STK

Stopper Cylinder

ø20, ø32, ø40, ø50



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Special
MVC
STK
MCP
GLC
BBS
NHS
HR
LN
Cylinders Switch
Ending

Stopper Cylinder **STK** Series

Resists lateral load firmly even in a small space

Square type, space-saving stopper cylinder (ø20, ø32, ø40, ø50) with strong bearings that can withstand large lateral loads such as those encountered when used as a stopper

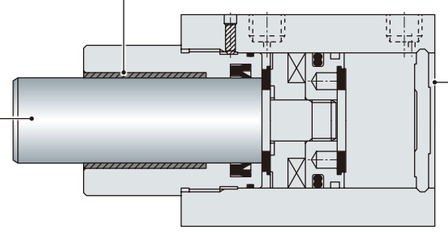


STK/STK-Y Series | STK-M Series | STK/STK-Y Series | STK-JY Series

Structure of STK Series

Long and strong bush
Strengthened bearing part by significantly lengthening the bush

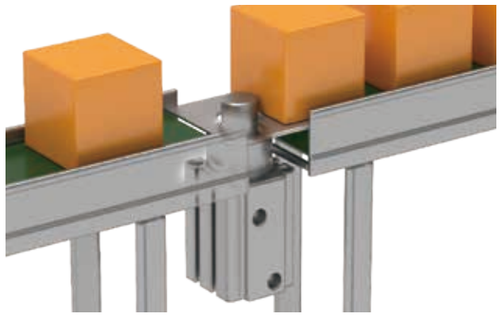
Thick Piston Rod
Adopts a rod that is one rank or more thicker than the normal rod diameter



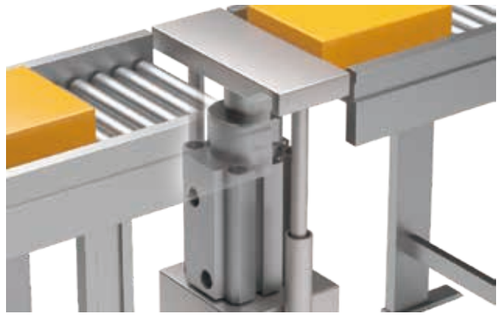
Compact body
Direct mounting possible with Hexagon Socket head cap bolts
Two mounting methods: screwing and through bolts

Application Example

Workpiece stopper applications

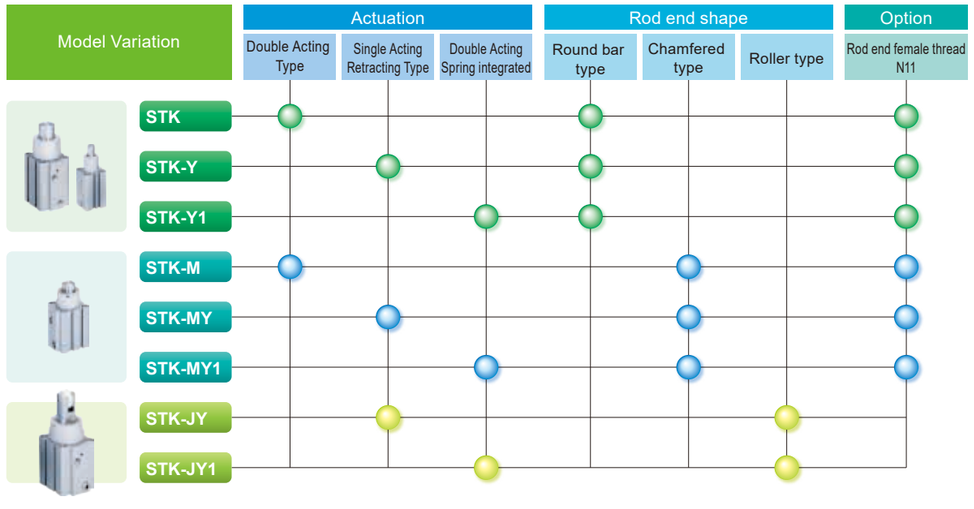


Position holding during power outage/



A wide variety of variations available to choose from depending on usage and space

STK Series Product System



4 types of Rod End shapes according to usage scene



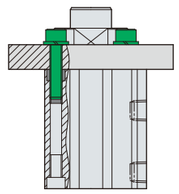
Rod End shape round bar type | Rod End shape female thread | Rod End Shape: Chamfered Type | Rod End shape roller type

Mounting Method

Through hole+taps on both ends equipped as standard

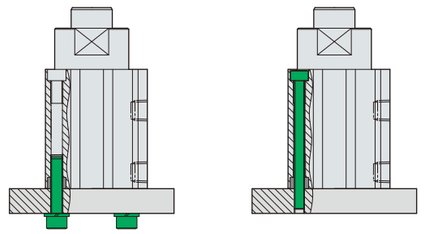
Rod Side Mounting

Screw-in mounting | Through-bolt mounting



Head Side Mounting

Screw-in mounting | Through-bolt mounting



●: Standard, ◎: Option, : Not available

Variation	Model No. / Circuit Diagram Code	Bore Size (mm)	Standard Stroke (mm) 10	15		20	25	30	Min Stroke (mm)	Max Stroke (mm)	Option: With Rod End female thread N11	Switch	Page
Double Acting type, Rod End shape round bar type	STK	Equivalent to ø20 / Equivalent to ø32	●	●		●			10	20	◎	◎	924
		Equivalent to ø40 / Equivalent to ø50				●	●	●	20	30	◎		
Single Acting, Retraction type Rod End shape round bar type	STK-Y	Equivalent to ø20 / Equivalent to ø32	●	●		●			10	20	◎	◎	932
		Equivalent to ø40 / Equivalent to ø50				●	●	●	20	30	◎		
Double Acting, Spring loaded type Rod End shape round bar type	STK-Y1	Equivalent to ø20 / Equivalent to ø32	●	●		●			10	20	◎	◎	940
		Equivalent to ø40 / Equivalent to ø50				●	●	●	20	30	◎		
Double Acting type, Rod End shape chamfered type	STK-M	Equivalent to ø20 / Equivalent to ø32	●	●		●			10	20	◎	◎	948
		Equivalent to ø40 / Equivalent to ø50				●	●	●	20	30	◎		
Single Acting, Retraction type Rod End shape chamfered type	STK-MY	Equivalent to ø20 / Equivalent to ø32	●	●		●			10	20	◎	◎	956
		Equivalent to ø40 / Equivalent to ø50				●	●	●	20	30	◎		
Double Acting, Spring loaded type Rod End shape chamfered type	STK-MY1	Equivalent to ø20 / Equivalent to ø32	●	●		●			10	20	◎	◎	964
		Equivalent to ø40 / Equivalent to ø50				●	●	●	20	30	◎		
Single Acting, Retraction type Rod End shape roller type	STK-JY	Equivalent to ø20 / Equivalent to ø32	●	●		●			10	20		◎	972
		Equivalent to ø40 / Equivalent to ø50				●	●	●	20	30			
Double Acting, Spring loaded type Rod End shape roller type	STK-JY1	Equivalent to ø20 / Equivalent to ø32	●	●		●			10	20		◎	978
		Equivalent to ø40 / Equivalent to ø50				●	●	●	20	30			

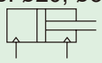


Stopper Cylinder, Double Acting Type,
Rod End Shape Round Bar Type

STK Series

● Bore Size: ø20, ø32, ø40, ø50

Circuit Diagram
Code



Double Acting

RoHS

Model No. Notation

Without Switch
(Built-in magnet for switch)

STK - 20 ( ) - 10 ——— N11

Model No. ❶ ❷ ❸ ❻

With switch
(Built-in magnet for switch)

STK - 20 ( ) - 10 - T0H - R - N11

Model No. ❷ Piping thread type ❹ Switch Model ❻ Option
❶ Bore Size ❸ Stroke ❺ Number of Switches

❶ Bore Size (mm)

Code	Content
20	ø20
32	ø32
40	ø40
50	ø50

❷Piping thread type

Code	Content
Blank	M5 (ø20)
	Rc thread (ø32 to ø50)
NN	NPT thread (ø32 or more) (Custom product)
GN	G thread (ø32 or more) (Custom product)

❸ Stroke (mm)

Bore Size	Stroke
ø20	10 to 20
ø32	10 to 20
ø40	20 to 30
ø50	20 to 30

Note: For Standard Stroke and minimum stroke with switch, please refer to P. 926.

❹Switch Model No.

For switch details, refer to P. 1457.
Switches are shipped with the product.

Contact	Indicator LED Special Function	Wiring (Output)	Load Voltage (V) AC	Load Voltage (V) DC	Load Current (mA) AC	Load Current (mA) DC	Lead wire *1 Straight	Lead wire *1 L-shape	
Solid State	1-Color	2-wire	85 to 265	—	5 to 100	—	T1H□	T1V□	
			—	10 to 30	—	5 to 20 *2	T2H□	T2V□	
		3-wire (NPN)	—	30 or less	—	100 or less	T3H□	T3V□	
		3-wire (PNP)	—		—		T3PH□	T3PV□	
	2-Color	2-wire	—	24 ± 10%	—	5 to 20	T2WH□	T2WV□	
		3-wire (NPN)	—	30 or less	—	50 or less	T3WH□	T3WV□	
	2-Color Improved Water Resistance	2-wire	—	24 ± 10%	—	5 to 20	T2WLH□	T2WLV□	 *3
	1-Color Off-Delay Type		—	10 to 30	—	5 to 20 *2	T2JH□	T2JV□	
	1-Color Flexible Lead Wire Type		—	10 to 30	—	5 to 20 *2	T2HR3	T2VR3	
Reed	1-Color	2-wire	110	12/24	7 to 20	5 to 50	T0H□	T0V□	
	Without Indicator Lamp		110	5/12/24	20 or less	50 or less	T5H□	T5V□	
	1-Color		110/220	12/24	7 to 20 / 7 to 10	5 to 50	T8H□	T8V□	

*1: For "□" in the switch Model No., enter the code selected from the "Lead wire length, connector specification" table.
*2: The maximum load current value above, 20 mA, is at 25°C. If the switch operating Ambient Temperature is higher than 25°C, it will be lower than 20 mA. (At 60°C, it will be 5 to 10 mA.)
*3: This does not guarantee the water resistance of the cylinder.
*4: Switches other than the Model No.s listed above are also available. (Custom Product) For details, refer to P. 1457.

*5 * Lead wire length, connector specification

Code	Content
Blank	1 m (Standard)
3	3 m (Option)
5	5 m (Option)
W	M8 Connector, 1PIN (+), 4PIN (−) Lead Wire 0.3 m

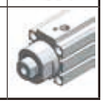
*5: Only T2WLH and T2WLV can be selected.

Example) Lead wire length
1 m T0H
3 m T0H3
5 m T0H5

❺Number of Switches

Code	Content
R	With 1 pc on rod side
H	With 1 pc on head side
D	With 2 pcs

❻ Option

Code	Content	
Blank	Rod End without thread	
N11	With Rod End female thread	

Rechargeable Battery Compatible Specification (Catalog No. CC-1226AA)

●Design compatible with rechargeable battery manufacturing process

STK - .... - P4*

* Please contact us for details.

Switch Single Unit Model No. Notation

SW - T0H

❹ Switch Model

Specifications

Item		STK			
Bore Size	mm	ø20	ø32	ø40	ø50
Actuation method		Double Acting Type			
Operating Fluid		Compressed Air			
Max Operating Pressure	MPa	1.0			
Min Operating Pressure	MPa	0.15	0.1		
Proof Pressure	MPa	1.6			
Ambient Temperature	°C	-10 to 60 (however, no freezing)			
Port Size		M5	Rc1/8		Rc1/4
Stroke tolerance	mm	+2.0 0			
Operating Piston Speed	mm/s	50 to 500			
Cushion		With Rubber Cushion			
Lubrication		Not required (Use Turbine Oil Class 1 ISO VG32 if lubricated)			
Rod End shape		Round bar type			
Allowable Absorbed Energy	J	Refer to P. 986.			

Stroke

Bore Size (mm)	Stroke (mm)	Maximum Stroke (mm)	Min Stroke (mm)	Minimum stroke with switch (mm)	
				T2WL	Other switches
ø20	10, 15, 20	20	10	20	10
ø32					
ø40	20, 25, 30	30	20	20	20
ø50					

Note: Strokes other than Standard Strokes are custom products.

Cylinders Weight Table

(Unit: g)

Stroke / Bore Size	10	15	20	25	30	Switch Weight (Grommet)
ø20	214	229	243	—	—	Refer to the mass listed in the Switch Specifications on P. 1457.
ø32	438	463	488	—	—	
ø40	-	—	793	834	875	
ø50	-	—	1285	1311	1337	

Theoretical Thrust Table

(Unit: N)

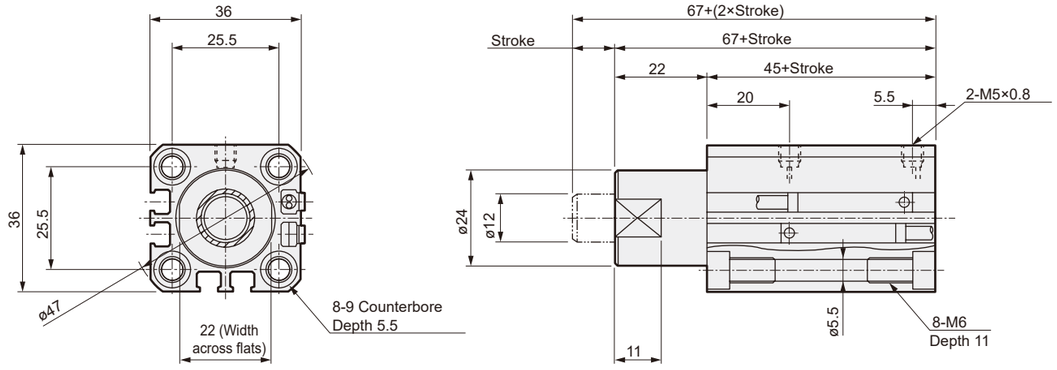
Bore Size (mm)	Operating Direction	Operating Pressure MPa										
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø20	Push	-	-	62.8	94.2	1.26×10^2	1.57×10^2	1.88×10^2	2.20×10^2	2.51×10^2	2.83×10^2	3.14×10^2
	Pull	-	-	40.2	60.3	80.4	1.01×10^2	1.21×10^2	1.41×10^2	1.61×10^2	1.81×10^2	2.01×10^2
ø32	Push	80.4	1.21×10^2	1.61×10^2	2.41×10^2	3.22×10^2	4.02×10^2	4.83×10^2	5.63×10^2	6.43×10^2	7.24×10^2	8.04×10^2
	Pull	49.0	73.5	98.0	1.47×10^2	1.96×10^2	2.45×10^2	2.94×10^2	3.43×10^2	3.92×10^2	4.41×10^2	4.90×10^2
ø40	Push	1.26×10^2	1.88×10^2	2.51×10^2	3.77×10^2	5.03×10^2	6.28×10^2	7.54×10^2	8.80×10^2	1.01×10^3	1.13×10^3	1.26×10^3
	Pull	76.6	1.15×10^2	1.53×10^2	2.30×10^2	3.06×10^2	3.83×10^2	4.59×10^2	5.36×10^2	6.13×10^2	6.89×10^2	7.66×10^2
ø50	Push	1.96×10^2	2.95×10^2	3.93×10^2	5.89×10^2	7.85×10^2	9.82×10^2	1.18×10^3	1.37×10^3	1.57×10^3	1.77×10^3	1.96×10^3
	Pull	1.26×10^2	1.88×10^2	2.51×10^2	3.77×10^2	5.03×10^2	6.28×10^2	7.54×10^2	8.80×10^2	1.01×10^3	1.13×10^3	1.26×10^3

MEMO

Special
MVC
STK
MCP
GLC
BBS
NHS
HR
LN
Cylinders Switch
Ending

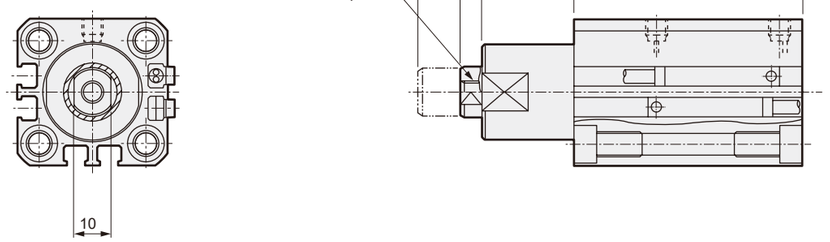
Dimensional Drawings

● STK-20



Note: For dimensions with each switch, please refer to P. 984.

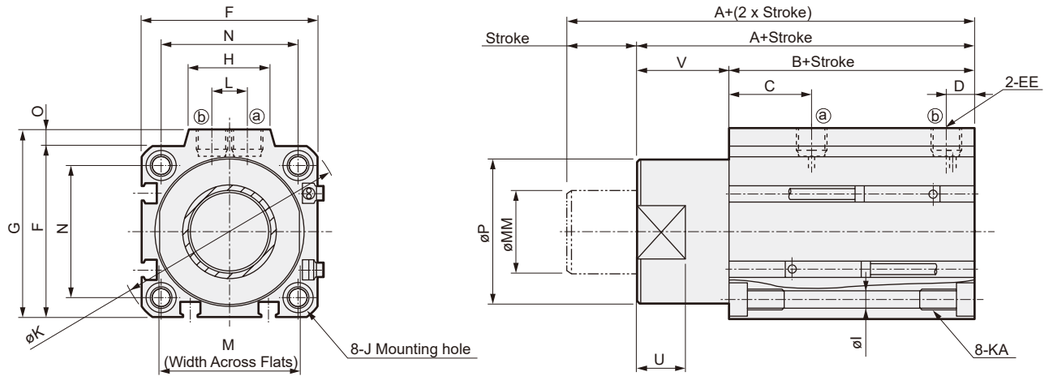
● STK-20-N11 (Dimensions other than displayed dimensions are the same as those of the above (STK-20).)

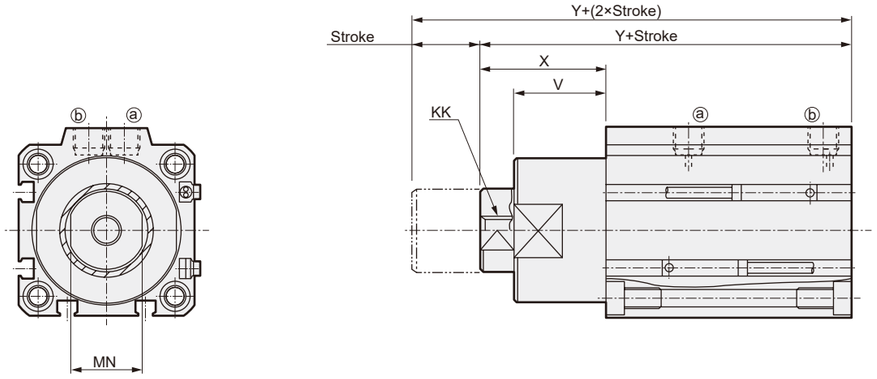


Note: For dimensions with each switch, please refer to P. 984.

Dimensional Drawings

● STK-32/40/50





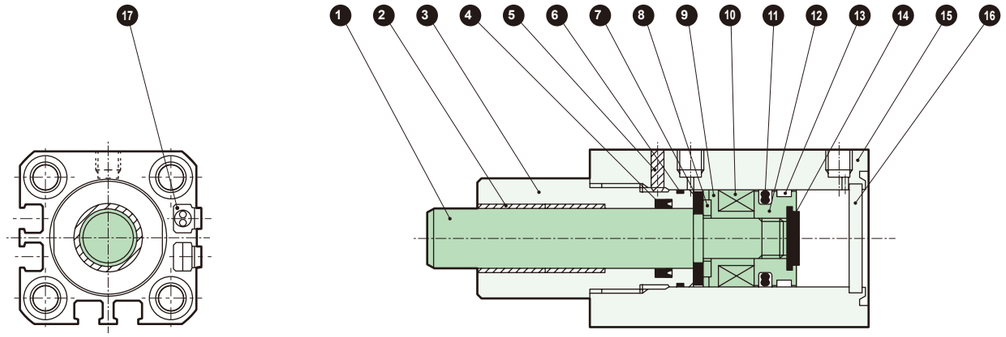
● STK-32/40/50-N11 (Dimensions other than displayed dimensions are the same as those of the above (STK-32, 40, 50).)

Code / Bore Size	A	B	C	D	EE	F	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	49.5	24	5.5	9 Counterbore 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	57	24	5.5	9 Counterbore 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	71	33	6.9	11 Counterbore Depth 6.5	86	M8 Depth 13	M10 Depth 15	15	50	30	27	50	7	56	15	28	43	97

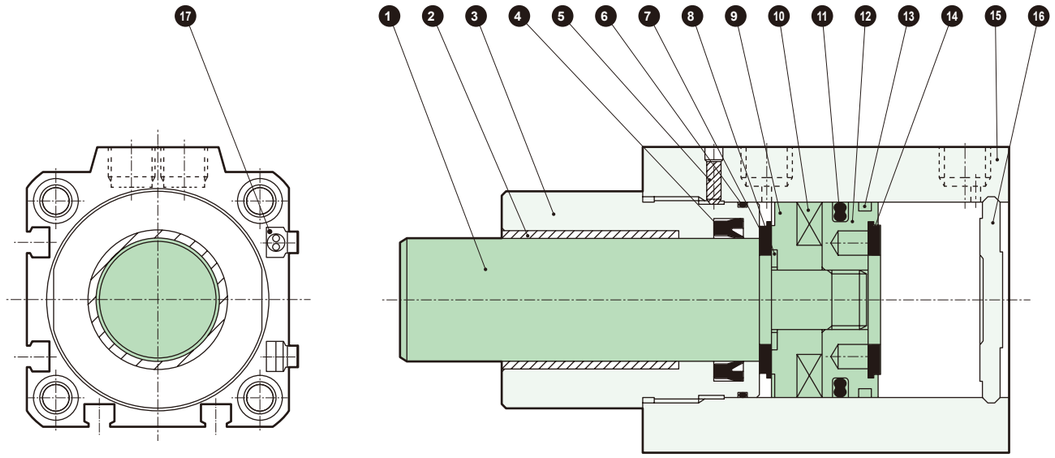
Note: For dimensions with each switch, please refer to P. 984.

Internal Structure / Materials

● STK-20



● STK-32, 40, 50



Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Piston Rod	ø20: Stainless Steel ø32 to ø50: Steel	ø20: Industrial Chrome Plating ø32 to ø50: Industrial Chrome Plating	10	Magnet	Plastic	
				11	Piston Packing	Nitrile Rubber	
2	Bushing	Bearing Alloy		12	Piston	Aluminum Alloy	Chromate
3	Rod Cover	Aluminum Alloy	Alumite	13	Wear Ring	Polyacetal	
4	Rod Packing	Nitrile Rubber		14	Cushion rubber (H)	Urethane Rubber	
5	Hexagon Socket Set Screw	Steel	Black Oxide	15	Cylinders Body	Aluminum Alloy	Hard Anodized
6	Metal gasket	Nitrile Rubber		16	Cover	ø20: Stainless Steel ø32 to 50: Aluminum Alloy	ø32 to ø50: Anodized
7	Cushion rubber (R)	Urethane Rubber					
8	Spacer washer	Stainless Steel		With Switch			
9	Spacer	Polyamide		17	Switch		

For maintenance parts, please visit the CKD Equipment Product Site (https: //www.ckd.co.jp/kiki/en/) → "model No." → Maintenance Parts.

MEMO

Special
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Cylinders Switch
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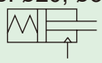


Stopper cylinder Single Acting, pull type
Rod End shape round bar type

STK-Y Series

● Bore Size: ø20, ø32, ø40, ø50

Circuit Diagram Code



Single Acting, Retracting Type

RoHS

Model No. Notation

Without Switch
(Built-in magnet for switch)

STK-Y – 20 – [ ] – 10 ——— N11

Model No. ❶ ❷ ❸ ❻

With Switch
(Built-in magnet for switch)

STK-Y – 20 – [ ] – 10 – T0H – R – N11

Model No. ❶Bore Size ❷Piping thread type ❸Stroke ❹Switch Model ❺Number of Switches ❻Option

❶ Bore Size (mm)

Code	Content
20	ø20
32	ø32
40	ø40
50	ø50

❷Piping thread type

Code	Content
Blank	M5 (ø20)
	Rc thread (ø32 to ø50)
NN	NPT thread (ø32 or more) (Custom product)
GN	G thread (ø32 or more) (Custom product)

❸Stroke (mm)

Bore Size	Stroke
ø20	10 to 20
ø32	10 to 20
ø40	20 to 30
ø50	20 to 30

Note: For Standard Stroke and minimum stroke with switch, please refer to P. 934.

❹Switch Model No.

For switch details, refer to P. 1457. Switches are shipped with the product.

Contact	Indicator LED Special Function	Wiring (Output)	Load Voltage (V) AC	Load Voltage (V) DC	Load Current (mA) AC	Load Current (mA) DC	Lead wire *1 Straight	Lead wire *1 L-shape	
Solid State	1-Color	2-wire	85 to 265	—	5 to 100	—	T1H□	T1V□	
			—	10 to 30	—	5 to 20 *2	T2H□	T2V□	
		3-wire (NPN)	—	30 or less	—	100 or less	T3H□	T3V□	
		3-wire (PNP)	—		—		T3PH□	T3PV□	
	2-Color	2-wire	—	24 ± 10%	—	5 to 20	T2WH□	T2WV□	
		3-wire (NPN)	—	30 or less	—	50 or less	T3WH□	T3WV□	
	2-Color Improved Water Resistance	2-wire	—	24 ± 10%	—	5 to 20	T2WLH□	T2WLV□	 *3
	1-Color Off-Delay Type		—	10 to 30	—	5 to 20 *2	T2JH□	T2JV□	
	1-Color Flexible Lead Wire Type		—	10 to 30	—	5 to 20 *2	T2HR3	T2VR3	
Reed	1-Color	2-wire	110	12/24	7 to 20	5 to 50	T0H□	T0V□	
	Without Indicator Lamp		110	5/12/24	20 or less	50 or less	T5H□	T5V□	
	1-Color		110/220	12/24	7 to 20 / 7 to 10	5 to 50	T8H□	T8V□	

*1: For "□" in the switch Model No., enter the code selected from the "Lead wire length, connector specification" table.
*2: The maximum load current value above, 20 mA, is at 25°C. If the switch operating Ambient Temperature is higher than 25°C, it will be lower than 20 mA. (At 60°C, it will be 5 to 10 mA.)
*3: This does not guarantee the water resistance of the cylinder.
*4: Switches other than the Model No.s listed above are also available. (Custom Product) For details, refer to P. 1457.

*5 **Lead wire length, connector specification**

Code	Content
Blank	1 m (Standard)
3	3 m (Option)
5	5 m (Option)
W	M8 Connector, 1PIN (+), 4PIN (−) Lead Wire 0.3 m

*5: Only T2WLH and T2WLV can be selected.

Example) Lead wire length
1 m T0H
3 m T0H3
5 m T0H5

❺Number of Switches

Code	Content
R	With 1 pc on rod side
H	With 1 pc on head side
D	With 2 pcs

❻ Option

Code	Content	
Blank	Rod End without thread	
N11	With Rod End female thread	

Switch Single Unit Model No. Notation

SW – T0H

❹ Switch Model

Specifications

Item		STK-Y			
Bore Size	mm	ø20	ø32	ø40	ø50
Operation type		Single Acting, Retracting Type			
Operating Fluid		Compressed Air			
Max Operating Pressure	MPa	1.0			
Min Operating Pressure	MPa	0.22	0.12		
Proof Pressure	MPa	1.6			
Ambient Temperature	°C	-10 to 60 (however, no freezing)			
Port Size		M5	Rc1/8		Rc1/4
Stroke tolerance	mm	+2.0 0			
Operating Piston Speed	mm/s	50 to 500			
Cushion		With Rubber Cushion			
Lubrication		Not required (Use Turbine Oil Class 1 ISO VG32 if lubricated)			
Rod End shape		Round bar type			
Allowable Absorbed Energy	J	Refer to P. 986.			

Stroke

Bore Size (mm)	Stroke (mm)	Max Stroke (mm)	Min Stroke (mm)	Min stroke with switch (mm)	
				T2WL	Other switches
ø20	10, 15, 20	20	10	20	10
ø32					
ø40	20, 25, 30	30	20	20	20
ø50					

Note: Strokes other than Standard Strokes are custom products.

Spring Load

(Unit: N)

Bore Size (mm)	Stroke (mm)	At 0 Stroke	At Full Stroke Operation
ø20	10	11.5	14.7
	15	9.9	
	20	8.2	
ø32	10	24.5	31.4
	15	21.1	
	20	17.6	
ø40	20	29.0	44.4
	25	25.3	
	30	21.5	
ø50	20	55.4	84.8
	25	48.0	
	30	40.7	

Cylinders Weight Table

(Unit: g)

Stroke / Bore Size	10	15	20	25	30	Switch Weight (Grommet)
ø20	217	232	246	—	—	Refer to the mass listed in the Switch Specifications on P. 1457.
ø32	454	479	504	—	—	
ø40	-	—	809	850	891	
ø50	-	—	1299	1325	1351	

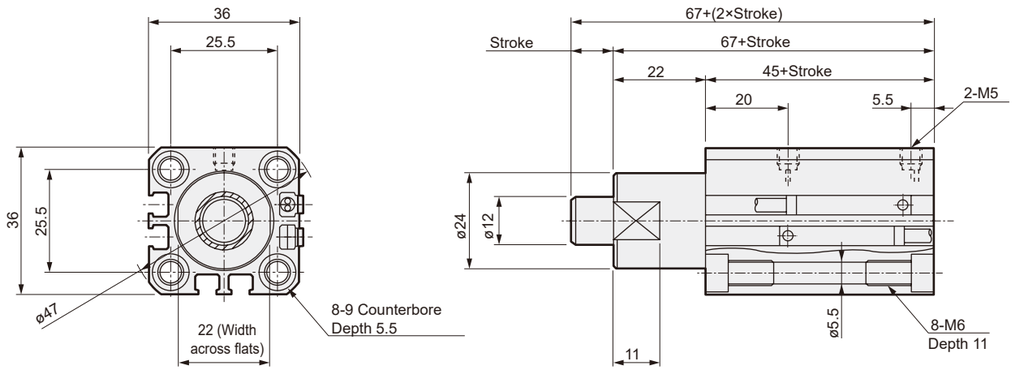
Theoretical Thrust Table

(Unit: N)

Bore Size (mm)	Operating 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	1.06×10^2	1.26×10^2	1.46×10^2	1.66×10^2	1.86×10^2
ø32	66.6	1.16×10^2	1.65×10^2	2.14×10^2	2.63×10^2	3.12×10^2	3.61×10^2	4.10×10^2	4.59×10^2
ø40	1.09×10^2	1.85×10^2	2.62×10^2	3.38×10^2	4.15×10^2	4.92×10^2	5.68×10^2	6.45×10^2	7.21×10^2
ø50	1.67×10^2	2.92×10^2	4.18×10^2	5.44×10^2	6.69×10^2	7.95×10^2	9.21×10^2	1.05×10^3	1.17×10^3

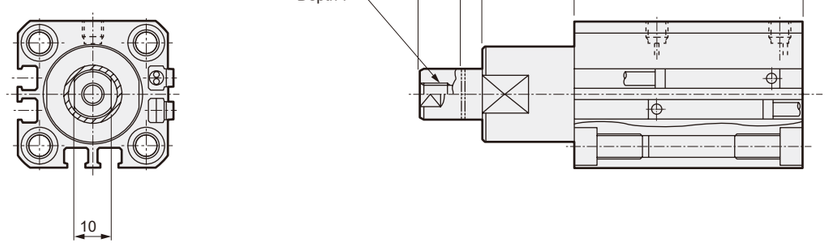
Dimensional Drawings

● STK-Y-20



Note: For dimensions with each switch, please refer to P. 984.

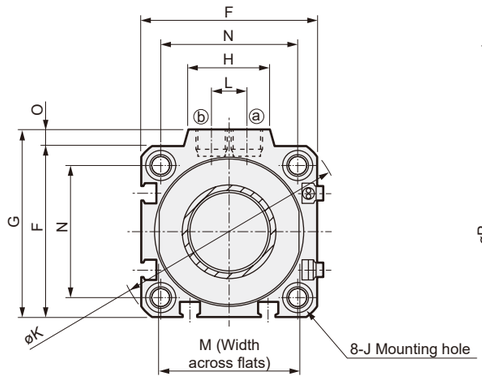
● STK-Y-20-N11 (Dimensions other than displayed dimensions are the same as those of the above (STK-Y-20).)

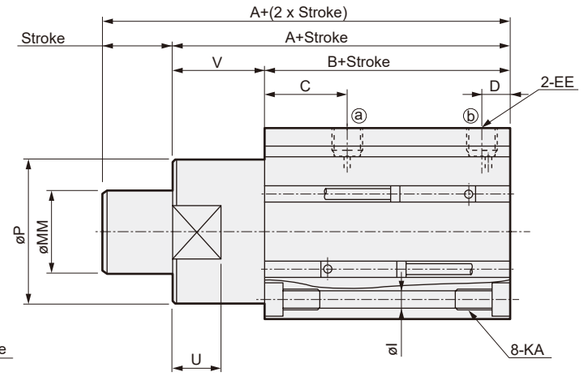


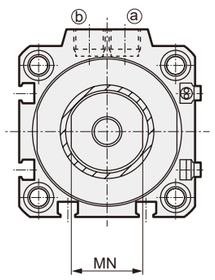
Note: For dimensions with each switch, please refer to P. 984.

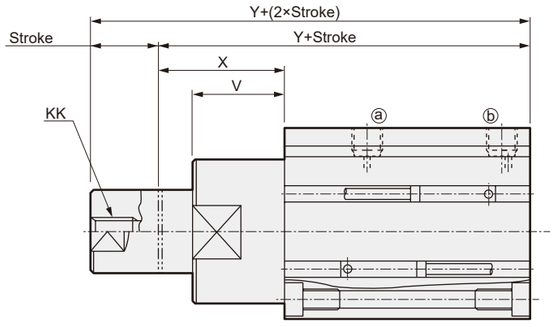
Dimensional Drawings

● STK-Y-32/40/50







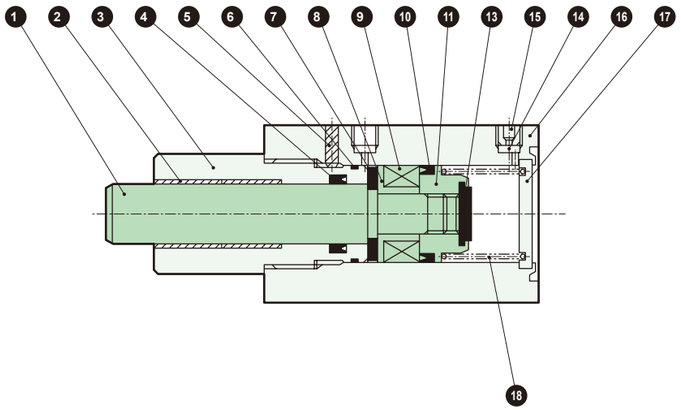


Code / Bore Size	A	B	C	D	EE	F	G	H	I	J	K	KA	KK	L	M	MM	MN	N	O	P	U	V	X	Y
ø32	68	48	20	8	Rc1/8	45	49.5	24	5.5	9 Counterbore Depth 5.5	60	M6 Depth 11	M8 Depth 13	10	32	20	17	34	4.5	36	13	20	30	78
ø40	80.5	52.5	24.5	8.5	Rc1/8	52	57	24	5.5	9 Counterbore Depth 5.5	69	M6 Depth 11	M8 Depth 13	10	41	25	22	40	5	44	15	28	38	90.5
ø50	82	54	24.5	10.5	Rc1/4	64	71	33	6.9	11 Counterbore Depth 6.5	86	M8 Depth 13	M10 Depth 15	15	50	30	27	50	7	56	15	28	43	97

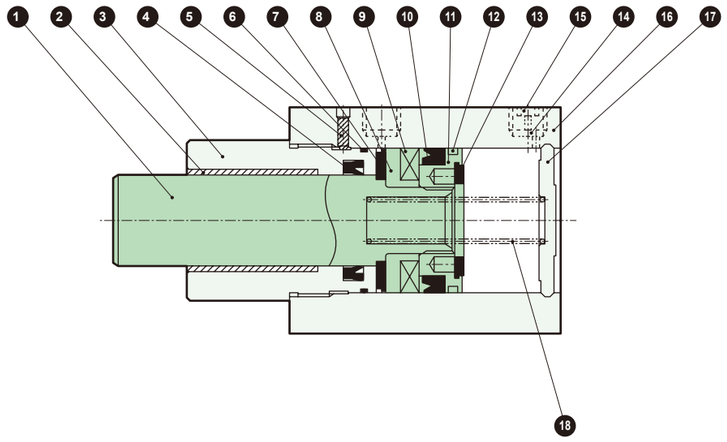
Note: For dimensions with each switch, please refer to P. 984.

Internal Structure / Materials

● STK-Y-20



● STK-Y-32/40/50



Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Piston Rod	ø20: Stainless Steel ø32 to ø50: Steel	ø20: Industrial Chrome Plating ø32 to ø50: Industrial Chrome Plating	10	Piston Packing	Nitrile Rubber	
				11	Piston	Aluminum Alloy	Chromate
2	Bushing	Bearing Alloy		12	Wear Ring	Polyacetal	
3	Rod Cover	Aluminum Alloy	Alumite	13	Cushion rubber (H)	Urethane Rubber	
4	Rod Packing	Nitrile Rubber		14	Stainless Steel Wire Mesh	Stainless Steel	
5	Hexagon Socket Set Screw	Steel	Black Oxide	15	Plug	Stainless Steel	
6	Metal gasket	Nitrile Rubber		16	Cylinders Body	Aluminum Alloy	Hard Anodized
7	Cushion rubber (R)	Urethane Rubber		17	Cover	ø20: Steel ø32 to ø50: Aluminum Alloy	ø20: Zinc plating ø32 to ø50: Anodized
8	Spacer	Aluminum Alloy	Chromate				
9	Magnet	Plastic		18	Coil Spring	Piano Wire	Electrodeposition Coating

For maintenance parts, please visit the CKD Equipment Product Site (https: //www.ckd.co.jp/kiki/en/) → "model No." → Maintenance Parts.

MEMO

Special
MVC
STK
MCP
GLC
BBS
NHS
HR
LN
Cylinders Switch
Ending



Stopper Cylinder, Double Acting, Spring Loaded Type,
Rod End Shape Round Bar Type

STK-Y1 Series

● Bore Size: ø20, ø32, ø40, ø50

Circuit Diagram Code



Double Acting, spring loaded type

RoHS

Model No. Notation

Without Switch
(Built-in magnet for switch)

STK-Y1 – 20 – ( ) – 10 ——— N11

Model No. ❶ ❷ ❸ ❻

With Switch
(Built-in magnet for switch)

STK-Y1 – 20 – ( ) – 10 – T0H – R – N11

Model No. ❶Bore Size ❷Piping thread type ❸Stroke ❹Switch Model ❺Number of Switches ❻Option

❶ Bore Size (mm)

Code	Content
20	ø20
32	ø32
40	ø40
50	ø50

❷Piping thread type

Code	Content
Blank	M5 (ø20)
	Rc thread (ø32 to ø50)
NN	NPT thread (ø32 or more) (Custom product)
GN	G thread (ø32 or more) (Custom product)

❸Stroke (mm)

Bore Size	Stroke
ø20	10 to 20
ø32	10 to 20
ø40	20 to 30
ø50	20 to 30

Note: For Standard Stroke and minimum stroke with switch, please refer to P. 942.

❹Switch Model No.

For switch details, refer to P. 1457. Switches are shipped with the product.

Contact	Indicator LED Special Function	Wiring (Output)	Load Voltage (V) AC	Load Voltage (V) DC	Load Current (mA) AC	Load Current (mA) DC	Lead wire *1 Straight	Lead wire *1 L-shape	
Solid State	1-Color	2-wire	85 to 265	—	5 to 100	—	T1H□	T1V□	
			—	10 to 30	—	5 to 20 *2	T2H□	T2V□	
		3-wire (NPN)	—	30 or less	—	100 or less	T3H□	T3V□	
		3-wire (PNP)	—		—		T3PH□	T3PV□	
	2-Color	2-wire	—	24 ± 10%	—	5 to 20	T2WH□	T2WV□	
		3-wire (NPN)	—	30 or less	—	50 or less	T3WH□	T3WV□	
	2-Color Water Resistance Improved	2-wire	—	24 ± 10%	—	5 to 20	T2WLH□	T2WLV□	 *3
	1-Color Off-Delay Type		—	10 to 30	—	5 to 20 *2	T2JH□	T2JV□	
	1-Color Flexible Lead Wire Type		—	10 to 30	—	5 to 20 *2	T2HR3	T2VR3	
Contact	1-Color	2-wire	110	12/24	7 to 20	5 to 50	T0H□	T0V□	
	Without Indicator Lamp		110	5/12/24	20 or less	50 or less	T5H□	T5V□	
	1-Color		110/220	12/24	7 to 20 / 7 to 10	5 to 50	T8H□	T8V□	

*1: For "□" in the switch Model No., enter the code selected from the "Lead wire length, connector specification" table.
*2: The maximum load current value above, 20 mA, is at 25°C. If the switch operating Ambient Temperature is higher than 25°C, it will be lower than 20 mA. (At 60°C, it will be 5 to 10 mA.)
*3: This does not guarantee the water resistance of the cylinder.
*4: Switches other than the Model No.s listed above are also available. (Custom Product) For details, refer to P. 1457.

*5 **Lead wire length, connector specification**

Code	Content
Blank	1 m (Standard)
3	3 m (Option)
5	5 m (Option)
W	M8 Connector, 1PIN (+), 4PIN (−) Lead Wire 0.3 m

*5: Only T2WLH and T2WLV can be selected.

Example) Lead wire length
1 m T0H
3 m T0H3
5 m T0H5

❺Number of Switches

Code	Content
R	With 1 pc on rod side
H	With 1 pc on head side
D	With 2 pcs

❻ Option

Code	Content	
Blank	Rod End without thread	
N11	With Rod End female thread	

Switch Single Unit Model No. Notation

SW – T0H

❹ Switch Model

Specifications

Item		STK-Y1			
Bore Size	mm	ø20	ø32	ø40	ø50
Operation type		Double Acting spring loaded type			
Operating Fluid		Compressed Air			
Max Operating Pressure	MPa	1.0			
Min Operating Pressure	MPa	0.22	0.12		
Proof Pressure	MPa	1.6			
Ambient Temperature	°C	-10 to 60 (however, no freezing)			
Port Size		M5	Rc1/8		Rc1/4
Stroke tolerance	mm	+2.0 0			
Operating Piston Speed	mm/s	50 to 500			
Cushion		With Rubber Cushion			
Lubrication		Not required (Use Turbine Oil Class 1 ISO VG32 if lubricated)			
Rod End shape		Round bar type			
Allowable Absorbed Energy	J	Refer to P. 986.			

Stroke

Bore Size (mm)	Stroke (mm)	Maximum Stroke (mm)	Min Stroke (mm)	Minimum stroke with switch (mm)	
				T2WL	Other switches
ø20	10, 15, 20	20	10	20	10
ø32					
ø40	20, 25, 30	30	20	20	20
ø50					

Note: Strokes other than Standard Strokes are custom products.

Spring Load

(Unit: N)

Bore Size (mm)	Stroke (mm)	At 0 Stroke	At Full Stroke Operation
ø20	10	11.5	14.7
	15	9.9	
	20	8.2	
ø32	10	24.5	31.4
	15	21.1	
	20	17.6	
ø40	20	29.0	44.4
	25	25.3	
	30	21.5	
ø50	20	55.4	84.8
	25	48.0	
	30	40.7	

Cylinders Weight Table

(Unit: g)

Stroke / Bore Size	10	15	20	25	30	Switch weight (Grommet)
ø20	217	232	246	—	—	Refer to the mass listed in the Switch Specifications on P. 1457.
ø32	454	479	504	—	—	
ø40	-	—	809	850	891	
ø50	-	—	1299	1325	1351	

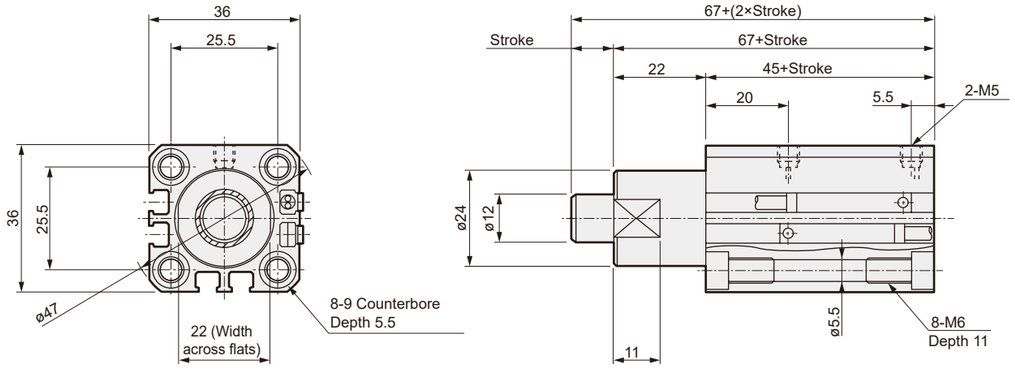
Theoretical Thrust Table

(Unit: N)

Bore Size (mm)	Operating Direction	Operating Pressure MPa									
		0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø20	Push	-	-	94.2	1.26×10^2	1.57×10^2	1.88×10^2	2.20×10^2	2.51×10^2	2.83×10^2	3.14×10^2
	Pull	-	-	45.6	65.7	85.8	1.06×10^2	1.26×10^2	1.46×10^2	1.66×10^2	1.86×10^2
ø32	Push	1.21×10^2	1.61×10^2	2.41×10^2	3.22×10^2	4.02×10^2	4.83×10^2	5.63×10^2	6.43×10^2	7.24×10^2	8.04×10^2
	Pull	42.1	66.6	1.16×10^2	1.65×10^2	2.14×10^2	2.63×10^2	3.12×10^2	3.61×10^2	4.10×10^2	4.59×10^2
ø40	Push	1.88×10^2	2.51×10^2	3.77×10^2	5.03×10^2	6.28×10^2	7.54×10^2	8.80×10^2	1.01×10^3	1.13×10^3	1.26×10^3
	Pull	70.5	1.09×10^2	1.85×10^2	2.62×10^2	3.38×10^2	4.15×10^2	4.92×10^2	5.68×10^2	6.45×10^2	7.21×10^2
ø50	Push	2.95×10^2	3.93×10^2	5.89×10^2	7.85×10^2	9.82×10^2	1.18×10^3	1.37×10^3	1.57×10^3	1.77×10^3	1.96×10^3
	Pull	1.04×10^2	1.67×10^2	2.92×10^2	4.18×10^2	5.44×10^2	6.69×10^2	7.95×10^2	9.21×10^2	1.05×10^3	1.17×10^3

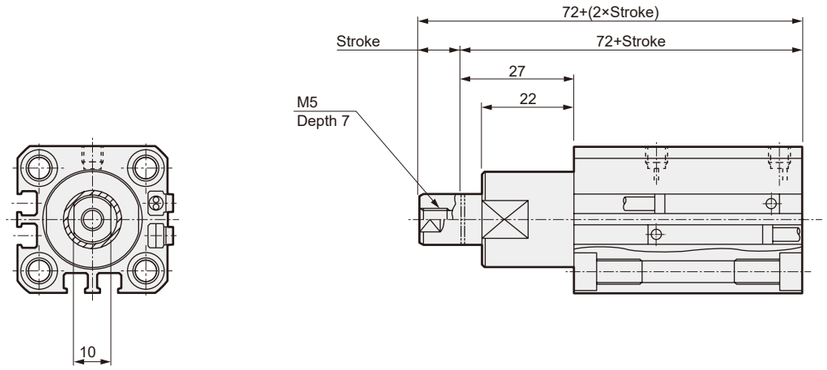
Dimensional Drawings

● STK-Y1-20



Note: For dimensions with each switch, please refer to P. 984.

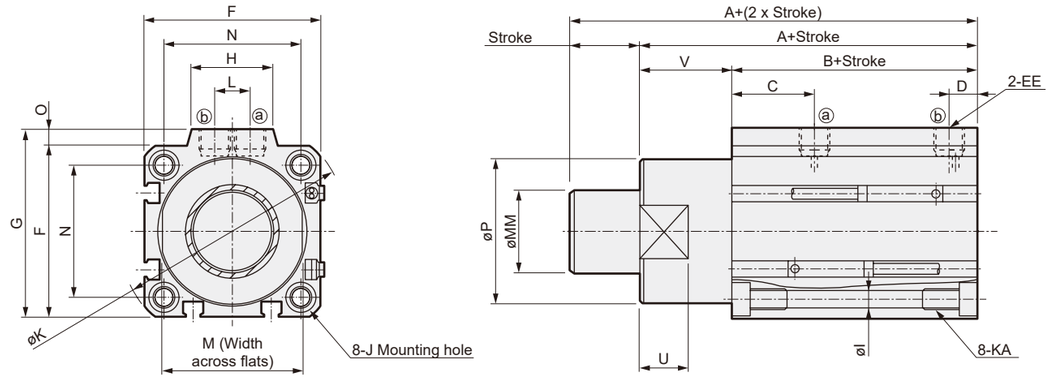
● STK-Y1-20-N11 (Dimensions other than displayed dimensions are the same as those of the above (STK-Y1-20).)

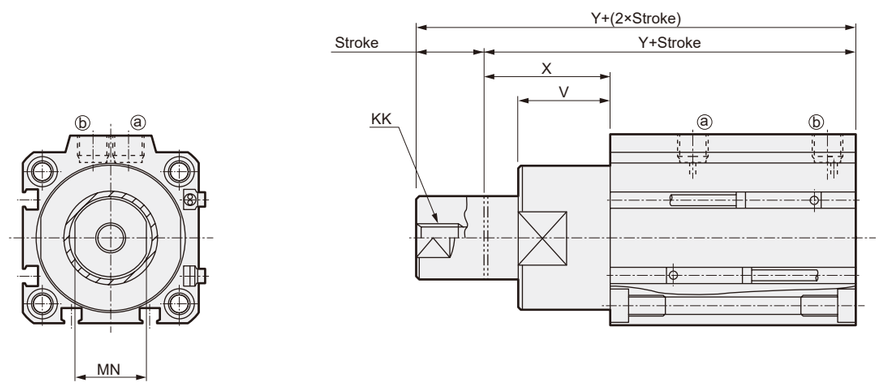


Note: For dimensions with each switch, please refer to P. 984.

Dimensional Drawings

● STK-Y1-32/40/50





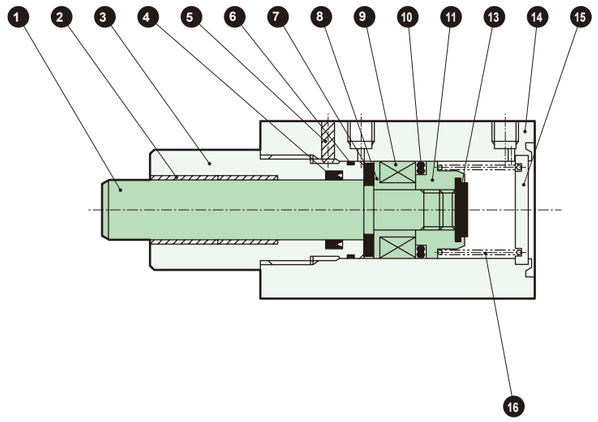
● STK-Y1-32/40/50-N11 (Dimensions other than displayed dimensions are the same as those of the above (STK-Y1-32/40/50).)

Code / Bore Size	A	B	C	D	EE	F	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	49.5	24	5.5	9 Counterbore 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	57	24	5.5	9 Counterbore 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	71	33	6.9	11 Counterbore Depth 6.5	86	M8 Depth 13	M10 Depth 15	15	50	30	27	50	7	56	15	28	43	97

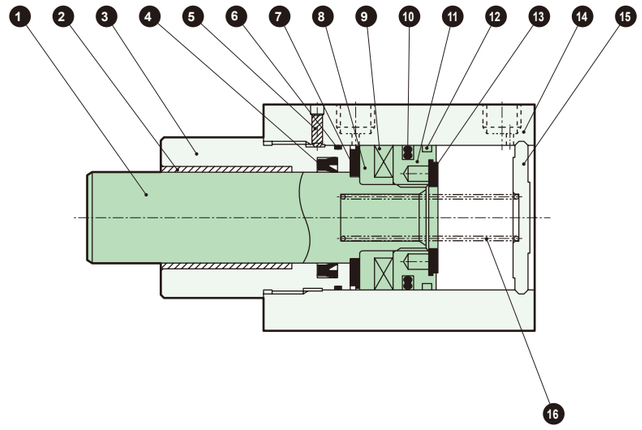
Note: For dimensions with each switch, please refer to P. 984.

Internal Structure / Materials

● STK-Y1-20



● STK-Y1-32/40/50



Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Piston Rod	ø20: Stainless Steel ø32 to ø50: Steel	ø20: Industrial Chrome Plating ø32 to ø50: Industrial Chrome Plating	9	Magnet	Plastic	
				10	Piston Packing	Nitrile Rubber	
2	Bushing	Bearing Alloy		11	Piston	Aluminum Alloy	Chromate
3	Rod Cover	Aluminum Alloy	Alumite	12	Wear Ring	Polyacetal	
4	Rod Packing	Nitrile Rubber		13	Cushion rubber (H)	Urethane Rubber	
5	Hexagon Socket Set Screw	Steel	Black Oxide	14	Cylinders Body	Aluminum Alloy	Hard Anodized
6	Metal gasket	Nitrile Rubber		15	Cover	ø20: Steel	ø20: Zinc plating
7	Cushion rubber (R)	Urethane Rubber				ø32 to ø50: Aluminum Alloy	ø32 to ø50: Anodized
8	Spacer	Aluminum Alloy	Chromate	16	Coil Spring	Piano Wire	Electrodeposition Coating

For maintenance parts, please visit the CKD Equipment Product Site (https: //www.ckd.co.jp/kiki/en/) → "model No." → Maintenance Parts.

MEMO

Special
MVC
STK
MCP
GLC
BBS
NHS
HR
LN
Cylinders Switch
Ending

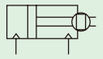


Stopper cylinder Double Acting, Rod End shape chamfered type

STK-M Series

● Bore Size: ø20, ø32, ø40, ø50

Circuit Diagram Code



Double Acting

RoHS

Model No. Notation

Without Switch
(Built-in magnet for switch)

STK-M – 20 – 10 – N11

Model No. ❶ ❷ ❸ ❻

With Switch
(Built-in magnet for switch)

STK-M – 20 – 10 – T0H – R – N11

Model No. ❶Bore Size ❷Piping thread type ❸Stroke ❹Switch Model ❺Number of Switches ❻Option

❶ Bore Size (mm)

Code	Content
20	ø20
32	ø32
40	ø40
50	ø50

❷Piping thread type

Code	Content
Blank	M5 (ø20)
	Rc thread (ø32 to ø50)
NN	NPT thread (ø32 or more) (Custom product)
GN	G thread (ø32 or more) (Custom product)

❸Stroke (mm)

Bore Size	Stroke
ø20	10 to 20
ø32	10 to 20
ø40	20 to 30
ø50	20 to 30

Note: For Standard Stroke and minimum stroke with switch, please refer to P. 950.

❹Switch Model No.

For switch details, refer to P. 1457. Switches are shipped with the product.

Contact	Indicator LED Special Function	Wiring (Output)	Load Voltage (V) AC	Load Voltage (V) DC	Load Current (mA) AC	Load Current (mA) DC	Lead wire *1 Straight	Lead wire *1 L-shape	
Solid State	1-Color	2-wire	85 to 265	—	5 to 100	—	T1H□	T1V□	
			—	10 to 30	—	5 to 20 *2	T2H□	T2V□	
		3-wire (NPN)	—	30 or less	—	100 or less	T3H□	T3V□	
		3-wire (PNP)	—		—		T3PH□	T3PV□	
	2-Color	2-wire	—	24 ± 10%	—	5 to 20	T2WH□	T2WV□	
		3-wire (NPN)	—	30 or less	—	50 or less	T3WH□	T3WV□	
	2-Color Improved Water Resistance	2-wire	—	24 ± 10%	—	5 to 20	T2WLH□	T2WLV□	 *3
	1-Color Off-Delay Type		—	10 to 30	—	5 to 20 *2	T2JH□	T2JV□	
	1-Color Flexible Lead Wire Type		—	10 to 30	—	5 to 20 *2	T2HR3	T2VR3	
Reed	1-Color	2-wire	110	12/24	7 to 20	5 to 50	T0H□	T0V□	
	Without Indicator Lamp		110	5/12/24	20 or less	50 or less	T5H□	T5V□	
	1-Color		110/220	12/24	7 to 20 / 7 to 10	5 to 50	T8H□	T8V□	

*1: For "□" in the switch Model No., enter the code selected from the "*Lead wire length, connector specification" table.
*2: The maximum load current value above, 20 mA, is at 25°C. If the switch operating Ambient Temperature is higher than 25°C, it will be lower than 20 mA. (At 60°C, it will be 5 to 10 mA.)
*3: This does not guarantee the water resistance of the cylinder.
*4: Switches other than the Model No.s listed above are also available. (Custom Product) For details, refer to P. 1457.

*5

*** Lead wire length, connector specification**

Code	Content
Blank	1 m (Standard)
3	3 m (Option)
5	5 m (Option)
W	M8 Connector, 1PIN (+), 4PIN (−) Lead Wire 0.3 m

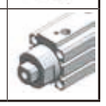
*5: Only T2WLH and T2WLV can be selected.

Example) Lead wire length
1 m T0H
3 m T0H3
5 m T0H5

❺Number of Switches

Code	Content
R	With 1 pc on rod side
H	With 1 pc on head side
D	With 2 pcs

❻ Option

Code	Content	
Blank	Rod End without thread	
N11	With Rod End female thread	

Switch Single Unit Model No. Notation

SW – T0H

❹ Switch Model

Specifications

Item		STK-M			
Bore Size	mm	ø20	ø32	ø40	ø50
Actuation method		Double Acting Type			
Operating Fluid		Compressed Air			
Max Operating Pressure	MPa	1.0			
Min Operating Pressure	MPa	0.15	0.1		
Proof Pressure	MPa	1.6			
Ambient Temperature	°C	-10 to 60 (however, no freezing)			
Port Size		M5	Rc1/8		Rc1/4
Stroke tolerance	mm	+2.0 0			
Operating Piston Speed	mm/s	50 to 500			
Cushion		With Rubber Cushion			
Lubrication		Not required (Use Turbine Oil Class 1 ISO VG32 if lubricated)			
Rod End shape		Chamfered type			
Allowable Absorbed Energy	J	Refer to P. 986.			

Stroke

Bore Size (mm)	Stroke (mm)	Max Stroke (mm)	Min Stroke (mm)	Min stroke with switch (mm)	
				T2WL	Other switches
ø20	10, 15, 20	20	10	20	10
ø32					
ø40	20, 25, 30	30	20	20	20
ø50					

Note: Strokes other than Standard Strokes are custom products.

Cylinders Weight Table

(Unit: g)

Stroke / Bore Size	10	15	20	25	30	Switch Weight (Grommet)
ø20	215	230	244	—	—	Refer to the mass listed in the Switch Specifications on P. 1457.
ø32	441	466	491	—	—	
ø40	-	—	796	837	878	
ø50	-	—	1288	1314	1340	

Theoretical Thrust Table

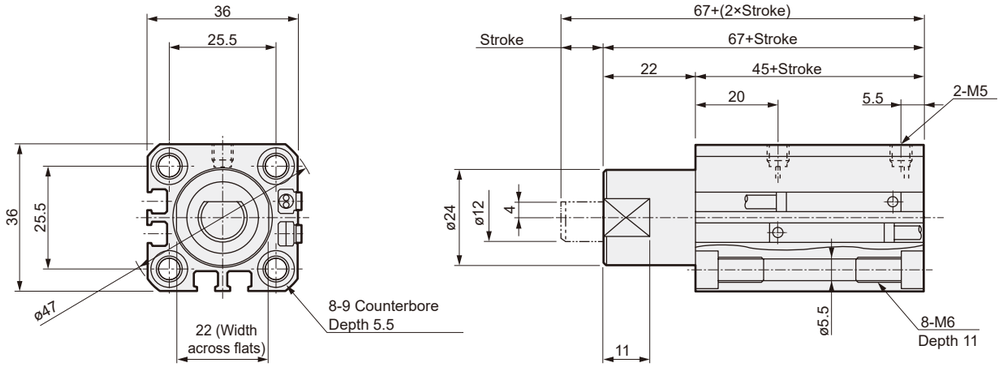
(Unit: N)

Bore Size (mm)	Operating Direction	Operating 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	1.26×10^2	1.57×10^2	1.88×10^2	2.20×10^2	2.51×10^2	2.83×10^2	3.14×10^2
	Pull	-	-	40.2	60.3	80.4	1.01×10^2	1.21×10^2	1.41×10^2	1.61×10^2	1.81×10^2	2.01×10^2
ø32	Push	80.4	1.21×10^2	1.61×10^2	2.41×10^2	3.22×10^2	4.02×10^2	4.83×10^2	5.63×10^2	6.43×10^2	7.24×10^2	8.04×10^2
	Pull	49.0	73.5	98.0	1.47×10^2	1.96×10^2	2.45×10^2	2.94×10^2	3.43×10^2	3.92×10^2	4.41×10^2	4.90×10^2
ø40	Push	1.26×10^2	1.88×10^2	2.51×10^2	3.77×10^2	5.03×10^2	6.28×10^2	7.54×10^2	8.80×10^2	1.01×10^3	1.13×10^3	1.26×10^3
	Pull	76.6	1.15×10^2	1.53×10^2	2.30×10^2	3.06×10^2	3.83×10^2	4.59×10^2	5.36×10^2	6.13×10^2	6.89×10^2	7.66×10^2
ø50	Push	1.96×10^2	2.95×10^2	3.93×10^2	5.89×10^2	7.85×10^2	9.82×10^2	1.18×10^3	1.37×10^3	1.57×10^3	1.77×10^3	1.96×10^3
	Pull	1.26×10^2	1.88×10^2	2.51×10^2	3.77×10^2	5.03×10^2	6.28×10^2	7.54×10^2	8.80×10^2	1.01×10^3	1.13×10^3	1.26×10^3

MEMO

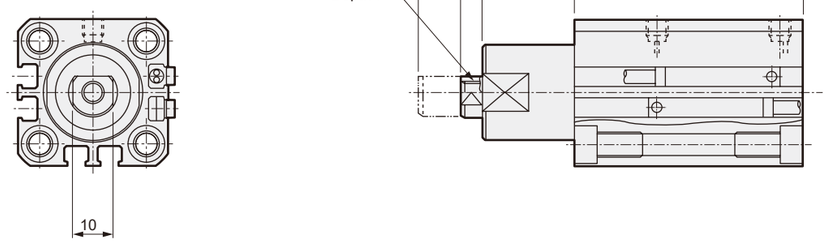
Dimensional Drawings

● STK-M-20



Note: For dimensions with each switch, please refer to P. 984.

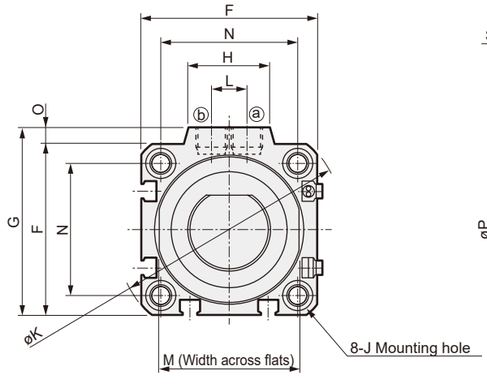
● STK-M-20-N11 (Dimensions other than displayed dimensions are the same as those of the above (STK-M-20).)

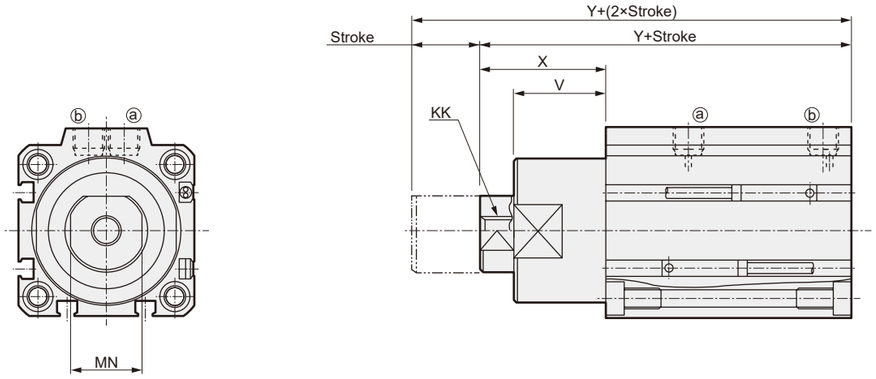


Note: For dimensions with each switch, please refer to P. 984.

Dimensional Drawings

● STK-M-32/40/50





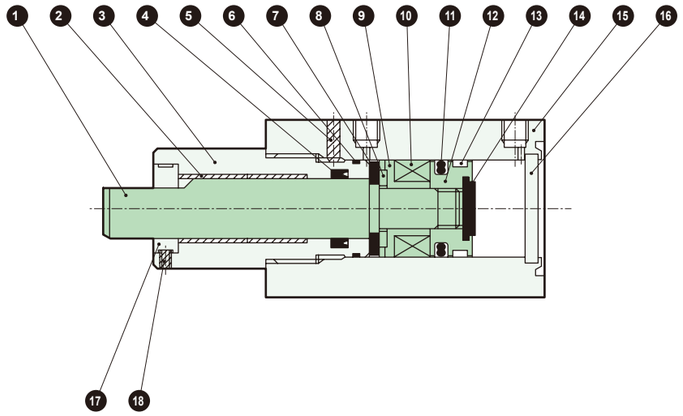
● STK-M-32/40/50-N11 (Dimensions other than displayed dimensions are the same as those of the above (STK-M-32/40/50).)

Code / Bore Size	A	B	C	D	EE	F	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	49.5	24	5.5	9 Counterbore 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	57	24	5.5	9 Counterbore 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	71	33	6.9	11 Counterbore Depth 6.5	86	M8 Depth 13	M10 Depth 15	15	50	30	27	50	7	56	12	15	28	43	97

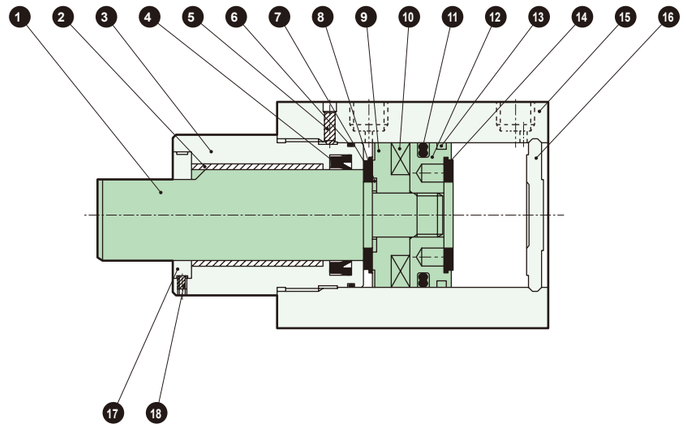
Note: For dimensions with each switch, please refer to P. 984.

Internal Structure / Materials

● STK-M-20



● STK-M-32/40/50



Part No.	Part Name	Material	Remarks
1	Piston Rod	Stainless Steel	Industrial Hard Chrome Plating
2	Bushing	Bearing Alloy	
3	Rod Cover	Aluminum Alloy	Alumite
4	Rod Packing	Nitrile Rubber	
5	Hexagon Socket Set Screw	Steel	Black Oxide
6	Metal gasket	Nitrile Rubber	
7	Cushion rubber (R)	Urethane Rubber	
8	Spacer washer	Stainless Steel	
9	Spacer	Polyamide	
10	Magnet	Plastic	

Part No.	Part Name	Material	Remarks
11	Piston Packing	Nitrile Rubber	
12	Piston	Aluminum Alloy	Chromate
13	Wear Ring	Polyacetal	
14	Cushion rubber (H)	Urethane Rubber	
15	Cylinders Body	Aluminum Alloy	Hard Anodized
16	Cover	ø20: Stainless Steel ø32 to 50: Aluminum Alloy	ø32 to ø50: Anodized
17	Non-rotating spacer	Steel	Nickel Plating
18	Hexagon Socket Set Screw	Steel	Black Oxide

For maintenance parts, please visit the CKD Equipment Product Site (https: //www.ckd.co.jp/kiki/en/) → "model No." → Maintenance Parts.

MEMO

Special
MVC
STK
MCP
GLC
BBS
NHS
HR
LN
Cylinders Switch
Ending



Stopper Cylinder, Single Acting, Retraction Type,
Rod End Shape Chamfered Type

STK-MY Series

● Bore Size: ø20, ø32, ø40, ø50

Circuit Diagram Code



Single Acting, Retracting Type

RoHS

Model No. Notation

Without Switch
(Built-in magnet for switch)

STK-MY – 20 – ( ) – 10 ——— N11

Model No. ❶ ❷ ❸ ❻

With Switch
(Built-in magnet for switch)

STK-MY – 20 – ( ) – 10 – T0H – R – N11

Model No. ❶Bore Size ❷Piping thread type ❸Stroke ❹Switch Model ❺Number of Switches ❻Option

❶ Bore Size (mm)

Code	Content
20	ø20
32	ø32
40	ø40
50	ø50

❷Piping thread type

Code	Content
Blank	M5 (ø20)
	Rc thread (ø32 to ø50)
NN	NPT thread (ø32 or more) (Custom product)
GN	G thread (ø32 or more) (Custom product)

❸Stroke (mm)

Bore Size	Stroke
ø20	10 to 20
ø32	10 to 20
ø40	20 to 30
ø50	20 to 30

Note: For Standard Stroke and minimum stroke with switch, please refer to P. 958.

❹Switch Model No.

For switch details, refer to P. 1457. Switches are shipped with the product.

Contact	Indicator LED Special Function	Wiring (Output)	Load Voltage (V) AC	Load Voltage (V) DC	Load Current (mA) AC	Load Current (mA) DC	Lead wire *1 Straight	Lead wire *1 L-shape	
Solid State	1-Color	2-wire	85 to 265	—	5 to 100	—	T1H□	T1V□	
			—	10 to 30	—	5 to 20 *2	T2H□	T2V□	
		3-wire (NPN)	—	30 or less	—	100 or less	T3H□	T3V□	
		3-wire (PNP)	—		—		T3PH□	T3PV□	
	2-Color	2-wire	—	24 ± 10%	—	5 to 20	T2WH□	T2WV□	
		3-wire (NPN)	—	30 or less	—	50 or less	T3WH□	T3WV□	
	2-Color Water Resistance Improved	2-wire	—	24 ± 10%	—	5 to 20	T2WLH□	T2WLV□	 *3
	1-Color Off-Delay Type		—	10 to 30	—	5 to 20 *2	T2JH□	T2JV□	
	1-Color Flexible Lead Wire Type		—	10 to 30	—	5 to 20 *2	T2HR3	T2VR3	
Reed	1-Color	2-wire	110	12/24	7 to 20	5 to 50	T0H□	T0V□	
	Without Indicator Lamp		110	5/12/24	20 or less	50 or less	T5H□	T5V□	
	1-Color		110/220	12/24	7 to 20 / 7 to 10	5 to 50	T8H□	T8V□	

*1: For "□" in the switch Model No., enter the code selected from the "*Lead wire length, connector specification" table.
*2: The maximum load current value above, 20 mA, is at 25°C. If the switch operating Ambient Temperature is higher than 25°C, it will be lower than 20 mA. (At 60°C, it will be 5 to 10 mA.)
*3: This does not guarantee the water resistance of the cylinder.
*4: Switches other than the Model No.s listed above are also available. (Custom Product) For details, refer to P. 1457.

*5

*** Lead wire length, connector specification**

Code	Content
Blank	1 m (Standard)
3	3 m (Option)
5	5 m (Option)
W	M8 Connector, 1PIN (+), 4PIN (−) Lead Wire 0.3 m

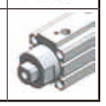
*5: Only T2WLH and T2WLV can be selected.

Example) Lead wire length
1 m T0H
3 m T0H3
5 m T0H5

❺Number of Switches

Code	Content
R	With 1 pc on rod side
H	With 1 pc on head side
D	With 2 pcs

❻ Option

Code	Content	
Blank	Rod End without thread	
N11	With Rod End female thread	

Switch Single Unit Model No. Notation

SW – T0H

❹ Switch Model

Specifications

Item		STK-MY			
Bore Size	mm	ø20	ø32	ø40	ø50
Operation type		Single Acting, Retracting Type			
Operating Fluid		Compressed Air			
Max Operating Pressure	MPa	1.0			
Min Operating Pressure	MPa	0.22	0.12		
Proof Pressure	MPa	1.6			
Ambient Temperature	°C	-10 to 60 (however, no freezing)			
Port Size		M5	Rc1/8		Rc1/4
Stroke tolerance	mm	+2.0 0			
Operating Piston Speed	mm/s	50 to 500			
Cushion		With Rubber Cushion			
Lubrication		Not required (Use Turbine Oil Class 1 ISO VG32 if lubricated)			
Rod End shape		Chamfered type			
Allowable Absorbed Energy	J	Refer to P. 986.			

Stroke

Bore Size (mm)	Stroke (mm)	Maximum Stroke (mm)	Min Stroke (mm)	Minimum stroke with switch (mm)	
				T2WL	Other switches
ø20	10, 15, 20	20	10	20	10
ø32					
ø40	20, 25, 30	30	20	20	20
ø50					

Note: Strokes other than Standard Strokes are custom products.

Spring Load

(Unit: N)

Bore Size (mm)	Stroke (mm)	At 0 Stroke	At Full Stroke Operation
ø20	10	11.5	14.7
	15	9.9	
	20	8.2	
ø32	10	24.5	31.4
	15	21.1	
	20	17.6	
ø40	20	29.0	44.4
	25	25.3	
	30	21.5	
ø50	20	55.4	84.8
	25	48.0	
	30	40.7	

Cylinders Weight Table

(Unit: g)

Stroke / Bore Size	10	15	20	25	30	Switch Weight (Grommet)
ø20	218	233	247	—	—	Refer to the mass
ø32	457	482	507	—	—	listed in the Switch
ø40	-	—	812	853	894	Specifications on P.
ø50	-	—	1302	1328	1354	1457.

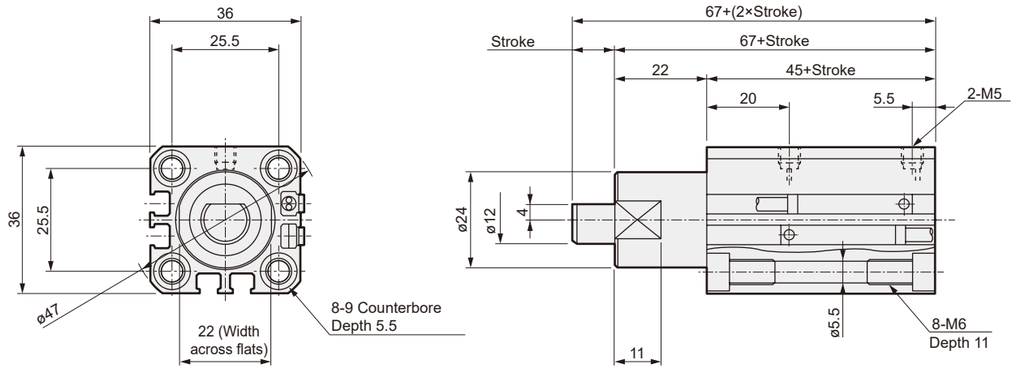
Theoretical Thrust Table

(Unit: N)

Bore Size (mm)	Operating 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	1.06×10^2	1.26×10^2	1.46×10^2	1.66×10^2	1.86×10^2
ø32	66.6	1.16×10^2	1.65×10^2	2.14×10^2	2.63×10^2	3.12×10^2	3.61×10^2	4.10×10^2	4.59×10^2
ø40	1.09×10^2	1.85×10^2	2.62×10^2	3.38×10^2	4.15×10^2	4.92×10^2	5.68×10^2	6.45×10^2	7.21×10^2
ø50	1.67×10^2	2.92×10^2	4.18×10^2	5.44×10^2	6.69×10^2	7.95×10^2	9.21×10^2	1.05×10^3	1.17×10^3

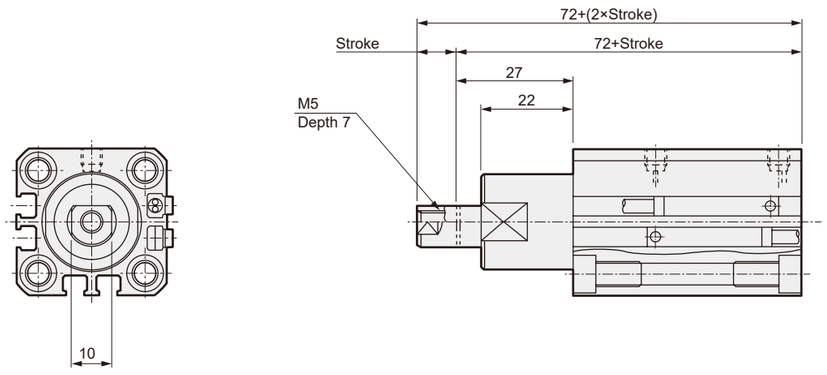
Dimensional Drawings

● STK-MY-20



Note: For dimensions with each switch, please refer to P. 984.

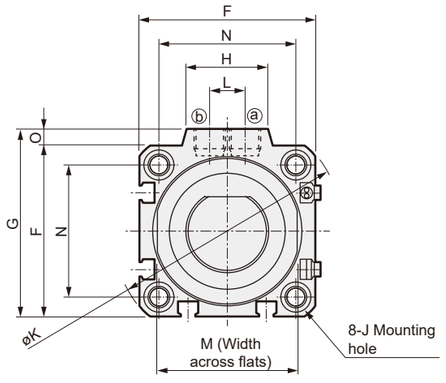
● STK-MY-20-N11 (Dimensions other than displayed dimensions are the same as those of the above (STK-MY-20).)

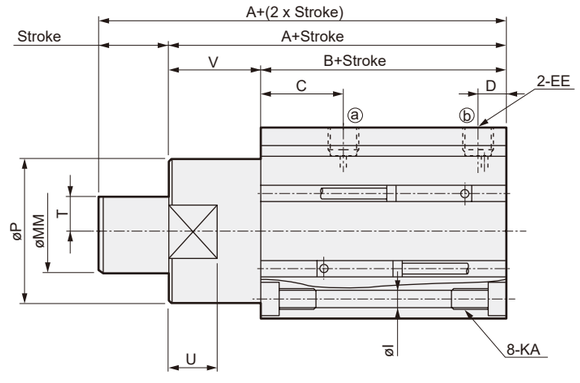


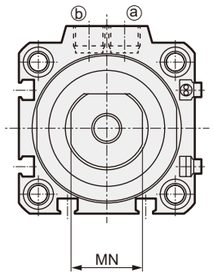
Note: For dimensions with each switch, please refer to P. 984.

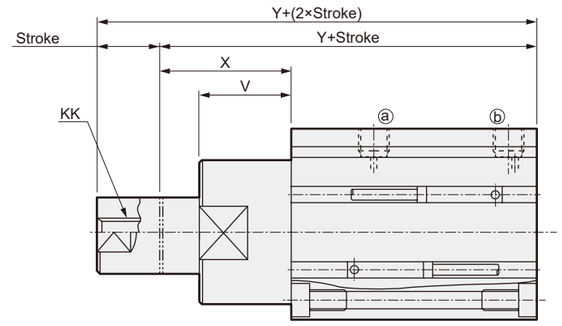
Dimensional Drawings

● STK-MY-32/40/50







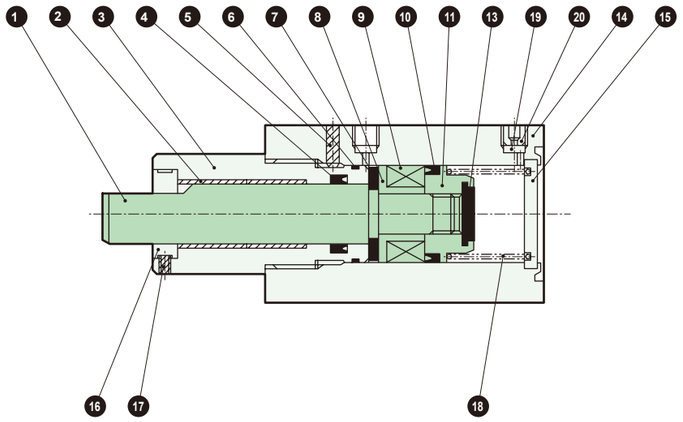


Code / Bore Size	A	B	C	D	EE	F	G	H	I	J	K	KA	KK	L	M	MM	MN	N	O	P	T	U	V	X	Y
ø32	68	48	20	8	Rc1/8	45	49.5	24	5.5	9 Counterbore Depth 5.5	60	M6 Depth 11	M8 Depth 13	10	32	20	17	34	4.5	36	8	13	20	30	78
ø40	80.5	52.5	24.5	8.5	Rc1/8	52	57	24	5.5	9 Counterbore Depth 5.5	69	M6 Depth 11	M8 Depth 13	10	41	25	22	40	5	44	10	15	28	38	90.5
ø50	82	54	24.5	10.5	Rc1/4	64	71	33	6.9	11 Counterbore Depth 6.5	86	M8 Depth 13	M10 Depth 15	15	50	30	27	50	7	56	12	15	28	43	97

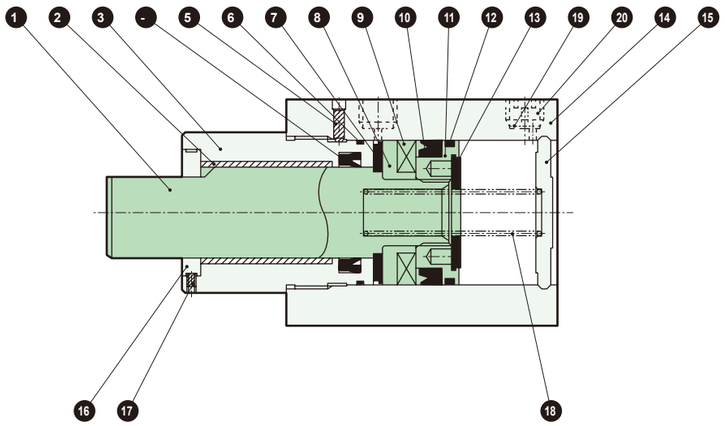
Note: For dimensions with each switch, please refer to P. 984.

Internal Structure / Materials

● STK-MY-20



● STK-MY-32/40/50



Part No.	Part Name	Material	Remarks
1	Piston Rod	Stainless Steel	Industrial Hard Chrome Plating
2	Bushing	Bearing Alloy	
3	Rod Cover	Aluminum Alloy	Alumite
4	Rod Packing	Nitrile Rubber	
5	Hexagon Socket Set Screw	Steel	Black Oxide
6	Metal gasket	Nitrile Rubber	
7	Cushion rubber (R)	Urethane Rubber	
8	Spacer	Aluminum Alloy	
9	Magnet	Plastic	Chromate
10	Piston Packing	Nitrile Rubber	
11	Piston	Aluminum Alloy	Chromate

Part No.	Part Name	Material	Remarks
12	Wear Ring	Polyacetal	
13	Cushion rubber (H)	Urethane Rubber	
14	Cylinders Body	Aluminum Alloy	Hard Anodized
15	Cover	ø20: Steel ø32 to 50: Aluminum Alloy	ø20: Zinc plating ø32 to ø50: Anodized
16	Non-rotating spacer	Steel	Nickel Plating
17	Hexagon Socket Set Screw	Steel	Black Oxide
18	Coil Spring	Piano Wire	Electrodeposition Coating
19	Stainless Steel Wire Mesh	Stainless Steel	
20	Plug	Stainless Steel	

For maintenance parts, please visit the CKD Equipment Product Site (https: //www.ckd.co.jp/kiki/en/) → "model No." → Maintenance Parts.

MEMO

Special
MVC
STK
MCP
GLC
BBS
NHS
HR
LN
Cylinders Switch
Ending



Stopper Cylinder, Double Acting, Spring Loaded Type, Rod End Shape Chamfered Type

STK-MY1 Series

● Bore Size: ø20, ø32, ø40, ø50

Circuit Diagram Code



Double Acting, spring loaded type

RoHS

Model No. Notation

Without Switch
(Built-in magnet for switch)

STK-MY1 - 20 ( ) - 10 ——— N11

Model No. ❶ ❷ ❸ ❻

With Switch
(Built-in magnet for switch)

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

Model No. ❶Bore Size ❷Piping thread type ❸Stroke ❹Switch Model No. ❺Number of Switches ❻Option

❶ Bore Size (mm)

Code	Content
20	ø20
32	ø32
40	ø40
50	ø50

❷Piping thread type

Code	Content
Blank	M5 (ø20)
	Rc thread (ø32 to ø50)
NN	NPT thread (ø32 or more) (Custom product)
GN	G thread (ø32 or more) (Custom product)

❸Stroke (mm)

Bore Size	Stroke
ø20	10 to 20
ø32	10 to 20
ø40	20 to 30
ø50	20 to 30

Note: For Standard Stroke and minimum stroke with switch, please refer to P. 966.

❹Switch Model No.

For switch details, refer to P. 1457. Switches are shipped with the product.

Contact	Indicator LED Special Function	Wiring (Output)	Load Voltage (V) AC	Load Voltage (V) DC	Load Current (mA) AC	Load Current (mA) DC	Lead wire *1 Straight	Lead wire *1 L-shape	
Solid State	1-Color	2-wire	85 to 265	—	5 to 100	—	T1H□	T1V□	
			—	10 to 30	—	5 to 20 *2	T2H□	T2V□	
		3-wire (NPN)	—	30 or less	—	100 or less	T3H□	T3V□	
		3-wire (PNP)	—		—		T3PH□	T3PV□	
	2-Color	2-wire	—	24 ± 10%	—	5 to 20	T2WH□	T2WV□	
		3-wire (NPN)	—	30 or less	—	50 or less	T3WH□	T3WV□	
	2-Color Improved Water Resistance	2-wire	—	24 ± 10%	—	5 to 20	T2WLH□	T2WLV□	 *3
	1-Color Off-Delay Type		—	10 to 30	—	5 to 20 *2	T2JH□	T2JV□	
	1-Color Flexible Lead Wire Type		—	10 to 30	—	5 to 20 *2	T2HR3	T2VR3	
Reed	1-Color	2-wire	110	12/24	7 to 20	5 to 50	T0H□	T0V□	
	Without Indicator Lamp		110	5/12/24	20 or less	50 or less	T5H□	T5V□	
	1-Color		110/220	12/24	7 to 20 / 7 to 10	5 to 50	T8H□	T8V□	

*1: For "□" in the switch Model No., enter the code selected from the "*Lead wire length, connector specification" table.
*2: The maximum load current value above, 20 mA, is at 25°C. If the switch operating Ambient Temperature is higher than 25°C, it will be lower than 20 mA. (At 60°C, it will be 5 to 10 mA.)
*3: This does not guarantee the water resistance of the cylinder.
*4: Switches other than the Model No. listed above are also available. (Custom Product) For details, refer to P. 1457.

*Lead wire length, connector specification

Code	Content
Blank	1 m (Standard)
3	3 m (Option)
5	5 m (Option)
W	M8 Connector, 1PIN (+), 4PIN (−) Lead Wire 0.3 m

*5

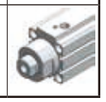
*5: Only T2WLH and T2WLV can be selected.

Example) Lead wire length
1 m T0H
3 m T0H3
5 m T0H5

❺Number of Switches

Code	Content
R	With 1 pc on rod side
H	With 1 pc on head side
D	With 2 pcs

❻ Option

Code	Content	
Blank	Rod End without thread	
N11	With Rod End female thread	

Switch Single Unit Model No. Notation

SW - T0H

❹ Switch Model

Specifications

Item		STK-MY1			
Bore Size	mm	ø20	ø32	ø40	ø50
Operation type		Double Acting spring loaded type			
Operating Fluid		Compressed Air			
Max Operating Pressure	MPa	1.0			
Min Operating Pressure	MPa	0.22	0.12		
Proof Pressure	MPa	1.6			
Ambient Temperature	°C	-10 to 60 (however, no freezing)			
Port Size		M5	Rc1/8		Rc1/4
Stroke tolerance	mm	+2.0 0			
Operating Piston Speed	mm/s	50 to 500			
Cushion		With Rubber Cushion			
Lubrication		Not required (Use Turbine Oil Class 1 ISO VG32 if lubricated)			
Rod End shape		Chamfered type			
Allowable Absorbed Energy	J	Refer to P. 986.			

Stroke

Bore Size (mm)	Stroke (mm)	Maximum Stroke (mm)	Min Stroke (mm)	Minimum stroke with switch (mm)	
				T2WL	Other switches
ø20	10, 15, 20	20	10	20	10
ø32					
ø40	20, 25, 30	30	20	20	20
ø50					

Note: Strokes other than Standard Strokes are custom products.

Spring Load

(Unit: N)

Bore Size (mm)	Stroke (mm)	At 0 Stroke	At Full Stroke Operation
ø20	10	11.5	14.7
	15	9.9	
	20	8.2	
ø32	10	24.5	31.4
	15	21.1	
	20	17.6	
ø40	20	29.0	44.4
	25	25.3	
	30	21.5	
ø50	20	55.4	84.8
	25	48.0	
	30	40.7	

Cylinders Weight

(Unit: g)

Stroke / Bore Size	10	15	20	25	30	Switch Weight (Grommet)
ø20	218	233	247	—	—	Refer to the mass listed in the Switch Specifications on P. 1457.
ø32	457	482	507	—	—	
ø40	-	—	812	853	894	
ø50	-	—	1302	1328	1354	

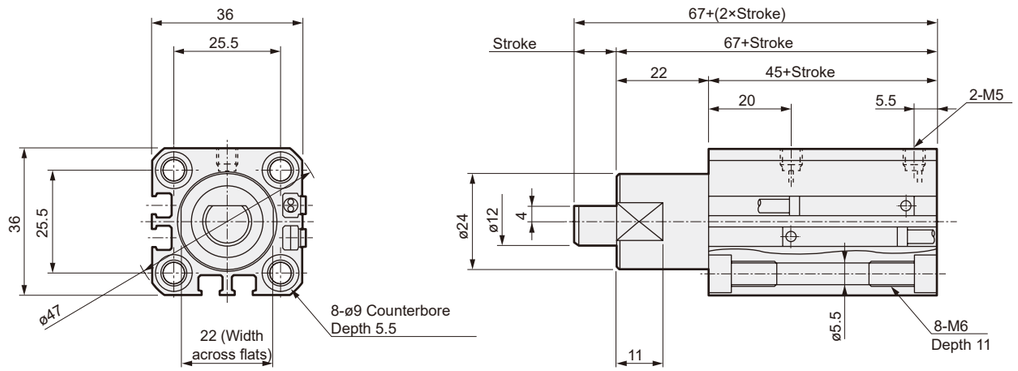
Theoretical Thrust Table

(Unit: N)

Bore Size (mm)	Operating Direction	Operating Pressure MPa									
		0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø20	Push	-	-	94.2	1.26×10^2	1.57×10^2	1.88×10^2	2.20×10^2	2.51×10^2	2.83×10^2	3.14×10^2
	Pull	-	-	45.6	65.7	85.8	1.06×10^2	1.26×10^2	1.46×10^2	1.66×10^2	1.86×10^2
ø32	Push	1.21×10^2	1.61×10^2	2.41×10^2	3.22×10^2	4.02×10^2	4.83×10^2	5.63×10^2	6.43×10^2	7.24×10^2	8.04×10^2
	Pull	42.1	66.6	1.16×10^2	1.65×10^2	2.14×10^2	2.63×10^2	3.12×10^2	3.61×10^2	4.10×10^2	4.59×10^2
ø40	Push	1.88×10^2	2.51×10^2	3.77×10^2	5.03×10^2	6.28×10^2	7.54×10^2	8.80×10^2	1.01×10^3	1.13×10^3	1.26×10^3
	Pull	70.5	1.09×10^2	1.85×10^2	2.62×10^2	3.38×10^2	4.15×10^2	4.92×10^2	5.68×10^2	6.45×10^2	7.21×10^2
ø50	Push	2.95×10^2	3.93×10^2	5.89×10^2	7.85×10^2	9.82×10^2	1.18×10^3	1.37×10^3	1.57×10^3	1.77×10^3	1.96×10^3
	Pull	1.04×10^2	1.67×10^2	2.92×10^2	4.18×10^2	5.44×10^2	6.69×10^2	7.95×10^2	9.21×10^2	1.05×10^3	1.17×10^3

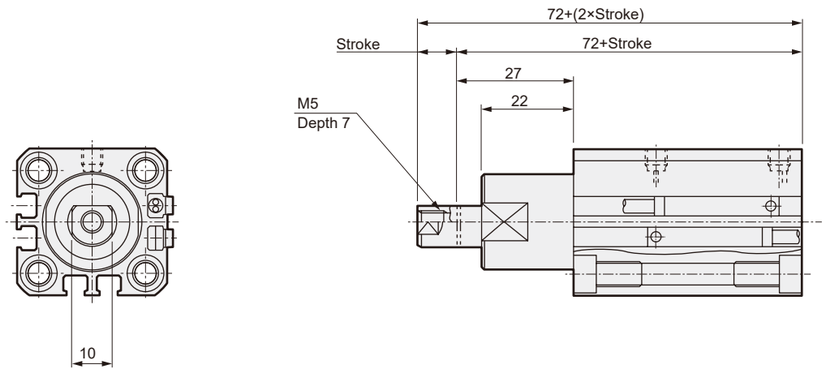
Dimensional Drawings

● STK-MY1-20



Note: For dimensions with each switch, please refer to P. 984.

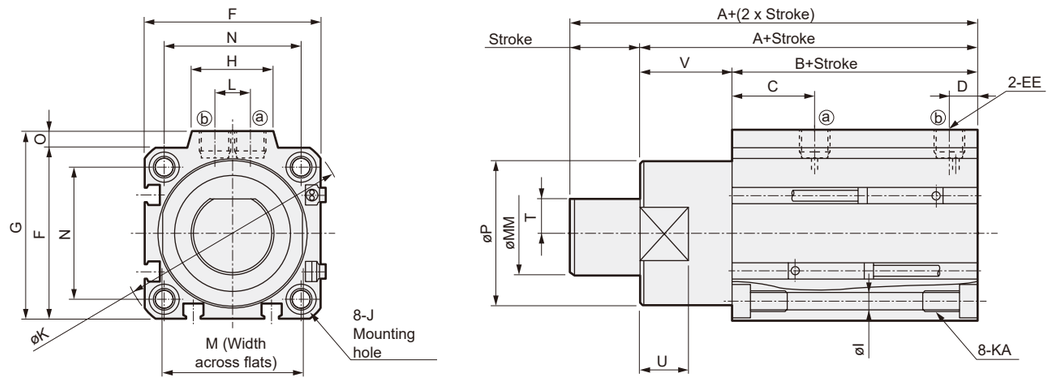
● STK-MY1-20-N11 (Dimensions other than displayed dimensions are the same as those of the above (STK-MY1-20).)



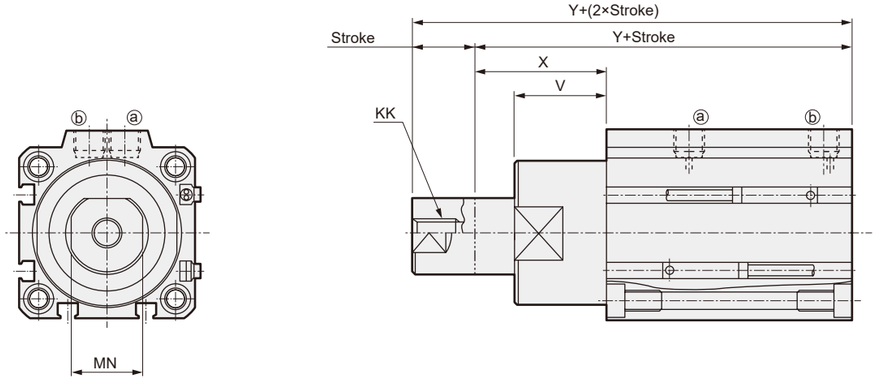
Note: For dimensions with each switch, please refer to P. 984.

Dimensional Drawings

● 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).)

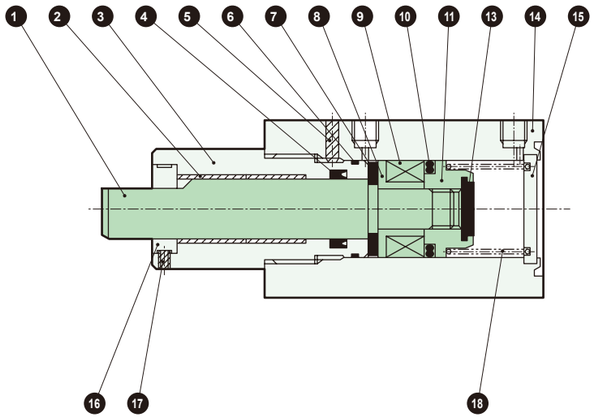


Code / Bore Size	A	B	C	D	EE	F	G	H	I	J	K	KA	KK	L	M	MM	MN	N	O	P	T	U	V	X	Y
ø32	68	48	20	8	Rc1/8	45	49.5	24	5.5	9 Counterbore Depth 5.5	60	M6 Depth 11	M8 Depth 13	10	32	20	17	34	4.5	36	8	13	20	30	78
ø40	80.5	52.5	24.5	8.5	Rc1/8	52	57	24	5.5	9 Counterbore Depth 5.5	69	M6 Depth 11	M8 Depth 13	10	41	25	22	40	5	44	10	15	28	38	90.5
ø50	82	54	24.5	10.5	Rc1/4	64	71	33	6.9	11 Counterbore Depth 6.5	86	M8 Depth 13	M10 Depth 15	15	50	30	27	50	7	56	12	15	28	43	97

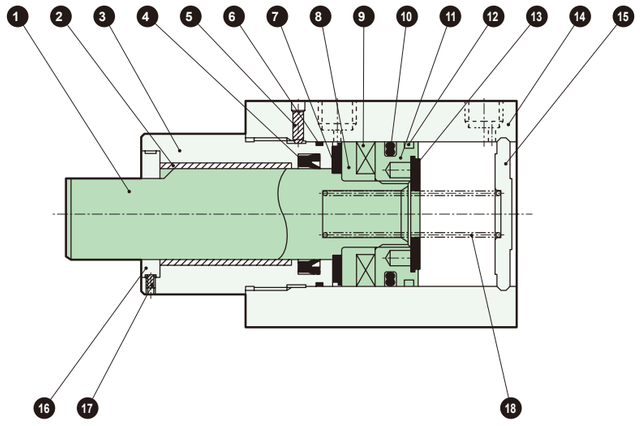
Note: For dimensions with each switch, please refer to P. 984.

Internal Structure / Materials

● STK-MY1-20



● STK-MY1-32/40/50



Part No.	Part Name	Material	Remarks
1	Piston Rod	Stainless Steel	Industrial Hard Chrome Plating
2	Bushing	Bearing Alloy	
3	Rod Cover	Aluminum Alloy	Alumite
4	Rod Packing	Nitrile Rubber	
5	Hexagon Socket Set Screw	Steel	Black Oxide
6	Metal gasket	Nitrile Rubber	
7	Cushion rubber (R)	Urethane Rubber	
8	Spacer	Aluminum Alloy	Chromate
9	Magnet	Plastic	
10	Piston Packing	Nitrile Rubber	

Part No.	Part Name	Material	Remarks
11	Piston	Aluminum Alloy	Chromate
12	Wear Ring	Polyacetal	
13	Cushion rubber (H)	Urethane Rubber	
14	Cylinders Body	Aluminum Alloy	Hard Anodized
15	Cover	ø20: Steel ø32 to 50: Aluminum Alloy	ø20: Zinc plating ø32 to ø50: Anodized
16	Non-rotating spacer	Steel	Nickel Plating
17	Hexagon Socket Set Screw	Steel	Black Oxide
18	Coil Spring	Piano Wire	Electrodeposition Coating

For maintenance parts, please visit the CKD Equipment Product Site (https: //www.ckd.co.jp/kiki/en/) → "model No." → Maintenance Parts.

MEMO



Stopper Cylinder, Single Acting, Retraction Type, Rod End Shape Roller Type

STK-JY Series

● Bore Size: ø20, ø32, ø40, ø50

Circuit Diagram Code



Single Acting, Retracting Type

RoHS

Model No. Notation

Without Switch
(Built-in magnet for switch)

STK-JY - 20 [ ] - 10

Model No. ❶ ❷ ❸

With Switch
(Built-in magnet for switch)

STK-JY - 20 [ ] - 10 - T0H - R

Model No. ❶Bore Size ❷Piping thread type ❸Stroke ❹Switch Model No. ❺Number of Switches

❶ Bore Size (mm)

Code	Content
20	ø20
32	ø32
40	ø40
50	ø50

❷Piping thread type

Code	Content
Blank	M5 (ø20)
	Rc thread (ø32 to ø50)
NN	NPT thread (ø32 or more) (Custom product)
GN	G thread (ø32 or more) (Custom product)

❸Stroke (mm)

Bore Size	Stroke
ø20	10 to 20
ø32	10 to 20
ø40	20 to 30
ø50	20 to 30

Note: For Standard Stroke and minimum stroke with switch, please refer to P. 974.

❹Switch Model No.

For switch details, refer to P. 1457. Switches are shipped with the product.

Contact	Indicator LED Special Function	Wiring (Output)	Load Voltage (V) AC	Load Voltage (V) DC	Load Current (mA) AC	Load Current (mA) DC	Lead wire *1 Straight	Lead wire *1 L-shape	
Solid State	1-Color	2-wire	85 to 265	—	5 to 100	—	T1H□	T1V□	
			—	10 to 30	—	5 to 20 *2	T2H□	T2V□	
		3-wire (NPN)	—	30 or less	—	100 or less	T3H□	T3V□	
		3-wire (PNP)	—		—		T3PH□	T3PV□	
	2-Color	2-wire	—	24 ± 10%	—	5 to 20	T2WH□	T2WV□	
		3-wire (NPN)	—	30 or less	—	50 or less	T3WH□	T3WV□	
	2-Color Improved Water Resistance	2-wire	—	24 ± 10%	—	5 to 20	T2WLH□	T2WLV□	 *3
	1-Color Off-Delay Type		—	10 to 30	—	5 to 20 *2	T2JH□	T2JV□	
	1-Color Flexible Lead Wire Type		—	10 to 30	—	5 to 20 *2	T2HR3	T2VR3	
Reed	1-Color	2-wire	110	12/24	7 to 20	5 to 50	T0H□	T0V□	
	No Indicator LED		110	5/12/24	20 or less	50 or less	T5H□	T5V□	
	1-Color		110/220	12/24	7 to 20 / 7 to 10	5 to 50	T8H□	T8V□	

*1: For "□" in the switch Model No., enter the code selected from the "*Lead wire length, connector specification" table.
*2: The maximum load current value above, 20 mA, is at 25°C. If the switch operating Ambient Temperature is higher than 25°C, it will be lower than 20 mA. (At 60°C, it will be 5 to 10 mA.)
*3: This does not guarantee the water resistance of the cylinder.
*4: Switches other than the Model No. listed above are also available. (Custom Product) For details, refer to P. 1457.

*Lead wire length, connector specification

Code	Content
Blank	1 m (Standard)
3	3 m (Option)
5	5 m (Option)
W	M8 Connector, 1PIN (+), 4PIN (−) Lead Wire 0.3 m

*5

*5: Only T2WLH and T2WLV can be selected.

Example) Lead wire length
1 m T0H
3 m T0H3
5 m T0H5

❺Number of Switches

Code	Content
R	With 1 pc on rod side
H	With 1 pc on head side
D	With 2 pcs

Switch Single Unit Model No. Notation

SW - T0H

❹ Switch Model

Specifications

Item		STK-JY			
Bore Size	mm	ø20	ø32	ø40	ø50
Operation type		Single Acting, Retracting Type			
Operating Fluid		Compressed Air			
Max Operating Pressure	MPa	1.0			
Min Operating Pressure	MPa	0.22	0.12		
Proof Pressure	MPa	1.6			
Ambient Temperature	°C	-10 to 60 (however, no freezing)			
Port Size		M5	Rc1/8		Rc1/4
Stroke tolerance	mm	+2.0 0			
Operating Piston Speed	mm/s	50 to 500			
Cushion		With Rubber Cushion			
Lubrication		Not required (Use Turbine Oil Class 1 ISO VG32 if lubricated)			
Rod End shape		Roller type			
Allowable Absorbed Energy	J	Refer to P. 986.			

Stroke

Bore Size (mm)	Stroke (mm)	Maximum Stroke (mm)	Min Stroke (mm)	Minimum stroke with switch (mm)	
				T2WL	Other switches
ø20	10, 15, 20	20	10	20	10
ø32					
ø40	20, 25, 30	30	20	20	20
ø50					

Note: Strokes other than Standard Strokes are custom products.

Spring Load

(Unit: N)

Bore Size (mm)	Stroke (mm)	At 0 Stroke	At Full Stroke Operation
ø20	10	11.5	14.7
	15	9.9	
	20	8.2	
ø32	10	24.5	31.4
	15	21.1	
	20	17.6	
ø40	20	29.0	44.4
	25	25.3	
	30	21.5	
ø50	20	55.4	84.8
	25	48.0	
	30	40.7	

Cylinders Weight

(Unit: g)

Stroke / Bore Size	10	15	20	25	30	Switch Weight (Grommet)
ø20	225	240	254	—	—	Refer to the mass listed in the Switch Specifications on P. 1457.
ø32	482	507	532	—	—	
ø40	-	—	862	903	944	
ø50	-	—	1362	1388	1414	

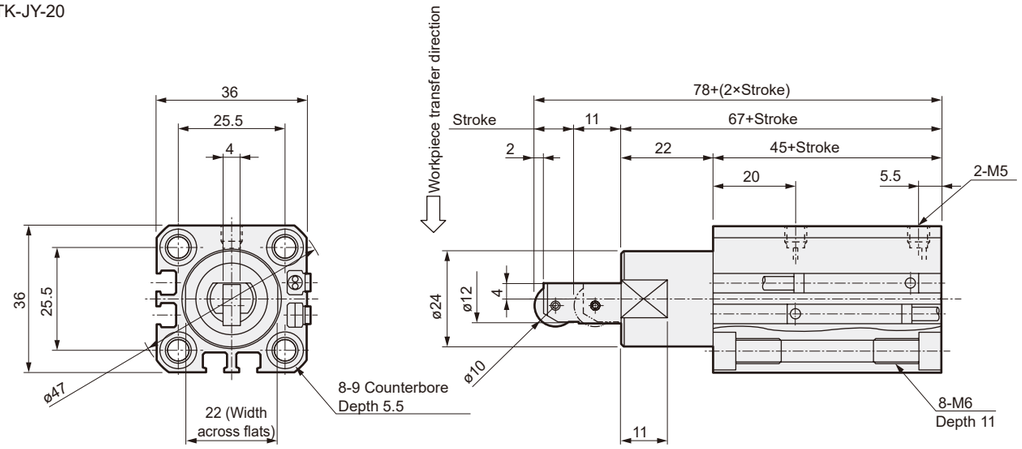
Theoretical Thrust Table

(Unit: N)

Bore Size (mm)	Operating 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	1.06×10^2	1.26×10^2	1.46×10^2	1.66×10^2	1.86×10^2
ø32	66.6	1.16×10^2	1.65×10^2	2.14×10^2	2.63×10^2	3.12×10^2	3.61×10^2	4.10×10^2	4.59×10^2
ø40	1.09×10^2	1.85×10^2	2.62×10^2	3.38×10^2	4.15×10^2	4.92×10^2	5.68×10^2	6.45×10^2	7.21×10^2
ø50	1.67×10^2	2.92×10^2	4.18×10^2	5.44×10^2	6.69×10^2	7.95×10^2	9.21×10^2	1.05×10^3	1.17×10^3

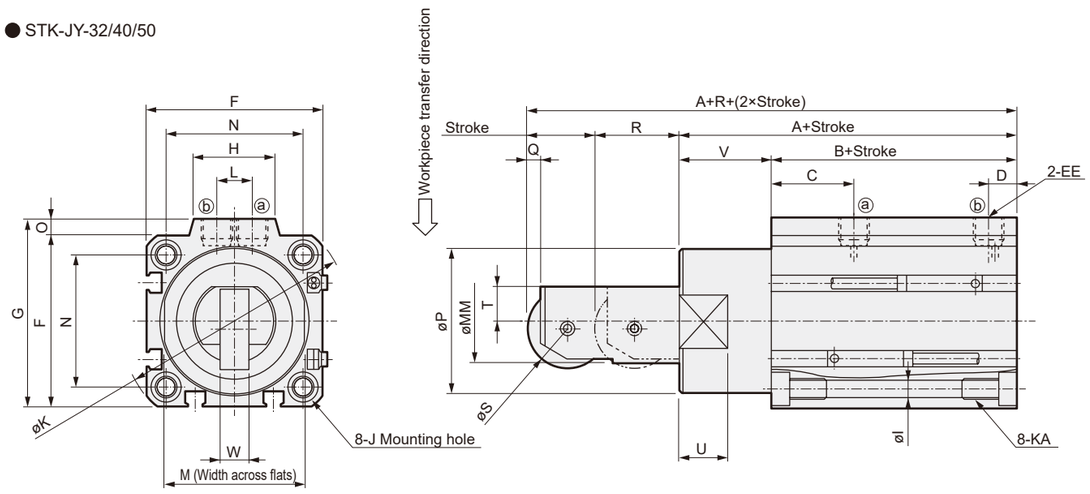
Dimensional Drawings

● STK-JY-20



Note: For dimensions with each switch, please refer to P. 984.

● STK-JY-32/40/50

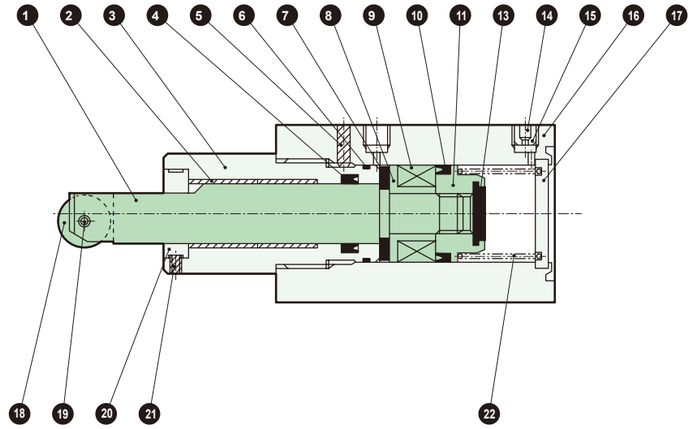


Code / Bore Size	A	B	C	D	EE	F	G	H	I	J	K	KA	L	M	MM	N	O	P	Q	R	S	T	U	V	W
ø32	68	48	20	8	Rc1/8	45	49.5	24	5.5	9 Counterbore Depth 5.5	60	M6 Depth 11	10	32	20	34	4.5	36	3	19	18	8	13	20	8
ø40	80.5	52.5	24.5	8.5	Rc1/8	52	57	24	5.5	9 Counterbore Depth 5.5	69	M6 Depth 11	10	41	25	40	5	44	4	25	24	10	15	28	9
ø50	82	54	24.5	10.5	Rc1/4	64	71	33	6.9	11 Counterbore Depth 6.5	86	M8 Depth 13	15	50	30	50	7	56	4	25	28	12	15	28	10

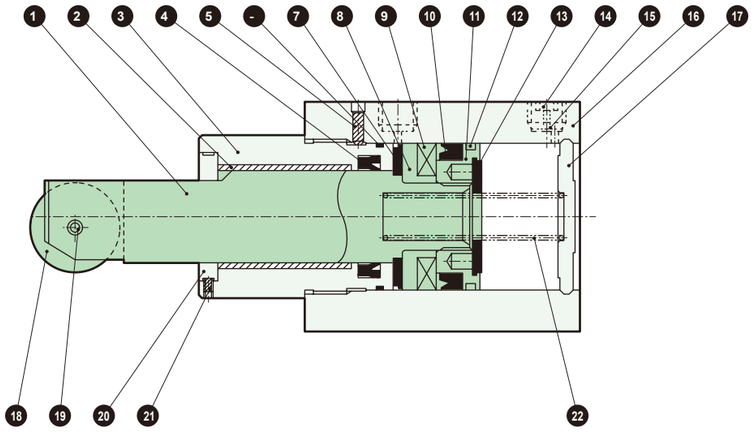
Note: For dimensions with each switch, please refer to P. 984.

Internal Structure / Materials

● STK-JY-20



● STK-JY-32/40/50



Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Piston Rod	Stainless Steel	Industrial Hard Chrome Plating	13	Cushion rubber (H)	Urethane Rubber	
2	Bushing	Bearing Alloy		14	Stainless Steel	Stainless Steel	
3	Rod Cover	Aluminum Alloy	Alumite	15	Plug	Stainless Steel	
4	Rod Packing	Nitrile Rubber		16	Cylinders Body	Aluminum Alloy	Hard Anodized
5	Hexagon Socket Set Screw	Steel	Black Oxide	17	Cover	ø20: Steel	ø20: Zinc plating
6	Metal gasket	Nitrile Rubber				ø32 to 50: Aluminum Alloy	ø32 to ø50: Anodized
7	Cushion rubber (R)	Urethane Rubber		18	Roller	Resin	
8	Spacer	Aluminum Alloy	Chromate	19	Spring Pin	Steel	
9	Magnet	Plastic		20	Non-rotating spacer	Steel	Nickel Plating
10	Piston Packing	Nitrile Rubber		21	Hexagon Socket Set Screw	Steel	Black Oxide
11	Piston	Aluminum Alloy	Chromate	22	Coil Spring	Piano Wire	Electrodeposition Coating
12	Wear Ring	Polyacetal					

For maintenance parts, please visit the CKD Equipment Product Site (https: //www.ckd.co.jp/kiki/en/) → "model No." → Maintenance Parts.



Stopper Cylinder, Double Acting, Spring Loaded Type,
Rod End Shape Roller Type

STK-JY1 Series

● Bore Size: ø20, ø32, ø40, ø50

Circuit Diagram Code



Double Acting, spring loaded type

RoHS

Model No. Notation

Without Switch
(Built-in magnet for switch)

STK-JY1 - 20 [ ] - 10

Model No. ❶ ❷ ❸

With Switch
(Built-in magnet for switch)

STK-JY1 - 20 [ ] - 10 - T0H - R

Model No. ❷Piping thread type ❹Switch Model No. ❺Number of Switches
❶Bore Size ❸Stroke

❶ Bore Size (mm)

Code	Content
20	ø20
32	ø32
40	ø40
50	ø50

❷Piping thread type

Code	Content
Blank	M5 (ø20)
	Rc thread (ø32 to ø50)
NN	NPT thread (ø32 or more) (Custom product)
GN	G thread (ø32 or more) (Custom product)

❸Stroke (mm)

Bore Size	Stroke
ø20	10 to 20
ø32	10 to 20
ø40	20 to 30
ø50	20 to 30

Note: For Standard Stroke and minimum stroke with switch, please refer to P. 980.

❹Switch Model No.

For switch details, refer to P. 1457. Switches are shipped with the product.

Contact	Indicator LED Special Function	Wiring (Output)	Load Voltage (V) AC	Load Voltage (V) DC	Load Current (mA) AC	Load Current (mA) DC	Lead wire *1 Straight	Lead wire *1 L-shape	
Solid State	1-Color	2-wire	85 to 265	—	5 to 100	—	T1H□	T1V□	
			—	10 to 30	—	5 to 20 *2	T2H□	T2V□	
		3-wire (NPN)	—	30 or less	—	100 or less	T3H□	T3V□	
		3-wire (PNP)	—		—		T3PH□	T3PV□	
	2-Color	2-wire	—	24 ± 10%	—	5 to 20	T2WH□	T2WV□	
		3-wire (NPN)	—	30 or less	—	50 or less	T3WH□	T3WV□	
	2-Color Improved Water Resistance	2-wire	—	24 ± 10%	—	5 to 20	T2WLH□	T2WLV□	 *3
	1-Color Off-Delay Type		—	10 to 30	—	5 to 20 *2	T2JH□	T2JV□	
	1-Color Flexible Lead Wire Type		—	10 to 30	—	5 to 20 *2	T2HR3	T2VR3	
Reed	1-Color	2-wire	110	12/24	7 to 20	5 to 50	T0H□	T0V□	
	Without Indicator Lamp		110	5/12/24	20 or less	50 or less	T5H□	T5V□	
	1-Color		110/220	12/24	7 to 20 / 7 to 10	5 to 50	T8H□	T8V□	

*1: For "□" in the switch Model No., enter the code selected from the "Lead wire length, connector specification" table.
*2: The maximum load current value above, 20 mA, is at 25°C. If the switch operating Ambient Temperature is higher than 25°C, it will be lower than 20 mA. (At 60°C, it will be 5 to 10 mA.)
*3: This does not guarantee the water resistance of the cylinder.
*4: Switches other than the Model No. listed above are also available. (Custom Product) For details, refer to P. 1457.

*Lead wire length, connector specification

Code	Content
Blank	1 m (Standard)
3	3 m (Option)
5	5 m (Option)
W	M8 Connector, 1PIN (+), 4PIN (−) Lead Wire 0.3 m

*5

*5: Only T2WLH and T2WLV can be selected.

Example) Lead wire length
1 m T0H
3 m T0H3
5 m T0H5

❺Number of Switches

Code	Content
R	With 1 pc on rod side
H	With 1 pc on head side
D	With 2 pcs

Switch Single Unit Model No. Notation

SW - T0H

❹ Switch Model

Specifications

Item		STK-JY1			
Bore Size	mm	ø20	ø32	ø40	ø50
Operation type		Double Acting spring loaded type			
Operating Fluid		Compressed Air			
Max Operating Pressure	MPa	1.0			
Min Operating Pressure	MPa	0.22	0.12		
Proof Pressure	MPa	1.6			
Ambient Temperature	°C	-10 to 60 (however, no freezing)			
Port Size		M5	Rc1/8		Rc1/4
Stroke tolerance	mm	+2.0 0			
Operating Piston Speed	mm/s	50 to 500			
Cushion		With Rubber Cushion			
Lubrication		Not required (Use Turbine Oil Class 1 ISO VG32 if lubricated)			
Rod End shape		Roller type			
Allowable Absorbed Energy	J	Refer to P. 986.			

Stroke

Bore Size (mm)	Stroke (mm)	Max Stroke (mm)	Min Stroke (mm)	Min stroke with switch (mm)	
				T2WL	Other switches
ø20	10, 15, 20	20	10	20	10
ø32					
ø40	20, 25, 30	30	20	20	20
ø50					

Note: Strokes other than Standard Strokes are custom products.

Spring Load

(Unit: N)

Bore Size (mm)	Stroke (mm)	At 0 Stroke	At Full Stroke Operation
ø20	10	11.5	14.7
	15	9.9	
	20	8.2	
ø32	10	24.5	31.4
	15	21.1	
	20	17.6	
ø40	20	29.0	44.4
	25	25.3	
	30	21.5	
ø50	20	55.4	84.8
	25	48.0	
	30	40.7	

Cylinders Weight Table

(Unit: g)

Stroke / Bore Size	10	15	20	25	30	Switch Weight (Grommet)
ø20	225	240	254	—	—	Refer to the mass listed in the Switch Specifications on P. 1457.
ø32	482	507	532	—	—	
ø40	-	—	862	903	944	
ø50	-	—	1362	1388	1414	

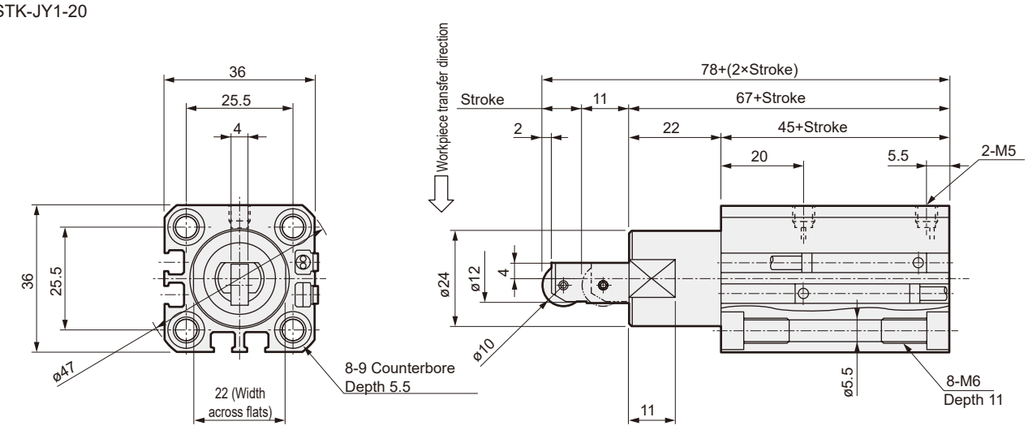
Theoretical Thrust Table

(Unit: N)

Bore Size (mm)	Operating Direction	Operating Pressure MPa									
		0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø20	Push	-	-	94.2	1.26×10^2	1.57×10^2	1.88×10^2	2.20×10^2	2.51×10^2	2.83×10^2	3.14×10^2
	Pull	-	-	45.6	65.7	85.8	1.06×10^2	1.26×10^2	1.46×10^2	1.66×10^2	1.86×10^2
ø32	Push	1.21×10^2	1.61×10^2	2.41×10^2	3.22×10^2	4.02×10^2	4.83×10^2	5.63×10^2	6.43×10^2	7.24×10^2	8.04×10^2
	Pull	42.1	66.6	1.16×10^2	1.65×10^2	2.14×10^2	2.63×10^2	3.12×10^2	3.61×10^2	4.10×10^2	4.59×10^2
ø40	Push	1.88×10^2	2.51×10^2	3.77×10^2	5.03×10^2	6.28×10^2	7.54×10^2	8.80×10^2	1.01×10^3	1.13×10^3	1.26×10^3
	Pull	70.5	1.09×10^2	1.85×10^2	2.62×10^2	3.38×10^2	4.15×10^2	4.92×10^2	5.68×10^2	6.45×10^2	7.21×10^2
ø50	Push	2.95×10^2	3.93×10^2	5.89×10^2	7.85×10^2	9.82×10^2	1.18×10^3	1.37×10^3	1.57×10^3	1.77×10^3	1.96×10^3
	Pull	1.04×10^2	1.67×10^2	2.92×10^2	4.18×10^2	5.44×10^2	6.69×10^2	7.95×10^2	9.21×10^2	1.05×10^3	1.17×10^3

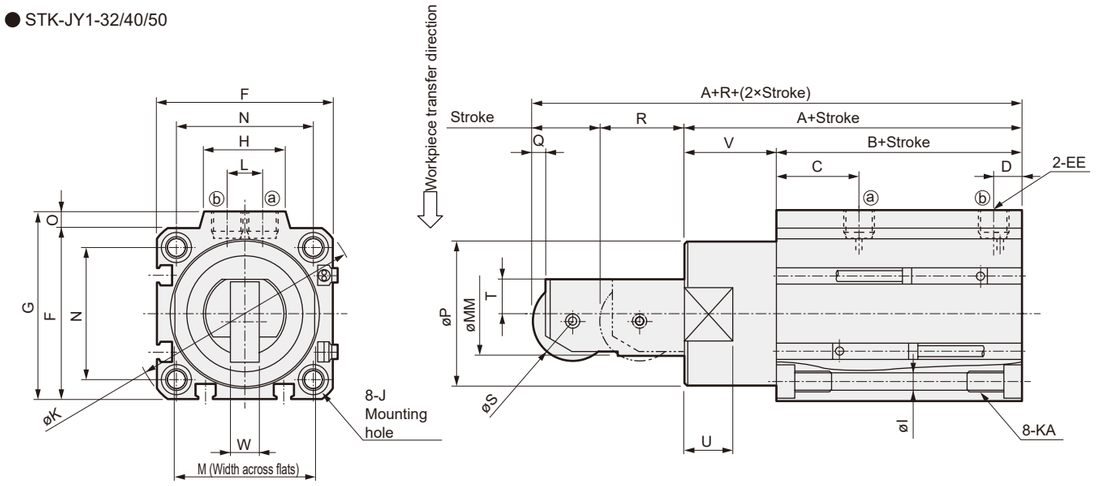
Dimensional Drawings

● STK-JY1-20



Note: For dimensions with each switch, please refer to P. 984.

● STK-JY1-32/40/50

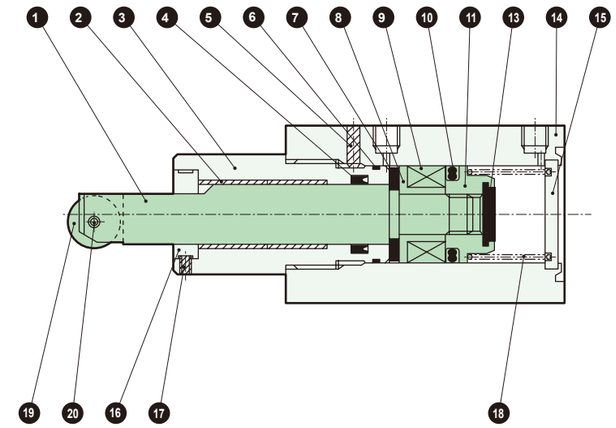


Code / Bore Size	A	B	C	D	EE	F	G	H	I	J	K	KA	L	M	MM	N	O	P	Q	R	S	T	U	V	W
ø32	68	48	20	8	Rc1/8	45	49.5	24	5.5	9 Counterbore Depth 5.5	60	M6 Depth 11	10	32	20	34	4.5	36	3	19	18	8	13	20	8
ø40	80.5	52.5	24.5	8.5	Rc1/8	52	57	24	5.5	9 Counterbore Depth 5.5	69	M6 Depth 11	10	41	25	40	5	44	4	25	24	10	15	28	9
ø50	82	54	24.5	10.5	Rc1/4	64	71	33	6.9	11 Counterbore Depth 6.5	86	M8 Depth 13	15	50	30	50	7	56	4	25	28	12	15	28	10

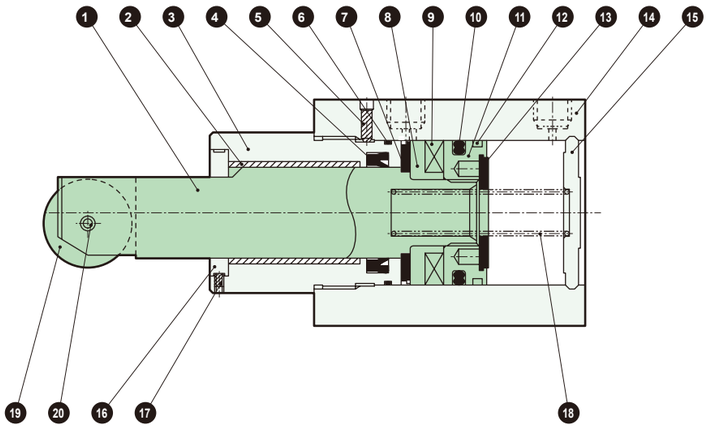
Note: For dimensions with each switch, please refer to P. 984.

Internal Structure / Materials

● STK-JY1-20



● STK-JY1-32/40/50

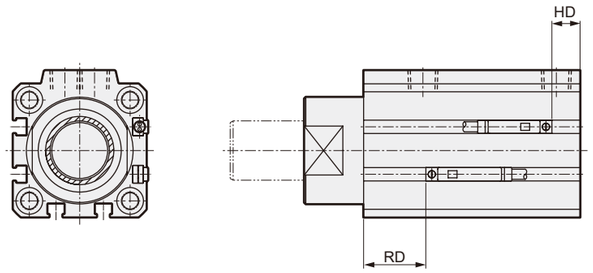


Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Piston Rod	Stainless Steel	Industrial Hard Chrome Plating	12	Wear Ring	Polyacetal	
2	Bushing	Bearing Alloy		13	Cushion rubber (H)	Urethane Rubber	
3	Rod Cover	Aluminum Alloy	Alumite	14	Cylinders Body	Aluminum Alloy	Hard Anodized
4	Rod Packing	Nitrile Rubber		15	Cover	ø20: Steel	ø20: Zinc plating
5	Hexagon Socket Set Screw	Steel	Black Oxide			ø32 to 50: Aluminum Alloy	ø32 to ø50: Anodized
6	Metal gasket	Nitrile Rubber		16	Non-rotating spacer	Steel	Nickel Plating
7	Cushion rubber (R)	Urethane Rubber		17	Hexagon Socket Set Screw	Steel	Black Oxide
8	Spacer	Aluminum Alloy	Chromate	18	Coil Spring	Piano Wire	Electrodeposition Coating
9	Magnet	Plastic		19	Roller	Resin	
10	Piston Packing	Nitrile Rubber		20	Spring Pin	Steel	
11	Piston	Aluminum Alloy	Chromate				

For maintenance parts, please visit the CKD Equipment Product Site (https: //www.ckd.co.jp/kiki/en/) → "model No." → Maintenance Parts.

STK Series External Dimensions Diagram with Switch

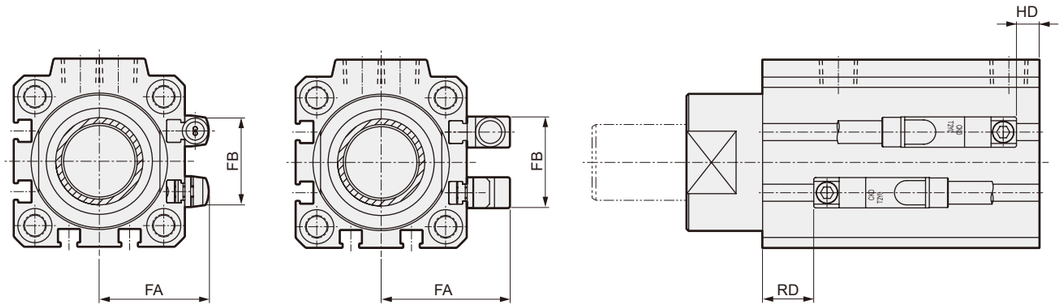
● T0, T5, T2, T3, T3P, T2□R3, T2W, T3W, T2WL



Code	STK, STK-M								STK-Y□, STK-MY□, STK-JY□							
	T0, T5, T2, T3, T3P, T2□R3				T2W, T3W, T2WL				T0, T5, T2, T3, T3P, T2□R3				T2W, T3W, T2WL			
Bore Size (mm)	FA	FB	RD	HD	FA	FB	RD	HD	FA	FB	RD	HD	FA	FB	RD	HD
ø20	18.5	12.5	21	5.5	18.5	12.5	23	7.5	18.5	12.5	19.5	7	18.5	12.5	21.5	9
ø32	23	20.5	21	9.5	23	20.5	23	11.5	23	20.5	20	10.5	23	20.5	22	12.5
ø40	26.5	27.5	24	10.5	26.5	27.5	26	12.5	26.5	27.5	23	11.5	26.5	27.5	25	1.5
ø50	32.5	28.5	24	11.5	32.5	28.5	26	13.5	32.5	28.5	23	12.5	32.5	28.5	25	14.5

Note: For switch mountability, refer to the Model No. display method for each variation.

● T8,T2J,T1,T2YD,T2YDT



[For T8, T2J] [For T1, T2YD, T2YDT]

Code	STK, STK-M											
	T8				T2J				T1,T2YD,T2YDT			
Bore Size (mm)	FA	FB	RD	HD	FA	FB	RD	HD	FA	FB	RD	HD
ø20	24.3	16	15	0	24.3	16	20	4.5	29.3	16	20	4.5
ø32	28.8	24	15	3.5	28.8	24	20	8.5	33.8	24	20	8.5
ø40	32.3	31	18	4.5	32.3	31	23	9.5	37.3	31	23	9.5
ø50	38.3	32	18	5.5	38.3	32	23	10.5	43.3	32	23	10.5
Code	**STK-Y□, STK-MY□, STK-JY□**											
	T8				T2J				T1,T2YD,T2YDT			
Bore Size (mm)	FA	FB	RD	HD	FA	FB	RD	HD	FA	FB	RD	HD
ø20	24.3	16	13.5	1	24.3	16	18.5	6	29.3	16	18.5	6
ø32	28.8	24	14	4.5	28.8	24	19	9.5	33.8	24	19	9.5
ø40	32.3	31	17	5.5	32.3	31	22	10.5	37.3	31	22	10.5
ø50	38.3	32	17	6.5	38.3	32	22	11.5	43.3	32	22	11.5

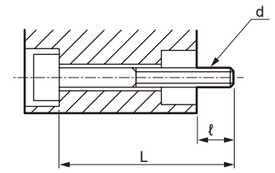
Note: For switch mountability, refer to the Model No. display method for each variation.

Mounting Bolt Model No.

STK - BOLT - M5×60

Mounting bolts (Bolts are a set of 4.)

How to read the list



Material: Steel
Treatment: Black Oxide
d: Mounting bolt thread diameter
L: Mounting bolt length
ℓ: Screw-in depth of mating part
(Note) Mounting bolts are indicated by d×L.

Mounting bolt for STK-□

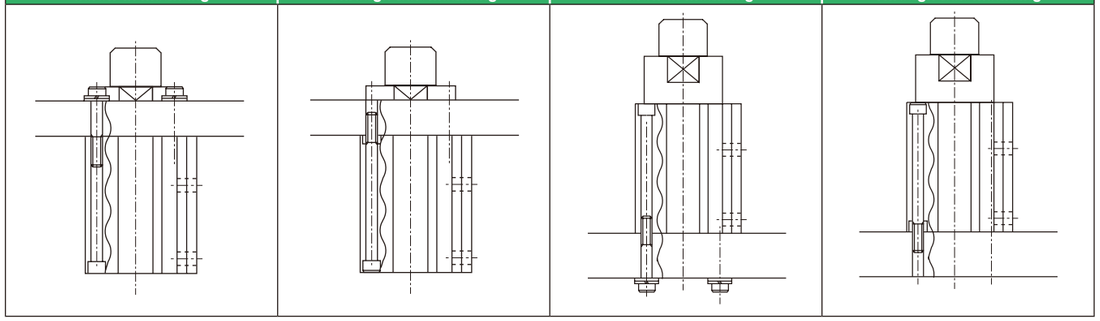
Model No.	ℓ	d×L
STK-20-10	10.5	M5×60
15		×65
20		×70
STK-32-10	12.5	M5×65
15		×70
20		×75

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

Stopper Cylinder Model Selection Guide

Allowable absorbed energy differs depending on the mounting method. Please check whether mounting is A or B in the diagram below and select accordingly.

A. Rod side mounting		B. Head side mounting	
Screw-in mounting	Through-bolt mounting	Screw-in mounting	Through-bolt mounting



1. Selection method for operating range

Select a model so that it is below the allowable absorbed energy in the graph on the right, based on the conveyed weight (m) and conveyance speed (V).

Formula for Kinetic Energy

$E=\frac{1}{2}mV^2$

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

(Example) Conveyance speed 15 m/min, Conveyed weight 40 kg

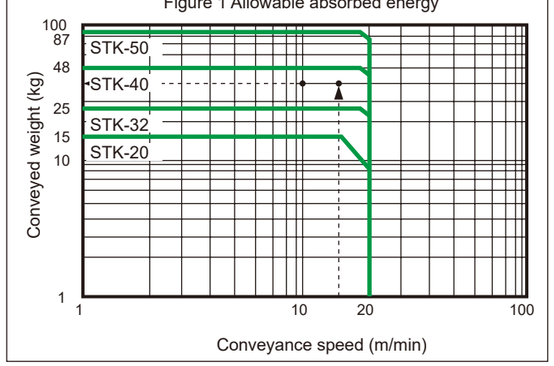
A. In case of rod side mounting

[How to Read the Graph]

To select the above specifications, find the intersection of the speed 15 m/min on the horizontal axis and the weight 40 kg on the vertical axis from graph Figure 1 on the upper right, and select STK-40 which is within the allowable absorbed energy range.

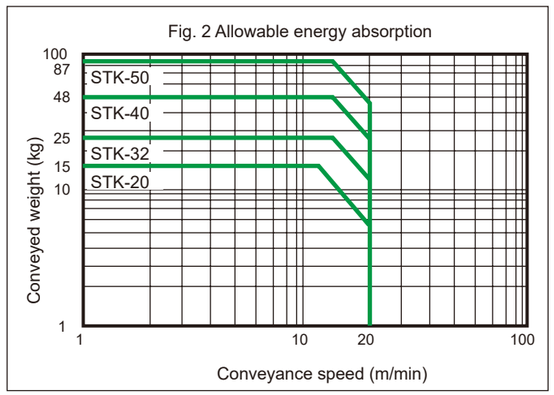
A. Rod side mounting

Figure 1 Allowable absorbed energy



B. Head side mounting

Fig. 2 Allowable energy absorption



(Note) Rod End shape: Applicable to all round bar, chamfered, and roller types.

Lateral load and Operating Pressure

Since the Operating Pressure during cylinder retraction varies depending on the magnitude of the lateral load applied to the Rod End, please calculate the necessary Operating Pressure according to the following steps.

1. Determine the lateral load (F) applied to the rod tip.

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

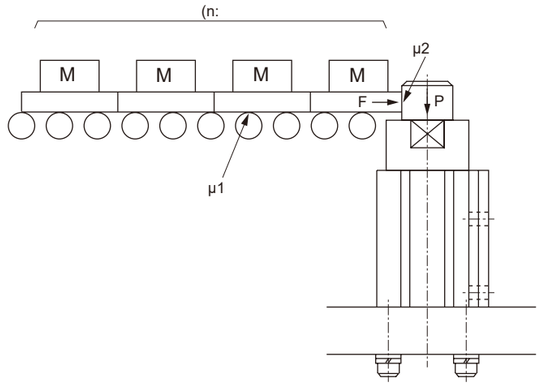
F : Lateral load (N)
m : Transport weight (kg)
n : Quantity of transported items
μ_1: Coefficient of friction between transport pallet and conveyor

2. Determine the necessary thrust (P) during cylinder retraction.

$P=F\cdot \mu_2$

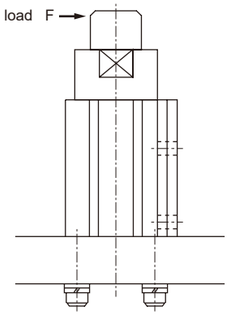
P : Required thrust (N)
μ_2: Coefficient of friction between transported item and rod
(Note) Since the coefficient of friction varies depending on the material of the conveyed object, refer to the coefficients in the table below.
Please consider.

Material of transported item	Steel	Aluminum	Urethane
μ2	0.5	0.8	2.0



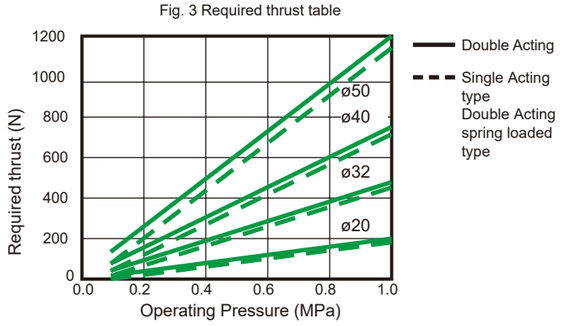
Allowable Lateral Load (Unit: N)

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. Determine the Operating Pressure from the necessary thrust (P) from Figure 3.

Fig. 3 Required thrust table



To Use This Product Safely

Be sure to read this before use. For general cylinder information, see Intro 41, and for Cylinder Switches, see P. 1512.

Individual Precautions: Stopper cylinder STK Series

Design / Selection

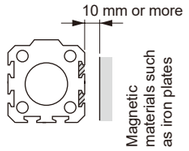
1. Common

CAUTION

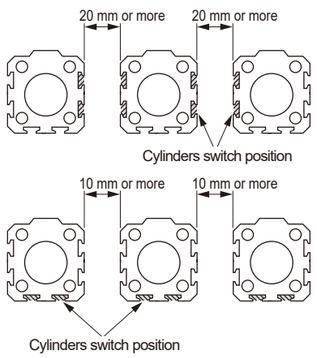
■When using a stopper cylinder to brake loads directly connected to cylinder, etc

● The specified range is only for stopping pallets on the conveyor. When stopping a load directly connected to a cylinder, etc. with a stopper cylinder, the cylinder thrust becomes a lateral load, so please select a cylinder so that it is within the range of allowable absorbed energy and allowable lateral load.

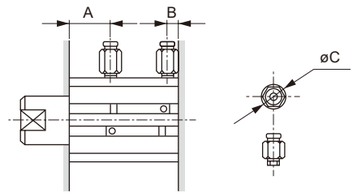
■If there is a magnetic body such as an iron plate near the cylinder switch, it will cause a malfunction, so please keep a distance of 10 mm or more from the cylinder surface.
(Common to all Bore Sizes)



■The cylinder switch could malfunction if cylinders are installed adjacently. Check that the following distances are allocated between cylinders.
(Common to all Bore Sizes)



■There are restrictions on usable piping fittings. Refer to the following and use accordingly.



Item / Bore Size (mm)	Port Size	Port position dimension A	Port position dimension B	Usable Fittings	Fitting outer diameter øC	Unusable fittings
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 GWS8-6 GWL4-6 GWL6-6	ø15 or less	GWS10-6 GWL-8-6 GWL10-6
ø40		12	8.5			
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

2. Single Acting type STK-Y

CAUTION

■Do not apply pressure from the head side for the Single Acting type.

● If air is introduced for the head side for Single Acting, air leakage will occur.

■Do not leave Single Acting cylinders pressurized. If left pressurized, the Piston Rod may not return by spring force when the pressure is released.

3. Double Acting type with spring STK-Y1

CAUTION

■Spring integrated Double Acting is usually used as a Double Acting. When the air is shut off for any reason, the rod is Push and the stopper function is maintained.

4. Rod End shape chamfered type with female thread STK-M-N11

CAUTION

■Avoid using the product so as to apply rotation torque to the Piston Rod.
The non-rotating spacer may come off and the orientation of the chamfered Piston Rod may change.

During Use

1. Common

CAUTION

■Do not apply rotation torque to the Piston Rod. Install the Piston Rod so that its contact surface is parallel to the pallet contact surface to avoid applying rotational torque.

■Avoid using oil, etc., for the Piston Rod sliding section.

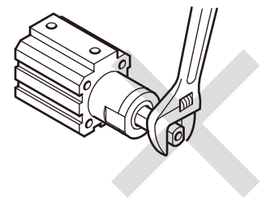
● Otherwise, cylinder malfunctions, etc., may result.

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

2. Rod End shape chamfered type with female thread STK-M-N11

CAUTION

■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.



For precautions during mounting, installation, adjustment, use, and maintenance, refer to "During Use" in this catalog and the CKD Components Product website (https://www.ckd.co.jp/kiki/en/) -> "Model No." -> Instruction Manual.