Mechanically Jointed Rodless Cylinder

New

RoHS

Basic Type: ø25, ø32, ø40

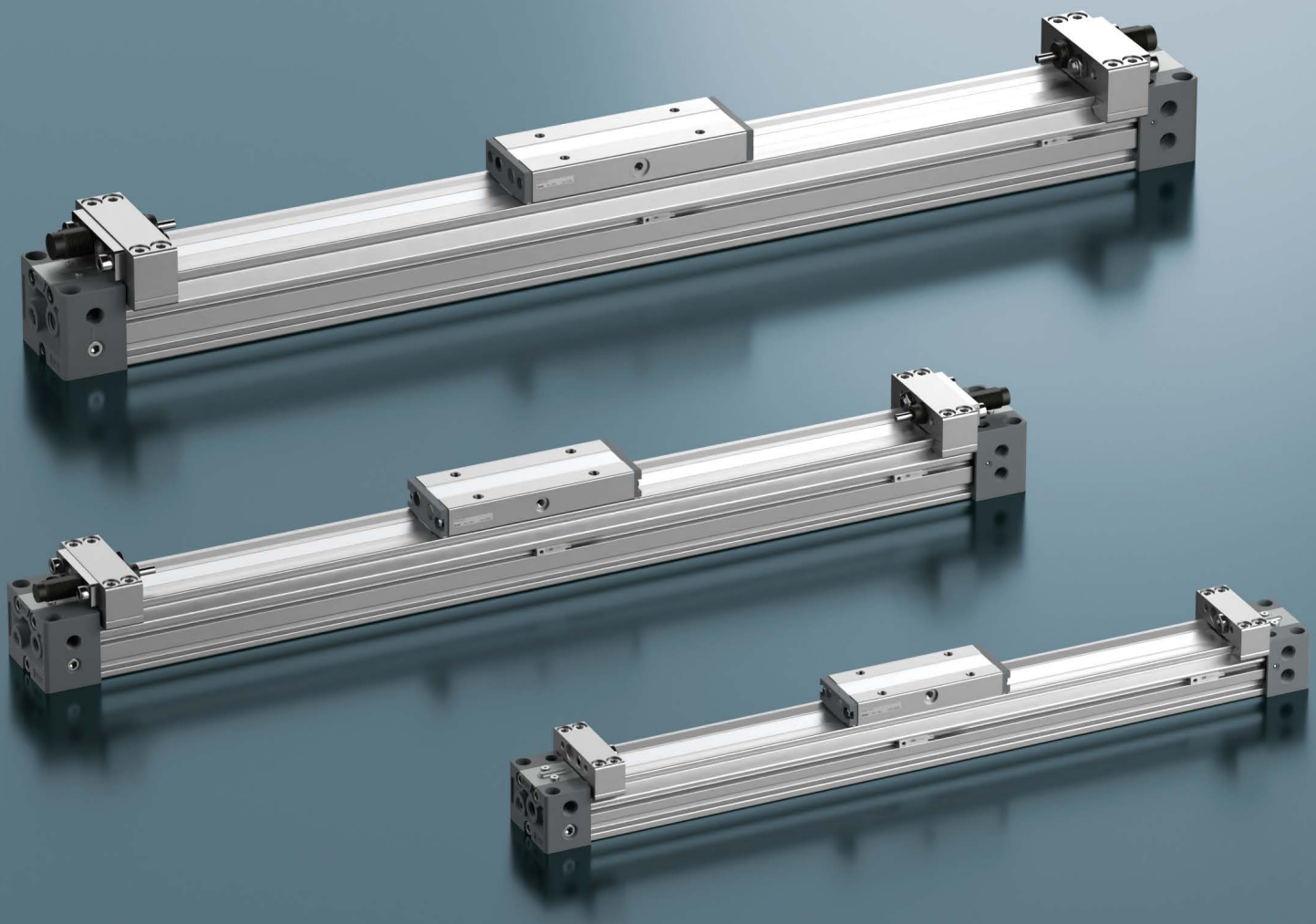
Load mass

Max. **30%** increase

Allowable moment

Max. **30%** increase

Same mounting dimensions as the existing MY1B



***MY1B* Series**

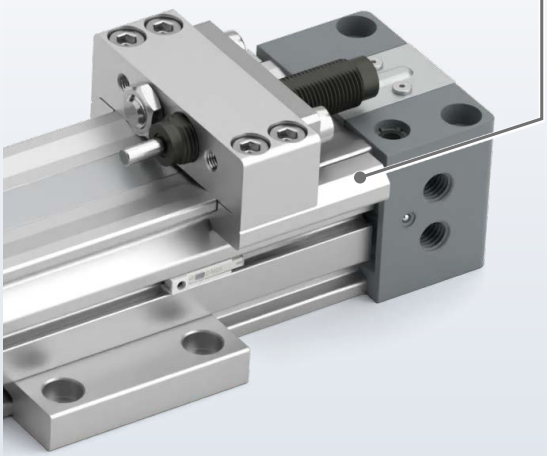
SMC

CAT.ES20-325A

Stroke adjustment unit

Intermediate fixing spacer as standard

Fixture can be selected to hold the stroke adjustment unit at the intermediate stroke position.

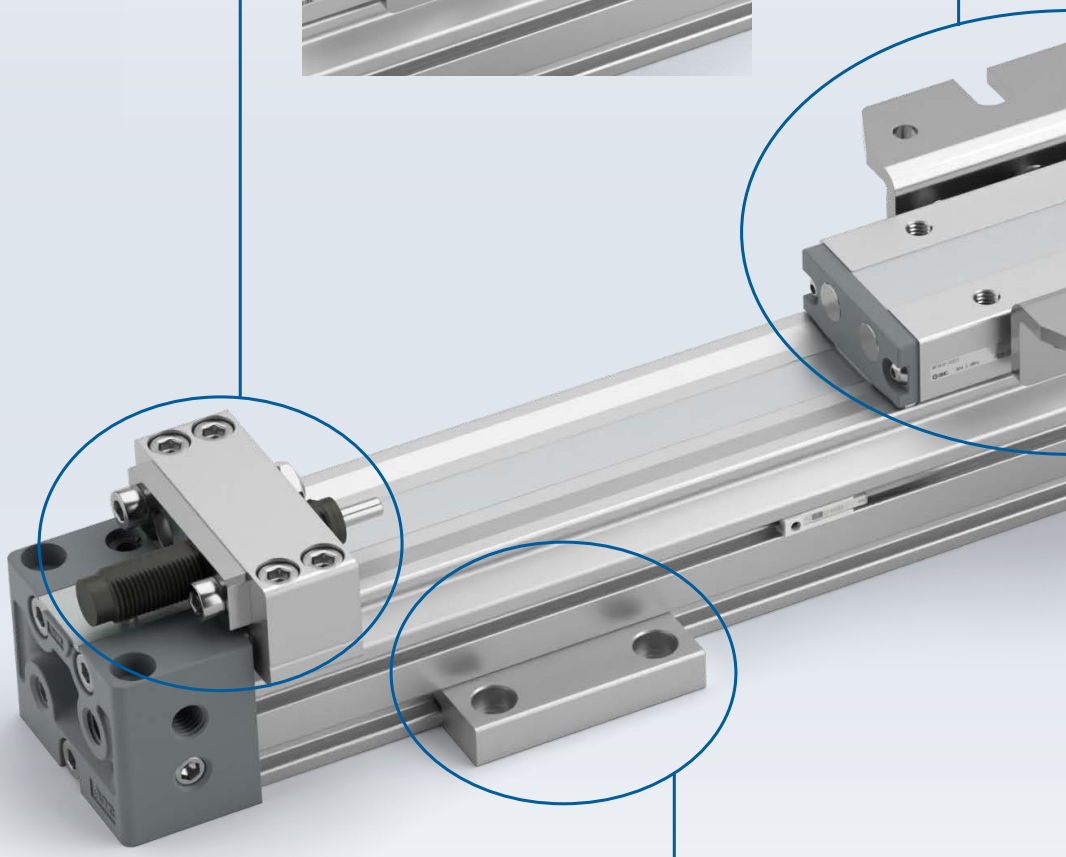


Floating bracket

2 connection types can be selected.

Block type

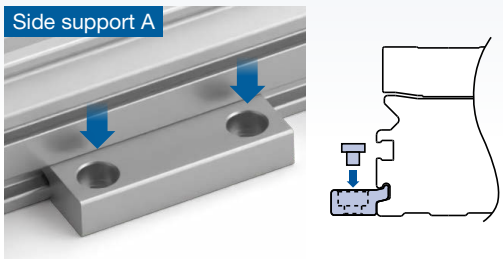
L type



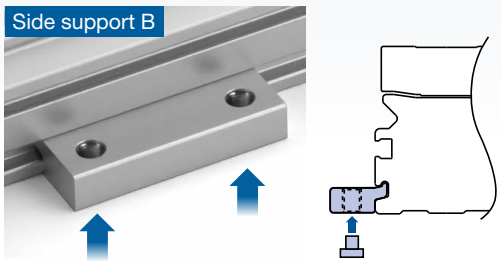
Side support

Prevents deflection of the cylinder tube at a long stroke

Side support A



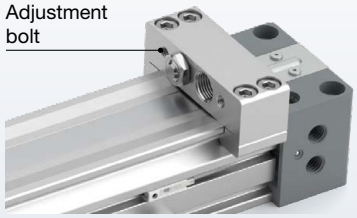
Side support B



Built-in adjustment bolt and shock absorber, 3 stroke adjustment unit types

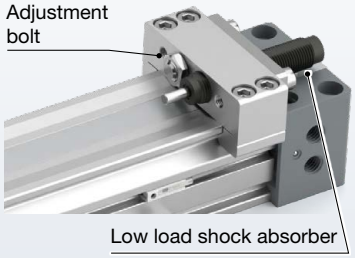
A unit

With adjustment bolt



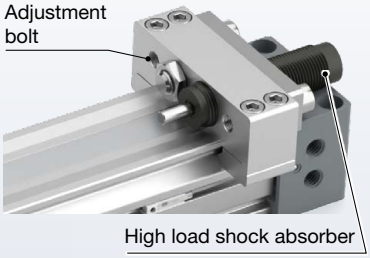
L unit

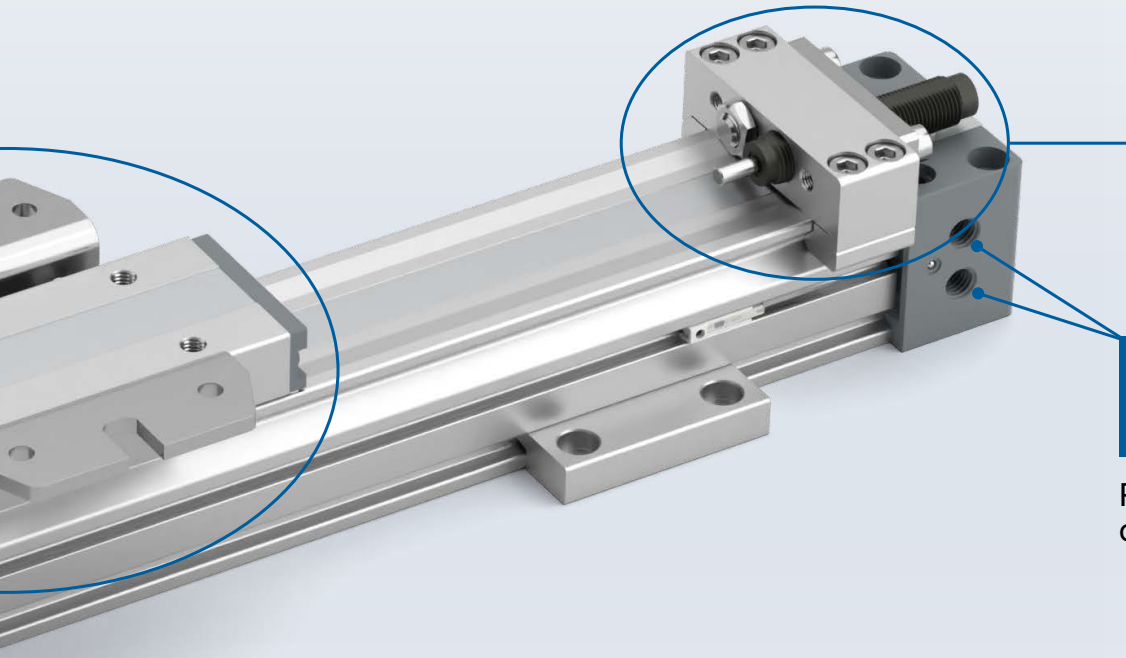
With adjustment bolt + Low load shock absorber



H unit

With adjustment bolt + High load shock absorber

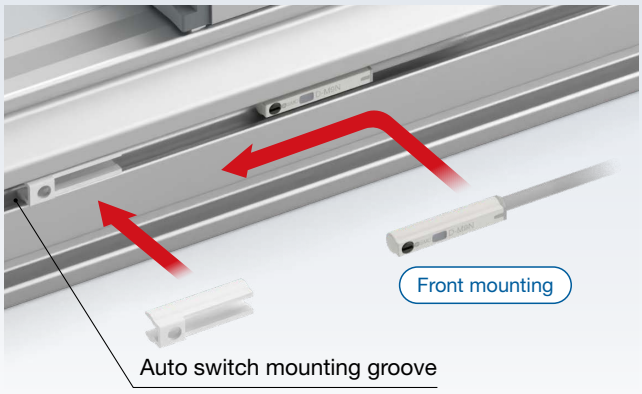




Centralized piping

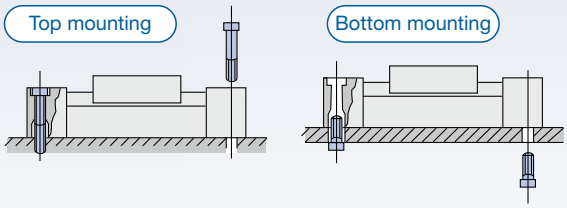
Piping ports are provided on one side.

Auto switches can be mounted from the front. Contributes to reduction in mounting time



2 mounting types, Space saving

This does not change the overall length dimension.



Series Variations

Series	Guide type	Piping type	Bore size [mm] 25	32	40	Air cushion	Stroke adjustment unit	Side support	Floating bracket	Made to order
New **MY1B-Z1**	Basic	Centralized piping Standard piping	●	●	●	●	●	●	●	• Shock absorber soft type RJ series mounted • Helical insert thread

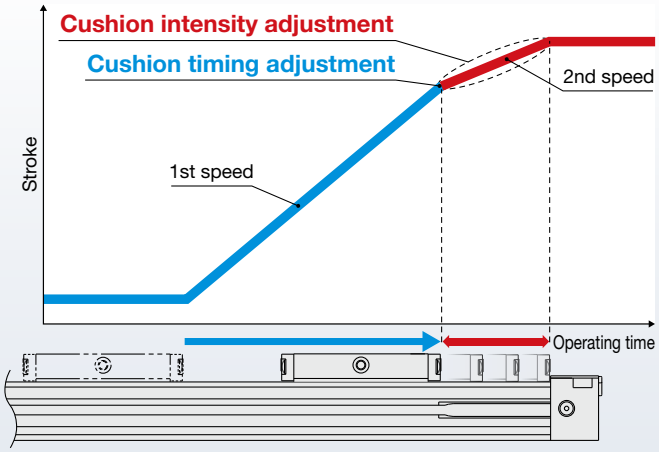
Related Products

Deceleration Controller DAS Series

2-speed control reduces cycle time. Allows for the impact relaxation of the stroke end

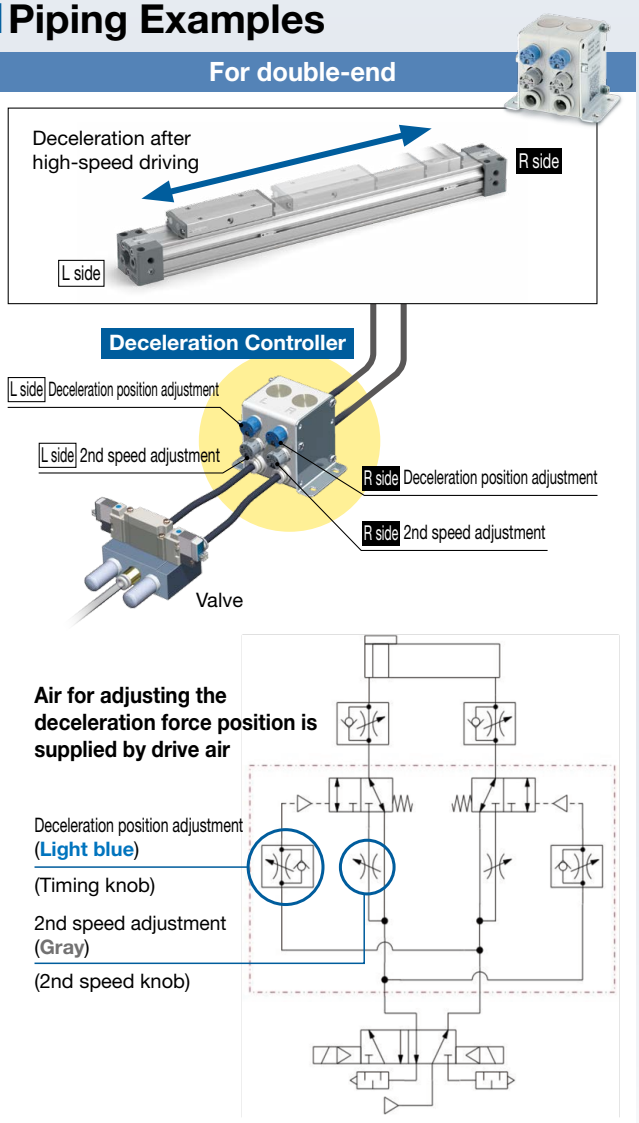
Allows for the 2-speed control of cylinders

The deceleration position (cushion timing) and 2nd speed (cushion intensity) can be adjusted.



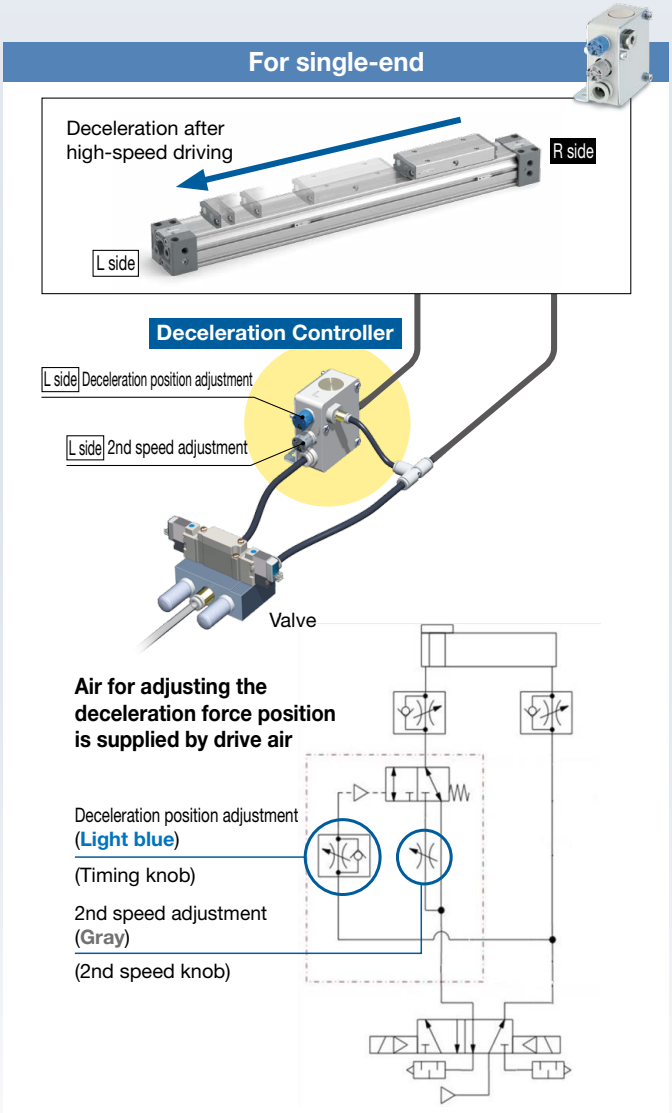
Piping Examples

For double-end



Air for adjusting the deceleration force position is supplied by drive air

For single-end



Air for adjusting the deceleration force position is supplied by drive air

Variations

Mounting	Body size	Applicable tubing O.D.										Bore size
		Metric size					Inch size					
		4	6	8	10	12	5/32"	1/4"	5/16"	3/8"	1/2"	
	5	●	●	●	●	●	●	●	●	●	●	ø10 to ø40
	7			●	●	●			●	●	●	Up to ø100

CONTENTS

Mechanically Jointed Rodless Cylinder/Basic Type
MY1B Series

Prior to Use

Maximum Allowable Moment/Maximum Load Mass

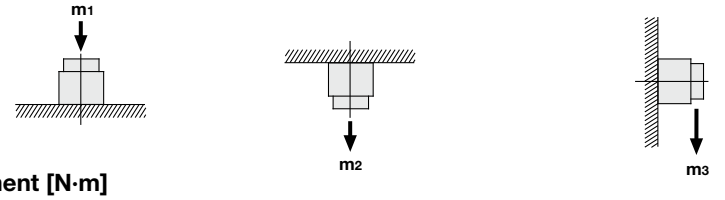
Model	Bore size [mm]	Maximum allowable moment [N·m]			Maximum load mass [kg]		
		M_1	M_2	M_3	m_1	m_2	m_3
MY1B	25	13.0	1.6	3.9	37.7	5.8	7.0
	32	26.0	3.1	7.8	52.0	8.0	11.4
	40	52.0	6.2	15.6	68.9	10.6	18.2

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

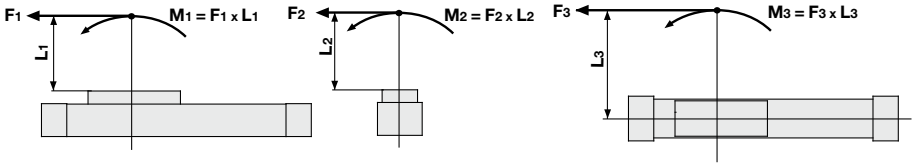
Caution on Design

· 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.
· If the product is operated with a guide load factor which exceeds the standard value, malfunction may occur due to damage to the end cover and bearings. Therefore, be sure to confirm that the guide load factor is 1 or less.

Load mass [kg]



Moment [N·m]



<Calculation of guide load factor>

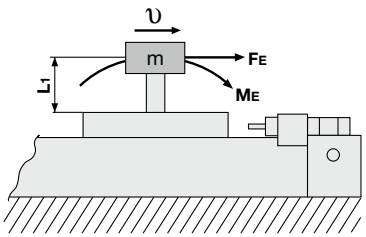
1. Maximum load mass (1), static moment (2), and dynamic moment (3) (at the time of impact with stopper) must be examined for the selection calculations.
∗ To evaluate, use υa (average speed) for (1) and (2), and υ (collision speed $\upsilon = 1.4\,\upsilon a$) for (3). Calculate m max for (1) from the maximum load mass graph (m_1, m_2, m_3) and M max for (2) and (3) from the maximum allowable moment graph (M_1, M_2, M_3).

$$\text{Sum of guide load factors } \Sigma\alpha = \frac{\text{Load mass (m)}}{\text{Maximum load mass (m max)}} + \frac{\text{Static moment (M)}^{*1}}{\text{Allowable static moment (M max)}} + \frac{\text{Dynamic moment (M}_E\text{)}^{*2}}{\text{Allowable dynamic moment (M}_E\text{ max)}} \leq 1$$

∗1 Moment caused by the load, etc., with cylinder in resting condition
∗2 Moment caused by the load equivalent to impact at the stroke end (at the time of impact with stopper)
∗ 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 the time of 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 the time of impact with stopper) [N]
υa: Average speed [mm/s]
M: Static moment [N·m]
$\upsilon = 1.4\upsilon a$ [mm/s] $F_E = 1.4\upsilon a \cdot \delta \cdot m \cdot g$ ∗3
$\therefore M_E = \frac{1}{3}$ ∗4 $\cdot F_E \cdot L_1 = 4.57\upsilon a \delta m L_1$

υ: Collision speed [mm/s]
L_1: Distance to the load center of gravity [m]
M_E: Dynamic moment [N·m]
δ: Bumper coefficient
With air cushion = 1/100
With shock absorber = 1/100
g: Gravitational acceleration (9.8 m/s²)



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

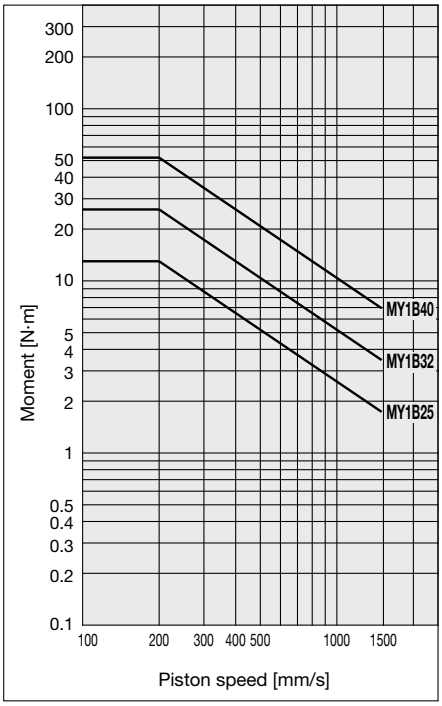
3. For detailed selection procedures, refer to pages 7 and 8.

Maximum Allowable Moment/Maximum Load Mass

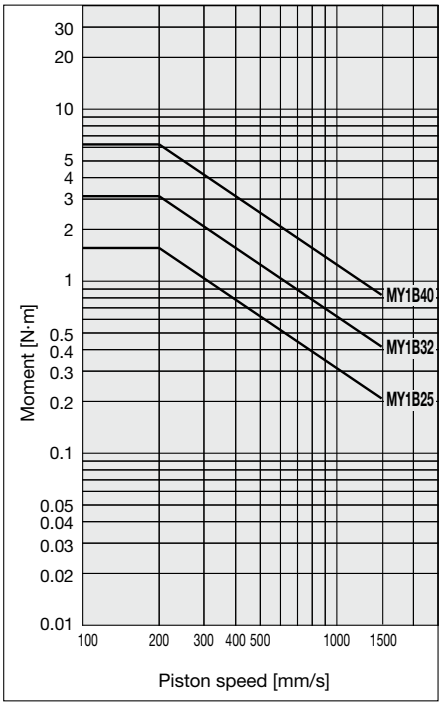
Maximum Allowable Moment

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

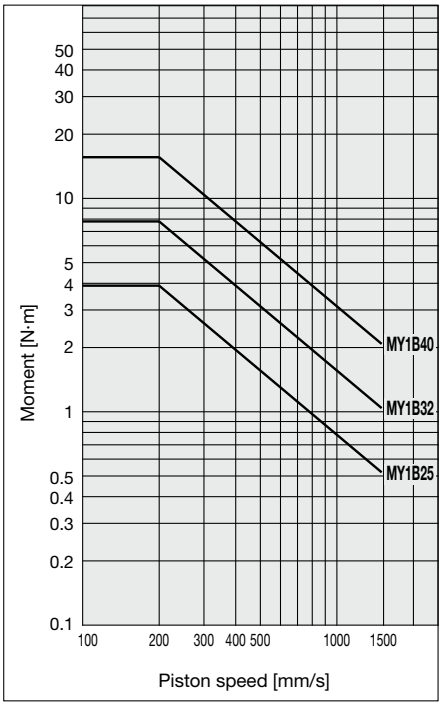
M1



M2



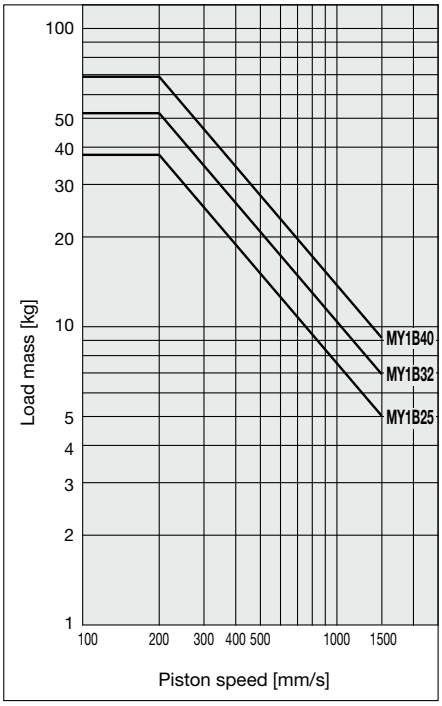
M3



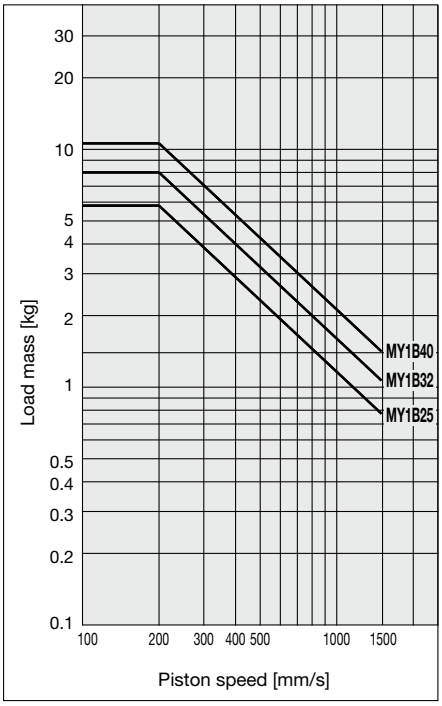
Maximum Load Mass

Select the load mass 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.

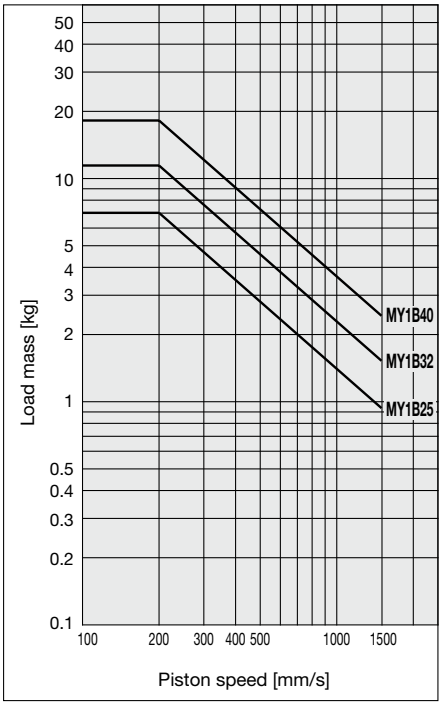
m1



m2



m3



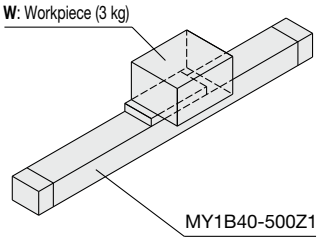
MY1B Series
Model Selection

Following are the steps for selecting the most suitable MY1B series to your application.

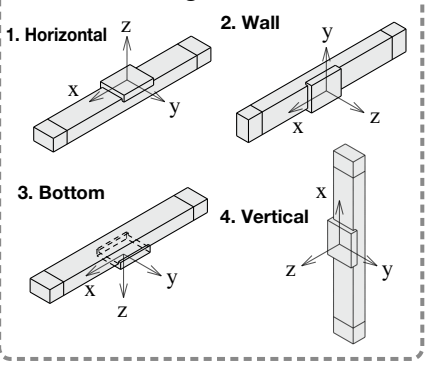
Calculation of Guide Load Factor

1. Operating Conditions

Cylinder ····· **MY1B40-500Z1**
Average operating speed υ**a** ···· **300 mm/s**
Mounting orientation ····· **Horizontal**
Cushion ····· **Air cushion**
(δ **= 1/100)**

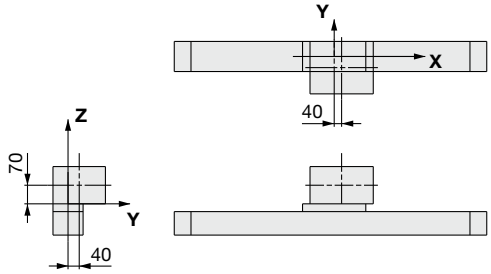


Mounting Orientation



For actual examples of calculation for each orientation, refer to the **Web Catalog**.

2. Load Blocking



Mass and Center of Gravity for Workpiece

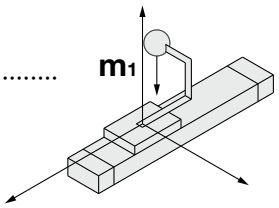
Workpiece no.	Mass **m**	Center of gravity		
		X-axis	**Y**-axis	**Z**-axis
W	3 kg	40 mm	40 mm	70 mm

3. Calculation of Load Factor for Static Load

m_1: Mass

m_1 max (from ① of graph MY1B/**m_1**) = 46 [kg]·····

Load factor α_1 = **m_1**/**m_1 max** = 3/46 = **0.07**

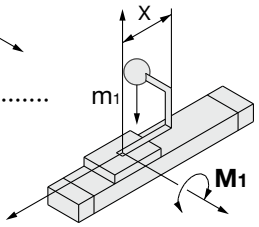


M_1: Moment

M_1 max (from ② of graph MY1B/**M_1**) = 35 [N·m]·····

M_1 = **m_1** x **g** x **X** = 3 x 9.8 x 40 x 10^{-3} = 1.18 [N·m]

Load factor α_2 = **M_1**/**M_1 max** = 1.18/35 = **0.04**

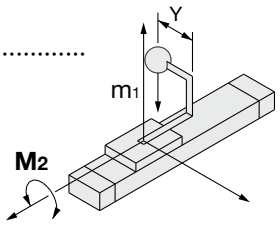


M_2: Moment

M_2 max (from ③ of graph MY1B/**M_2**) = 4.2 [N·m]·····

M_2 = **m_1** x **g** x **Y** = 3 x 9.8 x 40 x 10^{-3} = 1.18 [N·m]

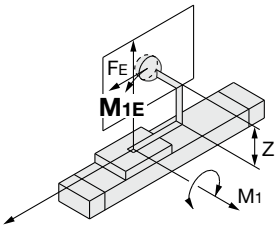
Load factor α_3 = **M_2**/**M_2 max** = 1.18/4.2 = **0.29**



4. Calculation of Load Factor for Dynamic Moment

Equivalent load F_E at impact

$F_E = 1.4\upsilon a \times \delta \times m \times g = 1.4 \times 300 \times \frac{1}{100} \times 3 \times 9.8 = 123.5$ [N]



M_{1E}: Moment

M_{1E} max (from ④ of graph MY1B/**M_1** where $1.4\upsilon a$ = 420 mm/s) = 25 [N·m]·····

$M_{1E} = \frac{1}{3} \times F_E \times Z = \frac{1}{3} \times 123.5 \times 70 \times 10^{-3} = 2.89$ [N·m]

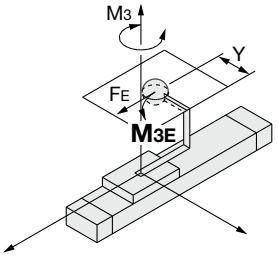
Load factor $\alpha_4 = M_{1E}/M_{1E}$ **max** = 2.89/25 = **0.12**

M_{3E}: Moment

M_{3E} max (from ⑤ of graph MY1B/**M_3** where $1.4\upsilon a$ = 420 mm/s) = 7.4 [N·m]·····

$M_{3E} = \frac{1}{3} \times F_E \times Y = \frac{1}{3} \times 123.5 \times 40 \times 10^{-3} = 1.65$ [N·m]

Load factor $\alpha_5 = M_{3E}/M_{3E}$ **max** = 1.65/7.4 = **0.23**



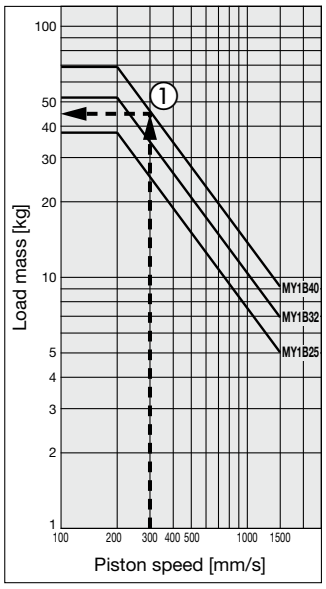
5. Sum and Examination of Guide Load Factors

$\sum\alpha = \alpha_1 + \alpha_2 + \alpha_3 + \alpha_4 + \alpha_5 = \mathbf{0.75} \leq \mathbf{1}$

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.

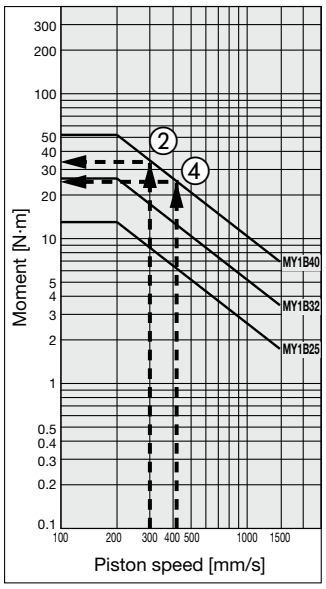
Load Mass

m_1

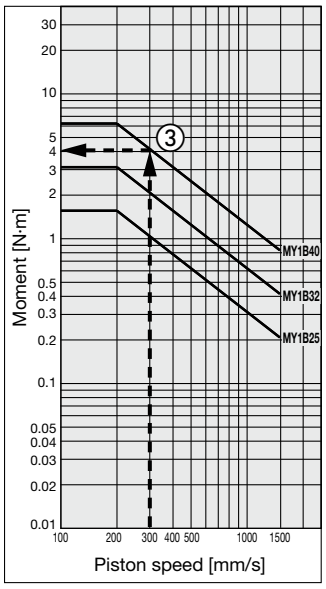


Allowable Moment

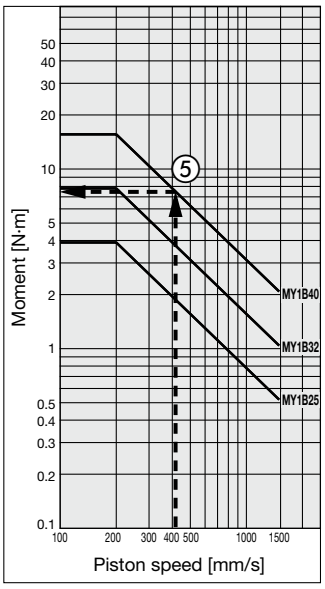
M_1



M_2



M_3



Mechanically Jointed Rodless Cylinder
Basic Type
MY1B Series
ø25, ø32, ø40

RoHS

How to Order

ø25, ø32, ø40 **MY1B** **25** ❶ ❷ ❸ – **300** ❹ ❺ **Z1** – **M9BW** ❻ ❼ – ❽

Basic type

❶ Bore size

25	25 mm
32	32 mm
40	40 mm

❸ Piping

Nil	Standard type
G	Centralized piping type

❺ Stroke adjustment unit symbol

For stroke adjustment units, refer to page 10.

❷ Port thread type

Symbol	Type
Nil	Rc
TN	NPT
TF	G

❹ Cylinder stroke [mm]

Bore size	Standard stroke	Max. manufacturable stroke
25	100, 200, 300, 400 500, 600, 700, 800 900, 1000, 1200, 1400 1600, 1800, 2000	5000
32		
40		

∗ The stroke can be manufactured in 1 mm increments from 1 mm stroke.
∗ Please be advised that with a stroke of 49 mm or less, there are cases where auto switch mounting is not possible, and the performance of the air cushion may decline.

❻ Auto switch

Nil	Without auto switch (Built-in magnet)

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

Scan or click here.

❼ Number of auto switches

Nil	2
S	1
n	n

❽ Made to Order Common Specifications

(For details, refer to the Web Catalog.)

Symbol	Specifications
-XB22	Shock absorber soft type RJ series mounted
-X168	Helical insert thread specifications

Applicable Auto Switches / Refer to the **Web Catalog** for further information on auto switches.

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage			Auto switch model		Lead wire length (m)				Pre-wired connector	Applicable load	
					DC		AC	Perpendicular	In-line	0.5 (Nil)	1 (M)	3 (L)	5 (Z)			
Solid state auto 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 indicator)			3-wire (NPN)		5 V, 12 V		**M9NWV**	**M9NW**	●	●	●	○	○	IC circuit	
				3-wire (PNP)				**M9PWV**	**M9PW**	●	●	●	○	○		
				2-wire		12 V		**M9BWV**	**M9BW**	●	●	●	○	○	–	
	Water resistant (2-color indicator)			3-wire (NPN)		5 V, 12 V		**M9NAV**∗1	**M9NA**∗1	○	○	●	○	○	IC circuit	
				3-wire (PNP)				**M9PAV**∗1	**M9PA**∗1	○	○	●	○	○		
				2-wire		12 V		**M9BAV**∗1	**M9BA**∗1	○	○	●	○	○	–	
Reed auto switch	—	Grommet	Yes	3-wire (NPN equiv.)	–	5 V	–	**A96V**	**A96**	●	●	●	●	○	IC circuit	–
			No	2-wire	24 V	12 V	100 V	**A93V**	**A93**	●	●	●	●	○∗2	–	Relay, PLC
							100 V or less	**A90V**	**A90**	●	●	●	●	○∗2	IC circuit	

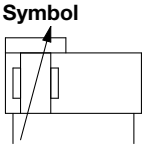
∗1 Water-resistant type auto switches can be mounted on the above models, but SMC cannot guarantee water resistance.
∗2 The load voltage used is 24 VDC.
∗ For details on auto switch mounting brackets and part numbers, refer to page 19.

∗ Lead wire length symbols: 0.5 m ····· Nil (Example) M9NW
1 m ····· M (Example) M9NWM
3 m ····· L (Example) M9NWL
5 m ····· Z (Example) M9NWZ

∗ Auto switches marked with a "○" are produced upon receipt of order.

∗ Auto switches are shipped together with the product but do not come assembled.

Symbol



Specifications

Bore size [mm]		25	32	40
Fluid		Air		
Action		Double acting		
Operating pressure range		0.1 to 0.8 MPa		
Proof pressure		1.2 MPa		
Ambient and fluid temperatures		5 to 60°C		
Cushion		Air cushion		
Lubrication		Non-lube		
Stroke length tolerance		2700 or less $^{+1.8}_{0}$, 2701 to 5000 $^{+2.8}_{0}$		
Piping port size	**Front/Side port**	1/8		1/4
	Bottom port	ø6		ø8

Piston Speed

Bore size [mm]		25 to 40
Without stroke adjustment unit		100 to 1000 mm/s
Stroke adjustment unit	**A unit**	100 to 1000 mm/s∗1
	L unit and H unit	100 to 1500 mm/s∗2

∗1 Be aware that when the stroke adjustment range is increased with the adjustment bolt, the air cushion capacity decreases. Also, when exceeding the air cushion stroke ranges on page 11, **the piston speed should be 100 to 200 mm/s.**

∗2 The piston speed is 100 to 1000 mm/s for centralized piping.

∗ Use at a speed within the absorption capacity range. Refer to page 11.

∗ Due to the construction of this product, it may have more fluctuation in operating speed compared to a rod type air cylinder. For applications that require constant speed, select the equipment corresponding to the required level.

Stroke Adjustment Unit Specifications

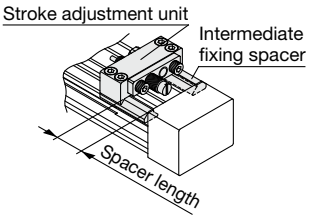
Bore size [mm]		25			32			40		
Unit symbol		**A**	**L**	**H**	**A**	**L**	**H**	**A**	**L**	**H**
Configuration Shock absorber model		With adjustment bolt	RB 1007 + with adjustment bolt	RB 1412 + with adjustment bolt	With adjustment bolt	RB 1412 + with adjustment bolt	RB 2015 + with adjustment bolt	With adjustment bolt	RB 1412 + with adjustment bolt	RB 2015 + with adjustment bolt
Stroke adjustment range by intermediate fixing spacer [mm]	**Without spacer**	0 to –11.5			0 to –12			0 to –16		
	With short spacer	–11.5 to –23			–12 to –24			–16 to –32		
	With long spacer	–23 to –34.5			–24 to –36			–32 to –48		

∗ Stroke adjustment range is applicable for one side when mounted on a cylinder.

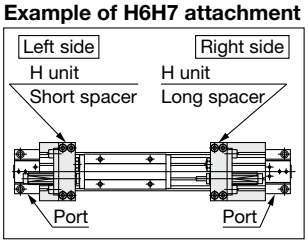
Stroke Adjustment Unit Symbol

Left side stroke adjustment unit		Right side stroke adjustment unit: Without unit	A: With adjustment bolt	A: With short spacer	A: With long spacer	L: With low load shock absorber + Adjustment bolt	L: With short spacer	L: With long spacer	H: With high load shock absorber + Adjustment bolt	H: With short spacer	H: With long spacer
Without unit		**Nil**	**SA**	**SA6**	**SA7**	**SL**	**SL6**	**SL7**	**SH**	**SH6**	**SH7**
A: With adjustment bolt		**AS**	**A**	**AA6**	**AA7**	**AL**	**AL6**	**AL7**	**AH**	**AH6**	**AH7**
	With short spacer	**A6S**	**A6A**	**A6**	**A6A7**	**A6L**	**A6L6**	**A6L7**	**A6H**	**A6H6**	**A6H7**
	With long spacer	**A7S**	**A7A**	**A7A6**	**A7**	**A7L**	**A7L6**	**A7L7**	**A7H**	**A7H6**	**A7H7**
L: With low load shock absorber + Adjustment bolt		**LS**	**LA**	**LA6**	**LA7**	**L**	**LL6**	**LL7**	**LH**	**LH6**	**LH7**
	With short spacer	**L6S**	**L6A**	**L6A6**	**L6A7**	**L6L**	**L6**	**L6L7**	**L6H**	**L6H6**	**L6H7**
	With long spacer	**L7S**	**L7A**	**L7A6**	**L7A7**	**L7L**	**L7L6**	**L7**	**L7H**	**L7H6**	**L7H7**
H: With high load shock absorber + Adjustment bolt		**HS**	**HA**	**HA6**	**HA7**	**HL**	**HL6**	**HL7**	**H**	**HH6**	**HH7**
	With short spacer	**H6S**	**H6A**	**H6A6**	**H6A7**	**H6L**	**H6L6**	**H6L7**	**H6H**	**H6**	**H6H7**
	With long spacer	**H7S**	**H7A**	**H7A6**	**H7A7**	**H7L**	**H7L6**	**H7L7**	**H7H**	**H7H6**	**H7**

Stroke adjustment unit mounting diagram



Example of H6H7 attachment



∗ Spacers are used to fix the stroke adjustment unit at an intermediate stroke position. For details on spacers and stroke adjustment units, refer to "Accessory Brackets (Option)" on page 16.

∗ For precautions, refer to page 20.

Accessory Brackets (Option)

Stroke adjustment unit	p. 16
Side support	p. 17
Floating bracket	p. 18

Refer to page 19 for the specifications with auto switch.

Shock Absorbers for L and H Units

Model	Stroke adjustment unit	Bore size [mm]		
		25	32	40
Standard (Shock absorber RB series)	L	RB1007	RB1412	
	H	RB1412	RB2015	
Shock absorber soft type RJ series mounted (-XB22)	L	RJ1007H	RJ1412H	
	H	RJ1412H	—	—

∗ The shock absorber service life is different from that of the MY1B cylinder depending on operating conditions. Refer to the RB/RJ Series Specific Product Precautions for the replacement period.
∗ Shock absorber soft type RJ series mounted (-XB22) is made-to-order common specifications. For details, refer to the **Web Catalog**.

Shock Absorber Specifications

Model		RB 1007	RB 1412	RB 2015
Max. absorbed energy [J]		5.9	19.6	58.8
Stroke absorption [mm]		7	12	15
Max. collision speed [mm/s]		1500	1500	1500
Max. operating frequency [cycle/min]		70	45	25
Spring force [N]	**Extended**	4.22	6.86	8.34
	Retracted	6.86	15.98	20.50
Operating temperature range [°C]		5 to 60		

∗ The shock absorber service life is different from that of the MY1B cylinder depending on operating conditions. Refer to the RB Series Specific Product Precautions for the replacement period.

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
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

∗ Theoretical output [N] = Pressure [MPa] x Piston area [mm²]

Weight

Unit: kg

Bore size [mm]	Basic weight	Additional weight per 50 mm of stroke	Weight of moving parts	Side support weight (per set)	Stroke adjustment unit weight (per unit)		
				A/B type weight	A unit weight	L unit weight	H unit weight
25	0.91	0.10	0.25	0.02	0.06	0.10	0.18
32	1.74	0.16	0.52	0.02	0.12	0.21	0.40
40	3.04	0.24	0.93	0.04	0.23	0.32	0.49

Calculation: (Example) **MY1B25-300AZ1**

Basic weight ····· 0.91 kg
Additional weight ····· 0.10/50 st
Weight of A unit ····· 0.06 kg
Cylinder stroke ····· 300 st
0.91 + 0.10 x 300 ÷ 50 + 0.06 x 2 ≈ 1.61 kg

Cushion Capacity

Cushion Selection

<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 with high kinetic energy at the stroke end. 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 adjustment unit with shock absorber>
Use this unit when operating with a load and 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 cushioning is required 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.
∗ For details on stroke adjustment using the adjustment bolt, refer to the **Web Catalog**.
∗ Do not use a shock absorber together with air cushion.
∗ When using the shock absorber, use it with the cushion needle fully open.

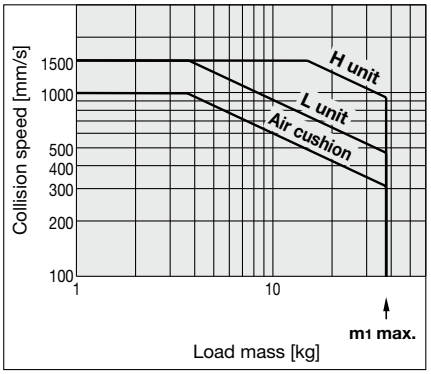
Air Cushion Stroke

[mm]

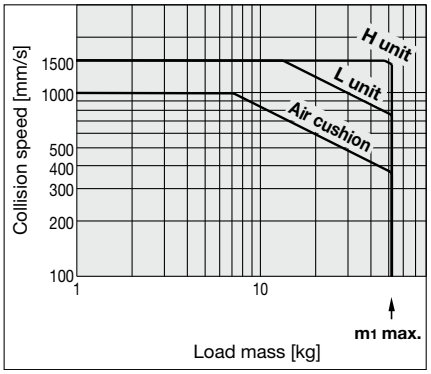
Bore size [mm]	Cushion stroke
25	15
32	19
40	24

Absorption Capacity of Air Cushion and Stroke Adjustment Units

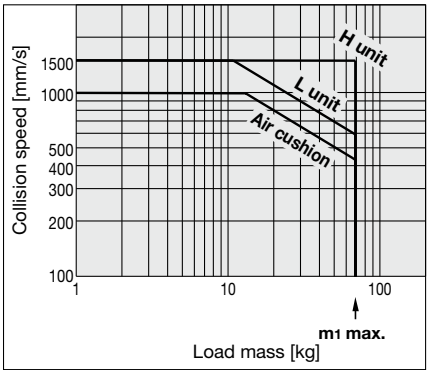
25 Horizontal collision: P = 0.5 MPa



32 Horizontal collision: P = 0.5 MPa

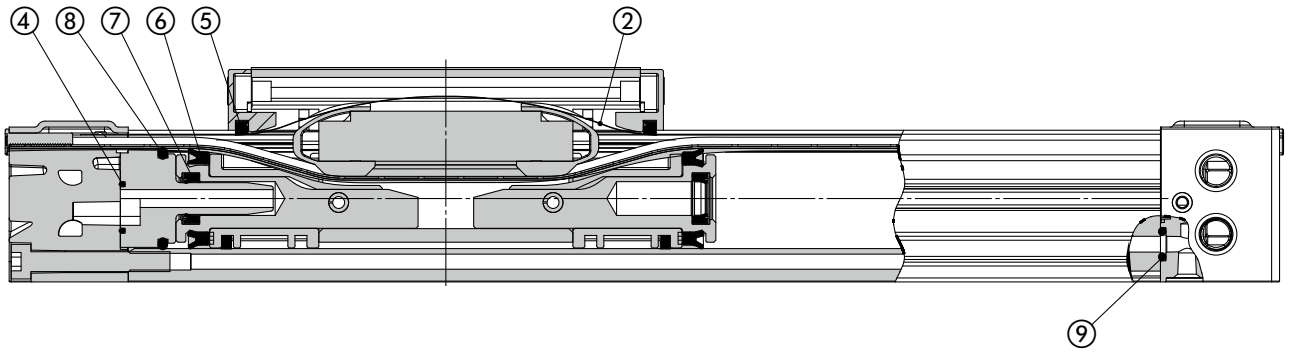


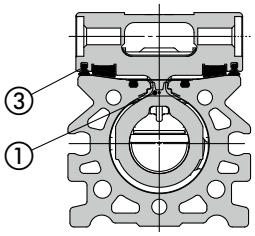
40 Horizontal collision: P = 0.5 MPa



Construction

MY1B25 to 40





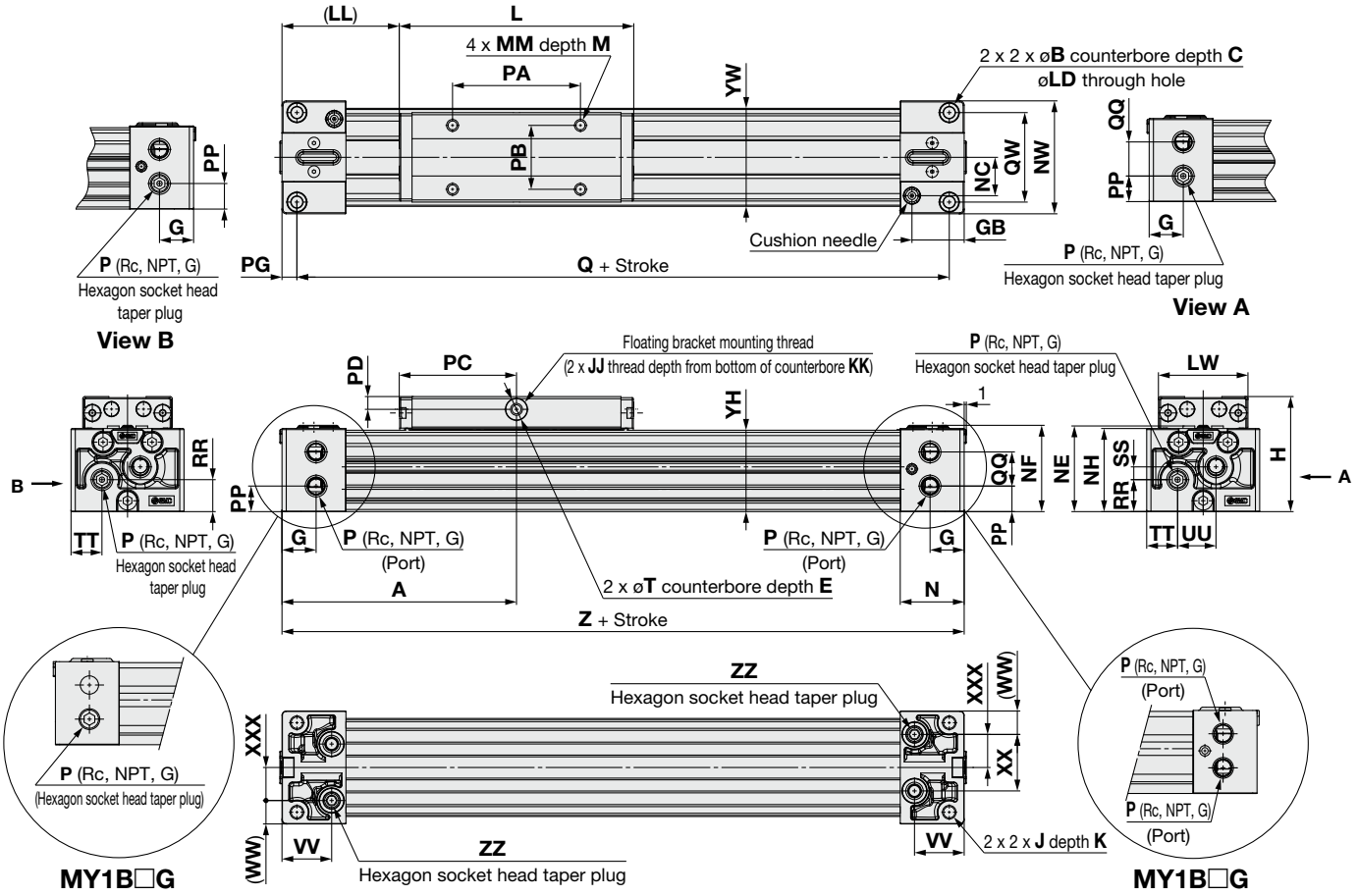
Component Parts/Seal Kit

No.	Description	Material	Qty.	MY1B25	MY1B32	MY1B40
1	**Seal belt**	Urethane	1	MY25-16C- Stroke	MY32-16C- Stroke	MY40-16C- Stroke
2	**Dust seal band**	Stainless steel	1	MY1B25-16B- Stroke	MY1B32-16B- Stroke	MY1B40-16B- Stroke
3	**Side scraper**	Polyamide	2	MYB25-15BA5900B	MYB32-15BA5901B	MYB40-15BA5902B
4	**Cushion boss gasket**	NBR	2	MYB25-16GA5900	MYB32-16GA5901	MYB40-16GA5902
5	**Scraper**	NBR	2	MY1B25-PS	MY1B32-PS	MY1B40-PS
6	**Piston seal**	NBR	2			
7	**Cushion seal**	NBR	2			
8	**Tube gasket**	NBR	2			
9	**O-ring**	NBR	4			

∗ Seal kit includes ⑤, ⑥, ⑦, ⑧, and ⑨. Order the seal kit based on each bore size.
∗ Seal kit includes a grease pack (10 g).
When ① and ② are shipped independently, a grease pack is included. (10 g per 1000 mm stroke)
Order with the following part number when only the grease pack is needed.
Grease pack part number:
GR-S-010 (10 g), **GR-S-020** (20 g)

Standard Type/Centralized Piping Type

MY1B25□/32□/40□ – Stroke Z1



Standard piping/Centralized piping

[mm]

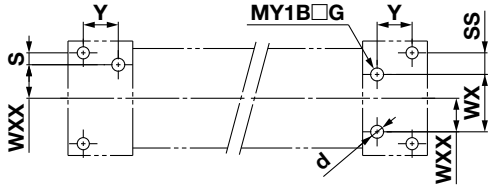
Model	A	B	C	E	G	GB	H	J	JJ	K	KK	L	LD	LL	LW	M	MM	N	NC	NE	NF	NH	NW
MY1B25□	110	9	5.5	2	16	24.5	54	M6 x 1	M5 x 0.8	9.5	7.6	110	5.4	55	42	9	M5 x 0.8	30	18	40.2	40.5	39	53
MY1B32□	140	11	6.6	2	19	28.5	68	M8 x 1.25	M5 x 0.8	16	10	140	6.8	70	52	12	M6 x 1	37	22	50.2	50	49	64
MY1B40□	170	14	8.5	2	23	35	84	M10 x 1.5	M6 x 1	15	13	170	8.6	85	64	12	M6 x 1	45	26.5	62.7	62	61.5	75

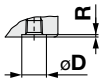
Model	P	PA	PB	PC	PD	PP	PG	Q	QW	RR	T	TT	VV	WW	XXX	YH	YW	Z	ZZ
MY1B25□	1/8	60	30	55	6	12	7	206	42	15	10	14.5	23.3	11	15.5	38.2	46	220	Rc1/16
MY1B32□	1/8	80	35	70	10	16	8	264	51	16	10	16	28.5	12	20	48	55	280	Rc1/16
MY1B40□	1/4	100	40	85	12	18.5	9	322	59	23.5	14	20	35	14	23.5	60.5	67	340	Rc1/8

Centralized piping

Model	QQ	SS	UU	XX
MY1B25□	16	6	18	26.5
MY1B32□	16	11	32	40
MY1B40□	24	12	35	47

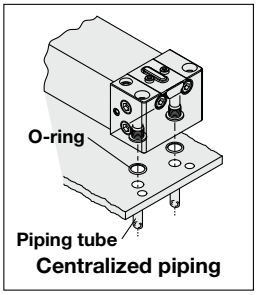
Centralized Piping on the Bottom





Bottom ported (ZZ)
(Applicable O-ring)

∗ This figure shows the recommended machining dimensions of the mounting surface when viewed from the cylinder side.



[mm]

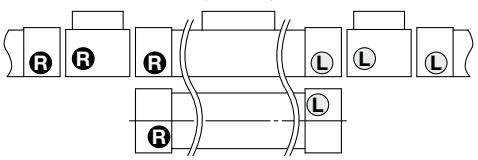
Model	WXX	Y	S	d	D	R	Applicable O-ring
MY1B25□	15.5	16.2	5.5	6	11.4	1.1	11.5 x 8.5 x 1.5
MY1B32□	20	20.4	5.5	6	11.4	1.1	
MY1B40□	23.5	25.9	6	8	13.4	1.1	13.7 x 10.7 x 1.5

[mm]

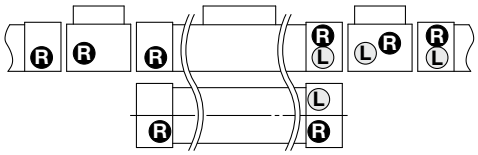
Model	WX	SS
MY1B25□	26.5	10
MY1B32□	40	5.5
MY1B40□	47	6

Port Variations

Standard piping — Slide table operating direction



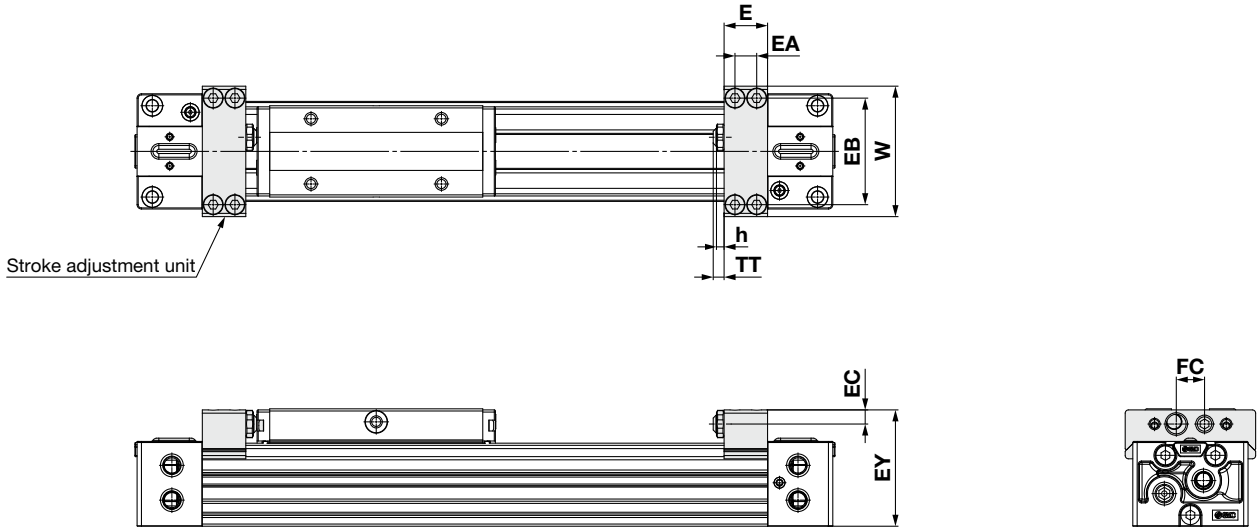
Centralized piping (MY1B□G-□Z1) — Slide table operating direction



Stroke Adjustment Units

With adjustment bolt

MY1B Bore size □ — Stroke AZ1

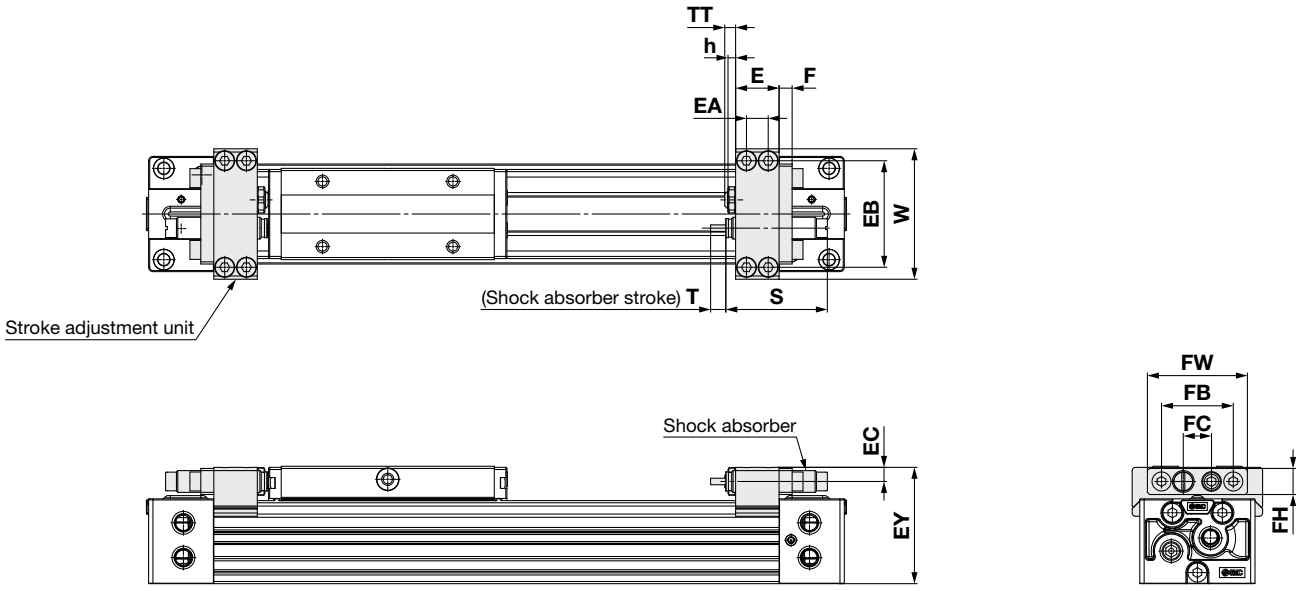


[mm]

Applicable cylinder	E	EA	EB	EC	EY	FC	h	TT	W
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

With low load shock absorber + Adjustment bolt

MY1B Bore size □ — Stroke LZ1



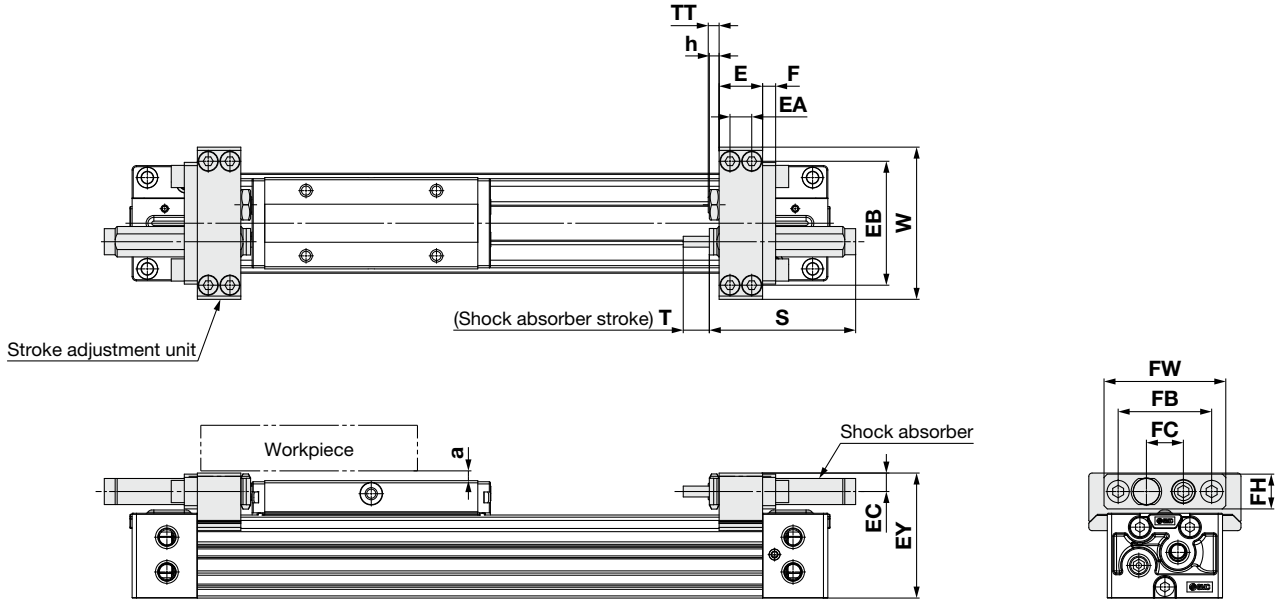
[mm]

Applicable cylinder	E	EA	EB	EC	EY	F	FB	FC	FH	FW	h	S	T	TT	W	Shock absorber model
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	RB1412

Stroke Adjustment Units

With high load shock absorber + Adjustment bolt

MY1B Bore size □ — Stroke HZ1



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

[mm]

Applicable cylinder	E	EA	EB	EC	EY	F	FB	FC	FH	FW	h	S	T	TT	W	Shock absorber model	a
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	RB2015	4

MY1B Series
Accessory Brackets (Option)

Stroke Adjustment Units

MY − A 25 H2 − 6N

Stroke adjustment unit

Bore size

25	25 mm
32	32 mm
40	40 mm

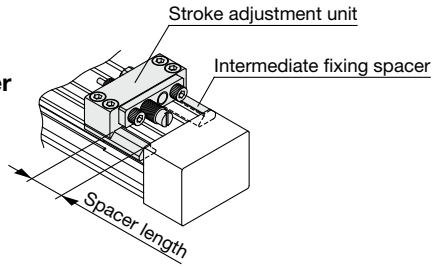
Intermediate fixing spacer

Nil	Without spacer
6□	Short spacer
7□	Long spacer

Spacer delivery type

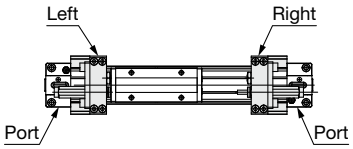
Nil	Unit installed
N	Spacer only

∗ Spacers are used to fix the stroke adjustment unit at an intermediate stroke position.
∗ Spacers are shipped for a set of two.



Unit no.

Symbol	Stroke adjustment unit	Mounting position
A1	A unit	Left
A2		Right
L1	L unit	Left
L2		Right
H1	H unit	Left
H2		Right



Stroke adjustment range

[mm]

Bore size	25			32			40		
Unit symbol	**A**	**L**	**H**	**A**	**L**	**H**	**A**	**L**	**H**
Without spacer	0 to –11.5			0 to –12			0 to –16		
With short spacer	–11.5 to –23			–12 to –24			–16 to –32		
With long spacer	–23 to –34.5			–24 to –36			–32 to –48		

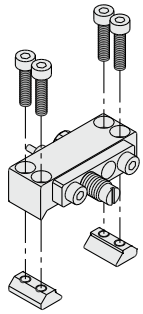
Spacer length

[mm]

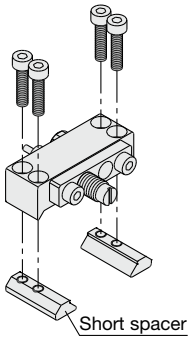
Bore size	25	32	40
Short spacer	11.5	12	16
Long spacer	23	24	32

Component Parts

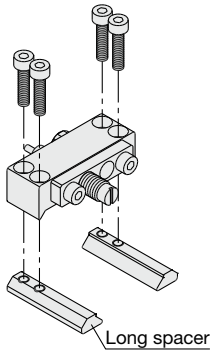
MY-A25H2
(Without spacer)



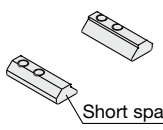
MY-A25H2-6
(With short spacer)



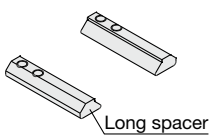
MY-A25H2-7
(With long spacer)



MY-A25H2-6N
(Short spacer only)

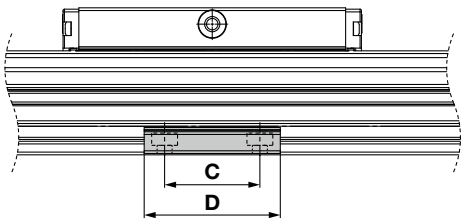


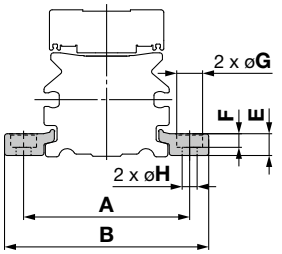
MY-A25H2-7N
(Long spacer only)



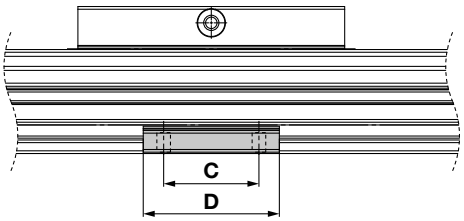
Side Supports

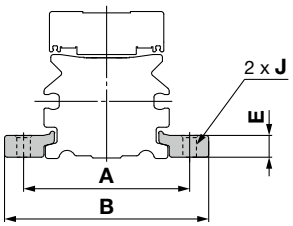
Side support A
MY-S□A





Side support B
MY-S□B



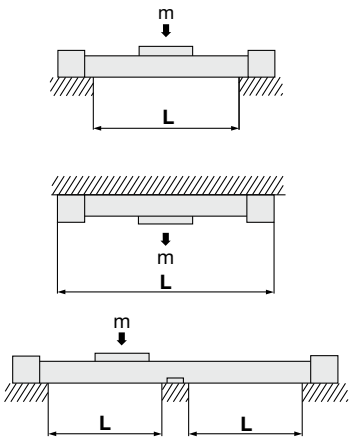


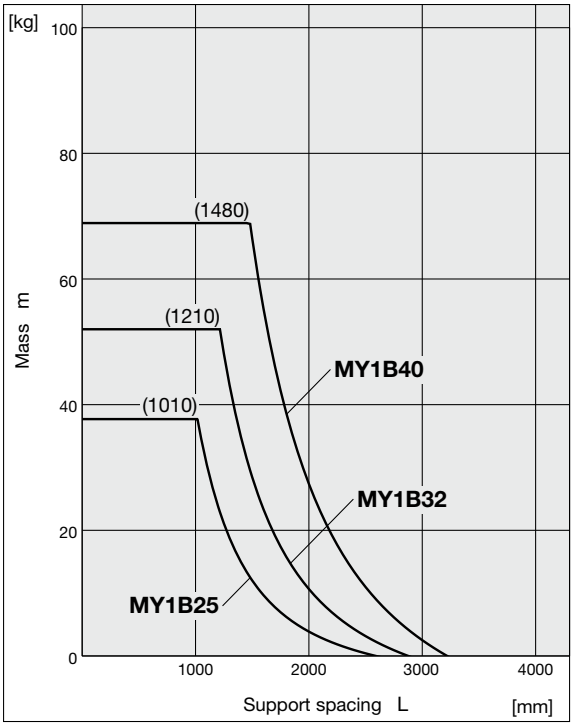
Model	Applicable cylinder	A	B	C	D	E	F	G	H	J
MY-S25$^{A}_{B}$	MY1B25	61	75	35	50	8	5	9.5	5.5	M6 x 1
	MY1B32	70	84							
MY-S32$^{A}_{B}$	MY1B40	87	105	45	64	11.7	6	11	6.6	M8 x 1.25

∗ Side supports consist of a set of right and left brackets.

Guide for Side Support Application

For long stroke operation, the cylinder tube may be deflected depending on its own weight and the load. 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 it. Also, for long stroke operation involving vibration and impact, the 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 Brackets

Facilitates connection to other guide systems.

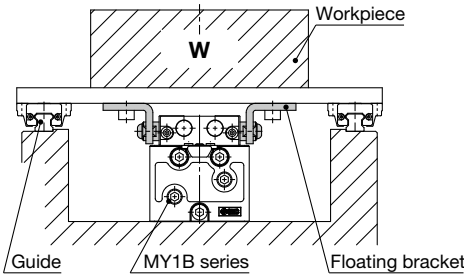
Applicable bore size

ø25, ø32, ø40

MY□J25/MY□J32/MY□J40

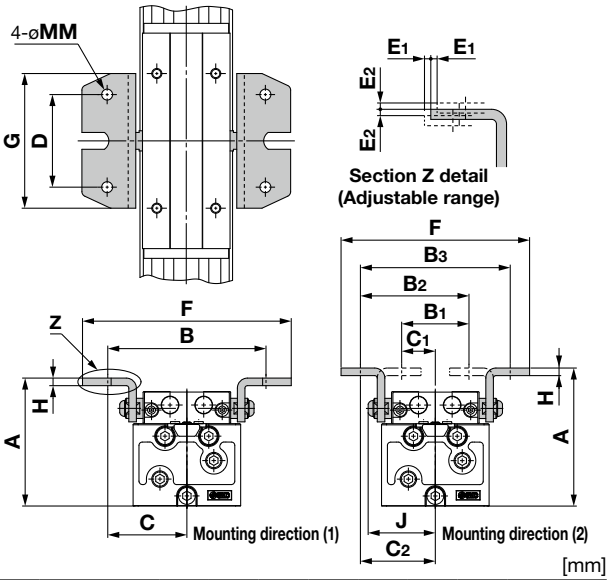
L Type

Application Example



Mounting Dimensions

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



[mm]

Part no.	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

Part no.	Applicable cylinder	Mounting direction (2)							Adjustable range	
		A	B1	B2	B3	C1	C2	F	E1	E2
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

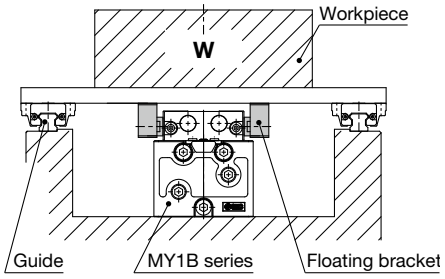
∗ Floating brackets consist of a set of right and left brackets.
∗ For details on how to secure the holding bolt, refer to the operation manual.

MY-J25 to 40 (1 set) Component Parts

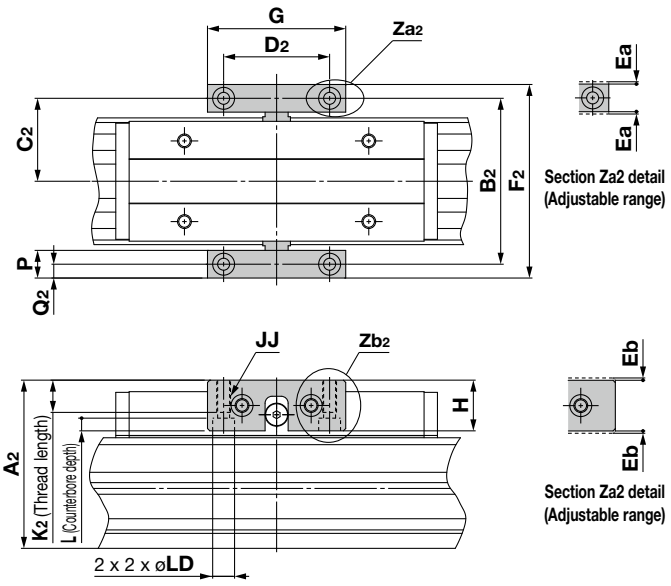
Description	Qty.	Material
Bracket	2	Carbon steel
Pin	2	Carbon steel
Conical spring washer	2	Carbon steel
Holding bolt	2	Chromium molybdenum steel

Block Type

Application Example



Mounting Dimensions



[mm]

Part no.	Applicable cylinder	G	H	JJ	L	P	LD	Adjustable range	
								Ea	Eb
MYAJ25	MY1B25□	55	22	M6 x 1	5.5	12	9.5	1	1
MYAJ32	MY1B32□	60	22	M6 x 1	5.5	12	9.5	1	1
MYAJ40	MY1B40□	72	32	M8 x 1.25	6.5	16	11	1	1

Part no.	Applicable cylinder	A2	B2	C2	D2	F2	K2	Q2
MYAJ25	MY1B25□	63	61	30.5	40	73	14	6
MYAJ32	MY1B32□	73	72	36	46	84	14	6
MYAJ40	MY1B40□	93.5	88	44	55	104	19	8

∗ For details on how to secure the holding bolt, refer to the operation manual.

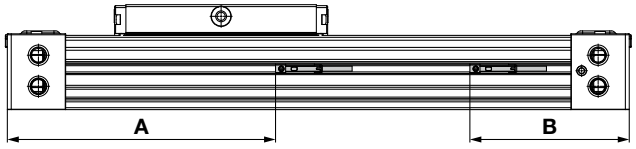
MYAJ25 to 40 (1 set) Component Parts

Description	Qty.	Material
Bracket	2	Rolled steel
Pin	2	Carbon steel
Conical spring washer	2	Carbon steel
Holding bolt	2	Chromium molybdenum steel

Auto Switch Mounting

Auto Switch Proper Mounting Position (Detection at stroke end)

MY1B (Basic type)



Auto Switch Proper Mounting Position

[mm]

Auto switch model / Bore size	D-M9□ D-M9□V D-M9□W D-M9□WV D-M9□A D-M9□AV		D-A9□ D-A9□V	
	A	B	A	B
25	138	82	134	86
32	186.5	93.5	182.5	97.5
40	222.5	117.5	218.5	121.5

∗ Adjust the auto switch after confirming the operating conditions in the actual setting.

Operating Range

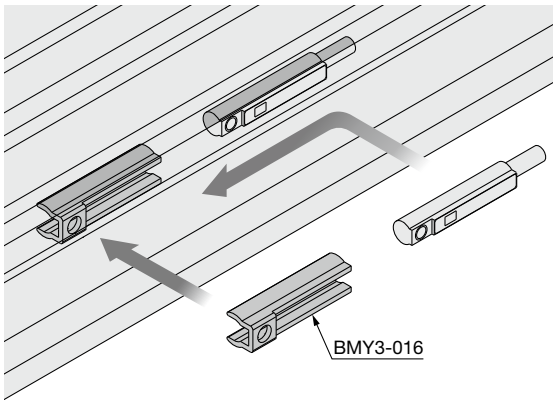
∗ Values which include hysteresis are for reference purposes only. They are not a guarantee (assuming approximately ±30% dispersion) and may change substantially depending on the ambient environment.

[mm]

Auto switch model	Bore size		
	25	**32**	**40**
D-M9□/M9□V **D-M9□W/M9□WV** **D-M9□A/M9□AV**	5.0	5.5	5.5
D-A9□/A9□V	7.0	10.0	9.0

Auto Switch Mounting Bracket/Part No.

Auto switch model	Part no.
D-M9□/M9□V **D-M9□W/M9□WV** **D-M9□A/M9□AV** **D-A9□/A9□V**	BMY3-016



MY1B Series
Specific Product Precautions

Be sure to read this before handling the products. Refer to the back cover for safety instructions. For actuator and auto switch precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual" on the SMC website.

Selection

⚠Caution

1. Cautions on less frequent operation

When the cylinder is used extremely infrequently, operation may be interrupted in order for anchoring and a change lubrication to be performed or service life may be reduced.

2. Air leakage

Due to the mechanically jointed rodless cylinder's special seal construction, a small amount of air leakage that does not affect the thrust will occur. A subtle "hissing" sound may be heard as a result.

Mounting

⚠Caution

1. Do not generate negative pressure in the cylinder tube.

When the cylinder is in a non-pressurized state, such as during a test run, maintenance, etc., external or inertial force may cause negative pressure to be generated inside the cylinder. In such cases, the seal belt may come off, resulting in a temporary air leak.

- Examples:

1) When external force is used to move a slide table all at once during installation, a test run, etc.
2) When a vertically-mounted slide table carrying a load drops due to its weight

(In either case, the smaller the speed controller's opening is set, the more likely negative pressure is to be generated.)

- For negative pressure prevention

When using external force to move a slide table, move it slowly and steadily at about 20 mm/s. (If the speed controller's opening is set extremely small, increase the opening only during manual operation.)

- If the seal belt comes off

If the seal belt comes off due to negative pressure and the air is leaking, manually move the slide table from the beginning to the end of the cylinder's full stroke slowly and steadily at about 20 mm/s.

(If the speed controller's opening is set extremely small, increase the opening only during manual operation.)

Operating Environment

⚠Warning

1. Do not use in an environment where the cylinder is exposed to coolant, cutting oil, water drops, adhesive foreign matter, dust, etc. and avoid use with compressed air containing drainage and foreign matter.

- Foreign matter or liquids on the cylinder's interior or exterior can wash out the lubricating grease, which can lead to deterioration and damage of dust seal band and seal materials, causing a danger of malfunction.

When operating in locations with exposure to water and oil, or in dusty locations, provide protection such as a cover to prevent direct contact with the cylinder, or mount so that the dust seal band surface faces downward, and operate with clean compressed air.

Service Life and Replacement Period of Shock Absorber

⚠Caution

1. The cylinder, equipment and/or workpieces might be destroyed if the table collides the end of the stroke without being buffered properly by the shock absorber. See below for the number of cycles that are possible within the catalog usage range (model selection graph range), and check the operating conditions periodically, adjusting or replacing the shock absorber when necessary.

RB10□□ to RB1412: 2 million times

∗ Specified service life (suitable replacement period) is the value at room temperature (20 to 25°C). The period may vary depending on the temperature and other conditions. In some cases, the shock absorber may need to be replaced before the allowable operating cycle above.

⚠ Safety Instructions

These safety instructions are intended to prevent hazardous situations and/or equipment damage. These instructions indicate the level of potential hazard with the labels of **"Caution," "Warning"** or **"Danger."** They are all important notes for safety and must be followed in addition to International Standards (ISO/IEC)*1), and other safety regulations.

⚠ Danger : **Danger** indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.

⚠ Warning: **Warning** indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.

⚠ Caution: **Caution** indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.

*1) ISO 4414: Pneumatic fluid power - General rules and safety requirements for systems and their components
ISO 4413: Hydraulic fluid power - General rules and safety requirements for systems and their components
IEC 60204-1: Safety of machinery - Electrical equipment of machines - Part 1: General requirements
ISO 10218-1: Robots and robotic devices - Safety requirements for industrial robots - Part 1:Robots
etc.

⚠ Warning

1. The compatibility of the product is the responsibility of the person who designs the equipment or decides its specifications.

Since the product specified here is used under various operating conditions, its compatibility with specific equipment must be decided by the person who designs the equipment or decides its specifications based on necessary analysis and test results. The expected performance and safety assurance of the equipment will be the responsibility of the person who has determined its compatibility with the product. This person should also continuously review all specifications of the product referring to its latest catalog information, with a view to giving due consideration to any possibility of equipment failure when configuring the equipment.

2. Only personnel with appropriate training should operate machinery and equipment.

The product specified here may become unsafe if handled incorrectly. The assembly, operation and maintenance of machines or equipment including our products must be performed by an operator who is appropriately trained and experienced.

3. Do not service or attempt to remove product and machinery/ equipment until safety is confirmed.

1. The inspection and maintenance of machinery/equipment should only be performed after measures to prevent falling or runaway of the driven objects have been confirmed.
2. When the product is to be removed, confirm that the safety measures as mentioned above are implemented and the power from any appropriate source is cut, and read and understand the specific product precautions of all relevant products carefully.
3. Before machinery/equipment is restarted, take measures to prevent unexpected operation and malfunction.

4. SMC products cannot be used beyond their specifications. They are not developed, designed, and manufactured to be used under the following conditions or environments. Use under such conditions or environments is not allowed.

1. Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight.
2. Use for nuclear power, railways, aviation, space equipment, ships, vehicles, military application, equipment affecting human life, body, and property, combustion equipment, entertainment equipment, emergency shut-off circuits, press clutches, brake circuits, safety equipment, etc., and use for applications that do not conform to standard specifications such as catalogs and operation manuals.
3. Use for interlock circuits, except for use with double interlock such as installing a mechanical protection function in case of failure. Please periodically inspect the product to confirm that the product is operating properly.

⚠ Caution

SMC develops, designs, and manufactures products to be used for automatic control equipment, and provides them for peaceful use in manufacturing industries.
Use in non-manufacturing industries is not allowed.
Products SMC manufactures and sells cannot be used for the purpose of transactions or certification specified in the Measurement Act of each country. The new Measurement Act prohibits use of any unit other than SI units in Japan.

Limited warranty and Disclaimer/ Compliance Requirements

The product used is subject to the following "Limited warranty and Disclaimer" and "Compliance Requirements".
Read and accept them before using the product.

Limited warranty and Disclaimer

1. The warranty period of the product is 1 year in service or 1.5 years after the product is delivered, whichever is first.*2)
   Also, the product may have specified durability, running distance or replacement parts. Please consult your nearest sales branch.
2. For any failure or damage reported within the warranty period which is clearly our responsibility, a replacement product or necessary parts will be provided.
   This limited warranty applies only to our product independently, and not to any other damage incurred due to the failure of the product.
3. Prior to using SMC products, please read and understand the warranty terms and disclaimers noted in the specified catalog for the particular products.

*2) **Suction cups (Vacuum pads) are excluded from this 1 year warranty.**
A suction cup (vacuum pad) is a consumable part, so it is warranted for a year after it is delivered.
Also, even within the warranty period, the wear of a product due to the use of the suction cup (vacuum pad) or failure due to the deterioration of rubber material are not allowed by the limited warranty.

Compliance Requirements

1. The use of SMC products with production equipment for the manufacture of weapons of mass destruction (WMD) or any other weapon is strictly prohibited.
2. The exports of SMC products or technology from one country to another are governed by the relevant security laws and regulations of the countries involved in the transaction. Prior to the shipment of a SMC product to another country, assure that all local rules governing that export are known and followed.

⚠ Safety Instructions	Be sure to read the "Handling Precautions for SMC Products" (M-E03-3) and "Operation Manual" before use.

SMC Corporation