

## Stopper cylinder STA2 Series

New Product



### Main features

- With the newly incorporated adjustable type shock absorber, various loads can be accommodated.
- Resin or steel is selectable as the roller materials.
- The double acting or spring built-in type is selectable.



### Specifications

Descriptions		STA2
Bore size	mm	φ50
Stroke	mm	30
Actuation		Double acting type, spring built-in type
Working fluid		Compressed air
Max. working pressure	MPa	1.0
Min. working pressure	MPa	Refer to Fig. 2.
Withstanding pressure	MPa	1.5
Ambient temperature	°C	-5 to 60 (no freezing)
Port size		Rc1/8
Cushion		With rubber cushion for head side
Lubrication		Not required (when lubricating, use turbine oil Class 1 ISOVG 32.)
Allowable energy absorption		Refer to Fig. 1.
Weight	g	1800

### Switch specifications

- 1 or 2 color indicator, strong magnetic field proof

Item	Proximity 2-wire				Proximity 3-wire				Reed 2-wire			Proximity 2-wire				
	T1H/T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/T3V	T3PH/T3PV (Custom order)	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V	T8H/T8V	T2YD				
Applications	Programmable controller, relay, small solenoid valve	Dedicated to programmable controller			Programmable controller, relay				Programmable controller, relay	Programmable controller, relay IC circuit (w/o light), serial connection	Programmable controller, relay	Dedicated to programmable controller				
Output method	-				NPN output	PNP output	NPN output	NPN output	-							
Power voltage	-				10 to 28 VDC				-							
Load voltage	85 to 265 VAC	10 to 30 VDC	24 VDC±10%		30 VDC or less				12/24 VDC	100/110 VAC	5/12/24 VDC	100/110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC±10%
Load current	5 to 100 mA	5 to 20 mA (Note 1)			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	5 to 20 mA
Light	LED (ON lighting)	Color LED (ON lighting)	Red/green LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Green LED (ON lighting)	Red/green LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Without indicator light	LED (ON lighting)	Red/green LED (ON lighting)				
Leakage current	1 mA or less with 100 VAC 2 mA or less with 200 VAC	1 mA or less			10 µA or less				0 mA				1 mA or less			

Fig. 1 Allowable energy absorption

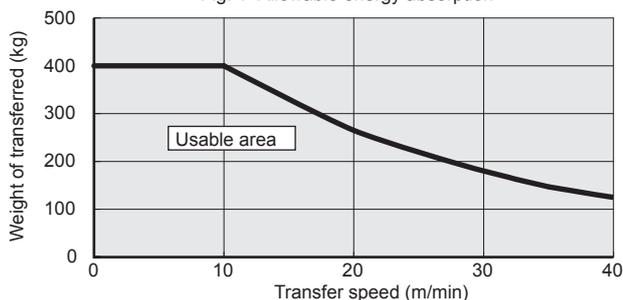
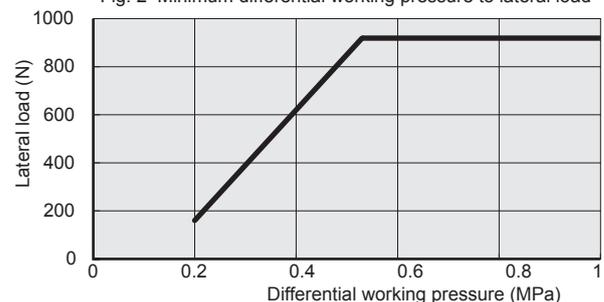


Fig. 2 Minimum differential working pressure to lateral load



Refer to "Safety Precautions" on the backside before use.

CKD Corporation

CC-1005A 1

## STA2 Series

### How to order

- Without switch



- With switch



A Model No.

B Bore size

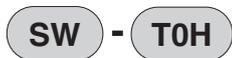
C Stroke length

D Switch model No.

E Switch quantity

F Roller material

### How to order switch



Switch model No.  
(above items marked by ④)

Symbol	Descriptions				
<b>A Model No.</b>					
STA2	Double acting type				
STA2-Y1	Double acting, spring built-in type				
<b>B Bore size (mm)</b>					
50	φ50				
<b>C Stroke length (mm)</b>					
30	30				
<b>D Switch model No.</b>					
Axial lead wire	Radial lead wire	Contact	Display	Lead wire	
T0H*	T0V*	Read switch	1-color indicator type	2-wire	
T5H*	T5V*		Without light		
T8H*	T8V*		1-color indicator type		
T1H*	T1V*	Proximity switch	1-color indicator type	2-wire	
T2H*	T2V*			2-wire	
T3H*	T3V*				3-wire
T2WH*	T2WV*				2-wire
T2YH*	T2YV*		2-color indicator type	2-wire	
T3WH*	T3WV*				3-wire
T3YH*	T3YV*		Off-delay type	2-wire	
T2JH*	T2JV*				
T2YD*	-				Switch for strong magnetic field
T2YDT*	-				
<b>*Lead wire length</b>					
Blank	1 m (standard)				
3	3 m (option)				
5	5 m (option)				
<b>E Switch quantity</b>					
R	With 1 pc. for rod end				
H	With 1 pc. for head end				
D	With 2 pcs.				
T	With 3 pcs.				
<b>F Roller material</b>					
Blank	Resin				
F	Steel				

### Shock absorber discrete model No.



### Guide rod discrete model No.



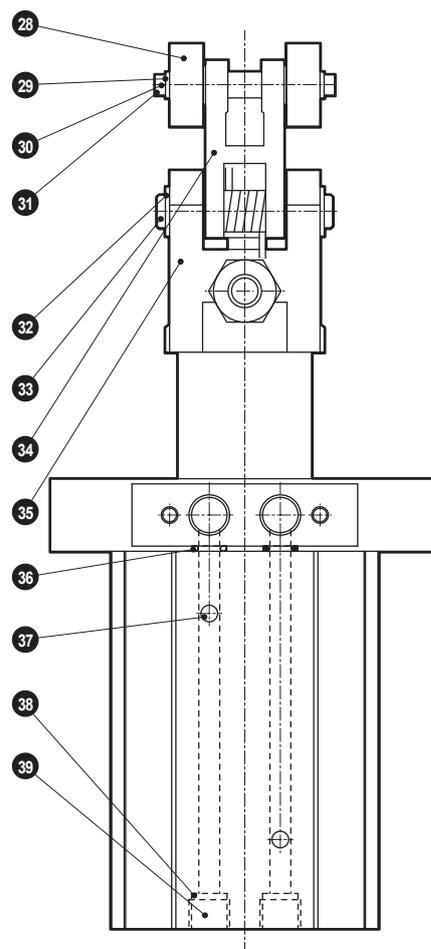
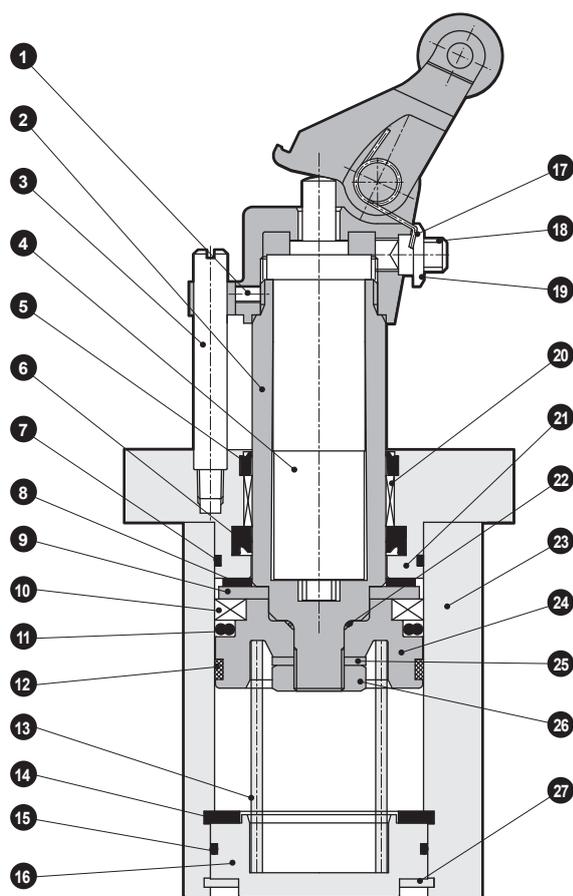
### Secondary battery specifications

STA2 - 50 - 30 - ... - P4\*

- Design applicable for LiB manufacturing process.

\*Contact CKD for details.

#### Internal structure and parts list

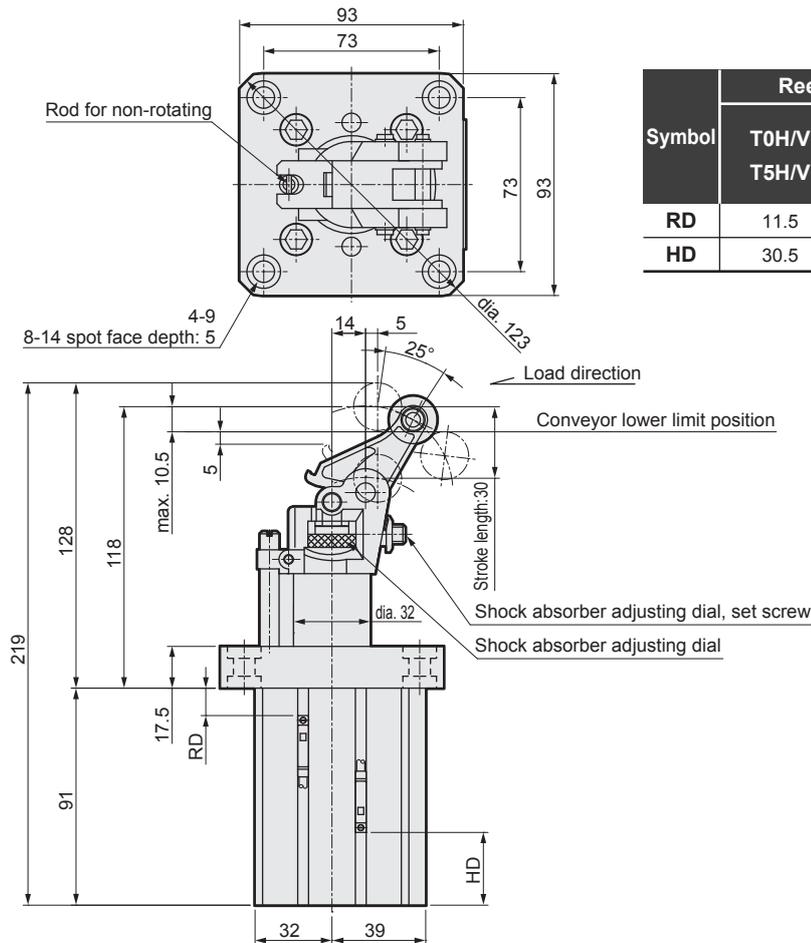


No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Hexagon socket head set screw	Alloy steel		21	Rod cover	Aluminum alloy die-casting	
2	Piston rod	Steel		22	Gasket	Nitrile rubber	
3	Guide rod diameter	Steel		23	Body	Aluminum alloy	
4	Shock absorber			24	Piston	Aluminum alloy	
5	Scraper	Nitrile rubber		25	Spring washer	Steel	
6	Rod packing seal	Nitrile rubber		26	Hexagon nut	Steel	
7	Gasket	Nitrile rubber		27	C type snap ring	Steel	
8	Collar	Resin		28	Roller	Polyacetal	
9	Spacer	Stainless steel		29	Plain washer	Stainless steel	
10	Magnet	Plastic		30	C type snap ring	Steel	
11	Piston packing seal	Nitrile rubber		31	Roller pin	Steel	
12	Wear ring	Resin		32	Lever	Steel	
13	Spring	Piano wire	Double acting, spring integrated type only	33	C type snap ring	Steel	
14	Cushion rubber H	Nitrile rubber		34	Lever pin	Steel	
15	Gasket	Nitrile rubber		35	Lever holder	Steel	
16	Head cover	Aluminum alloy		36	Gasket	Nitrile rubber	
17	Lever spring	Piano wire		37	Steel ball	Stainless steel	
18	Hexagon socket head set screw	Alloy steel		38	Gasket	Nitrile rubber	
19	Lever adjusting nut	Steel		39	Plug	Steel	
20	Bush	Resin					

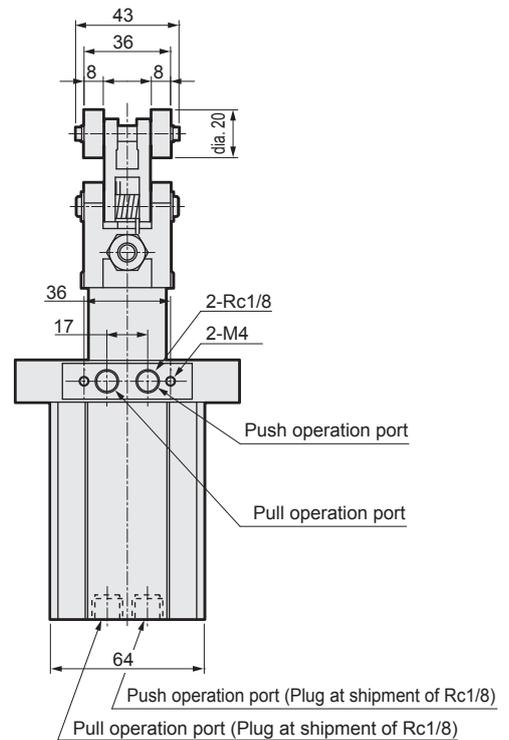
#### Repair parts list

Kit No.	Repair parts number
STA2-50K	(5), (6), (7), (8), (11), (12), (14), (15), (22)

### Dimensions



Symbol	Reed switch		Proximity switch		
	T0H/V T5H/V	T8H/V	T2H/V T3H/V	T2YH/V T3YH/V T2JH/V	T1H/V T2YD
RD	11.5	5.5	11.5	10.5	10.5
HD	30.5	24.5	30.5	29.5	29.5



Note 1: This drawing shows the state at push operation.

Note 2: The dimensions are the same as those for the double acting type and the double acting, spring integrated type.

### Safety precautions

Also read the safety precautions of "Pneumatic Cylinders I (No. CB-029SA)".

### Design & Selection

#### ⚠ Caution

- Use at a level within the allowable energy absorption. If used at a level exceeding the allowable energy consumption, the product may be damaged.
- Avoid collision with another workpiece in the state that workpiece load is applied. If another workpiece collides with the shock absorber immediately after the shock absorber absorbed the energy of workpiece, the product may be damaged because the shock absorber cannot absorb the further energy.
- Use this product only in the vertical posture. If using this product in the leaning or horizontal posture, the shock absorption capacity may be lowered early.
- To brake the load directly connected with the cylinder, etc. with the stopper cylinder. The operation range is limited only to the instance for braking the pallet on the conveyor. If braking the load directly connected with the cylinder, etc. with the stopper cylinder, limit the load to within the range of allowable energy absorption and allowable lateral load because the cylinder thrust becomes the lateral load.

### Installation & Adjustment

#### ⚠ Caution

- Use the shock absorber at the appropriate position. Turn the adjusting dial of the shock absorber adjusting the conveyance load to determine the position that ensures the smallest impact.
- Set the workpiece so as to be parallel to the roller rotating shaft. If the workpiece collides with the roller as leaning on the roller, it may damage the roller or rod for non-rotating.
- How to change conveyance direction and piping locations Relationship between the transfer direction and piping location can be change by 90° step. Loosen the rod for non-rotating to change it to the specified position, and tighten it again.
- Piping port locations The flange side surface or the body bottom surface are selectable for the piping port. Since the piping is assembled to the flange side surface at shipment, remove the plug assembled at the body bottom surface and install it to the flange side surface port.

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