

Magnetically Coupled Rodless Cylinder

Slider Type: Slide Bearing

CY1S Series

ø6, ø10, ø15, ø20, ø25, ø32, ø40

RoHS

How to Order

Slide bearing **CY1S** 25 - 300 **Z** - M9BW -

Slider type
(Slide bearing type)

Piping

NII	Bilateral piping type	
G	Centralized piping type	

Note) For centralized piping, the port will be placed on the plate A side.

Bore size

6	6 mm
10	10 mm
15	15 mm
20	20 mm
25	25 mm
32	32 mm
40	40 mm

Port thread type

Symbol	Type	Bore size (mm)
NII	M thread	6, 10, 15
	Rc	
TN	NPT	20, 25, 32, 40
TF	G	

Standard stroke
Refer to page 1501 for the standard strokes.

Made to Order
Refer to page 1501 for details.

Number of auto switches

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

Auto switch

NII	Without auto switch
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* Refer to the table below for the applicable auto switch model.
Note) Auto switch rail and magnet for auto switch included as standard.

Stopper type

NII	Bumper bolt (resin tipped): Mounted on both sides	
		Bumper bolt (Same as the opposite side)
B	Shock absorber/ Adjustment bolt (metal ended): Mounted on both sides	
		Adjustment bolt (Same as the opposite side) Shock absorber (Same as the opposite side)
BS	Shock absorber/ Adjustment bolt (metal ended): Plate A side Bumper bolt (resin tipped): Plate B side or C side	
		Bumper bolt Adjustment bolt Shock absorber

Applicable Auto Switches/Refer to pages 1575 to 1701 for further information on auto switches.

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage		Auto switch model		Lead wire length (m)				Pre-wired connector	Applicable load					
					DC	AC	Perpendicular	In-line	0.5	1	3	5							
									(Nil)	(M)	(L)	(Z)							
Solid state auto switch	Diagnostic indication (2-color indicator)	Grommet	Yes	3-wire (NPN)	24 V	5 V, 12 V	—	M9NV	M9N	●	●	○	○	IC circuit					
								M9PV	M9P	●	●	○	○						
				2-wire	5 V, 12 V	—	M9BV	M9B	●	●	○	○	—						
				3-wire (NPN)			M9NVV	M9NV	●	●	○	○							
				Water resistant (2-color indicator)	Grommet	No	3-wire (PNP)	24 V	5 V, 12 V	—	—	M9NAV ^{*1}	M9NA ^{*1}		○	○	○	○	IC circuit
												M9PAV ^{*1}	M9PA ^{*1}		○	○	○	○	
	2-wire	M9BAV ^{*1}	M9BA ^{*1}									○	○	○	○				
	3-wire (NPN equivalent)	—	5 V									—	A96V	A96	●	—	●	—	
	Reed auto switch	—	Grommet	No	2-wire	24 V	12 V	100 V or less	A93V ^{*2}	A93	●	●	●	—	—	Relay, PLC			
									A90V	A90	●	—	●	—	—	IC circuit			

*1 Water resistant type auto switches can be mounted on the above models, but in such case SMC cannot guarantee water resistance. Please consult with SMC regarding water resistant types with the above model numbers.
 *2 1 m type lead wire is only applicable to D-A93.
 * Lead wire length symbols: 0.5 m Nil (Example) M9NW
 1 m M (Example) M9NWM
 3 m L (Example) M9NWL
 5 m Z (Example) M9NZZ
 * Solid state auto switches marked with "○" are produced upon receipt of order.

* There are other applicable auto switches other than listed above. For details, refer to page 1506.
 * For details about auto switches with pre-wired connector, refer to pages 1648 and 1649.
 * Auto switches are shipped together, (but not assembled).

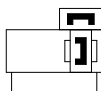
Magnetically Coupled Rodless Cylinder Slider Type: Slide Bearing **CY1S Series**

Specifications



Symbol

Rubber bumper
(Magnet type)



Made to Order: Individual Specifications
(For details, refer to pages 1507 and 1508.)

Symbol	Specifications
-X116	Air-hydro
-X168	Helical insert thread
-X210	Non-lubricated exterior (without dust seal)
-X322	Outside of cylinder tube with hard chrome plated
-X324	Non-lubricated exterior (with dust seal)
-X431	Switch rails on both sides (with 2 pcs.)
-X2423	Mounting surface tapped hole type

Made to Order

[Click here for details](#)

Symbol	Specifications
-XB9	Low speed (15 to 50 mm/s)
-XB13	Ultra low speed (7 to 50 mm/s)

Bore size (mm)	6	10	15	20	25	32	40
Fluid	Air						
Proof pressure	1.05 MPa						
Maximum operating pressure	0.7 MPa						
Minimum operating pressure	0.18 MPa						
Ambient and fluid temperature	-10 to 60°C (No freezing)						
Piston speed*	50 to 400 mm/s						
Cushion	Rubber bumper/Shock absorber						
Lubrication	Non-lube						
Stroke length tolerance (mm)	0 to 250 st: $^{+1.0}_0$, 251 to 1000 st: $^{+1.4}_0$, 1001st or longer: $^{+1.8}_0$						
Magnetic holding force (N)	19.6	53.9	137	231	363	588	922

* In the case of setting an auto switch at the intermediate position, the maximum piston speed is subject to restrict for detection upon the response time of a load (relays, sequence controller, etc.).

Standard Strokes

Bore size (mm)	Standard stroke (mm)	Maximum manufacturable stroke (mm)
6	50, 100, 150, 200	300
10	50, 100, 150, 200, 250, 300	500
15	50, 100, 150, 200, 250, 300, 350, 400, 450, 500	750
20	100, 150, 200, 250, 300, 350, 400, 450,	1000
25	500, 600, 700, 800	1500
32		
40	100, 150, 200, 250, 300, 350, 400, 450, 500, 600, 700, 800, 900, 1000	1500

Note 1) Intermediate stroke is available in 1 mm increments. (Produced upon receipt of order)

Note 2) Minimum stroke available without auto switch or with one auto switch is 15 mm and minimum 25 mm for with 2 auto switches.

Note 3) For 2 or more auto switches with stroke less than 25 mm (minimum 15 mm), consider "X431" (2 switch rails).

Weights

Bore size (mm)		6	10	15	20	25	32	40
CY1S□	Basic weight	0.231	0.428	0.743	1.317	1.641	2.870	4.508
	Additional weight for 50 stroke	0.053	0.082	0.111	0.184	0.186	0.284	0.430
CY1SG□	Basic weight	0.236	0.435	0.743	1.331	1.662	2.903	4.534
	Additional weight for 50 stroke	0.050	0.079	0.108	0.176	0.178	0.273	0.411

Calculation: (Example) CY1SG25-500Z

Basic weight (At 0 stroke) ... 1.662 kg Additional weight for 50 stroke ... 0.178 kg

Cylinder stroke ... 500 st

$1.662 + 0.178 \times 500 \div 50 = 3.442$ kg

Shock Absorber Specifications

Applicable cylinder	CY1S□6	CY1S□10	CY1S□15	CY1S□20	CY1S□25	CY1S□32	CY1S□40
Shock absorber model	RJ0604	RJ0806H	RJ0806L	RJ1007L	RJ1412L	RJ2015H	RJ2015L
Max. absorbed energy (J)	0.5	1	3	10	30		
Stroke absorption (mm)	4	6	7	12	15		
Collision speed (m/s)	0.05 to 1	0.05 to 2	0.05 to 1	0.05 to 1	0.05 to 1	0.05 to 2	0.05 to 1
Max. operating frequency (cycle/min)	80	80	70	45	25		
Max. allowable thrust (N)	150	245	422	814	1961		
Ambient temperature (°C)	-10 to 60°C (No freezing)						

Note) The maximum absorbed energy and maximum operating frequency was measured at ordinary temperature (approximately 20 to 25°C.)

CY3B
CY3R

CY1S

CY1L

CY1H

CY1F

CYP

D-□

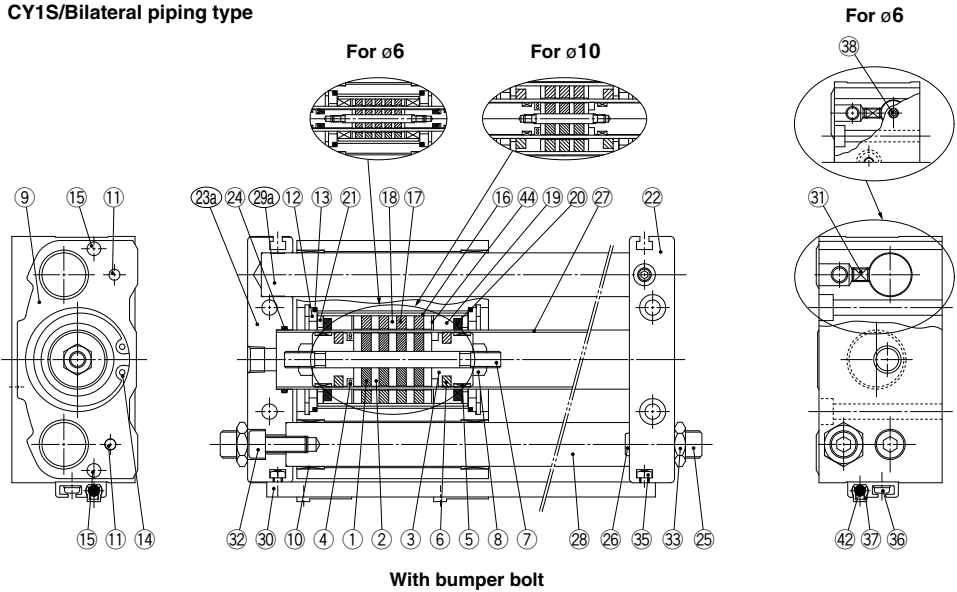
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Technical
Data

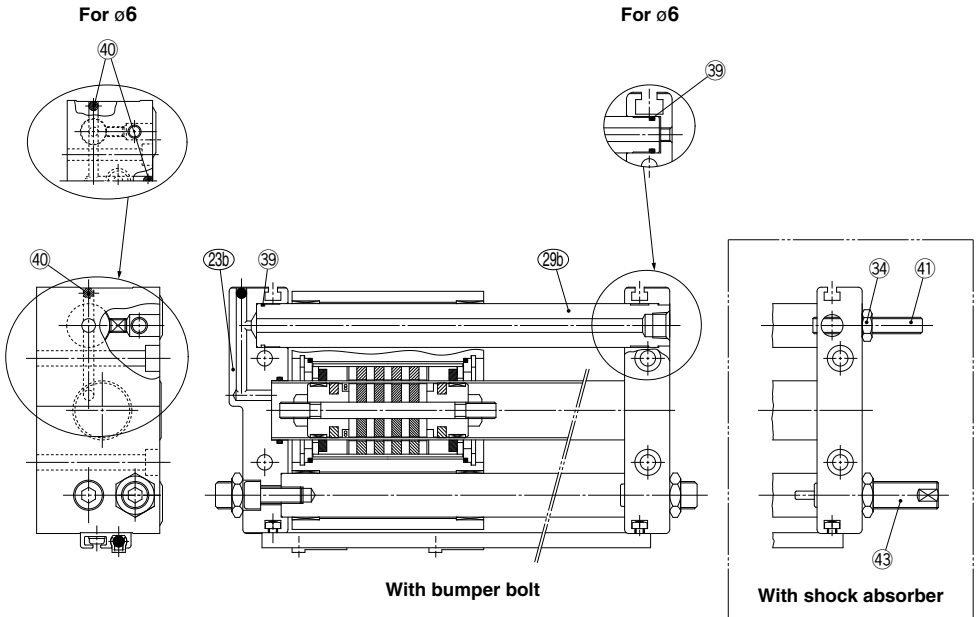
CY1S Series

Construction

CY1S/Bilateral piping type



CY1SG/Centralized piping type



Component Parts

No.	Description	Material	Note
1	Magnet A	—	
2	Piston side yoke	Rolled steel	
3	Piston	Aluminum alloy	
4*	Piston seal	NBR	
5*	Wear ring A	Special resin	
6*	Lube-retainer A	Special resin	Except ø6, ø10
7	Shaft	Stainless steel	
8	Piston nut	Carbon steel	Except ø6 to ø15
9	Slide block	Aluminum alloy	
10	Bushing	Bearing alloy	
11	Parallel pin	Carbon steel	
12	Slider spacer	Rolled steel	
13*	Slider gasket	NBR	
14	Retaining ring	Carbon tool steel	
15	Magnet for switch	—	
16	External slider tube	Aluminum alloy	
17	Magnet B	—	
18	External slider side yoke	Rolled steel	
19*	Wear ring B	Special resin	
20*	Lube-retainer B	Special resin	Except ø6
21	Spacer	Rolled steel	Except ø6
22	Plate A	Aluminum alloy	
23a	Plate C	Aluminum alloy	Bilateral piping
23b	Plate B	Aluminum alloy	Centralized piping

No.	Description	Material	Note
24*	Cylinder tube gasket	NBR	
25	Bumper bolt	Chromium molybdenum steel	
26	Bumper	Urethane rubber	
27	Cylinder tube	Stainless steel	
28	Guide shaft B	Carbon steel	Hard chrome plated
29a	Guide shaft C	Carbon steel	Hard chrome plated
29b	Guide shaft A	Carbon steel	Hard chrome plated
30	Switch rail	Aluminum alloy	
31	Hexagon socket head set screw	Chromium molybdenum steel	
32	Hexagon socket head cap screw	Chromium molybdenum steel	
33	Hexagon nut	Chromium molybdenum steel	
34	Hexagon nut	Chromium molybdenum steel	
35	Square nut	Chromium molybdenum steel	
36	Cross-recessed head machine screw with SW	Chromium molybdenum steel	
37	Switch spacer	Special resin	
38	Port plug	Chromium molybdenum steel	ø6. Bilateral piping only
39*	Guide shaft gasket	NBR	Centralized piping
40	Steel ball	Bearing steel	Centralized piping
41	Adjustment bolt	Chromium molybdenum steel	
42	Auto switch	—	
43	Shock absorber	—	
44	Liner	Aluminum alloy	

Note 1) * denotes parts that are included in the seal kit.
Note 2) Auto switch and switch spacer are shipped together with the product, but not assembled.

Seal Kit

Bore size (mm)	Seal kit	
	Kit no.	Contents
6	CY1S6-Z-PS	Set of the nos. 4, 5, 13, 19, 24, 39
10	CY1S10-Z-PS	Set of the nos. 4, 13, 19, 20, 24, 39
15	CY1S15-Z-PS	Set of the nos. 4, 5, 6, 13, 19, 20, 24, 39
20	CY1S20-Z-PS	
25	CY1S25-Z-PS	
32	CY1S32-Z-PS	
40	CY1S40-Z-PS	

Note 1) Seal kit includes 4, 5, 13, 19, 24, 39 for ø6, 4, 13, 19, 20, 24, 39 for ø10, 4, 5, 6, 13, 19, 20, 24, 39 are for ø15 to ø40.
Order the seal kit, based on each bore size.
Note 2) Seal kit includes a grease pack (10 g).
Order with the following part number when only the grease pack is needed.
Grease pack part number: GR-S-010

Replacement Parts

Bore size (mm)	Bumper bolt assembly		Adjustment bolt assembly		Switch spacer	
	Kit no.	Contents	Kit no.	Contents	Kit no.	Contents
6	CYS06-37-AJ024-R	Set of the nos. 25, 26, 33	CYS06-37AAJ024-R	Set of the nos. 34, 41	BMY3-016	Set of the nos. 37
10	CYS10-37-AJ025-R		CYS10-37AAJ025-R			
15	CYS15-37-AJ026-R		CYS15-37AAJ026-R			
20	CYS20-37-AJ027-R		CYS20-37AAJ027-R			
25	CYS25-37-AJ028-R		CYS25-37AAJ028-R			
32	CYS32-37-AJ029-R		CYS32-37AAJ029-R			
40	CYS40-37-AJ030-R					

Note 3) A switch spacer, as specified in the table above will be required if an auto switch is mounted afterward.
When ordering an additional auto switch, also order an additional switch spacer.
(Refer to "Auto Switch Mounting" on page 1506 for details.)

CY3B
CY3R

CY1S

CY1L

CY1H

CY1F

CYP

D-□

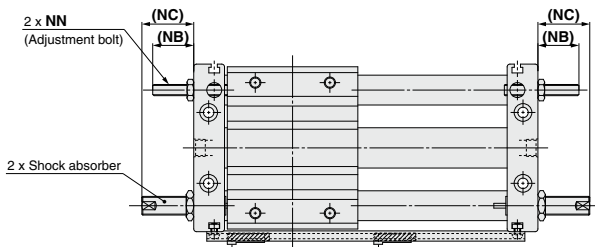
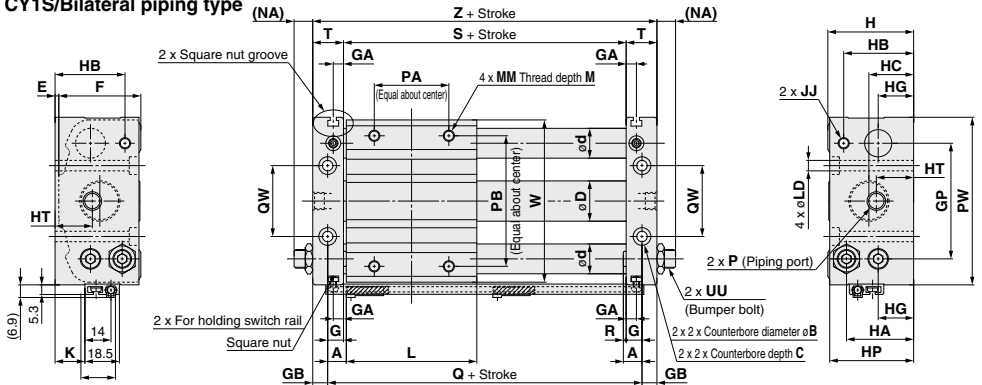
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Technical Data

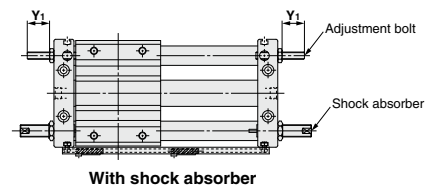
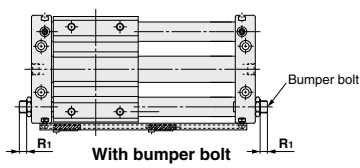
CY1S Series

Dimensions

CY1S/Bilateral piping type



Amount of stroke adjustment



Dimensions

Model	A	B	C	D	d	E	F	G	GA	GB	GP	H	HA	HB	HC	HP	HT	JJ	K	L	LD	M	MM	NA	NB	NC	
CY1S6-Z	6	6.5	3.3	7.6	8	2	25	5	5	5	30	27	20.5	20.5	15.5	8	26	15.5	M4 x 0.7	3	40	3.5	6	M4 x 0.7	11	14	19
CY1S10-Z	7.5	8	4.4	12	10	2.5	31.5	6.5	5	6	40	34	25	27	17	13.5	33	17	M4 x 0.7	6	45	4.6	6	M4 x 0.7	10.5	16.5	28
CY1S15-Z	7.5	9.5	5.4	16.6	12	2	38	6.5	5	6	52	40	28	29.5	20.5	15	39	20.5	M4 x 0.7	11	60	5.8	8	M5 x 0.8	10.5	16.5	28
CY1S20-Z	10	9.5	5.4	21.6	16	2	44	8.5	5.5	8	62	46	36	37.5	24	19	45	20	M6 x 1	16	70	5.8	10	M6 x 1	10.5	22	28
CY1S25-Z	10	11	6.5	26.4	16	2	52	8.5	5.5	8	70	54	40.5	40.5	27.5	21.5	53	21	M6 x 1	20	70	7	10	M6 x 1	12.5	22	49
CY1S32-Z	12.5	14	8.6	33.6	20	2	64	9.5	5.5	9	86	66	50	50	33	26	64	24	M8 x 1.25	26	85	9	12	M8 x 1.25	11.5	23.5	52
CY1S40-Z	12.5	14	8.6	41.6	25	2	74	10.5	5.5	10	104	76	55.5	55.5	38	27	74	27	M8 x 1.25	28	95	9	12	M8 x 1.25	10.5	22.5	51

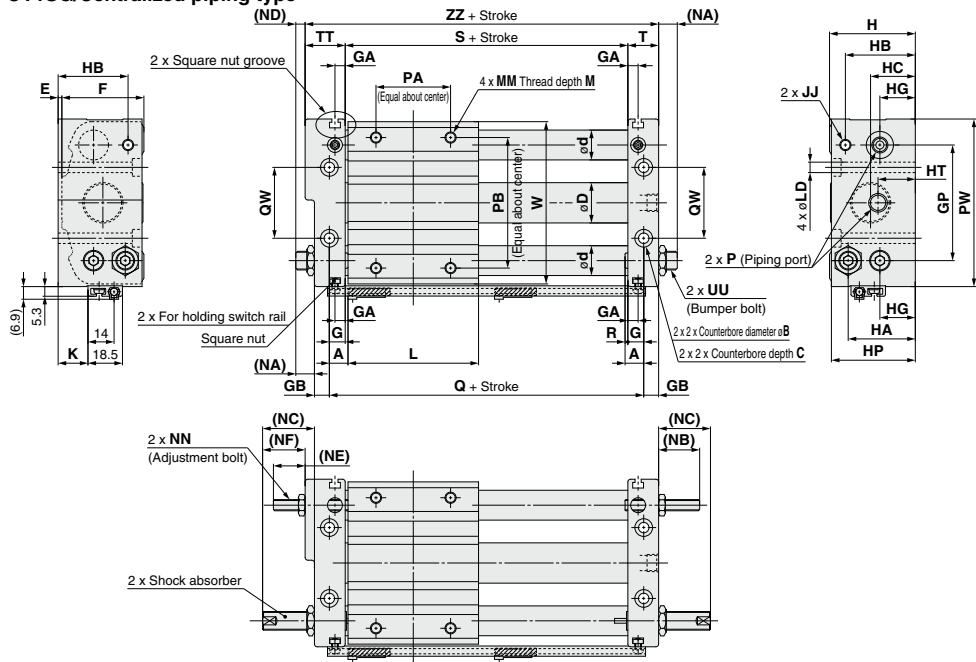
Model	NN	P			PA	PB	PW	Q	QW	R	R1	S	T	UU	W	Y1	Z	Shock absorber		
		Nil	TN	TF																
CY1S6-Z	M4 x 0.7	M3x0.5	—	—	25	25	49	52	16	1	7.5	15	42	10	M6 x 0.75	46	11.5	23	62	RJ0604N
CY1S10-Z	M4 x 0.7	M5x0.8	—	—	25	38	61	60	24	1	5.5	11	47	12.5	M8 x 1	58	14	28	72	RJ0806HN
CY1S15-Z	M4 x 0.7	M5x0.8	—	—	30	50	76	75	30	1	5.5	11	62	12.5	M8 x 1	73	14	28	87	RJ0806LN
CY1S20-Z	M6 x 1	Rc1/8	NPT1/8	G1/8	40	70	90	90	38	1.5	4.5	9	73	16.5	M10 x 1	87	18.5	37	106	RJ1007LN
CY1S25-Z	M6 x 1	Rc1/8	NPT1/8	G1/8	40	70	99	90	42	1.5	4.5	9	73	16.5	M14 x 1.5	96	18.5	37	106	RJ1412LN
CY1S32-Z	M8 x 1.25	Rc1/8	NPT1/8	G1/8	40	75	119	110	50	3	5.5	11	91	18.5	M20 x 1.5	116	18.5	37	128	RJ2015HN
CY1S40-Z	M8 x 1.25	Rc1/4	NPT1/4	G1/4	65	105	142	120	64	2	4.5	9	99	20.5	M20 x 1.5	139	17.5	35	140	RJ2015LN

Note) The above figures show the product with auto switches. Auto switch and switch spacer are shipped together with the product, but not assembled.

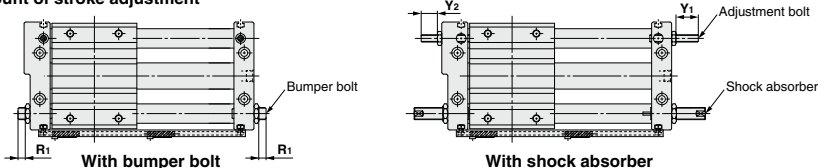
Magnetically Coupled Rodless Cylinder Slider Type: Slide Bearing **CY1S Series**

Dimensions

CY1SG/Centralized piping type



Amount of stroke adjustment



Dimensions

Model	A	B	C	D	d	E	F	G	GA	GB	GP	H	HA	HB	HC	HG	HP	HT	JJ	K	L	LD	M	MM	NA	NB	NC	ND	NE
CY1SG6-Z	6	6.5	3.3	7.6	8	2	25	5	5	5	30	27	20.5	20.5	15.5	8	26	15.5	M4 x 0.7	3	40	3.5	6	M4 x 0.7	11	14	19	7	10
CY1SG10-Z	7.5	8	4.4	12	10	2.5	31.5	6.5	5	6	40	34	25	27	17	13.5	33	17	M4 x 0.7	6	45	4.6	6	M4 x 0.7	10.5	16.5	28	6.5	12.5
CY1SG15-Z	7.5	9.5	5.4	16.6	12	2	38	6.5	5	6	52	40	28	29.5	20.5	15	39	20.5	M4 x 0.7	11	60	5.8	8	M5 x 0.8	10.5	16.5	28	5.5	11.5
CY1SG20-Z	10	9.5	5.4	21.6	16	2	44	8.5	5.5	8	62	46	36	37.5	24	19	45	20	M6 x 1	16	70	5.8	10	M6 x 1	10.5	22	28	5.5	17
CY1SG25-Z	10	11	6.5	26.4	16	2	52	8.5	5.5	8	70	54	40.5	40.5	27.5	21.5	53	21	M6 x 1	20	70	7	10	M6 x 1	12.5	22	49	7.5	17
CY1SG32-Z	12.5	14	8.6	33.6	20	2	64	9.5	5.5	9	86	66	50	50	33	26	64	24	M8 x 1.25	26	85	9	12	M8 x 1.25	11.5	23.5	52	5.5	17.5
CY1SG40-Z	12.5	14	8.6	41.6	25	2	74	10.5	5.5	10	104	76	55.5	55.5	38	27	74	27	M8 x 1.25	28	95	9	12	M8 x 1.25	10.5	22.5	51	4.5	16.5

Model	NF	NN	P			PA	PB	PW	Q	QW	R	R1	Bumper bolt adjustable range (Both sides: R1:1.2)				UU	W	Y1	Y2	ZZ	Shock absorber	
			NII	TN	TF								S	T	TT								
CY1SG6-Z	15	M4 x 0.7	M3 x 0.5	—	—	25	25	49	52	16	1	7.5	15	42	10	14	M6 x 0.75	46	11.5	7.5	19	66	RJ0604N
CY1SG10-Z	24	M4 x 0.7	M5 x 0.8	—	—	25	38	61	60	24	1	5.5	11	47	12.5	16.5	M8 x 1	58	14	10	24	76	RJ0806HN
CY1SG15-Z	23	M4 x 0.7	M5 x 0.8	—	—	30	50	76	75	30	1	5.5	11	62	12.5	17.5	M8 x 1	73	14	9	23	92	RJ0806LN
CY1SG20-Z	23	M6 x 1	Rc1/8	NPT1/8	G1/8	40	70	90	90	38	1.5	4.5	9	73	16.5	21.5	M10 x 1	87	18.5	13.5	32	111	RJ1007LN
CY1SG25-Z	44	M6 x 1	Rc1/8	NPT1/8	G1/8	40	70	99	90	42	1.5	4.5	9	73	16.5	21.5	M14 x 1.5	96	18.5	13.5	32	111	RJ1412LN
CY1SG32-Z	46	M8 x 1.25	Rc1/8	NPT1/8	G1/8	40	75	119	110	50	3	5.5	11	91	18.5	24.5	M20 x 1.5	116	18.5	12.5	31	134	RJ2015HN
CY1SG40-Z	45	M8 x 1.25	Rc1/4	NPT1/4	G1/4	65	105	142	120	64	2	4.5	9	99	20.5	26.5	M20 x 1.5	139	17.5	11.5	29	146	RJ2015LN

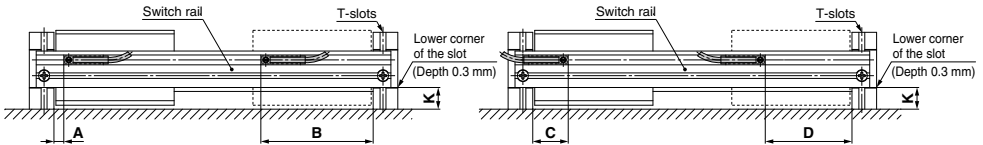
Note) The above figures show the product with auto switches. Auto switch and switch spacer are shipped together with the product, but not assembled.

CY3B
CY3R
CY1S
CY1L
CY1H
CY1F
CY1P

D
 X
Technical Data

Auto Switch Mounting

Auto Switch Proper Mounting Position (Detection at stroke end)



- Note 1) The minimum stroke when 2 in-line auto switches are mounted as shown above is 50 mm.
 The minimum stroke when the mounting screws of the auto switches face each other is 25 mm.
 Note 2) The minimum stroke when no auto switch is mounted is 15 mm.

Auto Switch Proper Mounting Position

Auto switch model	K dimension (Switch rail height)	A		B		C		D	
		D-M9□ D-M9□V D-M9□W D-M9□WV D-M9□A D-M9□AV	D-A9□ D-A9□V	D-M9□ D-M9□V D-M9□W D-M9□WV D-M9□A D-M9□AV	D-A9□ D-A9□V	D-M9□ D-M9□V D-M9□W D-M9□WV D-M9□A D-M9□AV	D-A9□ D-A9□V	D-M9□ D-M9□V D-M9□W D-M9□WV D-M9□A D-M9□AV	D-A9□ D-A9□V
6	3	5.5	1.5	36.5	40.5	17.5	21.5	24.5	20.5
10	6	5.5	1.5	41.5	45.5	17.5	21.5	29.5	25.5
15	11	5.5	1.5	56.5	60.5	17.5	21.5	44.5	40.5
20	16	6	2	67	71	18	22	55	51
25	20	6	2	67	71	18	22	55	51
32	26	7.5	3.5	83.5	87.5	19.5	23.5	71.5	67.5
40	28	6.5	2.5	92.5	96.5	18.5	22.5	80.5	76.5

- Note 1) The values in the above list are used as a guide for the auto switch mounting position for end of stroke detection. Adjust the auto switch after confirming the operating conditions in the actual setting.
 Note 2) If the switch rail is reassembled or mounted on the other side of the cylinder, maintain the K dimension (switch rail height: lower corner of the slot) in the table above.
 The switch rail is secured by screwing the cross-recessed round head screw into a square nut in the T-slots of the end plates. Care must be taken when removing the switch rail so that the screws or nuts are not lost.

Operating Range

Auto switch model	Bore size (mm)						
	6	10	15	20	25	32	40
D-M9□ D-M9□V D-M9□W D-M9□WV D-M9□A D-M9□AV	3	3	2.5	2.5	3	2.5	3
D-A9□ D-A9□V	5.5	5.5	5.5	5.5	5.5	5.5	6

- Note) Values which include hysteresis are for guideline purposes only, they are not a guarantee (assuming approximately ±30% dispersion) and may change substantially depending on the ambient environment.

Auto Switch Mounting Bracket (Switch spacer)

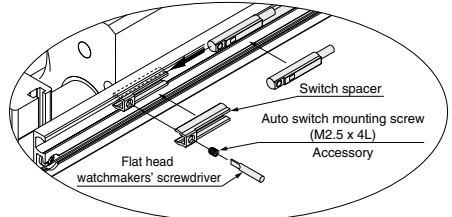
Auto switch model	Bore size (mm)	
	6 to 40	
D-M9□ D-M9□V D-M9□W D-M9□WV D-M9□A D-M9□AV	BMY3-016	
D-A9□ D-A9□V		

- Note) The part number above is the order number for the switch spacer.

Auto Switch Mounting

As shown in the figure to the right, combine the auto switch with the switch spacer (BMY3-016) to secure the auto switch in the mounting groove of the switch rail. Combine the auto switch with the switch spacer and secure into position by tightening the auto switch mounting screw with a flat blade watchmakers' screwdriver.

- Note) When tightening the auto switch mounting screw, use watchmakers' screwdriver with a handle diameter of 5 to 6 mm.
 Set the tightening torque to 0.1 to 0.15 N·m.



Other than the applicable auto switches listed in "How to Order", the following auto switches are mountable.

- * Normally closed (NC = b contact) solid state auto switches (D-M9□E(V)) are also available. For details, refer to page 1592-1.
- * With pre-wired connector is also available for solid state auto switches. For details, refer to pages 1648 and 1649.



Made-to-Order List

Bore size (mm)	Air-hydro	Helical insert thread	Non-lubricated exterior (without dust seal)	Outside of cylinder tube with hard chrome plated	Non-lubricated exterior (with dust seal)	Auto switch rails on both sides	Mounting surface tapped hole type
	-X116	-X168	-X210	-X322	-X324	-X431	-X2423
6			●			●	●
10			●		●	●	●
15			●	●	●	●	●
20		●	●		●	●	●
25	●	●	●	●	●	●	●
32	●	●	●	●	●	●	●
40	●	●	●	●	●	●	●

Note) ● indicates "applicable" and blank indicates "not applicable".

1 Air-hydro Symbol -X116

Air-hydro type is suitable for precise low speed feeding, intermediate stop and skip feeding.

Standard model no. - X116

● Air-hydro

Specifications

Bore size (mm)	25	32	40
Orifice diameter (mm)	8	8	11
Fluid	Turbine oil class 1. (ISO VG32)		
Piston speed (mm/s)	15 to 300		
Dimensions	The same dimensions as the bilateral piping type		

Note 1) This product is only applicable to the bilateral piping type.

Note 2) When an intermediate stop is performed in the air-hydro circuit, the kinetic energy of the load should be the allowable value or less.

(Refer to "When an intermediate stop is performed with the pneumatic circuit" for the allowable values.)

Note 3) Do not use machine oil or spindle oil.

3 Non-lubricated Exterior (Without dust seal) Symbol -X210

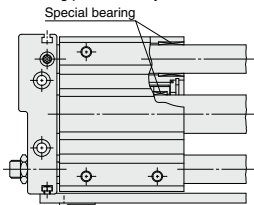
Suitable for environments where oil is not tolerated. It is recommended to use this type in a special environment where standard product causes lubrication failure.

Standard model no. - X210

● Non-lubricated exterior (without dust seal)

Dimensions: Same as standard type

Note) Consider installing a protective cover if the product is used in an environment where foreign matter such as paper powder might be caught in the sliding parts of the cylinder.



2 Helical Insert Thread Symbol -X168

Change mounting thread on the external slider to helical insert thread.

Standard model no. - X168

● Helical insert thread

Dimensions: Same as standard type

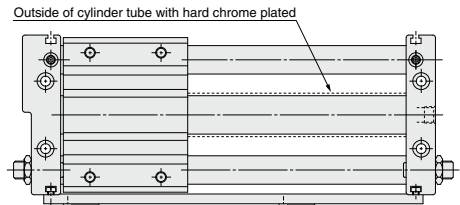
4 Outside of Cylinder Tube with Hard Chrome Plated Symbol -X322

The cylinder tube outer circumference is plated with hard chrome, which further reduces bearing abrasion.

Standard model no. - X322

● Outside of cylinder tube with hard chrome plated

Dimensions: Same as standard type



CY3B
CY3R

CY1S

CY1L

CY1H

CY1F

CYP

D-□

-X□

Technical Data

CY1S Series

5 Non-lubricated Exterior (With dust seal) Symbol -X324

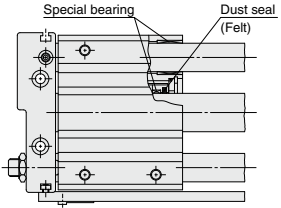
No grease is applied to the external surface of the cylinder.
Suitable for environments where oil is not tolerated.
A felt dust seal is mounted to the external sliding part of the cylinder tube.

Standard model no. - X324

• Non-lubricated exterior (with dust seal)

Dimensions: Same as standard type

Note) Although a felt dust seal is installed, foreign matter might be caught in the sliding parts of the cylinder. In that instance, consider installing a protective cover.

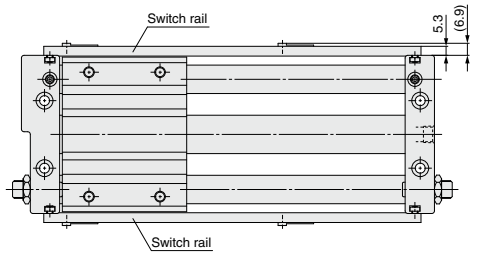


6 Switch Rails on Both Sides (With 2 pcs.) Symbol -X431

Applicable for short stroke with auto switch.

Standard model no. - X431

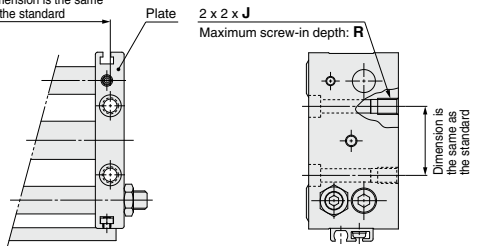
• Switch rails on both sides (with 2 pcs.)



7 Mounting Surface Tapped Hole Type Symbol -X2423

The through hole mounting holes on both plates are tapped to allow the cylinders to also be mounted from the equipment side (cylinder mounted surface).

Dimension is the same as the standard



Bore size (mm)	J (Thread size)	R (Maximum screw-in depth)
6	M4 x 0.7	6.5
10	M5 x 0.8	9.5
15	M6 x 1	9.5
20	M6 x 1	9.5
25	M8 x 1.25	10
32	M10 x 1.5	15
40	M10 x 1.5	15