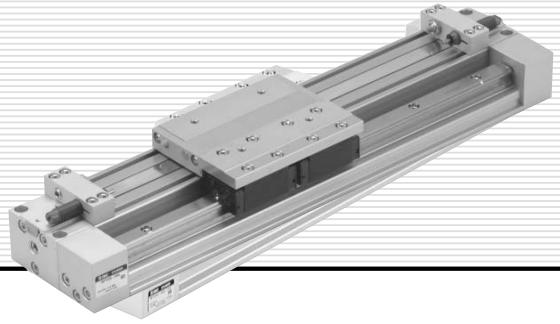
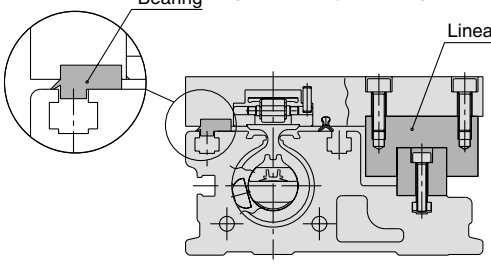
Series MY1H

High Precision Guide Type

ø10, ø16, ø20, ø25, ø32, ø40



Uses a linear guide to achieve high linearity and high repeatability



End lock type capable of holding a position at the stroke end (Except bore size ø10)

Before Operation

Maximum Allowable Moment/Maximum Load Weight

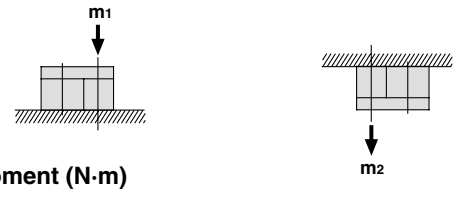
Model	Bore size (mm)	Maximum allowable moment (N·m)			Maximum load weight (kg)		
		M_1	M_2	M_3	m_1	m_2	m_3
MY1H	10	0.8	1.1	0.8	6.1	6.1	6.1
	16	3.7	4.9	3.7	10.8	10.8	10.8
	20	11	16	11	17.6	17.6	17.6
	25	23	26	23	27.5	27.5	27.5
	32	39	50	39	39.2	39.2	39.2
	40	50	50	39	50	50	50

The above values are the maximum allowable values for moment and load. Refer to each graph regarding the maximum allowable moment and maximum allowable load for a particular piston speed.

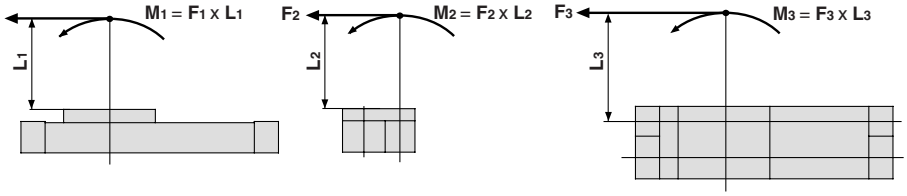
Maximum Allowable Moment

Select the moment from within the range of operating limits shown in the graphs. Note that the maximum allowable load value may sometimes be exceeded even within the operating limits shown in the graphs. Therefore, also check the allowable load for the selected conditions.

Load weight (kg)



Moment (N·m)



<Calculation of guide load factor>

1. Maximum allowable load (1), static moment (2), and dynamic moment (3) (at the time of impact with stopper) must be examined for the selection calculations.

∗ To evaluate, use υa (average speed) for (1) and (2), and υ (collision speed $\upsilon = 1.4\upsilon a$) for (3). Calculate mmax for (1) from the maximum allowable load graph (m_1, m_2, m_3) and Mmax for (2) and (3) from the maximum allowable moment graph (M_1, M_2, M_3).

Sum of guide load factors

$$\Sigma\alpha = \frac{\text{Load weight [m]}}{\text{Maximum allowable load [mmax]}} + \frac{\text{Static moment [M]}\ ^{(1)}}{\text{Allowable static moment [Mmax]}} + \frac{\text{Dynamic moment [ME]}\ ^{(2)}}{\text{Allowable dynamic moment [MEmax]}} \leq 1$$

Note 1) Moment caused by the load, etc., with cylinder in resting condition.
Note 2) Moment caused by the impact load equivalent at the stroke end (at the time of impact with stopper).
Note 3) Depending on the shape of the workpiece, multiple moments may occur. When this happens, the sum of the load factors ($\Sigma\alpha$) is the total of all such moments.

2. Reference formula [Dynamic moment at impact]

Use the following formulae to calculate dynamic moment when taking stopper impact into consideration.

m: Load weight (kg)
F: Load (N)
F_E: Load equivalent to impact (at impact with stopper) (N)
υa: Average speed (mm/s)
M: Static moment (N·m)

υ: Collision speed (mm/s)
L_1: Distance to the load's center of gravity (m)
M_E: Dynamic moment (N·m)
δ: Damper coefficient
With rubber bumper = 4/100 (MY1B10, MY1H10)
With air cushion = 1/100
With shock absorber = 1/100
g: Gravitational acceleration (9.8 m/s²)

$$\upsilon = 1.4\upsilon a \text{ (mm/s)} \quad F_E = 1.4\upsilon a \cdot \delta \cdot m \cdot g \ ^{\text{Note 4)}}$$

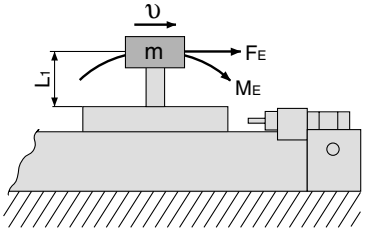
$$\therefore M_E = \frac{1}{3} \cdot F_E \cdot L_1 \ ^{\text{Note 5)}} = 4.57\upsilon a \delta m L_1 \text{ (N·m)}$$

Note 4) $1.4\upsilon a\delta$ is a dimensionless coefficient for calculating impact force.
Note 5) Average load coefficient ($=\frac{1}{3}$): This coefficient is for averaging the maximum load moment at the time of stopper impact according to service life calculations.

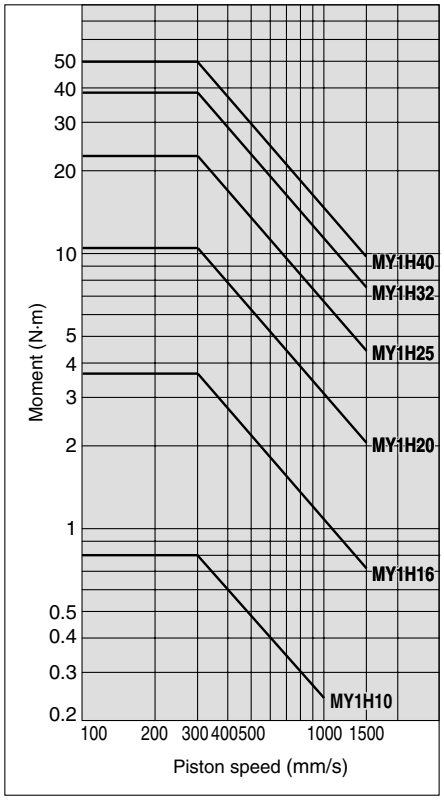
3. For detailed selection procedures, refer to pages 8-11-70 to 8-11-71.

Maximum Load Weight

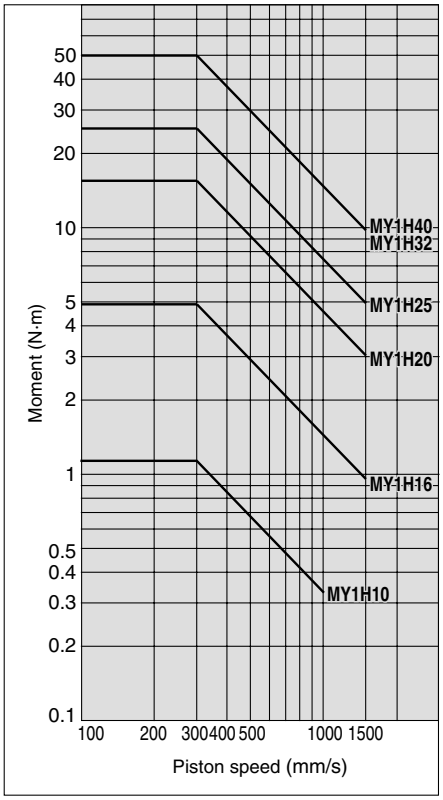
Select the load from within the range of limits shown in the graphs. Note that the maximum allowable moment value may sometimes be exceeded even within the operating limits shown in the graphs. Therefore, also check the allowable moment for the selected conditions.



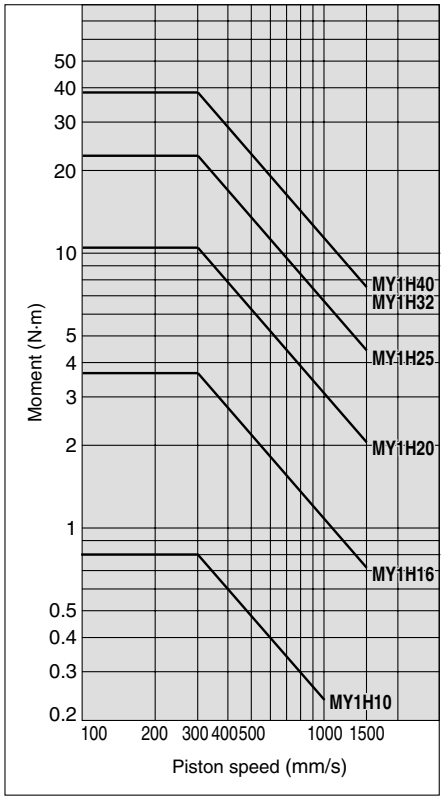
MY1H/M1



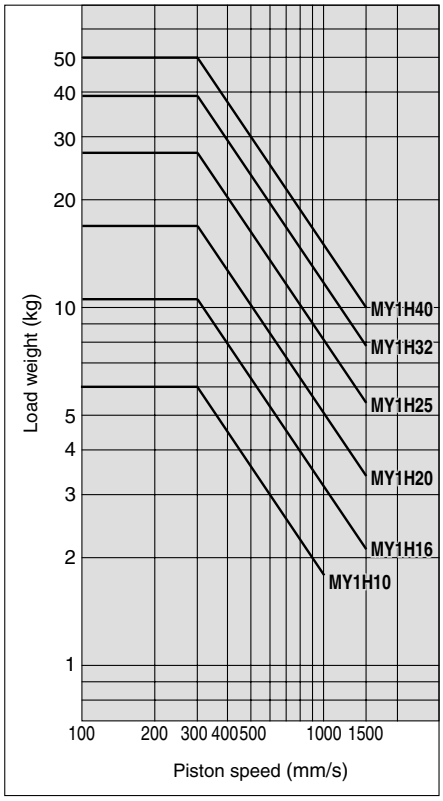
MY1H/M2



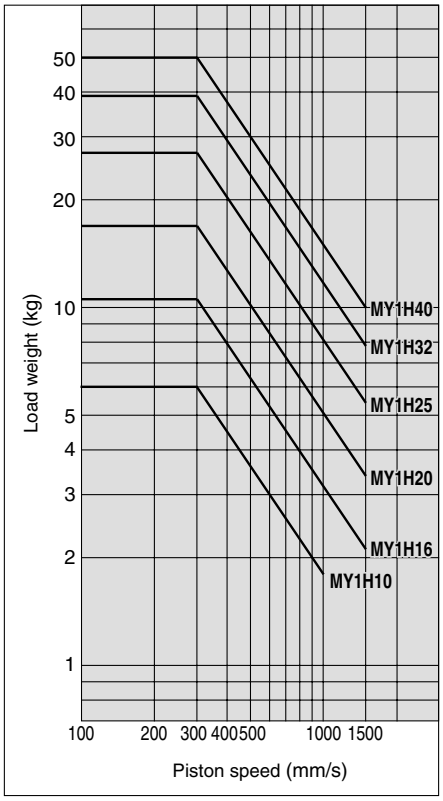
MY1H/M3



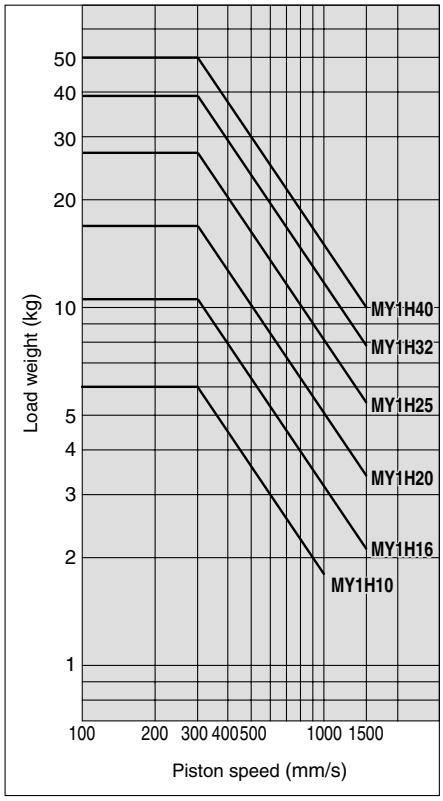
MY1H/m1



MY1H/m2



MY1H/m3



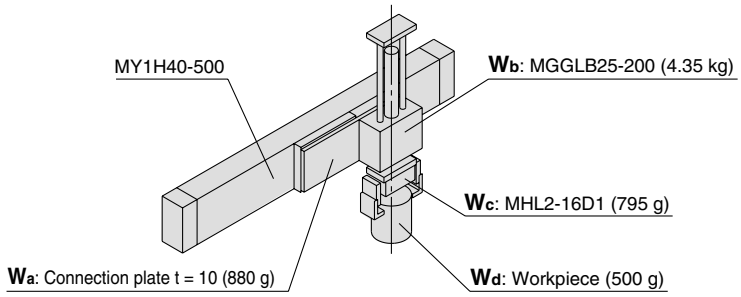
Model Selection

Following are the steps for selecting the most suitable Series MY1H to your application.

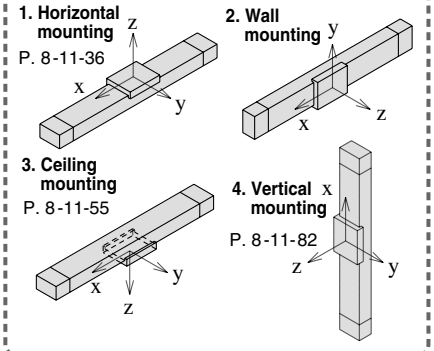
Calculation of Guide Load Factor

1. Operating Conditions

Operating cylinder ····· MY1H40-500
Average operating speed υa ··· 300 mm/s
Mounting orientation ····· Wall mounting
Cushion ····· Air cushion (δ = 1/100)

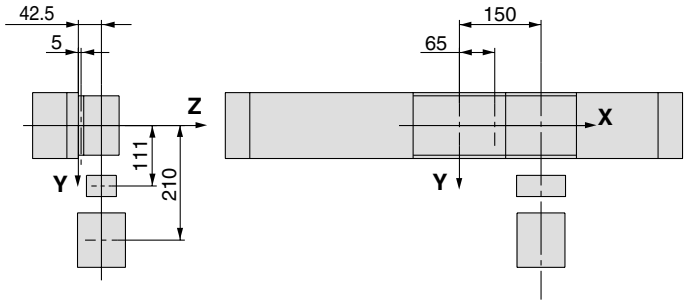


Mounting Orientation



For actual examples of calculation for each orientation, refer to the pages above.

2. Load Blocking



Weight and Center of Gravity for Each Workpiece

Workpiece no. Wn	Weight mn	Center of gravity		
		X-axis Xn	Y-axis Yn	Z-axis Zn
Wa	0.88 kg	65 mm	5 mm	0 mm
Wb	4.35 kg	150 mm	42.5 mm	0 mm
Wc	0.795 kg	150 mm	42.5 mm	111 mm
Wd	0.5 kg	150 mm	42.5 mm	210 mm

n = a, b, c, d

3. Composite Center of Gravity Calculation

$m_3 = \Sigma m_n$
$= 0.88 + 4.35 + 0.795 + 0.5 =$ **6.525 kg**

$X = \frac{1}{m_3} \times \Sigma (m_n \times x_n)$
$= \frac{1}{6.525} (0.88 \times 65 + 4.35 \times 150 + 0.795 \times 150 + 0.5 \times 150) =$ **138.5 mm**

$Y = \frac{1}{m_3} \times \Sigma (m_n \times y_n)$
$= \frac{1}{6.525} (0.88 \times 0 + 4.35 \times 0 + 0.795 \times 111 + 0.5 \times 210) =$ **29.6 mm**

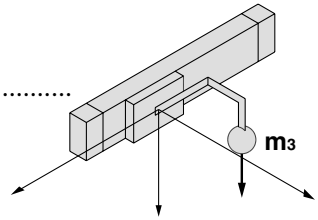
$Z = \frac{1}{m_3} \times \Sigma (m_n \times z_n)$
$= \frac{1}{6.525} (0.88 \times 5 + 4.35 \times 42.5 + 0.795 \times 42.5 + 0.5 \times 42.5) =$ **37.4 mm**

4. Calculation of Load Factor for Static Load

m_3: Weight

$m_3$max (from (1) of graph MY1H/m_3) = 50 (kg)·····

Load factor $\alpha_1 = m_3/m_3\text{max} = 6.525/50 =$ **0.13**

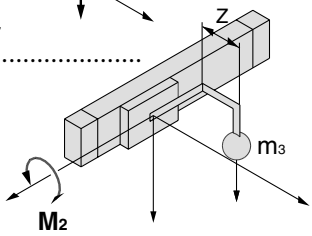


M_2: Moment

$m_2$max (from (2) of graph MY1H/M_2) = 50 (N·m)·····

$M_2 = m_3 \times g \times Z = 6.525 \times 9.8 \times 37.4 \times 10^{-3} = 2.39$ (N·m)

Load factor $\alpha_2 = M_2/M_2\text{max} = 2.39/50 =$ **0.05**

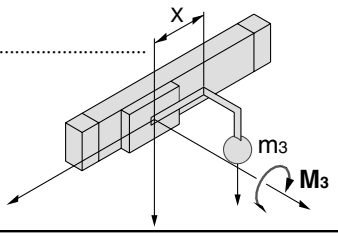


M_3: Moment

M_3max (from (3) of graph MY1H/M_3) = 38.7 (N·m)

$M_3 = m_3 \times g \times X = 6.525 \times 9.8 \times 138.5 \times 10^{-3} = 8.86$ (N·m)

Load factor $\alpha_3 = M_3/M_3\text{max} = 8.86/38.7 =$ **0.23**



5. Calculation of Load Factor for Dynamic Moment

Equivalent load F_E at impact

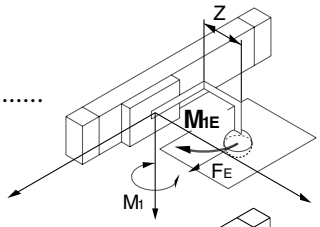
$F_E = 1.4\upsilon a \times \delta \times m \times g = 1.4 \times 300 \times \frac{1}{100} \times 6.525 \times 9.8 = 268.6$ (N)

M_{1E}: Moment

M_{1E}max (from (4) of graph MY1H/M_1 where $1.4\upsilon a$ = 420 mm/s) = 35.9 (N·m)

$M_{1E} = \frac{1}{3} \times F_E \times Z = \frac{1}{3} \times 268.6 \times 37.4 \times 10^{-3} = 3.35$ (N·m)

Load factor $\alpha_4 = M_{1E}/M_{1E}\text{max} = 3.35/35.9 =$ **0.09**

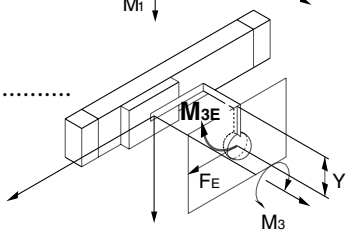


M_{3E}: Moment

M_{3E}max (from (5) of graph MY1H/M_3 where $1.4\upsilon a$ = 420 mm/s) = 27.6 (N·m)

$M_{3E} = \frac{1}{3} \times F_E \times Y = \frac{1}{3} \times 268.6 \times 29.6 \times 10^{-3} = 2.65$ (N·m)

Load factor $\alpha_5 = M_{3E}/M_{3E}\text{max} = 2.65/27.6 =$ **0.10**



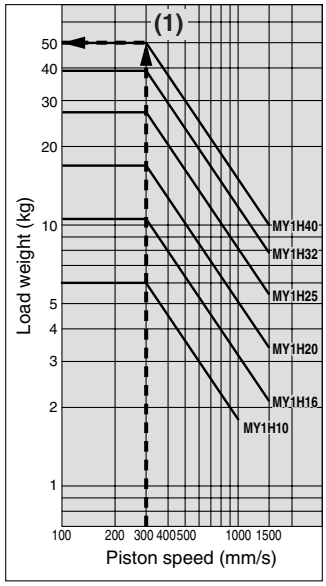
6. Sum and Examination of Guide Load Factors

$\sum\alpha = \alpha_1 + \alpha_2 + \alpha_3 + \alpha_4 + \alpha_5 =$ **0.60** $\leq$ **1**

The above calculation is within the allowable value, and therefore the selected model can be used.
Select a shock absorber separately.
In an actual calculation, when the total sum of guide load factors $\sum\alpha$ in the formula above is more than 1, consider either decreasing the speed, increasing the bore size, or changing the product series.
This calculation can be easily made using the "SMC Pneumatics CAD System".

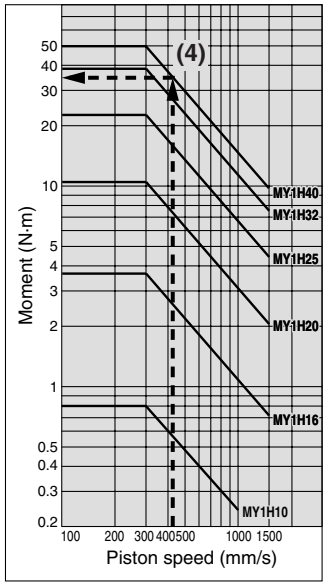
Load Weight

MY1H/m_3

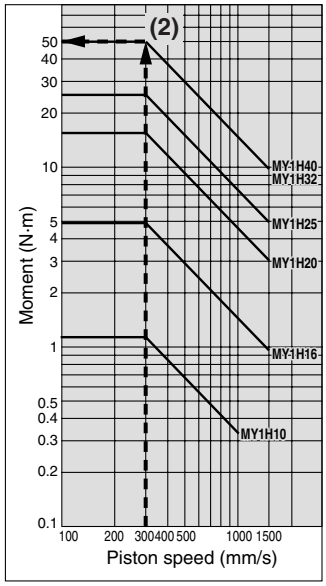


Allowable Moment

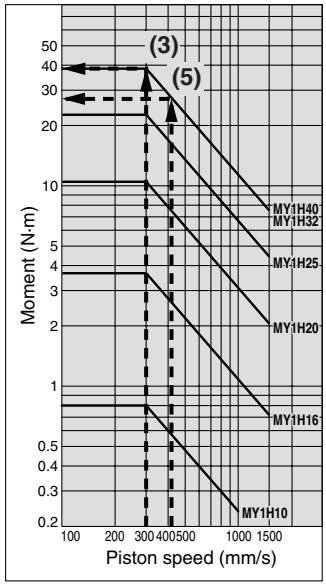
MY1H/M_1



MY1H/M_2



MY1H/M_3



Mechanically Jointed Rodless Cylinder
High Precision Guide Type
Series MY1H
ø10, ø16, ø20, ø25, ø32, ø40

How to Order

MY1H **25** [ ] — **300** [ ] [ ] [ ] **Y7BW** [ ]

High precision guide type

Bore size (mm)

10	10 mm
16	16 mm
20	20 mm
25	25 mm
32	32 mm
40	40 mm

Piping

Nil	Standard type
G	Centralized piping type

Note) For ø10, only G is available.

Stroke

Refer to "Standard Stroke" on page 8-11-73.

Stroke adjusting unit

Nil	Without adjusting unit
A	With adjusting bolt
L	With low load shock absorber + Adjusting bolt
H	With high load shock absorber + Adjusting bolt
AL	With one A unit and one L unit
AH	With one A unit and one H unit each
LH	With one L unit and one H unit each

Note) MY1H16 is not available with H unit.
MY1H10 is not available with A and L units.

Suffix for stroke adjusting unit Note)

Nil	Both ends
S	One end

Note) "S" is applicable for stroke adjusting units A, L and H.

Auto switch

Nil	Without auto switch

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

End lock position

Nil	Without end lock
E	Right end
F	Left end
W	Both ends

∗ MY1H10 is not available with end lock.
∗ For end lock positions, refer to page 8-11-83.

Number of auto switches

Nil	2 pcs
S	1 pcs
n	"n" pcs

Shock Absorbers for L and H Units

Unit type \ Bore size (mm)	10	16	20	25	32	40
L unit	—	RB0806		RB1007	RB1412	
H unit	RB0805	—	RB1007	RB1412	RB2015	

Applicable Auto Switch/Refer to page 8-30-1 for further information on auto switches.

For ø10, ø16, ø20

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage DC		Load voltage AC	Auto switch model Perpendicular	Auto switch model In-line	Lead wire length (m)∗ 0.5 (Nil)	3 (L)	5 (Z)	Pre-wire connector	Applicable load	
Reed switch	—	Grommet	Yes	3-wire (NPN equivalent)	—	5 V	—	**A96V**	**A96**	●	●	—	—	IC circuit	—
				2-wire	24 V	12 V	100 V	**A93V**	**A93**	●	●	—	—	—	Relay, PLC
Solid state switch	—	Grommet	Yes	3-wire (NPN)	24 V	5 V, 12 V	—	**M9NV**	**M9N**	●	●	○	○	IC circuit	Relay, PLC
				3-wire (PNP)				**M9PV**	**M9P**	●	●	○	○		
				2-wire		12 V		**M9BV**	**M9B**	●	●	○	○	—	
	Diagnostic indication (2-color indication)			3-wire (NPN)		5 V, 12 V		**F9NWV**	**F9NW**	●	●	○	○	IC circuit	
				3-wire (PNP)				**F9PWV**	**F9PW**	●	●	○	○		
				2-wire		12 V		**F9BWV**	**F9BW**	●	●	○	○	—	

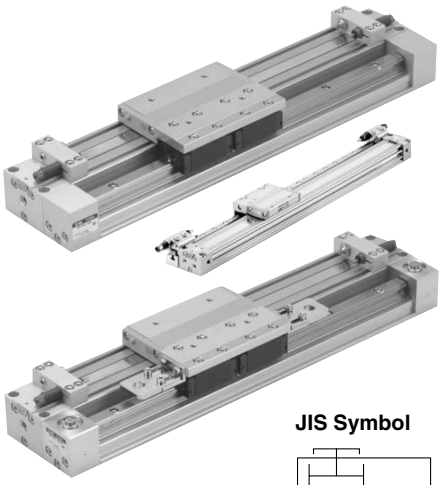
For ø25, ø32, ø40

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage DC		Load voltage AC	Auto switch model Perpendicular	Auto switch model In-line	Lead wire length (m)∗ 0.5 (Nil)	3 (L)	5 (Z)	Pre-wire connector	Applicable load	
Reed switch	—	Grommet	Yes	3-wire (NPN equivalent)	—	5 V	—	—	**Z76**	●	●	—	—	IC circuit	—
				2-wire	24 V	12 V	100 V	—	**Z73**	●	●	●	—	—	Relay, PLC
Solid state switch	—	Grommet	Yes	3-wire (NPN)	24 V	5 V, 12 V	—	**Y69A**	**Y59A**	●	●	○	○	IC circuit	Relay, PLC
				3-wire (PNP)				**Y7PV**	**Y7P**	●	●	○	○		
				2-wire		12 V		**Y69B**	**Y59B**	●	●	○	○	—	
	Diagnostic indication (2-color indication)			3-wire (NPN)		5 V, 12 V		**Y7NWV**	**Y7NW**	●	●	○	○	IC circuit	
				3-wire (PNP)				**Y7PWV**	**Y7PW**	●	●	○	○		
				2-wire		12 V		**Y7BWV**	**Y7BW**	●	●	○	○	—	

∗ Lead wire length symbols: 0.5 m····Nil (Example) A93
3 m·····L (Example) Y59BL
5 m·····Z (Example) F9NWZ

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

• There are other applicable auto switches than listed above. For details, refer to page 8-11-101.
• For details about auto switches with pre-wire connector, refer to page 8-30-52.



JIS Symbol

Specifications

Bore size (mm)		10	16	20	25	32	40
Fluid		Air					
Action		Double acting					
Operating pressure range		0.2 to 0.8 MPa {2.0 to 8.2 kgf/cm²}	0.1 to 0.8 MPa				
Proof pressure		1.2 MPa					
Ambient and fluid temperature		5 to 60°C					
Cushion		Rubber bumper	Air cushion				
Lubrication		Non-lube					
Stroke length tolerance		+1.8 0					
Piping port size	Front/Side port	M5 x 0.8			Rc 1/8		Rc 1/4
	Bottom port		ø4		ø5	ø6	ø8

Stroke Adjusting Unit Specifications

Bore size (mm)	10	16		20			25			32			40		
Unit symbol	H	A	L	A	L	H	A	L	H	A	L	H	A	L	H
Configuration Shock absorber model	RB 0805 with adjusting bolt	With adjusting bolt	RB 0806 with adjusting bolt	With adjusting bolt	RB 0806 with adjusting bolt	RB 0807 with adjusting bolt	With adjusting bolt	RB 1007 with adjusting bolt	RB 1412 with adjusting bolt	With adjusting bolt	RB 1412 with adjusting bolt	RB 2015 with adjusting bolt	With adjusting bolt	RB 1412 with adjusting bolt	RB 2015 with adjusting bolt
Fine stroke adjustment range (mm)	0 to –10	0 to –5.6		0 to –6			0 to –11.5			0 to –12			0 to –16		
Stroke adjustment range	When exceeding the stroke fine adjustment range: Utilize a made-to-order specifications "-X416" and "-X417".														

Shock Absorber Specifications

Model		RB 0805	RB 0806	RB 1007	RB 1412	RB 2015
Max. energy absorption (J)		1.0	2.9	5.9	19.6	58.8
Stroke absorption (mm)		5	6	7	12	15
Max. collision speed (mm/s)		1000	1500	1500	1500	1500
Max. operating frequency (cycle/min)		80	80	70	45	25
Spring force (N)	Extended	1.96	1.96	4.22	6.86	8.34
	Retracted	3.83	4.22	6.86	15.98	20.50
Operating temperature range (°C)		5 to 60				

Piston Speed

Bore size (mm)		10	16 to 40
Without stroke adjusting unit		100 to 500 mm/s	100 to 1000 mm/s
Stroke adjusting unit	A unit	100 to 200 mm/s	100 to 1000 mm/s (1)
	L unit and H unit	100 to 1000 mm/s	100 to 1500 mm/s (2)

Note 1) Be aware that when the stroke adjusting range is increased by manipulating the adjusting bolt, the air cushion capacity decreases. Also, when exceeding the air cushion stroke ranges on page 8-11-77, the piston speed should be 100 to 200 mm per second.
Note 2) The piston speed is 100 to 1000 mm/s for centralized piping.
Note 3) Use at a speed within the absorption capacity range. Refer to page 8-11-77.

Standard Stroke

Bore size (mm)	Standard stroke * (mm)	Maximum manufacturable stroke (mm)
10, 16, 20	50, 100, 150, 200 250, 300, 350, 400 450, 500, 550, 600	1000
25, 32, 40		1500

* Strokes are manufacturable in 1 mm increments, up to the maximum stroke. However, add "-XB10" to the end of the part number for non-standard strokes from 51 to 599. Also when exceeding a 600 mm stroke, specify "-XB11" at the end of the model number. (Except ø10)

Lock Specifications

Bore size (mm)	16	20	25	32	40
Lock position	One end (Selectable), Both ends				
Holding force (Max.) (N)	110	170	270	450	700
Fine stroke adjusting range (mm)	0 to –5.6	0 to –6	0 to –11.5	0 to –12	0 to –16
Backlash	1 mm or less				
Manual release	Possible (Non-lock type)				

Made to Order Specifications (For details, refer to page 8-31-1.)

Symbol	Specifications
-XB10	Intermediate stroke (Using exclusive body)
-XB11	Long stroke
-XC18	NPT finish piping port
-XC56	With knock pin hole
-XC67	NBR rubber lining in dust seal band
-X168	Helical insert thread specifications
-X416	Holder mounting bracket I
-X417	Holder mounting bracket II

Theoretical Output (N)

Bore size (mm)	Piston area (mm²)	Operating pressure (MPa)						
		0.2	0.3	0.4	0.5	0.6	0.7	0.8
10	78	15	23	31	39	46	54	62
16	200	40	60	80	100	120	140	160
20	314	62	94	125	157	188	219	251
25	490	98	147	196	245	294	343	392
32	804	161	241	322	402	483	563	643
40	1256	251	377	502	628	754	879	1005

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

Weight (kg)

Bore size (mm)	Basic weight	Additional weight per each 50mm of stroke	Side support weight (per set)	Stroke adjusting unit weight (per unit)		
			Type A and B	A unit weight	L unit weight	H unit weight
10	0.26	0.08	0.003	—	—	0.02
16	0.74	0.14	0.01	0.02	0.04	—
20	1.35	0.25	0.02	0.03	0.05	0.07
25	2.31	0.30	0.02	0.04	0.07	0.11
32	4.65	0.46	0.04	0.08	0.14	0.23
40	6.37	0.55	0.08	0.12	0.19	0.28

Calculation: (Example) MY1H25-300A
- Basic weight ····· 2.31 kg
- Additional weight ····· 0.30/50 st
- Weight of A unit ····· 0.06 kg
- Cylinder stroke·····300 st

2.31 + 0.30 x 300 ÷ 50 + 0.04 x 2 ≅ 4.19 kg

Option

Stroke Adjusting Unit Part No.

Unit type \ Bore (mm)	10	16	20
A unit	—	MYH-A16A	MYH-A20A
L unit	—	MYH-A16L	MYH-A20L
H unit	MYH-A10H	—	MYH-A20H

Unit type \ Bore (mm)	25	32	40
A unit	MYH-A25A	MYH-A32A	MYH-A40A
L unit	MYH-A25L	MYH-A32L	MYH-A40L
H unit	MYH-A25H	MYH-A32H	MYH-A40H

Side Support Part No.

Type \ Bore (mm)	10	16	20
Side support A	MY-S10A	MY-S16A	MY-S20A
Side support B	MY-S10B	MY-S16B	MY-S20B

Type \ Bore (mm)	25	32	40
Side support A	MY-S25A	MY-S32A	MY-S40A
Side support B	MY-S25B	MY-S32B	MY-S40B

For details about dimensions, etc., refer to page 8-11-84.

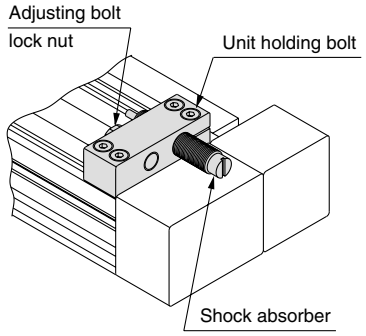
⚠ Precautions

Be sure to read before handling.
For Safety Instructions and Actuator Precautions, refer to pages 8-34-3 to 8-34-6.

⚠ Caution

Use caution not to get your hands caught in the unit.

- When using a product with stroke adjusting unit, the space between the slide table (slider) and the stroke adjusting unit becomes narrow at the stroke end, causing a danger of hands getting caught. Install a protective cover to prevent direct contact with the human body.



<Fastening of unit>
The unit can be secured by evenly tightening the four unit holding bolts.

⚠ Caution

Do not operate with the stroke adjusting unit fixed in an intermediate position.

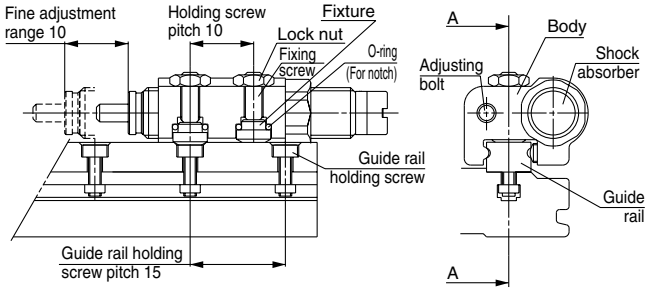
When the stroke adjusting unit is fixed in an intermediate position, slippage can occur depending on the amount of energy released at the time of an impact. In such cases, the use of the adjusting bolt mounting brackets, available per made-to-order specifications -X416 and -X417, is recommended. (Except ø10)
For other lengths, please consult with SMC (Refer to "Tightening Torque for Stroke Adjusting Unit Holding Bolts".)

<Stroke adjustment with adjusting bolt>
Loosen the adjusting bolt lock nut, and adjust the stroke from the head cover side using a hexagon wrench. Re-tighten the lock nut.

<Stroke adjustment with shock absorber>
Loosen the two unit holding bolts on the shock absorber side, turn the shock absorber and adjust the stroke. Then, uniformly tighten the unit holding bolts to secure the shock absorber.
Take care not to over-tighten the holding bolts. (Except ø10, ø16, ø20) (Refer to "Tightening Torgue for Stroke Adjusting Unit Holding Bolts".)

⚠ Caution

To adjust the stroke adjusting unit of the MY1H10, follow the step shown below.



Section A-A

Adjusting Procedure

1. Loosen the two lock nuts, and then loosen the holding screws by turning them approximately two turns.
2. Move the body to the notch just before the desired stroke. (The notches are found in alternating increments of 5 mm and 10 mm.)
3. Tighten the holding screw to 0.3 N·m. Make sure that the tightening does not cause excessive torque.
   The fixture fits into the fastening hole in the guide rail to prevent slippage, which enables fastening with low torque.
4. Tighten the lock nut to 0.6 N·m.
5. Make fine adjustments with the adjusting bolt and shock absorber.

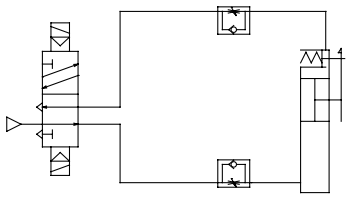
⚠ Precautions

With End Locks

Recommended Pneumatic Circuit

⚠ Caution

This is necessary for the correct locking and unlocking actions.



Operating Precautions

⚠ Caution

1. Do not use 3 position solenoid valves.
Avoid use in combination with 3 position solenoid valves (especially closed center metal seal types). If pressure is trapped in the port on the lock mechanism side, the cylinder cannot be locked.
Furthermore, even after being locked, the lock may be released after some time due to air leaking from the solenoid valve and entering the cylinder.

2. Back pressure is required when releasing the lock.
Before starting operation, be sure to control the system so that air is supplied to the side without the lock mechanism (in case of locks on both ends, the side where the slide table is not locked) as shown in the figure above. There is a possibility that the lock may not be released. (Refer to the section on releasing the lock.)

3. Release the lock when mounting or adjusting the cylinder.
If mounting or other work is performed when the cylinder is locked, the lock unit may be damaged.

4. Operate at 50% or less of the theoretical output.
If the load exceeds 50% of the theoretical output, 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. Be sure to operate completely to the cylinder stroke end on the side with the lock.
If the cylinder piston does not reach the end of the stroke, locking and unlocking may not be possible. (Refer to the section on adjusting the end lock mechanism.)

Operating Pressure

⚠ Caution

1. Supply air pressure of 0.15 MPa or higher to the port on the side that has the lock mechanism, as it is necessary for disengaging the lock.

Exhaust Speed

⚠ Caution

1. Locking will occur automatically if the pressure applied to the port on the lock mechanism side falls to 0.05 MPa or less. In the cases where the piping on the lock mechanism side is long and thin, or the speed controller is separated at some distance from the cylinder port, the exhaust speed will be reduced. Take note that some time may be required for the lock to engage.
In addition, clogging of a silencer mounted on the solenoid valve exhaust port can produce the same effect.

Relation to Cushion

⚠ Caution

1. When the air cushion on the lock mechanism side is in a fully closed or nearly closed state, there is a possibility that the slide table will not reach the stroke end, in which case locking will not occur.

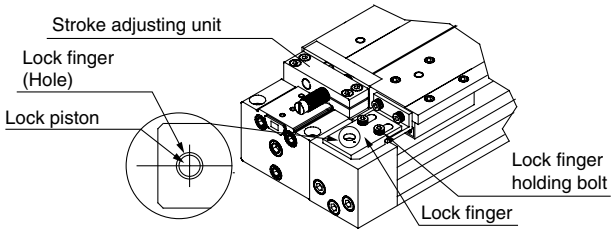
Adjusting the End Lock Mechanism

⚠ Caution

1. The end lock mechanism is adjusted at the time of shipping. Therefore, adjustment for operation at the stroke end is unnecessary.

2. Adjust the end lock mechanism after the stroke adjusting unit has been adjusted. The adjusting bolt and shock absorber of the stroke adjusting unit must be adjusted and secured first. Locking and unlocking may not occur otherwise.

3. Perform fine adjustment of the end lock mechanism as follows. Loosen the lock finger holding bolts, and then adjust by aligning the center of the lock piston with the center of the lock finger hole. Secure the lock finger.



Releasing the Lock

⚠ Warning

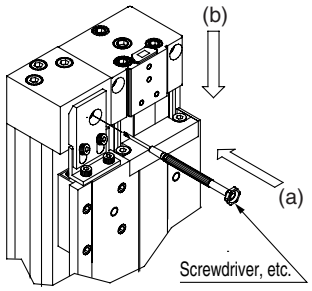
1. Before releasing the lock, be sure to supply air to the side without the lock mechanism, so that there is no load applied to the lock mechanism when it is released. (Refer to the recommended pneumatic circuits.) If the lock is released when the port on the side without the lock is in an exhaust state, 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 slide table is very dangerous.

Manual Release

⚠ Caution

1. When manually releasing the end lock, be sure to release the pressure.
If it is unlocked while the air pressure still remains, it will lead to damage a workpiece, etc. due to unexpected lurching.

2. Perform manual release of the end lock mechanism as follows. Push the lock piston down with a screwdriver, etc., and move the slide table.



Other handling precautions regarding mounting, piping, and environment are the same as the standard series.

Cushion Capacity

Cushion Selection

<Rubber bumper>
Rubber bumpers are a standard feature on MY1H10.
Since the stroke absorption of rubber bumpers is short, when adjusting the stroke with an A unit, install an external shock absorber.
The load and speed range which can be absorbed by a rubber bumper is inside the rubber bumper limit line of the graph.

<Air cushion>
Air cushions are a standard feature on mechanically jointed rodless cylinders.
The air cushion mechanism is incorporated to prevent excessive impact of the piston at the stroke end during high speed operation. The purpose of air cushion, thus, is not to decelerate the piston near the stroke end.
The ranges of load and speed that air cushions can absorb are within the air cushion limit lines shown in the graphs.

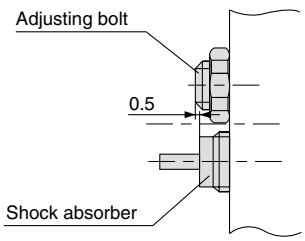
<Stroke adjusting unit with shock absorber>
Use this unit when operating with a load or speed exceeding the air cushion limit line, or when cushioning is required outside of the effective air cushion stroke range due to stroke adjustment.

L unit
Use this unit when the cylinder stroke is outside of the effective air cushion range even if the load and speed are within the air cushion limit line, or when the cylinder is operated in a load and speed range above the air cushion limit line or below the L unit limit line.

H unit
Use this unit when the cylinder is operated in a load and speed range above the L unit limit line and below the H unit limit line.

⚠ Caution

1. Refer to the figure below when using the adjusting bolt to perform stroke adjustment.
When the effective stroke of the shock absorber decreases as a result of stroke adjustment, the absorption capacity decreases dramatically. Secure the adjusting bolt at the position where it protrudes approximately 0.5 mm from the shock absorber.



2. Do not use a shock absorber together with air cushion.

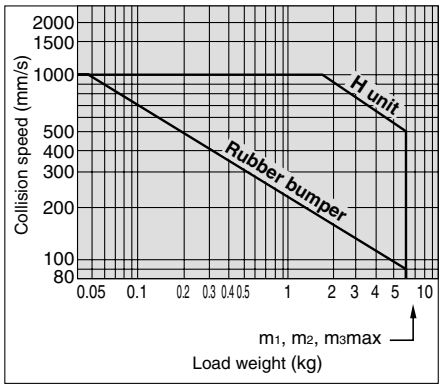
Air Cushion Stroke

(mm)

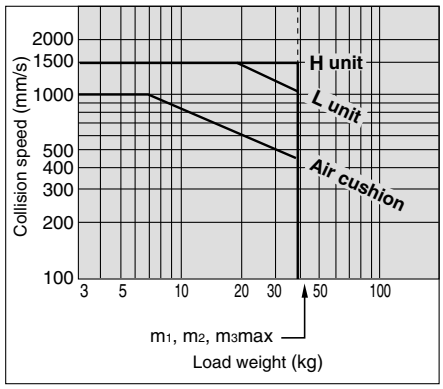
Bore size (mm)	Cushion stroke
16	12
20	15
25	15
32	19
40	24

Absorption Capacity of Rubber Bumper, Air cushion and Stroke Adjusting Units

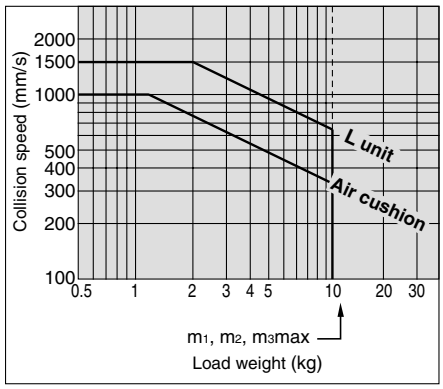
MY1H10 Horizontal collision: P = 0.5 MPa



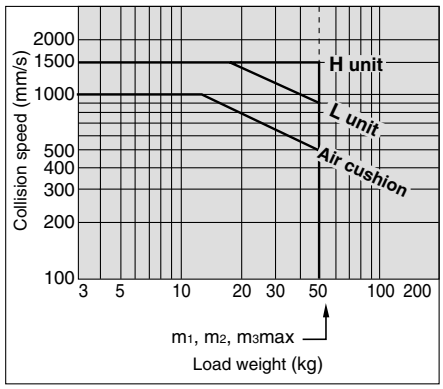
MY1H32 Horizontal collision: P = 0.5 MPa



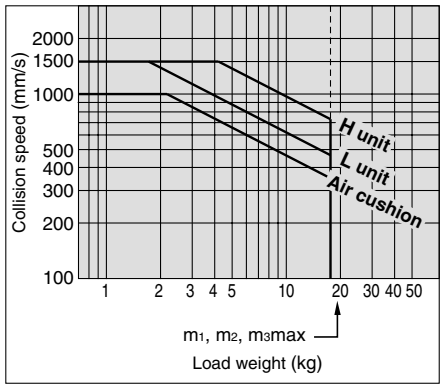
MY1H16 Horizontal collision: P = 0.5 MPa



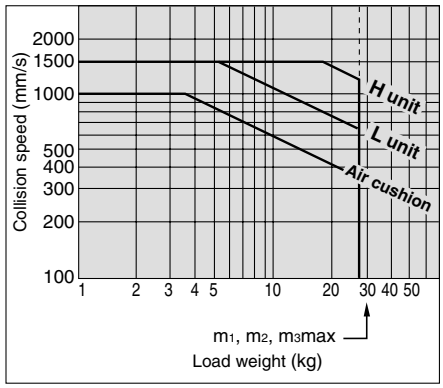
MY1H40 Horizontal collision: P = 0.5 MPa



MY1H20 Horizontal collision: P = 0.5 MPa



MY1H25 Horizontal collision: P = 0.5 MPa

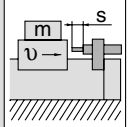
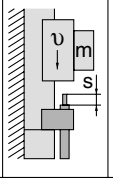
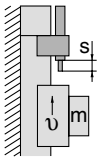


Cushion Capacity

Tightening Torque for Stroke Adjusting Unit Holding Bolts (N·m)

Bore size (mm)	Tightening torque
10	Refer to page XXX for unit adjusting procedure.
16	0.6
20	1.5
25	1.5
32	3.0
40	5.0

Calculation of Absorbed Energy for Stroke Adjusting Unit with Shock Absorber (N·m)

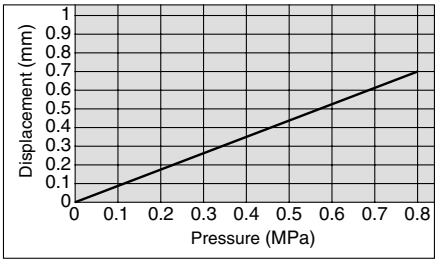
	Horizontal collision	Vertical (Downward)	Vertical (Upward)
Type of impact			
Kinetic energy E_1	$\frac{1}{2}m\upsilon^2$		
Thrust energy E_2	$F \cdot s$	$F \cdot s + m \cdot g \cdot s$	$F \cdot s - m \cdot g \cdot s$
Absorbed energy E	$E_1 + E_2$		

Symbol

υ: Speed of impact object (m/s)
F: Cylinder thrust (N)
s: Shock absorber stroke (m)
m: Weight of impact object (kg)
g: Gravitational acceleration (9.8 m/s²)

Note) The speed of the impact object is measured at the time of impact with the shock absorber.

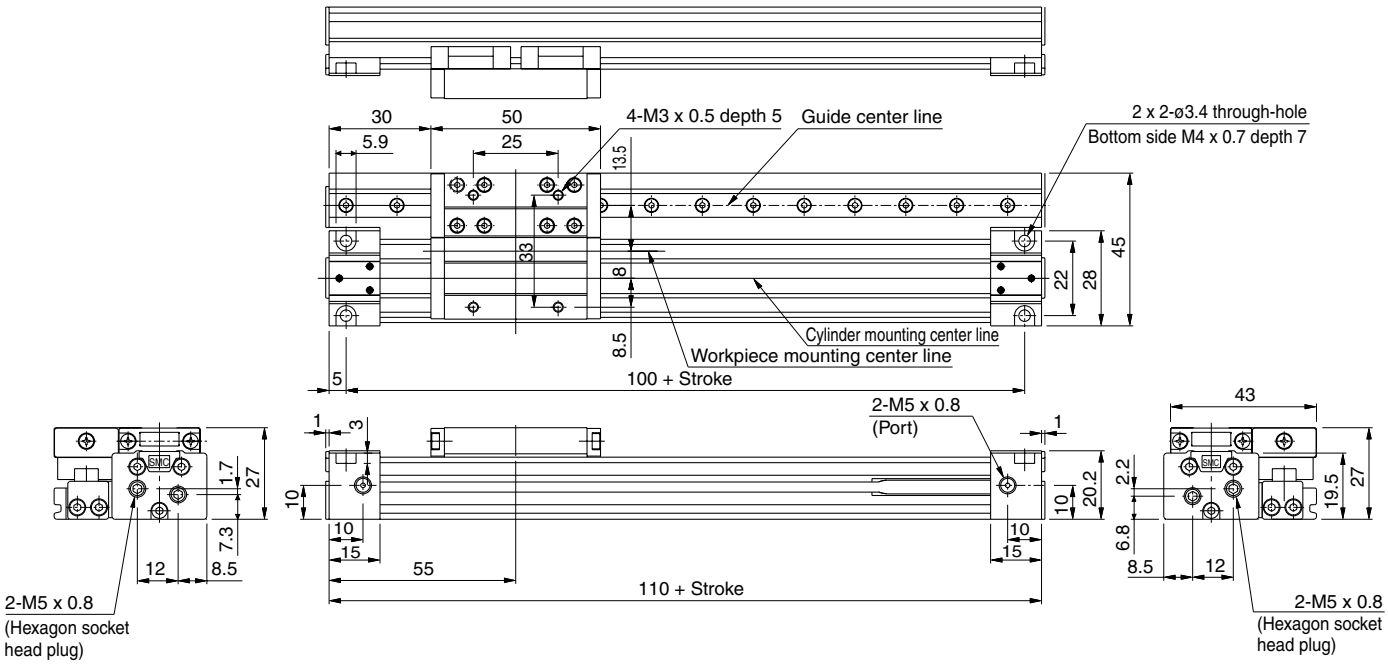
Rubber Bumper (ø10 only) Positive Stroke from One End Due to Pressure



Centralized Piping Type ø10

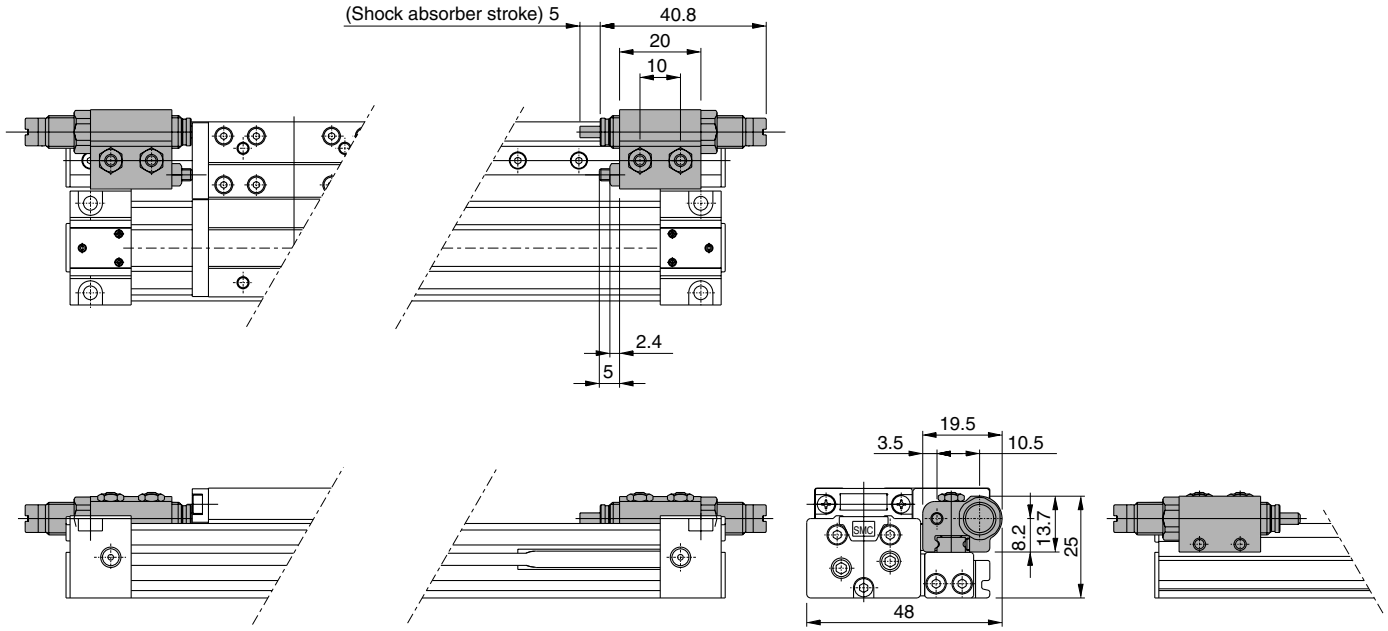
Refer to page 8-11-9 regarding centralized piping port variations.

MY1H10G — Stroke



Shock absorber + Adjusting bolt

MY1H10G — Stroke H

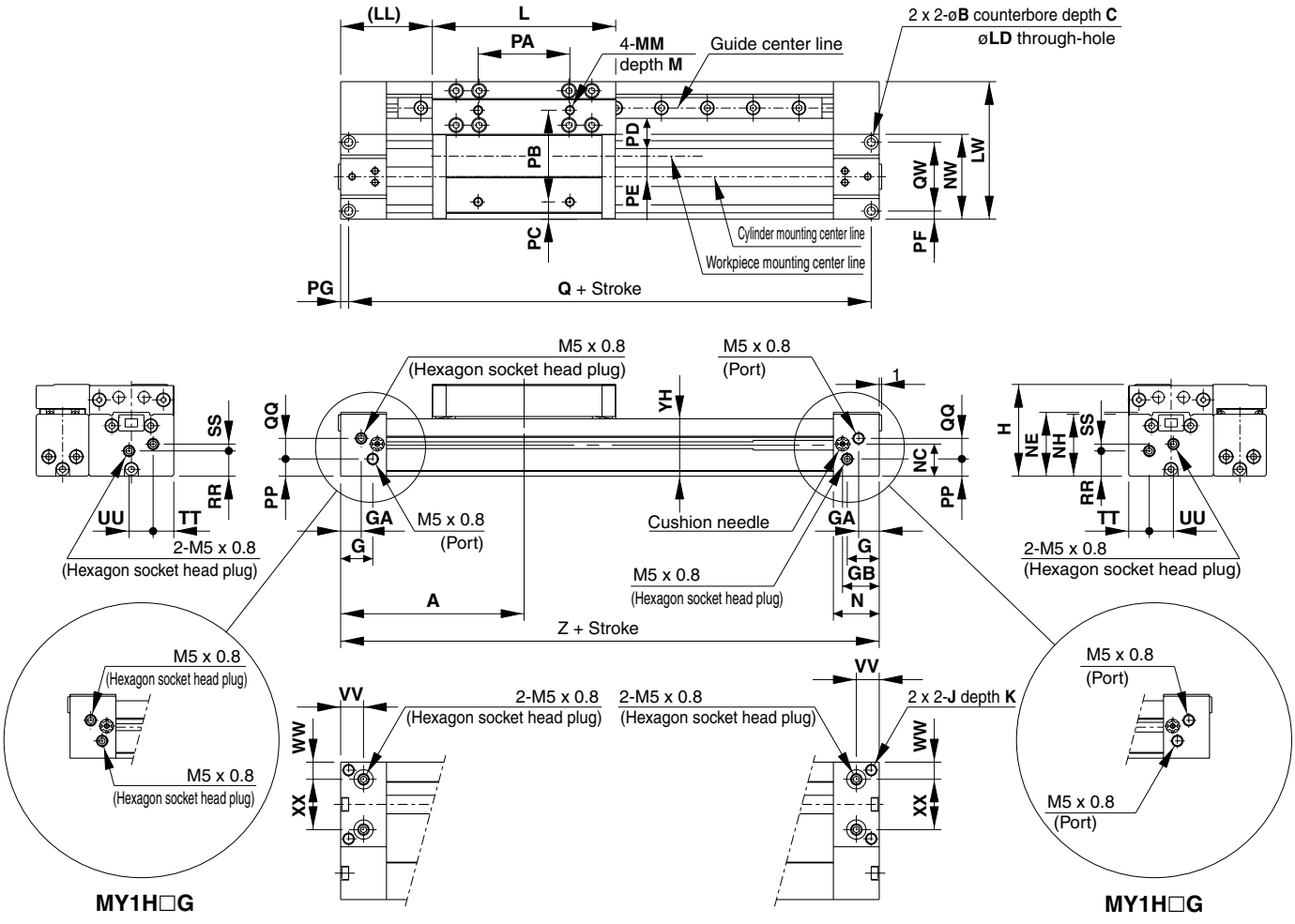


MX□
MTS
MY□
CY□
MG□
CX□
D-
-X
20-
Data

Standard Type/Centralized Piping Type ø16, ø20

Refer to page 8-11-9 regarding centralized piping port variations.

MY1H16L□/20L□ — Stroke

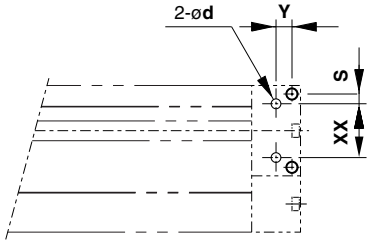


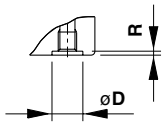
(mm)

Model	A	B	C	G	GA	GB	H	J	K	L	LD	LL	LW	M	MM	N	NC	NE	NH	NW
MY1H16□	80	6	3.5	14	9	16	40	M5 x 0.8	10	80	3.5	40	60	7	M4 x 0.7	20	14	27.8	27	37
MY1H20□	100	7.5	4.5	12.5	12.5	17.5	46	M6 x 1	12	100	4.5	50	78	8	M5 x 0.8	25	17.5	34	33.5	45

(mm)

Model	PA	PB	PC	PD	PE	PF	PG	PP	Q	QQ	QW	RR	SS	TT	UU	VV	WW	XX	YH	Z
MY1H16□	40	40	7.5	21	9	3.5	3.5	7.5	153	9	30	11	3	9	10.5	10	7.5	22	25	160
MY1H20□	50	40	14.5	27	12	4.5	4.5	11.5	191	11	36	14.5	5	10.5	12	12.5	10.5	24	31.5	200





Bottom ported
(Applicable O-ring)

Hole Size for Centralized Piping on the Bottom

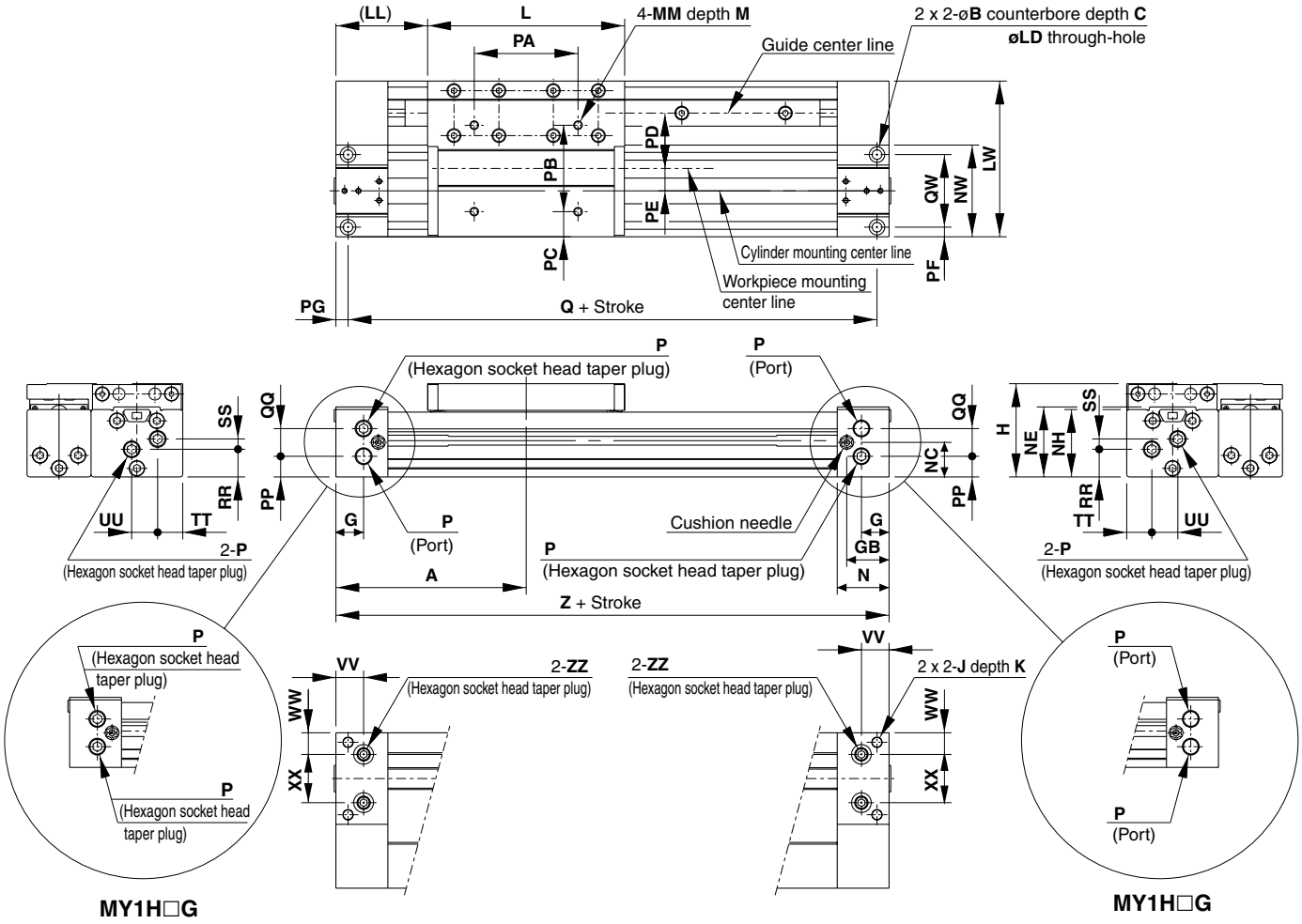
Model	WX	Y	S	d	D	R	Applicable O-ring
MY1H16□	22	6.5	4	4	8.4	1.1	C6
MY1H20□	24	8	6	4	8.4	1.1	

(Machine the mounting side to the dimensions below.)

Standard Type/Centralized Piping Type ø25, ø32, ø40

Refer to page 8-11-9 regarding centralized piping port variations.

MY1H25L□/32L□/40L□ — Stroke



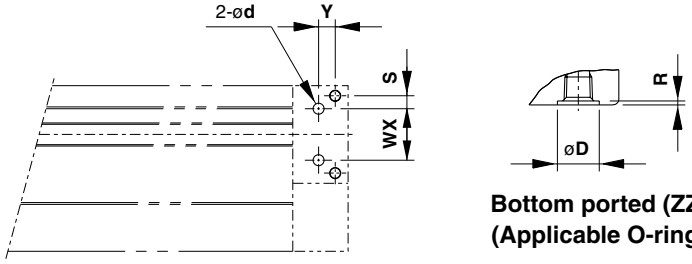
(mm)

Model	A	B	C	G	GB	H	J	K	L	LD	LL	LW	M	MM	N	NC	NE	NH	NW	P
MY1H25□	110	9	5.5	16	24.5	54	M6 x 1	9.5	114	5.6	53	90	9	M5 x 0.8	30	20	40.5	39	53	Rc 1/8
MY1H32□	140	11	6.6	19	30	68	M8 x 1.25	16	140	6.8	70	110	13	M6 x 1	37	25	50	49	64	Rc 1/8
MY1H40□	170	14	8.5	23	36.5	84	M10 x 1.5	15	170	8.6	85	121	13	M6 x 1	45	30.5	63	61.5	75	Rc 1/4

"P" indicates cylinder supply ports.

(mm)

Model	PA	PB	PC	PD	PE	PF	PG	PP	Q	QQ	QW	RR	SS	TT	UU	VV	WW	XX	YH	Z	ZZ
MY1H25□	60	50	14.5	32	13	5.5	7	12	206	16	42	16	6	14.5	15	16	12.5	28	37.5	220	Rc 1/16
MY1H32□	80	60	15	42	13	6.5	8	17	264	11	51	16	4	16	16	19	16	32	47	280	Rc 1/16
MY1H40□	100	80	20.5	37.5	23	8	9	18.5	322	11	59	24	10.5	20	22	23	19.5	36	59.5	340	Rc 1/8



Bottom ported (ZZ)
(Applicable O-ring)

Hole Size for Centralized Piping on the Bottom

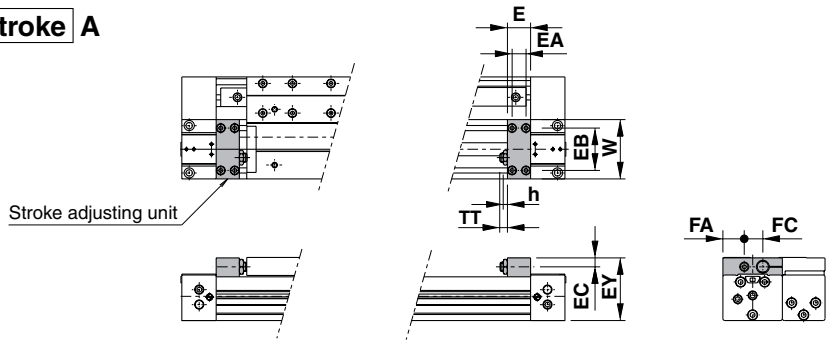
Model	WX	Y	S	d	D	R	Applicable O-ring
MY1H25□	28	9	7	6	11.4	1.1	C9
MY1H32□	32	11	9.5	6	11.4	1.1	
MY1H40□	36	14	11.5	8	13.4	1.1	C11.2

(Machine the mounting side to the dimensions below.)

Stroke Adjusting Unit

With adjusting bolt

MY1H Bore size □ — Stroke A

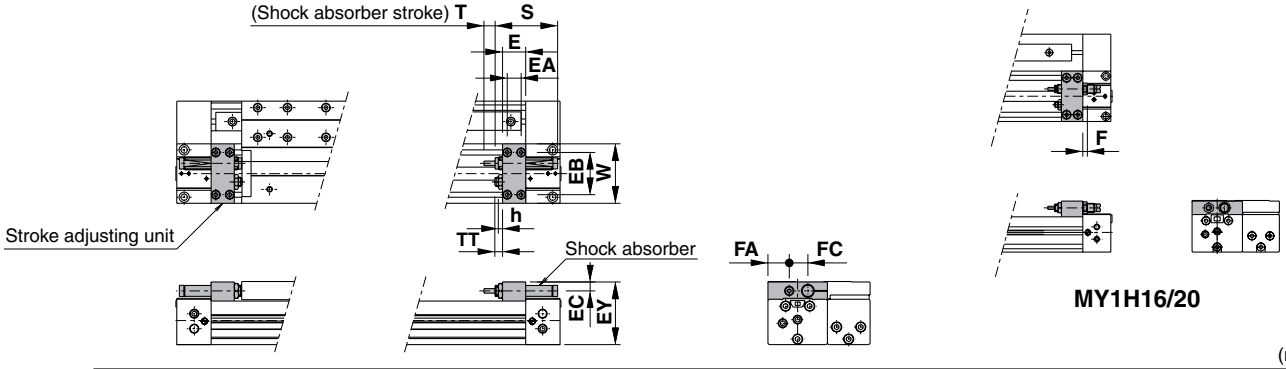


(mm)

Applicable bore size	E	EA	EB	EC	EY	FA	FC	h	TT	W
MY1H16	14.6	7	28	5.8	39.5	11.5	13	3.6	5.4 (Max. 11)	37
MY1H20	19	10	33	5.8	45.5	15	14	3.6	6 (Max. 12)	45
MY1H25	18	9	40	7.5	53.5	20	17	3.5	5 (Max. 16.5)	53
MY1H32	25	14	45.6	9.5	67.5	23	20	4.5	8 (Max. 20)	64
MY1H40	31	19	55	11	82	24.5	26	4.5	9 (Max. 25)	75

With low load shock absorber + Adjusting bolt

MY1H Bore size □ — Stroke A

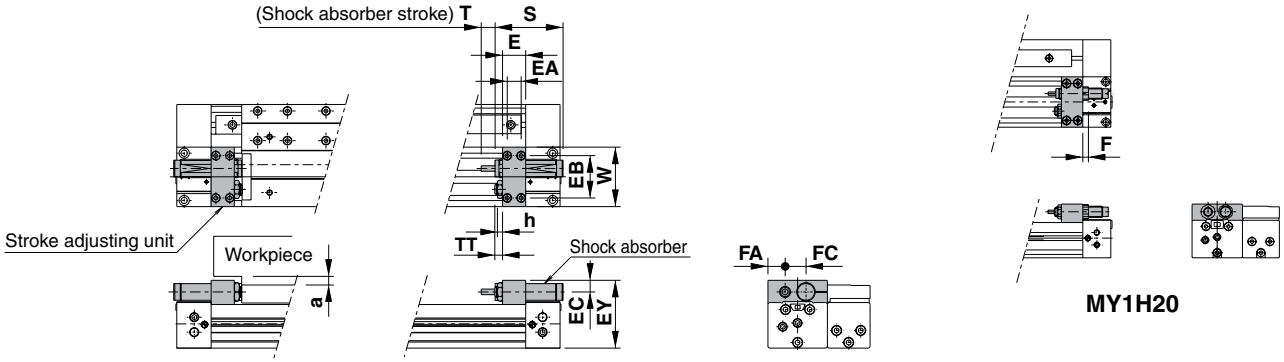


(mm)

Applicable bore size	E	EA	EB	EC	EY	F	FA	FC	h	S	T	TT	W	Shock absorber model
MY1H16	14.6	7	28	5.8	39.5	4	11.5	13	3.6	40.8	6	5.4 (Max. 11)	37	RB0806
MY1H20	19	10	33	5.8	45.5	4	15	14	3.6	40.8	6	6 (Max. 12)	45	RB0806
MY1H25	18	9	40	7.5	53.5	—	20	17	3.5	46.7	7	5 (Max. 16.5)	53	RB1007
MY1H32	25	14	45.6	9.5	67.5	—	23	20	4.5	67.3	12	8 (Max. 20)	64	RB1412
MY1H40	31	19	55	11	82	—	24.5	26	4.5	67.3	12	9 (Max. 25)	75	RB1412

With high load shock absorber + Adjusting bolt

MY1H Bore size □ — Stroke A



∗ Since dimension EY of the H type unit is greater than the table top height (dimension H),when mounting a workpiece that exceeds the overall length (dimension L) of the slide table, allow a clearance of dimension "a" or larger on the workpiece side.

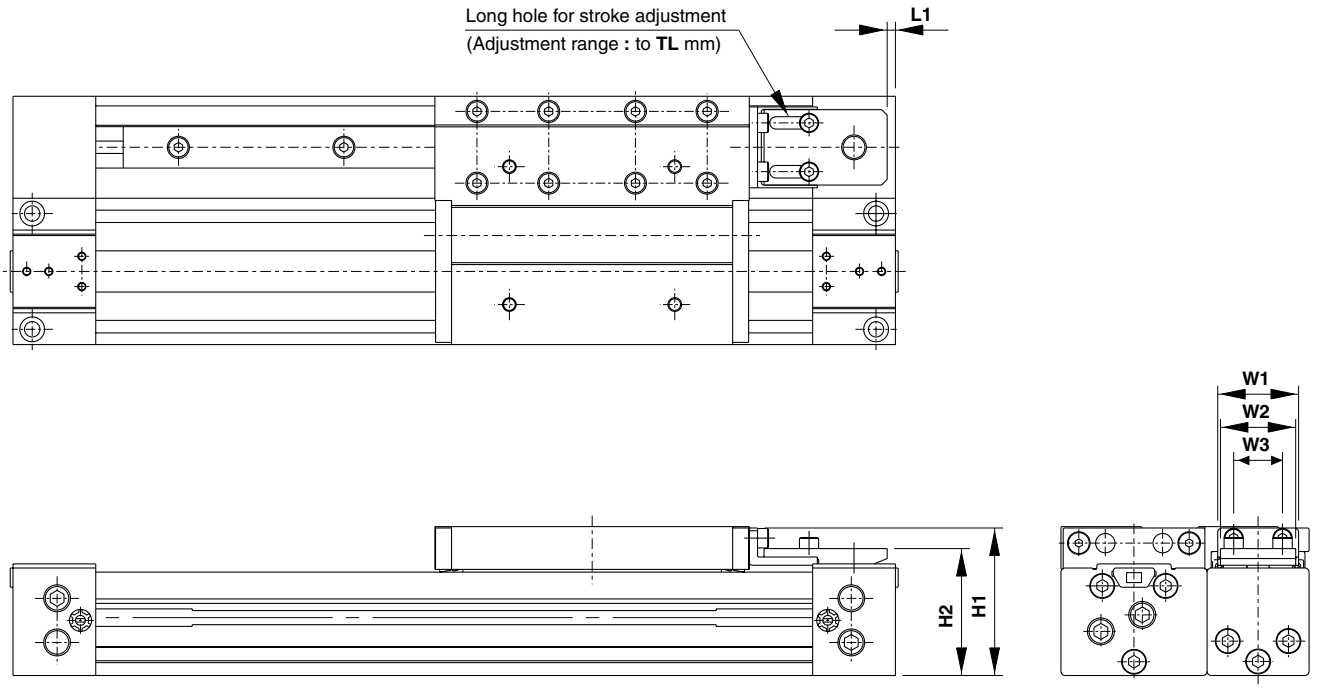
(mm)

Applicable bore size	E	EA	EB	EC	EY	F	FA	FC	h	S	T	TT	W	Shock absorber model	a
MY1H20	19	10	33	7.7	49.5	5	14.3	15.7	3.5	46.7	7	6 (Max. 12)	45	RB1007	4
MY1H25	18	9	40	9	57	—	18	17.5	4.5	67.3	12	5 (Max. 16.5)	53	RB1412	3.5
MY1H32	25	14	45.6	12.4	73	—	18.5	22.5	5.5	73.2	15	8 (Max. 20)	64	RB2015	5.5
MY1H40	31	19	55	12.4	86	—	26.5	22	5.5	73.2	15	9 (Max. 25)	75	RB2015	2.5

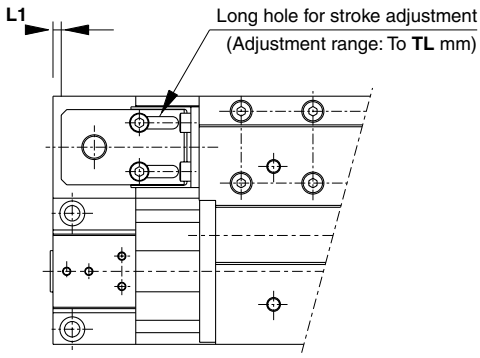
With End Lock ø16 to ø40

Dimensions for types other than end lock are identical to the standard type dimensions. For details about dimensions, etc., refer to page 8-11-80 to 81.

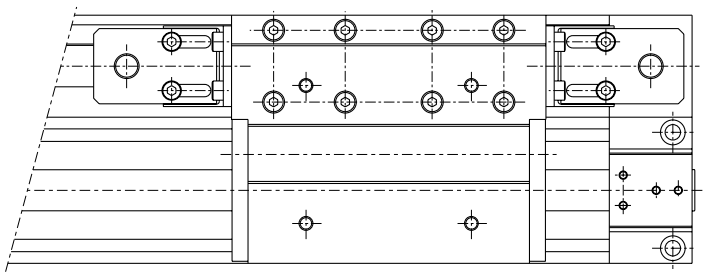
MY1H□-□E
(Right end)



MY1H□-□F
(Left end)



MY1H□-□W
(Both ends)

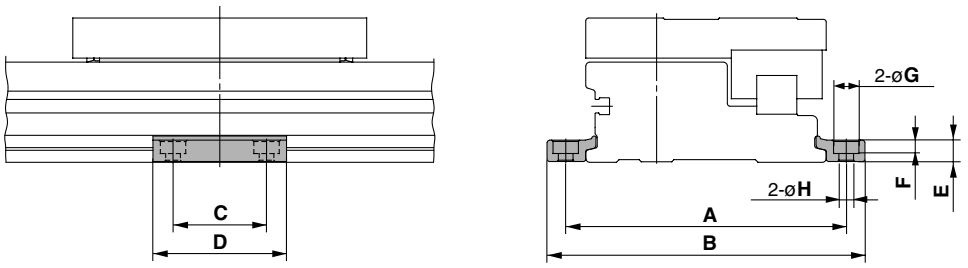


(mm)

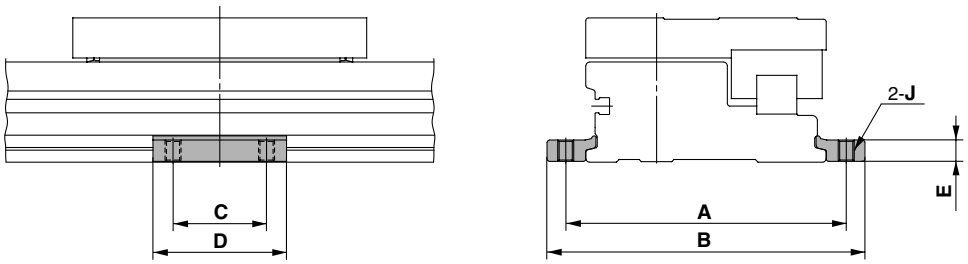
Model	H1	H2	L1	TL	W1	W2	W3
MY1H16□	39.2	33	0.5	5.6	18	16	10.4
MY1H20□	45.7	39.5	3	6	18	16	10.4
MY1H25□	53.5	46	3	11.5	29.3	27.3	17.7
MY1H32□	67	56	6.5	12	29.3	27.3	17.7
MY1H40□	83	68.5	10.5	16	38	35	24.4

Side Support

Side support A
MY-S□A



Side support B
MY-S□B

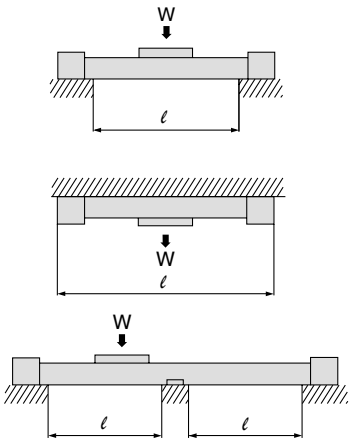


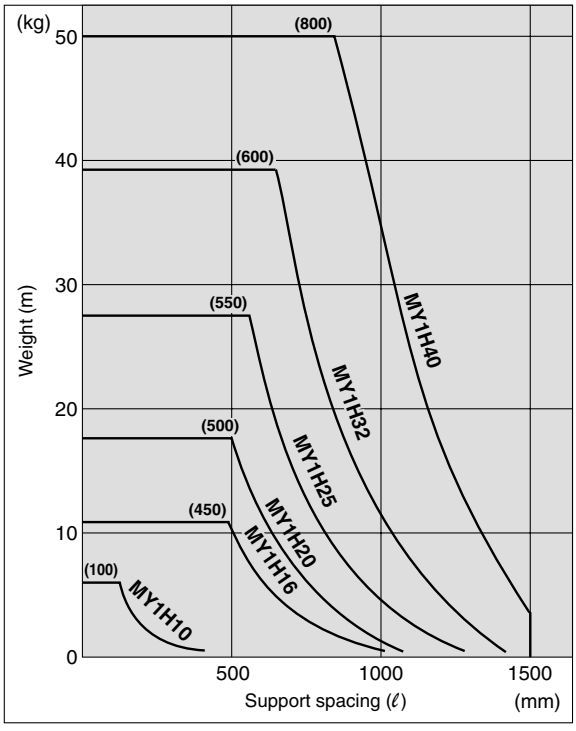
(mm)

Model	Applicable bore size	A	B	C	D	E	F	G	H	J
MY-S10$^{A}_{B}$	MY1H10	53	61.6	12	21	3.6	1.8	6.5	3.4	M4 x 0.7
MY-S16$^{A}_{B}$	MY1H16	71	81.6	15	26	4.9	3	6.5	3.4	M4 x 0.7
MY-S20$^{A}_{B}$	MY1H20	91	103.6	25	38	6.4	4	8	4.5	M5 x 0.8
MY-S25$^{A}_{B}$	MY1H25	105	119	35	50	8	5	9.5	5.5	M6 x 1
MY-S32$^{A}_{B}$	MY1H32	130	148	45	64	11.7	6	11	6.6	M8 x 1.25
MY-S40$^{A}_{B}$	MY1H40	145	167	55	80	14.8	8.5	14	9	M10 x 1.5

Guide for Side Support Application

For long stroke operation, the cylinder tube may be deflected depending on its own weight and the load weight. In such a case, use a side support in the middle section. The spacing (ℓ) of the support must be no more than the values shown in the graph on the right.



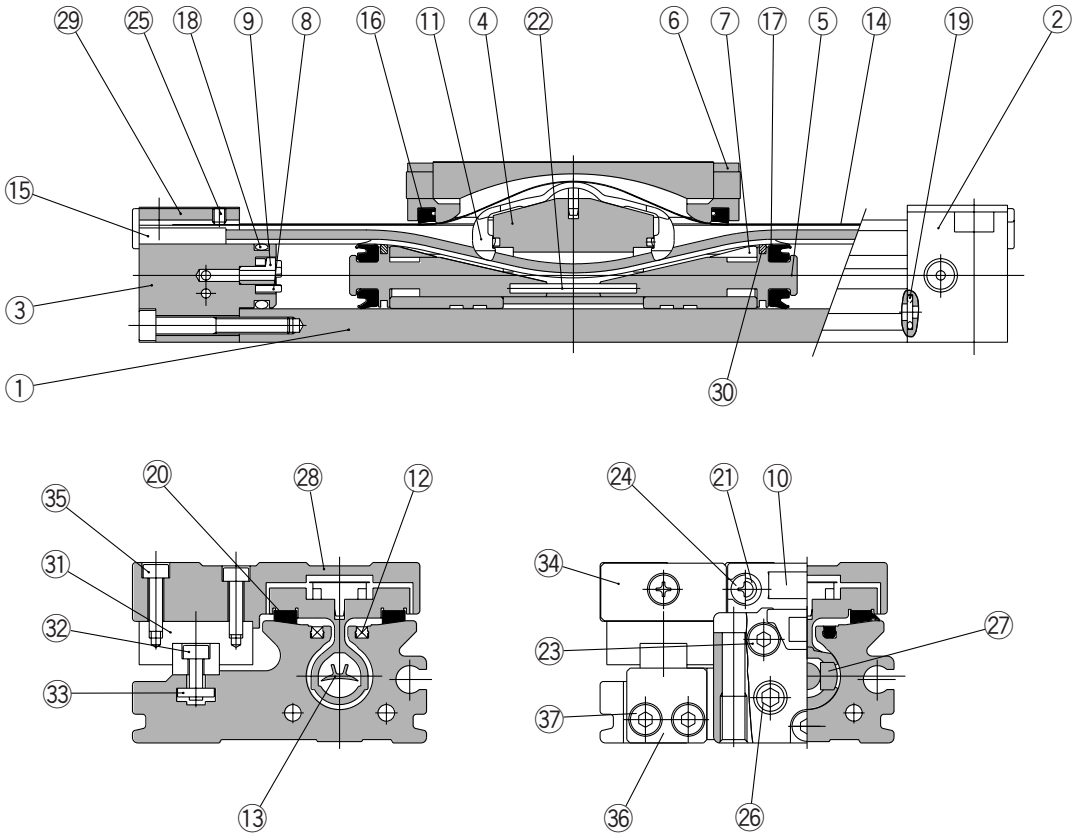


⚠ Caution

1. If the cylinder mounting surfaces are not measured accurately, using a side support may cause poor operation. Therefore, be sure to level the cylinder tube when mounting. Also, for long stroke operation involving vibration and impact, use of a side support is recommended even if the spacing value is within the allowable limits shown in the graph.
2. Support brackets are not for mounting; use them solely for providing support.

Construction: ø10

Centralized piping type



Component Parts

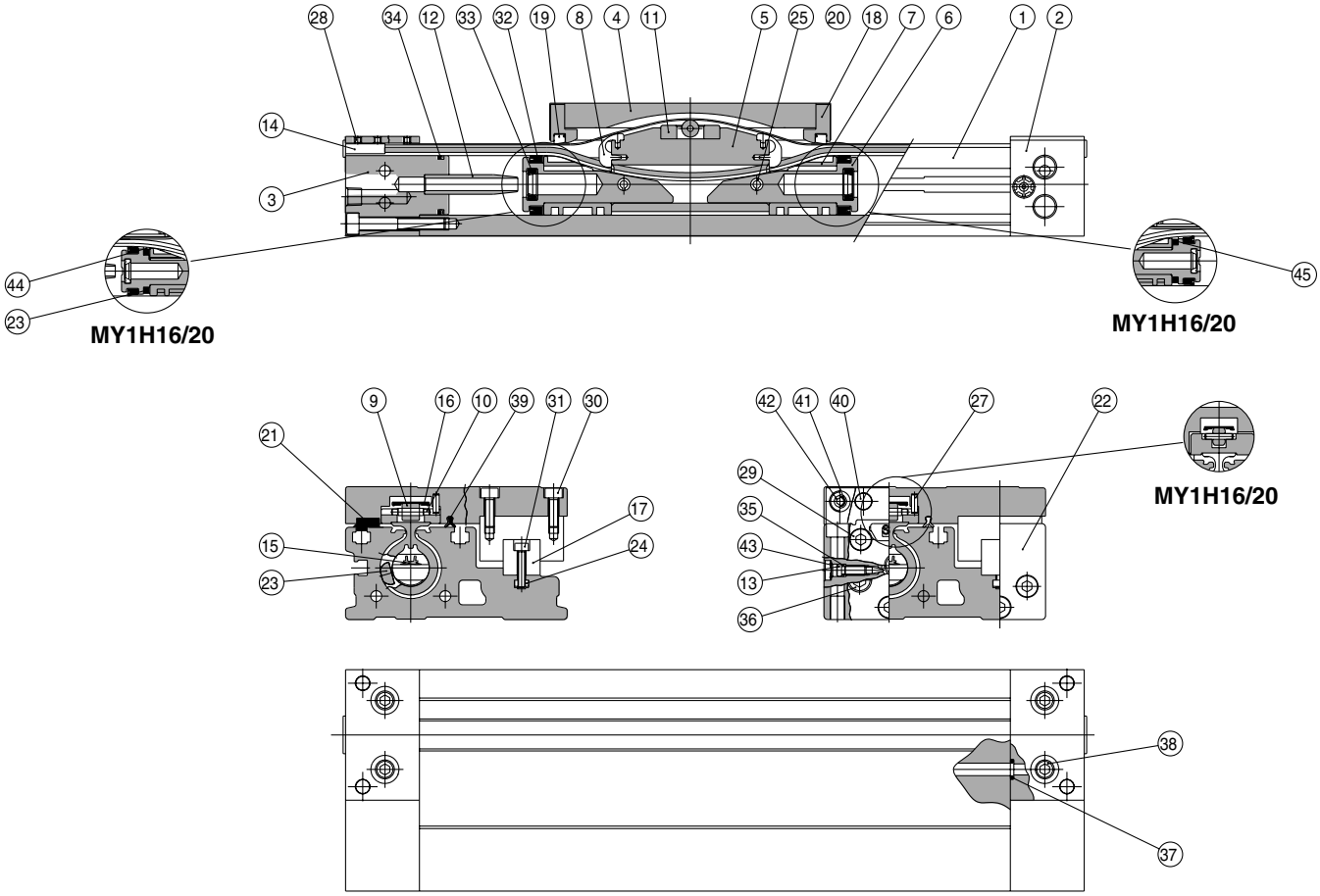
No.	Description	Material	Note
①	Cylinder tube	Aluminum alloy	Hard anodized
②	Head cover WR	Aluminum alloy	Painted
③	Head cover WL	Aluminum alloy	Painted
④	Piston yoke	Aluminum alloy	Hard anodized
⑤	Piston	Aluminum alloy	Chromated
⑥	End cover	Special resin	
⑦	Wear ring	Special resin	
⑧	Bumper	Polyurethane rubber	
⑨	Holder	Stainless steel	
⑩	Stopper	Carbon steel	Nickel plated
⑪	Belt separator	Special resin	
⑫	Seal magnet	Rubber magnet	
⑮	Belt clamp	Special resin	
⑳	Bearing	Special resin	
㉑	Spacer	Chromium molybdenum steel	Nickel plated

No.	Description	Material	Note
㉒	Spring pin	Stainless steel	
㉓	Hexagon socket head cap screw	Chromium molybdenum steel	Nickel plated
㉔	Round head Phillips screw	Carbon steel	Nickel plated
㉕	Hexagon socket head set screw	Carbon steel	Black zinc chromated
㉖	Hexagon socket head plug	Carbon steel	Nickel plated
㉗	Magnet	Rare earth magnet	
㉘	Slide table	Aluminum alloy	Hard anodized
㉙	Head plate	Stainless steel	
㉚	Felt	Felt	
㉛	Linear guide	—	
㉜	Hexagon socket head cap screw	Chromium molybdenum steel	Nickel plated
㉝	Square nut	Carbon steel	Nickel plated
㉞	Stopper plate	Carbon steel	Nickel plated
㉟	Hexagon socket head cap screw	Chromium molybdenum steel	Nickel plated
㊱	Guide stopper	Carbon steel	Nickel plated
㊲	Hexagon socket head cap screw	Chromium molybdenum steel	Nickel plated

Seal List

No.	Description	Material	Qty.	**MY1H10**
⑬	Seal belt	Special resin	1	MY10-16A-Stroke
⑭	Dust seal band	Stainless steel	1	MY10-16B-Stroke
⑯	Scraper	NBR	2	MYB10-15AR0597
⑰	Piston seal	NBR	2	GMY10
⑱	Tube gasket	NBR	2	P7
⑲	O-ring	NBR	4	ø5.33 x ø3.05 x ø1.14

Construction: ø16 to ø40



Component Parts

No.	Description	Material	Note
①	Cylinder tube	Aluminum alloy	Hard anodized
②	Head cover WR	Aluminum alloy	Painted
③	Head cover WL	Aluminum alloy	Painted
④	Slide table	Aluminum alloy	Hard anodized
⑤	Piston yoke	Aluminum alloy	Chromated
⑥	Piston	Aluminum alloy	Chromated
⑦	Wear ring	Special resin	
⑧	Belt separator	Special resin	
⑨	Guide roller	Special resin	
⑩	Guide roller shaft	Stainless steel	
⑪	Coupler	Sintered iron material	
⑫	Cushion ring	Brass	
⑬	Cushion needle	Rolled steel	Nickel plated
⑭	Belt clamp	Special resin	
⑰	Guide		
⑱	End cover	Special resin	
㉑	Bearing	Special resin	
㉒	Guide cover	Aluminum alloy	Coated

No.	Description	Material	Note
㉓	Magnet	Rare earth magnet	
㉔	Square nut	Carbon steel	Nickel plated
㉕	Spring pin	Carbon tool steel	Black zinc chromated
㉗	Parallel pin	Stainless steel	(ø16, ø20)
㉘	Hexagon socket head set screw	Chromium molybdenum steel	Black zinc chromated/Nickel plated
㉙	Hexagon socket head cap screw	Chromium molybdenum steel	Nickel plated
㉚	Hexagon socket head cap screw	Chromium molybdenum steel	Nickel plated
㉛	Hexagon socket head cap screw	Chromium molybdenum steel	Nickel plated
㊱	Hexagon socket head taper plug	Carbon steel	Nickel plated
㊳	Hexagon socket head taper plug	Carbon steel	Nickel plated
㊵	Stopper	Carbon steel	Nickel plated
㊶	Spacer	Stainless steel	
㊷	Hexagon socket button head screw	Chromium molybdenum steel	Nickel plated
㊸	Type CR retaining ring	Spring steel	
㊹	Felt A	Felt	(ø16, ø20)
㊺	Felt B	Felt	(ø16, ø20)

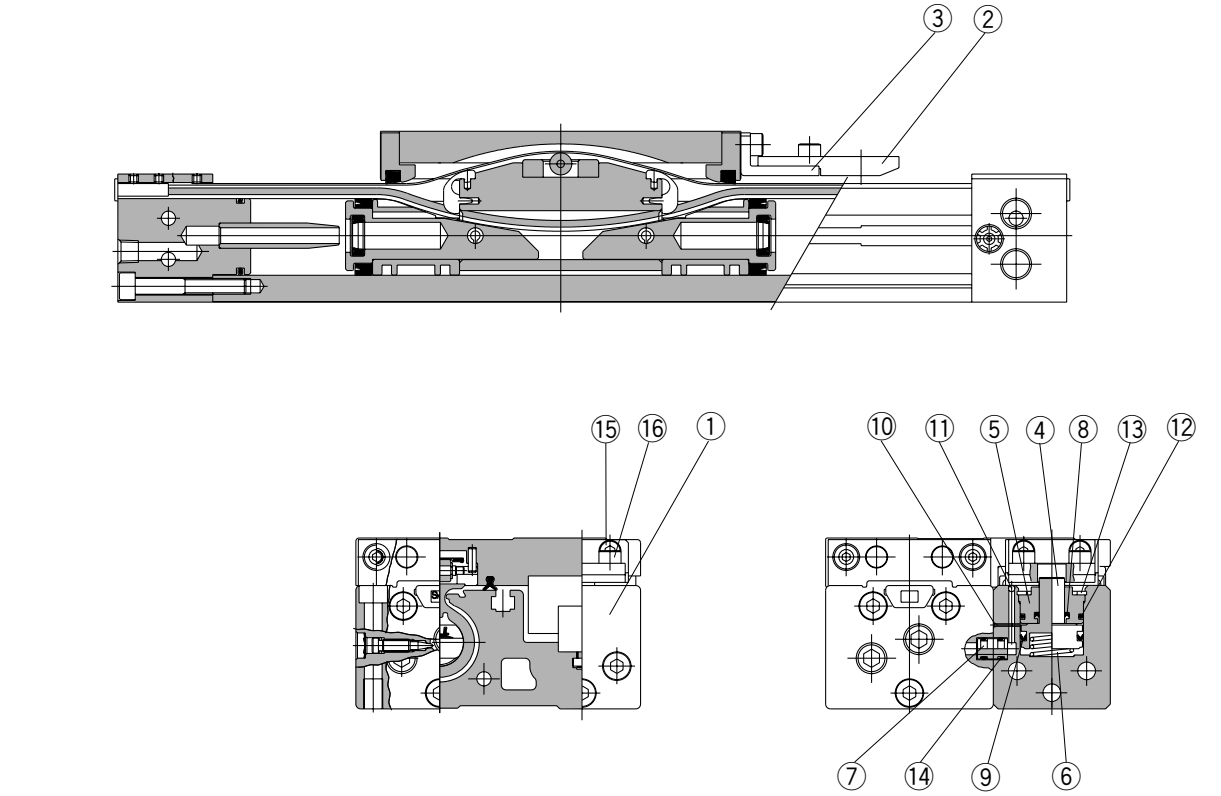
Seal List

No.	Description	Material	Qty.	MY1M16	MY1M20	MY1M25	MY1M32	MY1M40
⑮	Seal belt	Special resin	1	MY16-16A-Stroke	MY20-16A-Stroke	MY25-16A-Stroke	MY32-16A-Stroke	MY40-16A-Stroke
⑯	Dust seal band	Stainless steel	1	MY16-16B-Stroke	MY20-16B-Stroke	MY25-16B-Stroke	MY32-16B-Stroke	MY40-16B-Stroke
⑲	Scraper	NBR	2	MYM16-15AK2900A	MYM16-15AK2900A	MYM25-15AK2902	MYM25-15AK2902	MYM25-15AK2902
㉜	Piston seal	NBR	2	GMY16	GMY20	GMY25	GMY32	GMY40
㉝	Cushion seal	NBR	2	MYB16-15-A7163	MYB20-15-A7164	RCS-8	RCS-10	RCS-12
㉞	Tube gasket	NBR	2	P12	P16	TMY-25	TMY-32	TMY-40
㉟	O-ring	NBR	2	ø4 x ø1.8 x ø1.1	ø5.1 x ø3 x ø1.05	ø5.1 x ø3 x ø1.05	ø7.15 x ø3.75 x ø1.7	ø7.15 x ø3.75 x ø1.7
㊲	O-ring	NBR	4	ø6.2 x ø3 x ø1.6	ø7 x ø4 x ø1.5	P-5	P-6	C-9
㊴	Side scraper	Special resin	1	MYH16-15BK2900B	MYH20-15BK2901B	MYH25-15BK2902B	MYH32-15BK2903B	MYH40-15BK2904B

Note) Two types of dust seal bands are available. Verify the type to use, since the part number varies depending on the treatment of the hexagon socket head set screw ㉘. (A) Black zinc chromated → MY□□-16B-Stroke (B) Nickel plated → MY□□-16BW-Stroke

Construction: ø16, ø40

With End Lock



MY1H□G-□F (W)

Component Parts

No.	Description	Material	Note
①	Locking body	Aluminum alloy	Painted
②	Lock finger	Carbon steel	After quenching, nickel plated
③	Lock finger bracket	Rolled steel	Nickel plated
④	Lock piston	Carbon tool steel	After quenching, electroless nickel plated
⑤	Rod cover	Aluminum alloy	Hard anodized
⑥	Return spring	Spring steel	Zinc chromated
⑦	Bypass pipe	Aluminum alloy	Hard anodized
⑩	Steel ball	High carbon chrome bearing steel	
⑪	Steel ball	High carbon chrome bearing steel	
⑬	Round type R snap ring	Carbon tool steel	Nickel plated
⑮	Hexagon socket head cap screw	Chromium molybdenum steel	Nickel plated
⑯	Hexagon socket head cap screw	Chromium molybdenum steel	Nickel plated
⑰	Steel ball	High carbon chrome bearing steel	
⑱	Steel ball	High carbon chrome bearing steel	

Seal List

No.	Description	Material	Qty.	MY1H16	MY1H20	MY1H25	MY1H32	MY1H40
⑧	Rod seal	NBR	1	DYR-4	DYR-4	DYR8K	DYR8K	DYR8K
⑨	Piston seal	NBR	1	DYP-12	DYP-12	DYP-20	DYP-20	DYP-20
⑫	O-ring	NBR	1	C-9	C-9	C-18	C-18	C-18
⑭	O-ring	NBR	2	ø5.5 x ø3.5 x ø1.0	ø5.5 x ø3.5 x ø1.0	C-5	C-5	C-5

Series MY1
Order Made Specifications

Contact SMC for detailed dimensions, specifications and lead times.

Order made application list

		Intermediate stroke XB10	Long stroke XB11	Helical insert threads X168	Dust seal band NBR XC67	Holder mounting bracket X416, X417	Copper-free 20-
MY1B	Basic type	Standard	●	●	●	●	●
MY1M	Slide bearing guide type	Standard	●	●	●	●	●
MY1C	Cam follower guide type	Standard	●	●	●	●	●
MY1H	High precision guide type	●	●	●	●	●	●
MY1HT	High rigidity/High precision guide type				●		●

1 Intermediate Stroke -XB10

Intermediate strokes are available within the standard stroke range. The stroke can be set in 1mm increments. Series other than MY1H are available with intermediate strokes as standard.

■ **Stroke range: 51 to 599mm**

MY1 H Bore size – Stroke – Auto switch – Symbol – **XB10**

Series/Bore size

		10	16	20	25	32	40
H	High precision guide type	(●)	●	●	●	●	●

(●) indicates available by special order.

Example) MY1H40G-599L-Z73-XB10

2 Long Stroke -XB11

Available with long strokes exceeding the standard strokes. The stroke can be set in 1mm increments.

■ **Stroke range: 2001 to 5000mm (ø10, ø16 are 2001 to 3000mm.)**

MY1 B Bore size – Stroke – Auto switch – Symbol – **XB11**

Series/Bore size

		10	16	20	25	32	40	50	63	80	100
B	Basic type		●	●	●	●	●	●	●	●	●
M	Slide bearing guide type			●	●	●	●	●	●		
C	Cam follower guide type			●	●	●	●	●	●		

Example) MY1B40G-4999L-Z73-XB11

■ **Stroke range: 601 to 1500mm (ø16, ø20 are 601 to 1000mm.)**

MY1 H Bore size – Stroke – Auto switch – Symbol – **XB11**

Series/Bore size

		10	16	20	25	32	40
H	High precision guide type	(●)	●	●	●	●	●

(●) indicates available by special order.

Example) MY1H40G-999L-Z73-XB11

3 Helical Insert Thread Specification -X168

The mounting threads of the slider are changed to helical insert threads. The thread size is the same as standard.

MY1 B Bore size – Stroke – Auto switch – Symbol – **X168**

Series/Bore size

		10	16	20	25	32	40	50	63	80	100
B	Basic type	(●)	●	●	●	●	●	●	●	●	●
M	Slide bearing guide type		●	●	●	●	●	●	●		
C	Cam follower guide type		●	●	●	●	●	●	●		
H	High precision guide type	(●)	●	●	●	●	●				
HT	High rigidity/ High precision guide type							(●)	(●)		

(●) indicates available by special order.

Example) MY1B40G-300L-Z73-X168

4 Dust Seal Band NBR Lining Specification -XC67

The standard vinyl chloride lining specification is changed to NBR lining. Improved oil resistance and peeling resistance.

Note) Consult SMC for specific oil resistance.

MY1 B Bore size – Stroke – Auto switch – Symbol – **XC67**

Series/Bore size

		10	16	20	25	32	40	50	63	80	100
B	Basic type		●	●	●	●	●	●	●	●	●
M	Slide bearing guide type			●	●	●	●	●	●		
C	Cam follower guide type			●	●	●	●	●	●		
H	High precision guide type			●	●	●	●				
HT	High rigidity/ High precision guide type							△	△		

Contact SMC for △. Furthermore, ø10, ø80 and ø100 are available only in stainless steel plate and the NBR lining specification is not available.

Example) MY1B40G-300L-Z73-XC67

For ordering dust seal band (NBR lining) only

MY Bore size – **16 B N** ☐ – Stroke

Dust seal band NBR lining

Dust seal band hexagon socket head set screw treatment

Nil	Black zinc chromated
W	Nickel plated

Refer to "Dust seal band" in the construction figures of each series for details.

Example) MY25-16BNW-300

Series MY1
Auto Switch

D-A90(V), D-A93(V), D-A96(V)

Applicable cylinder series

- **MY1B** (Basic type)
- **MY1M** (Slide bearing type)
- **MY1C** (Cam follower guide type)
- **MY1H** (High precision guide type)

Bore size (mm): 10 16 20 25 32 40 50 63 80 100

D-Z73, D-Z76, D-Z80

Applicable cylinder series

- **MY1B** (Basic type)
- **MY1M** (Slide bearing type)
- **MY1C** (Cam follower guide type)
- **MY1H** (High precision guide type)
- **MY1HT** (High rigidity/High precision guide type)

Bore size (mm): 16 20 25 32 40 50 63 80 100

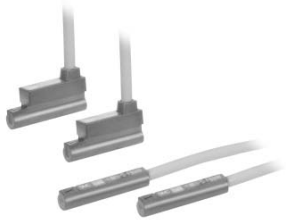
D-M9N(V), D-M9P(V), D-M9B(V)

Applicable cylinder series

- **MY1B** (Basic type)
- **MY1M** (Slide bearing type)
- **MY1C** (Cam follower guide type)
- **MY1H** (High precision guide type)

Bore size (mm): 10 16 20 25 32 40 50 63 80 100

D-F9NW(V), D-F9PW(V), D-F9BW(V)



Applicable cylinder series

- **MY1B** (Basic type)
- **MY1M** (Slide bearing type)
- **MY1C** (Cam follower guide type)
- **MY1H** (High precision guide type)

Bore size (mm): 10 16 20 25 32 40 50 63 80 100

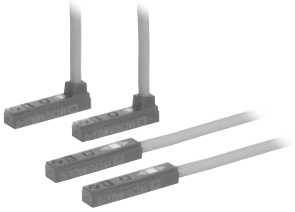
D-Y59$^{A}_{B}$, D-Y69$^{A}_{B}$, D-Y7P(V)

Applicable cylinder series

- **MY1B** (Basic type)
- **MY1M** (Slide bearing type)
- **MY1C** (Cam follower guide type)
- **MY1H** (High precision guide type)
- **MY1HT** (High rigidity/High precision guide type)

Bore size (mm): 16 20 25 32 40 50 63 80 100

D-Y7NW(V), D-Y7PW(V), D-Y7BW(V)



Applicable cylinder series

- **MY1B** (Basic type)
- **MY1M** (Slide bearing type)
- **MY1C** (Cam follower guide type)
- **MY1H** (High precision guide type)
- **MY1HT** (High rigidity/High precision guide type)

Bore size (mm): 16 20 25 32 40 50 63 80 100

Other than the applicable auto switches listed in “How to Order”, the following auto switches can be mounted.
For detailed specifications, refer to page 8-30-1.

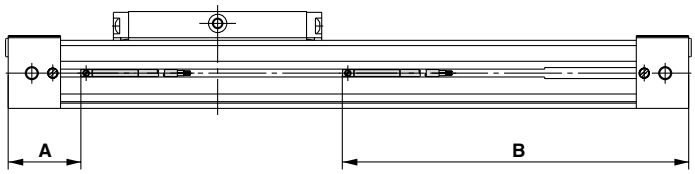
Type	Model	Electrical entry (Fetching direction)	Features
Reed switch	D-A90	Grommet (In-line)	Without indicator light
	D-Z80	Grommet (In-line)	

- Normally closed (NC = b contact), solid state switch (D-F9G/F9H/Y7G/Y7H type) are also available. For details, refer to page 8-30-31- to 8-30-32.
- D-A90 cannot be mounted on Series MY1HT.

Proper Auto Switch Mounting Position (Detection at stroke end) D-A9□(V)

Note) The operating range is a guide including hysteresis, but is not guaranteed. (Assuming approximately 30% dispersion.) There may be varied substantially depending on the surrounding environment.

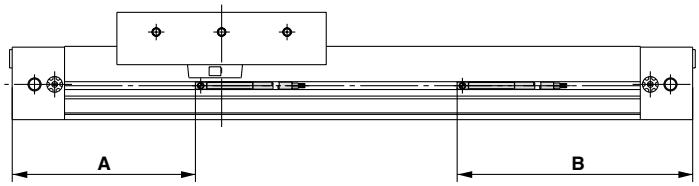
MY1B (Basic type)



(mm)

Mounting position	ø10	ø16	ø20
A	20	27	35
B	90	133	165
Operating range ℓ Note)	6	6.5	8.5

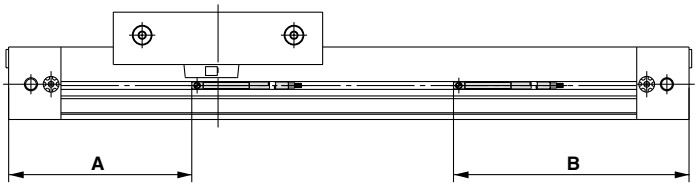
MY1M (Slide bearing guide type)



(mm)

Mounting position	ø16	ø20
A	70	90
B	90	110
Operating range ℓ Note)	11	7.5

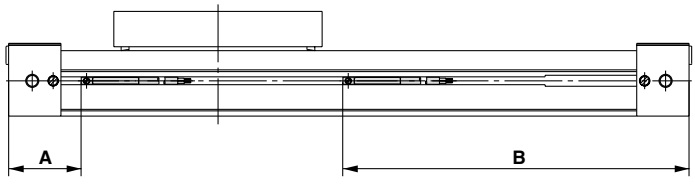
MY1C (Cam follower guide type)



(mm)

Mounting position	ø16	ø20
A	70	90
B	90	110
Operating range ℓ Note)	11	7.5

MY1H (High precision guide type)



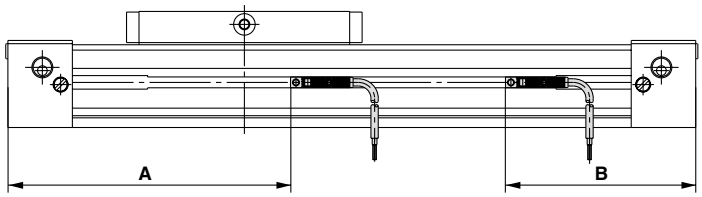
(mm)

Mounting position	ø10	ø16	ø20
A	20	27	35
B	90	133	165
Operating range ℓ Note)	11	6.5	8.5

Proper Auto Switch Mounting Position (Detection at stroke end) D-Z7□, D-Z80

Note) The operating range is a guide including hysteresis, but is not guaranteed. (Assuming approximately 30% dispersion). There may be varied substantially depending on the surrounding environment.

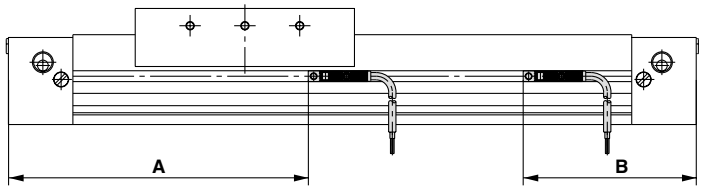
MY1B (Basic type)



(mm)

Mounting position	ø25	ø32	ø40	ø50	ø63	ø80	ø100
A	131.5	180	216	272.5	317.5	484.5	569.5
B	88.5	100	124	127.5	142.5	205.5	230.5
Operating range ℓ Note)	8.5	11.5	11.5	11.5	11.5	11.5	11.5

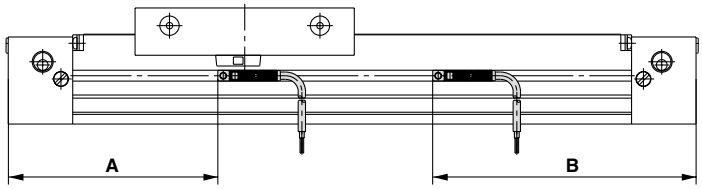
MY1M (Slide bearing guide type)



(mm)

Mounting position	ø25	ø32	ø40	ø50	ø63
A	139.5	184.5	229.5	278.5	323.5
B	80.5	95.5	110.5	121.5	136.5
Operating range ℓ Note)	12	12	12	11.5	11.5

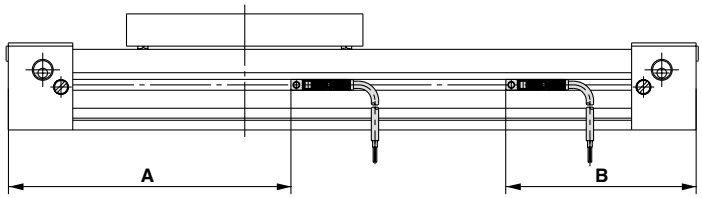
MY1C (Cam follower guide type)



(mm)

Mounting position	ø25	ø32	ø40	ø50	ø63
A	97.5	127.5	157.5	278.5	323.5
B	122.5	152.5	182.5	121.5	136.5
Operating range ℓ Note)	12	12	12	11.5	11.5

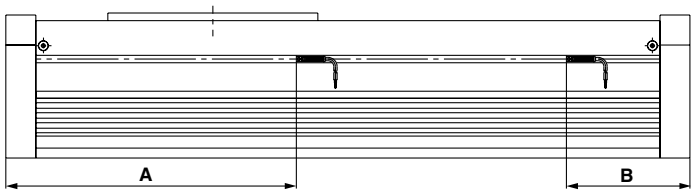
MY1H (High precision guide type)



(mm)

Mounting position	ø25	ø32	ø40
A	131.5	180	216
B	88.5	100	124
Operating range ℓ Note)	8.5	11.5	11.5

MY1HT (High rigidity/High precision guide type)



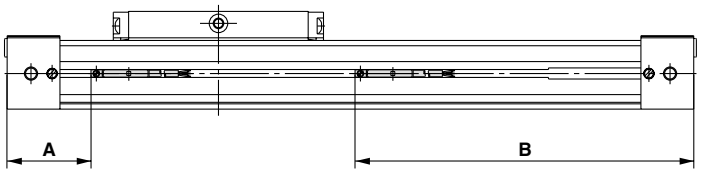
(mm)

Mounting position	ø50	ø63
A	290.5	335.5
B	123.5	138.5
Operating range ℓ Note)	11	11

Proper Auto Switch Mounting Position (Detection at stroke end) D-M9□, D-M9□V, D-F9□W, D-F9□WV

Note) The operating range is a guide including hysteresis, but is not guaranteed. (assuming approximately 30% dispersion.) There may be varied substantially depending on the surrounding environment.

MY1B (Basic type)

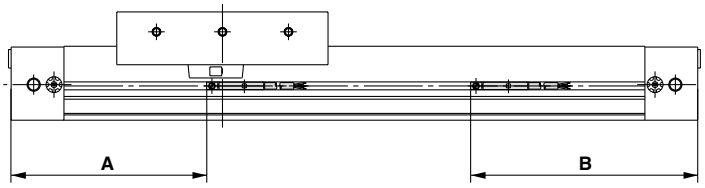


(mm)

Mounting position	ø10	ø16	ø20
A	24	31	39
B	86	129	161
Operating range ℓ Note)	3 (2.5)	4 (3)	5 (3.5)

Note) Figures in parentheses are the cases for D-M9□, D-M9□V switch types.

MY1M (Slide bearing guide type)

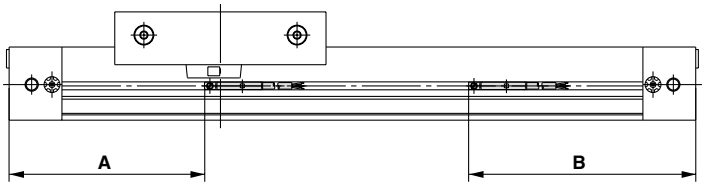


(mm)

Mounting position	ø16	ø20
A	74	94
B	86	106
Operating range ℓ Note)	8.5 (6.5)	6.5 (7)

Note) Figures in parentheses are the cases for D-M9□, D-M9□V switch types.

MY1C (Cam follower guide type)

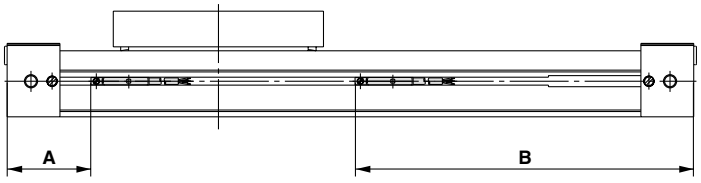


(mm)

Mounting position	ø16	ø20
A	74	94
B	86	106
Operating range ℓ Note)	8.5 (6.5)	6.5 (7)

Note) Figures in parentheses are the cases for D-M9□, D-M9□V switch types.

MY1H (High precision guide type)



(mm)

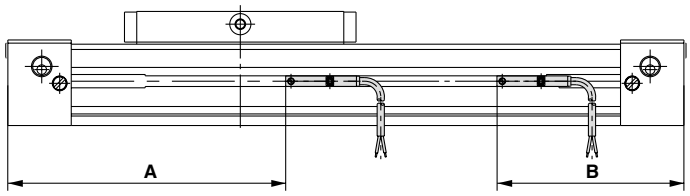
Mounting position	ø10	ø16	ø20
A	24	31	39
B	86	129	161
Operating range ℓ Note)	3 (2)	4 (3)	5 (3.5)

Note) Figures in parentheses are the cases for D-M9□, D-M9□V switch types.

Proper Auto Switch Mounting Position (Detection at stroke end) D-Y59□, D-Y69□, D-Y7P, D-Y7PV

Note) The operating range is a guide including hysteresis, but is not guaranteed. (Assuming approximately 30% dispersion.) There may be varied substantially depending on the surrounding environment.

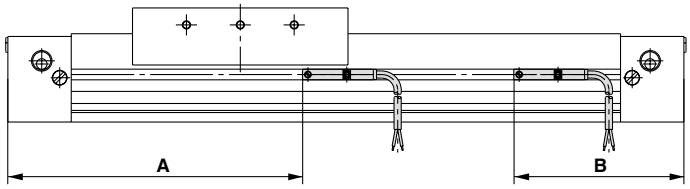
MY1B (Basic type)



(mm)

Mounting position	ø25	ø32	ø40	ø50	ø63	ø80	ø100
A	131.5	180	216	272.5	317.5	484.5	569.5
B	88.5	100	124	127.5	142.5	205.5	230.5
Operating range ℓ Note)	6	9	10	3.5	3.5	3.5	3.5

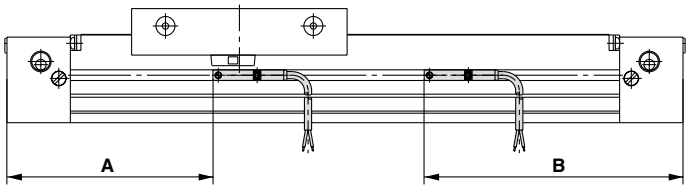
MY1M (Slide bearing guide type)



(mm)

Mounting position	ø25	ø32	ø40	ø50	ø63
A	139.5	184.5	229.5	278.5	323.5
B	80.5	95.5	110.5	121.5	136.5
Operating range ℓ Note)	5	5	5	5.5	5.5

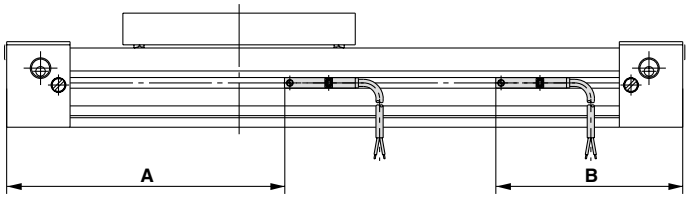
MY1C (Cam follower guide type)



(mm)

Mounting position	ø25	ø32	ø40	ø50	ø63
A	97.5	127.5	157.5	278.5	323.5
B	122.5	152.5	182.5	121.5	136.5
Operating range ℓ Note)	5	5	5	5.5	5.5

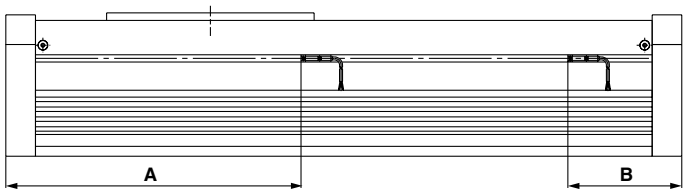
MY1H (High precision guide type)



(mm)

Mounting position	ø25	ø32	ø40
A	131.5	180	216
B	88.5	100	124
Operating range ℓ Note)	6	9	10

MY1HT (High rigidity/High precision guide type)



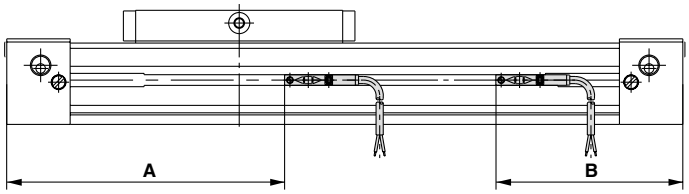
(mm)

Mounting position	ø50	ø63
A	290.5	335.5
B	123.5	138.5
Operating range ℓ Note)	5	5

Proper Auto Switch Mounting Position (Detection at stroke end) D-Y7□W, D-Y7□WV

Note) The operating range is a guide including hysteresis, but is not guaranteed. (Assuming approximately 30% dispersion.) There may be varied substantially depending on the surrounding environment.

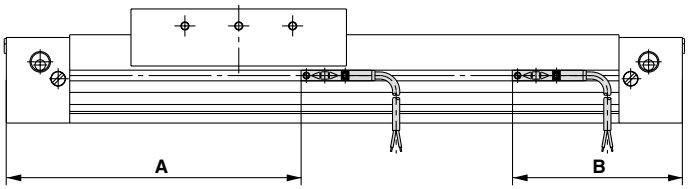
MY1B (Basic type)



(mm)

Mounting position	ø25	ø32	ø40	ø50	ø63	ø80	ø100
A	131.5	180	216	272.5	317.5	484.5	569.5
B	88.5	100	124	127.5	142.5	205.5	230.5
Operating range ℓ Note)	6	9	10	3.5	3.5	3.5	3.5

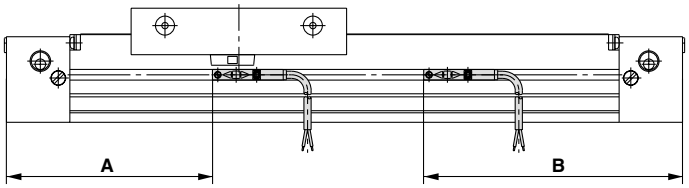
MY1M (Slide bearing guide type)



(mm)

Mounting position	ø25	ø32	ø40	ø50	ø63
A	139.5	184.5	229.5	278.5	323.5
B	80.5	95.5	110.5	121.5	136.5
Operating range ℓ Note)	5	5	5	5.5	5.5

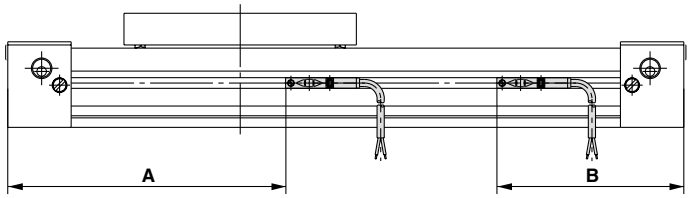
MY1C (Cam follower guide type)



(mm)

Mounting position	ø25	ø32	ø40	ø50	ø63
A	97.5	127.5	157.5	278.5	323.5
B	122.5	152.5	182.5	121.5	136.5
Operating range ℓ Note)	5	5	5	5.5	5.5

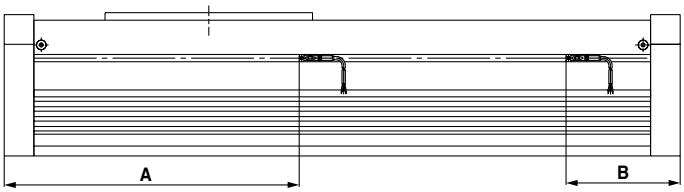
MY1H (High precision guide type)



(mm)

Mounting position	ø25	ø32	ø40
A	131.5	180	216
B	88.5	100	124
Operating range ℓ Note)	6	9	10

MY1HT (High rigidity/High precision guide type)



(mm)

Mounting position	ø50	ø63
A	290.5	335.5
B	123.5	138.5
Operating range ℓ Note)	5	5