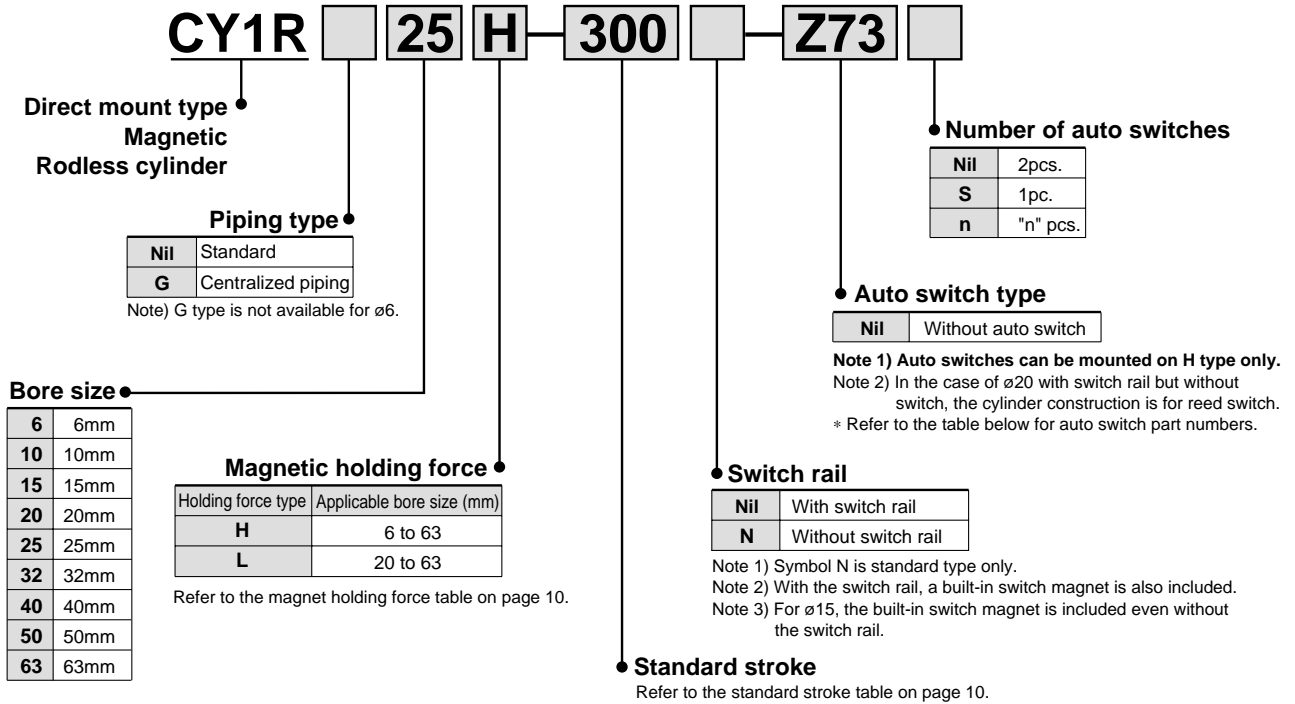


Series CY1R

Direct Mount Type

How to Order



Applicable auto switch types for ø6, ø10, ø15, ø20

Refer to "Auto Switch Guide" (E274-A) for further details on auto switch units. Refer to pages 60 and 61 for auto switch circuit diagrams.

Type	Special function	Electrical entry	Indicator light	Wiring (output)	Load voltage			Auto switch no.	Lead wire length (m) ^{Note 1)}			Applicable load	
					DC	AC			0.5 (Nil)	3 (L)	5 (Z)		
Reed switch	—	Grommet	No	2 wire	24V	5, 12V	100V or less	A90	●	●	—	IC circuit	Relay, PLC
			Yes			12V	100V		●	●	—	—	
			3 wire (NPN equiv.)	—	5V	—	A96	●	●	—	IC circuit	—	
Solid state switch	—	Grommet	Yes	3 wire (NPN)	24V	12V	—	F9N	●	●	—	—	Relay, PLC
				3 wire (PNP)					●	●	—		
				2 wire					●	●	—		

Note 1) Lead wire length symbol 0.5m Nil (Example) F9N
3m L F9NL

for ø25, ø32, ø40, ø50, ø63

Type	Special function	Electrical entry	Indicator light	Wiring (output)	Load voltage			Auto switch no.	Lead wire length (m) ^{Note 1)}			Applicable load	
					DC	AC			0.5 (Nil)	3 (L)	5 (Z)		
Reed switch	—	Grommet	Yes	3 wire	—	5V	—	Z76	●	●	—	IC circuit	—
				2 wire	24V	12V	100V	Z73	●	●	●	—	Relay, PLC
			No	5, 12V	100V or less	Z80	●	●	—	IC circuit			
Solid state switch	—	Grommet	Yes	3 wire (NPN)	24V	5, 12V	—	Y59A	●	●	○	IC circuit	Relay, PLC
				3 wire (PNP)					●	●	○		
				2 wire					●	●	○		
				3 wire (NPN)					●	●	○		
				3 wire (PNP)					●	●	○		
				2 wire					●	●	○		
Diagnostic indication (2 color indicator)	—	Grommet	Yes	3 wire (NPN)	24V	5, 12V	—	Y7NW	●	●	○	IC circuit	Relay, PLC
				3 wire (PNP)					●	●	○		
				2 wire					●	●	○		
				2 wire					●	●	○		

Note 1) Lead wire length symbol 0.5m Nil (Example) FY59A
3m L Y59AL
5m Z Y59AZ

Note 2) Solid state auto switches marked with a "○" are produced upon receipt of order.

Series CY1R



Specifications

1MPa: Approx. 10.2kgf/cm²

Fluid	Air
Proof pressure	1.05MPa {10.7kgf/cm ² }
Max. operating pressure	0.7MPa {7.1kgf/cm ² }
Min. operating pressure	0.18MPa {1.8kgf/cm ² }
Ambient & fluid temperature	- 10 to 60°C
Piston speed ^{Note)}	50 to 500mm/s
Cushion	Rubber bumpers at both ends
Lubrication	Non-lube
Stroke length tolerance	0 to 250st: $+1.0_0$, 251 to 1000st: $+1.4_0$, 1001st & up: $+1.8_0$
Mounting method	Direct mount type

Note) When an auto switch is placed at an intermediate position, the maximum piston speed should be limited to no more than 300mm/s due to relays, etc.

Standard Stroke Table

Mounting bracket type
<ul style="list-style-type: none"> When mounting a floating bracket to a Series CY1R body, refer to page 68 for details, as this will be an order made product.

Bore size (mm)	Standard stroke (mm)	Max. available ^{Note)} stroke (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		2000	1500
32			
40	100, 150, 200, 250, 300, 350 400, 450, 500, 600, 700, 800 900, 1000	2000	1500
50			
63			

Note) Contact P/A if the maximum stroke will be exceeded.

Magnetic Holding Force (N)

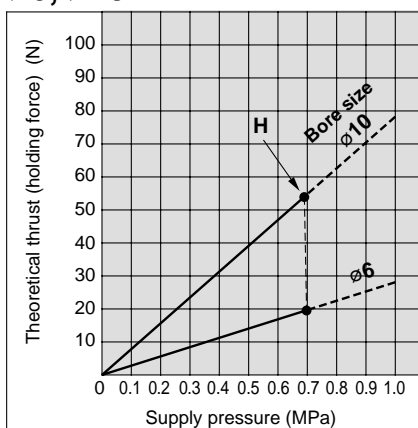
1N: Approx. 0.102kgf

Bore size (mm)		6	10	15	20	25	32	40	50	63
Holding force type	H type	19.6	53.9	137	231	363	588	922	1471	2256
	L type	—	—	—	154	221	358	569	863	1373

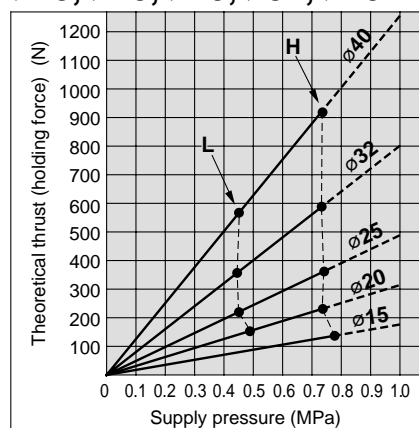
Theoretical Cylinder Thrust

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

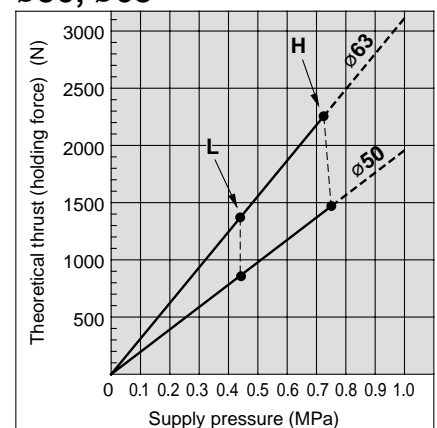
ø6, ø10



ø15, ø20, ø25, ø32, ø40



ø50, ø63



Weight Table

Unit: kg

Item		Bore size (mm)								
		6	10	15	20	25	32	40	50	63
Basic weight (for 0st)	CY1R□H CY1RG□H (with switch rail)	0.092	0.111	0.277	0.440	0.660	1.27	2.06	3.59	5.45
	CY1R□L CY1RG□L (with switch rail)	–	–	–	0.330	0.570	1.12	1.88	3.29	4.95
	CY1R□H (without switch rail)	0.075	0.080	0.230	0.370	0.580	1.15	1.90	3.30	5.10
	CY1R□L (without switch rail)	–	–	–	0.260	0.490	1.00	1.72	3.00	4.60
Additional weight per 50st (with switch rail)		0.016	0.034	0.045	0.071	0.083	0.113	0.133	0.177	0.212
Additional weight per 50st (without switch rail)		0.004	0.014	0.020	0.040	0.050	0.070	0.080	0.095	0.120

Calculation method/Example: CY1R25H-500 (with switch rail)
Basic weight...0.660 (kg), Additional weight...0.083 (kg/50st), Cylinder stroke ...500 (st)
 $0.660 + 0.083 \times 500 \div 50 = 1.49$ (kg)

Series CY1R Model Selection Method 1

E: Kinetic energy of load (J)

$$E = \frac{(W+W_B)}{2} \times \left(\frac{V}{1000}\right)^2$$

Es: Allowable kinetic energy for intermediate stop using an air pressure circuit (J)

Fn: Allowable driving force (N)

Mb: Maximum allowable moment (N·m) when a connection fitting, etc. is carried directly

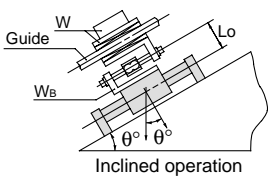
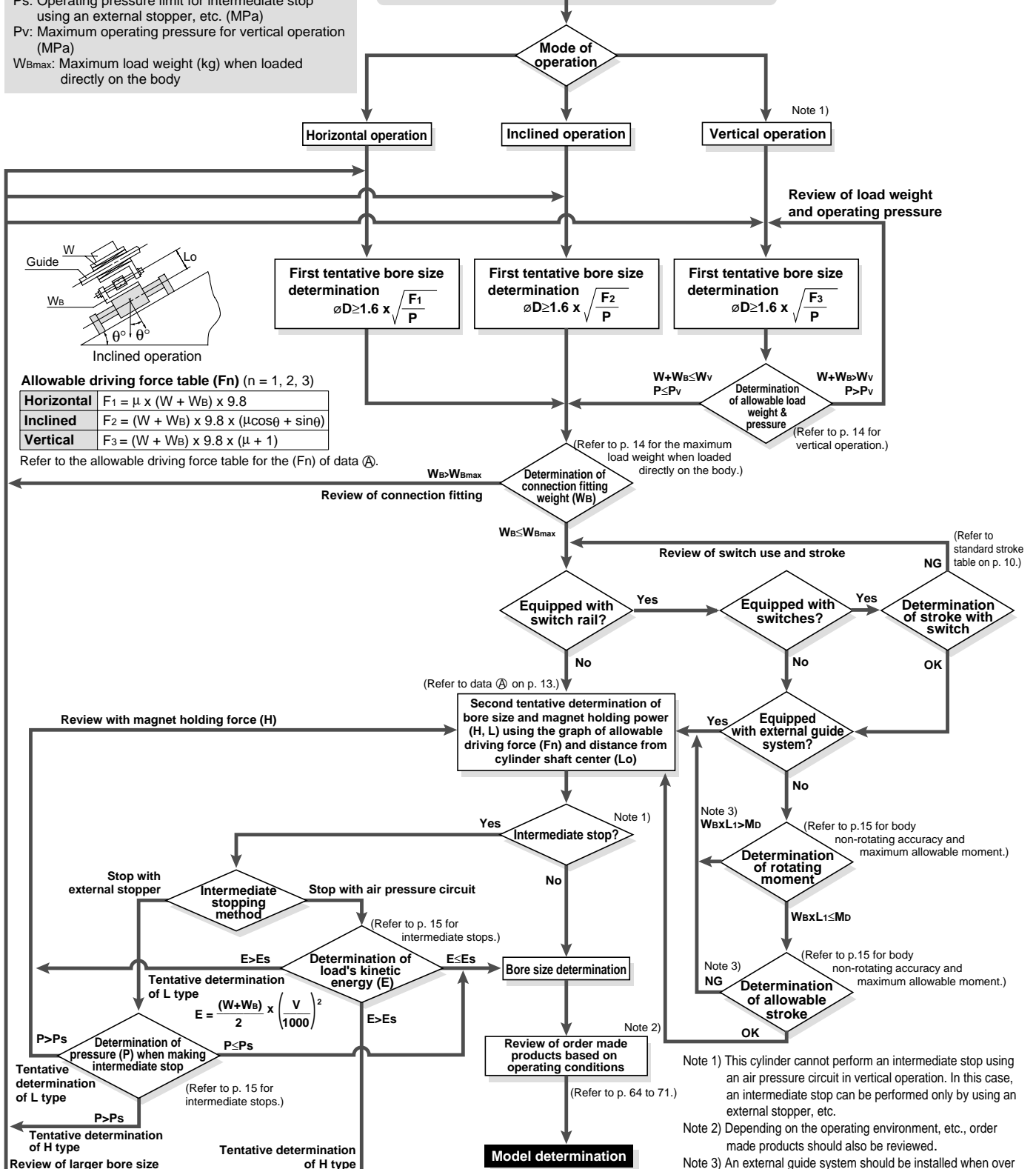
Ps: Operating pressure limit for intermediate stop using an external stopper, etc. (MPa)

Pv: Maximum operating pressure for vertical operation (MPa)

WBmax: Maximum load weight (kg) when loaded directly on the body

Operating conditions

- W: Load weight (kg)
- WB: Connection fitting weight (kg)
- μ: Guide's coefficient of friction
- Lo: Distance from cylinder shaft center to work piece point of application (cm)
- L1: Distance from cylinder shaft center to connection fitting, etc. center of gravity (mm)
- Switches
- P: Operating pressure (MPa)
- V: Speed (mm/s)
- Stroke (mm)
- Mode of operation (horizontal, inclined, vertical)



Allowable driving force table (Fn) (n = 1, 2, 3)

Horizontal	$F_1 = \mu \times (W + W_B) \times 9.8$
Inclined	$F_2 = (W + W_B) \times 9.8 \times (\mu \cos \theta + \sin \theta)$
Vertical	$F_3 = (W + W_B) \times 9.8 \times (\mu + 1)$

Refer to the allowable driving force table for the (Fn) of data ①.

Note 1) This cylinder cannot perform an intermediate stop using an air pressure circuit in vertical operation. In this case, an intermediate stop can be performed only by using an external stopper, etc.

Note 2) Depending on the operating environment, etc., order made products should also be reviewed.

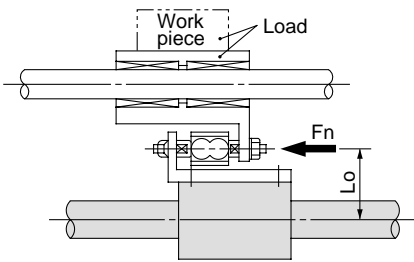
Note 3) An external guide system should be installed when over specifications.

Series CY1R Model Selection Method 2

Precautions on Design (1)

Selection procedure

1. Find the drive resisting force F_n (N) when moving the load horizontally.
2. Find the distance L_o (cm) from the point of the load where driving force is applied, to the center of the cylinder shaft.
3. Select the bore size and type of magnet holding force (types H, L) from L_o and F_n based on data ①.



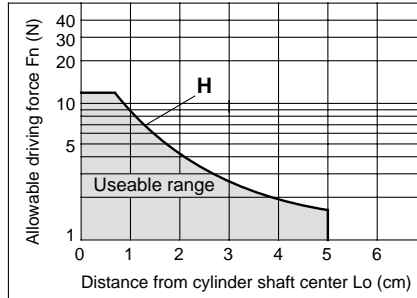
Selection example

Given a load drive resisting force of $F_n = 100$ (N) and a distance from the cylinder shaft center to the load application point of $L_o = 8$ cm, find the intersection point by extending upward from the horizontal axis of data ① where the distance from the shaft center is 8 cm, and then extending to the side, find the allowable driving force on the vertical axis.

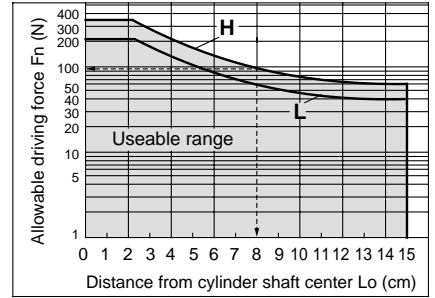
Models suitable to satisfy the requirement of 100 (N) are **CY1R32H** or **CY1R40H**, **CY1R40L**.

<Data ①: Distance from cylinder shaft center — Allowable driving capacity>

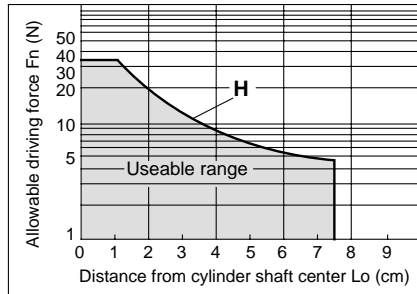
CY1R6



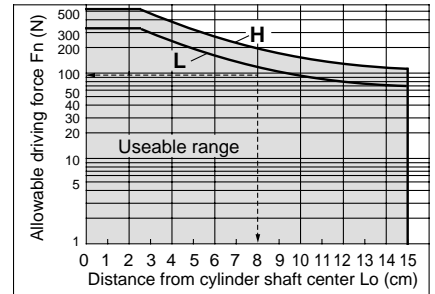
CY1R32



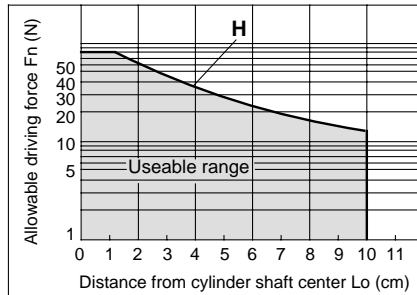
CY1R10



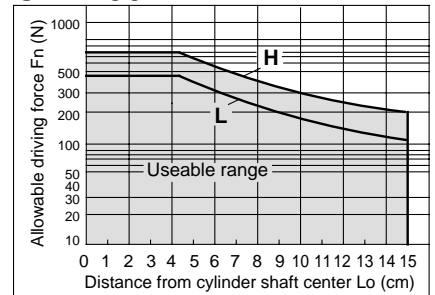
CY1R40



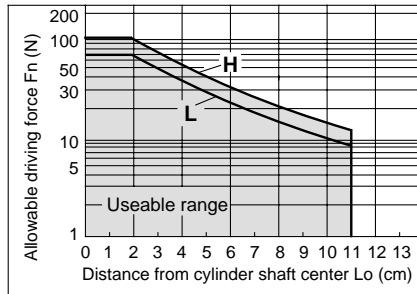
CY1R15



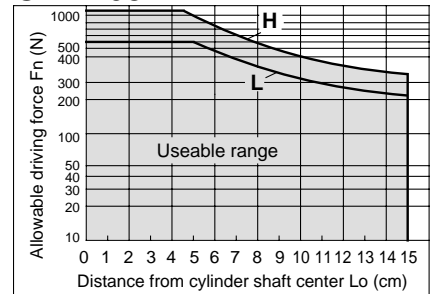
CY1R50



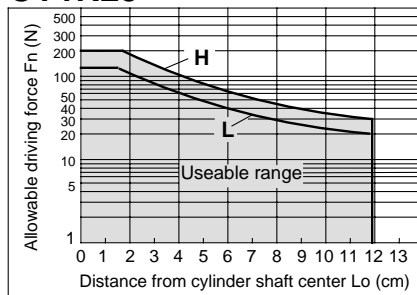
CY1R20



CY1R63



CY1R25

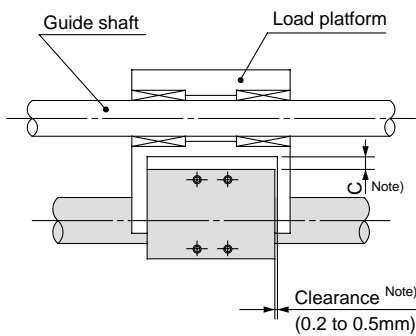


Series CY1R Model Selection Method 3

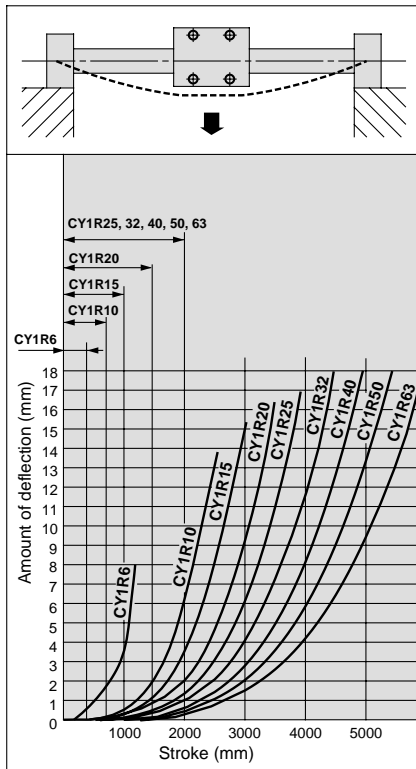
Precautions on Design (2)

Cylinder Dead Weight Deflection

When the cylinder is mounted horizontally, deflection appears due to its own weight as shown in the data, and the longer the stroke is, the greater the amount of variation in the shaft center. Therefore, a connection method should be considered which can assimilate this deflection.



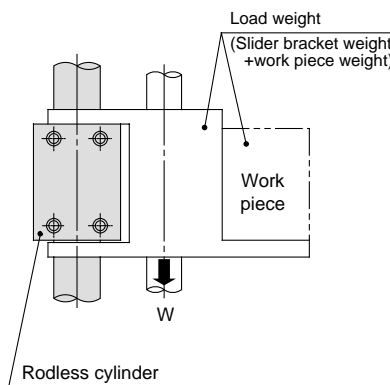
Note) Referring to the self weight deflection in the figure below, provide clearance so that the cylinder does not touch the mounting surface or the load, etc., and is able to operate smoothly within the minimum operating pressure range for a full stroke.



* The above deflection data indicate values when the external slider has moved to the middle of the stroke.

Vertical Operation

The load should be guided by a ball type bearing (LM guide, etc.). If a slide bearing is used, sliding resistance increases due to the load weight and load moment, which can cause malfunction.



1MPa: Approx. 10.2kgf/cm²

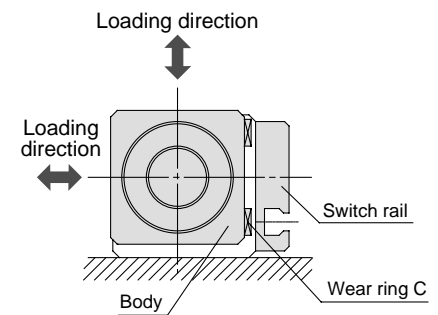
Cylinder bore size (mm)	Model	Allowable load weight (Wv) (kg)	Max. operating pressure (Pv) (MPa)
6	CY1R 6H	1.0	0.55
10	CY1R10H	2.7	0.55
15	CY1R15H	7.0	0.65
20	CY1R20H	11.0	0.65
	CY1R20L	7.0	0.40
25	CY1R25H	18.5	0.65
	CY1R25L	11.2	0.40
32	CY1R32H	30.0	0.65
	CY1R32L	18.2	0.40
40	CY1R40H	47.0	0.65
	CY1R40L	29.0	0.40
50	CY1R50H	75.0	0.65
	CY1R50L	44.0	0.40
63	CY1R63H	115.0	0.65
	CY1R63L	70.0	0.40

Note) Use caution, as there is a danger of breaking the magnetic coupling if operated above the maximum operating pressure.

Max. Load Weight when Loaded Directly on Body

When the load is applied directly to the body, it should be no greater than the maximum values shown in the table below.

Model	Maximum load weight (W _{Bmax})(kg)
CY1R 6H	0.2
10H	0.4
15H	1.0
20□	1.1
25□	1.2
32□	1.5
40□	2.0
50□	2.5
63□	3.0



Series CY1R Model Selection Method 4

Precautions on Design (3)

Intermediate Stops

(1) Intermediate stopping of load with an external stopper, etc.

When stopping a load in mid-stroke using an external stopper, etc., operate within the operating pressure limits shown in the table below. Use caution, as operation at a pressure exceeding these limits can result in breaking of the magnetic coupling.

1MPa: Approx. 10.2kgf/cm²

Bore size (mm)	Model	Operating pressure limit for intermediate stop (Ps)(MPa)
6	CY1R 6H	0.55
10	CY1R10H	0.55
15	CY1R15H	0.65
20	CY1R20H	0.65
	CY1R20L	0.40
25	CY1R25H	0.65
	CY1R25L	0.40
32	CY1R32H	0.65
	CY1R32L	0.40
40	CY1R40H	0.65
	CY1R40L	0.40
50	CY1R50H	0.65
	CY1R50L	0.40
63	CY1R63H	0.65
	CY1R63L	0.40

(2) Intermediate stopping of load with an air pressure circuit

When performing an intermediate stop of a load using an air pressure circuit, operate at or below the kinetic energy shown in the table below. Use caution, as operation when exceeding the allowable value can result in breaking of the magnetic coupling.

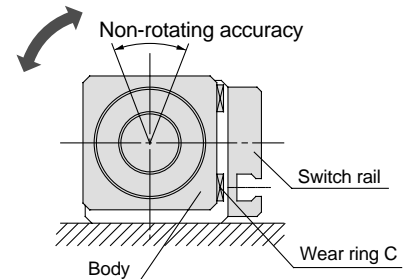
(Reference values)

Bore size (mm)	Model	Allowable kinetic energy for intermediate stop (Es)(J)
6	CY1R 6H	0.007
10	CY1R10H	0.03
15	CY1R15H	0.13
20	CY1R20H	0.24
	CY1R20L	0.16
25	CY1R25H	0.45
	CY1R25L	0.27
32	CY1R32H	0.88
	CY1R32L	0.53
40	CY1R40H	1.53
	CY1R40L	0.95
50	CY1R50H	3.12
	CY1R50L	1.83
63	CY1R63H	5.07
	CY1R63L	3.09

Body Non-rotating Accuracy and Maximum Allowable Moment (with Switch Rail) (Reference Values)

Reference values for non-rotating accuracy and maximum allowable moment at stroke end are indicated below.

Bore size (mm)	Non-rotating accuracy (°)	Max. allowable moment (M _b) (N-m)	Allowable stroke (mm) ^{Note 2)}
6	7.3	0.02	100
10	6.0	0.05	100
15	4.5	0.15	200
20	3.7	0.20	300
25	3.7	0.25	300
32	3.1	0.40	400
40	2.8	0.62	400
50	2.4	1.00	500
63	2.2	1.37	500



Note 1) Avoid operations where rotational torque (moment) is applied. In such a case, the use of an external guide is recommended.

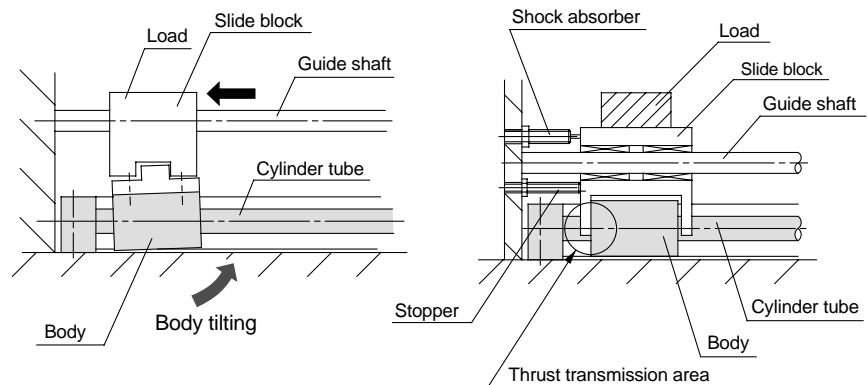
Note 2) The above reference values will be satisfied within the allowable stroke ranges, but caution is necessary, because as the stroke becomes longer, the inclination (rotation angle) within the stroke can be expected to increase.

Note 3) When a load is applied directly to the body, the loaded weight should be no greater than the allowable load weights on page 14.

Stroke End Stopping Method

When stopping a load having a large inertial force at the stroke end, tilting of the body and damage to the bearings and cylinder tube may occur. (Refer to the left hand drawing below.)

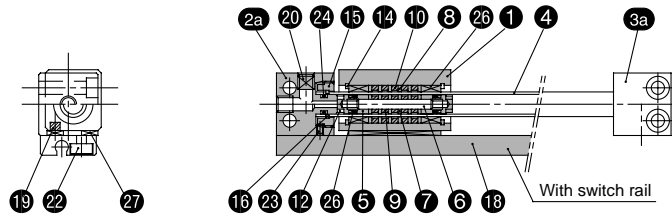
As shown in the right hand drawing below, a shock absorber should be used together with the stopper, and thrust should also be transmitted from the center of the body so that tilting will not occur.



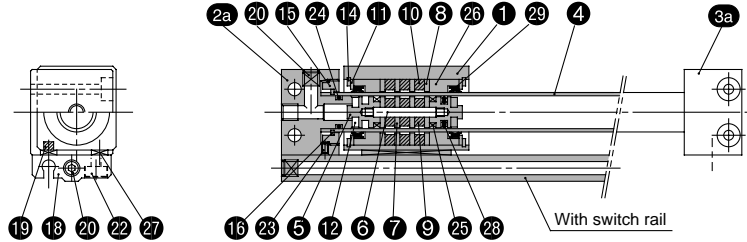
Series CY1R

Construction/Standard Type

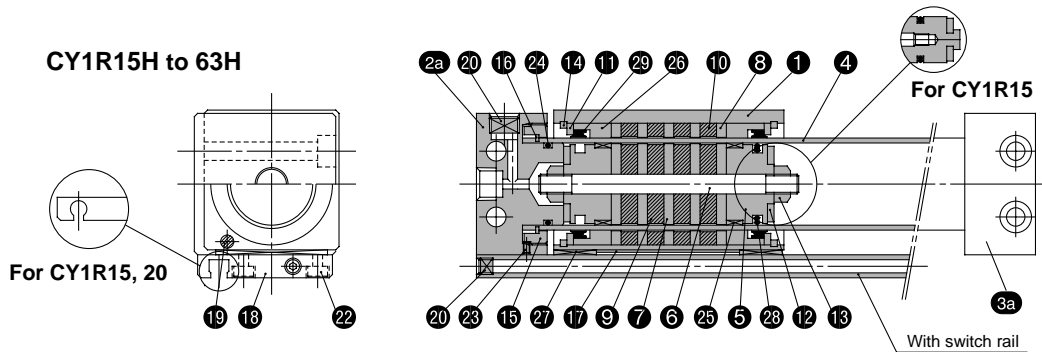
CY1R6H



CY1R10H



CY1R15H to 63H



Parts list

No.	Description	Material	Note
1	Body	Aluminum alloy	Hard anodized
2a	End cover A	Aluminum alloy	Hard anodized
2b	End cover C	Aluminum alloy	Hard anodized
3a	End cover B	Aluminum alloy	Hard anodized
3b	End cover D	Aluminum alloy	Hard anodized
4	Cylinder tube	Stainless steel	
5	Piston	ø6 to ø15: Brass ø20 to ø63: Aluminum alloy	ø6 to ø15: Kanigen plated ø20 to ø63: Chromated
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	Rare earth magnet	
10	Magnet B	Rare earth magnet	
11	Spacer	Rolled steel plate	Nickel plated
12	Bumper	Urethane rubber	
13	Piston nut	Carbon steel	ø 20 to ø63
14	Snap ring	Carbon tool steel	Nickel plated
15	Attachment ring	Aluminum alloy	Hard anodized
16	C type snap ring for shaft	ø10, ø25, ø32 Stainless steel ø6, ø15, ø20, ø40, ø50, ø63 Hard steel wire	
17	Magnetic shielding plate	Rolled steel plate	Chromated
18	Switch rail	Aluminum alloy	White anodized
19	Magnet	Rare earth magnet	
20	Hexagon socket head plug	Chrome steel	Nickel plated

No.	Description	Material	Note
21	Steel ball	Chrome steel	ø40: Hexagon socket head plug ø20, ø50, ø63 : None
22	Hexagon socket head screw	Chrome steel	Nickel plated
23	Hexagon socket head set screw	Chrome steel	Nickel plated
* 24	Cylinder tube gasket	NBR	
* 25	Wear ring A	Special resin	
* 26	Wear ring B	Special resin	
* 27	Wear ring C	Special resin	
* 28	Piston seal	NBR	
* 29	Scraper	NBR	
* 30	Switch rail gasket	NBR	

* Seal kits are sets consisting of items 24 through 30, and can be ordered using the order number for each bore size.

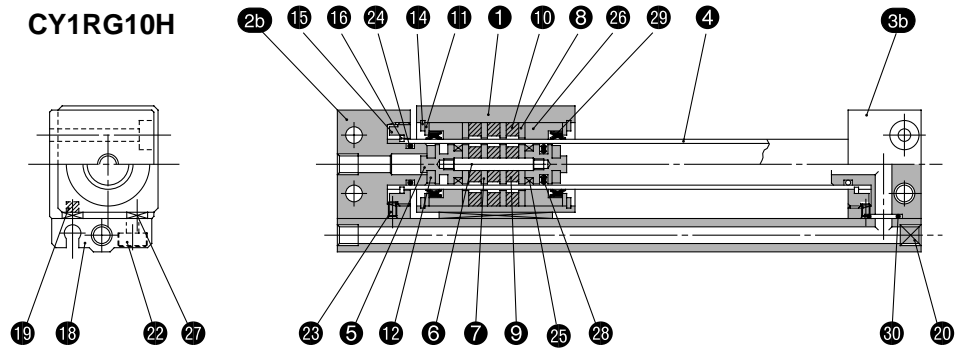
Replacement parts: Seal kits

Bore size (mm)	Order No.	Content
6	CY1R 6 -PS	Nos. 24, 26, 27, 28 above
10	CY1R10-PS	Nos. 24, 25, 26, 27, 28, 29, 30 above
15	CY1R15-PS	
20	CY1R20-PS	
25	CY1R25-PS	
32	CY1R32-PS	
40	CY1R40-PS	
50	CY1R50-PS	
63	CY1R63-PS	

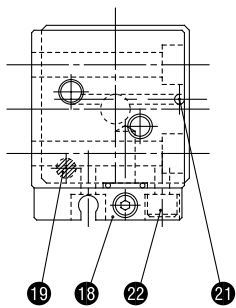
Construction/Centralized Piping Type

Note) Centralized piping is not available for ø6.

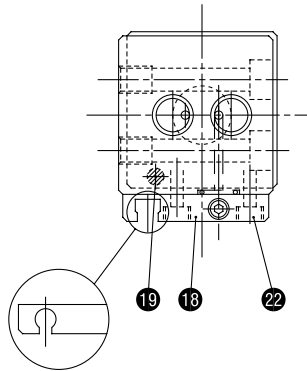
CY1RG10H



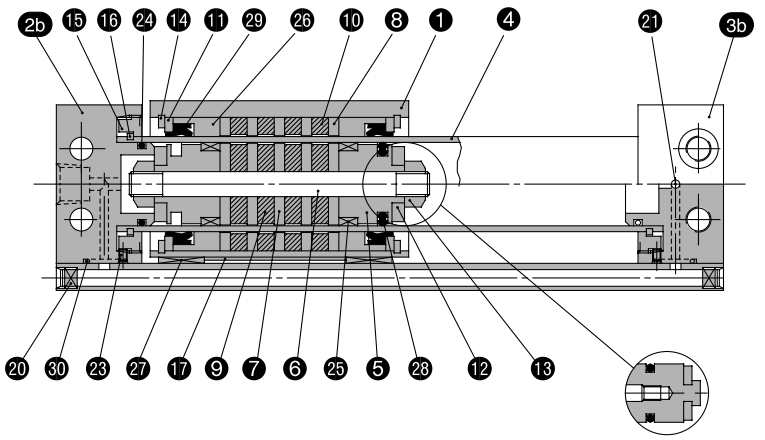
CY1RG15H



CY1RG20H to 63H



For CY1RG20



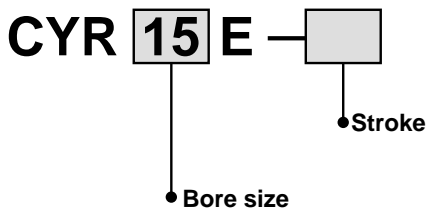
For CY1RG15

Replacement parts: Seal kits

Bore size (mm)	Order No.	Content
10	CY1R10-PS	Nos. 24, 25, 26, 27, 28, 29, 30 at the left
15	CY1R15-PS	
20	CY1R20-PS	
25	CY1R25-PS	
32	CY1R32-PS	
40	CY1R40-PS	
50	CY1R50-PS	
63	CY1R63-PS	

* Seal kits are the same for both the standard type and the centralized piping type.

Switch Rail Accessory Type



Switch rail accessory kits

Bore size (mm)	Order No.	Content
6	CYR 6E-□	Nos.18, 19, 22, 27 at the left
10	CYR10E-□	Nos.18, 19, 20, 22, 27 at the left
15	CYR15E-□	Nos.17, 18, 20, 22, 27 at the left ^{Note 2)}
20	Reed switch	CYR20E-□
	Solid state switch	CYR20EN-□
25	CYR25E-□	Nos. 17, 18, 19, 20, 22, 27 at the left
32	CYR32E-□	
40	CYR40E-□	
50	CYR50E-□	
63	CYR63E-□	

Note 1) □ indicates the stroke.

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

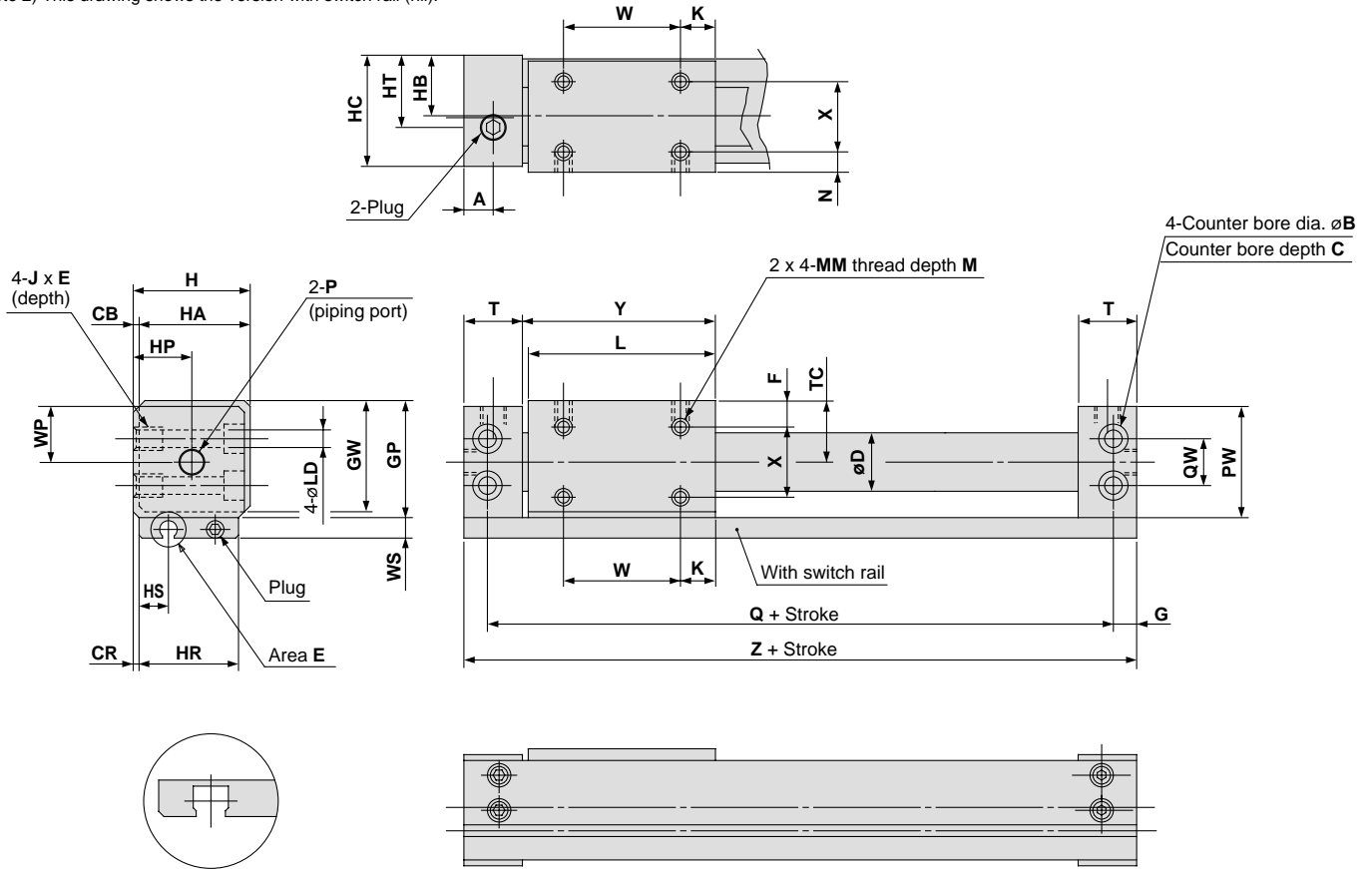
Series CY1R

Standard Type: $\varnothing 6$ to $\varnothing 63$

CY1R **Bore size** $\frac{H}{L}$ - **Stroke** $\frac{Nil}{N}$

Note 1) Type L is not available for $\varnothing 6$ through $\varnothing 15$.

Note 2) This drawing shows the version with switch rail (nil).



(Area E) For CY1R25, 32, 40, 50, 63

(mm)

Model	A	B	C	CB	CR	D	F	G	GP	GW	H	HA	HB	HC	HP	HR	HS	HT	J x E
CY1R 6	9	6.5	3.2	2	0.5	7.6	5.5	4	20	18.5	19	17	10.5	18	9	17	6	7	M4 x 0.7 x 6
CY1R10	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
CY1R15	10.5	8	4.2	2	0.5	17	8	5	33	31.5	32	30	17	31	17	30	8.5	17	M5 x 0.8 x 7
CY1R20	9	9.5	5.2	3	1	22.8	9	6	39	37.5	39	36	21	38	24	36	7.5	24	M6 x 1 x 8
CY1R25	8.5	9.5	5.2	3	1	27.8	8.5	6	44	42.5	44	41	23.5	43	23.5	41	6.5	23.5	M6 x 1 x 8
CY1R32	10.5	11	6.5	3	1.5	35	10.5	7	55	53.5	55	52	29	54	29	51	7	29	M8 x 1.25 x 10
CY1R40	10	11	6.5	5	2	43	13	7	65	63.5	67	62	36	66	36	62	8	36	M8 x 1.25 x 10
CY1R50	14	14	8.2	5	2	53	17	8.5	83	81.5	85	80	45	84	45	80	9	45	M10 x 1.5 x 15
CY1R63	15	14	8.2	5	3	66	18	8.5	95	93.5	97	92	51	96	51	90	9.5	51	M10 x 1.5 x 15

Model	K	L	LD	M	MM	N	P	PW	Q	QW	T	TC	W	WP	WS	X	Y	Z
CY1R 6	7	34	3.5	3.5	M3 x 0.5	3.5	M5 x 0.8	19	64	10	17.5	10.5	20	9.5	6	10	35.5	72
CY1R10	9	38	3.5	4	M3 x 0.5	4.5	M5 x 0.8	26	68	14	17.5	14	20	13	8	15	39.5	76
CY1R15	14	53	4.3	5	M4 x 0.7	6	M5 x 0.8	32	84	18	19	17	25	16	7	18	54.5	94
CY1R20	11	62	5.6	5	M4 x 0.7	7	Rc(PT) $\frac{1}{8}$	38	95	17	20.5	20	40	19	7	22	64	107
CY1R25	15	70	5.6	6	M5 x 0.8	6.5	Rc(PT) $\frac{1}{8}$	43	105	20	21.5	22.5	40	21.5	7	28	72	117
CY1R32	13	76	7	7	M6 x 1	8.5	Rc(PT) $\frac{1}{8}$	54	116	26	24	28	50	27	7	35	79	130
CY1R40	15	90	7	8	M6 x 1	11	Rc(PT) $\frac{1}{4}$	64	134	34	26	33	60	32	7	40	93	148
CY1R50	25	110	8.6	10	M8 x 1.25	15	Rc(PT) $\frac{1}{4}$	82	159	48	30	42	60	41	10	50	113	176
CY1R63	24	118	8.6	10	M8 x 1.25	16	Rc(PT) $\frac{1}{4}$	94	171	60	32	48	70	47	10	60	121	188

With auto switch

CY1R6H SCY1R6, #1 (#1 + #2)

For $\varnothing 10$ to $\varnothing 63$

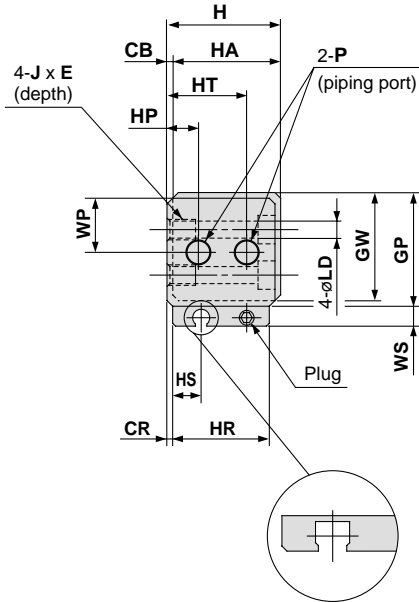
CY1R **Bore size** SCY1R **Bore size**, #1 (#1 + #3)

Centralized Piping Type: $\varnothing 10$ to $\varnothing 63$

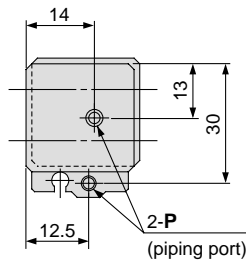
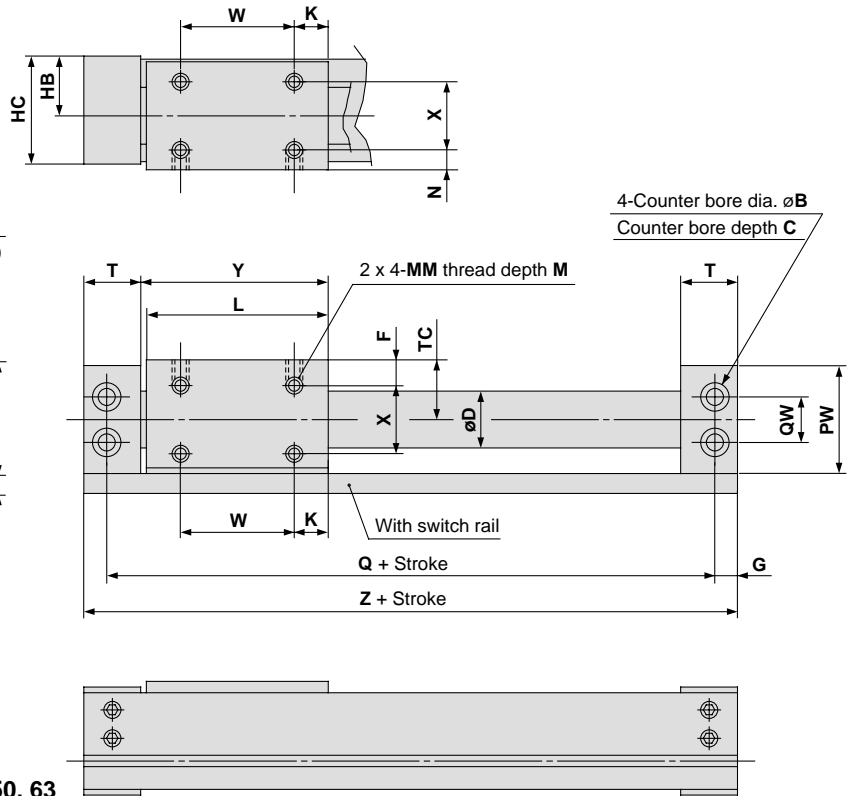
CY1RG Bore size $\frac{H}{L}$ - Stroke

Note) Type L is not available for $\varnothing 10$ and $\varnothing 15$.

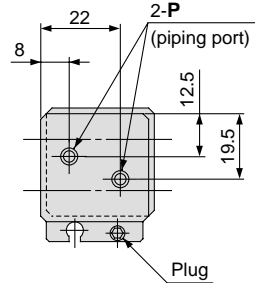
CY1RG20 to 63



(Area E) for CY1RG25, 32, 40, 50, 63



CY1RG10



CY1RG15

(mm)

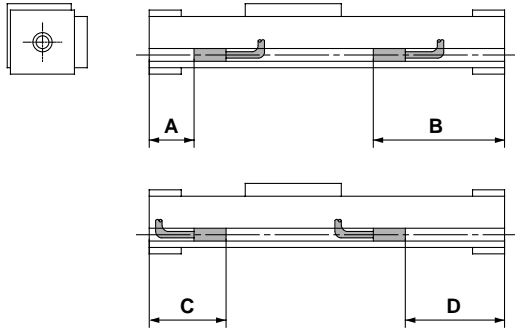
Model	B	C	CB	CR	D	F	G	GP	GW	H	HA	HB	HC	HP	HR	HS	HT	J x E	K
CY1RG10	6.5	3.2	2	0.5	12	6.5	4	27	25.5	26	24	14	25	-	24	5	-	M4 x 0.7 x 6	9
CY1RG15	8	4.2	2	0.5	17	8	5	33	31.5	32	30	17	31	-	30	8.5	-	M5 x 0.8 x 7	14
CY1RG20	9.5	5.2	3	1	22.8	9	6	39	37.5	39	36	21	38	11	36	7.5	28	M6 x 1 x 8	11
CY1RG25	9.5	5.2	3	1	27.8	8.5	6	44	42.5	44	41	23.5	43	14.5	41	6.5	33.5	M6 x 1 x 8	15
CY1RG32	11	6.5	3	1.5	35	10.5	7	55	53.5	55	52	29	54	20	51	7	41	M8 x 1.25 x 10	13
CY1RG40	11	6.5	5	2	43	13	7	65	63.5	67	62	36	66	25	62	8	50	M8 x 1.25 x 10	15
CY1RG50	14	8.2	5	2	53	17	8.5	83	81.5	85	80	45	84	32	80	9	56	M10 x 1.5 x 15	25
CY1RG63	14	8.2	5	3	66	18	8.5	95	93.5	97	92	51	96	35	90	9.5	63.5	M10 x 1.5 x 15	24

Model	L	LD	M	MM	N	P	PW	Q	QW	T	TC	W	WP	WS	X	Y	Z
CY1RG10	38	3.5	4	M3 x 0.5	4.5	M5 x 0.8	26	68	14	17.5	14	20	13	8	15	39.5	76
CY1RG15	53	4.3	5	M4 x 0.7	6	M5 x 0.8	32	84	18	19	17	25	16	7	18	54.5	94
CY1RG20	62	5.6	5	M4 x 0.7	7	Rc(PT) $\frac{1}{8}$	38	95	17	20.5	20	40	19	7	22	64	107
CY1RG25	70	5.6	6	M5 x 0.8	6.5	Rc(PT) $\frac{1}{8}$	43	105	20	21.5	22.5	40	21.5	7	28	72	117
CY1RG32	76	7	7	M6 x 1	8.5	Rc(PT) $\frac{1}{8}$	54	116	26	24	28	50	27	7	35	79	130
CY1RG40	90	7	8	M6 x 1	11	Rc(PT) $\frac{1}{4}$	64	134	34	26	33	60	32	7	40	93	148
CY1RG50	110	8.6	10	M8 x 1.25	15	Rc(PT) $\frac{1}{4}$	82	159	48	30	42	60	41	10	50	113	176
CY1RG63	118	8.6	10	M8 x 1.25	16	Rc(PT) $\frac{1}{4}$	94	171	60	32	48	70	47	10	60	121	188

With auto switch
 CAD CY1RG Bore size ... SCY1R Bore size, #2 (#2 + #3)

Series CY1R

Auto Switches/Proper Mounting Position for Stroke End Detection



ø6 to ø20

Auto switch model Bore size (mm)	A		B		C		D	
	D-A9□	D-F9□	D-A9□	D-F9□	D-A9□	D-F9□	D-A9□	D-F9□
6	26	30	46	42	46	42	26	30
10	28	32	48	44	48	44	28	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) Auto switches cannot be installed in Area C in the case of ø15.

ø25 to ø63

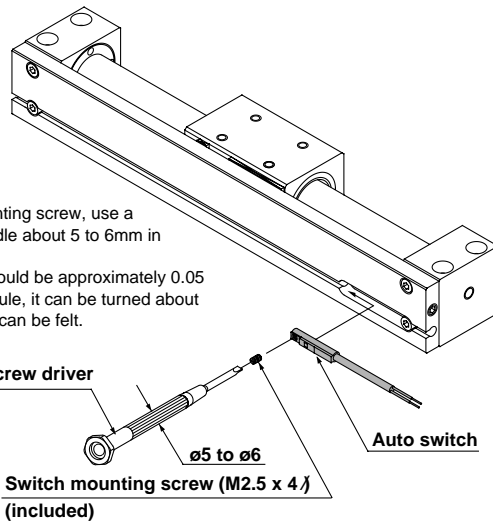
Auto switch model Bore size (mm)	A		B		C		D	
	D-Z7□ D-Z8□	D-Y5□ D-Y7□ D-Y7□W	D-Z7□ D-Z8□	D-Y5□ D-Y7□ D-Y7□W	D-Z7□ D-Z8□	D-Y5□ D-Y7□ D-Y7□W	D-Z7□ D-Z8□	D-Y5□ D-Y7□ D-Y7□W
25	18	18	97	99	43	43	74	74
32	21.5	21.5	108.5	108.5	46.5	46.5	83.5	83.5
40	23.5	23.5	124.5	124.5	48.5	48.5	99.5	99.5
50	27.5	27.5	148.5	148.5	52.5	52.5	123.5	123.5
63	29.5	29.5	158.5	158.5	54.5	54.5	133.5	133.5

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

Auto Switch Mounting

1N·m: Approx.10.2kgf·cm

When mounting auto switches, they should be inserted into the cylinder's switch groove from the direction shown in the drawing on the right. After setting in the mounting position, use a flat head watchmakers screw driver to tighten the mounting screw which is included.



Note) When tightening the auto switch mounting screw, use a watchmakers screw driver with a handle about 5 to 6mm in diameter. Furthermore, the tightening torque should be approximately 0.05 to 0.1N·m (0.51 to 1.02kgf·cm). As a rule, it can be turned about 90° past the point at which tightening can be felt.

Auto Switch Specifications

- (1) Switches (switch rail) can be added to the standard type (without switch rail). The switch rail accessory type is mentioned on page 17, and can be ordered together with auto switches.
- (2) Refer to the separate disassembly instructions for switch magnet installation procedures.

Auto Switch Operation Range

Auto switch model Bore size (mm)	D-A9□	D-F9□	D-Z7□ D-Z8□	D-Y5□ D-Y7□ D-Y7□W
	6	9	5	—
10	13	7	—	—
15	8	5	—	—
20	6	4	—	—
25	—	—	9	7
32	—	—	9	6
40	—	—	11	6
50	—	—	11	7
63	—	—	11	6

Note 1) Switches cannot be mounted in some cases.
Note 2) Operating ranges are standards including hysteresis, and are not guaranteed. Large variations may occur depending on the surrounding environment (variation on the order of ±30%).