

Magnetically Coupled Rodless Cylinder/ Direct Mount Type

CY3R Series

ø6, ø10, ø15, ø20, ø25, ø32, ø40, ø50, ø63

How to Order

CY3R **25** - **300** - **M9BW** -

Direct mount type

Piping type

Nil	Standard type
G	Centralized piping type

* Type G (centralized piping) is not available for ø6.

Bore size

6	6 mm
10	10 mm
15	15 mm
20	20 mm
25	25 mm
32	32 mm
40	40 mm
50	50 mm
63	63 mm

Port thread type

Symbol	Type	Bore size
Nil	M thread	6, 10, 15
	Rc	20, 25, 32, 40
TN	NPT	
TF	G	

Number of auto switches

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

Auto switch

Nil	ø6 to ø15 ø25 to ø63	Without auto switch (Built-in magnet)
	ø20	Without auto switch (Built-in magnet for reed switch)
M		Without auto switch (Built-in magnet for solid state switch)

* Refer to the table below for auto switch model numbers.

Switch rail

Nil	With switch rail
N	Without switch rail

Note 1) A type with switch rail has built-in auto switch magnets.
 Note 2) ø15 has built-in auto switch magnets even without switch rail.
 Note 3) Centralized piping type (G) is not available without switch rail (N).

Cylinder stroke (mm)
 Refer to page 1473 for standard stroke.

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		0.5 (Nil)	1 (M)	3 (L)	5 (Z)								
Solid state auto switch	—	Grommet	Yes	3-wire (NPN)	5 V, 12 V	—	M9N	●	●	○	○	IC circuit	Relay, PLC						
				3-wire (PNP)			M9P	●	●	●	○								
	2-wire			12 V	M9B		●	●	●	○	○	—							
	3-wire (NPN)			5 V, 12 V	M9NW		●	●	●	○	○	IC circuit							
	3-wire (PNP)				M9PW		●	●	●	○	○								
	Water resistant (2-color display)			2-wire	12 V		M9BW	●	●	●	○	○		—					
				3-wire (NPN)	5 V, 12 V		M9NA *1	○	○	●	○	○		IC circuit					
	3-wire (PNP)			M9PA *1			○	○	●	○	○								
	Reed auto switch			—	Grommet		Yes	3-wire (NPN equiv.)	—	5 V	A96	●		—	●	—	—	IC circuit	—
								2-wire	24 V	5 V, 12 V	100 V 100 V or less	A93		●	●	●	●	—	—
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. Consult with SMC regarding water resistant types with the above model numbers.

* Lead wire length symbols: 0.5 m..... Nil (Example) M9NW
 1 m..... M (Example) M9NWM
 3 m..... L (Example) M9NWL
 5 m..... Z (Example) M9NwZ

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

* Other than the applicable auto switches listed in "How to Order", the other auto switches can be mounted. For detailed specifications, refer to page 1479.
 * With pre-wired connector is also available in solid state auto switches. For specifications, refer to pages 1648 and 1649.
 * The auto switch is shipped together, but not assembled.

Specifications

Bore size (mm)	6	10	15	20	25	32	40	50	63
Fluid	Air								
Proof pressure	1.05 MPa								
Max. operating pressure	0.7 MPa								
Min. operating pressure	0.16	0.16	0.16	0.16	0.15	0.14	0.12	0.12	0.12
Ambient and fluid temperature	-10 to 60°C (No freezing)								
Piston speed	50 to 500 mm/s								
Cushion	Rubber bumper								
Lubrication	Not required (Non-lube)								
Stroke length tolerance (mm)	0 to 250 st: $+1.0_0$, 251 to 1000 st: $+1.4_0$, 1001 st to: $+1.8_0$								
Mounting	Direct mount type								
Mounting orientation	Horizontal, Inclined, Vertical ^{Note 2)}								
Magnet holding force (N)	19.6	53.9	137	231	363	588	922	1471	2256

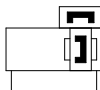
Note 1) When an auto switch is installed at an intermediate position of a type with auto switch, keep the maximum piston speed at 300 mm/s or below to ensure operation of relays or other devices.

Note 2) When vertically mounting, it is impossible to perform an intermediate stop by means of a pneumatic circuit.



Symbol

Rubber bumper (Magnet type)



Made to Order: Individual Specifications
(For details, refer to pages 1480 to 1482.)

Symbol	Specifications
-X116	Hydro specifications
-X160	High speed specifications
-X322	Outside of cylinder tube with hard chrome plating
-X1468	Interchangeable specification with CY1□6

Made to Order

[Click here for details](#)

Symbol	Specifications
-XC57	With floating joint

For clean specifications, refer to "Pneumatic Clean Series" catalog (CAT.E02-23).

Standard Stroke

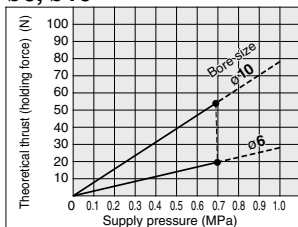
Bore size (mm)	Standard stroke (mm)	Max. stroke without switch (mm)	Max. stroke with switch (mm)
6	50, 100, 150, 200	300	300
10	50, 100, 150, 200, 250, 300	500	500
15	50, 100, 150, 200, 250, 300 350, 400, 450, 500	1000	750
20	100, 150, 200, 250, 300, 350 400, 450, 500, 600, 700, 800	1500	1000
25			1200
32	100, 150, 200, 250, 300, 350 400, 450, 500, 600, 700, 800 900, 1000	2000	1500
40			1500
50			1500
63			

Note 1) The longer the stroke, the larger the amount of deflection in a cylinder tube. Pay attention to the mounting bracket and clearance value.

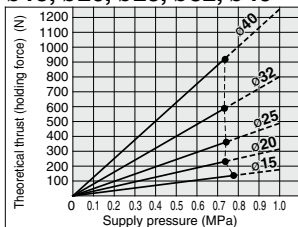
Note 2) Intermediate stroke is available in 1 mm increments.

Theoretical Cylinder Thrust

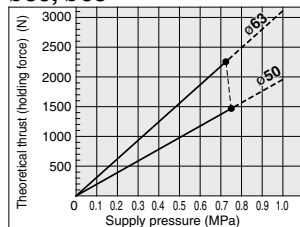
ø6, ø10



ø15, ø20, ø25, ø32, ø40



ø50, ø63



When calculating the actual thrust, design should consider the minimum actuating pressure.

Weight

Unit: kg

Bore size (mm)		6	10	15	20	25	32	40	50	63
Basic weight (at 0 st)	With switch rail	0.086	0.111	0.272	0.421	0.622	1.217	1.98	3.54	5.38
	Without switch rail	0.069	0.08	0.225	0.351	0.542	1.097	1.82	3.25	5.03
Additional weight per 50 mm of stroke	With switch rail	0.016	0.034	0.040	0.051	0.056	0.076	0.093	0.159	0.188
	Without switch rail	0.004	0.014	0.015	0.020	0.023	0.033	0.040	0.077	0.096

Calculation method/Example: CY3R25-500 (with switch rail) Basic weight...0.622 (kg), Additional weight...0.056 (kg/50 st), Cylinder stroke...500 (st)
0.622 + 0.056 x 500 ÷ 50 = 1.182 (kg)

CY3B
CY3R

CY1S

CY1L

CY1H

CY1F

CYP

D-□

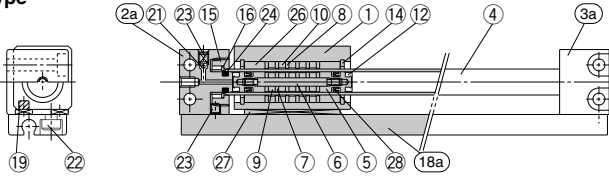
-X□

Technical Data

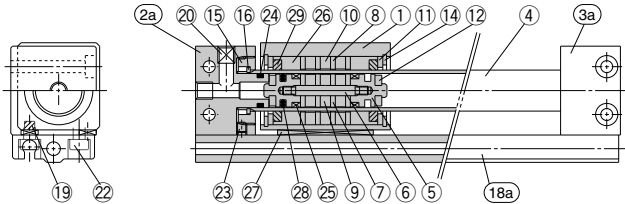
CY3R Series

Construction

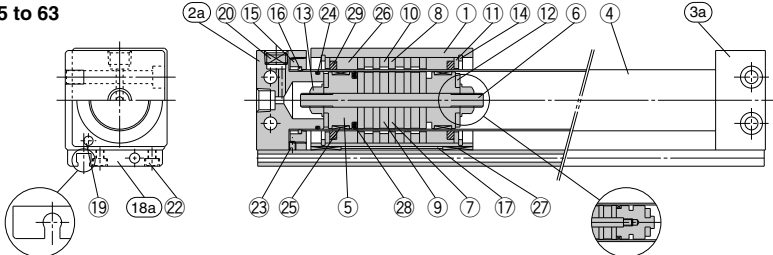
Both sides piping type CY3R6



CY3R10



CY3R15 to 63



CY3R15, 20

CY3R15

Component Parts

No.	Description	Material	Note
1	Body	Aluminum alloy	Hard anodized
2a	End cover A	Aluminum alloy	
2b	End cover C	Aluminum alloy	
3a	End cover B	Aluminum alloy	
3b	End cover D	Aluminum alloy	
4	Cylinder tube	Stainless steel	
5	Piston	ø6 Brass ø10 to ø63 Aluminum alloy	ø6 Electroless nickel plated ø10 to ø63 Chromate
6	Shaft	Stainless steel	
7	Piston side yoke	Rolled steel plate	Zinc chromated
8	External slider side yoke	Rolled steel plate	Zinc chromated
9	Magnet A	—	
10	Magnet B	—	
11	Spacer	Aluminum alloy	ø6: not available
12	Bumper	Urethane rubber	
13	Piston nut	Carbon steel	Zinc chromate (ø6 to ø15: not available)
14	Type C retaining ring for hole	Carbon tool steel	Phosphate coated
15	Attachment ring	Aluminum alloy	Chromate
16	Type C retaining ring for shaft	Hard steel wire	
17	Magnetic shielding plate	Rolled steel plate	Chromated (ø6, ø10: not available)
18a	Switch rail (both sides piping)	Aluminum alloy	White anodized
18b	Switch rail (centralized piping)	Aluminum alloy	White anodized
19	Magnet	—	
20	Hexagon socket head plug	Chromium steel	Nickel plated
21	Steel balls	Chromium steel	ø40 Hexagon socket head plug ø20, ø50, ø63 None
22	Hexagon socket head screw	Chromium steel	Nickel plated
23	Hexagon socket head set screw	Chromium steel	Nickel plated

No.	Description	Material	Note
24 ^{Note 2)}	Cylinder tube Gasket	NBR	
25 ^{Note 2)}	Wear ring A	Special resin	ø6: not available
26 ^{Note 2)}	Wear ring B	Special resin	
27 ^{Note 2)}	Wear ring C	Special resin	
28 ^{Note 2)}	Piston seal	NBR	
29 ^{Note 2)}	Lubretainer	Special resin	ø6: not available
30 ^{Note 2)}	Switch rail gasket	NBR	Both sides piping type: None

Replacement Parts/Seal Kit

Bore size (mm)	Kit no.	Contents
6	CY3R6-PS	Set of nos. above 24, 26, 27, 29
10	CY3R10-PS	Set of nos. above 24, 26, 27, 28, 29, 30
15	CY3R15-PS	
20	CY3R20-PS	
25	CY3R25-PS	Set of nos. above 24, 25, 26, 27, 28, 29, 30
32	CY3R32-PS	
40	CY3R40-PS	
50	CY3R50-PS	
63	CY3R63-PS	

Note1) Seal kits are the same for both the both sides piping type and the centralized piping type.

Note2) Seal kits are sets consisting of numbers 24 through 30. Order using the kit number corresponding to each bore size.

Note3) For replacement of the ø10 wear ring A, contact SMC or your nearest sales representative.

* Seal kit includes a grease pack (ø6, ø10: 5 and 10 g, ø15 to ø63: 10 g). Order with the following part number when only the grease pack is needed.

Grease pack part number for ø6, ø10: GR-F-005 (5 g) For external sliding sections

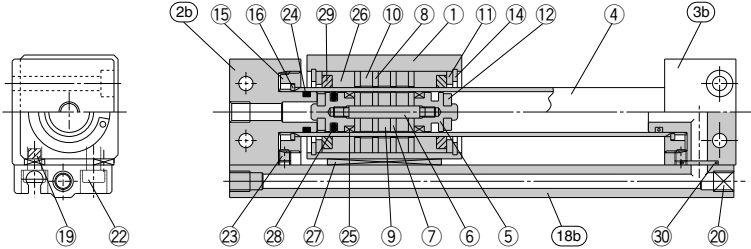
GR-S-010 (10 g) For tubing interior

Grease pack part number for ø15 to ø63: GR-S-010 (10 g)

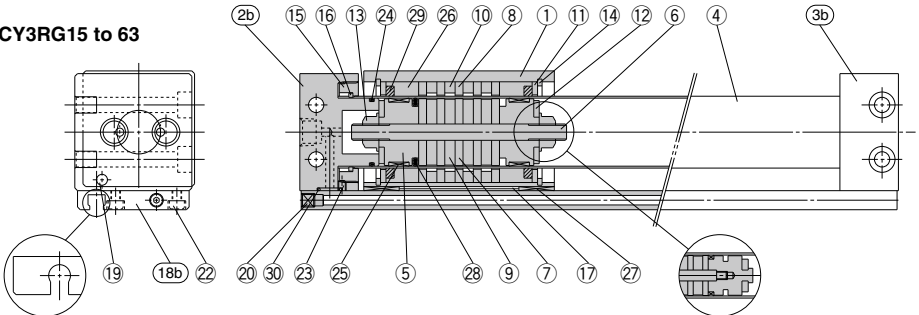
Construction

Centralized piping type

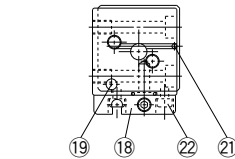
CY3RG10



CY3RG15 to 63



CY3RG15, 20



CY3RG15

CY3RG15

Switch Rail Accessory

CYR 15 E B (N) - 100

Bore size

Cylinder piping type

Nil	Centralized piping (CY3RG)
B	Both sides piping (CY3R)

Note) Only "B" for ø6.

Auto switch type
(ø20 only)

Nil	For reed switch
N	For solid state switch

Stroke

Switch Rail Accessory Kit

Bore size (mm)	Kit no.		Contents
	Both sides piping	Centralized piping	
6	CYR6EB-□	—	Numbers (18a), (18b), 19, 22, 27 above
10	CYR10EB-□	CYR10E-□	Numbers (18a), (18b), 19, 20, 22, 27 above
15	CYR15EB-□	CYR15E-□	Numbers 17, (18a), (18b), 20, 22, 27 above Note 2)
20	For reed switch	CYR20EB-□	CYR20E-□
	For solid state switch	CYR20EBN-□	CYR20EN-□
25	CYR25EB-□	CYR25E-□	Numbers 17, (18a), (18b), 19, 20, 22, 27 above
32	CYR32EB-□	CYR32E-□	
40	CYR40EB-□	CYR40E-□	
50	CYR50EB-□	CYR50E-□	
63	CYR63EB-□	CYR63E-□	

Note 1) □ indicates the stroke.

Note 2) A magnet is already built in for ø15.

Note 3) (18a) is attached on both sides piping.

Note 4) (18b) and 20 are attached on centralized piping.

CY3B
CY3R

CY1S

CY1L

CY1H

CY1F

CYP

D-□

-X□

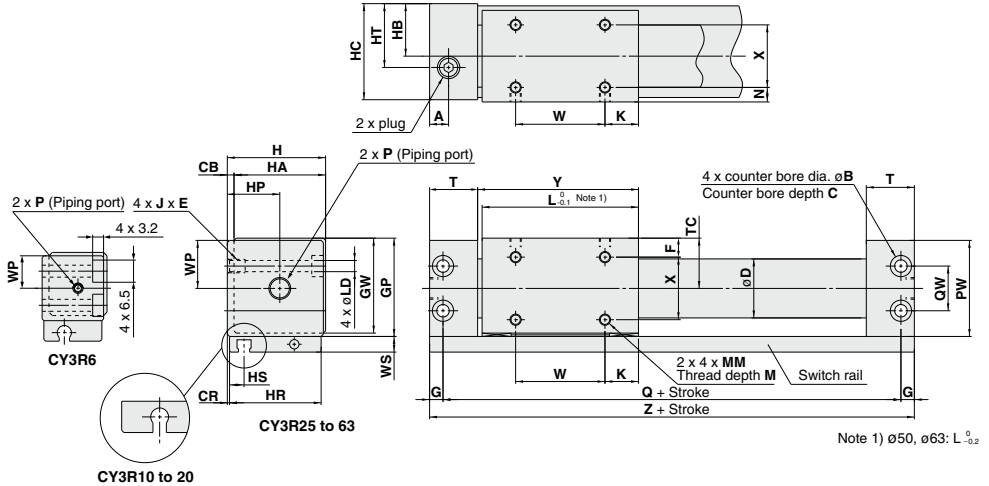
Technical
Data

CY3R Series

Dimensions

Both sides piping type: $\phi 6$ to $\phi 63$

Note) This figure shows types with switch rail (NII).



Note 1) $\phi 50, \phi 63: L: \phi 22$

Model	A	B	C	CB	CR	D	F	G	GP	GW	H	HA	HB	HC	HP	HR	HS	HT	J x E	K
CY3R6	7*	—*	—*	2	0.5	7.6	5.5	3*	20	18.5	19	17	10.5	18	10.5*	17	6	10.5*	M4 x 0.7 x 6	7
CY3R10	9	6.5	3.2	2	0.5	12	6.5	4	27	25.5	26	24	14	25	14	24	5	14	M4 x 0.7 x 6	9
CY3R15	10.5	8	4.2	2	0.5	16.6*	8	5	33	31.5	32	30	17	31	17	30	8.5	17	M5 x 0.8 x 7	14
CY3R20	9	9.5	5.2	3	1	21.6*	9	6	39	37.5	39	36	21	38	24	36	7.5	24	M6 x 1 x 8	11
CY3R25	8.5	9.5	5.2	3	1	26.4*	8.5	6	44	42.5	44	41	23.5	43	23.5	41	6.5	23.5	M6 x 1 x 8	15
CY3R32	10.5	11	6.5	3	1.5	33.6*	10.5	7	55	53.5	55	52	29	54	29	51	7	29	M8 x 1.25 x 10	13
CY3R40	10	11	6.5	5	2	41.6*	13	7	65	63.5	67	62	36	66	36	62	8	36	M8 x 1.25 x 10	15
CY3R50	14	14	8.2	5	2	52.4*	17	8.5	83	81.5	85	80	45	84	45	80	9	45	M10 x 1.5 x 15	25
CY3R63	15	14	8.2	5	3	65.4*	18	8.5	95	93.5	97	92	51	96	51	90	9.5	51	M10 x 1.5 x 15	24

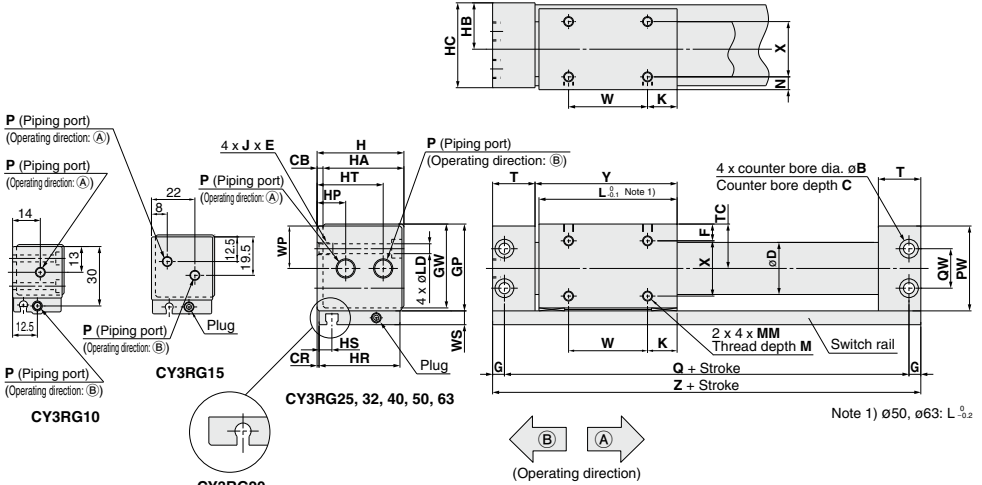
Model	L	LD	M	MM	N	PW	Q	QW	T	TC	W	WP	WS	X	Y	Z
CY3R6	34	3.5	3.5	M3 x 0.5	3.5	19	60*	10	14.5*	10.5	20	9.5	6	10	35.5	66*
CY3R10	38	3.5	4	M3 x 0.5	4.5	26	68	14	17.5	14	20	13	8	15	39.5	76
CY3R15	53	4.3	5	M4 x 0.7	6	32	84	18	19	17	25	16	7	18	54.5	94
CY3R20	62	5.4	5	M4 x 0.7	7	38	95	17	20.5	20	40	19	7	22	64	107
CY3R25	70	5.4	6	M5 x 0.8	6.5	43	105	20	21.5	22.5	40	21.5	7	28	72	117
CY3R32	76	7	7	M6 x 1	8.5	54	116	26	24	28	50	27	7	35	79	130
CY3R40	90	7	8	M6 x 1	11	64	134	34	26	33	60	32	7	40	93	148
CY3R50	110	8.6	10	M8 x 1.25	15	82	159	48	30	42	60	41	10	50	113	176
CY3R63	118	8.6	10	M8 x 1.25	16	94	171	60	32	48	70	47	10	60	121	188

Model	P (Piping port)		
	NII	TN*	TF*
CY3R6	M3 x 0.5*	—	—
CY3R10	M5 x 0.8	—	—
CY3R15	M5 x 0.8	—	—
CY3R20	Rc 1/8	NPT 1/8	G 1/8
CY3R25	Rc 1/8	NPT 1/8	G 1/8
CY3R32	Rc 1/8	NPT 1/8	G 1/8
CY3R40	Rc 1/4	NPT 1/4	G 1/4
CY3R50	Rc 1/4	NPT 1/4	G 1/4
CY3R63	Rc 1/4	NPT 1/4	G 1/4

Note 2) The asterisk denotes the dimensions which are different from the CY1R series.
1476

Dimensions

Centralized piping type: $\varnothing 10$ to $\varnothing 63$



Model	B	C	CB	CR	D	F	G	GP	GW	H	HA	HB	HC	HP	HR	HS	HT	J x E	K	L
CY3RG10	6.5	3.2	2	0.5	12	6.5	4	27	25.5	26	24	14	25	—	24	5	—	M4 x 0.7 x 6	9	38
CY3RG15	8	4.2	2	0.5	16.6*	8	5	33	31.5	32	30	17	31	—	30	8.5	—	M5 x 0.8 x 7	14	53
CY3RG20	9.5	5.2	3	1	21.6*	9	6	39	37.5	39	36	21	38	11	36	7.5	28	M6 x 1 x 8	11	62
CY3RG25	9.5	5.2	3	1	26.4*	8.5	6	44	42.5	44	41	23.5	43	14.5	41	6.5	33.5	M6 x 1 x 8	15	70
CY3RG32	11	6.5	3	1.5	33.6*	10.5	7	55	53.5	55	52	29	54	20	51	7	41	M8 x 1.25 x 10	13	76
CY3RG40	11	6.5	5	2	41.6*	13	7	65	63.5	67	62	36	66	25	62	8	50	M8 x 1.25 x 10	15	90
CY3RG50	14	8.2	5	2	52.4*	17	8.5	83	81.5	85	80	45	84	32	80	9	56	M10 x 1.5 x 15	25	110
CY3RG63	14	8.2	5	3	65.4*	18	8.5	95	93.5	97	92	51	96	35	90	9.5	63.5	M10 x 1.5 x 15	24	118

Model	LD	M	MM	N	PW	Q	QW	T	TC	W	WP	WS	X	Y	Z
CY3RG10	3.5	4	M3 x 0.5	4.5	26	68	14	17.5	14	20	13	8	15	39.5	76
CY3RG15	4.3	5	M4 x 0.7	6	32	84	18	19	17	25	16	7	18	54.5	94
CY3RG20	5.4	5	M4 x 0.7	7	38	95	17	20.5	20	40	19	7	22	64	107
CY3RG25	5.4	6	M5 x 0.8	6.5	43	105	20	21.5	22.5	40	21.5	7	28	72	117
CY3RG32	7	7	M6 x 1	8.5	54	116	26	24	28	50	27	7	35	79	130
CY3RG40	7	8	M6 x 1	11	64	134	34	26	33	60	32	7	40	93	148
CY3RG50	8.6	10	M8 x 1.25	15	82	159	48	30	42	60	41	10	50	113	176
CY3RG63	8.6	10	M8 x 1.25	16	94	171	60	32	48	70	47	10	60	121	188

Model	P (Piping port)		
	NH	TN*	TF*
CY3RG10	M5 x 0.8	—	—
CY3RG15	M5 x 0.8	—	—
CY3RG20	Rc 1/8	NPT 1/8	G 1/8
CY3RG25	Rc 1/8	NPT 1/8	G 1/8
CY3RG32	Rc 1/8	NPT 1/8	G 1/8
CY3RG40	Rc 1/4	NPT 1/4	G 1/4
CY3RG50	Rc 1/4	NPT 1/4	G 1/4
CY3RG63	Rc 1/4	NPT 1/4	G 1/4

Note 2) The asterisk denotes the dimensions which are different from the CY1R series.



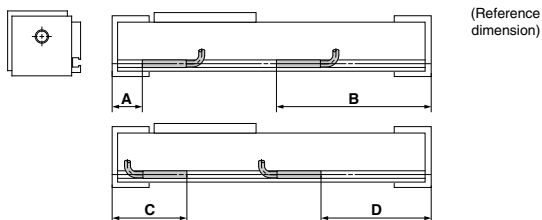
- CY3B
- CY3R
- CY1S
- CY1L
- CY1H
- CY1F
- CYP

- D-□
- X□

Technical Data

CY3B/CY3R Series Auto Switch Mounting

Auto Switch Proper Mounting Position for Stroke End Detection



Auto Switch Proper Mounting Position

ø6 to ø20

(mm)

Auto switch model Bore size (mm)	A			B			C			D		
	D-A9□	D-M9□ D-M9□W D-M9□A	D-A9□	D-M9□ D-M9□W D-M9□A	D-A9□	D-M9□ D-M9□W D-M9□A	D-A9□	D-M9□ D-M9□W D-M9□A	D-A9□	D-M9□ D-M9□W D-M9□A		
6	26	30	46	42	46	42	26	30				
10	28	32	48	44	48	44	—	32				
15	17.5	21.5	76.5	72.5	—	—	56.5	60.5				
20	19.5	23.5	87.5	83.5	39.5	35.5	67.5	71.5				

Note 1) Auto switches cannot be installed in Area C in the case of ø15.

Note 2) D-A9□ type cannot be mounted on the section D of ø10.

Note 3) The above values are a guideline of the auto switch mounting position when detected at the stroke end. Adjust the auto switch after confirming the operating conditions in the actual setting.

Note 4) D-Z7□ and D-Y□ types cannot be mounted.

ø25 to ø63

(mm)

Auto switch model Bore size (mm)	A				B				C				D			
	D-A9□	D-M9□ D-M9□W D-M9□A	D-Z7□ D-Z80 D-Y59□ D-Y7P D-Y7□W D-Y7BA	D-M9□ D-M9□W D-M9□A	D-A9□	D-M9□ D-M9□W D-M9□A	D-Z7□ D-Z80 D-Y59□ D-Y7P D-Y7□W D-Y7BA	D-M9□ D-M9□W D-M9□A	D-A9□	D-M9□ D-M9□W D-M9□A	D-Z7□ D-Z80 D-Y59□ D-Y7P D-Y7□W D-Y7BA	D-M9□ D-M9□W D-M9□A	D-A9□	D-M9□ D-M9□W D-M9□A	D-Z7□ D-Z80 D-Y59□ D-Y7P D-Y7□W D-Y7BA	
25	19	23	18	98	94	99	42	38	43	75	79	74				
32	22.5	26.5	21.5	107.5	103.5	108.5	45.5	41.5	46.5	84.5	88.5	83.5				
40	24.5	28.5	23.5	123.5	119.5	124.5	47.5	43.5	48.5	100.5	104.5	99.5				
50	28.5	32.5	27.5	147.5	143.5	148.5	51.5	47.5	52.5	124.5	128.5	123.5				
63	30.5	34.5	29.5	157.5	153.5	158.5	53.5	49.5	54.5	134.5	138.5	133.5				

Note 1) 50 mm is the minimum stroke available with 2 auto switches mounted.

Note 2) Figures in the table above are used as a reference when mounting the auto switches for stroke end detection. In the case of actually setting the auto switches, adjust them after confirming their operation.

Note 3) Auto switch brackets are required when ordering D-A9□/M9□/M9□W/M9□A types and cylinders separately. (Refer to the auto switch mounting bracket: part no. on page 1479.)

Auto Switch Operation Range

Auto switch model	Bore size (mm)								
	6	10	15	20	25	32	40	50	63
D-A9□	8	11	8	6	6	7	9	8	8
D-M9□ D-M9□W D-M9□A	4.5	6.5	4.5	5	5	5.5	5.5	6.5	7
D-Z7□/Z80	—	—	—	—	9	9	11	9	10
D-Y59□/Y7P/Y7□W/Y7BA	—	—	—	—	5	5	6	6	6

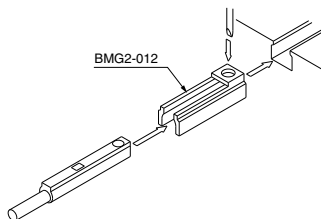
* The auto switches cannot be mounted in some cases.

* 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.

Auto Switch Mounting Bracket/Part No.

Auto switch model	Bore size (mm)
	D-A9□ D-M9□ D-M9□W D-M9□A

D-A9□/M9□/M9□W/M9□A



Other than the applicable auto switches listed in "How to Order", the following auto switches can be mounted. For detailed specifications, refer to pages 1575 to 1701.

Type	Model	Electrical entry	Features	Applicable bore size
Reed auto switch	D-Z73, Z76	Grommet (In-line)	—	ø25 to ø63
	D-Z80		Without indicator light	
Solid state auto switch	D-Y59A, Y59B, Y7P	Grommet (In-line)	—	
	D-Y7NW, Y7PW, Y7BW		Diagnostic indication (2-color display)	
	D-Y7BA		Water resistant (2-color display)	

* With pre-wired connector is also available in solid state auto switches. For specifications, refer to pages 1648 and 1649.

* Normally closed (NC = b contact) solid state switches (D-M9□E(V)/Y7G/Y7H) are also available. For details, refer to pages 1592-1 and 1595.

* Applicable bore sizes are ø25 to ø63.

CY3B
CY3R

CY1S

CY1L

CY1H

CY1F

CYP

D-□

-X□

Technical
Data

CY3B/CY3R Series

Made to Order: Individual Specifications 1

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



Applicable Series

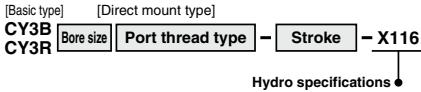
No.	Symbol	Specifications/Description	Basic type CY3B	Direct mount type CY3R
1	-X116	Hydro specifications	●(ø25 to ø63)	●(ø25 to ø63)
2	-X132	Air supply port relocated in axial direction	●(ø6 to ø63)	—
3	-X160	High speed specifications	●(ø20 to ø63)	●(ø20 to ø63)
4	-X168	Helical insert thread specifications	●(ø20 to ø63)	—
5	-X206	Added mounting tap positions for slider	●(ø6 to ø63)	—
6	-X210	Non-lubricated exterior specifications	●(ø6 to ø63)	—
7	-X322	Outside of cylinder tube with hard chrome plated	●(ø15 to ø63)	●(ø15 to ø63)
8	-X324	Non-lubricated exterior specifications (with dust seal)	●(ø10 to ø63)	—
9	-X1468	Interchangeable with CY1□6	●(ø6)	●(ø6)

1 Hydro Specifications

Symbol

-X116

This type is applicable for precision constant speed feed, intermediate stop and skip feed.



Specifications

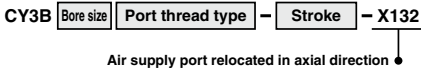
Type	Basic type, Direct mount type
Bore size	Basic type CY3B25 to 63, CY3R25 to 63
Fluid	Turbine oil
Piston speed	15 to 300mm/s

Note) Piping is from each plate on both sides.

2 Air Supply Port Relocated in Axial Direction

Symbol

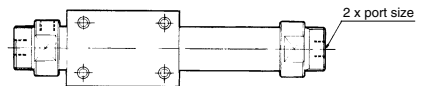
-X132



The air supply port has been changed to an axial position on the head cover.

Specifications

Applicable series	CY3B
Bore size	ø6 to ø63



The port size is the same as the standard type.

3 High Speed Specifications Symbol
-X160

CY3B Bore size Port thread type - Stroke - **X160**

High speed specifications ●

This makes a high speed piston drive of 1,500 mm/s possible (basic type, without load), but it is not applicable for all conditions. Consult with SMC for the operating conditions, etc.

Specifications

Applicable series	CY3B/CY3R
Bore size	ø20 to ø63
Piston speed (no load)	1500 mm/s (MAX)

- Note 1) When operating this cylinder at high speed, a shock absorber must be provided.
 Note 2) For the CY3R, only the piping on both sides can be made.
 Note 3) The piston speed may vary depending on the operating conditions. For details, contact SMC or your nearest sales representative.
 Note 4) Speed tends to decrease over a period of time depending on the operating conditions. Apply grease periodically if necessary.

5 Added Mounting Tap Positions for Slider Symbol
-X206

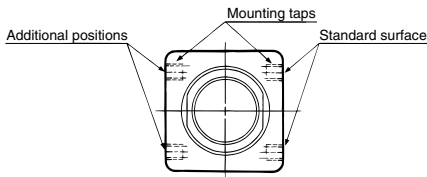
CY3B Bore size Port thread type - Stroke - **X206**

Added mounting tap positions for slider ●

Mounting taps have been added on the surface opposite the standard positions.

Specifications

Applicable series	CY3B
Bore size	ø6 to ø63



* Dimensions are the same as the standard product.

4 Helical Insert Thread Specifications Symbol
-X168

CY3B Bore size Port thread type - Stroke - **X168**

Helical insert thread specifications ●

Helical insert thread is used for standard mounting thread.

Specifications

Applicable series	CY3B
Bore size	CY3B: ø20 to ø63

6 Non-lubricated Exterior Specifications Symbol
-X210

CY3B Bore size Port thread type - Stroke - **X210**

Non-lubricated exterior specifications ●

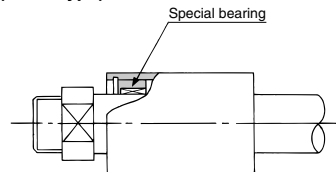
Suitable for environments where oil is not tolerated. A scraper is not installed. A separate version -X324 (with a felt dust seal) is available in cases in which dust, etc. is dispersed throughout the environment.

Specifications

Applicable series	CY3B
Bore size	ø6 to ø63

Construction

CY3B (Basic type)



CY3B
CY3R

CY1S

CY1L

CY1H

CY1F

CYP

D-□

-X□

Technical
Data

CY3B/CY3R Series

Made to Order: Individual Specifications 2

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



7 Outside of Cylinder Tube with Hard Chrome Plated Symbol **-X322**

CY3B Bore size Port thread type — Stroke — X322

Outside of cylinder tube with hard chrome plated

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

* Be sure to install a shock absorber to the stroke end.

Note 1) The maximum stroke is 3,500 st, or the maximum stroke for the standard type.

CY3R is compatible with the maximum stroke for the standard type.

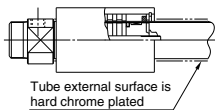
Note 2) When exceeding 2,000 strokes, contact SMC separately.

Specifications

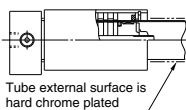
Applicable series	Bore size (mm)
*CY3B-3R	ø15 to ø63

Construction/Dimensions

CY3B



CY3R



8 Non-lubricated Exterior Specifications (with Dust Seal) Symbol **-X324**

CY3B Bore size Port thread type — Stroke — X324

Non-lubricated exterior specifications (with dust seal)

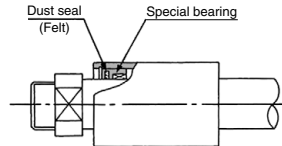
Non-lubricated exterior type with a felt dust seal on the cylinder body.

Specifications

Applicable series	Bore size (mm)
CY3B	ø10 to ø63

Construction

CY3B (Basic type)



9 Interchangeable with CY1□6 Symbol **-X1468**

CY3B Bore size Port thread type — Stroke — X1468

Interchangeable with CY1□6

Can be interchanged with CY1□6.