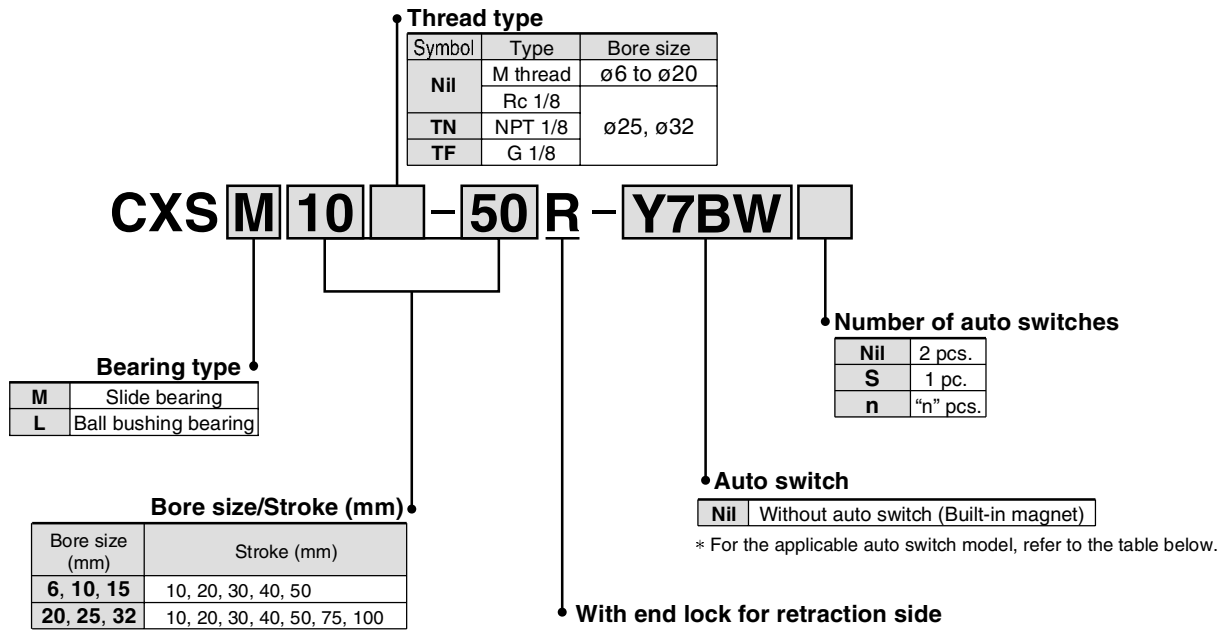


Dual Rod Cylinder With End Lock for Retraction Side

Series CXS

ø6, ø10, ø15, ø20, ø25, ø32

How to Order



Applicable Auto Switch/Refer to pages 1719 to 1827 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-wired connector	Applicable load		
					DC	AC	Perpendicular	In-line	0.5 (Nil)	3 (L)	5 (Z)		IC circuit	Relay, PLC	
															24 V
Solid state switch	—	Grommet	Yes	3-wire (NPN)	5 V, 12 V	—	Y69A	Y59A	●	●	○	○	IC circuit	Relay, PLC	
				3-wire (PNP)			12 V	Y7PV	Y7P	●	●	○			○
				2-wire	5 V, 12 V		Y69B	Y59B	●	●	○	○			
	Diagnostic indication (2-color indication)			3-wire (NPN)	5 V, 12 V		Y7NWV	Y7NW	●	●	○	○	IC circuit		
				3-wire (PNP)			Y7PWV	Y7PW	●	●	○	○			
				2-wire	12 V		Y7BWV	Y7BW	●	●	○	○	—		
Reed switch	—	Grommet	None	3-wire (NPN equivalent)	—	5 V	—	Z76	●	●	—	—	IC circuit	—	
				2-wire	24 V	12 V	100 V	—	Z73	●	●	●	—	—	Relay, PLC
							100 V or less	—	Z80	●	●	—	—	IC circuit	

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

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

- Since there are other applicable auto switches than listed, refer to page 569 for details.
- For details about auto switches with pre-wired connector, refer to pages 1784 and 1785.
- Auto switches are shipped together (not assembled).

Dual Rod Cylinder *Series CXS*

With End Lock for Retraction Side



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	30 to 300mm/s	30 to 800mm/s	30 to 700mm/s	30 to 600mm/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)					
Allowable kinetic energy	0.0023 J	0.064 J	0.095 J	0.17 J	0.27 J	0.32 J

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					

* Maximum load mass is the same as the standard type.

Standard Stroke

Model	Standard stroke (mm)
CXS□6	10, 20, 30, 40, 50
CXS□10	
CXS□15	
CXS□20	10, 20, 30, 40, 50, 75, 100
CXS□25	
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 ²)	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 (mm²)

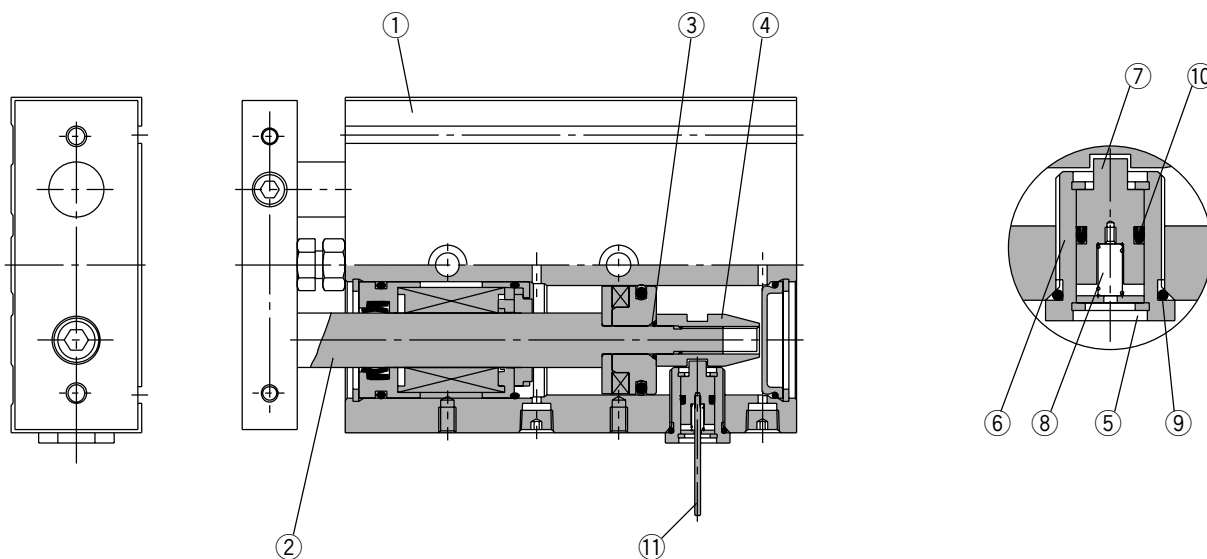
Mass

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

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	Retaining 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 565 plus items ⑨ and ⑩ 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 565), ⑨ and ⑩. Order the seal kit, based on each bore size.

* Since the seal kit does not include a grease pack, order it separately.

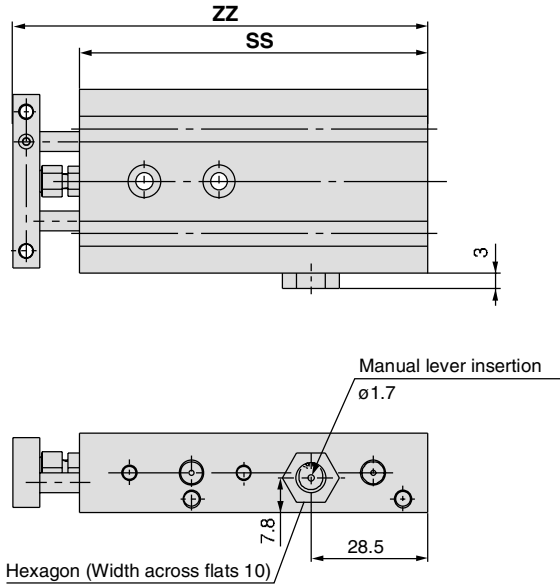
Grease pack part no.:GR-S-010 (10 g)

Dual Rod Cylinder *Series CXS*

With End Lock for Retraction Side

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

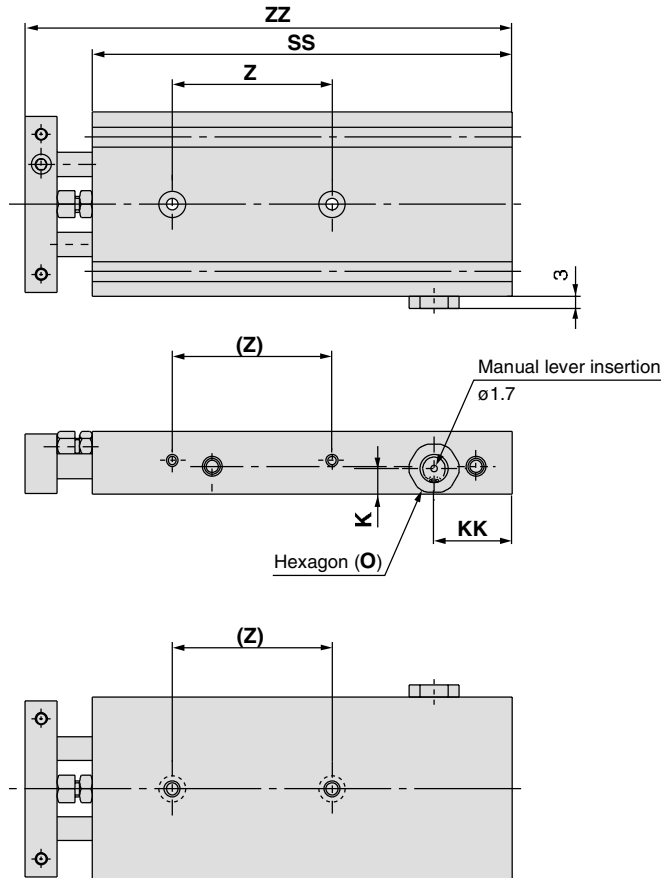
CXS□6-□R



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



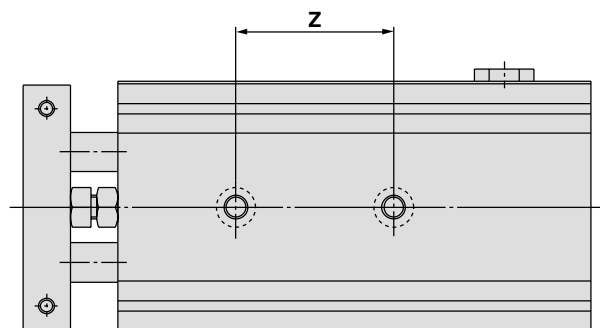
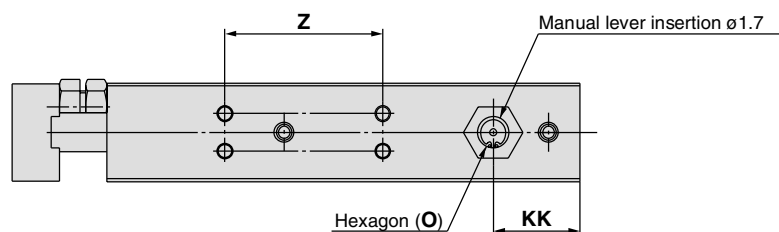
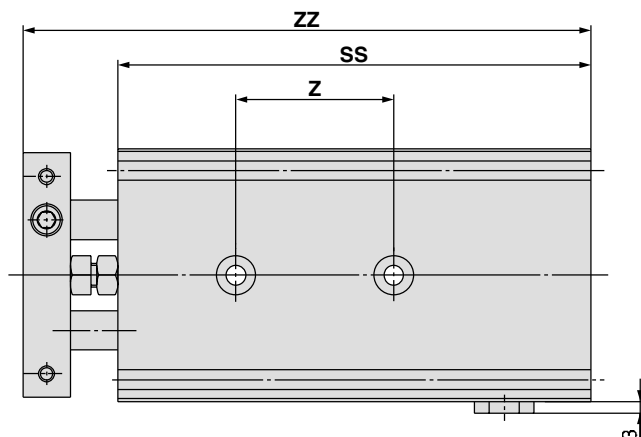
Model	K	O
CXS□10-□R	6.5	Width across flats 12
CXS□15-□R	8.5	Width across flats 13

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.

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

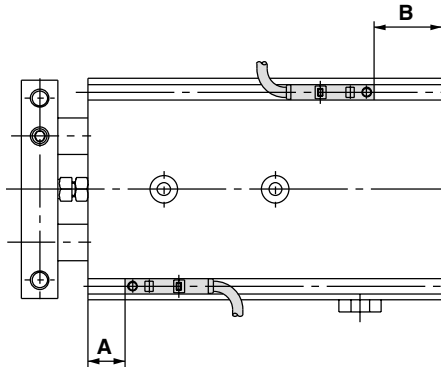
(mm)

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			

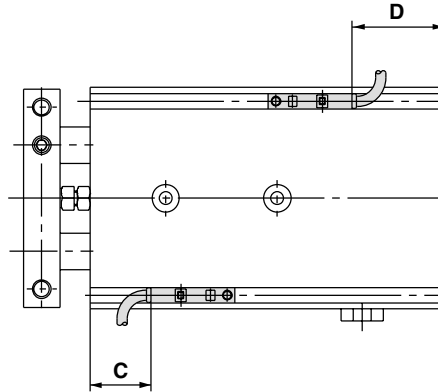
* Dimensions other than those listed above are the same as for the standard type.

Auto Switch Proper 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

Note) Adjust the auto switch after confirming the operating conditions in the actual setting.

As for auto switch mounting dimensions, auto switch mounting method and its operating range, those are the same as basic type. Refer to page 569.



Series CXS With End Lock for Retraction Side Specific Product Precautions

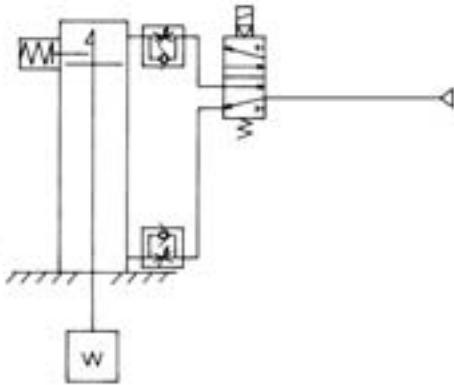
Be sure to read before handling.

Refer to front matters 42 and 43 for Safety Instructions and pages 3 to 11 for Actuator and Auto Switch Precautions.

Recommended Pneumatic Circuit

⚠ Caution

● This is necessary for the proper operation and release of the lock.



Handling Precautions

⚠ Caution

1. Do not use 3 position solenoid valves.

Avoid using in combination with 3 position solenoid valves (especially closed center metal seal types). If pressure is trapped in the port on the lock mechanism side, the cylinder cannot be locked. Even after being locked, the lock may be released after some time, due to air leakage from the solenoid valve entering the cylinder.

2. Back pressure is required to release the end lock.

Be sure that air is supplied to the cylinder side without the locking mechanism (For cylinders with a double lock, the side with an unlocked piston rod) before starting operation, as shown in the drawing on the left. The lock may not be released. (➡ Refer to the section on releasing the lock.)

3. 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.

4. Operate with a load ratio of 50% or less.

If the load ratio exceeds 50%, this may cause problems such as failure of the lock to release, or damage to the lock unit.

5. Do not operate multiple cylinders in synchronization.

Avoid applications in which two or more end lock cylinders are synchronized to move one workpiece, as one of the cylinder locks may not be able to release when required.

6. Install speed controllers as they will be meter-out control.

When they are used under meter-in control, the lock may not be released.

7. Never adjust the retracting stroke using a bumper bolt or external stopper. The lock will not function.

Operating Pressure

⚠ Caution

1. Apply a pressure more than 0.3 MPa to the port on the side with the locking mechanism. The pressure is necessary to release the lock.

Exhaust Speed

⚠ Caution

1. Locking will occur automatically if the pressure applied to the port on the lock mechanism side falls to 0.05 MPa or less. In cases where the piping on the lock mechanism side is long and thin, or the speed controller is separated at some distance from the cylinder port, the exhaust speed will be reduced. Note that some time may be required for the lock to engage. In addition, clogging of a silencer mounted on the solenoid valve exhaust port can produce the same effect.

Releasing the lock

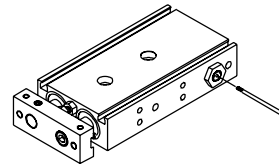
⚠ Warning

1. Before releasing the lock, be sure to supply air to the side without the lock mechanism, so that there is no load applied to the lock mechanism when it is released. (Refer to the Recommended Pneumatic Circuit.) If the lock is released when the port on the other side is in an exhaust state, and with a load applied to the lock unit, the lock unit may be subjected to an excessive force and be damaged. Furthermore, sudden movement of the slide table is extremely dangerous.

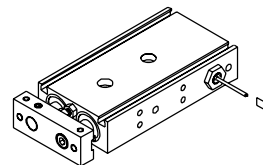
Manual Release

Manual release (Non-locking type)

1. Insert the manual lever and screw it into the lock holder assembly. If the lever is screwed in sidelong, it may damage the lock spring.



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 ($\phi 1.6 \times 35 \ell$, tip part: M1.6 x 0.35 x 3 ℓ) 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).

⚠ Caution

Do not use the cylinder while the manual lever is screwed in. It may damage the lock mechanism.