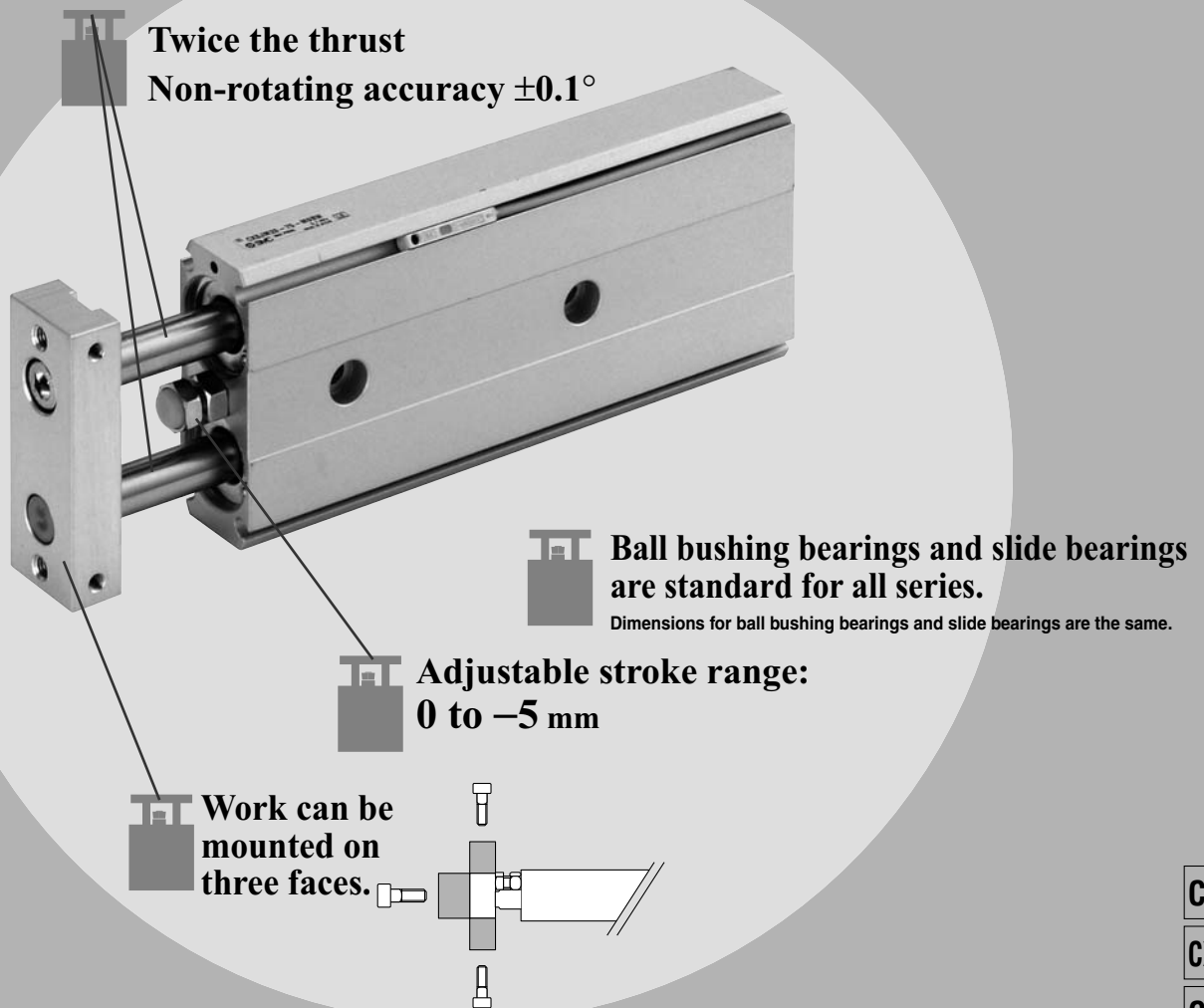


Dual Rod Cylinder

Series CXSJ/CXS

ø6, ø10, ø15, ø20, ø25, ø32

Dual rod cylinder with guide function suitable for pick & place applications.



Series Variations

Series		Bore size (mm)						Axial foot piping	Clean Series			Page
		6	10	15	20	25	32		10-	11-	12-	
Compact type	CXSJ	●	●	●	●	●	●	(ø6, ø10 only)	●	●	●	P.549
Basic type	CXS	●	●	●	●	●	●	(ø6 only)	●	●	●	P.561
With air cushion	CXS	●	●	●	●	●	●					P.571
With end lock	CXS	●	●	●	●	●	●					P.578
Double rod type	CXSW	●	●	●	●	●	●					P.585

CX2

CXW

CXT

CXSJ

CXS

D-□

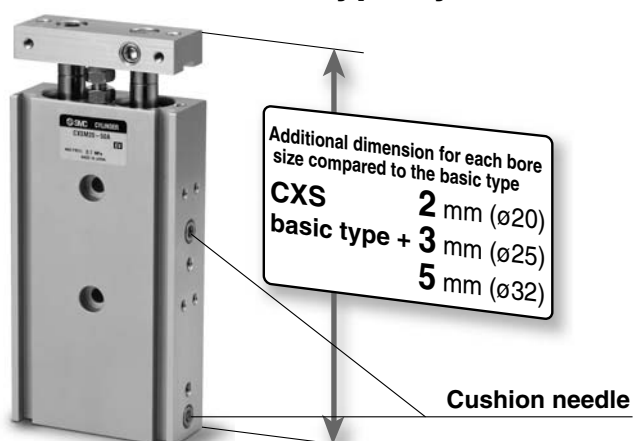
-X□

Individual
-X□

With air cushion

Series CXS: $\phi 20$, $\phi 25$, $\phi 32$

Air cushion only minimally adds to full length dimension, compared with the standard type cylinder.

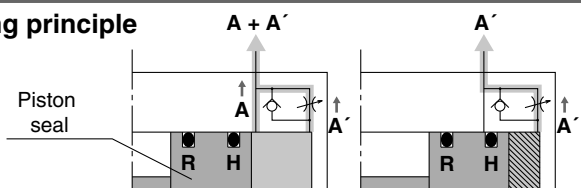


- 1 Improved allowable kinetic energy:
Two to three times that of the standard type
- 2 Improved noise reduction:
Reduction of more than 6 dB is possible

Unique air cushion mechanism with no cushion ring

Elimination of the cushion ring used in conventional type air cushions has made it possible to reduce the overall length of the cylinder while retaining all the advantages of a compact type.

Working principle



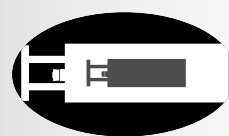
1. When the piston is retracting, air is exhausted through both A and A' until piston seal H passes air passage A.
2. After piston seal H has passed air passage A, air is exhausted only through A'. The section marked with slanted lines becomes a cushion chamber, and an air cushion effect is achieved.
3. When air is supplied for the piston extension, the check seal opens and the piston extends with no delay.



Clean Series

11- CXSJ Series/ $\phi 6$, $\phi 10$
12-

Series	Type	Bearing type
11-CXSJ	Vacuum specifications	Slide bearing Ball bushing bearing
12-CXSJ	Relieving type Special treatment	Ball bushing bearing



Compact type

Series CXSJ

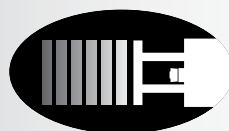
$\phi 6$, $\phi 10$, $\phi 15$, $\phi 20$, $\phi 25$, $\phi 32$



Basic type

Series CXS

$\phi 6$, $\phi 10$, $\phi 15$, $\phi 20$, $\phi 25$, $\phi 32$



With air cushion

Series CXS

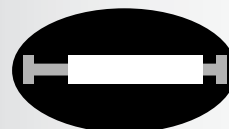
$\phi 20$, $\phi 25$, $\phi 32$



With end lock

Series CXS

$\phi 6$, $\phi 10$, $\phi 15$, $\phi 20$, $\phi 25$, $\phi 32$



Double rod type

Series CXSW

$\phi 6$, $\phi 10$, $\phi 15$, $\phi 20$, $\phi 25$, $\phi 32$



CX2

CXW

CXT

CXSJ

CXS

D-☐

-X☐

Individual
-X☐

Dual Rod Cylinder Basic Type

Series CXS

ø6, ø10, ø15, ø20, ø25, ø32

How to Order

Thread type

Symbol	Type	Bore size
Nil	M thread	ø6 to ø20
	Rc 1/8	
TN	NPT 1/8	ø25, ø32
TF	G 1/8	

Bearing type

M	Slide bearing
L	Ball bushing bearing

Bore size/Stroke (mm)

Bore size	Standard stroke (mm)
6	10, 20, 30, 40, 50
10	10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 75
15, 20, 25, 32	10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 75, 80, 90, 100

Auto switch

Nil	Without auto switch (Built-in magnet)
-----	---------------------------------------

* For the applicable auto switch model, refer to the table below.

Number of auto switches

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

Made to Order
Refer to page 562 for details.

Example: CXS M 20 - 100 - Y7BW

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)		
Solid state switch	—	Grommet	Yes	3-wire (NPN)	24 V	5 V, 12 V	—	Y69A	Y59A	●	●	○	○	IC circuit	Relay, PLC	
				3-wire (PNP)		Y7PV		Y7P	●	●	○	○				
				2-wire		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	●	●	○		○		
	Water resistant (2-color indication)			—	Y7BA	—		●	○	○	○	—				
Reed switch	—	Grommet	Yes	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).

CX2

CXW

CXT

CXSJ

CXS

D-□

-X□

Individual
-X□



Made to Order Specifications
(For details, refer to pages
1851 to 1954 and 2003.)

Symbol	Specifications
-XB6	Heat resistant cylinder (−10 to 150°C)
-XB9	Low speed cylinder (10 to 50 mm/s)
-XB11	Long stroke type
-XB13	Low speed cylinder (5 to 50 mm/s)
-XB19	High speed specification
-XC22	Fluororubber seals
-X593	Without plate

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	0.15 MPa	0.1 MPa		0.05 MPa		
Ambient and fluid temperature	−10 to 60°C (No freezing)					
Piston speed	30 to 300 mm/s	30 to 800 mm/s	30 to 700 mm/s		30 to 600 mm/s	
Cushion	Rubber bumper					
Stroke adjustable range	0 to −5 mm compared to the standard stroke					
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

Standard Stroke

Model	Standard stroke	Long stroke
CXS□6	10, 20, 30, 40, 50	60, 70, 75, 80, 90, 100
CXS□10	10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 75	80, 90, 100, 110, 120, 125, 150
CXS□15		110, 120, 125, 150
CXS□20	10, 15, 20, 25, 30, 35, 40, 45, 50,	110, 120, 125, 150, 175, 200
CXS□25	60, 70, 75, 80, 90, 100	
CXS□32		

* Refer to "Made to Order Specifications" for stroke which exceeds the standard stroke length.
Non-standard strokes for a size ø6 cylinder are available as a special order.

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

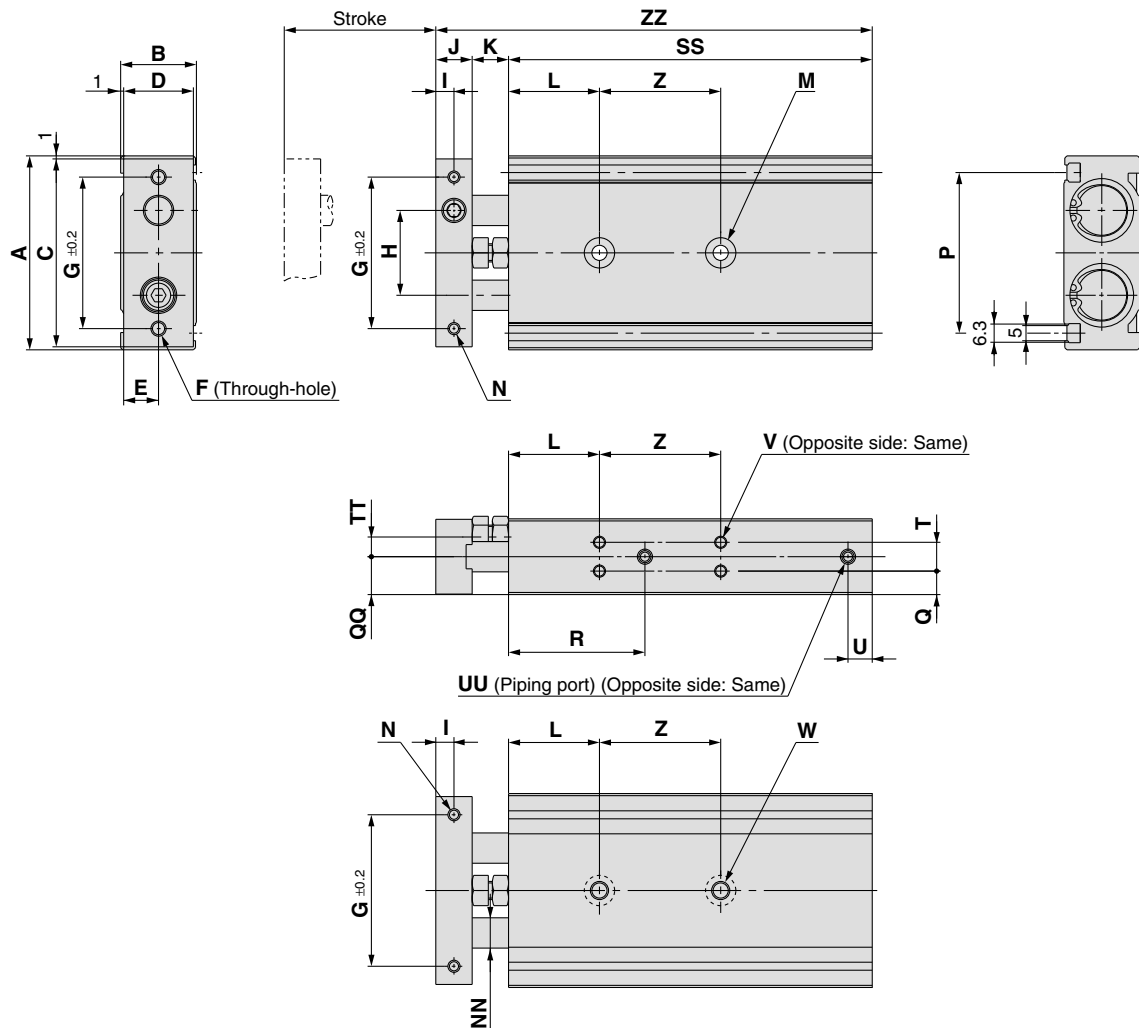
Note) Theoretical output (N) = Pressure (MPa) x Piston area (mm²)

Mass

Model	Standard stroke (mm)														
	10	15	20	25	30	35	40	45	50	60	70	75	80	90	100
CXSM 6	0.081	—	0.095	—	0.108	—	0.122	—	0.135	—	—	—	—	—	—
CXSL 6	0.081	—	0.095	—	0.108	—	0.122	—	0.135	—	—	—	—	—	—
CXSM10	0.15	0.16	0.17	0.18	0.19	0.20	0.21	0.22	0.23	0.25	0.27	0.28	—	—	—
CXSL 10	0.15	0.16	0.17	0.18	0.19	0.20	0.21	0.22	0.23	0.25	0.27	0.28	—	—	—
CXSM15	0.25	0.265	0.28	0.29	0.30	0.315	0.33	0.345	0.36	0.39	0.42	0.435	0.45	0.48	0.51
CXSL 15	0.27	0.285	0.30	0.31	0.32	0.335	0.35	0.365	0.38	0.41	0.44	0.455	0.47	0.50	0.53
CXSM20	0.40	0.42	0.44	0.46	0.48	0.495	0.51	0.53	0.55	0.585	0.62	0.64	0.66	0.70	0.74
CXSL 20	0.43	0.445	0.46	0.48	0.50	0.515	0.53	0.55	0.57	0.605	0.64	0.66	0.68	0.715	0.75
CXSM25	0.61	0.635	0.66	0.69	0.72	0.745	0.77	0.80	0.83	0.89	0.95	0.97	0.995	1.06	1.10
CXSL 25	0.62	0.645	0.67	0.70	0.73	0.755	0.78	0.81	0.84	0.895	0.955	0.98	1.005	1.065	1.11
CXSM32	1.15	1.19	1.23	1.275	1.32	1.36	1.40	1.45	1.49	1.58	1.665	1.71	1.755	1.84	1.93
CXSL 32	1.16	1.205	1.25	1.295	1.34	1.38	1.42	1.465	1.51	1.595	1.68	1.72	1.765	1.855	1.94

Series CXS

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



(mm)

Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N	NN	P
CXS□20	64	25	62	23	11.5	2 x M5 x 0.8	50	28	6	12	12	30	2 x $\varnothing 5.5$ through 2 x $\varnothing 9.5$ counterbore depth 5.3	2 x M4 x 0.7 thread depth 6	$\varnothing 10$	53
CXS□25	80	30	78	28	14	2 x M6 x 1.0	60	35	6	12	12	30	2 x $\varnothing 6.9$ through 2 x $\varnothing 11$ counterbore depth 6.3	2 x M5 x 0.8 thread depth 7.5	$\varnothing 12$	64
CXS□32	98	38	96	36	18	2 x M6 x 1.0	75	44	8	16	14	30	2 x $\varnothing 6.9$ through 2 x $\varnothing 11$ counterbore depth 6.3	2 x M5 x 0.8 thread depth 8	$\varnothing 16$	76

Model	Q	QQ	R	T	TT	U	UU	V	W
CXS□20	7.75	12.5	45	9.5	6.5	8	4 x M5 x 0.8 thread depth 4.5	8 x M4 x 0.7 thread depth 5.5	2 x M6 x 1.0 thread depth 10
CXS□25	8.5	15	46	13	9	9	4 x Rc 1/8 thread depth 6.5	8 x M5 x 0.8 thread depth 7.5	2 x M8 x 1.25 thread depth 12
CXS□32	9	19	56	20	11.5	10	4 x Rc 1/8 thread depth 6.5	8 x M5 x 0.8 thread depth 7.5	2 x M8 x 1.25 thread depth 12

Dimensions by Stroke

Symbol Stroke		SS														Z						ZZ													
		10	15	20	25	30	35	40	45	50	60	70	75	80	90	100	10, 15, 20, 25	30, 35, 40, 45, 50	60, 70, 75, 80, 90, 100	10	15	20	25	30	35	40	45	50	60	70	75	80	90	100	
Model	CXS□20	80	85	90	95	100	105	110	115	120	130	140	145	150	160	170	30	40	60	104	109	114	119	124	129	134	139	144	154	164	169	174	184	194	
	CXS□25	82	87	92	97	102	107	112	117	122	132	142	147	152	162	172	30	40	60	106	111	116	121	126	131	136	141	146	156	166	171	176	186	196	
	CXS□32	92	97	102	107	112	117	122	127	132	142	152	157	162	172	182	40	50	70	122	127	132	137	142	147	152	157	162	172	182	187	192	202	212	