

# STK

## Stopper cylinder

Space saving structure

ø20/ø32/ø40/ø50

### Overview

This is a square, space saving cylinder that can be used for applications in which a lateral load is applied to the piston rod.

### Features

Design for high load  
Space saving square shape  
Direct mounting  
Type with rod end female thread is available



## CONTENTS

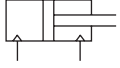


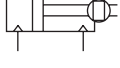




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The cylinder switches T2YH, T2YV, T3YH, and T3YV are scheduled for end of production at the end of December 2023.

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

# Series variation

# Stopper cylinder STK Series

SCP*3 CMK2 CMA2 SCM SCG SCA2 SCS2 CKV2 CAV2/ COVPIN2 SSD2	Variation	Model No.  JIS symbol	Bore size  (mm)	Standard stroke (mm)		
				10	15	
SSG	Double acting/ round rod end form	STK 	ø20 equivalent/ø32 equivalent ø40 equivalent/ø50 equivalent	●	●	
SSD						
CAT	Single acting/pull round rod end form	STK-Y 	ø20 equivalent/ø32 equivalent ø40 equivalent/ø50 equivalent	●	●	
MDC2						
MVC	Double acting/spring integrated round rod end form	STK-Y1 	ø20 equivalent/ø32 equivalent ø40 equivalent/ø50 equivalent	●	●	
SMG						
MSD/ MSDG	Double acting/ rod end form chamfered type	STK-M 	ø20 equivalent/ø32 equivalent ø40 equivalent/ø50 equivalent	●	●	
FC*						
STK	Single acting/pull rod end form chamfered type	STK-MY 	ø20 equivalent/ø32 equivalent ø40 equivalent/ø50 equivalent	●	●	
SRL3						
SRG3	Double acting/spring integrated rod end form chamfered type	STK-MY1 	ø20 equivalent/ø32 equivalent ø40 equivalent/ø50 equivalent	●	●	
SRM3						
SRT3	Single acting/pull rod end form roller	STK-JY 	ø20 equivalent/ø32 equivalent ø40 equivalent/ø50 equivalent	●	●	
MRL2						
MRG2	Double acting/spring integrated rod end form roller	STK-JY1 	ø20 equivalent/ø32 equivalent ø40 equivalent/ø50 equivalent	●	●	
SM-25						
ShkAbs						
FJ						
FK						
Spd Contr						
Ending						

●: Standard ○: Option ■: Not available

Standard stroke (mm)				Min. stroke (mm)	Max. stroke (mm)	Option	Switch	Page
						With rod end female thread		
20	25	30				N11		
●	■	■		10	20	○	○	1512
●	●	●		20	30	○		
●	■	■		10	20	○	○	1518
●	●	●		20	30	○		
●	■	■		10	20	○	○	1524
●	●	●		20	30	○		
●	■	■		10	20	○	○	1530
●	●	●		20	30	○		
●	■	■		10	20	○	○	1536
●	●	●		20	30	○		
●	■	■		10	20	○	○	1542
●	●	●		20	30	○		
●	■	■		10	20	■	○	1548
●	●	●		20	30	■		
●	■	■		10	20	■	○	1554
●	●	●		20	30	■		

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

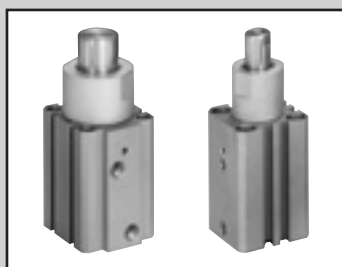
ShkAbs

FJ

FK

Spd  
Contr

Ending



Stopper cylinder double acting/round rod end form

# STK Series

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

JIS symbol



Double acting



## Specifications

1 MPa = 10 bar

Item	STK				
Bore size	mm	$\varnothing 20$	$\varnothing 32$	$\varnothing 40$	$\varnothing 50$
Actuation		Double acting			
Working fluid		Compressed air			
Max. working pressure	MPa	1.0 ( $\approx 150$ psi, 10 bar)			
Min. working pressure	MPa	0.15 ( $\approx 22$ psi)	0.1 ( $\approx 15$ psi, 1 bar)		
Proof pressure	MPa	1.6 ( $\approx 230$ psi, 16 bar)			
Ambient temperature	$^{\circ}\text{C}$	-10 ( $14^{\circ}\text{F}$ ) to 60 ( $140^{\circ}\text{F}$ ) (no freezing)			
Port size		M5	Rc1/8	Rc1/4	
Stroke tolerance	mm	+2.0 0			
Working piston speed	mm/s	50 to 500			
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 1562.			

## Stroke

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

Note: Products other than standard stroke are made-to-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 LED

Item	2-wire proximity		2-wire proximity				3-wire proximity				2-wire reed							
	T1H/T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/ T3V	T3PH/ T3PV	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 (*3)				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	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)		No indicator lamp		LED (Lit when ON)					
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 detailed switch specifications and dimensions.

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

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

## Cylinder weight table

(Unit: g)

Stroke	10	15	20	25	30	Switch weight (Grommet)
Bore size						
ø20	214	229	243	-	-	
ø32	438	463	488	-	-	
ø40	-	-	793	834	875	
ø50	-	-	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
ø20	Push	-	-	62.8	94.2	1.26x10 <sup>2</sup>	1.57x10 <sup>2</sup>	1.88x10 <sup>2</sup>	2.20x10 <sup>2</sup>	2.51x10 <sup>2</sup>	2.83x10 <sup>2</sup>	3.14x10 <sup>2</sup>
	Pull	-	-	40.2	60.3	80.4	1.01x10 <sup>2</sup>	1.21x10 <sup>2</sup>	1.41x10 <sup>2</sup>	1.61x10 <sup>2</sup>	1.81x10 <sup>2</sup>	2.01x10 <sup>2</sup>
ø32	Push	80.4	1.21x10 <sup>2</sup>	1.61x10 <sup>2</sup>	2.41x10 <sup>2</sup>	3.22x10 <sup>2</sup>	4.02x10 <sup>2</sup>	4.83x10 <sup>2</sup>	5.63x10 <sup>2</sup>	6.43x10 <sup>2</sup>	7.24x10 <sup>2</sup>	8.04x10 <sup>2</sup>
	Pull	49.0	73.5	98.0	1.47x10 <sup>2</sup>	1.96x10 <sup>2</sup>	2.45x10 <sup>2</sup>	2.94x10 <sup>2</sup>	3.43x10 <sup>2</sup>	3.92x10 <sup>2</sup>	4.41x10 <sup>2</sup>	4.90x10 <sup>2</sup>
ø40	Push	1.26x10 <sup>2</sup>	1.88x10 <sup>2</sup>	2.51x10 <sup>2</sup>	3.77x10 <sup>2</sup>	5.03x10 <sup>2</sup>	6.28x10 <sup>2</sup>	7.54x10 <sup>2</sup>	8.80x10 <sup>2</sup>	1.01x10 <sup>3</sup>	1.13x10 <sup>3</sup>	1.26x10 <sup>3</sup>
	Pull	76.6	1.15x10 <sup>2</sup>	1.53x10 <sup>2</sup>	2.30x10 <sup>2</sup>	3.06x10 <sup>2</sup>	3.83x10 <sup>2</sup>	4.59x10 <sup>2</sup>	5.36x10 <sup>2</sup>	6.13x10 <sup>2</sup>	6.89x10 <sup>2</sup>	7.66x10 <sup>2</sup>
ø50	Push	1.96x10 <sup>2</sup>	2.95x10 <sup>2</sup>	3.93x10 <sup>2</sup>	5.89x10 <sup>2</sup>	7.85x10 <sup>2</sup>	9.82x10 <sup>2</sup>	1.18x10 <sup>3</sup>	1.37x10 <sup>3</sup>	1.57x10 <sup>3</sup>	1.77x10 <sup>3</sup>	1.96x10 <sup>3</sup>
	Pull	1.26x10 <sup>2</sup>	1.88x10 <sup>2</sup>	2.51x10 <sup>2</sup>	3.77x10 <sup>2</sup>	5.03x10 <sup>2</sup>	6.28x10 <sup>2</sup>	7.54x10 <sup>2</sup>	8.80x10 <sup>2</sup>	1.01x10 <sup>3</sup>	1.13x10 <sup>3</sup>	1.26x10 <sup>3</sup>

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

No 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

**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. (Made to 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 :  $\phi 20$  mm

**B** Port thread : Rc thread

**C** Stroke : 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	Description
<b>A Bore size (mm)</b>	
20	$\phi 20$
32	$\phi 32$
40	$\phi 40$
50	$\phi 50$

<b>B Port thread</b>	
Blank	Rc thread
NN	NPT thread ( $\phi 32$ and over) (made-to-order product)
GN	G thread ( $\phi 32$ and over) (made-to-order product)

<b>C Stroke (mm)</b>				
Bore size	$\phi 20$	$\phi 32$	$\phi 40$	$\phi 50$
10	10	●	●	
15	15	●	●	
20	20	●	●	●
25	25			●
30	30			●

<b>D Switch model No.</b>						
Axial lead wire	Radial lead wire	Contact	Voltage		Indicator	Lead wire
			AC	DC		
T0H*	T0V*	Reed	●	●	1-color LED	2-wire
T5H*	T5V*		●	●	No indicator lamp	
T8H*	T8V*		●	●	1-color LED	
T1H*	T1V*	Proximity	●		1-color LED	2-wire
T2H*	T2V*			●		
T3H*	T3V*			●	1-color LED	3-wire
T3PH*	T3PV*			●		
T2WH*	T2WV*			●		
T2YH*	T2YV*			●	2-color LED	2-wire
T3WH*	T3WV*			●		
T3YH*	T3YV*			●	1-color LED off-delay	2-wire
T2JH*	T2JV*			●		

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

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

<b>F Option</b>	
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

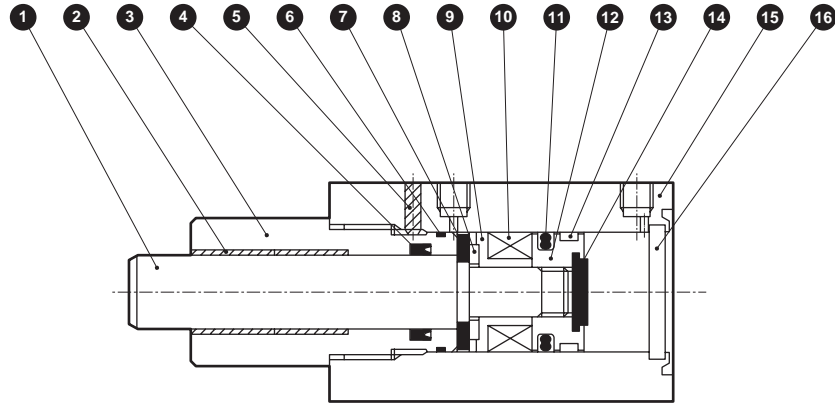
(Catalog No. CC-1226A)

● Design compatible with rechargeable battery manufacturing process

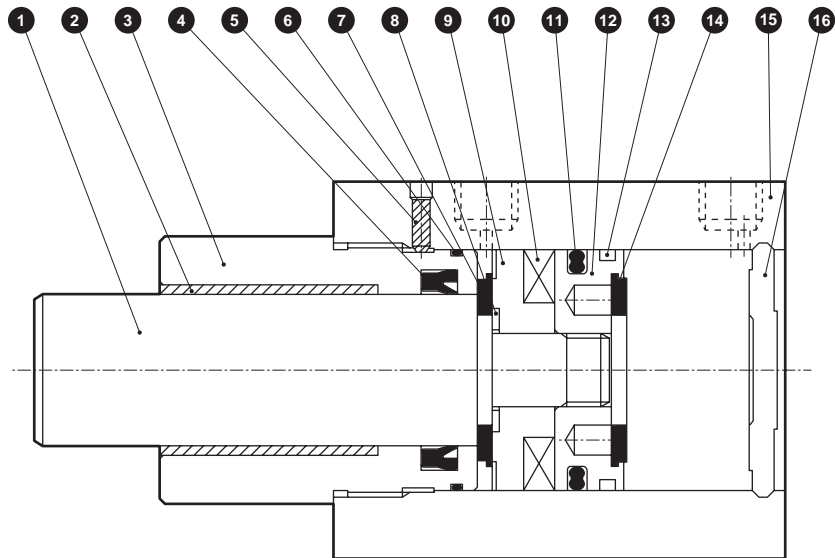
STK ..... **P4\***

### Internal structure and parts list

● STK-20



● STK-32/40/50



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	ø20: Stainless steel ø32 to ø50: 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	ø20: Stainless steel ø32 to ø50: Aluminum alloy	ø32 to 50: Chromate

### Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
ø20	STK-20K	
ø32	STK-32K	4 6 11
ø40	STK-40K	13 14
ø50	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

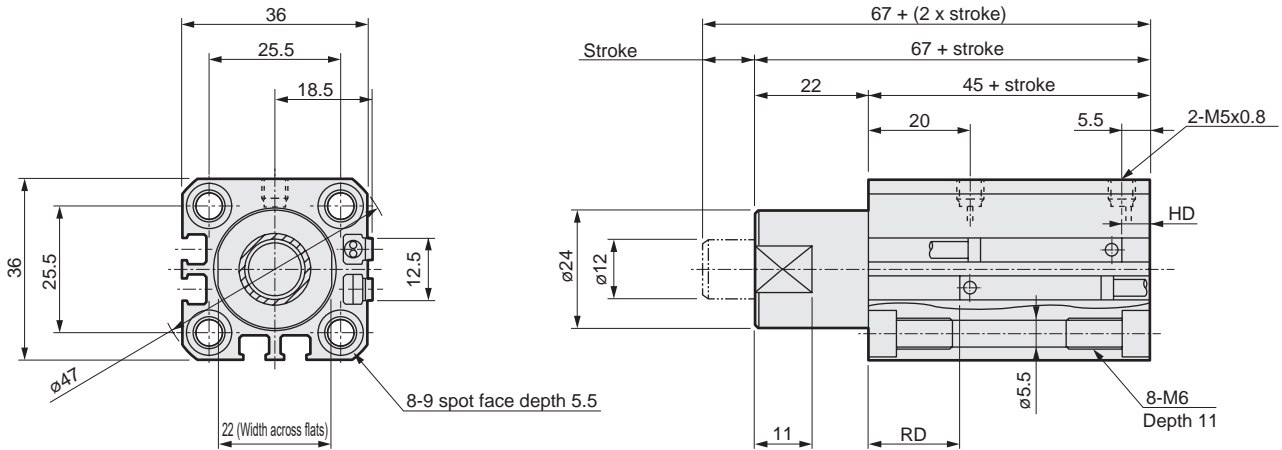
Spd  
Contr

Ending

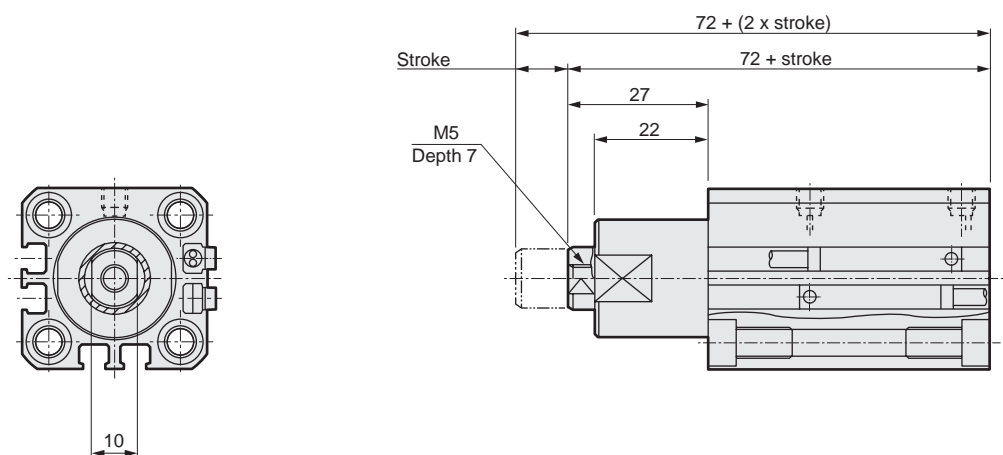


## Dimensions

### ● 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
ø20	5.5	21	5.5	21	7.0	22.5

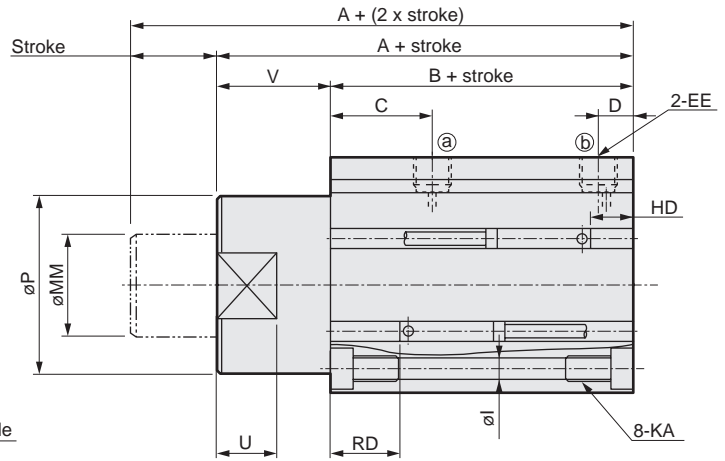
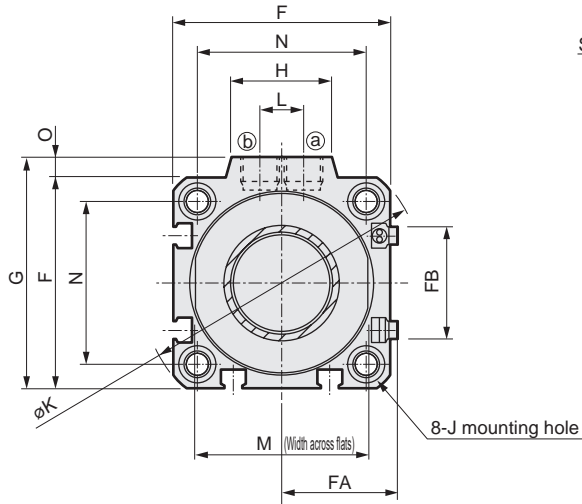
Note: Refer to page 1559 for HD, RD and protruding dimensions of the 2-color LED, off-delay, T1\* and T8\* switches.



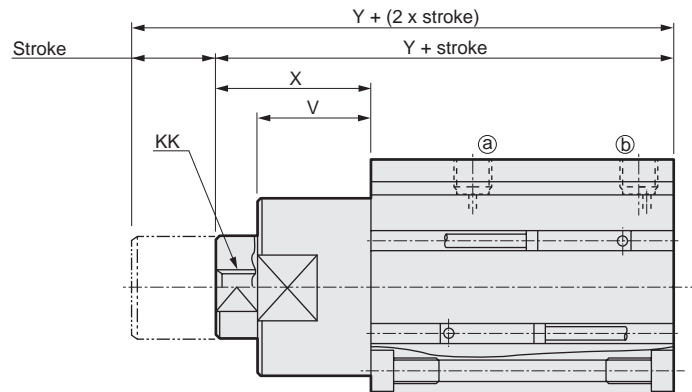
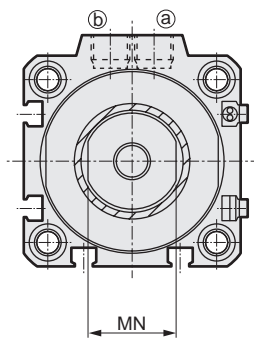
### Dimensions



● 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
ø32	68	48	20	8	Rc1/8	45	23	20.5	49.5	24	5.5	ø spot face depth 5.5	60	M6 depth 11	M8 depth 13	10	32	20	17	34	4.5	36	13	20	30	78
ø40	80.5	52.5	24.5	8.5	Rc1/8	52	26.5	27.5	57	24	5.5	ø spot face depth 5.5	69	M6 depth 11	M8 depth 13	10	41	25	22	40	5	44	15	28	38	90.5
ø50	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
ø32	9.5	21	9	21	10.5	22.5
ø40	10.5	24	10.5	24	12	25.5
ø50	11.5	24	11.5	24	13	25.5

Note: Refer to page 1559 for HD, RD and protruding dimensions of the 2-color LED, 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

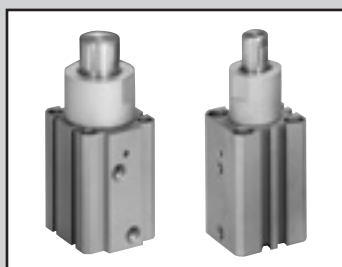
ShkAbs

FJ

FK

Spd Contr

Ending



Stopper cylinder single acting/pull, round rod end form

# STK-Y Series

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



Single acting/pull



## Specifications

1 MPa = 10 bar

Item	STK-Y				
Bore size	mm	$\varnothing 20$	$\varnothing 32$	$\varnothing 40$	$\varnothing 50$
Actuation		Single acting pull			
Working fluid		Compressed air			
Max. working pressure	MPa	1.0 ( $\approx 150$ psi, 10 bar)			
Min. working pressure	MPa	0.22 ( $\approx 32$ psi)	0.12 ( $\approx 17$ psi, 1.2 bar)		
Proof pressure	MPa	1.6 ( $\approx 230$ psi, 16 bar)			
Ambient temperature	$^{\circ}\text{C}$	-10 ( $14^{\circ}\text{F}$ ) to 60 ( $140^{\circ}\text{F}$ ) (no freezing)			
Port size		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 1562.			

## Stroke

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

Note: Products other than standard stroke are made-to-order products.

## Spring load

(Unit: N)

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

### Switch specifications

● 1-color/2-color LED

Item	2-wire proximity		2-wire proximity		3-wire proximity				2-wire reed						
	T1H/T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/ T3V	T3PH/ T3PV	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 (*3)			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	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)		No indicator lamp		LED (Lit when ON)		
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 detailed switch specifications and dimensions.

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

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

### Cylinder weight table

(Unit: g)

Stroke	10	15	20	25	30	Switch weight (Grommet)
Bores size						
ø20	217	232	246	-	-	
ø32	454	479	504	-	-	
ø40	-	-	809	850	891	
ø50	-	-	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
ø20	-	45.6	65.7	85.8	1.06x10 <sup>2</sup>	1.26x10 <sup>2</sup>	1.46x10 <sup>2</sup>	1.66x10 <sup>2</sup>	1.86x10 <sup>2</sup>
ø32	66.6	1.16x10 <sup>2</sup>	1.65x10 <sup>2</sup>	2.14x10 <sup>2</sup>	2.63x10 <sup>2</sup>	3.12x10 <sup>2</sup>	3.61x10 <sup>2</sup>	4.10x10 <sup>2</sup>	4.59x10 <sup>2</sup>
ø40	1.09x10 <sup>2</sup>	1.85x10 <sup>2</sup>	2.62x10 <sup>2</sup>	3.38x10 <sup>2</sup>	4.15x10 <sup>2</sup>	4.92x10 <sup>2</sup>	5.68x10 <sup>2</sup>	6.45x10 <sup>2</sup>	7.21x10 <sup>2</sup>
ø50	1.67x10 <sup>2</sup>	2.92x10 <sup>2</sup>	4.18x10 <sup>2</sup>	5.44x10 <sup>2</sup>	6.69x10 <sup>2</sup>	7.95x10 <sup>2</sup>	9.21x10 <sup>2</sup>	1.05x10 <sup>3</sup>	1.17x10 <sup>3</sup>

# STK-Y 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

No 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

**D** Switch model No.

\*1

\*2

**E** Switch quantity

**F** Option

Code	Description					
<b>A Bore size (mm)</b>						
20	ø20					
32	ø32					
40	ø40					
50	ø50					
<b>B Port thread</b>						
Blank	Rc thread					
NN	NPT thread (ø32 and over) (made-to-order product)					
GN	G thread (ø32 and over) (made-to-order product)					
<b>C Stroke</b>						
Bore size		ø20	ø32	ø40	ø50	
10	10	●	●			
15	15	●	●			
20	20	●	●	●	●	
25	25			●	●	
30	30			●	●	
<b>D Switch model No.</b>						
Axial lead wire	Radial lead wire	Contact	Voltage		Indicator	Lead wire
			AC	DC		
T0H*	T0V*	Reed	●	●	1-color LED	2-wire
T5H*	T5V*		●	●	No indicator lamp	
T8H*	T8V*		●	●	1-color LED	
T1H*	T1V*	Proximity	●		1-color LED	2-wire
T2H*	T2V*			●		
T3H*	T3V*			●	1-color LED	3-wire
T3PH*	T3PV*			●		
T2WH*	T2WV*			●		
T2YH*	T2YV*			●		
T3WH*	T3WV*			●	3-wire	
T3YH*	T3YV*			●		
T2JH*	T2JV*			●	1-color LED off-delay	2-wire
<b>* Lead wire length (m)</b>						
Blank	1 m (standard)					
3	3 m (option)					
5	5 m (option)					
<b>E Switch quantity</b>						
R	1 on rod side					
H	1 on head side					
D	2					
<b>F Option</b>						
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. (Made to 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 : ø20 mm

**B** Port thread : Rc thread

**C** Stroke : 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

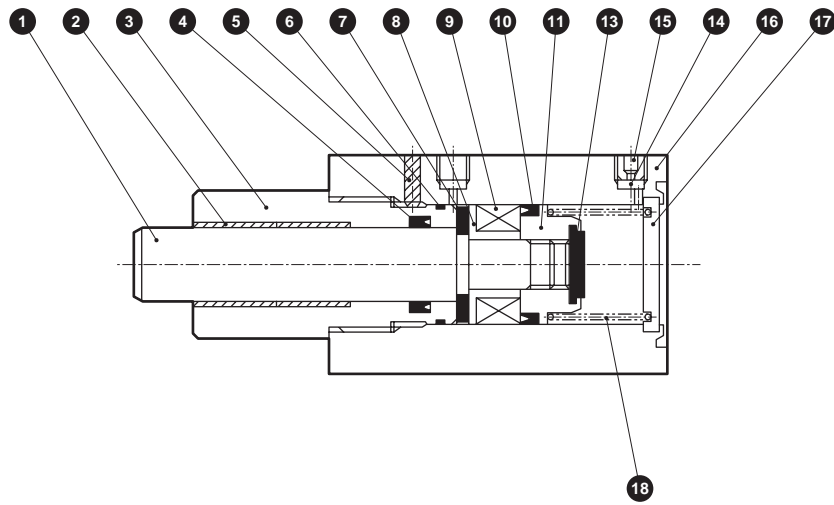
## How to order switch

**SW** - **T0H**

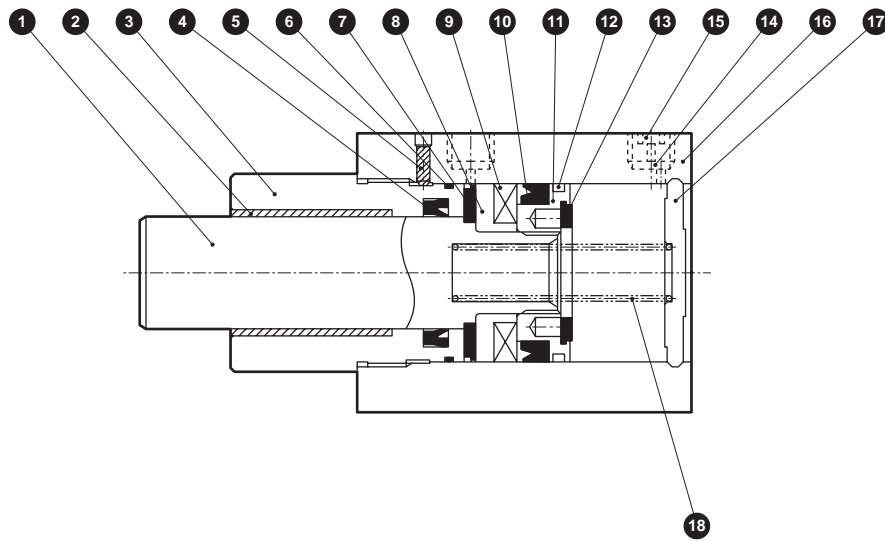
Switch model No.  
(Item **D** above)

### 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	ø20: Stainless steel ø32 to ø50: 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	ø20: Steel ø32 to 50: Aluminum alloy	ø20: Galvanizing ø32 to 50: Chromate
9	Magnet	Plastic		18	Coil spring	Steel	Electrodeposition

### Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
ø20	STK-Y-20K	
ø32	STK-Y-32K	4 6 10
ø40	STK-Y-40K	12 13
ø50	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

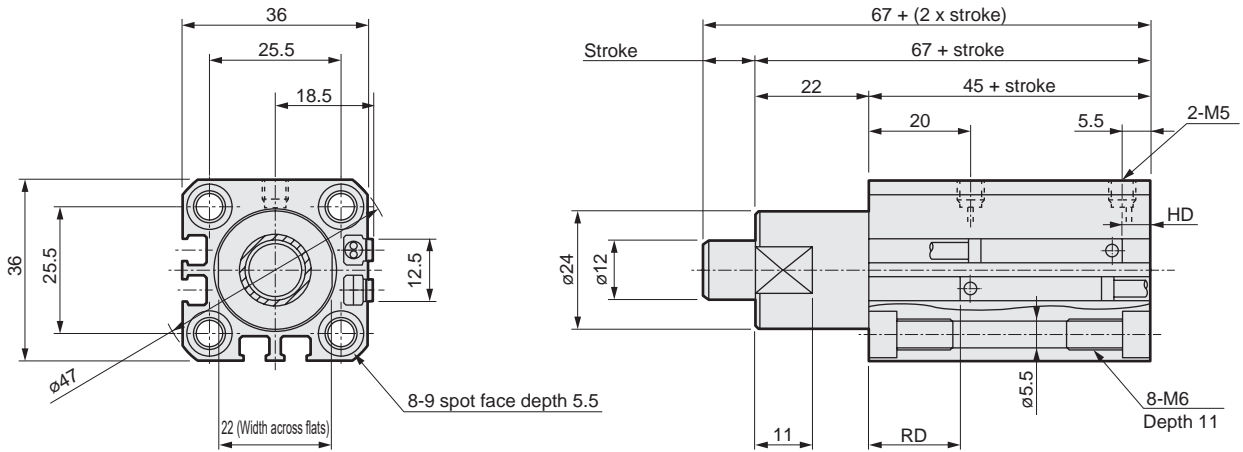
Ending

# STK-Y Series

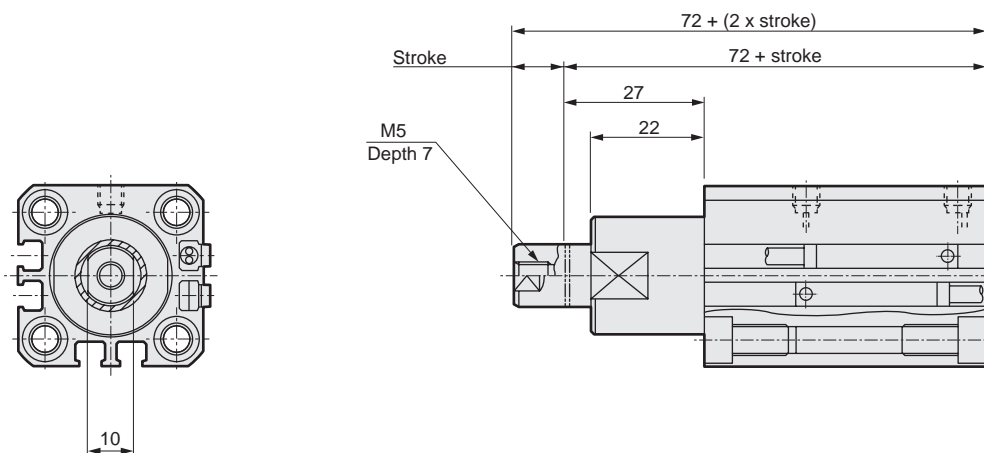
## Dimensions



### ● 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

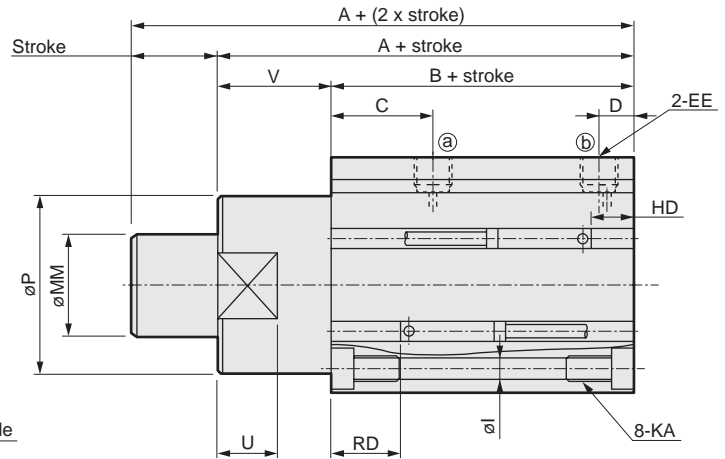
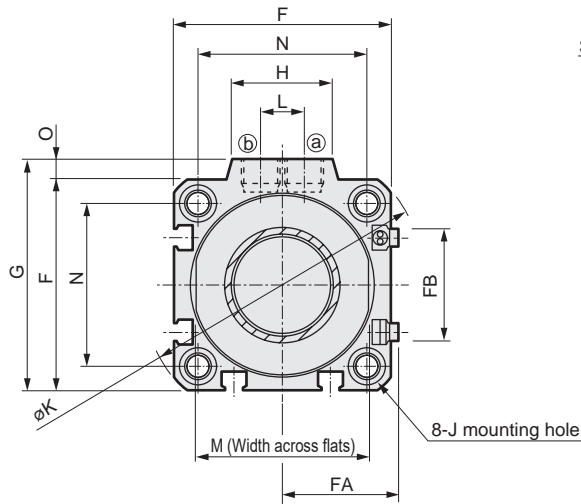
Bore size	Reed T0H/T0V/T5H/T5V		Proximity T2H/T2V/T3H/T3V		Proximity T2WH/T2WV/T3WH/T3WV	
	HD	RD	HD	RD	HD	RD
$\phi 20$	7	19.5	7	19.5	8.5	21

Note: Refer to page 1560 for HD, RD and protruding dimensions of the 2-color LED, off-delay, T1\* and T8\* switches.

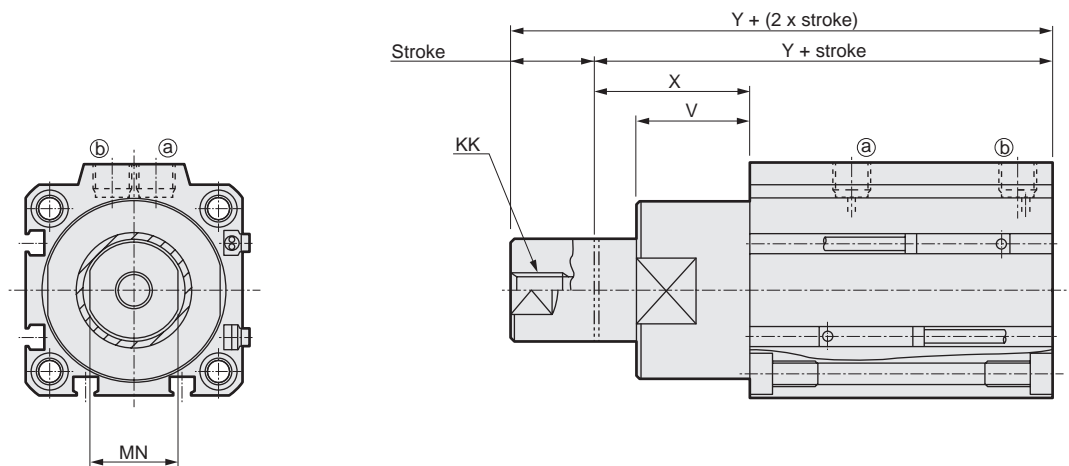
### Dimensions



#### ● 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).)



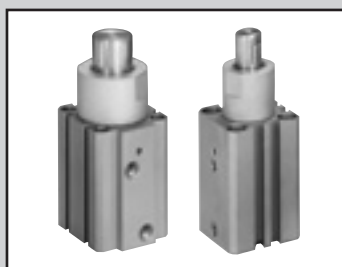
Code	A	B	C	D	EE	F	FA	FB	G	H	I	J	K	KA	KK	L	M	MM	MN	N	O	P	U	V	X	Y
ø32	68	48	20	8	Rc1/8	45	23	20.5	49.5	24	5.5	9 spot face depth 5.5	60	M6 depth 11	M8 depth 13	10	32	20	17	34	4.5	36	13	20	30	78
ø40	80.5	52.5	24.5	8.5	Rc1/8	52	26.5	27.5	57	24	5.5	9 spot face depth 5.5	69	M6 depth 11	M8 depth 13	10	41	25	22	40	5	44	15	28	38	90.5
ø50	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
ø32	10.5	20	10.5	20	12	21.5
ø40	11.5	23	11.5	23	13	24.5
ø50	12.5	23	12.5	23	14	24.5

Note: Refer to page 1560 for HD, RD and protruding dimensions of the 2-color LED, 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:  $\varnothing 20/\varnothing 32/\varnothing 40/\varnothing 50$



Double acting/spring integrated



## Specifications

1 MPa = 10 bar

Item	STK-Y1				
Bore size	mm	$\varnothing 20$	$\varnothing 32$	$\varnothing 40$	$\varnothing 50$
Actuation		Double acting/spring integrated			
Working fluid		Compressed air			
Max. working pressure	MPa	1.0 ( $\approx 150$ psi, 10 bar)			
Min. working pressure	MPa	0.22 ( $\approx 32$ psi)	0.12 ( $\approx 17$ psi, 1.2 bar)		
Proof pressure	MPa	1.6 ( $\approx 230$ psi, 16 bar)			
Ambient temperature	$^{\circ}\text{C}$	-10 (14 $^{\circ}\text{F}$ ) to 60 (140 $^{\circ}\text{F}$ ) (no freezing)			
Port size		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 1562.			

## Stroke

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

Note: Products other than standard stroke are made-to-order products.

## Spring load

(Unit: N)

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



### Switch specifications

● 1-color/2-color LED

Item	2-wire proximity		2-wire proximity		3-wire proximity				2-wire reed						
	T1H/T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/ T3V	T3PH/ T3PV	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 (*3)		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	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)		No indicator lamp		LED (Lit when ON)		
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 detailed switch specifications and dimensions.

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

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

### Cylinder weight table

(Unit: g)

Stroke	10	15	20	25	30	Switch weight (Grommet)
Bore size						
ø20	217	232	246	-	-	
ø32	454	479	504	-	-	
ø40	-	-	809	850	891	
ø50	-	-	1299	1325	1351	

### Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa									
		0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø20	Push	-	-	94.2	1.26x10 <sup>2</sup>	1.57x10 <sup>2</sup>	1.88x10 <sup>2</sup>	2.20x10 <sup>2</sup>	2.51x10 <sup>2</sup>	2.83x10 <sup>2</sup>	3.14x10 <sup>2</sup>
	Pull	-	-	45.6	65.7	85.8	1.06x10 <sup>2</sup>	1.26x10 <sup>2</sup>	1.46x10 <sup>2</sup>	1.66x10 <sup>2</sup>	1.86x10 <sup>2</sup>
ø32	Push	1.21x10 <sup>2</sup>	1.61x10 <sup>2</sup>	2.41x10 <sup>2</sup>	3.22x10 <sup>2</sup>	4.02x10 <sup>2</sup>	4.83x10 <sup>2</sup>	5.63x10 <sup>2</sup>	6.43x10 <sup>2</sup>	7.24x10 <sup>2</sup>	8.04x10 <sup>2</sup>
	Pull	42.1	66.6	1.16x10 <sup>2</sup>	1.65x10 <sup>2</sup>	2.14x10 <sup>2</sup>	2.63x10 <sup>2</sup>	3.12x10 <sup>2</sup>	3.61x10 <sup>2</sup>	4.10x10 <sup>2</sup>	4.59x10 <sup>2</sup>
ø40	Push	1.88x10 <sup>2</sup>	2.51x10 <sup>2</sup>	3.77x10 <sup>2</sup>	5.03x10 <sup>2</sup>	6.28x10 <sup>2</sup>	7.54x10 <sup>2</sup>	8.80x10 <sup>2</sup>	1.01x10 <sup>3</sup>	1.13x10 <sup>3</sup>	1.26x10 <sup>3</sup>
	Pull	70.5	1.09x10 <sup>2</sup>	1.85x10 <sup>2</sup>	2.62x10 <sup>2</sup>	3.38x10 <sup>2</sup>	4.15x10 <sup>2</sup>	4.92x10 <sup>2</sup>	5.68x10 <sup>2</sup>	6.45x10 <sup>2</sup>	7.21x10 <sup>2</sup>
ø50	Push	2.95x10 <sup>2</sup>	3.93x10 <sup>2</sup>	5.89x10 <sup>2</sup>	7.85x10 <sup>2</sup>	9.82x10 <sup>2</sup>	1.18x10 <sup>3</sup>	1.37x10 <sup>3</sup>	1.57x10 <sup>3</sup>	1.77x10 <sup>3</sup>	1.96x10 <sup>3</sup>
	Pull	1.04x10 <sup>2</sup>	1.67x10 <sup>2</sup>	2.92x10 <sup>2</sup>	4.18x10 <sup>2</sup>	5.44x10 <sup>2</sup>	6.69x10 <sup>2</sup>	7.95x10 <sup>2</sup>	9.21x10 <sup>2</sup>	1.05x10 <sup>3</sup>	1.17x10 <sup>3</sup>

# 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

No 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

**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. (Made to 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 :  $\varnothing 20$  mm

**B** Port thread : Rc thread

**C** Stroke : 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	Description
<b>A Bore size (mm)</b>	
20	$\varnothing 20$
32	$\varnothing 32$
40	$\varnothing 40$
50	$\varnothing 50$

<b>B Port thread</b>	
Blank	Rc thread
NN	NPT thread ( $\varnothing 32$ and over) (made-to-order product)
GN	G thread ( $\varnothing 32$ and over) (made-to-order product)

<b>C Stroke (mm)</b>				
Bore size	$\varnothing 20$	$\varnothing 32$	$\varnothing 40$	$\varnothing 50$
10	10	●	●	
15	15	●	●	
20	20	●	●	●
25	25			●
30	30			●

<b>D Switch model No.</b>						
Axial lead wire	Radial lead wire	Contact	Voltage		Indicator	Lead wire
			AC	DC		
T0H*	T0V*	Reed	●	●	1-color LED	2-wire
T5H*	T5V*		●	●	No indicator lamp	
T8H*	T8V*		●	●	1-color LED	
T1H*	T1V*	Proximity	●		1-color LED	2-wire
T2H*	T2V*			●		
T3H*	T3V*			●	1-color LED	3-wire
T3PH*	T3PV*			●		
T2WH*	T2WV*			●	2-color LED	2-wire
T2YH*	T2YV*			●		
T3WH*	T3WV*			●		
T3YH*	T3YV*			●	1-color LED off-delay	2-wire
T2JH*	T2JV*		●			

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

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

<b>F Option</b>	
Blank	Rod end no thread
N11	With rod end female thread

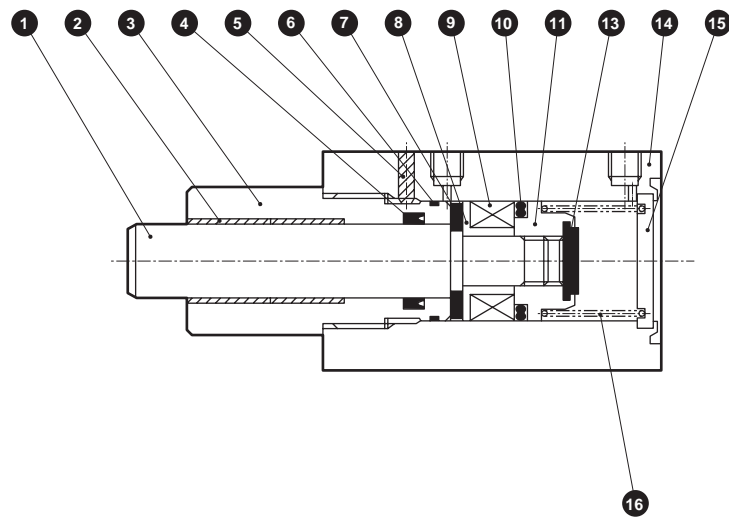
Discrete switch model No.

**SW - T0H**

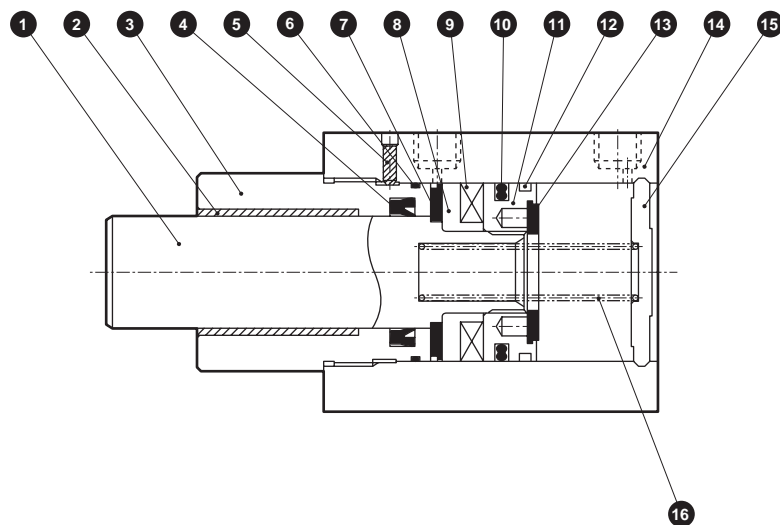
Switch model No.  
(Item **D** above)

### 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	ø20: Stainless steel ø32 to ø50: 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	ø20: Steel ø32 to 50: Aluminum alloy	ø20: Galvanizing ø32 to 50: Chromate
8	Spacer	Aluminum alloy	Chromate	16	Coil spring	Steel	Electrodeposition

### Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
ø20	STK-Y1-20K	
ø32	STK-Y1-32K	4 6 10
ø40	STK-Y1-40K	12 13
ø50	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

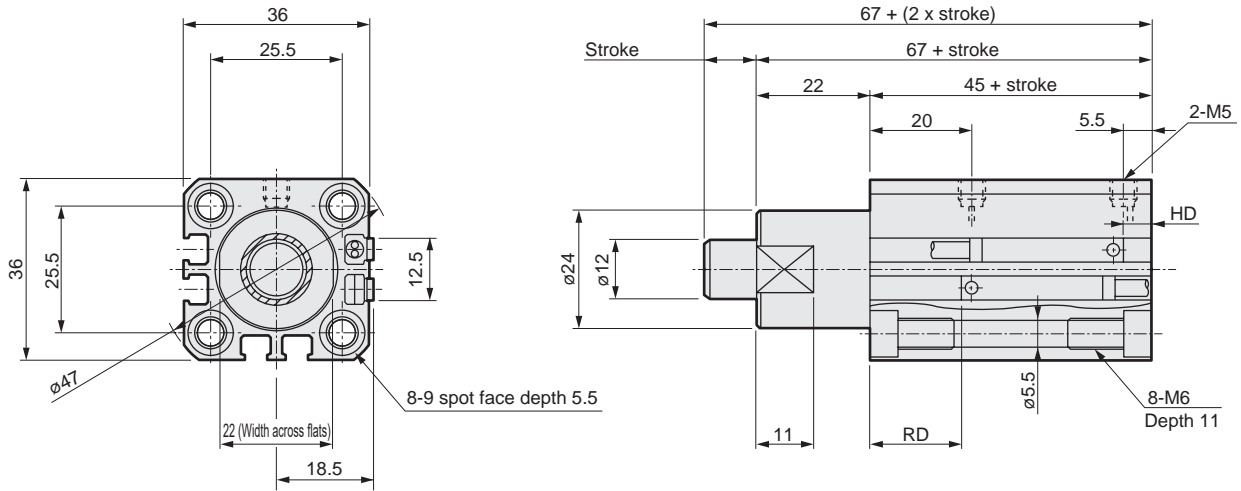
Ending

# STK-Y1 Series

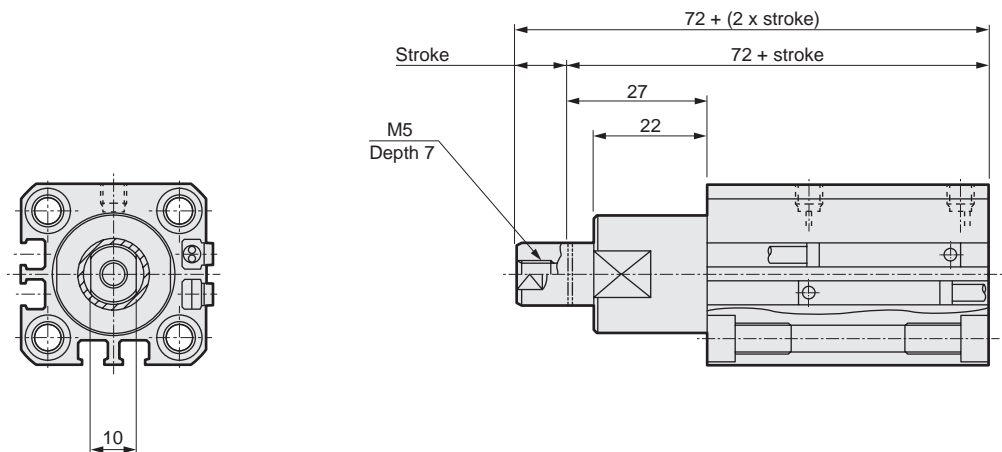
## Dimensions



### ● 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

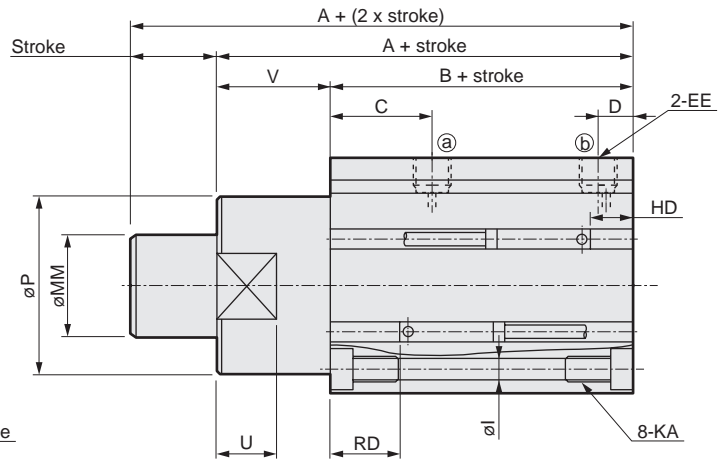
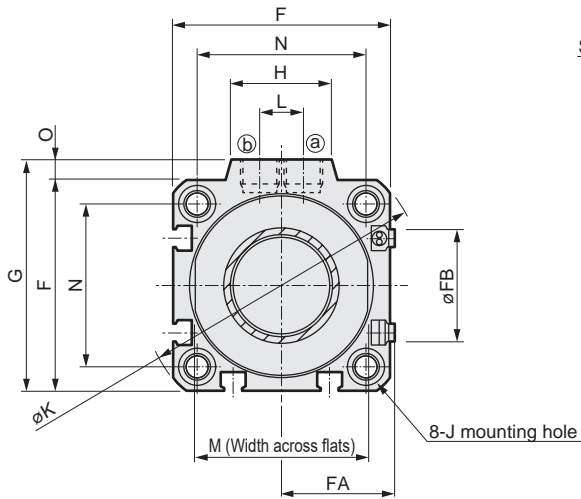
Bore size	Reed T0H/T0V/T5H/T5V		Proximity T2H/T2V/T3H/T3V		Proximity T2WH/T2WV/T3WH/T3WV	
	HD	RD	HD	RD	HD	RD
ø20	7	19.5	7	19.5	8.5	21

Note: Refer to page 1560 for HD, RD and protruding dimensions of the 2-color LED, off-delay, T1\* and T8\* switches.

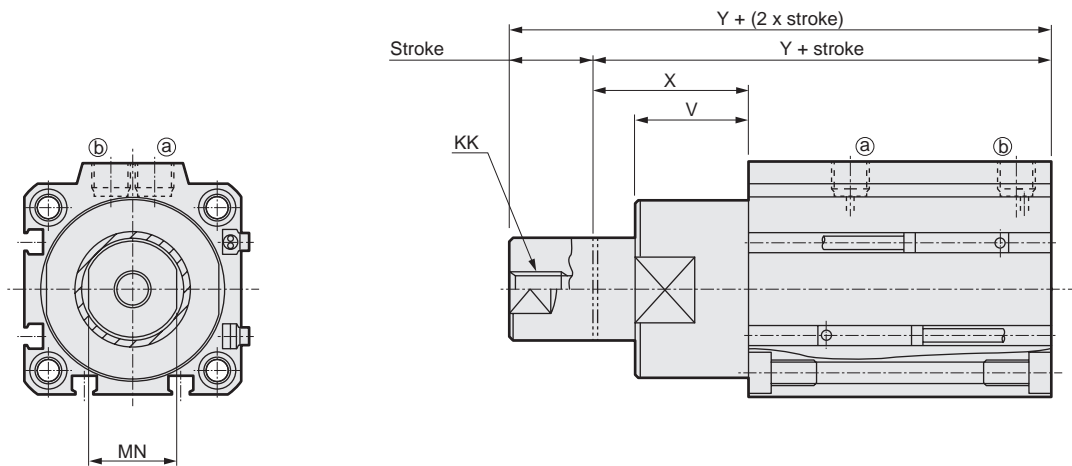
### Dimensions



#### ● 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
ø32	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
ø40	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
ø50	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
ø32	10.5	20	10.5	20	12	21.5
ø40	11.5	23	11.5	23	13	24.5
ø50	12.5	23	12.5	23	14	24.5

Note: Refer to page 1560 for HD, RD and protruding dimensions of the 2-color LED, 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

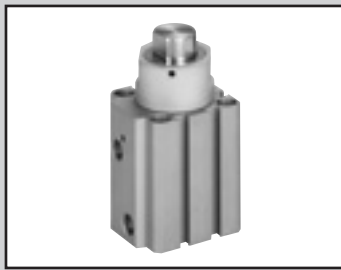
ShkAbs

FJ

FK

Spd Contr

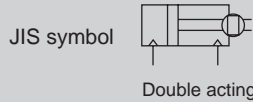
Ending



Stopper cylinder double acting/rod end form chamfered type

# STK-M Series

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



## Specifications

1 MPa = 10 bar

Item	STK-M				
Bore size	mm	$\varnothing 20$	$\varnothing 32$	$\varnothing 40$	$\varnothing 50$
Actuation		Double acting			
Working fluid		Compressed air			
Max. working pressure	MPa	1.0 ( $\approx 150$ psi, 10 bar)			
Min. working pressure	MPa	0.15 ( $\approx 22$ psi)	0.1 ( $\approx 15$ psi, 1 bar)		
Proof pressure	MPa	1.6 ( $\approx 230$ psi, 16 bar)			
Ambient temperature	$^{\circ}\text{C}$	-10 ( $14^{\circ}\text{F}$ ) to 60 ( $140^{\circ}\text{F}$ ) (no freezing)			
Port size		M5	Rc1/8	Rc1/4	
Stroke tolerance	mm	+2.0 0			
Working piston speed	mm/s	50 to 500			
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 1562.			

## Stroke

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

Note: Products other than standard stroke are made-to-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 LED

Item	2-wire proximity		2-wire proximity		3-wire proximity				2-wire reed						
	T1H/T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/ T3V	T3PH/ T3PV	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 (*3)		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	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)		No indicator lamp		LED (Lit when ON)		
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 detailed switch specifications and dimensions.

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

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

### Cylinder weight table

(Unit: g)

Stroke	10	15	20	25	30	Switch weight (Grommet)
Bore size						
ø20	215	230	244	-	-	
ø32	441	466	491	-	-	
ø40	-	-	796	837	878	
ø50	-	-	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
ø20	Push	-	-	62.8	94.2	1.26x10 <sup>2</sup>	1.57x10 <sup>2</sup>	1.88x10 <sup>2</sup>	2.20x10 <sup>2</sup>	2.51x10 <sup>2</sup>	2.83x10 <sup>2</sup>	3.14x10 <sup>2</sup>
	Pull	-	-	40.2	60.3	80.4	1.01x10 <sup>2</sup>	1.21x10 <sup>2</sup>	1.41x10 <sup>2</sup>	1.61x10 <sup>2</sup>	1.81x10 <sup>2</sup>	2.01x10 <sup>2</sup>
ø32	Push	80.4	1.21x10 <sup>2</sup>	1.61x10 <sup>2</sup>	2.41x10 <sup>2</sup>	3.22x10 <sup>2</sup>	4.02x10 <sup>2</sup>	4.83x10 <sup>2</sup>	5.63x10 <sup>2</sup>	6.43x10 <sup>2</sup>	7.24x10 <sup>2</sup>	8.04x10 <sup>2</sup>
	Pull	49.0	73.5	98.0	1.47x10 <sup>2</sup>	1.96x10 <sup>2</sup>	2.45x10 <sup>2</sup>	2.94x10 <sup>2</sup>	3.43x10 <sup>2</sup>	3.92x10 <sup>2</sup>	4.41x10 <sup>2</sup>	4.90x10 <sup>2</sup>
ø40	Push	1.26x10 <sup>2</sup>	1.88x10 <sup>2</sup>	2.51x10 <sup>2</sup>	3.77x10 <sup>2</sup>	5.03x10 <sup>2</sup>	6.28x10 <sup>2</sup>	7.54x10 <sup>2</sup>	8.80x10 <sup>2</sup>	1.01x10 <sup>3</sup>	1.13x10 <sup>3</sup>	1.26x10 <sup>3</sup>
	Pull	76.6	1.15x10 <sup>2</sup>	1.53x10 <sup>2</sup>	2.30x10 <sup>2</sup>	3.06x10 <sup>2</sup>	3.83x10 <sup>2</sup>	4.59x10 <sup>2</sup>	5.36x10 <sup>2</sup>	6.13x10 <sup>2</sup>	6.89x10 <sup>2</sup>	7.66x10 <sup>2</sup>
ø50	Push	1.96x10 <sup>2</sup>	2.95x10 <sup>2</sup>	3.93x10 <sup>2</sup>	5.89x10 <sup>2</sup>	7.85x10 <sup>2</sup>	9.82x10 <sup>2</sup>	1.18x10 <sup>3</sup>	1.37x10 <sup>3</sup>	1.57x10 <sup>3</sup>	1.77x10 <sup>3</sup>	1.96x10 <sup>3</sup>
	Pull	1.26x10 <sup>2</sup>	1.88x10 <sup>2</sup>	2.51x10 <sup>2</sup>	3.77x10 <sup>2</sup>	5.03x10 <sup>2</sup>	6.28x10 <sup>2</sup>	7.54x10 <sup>2</sup>	8.80x10 <sup>2</sup>	1.01x10 <sup>3</sup>	1.13x10 <sup>3</sup>	1.26x10 <sup>3</sup>

## How to order

No 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

**D** Switch model No.

\*1

\*2

**E** Switch quantity

**F** Option

## ⚠ Precautions for model No. selection

\*1: Switches other than Switch model No. are also available. (Made to 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 :  $\varnothing 20$  mm

**B** Port thread : Rc thread

**C** Stroke : 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	Description
<b>A Bore size (mm)</b>	
20	$\varnothing 20$
32	$\varnothing 32$
40	$\varnothing 40$
50	$\varnothing 50$

<b>B Port thread</b>	
Blank	Rc thread
NN	NPT thread ( $\varnothing 32$ and over) (made-to-order product)
GN	G thread ( $\varnothing 32$ and over) (made-to-order product)

<b>C Stroke (mm)</b>					
Bore size	$\varnothing 20$	$\varnothing 32$	$\varnothing 40$	$\varnothing 50$	
10	10	●	●		
15	15	●	●		
20	20	●	●	●	●
25	25			●	●
30	30			●	●

<b>D Switch model No.</b>							
Axial lead wire	Radial lead wire	Contact	Voltage		Indicator	Lead wire	
			AC	DC			
T0H*	T0V*	Reed	●	●	1-color LED	2-wire	
T5H*	T5V*		●	●	No indicator lamp		
T8H*	T8V*		●	●	1-color LED		
T1H*	T1V*		●		1-color LED	2-wire	
T2H*	T2V*		●				
T3H*	T3V*		●	1-color LED		3-wire	
T3PH*	T3PV*	Proximity	●		●		
T2WH*	T2WV*		●		●	2-color LED	2-wire
T2YH*	T2YV*		●		●		
T3WH*	T3WV*		●	●	2-wire		
T3YH*	T3YV*	●	●	3-wire			
T2JH*	T2JV*		●		1-color LED off-delay	2-wire	

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

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

<b>F Option</b>	
Blank	Rod end no thread
N11	With rod end female thread

## How to order switch

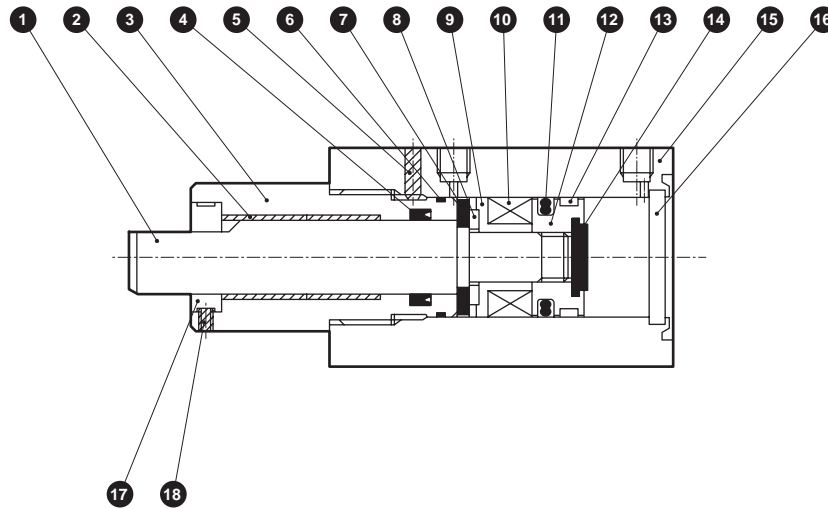
**SW** - **T0H**

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

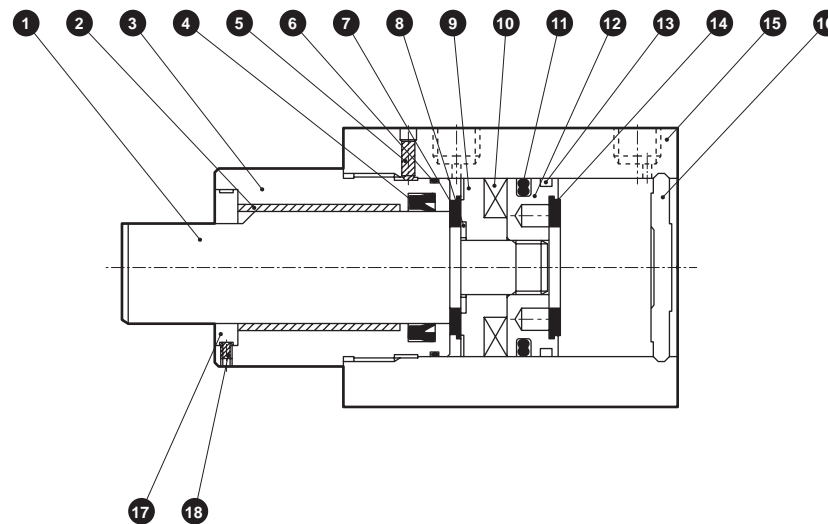


### Internal structure and parts list

#### ● 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	ø20: Stainless steel ø32 to 50: Aluminum alloy	ø32 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.
ø20	STK-20K	
ø32	STK-32K	4 6 11
ø40	STK-40K	13 14
ø50	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

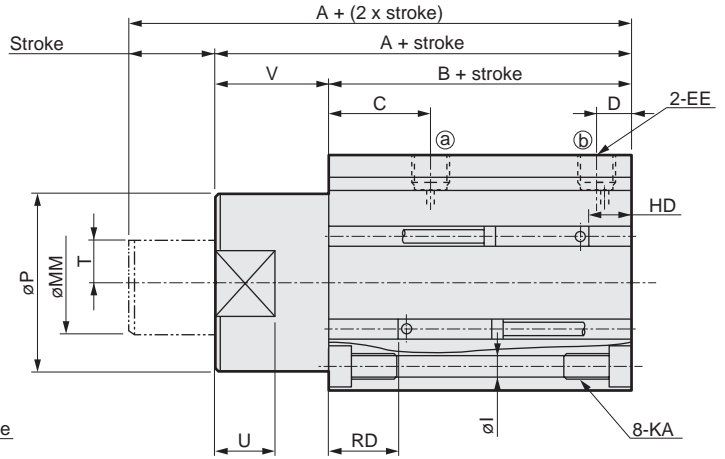
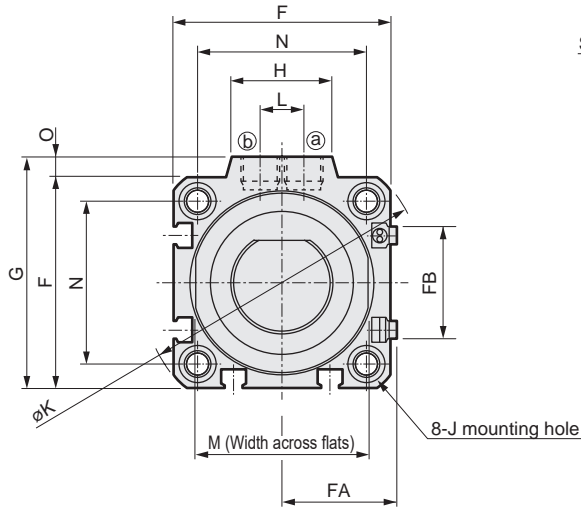
Ending



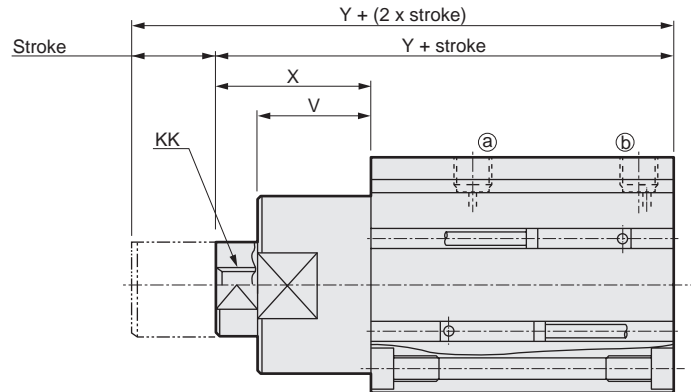
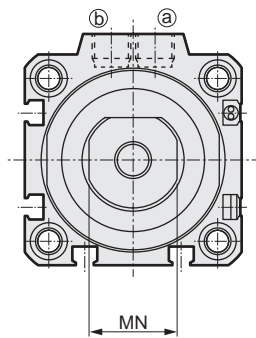
### Dimensions



● STK-M-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
ø32	68	48	20	8	Rc1/8	45	23	20.5	49.5	24	5.5	ø 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
ø40	80.5	52.5	24.5	8.5	Rc1/8	52	26.5	27.5	57	24	5.5	ø 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
ø50	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
ø32	9.5	21	9.5	21	11	22.5
ø40	10.5	24	10.5	24	12	25.5
ø50	11.5	24	11.5	24	13	25.5

Note: Refer to page 1559 for HD, RD and protruding dimensions of the 2-color LED, 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

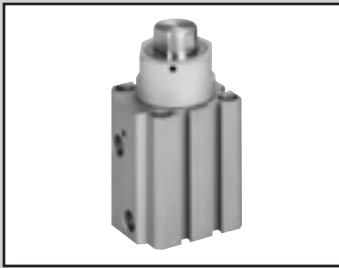
ShkAbs

FJ

FK

Spd Contr

Ending



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

# STK-MY Series

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

JIS symbol



Single acting/pull



## Specifications

1 MPa = 10 bar

Item	STK-MY				
Bore size	mm	$\varnothing 20$	$\varnothing 32$	$\varnothing 40$	$\varnothing 50$
Actuation		Single acting pull			
Working fluid		Compressed air			
Max. working pressure	MPa	1.0 ( $\approx 150$ psi, 10 bar)			
Min. working pressure	MPa	0.22 ( $\approx 32$ psi)	0.12 ( $\approx 17$ psi, 1.2 bar)		
Proof pressure	MPa	1.6 ( $\approx 230$ psi, 16 bar)			
Ambient temperature	$^{\circ}\text{C}$	-10 ( $14^{\circ}\text{F}$ ) to 60 ( $140^{\circ}\text{F}$ ) (no freezing)			
Port size		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 1562.			

## Stroke

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

Note: Products other than standard stroke are made-to-order products.

## Spring load

(Unit: N)

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

### Switch specifications

● 1-color/2-color LED

Item	2-wire proximity	2-wire proximity			3-wire proximity				2-wire reed						
	T1H/T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/ T3V	T3PH/ T3PV	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 (*3)			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	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)		No indicator lamp		LED (Lit when ON)		
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 detailed switch specifications and dimensions.

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

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

### Cylinder weight table

(Unit: g)

Stroke	10	15	20	25	30	Switch weight (Grommet)
Bore size						
ø20	218	233	247	-	-	Refer to the weight in the switch specifications.
ø32	457	482	507	-	-	
ø40	-	-	812	853	894	
ø50	-	-	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
ø20	-	45.6	65.7	85.8	1.06x10 <sup>2</sup>	1.26x10 <sup>2</sup>	1.46x10 <sup>2</sup>	1.66x10 <sup>2</sup>	1.86x10 <sup>2</sup>
ø32	66.6	1.16x10 <sup>2</sup>	1.65x10 <sup>2</sup>	2.14x10 <sup>2</sup>	2.63x10 <sup>2</sup>	3.12x10 <sup>2</sup>	3.61x10 <sup>2</sup>	4.10x10 <sup>2</sup>	4.59x10 <sup>2</sup>
ø40	1.09x10 <sup>2</sup>	1.85x10 <sup>2</sup>	2.62x10 <sup>2</sup>	3.38x10 <sup>2</sup>	4.15x10 <sup>2</sup>	4.92x10 <sup>2</sup>	5.68x10 <sup>2</sup>	6.45x10 <sup>2</sup>	7.21x10 <sup>2</sup>
ø50	1.67x10 <sup>2</sup>	2.92x10 <sup>2</sup>	4.18x10 <sup>2</sup>	5.44x10 <sup>2</sup>	6.69x10 <sup>2</sup>	7.95x10 <sup>2</sup>	9.21x10 <sup>2</sup>	1.05x10 <sup>3</sup>	1.17x10 <sup>3</sup>

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-MY Series

## How to order

No 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

**D** Switch model No.

\*1

\*2

**E** Switch quantity

**F** Option

Code	Description
<b>A Bore size (mm)</b>	
20	ø20
32	ø32
40	ø40
50	ø50

<b>B Port thread</b>	
Blank	Rc thread
NN	NPT thread (ø32 and over) (made-to-order product)
GN	G thread (ø32 and over) (made-to-order product)

<b>C Stroke (mm)</b>					
Bore size	ø20	ø32	ø40	ø50	
10	10	●	●		
15	15	●	●		
20	20	●	●	●	●
25	25			●	●
30	30			●	●

<b>D Switch model No.</b>						
Axial lead wire	Radial lead wire	Contact	Voltage		Indicator	Lead wire
			AC	DC		
T0H*	T0V*	Reed	●	●	1-color LED	2-wire
T5H*	T5V*		●	●	No indicator lamp	
T8H*	T8V*		●	●	1-color LED	
T1H*	T1V*	Proximity	●		1-color LED	2-wire
T2H*	T2V*			●		
T3H*	T3V*			●	1-color LED	3-wire
T3PH*	T3PV*			●		
T2WH*	T2WV*			●	2-color LED	2-wire
T2YH*	T2YV*			●		
T3WH*	T3WV*			●		3-wire
T3YH*	T3YV*			●		
T2JH*	T2JV*			●	1-color LED off-delay	2-wire

\* Lead wire length (m)

Blank	1 m (standard)
3	3 m (option)
5	5 m (option)

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

<b>F Option</b>	
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. (Made to 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 : ø20 mm
- B** Port thread : Rc thread
- C** Stroke : 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

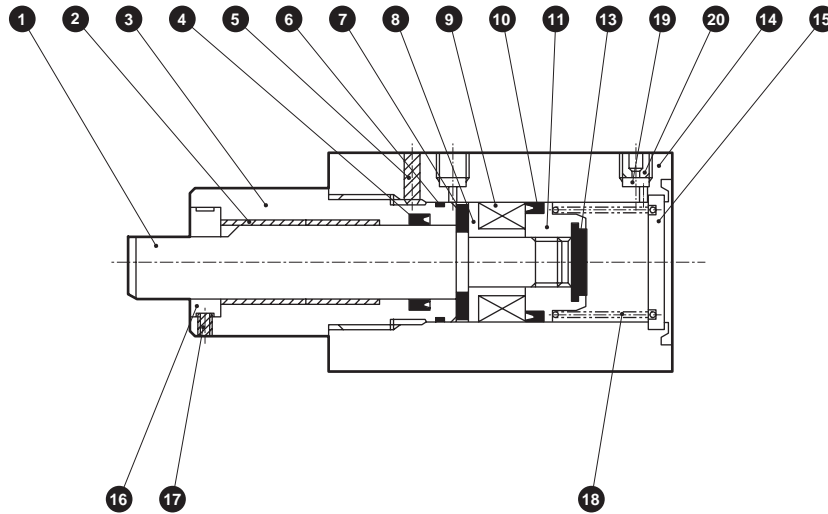
## How to order switch

**SW - T0H**

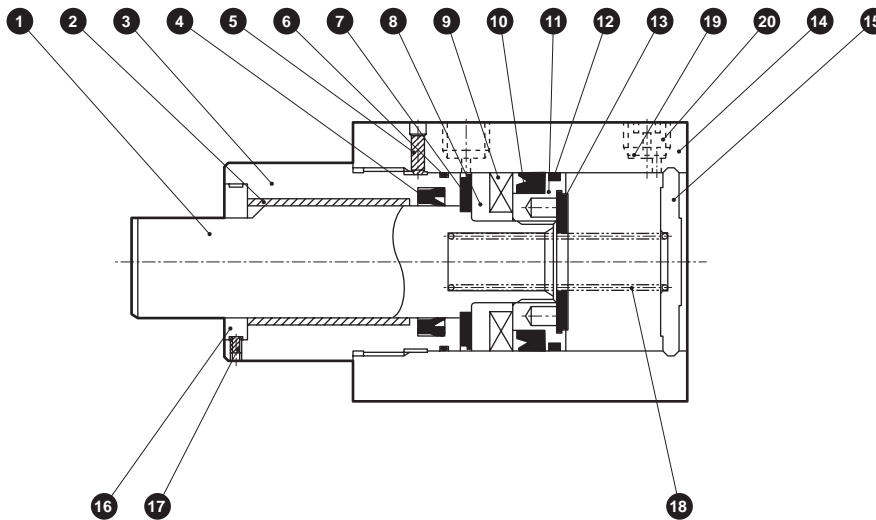
Switch model No.  
(Item **D** above)

### 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	ø20: Steel ø32 to 50: Aluminum alloy	ø20: Galvanizing ø32 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.
ø20	STK-Y-20K	
ø32	STK-Y-32K	4 6 10
ø40	STK-Y-40K	12 13
ø50	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

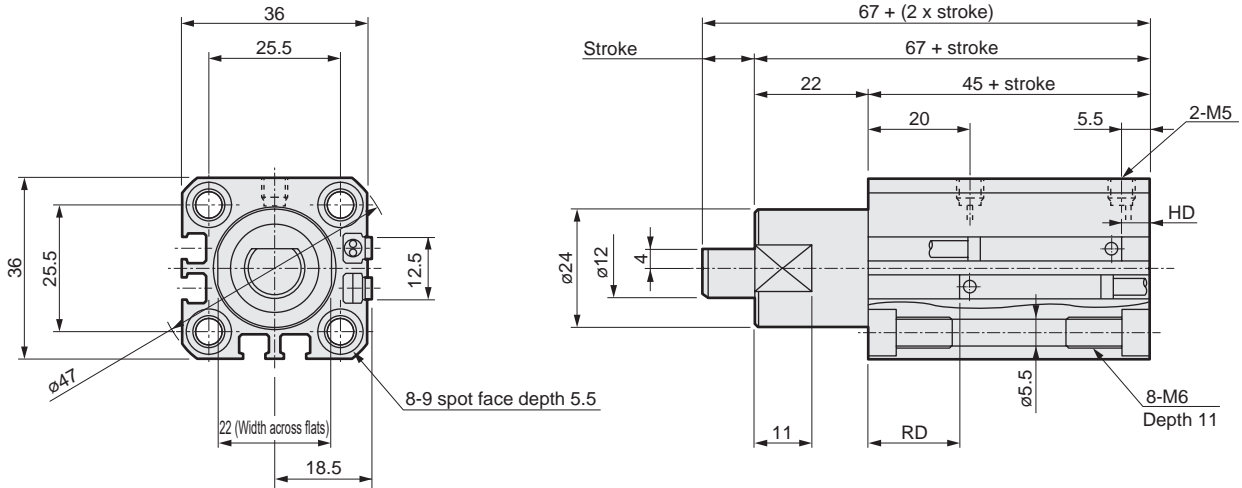
# STK-MY Series

## Dimensions

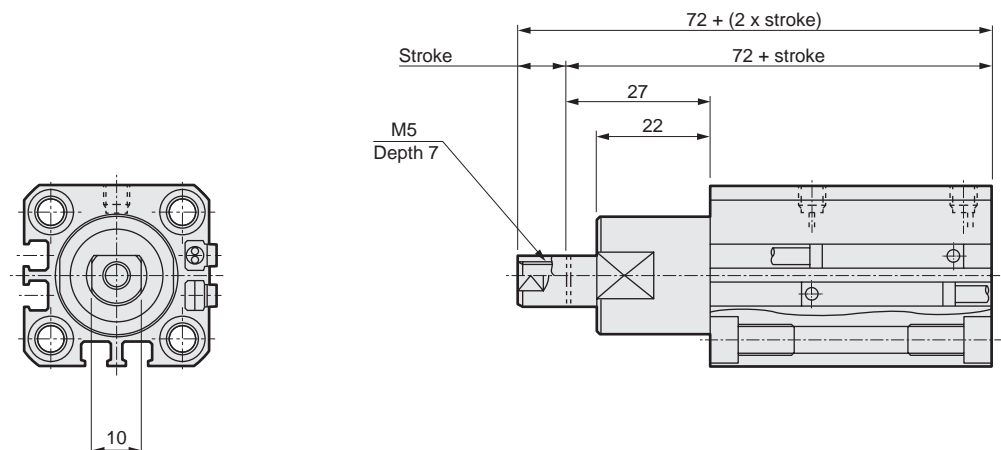


- SCP\*3
- CMK2
- CMA2
- SCM
- SCG
- SCA2
- SCS2
- CKV2
- CAV2/  
COVPIN2
- SSD2
- SSG
- SSD
- CAT
- MDC2
- MVC
- SMG
- MSD/  
MSDG
- FC\*
- STK**
- SRL3
- SRG3
- SRM3
- SRT3
- MRL2
- MRG2
- SM-25
- ShkAbs
- FJ
- FK
- Spd  
Contr
- Ending

### ● 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

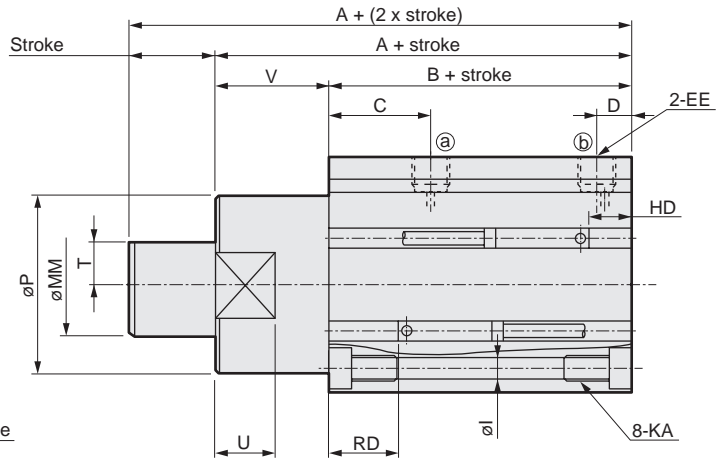
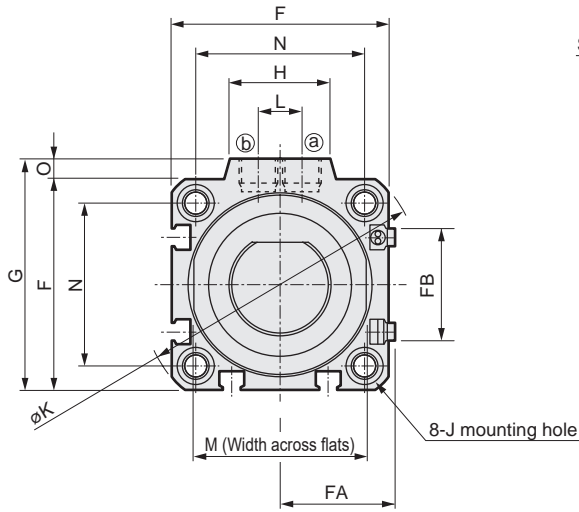
Note: Refer to page 1560 for HD, RD and protruding dimensions of the 2-color LED, off-delay, T1\* and T8\* switches.



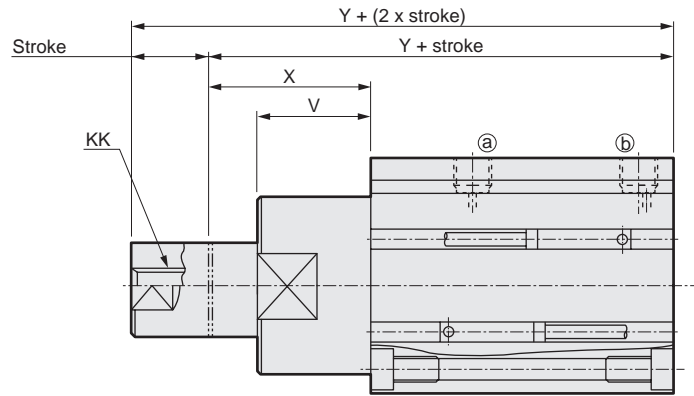
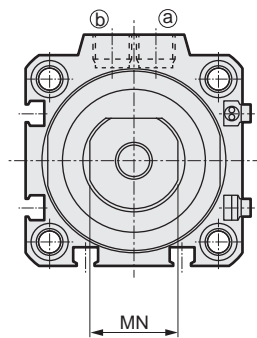
## Dimensions



● 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
ø32	68	48	20	8	Rc1/8	45	23	20.5	49.5	24	5.5	ø 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
ø40	80.5	52.5	24.5	8.5	Rc1/8	52	26.5	27.5	57	24	5.5	ø 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
ø50	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
ø32	10.5	20	10.5	20	12	21.5
ø40	11.5	23	11.5	23	13	24.5
ø50	12.5	23	12.5	23	14	24.5

Note: Refer to page 1560 for HD, RD and protruding dimensions of the 2-color LED, 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:  $\varnothing 20/\varnothing 32/\varnothing 40/\varnothing 50$

JIS symbol



Double acting/spring integrated



## Specifications

1 MPa = 10 bar

Item	STK-MY1				
Bore size	mm	$\varnothing 20$	$\varnothing 32$	$\varnothing 40$	$\varnothing 50$
Actuation		Double acting/spring integrated			
Working fluid		Compressed air			
Max. working pressure	MPa	1.0 ( $\approx 150$ psi, 10 bar)			
Min. working pressure	MPa	0.22 ( $\approx 32$ psi)	0.12 ( $\approx 17$ psi, 1.2 bar)		
Proof pressure	MPa	1.6 ( $\approx 230$ psi, 16 bar)			
Ambient temperature	$^{\circ}\text{C}$	-10 ( $14^{\circ}\text{F}$ ) to 60 ( $140^{\circ}\text{F}$ ) (no freezing)			
Port size		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 1562.			

## Stroke

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

Note: Products other than standard stroke are made-to-order products.

## Spring load

(Unit: N)

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

### Switch specifications

● 1-color/2-color LED

Item	2-wire proximity	2-wire proximity			3-wire proximity				2-wire reed						
	T1H/T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/ T3V	T3PH/ T3PV	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 (*3)			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	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)		No indicator lamp		LED (Lit when ON)		
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 detailed switch specifications and dimensions.

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

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

### Cylinder weight

(Unit: g)

Stroke	10	15	20	25	30	Switch weight (Grommet)
Bore size						
ø20	218	233	247	-	-	
ø32	457	482	507	-	-	
ø40	-	-	812	853	894	
ø50	-	-	1302	1328	1354	

### Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa									
		0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø20	Push	-	-	94.2	1.26x10 <sup>2</sup>	1.57x10 <sup>2</sup>	1.88x10 <sup>2</sup>	2.20x10 <sup>2</sup>	2.51x10 <sup>2</sup>	2.83x10 <sup>2</sup>	3.14x10 <sup>2</sup>
	Pull	-	-	45.6	65.7	85.8	1.06x10 <sup>2</sup>	1.26x10 <sup>2</sup>	1.46x10 <sup>2</sup>	1.66x10 <sup>2</sup>	1.86x10 <sup>2</sup>
ø32	Push	1.21x10 <sup>2</sup>	1.61x10 <sup>2</sup>	2.41x10 <sup>2</sup>	3.22x10 <sup>2</sup>	4.02x10 <sup>2</sup>	4.83x10 <sup>2</sup>	5.63x10 <sup>2</sup>	6.43x10 <sup>2</sup>	7.24x10 <sup>2</sup>	8.04x10 <sup>2</sup>
	Pull	42.1	66.6	1.16x10 <sup>2</sup>	1.65x10 <sup>2</sup>	2.14x10 <sup>2</sup>	2.63x10 <sup>2</sup>	3.12x10 <sup>2</sup>	3.61x10 <sup>2</sup>	4.10x10 <sup>2</sup>	4.59x10 <sup>2</sup>
ø40	Push	1.88x10 <sup>2</sup>	2.51x10 <sup>2</sup>	3.77x10 <sup>2</sup>	5.03x10 <sup>2</sup>	6.28x10 <sup>2</sup>	7.54x10 <sup>2</sup>	8.80x10 <sup>2</sup>	1.01x10 <sup>3</sup>	1.13x10 <sup>3</sup>	1.26x10 <sup>3</sup>
	Pull	70.5	1.09x10 <sup>2</sup>	1.85x10 <sup>2</sup>	2.62x10 <sup>2</sup>	3.38x10 <sup>2</sup>	4.15x10 <sup>2</sup>	4.92x10 <sup>2</sup>	5.68x10 <sup>2</sup>	6.45x10 <sup>2</sup>	7.21x10 <sup>2</sup>
ø50	Push	2.95x10 <sup>2</sup>	3.93x10 <sup>2</sup>	5.89x10 <sup>2</sup>	7.85x10 <sup>2</sup>	9.82x10 <sup>2</sup>	1.18x10 <sup>3</sup>	1.37x10 <sup>3</sup>	1.57x10 <sup>3</sup>	1.77x10 <sup>3</sup>	1.96x10 <sup>3</sup>
	Pull	1.04x10 <sup>2</sup>	1.67x10 <sup>2</sup>	2.92x10 <sup>2</sup>	4.18x10 <sup>2</sup>	5.44x10 <sup>2</sup>	6.69x10 <sup>2</sup>	7.95x10 <sup>2</sup>	9.21x10 <sup>2</sup>	1.05x10 <sup>3</sup>	1.17x10 <sup>3</sup>

# 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

No 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

**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. (Made to 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: 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	Description
<b>A Bore size (mm)</b>	
20	$\phi 20$
32	$\phi 32$
40	$\phi 40$
50	$\phi 50$

<b>B Port thread</b>	
Blank	Rc thread
NN	NPT thread ( $\phi 32$ and over) (made-to-order product)
GN	G thread ( $\phi 32$ and over) (made-to-order product)

<b>C Stroke (mm)</b>					
Bore size		$\phi 20$	$\phi 32$	$\phi 40$	$\phi 50$
10	10	●	●		
15	15	●	●		
20	20	●	●	●	●
25	25			●	●
30	30			●	●

<b>D Switch model No.</b>						
Axial lead wire	Radial lead wire	Contact	Voltage		Indicator	Lead wire
			AC	DC		
T0H*	T0V*	Reed	●	●	1-color LED	2-wire
T5H*	T5V*		●	●	No indicator lamp	
T8H*	T8V*		●	●	1-color LED	
T1H*	T1V*	Proximity	●		1-color LED	2-wire
T2H*	T2V*			●		
T3H*	T3V*			●	1-color LED	3-wire
T3PH*	T3PV*			●		
T2WH*	T2WV*			●		
T2YH*	T2YV*			●	2-color LED	2-wire
T3WH*	T3WV*			●		
T3YH*	T3YV*			●		
T2JH*	T2JV*			●	1-color LED off-delay	2-wire

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

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

<b>F Option</b>	
Blank	Rod end no thread
N11	With rod end female thread

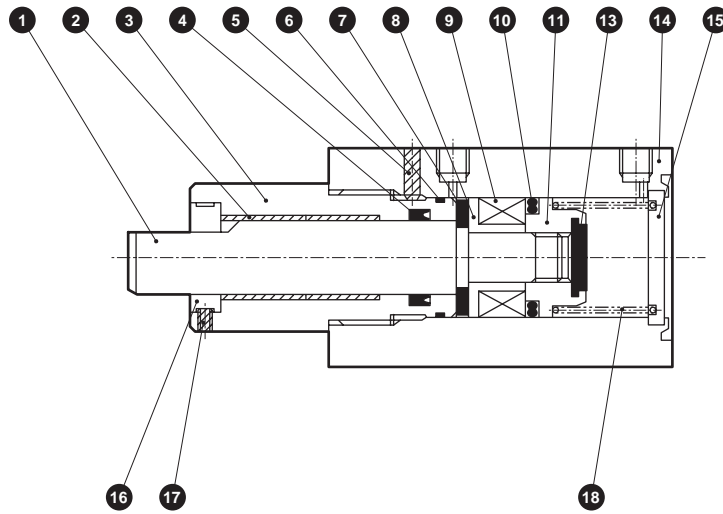
## How to order switch

**SW - T0H**

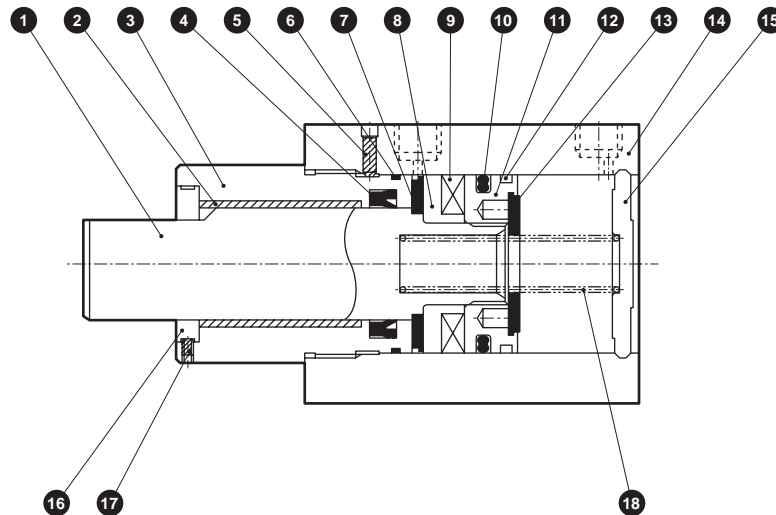
Switch model No.  
(Item **D** above)

## 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	ø20: Steel ø32 to 50: Aluminum alloy	ø20: Galvanizing ø32 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.
ø20	STK-Y1-20K	
ø32	STK-Y1-32K	4 6 10
ø40	STK-Y1-40K	12 13
ø50	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

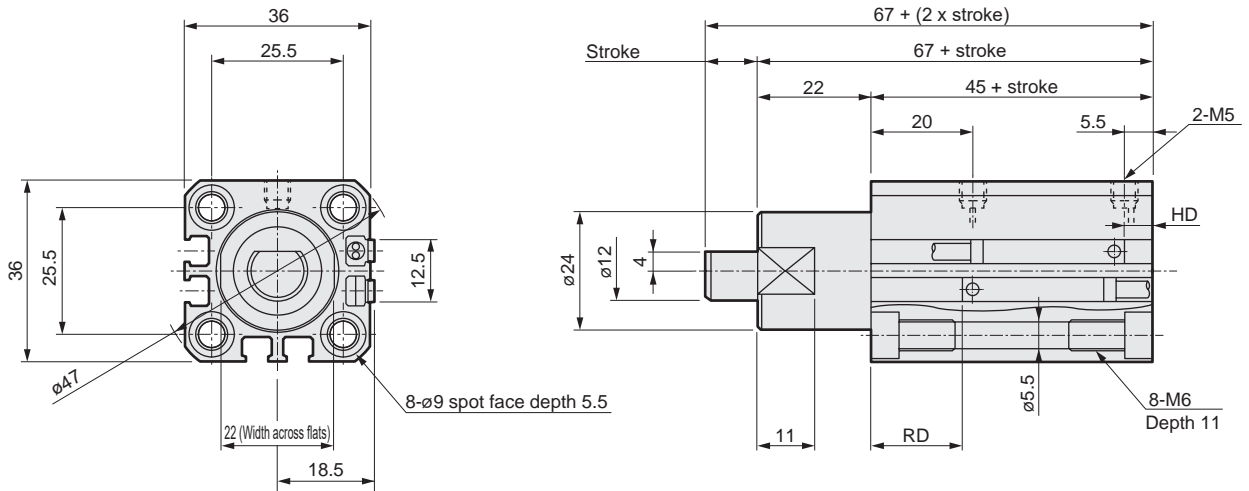
# STK-MY1 Series

## Dimensions

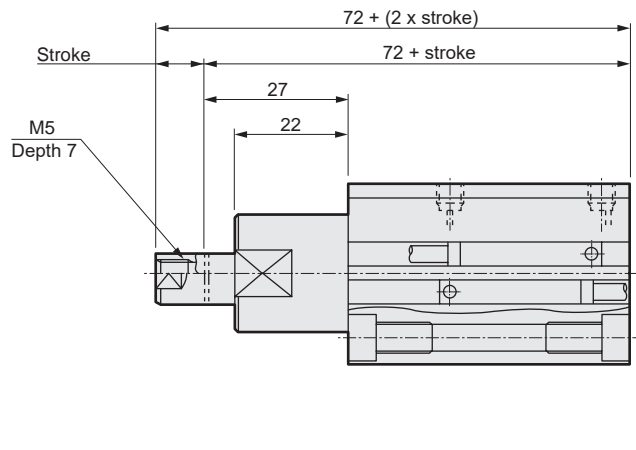


- SCP\*3
- CMK2
- CMA2
- SCM
- SCG
- SCA2
- SCS2
- CKV2
- CAV2/  
COVPIN2
- SSD2
- SSG
- SSD
- CAT
- MDC2
- MVC
- SMG
- MSD/  
MSDG
- FC\*
- STK**
- SRL3
- SRG3
- SRM3
- SRT3
- MRL2
- MRG2
- SM-25
- ShkAbs
- FJ
- FK
- Spd  
Contr
- Ending

### ● 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 1560 for HD, RD and protruding dimensions of the 2-color LED, off-delay, T1\* and T8\* switches.

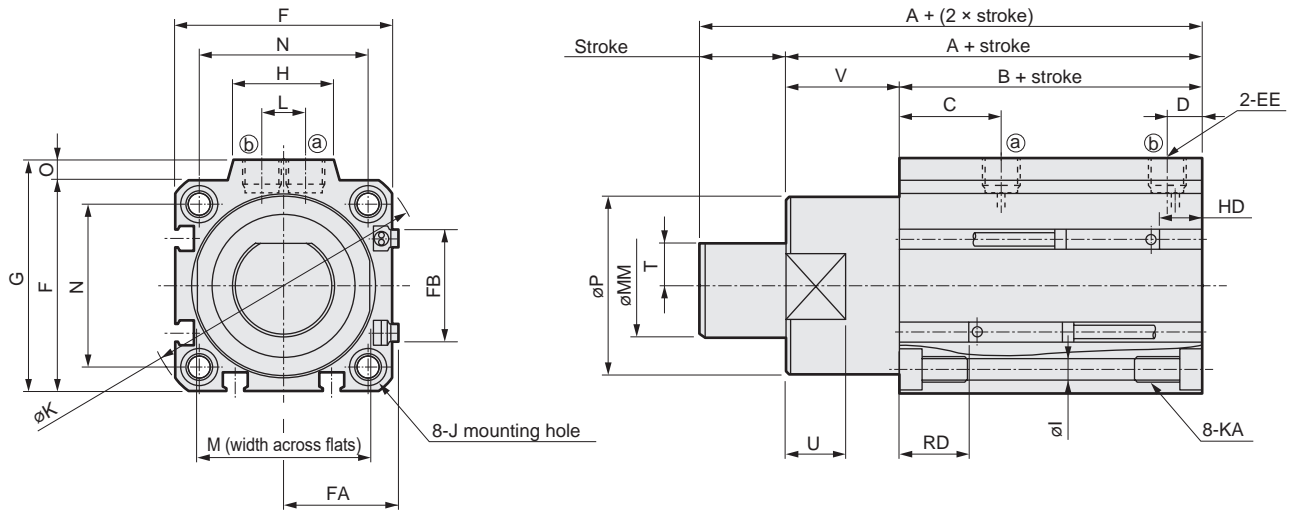
# STK-MY1 Series

Double acting/spring integrated/rod end form chamfered type

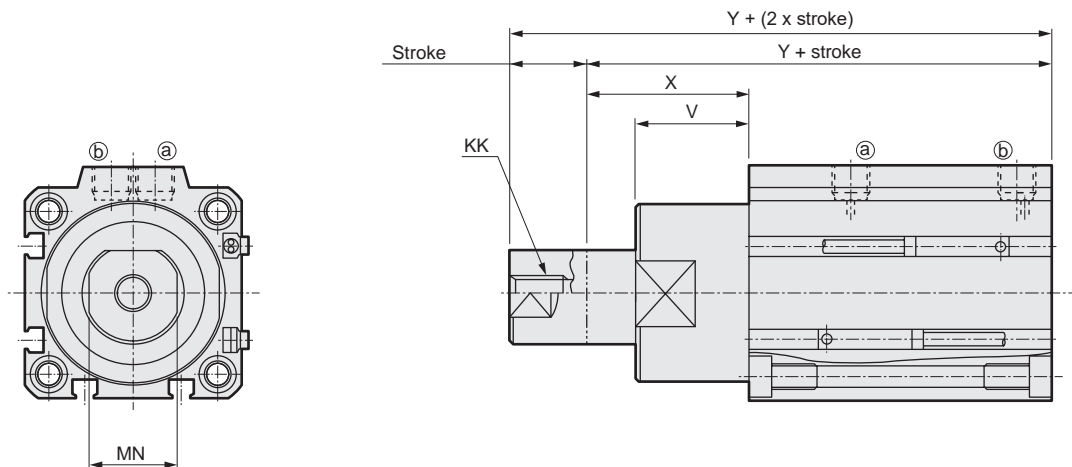
## Dimensions



● 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).)



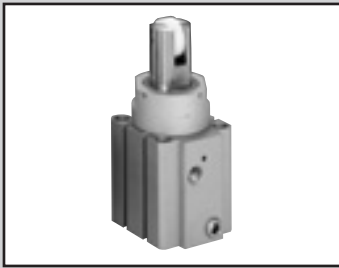
Code	A	B	C	D	EE	F	FA	FB	G	H	I	J	K	KA	KK	L	M	MM	MN	N	O	P	T	U	V	X	Y
ø32	68	48	20	8	Rc1/8	45	23	20.5	49.5	24	5.5	9 spot face depth 5.5	60	M6 depth 11	M8 depth 13	10	32	20	17	34	4.5	36	8	13	20	30	78
ø40	80.5	52.5	24.5	8.5	Rc1/8	52	26.5	27.5	57	24	5.5	9 spot face depth 5.5	69	M6 depth 11	M8 depth 13	10	41	25	22	40	5	44	10	15	28	38	90.5
ø50	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
ø32	10.5	20	10.5	20	12	21.5
ø40	11.5	23	11.5	23	13	24.5
ø50	12.5	23	12.5	23	14	24.5

Note: Refer to page 1560 for HD, RD and protruding dimensions of the 2-color LED, off-delay, T1\* and T8\* switches.

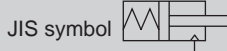
- SCP\*3
- CMK2
- CMA2
- SCM
- SCG
- SCA2
- SCS2
- CKV2
- CAV2/COVP/N2
- SSD2
- SSG
- SSD
- CAT
- MDC2
- MVC
- SMG
- MSD/MSDG
- FC\*
- STK**
- SRL3
- SRG3
- SRM3
- SRT3
- MRL2
- MRG2
- SM-25
- ShkAbs
- FJ
- FK
- Spd Contr
- Ending



Stopper cylinder single acting/pull/rod end form roller

# STK-JY Series

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



Single acting/pull



## Specifications

1 MPa = 10 bar

Item	STK-JY			
Bore size mm	$\varnothing 20$	$\varnothing 32$	$\varnothing 40$	$\varnothing 50$
Actuation	Single acting pull			
Working fluid	Compressed air			
Max. working pressure MPa	1.0 ( $\approx 150$ psi, 10 bar)			
Min. working pressure MPa	0.22 ( $\approx 32$ psi)	0.12 ( $\approx 17$ psi, 1.2 bar)		
Proof pressure MPa	1.6 ( $\approx 230$ psi, 16 bar)			
Ambient temperature $^{\circ}\text{C}$	-10 ( $14^{\circ}\text{F}$ ) to 60 ( $140^{\circ}\text{F}$ ) (no freezing)			
Port size	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 1562.			

## Stroke

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

Note: Products other than standard stroke are made-to-order products.

## Spring load

(Unit: N)

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



### Switch specifications

● 1-color/2-color LED

Item	2-wire proximity	2-wire proximity			3-wire proximity				2-wire reed						
	T1H/T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/ T3V	T3PH/ T3PV	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 (*3)			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	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)		No indicator lamp		LED (Lit when ON)		
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 detailed switch specifications and dimensions.

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

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

### Cylinder weight

(Unit: g)

Stroke Bore size	10	15	20	25	30	Switch weight (Grommet)
ø20	225	240	254	-	-	Refer to the weight in the switch specifications.
ø32	482	507	532	-	-	
ø40	-	-	862	903	944	
ø50	-	-	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
ø20	-	45.6	65.7	85.8	1.06x10 <sup>2</sup>	1.26x10 <sup>2</sup>	1.46x10 <sup>2</sup>	1.66x10 <sup>2</sup>	1.86x10 <sup>2</sup>
ø32	66.6	1.16x10 <sup>2</sup>	1.65x10 <sup>2</sup>	2.14x10 <sup>2</sup>	2.63x10 <sup>2</sup>	3.12x10 <sup>2</sup>	3.61x10 <sup>2</sup>	4.10x10 <sup>2</sup>	4.59x10 <sup>2</sup>
ø40	1.09x10 <sup>2</sup>	1.85x10 <sup>2</sup>	2.62x10 <sup>2</sup>	3.38x10 <sup>2</sup>	4.15x10 <sup>2</sup>	4.92x10 <sup>2</sup>	5.68x10 <sup>2</sup>	6.45x10 <sup>2</sup>	7.21x10 <sup>2</sup>
ø50	1.67x10 <sup>2</sup>	2.92x10 <sup>2</sup>	4.18x10 <sup>2</sup>	5.44x10 <sup>2</sup>	6.69x10 <sup>2</sup>	7.95x10 <sup>2</sup>	9.21x10 <sup>2</sup>	1.05x10 <sup>3</sup>	1.17x10 <sup>3</sup>

# STK-JY Series

## How to order

No switch (built-in magnet for switch)

**STK-JY - 20 - 10**

With switch (built-in magnet for switch)

**STK-JY - 20 - 10 - T0H - R**

**A** Bore size

**B** Port thread

**C** Stroke

**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. (Made to 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 :  $\varnothing 20$  mm

**B** Port thread : Rc thread

**C** Stroke: 10mm

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

**E** Switch quantity : 1 on rod side

Code	Description
<b>A Bore size (mm)</b>	
20	$\varnothing 20$
32	$\varnothing 32$
40	$\varnothing 40$
50	$\varnothing 50$

<b>B Port thread</b>	
Blank	Rc thread
NN	NPT thread ( $\varnothing 32$ and over) (made-to-order product)
GN	G thread ( $\varnothing 32$ and over) (made-to-order product)

<b>C Stroke (mm)</b>		$\varnothing 20$	$\varnothing 32$	$\varnothing 40$	$\varnothing 50$
Bore size					
10	10	●	●		
15	15	●	●		
20	20	●	●	●	●
25	25			●	●
30	30			●	●

<b>D Switch model No.</b>						
Axial lead wire	Radial lead wire	Contact	Voltage		Indicator	Lead wire
			AC	DC		
T0H*	T0V*	Reed	●	●	1-color LED	2-wire
T5H*	T5V*		●	●	No indicator lamp	
T8H*	T8V*		●	●	1-color LED	
T1H*	T1V*	Proximity	●		1-color LED	2-wire
T2H*	T2V*			●		
T3H*	T3V*			●	1-color LED	3-wire
T3PH*	T3PV*			●		
T2WH*	T2WV*			●	2-color LED	2-wire
T2YH*	T2YV*			●		
T3WH*	T3WV*		●			
T3YH*	T3YV*		●	1-color LED off-delay	2-wire	
T2JH*	T2JV*		●			

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

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

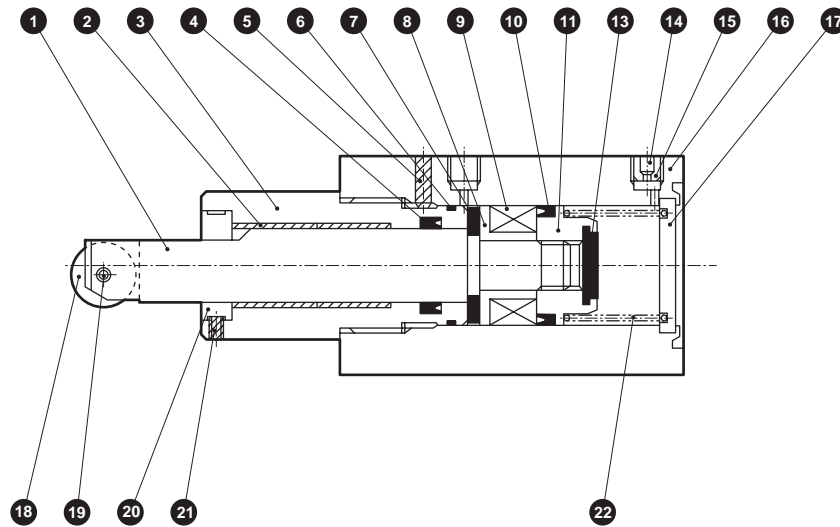
## How to order switch

**SW - T0H**

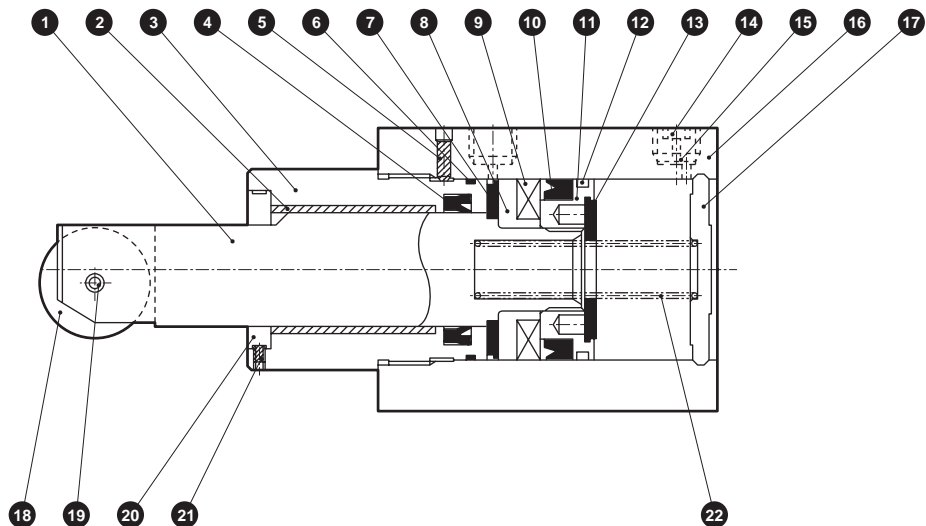
Switch model No.  
(Item **D** above)

### 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	ø20: Steel ø32 to 50: Aluminum alloy	ø20: Galvanizing ø32 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.
ø20	STK-Y-20K	
ø32	STK-Y-32K	4 6 10
ø40	STK-Y-40K	12 13
ø50	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

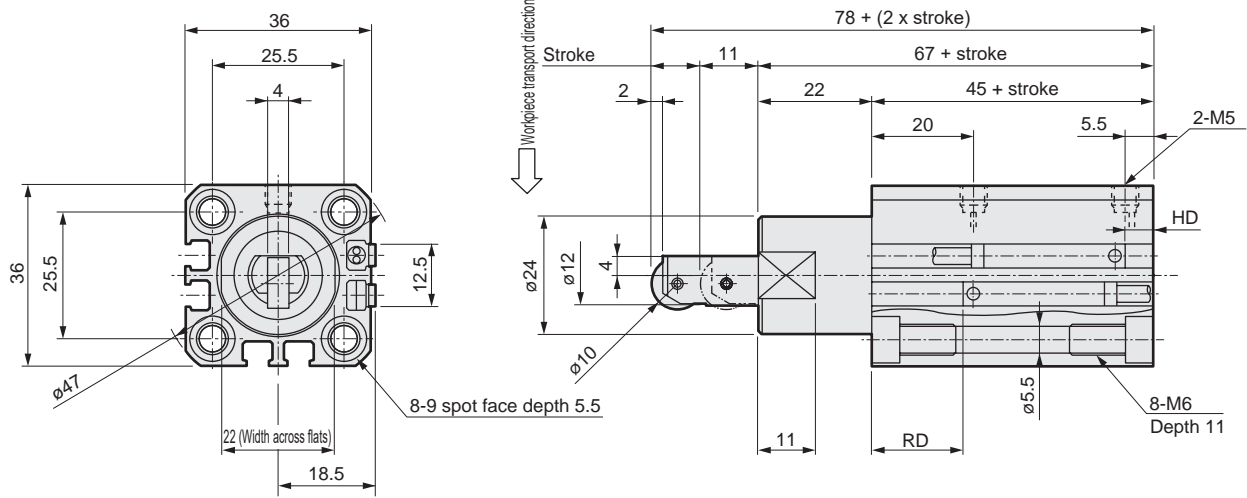
Ending

# STK-JY Series

## Dimensions



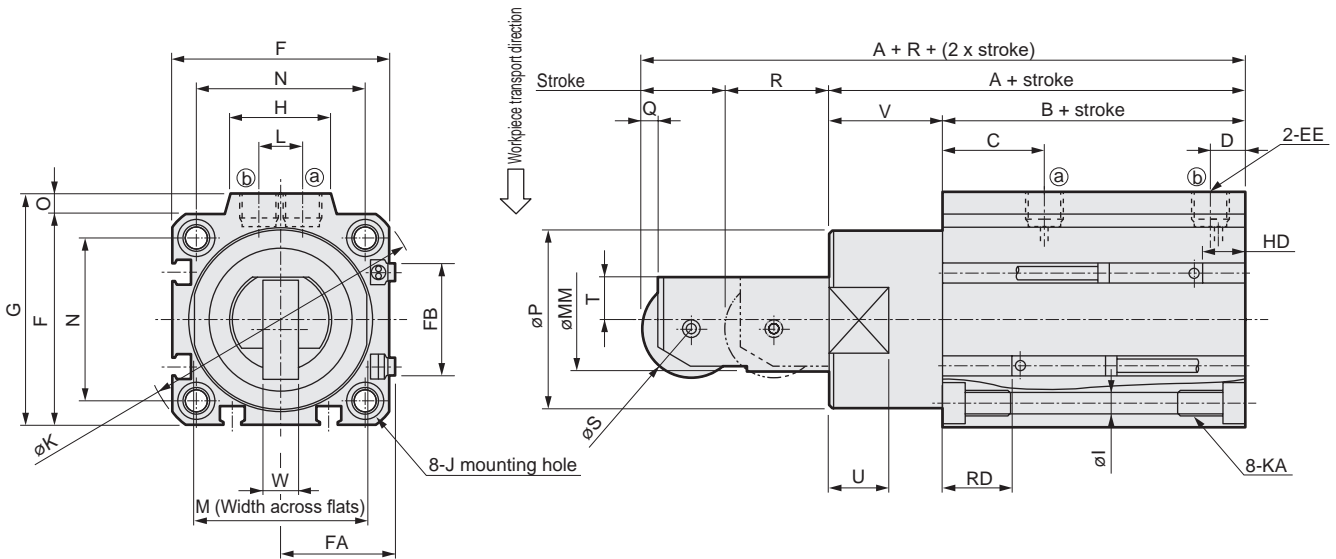
### ● STK-JY-20



### 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
ø20	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
ø32	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
ø40	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
ø50	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
ø32	10.5	20	10.5	20	12	21.5
ø40	11.5	23	11.5	23	13	24.5
ø50	12.5	23	12.5	23	14	24.5

Note: Refer to page 1560 for HD, RD and protruding dimensions of the 2-color LED, 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

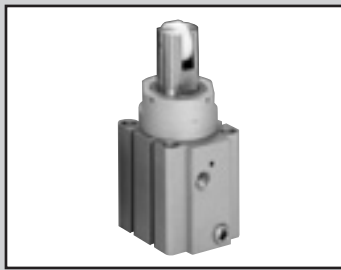
ShkAbs

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

Item	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 ( $\approx 150$ psi, 10 bar)			
Min. working pressure	MPa	0.22 ( $\approx 32$ psi)	0.12 ( $\approx 17$ psi, 1.2 bar)		
Proof pressure	MPa	1.6 ( $\approx 230$ psi, 16 bar)			
Ambient temperature	$^{\circ}\text{C}$	-10 ( $14^{\circ}\text{F}$ ) to 60 ( $140^{\circ}\text{F}$ ) (no freezing)			
Port size		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 1562.			

## Stroke

Bore size (mm)	Stroke (mm)	Max. stroke (mm)	Min. stroke (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 are made-to-order products.

## Spring load

(Unit: N)

Bore size (mm)	Stroke (mm)	When stroke = 0	At full stroke 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 LED

Item	2-wire proximity	2-wire proximity			3-wire proximity				2-wire reed						
	T1H/T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/ T3V	T3PH/ T3PV	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 (*3)			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	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)		No indicator lamp		LED (Lit when ON)		
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 detailed switch specifications and dimensions.

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

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

### Cylinder weight table

(Unit: g)

Stroke Bore size	10	15	20	25	30	Switch weight (Grommet)
ø20	225	240	254	-	-	Refer to the weight in the switch specifications.
ø32	482	507	532	-	-	
ø40	-	-	862	903	944	
ø50	-	-	1362	1388	1414	

### Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa									
		0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø20	Push	-	-	94.2	1.26x10 <sup>2</sup>	1.57x10 <sup>2</sup>	1.88x10 <sup>2</sup>	2.20x10 <sup>2</sup>	2.51x10 <sup>2</sup>	2.83x10 <sup>2</sup>	3.14x10 <sup>2</sup>
	Pull	-	-	45.6	65.7	85.8	1.06x10 <sup>2</sup>	1.26x10 <sup>2</sup>	1.46x10 <sup>2</sup>	1.66x10 <sup>2</sup>	1.86x10 <sup>2</sup>
ø32	Push	1.21x10 <sup>2</sup>	1.61x10 <sup>2</sup>	2.41x10 <sup>2</sup>	3.22x10 <sup>2</sup>	4.02x10 <sup>2</sup>	4.83x10 <sup>2</sup>	5.63x10 <sup>2</sup>	6.43x10 <sup>2</sup>	7.24x10 <sup>2</sup>	8.04x10 <sup>2</sup>
	Pull	42.1	66.6	1.16x10 <sup>2</sup>	1.65x10 <sup>2</sup>	2.14x10 <sup>2</sup>	2.63x10 <sup>2</sup>	3.12x10 <sup>2</sup>	3.61x10 <sup>2</sup>	4.10x10 <sup>2</sup>	4.59x10 <sup>2</sup>
ø40	Push	1.88x10 <sup>2</sup>	2.51x10 <sup>2</sup>	3.77x10 <sup>2</sup>	5.03x10 <sup>2</sup>	6.28x10 <sup>2</sup>	7.54x10 <sup>2</sup>	8.80x10 <sup>2</sup>	1.01x10 <sup>3</sup>	1.13x10 <sup>3</sup>	1.26x10 <sup>3</sup>
	Pull	70.5	1.09x10 <sup>2</sup>	1.85x10 <sup>2</sup>	2.62x10 <sup>2</sup>	3.38x10 <sup>2</sup>	4.15x10 <sup>2</sup>	4.92x10 <sup>2</sup>	5.68x10 <sup>2</sup>	6.45x10 <sup>2</sup>	7.21x10 <sup>2</sup>
ø50	Push	2.95x10 <sup>2</sup>	3.93x10 <sup>2</sup>	5.89x10 <sup>2</sup>	7.85x10 <sup>2</sup>	9.82x10 <sup>2</sup>	1.18x10 <sup>3</sup>	1.37x10 <sup>3</sup>	1.57x10 <sup>3</sup>	1.77x10 <sup>3</sup>	1.96x10 <sup>3</sup>
	Pull	1.04x10 <sup>2</sup>	1.67x10 <sup>2</sup>	2.92x10 <sup>2</sup>	4.18x10 <sup>2</sup>	5.44x10 <sup>2</sup>	6.69x10 <sup>2</sup>	7.95x10 <sup>2</sup>	9.21x10 <sup>2</sup>	1.05x10 <sup>3</sup>	1.17x10 <sup>3</sup>

# 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

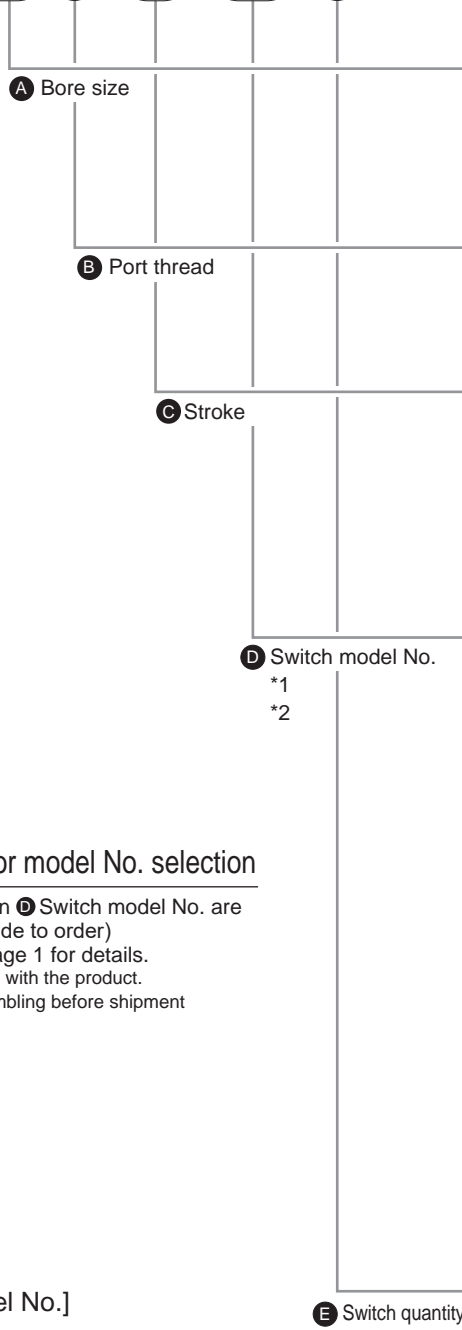
## How to order

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

Code	Description								
<b>A Bore size (mm)</b>									
20	$\phi 20$								
32	$\phi 32$								
40	$\phi 40$								
50	$\phi 50$								
<b>B Port thread</b>									
Blank	Rc thread								
NN	NPT thread ( $\phi 32$ and over) (made-to-order product)								
GN	G thread ( $\phi 32$ and over) (made-to-order product)								
<b>C Stroke (mm)</b>									
	Bore size	$\phi 20$	$\phi 32$	$\phi 40$	$\phi 50$				
10	10	●	●						
15	15	●	●						
20	20	●	●	●	●				
25	25			●	●				
30	30			●	●				
<b>D Switch model No.</b>									
Axial lead wire	Radial lead wire	Contact	Voltage		Indicator	Lead wire			
			AC	DC					
T0H* T5H* T8H* T1H* T2H* T3H*	T0V* T5V* T8V* T1V* T2V* T3V*	Reed	●	●	1-color LED	2-wire			
			●	●	No indicator lamp				
			●	●	1-color LED				
			T3PH* T2WH* T2YH* T3WH* T3YH* T2JH*	T3PV* T2WV* T2YV* T3WV* T3YV* T2JV*	Proximity	●		1-color LED	2-wire
						●	●	1-color LED	3-wire
						●	●	2-color LED	2-wire
●	●	3-wire							
●	●	1-color LED off-delay				2-wire			
<b>* Lead wire length (m)</b>									
Blank	1 m (standard)								
3	3 m (option)								
5	5 m (option)								
<b>E Switch quantity</b>									
R	1 on rod side								
H	1 on head side								
D	2								

## How to order switch

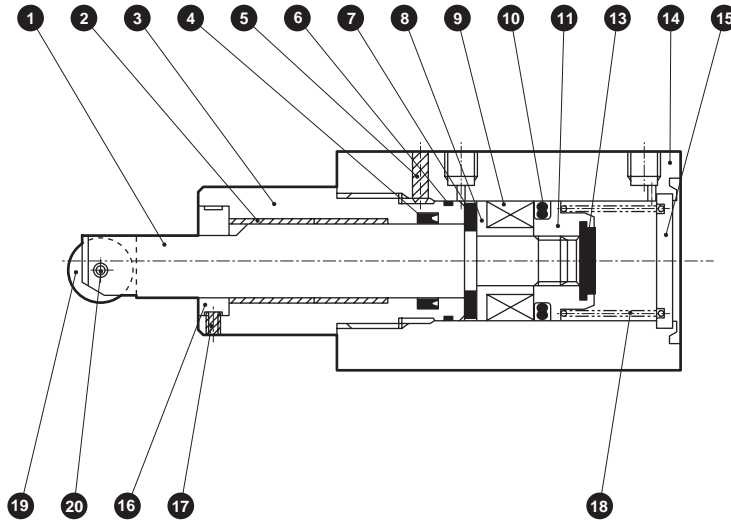
**SW - T0H**

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

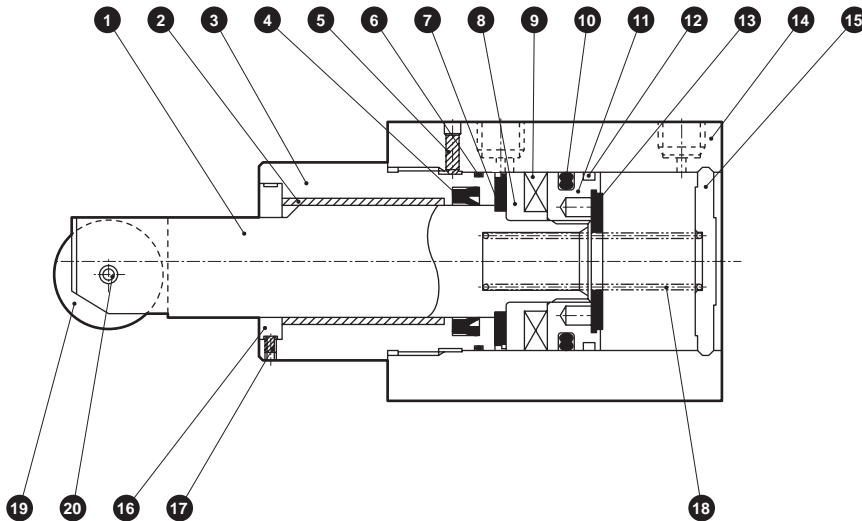


## Internal structure and parts list

### ● 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	ø20: Steel ø32 to 50: Aluminum alloy	ø20: Galvanizing ø32 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.
ø20	STK-Y1-20K	
ø32	STK-Y1-32K	4 6 10
ø40	STK-Y1-40K	12 13
ø50	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

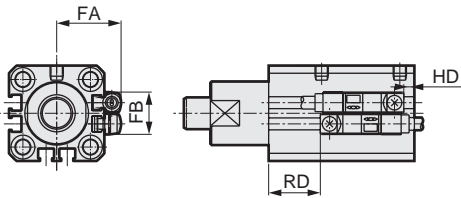


### STK Series common dimensions (2-color LED, off-delay, with T1\* and T8\* switches)

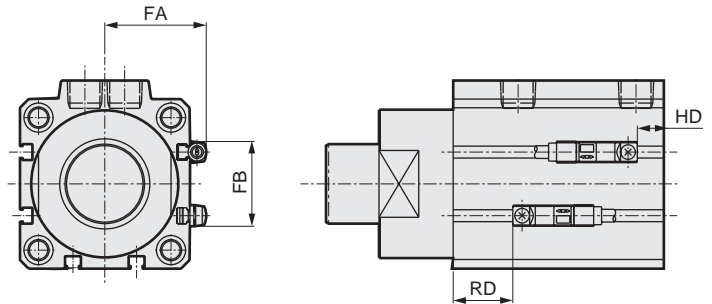
#### Double acting (STK, STK-M)

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

· ø20



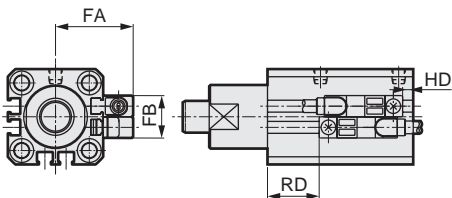
· ø32 to 50



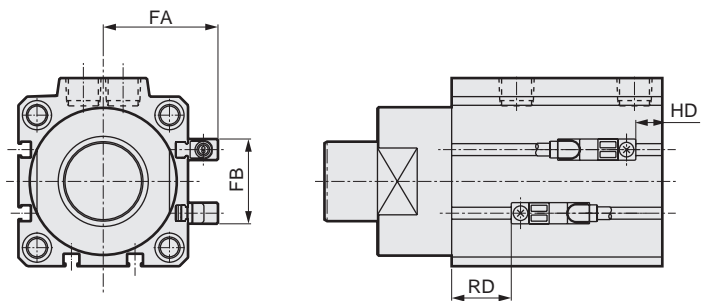
Code Bore size (mm)	FA	FB	T2JH/V, T2YH/V, T3YH/V		T8H/V	
			RD	HD	RD	HD
ø20	24.3	16	19.5	4	15	0
ø32	28.8	24	19.5	8	15	3.5
ø40	32.3	31	22.5	8.5	18	4.5
ø50	38.3	32	22.5	10	18	5.5

- T1H/V

· ø20



· ø32 to 50



Code Bore size (mm)	FA	FB	RD	HD
ø20	24.3	16	19.5	4
ø32	28.8	24	19.5	8
ø40	32.3	31	22.5	8.5
ø50	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

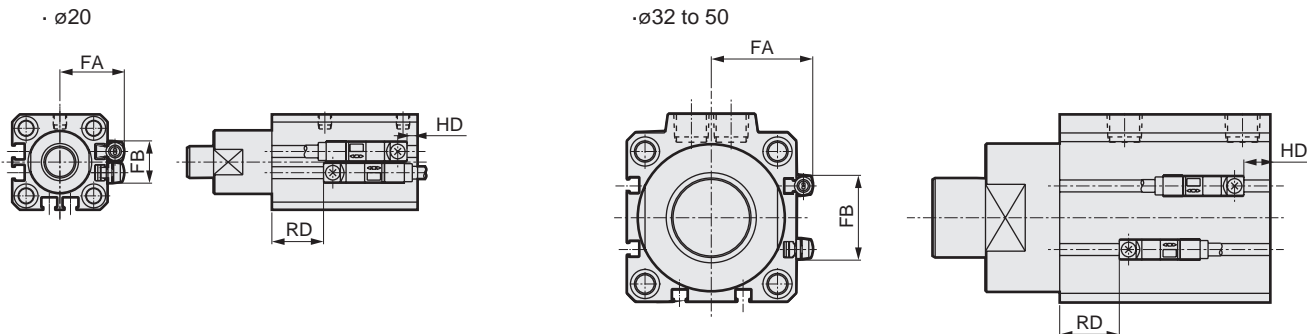
Spd  
Contr

Ending

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

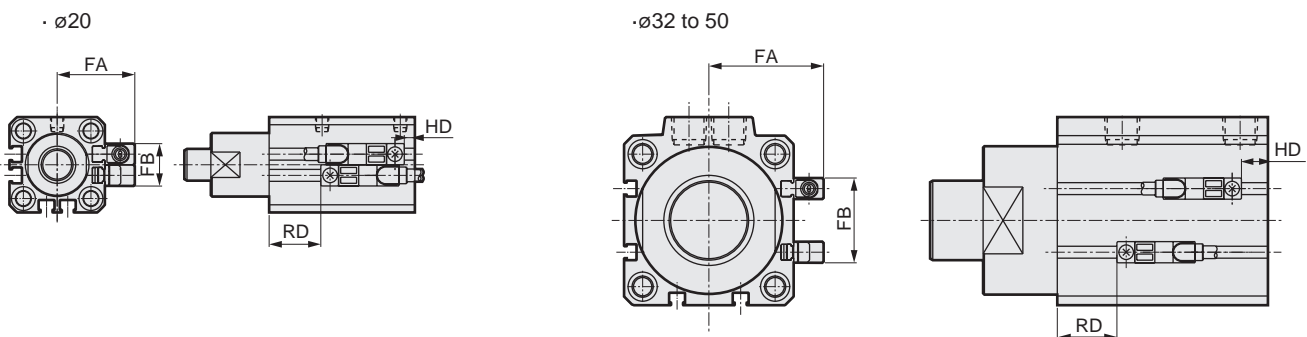
Single acting pull, double acting spring integrated (STK-Y, STK-Y1, STK-MY, STK-MY1, STK-JY, STK-JY1)

● T2YH/V, T3YH/V, T2JH/V, T8H/V



Code	FA	FB	T2JH/V, T2YH/V, T3YH/V		T8H/V	
Bore size (mm)			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



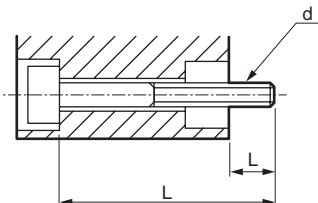
Code	FA	FB	RD	HD
Bore size (mm)				
$\phi 20$	24.3	16	18	5.5
$\phi 32$	28.8	24	18.5	9
$\phi 40$	32.3	31	21.5	10
$\phi 50$	38.3	32	21.5	11

Mounting bolt model No.

**STK** - **BOLT** - **dxL**

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-

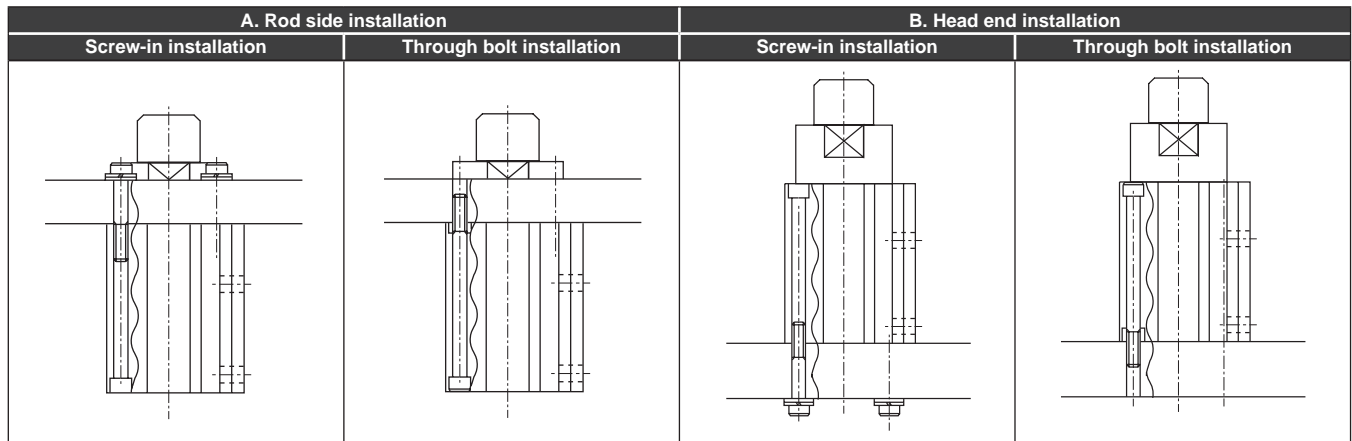
Model No.	L	dxL
STK-20-10	10.5	M5x60
15		x65
20		x70
STK-32-10	12.5	M5x65
15		x70
20		x75

Model No.	L	dxL
STK-40-20	13	M5x80
25		x85
30		x90
STK-50-20	12.5	M6x80
25		x85
30		x90

- 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 selection guide

Depending on the mounting method, the allowable absorbed energy varies. Check whether the mounting is A or B type in the figure below to select the cylinder.



### 1. Method of selecting specified range

Select the model using transport weight (m) and transport speed (V) so that the model is within the allowable absorbed energy in the graph in the right .

Formula for kinetic energy calculation

$$E = \frac{1}{2} m V^2$$

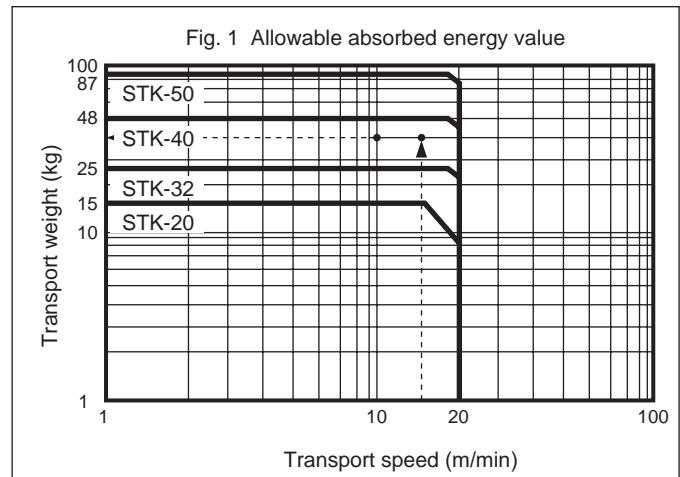
E: Kinetic energy J  
m: Transport weight kg  
V: Transport speed m/s

(Example) Transport speed 15 m/min, transport weight 40 kg  
A. For rod side installation

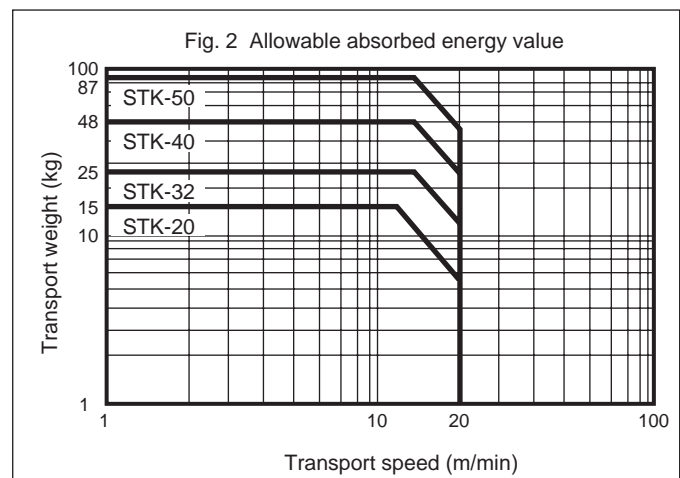
[How to look at the graph]

For the selection method of the specifications above, obtain the intersection point of the speed 15 m/min on the horizontal axis and the weight 40 kg on the vertical axis of Graph 1, and then select STK-40 within the allowable absorbed energy range.

A. Rod side installation



B. Head end installation



(Note) Rod end form: Compatible with all round rod types/chamfered types/roller.

## Lateral load and working pressure

Depending on the degree of the lateral load applied to the rod end, the working pressure varies when the cylinder is pulled. Therefore, calculate the required working pressure by the steps below.

1. Calculate the lateral load (F) applied to the rod end.

$$F = 10 \cdot m \cdot n \cdot \mu_1$$

F : Lateral load (N)

m : Transport weight(kg)

n : Number of transported objects

$\mu_1$  : Coefficient of friction between transport pallet and conveyor

2. Obtain the thrust (P) required when the cylinder is pulled.

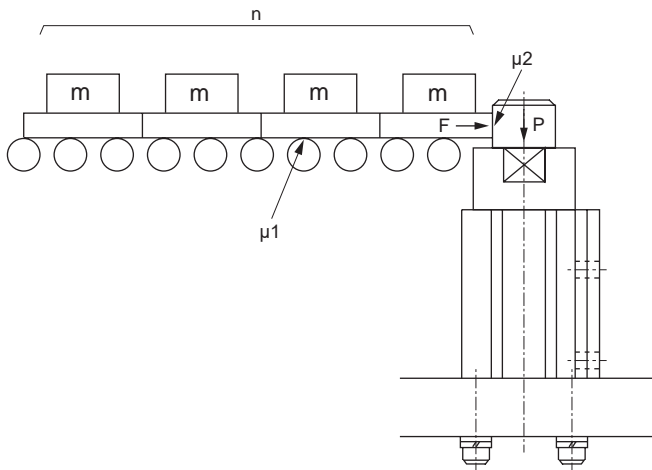
$$P = F \cdot \mu_2$$

P : Required thrust (N)

$\mu_2$  : Coefficient of friction between transported object and rod

(Note) As the coefficient of friction varies depending on the material of the transported object, refer to the coefficient in the table below.

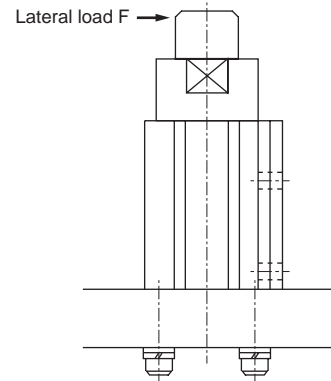
Material of transported object	Steel	Aluminum	Urethane
$\mu_2$	0.5	0.8	2.0



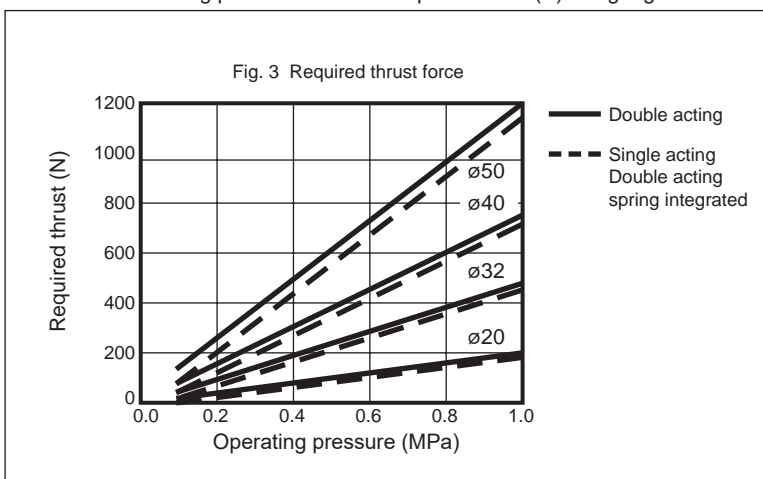
Allowable lateral load

(Unit: N)

Bore size	Stroke				
	10	15	20	25	30
ø20	106.5	99.4	93.2	-	-
ø32	272.8	254.6	238.7	-	-
ø40	-	-	371.3	352.1	334.8
ø50	-	-	582.8	552.8	525.8



3. Obtain the working pressure from the required thrust (P) using Fig. 3.



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



# Safety Precautions

Be sure to read this section before use.

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

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

## Product-specific cautions: Stopper cylinder STK Series

### Design/selection

#### 1. Common

#### CAUTION

- When using a stopper cylinder to brake loads directly connected to cylinder, etc
  - The specified range is only for stopping pallets on the conveyor. When using a stopper cylinder to stop loads directly connected to cylinder, etc., because the cylinder thrust is applied as a lateral load, select the cylinder within the range of allowable absorbed energy and allowable lateral load.

#### 2. Single acting STK-Y

#### CAUTION

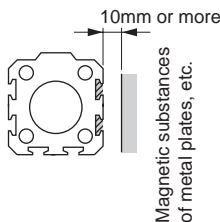
- Do not apply pressure from the head side for the single acting.
  - If air is introduced from the head side for single acting, air leakage will occur.

### Mounting, installation and adjustment

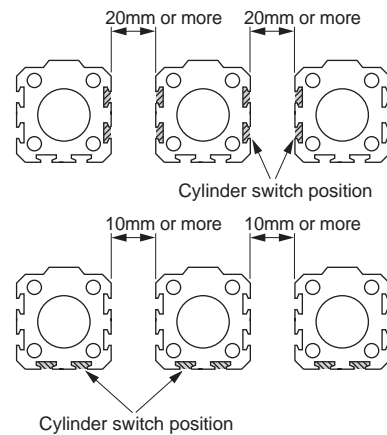
#### 1. Common

#### CAUTION

- Do not apply rotation torque to the piston rod. Attach the piston rod so that the rod contact surface is parallel to the pallet contact surface in order that torque is not applied.
- Avoid using oil, etc., for the piston rod sliding section.
  - Otherwise, cylinder malfunctions, etc., may result.
- The cylinder switch could malfunction if there is a magnetic substance such as a metal plate installed adjacently. Confirm that a distance of at least 10 mm is allocated from the surface of the cylinders. (Same clearance for all bore sizes)



- The cylinder switch could malfunction if cylinders are installed adjacently. Check that the following distances are allocated between cylinders. (Same clearance for all bore sizes)





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

### 2. Single acting STK-Y

#### ⚠ CAUTION

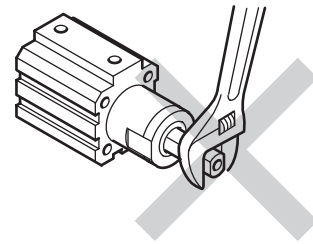
- Do not leave the single acting cylinder pressurized. If it is left pressurized, the piston rod may not be returned by the spring force when the pressure is released.

### 3. Rod end form chamfered type with female thread STK-M-N11

#### ⚠ CAUTION

- Avoid using the product so as to apply rotation torque to the piston rod.  
The spacer for rotation-stop comes off and the direction of the chamfered piston rod is changed.

- When fixing a workpiece onto the end of the piston rod, push the piston rod to the stroke end and apply a wrench to the section projecting from the rod's parallel section. Be careful when tightening so that torque is not applied to the cylinder body.

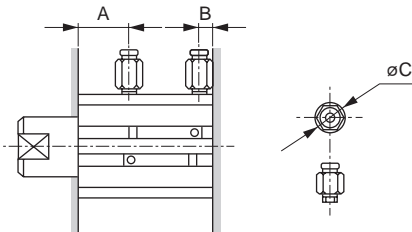


## Use/maintenance

### 1. Common

#### ⚠ CAUTION

- As compatible piping fittings are limited, refer to the table below to select the fitting.



Item Bore size (mm)	Port size	Port position dimensions		Applicable fittings	Fitting O.D. øC	Inapplicable fittings
		A	B			
ø20	M5	8	5.5	SC3W-M5-4 SC3W-M5-6 GWS4-M5-S GWS4-M5 GWL4-M5 GWL6-M5	ø11 or less	GWS6-M5
ø32	Rc1/8	8	8	SC3W-6-4/6/8 GWS4-6 GWS6-6	ø15 or less	GWS10-6 GWL-8-6 GWL10-6
ø40		12	8.5	GWS8-6 GWL4-6 GWL6-6		
ø50	Rc1/4	10.5	10.5	SC3W-8-6/8/10 GWS4-8 GWS6-8 GWS10-8 GWL4 to 12-8	ø21 or less	GWS-12-8

- When changing the direction of the rotation-stop, loosen the rod cover set screws (3 positions) to change position arbitrarily and then tighten them again.

### 2. Spring integrated double acting STK-Y1

#### ⚠ CAUTION

- Spring integrated double acting is usually used as a double acting, and when the air is shut off for any reason, the rod is pushed and the stopper function is maintained.