Slide Unit

CX2/CXWM/CXWL Series

Slide Bearing/CX2:ø10, ø15, ø25 CXWM:ø10, ø16, ø20, ø25, ø32
Ball Bushing Bearing/CXWL:ø10, ø16, ø20, ø25, ø32

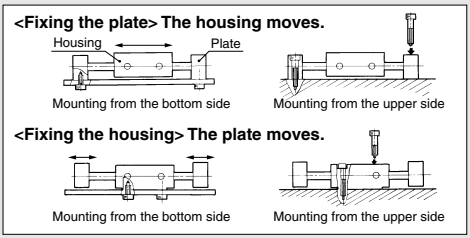
Provided with shock absorbers to absorb impact and noise.
The slide unit can absorb energy in a wide range, in high speed, low-load applications to low speed, high-load applications, without requiring adjustments.

Ensures high positional accuracy.
A high level of positional accuracy can be attained because the two parallel piston rods prevent the rods from rotating, and the workpiece mounting surface and the parallelism of the piston rods are made highly precise.

Auto switches can be installed.

Smooth operation and high thrust.

Mountable on the housing or on the plate.
The slide unit can be mounted on the housing or on the plate, depending on the application. It can also be bolted from the bottom or from the top. The piping can be fitted to the port in any of the three positions, according to how the unit is mounted.



Series Variations

Bearing type	Model	Bore size	Stroke (mm) 25 50 75 100 125 150 175 200	Accessory	Auto switch mounting	Page
Slide bearing	***CX2□ Series*** **Double rod type (Basic type, compact)**	ø10			(1)	872
		ø15				
		ø25				
	CXWM Series **Built-in shock absorber type**	ø10	(2)		(1)	881
		ø16	(2)			
		ø20	(3)			
		ø25	(2)			
		ø32	(3) (3)			
Ball bushing bearing	***CXWL Series*** **Built-in shock absorber type**	ø10			(1)	907
		ø16				
		ø20				
		ø25				
		ø32	(3)			

Slide unit

With end lock
Shock absorber
Adjusting bolt
Housing mounting
Plate mounting

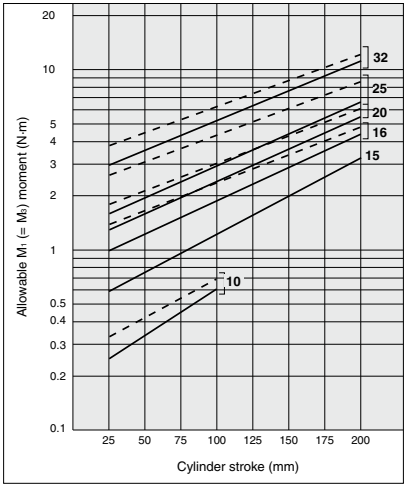
Note 1) Only type E (Reed switch) is applicable as an auto switch when mounting a housing of ø10.
Note 2) The shock absorbers are to be mounted on the both sides for the 25 stroke of the CXWM10 to 25 series.
Note 3) The shock absorber is to be mounted on one side of the plate for the 25 stroke of the CXWM20, CXWM32, CXWL32 series and the 50 stroke of the CXWM32 series.

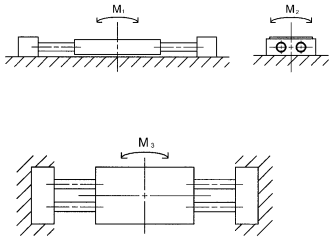
Prior to Use

Maximum Allowable Moment: CX2N, CXWM, CXWL

Operate within the operating range and under the allowable moment indicated in the table below.

CX2N
CXWM (Slide bearing)
CXWL (Ball bushing bearing)





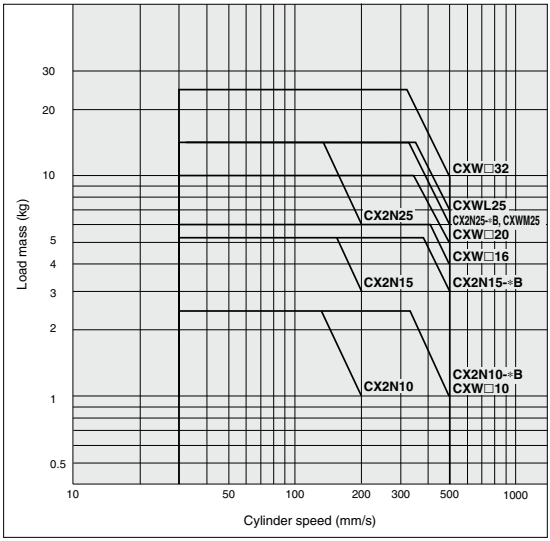
Allowable Moment (M_2) (N·m)

Bore size (mm)	10	15	16	20	25	32
CX2N	0.098	0.294	—	—	1.029	—
CXWM	0.108	—	0.549	0.809	1.029	2.695
CXWL	0.108	—	0.549	0.809	1.201	2.695

Note) M_2 is steady regardless of the strokes.

Allowable Kinetic Energy

Load mass and cylinder speed should be observed within the range given in the graph below.
To adjust the cylinder speed, use a speed controller.



Prior to Use

1. Changing from the non-auto switch specifications to the auto switch specifications
2. Changing mounting type of the auto switch specifications

CX2 Series

1. In the CX2 series, to change from the specification without auto switch to the plate mounting type with auto switch or to the housing mounting type with auto switch, refer to tables (1) and (2) before ordering.

Without auto switch: **CX2N□–□**
Plate mounting type with auto switch: **CDPX2N□S–□** ·····**Table (1)**
Housing mounting type with auto switch: **CDBX2N□M–□** ·····**Table (2)**

2. In the CX2 series, to change from the plate mounting type with an auto switch to the housing mounting type with an auto switch or vice versa, refer to tables (1) and (2) before ordering.

Plate mounting type with auto switch: **CDPX2N□S–□** ·····**Table (1)**
↕
Housing mounting type with auto switch: **CDBX2N□M–□** ·····**Table (2)**

Table (1) Plate Mounting Type with Auto Switch (CDPX2N□□–□)
Component Parts for Mounting Switches and No. of Component Parts

Component parts	Material	ø10	ø15	ø25
		Assembly model no. for mounting switch		
		CDPX2N 10S-□	CDPX2N 15S-□	CDPX2N 25S-□
Switch mounting block	Aluminum alloy	1	1	1
Block mounting screw	Chrome steel/Zinc chromated	2	2	2
Switch mounting screw	Chrome steel/Zinc chromated	2	2	2
Hexagon nut	Carbon steel/Zinc chromated	2	2	2
Magnet	—	1(2)[2)]	—	—
Socket	Carbon steel/Electroless nickel plated	2	—	—
Plug	Carbon steel/Nickel plated	2	2	—

Note 1) "□" mark indicates strokes.
Note 2) In the case of ø10, the 25 mm stroke has two magnets that are bonded in the holes on the side of the housing. Those with strokes of 50 mm to 100 mm have one magnet. Those with other bore sizes have a built-in magnet in their housings.

Table (2) Housing Mounting Type with Auto Switch (CDBX2N□□–□)
Component Parts for Mounting Switches and No. of Component Parts

Component parts	Material	ø10	ø15	ø25
		Assembly model no. for mounting switch		
		CDBX2N 10M-□	CDBX2N 15M-□	CDBX2N 25M-□
Magnet mounting block assembly	Aluminum alloy	1	1	1
Switch mounting rail	Aluminum alloy	—	1	1
Spacer	Aluminum alloy/Anodized	2	—	—
Block mounting screw	Chrome steel/Zinc chromated	2	2	2
Screw for mounting rail	Chrome steel/Zinc chromated	—	2	2
Switch mounting screw	Chrome steel/Zinc chromated	2	2	2
Hexagon nut	Carbon steel/Zinc chromated	2	2	2
Hexagon socket head plug	Chrome steel/Zinc chromated	2	2	—

Note 1) "□" mark indicates strokes.
Note 2) For ø10, CX2N10-□ can be changed to CDBX2N10-□, but note that CDPX2N10□ cannot be changed to CDBX2N10-□.

Slide Unit/Double Rod Type

CX2 Series

Slide Bearing: ø10, ø15, ø25

How to Order

Port thread type

Symbol	Type	Bore size
Nil	M thread	ø10, ø15
	Rc 1/8	ø25
TN	NPT 1/8	
TF	G 1/8	

Basic type

CX2 **N** **15** **□** – **100** **B** – **□**

With auto switch

C **DB** X2 **N** **15** **□** – **100** **B** – **J79W** **□** – **□**

Cylinder with auto switch

Symbol	Specifications/Mounting
DB	With auto switch/ Housing mounting
DP	With auto switch/ Plate mounting

Type

N	Non-lube type
H	Air-hydro type (Except ø10)

Bore size/Stroke (mm)

ø10	25, 50, 75, 100
ø15	25, 50, 75, 100, 125, 150, 175, 200
ø25	25, 50, 75, 100, 125, 150, 175, 200

For ø15 and ø25, strokes up to 300 are available as made-to-order. (-XB11)

Cushion (Option)

Nil	With adjusting bolt (2 pcs.)
B	With shock absorber (2 pcs.)
BS	With shock absorber (1 pc.)

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 873 for Made to Order specifications.

Shock Absorbers

Type	Bore size (mm)	
	10, 15	25
Standard (shock absorber RB series)	RB0805	RB1006
Shock absorber soft type RJ series type (-XB22)	RJ0806H	RJ1007H

∗ The shock absorber service life is different from that of the CX2 cylinder. Refer to "Specific Product Precautions" for each shock absorber for the replacement period.

∗ The shock absorber soft type RJ series type (-XB22) is a made to order specification. For details, refer to page 1468.

Applicable Auto Switches/Refer to pages 1289 to 1383 for further information on auto switches.

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage DC	Load voltage AC	Rail mounting: Perpendicular	Rail mounting: In-line	Applicable cylinder size: Housing mounting	Applicable cylinder size: Plate mounting	Lead wire length (m): 0.5 (Nil)	3 (L)	5 (Z)	None (N)	Pre-wired connector	Applicable load	
Solid state auto switch	—	Grommet	Yes	3-wire (NPN)	5 V, 12 V	—	F7NV	F79	ø15, ø25	ø10, ø15, ø25	●	●	○	—	○	IC circuit	Relay, PLC
				3-wire (PNP)			F7PV	F7P			●	●	○	—	○		
				2-wire	12 V		F7BV	J79			●	●	○	—	○	—	
		Connector					J79C	—			●	●	●	●	—		
	Diagnostic indication (2-color indicator)	Grommet		3-wire (NPN)	5 V, 12 V		F7NWV	F79W			●	●	○	—	○	IC circuit	
				3-wire (PNP)			—	F7PW			●	●	○	—	○		
				2-wire	12 V		F7BWV	J79W			●	●	○	—	○	—	
	Water resistant (2-color indicator)						F7BAV∗∗	F7BA∗∗			—	●	○	—	○		
	With diagnostic output (2-color indicator)			4-wire (NPN)	5 V, 12 V		—	F79F			●	●	○	—	○	IC circuit	
Reed auto switch	—	Grommet	Yes	3-wire	—	5 V	—	—	A76H	ø15, ø25	ø10, ø15, ø25	●	●	—	—	—	IC circuit	—
				2-wire	—	—	200 V	A72	A72H			●	●	—	—	—	—	Relay, PLC
			No		24 V	12 V	100 V	A73	A73H			●	●	●	—	—		
						5 V, 12 V	100 V or less	A80	A80H			●	●	—	—	—	IC circuit	
		Connector	Yes			12 V	—	A73C	—			●	●	●	●	—	—	
			No			5 V, 12 V	24 V or less	A80C	—			●	●	●	●	—	IC circuit	
		Grommet	Yes	3-wire	—	5 V	—	—	E76A	ø10	—	●	●	—	—	—	IC circuit	
				2-wire	24 V	12 V	100 V	—	E73A			●	●	—	—	—	—	
			No			5 V, 12 V	100 V or less	—	E80A			●	●	—	—	—	IC circuit	

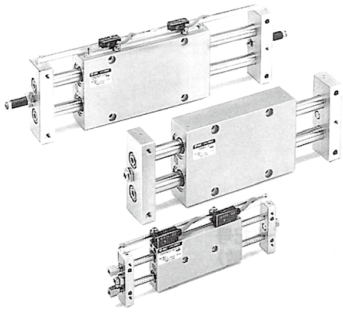
∗∗ Water resistant type auto switches can be mounted on the above models, but in such case SMC cannot guarantee water resistance. Consult with SMC regarding water resistant types with the above model numbers.

∗ Lead wire length symbols: 0.5 m ····· Nil (Example) F79W
3 m ····· L (Example) F79WL
5 m ····· Z (Example) F79WZ
None ····· N (Example) J79CN

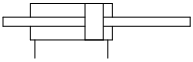
∗ Solid state auto switches marked with "○" are produced upon receipt of order.

∗ Refer to pages 1358 and 1359 for details of auto switches with a pre-wired connector.

∗ Auto switches are shipped together (not assembled).



Symbol
Without cushion



Made to Order

Made to Order: Individual Specifications
(For details, refer to pages 927 to 929.)

Symbol	Specifications
-X138	Adjustable stroke
-X146	Hollow piston rod
-X168	CX helical insert thread
-X169	2 built-in magnets

Made to Order Specifications

Click here for details

Symbol	Specifications
-XB11	Long stroke type
-XB13	Low speed cylinder (5 to 50 mm/s)
-XB22	Shock absorber soft type RJ series type
-XC22	Fluororubber seals

Moisture Control Tube IDK Series

When operating an actuator with a small diameter and a short stroke at a high frequency, the dew condensation (water droplet) may occur inside the piping depending on the conditions.
Simply connecting the moisture control tube to the actuator will prevent dew condensation from occurring. For details, refer to the **Web Catalog**.

Specifications

Type		Non-lube	Air-hydro type
Fluid		Air	Hydraulic fluid
Proof pressure		1.5 MPa	
Max. operating pressure		1.0 MPa	
Min. operating pressure	**CX2N10**	0.15 MPa	—
	CX2□15	0.15 MPa	
	CX2□25	0.10 MPa	
Ambient and fluid temperature		–10°C to +60°C	
Piston speed (Non-lube)	**With adjusting bolt**	30 to 200 mm/s	Refer to Table (1).
	With shock absorber	30 to 500 mm/s	
Cushion		With shock absorber (Option)	
Stroke adjustable range		Standard stroke: ±2 mm	
Max. load mass (1)	**CX2N10**	9.8 N	
	CX2□15	29.4 N	
	CX2□25	58.8 N	
Non-rotating accuracy (Except piston rod deflection)	**CX2N10**	±0.1°	
	CX2□15	±0.04°	
	CX2□25	±0.02°	
Accessory (Option)		Straight knock pin (2 pcs.), Adjusting bolt (-X138)(2) Shock absorber	

Note 1) Place the center of gravity of the load as close to the center of the slide unit as possible during operation. If they are placed far apart, consult with SMC.
Note 2) "-X138" has a stroke adjustable range of 12.5 mm on one side.

Table (1) Air-hydro/Piston Speed

Model	Plate mounting	Housing mounting
CX2H15	Refer to the below. Note 1)	5 to 50 mm/s
CX2H25	5 to 40 mm/s	5 to 100 mm/s

Note 1) Consult with SMC when the air-hydro type is mounted on a plate.
Note 2) Consult with SMC when units are used at a low speed (10 mm/s or faster) (when intermediate stops are not required) since -XB13 (Low speed specification) is available.
Note 3) When using the air-hydro type, use the double side hydro unit.

Shock Absorber Specifications

Shock absorber		**RB0805**	**RB1006**
Applicable slide unit		**CX2N10, CX2□15**	**CX2□25**
Maximum energy absorption (J)		0.98	3.92
Stroke absorption (mm)		5	6
Max. collision speed (m/sec)		0.05 to 5	
Max. operating frequency (cycle/min)		80	70
Max. allowable thrust (N)		147	353
Ambient temperature range (°C)		–10 to 80	
Spring force (N)	**Extended**	1.96	4.22
	Retracted	3.83	6.18
Weight (g)		15	25

* The above shows the maximum absorption energy per cycle. Accordingly, the operating frequency can be increased in accordance with the absorption energy.
* The shock absorber service life is different from that of the cylinder body depending on the operating conditions. Refer to the RB Series Specific Product Precautions for the replacement period.

Theoretical Output

(N)

Model	Rod size (mm)	Piston area (mm^2)	Operating pressure (MPa)							
			0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
CX2N10	6	101	20	30	40	51	61	71	81	91
CX2□15	8	207	41	62	83	104	124	145	166	186
CX2□25	14	597	119	179	239	299	358	418	478	537

Note) Theoretical output (N) = Pressure (MPa) x Piston area (mm^2)

Standard Stroke Table

Model	Basic stroke (mm)							
	25	50	75	100	125	150	175	200
CX2N10	●	●	●	●	—	—	—	—
CX2□15	●	●	●	●	●	●	●	●
CX2□25	●	●	●	●	●	●	●	●

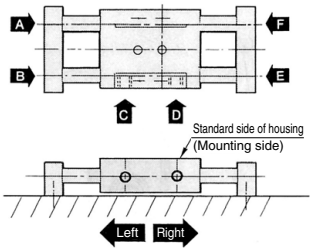
Weight

(kg)

Model	Basic stroke (mm)							
	25	50	75	100	125	150	175	200
CX2N10	0.17	0.22	0.27	0.32	—	—	—	—
CX2□15	0.23	0.34	0.45	0.56	0.67	0.78	0.89	1.00
CX2□25	0.93	1.15	1.36	1.58	1.80	2.01	2.29	2.45

Operating Direction with Different Pressure Ports

Operating direction of housing when the plate is fixed



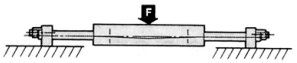
Operating direction of the housing

Pressure port	A	B	C	D	E	F
Operating direction	Right	Left	Left	Right	Left	Right

∗ There are 9 possible reciprocating piping methods.

Deflection of Piston Rod by Center Loading (Reference)

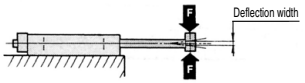
When center loading is added to the center of the housing



(mm)

Model	Stroke / Load (N)	100	200
CX2N10	9.8	0.07	—
CX2□15	29.4	0.08	0.28
CX2□25	58.8	0.02	0.08

When center loading is added to the center of the plate

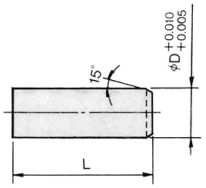


(mm)

Model	Stroke / Load (N)	50	100	150	200
CX2N10	2.94	0.06	0.30	—	—
CX2□15	4.90	0.09	0.22	0.50	1.0
CX2□25	9.81	0.03	0.09	0.16	0.25

Note) The values denote the total width of the deflections in the upward/downward direction.

Accessory Straight Knock Pin (Option)



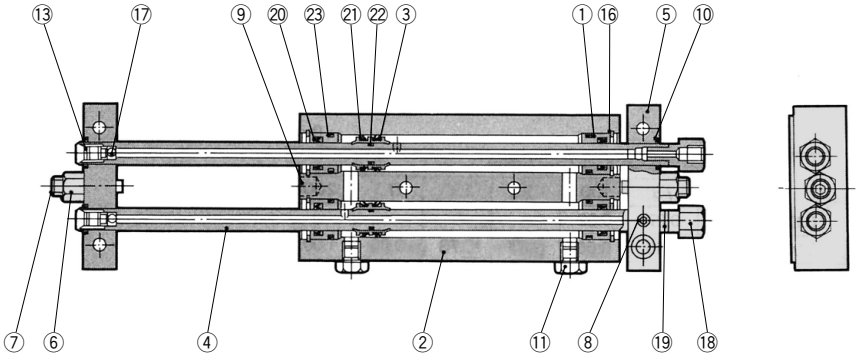
(mm)

Model	L	øD	Part no.∗
CX2N10	10	4	MS4-10
CX2□15	10	5	MS5-10
CX2□25	15	6	MS6-15

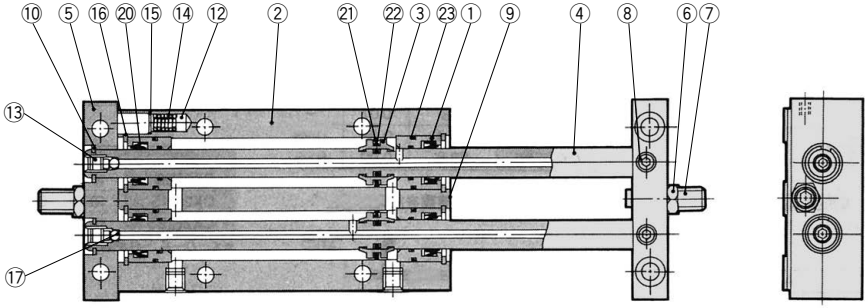
∗ Manufactured by Misumi Trading Ltd.

Construction/Parts List, Seal List

CX2N10



CX2N15, 25



Parts List

No.	Description	Material	Note
1	**Rod cover**	Aluminum bearing alloy	
2	**Housing**	Aluminum alloy	Hard anodized
3	**Piston**	Aluminum alloy	
4	**Piston rod**	Carbon steel piping for machine constructions	Hard chrome plated
5	**Plate**	Aluminum alloy	Anodized
6	**Lock nut**	Carbon steel	Nickel plated
7	**Adjusting bolt**	Chromium steel	Zinc chromated
8	**Set screw (For fixing rods)**	Chromium steel	Zinc chromated
9	**Pin**	Carbon steel	Quenched
10	**Retaining ring**	Carbon tool steel	Phosphate coated
11	**Plug**	Carbon steel	Nickel plated
12	**Magnet**	—	
13	**Ball fixing screw**	Chromium steel	Zinc chromated
14	**Spring**	Stainless steel	
15	**Type CR retaining ring**	Carbon tool steel	
16	**Round type R retaining ring**	Carbon tool steel	Phosphate coated

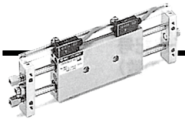
Parts List

No.	Description	Material	Note
17	**Steel ball**	High carbon chrome bearing steel	Heat treated
18	**Socket**	Brass	Electroless nickel plated
19	**Gasket**	NBR	
20	**Rod seal**		
21	**Piston seal**		
22	**Piston gasket**		
23	**Cylinder tube gasket**		

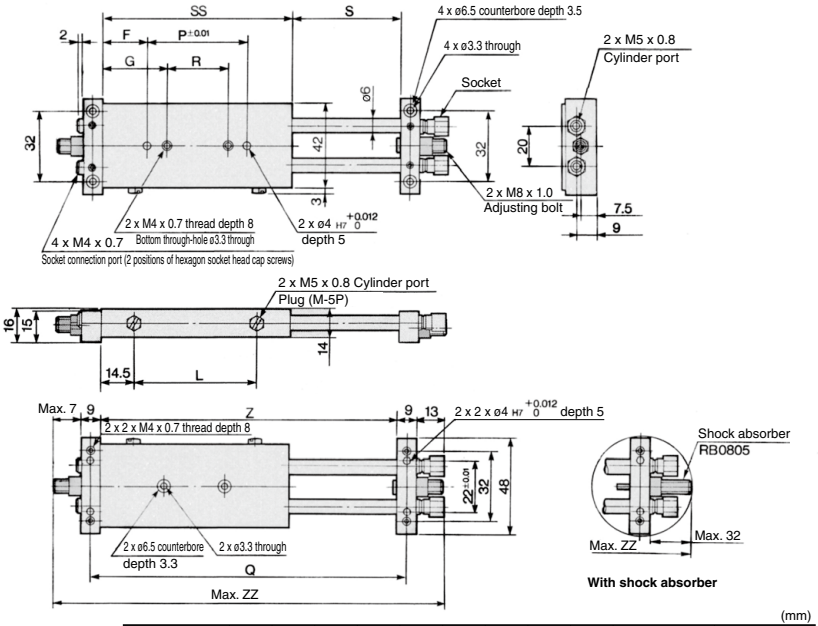
Replacement Parts: Seal Kit

Model	Kit no.	Contents
CX2N10	CX2N10-PS	A set of ⑳, ㉑, ㉓ listed above
CX2N15	CX2N15-PS	
CX2N25	CX2N25-PS	

∗ Seal kit includes ⑳, ㉑, ㉓. Order the seal kit, based on each bore size. (The piston gasket ㉒ is not replaceable.)
∗ Since the seal kit does not include a grease pack, order it separately.
Grease pack part no.: GR-S-010 (10 g)



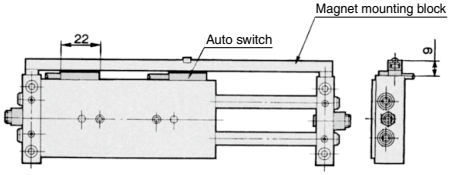
ø10 Basic Type: CX2N10 – Strokes: 25 to 100 □



(mm)

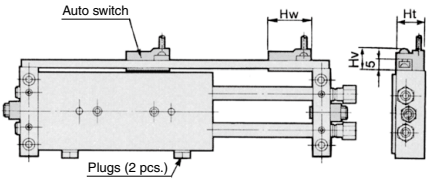
Model	F	G	L	P	Q	R	S	SS	Z	With adjusting bolt ZZ	With shock absorber ZZ
CX2N10-25	9.5	19.5	38	48	103	28	27	67	94	132	176
CX2N10-50	20	30	63	52	153	32	52	92	144	182	226
CX2N10-75	25	35	88	67	203	47	77	117	194	232	276
CX2N10-100	25	35	113	92	253	72	102	142	244	282	326

Housing mounting type with auto switch
CDBX2N10 – Stroke



Note 1) The dimensions show D-E7□A and D-E80A.

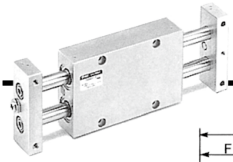
Plate mounting type with auto switch
CDPX2N10 – Stroke



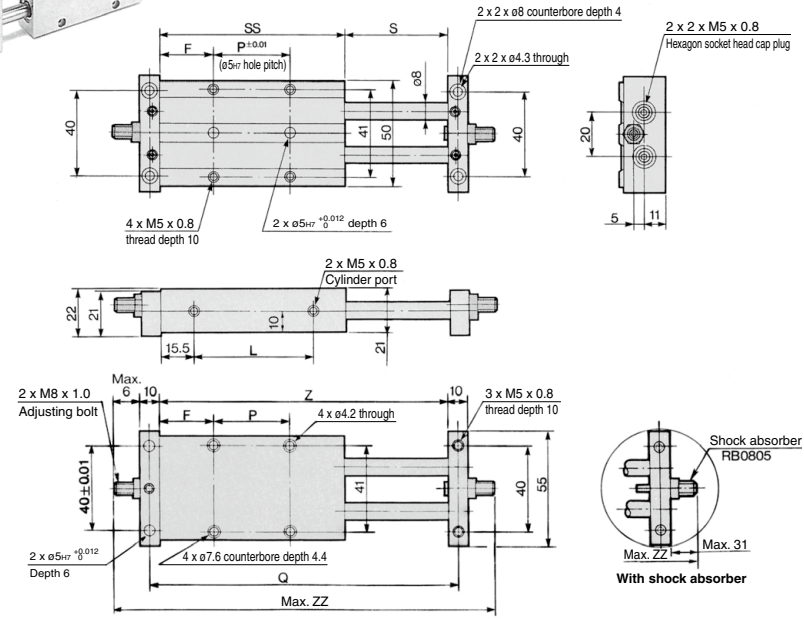
Note 1) The dimensions show D-A7 and D-A8.

Auto switch model	Hw	Ht	Hv
D-A7, D-A8	23	15	10.5
D-F7□, D-J79, D-J79W, D-F7PW, D-F79F, D-F7BA, D-F7NT	23	15	11.5
D-A7□H, D-A80H	22	15	11.5
D-A73C, D-A80C	23	17.5	17.5
D-F7□V	23	15	14
D-J79C	24	17.5	17
D-F7LF	30	15	11.5

Note 2) For only 25 strokes, two magnets for auto switches are installed in the housing.



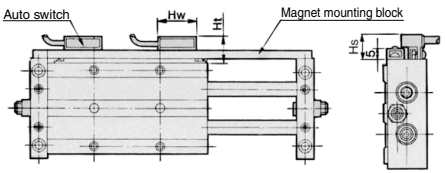
ø15 Basic Type: CX2□15− Strokes: 25 to 200 □



(mm)

Model	F	L	P	Q	S	SS	Z	With adjusting bolt ZZ	With shock absorber ZZ
CX2□15-25□	24.5	38	20	106	27	69	96	128	178
CX2□15-50□	24.5	63	45	156	52	94	146	178	228
CX2□15-75□	27	88	65	206	77	119	196	228	278
CX2□15-100□	27	113	90	256	102	144	246	278	328
CX2□15-125□	39.5	138	90	306	127	169	296	328	378
CX2□15-150□	52	163	90	356	152	194	346	278	428
CX2□15-175□	64.5	188	90	406	177	219	396	428	478
CX2□15-200□	77	213	90	456	202	244	446	478	528

Housing mounting type with auto switch
CDBX2□15− Stroke

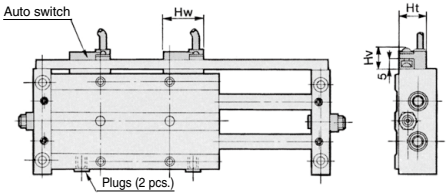


Note 1) The dimensions show D-A7 and D-A8.

Auto switch model	Hw	Hs	Ht
D-A7, D-A8	23	12.5	15
D-F7□, D-J79, D-J79W, D-F7PW, D-F79F, D-F7BA, D-F7NT	23	12.5	15
D-A7□H, D-A80H	22	12.5	15
D-A73C, D-A80C	23	15	17.5
D-F7□V	23	12.5	15
D-J79C	24	15	17.5
D-F7LF	30	12.5	15

Note 2) For only 25 strokes, two magnets for auto switches are installed to the magnet mounting block.

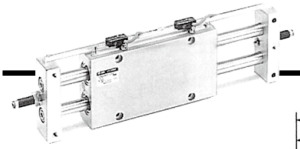
Plate mounting type with auto switch
CDPX2□15− Stroke



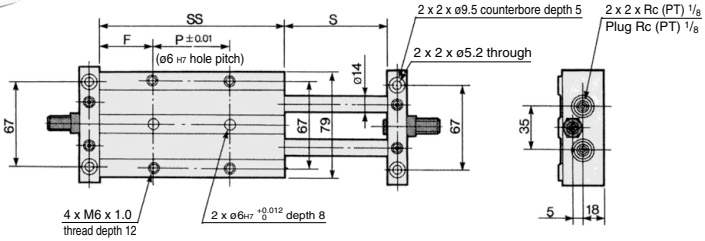
Note 1) The dimensions show D-A7 and D-A8.

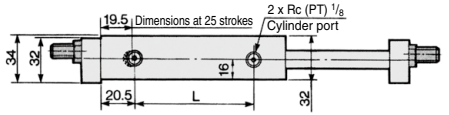
Auto switch model	Hw	Ht	Hv
D-A7, D-A8	23	15	10.5
D-F7□, D-J79, D-J79W, D-F7PW, D-F79F, D-F7BA, D-F7NT	23	15	11.5
D-A7□H, D-A80H	22	15	11.5
D-A73C, D-A80C	23	17.5	17.5
D-F7□V	23	15	14
D-J79C	24	17.5	17
D-F7LF	30	15	11.5

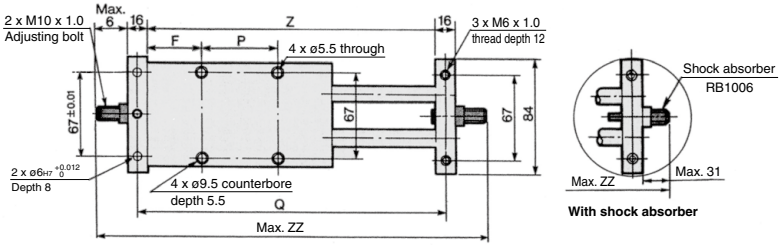
Note 2) For only 25 strokes, two magnets for auto switches are installed in the housing.



ø25 Basic Type: CX2□25 – Strokes: 25 to 200 □



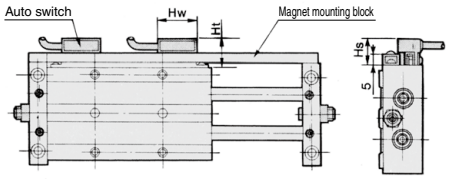




(mm)

Model	F	L	P	Q	S	SS	Z	With adjusting bolt ZZ	With shock absorber ZZ
CX2□25-25□	28.5	43	25	125	27	82	109	153	203
CX2□25-50□	31	66	45	175	52	107	159	203	253
CX2□25-75□	33.5	91	65	225	77	132	209	253	303
CX2□25-100□	33.5	116	90	275	102	157	259	303	353
CX2□25-125□	46	141	90	325	127	182	309	353	403
CX2□25-150□	58.5	166	90	375	152	207	359	403	453
CX2□25-175□	71	191	90	425	177	232	409	453	503
CX2□25-200□	83.5	216	90	475	202	257	459	503	553

Housing mounting type with auto switch
CDBX2□25– Stroke

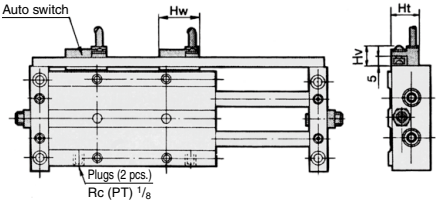


Note 1) The dimensions show D-A7 and D-A8.

Auto switch model	Hw	Hs	Ht
D-A7, D-A8	23	12.5	15
D-F7□, D-J79, D-J79W, D-F7PW, D-F79F, D-F7BA, D-F7NT	23	12.5	15
D-A7□H, D-A80H	22	12.5	15
D-A73C, D-A80C	23	15	17.5
D-F7□V	23	12.5	15
D-J79C	24	15	17.5
D-F7LF	30	12.5	15

Note 2) For only 25 strokes, two magnets for auto switches are installed to the magnet mounting block.

Plate mounting type with auto switch
CDPX2□25– Stroke



Note 1) The dimensions show D-A7 and D-A8.

Auto switch model	Hw	Ht	Hv
D-A7, D-A8	23	15	10.5
D-F7□, D-J79, D-J79W, D-F7PW, D-F79F, D-F7BA, D-F7NT	23	15	11.5
D-A7□H, D-A80H	22	15	11.5
D-A73C, D-A80C	23	17.5	17.5
D-F7□V	23	15	14
D-J79C	24	17.5	17
D-F7LF	30	15	11.5

Note 2) For only 25 strokes, two magnets for auto switches are installed in the housing.

Operating Range

(mm)

Auto switch model		Applicable cylinder size		
		10	**15**	**25**
D-A7□/A80 **D-A7□H/A80H** **D-A73C/A80C**	Housing mounting	—	6	6
	Plate mounting	6		
D-E7□A/E80A	Housing mounting	6	—	—
D-F7□/J79 **D-F7□V/J79C** **D-F7□W/F7□WV** **D-F7BA/F7BAV** **D-F79F/F7NT**	Housing mounting	—	2.5	2.5
	Plate mounting	2.5	2.5	3

∗ Since the operating range is provided as a guideline including hysteresis, it cannot be guaranteed (assuming approximately ±30% dispersion). It may vary substantially depending on an ambient environment.

Besides the models listed in How to Order, the following auto switches are applicable.
Refer to pages 1289 to 1383 for the detailed specifications.

Auto switch type	Model	Electrical entry (Fetching direction)	Features	Applicable cylinder size	
				Housing mounting	Plate mounting
Solid state	D-F7NT	Grommet (In-line)	With timer	ø15, ø25	ø10, ø15, ø25

∗ With pre-wired connector is also available for D-F7NT type. For details, refer to pages 1358 and 1359.
∗ It is impossible to mount solid state auto switches to the housing mounting ø10.

Prior to Use

1. Changing from the non-auto switch specifications to the auto switch specifications
2. Changing mounting type of the auto switch specifications

CXW$^{M}_{L}$ Series

1. In CXW$^{M}_{L}$ series, to change from the specification without auto switch to the plate mounting type with auto switch or to the housing mounting type with auto switch, refer to tables (3) and (4) before ordering.

2. In CXW$^{M}_{L}$ series, to change from the plate mounting type with an auto switch to the housing mounting type with an auto switch or vice versa, refer to tables (3) and (4) before ordering.

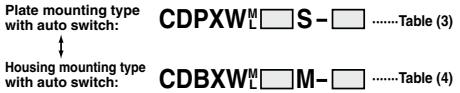


Table (3) Plate Mounting Type with Auto Switch
(CDPXW$^{M}_{L}$□□-□) Component Parts for Mounting Switches and No. of Component Parts

Component parts	Material	ø10	ø16	ø20	ø25	ø32
		Assembly model no. for mounting switch (3)				
		CDPXW$^{M}_{L}$ 10S-□	CDPXW$^{M}_{L}$ 16S-□	CDPXW$^{M}_{L}$ 20S-□	CDPXW$^{M}_{L}$ 25S-□	CDPXW$^{M}_{L}$ 32S-□
Switch mounting block	Aluminum alloy	1	1	1	1	1
Block mounting screw	Chrome steel/Nickel plated	2	2	2	2	2
Switch mounting screw	Chrome steel/Nickel plated	2	2	2	2	2
Hexagon nut	Carbon steel/Nickel plated	2	2	2	2	2
Magnet	———	1 (2) (2)	———	———	———	———
Socket	Brass/Electroless nickel plated	2	———	———	———	———
Plug (M-5P)	Brass/Electroless nickel plated	2	2	2	———	———

Note 1) "□" mark indicates strokes.
Note 2) In the case of ø10, the 25 mm stroke has two magnets that are bonded in the holes on the side of the housing. Those with strokes of 50 mm to 100 mm have one magnet. Those with other bore sizes have a built-in magnet in their housings.
Note 3) For the assembly model no. for mounting switch, order with CDPXWM□□-□ for CXWM series and order with CDPXWL□□-□ for CXWL series respectively.

Table (4) Housing Mounting Type with Auto Switch
(CDBXW $^{M}_{L}$□□-□) Component Parts for Mounting Switches and No. of Component Parts

Component parts	Material	ø10	ø16	ø20	ø25	ø32
		Assembly model no. for mounting switch				
		CDBXW$^{M}_{L}$ 10M-□	CDBXW$^{M}_{L}$ 16M-□	CDBXW$^{M}_{L}$ 20M-□	CDBXW$^{M}_{L}$ 25M-□	CDBXW$^{M}_{L}$ 32M-□
Magnet mounting block assembly	Aluminum alloy	1	1	1	1	1
Switch mounting rail	Aluminum alloy	———	1	1	1	1
Spacer	Aluminum alloy/Anodized	2	———	———	———	———
Block mounting screw	Chrome steel/Nickel plated	2	2	2	2	2
Screw for mounting rail	Chrome steel/Nickel plated	———	2	2	2	2
Switch mounting screw	Chrome steel/Nickel plated	2	2	2	2	2
Hexagon nut	Carbon steel/Nickel plated	2	2	2	2	2
Hexagon socket head plug	Chrome steel/Nickel plated	2	2	2	———	———

Note 1) "□" mark indicates strokes.
Note 2) In the case of ø10, CDPXW$^{M}_{L}$10-□ can NOT be changed to CDBXW$^{M}_{L}$10-□. (CXW$^{M}_{L}$10-□ can be changed to CDBXW$^{M}_{L}$10-□)
Note 3) For the assembly model no. for mounting switch, order with CDBXWM□□-□ for CXWM series and order with CDBXWL□□-□ for CXWL series respectively.

Slide Unit: Built-in Shock Absorber
Slide Bearing Type
CXWM Series
ø10, ø16, ø20, ø25, ø32

How to Order

Basic type CXWM 16 ☐ — 150 ☐ — ☐

With auto switch C DB XWM 16 ☐ — 150 ☐ — J79W ☐ — ☐

Port thread type

Nil	M thread	ø10 to ø20
	Rc 1/8	ø25, ø32
TN	NPT 1/8	
TF	G 1/8	

Cylinder with auto switch

Symbol	Specifications/Mounting
DB	With auto switch/ Housing mounting
DP	With auto switch/ Plate mounting

Bearing type

M	Slide bearing

Bore size/Stroke (mm)

ø10	(25), 50, 75, 100
ø16	(25), 50, 75, 100, 125, 150, 175, 200
ø20	(25), 50, 75, 100, 125, 150, 175, 200
ø25	(25), 50, 75, 100, 125, 150, 175, 200
ø32	(25), (50), 75, 100, 125, 150, 175, 200

Note1) For the strokes indicated in the parentheses of the ø10, ø16 and ø25, shock absorbers are to be mounted on both sides of the plate. For the strokes indicated in the parentheses of the ø20 and ø32, a shock absorber is to be mounted on single side of the plate.
Note2) For the strokes other than those indicated above, refer to page 882.
Note3) For ø16, ø20 and ø25, strokes up to 300, and for ø32, strokes up to 250 are available as Made-to-Order. (-XB11)

End lock

Nil	None
R	End lock

Auto switch

Nil	Without auto switch

∗ 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 882 for the Made to Order specifications.

Built-in Magnet Cylinder Model

If a built-in magnet cylinder without an auto switch is required, there is no need to enter the symbol for the auto switch.
(Example) CDPXWM20-100

Applicable Auto Switches/Refer to pages 1289 to 1383 for further information on auto switches.

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage DC	Load voltage AC	Rail mounting Perpendicular	Rail mounting In-line	Applicable cylinder size Housing mounting	Applicable cylinder size Plate mounting	Lead wire length (m) ∗ 0.5 (Nil)	3 (L)	5 (Z)	None (N)	Pre-wired connector	Applicable load	
Solid state auto switch	–	Grommet	Yes	3-wire (NPN)	5 V, 12 V	–	F7NV	F79	ø16 ø20 ø25 ø32	ø10 ø16 ø20 ø25 ø32	●	●	○	–	○	IC circuit	Relay, PLC
				3-wire (PNP)			F7PV	F7P			●	●	○	–	○		
				2-wire	12 V		F7BV	J79			●	●	○	–	○	–	
		Connector					J79C	–			●	●	●	●	–		
	Diagnostic indication (2-color indicator)	Grommet		3-wire (NPN)	5 V, 12 V		F7NWV	F79W			●	●	○	–	○	IC circuit	
				3-wire (PNP)			–	F7PW			●	●	○	–	○		
				2-wire	12 V		F7BWV	J79W			●	●	○	–	○	–	
				Water resistant (2-color indicator)			F7BAV∗∗∗	F7BA∗∗∗			–	●	○	–	○		
				4-wire (NPN)	5 V, 12 V		–	F79F			●	●	○	–	○	IC circuit	
				With diagnostic output (2-color indicator)													
Reed auto switch	–	Grommet	Yes	3-wire (NPN equivalent)	–	–	–	A76H	ø16 ø20 ø25 ø32	ø10 ø16 ø20 ø25 ø32	●	●	–	–	–	IC circuit	–
				2-wire	–	5 V	–	–			●	●	–	–	–		
					–	–	200 V	A72	A72H			●	●	–	–	–	–
			No		24 V	12 V	100 V	A73	A73H			●	●	–	–	–	
						5 V, 12 V	100 V or less	A80	A80H			●	●	–	–	–	IC circuit
		Connector	Yes			12 V	–	A73C	–			●	●	●	●	–	–
			No			5 V, 12 V	24 V or less	A80C	–			●	●	●	●	–	IC circuit
		Grommet	Yes	3-wire (NPN equivalent)	–	5 V	–	–	E76A	ø10	–	●	●	–	–	–	–
				2-wire	24 V	12 V	100 V	–	E73A			●	●	–	–	–	–
			No			5 V, 12 V	100 V or less		E80A			●	●	–	–	–	IC circuit

∗∗∗ Water resistant type auto switches can be mounted on the above models, but in such case SMC cannot guarantee water resistance. Consult with SMC regarding water resistant types with the above model numbers.

∗ Lead wire length symbols: 0.5 m ····· Nil (Example) F79W
3 m ····· L (Example) F79WL
5 m ····· Z (Example) F79WZ
None ····· N (Example) J79CN

∗ Solid state auto switches marked with "○" are produced upon receipt of order.
∗∗ It is impossible to mount solid state switches to the housing mounting ø10.

• Since there are other applicable auto switches than listed, refer to page 925 for details.
• For details about auto switches with pre-wired connector, refer to pages 1358 and 1359.
∗ Auto switches are shipped together (not assembled).

Built-in shock absorber

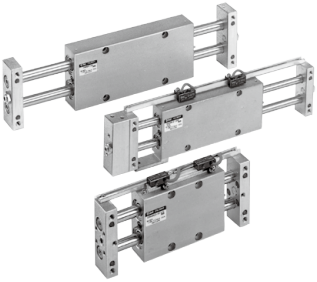
This is a built-in shock absorber type in which the shock absorber is enclosed in the housing. Compared to the CX2 series with shock absorber, this type achieves space savings in the longitudinal direction (except 25 mm stroke).

Dramatically reduced installation labor

The machining precision required for positioning during the installation of the cylinder has been reduced through the adoption of a special pin hole machining process, thus decreasing the amount of labor involved in adjustment.

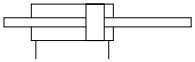
Provided with an end lock mechanism

An end lock is also available, which maintains the cylinder's original position even if the air supply is interrupted.



Symbol

Without cushion



Made to Order

Made to Order: Individual Specifications
(For details, refer to pages 927 to 929.)

Symbol	Specifications
-X138	Adjustable stroke
-X146	Hollow piston rod
-X168	Helical insert thread
-X169	2 built-in magnets

Made to Order Specifications

Click here for details

Symbol	Specifications
-XB11	Long stroke type
-XB13	Low speed cylinder (5 to 50 mm/s)
-XC22	Fluororubber seal

Moisture Control Tube IDK Series

When operating an actuator with a small diameter and a short stroke at a high frequency, the dew condensation (water droplet) may occur inside the piping depending on the conditions.
Simply connecting the moisture control tube to the actuator will prevent dew condensation from occurring. For details, refer to the Web Catalog.

Specifications

Type		Non-lube
Fluid		Air
Proof pressure		1.5 MPa
Max. operating pressure		1.0 MPa
Min. operating pressure	CXWM10/16	0.15 MPa
	CXWM20/25/32	0.1 MPa
Ambient & fluid temperature		–10 to 60°C (No freezing)
Piston speed (Non-lube)		30 to 500 mm/s
Cushion		Shock absorber
Stroke adjustable range		Standard stroke: ±2 mm
Accessory (Option)		Straight knock pin (2 pcs.), Adjusting bolt* (-X138)

* "-X138" has a stroke adjustable range of –12.5 mm on one side.

Maximum Load Weight/Non-rotating Accuracy/Maximum Holding Force

Model	CXWM10	CXWM16	CXWM20	CXWM25	CXWM32
Maximum load weight*	1 kg	4 kg	5 kg	6 kg	10 kg
Non-rotating accuracy (Deflection of a piston rod is not included.)	±0.09°	±0.03°	±0.03°	±0.02°	±0.01°
Maximum holding force (End lock model)	39.2 N	98.1 N	147.1 N	245.2 N	392.3 N

* Place the center of gravity of the load and center of the slide unit close during operation. If they are placed far apart from each other, please consult with SMC.

Shock Absorber Specifications

Shock absorber (1)		RB0805-X552	RB0805	RB1006-X552	RB1006	RB1411-X552	RB1411
Applicable slide unit		CXWM10/16-□□		CXWM20/25-□□		CXWM32-□□	
Maximum energy absorption (J)		0.98		3.92		14.7	
Stroke absorption (mm)		5		6		11	
Max. collision speed (m/sec)		0.05 to 5					
Max. operating frequency (cycle/min) (2)		80		70		45	
Max. allowable thrust (N)		147		353		667	
Ambient temperature range (°C)		–10 to 80					
Spring force (N)	Extended	1.96		4.22		6.86	
	Retracted	3.83		6.18		15.30	
Weight (g)		15		25		65	

Note 1) "-X552" is an exclusive shock absorber installed in the housing, and is the screw not attached specification of the outer part of the outer tube. The shock absorber plate mounting type of 25 and 50 strokes have the screw attached specification.
Note 2) It denotes the values at the maximum energy absorption per one cycle. Therefore, the operating frequency can be increased according to the energy absorption.
* The shock absorber service life is different from that of the cylinder depending on the operating conditions. Refer to the RB series Specific Product Precautions for the replacement period.

Theoretical Output

(N)

Model	Rod size (mm)	Piston area (mm²)	Operating pressure (MPa)							
			0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
CXWM10-□□	6	101	20	30	40	51	61	71	81	91
CXWM16-□□	10	245	49	74	98	123	147	172	196	221
CXWM20-□□	12	402	80	121	161	201	241	281	322	362
CXWM25-□□	14	597	119	179	239	299	358	418	478	537
CXWM32-□□	20	980	196	294	392	490	588	686	784	882

Note) Theoretical output (N) = Pressure (MPa) x Piston area (mm^2)

Standard Stroke

Model	Standard stroke (mm)							
	25	50	75	100	125	150	175	200
CXWM10-□□	(*) (1)	●	●	●	—	—	—	—
CXWM16-□□	(*) (1)	●	●	●	●	●	●	●
CXWM20-□□	(*) (2)	●	●	●	●	●	●	●
CXWM25-□□	(*) (1)	●	●	●	●	●	●	●
CXWM32-□□	(*) (2)	(*) (2)	●	●	●	●	●	●

Note 1) The strokes marked with "(*)" has an absorber of double side plate mounting type.
Note 2) The strokes marked with "(*)" has an absorber of single side plate mounting type.

Weight

(kg)

Model	Stroke (mm)							
	25	50	75	100	125	150	175	200
CXWM10	0.28	0.35	0.42	0.49	–	–	–	–
CXWM16	0.46	0.59	0.72	0.85	0.98	1.11	1.24	1.37
CXWM20	0.69	0.87	1.03	1.22	1.40	1.58	1.75	1.93
CXWM25	0.95	1.17	1.38	1.60	1.82	2.03	2.31	2.47
CXWM32	2.01	2.38	2.77	3.16	3.56	3.94	4.34	4.72

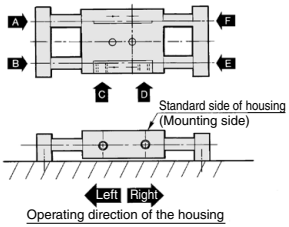
Additional Weight with End Lock (CXWM□-□R)

(kg)

Applicable model	Additional weight
CXWM10	0.08
CXWM16	0.14
CXWM20	0.15
CXWM25	0.20
CXWM32	0.43

Operating Direction with Different Pressure Ports

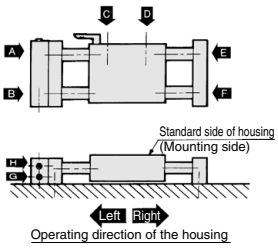
Operating direction of housing when the plate is fixed



Pressure port	A	B	C	D	E	F
Operating direction	Right	Left	Left	Right	Left	Right

∗ There are 9 possible reciprocating piping methods.

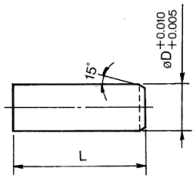
With end lock (CXWM-□R)
Operating direction of housing when the plate is fixed



Pressure port	A	B	C	D	E	F	G	H
Operating direction	Right	Left	Left	Right	Right	Left	Left	Right

∗ There are 16 possible reciprocating piping methods.

Accessory
Straight Knock Pin (Option)



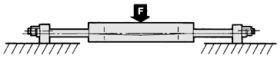
(mm)

Model	L	øD	Model*
CXWM10	10	4	MS4-10
CXWM16	10	5	MS5-10
CXWM20	15	6	MS6-15
CXWM25	15	6	MS6-15
CXWM32	20	8	MS8-20

∗ Manufactured by Misumi Trading Ltd.

Deflection of Piston Rod by Center Loading (Reference)

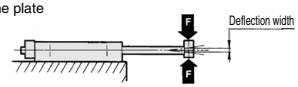
When center loading is added to the center of the housing



(mm)

Model	Stroke / Load (N)	100	200
CXWM10	9.81	0.07	–
CXWM16	39.2	0.05	0.20
CXWM20	49	0.04	0.15
CXWM25	58.8	0.02	0.08
CXWM32	98.1	0.02	0.07

When center loading is added to the center of the plate



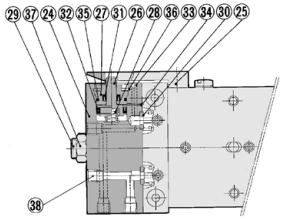
(mm)

Model	Stroke / Load (N)	50	100	150	200
CXWM10	2.94	0.06	0.30	–	–
CXWM16	4.90	0.03	0.10	0.25	0.45
CXWM20	7.84	0.03	0.09	0.18	0.35
CXWM25	9.81	0.03	0.09	0.16	0.25
CXWM32	29.42	0.02	0.05	0.10	0.15

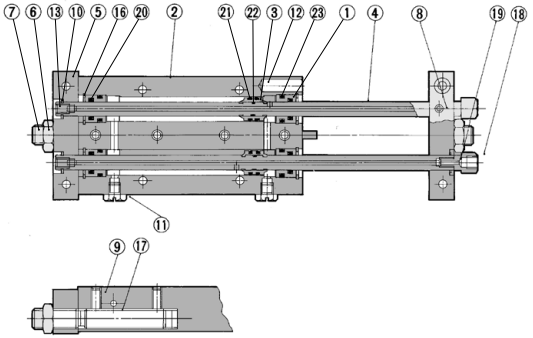
Note) The values denote the total width of the deflections in the upward/downward direction.

Construction: ø10, ø16, ø25

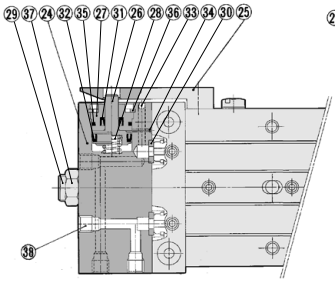
CXWM10



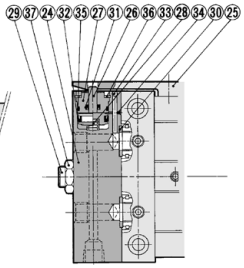
With end lock



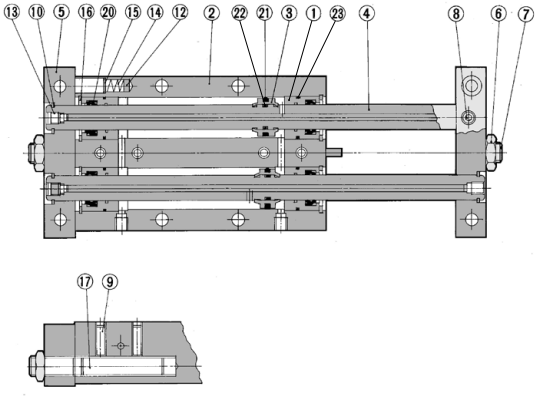
CXWM16, 25



ø16/With end lock



ø25/With end lock



Construction: ø10, ø16, ø25

Component Parts

No.	Description	Material	Note
1	**Rod cover**	Aluminum bearing alloy	
2	**Housing**	Aluminum alloy	Hard anodized
3	**Piston**	Aluminum alloy	Chromated
4	**Piston rod**	Carbon steel piping for machine constructions	Hard chrome plated
5	**Plate**	Aluminum alloy	Hard anodized
6	**Lock nut**	Carbon steel	Nickel plated
7	**Adjustment bolt**	Chromium steel	Nickel plated
8	**Set screw (For fixing rods)**	Chromium steel	Nickel plated
9	**Set screw (For fixing shock absorbers)**	Stainless steel	
10	**Retaining ring**	Carbon tool steel	Phosphate coated
11	**Plug**	Brass	Nickel plated
12	**Magnet**	—	ø5
13	**Set screw for seal**	Chromium steel	Nickel plated
14	**Spring**	Stainless steel	
15	**Type CR retaining ring**	Carbon tool steel	
16	**Round type R retaining ring**	Carbon tool steel	Phosphate coated
17	**Shock absorber**	—	(RB0805-X552 or RB1006-X552)
18	**Socket**	Brass	Electroless nickel plated
19	**Gasket**	NBR	
20	**Rod seal**	NBR	
21	**Piston seal**	NBR	
22	**Piston gasket**	NBR	
23	**Cylinder tube gasket**	NBR	

Replacement Parts: Seal Kit
Cylinder Body

Model	Kit no.	Contents
CXWM10	CXWM10-PS	Set of nos. above ⑳, ㉑, ㉓
CXWM16	CXWM16-PS	
CXWM25	CXWM25-PS	

∗ Seal kit includes ⑳, ㉑, ㉓. Order the seal kit, based on each bore size. (The piston gasket ㉒ is not replaceable.)
∗ Since the seal kit does not include a grease pack, order it separately.
Grease pack part no.: GR-S-010 (10 g)

Component Parts: With End Lock

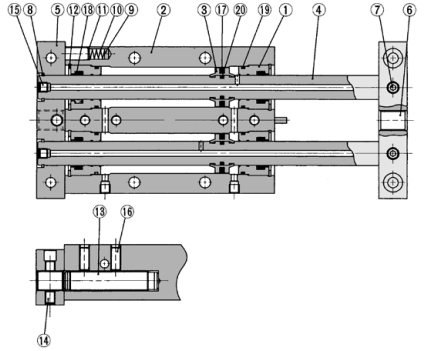
No.	Description	Material	Note
24	**Locking body**	Aluminum alloy	Hard anodized
25	**Lock finger**	Alloy tool steel	Nickel plated after quenched
26	**Lock piston**	Carbon tool steel	Electroless nickel plated after quenched
27	**Rod cover**	Aluminum alloy	
28	**Return spring**	Spring steel	Zinc chromated
29	**Adjustment bolt**	Chromium steel	Nickel plated
30	**Body gasket**	NBR	
31	**Rod seal**	NBR	
32	**Piston seal**	NBR	
33	**Steel ball**	High carbon chrome bearing steel	
34	**Steel ball**	High carbon chrome bearing steel	
35	**O-ring**	NBR	
36	**Round type R retaining ring**	Carbon tool steel	Phosphate coated
37	**Lock nut**	Carbon steel	Nickel plated
38	**Plug**	Chromium steel	Nickel plated

Replacement Parts: Seal Kit
End Lock

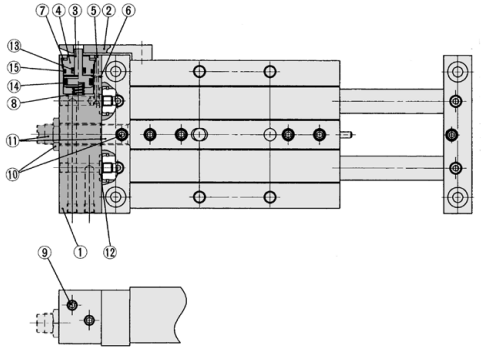
Model	Kit no.	Contents
CXWM10	CXWM10R-PS	Set of nos. above ㉚, ㉛, ㉜, ㉟
CXWM16	CXWM16R-PS	
CXWM25	CXWM25R-PS	

∗ Seal kit includes ㉚, ㉛, ㉜, ㉟. Order the seal kit, based on each bore Ssize.
∗ Since the seal kit does not include a grease pack, order it separately.
Grease pack part no.: GR-S-010 (10 g)

Construction: ø20, ø32



With end lock



Component Parts

No.	Description	Material	Note
1	**Rod cover**	Aluminum bearing alloy	—
2	**Housing**	Aluminum alloy	Hard anodized
3	**Piston**	Aluminum alloy	Chromated
4	**Piston rod**	Carbon steel for machines	Hard chrome plated
5	**Plate**	Aluminum alloy	Hard anodized
6	**Adjustment bolt**	Chromium steel	Nickel plated
7	**Hexagon socket head set screw**	Chromium steel	Nickel plated
8	**Retaining ring**	Tool steel	Phosphate coated
9	**Magnet**	—	
10	**Spring**	Stainless steel	
11	**Type CR retaining ring**	Carbon tool steel	
12	**Round type R retaining ring**	Carbon tool steel	Phosphate coated
13	**Shock absorber**	—	RB1006-X552, RB1411-X552
14	**Hexagon socket head set screw**	Chromium steel	Nickel plated
15	**Hexagon socket head plug**	Chromium steel	Nickel plated
16	**Hexagon socket head set screw**	Chromium steel	Nickel plated
17	**Piston seal**	NBR	
18	**Rod seal**	NBR	
19	**Cylinder tube gasket**	NBR	
20	**Piston gasket**	NBR	

Component Parts: With End Lock

No.	Description	Material	Note
1	**Locking body**	Aluminum alloy	Hard anodized
2	**Lock finger**	Alloy tool steel	Nickel plated after quenched
3	**Lock piston**	Tool steel	Electroless nickel plated after quenched
4	**Rod cover**	Aluminum bearing alloy	
5	**Steel ball**	High carbon chrome bearing steel	
6	**Steel ball**	High carbon chrome bearing steel	
7	**Round type R retaining ring**	Carbon tool steel	Phosphate coated
8	**Return spring**	Spring steel	Zinc chromated
9	**Plug**	Chromium steel	Nickel plated
10 Note)	(50), 75 to (200) ST **Hexagon socket head set screw**	Chromium steel	Nickel plated
	(25), 50 ST **Hexagon nut**	Carbon steel	Nickel plated
11 Note)	(50), 75 to (200) ST **Adjustment bolt**	Chromium steel	Nickel plated
	(25), 50 ST **Shock absorber**	—	RB1006 or RB1411
12	**Body gasket**	NBR	
13	**Rod seal**	NBR	
14	**Piston seal**	NBR	
15	**O-ring**	NBR	

Note) The strokes indicated in the parentheses are of CXWM20, and CXWM32 includes the strokes indicated in the parentheses.

Replacement Parts: Seal Kit Cylinder Body

Model	Kit no.	Contents
CXWM20	CXWM20-PS	Set of nos. above ⑰, ⑱, ⑲
CXWM32	CXWM32-PS	

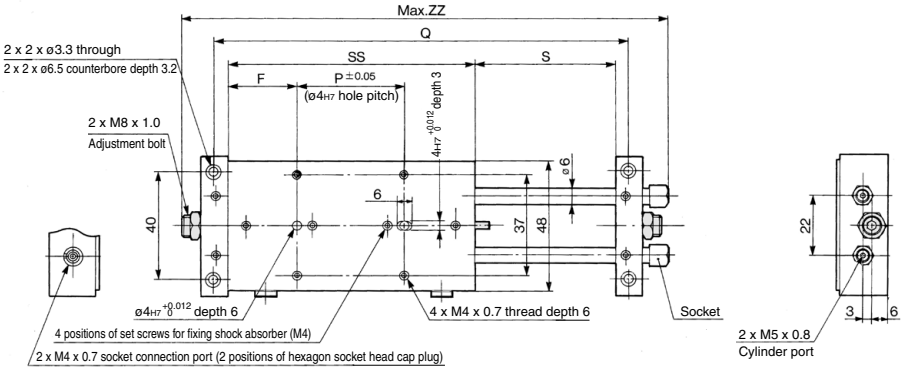
* Seal kit includes ⑰, ⑱, ⑲. Order the seal kit, based on each bore size. (The piston gasket ⑳ is not replaceable.)
* Since the seal kit does not include a grease pack, order it separately. **Grease pack part no.: GR-S-010** (10 g)

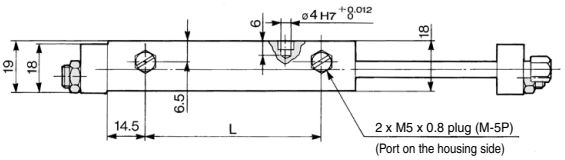
Replacement Parts: Seal Kit End Lock

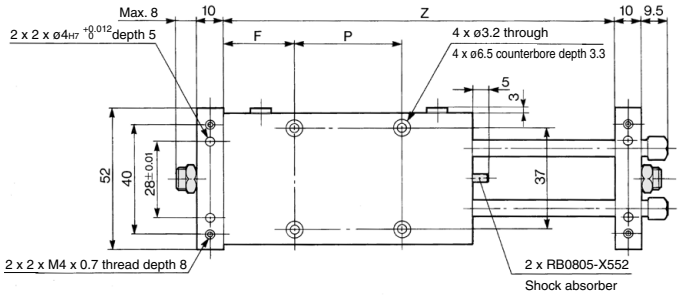
Model	Kit no.	Contents
CXWM20	CXWM20R-PS	Set of nos. above ⑫, ⑬, ⑭, ⑮
CXWM32	CXWM32R-PS	

* Seal kit includes ⑫, ⑬, ⑭, ⑮. 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)

ø10 Basic Type: CXWM10-Stroke/50 to 100





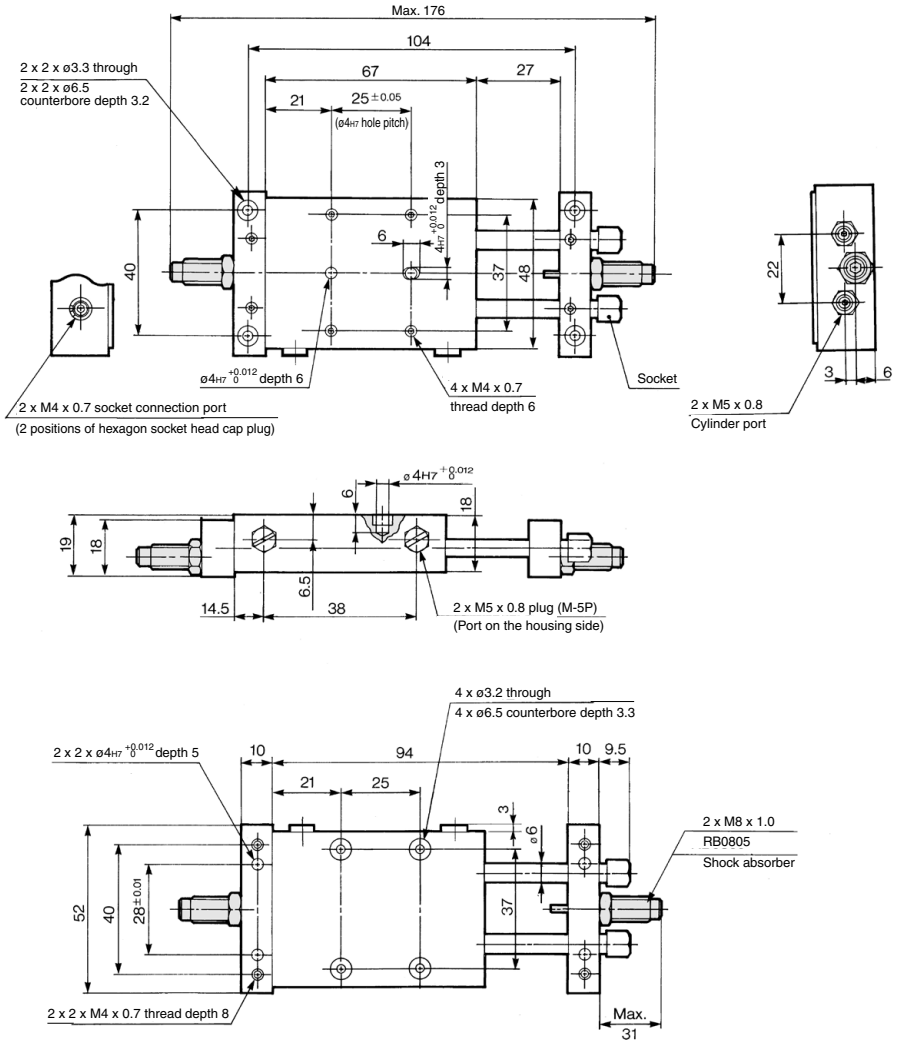


(mm)

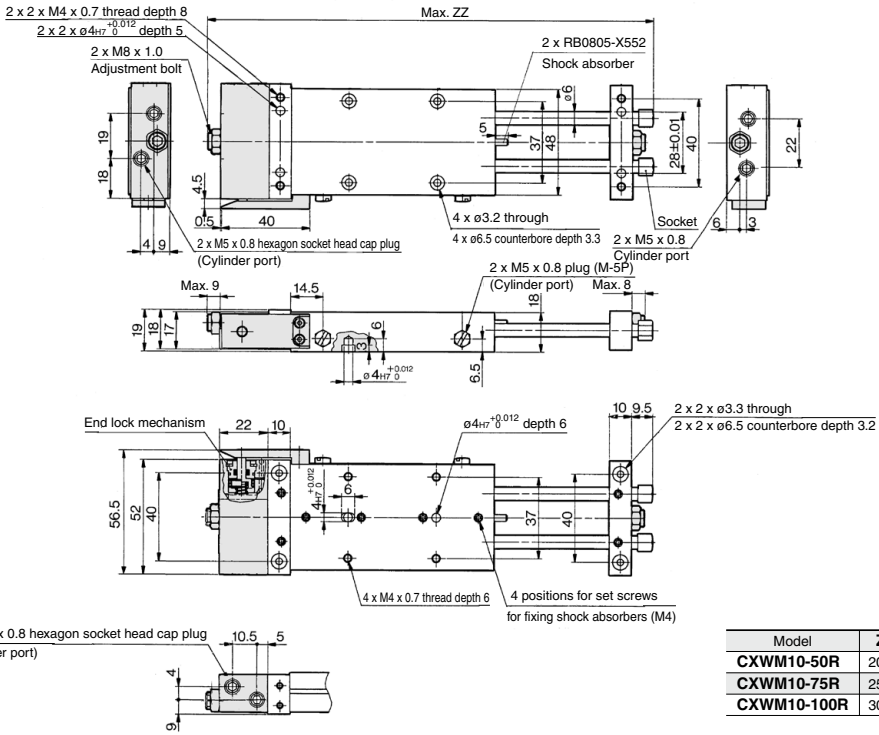
Model	F	L	P	Q	S	SS	Z	ZZ
CXWM10-50	26	63	40	154	52	92	144	181.5
CXWM10-75	26	88	65	204	77	117	194	231.5
CXWM10-100	26	113	90	254	102	142	244	281.5

Note) For 25 stroke, the shock absorber is mounted on a plate. For dimensions of the 25 stroke, refer to page 888.

ø10 Basic Type: CXWM10-25 stroke



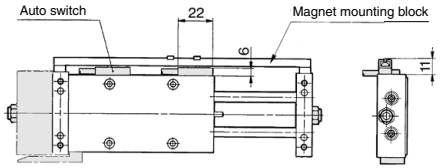
ø10 With End Lock: CXWM10-Stroke/50 to 100R



(mm)

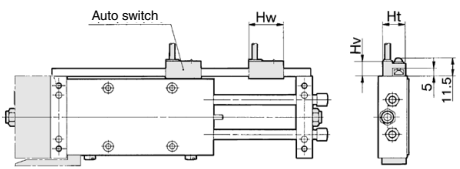
Model	ZZ
CXWM10-50R	204.5
CXWM10-75R	254.5
CXWM10-100R	304.5

Housing mounting type with auto switch
CDBXWM10-Stroke, CDBXWM10-StrokeR



Note 1) The dimensions show D-E7□A and D-E80A.
Note 2) For 25 stroke, the shock absorber is mounted on a single side of the plate. For dimensions of the 25 stroke, refer to page 890.

Plate mounting type with auto switch
CDPXWM10-Stroke, CDPXWM10-StrokeR

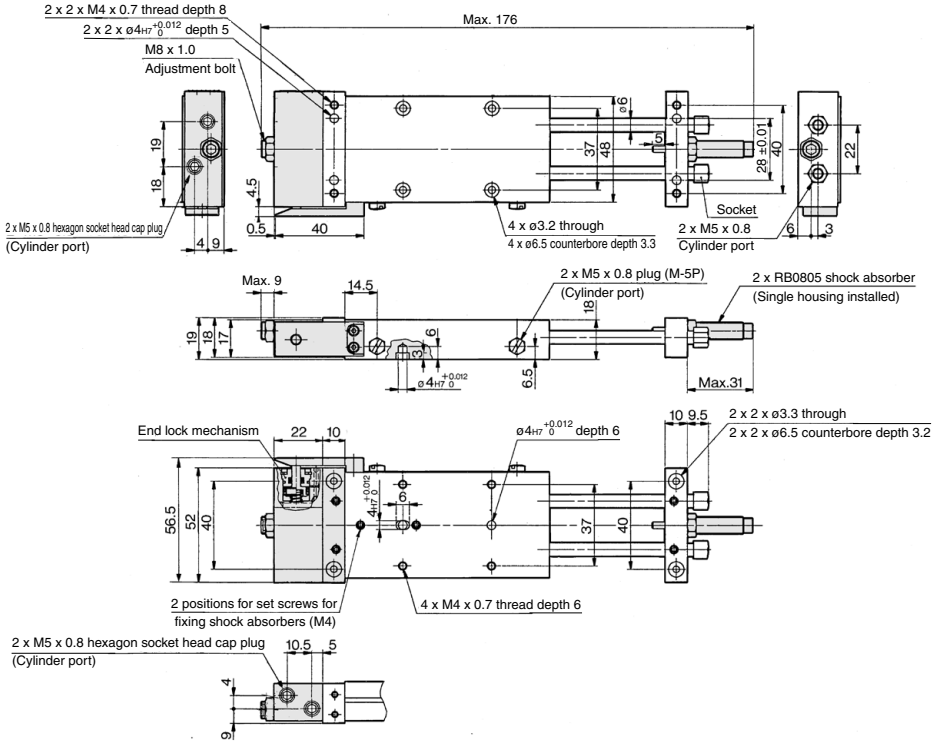


Note 1) The dimensions show D-A7 and D-A8. (mm)

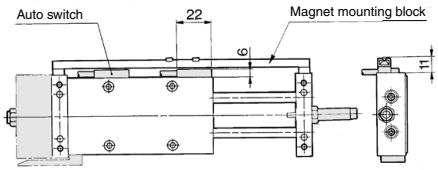
Auto switch model	Hw	Ht	Hv
D-A7□, D-A80	23	15	10.5
D-F7□, D-J79, D-J79W, D-F7□W, D-F79F, D-F7BA, D-F7NT	23	15	10
D-A7□H, D-A80H	22	15	9
D-A73C, D-A80C	23	17.5	17.5
D-F7□V, D-F7□WV, D-F7BAV	23	15	14
D-J79C	24	17.5	16

Note 2) For 25 stroke, the shock absorber is mounted on a single side of the plate. For dimensions of 25 stroke, refer to page 890.

ø10 With End Lock: CXWM10-25 Stroke R

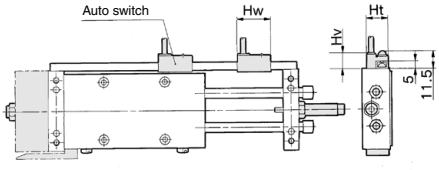


Housing mounting type with auto switch
CDBXWM10-25, CDBXWM10-25R



Note 1) The dimensions show D-E7□A and D-E80A.
Note 2) 2 magnets for auto switches are equipped to the magnet mounting block.

Plate mounting type with auto switch
CDPXWM10-25, CDPXWM10-25R

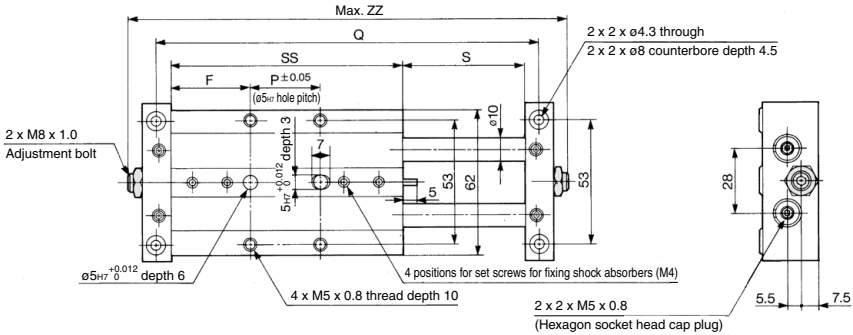


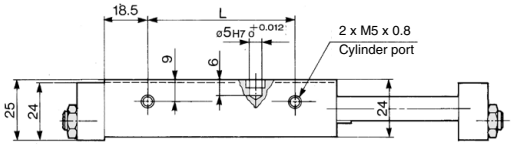
Note 1) The dimensions show D-A7 and D-A8. (mm)

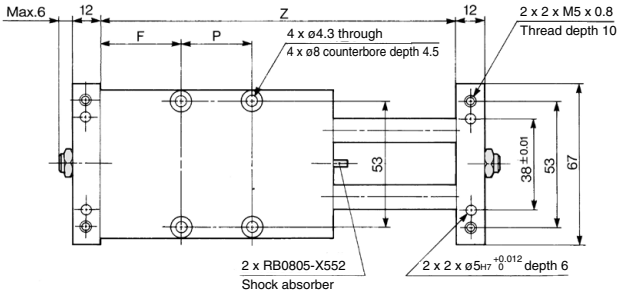
Auto switch model	Hw	Ht	Hv
D-A7□, D-A80	23	15	10.5
D-F7□, D-J79, D-J79W, D-F7□W, D-F79F, D-F7BA, D-F7NT	23	15	10
D-A7□H, D-A80H	22	15	9
D-A73C, D-A80C	23	17.5	17.5
D-F7□V, D-F7□WV, D-F7BAV	23	15	14
D-J79C	24	17.5	16

Note 2) 2 magnets for auto switches are installed in the housing.

ø16 Basic Type: CXWM16-Stroke/50 to 200





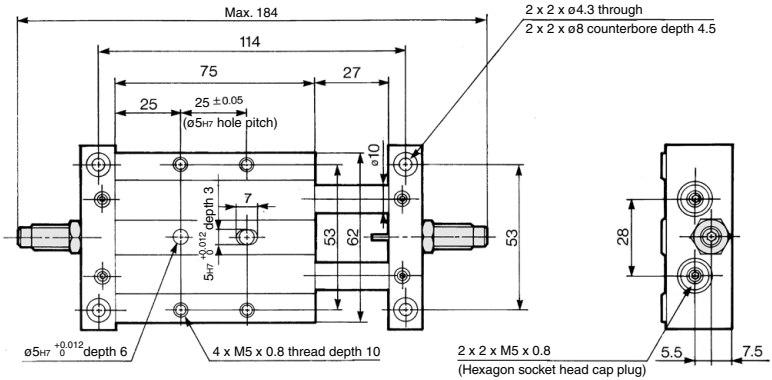


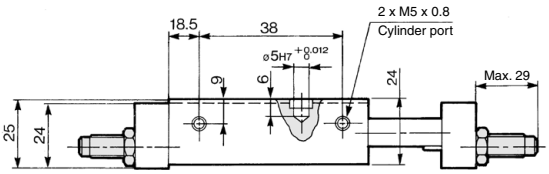
(mm)

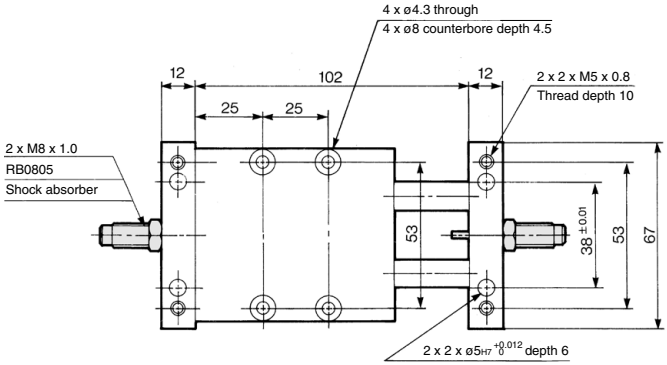
Model	F	L	P	Q	S	SS	Z	ZZ
CXWM16-50	35	63	30	164	52	100	152	188
CXWM16-75	32.5	88	60	214	77	125	202	238
CXWM16-100	37.5	113	75	264	102	150	252	288
CXWM16-125	42.5	138	90	314	127	175	302	338
CXWM16-150	55	163	90	364	152	200	352	388
CXWM16-175	67.5	188	90	414	177	225	402	438
CXWM16-200	80	213	90	464	202	250	452	488

Note) For 25 stroke, the shock absorber is mounted on a plate.
Refer to page 892 for the dimensions of the 25 stroke.

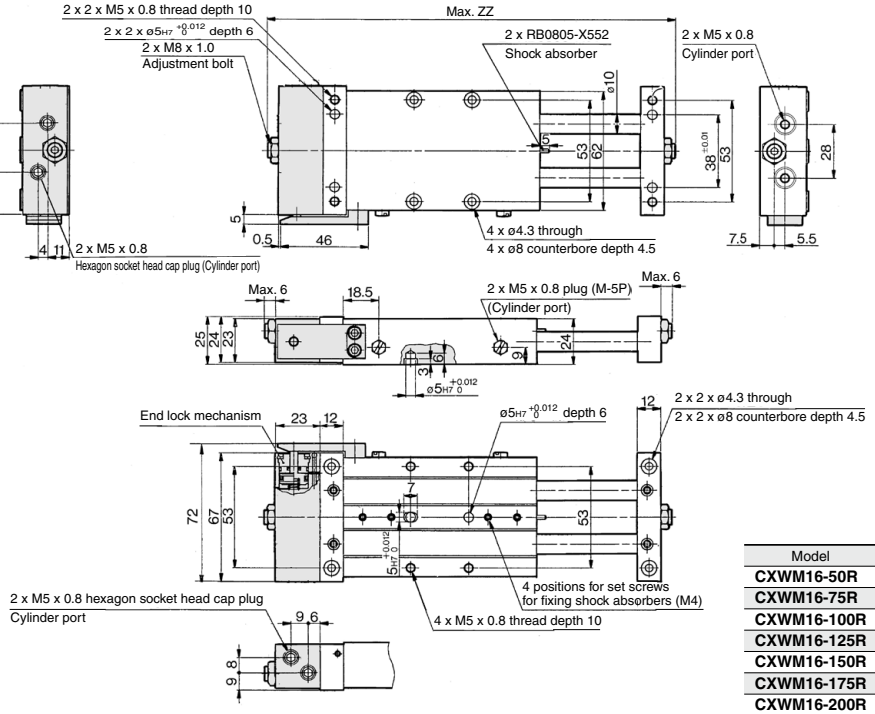
ø16 Basic Type: CXWM16-25 stroke







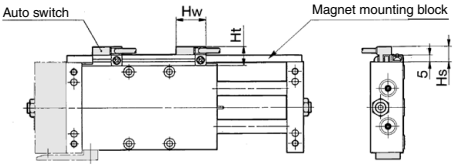
ø16 With End Lock: CXWM16-Stroke/50 to 200R



(mm)

Model	ZZ
CXWM16-50R	211
CXWM16-75R	261
CXWM16-100R	311
CXWM16-125R	361
CXWM16-150R	411
CXWM16-175R	461
CXWM16-200R	511

Housing mounting type with auto switch
CDBXWM16-Stroke, CDBXWM16-StrokeR

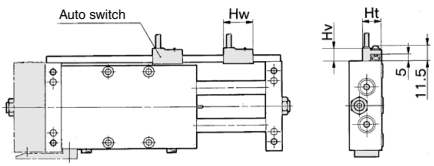


Note 1) The dimensions show D-A7 and D-A8. (mm)

Auto switch model	Hw	Hs	Ht
D-A7□, D-A80	23	12.5	15
D-F7□, D-J79, D-J79W, D-F7□W, D-F79F, D-F7BA, D-F7NT	23	12.5	15
D-A7□H, D-A80H	22	12.5	15
D-A73C, D-A80C	23	15	17.5
D-F7□V, D-F7□WV, D-F7BAV	23	12.5	15
D-J79C	24	15	17.5
D-F7LF	30	12.5	15

Note 2) For 25 stroke, the shock absorber is mounted on a single side of the plate. For dimensions of 25 stroke, refer to page 894.

Plate mounting type with auto switch
CDPXWM16-Stroke, CDPXWM16-StrokeR

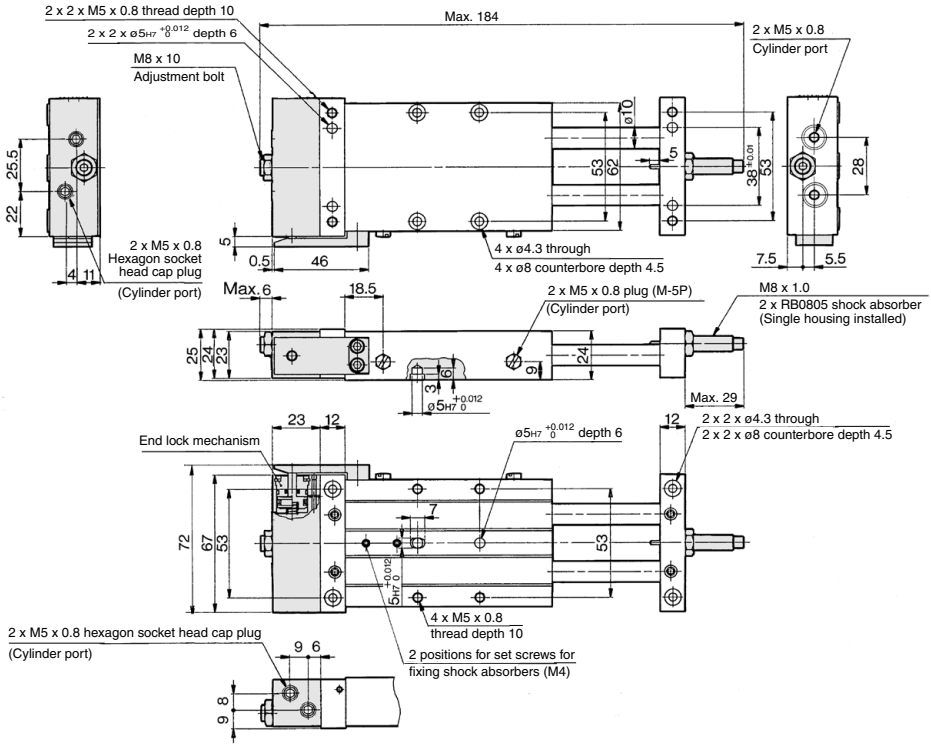


Note 1) The dimensions show D-A7 and D-A8. (mm)

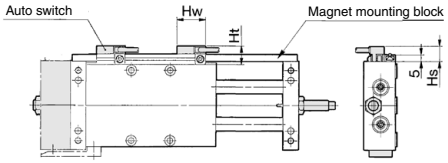
Auto switch model	Hw	Ht	Hv
D-A7□, D-A80	23	15	10.5
D-F7□, D-J79, D-J79W, D-F7□W, D-F79F, D-F7BA, D-F7NT	23	15	10
D-A7□H, D-A80H	22	15	9
D-A73C, D-A80C	23	17.5	17.5
D-F7□V, D-F7□WV, D-F7BAV	23	15	14
D-J79C	24	17.5	16

Note 2) For 25 stroke, the shock absorber is mounted on a single side of the plate. For dimensions of 25 stroke, refer to page 894.

ø16 With End Lock: CXWM16-25 stroke R



Housing mounting type with auto switch
CDBXWM16-25, CDBXWM16-25R

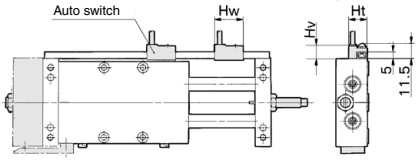


Note 1) The dimensions show D-A7 and D-A8. (mm)

Auto switch model	Hw	Hs	Ht
D-A7□, D-A80	23	12.5	15
D-F7□, D-J79, D-J79W, D-F7□W, D-F79F, D-F7BA, D-F7NT	23	12.5	15
D-A7□H, D-A80H	22	12.5	15
D-A73C, D-A80C	23	15	17.5
D-F7□V, D-F7□WV, D-F7BAV	23	12.5	15
D-J79C	24	15	17.5
D-F7LF	30	12.5	15

Note 2) 2 magnets for auto switches are equipped to the magnet mounting block.

Plate mounting type with auto switch
CDPXWM16-25, CDPXWM16-25R

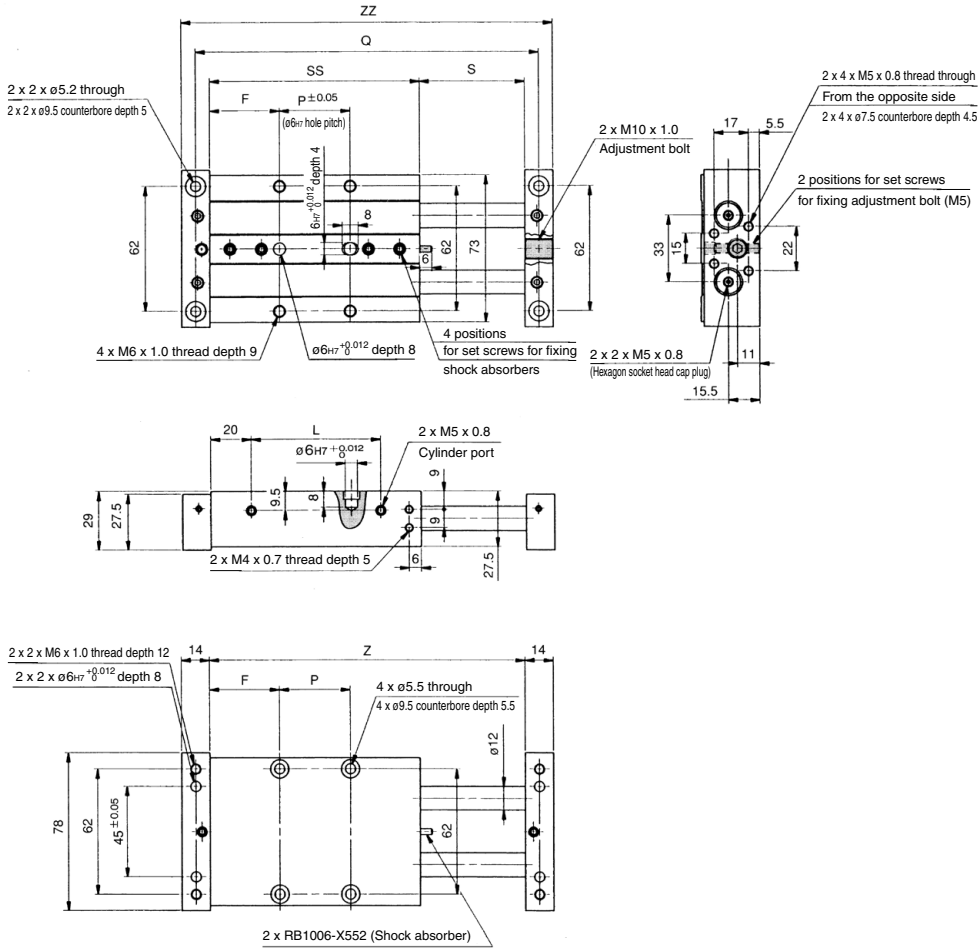


Note 1) The dimensions show D-A7 and D-A8. (mm)

Auto switch model	Hw	Ht	Hv
D-A7□, D-A80	23	15	10.5
D-F7□, D-J79, D-J79W, D-F7□W, D-F79F, D-F7BA, D-F7NT	23	15	10
D-A7□H, D-A80H	22	15	9
D-A73C, D-A80C	23	17.5	17.5
D-F7□V, D-F7□WV, D-F7BAV	23	15	14
D-J79C	24	17.5	16

Note 2) 2 magnets for auto switches are installed in the housing.

ø20 Basic Type: CXWM20-Stroke/50 to 200

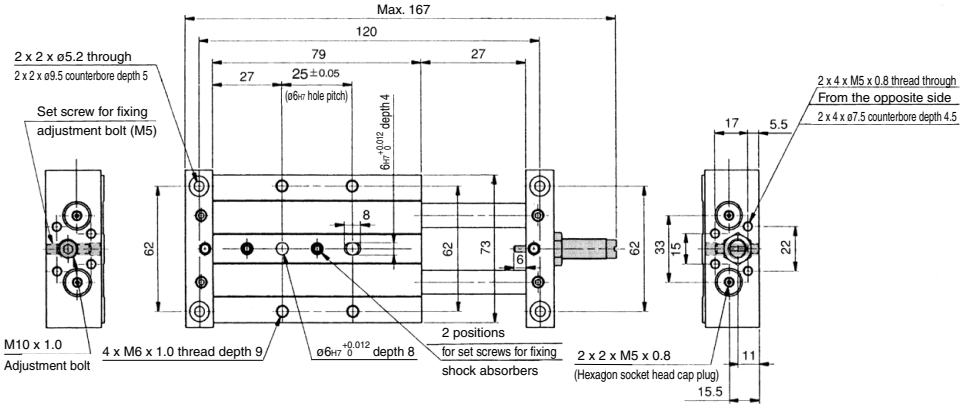


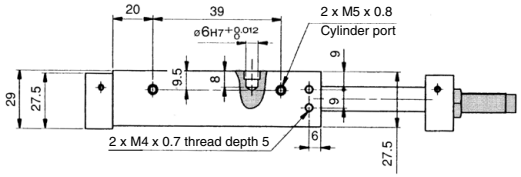
(mm)

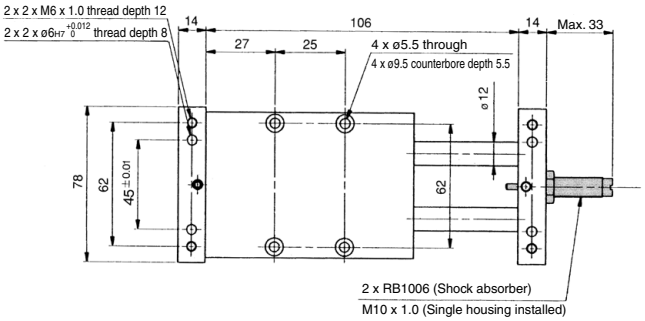
Model	F	L	P	Q	S	SS	Z	ZZ
CXWM20-50	34.5	64	35	170	52	104	156	184
CXWM20-75	34.5	89	60	220	77	129	206	234
CXWM20-100	39.5	114	75	270	102	154	256	284
CXWM20-125	44.5	139	90	320	127	179	306	334
CXWM20-150	57	164	90	370	152	204	356	384
CXWM20-175	69.5	189	90	420	177	229	406	434
CXWM20-200	82	214	90	470	202	254	456	484

Note) For 25 stroke, the shock absorber is mounted on a single side of the plate. For dimensions of 25 stroke, refer to page 896.

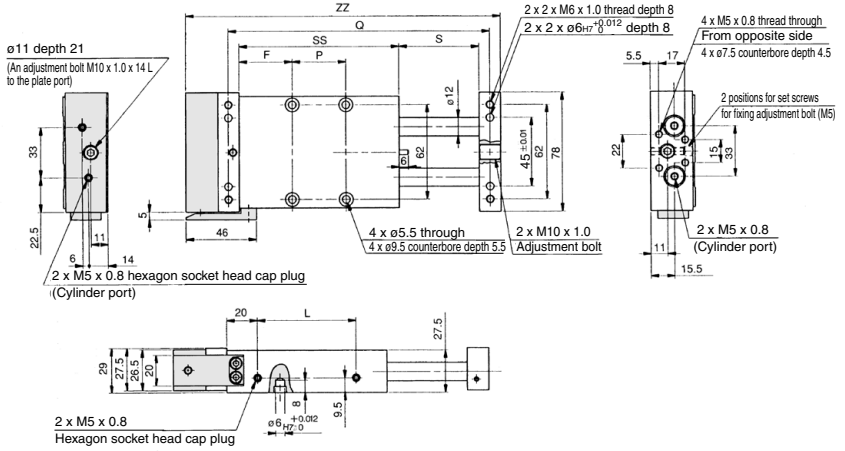
ø20 Basic Type: CXWM20-25 stroke

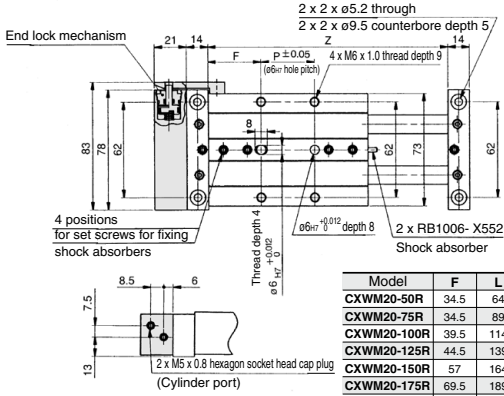






ø20 With End Lock: CXWM20-Stroke/50 to 200R

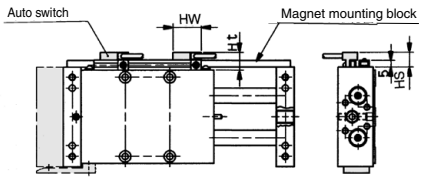




(mm)

Model	F	L	P	Q	S	SS	Z	ZZ
CXWM20-50R	34.5	64	35	170	52	104	156	205
CXWM20-75R	34.5	89	60	220	77	129	206	255
CXWM20-100R	39.5	114	75	270	102	154	256	305
CXWM20-125R	44.5	139	90	320	127	179	306	355
CXWM20-150R	57	164	90	370	152	204	356	405
CXWM20-175R	69.5	189	90	420	177	229	406	455
CXWM20-200R	82	214	90	470	202	254	456	505

Housing mounting type with auto switch
CDBXWM20-Stroke, CDBXWM20-StrokeR

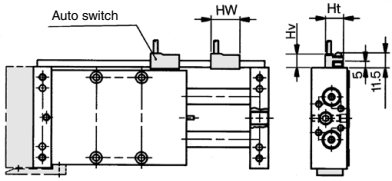


Note 1) The dimensions show D-A7 and D-A8. (mm)

Auto switch model	Hw	Hs	Ht
D-A7□, D-A80	23	12.5	15
D-F7□, D-J79, D-J79W, D-F7□W, D-F79F, D-F7BA, D-F7NT	23	12.5	15
D-A7□H, D-A80H	22	12.5	15
D-A73C, D-A80C	23	15	17.5
D-F7□V, D-F7□WV, D-F7BAV	23	12.5	15
D-J79C	24	15	17.5
D-F7LF	30	12.5	15

Note 2) For 25 stroke, the shock absorber is mounted on a single side of the plate. For dimensions of 25 stroke, refer to page 898.

Plate mounting type with auto switch
CDPXWM20-Stroke, CDPXWM20-StrokeR

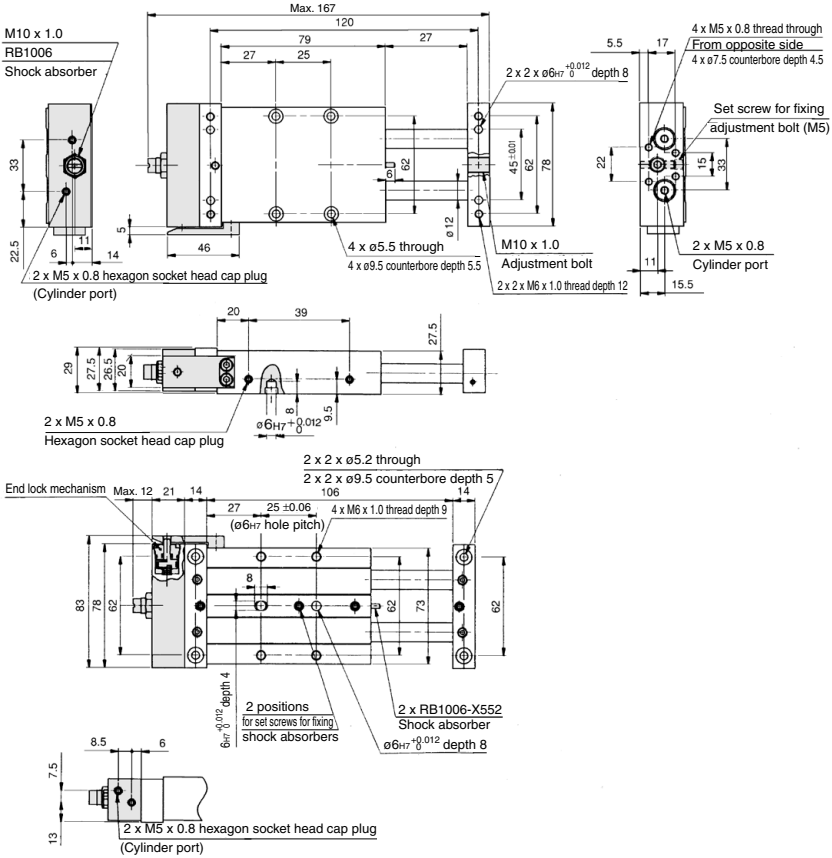


Note 1) The dimensions show D-A7 and D-A8. (mm)

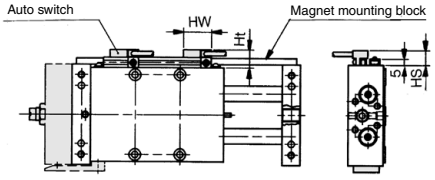
Auto switch model	Hw	Ht	Hv
D-A7□, D-A80	23	15	10.5
D-F7□, D-J79, D-J79W, D-F7□W, D-F79F, D-F7BA, D-F7NT	23	15	10
D-A7□H, D-A80H	22	15	9
D-A73C, D-A80C	23	17.5	17.5
D-F7□V, D-F7□WV, D-F7BAV	23	15	14
D-J79C	24	17.5	16

Note 2) For 25 stroke, the shock absorber is mounted on a single side of the plate. For dimensions of 25 stroke, refer to page 898.

ø20 With End Lock: CXWM20-25 stroke R



Housing mounting type with auto switch
CDBXWM20-25, CDBXWM20-25R

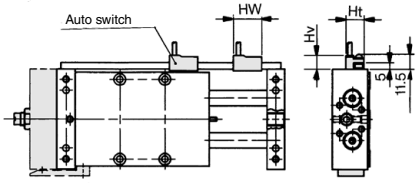


Note 1) The dimensions show D-A7 and D-A8. (mm)

Auto switch model	Hw	Hs	Ht
D-A7□, D-A80	23	12.5	15
D-F7□, D-J79, D-J79W, D-F7□W, D-F79F, D-F7BA, D-F7NT	23	12.5	15
D-A7□H, D-A80H	22	12.5	15
D-A73C, D-A80C	23	15	17.5
D-F7□V, D-F7□WV, D-F7BAV	23	12.5	15
D-J79C	24	15	17.5
D-F7LF	30	12.5	15

Note 2) 2 magnets for auto switches are equipped to the magnet mounting block.

Plate mounting type with auto switch
CDPXWM20-25, CDPXWM20-25R

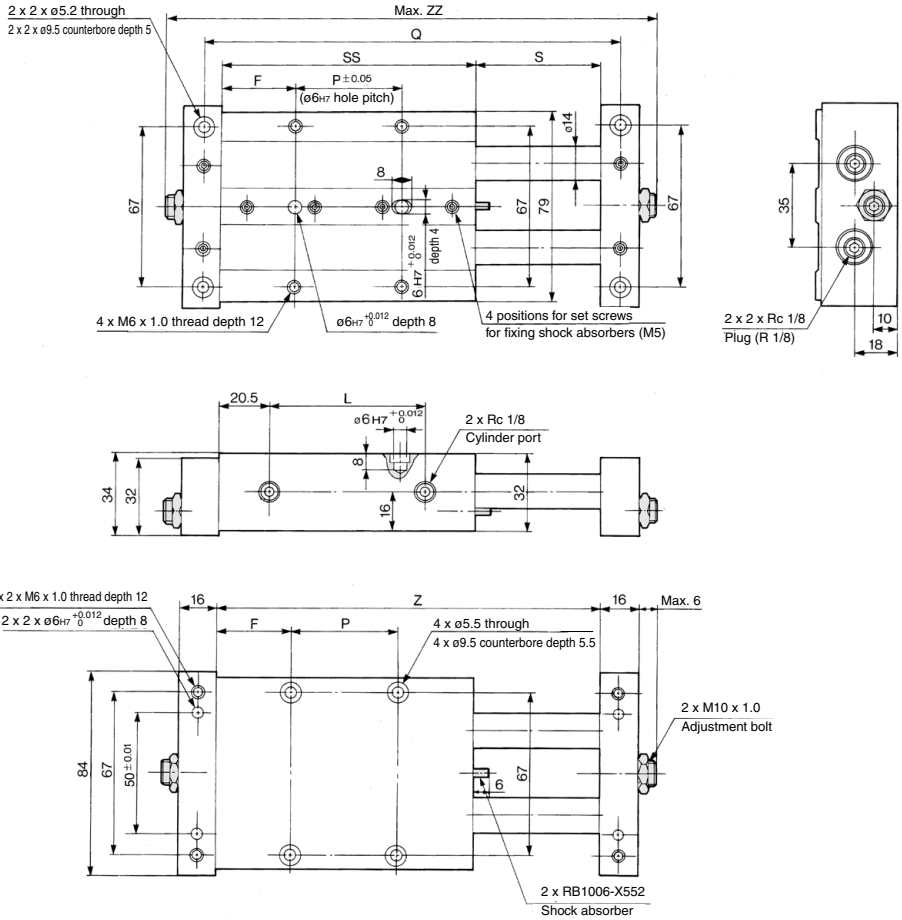


Note 1) The dimensions show D-A7 and D-A8. (mm)

Auto switch model	Hw	Ht	Hv
D-A7□, D-A80	23	15	10.5
D-F7□, D-J79, D-J79W, D-F7□W, D-F79F, D-F7BA, D-F7NT	23	15	10
D-A7□H, D-A80H	22	15	9
D-A73C, D-A80C	23	17.5	17.5
D-F7□V, D-F7□WV, D-F7BAV	23	15	14
D-J79C	24	17.5	16

Note 2) 2 magnets for auto switches are installed in the housing.

ø25 Basic Type: CXWM25-Stroke/50 to 200

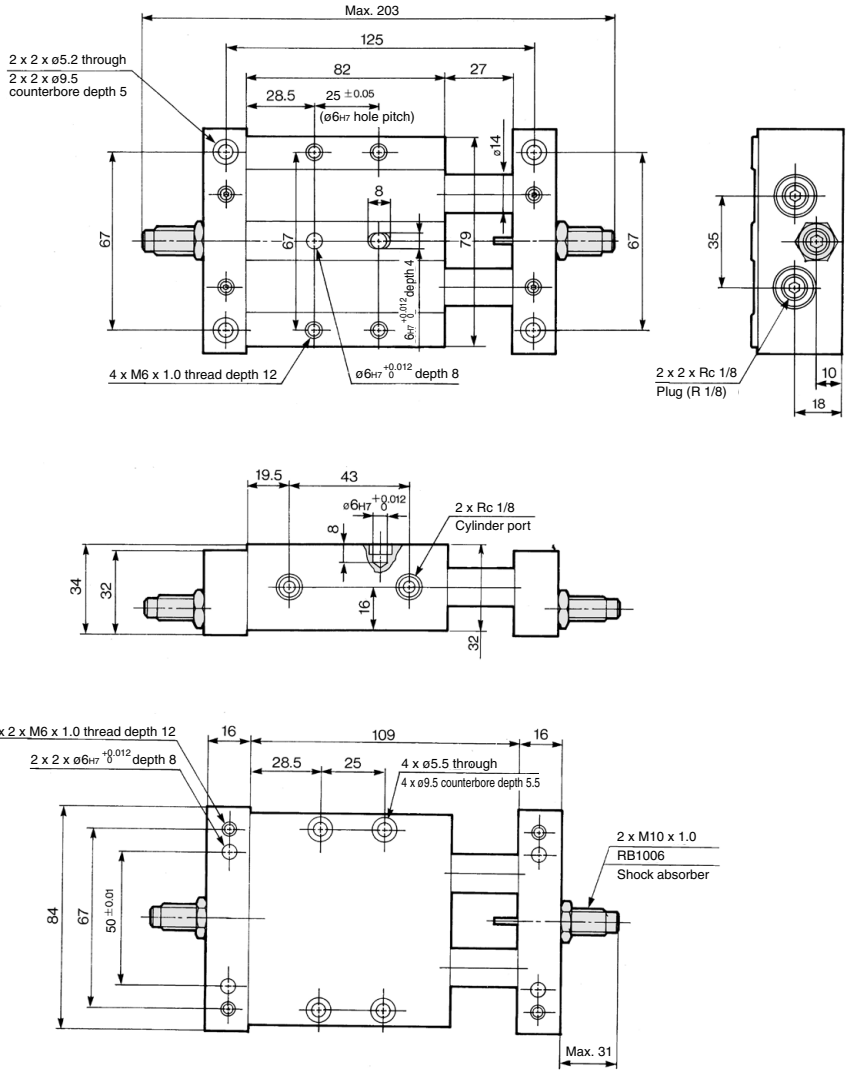


(mm)

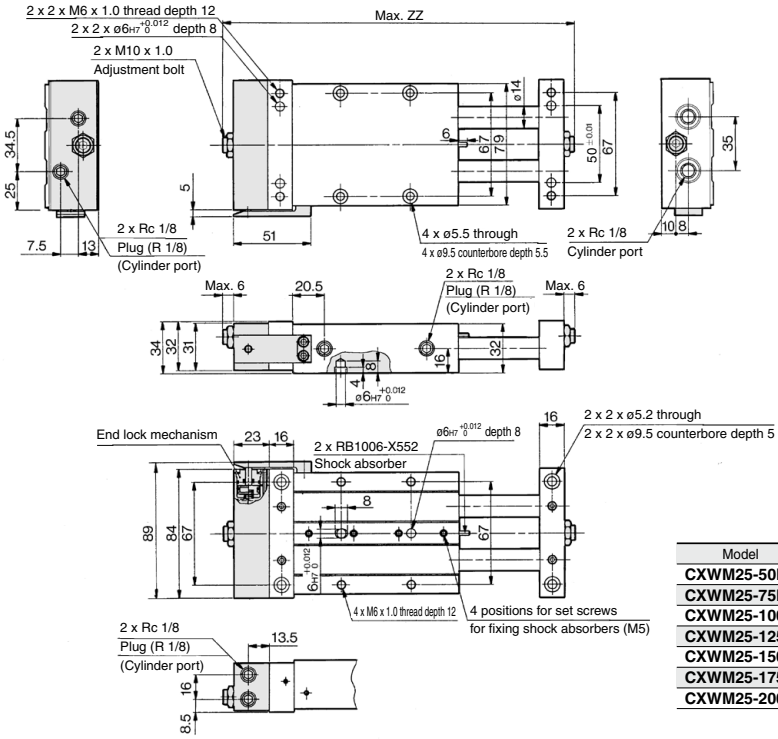
Model	F	L	P	Q	S	SS	Z	ZZ
CXWM25-50	31	66	45	175	52	107	159	203
CXWM25-75	33.5	91	65	225	77	132	209	253
CXWM25-100	33.5	116	90	275	102	157	259	303
CXWM25-125	46	141	90	325	127	182	309	353
CXWM25-150	58.5	166	90	375	152	207	359	403
CXWM25-175	71	191	90	425	177	232	409	453
CXWM25-200	83.5	216	90	475	202	257	459	503

Note) For 25 stroke, the shock absorber is mounted on a plate.
For dimensions of 25 stroke, refer to page 900.

ø25 Basic Type: CXWM25-25 stroke



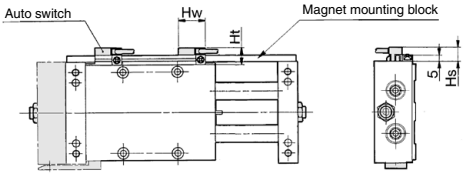
ø25 With End Lock: CXWM25-Stroke/50 to 200R



(mm)

Model	ZZ
CXWM25-50R	226
CXWM25-75R	276
CXWM25-100R	326
CXWM25-125R	376
CXWM25-150R	426
CXWM25-175R	476
CXWM25-200R	526

Housing mounting type with auto switch
CDBXWM25-Stroke, CDBXWM25-StrokeR

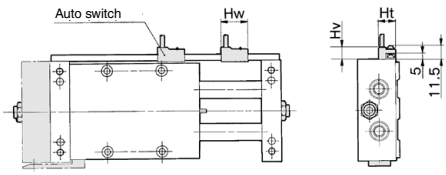


Note 1) The dimensions show D-A7 and D-A8. (mm)

Auto switch model	Hw	Hs	Ht
D-A7□, D-A80	23	12.5	15
D-F7□, D-J79, D-J79W, D-F7□W, D-F79F, D-F7BA, D-F7NT	23	12.5	15
D-A7□H, D-A80H	22	12.5	15
D-A73C, D-A80C	23	15	17.5
D-F7□V, D-F7□WV, D-F7BAV	23	12.5	15
D-J79C	24	15	17.5
D-F7LF	30	12.5	15

Note 2) For 25 stroke, the shock absorber is mounted on a single side of the plate. For dimensions of 25 stroke, refer to page 902.

Plate mounting type with auto switch
CDPXWM25-Stroke, CDPXWM25-StrokeR

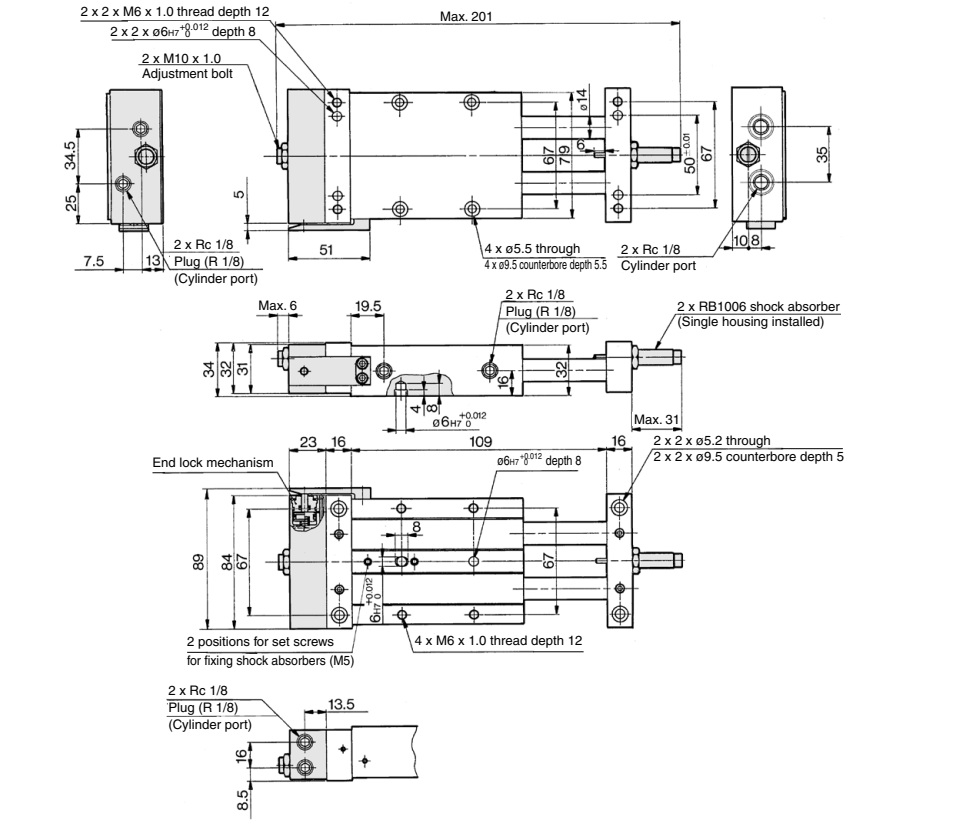


Note 1) The dimensions show D-A7 and D-A8. (mm)

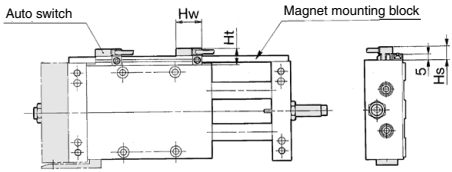
Auto switch model	Hw	Ht	Hv
D-A7□, D-A80	23	15	10.5
D-F7□, D-J79, D-J79W, D-F7□W, D-F79F, D-F7BA, D-F7NT	23	15	10
D-A7□H, D-A80H	22	15	9
D-A73C, D-A80C	23	17.5	17.5
D-F7□V, D-F7□WV, D-F7BAV	23	15	14
D-J79C	24	17.5	16

Note 2) For 25 stroke, the shock absorber is mounted on a single side of the plate. For dimensions of 25 stroke, refer to page 902.

ø25 With End Lock: CXWM25-25 stroke R



Housing mounting type with auto switch
CDBXWM25-25, CDBXWM25-25R

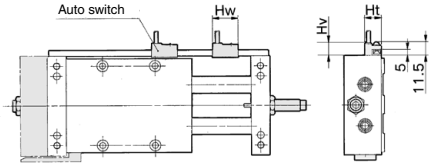


Note 1) The dimensions show D-A7 and D-A8. (mm)

Auto switch model	Hw	Hs	Ht
D-A7□, D-A80	23	12.5	15
D-F7□, D-J79, D-J79W, D-F7□W, D-F79F, D-F7BA, D-F7NT	23	12.5	15
D-A7□H, D-A80H	22	12.5	15
D-A73C, D-A80C	23	15	17.5
D-F7□V, D-F7□WV, D-F7BAV	23	12.5	15
D-J79C	24	15	17.5
D-F7LF	30	12.5	15

Note 2) 2 magnets for auto switches are equipped to the magnet mounting block.

Plate mounting type with auto switch
CDPXWM25-25, CDPXWM25-25R

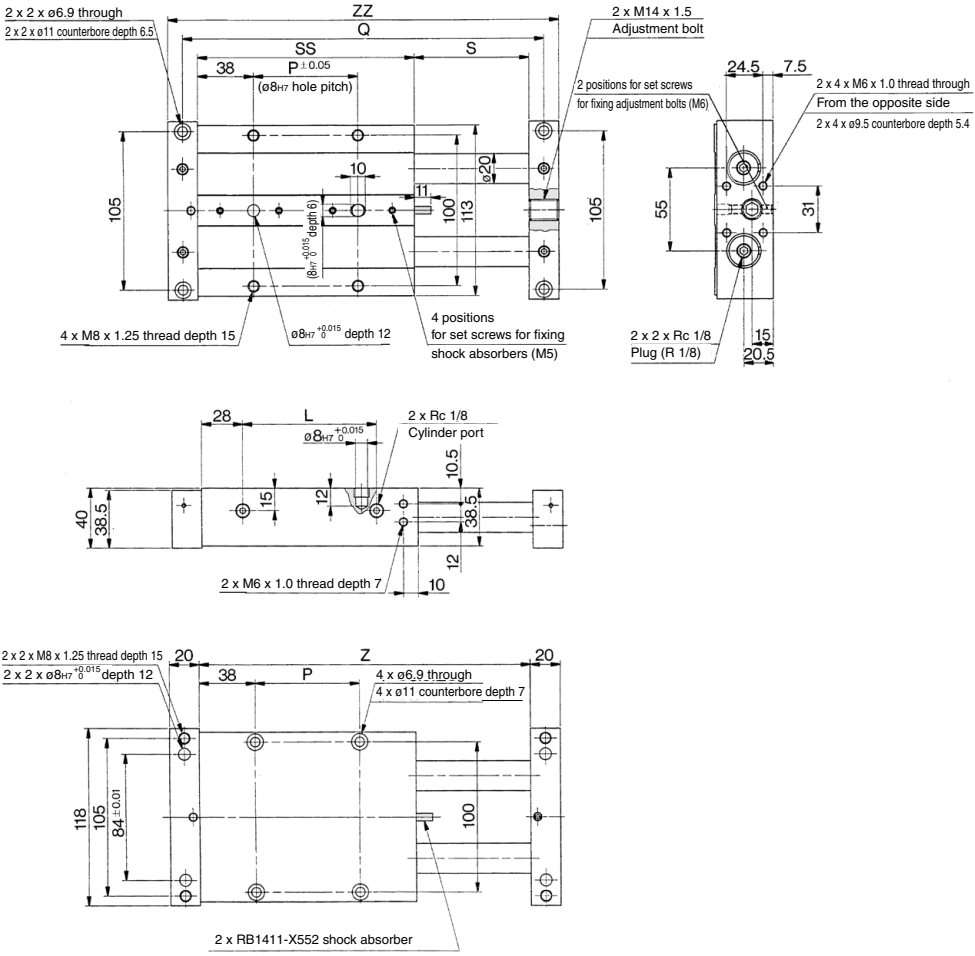


Note 1) The dimensions show D-A7 and D-A8. (mm)

Auto switch model	Hw	Ht	Hv
D-A7□, D-A80	23	15	10.5
D-F7□, D-J79, D-J79W, D-F7□W, D-F79F, D-F7BA, D-F7NT	23	15	10
D-A7□H, D-A80H	22	15	9
D-A73C, D-A80C	23	17.5	17.5
D-F7□V, D-F7□WV, D-F7BAV	23	15	14
D-J79C	24	17.5	16

Note 2) 2 magnets for auto switches are installed in the housing.

ø32 Basic Type: CXWM32-Stroke/75 to 200

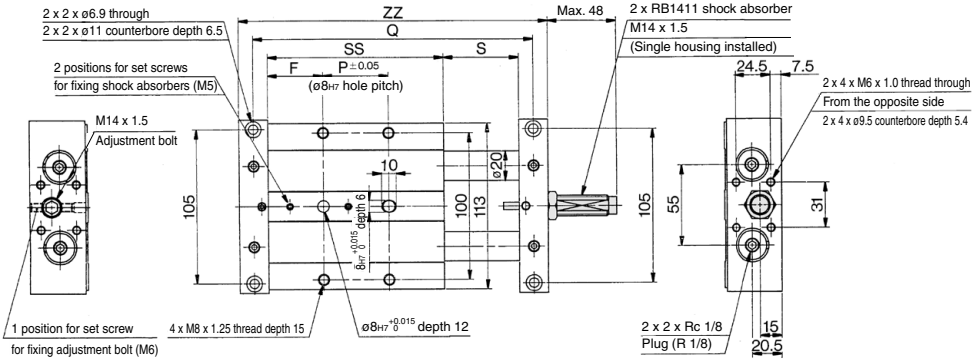


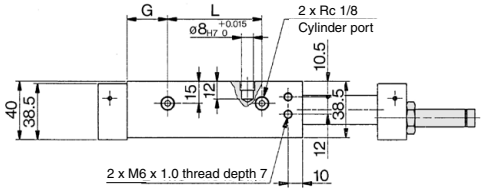
(mm)

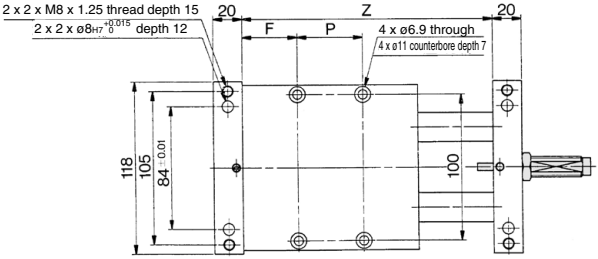
Model	L	P	Q	S	SS	Z	ZZ
CXWM32-75	90	70	243	77	146	223	263
CXWM32-100	115	95	293	102	171	273	313
CXWM32-125	140	120	343	127	196	323	363
CXWM32-150	165	145	393	152	221	373	413
CXWM32-175	190	170	443	177	246	423	463
CXWM32-200	215	195	493	202	271	473	513

Note) For 25 and 50 strokes, the shock absorber is mounted on a single side of the plate. For dimensions of 25 and 50 strokes, refer to page 904.

ø32 Basic Type: CXWM32-Stroke/25, 50



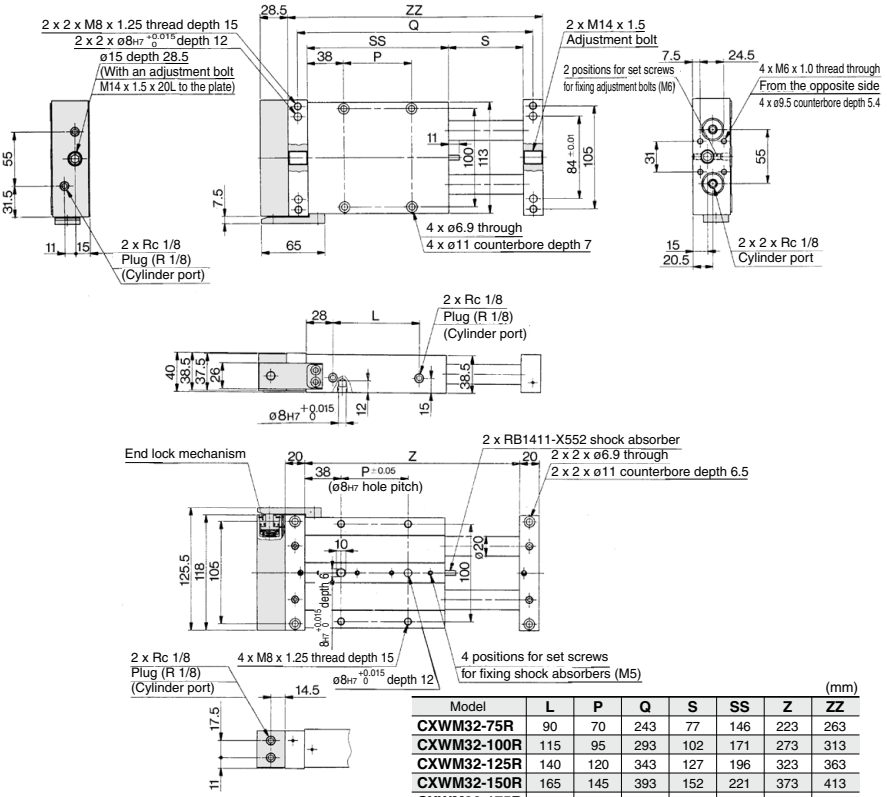




(mm)

Model	F	L	P	Q	S	SS	G	Z	ZZ
CXWM32-25	37	41	22	143	27	96	27.5	123	163
CXWM32-50	38	65	45	193	52	121	28	173	213

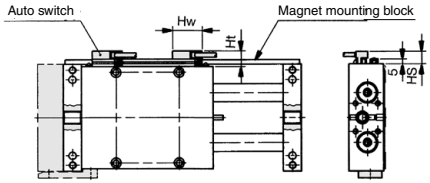
ø32 With End Lock: CXWM32-Stroke/75 to 200R



(mm)

Model	L	P	Q	S	SS	Z	ZZ
CXWM32-75R	90	70	243	77	146	223	263
CXWM32-100R	115	95	293	102	171	273	313
CXWM32-125R	140	120	343	127	196	323	363
CXWM32-150R	165	145	393	152	221	373	413
CXWM32-175R	190	170	443	177	246	423	463
CXWM32-200R	215	195	493	202	271	473	513

Housing mounting type with auto switch
CDBXWM32-Stroke, CDBXWM32-StrokeR

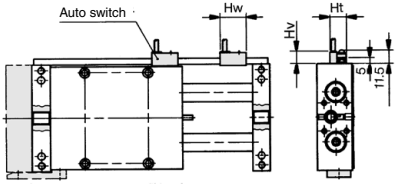


Note 1) The dimensions show D-A7 and D-A8. (mm)

Auto switch model	Hw	Hs	Ht
D-A7□, D-A80	23	12.5	15
D-F7□, D-J79, D-J79W, D-F7□W, D-F79F, D-F7BA, D-F7NT	23	12.5	15
D-A7□H, D-A80H	22	12.5	15
D-A73C, D-A80C	23	15	17.5
D-F7□V, D-F7□WV, D-F7BAV	23	12.5	15
D-J79C	24	15	17.5
D-F7LF	30	12.5	15

Note 2) For 25 and 50 stroke, the shock absorber is mounted on a single side of the plate. For dimensions of 25 and 50 strokes, refer to page 906.

Plate mounting type with auto switch
CDPXWM32-Stroke, CDPXWM32-StrokeR

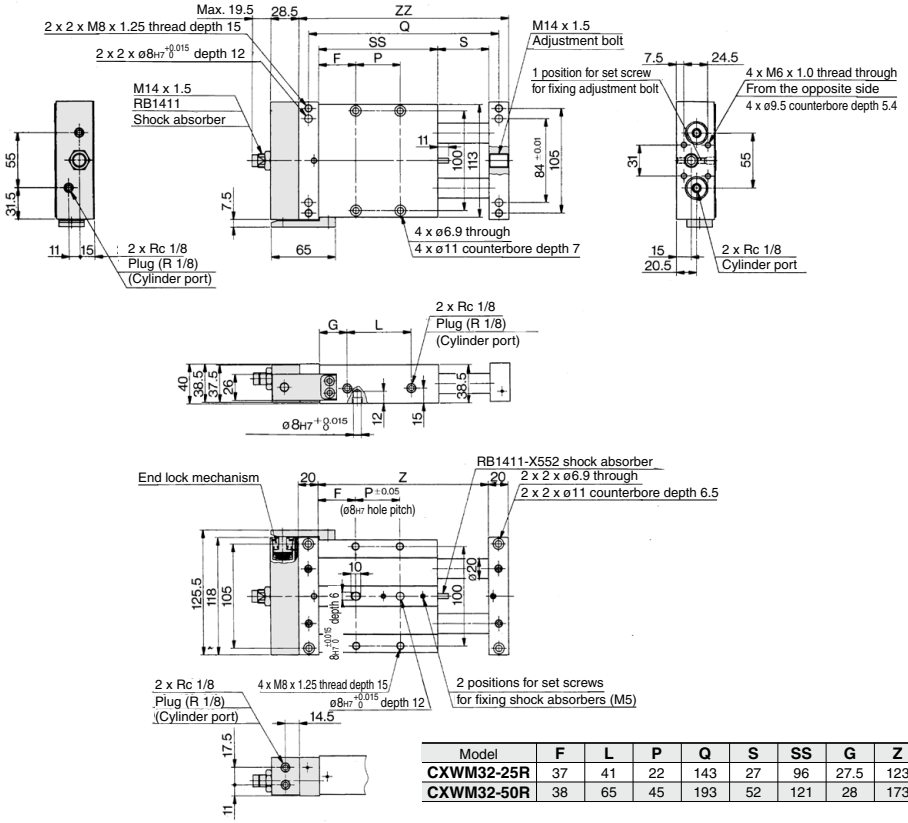


Note 1) The dimensions show D-A7 and D-A8. (mm)

Auto switch model	Hw	Ht	Hv
D-A7□, D-A80	23	15	10.5
D-F7□, D-J79, D-J79W, D-F7□W, D-F79F, D-F7BA, D-F7NT	23	15	10
D-A7□H, D-A80H	22	15	9
D-A73C, D-A80C	23	17.5	17.5
D-F7□V, D-F7□WV, D-F7BAV	23	15	14
D-J79C	24	17.5	16

Note 2) For 25 and 50 stroke, the shock absorber is mounted on a single side of the plate. For dimensions of 25 and 50 strokes, refer to page 906.

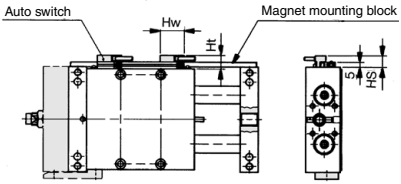
ø32 With End Lock: CXWM32- Stroke/25, 50 R



(mm)

Model	F	L	P	Q	S	SS	G	Z	ZZ
CXWM32-25R	37	41	22	143	27	96	27.5	123	163
CXWM32-50R	38	65	45	193	52	121	28	173	213

Housing mounting type with auto switch
CDBXWM32-25/50, CDBXWM32-25R/50R

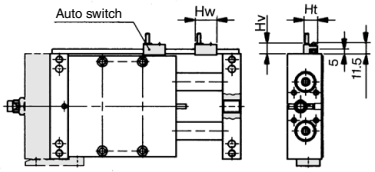


Note 1) The dimensions show D-A7 and D-A8. (mm)

Auto switch model	Hw	Hs	Ht
D-A7□, D-A80	23	12.5	15
D-F7□, D-J79, D-J79W, D-F7□W, D-F79F, D-F7BA, D-F7NT	23	12.5	15
D-A7□H, D-A80H	22	12.5	15
D-A73C, D-A80C	23	15	17.5
D-F7□V, D-F7□WV, D-F7BAV	23	12.5	15
D-J79C	24	15	17.5
D-F7LF	30	12.5	15

Note 2) For 25 stroke, 2 magnets for auto switches are equipped to the magnet mounting block.

Plate mounting type with auto switch
CDPXWM32-25/50, CDPXWM32-25R/50R



Note 1) The dimensions show D-A7 and D-A8. (mm)

Auto switch model	Hw	Ht	Hv
D-A7□, D-A80	23	15	10.5
D-F7□, D-J79, D-J79W, D-F7□W, D-F79F, D-F7BA, D-F7NT	23	15	10
D-A7□H, D-A80H	22	15	9
D-A73C, D-A80C	23	17.5	17.5
D-F7□V, D-F7□WV, D-F7BAV	23	15	14
D-J79C	24	17.5	16

Note 2) For 25 stroke, 2 magnets for auto switches are installed in the housing.

Slide Unit: Built-in Shock Absorber
Ball Bushing Bearing Type
CXWL Series
ø10, ø16, ø20, ø25, ø32

How to Order

Basic type CXWL 16 [ ] — 150 [ ] — [ ]

With auto switch C DB XWL 16 [ ] — 150 [ ] — J79W [ ] — [ ]

Port thread type

Nil	M thread	ø10 to ø20
	Rc 1/8	ø25, ø32
TN	NPT 1/8	
TF	G 1/8	

Cylinder with auto switch

Symbol	Specifications/Mounting
DB	With auto switch/ Housing mounting
DP	With auto switch/ Plate mounting

Bearing type

L	Ball bushing bearing

Bore size/Stroke (mm)

ø10	25, 50, 75, 100
ø16	25, 50, 75, 100, 125, 150, 175, 200
ø20	25, 50, 75, 100, 125, 150, 175, 200
ø25	25, 50, 75, 100, 125, 150, 175, 200
ø32	(25), 50, 75, 100, 125, 150, 175, 200

Note 1) For (25) stroke, the shock absorber is mounted on a single side of the plate.
Note 2) For the strokes other than those indicated above, refer to the stroke table on page 908.
Note 3) For ø16, ø20 and ø25, strokes up to 275, and for ø32, strokes up to 225 are available as Made-to-Order. (-XB11)

Auto switch

Nil	Without auto switch (Built-in magnet)

∗ For the applicable auto switch model, refer to the table below.
∗ Auto switches are shipped together, (but not assembled).

End lock

Nil	None
R	End lock

Made to Order
∗ Refer to page 908 for the Made to Order specifications.

Number of auto switches

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

Applicable Auto Switches/Refer to pages 1289 to 1383 for further information on auto switches.

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage DC	Load voltage AC	Rail mounting Perpendicular	Rail mounting In-line	Applicable cylinder size Housing mounting	Applicable cylinder size Plate mounting	Lead wire length (m)∗ 0.5 (Nil)	3 (L)	5 (Z)	None (N)	Pre-wirded connector	Applicable load	
Solid state auto switch	–	Grommet	Yes	3-wire (NPN)	24 V	–	F7NV	F79	ø16 ø20 ø25 ø32	ø10 ø16 ø20 ø25 ø32	●	●	○	–	○	IC circuit	Relay, PLC
				3-wire (PNP)	5 V, 12 V		F7PV	F7P			●	●	○	–	○		
				2-wire	12 V		F7BV	J79			●	●	○	–	○	–	
		Connector					J79C	–			●	●	●	●	–		
	Diagnostic indication (2-color indicator)	Grommet		3-wire (NPN)	5 V, 12 V		F7NWV	F79W			●	●	○	–	○	IC circuit	
				3-wire (PNP)			–	F7PW			●	●	○	–	○		
				2-wire	12 V		F7BWV	J79W			●	●	○	–	○	–	
	Water resistant (2-color indicator)						F7BAV∗∗∗	F7BA∗∗∗			–	●	○	–	○		
	With diagnostic output (2-color indicator)			4-wire (NPN)	5 V, 12 V		–	F79F			●	●	○	–	○	IC circuit	
Reed auto switch	–	Grommet	Yes	3-wire (NPN equivalent)	–	5 V	–	–	ø16 ø20 ø25 ø32	ø10 ø16 ø20 ø25 ø32	●	●	–	–	–	IC circuit	–
				2-wire	–	–	200 V	A72	A72H			●	●	–	–	–	–	Relay, PLC
			No		24 V	12 V	100 V	A73	A73H			●	●	–	–	–		
						5 V, 12 V	100 V or less	A80	A80H			●	●	–	–	–	IC circuit	
		Connector	Yes			12 V	–	A73C	–			●	●	●	●	–	–	
			No			5 V, 12 V	24 V or less	A80C	–			●	●	●	●	–	IC circuit	
		Grommet	Yes	3-wire (NPN equivalent)	–	5 V	–	–	E76A	ø10	–	●	●	–	–	–	IC circuit	–
				2-wire	24 V	12 V	100 V	–	E73A			●	●	–	–	–	–	Relay, PLC
			No			5 V, 12 V	100 V or less		E80A			●	●	–	–	–	IC circuit	

∗∗∗ Water resistant type auto switches can be mounted on the above models, but in such case SMC cannot guarantee water resistance. Consult with SMC regarding water resistant types with the above model numbers.

∗ Lead wire length symbols: 0.5 m ····· Nil (Example) F79W
3 m ····· L (Example) F79WL
5 m ····· Z (Example) F79WZ
None ····· N (Example) J79CW

∗ Solid state auto switches marked with "○" are produced upon receipt of order.
∗∗ It is impossible to mount solid state switches to the housing mounting ø10.

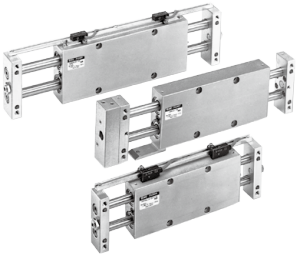
• Since there are other applicable auto switches than listed, refer to page 925 for details.
• For details about auto switches with pre-wired connector, refer to pages 1358 and 1359.

Built-in shock absorber
This is built-in shock absorber type in which the shock absorber is enclosed in the housing.

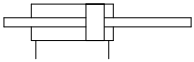
Dramatically reduced installation labor
The machining precision required for positioning during the installation of the cylinder has been reduced through the adoption of a special pin hole machining process, thus decreasing the amount of labor involved in adjustment.

High-precision ball bushing
The bearings made of ball bushings decrease the rise in starting pressure that could be caused by a load imbalance.
This also enables smooth operation by ensuring stable travel resistance.

Provided with an end lock mechanism
An end lock is also available, which maintains the cylinder's original position even if the air supply is interrupted.



Symbol
Without cushion



Made to Order

Made to Order: Individual Specifications
(For details, refer to pages 927 to 929.)

Symbol	Specifications
-X138	Adjustable stroke
-X146	Hollow piston rod
-X168	Helical insert thread
-X169	2 built-in magnets

Made to Order Specifications
Click here for details

Symbol	Specifications
-XB11	Long stroke type
-XB13	Low speed cylinder (5 to 50 mm/s)
-XC22	Fluororubber seal

Moisture Control Tube IDK Series

When operating an actuator with a small diameter and a short stroke at a high frequency, the dew condensation (water droplet) may occur inside the piping depending on the conditions.
Simply connecting the moisture control tube to the actuator will prevent dew condensation from occurring. For details, refer to the **Web Catalog**.

Specifications

Type		Non-lube
Fluid		Air
Proof pressure		1.5 MPa
Max. operating pressure		1.0 MPa
Min. operating pressure	**CXWL10/16**	0.15 MPa
	CXWL20/25/32	0.10 MPa
Ambient & fluid temperature		–10 to 60°C (No freezing)
Piston speed (Non-lube)		30 to 500 mm/s
Cushion		Shock absorber
Stroke adjustable range		Standard stroke: ±2 mm
Accessory (Option)		Straight knock pin (2 pcs.), Adjusting bolt* (-X138)

* "-X138" has a stroke adjustable range of –12.5 mm on one side.

Maximum Load Weight/Non-rotating Accuracy/Maximum Holding Force

Model	CXWL10	CXWL16	CXWL20	CXWL25	CXWL32
Max. movable weight (1)	1 kg	4 kg	5 kg	7 kg	10 kg
Non-rotating accuracy (2) (Deflection of a piston rod is not included.)	± 0.09°	± 0.03°	± 0.03°	± 0.02°	± 0.01°
Max. holding force (End lock model)	39.2 N	98.1 N	147.1 N	245.2 N	392.3 N

Note 1) Place the center of gravity of the load and center of the slide unit close during operation. If they are placed far apart from each other, please consult with SMC.
Note 2) The factors are obtained under the conditions of a 25 strokes plate is pushed out.

Shock Absorber Specifications

Shock absorber (1)		RB0805-X552	RB1006-X552	RB1411 RB1411-X552
Applicable slide unit		CXWL10/16-□□	CXWL20/25-□□	CXWL32-□□
Maximum energy absorption (J)		0.98	3.92	14.7
Stroke absorption (mm)		5	6	11
Max. collision speed (m/sec)		0.05 to 5		
Max. operating frequency (cycle/min) (2)		80	70	45
Max. allowable thrust (N)		147	353	667
Ambient temperature range (°C)		–10 to 80		
Spring force (N)	**Extended**	1.96	4.22	6.86
	Retracted	3.83	6.18	15.30
Weight (g)		15	25	65

Note 1) "-X552" is an exclusive shock absorber installed in the housing, and is the screw not attached specification of the outer part of the outer tube. "CXWL32-25" is mounted on a single side of the plate and of the screw attached specification.
Note 2) It denotes the values at the maximum energy absorption per one cycle. Therefore, the operating frequency can be increased according to the energy absorption.
* The shock absorber service life is different from that of the cylinder depending on the operating conditions. Refer to the RB series Specific Product Precautions for the replacement period.

Theoretical Output

(N)

Model	Rod size (mm)	Piston area (mm²)	Operating pressure (MPa) 0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
CXWL10-□□	6	101	20	30	40	51	61	71	81	91
CXWL16-□□	10	245	49	74	98	123	147	172	196	221
CXWL20-□□	12	402	80	121	161	201	241	281	322	362
CXWL25-□□	14	597	119	179	239	299	358	418	478	537
CXWL32-□□	20	980	196	294	392	490	588	686	784	882

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

Standard Stroke

Model	Standard stroke (mm) 25	50	75	100	125	150	175	200
CXWL10-□□	●	●	●	●	—	—	—	—
CXWL16-□□	●	●	●	●	●	●	●	●
CXWL20-□□	●	●	●	●	●	●	●	●
CXWL25-□□	●	●	●	●	●	●	●	●
CXWL32-□□	(*)	●	●	●	●	●	●	●

Note) The strokes marked with "(*)" has an absorber of single side plate mounting type.

Weight

(kg)

Model	Stroke (mm)							
	25	50	75	100	125	150	175	200
CXWL10	0.33	0.40	0.46	0.53	–	–	–	–
CXWL16	0.72	0.85	0.98	1.11	1.23	1.36	1.49	1.62
CXWL20	1.0	1.18	1.35	1.53	1.71	1.89	2.06	2.24
CXWL25	1.32	1.54	1.76	1.97	2.19	2.43	2.63	2.86
CXWL32	2.56	2.96	3.37	3.75	4.19	4.56	4.98	5.39

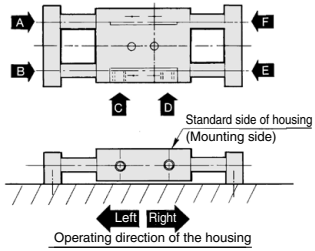
Additional Weight with End Lock (CXWL□-R)

(kg)

Applicable model	Additional weight
CXWL10	0.08
CXWL16	0.14
CXWL20	0.15
CXWL25	0.20
CXWL32	0.43

Operating Direction with Different Pressure Ports

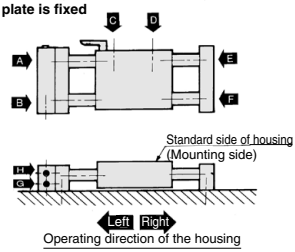
Operating direction of housing when the plate is fixed



Pressure port	A	B	C	D	E	F
Operating direction	Right	Left	Left	Right	Left	Right

∗ There are 9 possible reciprocating piping methods.

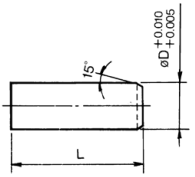
With end lock (CXWL-□R)
Operating direction of housing when the plate is fixed



Pressure port	A	B	C	D	E	F	G	H
Operating direction	Right	Left	Left	Right	Right	Left	Left	Right

∗ There are 16 possible reciprocating piping methods.

Accessory
Straight Knock Pin (Option)



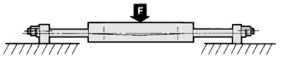
(mm)

Model	L	ø D	Model*
CXWL10	10	4	MS4-10
CXWL16	10	5	MS5-10
CXWL20	15	6	MS6-15
CXWL25	15	6	MS6-15
CXWL32	20	8	MS8-20

∗ Manufactured by Misumi Trading Ltd.

Deflection of Piston Rod by Center Loading (Reference)

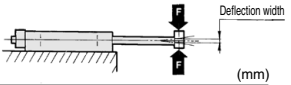
When center loading is added to the center of the housing



(mm)

Model	Load (N) \ Stroke	100	200
CXWL10	9.81	0.07	–
CXWL16	39.2	0.05	0.20
CXWL20	49	0.04	0.15
CXWL25	68.6	0.03	0.10
CXWL32	98.1	0.02	0.07

When center loading is added to the center of the plate



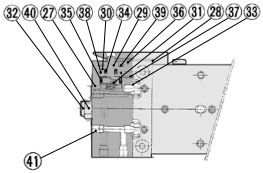
(mm)

Model	Load (N) \ Stroke	50	100	150	200
CXWL10	2.94	0.06	0.30	–	–
CXWL16	4.90	0.03	0.10	0.25	0.45
CXWL20	7.84	0.03	0.09	0.18	0.35
CXWL25	9.81	0.03	0.09	0.16	0.25
CXWL32	29.42	0.02	0.05	0.10	0.15

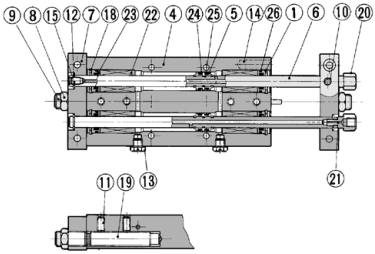
Note) The values denote the total width of the deflections in the upward/downward direction.

Construction: ø10, ø16, ø25

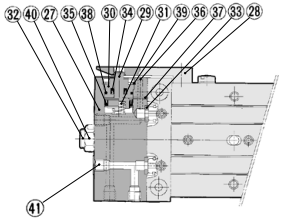
CXWL10



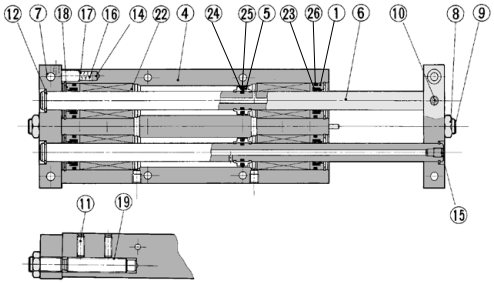
With end lock



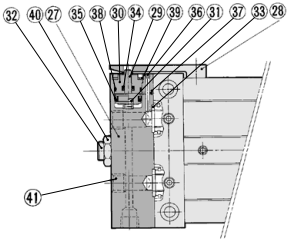
CXWL16



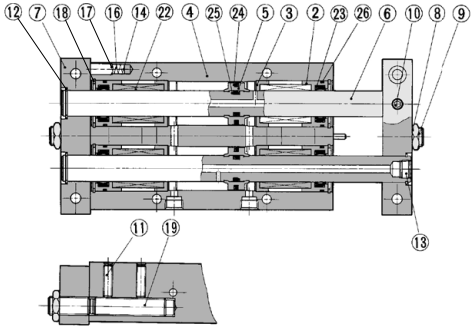
With end lock



CXWL25



With end lock



Construction: ø10, ø16, ø25

Component Parts

No.	Description	Material	Note
1	**Rod cover**	Aluminum alloy	Anodized
2	**Rod cover A**	Aluminum alloy	Anodized
3	**Rod cover B**	Aluminum alloy	Anodized
4	**Housing**	Aluminum alloy	Hard anodized
5	**Piston**	Aluminum alloy	Chromated
6	**Piston rod**	High carbonate chrome bearing steel pipe	Quenched, Hard chrome plated
7	**Plate**	Aluminum alloy	Hard anodized
8	**Lock nut**	Carbon steel	Nickel plated
9	**Adjusting bolt**	Chromium steel	Nickel plated
10	**Set screw (For fixing rods)**	Chromium steel	Nickel plated
11	**Set screw (For fixing shock absorbers)**	Stainless steel	
12	**Retaining ring**	Carbon tool steel	Phosphate coated
13	**Plug**	Brass	Nickel plated
14	**Magnet**	—	ø5
15	**Set screw for seal**	Chromium steel	Nickel plated
16	**Spring**	Stainless steel	
17	**Type CR retaining ring**	Carbon tool steel	
18	**Round type R retaining ring**	Carbon tool steel	Phosphate coated
19	**Shock absorber**	—	(RB0805-X552 or RB1006-X552)
20	**Socket**	Brass	Electroless nickel plated
21	**Gasket**	NBR	
22	**Ball bushing**	—	
23	**Rod seal**	NBR	
24	**Piston seal**	NBR	
25	**Piston gasket**	NBR	
26	**Cylinder tube gasket**	NBR	

Replacement Parts: Seal Kit
Cylinder Body

Model	Kit no.	Contents
CXWL10	CXWL10-PS	A set of ㉓, ㉔ and ㉖ listed above
CXWL16	CXWL16-PS	
CXWL25	CXWL25-PS	

∗ Seal kit includes ㉓, ㉔ and ㉖. Order the seal kit with the part number for each model.
∗ ㉕ is not replaceable.
∗ Since the seal kit does not include a grease pack, order it separately.
Grease pack part no.: GR-S-010 (10 g)

Component Parts: With End Lock

No.	Description	Material	Note
27	**Locking body**	Aluminum alloy	Hard anodized
28	**Lock finger**	Alloy tool steel	Nickel plated after quenched
29	**Lock piston**	Carbon tool steel	Electroless nickel plated after quenched
30	**Rod cover**	Aluminum alloy	
31	**Return spring**	Spring steel	Zinc chromated
32	**Adjusting bolt**	Chromium steel	Nickel plated
33	**Body gasket**	NBR	
34	**Rod seal**	NBR	
35	**Piston seal**	NBR	
36	**Steel ball**	High carbon chrome bearing steel	
37	**Steel ball**	High carbon chrome bearing steel	
38	**O-ring**	NBR	
39	**Round type R retaining ring**	Carbon tool steel	Phosphate coated
40	**Lock nut**	Carbon steel	Nickel plated
41	**Plug**	Chromium steel	Nickel plated

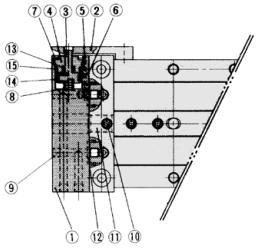
Replacement Parts: Seal Kit
End Lock

Model	Kit no.	Contents
CXWL10	CXWL10R-PS	A set of ㉝, ㉞, ㉟ and ㊳ listed above
CXWL16	CXWL16R-PS	
CXWL25	CXWL25R-PS	

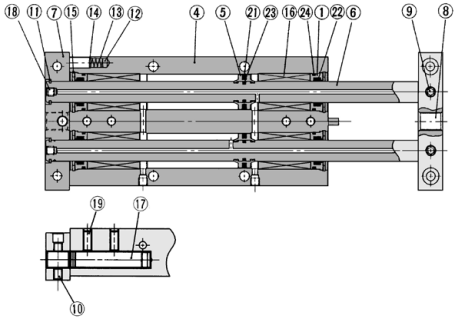
∗ Seal kit includes ㉝, ㉞, ㉟ and ㊳. Order the seal kit with the part number for each model.
∗ Since the seal kit does not include a grease pack, order it separately.
Grease pack part no.: GR-S-010 (10 g)

Construction: ø20, ø32

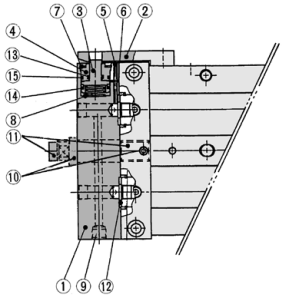
CXWL20



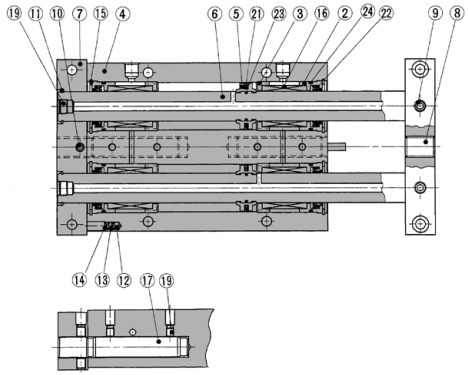
With end lock



CXWL32



With end lock



Component Parts

No.	Description	Material	Note
1	**Rod cover**	Aluminum alloy	Anodized
2	**Rod cover A**	Aluminum alloy	Anodized
3	**Rod cover B**	Aluminum alloy	Anodized
4	**Housing**	Aluminum alloy	Hard anodized
5	**Piston**	Aluminum alloy	Chromated
6	**Piston rod**	High carbon chrome bearing steel	—
7	**Plate**	Aluminum alloy	Hard anodized
8	**Adjustment bolt**	Chromium steel	Nickel plated
9	**Hex. socket head set screw**	Chromium steel	Nickel plated
10	**Hex. socket head set screw**	Chromium steel	Nickel plated
11	**Retaining ring**	Tool steel	Phosphate coated
12	**Magnet**	—	ø5
13	**Spring**	Stainless steel	
14	**Type CR retaining ring**	Carbon tool steel	
15	**Round type R retaining ring**	Carbon tool steel	Phosphate coated
16	**Ball bushing**	—	
17	**Shock absorber**	—	RB1006-X552 or RB1411-X552
18	**Plug**	Chromium steel	Nickel plated
19	**Hex. socket head set screw**	Stainless steel	
21	**Piston seal**	NBR	
22	**Rod seal**	NBR	
23	**Piston gasket**	NBR	
24	**Cylinder tube gasket**	NBR	

Component Parts: With End Lock

No.	Description		Material	Note
1	**Locking body**		Aluminum alloy	Hard anodized
2	**Lock finger**		Alloy tool steel	Nickel plating after quenched
3	**Lock piston**		Tool steel	Electroless nickel plated after quenched
4	**Rod cover**		Aluminum bearing alloy	
5	**Steel ball**		High carbon chrome bearing steel	
6	**Steel ball**		High carbon chrome bearing steel	
7	**Round type R retaining ring**		Carbon tool steel	Phosphate coated
8	**Return spring**		Spring steel	Zinc chromated
9	**Plug**		Chromium steel	Nickel plated
10 (Note)	**25, (50) to 200 ST**	**Hexagon socket head set screw**	Chromium steel	Nickel plated
	(25) ST	**Hexagon nut**	Carbon steel	Nickel plated
11 (Note)	**25, (50) to 200 ST**	**Adjustment bolt**	Chromium steel	Nickel plated
	(25) ST	**Shock absorber**	—	RB1411
12	**Body gasket**		NBR	
13	**Rod seal**		NBR	
14	**Piston seal**		NBR	
15	**O-ring**		NBR	

Note) Figures in parentheses denote the case of CXWM32.

Replacement Parts: Seal Kit
Cylinder Body

Model	Kit no.	Contents
CXWL20	CXWL20-PS	A set of ㉑, ㉒ and ㉔ listed above
CXWL32	CXWL32-PS	

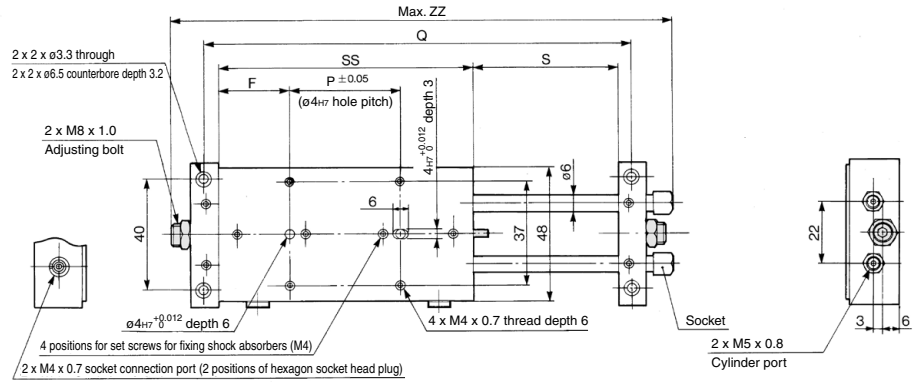
∗ Seal kit includes ㉑, ㉒ and ㉔. Order the seal kit with the part number for each model.
∗ ㉓ is not replaceable.
∗ Since the seal kit does not include a grease pack, order it separately.
Grease pack part no.: GR-S-010 (10 g)

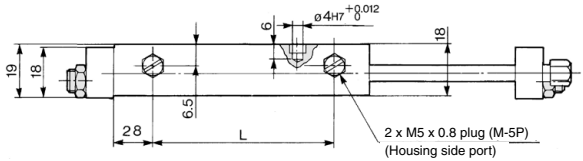
Replacement Parts: Seal Kit
End Lock

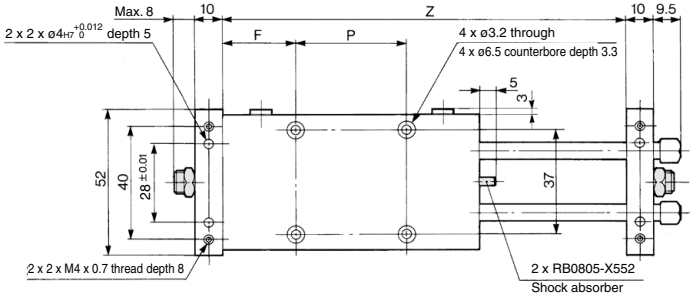
Model	Kit no.	Contents
CXWL20	CXWL20R-PS	A set of ⑫, ⑬, ⑭ and ⑮ listed above
CXWL32	CXWL32R-PS	

∗ Seal kit includes ⑫, ⑬, ⑭ and ⑮. Order the seal kit with the part number for each model.
∗ Since the seal kit does not include a grease pack, order it separately.
Grease pack part no.: GR-S-010 (10 g)

ø10 Basic Type: CXWL10-Stroke/25 to 100



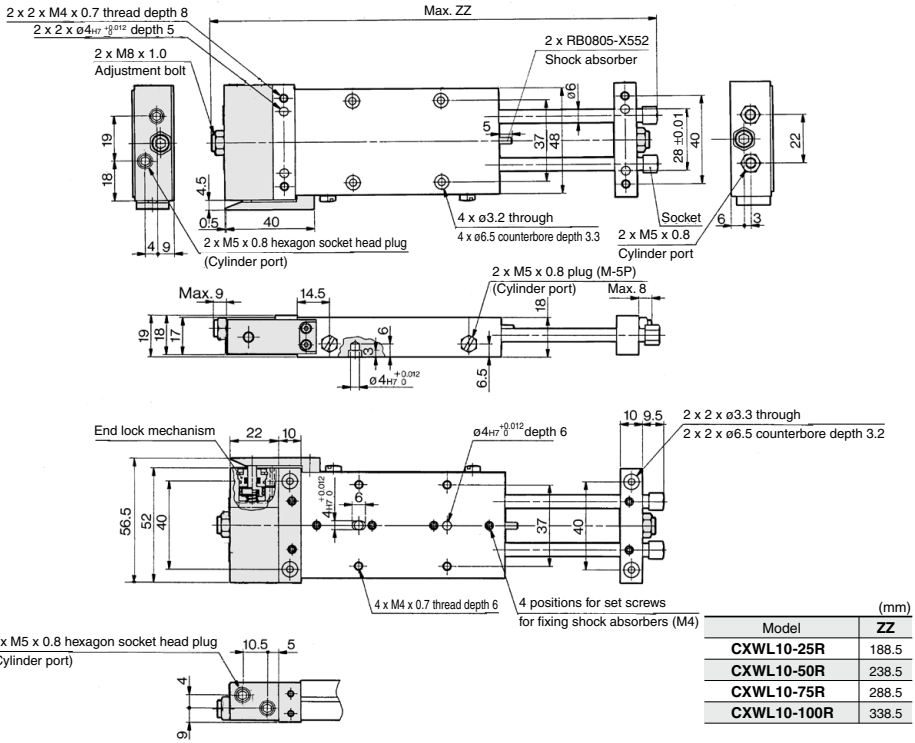




(mm)

Model	F	L	P	Q	S	SS	Z	ZZ
CXWL10-25	35.5	45	30	138	27	101	128	165.5
CXWL10-50	38	70	50	188	52	126	178	215.5
CXWL10-75	40.5	95	70	238	77	151	228	265.5
CXWL10-100	43	120	90	288	102	176	278	315.5

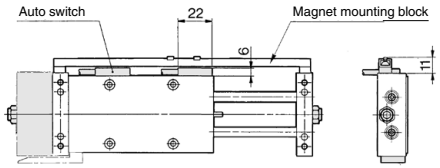
ø10 With End Lock: CXWL10- Stroke/25 to 100 R



(mm)

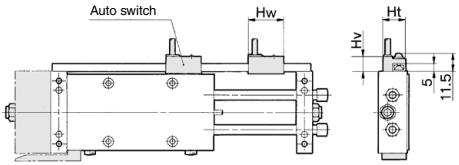
Model	ZZ
CXWL10-25R	188.5
CXWL10-50R	238.5
CXWL10-75R	288.5
CXWL10-100R	338.5

Housing mounting type with auto switch
CDBXWL10- Stroke , CDBXWL10- Stroke R



Note 1) The figure above is for D-E7□A/E80A.
Note 2) For only 25 stroke, 2 magnets for auto switches are equipped with the magnet mounting block.

Plate mounting type with auto switch
CDPXWL10- Stroke , CDPXWL10- Stroke R

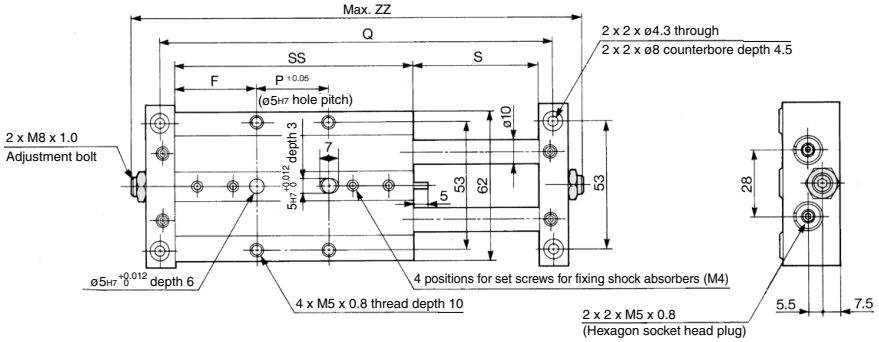


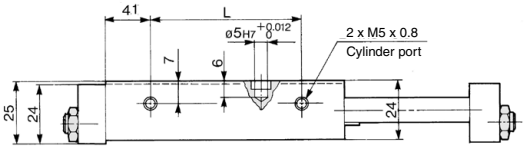
Note 1) The dimensions show D-A7 and D-A8. (mm)

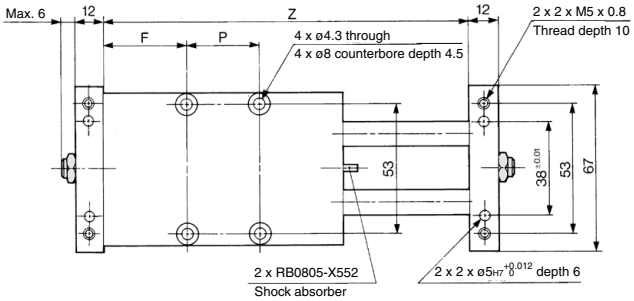
Auto switch model	Hw	Ht	Hv
D-A7□, D-A80	23	15	10.5
D-F7□, D-J79, D-J79W, D-F7□W, D-F79F, D-F7BA, D-F7NT	23	15	10
D-A7□H, D-A80H	22	15	9
D-A73C, D-A80C	23	17.5	17.5
D-F7□V, D-F7□WV, D-F7BAV	23	15	14
D-J79C	24	17.5	16

Note 2) For only 25 stroke, 2 magnets for auto switches are installed in the housing.

ø16 Basic Type: CXWL16-Stroke/25 to 200



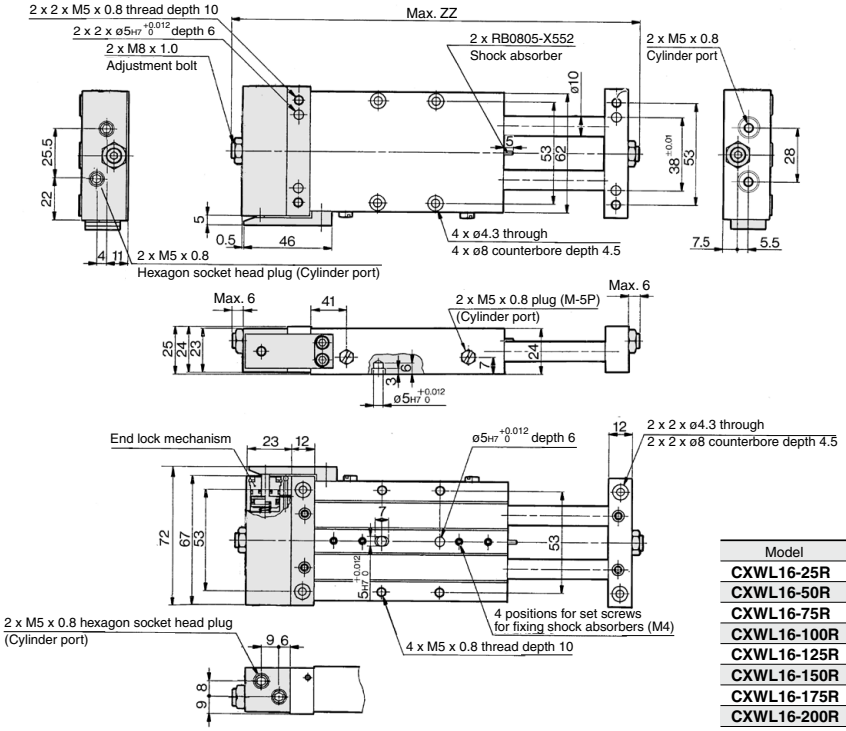




(mm)

Model	F	L	P	Q	S	SS	Z	ZZ
CXWL16-25	34.5	39	52	160	27	121	148	184
CXWL16-50	47	64	52	210	52	146	198	234
CXWL16-75	53	89	65	260	77	171	248	284
CXWL16-100	53	114	90	310	102	196	298	334
CXWL16-125	65.5	139	90	360	127	221	348	384
CXWL16-150	78	164	90	410	152	246	398	434
CXWL16-175	90.5	189	90	460	177	271	448	484
CXWL16-200	103	214	90	510	202	296	498	534

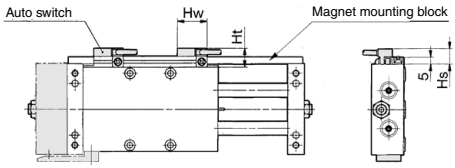
ø16 With End Lock: CXWL16-Stroke/25 to 200R



(mm)

Model	ZZ
CXWL16-25R	207
CXWL16-50R	257
CXWL16-75R	307
CXWL16-100R	357
CXWL16-125R	407
CXWL16-150R	457
CXWL16-175R	507
CXWL16-200R	557

Housing mounting type with auto switch
CDBXWL16-Stroke, CDBXWL16-StrokeR

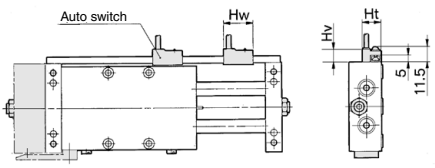


Note 1) The dimensions show D-A7 and D-A8. (mm)

Auto switch model	Hw	Hs	Ht
D-A7□, D-A80	23	12.5	15
D-F7□, D-J79, D-J79W, D-F7□W, D-F79F, D-F7BA, D-F7NT	23	12.5	15
D-A7□H, D-A80H	22	12.5	15
D-A73C, D-A80C	23	15	17.5
D-F7□V, D-F7□WV, D-F7BAV	23	12.5	15
D-J79C	24	15	17.5
D-F7LF	30	12.5	15

Note 2) For only 25 stroke, 2 magnets for auto switches are equipped with the magnet mounting block.

Plate mounting type with auto switch
CDPXWL16-Stroke, CDPXWL16-StrokeR

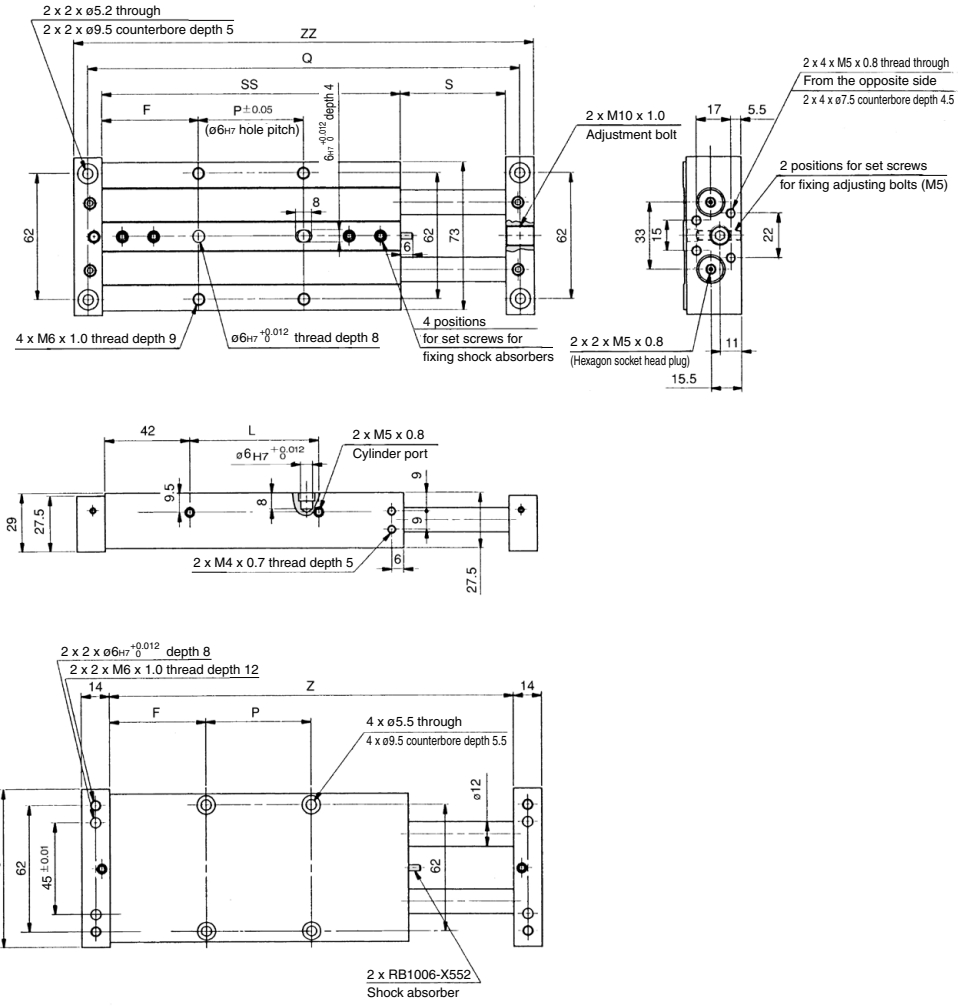


Note 1) The dimensions show D-A7 and D-A8. (mm)

Auto switch model	Hw	Ht	Hv
D-A7□, D-A80	23	15	10.5
D-F7□, D-J79, D-J79W, D-F7□W, D-F79F, D-F7BA, D-F7NT	23	15	10
D-A7□H, D-A80H	22	15	9
D-A73C, D-A80C	23	17.5	17.5
D-F7□V, D-F7□WV, D-F7BAV	23	15	14
D-J79C	24	17.5	16

Note 2) For only 25 stroke, 2 magnets for auto switches are installed in the housing.

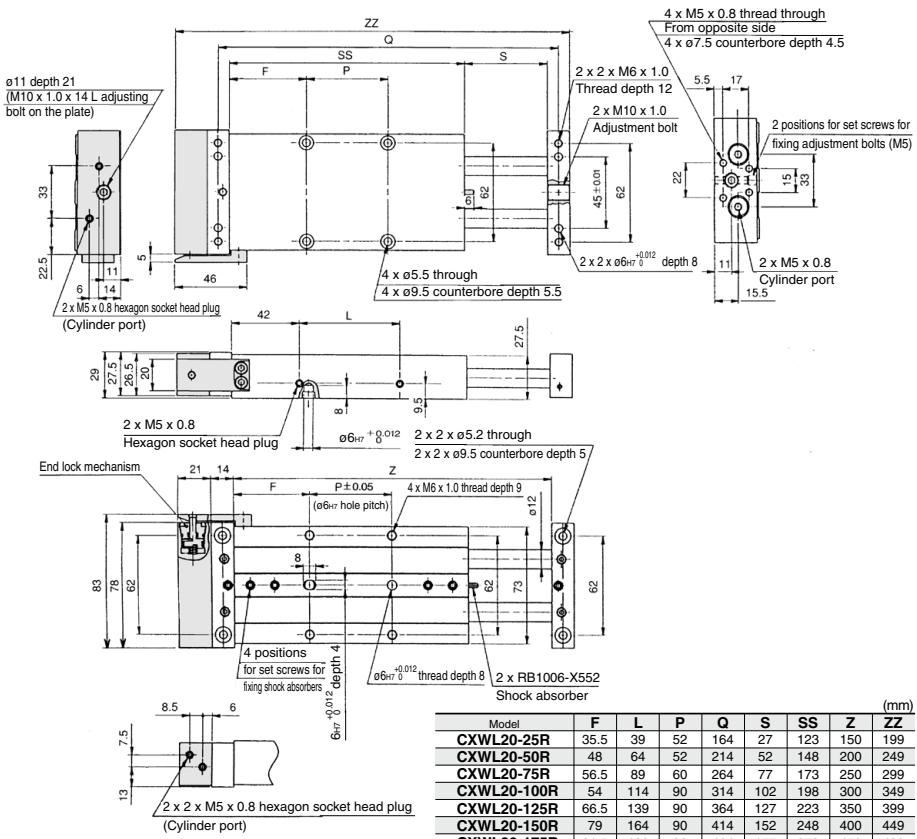
ø20 Basic Type: CXWL20-Stroke/25 to 200



(mm)

Model	F	L	P	Q	S	SS	Z	ZZ
CXWL20-25	35.5	39	52	164	27	123	150	178
CXWL20-50	48	64	52	214	52	148	200	228
CXWL20-75	56.5	89	60	264	77	173	250	278
CXWL20-100	54	114	90	314	102	198	300	328
CXWL20-125	66.5	139	90	364	127	223	350	378
CXWL20-150	79	164	90	414	152	248	400	428
CXWL20-175	91.5	189	90	464	177	273	450	478
CXWL20-200	104	214	90	514	202	298	500	528

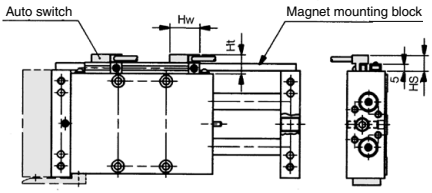
ø20 With End Lock: CXWL20-Stroke/25 to 200R



(mm)

Model	F	L	P	Q	S	SS	Z	ZZ
CXWL20-25R	35.5	39	52	164	27	123	150	199
CXWL20-50R	48	64	52	214	52	148	200	249
CXWL20-75R	56.5	89	60	264	77	173	250	299
CXWL20-100R	54	114	90	314	102	198	300	349
CXWL20-125R	66.5	139	90	364	127	223	350	399
CXWL20-150R	79	164	90	414	152	248	400	449
CXWL20-175R	91.5	189	90	464	177	273	450	499
CXWL20-200R	104	214	90	514	202	298	500	549

Housing mounting type with auto switch
CDBXWL20-Stroke, CDBXWL20-StrokeR

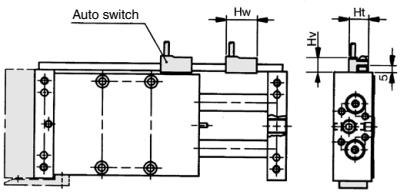


Note 1) The dimensions show D-A7 and D-A8. (mm)

Auto switch model	Hw	Hs	Ht
D-A7□, D-A80	23	12.5	15
D-F7□, D-J79, D-J79W, D-F7□W, D-F79F, D-F7BA, D-F7NT	23	12.5	15
D-A7□H, D-A80H	22	12.5	15
D-A73C, D-A80C	23	15	17.5
D-F7□V, D-F7□WV, D-F7BAV	23	12.5	15
D-J79C	24	15	17.5
D-7LF	30	12.5	15

Note 2) For 25 stroke, 2 magnets for auto switches are equipped to the magnet mounting block.

Plate mounting type with auto switch
CDPXWL20-Stroke, CDPXWL20-StrokeR

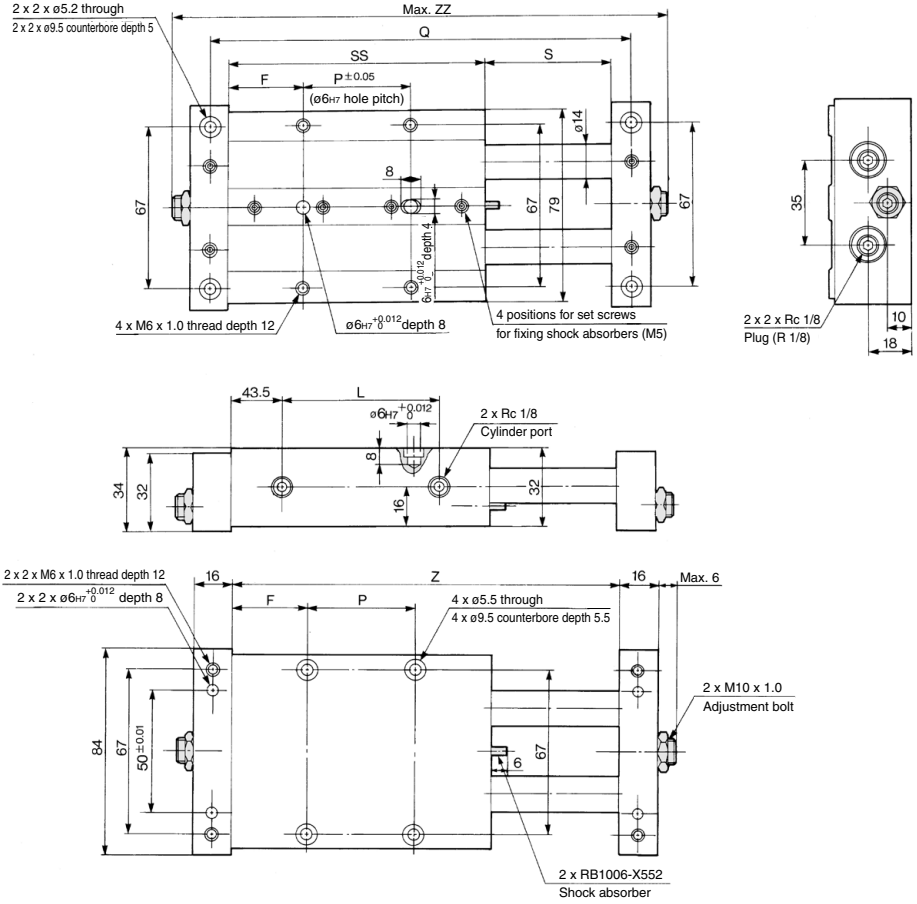


Note 1) The dimensions show D-A7 and D-A8. (mm)

Auto switch model	Hw	Ht	Hv
D-A7□, D-A80	23	15	10.5
D-F7□, D-J79, D-J79W, D-F7□W, D-F79F, D-F7BA, D-F7NT	23	15	10
D-A7□H, D-A80H	22	15	9
D-A73C, D-A80C	23	17.5	17.5
D-F7□V, D-F7□WV, D-F7BAV	23	15	14
D-J79C	24	17.5	16

Note 2) For 25 stroke, 2 magnets for auto switches are installed in the housing.

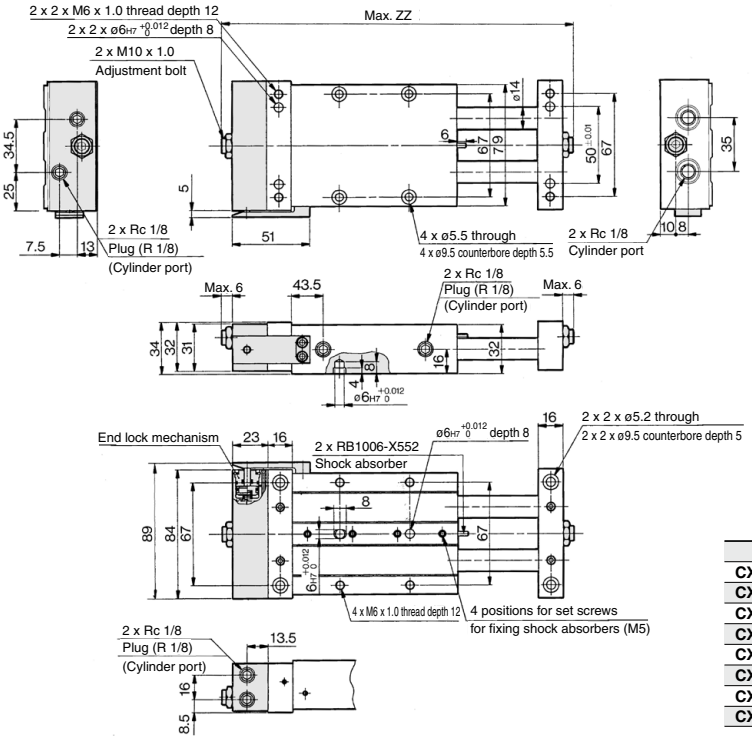
ø25 Basic Type: CXWL25-Stroke/25 to 200



(mm)

Model	F	L	P	Q	S	SS	Z	ZZ
CXWL25-25	31.5	41	65	171	27	128	155	199
CXWL25-50	31.5	66	90	221	52	153	205	249
CXWL25-75	56.5	91	65	271	77	178	255	299
CXWL25-100	56.5	116	90	321	102	203	305	349
CXWL25-125	69	141	90	371	127	228	355	399
CXWL25-150	81.5	166	90	421	152	253	405	449
CXWL25-175	94	191	90	471	177	278	455	499
CXWL25-200	106.5	216	90	521	202	303	505	549

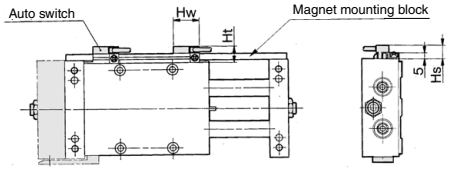
ø25 With End Lock: CXWL25- Stroke/25 to 200 R



(mm)

Model	ZZ
CXWL25-25R	222
CXWL25-50R	272
CXWL25-75R	322
CXWL25-100R	372
CXWL25-125R	422
CXWL25-150R	472
CXWL25-175R	522
CXWL25-200R	572

Housing mounting type with auto switch
CDBXWL25- Stroke , CDBXWL25- Stroke R

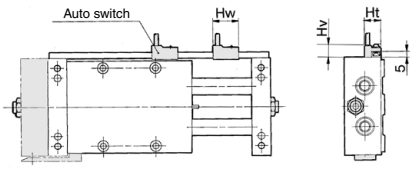


Note 1) The dimensions show D-A7 and D-A8. (mm)

Auto switch model	Hw	Hs	Ht
D-A7□, D-A80	23	12.5	15
D-F7□, D-J79, D-J79W, D-F7□W, D-F79F, D-F7BA, D-F7NT	23	12.5	15
D-A7□H, D-A80H	22	12.5	15
D-A73C, D-A80C	23	15	17.5
D-F7□V, D-F7□WV, D-F7BAV	23	12.5	15
D-J79C	24	15	17.5
D-F7LF	30	12.5	15

Note 2) For only 25 stroke, 2 magnets for auto switches are equipped to the magnet mounting block.

Plate mounting type with auto switch
CDPXWL25- Stroke , CDPXWL25- Stroke R

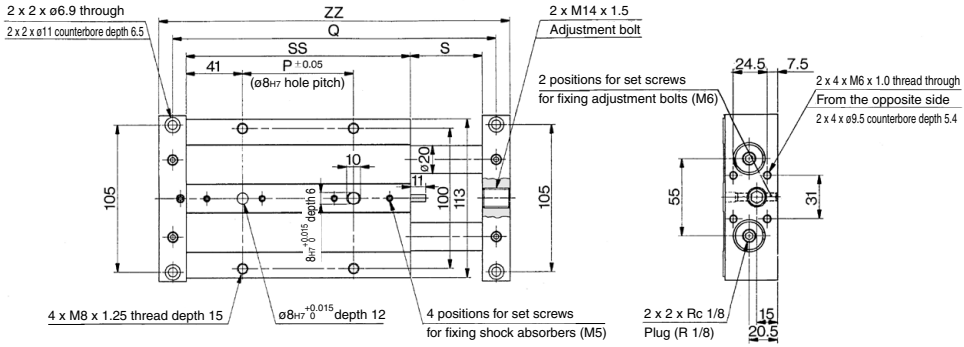


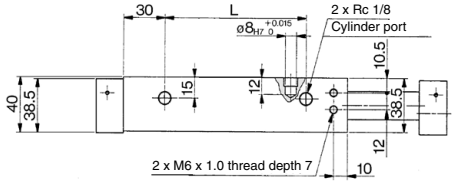
Note 1) The dimensions show D-A7 and D-A8. (mm)

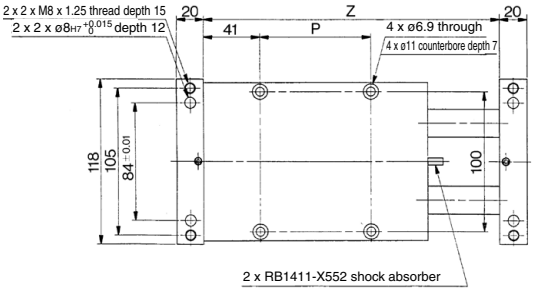
Auto switch model	Hw	Ht	Hv
D-A7□, D-A80	23	15	10.5
D-F7□, D-J79, D-J79W, D-F7□W, D-F79F, D-F7BA, D-F7NT	23	15	10
D-A7□H, D-A80H	22	15	9
D-A73C, D-A80C	23	17.5	17.5
D-F7□V, D-F7□WV, D-F7BAV	23	15	14
D-J79C	24	17.5	16

Note 2) For only 25 stroke, 2 magnets for auto switches are built into the housing.

ø32 Basic Type: CXWL32-Stroke/50 to 200



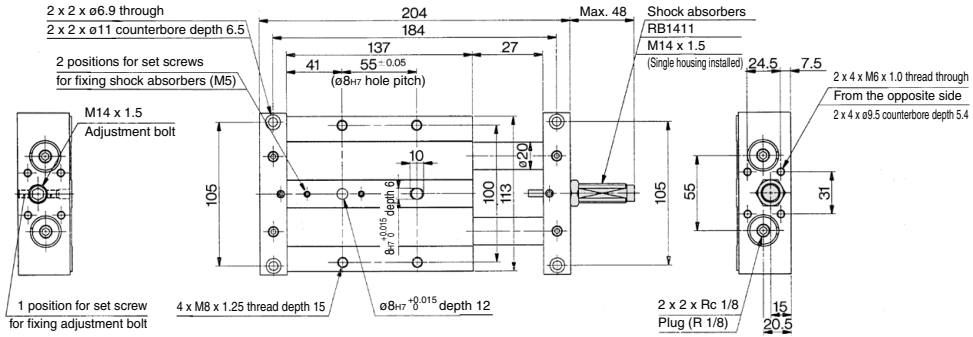


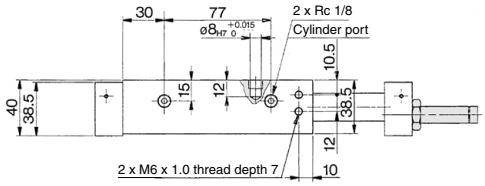


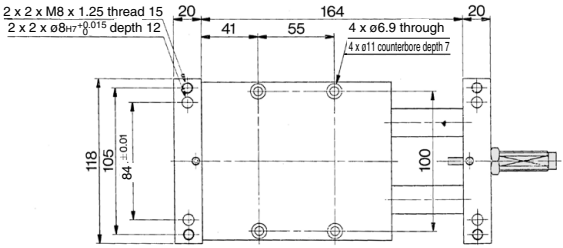
(mm)

Model	L	P	Q	S	SS	Z	ZZ
CXWL32-50	102	80	234	52	162	214	254
CXWL32-75	127	105	284	77	187	264	304
CXWL32-100	152	130	334	102	212	314	354
CXWL32-125	177	155	384	127	237	364	404
CXWL32-150	202	180	434	152	262	414	454
CXWL32-175	227	205	484	177	287	464	504
CXWL32-200	252	230	534	202	312	514	554

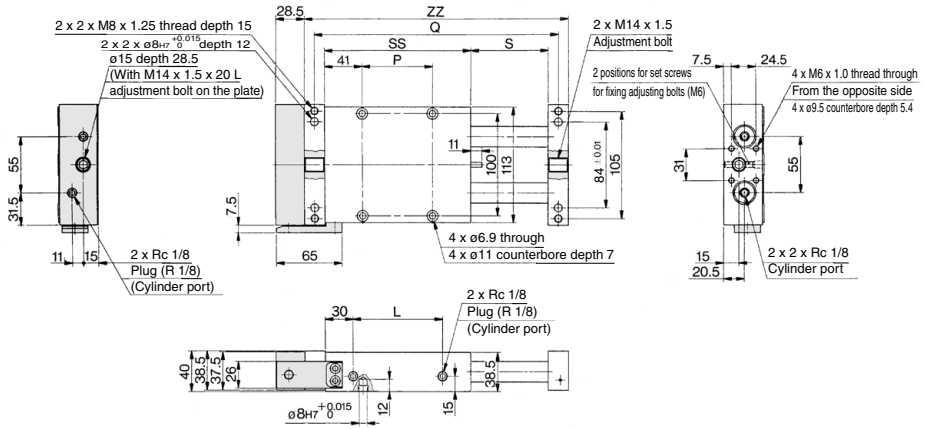
ø32 Basic Type: CXWL32-25 stroke

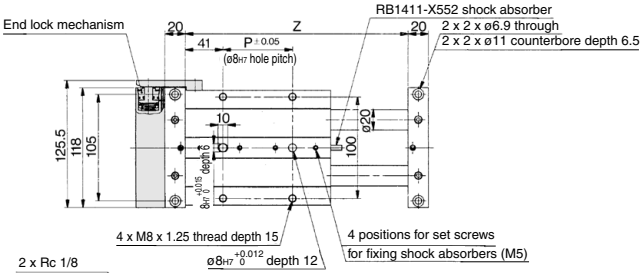






ø32 With End Lock: CXWL32-Stroke/50 to 200R

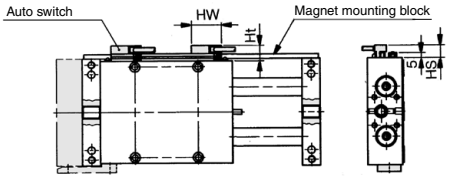




(mm)

Model	L	P	Q	S	SS	Z	ZZ
CXWL32-50R	102	80	234	52	162	214	254
CXWL32-75R	127	105	284	77	187	264	304
CXWL32-100R	152	130	334	102	212	314	354
CXWL32-125R	177	155	384	127	237	364	404
CXWL32-150R	202	180	434	152	262	414	454
CXWL32-175R	227	205	484	177	287	464	504
CXWL32-200R	252	230	534	202	312	514	554

Housing mounting type with auto switch
CDBXWL32-Stroke, CDBXWL32-StrokeR

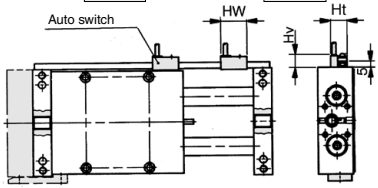


Note 1) The dimensions show D-A7 and D-A8. (mm)

Auto switch model	Hw	Hs	Ht
D-A7□, D-A80	23	12.5	15
D-F7□, D-J79, D-J79W, D-F7□W, D-F79F, D-F7BA, D-F7NT	23	12.5	15
D-A7□H, D-A80H	22	12.5	15
D-A73C, D-A80C	23	15	17.5
D-F7□V, D-F7□WV, D-F7BAV	23	12.5	15
D-J79C	24	15	17.5
D-F7LF	30	12.5	15

Note 2) For 25 stroke, the shock absorber is mounted on a single side of the plate. For dimensions of 25 stroke, refer to page 924.

Plate mounting type with auto switch
CDPXWL32-Stroke, CDPXWL32-StrokeR

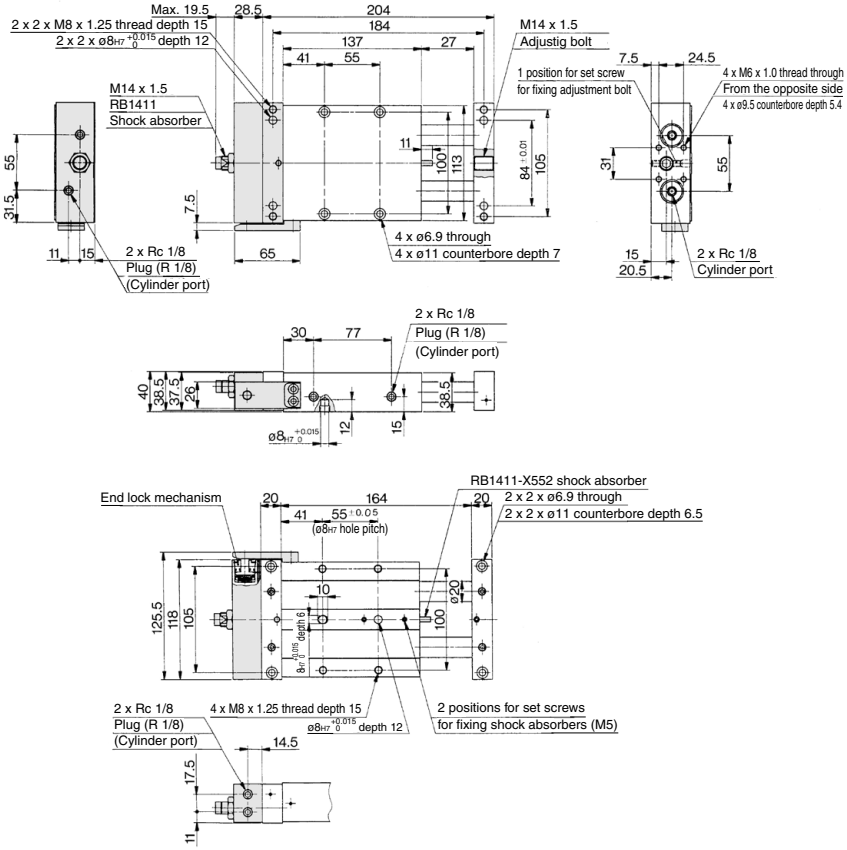


Note 1) The dimensions show D-A7 and D-A8. (mm)

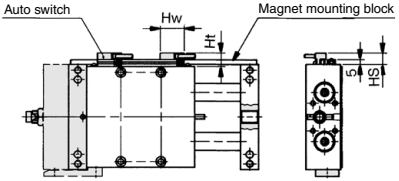
Auto switch model	Hw	Ht	Hv
D-A7□, D-A80	23	15	10.5
D-F7□, D-J79, D-J79W, D-F7□W, D-F79F, D-F7BA, D-F7NT	23	15	10
D-A7□H, D-A80H	22	15	9
D-A73C, D-A80C	23	17.5	17.5
D-F7□V, D-F7□WV, D-F7BAV	23	15	14
D-J79C	24	17.5	16

Note 2) For 25 stroke, the shock absorber is mounted on a single side of the plate. For dimensions of 25 stroke, refer to page 924.

ø32 With End Lock: CXWL32-25 stroke R



Housing mounting type with auto switch
CDBXWL32-25, CDBXWL32-25R

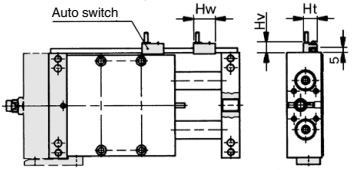


Note 1) The dimensions show D-A7 and D-A8. (mm)

Auto switch model	Hw	Hs	Ht
D-A7□, D-A80	23	12.5	15
D-F7□, D-J79, D-J79W, D-F7□W, D-F79F, D-F7BA, D-F7NT	23	12.5	15
D-A7□H, D-A80H	22	12.5	15
D-A73C, D-A80C	23	15	17.5
D-F7□V, D-F7□WV, D-F7BAV	23	12.5	15
D-J79C	24	15	17.5
D-F7LF	30	12.5	15

Note 2) 2 magnets for auto switches are equipped to the magnet mounting block.

Plate mounting type with auto switch
CDPXWL32-25, CDPXWL32-25R



Note 1) The dimensions show D-A7 and D-A8. (mm)

Auto switch model	Hw	Ht	Hv
D-A7□, D-A80	23	15	10.5
D-F7□, D-J79, D-J79W, D-F7□W, D-F79F, D-F7BA, D-F7NT	23	15	10
D-A7□H, D-A80H	22	15	9
D-A73C, D-A80C	23	17.5	17.5
D-F7□V, D-F7□WV, D-F7BAV	23	15	14
D-J79C	24	17.5	16

Note 2) 2 magnets for auto switches are installed in the housing.

Operating Range

(mm)

Auto switch model		Applicable cylinder size				
		10	**16**	**20**	**25**	**32**
D-A7□/A80 **D-A7□H/A80H** **D-A73C/A80C**	Housing mounting	–	6	6	6	6
	Plate mounting	6				
D-E7□A/E80A	Housing mounting	6	–	–	–	–
D-F7□/J79 **D-F7□V/J79C** **D-F7□W/F7□WV** **D-F7BA/F7BAV** **D-F79F/F7NT**	Housing mounting	–	4	2.5	3	3
	Plate mounting	3	3			2.5

∗ Since this is a guideline including hysteresis, not meant to be guaranteed. (Assuming approximately ±30% dispersion)
There may be the case it will vary substantially depending on an ambient environment.

Other than the applicable auto switches listed in “How to Order”, the following auto switches can be mounted.
For detailed specifications, refer to pages 1289 to 1383.

Auto switch type	Model	Electrical entry (Fetching direction)	Features	Applicable cylinder size	
				Housing mounting	Plate mounting
Solid state	D-F7NT	Grommet (In-line)	With timer	ø16, ø20 ø25, ø32	ø10, ø16 ø20, ø25 ø32

∗ With pre-wire connector is available for D-F7NT type, too. For details, refer to pages 1358 and 1359.
∗ It is impossible to mount solid state auto switches to the housing mounting ø10.

CXW Series
Specific Product Precautions

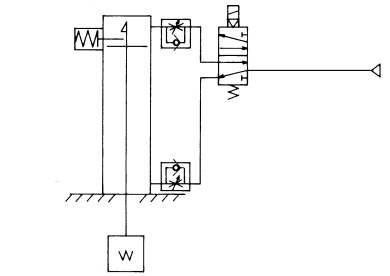
Be sure to read this before handling the products. Refer to page 8 for safety instructions and pages 9 to 18 for actuator and auto switch precautions.

CXW: With End Lock

Recommended Pneumatic Circuit

⚠Caution

1. This is necessary for the proper operation and release of the lock for cylinders with an end lock.



Precautions for Handling the End Lock Mechanism

⚠Caution

1. Do not use 3 position solenoid valves.
Avoid using this cylinder in combination with a 3 position solenoid valve (particularly the closed center metal seal type). If air pressure becomes sealed inside the port of the side that contains the lock mechanism, the lock will not engage. Even if the lock is engaged at first, the air that leaks from the solenoid valve could enter the cylinder and cause the lock to disengage as time elapses.

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 operating, as shown in the drawing on the left. The lock may not be released. (Refer to the section on releasing the lock.)

3. Disengage the lock before installing or adjusting the cylinder.
The lock could become damaged if the cylinder is installed with its lock engaged.

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. Use a speed controller with meter-out control.
Lock cannot be released occasionally by meter-in control.

7. Adjust the stroke within the range of the slotted hole of the lock finger.
As the hole for mounting the lock finger is slotted, the lock finger may be adjusted and mounted in accordance with the adjustment amount of the adjusting bolt. The adjustment amount of the adjusting bolt is ±2 mm (±1 mm for each side).

8. Regarding manual disengagement
Insert a Phillips screwdriver through the lock finger hole to push the lock piston down and slide it in the unlocking direction. When doing so, take precautions to prevent your fingers or hands from getting caught between the housing plate and the lock.

Operating Pressure

⚠Caution

1. Apply a pressure more than the minimum operating pressure to the port on the side where the locking mechanism activates. The pressure is necessary to release the lock.

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 piston rod is extremely dangerous.

Made to Order: Individual Specifications 1

Made to Order

Please contact SMC for detailed dimensions, specifications and lead times.

Applicable Series

No.	Symbol	Specifications/Description	Slide bearing		Ball bushing bearing
			CX2	CXWM	CXWL
1	-X138	Adjustable stroke	●	●	●
2	-X146	Hollow piston rod	●	●	●

No.	Symbol	Specifications/Description	Slide bearing		Ball bushing bearing
			CX2	CXWM	CXWL
3	-X168	Helical insert thread	●	●	●
4	-X169	2 built-in magnets	●	●	●

1 Adjustable Stroke

Symbol **-X138**

C | Auto switch | X | | Type | Bore size | — | Stroke | — X138

Adjustable stroke

Adjustment of +2 to –25 mm (max. –12.5 mm on one side) is possible exceeding the stroke adjustment range (±2 mm stroke) of standard type.

Specifications

Bearing	Slide bearing		Ball bushing bearing
Series	CX2□	CXWM	CXWL
Type	Non-lube/Air-hydro	Non-lube	Non-lube
Bore size	ø10, ø15, ø25*	ø10, ø16, ø20, ø25, ø32	
Cushion	–	Built-in shock absorber	
Stroke adjustable range	+2 mm to –25 mm (One side: Maximum –12.5 mm)		

* Air-hydro type is not available for size ø10.

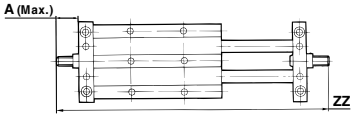
Select adjustable stroke type auto switch (-X138)

⚠ Caution

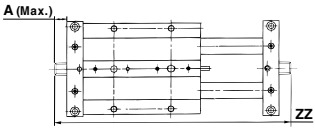
When 50 strokes are adjusted to 40 strokes or less with the adjustable stroke type (-X138), auto switches may not be able to be mounted properly since they interfere with each other if the 2 in-line entry auto switches are used. When strokes are adjusted to 40 strokes or less, select the perpendicular entry type or additionally select auto switches with 2 built-in magnets (-X169).

Dimensions

CX2N10 to 25/CXW$^{M}_{L}$10 to 25



CXW$^{M}_{L}$20/32



Model	A (Max.)	ZZ							
		25st	50st	75st	100st	125st	150st	175st	200st
CX2N10	19	150	200	250	300	–	–	–	–
CX2□15	18	152	202	252	302	352	402	452	502
CX2□25	19	179	229	279	329	379	429	479	529
CXWM10	20	–	204	254	304	–	–	–	–
CXWM16	18	–	212	262	312	362	412	462	512
CXWM20	8	–	200	250	300	350	400	450	500
CXWM25	19	–	229	279	329	379	429	479	529
CXWM32	10	–	–	283	333	383	433	483	533
CXWL10	20	188	238	288	338	–	–	–	–
CXWL16	18	208	258	308	358	408	458	508	558
CXWL20	8	194	244	294	344	394	444	494	544
CXWL25	19	225	275	325	375	425	475	525	575
CXWL32	10	–	274	324	374	424	474	524	574

* The -X138 is intended for use with the model with an adjusting bolt on both sides.
* Excludes the CXW with end lock (as the lock mechanism adjustment range is 2 mm)

2 Hollow Piston Rod Specifications

Symbol **-X146**

C | Auto switch | X | | Type | Bore size | — | Stroke | — X146

Hollow piston rod

Piping on the plate side can be used pressurization and evacuation. For cylinder drive, piping shall be on the housing port. (The slide unit operation with piping on the plate side impossible.)

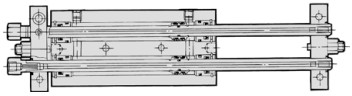
Specifications

Bearing	Slide bearing		Ball bushing bearing
Series	CX2□	CXWM	CXWL
Type	Non-lube/Air-hydro	Non-lube	Non-lube
Bore size (mm)	ø10, ø15, ø25*	ø10, ø16, ø20, ø25, ø32	
Cushion	With shock absorber (option)	Built-in shock absorber	

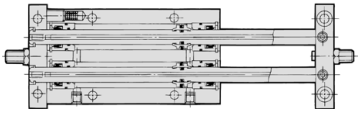
* Air-hydro type is not available for size ø10.

Construction

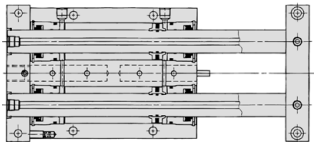
ø10



ø15, ø16, ø25



ø20, ø32



Made to Order: Individual Specifications 2

Please contact SMC for detailed dimensions, specifications and lead times.

Made to Order

Symbol
-X168

3 Helical Insert Thread Specifications

In this type, helical insert thread is used for mounting the housing.

C | Auto switch | X | | Type | Bore size | — | Stroke | — X168

Helical insert thread specifications

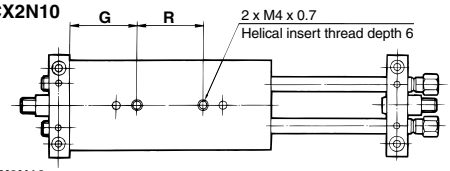
Specifications

Bearing	Slide bearing		Ball bushing bearing
Series	CX2□	CXWM	CXWL
Type	Non-lube/Air-hydro	Non-lube	Non-lube
Bore size	ø10, ø15, ø25*	ø10, ø16, ø20, ø25, ø32	
Cushion	With shock absorber (option)	Built-in shock absorber	

* Air-hydro type is not available for size ø10.

Dimensions

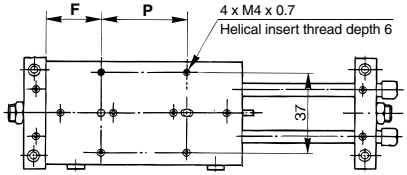
CX2N10



CX2N10

Model	G	R
CX2N10-25	19.5	28
CX2N10-50	30	32
CX2N10-75	35	47
CX2N10-100	35	72

CXWM10, CXWL10



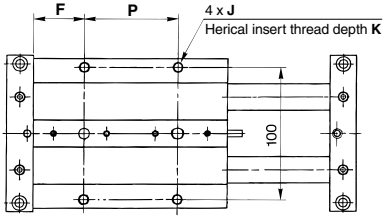
CXWM10

Model	F	P
CXWM10-25	21	25
CXWM10-50	26	40
CXWM10-75	26	65
CXWM10-100	26	90

CXWL10

Model	F	P
CXWL10-25	35.5	30
CXWL10-50	38	50
CXWL10-75	40.5	70
CXWL10-100	43	90

CXWM20, CXWL20, CXWM32, CXWL32

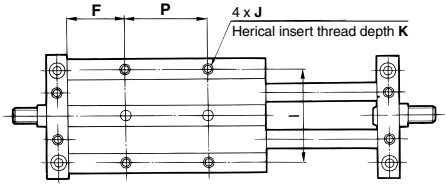


Stroke	CXWM20		CXWL20		CXWM32		CXWL32	
	F	P	F	P	F	P	F	P
25 mm	27	25	35.5	52	37	22	41	55
50 mm	34.5	35	48		38	45		80
75 mm	34.5	60	56.5	60		70		105
100 mm	39.5	75	54	90		95		130
125 mm	44.5	90	66.5			125		155
150 mm	57		79			145		180
175 mm	69.5		91.5			175		205
200 mm	82		104			195		230

Helical Insert Thread

Series	Bore size	J	K
CX2□	ø**15**	4 x M5 x 0.8	Helical insert thread depth 7
	ø**25**	4 x M6 x 1.0	Helical insert thread depth 9
CXWM	ø**16**	4 x M5 x 0.8	Helical insert thread depth 7
	ø**25**	4 x M6 x 1.0	Helical insert thread depth 9
CXWL	ø**16**	4 x M5 x 0.8	Helical insert thread depth 7
	ø**25**	4 x M6 x 1.0	Helical insert thread depth 9

CX2□15, CXWM16, CXWL16, CX2□25, CXWM25, CXWL25



CX2□15

Stroke	F	P	I
25 mm	24.5	20	41
50 mm	24.5	45	
75 mm	27	65	
100 mm	27	90	
125 mm	39.5	90	
150 mm	52	90	
175 mm	64.5	90	
200 mm	77	90	

CXWM16

Stroke	F	P	I
25 mm	25	25	53
50 mm	35	30	
75 mm	32.5	60	
100 mm	37.5	75	
125 mm	42.5	90	
150 mm	55	90	
175 mm	67.5	90	
200 mm	80	90	

CXWL16

Stroke	F	P	I
25 mm	34.5	52	53
50 mm	47	52	
75 mm	53	65	
100 mm	53	90	
125 mm	65.5	90	
150 mm	78	90	
175 mm	90.5	90	
200 mm	103	90	

CX2□25, CXWM25

Stroke	F	P	I
25 mm	28.5	25	67
50 mm	31	45	
75 mm	33.5	65	
100 mm	33.5	90	
125 mm	46	90	
150 mm	58.5	90	
175 mm	71	90	
200 mm	83.5	90	

CXWL25

Stroke	F	P	I
25 mm	31.5	65	67
50 mm	31.5	90	
75 mm	56.5	65	
100 mm	56.5	90	
125 mm	69	90	
150 mm	81.5	90	
175 mm	94	90	
200 mm	106.5	90	

Symbol
-X169

4 With 2 Built-in Magnets

C | Auto switch | X | | Type | Bore size | — | Stroke | — | X169

With 2 built-in magnets

Two magnets for auto switch detection are built in.
* 25 strokes: 2 magnets as standard. This specification is applicable for 50 strokes or more.

Specifications

Bearing	Slide bearing		Ball bushing bearing
Series	**CX2□**	**CXWM**	**CXWL**
Type	Non-lube/Air-hydro	Non-lube	Non-lube
Bore size	ø10, ø15, ø25*	ø10, ø16, ø20, ø25, ø32	
Cushion	With shock absorber (option)	Built-in shock absorber	

Specific Product Precautions

Be sure to read this before handling the products. Refer to page 8 for safety instructions and pages 9 to 18 for actuator and auto switch precautions.

Operating Precautions

⚠Warning

1. Take precautions to prevent your fingers or hands from getting caught between the plate and the housing.
- Take sufficient care to avoid getting your hands or fingers caught when the cylinder is operated.

Mounting

⚠Caution

1. Make sure that the cylinder mounting surface is flat (a flatness of 0.05 or less {reference value}).
If it is not flat, it could lead to malfunction.

2. Make sure not to scratch or gouge the cylinder mounting surface.
Be aware that if the flatness of the housing mounting surface or the mounting surface of the plates on both sides is affected, it could lead to a malfunction.

3. Be careful not to twist the two piston rods.
If the piston rods are twisted or bent when mounting the housing, the operating resistance could become abnormally high or the bearings could wear prematurely, leading to reduced accuracy or air leakage.

4. Consider reinforcing the plates.
When the cylinder is mounted on the housing, and the plates are used for high-speed operation or used as a pusher, use a connector plate to bridge both plates. Failure to do so could cause the snap ring to become detached or the set screws to shift, causing the plates to fall off.

Handling on Shock Absorber

⚠Caution

1. Use caution not to be exposed to cutting oil, water, or dust, etc.
The RB series cannot be used under conditions in which fluids such as cutting oil or water are present in atomized form or come in direct contact with the piston rod, or in which dust could adhere to the piston rod. Such conditions would cause malfunction.

2. Do not operate the shock absorber in an environment that poses the risk of corrosion.
The shock absorber could rust if used in an environment that poses the risk of corrosion.
Refer to the respective construction for type of material that is used in the shock absorber.

3. Abide by the table below for the tightening torque for a mounting nut.

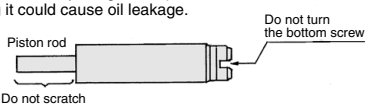
Shock absorber model	RB0805	RB1006	RB1411
Thread O.D. (mm)	M8 x 1.0	M10 x 1.0	M14 x 1.5
Thread prepared hole size (mm)	ø7.1 $^{+0.1}_{0}$	ø9.1 $^{+0.1}_{0}$	ø12.7 $^{+0.1}_{0}$
Tightening torque (N·m)	1.67	3.14	10.8

4. Do not scratch the sliding portion of the piston rod or the outside threads of the outer tube.
Do not scratch or gouge the sliding portion of the piston rod or the outside threads of the outer tube by striking it with an object, squeezing it, or by forcefully wedging a set screw in it.
Failure to observe this precaution could damage the seals, which could lead to oil leakage and malfunction. Furthermore, scratches or gouges on the outside threads of the outer tube could prevent the shock absorber from being mounted onto the frame, or its internal components could deform, leading to a malfunction.

Handling on Shock Absorber

⚠Caution

5. Never turn the screw on the bottom of the body.
(This is not an adjusting screw.)
Turning it could cause oil leakage.



6. Check the mounting nut is not loosen.
The shock absorber could become damaged if it is used in a loose state.

7. Pay attention to any abnormal impact sounds or vibrations.
If the impact sounds or vibrations have become abnormally high, the shock absorber may have reached the end of its service life. If this is the case, replace the shock absorber.
If use is continued in this state, it could damage the equipment to which the shock absorber is mounted.

8. Refer to the Operation Manual for how to replace the built-in shock absorber for the CXW series.

Service Life and Replacement Period of Shock Absorber

⚠Caution

1. Allowable operating cycle under the specifications set in this catalog is shown below.
1.2 million cycles RB08□□
2 million cycles RB10□□ to RB2725
Note) Specified service life (suitable replacement period) is the value at room temperature (20 to 25°C). The period may vary depending on the temperature and other conditions. In some cases the absorber may need to be replaced before the allowable operating cycle above.

Auto Switch Selection for the Adjustable Stroke Type (-X138)

⚠Caution

1. When 50 stroke is adjusted to 40 stroke or less with the adjustable stroke type (-X138), auto switches may not be able to be mounted properly since they interfere with each other if the 2 in-line entry auto switches are used.
When strokes are adjusted to 40 stroke or less, select the perpendicular entry type or additionally select auto switches with 2 built-in magnets (-X169).

Piping

⚠Caution

1. There are 3 supply ports for each operating direction. The plug position can be changed according to the usage conditions. When changing the port position, use the removed plug or a new plug. If reusing the removed plug, apply sealant, etc., before reassembly. (Sealant is not required if using the piston rod port of the CX2N10, CX2□15, or CXW10.) If using a new M5 plug, apply a thin layer of grease all the way around the male thread before use. In addition, clear any foreign matter adhered to the port the plug was removed from before piping. After reassembly, be sure to check for air leakage before operating the product.

Plug part no.: (ø10 to ø20) CXS20-08-28749A
(ø25 to ø32) CYP025-08B29449A (Rc1/8)
CXS25-08-A3025B (NPT1/8)
CXS25-08-A3911A (G1/8)