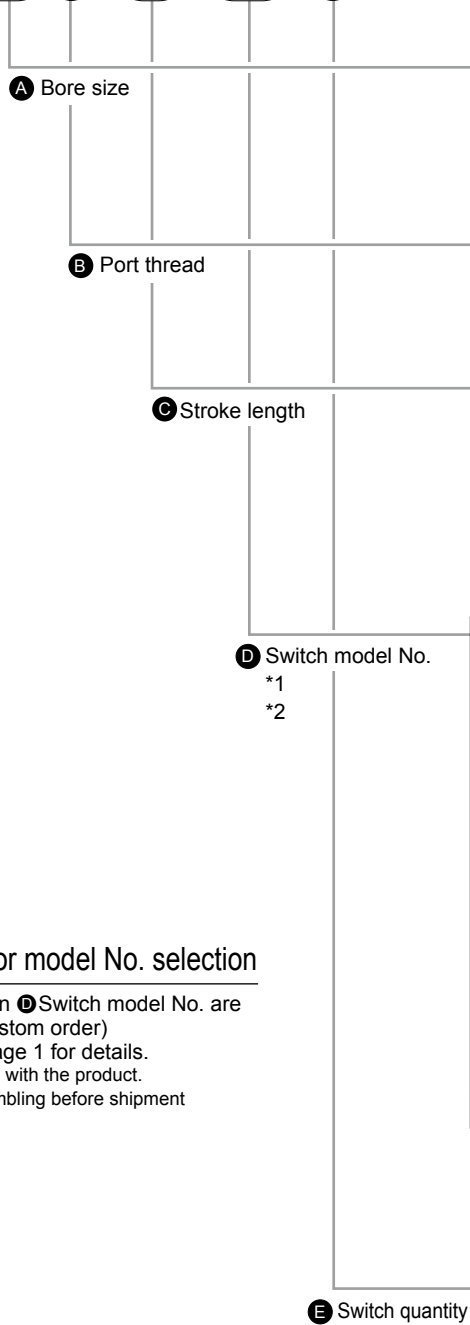
How to order

Without switch (built-in magnet for switch)

STK-JY - 20 - 10

With switch (built-in magnet for switch)

STK-JY - 20 - 10 - T0H - R



⚠ Precautions for model No. selection

*1 : Switches other than **D** Switch model No. are also available. (Custom order)
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.]

STK-JY-20-10-T0H-R

Model: Stopper cylinder single acting/pull, rod end form roller

- A** Bore size : $\phi 20$ mm
- B** Port thread : Rc thread
- C** Stroke length : 10mm
- D** Switch model No. : Reed T0H switch, Lead wire 1m
- E** Switch quantity : 1 on rod side

| Code | Content | | | | | |
|-------------------------------|---|-----------|-----------|--------------------------------|------------------------|-----------|
| A Bore size (mm) | | | | | | |
| 20 | $\phi 20$ | | | | | |
| 32 | $\phi 32$ | | | | | |
| 40 | $\phi 40$ | | | | | |
| 50 | $\phi 50$ | | | | | |
| B Port thread | | | | | | |
| Blank | Rc thread | | | | | |
| NN | NPT thread ($\phi 32$ and over) (custom order product) | | | | | |
| GN | G thread ($\phi 32$ and over) (custom order product) | | | | | |
| C Stroke length (mm) | | | | | | |
| | Bore size | $\phi 20$ | $\phi 32$ | $\phi 40$ | $\phi 50$ | |
| 10 | 10 | ● | ● | | | |
| 15 | 15 | ● | ● | | | |
| 20 | 20 | ● | ● | ● | ● | |
| 25 | 25 | | | ● | ● | |
| 30 | 30 | | | ● | ● | |
| D 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 | |
| | | Proximity | ● | | 1-color display | 2-wire |
| | | | | ● | | |
| | | | | ● | | |
| T3PH* | T3PV* | | ● | 1-color display (custom order) | 3-wire | |
| T2WH* | T2VW* | | ● | 2-color display | 2-wire | |
| T2YH* | T2YV* | | ● | | | |
| T3WH* | T3VW* | | ● | | 3-wire | |
| T3YH* | T3YV* | | ● | 1-color display off-delay | 2-wire | |
| T2JH* | T2JV* | | ● | | | |
| * Lead wire length (m) | | | | | | |
| 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 | | | | | |

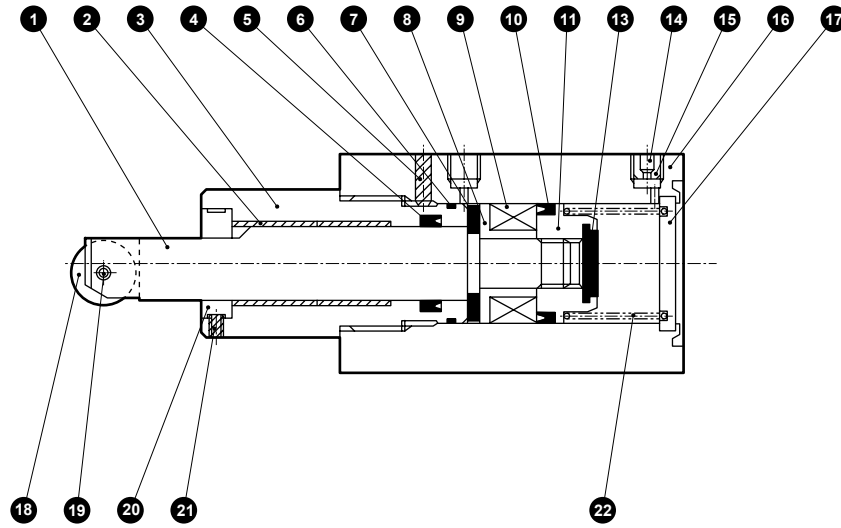
How to order switch

SW - T0H

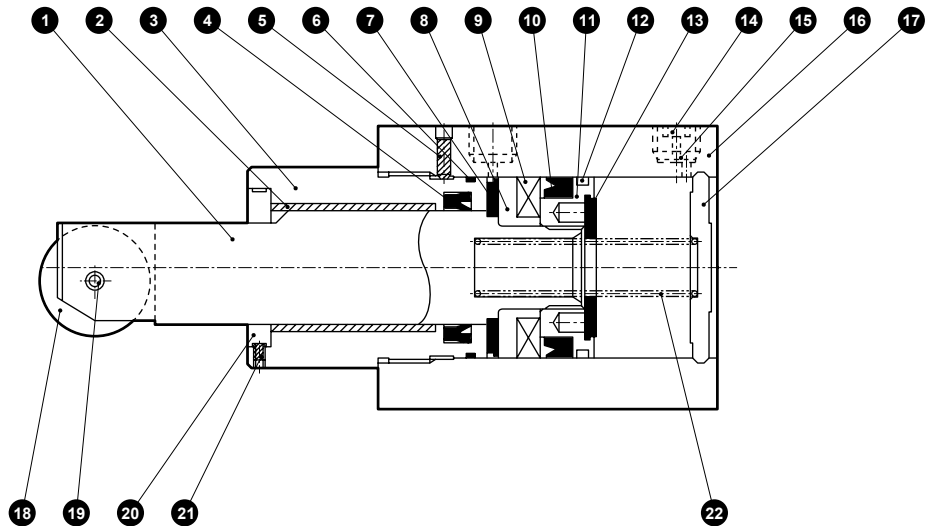
Switch model No.
(Item **D** above)

Internal structure and parts list

● STK-JY-20



● STK-JY-32/40/50



| No. | Part name | Material | Remarks | No. | Part name | Material | Remarks |
|-----|--------------------------|-----------------|---------------------------|-----|---------------------------|--|---|
| 1 | Piston rod | Stainless steel | Industrial chrome plating | 13 | Cushion rubber H | Urethane rubber | |
| 2 | Bush | Dry bearing | | 14 | Stainless steel wire mesh | Stainless steel | |
| 3 | Rod cover | Aluminum alloy | Alumite | 15 | Plug | Stainless steel | |
| 4 | Rod packing | Nitrile rubber | | 16 | Body | Aluminum alloy | Hard alumite |
| 5 | Hexagon socket set screw | Steel | Black finish | 17 | Cover | φ20: Steel φ32 to φ50: Aluminum alloy | φ20: Galvanizing φ32 to 50: Chromate |
| 6 | Metal gasket | Nitrile rubber | | 18 | Roller | Resin | |
| 7 | Cushion rubber R | Urethane rubber | | 19 | Spring pin | Carbon tool steel | |
| 8 | Spacer | Aluminum alloy | Chromate | 20 | Rotation-stop spacer | Steel | Nickeling |
| 9 | Magnet | Plastic | | 21 | Hexagon socket set screw | Steel | Black finish |
| 10 | Piston packing | Nitrile rubber | | 22 | Coil spring | Steel | Electrodeposition |
| 11 | Piston | Aluminum alloy | Chromate | | | | |
| 12 | Wear ring | Acetal resin | | | | | |

Repair parts list

| Bore size (mm) | Kit No. | Repair parts No. |
|----------------|-----------|------------------|
| φ20 | STK-Y-20K | |
| φ32 | STK-Y-32K | 4 6 10 |
| φ40 | STK-Y-40K | 12 13 |
| φ50 | STK-Y-50K | |

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

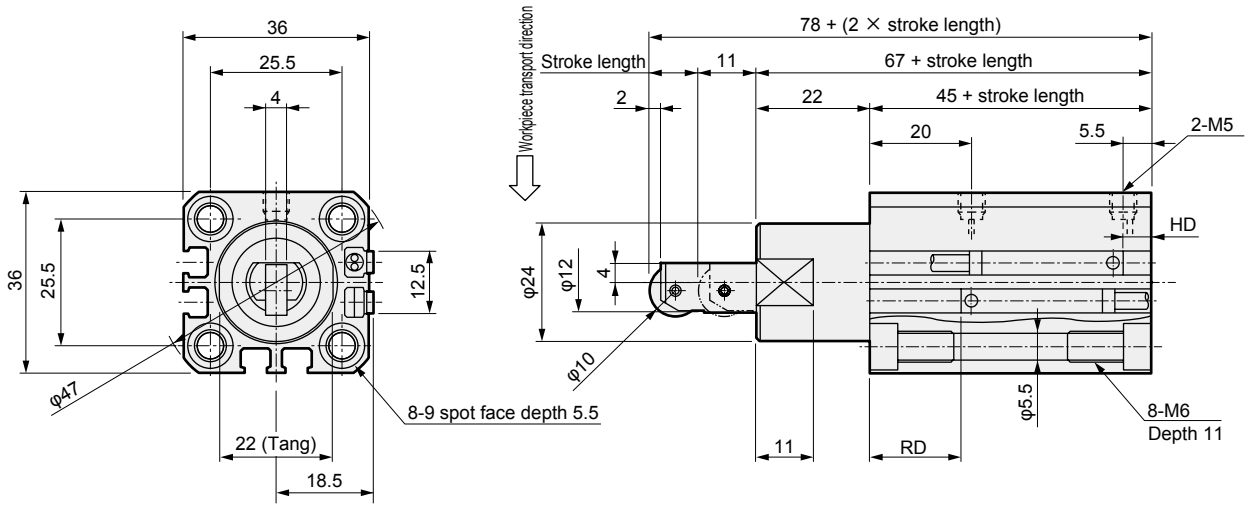
Ending

STK-JY Series

Dimensions



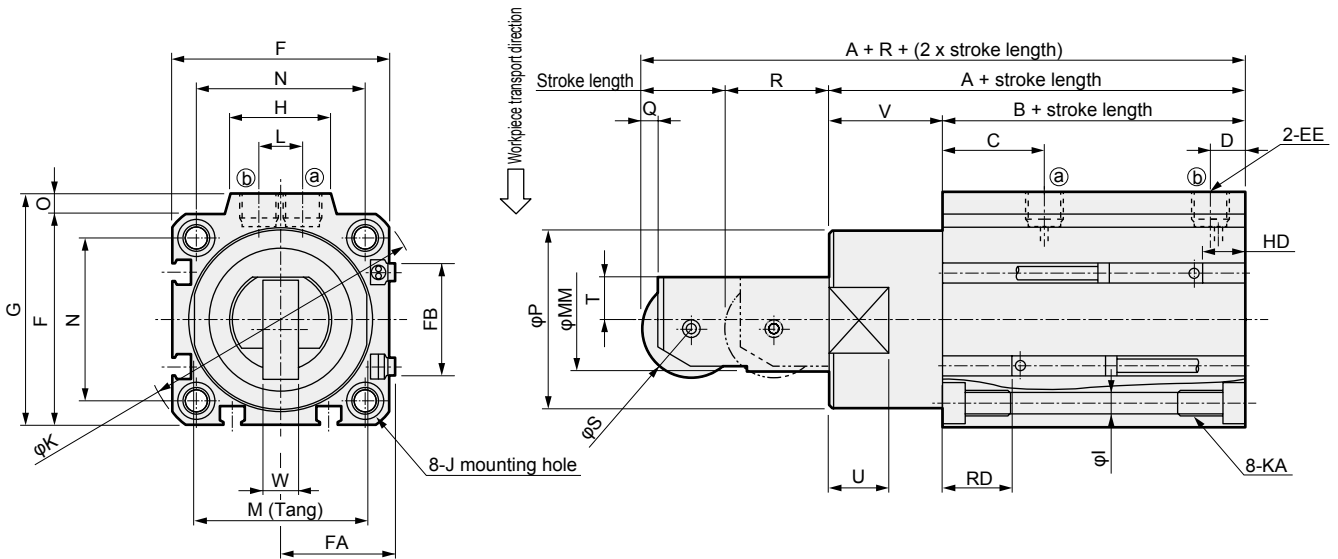
● STK-JY-20



Dimensions with switch

| Bore size | Reed T0H/T0V/T5H/T5V | | Proximity T2H/T2V/T3H/T3V | | Proximity T2WH/T2WV/T3WH/T3WV | |
|-----------|----------------------|------|---------------------------|------|-------------------------------|----|
| | HD | RD | HD | RD | HD | RD |
| φ20 | 7 | 19.5 | 7 | 19.5 | 8.5 | 21 |

● STK-JY-32/40/50



| Code | A | B | C | D | EE | F | FA | FB | G | H | I | J | K | KA | L | M | MM | N | O | P | Q | R | S | T | U | V | W |
|------|------|------|------|------|-------|----|------|------|------|----|-----|------------------------|----|-------------|----|----|----|----|-----|----|---|----|----|----|----|----|----|
| φ32 | 68 | 48 | 20 | 8 | Rc1/8 | 45 | 23 | 20.5 | 49.5 | 24 | 5.5 | 9 spot face depth 5.5 | 60 | M6 depth 11 | 10 | 32 | 20 | 34 | 4.5 | 36 | 3 | 19 | 18 | 8 | 13 | 20 | 8 |
| φ40 | 80.5 | 52.5 | 24.5 | 8.5 | Rc1/8 | 52 | 26.5 | 27.5 | 57 | 24 | 5.5 | 9 spot face depth 5.5 | 69 | M6 depth 11 | 10 | 41 | 25 | 40 | 5 | 44 | 4 | 25 | 24 | 10 | 15 | 28 | 9 |
| φ50 | 82 | 54 | 24.5 | 10.5 | Rc1/4 | 64 | 32.5 | 28.5 | 71 | 33 | 6.9 | 11 spot face depth 6.5 | 86 | M8 depth 13 | 15 | 50 | 30 | 50 | 7 | 56 | 4 | 25 | 28 | 12 | 15 | 28 | 10 |

Dimensions with switch

| Bore size | Reed T0H/T0V/T5H/T5V | | Proximity T2H/T2V/T3H/T3V | | Proximity T2WH/T2WV/T3WH/T3WV | |
|-----------|----------------------|----|---------------------------|----|-------------------------------|------|
| | HD | RD | HD | RD | HD | RD |
| φ32 | 10.5 | 20 | 10.5 | 20 | 12 | 21.5 |
| φ40 | 11.5 | 23 | 11.5 | 23 | 13 | 24.5 |
| φ50 | 12.5 | 23 | 12.5 | 23 | 14 | 24.5 |

Note: Refer to page 1542 for HD, RD and protruding dimensions of the 2-color display, off-delay, T1* and T8* switches.

MEMO

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

**MSD/
MSDG**

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

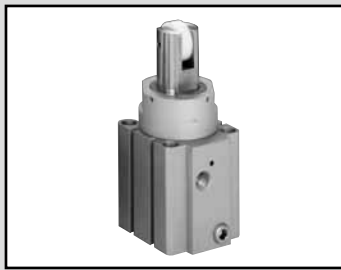
ShkAbs

FJ

FK

Spd
Contr

Ending



Stopper cylinder double acting/spring integrated/rod end form roller

STK-JY1 Series

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



Double acting spring integrated pull type



Specifications

1 MPa = 10 bar

| Descriptions | STK-JY1 | | | |
|--|--|-----------------------------------|-----------|-----------|
| Bore size mm | $\phi 20$ | $\phi 32$ | $\phi 40$ | $\phi 50$ |
| Actuation | Double acting/spring integrated | | | |
| Working fluid | Compressed air | | | |
| Max. working pressure MPa | 1.0 (≈ 150 psi, 10 bar) | | | |
| Min. working pressure MPa | 0.22 (≈ 32 psi) | 0.12 (≈ 17 psi, 1.2 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 | M5 | Rc1/8 | Rc1/4 | |
| Stroke tolerance mm | +2.0 0 | | | |
| Working piston speed mm/s | 50 to 500 | | | |
| Cushion | With rubber cushion | | | |
| Lubrication | Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication) | | | |
| Rod end form | Roller | | | |
| Allowable absorbed energy J | Refer to page 1544. | | | |

Stroke length

| Bore size (mm) | Stroke length (mm) | Max. stroke length (mm) | Min. stroke length (mm) | Min. stroke with switch (mm) |
|----------------|--------------------|-------------------------|-------------------------|------------------------------|
| $\phi 20$ | 10, 15, 20 | 20 | 10 | 10 |
| $\phi 32$ | | | | |
| $\phi 40$ | 20, 25, 30 | 30 | 20 | 20 |
| $\phi 50$ | | | | |

Note: Products other than standard stroke length are custom order products.

Spring load

(Unit: N)

| Bore size (mm) | Stroke length (mm) | When stroke length = 0 | At full stroke length operation |
|----------------|--------------------|------------------------|---------------------------------|
| $\phi 20$ | 10 | 11.5 | 14.7 |
| | 15 | 9.9 | |
| | 20 | 8.2 | |
| $\phi 32$ | 10 | 24.5 | 31.4 |
| | 15 | 21.1 | |
| | 20 | 17.6 | |
| $\phi 40$ | 20 | 29.0 | 44.4 |
| | 25 | 25.3 | |
| | 30 | 21.5 | |
| $\phi 50$ | 20 | 55.4 | 84.8 |
| | 25 | 48.0 | |
| | 30 | 40.7 | |

Switch specifications

- 1-color/2-color display

| Descriptions | Proximity 2-wire | | Proximity 2-wire | | | | Proximity 3-wire | | | | Reed 2-wire | | | | | | |
|-----------------|--|-----------------------|---------------------------------------|--------------------------------|--------------------------------|-----------------------|------------------------------------|--------------------------------|--------------------------------|----------------------|------------------------------------|------------------------|--|----------------------|------------------------------------|------------|------------|
| | T1H/T1V | T2H/T2V/ T2JH/T2JV | T2YH/ T2YV | T2WH/ T2WV | T3H/ T3V | T3PH/T3PV (custom) | T3YH/ T3YV | T3WH/ T3WV | T0H/T0V | T5H/T5V | | T8H/T8V | | | | | |
| Applications | For programmable controller, relay, compact solenoid valve | | Dedicated for programmable controller | | | | For programmable controller, relay | | | | For programmable controller, relay | | For programmable controller, relay (no lamp), serial | | For programmable controller, relay | | |
| 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 |
| Load current | 5 to 100 mA | | 5 to 20 mA (*2) | | | | 100 mA or less | | 50 mA or less | | 5 to 50 mA | 7 to 20 mA | 50 mA or less | 20 mA or less | 5 to 50 mA | 7 to 20 mA | 7 to 10 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) | | | |
| Leakage current | ≤ 1 mA at 100 VAC, ≤ 2 mA at 200 VAC | | 1 mA or less | | | | 10 µA or less | | | | 0 mA | | | | | | |
| 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 | | 3 m:49 | 3 m:87 | 3 m:49 | 3 m:49 | | 3 m:87 | 3 m:49 | | | | 3 m:87 | | | | |
| | 5 m:142 | | 5 m:80 | 5 m:142 | 5 m:80 | 5 m:80 | | 5 m:142 | 5 m:80 | | | | 5 m:142 | | | | |

*1: Refer to Ending Page 1 for other switch specifications.

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

*3: The T0/T5 switch can also be used with 220 VAC. Contact CKD about working conditions.

*4: Dimensions depend on switch model No. Refer to Ending Page 18 for details.

Cylinder weight table

(Unit: g)

| Stroke length | 10 | 15 | 20 | 25 | 30 | Switch weight (Grommet) |
|---------------|-----|-----|------|------|------|-------------------------|
| φ20 | 225 | 240 | 254 | - | - | |
| φ32 | 482 | 507 | 532 | - | - | |
| φ40 | - | - | 862 | 903 | 944 | |
| φ50 | - | - | 1362 | 1388 | 1414 | |

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 |
| φ20 | Push | - | - | - | 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 | - | - | - | 45.6 | 65.7 | 85.8 | 1.06×10 ² | 1.26×10 ² | 1.46×10 ² | 1.66×10 ² | 1.86×10 ² |
| φ32 | 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 | 17.6 | 42.1 | 66.6 | 1.16×10 ² | 1.65×10 ² | 2.14×10 ² | 2.63×10 ² | 3.12×10 ² | 3.61×10 ² | 4.10×10 ² | 4.59×10 ² |
| φ40 | 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 | 32.2 | 70.5 | 1.09×10 ² | 1.85×10 ² | 2.62×10 ² | 3.38×10 ² | 4.15×10 ² | 4.92×10 ² | 5.68×10 ² | 6.45×10 ² | 7.21×10 ² |
| φ50 | 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 | 40.9 | 1.04×10 ² | 1.67×10 ² | 2.92×10 ² | 4.18×10 ² | 5.44×10 ² | 6.69×10 ² | 7.95×10 ² | 9.21×10 ² | 1.05×10 ³ | 1.17×10 ³ |

STK-JY1 Series

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/
COVPIN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/
MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd
Contr
Ending

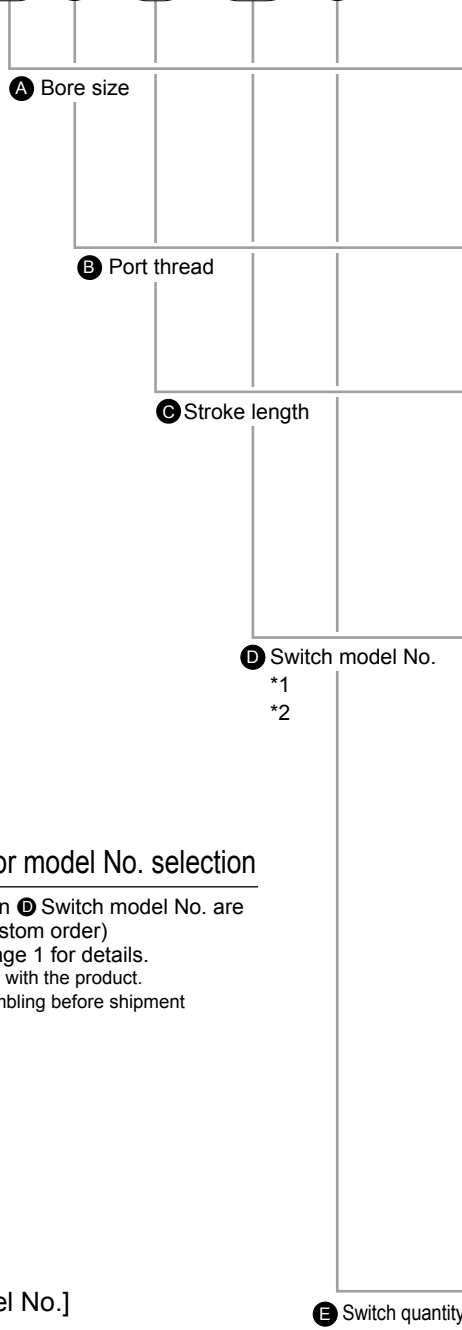
How to order

Without switch (built-in magnet for switch)

STK-JY1 - 20 - 10

With switch (built-in magnet for switch)

STK-JY1 - 20 - 10 - T0H - R



⚠ Precautions for model No. selection

*1: Switches other than **D** Switch model No. are also available. (Custom order)
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.]

STK-JY1-20-10-T0H-R

Model: Stopper cylinder
Double acting/spring integrated/rod end form roller

- A** Bore size : φ20 mm
- B** Port thread : Rc thread
- C** Stroke length : 10mm
- D** Switch model No. : Reed T0H switch, Lead wire 1m
- E** Switch quantity : 1 on rod side

| Code | Content | | | | | | | | |
|--|--|---------------------------|--|--|------------------------|-----------|---|--------------------------------|--------|
| A Bore size (mm) | | | | | | | | | |
| 20 | φ20 | | | | | | | | |
| 32 | φ32 | | | | | | | | |
| 40 | φ40 | | | | | | | | |
| 50 | φ50 | | | | | | | | |
| B Port thread | | | | | | | | | |
| Blank | Rc thread | | | | | | | | |
| NN | NPT thread (φ32 and over) (custom order product) | | | | | | | | |
| GN | G thread (φ32 and over) (custom order product) | | | | | | | | |
| C Stroke length (mm) | | | | | | | | | |
| | Bore size | φ20 | φ32 | φ40 | φ50 | | | | |
| 10 | 10 | ● | ● | | | | | | |
| 15 | 15 | ● | ● | | | | | | |
| 20 | 20 | ● | ● | ● | ● | | | | |
| 25 | 25 | | | ● | ● | | | | |
| 30 | 30 | | | ● | ● | | | | |
| D Switch model No. | | | | | | | | | |
| Axial lead wire | Radial lead wire | Contact | Voltage | | Display | Lead wire | | | |
| | | | AC | DC | | | | | |
| T0H* T5H* T8H* T1H* T2H* T3H* | T0V* T5V* T8V* T1V* T2V* T3V* | Reed | ● | ● | 1-color display | 2-wire | | | |
| | | | ● | ● | Without indicator lamp | | | | |
| | | | ● | ● | 1-color display | | | | |
| | | | T3PH* T2WH* T2YH* T3WH* T3YH* T2JH* | T3PV* T2WV* T2YV* T3WV* T3YV* T2JV* | Proximity | ● | | 1-color display | 2-wire |
| | | | | | | ● | ● | 1-color display (custom order) | 3-wire |
| | | | | | | ● | ● | 2-color display | 2-wire |
| ● | ● | 3-wire | | | | | | | |
| ● | ● | 1-color display off-delay | | | | 2-wire | | | |
| * Lead wire length (m) | | | | | | | | | |
| 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 | | | | | | | | |

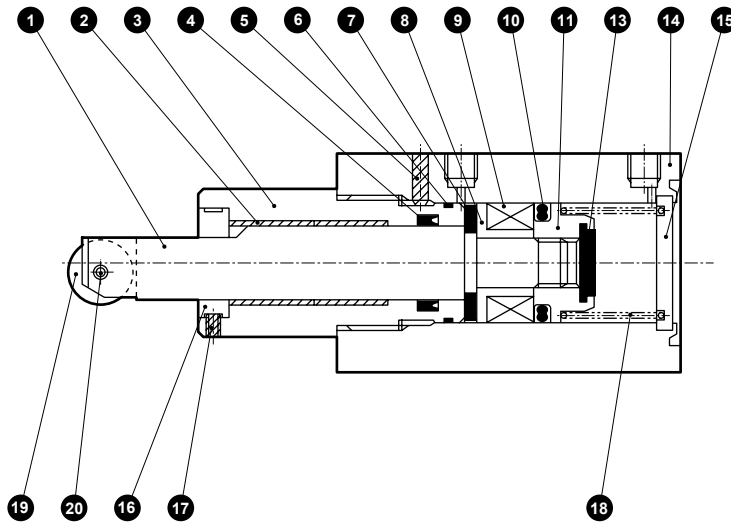
How to order switch

SW - T0H

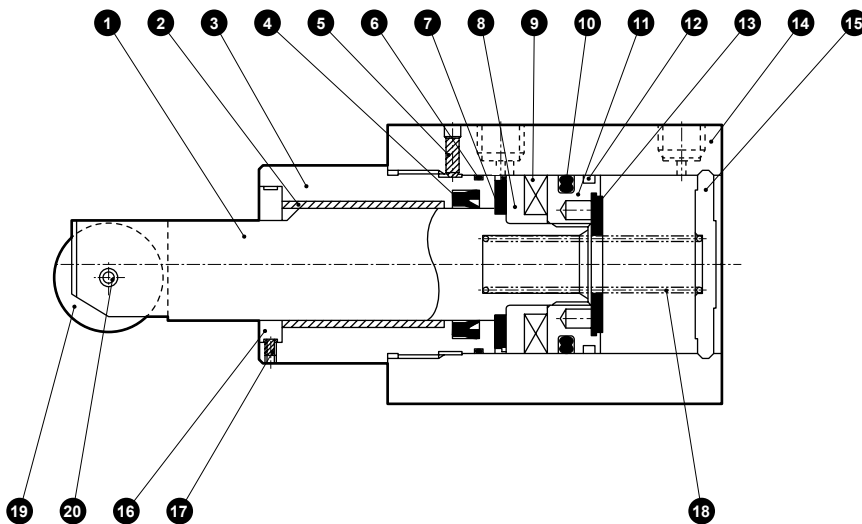
Switch model No.
(Item **D** above)

Internal structure and parts list

● STK-JY1-20



● STK-JY1-32/40/50



| No. | Part name | Material | Remarks | No. | Part name | Material | Remarks |
|-----|--------------------------|-----------------|---------------------------|-----|--------------------------|--|---|
| 1 | Piston rod | Stainless steel | Industrial chrome plating | 12 | Wear ring | Acetal resin | |
| 2 | Bush | Dry bearing | | 13 | Cushion rubber H | Urethane rubber | |
| 3 | Rod cover | Aluminum alloy | Alumite | 14 | Body | Aluminum alloy | Hard alumite |
| 4 | Rod packing | Nitrile rubber | | 15 | Cover | φ20: Steel φ32 to φ50: Aluminum alloy | φ20: Galvanizing φ32 to 50: Chromate |
| 5 | Hexagon socket set screw | Steel | Black finish | 16 | Rotation-stop spacer | Steel | Nickeling |
| 6 | Metal gasket | Nitrile rubber | | 17 | Hexagon socket set screw | Steel | Black finish |
| 7 | Cushion rubber R | Urethane rubber | | 18 | Coil spring | Steel | Electrodeposition |
| 8 | Spacer | Aluminum alloy | Chromate | 19 | Roller | Resin | |
| 9 | Magnet | Plastic | | 20 | Spring pin | Carbon tool steel | |
| 10 | Piston packing | Nitrile rubber | | | | | |
| 11 | Piston | Aluminum alloy | Chromate | | | | |

Repair parts list

| Bore size (mm) | Kit No. | Repair parts No. |
|----------------|------------|------------------|
| φ20 | STK-Y1-20K | |
| φ32 | STK-Y1-32K | 4 6 10 |
| φ40 | STK-Y1-40K | 12 13 |
| φ50 | STK-Y1-50K | |

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

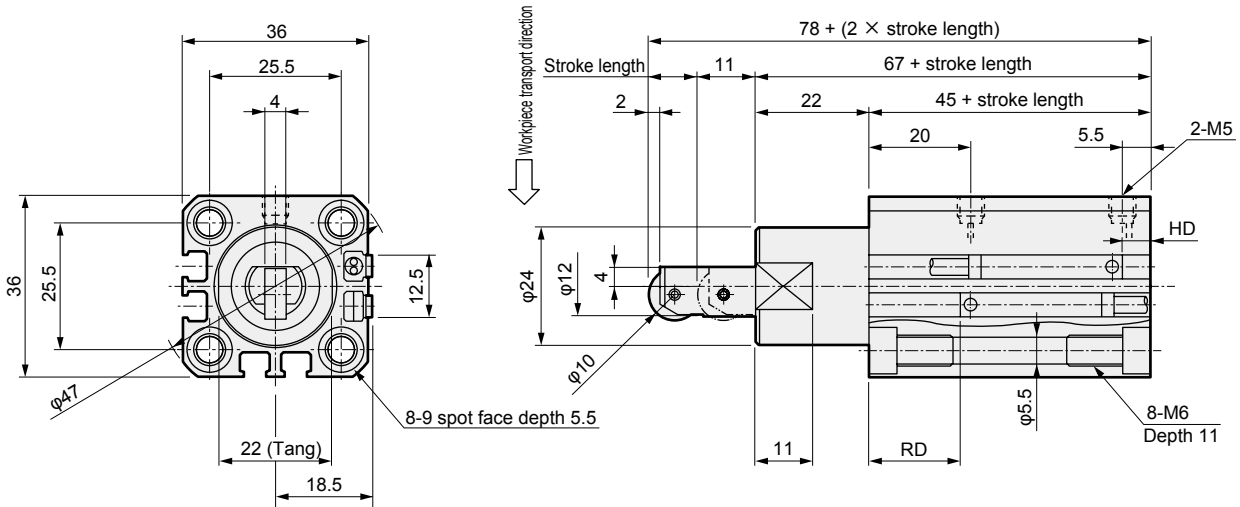
Ending

STK-JY1 Series

Dimensions



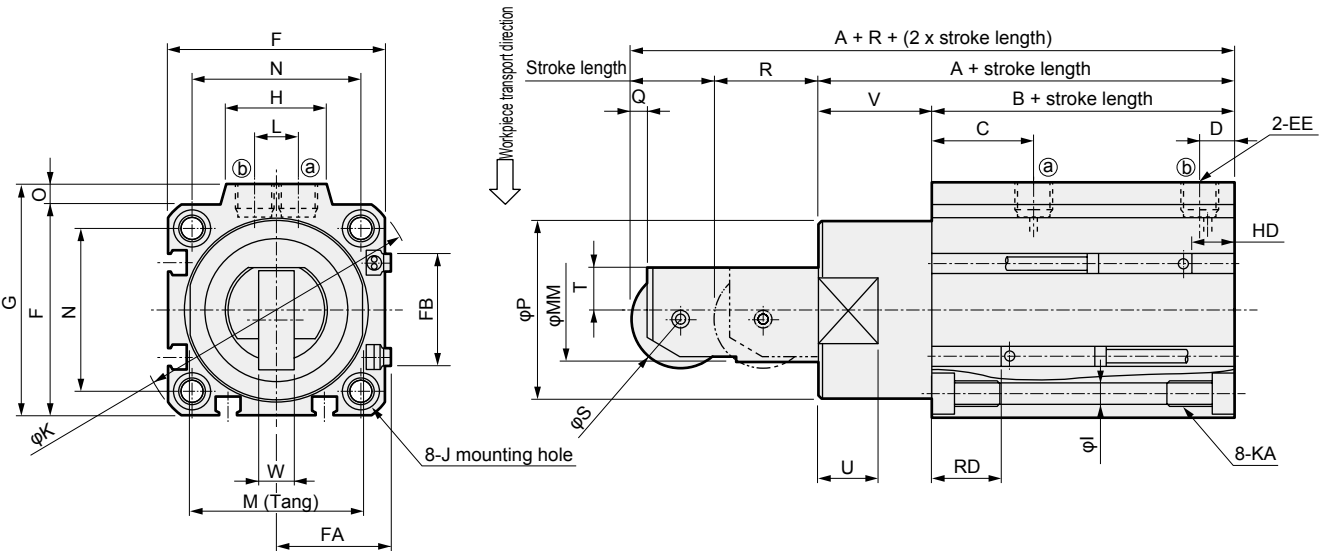
● STK-JY1-20



Dimensions with switch

| Bore size | Reed T0H/T0V/T5H/T5V | | Proximity T2H/T2V/T3H/T3V | | Proximity T2WH/T2WV/T3WH/T3WV | |
|-----------|----------------------|------|---------------------------|------|-------------------------------|----|
| | HD | RD | HD | RD | HD | RD |
| φ20 | 7 | 19.5 | 7 | 19.5 | 8.5 | 21 |

● STK-JY1-32/40/50



| Code | A | B | C | D | EE | F | FA | FB | G | H | I | J | K | KA | L | M | MM | N | O | P | Q | R | S | T | U | V | W |
|------|------|------|------|------|-------|----|------|------|------|----|-----|------------------------|----|-------------|----|----|----|----|-----|----|---|----|----|----|----|----|----|
| φ32 | 68 | 48 | 20 | 8 | Rc1/8 | 45 | 23 | 20.5 | 49.5 | 24 | 5.5 | 9 spot face depth 6.5 | 60 | M6 depth 11 | 10 | 32 | 20 | 34 | 4.5 | 36 | 3 | 19 | 18 | 8 | 13 | 20 | 8 |
| φ40 | 80.5 | 52.5 | 24.5 | 8.5 | Rc1/8 | 52 | 26.5 | 27.5 | 57 | 24 | 5.5 | 9 spot face depth 6.5 | 69 | M6 depth 11 | 10 | 41 | 25 | 40 | 5 | 44 | 4 | 25 | 24 | 10 | 15 | 28 | 9 |
| φ50 | 82 | 54 | 24.5 | 10.5 | Rc1/4 | 64 | 32.5 | 28.5 | 71 | 33 | 6.9 | 11 spot face depth 6.5 | 86 | M8 depth 13 | 15 | 50 | 30 | 50 | 7 | 56 | 4 | 25 | 28 | 12 | 15 | 28 | 10 |

Dimensions with switch

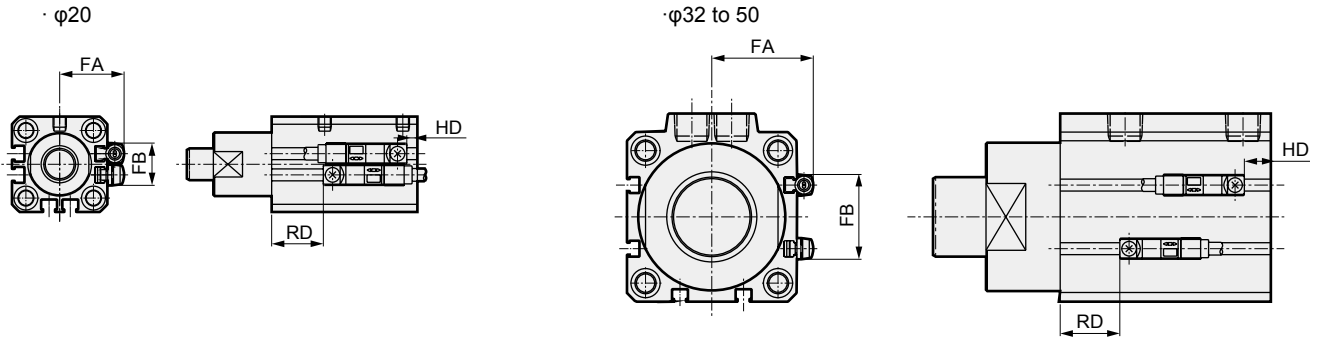
| Bore size | Reed T0H/T0V/T5H/T5V | | Proximity T2H/T2V/T3H/T3V | | Proximity T2WH/T2WV/T3WH/T3WV | |
|-----------|----------------------|----|---------------------------|----|-------------------------------|------|
| | HD | RD | HD | RD | HD | RD |
| φ32 | 10.5 | 20 | 10.5 | 20 | 12 | 21.5 |
| φ40 | 11.5 | 23 | 11.5 | 23 | 13 | 24.5 |
| φ50 | 12.5 | 23 | 12.5 | 23 | 14 | 24.5 |

Note: Refer to page 1542 for HD, RD and protruding dimensions of the 2-color display, off-delay, T1* and T8* switches.

STK Series common dimensions (2-color display, off-delay, with T1* and T8* switches)

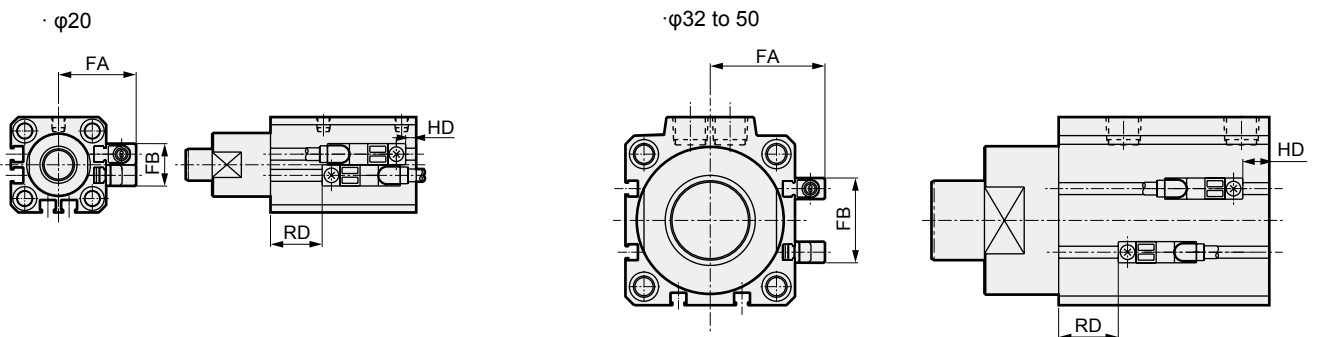
Double acting (STK, STK-M)

- T2YH/V, T3YH/V, T2JH/V, T8H/V



| Code Bore size (mm) | FA | FB | T2JH/V, T2YH/V, T3YH/V | | T8H/V | |
|------------------------|------|----|------------------------|-----|-------|-----|
| | | | RD | HD | RD | HD |
| φ20 | 24.3 | 16 | 19.5 | 4 | 15 | 0 |
| φ32 | 28.8 | 24 | 19.5 | 8 | 15 | 3.5 |
| φ40 | 32.3 | 31 | 22.5 | 8.5 | 18 | 4.5 |
| φ50 | 38.3 | 32 | 22.5 | 10 | 18 | 5.5 |

- T1H/V



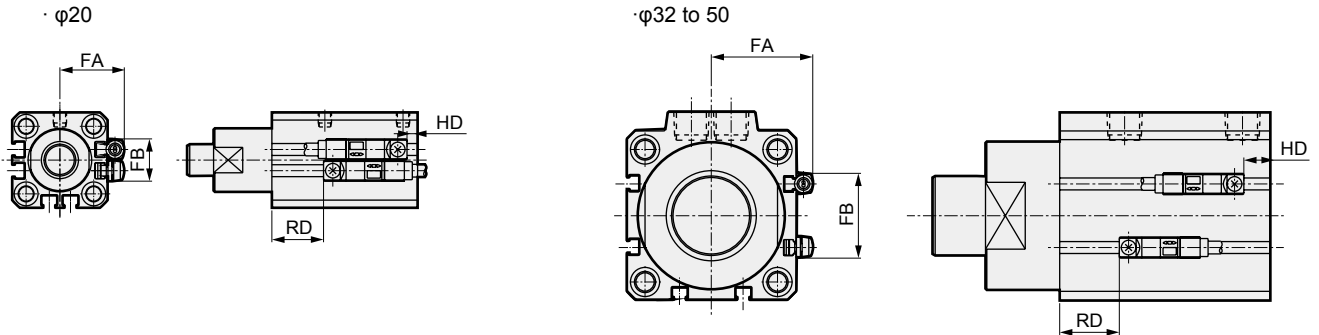
| Code Bore size (mm) | FA | FB | RD | HD |
|------------------------|------|----|------|-----|
| φ20 | 24.3 | 16 | 19.5 | 4 |
| φ32 | 28.8 | 24 | 19.5 | 8 |
| φ40 | 32.3 | 31 | 22.5 | 8.5 |
| φ50 | 38.3 | 32 | 22.5 | 10 |

- SCP*3
- CMK2
- CMA2
- SCM
- SCG
- SCA2
- SCS2
- CKV2
- CAV2/
COVP/N2
- SSD2
- SSG
- SSD
- CAT
- MDC2
- MVC
- SMG
- MSD/
MSDG
- FC*
- STK**
- SRL3
- SRG3
- SRM3
- SRT3
- MRL2
- MRG2
- SM-25
- ShkAbs
- FJ
- FK
- Spd
Contr
- Ending

STK Series common dimensions (2-color display, off-delay, with T1* and T8* switches)

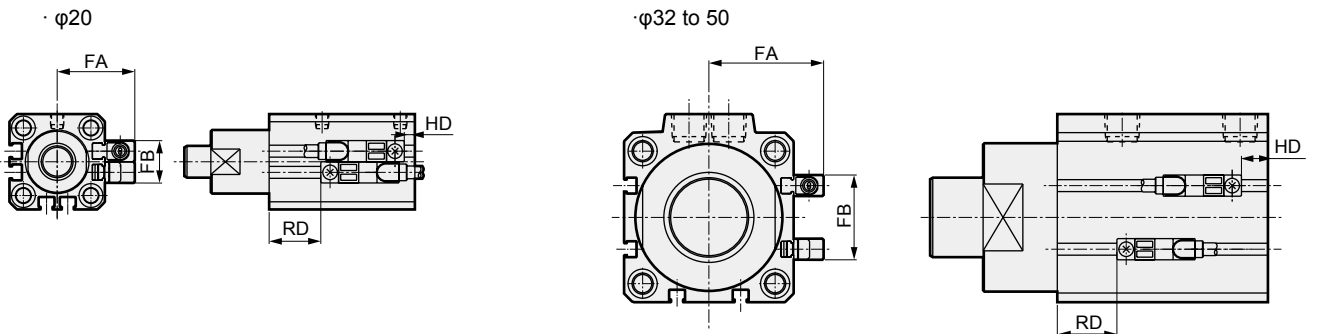
Single acting pull, double acting spring integrated (STK-Y, STK-Y1, STK-MY, STK-MY1, STK-JY, STK-JY1)

● T2YH/V, T3YH/V, T2JH/V, T8H/V



| Code Bore size (mm) | FA | FB | T2JH/V, T2YH/V, T3YH/V | | T8H/V | |
|------------------------|------|----|------------------------|-----|-------|-----|
| | | | RD | HD | RD | HD |
| $\phi 20$ | 24.3 | 16 | 18 | 5.5 | 13.5 | 1 |
| $\phi 32$ | 28.8 | 24 | 18.5 | 9 | 14 | 4.5 |
| $\phi 40$ | 32.3 | 31 | 21.5 | 10 | 17 | 5.5 |
| $\phi 50$ | 38.3 | 32 | 21.5 | 11 | 17 | 6.5 |

● T1H/V



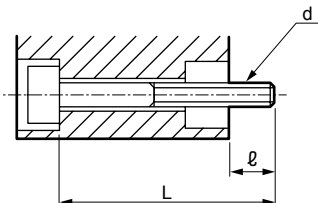
| Code Bore size (mm) | FA | FB | RD | HD |
|------------------------|------|----|------|----|
| | | | | |
| $\phi 32$ | 28.8 | 24 | 18.5 | 9 |
| $\phi 40$ | 32.3 | 31 | 21.5 | 10 |
| $\phi 50$ | 38.3 | 32 | 21.5 | 11 |

Mounting bolt model No.

STK - **BOLT** - **d×L**

Mounting bolts (Bolts are available in units of 4 bolts per set.)

How to read the list



Material: Steel
 Treatment: Black finish
 d: Mounting bolt screw diameter
 L: Mounting bolt length
 ℓ Mating side screw-in available length
 (Note) The mounting bolts will be displayed as d x L.

Mounting bolt for STK-

| Model No. | ℓ | d×L |
|-----------|------|-------|
| STK-20-10 | 10.5 | M5×60 |
| 15 | | ×65 |
| 20 | | ×70 |
| STK-32-10 | 12.5 | M5×65 |
| 15 | | ×70 |
| 20 | | ×75 |

| Model No. | ℓ | d×L |
|-----------|------|-------|
| STK-40-20 | 13 | M5×80 |
| 25 | | ×85 |
| 30 | | ×90 |
| STK-50-20 | 12.5 | M6×80 |
| 25 | | ×85 |
| 30 | | ×90 |

- SCP*3
- CMK2
- CMA2
- SCM
- SCG
- SCA2
- SCS2
- CKV2
- CAV2/
COVP/IN2
- SSD2
- SSG
- SSD
- CAT
- MDC2
- MVC
- SMG
- MSD/
MSDG
- FC*
- STK**
- SRL3
- SRG3
- SRM3
- SRT3
- MRL2
- MRG2
- SM-25
- ShkAbs
- FJ
- FK
- Spd
Contr
- Ending