



# Dual Rod Cylinder: With End Lock For Retraction Side

## Series CXS

ø6, ø10, ø15, ø20, ø25, ø32

### How to Order

**CXS M 10 50 R Y7BW S**

**Bearing type**

M	Slide bearing
L	Ball bushing bearing

**Bore size/Stroke (mm)**

Bore size (mm)	Stroke (mm)
6, 10, 15	10, 20, 30, 40, 50
20, 25, 32	10, 20, 30, 40, 50, 75, 100

**Number of auto switches**

Nil	2 pcs.
S	1 pc.
n	"n" pcs.

**Auto switch**

Nil	Without auto switch (Built-in magnet)
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\* For the applicable auto switch model, refer to the table below.  
\* Auto switches are shipped together, (but not assembled).

• **With end lock for retraction side**

### Applicable Auto Switch/Refer to page 8-30-1 for further information on auto switches.

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage			Auto switch model		Lead wire length (m) *			Pre-wire connector	Applicable load	
					DC	AC	Perpendicular	In-line	0.5 (Nil)	3 (L)	5 (Z)	IC circuit		Relay, PLC	
Reed switch	—	Grommet	Yes	3-wire (NPN equivalent)	—	5 V	—	—	<b>Z76</b>	●	●	—	—	IC circuit	—
				2-wire	24 V	12 V	100 V	—	<b>Z73</b>	●	●	●	—	—	Relay, PLC
Solid state switch	—	Grommet	Yes	3-wire (NPN)	24 V	5 V, 12 V	—	<b>Y69A</b>	<b>Y59A</b>	●	●	○	○	IC circuit	Relay, PLC
				3-wire (PNP)				<b>Y7PV</b>	<b>Y7P</b>	●	●	○	○	IC circuit	
				2-wire				<b>Y69B</b>	<b>Y59B</b>	●	●	○	○	—	
	3-wire (NPN)			<b>Y7NWV</b>	<b>Y7NW</b>	●		●	○	○	IC circuit				
	3-wire (PNP)			<b>Y7PWV</b>	<b>Y7PW</b>	●		●	○	○	IC circuit				
	2-wire			<b>Y7BWV</b>	<b>Y7BW</b>	●		●	○	○	IC circuit				
Water resistant (2-color indication)	—	—	—	12 V	—	<b>Y7BA</b>	—	●	○	○	—	—			

\* Lead wire length symbols: 0.5 m ..... Nil (Example) Y59A  
 3 m ..... L (Example) Y59AL  
 5 m ..... Z (Example) Y59AZ

\* Solid state switches marked with "○" are produced upon receipt of order.

- Since there are other applicable auto switches than listed, refer to page 8-29-10 for details.
- For details about auto switches with pre-wire connector, refer to page 8-30-52.

# Dual Rod Cylinder: With End Lock For Retracting Side **Series CXS**



## ⚠️ Precautions

**Be sure to read before handling.  
For Safety Instructions and  
Common Precautions, refer to  
pages 8-34-3 to 8-34-6.**

## Mounting

### ⚠️ Caution

#### Mounting and adjusting

1. Release the lock when mounting and adjusting the cylinder. An attempt to mount or adjust a cylinder while it is locked can damage the lock.
2. Never adjust the retracting stroke using a bumper bolt or external stopper. The lock will not function.

#### Releasing the lock

Do not release the lock while a load is applied to the lock. This will cause a sudden, erratic movement of the cylinder, and create a dangerous condition.

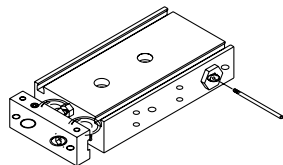
#### Control circuit

1. To control the end lock cylinder, use a 2 position 4/5 port solenoid valve. Avoid using these valves along with a 3 position solenoid valve (especially a closed-center metal seal type).
2. Be sure to supply air and apply back pressure to the retracted end before operation. If air is supplied to the extended end while there is no air inside of the cylinder, it will cause a sudden, erratic movement of the cylinder, and create a dangerous condition.

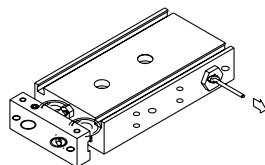
## Manual Release

#### Manual release (Non-locking type)

1. Insert the manual lever and screw it into the lock holder assembly.



2. To unlock, pull the manual lever in the direction of the arrow. Release the manual lever to return the cylinder to a ready-to-lock state.



3. The manual lever (ø1.6 x 35ℓ, tip part: M1.6 x 0.35 x 3ℓ) is included with the cylinder. If additional manual levers are required, use the following part number to place an order: CXS06-48BK2777 (for all series).

## Specifications

Bore size (mm)	6	10	15	20	25	32
Fluid	Air (Non-lube)					
Proof pressure	1.05 MPa					
Maximum operating pressure	0.7 MPa					
Minimum operating pressure	0.3 MPa					
Ambient and fluid temperature	-10 to 60°C (No freezing)					
Piston speed <sup>(Note)</sup>	30 to 300 mm/s	30 to 800 mm/s	30 to 700 mm/s	30 to 600 mm/s		
Cushion	Bumper is standard on both ends					
Port size	M5 x 0.8				Rc 1/8	
Bearing type	Slide bearing, Ball bushing bearing (Same dimensions for both)					

Note) The maximum piston speed shown in the table above is for extension. The maximum piston speed for retraction is approximately 70% that of extension.

## Lock Specifications

Lock specifications	Rear end lock					
Bore size (mm)	6	10	15	20	25	32
Maximum holding force (N)	14.7	39.2	98.1	157	235	382
Manual release	Non-lock type					

## Standard Stroke

Model	Standard stroke (mm)
CXS□ 6	10, 20, 30, 40, 50
CXS□ 10	
CXS□ 15	
CXS□ 20	
CXS□ 25	10, 20, 30, 40, 50, 75, 100
CXS□ 32	

\* Strokes which exceed the standard stroke length will be available as special goods.

## Theoretical Output

Model	Rod size (mm)	Operating direction	Piston area (mm <sup>2</sup> )	Operating pressure (MPa)							
				0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7
CXS□ 6	4	OUT	56	—	8.4	11.2	16.8	22.4	28.0	33.6	39.2
		IN	31	—	4.6	6.2	9.3	12.4	15.5	18.6	21.7
CXS□ 10	6	OUT	157	15.7	—	31.4	47.1	62.8	78.5	94.2	110
		IN	100	10.0	—	20.0	30.0	40.0	50.0	60.0	70.0
CXS□ 15	8	OUT	353	35.3	—	70.6	106	141	177	212	247
		IN	252	25.2	—	50.4	75.6	101	126	151	176
CXS□ 20	10	OUT	628	62.8	—	126	188	251	314	377	440
		IN	471	47.1	—	94.2	141	188	236	283	330
CXS□ 25	12	OUT	982	98.2	—	196	295	393	491	589	687
		IN	756	75.6	—	151	227	302	378	454	529
CXS□ 32	16	OUT	1608	161	—	322	482	643	804	965	1126
		IN	1206	121	—	241	362	482	603	724	844

Note) Theoretical output (N) = Pressure (MPa) x Piston area (mm<sup>2</sup>)

## Weight

Model	Standard stroke (mm)						
	10	20	30	40	50	75	100
CXSM6-□R	0.105	0.12	0.135	0.15	0.165	—	—
CXSL6-□R	0.105	0.12	0.135	0.15	0.165	—	—
CXSM10-□R	0.18	0.2	0.225	0.25	0.27	—	—
CXSL10-□R	0.18	0.2	0.225	0.25	0.27	—	—
CXSM15-□R	0.3	0.33	0.355	0.38	0.41	—	—
CXSL15-□R	0.32	0.35	0.375	0.4	0.43	—	—
CXSM20-□R	0.465	0.5	0.54	0.58	0.62	0.715	0.815
CXSL20-□R	0.485	0.52	0.56	0.60	0.64	0.735	0.835
CXSM25-□R	0.72	0.76	0.8	0.84	0.88	0.98	1.08
CXSL25-□R	0.73	0.77	0.81	0.85	0.89	0.99	1.09
CXSM32-□R	1.33	1.43	1.53	1.62	1.72	1.96	2.2
CXSL32-□R	1.35	1.45	1.55	1.64	1.74	1.98	2.22

MX□

MTS

MY□

CY□

MG□

CX□

D-

-X

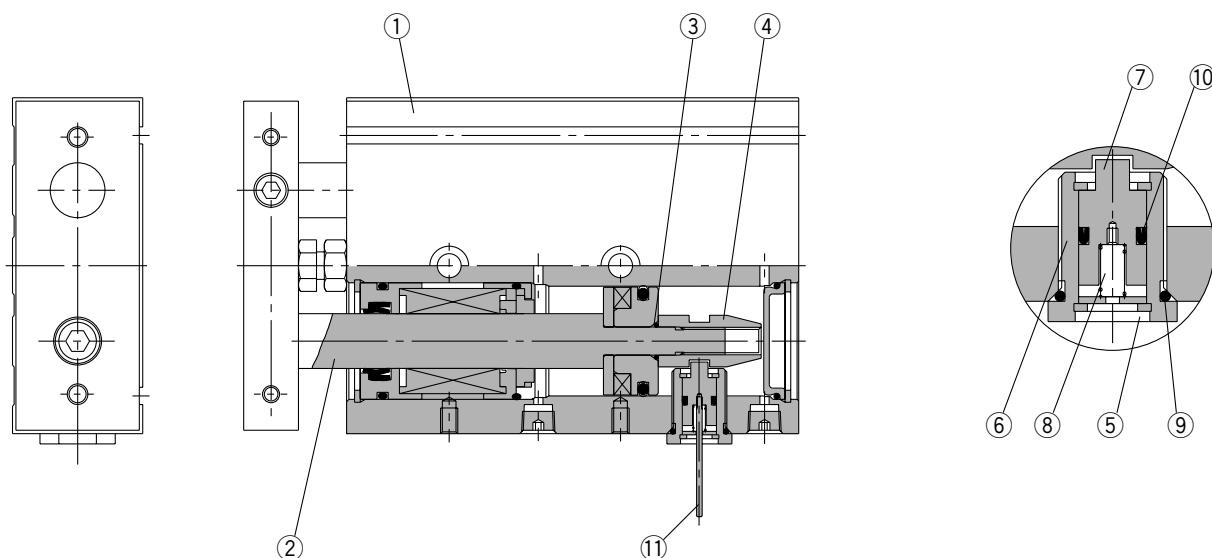
20-

Data

# Series CXS

## Construction: Slide Bearing

### CXSM6



### Component Parts

No.	Description	Material	Note
①	Housing	Aluminum alloy	Hard anodized
②	Piston rod B	Carbon steel	Hard chrome plated
③	O-ring	NBR	
④	Lock rod	Special steel	
⑤	Snap ring	Special steel	
⑥	Lock holder	Aluminum alloy	
⑦	Lock pin	Special steel	
⑧	Lock spring	Piano wire	
⑨	O-ring	NBR	
⑩	Rod seal	NBR	
⑪	Manual lever	Special steel	

\* Parts other than those listed above are the same as those for standard type.

### Replacement Parts: Seal Kit

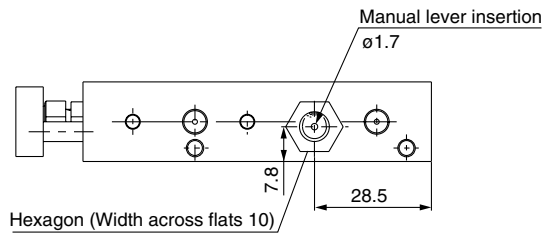
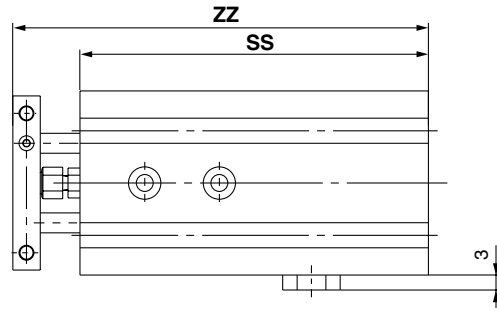
Bore size (mm)	Kit no.	Contents
6	CXSRM6-PS	Includes the kit components of the seal kit featured on page 8-29-6 plus items and from the parts list above.
	CXSRL6APS	
10	CXSRM10-PS	
	CXSRL10APS	
15	CXSRM15-PS	
	CXSRL15APS	
20	CXSRM20-PS	
	CXSRL20APS	
25	CXSRM25-PS	
	CXSRL25APS	
32	CXSRM32-PS	
	CXSRL32APS	

\* Seal kits includes the basic type seal (page 8-29-6), ⑨ and ⑩. Order the seal kit, based on each bore size.

# Dual Rod Cylinder: With End Lock For Retracting Side **Series CXS**

Dimensions:  $\phi 6$ ,  $\phi 10$ ,  $\phi 15$

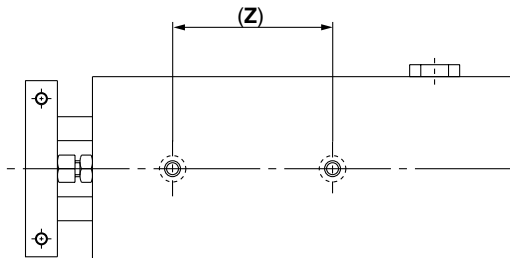
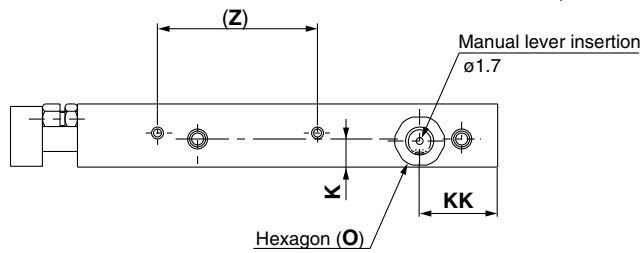
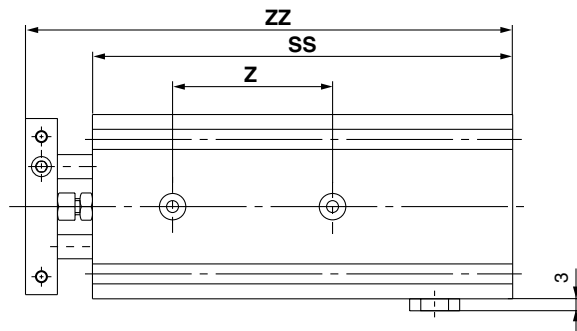
CXS□6-□R



Model	SS	ZZ
CXS□6-10R	75	88.5
CXS□6-20R	85	98.5
CXS□6-30R	95	108.5
CXS□6-40R	105	118.5
CXS□6-50R	115	128.5

\* Dimensions other than those listed above are the same as for the standard type.

CXS□ $\frac{10}{15}$ -□R



Model	K	O
CXS□10-□R	6.5	Width across flats 12
CXS□15-□R	8.5	Width across flats 13

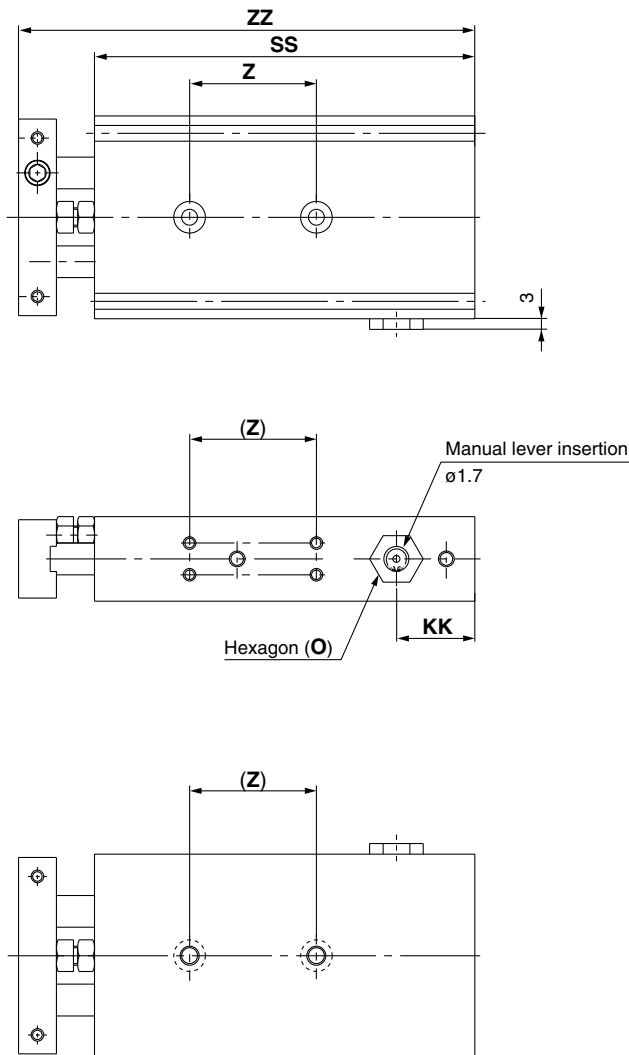
Model	Symbol Stroke	KK					SS					Z					ZZ					
		10	20	30	40	50	10	20	30	40	50	10	20	30	40	50	10	20	30	40	50	
CXS□10-□R		19.5		24.5			80	90	100	115	125	30	40			50		97	107	117	132	142
CXS□15-□R		20.5					90	100	110	120	130	35			45		109	119	129	139	149	

\* Dimensions other than those listed above are the same as for the standard type.

- MX□
- MTS
- MY□
- CY□
- MG□
- CX□**
- D-
- X
- 20-
- Data

# Series CXS

Dimensions:  $\varnothing 20$ ,  $\varnothing 25$ ,  $\varnothing 32$



(mm)

Model	O
CXS□20-□R	Width across flats 13
CXS□25-□R	Width across flats 16
CXS□32-□R	Width across flats 19

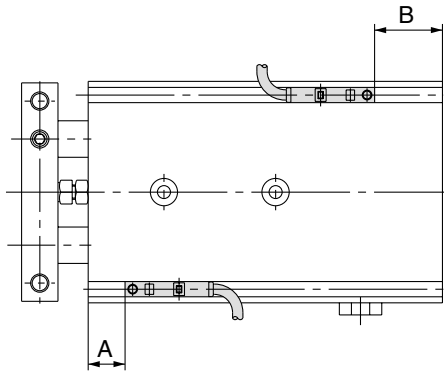
(mm)

Model	Symbol Stroke	KK								SS								Z								ZZ							
		10	20	30	40	50	75	100	10	20	30	40	50	75	100	10	20	30	40	50	75	100	10	20	30	40	50	75	100				
CXS□20-□R		22				27	22	100	110	120	130	140	170	190	40				60				80	124	134	144	154	164	194	214			
CXS□25-□R		24.5	29.5			24.5		107	117	132	142	147	172	197	40				60				80	131	141	156	166	171	196	221			
CXS□32-□R		29				34	49	122	132	142	152	162	192	232	50				70				90	152	162	172	182	192	222	262			

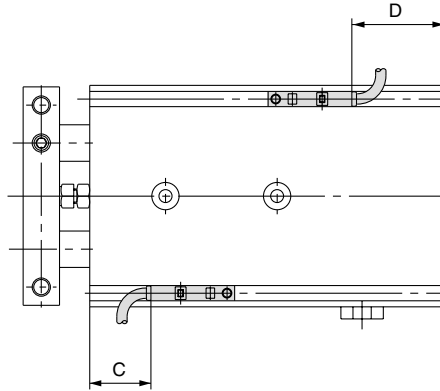
\* Dimensions other than those listed above are the same as for the standard type.

**Proper Auto Switch Mounting Position (Detection at stroke end)**

Electrical entry direction: Inward



Electrical entry direction: Outward



Bore size (mm)	A	B	D-Z7/Z8, D-Y7□W D-Y5□, D-Y7□		D-Y6□, D-Y7□V D-Y7□WV		D-Y7BAL	
			C	D	C	D	C	D
6	15.5	24.5	11.5 (10)	20.5 (19)	13	22	5.5	14.5
10	22.5	22.5	18.5 (17)	18.5 (17)	20	20	12.5	12.5
15	30.5	24.5	26.5 (25)	20.5 (19)	28	22	20.5	14.5
20	38	27	34 (32.5)	23 (21.5)	36	24.5	28	17
25	38	34	34 (32.5)	30 (28.5)	36	31.5	28	24
32	48	39	44 (42.5)	35 (33.5)	46	6.5	38	29

As for auto switch mounting dimensions, auto switch mounting method and its operating range, those are the same as basic type. Refer to page 8-29-10

MX□

MTS

MY□

CY□

MG□

CX□

D-

-X

20-

Data