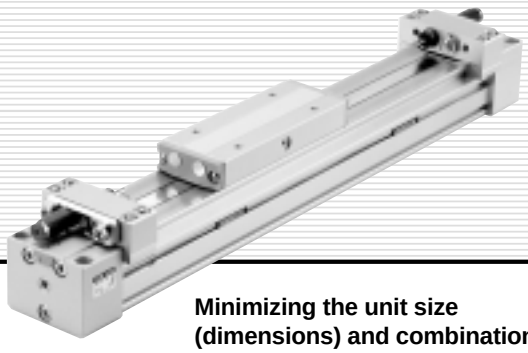
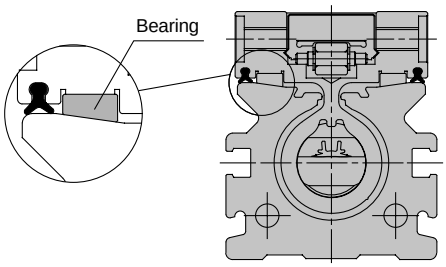
Series MY1B

Basic Type

ø10, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100



Minimizing the unit size (dimensions) and combination with other guides is possible.



Maximum Allowable Moment/Maximum Allowable Load

Model	Bore size (mm)	Max. allowable moment (N·m)			Max. allowable load (kg)		
		M_1	M_2	M_3	m_1	m_2	m_3
MY1B	**10**	0.8	0.1	0.3	5.0	1.0	0.5
	16	2.5	0.3	0.8	15	3.0	1.7
	20	5.0	0.6	1.5	21	4.2	3.0
	25	10	1.2	3.0	29	5.8	5.4
	32	20	2.4	6.0	40	8.0	8.8
	40	40	4.8	12	53	10.6	14
	50	78	9.3	23	70	14	20
	63	160	19	48	83	16.6	29
	80	315	37	95	120	24	42
	100	615	73	184	150	30	60

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

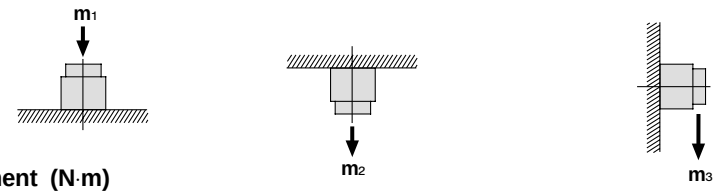
Maximum allowable moment

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.

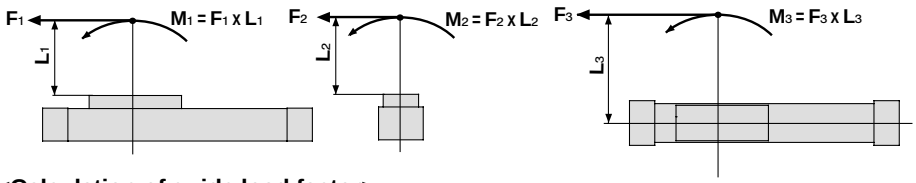
Design precautions

We recommend installing an external shock absorber when the cylinder is combined with another guide (connection with floating bracket, etc.) and the maximum allowable load is exceeded, or when the operating speed is 1000 to 1500mm/s for bore sizes ø16, ø50, ø63, ø80 and ø100.

Load (kg)



Moment (N·m)



Maximum allowable load

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.

<Calculation of guide load factor>

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

∗ To evaluate, use υa (average speed) for (1) and (2), and υ (impact speed $\upsilon = 1.4\upsilon a$) for (3).
Calculate m max 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).

$$\text{Sum of guide load factors } \Sigma\alpha = \frac{\text{Load mass [m]}}{\text{Maximum allowable load [m max]}} + \frac{\text{Static moment [M]}^{\text{Note 1)}}}{\text{Allowable static moment [Mmax]}} + \frac{\text{Dynamic moment [ME]}^{\text{Note 2)}}}{\text{Allowable dynamic moment [MEmax]}} \leq 1$$

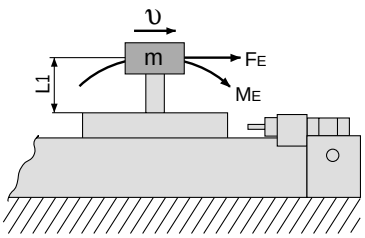
Note 1) Moment caused by the load, etc., with cylinder in resting condition.
Note 2) Moment caused by the impact load equivalent at the stroke end (at the time of impact with stopper).
Note 3) Depending on the shape of the work piece, multiple moments may occur. When this happens, the sum of the load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

2. Reference formulae [Dynamic moment at impact]
Use the following formulae to calculate dynamic moment when taking stopper impact into consideration.

m : Load mass (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 : Impact speed (mm/s)
L_1 : Distance to the load's center of gravity (m)
M_E : Dynamic moment (N·m)
g : Gravitational acceleration (9.8m/s²)

$\upsilon = 1.4\upsilon a$ (mm/s) $F_E = \frac{1.4}{100}\upsilon a \cdot g \cdot m$ Note 4)

$\therefore M_E = \frac{1}{3} \cdot F_E \cdot L_1 = 0.05\upsilon a\, m\, L_1$ (N·m) Note 5)

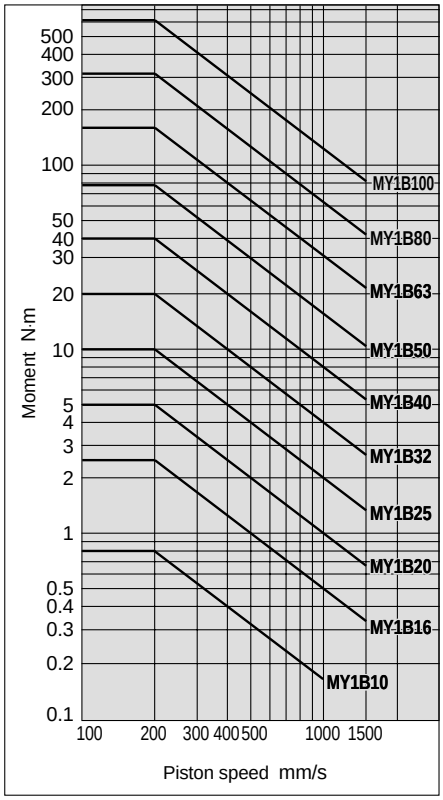


Note 4) $\frac{1.4}{100}\upsilon a$ is a dimensionless coefficient for calculating impact force.

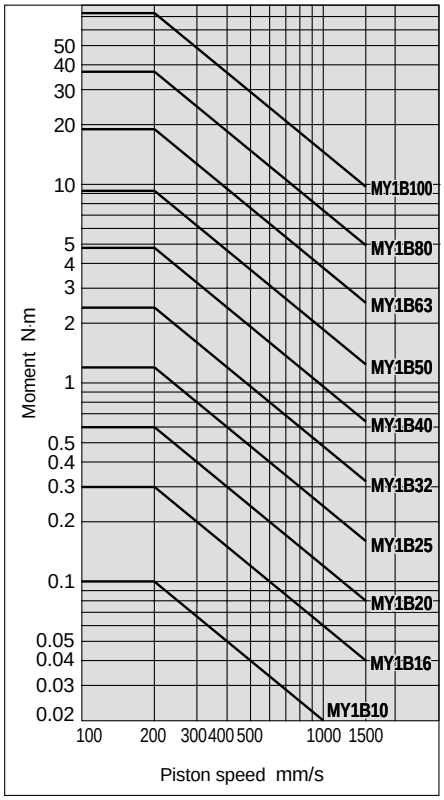
Note 5) Average load coefficient ($=\frac{1}{3}$):
This coefficient is for averaging the maximum load moment at the time of stopper impact according to service life calculations.

3. Refer to pages 4 and 5 for detailed selection procedures.

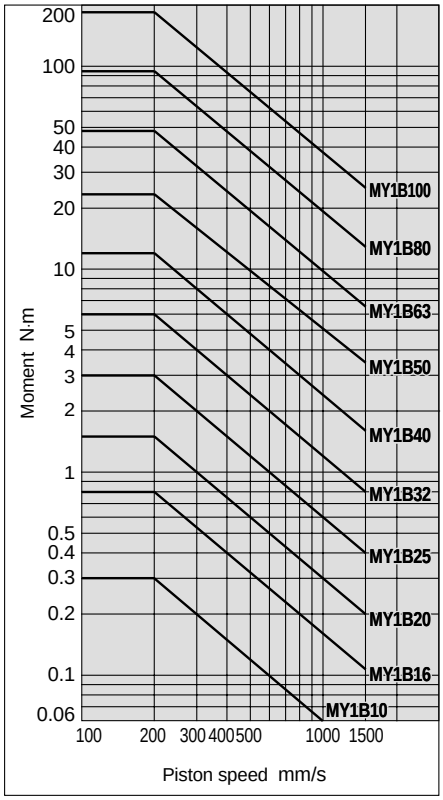
MY1B/M1



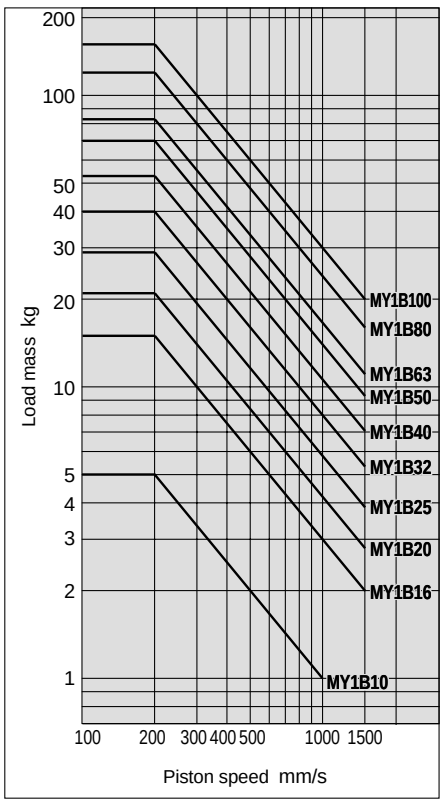
MY1B/M2



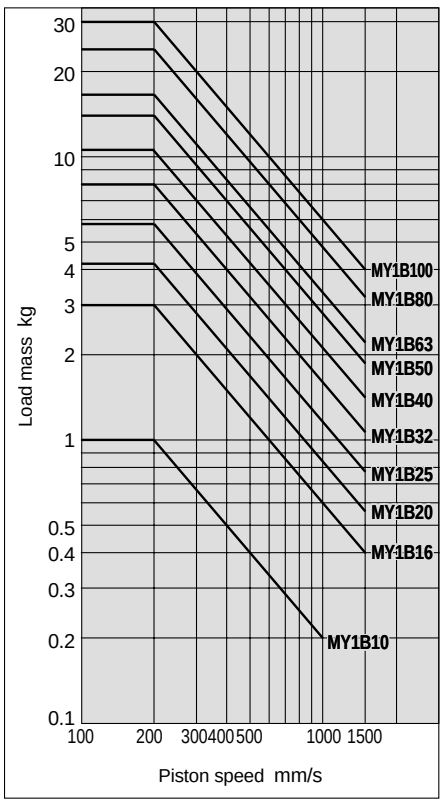
MY1B/M3



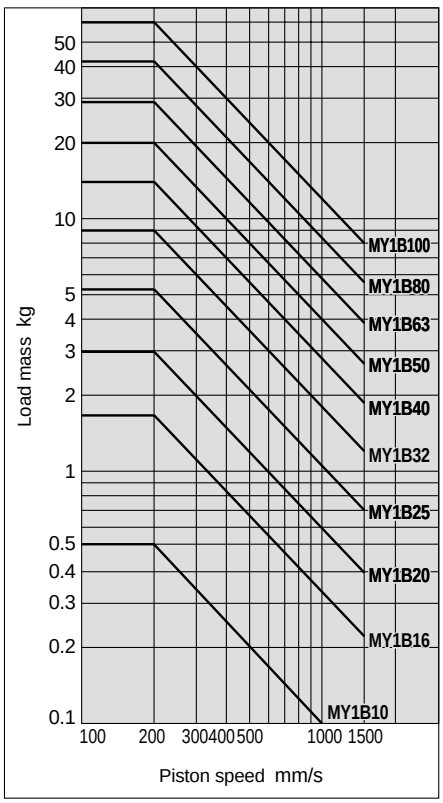
MY1B/m1



MY1B/m2



MY1B/m3



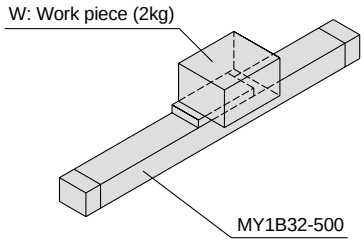
Series MY1B
Model Selection

The following are steps for selection of the series MY1 best suited to your application.

Calculation of Guide Load Factor

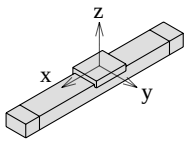
1 Operating conditions

Cylinder ……..…… **MY1B32-500**
Average operating speed υ**a** …… **300mm/s**
Mounting orientation ……..…… **Horizontal mounting**

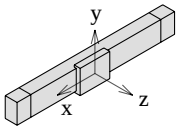


Mounting orientation

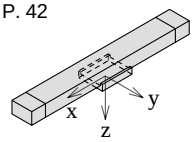
1. Horizontal mounting



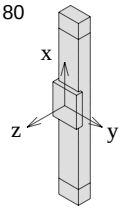
2. Wall mounting
P. 58



3. Ceiling mounting
P. 42

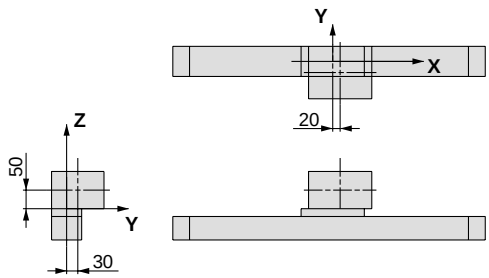


4. Vertical mounting
P. 80



Refer to the pages above for actual examples of calculation for each orientation.

2 Load blocking



Work piece mass and center of gravity

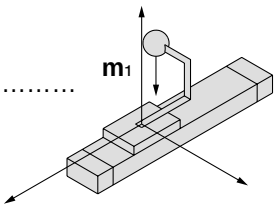
Work piece no.	Mass m	Center of gravity		
		X-axis	Y-axis	Z-axis
W	2kg	20mm	30mm	50mm

3 Calculation of load factor for static load

m_1: Mass

m_1 max (from 1 of graph MY1B/m_1 = 27 (kg) ……

Load factor $\alpha_1 = m_1/m_1$ max = 2/27 = **0.07**

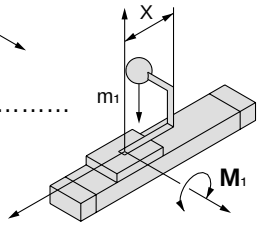


M_1: Moment

M_1 max (from 2 of graph MY1B/M_1) = 13 (N·m) ……

$M_1 = m_1 \times g \times X = 2 \times 9.8 \times 20 \times 10^{-3} = 0.39$ (N·m)

Load factor $\alpha_2 = M_1/M_1$ max = 0.39/13 = **0.03**

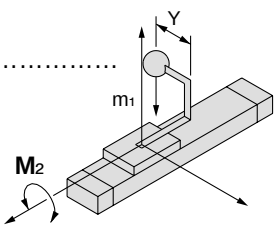


M_2: Moment

M_2 max (from 3 of graph MY1B/M_2) = 1.6 (N·m) ……

$M_3 = m_1 \times g \times Y = 2 \times 9.8 \times 30 \times 10^{-3} = 0.59$ (N·m)

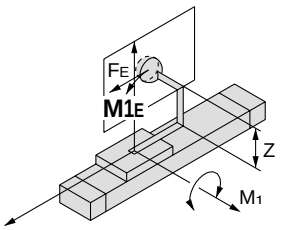
Load factor $\alpha_3 = M_2/M_2$ max = 0.59/1.6 = **0.37**



4 Calculation of load factor for dynamic moment

Equivalent load F_E at impact

$$F_E = \frac{1.4}{100} \times \upsilon a \times g \times m = \frac{1.4}{100} \times 300 \times 9.8 \times 2 = 82.3\ (N)$$

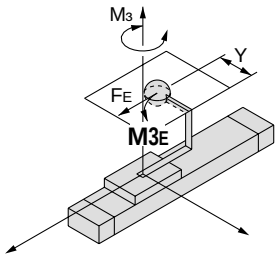


M_{1E}: Moment

M_{1E} max (from 4 of graph MY1B/M_1 where 1.4υa = 420mm/s) = 9.5 (N·m) ……

$$M_{1E} = \frac{1}{3} \times F_E \times Z = \frac{1}{3} \times 82.3 \times 50 \times 10^{-3} = 1.37\ (N \cdot m)$$

Load factor $\alpha_4 = M_{1E}/M_{1E}$ max = 1.37/9.5 = **0.14**



M_{3E}: Moment

M_{3E} max (from 5 of graph MY1B/M_3 where 1.4υa = 420mm/s) = 2.9 (N·m) ……

$$M_{3E} = \frac{1}{3} \times F_E \times Y = \frac{1}{3} \times 82.3 \times 30 \times 10^{-3} = 0.82\ (N \cdot m)$$

Load factor $\alpha_5 = M_{3E}/M_{3E}$ max = 0.82/2.9 = **0.28**

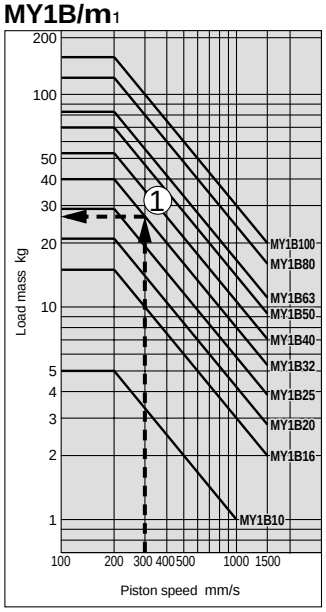
5 Sum and examination of guide load factors

$\Sigma\alpha = \alpha_1 + \alpha_2 + \alpha_3 + \alpha_4 + \alpha_5 = 0.89 \leq 1$

The above calculation is within the allowable value and the selected model can be used.
Select a separate shock absorber.
In an actual calculation, when the sum of guide load factors $\Sigma\alpha$ in the formula above is more than 1, consider decreasing the speed, increasing the bore size, or changing the product series. Also, this calculation can be performed easily with the "P/A Pneumatics CAD System".

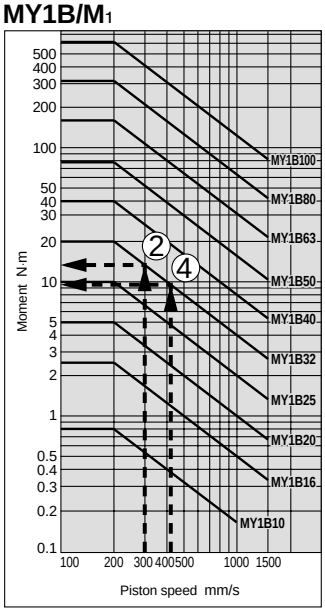
Load mass

MY1B/m_1

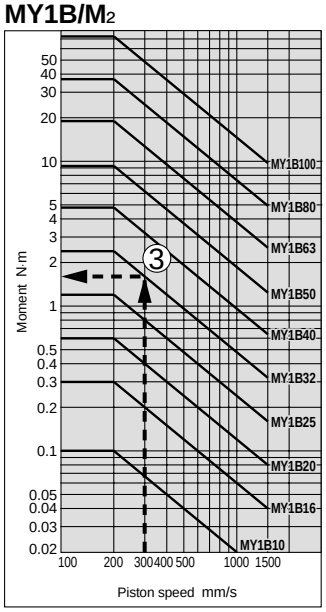


Allowable moment

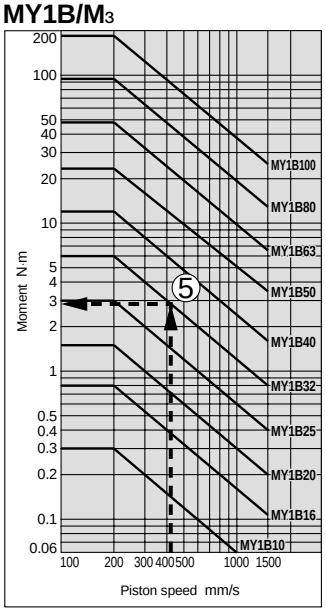
MY1B/M_1



MY1B/M_2



MY1B/M_3



Mechanically Jointed Rodless Cylinder

Series MY1B

Basic Type/ø10, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100

How to Order

Basic Type **MY1B** **25** □ — **300** □ □ — **Z73** □

Basic type

Bore size

10	10mm
16	16mm
20	20mm
25	25mm
32	32mm
40	40mm
50	50mm
63	63mm
80	80mm
100	100mm

Piping

Nil	Standard type
G	Centralized piping type

Note) For ø10, only G is available.

Stroke

Refer to the standard stroke table on page 7.

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 each
AH	With one A unit and one H unit each
LH	With one L unit and one H unit each

Only the A unit is available for ø16. Stroke adjusting unit is not available for ø50, ø63, ø80 and ø100. Refer to page 9 for detailed information on stroke adjusting unit specifications.

Stroke adjusting unit Note)

Nil	Both ends
S	One end

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

Auto switch type

Nil	Without auto switch

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

Number of auto switches

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

Shock absorbers for L and H units

Bore size (mm) / Unit no.	10	20	25	32	40
L unit	—	RB0806	RB1007	RB1412	
H unit	RB0805	RB1007	RB1412	RB2015	

Options

Stroke adjusting unit numbers

Bore size (mm) / Unit no.	10	16	20	25	32
A unit	MY-A10A	MY-A16A	MY-A20A	MY-A25A	MY-A32A
L unit	—	—	MY-A20L	MY-A25L	MY-A32L
H unit	MY-A10H	—	MY-A20H	MY-A25H	MY-A32H

Bore size (mm) / Unit no.	40
A unit	MY-A40A
L unit	MY-A40L
H unit	MY-A40H

Side support numbers

Bore size (mm) / Type	10	16	20	25	32
Side support A	MY-S10A	MY-S16A	MY-S20A	MY-S25A	
Side support B	MY-S10B	MY-S16B	MY-S20B	MY-S25B	

Bore size (mm) / Type	40	50	63	80	100
Side support A	MY-S32A		MY-S50A	MY-S63A	
Side support B	MY-S32B		MY-S50B	MY-S63B	

Refer to page 17 for detailed information on dimensions, etc.

Applicable auto switches/ Refer to pages 91 through 103 for detailed auto switch specifications.

For ø10, ø16, ø20

Type	Special function	Electrical entry	Indicator light	Wiring (output)	Load voltage DC	Load voltage DC	Load voltage AC	Auto switch models: Electrical entry direction: Perpendicular	Auto switch models: Electrical entry direction: In-line	Lead wire length (m)∗: 0.5 (Nil)	Lead wire length (m)∗: 3 (L)	Lead wire length (m)∗: 5 (Z)	Applicable load	Applicable load
Reed switch	—	Grommet	No	2 wire	24V	5V 12V	100V or less	**A90V**	**A90**	●	●	—	IC circuit	Relay, PLC
			Yes			12V	100V	**A93V**	**A93**	●	●	—	—	
				3 wire (NPN equiv.)	—	5V	—	**A96V**	**A96**	●	●	—	IC circuit	—
Solid state switch	—	Grommet	Yes	3 wire (NPN)	24V	12V	—	**F9NV**	**F9N**	●	●	—	—	Relay, PLC
				3 wire (PNP)				**F9PV**	**F9P**	●	●	—		
				2 wire				**F9BV**	**F9B**	●	●	—		
	Diagnostic indication (2 color indicator)			3 wire (NPN)				**F9NWV**	**F9NW**	●	●	○		
				3 wire (PNP)				**F9PWV**	**F9PW**	●	●	○		
				2 wire				**F9BWV**	**F9BW**	●	●	○		

∗ Lead wire length symbols: 0.5m…… Nil (Example) F9NW
3m…….. L F9NWL
5m…….. Z F9NWZ

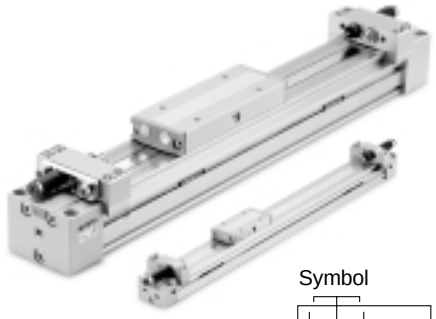
∗∗ Solid state switches marked with a "○" symbol are produced upon receipt of order.

For ø25, ø32, ø40, ø50, ø63, ø80, ø100

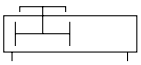
Type	Special function	Electrical entry	Indicator light	Wiring (output)	Load voltage DC	Load voltage DC	Load voltage AC	Auto switch models: Electrical entry direction: Perpendicular	Auto switch models: Electrical entry direction: In-line	Lead wire length (m)∗: 0.5 (Nil)	Lead wire length (m)∗: 3 (L)	Lead wire length (m)∗: 5 (Z)	Applicable load	Applicable load
Reed switch	—	Grommet	Yes	3 wire (NPN equiv.)	—	5V	—	—	**Z76**	●	●	—	IC circuit	—
				2 wire	24V	12V	100V	—	**Z73**	●	●	●	—	Relay, PLC
			No			5V 12V	100V or less	—	**Z80**	●	●	—	IC circuit	
Solid state switch	—	Grommet	Yes	3 wire (NPN)	24V	5V 12V	—	**Y69A**	**Y59A**	●	●	○	IC circuit	Relay, PLC
				3 wire (PNP)				**Y7PV**	**Y7P**	●	●	○		
				2 wire		12V		**Y69B**	**Y59B**	●	●	○	—	
	Diagnostic indication (2 color indicator)			3 wire (NPN)		5V 12V		**Y7NWV**	**Y7NW**	●	●	○	IC circuit	
				3 wire (PNP)				**Y7PWV**	**Y7PW**	●	●	○		
				2 wire		12V		**Y7BWV**	**Y7BW**	●	●	○	—	

∗ Lead wire length symbols: 0.5m …… Nil (Example) Y59A
3m …….. L Y59AL
5m …….. Z Y59AZ

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



Symbol



Order made specifications

Refer to page 105 regarding order made specifications for series MY1B.

Specifications

Bore size (mm)		10	16	20	25	32	40	50	63	80	100
Fluid		Air									
Action		Double acting									
Operating pressure range		0.2 to 0.8MPa	0.1 to 0.8MPa								
Proof pressure		1.2MPa									
Ambient and fluid temperature		5 to 60°C									
Cushion		Rubber bumper	Air cushion								
Lubricaton		Non-lube									
Stroke length tolerance		1000 or less $^{+1.8}_{0}$, 1001 to 3000 $^{+2.8}_{0}$	2700 or less $^{+1.8}_{0}$, 2701 to 5000 $^{+2.8}_{0}$								
Port size	**Front/Side ports**	M5 x 0.8			Rc 1/8		Rc 1/4	Rc 3/8		Rc1/2	
	Bottom ports (centralized piping type only)		ø4		ø5	ø6	ø8	ø10	ø11	ø16	ø18

Stroke adjusting unit specificatons

Bore size (mm)	10		16	20			25			32			40		
Unit symbol	A	H	A	A	L	H	A	L	H	A	L	H	A	L	H
Configuration and shock absorber	With adjusting bolt	RB 0805 + With adjusting bolt	With adjusting bolt	With adjusting bolt	RB 0806 + With adjusting bolt	RB 1007 + 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
Stroke fine adjusting range (mm)	0 to -5		0 to -5.6	0 to -6			0 to -11.5			0 to -12			0 to -16		
Stroke adjusting range	When exceeding the stroke fine adjusting range: Use order made specifications "-X416" and"-X417". (Refer to page105 for details.)														

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. impact speed (mm/s)		1000	1500	1500	1500	1500
Max. operating frequency (cycles/min)		80	80	70	45	25
Spring force (N)	**Extended**	1.96	1.96	4.22	6.86	8.34
	Compressed	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 100
Without stroke adjusting unit		100 to 500mm/s	100 to 1000mm/s
Stroke adjusting unit	A unit	100 to 200mm/s	100 to 1000mm/s Note 1)
	L unit and H unit	100 to 1000mm/s	100 to 1500mm/s Note 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 9, the **piston spee**d should be **100 to 200mm per second.**

Note 2) For centralized piping, the piston speed is 100 to 1000mm per second.

Note 3) Use at a speed within the absorption capacity range. Refer to page 8.

Theoretical output

Unit: 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
50	1962	392	588	784	981	1177	1373	1569
63	3115	623	934	1246	1557	1869	2180	2492
80	5024	1004	1507	2009	2512	3014	3516	4019
100	7850	1570	2355	3140	3925	4710	5495	6280

1N = Approx. 0.102kgf, 1MPa = Approx.10.2kgf/cm²
Note) Theoretical output (N) = Pressure (MPa) x Piston area (mm²)

Calculation method
Example: **MY1B25-300A**

Basic weight 1.33kg
Cylinder stroke 300mm
Additional weight..... 0.12/50mm stroke
1.33 + 0.12 x 300 ÷ 50 + 0.06 x 2 = Approx. 2.17kg
Weight of A unit 0.06kg

Standard strokes

Bore size (mm)	Standard stroke (mm)*	Max. manufacturable stroke (mm)
10 and16	100, 200, 300, 400, 500, 600, 700 800, 900, 1000, 1200, 1400, 1600 1800, 2000	3000
20, 25, 32, 40 50, 63, 80, 100		5000

* Strokes are manufacturable in 1mm increments, up to the maximum stroke. However, when exceeding a 2000mm stroke, specify "-XB11" at the end of the model number. Refer to the order made specifications on page 105.

Weights

Unit: kg

Bore size (mm)	Basic weight	Additional weight per 50mm of stroke	Side support weight (per set) Type A and B	Stroke adjusting unit weight (per unit) A unit	L unit	H unit
10	0.15	0.04	0.003	0.01	—	0.02
16	0.61	0.06	0.01	0.04	—	—
20	1.06	0.10	0.02	0.05	0.05	0.10
25	1.33	0.12	0.02	0.06	0.10	0.18
32	2.65	0.18	0.02	0.12	0.21	0.40
40	3.87	0.27	0.04	0.23	0.32	0.49
50	7.78	0.44	0.04	—	—	—
63	13.10	0.70	0.08	—	—	—
80	20.70	1.18	0.17	—	—	—
100	35.70	1.97	0.17	—	—	—

Cushion Capacity

Cushion selection

<Rubber bumper>

Rubber bumpers are a standard feature on MY1B10.
Since the stroke absorption of rubber bumpers is short, when adjusting the stroke with an A unit, install an external shock absorber.

<Air cushion>

Air cushions are a standard feature on mechanically jointed rodless cylinders. (Except ø10.)
The air cushion mechanism is installed to avoid excessive impact of the piston at the stroke end during high speed operation. The air cushion does not act 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>

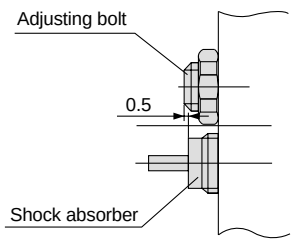
Use this unit when operating with a load or speed exceeding the air cushion limit line, or when cushioning is necessary because the cylinder stroke is outside of the effective air cushion stroke range due to stroke adjustment.

L unit
Use this unit when cushioning is necessary 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 and 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

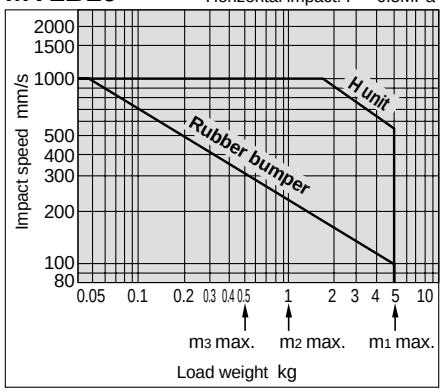
1. **Refer to the diagram below when using the adjusting bolt to perform stroke adjustment.**
   When the effective stroke of the shock absorber decreases as a result of stroke adjustment, the absorption capacity decreases dramatically. Secure the adjusting bolt at the position where it protrudes approximately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



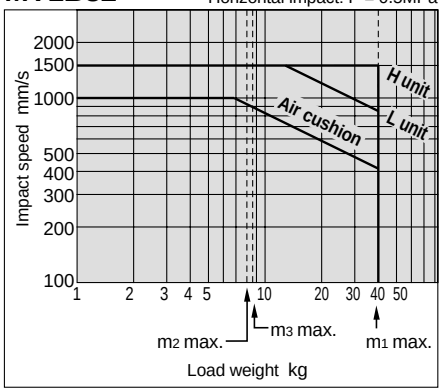
2. Do not use a shock absorber and air cushion together.

Absorption capacity of rubber bumper, air cushion and stroke adjusting units

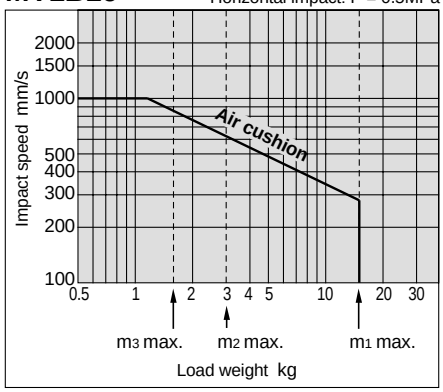
MY1B10 Horizontal impact: P = 0.5MPa



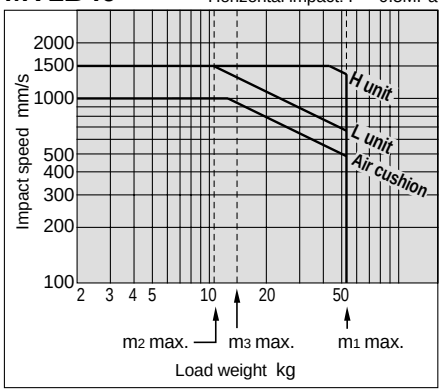
MY1B32 Horizontal impact: P = 0.5MPa



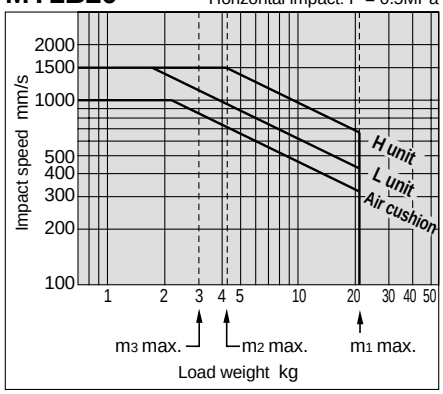
MY1B16 Horizontal impact: P = 0.5MPa



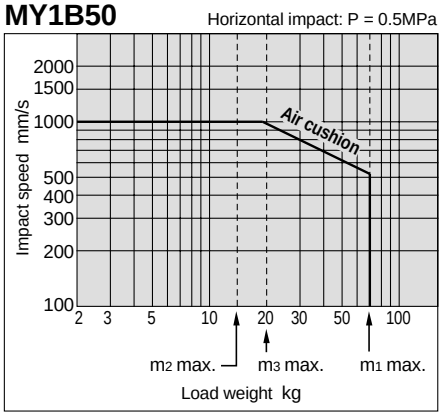
MY1B40 Horizontal impact: P = 0.5MPa



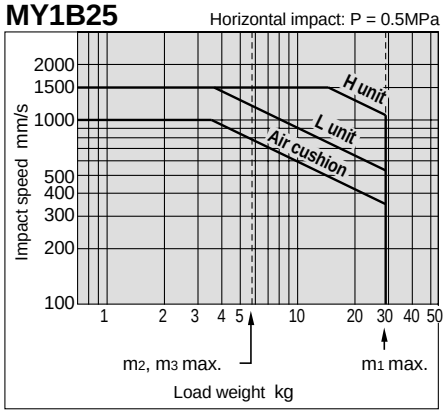
MY1B20 Horizontal impact: P = 0.5MPa



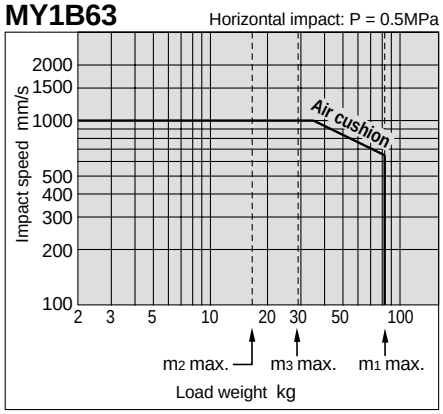
MY1B50 Horizontal impact: P = 0.5MPa



MY1B25 Horizontal impact: P = 0.5MPa

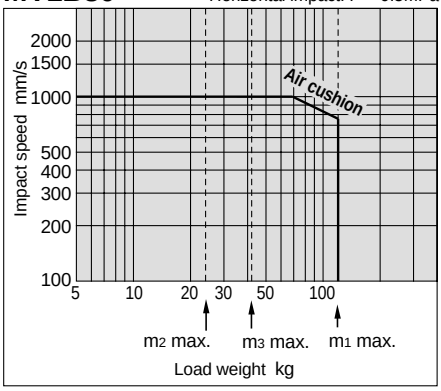


MY1B63 Horizontal impact: P = 0.5MPa



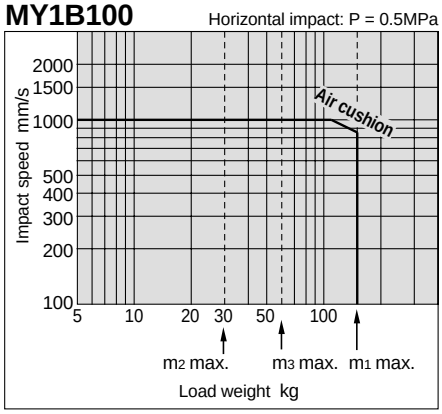
MY1B80

Horizontal impact: P = 0.5MPa



MY1B100

Horizontal impact: P = 0.5MPa



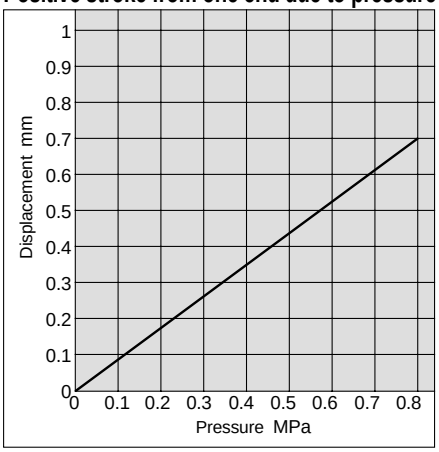
Air cushion stroke

Unit: mm

Bore size (mm)	Cushion stroke
16	12
20	15
25	15
32	19
40	24
50	30
63	37
80	40
100	40

Rubber bumper (ø10 only)

Positive stroke from one end due to pressure



Stroke adjusting unit holding bolt tightening torque

Unit: N·m

Bore size (mm)	Unit	Tightening torque
10	A	0.3
	H	
16	A	0.6
20	A	1.5
	L	
	H	
25	A	3.0
	L	
	H	
32	A	5.0
	L	
	H	
40	A	10
	L	
	H	

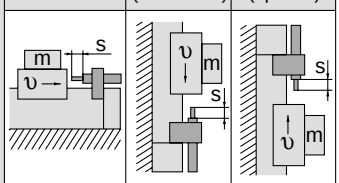
Stroke adjusting unit lock plate holding bolt tightening torque

Unit: N·m

Bore size (mm)	Unit	Tightening torque
20	H	1.2
25	L	1.2
	H	3.3
32	L	3.3
	H	10
40	L	3.3
	H	10

Calculation of absorption energy for stroke adjusting unit with shock absorber

Unit: N·m

	Horizontal	Vertical (downward)	Vertical (upward)
Type of impact			
Kinetic energy E_1	$\frac{1}{2} m \cdot \upsilon^2$		
Thrust energy E_2	F·s	F·s + m·g·s	F·s – m·g·s
Absorbed energy E	$E_1 + E_2$		

Symbols

υ : Speed of impacting object (m/s)
m : Weight of impacting object (kg)
F : Cylinder thrust (N)
g : Gravitational acceleration (9.8m/s²)
s : Shock absorber stroke (m)
Note) The speed of the impacting object is measured at the time of impact with the shock absorber.

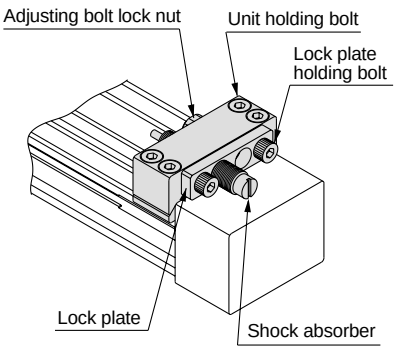
⚠ Specific product precautions

Be sure to read before handling. Refer to pages 107 through 114 for safety instructions and common precautions.

⚠ Caution

Be careful not to get 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, 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 fastened by uniformly 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 this case, we recommend using the adjusting bolt mounting brackets available with order made specifications -X 416 and -X 417. (Except ø10.)
For other lengths, consult P/A. (Refer to "Stroke adjustment unit holding bolt tightening torque".)

<Stroke adjustment with adjusting bolt>

Loosen the adjusting bolt lock nut, and adjust the stroke from the lock plate side using a hexagon wrench. Re-tighten the lock nut.

<Stroke adjustment with shock absorber>

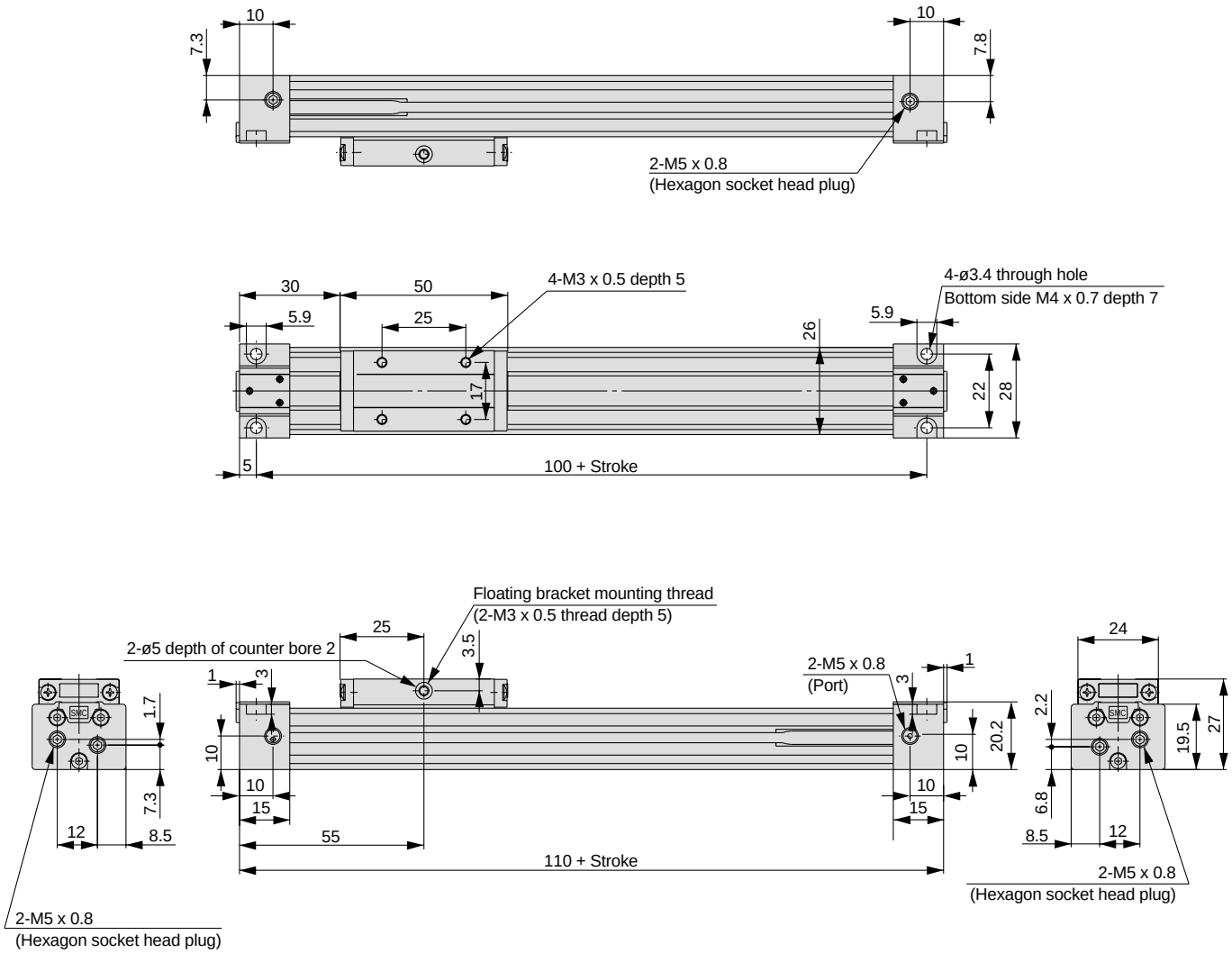
Loosen the two lock plate holding bolts, turn the shock absorber and adjust the stroke. Then, uniformly tighten the lock plate holding bolts to secure the shock absorber.
Take care not to over-tighten the holding bolts. (Except ø20 L unit.) (Refer to "Stroke adjusting unit lock plate holding bolt tightening torque".)

Note)
Slight bending may occur in the lock plate due to tightening of the lock plate holding bolts. This is not a problem for the shock absorber and locking function.

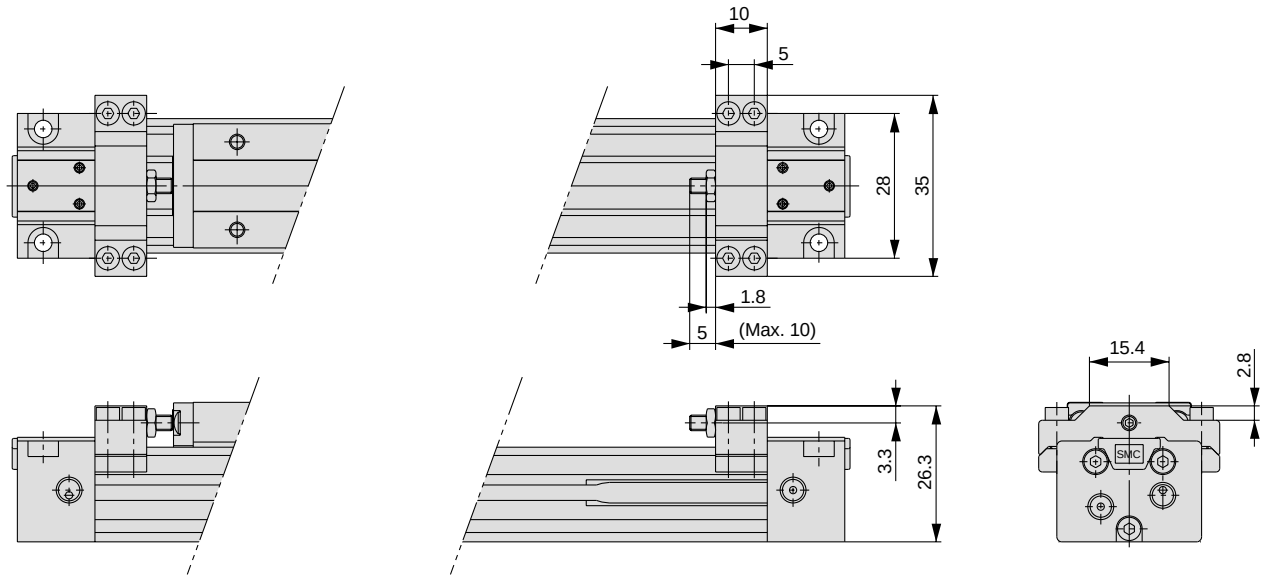
Centralized Piping Type ø10 CAD

[Refer to page 115 regarding centralized piping port variations.]

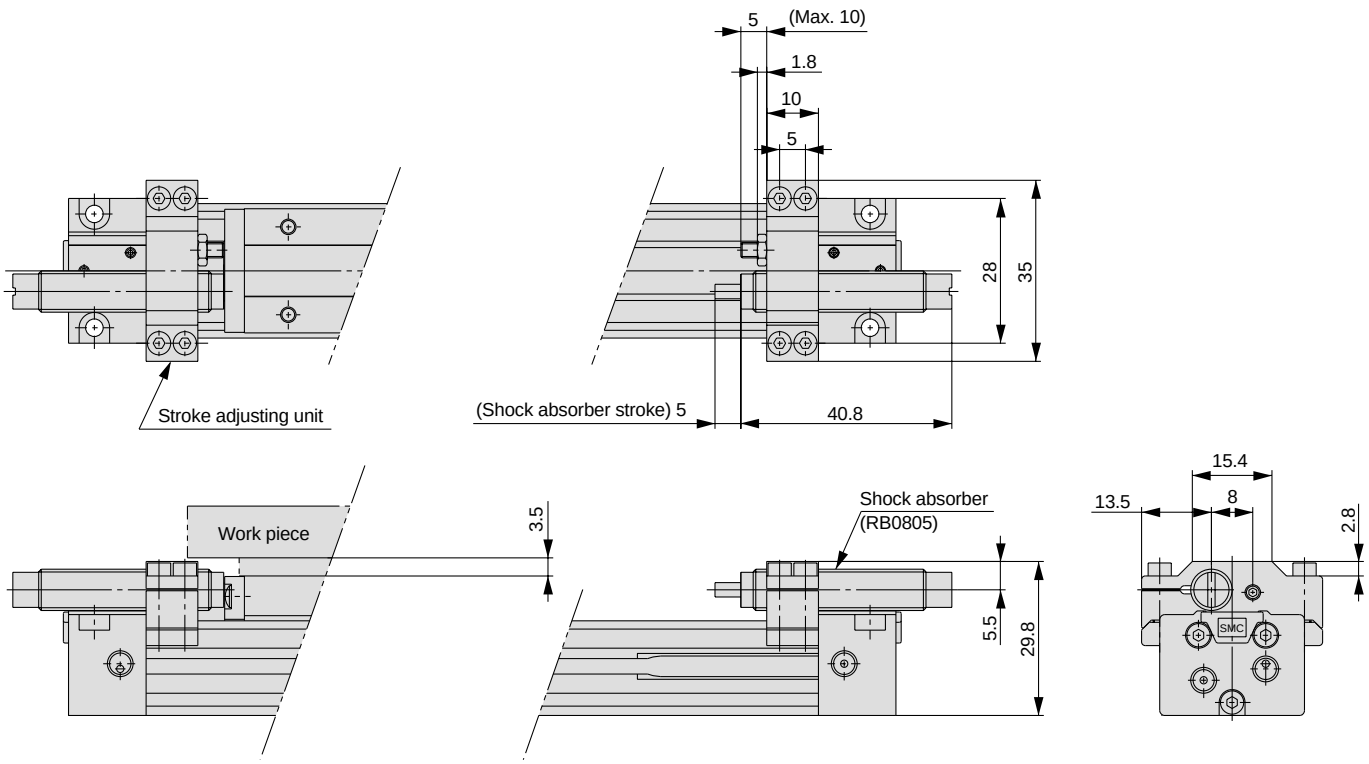
MY1B10G — Stroke



MY1B10G — Stroke A (with adjusting bolt)

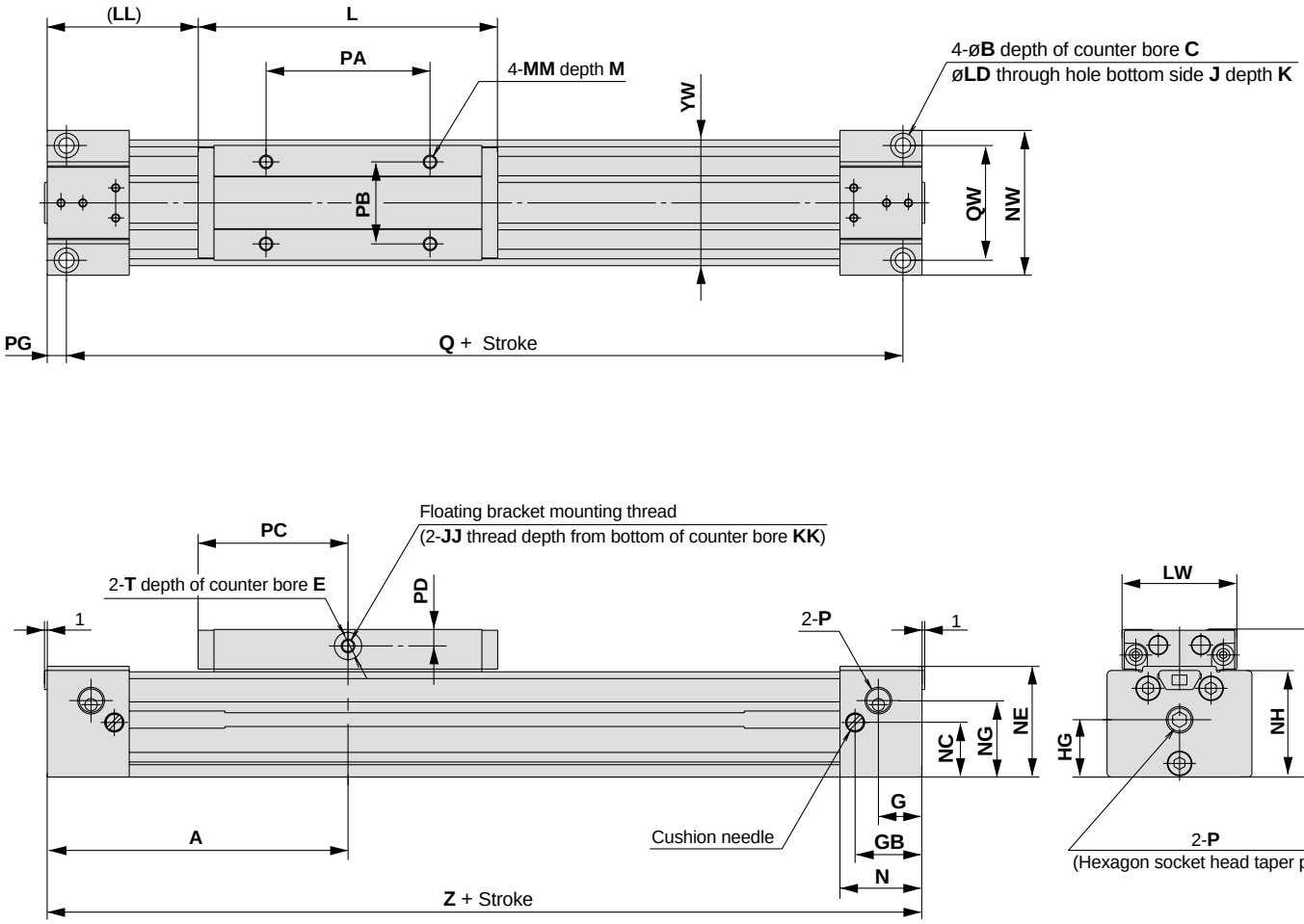


MY1B10G — Stroke H (with high load shock absorber + stopper bolt)



Standard Type ø16 to ø40

MY1B Bore size — Stroke



Model	A	B	C	E	G	GB	H	HG	J	JJ	K	KK	L	LD	LL	LW	PG
MY1B16	80	6	3.5	2	9	17	37	13.5	M5 x 0.8	M4 x 0.7	10	6.5	80	3.5	40	30	3.5
MY1B20	100	7.5	4.5	2	12.5	20.5	46	17.5	M6 x 1	M4 x 0.7	12	10	100	4.5	50	37	4.5
MY1B25	110	9	5.5	2	16	24.5	54	21	M6 x 1	M5 x 0.8	9.5	9	110	5.6	55	42	7
MY1B32	140	11	6.5	2	19	30	68	26	M8 x 1.25	M5 x 0.8	16	10	140	6.8	70	52	8
MY1B40	170	14	8.5	2	23	36.5	84	33.5	M10 x 1.5	M6 x 1	15	13.0	170	8.6	85	64	9

Model	M	MM	N	NC	NE	NG	NH	NW	P	PA	PB	PC	PD	Q	QW	T	YW	Z
MY1B16	6	M4 x 0.7	20	13.5	27.8	13.5	27	37	M5 x 0.8	40	20	40	4.5	153	30	7	32	160
MY1B20	8	M5 x 0.8	25	17.5	34	17.5	33.5	45	M5 x 0.8	50	25	50	5	191	36	8	40	200
MY1B25	9	M5 x 0.8	30	20	40.5	28	39	53	Rc 1/8	60	30	55	6	206	42	10	46	220
MY1B32	12	M6 x 1	37	25	50	33	49	64	Rc 1/8	80	35	70	10	264	51	10	55	280
MY1B40	12	M6 x 1	45	30.5	63	42.5	61.5	75	Rc 1/4	100	40	85	12.0	322	59	14	67	340

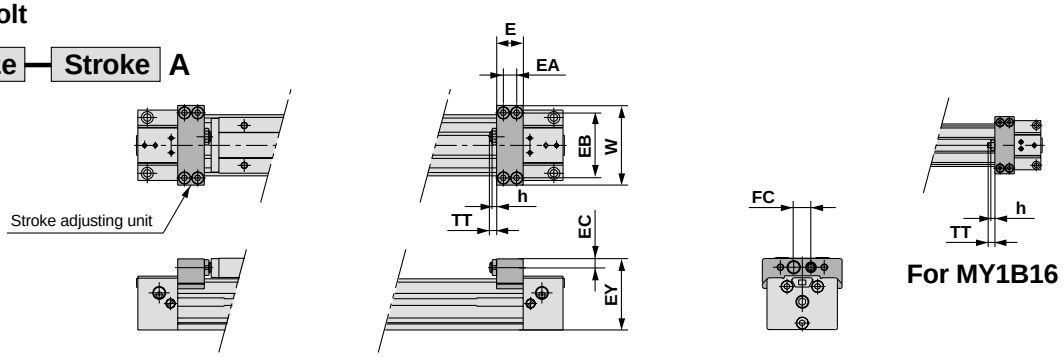
"P" indicates cylinder supply ports. ∗ The plug for MY1B16-20-P is a hexagon socket head plug.

CAD MY1B16 ——— SMY1B16, #1 (#1 + #7)
MY1B20 ——— SMY1B20, #1 (#1 + #9)
For ø25 to ø40
MY1B (Bore size) —— SMY1B (Bore size), #1 (#1 + #10)

Stroke Adjusting Unit

With adjusting bolt

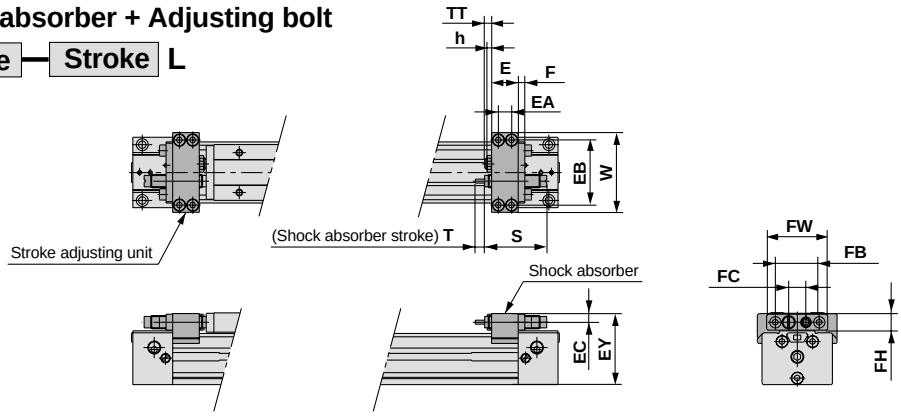
MY1B Bore size — Stroke **A**



Applicable cylinder	E	EA	EB	EC	EY	FC	h	TT	W
MY1B16	14.6	7	34.4	4.2	36.5	—	2.4	5.4 (max. 11)	43
MY1B20	19	9	43	5.8	45.6	13	3.2	6 (max. 12)	53
MY1B25	20	10	49	6.5	53.5	13	3.5	5 (max. 16.5)	60
MY1B32	25	12	61	8.5	67	17	4.5	8 (max. 20)	74
MY1B40	31	15	76	9.5	81.5	17	4.5	9 (max. 25)	94

Low load shock absorber + Adjusting bolt

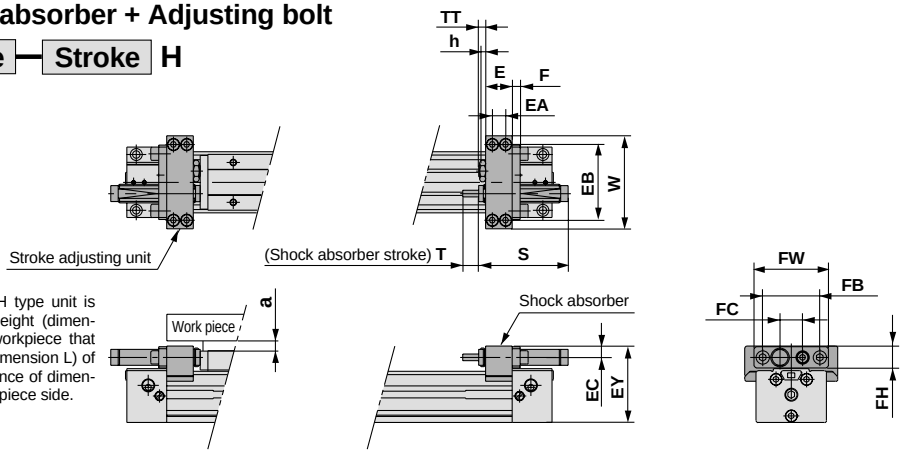
MY1B Bore size — Stroke **L**



Applicable cylinder	E	EA	EB	EC	EY	F	FB	FC	FH	FW	h	S	T	TT	W	Shock absorber model
MY1B20	19	9	43	5.8	45.6	4	—	13	—	—	3.2	40.8	6	6 (max. 12)	53	RB0806
MY1B25	20	10	49	6.5	53.5	6	33	13	12	46	3.5	46.7	7	5 (max. 16.5)	60	RB1007
MY1B32	25	12	61	8.5	67	6	43	17	16	56	4.5	67.3	12	8 (max. 20)	74	RB1412
MY1B40	31	15	76	9.5	81.5	6	43	17	16	56	4.5	67.3	12	9 (max. 25)	94	

High load shock absorber + Adjusting bolt

MY1B Bore size — Stroke **H**



* 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 work piece side.

Applicable cylinder	E	EA	EB	EC	EY	F	FB	FC	FH	FW	h	S	T	TT	W	Shock absorber model	a
MY1B20	20	10	49	6.5	47.5	6	33	13	12	46	3.5	46.7	7	5 (max. 11)	60	RB1007	2.5
MY1B25	20	10	57	8.5	57.5	6	43	17	16	56	4.5	67.3	12	5 (max. 16.5)	70	RB1412	4.5
MY1B32	25	12	74	11.5	73	8	57	22	22	74	5.5	73.2	15	8 (max. 20)	90	RB2015	6
MY1B40	31	15	82	12	87	8	57	22	22	74	5.5	73.2	15	9 (max. 25)	100		4

CAD

- Stroke adjusting unit
With adjusting bolt
MY1B16 —— SMY1B16, #3 (#1 + #3 + #7)
MY1B20 —— SMY1B20, #3 (#1 + #3 + #9)
For ø25 to ø40
MY1B (Bore size) —— SMY1B (Bore size), #3 (#1 + #3 + #10)

- Low load shock absorber + Adjusting bolt
MY1B20 —— SMY1B20, #4 (#1 + #4 + #9)
For ø25 to ø40
MY1B (Bore size) —— SMY1B (Bore size), #4 (#1 + #4 + #10)

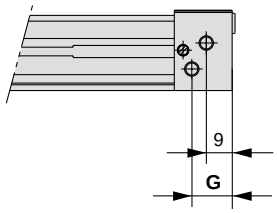
- High load shock absorber + Adjusting bolt
MY1B20 —— SMY1B20, #5 (#1 + #5 + #9)
For ø25 to ø40
MY1B (Bore size) —— SMY1B (Bore size), #5 (#1 + #5 + #10)

Centralized Piping Type ø16 to ø40

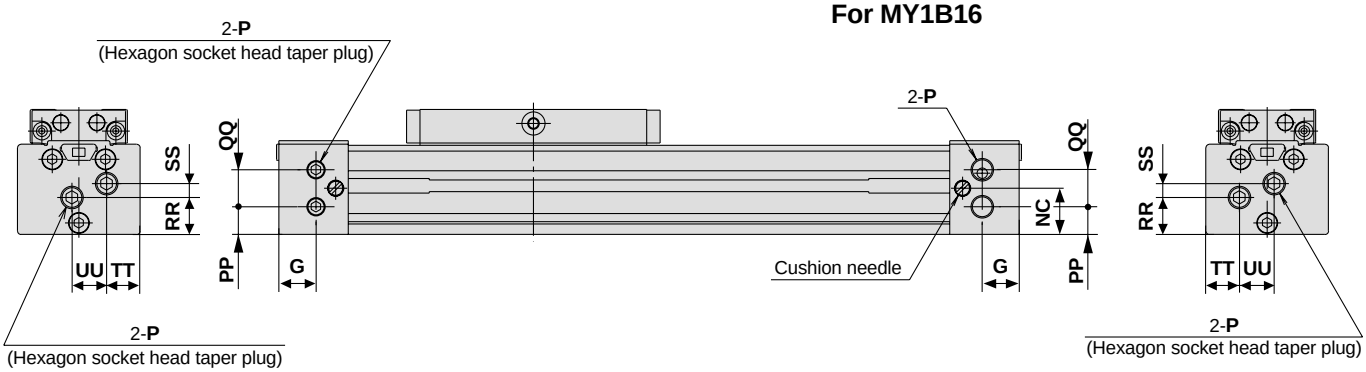
CAD

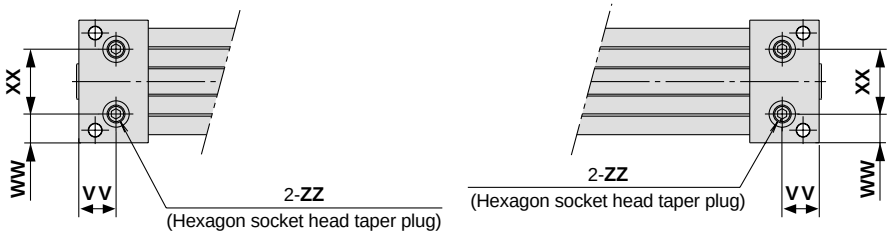
Refer to page 115 regarding centralized piping port variations.
Dimensions for types other than centralized piping and for the stroke adjusting unit are identical to the standard type dimensions.
Refer to pages 12 and 13 for details regarding dimensions, etc.

MY1B Bore size G— Stroke



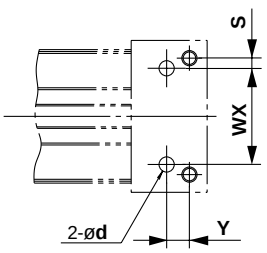
For MY1B16

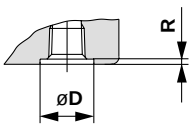




Model	G	NC	P	PP	QQ	RR	SS	TT	UU	VV	WW	XX	ZZ
MY1B16G	14	14	M5 x 0.8	7.5	9	11	3	9	10.5	10	7.5	22	M5 x 0.8
MY1B20G	12.5	17.5	M5 x 0.8	11.5	11	14.5	5	10.5	12	12.5	10.5	24	M5 x 0.8
MY1B25G	16	20	Rc 1/8	12	16	16	6	14.5	15	16	12.5	28	Rc 1/16
MY1B32G	19	25	Rc 1/8	17	16	23	4	16	16	19	16	32	Rc 1/16
MY1B40G	23	30.5	Rc 1/4	18.5	24	27	10.5	20	22	23	19.5	36	Rc 1/8

"P" indicates cylinder supply ports. ∗ The plug for MY1B16/20-P-ZZ is a hexagon socket head plug.





Bottom side (ZZ) piping (applicable O-ring)

Hole sizes for centralized piping on the bottom (Machine the mounting side to the dimensions below.)

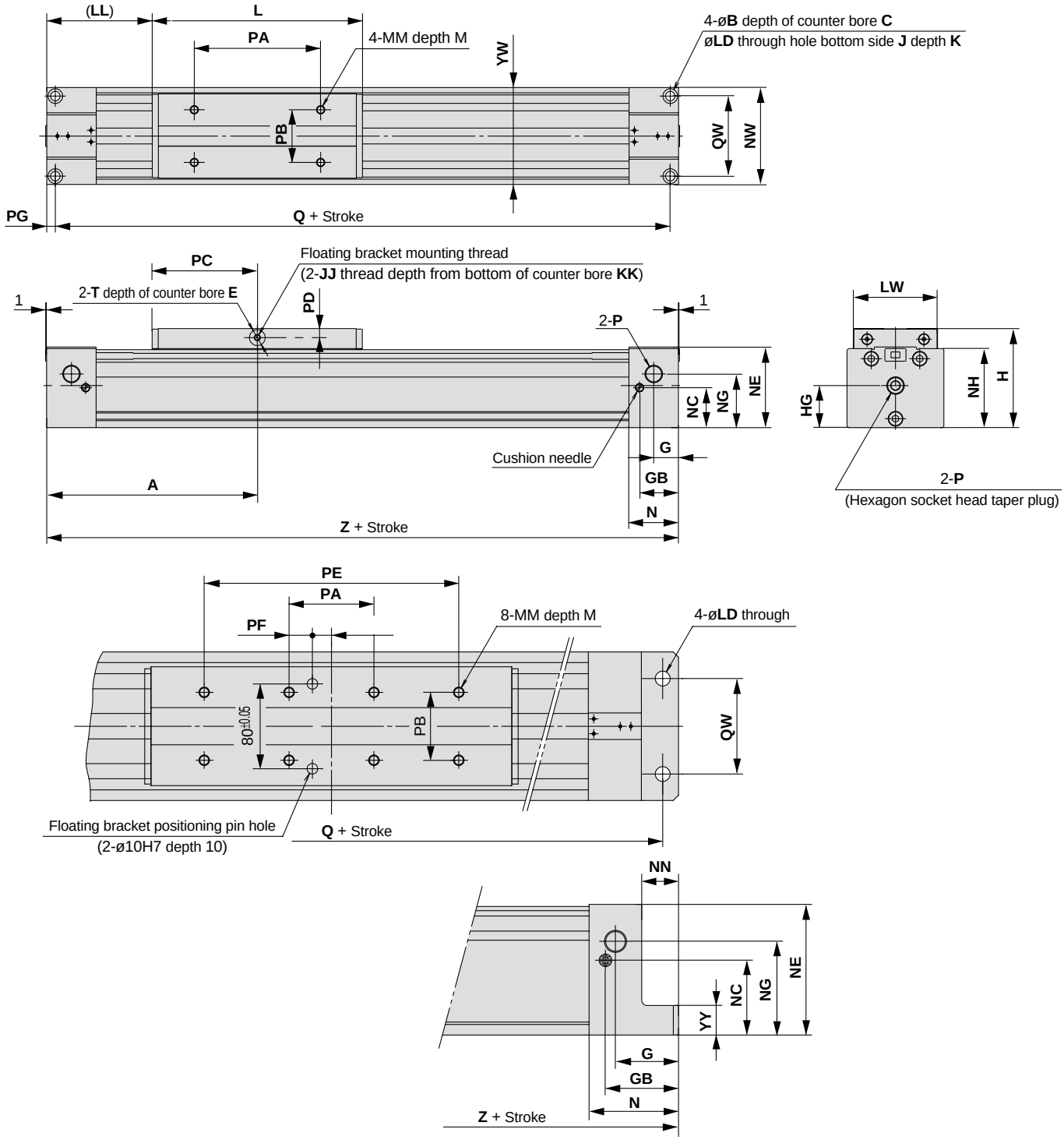
Model	WX	Y	S	d	D	R	Applicable O-ring
MY1B16G	22	6.5	4	4	8.4	1.1	C6
MY1B20G	24	8	6	4	8.4	1.1	
MY1B25G	28	9	7	6	11.4	1.1	C9
MY1B32G	32	11	9.5	6	11.4	1.1	
MY1B40G	36	14	11.5	8	13.4	1.1	C11.2

CAD
MY1B16G —— SMY1B16, #2 (#2 + #7)
MY1B20G —— SMY1B20, #2 (#2 + #9)
For ø25 to ø40
MY1B Bore size G—— SMY1B Bore size —— SMY1B Bore size, #2 (#2 + #10)

Standard Type ø50 to ø100

CAD

MY1B Bore size — Stroke



For MY1B80, 100

Model	A	B	C	E	G	GB	H	HG	J	JJ	K	KK	L	LD	LL	LW	NN	YY	PG
MY1B 50	200	14	8.5	3	23.5	37	94	40	M12 x 1.75	M6 x 1	25	17	200	9	100	80	—	—	8
MY1B 63	230	17	10.5	3	25	39	116	51	M14 x 2	M8 x 1.25	28	24	230	11	115	96	—	—	10
MY1B 80	345	—	—	—	60	71.5	150	66	—	—	—	—	340	14	175	112	35	28	15
MY1B100	400	—	—	—	70	79.5	190	85	—	—	—	—	400	18	200	140	45	35	20

Model	M	MM	N	NC	NE	NG	NH	NW	P	PA	PB	PC	PD	PE	PF	Q	QW	T	YW	Z
MY1B 50	14	M8 x 1.25	47	38	76.5	51	75	92	Rc 3/8	120	50	100	8.5	—	—	384	76	15	92	400
MY1B 63	16	M8 x 1.25	50	51	100	59	95	112	Rc 3/8	140	60	115	9.5	—	—	440	92	16	112	460
MY1B 80	20	M10 x 1.5	85	65	124	82	124	140	Rc 1/2	80	65	—	—	240	22	660	90	—	140	690
MY1B100	25	M12 x 1.75	95	85	157	103	157	176	Rc 1/2	120	85	—	—	280	42	760	120	—	176	800

CAD MY1B (Bore size) —— SMY1B (Bore size), #1 (#1 + #6)

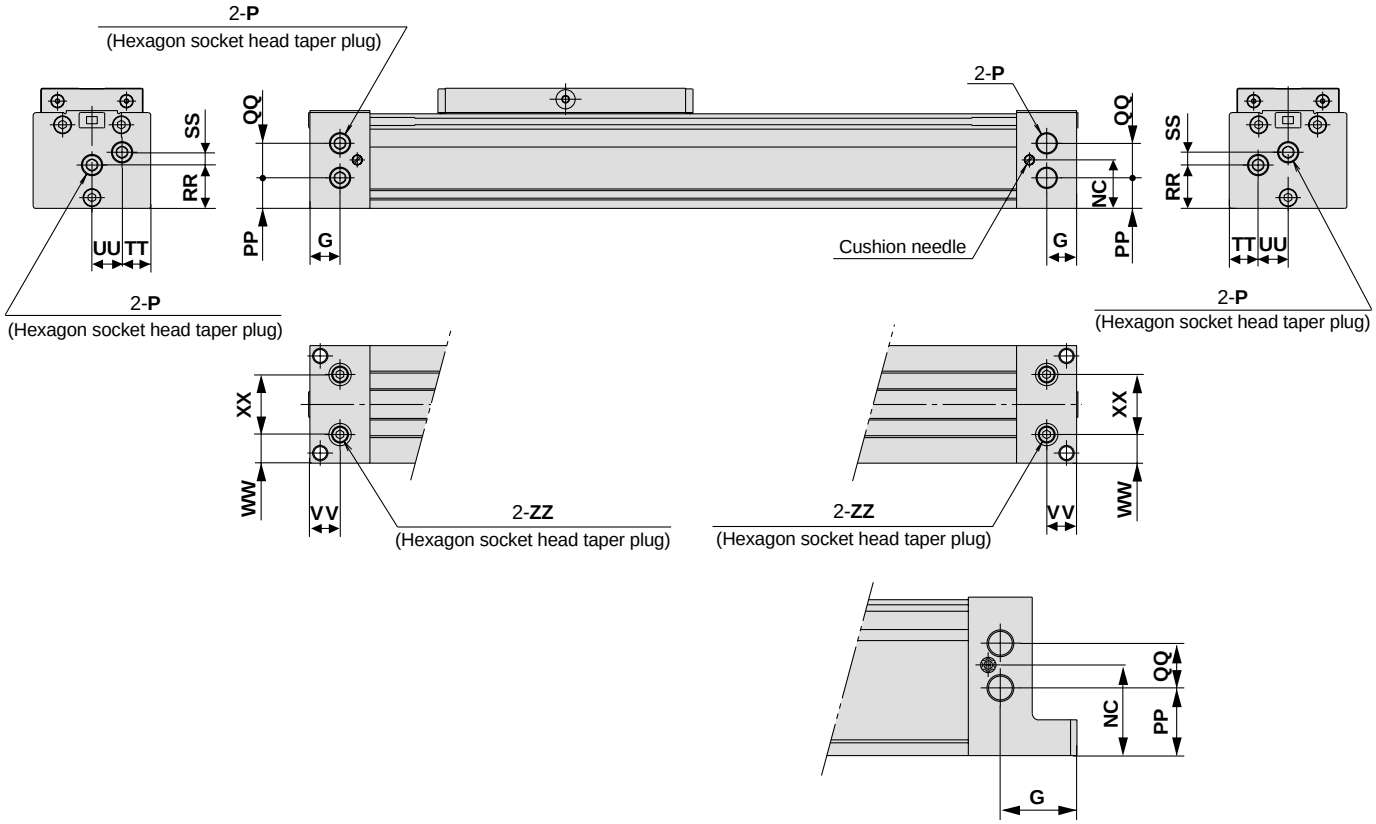
∗ "P" indicates cylinder supply ports.

Centralized Piping Type ø50 to ø100

CAD

Refer to page 115 regarding centralized piping port variations.
Dimensions for types other than centralized piping are identical to the standard type dimensions.
Refer to pages 15 for details regarding dimensions etc.

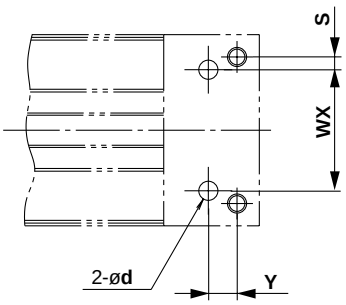
MY1B Bore size G — Stroke

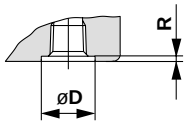


For MY1B80, 100

Model	G	P	NC	PP	QQ	RR	SS	TT	UU	V V	WW	XX	ZZ
MY1B 50G	23.5	Rc 3/8	38	24	27	34	10	22.5	23.5	23.5	22.5	47	Rc 1/4
MY1B 63G	25	Rc 3/8	51	37.5	29.5	45.5	13.5	27	29	25	28	56	Rc 1/4
MY1B 80G	60	Rc 1/2	71	53	35	61	15	30	40	60	25	90	Rc 1/2
MY1B100G	70	Rc 1/2	88	69	38	75	20	40	48	70	28	120	Rc 1/2

∗ "P" indicates cylinder supply ports.





Bottom side (ZZ) piping (applicable O-ring)

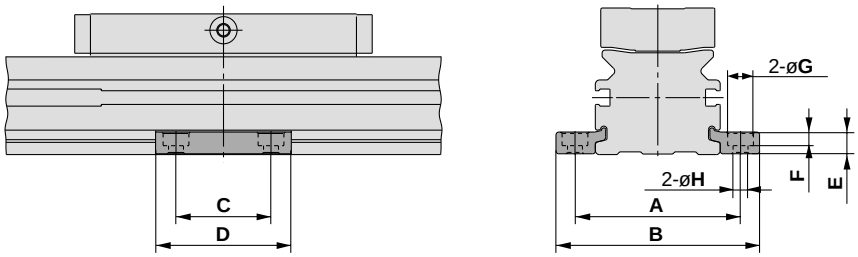
Hole sizes for centralized piping on the bottom (Machine the mounting side to the dimensions below.)

Model	WX	Y	S	d	D	R	Applicable O-ring
MY1B 50G	47	15.5	14.5	10	17.5	1.1	C15
MY1B 63G	56	15	18	10	17.5	1.1	
MY1B 80G	90	45	—	18	26	1.8	P22
MY1B100G	120	50	—	18	26	1.8	

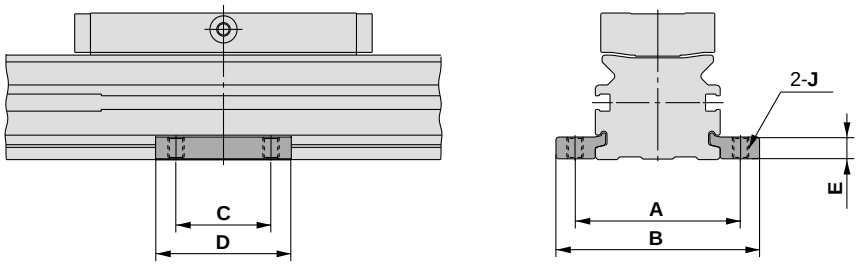
CAD MY1B Bore size G — SMY1B Bore size, #2 (#2 + #6)

Side Support

Side support A
MY-S□A



Side support B
MY-S□B



Model	Applicable cylinder	A	B	C	D	E	F	G	H	J
MY-S10 A/B	MY1B 10	35	43.6	12	21	3.6	1.8	6.5	3.4	M4 x 0.7
MY-S16 A/B	MY1B 16	43	53.6	15	26	4.9	3	6.5	3.4	M4 x 0.7
MY-S20 A/B	MY1B 20	53	65.6	25	38	6.4	4	8	4.5	M5 x 0.8
MY-S25 A/B	MY1B 25	61	75	35	50	8	5	9.5	5.5	M6 x 1
	MY1B 32	70	84							
MY-S32 A/B	MY1B 40	87	105	45	64	11.7	6	11	6.6	M8 x 1.25
	MY1B 50	113	131							
MY-S50 A/B	MY1B 63	136	158	55	80	14.8	8.5	14	9	M10 x 1.5
MY-S63 A/B	MY1B 80	170	200	70	100	18.3	10.5	17.5	11.5	M12 x 1.75
	MY1B100	206	236							

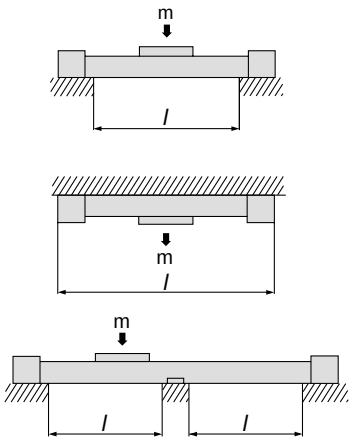
CAD

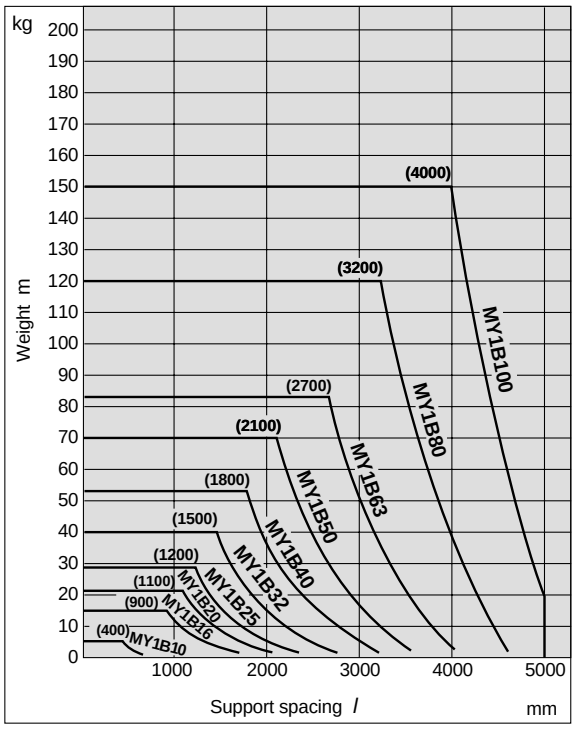
- Side support A
  MY-S16A —— SMY1B16, #5 (#1 + #5 + #7)
  MY-S20A —— SMY1B20, #7 (#1 + #7 + #9)
  For ø25 to ø63
  MY-S (Bore size) A —— SMY1B (Bore size), #8 (#1 + #8 + #10)

- Side support B
  MY-S16B —— SMY1B16, #6 (#1 + #6 + #7)
  MY-S20B —— SMY1B20, #8 (#1 + #8 + #9)
  For ø25 to ø63
  MY-S (Bore size) B —— SMY1B (Bore size), #9 (#1 + #9 + #10)

Guide for Using Side Supports

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.

Floating Bracket

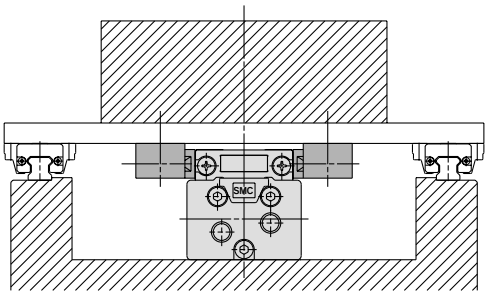
CAD

Facilitates connection to other guide systems.

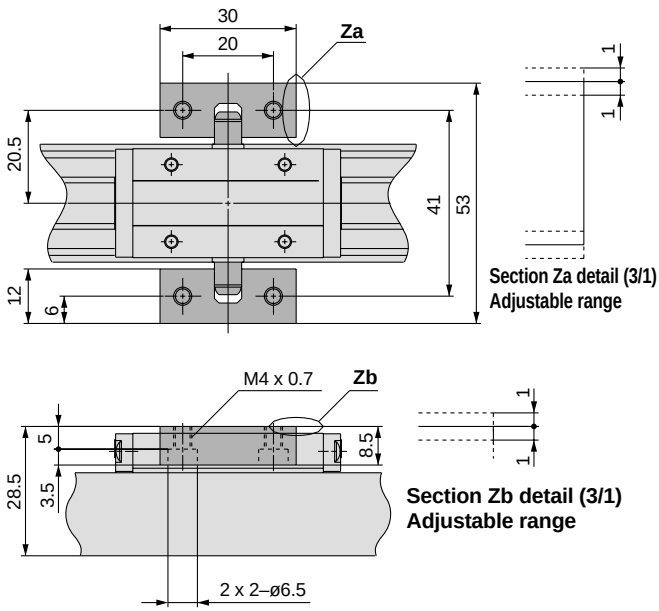
Applicable bore size

ø10

Application example



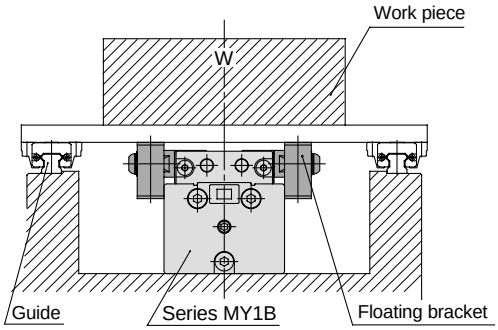
Mounting example



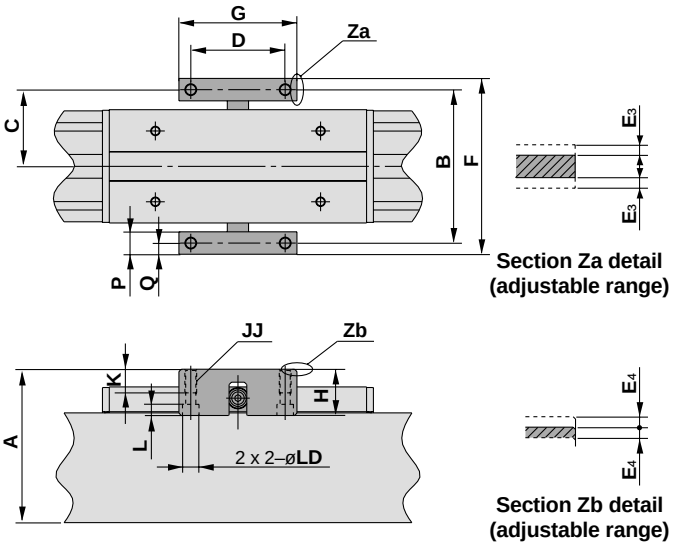
Applicable bore size

ø16, ø20

Application example



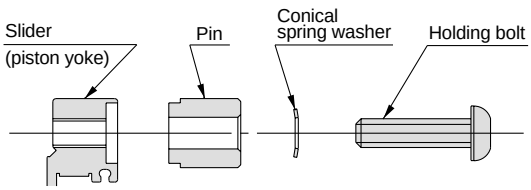
Mounting example



Model	Applicable cylinder	A	B	C	D	F	G	H
MY-J16	**MY1B16□**	45	45	22.5	30	52	38	18
MY-J20	**MY1B20□**	55	52	26	35	59	50	21

Model	Applicable cylinder	JJ	K	L	P	Q	E_3	E_4	LD
MY-J16	**MY1B16□**	M4 x 0.7	10	4	7	3.5	1	1	6
MY-J20	**MY1B20□**	M4 x 0.7	10	4	7	3.5	1	1	6

Installation of holding bolts



Holding bolt tightening torque

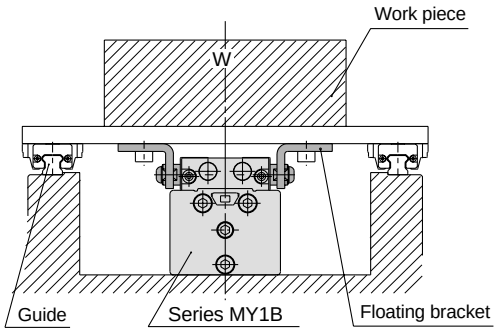
Unit: N·m

Model	Tightening torque	Model	Tightening torque	Model	Tightening torque
MY-J10	0.6	**MY-J25**	3	**MY-J50**	5
MY-J16	1.5	**MY-J32**	5	**MY-J63**	13
MY-J20	1.5	**MY-J40**	5		

Applicable bore size

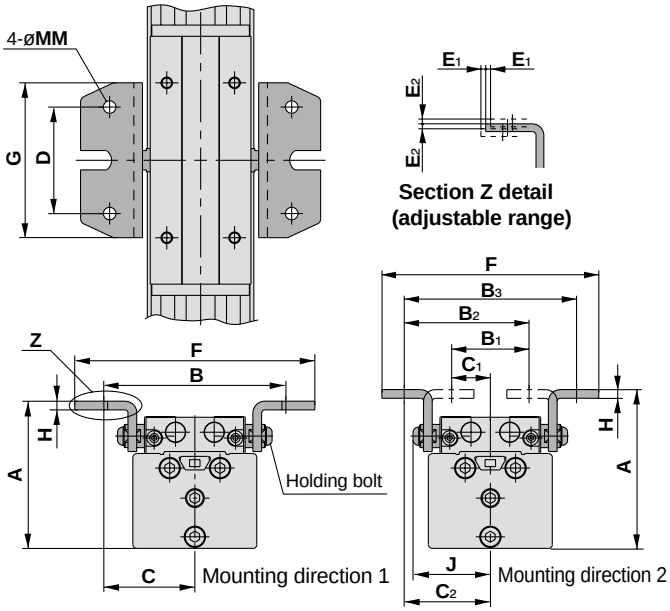
ø25, ø 32, ø40

Application example



Mounting example

One set of brackets can be mounted in two directions for compact combinations.



Model	Applicable cylinder	Common					Mounting direction 1			
		D	G	H	J	MM	A	B	C	F
MY-J25	MY1B25□	40	60	3.2	35	5.5	63	78	39	100
MY-J32	MY1B32□	55	80	4.5	40	6.5	76	94	47	124
MY-J40	MY1B40□	74	100	4.5	47	6.5	92	112	56	144

Model	Applicable cylinder	Mounting direction 2							Adjustable range	
		A	B_1	B_2	B_3	C_1	C_2	F	E_1	E_2
MY-J25	MY1B25□	65	28	53	78	14	39	96	1	1
MY-J32	MY1B32□	82	40	64	88	20	44	111	1	1
MY-J40	MY1B40□	98	44	76	108	22	54	131	1	1

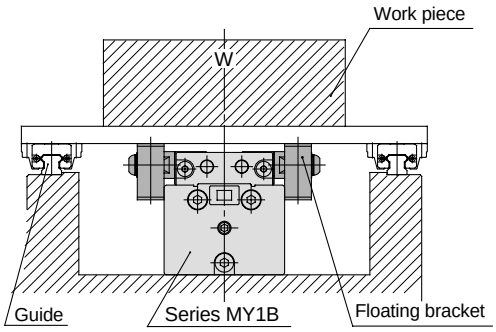
Note) One set of floating brackets consists of one right piece and one left piece.

MY-J16 ——SMY1B16, #4 (#1 + #4 + #7)
MY-J20 ——SMY1B20, #6 (#1 + #6 + #9)
For ø25 to ø40
Mounting direction 1
MY-J (Bore size) ——SMY1B (Bore size), #6 (#1 + #6 + #10)
Mounting direction 2
MY-J (Bore size) ——SMY1B (Bore size), #7 (#1 + #7 + #10)

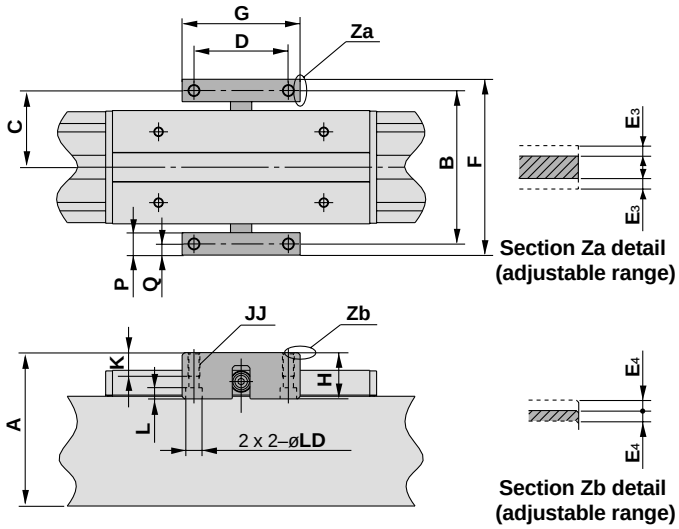
Applicable bore size

ø50, ø63

Application example



Mounting example



Model	Applicable cylinder	A	B	C	D	F	G	H
MY-J50	MY1B50□	110	110	55	70	126	90	37
MY-J63	MY1B63□	131	130	65	80	149	100	37

Model	Applicable cylinder	JJ	K	L	P	Q	E_3	E_4	LD
MY-J50	MY1B50□	M8 to 1.25	20	7.5	16	8	2.5	2.5	11
MY-J63	MY1B63□	M10 to 1.5	20	9.5	19	9.5	2.5	2.5	14

MY-J (Bore size) ——SMY1B (Bore size), #3 (#1 + #3 + #6)

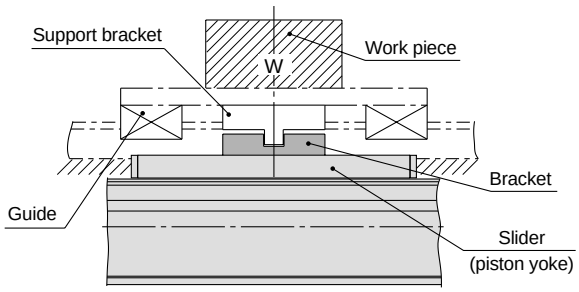
Floating Bracket

Facilitates connection to other guide systems.

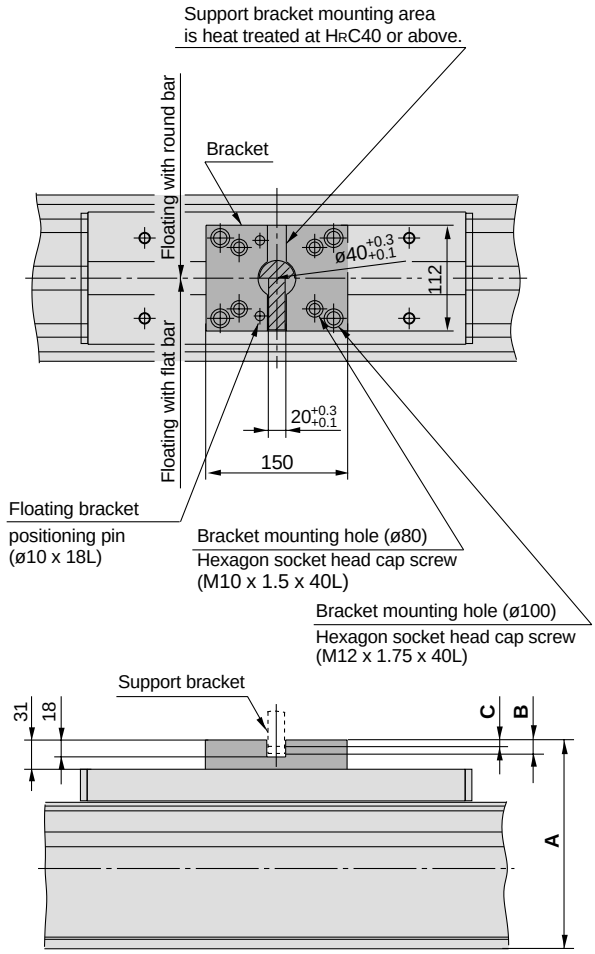
Applicable bore size

ø80, ø100

Application example



Mounting example



Model	Applicable cylinder	**A**	**B** (max.)	**C** (min.)
MY-J 80	**MY1B 80□**	181	15	9
MY-J100	**MY1B100□**	221	15	9

Hexagon socket head cap screw tightening torque

Unit: N·m

Model	Tightening torque
MY-J 80	25
MY-J100	44

Note) • Flat bar or round bar mounting are possible for the support bracket (slanted lines) mounted by the customer.
• The floating bracket is packaged with (4) hexagon socket head cap screws and (2) parallel pins at the time of shipment.
• "B" and "C" indicate the allowable mounting dimensions for the support bracket (flat bar or round bar).
• Consider support brackets with dimensions that allow the floating mechanism to function properly.

Floating bracket operating precautions

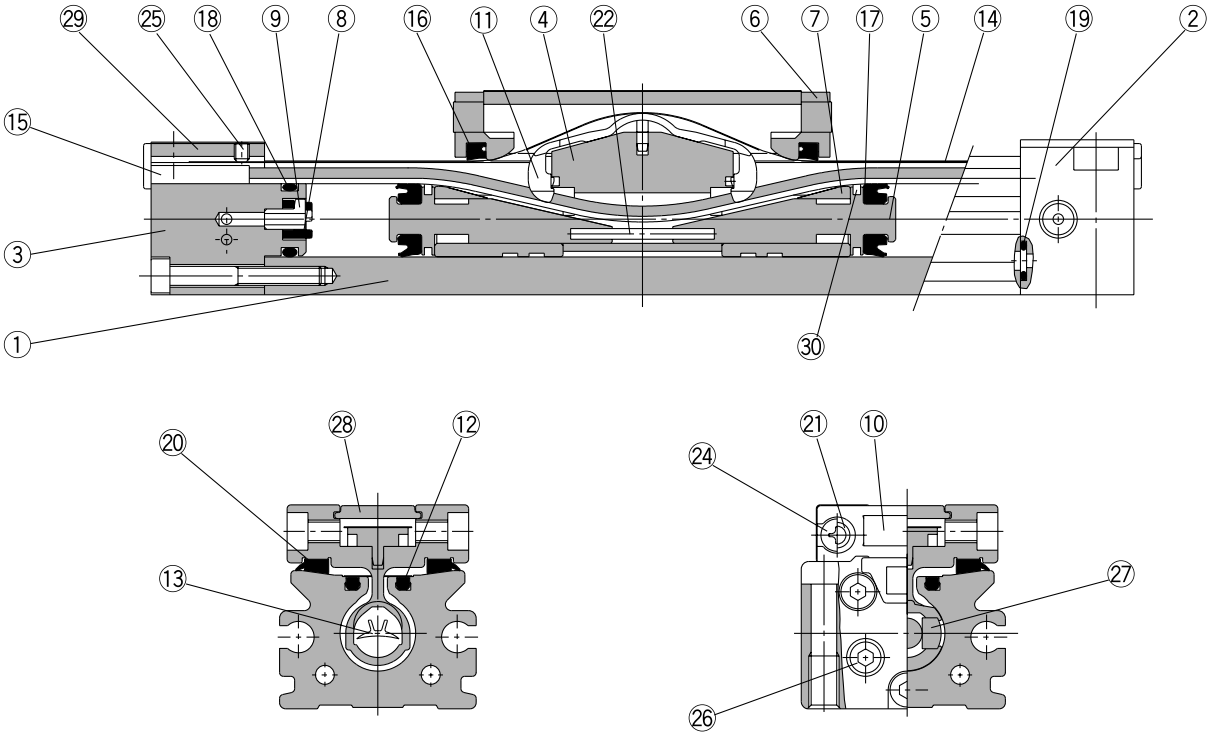
⚠ Caution

Make sure that the amount of divergence from the external guide is within the adjustable range.

Using the floating bracket facilitates connection to an external guide. However, with a rod type guide, etc., the amount of displacement is large and the floating bracket may not be able to absorb the variation. Check the amount of displacement and mount the floating bracket within the adjustable range.
When the displacement amount exceeds the adjustable range, use a separate floating mechanism.

Construction/ ø10

Centralized piping type/MY1B10G



Parts list

No.	Description	Material	Note
1	**Cylinder tube**	Aluminum alloy	Hard anodized
2	**Head cover WR**	Aluminum alloy	Hard anodized
3	**Head cover WL**	Aluminum alloy	Hard anodized
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	

Parts list

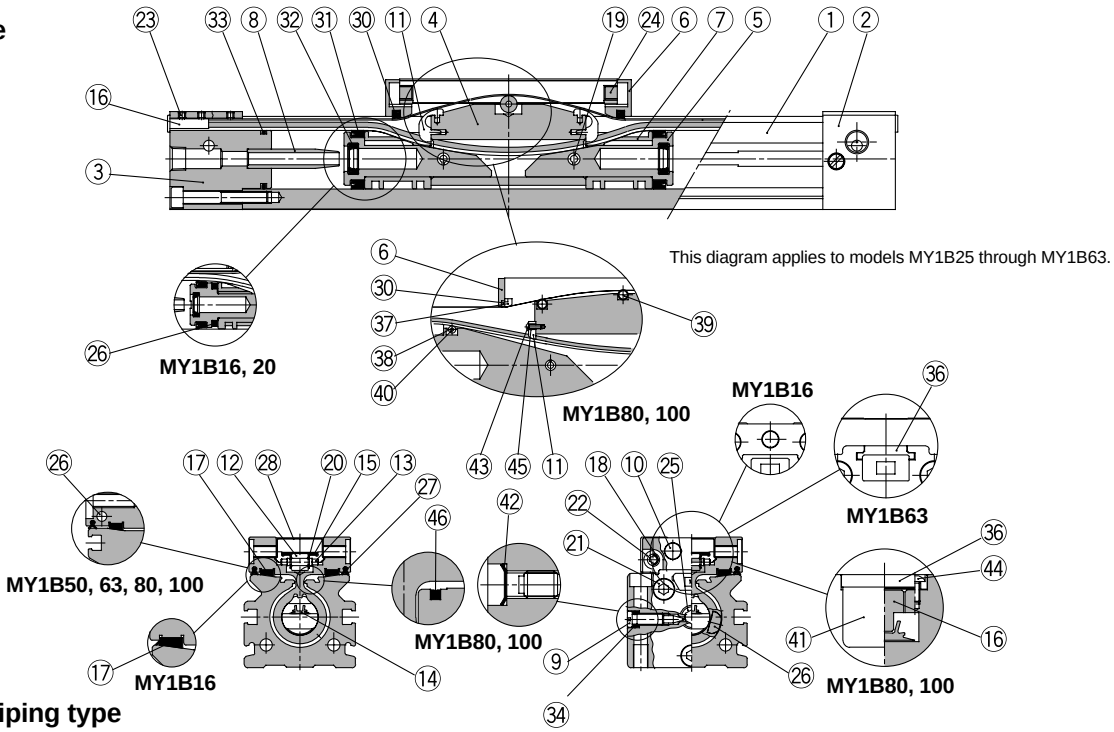
No.	Description	Material	Note
15	**Belt clamp**	Special resin	
20	**Bearing**	Special resin	
21	**Spacer**	Chrome molybdenum steel	Nickel plated
22	**Spring pin**	Stainless steel	
23	**Hexagon socket head cap screw**	Chrome molybdenum steel	Nickel plated
24	**Round head Phillips screw**	Carbon steel	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	**Top plate**	Stainless steel	
29	**Head plate**	Stainless steel	
30	**Felt**	Felt	

Seal list

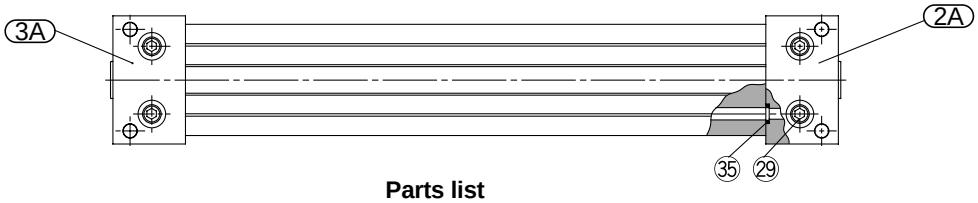
No.	Description	Material	Qty.	**MY1B10**
13	**Seal belt**	Special resin	1	MY10-16A-stroke
14	**Dust seal band**	Stainless steel	1	MY10-16B-stroke
16	**Scraper**	NBR	2	MYB10-15AR0597
17	**Piston seal**	NBR	2	GMY10
18	**Tube gasket**	NBR	2	P7
19	**O-ring**	NBR	4	ø5.33 x ø3.05 x ø1.14

Construction/Ø16 to ø100

Standard type



Centralized piping type



Parts list

No.	Description	Material	Note
1	**Cylinder tube**	Aluminum alloy	Hard anodized
2	**Head cover R**	Aluminum alloy	Hard anodized
2A	**Head cover WR**	Aluminum alloy	Hard anodized
3	**Head cover L**	Aluminum alloy	Hard anodized
3A	**Head cover WL**	Aluminum alloy	Hard anodized
4	**Piston yoke**	Aluminum alloy	Hard anodized
5	**Piston**	Aluminum alloy	Chromated
6	**End cover**	Special resin	
		Carbon steel	Nickel plated (ø80 and ø100)
7	**Wear ring**	Special resin	
8	**Cushion ring**	Brass	
9	**Cushion needle**	Rolled steel	Nickel plated
10	**Stopper**	Carbon steel	Nickel plated (ø16 to ø40)
11	**Belt separator**	Special resin	
12	**Guide roller**	Special resin	
13	**Guide roller shaft**	Stainless steel	
16	**Belt clamp**	Special resin	
		Aluminum alloy	Chromated (ø80 and ø100)
17	**Bearing**	Special resin	
18	**Spacer**	Stainless steel	
19	**Spring pin**	Carbon tool steel	Black zinc chromated

Parts list

No.	Description	Material	Note
20	**Type E retaining ring**	Cold rolled special steel strip	
21	**Hexagon socket head cap screw**	Chrome molybdenum steel	Nickel plated
22	**Hexagon socket head button bolt**	Chrome molybdenum steel	Nickel plated
23	**Hexagon socket head set screw**	Chrome molybdenum steel	Black zinc chromated/Nickel plated
24	**Double round parallel key**	Carbon steel	(ø16 to ø40)
25	**Hexagon socket head taper plug**	Carbon steel	Nickel plated
26	**Magnet**	Rare earth magnet	
27	**Side scraper**	Special resin	(Except ø16)
28	**Top cover**	Stainless steel	
29	**Hexagon socket head taper plug**	Carbon steel	Nickel plated
36	**Head plate**	Aluminum alloy	Hard anodized (ø63 to ø100)
37	**Backup plate**	Special resin	
38	**Guide roller B**	Special resin	(ø80 and ø100)
39	**Guide roller A**	Stainless steel	(ø80 and ø100)
40	**Guide roller shaft B**	Stainless steel	(ø80 and ø100)
41	**Side cover**	Aluminum alloy	Hard anodized (ø80 and ø100)
42	**Type CR retaining ring**	Spring steel	(ø80 and ø100)
43	**Hexagon socket head button bolt**	Chrome molybdenum steel	Nickel plated (ø80 and ø100)
44	**Hexagon socket head button bolt**	Chrome molybdenum steel	Nickel plated (ø80 and ø100)
45	**Spacer B**	Stainless steel	(ø80 and ø100)
46	**Seal magnet**	Rubber magnet	(ø80 and ø100)

Seal list

No.	Description	Material	Qty.	MY1B16	MY1B20	MY1B25	MY1B32	MY1B40	MY1B50	MY1B63	MY1B80	MY1B100
14	**Seal belt**	Special resin	1	MY16-16A-Stroke	MY20-16A-Stroke	MY25-16A-Stroke	MY32-16A-Stroke	MY40-16A-Stroke	MY50-16A-Stroke	MY63-16A-Stroke	MY80-16A-Stroke	MY100-16A-Stroke
15 Note)	**Dust seal band**	Stainless steel	1	MY16-16B-Stroke	MY20-16B-Stroke	MY25-16B-Stroke	MY32-16B-Stroke	MY40-16B-Stroke	MY50-16B-Stroke	MY63-16B-Stroke	MY80-16B-Stroke	MY100-16B-Stroke
30	**Scraper**	NBR	2	MYB16-15AA7163	MYB20-15AA7164	MYB25-15AA5900	MYB32-15AA5901	MYB40-15AA5902	MYB50-15AA7165	MYB63-15AA7166	MYB80-15AK2470	MYB100-15AK2471
31	**Piston seal**	NBR	2	GMY16	GMY20	GMY25	GMY32	GMY40	GMY50	GMY63	GMY80	GMY100
32	**Cushion seal**	NBR	2	MYB16-15-A7163	MYB20-15-A7164	RCS-8	RCS-10	RCS-12	MC-16	MC-20	MC-25	MC-30
33	**Tube gasket**	NBR	2	P12	P16	TMY-25	TMY-32	TMY-40	P44	P53	P70	P90
34	**O-ring**	NBR	2	ø4 x ø1.8 x ø1.1	ø5.1 x ø3 x ø1.05	ø7.15 x ø3.75 x ø1.7	ø7.15 x ø3.75 x ø1.7	ø8.3 x ø4.5 x ø1.9	ø8.3 x ø4.5 x ø1.9	C-4	C-6	C-6
35	**O-ring**	NBR	2	ø6.2 x ø3 x ø1.6	ø7 x ø4 x ø1.5	P-5	P-6	C-9	C-12.5	C-14	P22	P24

Note) Two types of dust seal band are available. Verify the type to use, since the part number varies depending on the treatment of the hexagon socket head set screw ㉓.
(A) Black zinc chromated ⟶ MY□□-16B-Stroke (B) Nickel plated ⟶ MY□□-16BW-Stroke