



Insert it at the notch and slide it along the mounting groove.



Mounting bracket

reduces ingress of foreign matter, improving the life of the cylinder.





The mounting and performance are the same as before, but the weight is reduced.

• Weight is reduced by the die cast head cover and removal of guide cover.

| Bore size [mm] | New MY1H | Reduction rate | Existing model |
|----------------|----------|----------------|----------------|
| 25 | 2.17 kg | 6% | 2.31 kg |
| 32 | 4.37 kg | 6% | 4.65 kg |
| 40 | 5.84 kg | 8% | 6.37 kg |

Maintenance of dust seal band improved Space saving achieved by piping on the back • No need to select the dust seal band When a speed controller is mounted, from two types. the cylinder installation area can be reduced significantly. • The dust seal band can be removed New Existing model MY1H by loosening two holding screws (on Speed controller mounted on the back port one side). **Dust seal band Head plate** Front side Front side Dust seal band holding screw

Improvement of port variations

With addition of the back port, piping can be connected to suit the installation conditions.





Stroke Adjustment Unit



SMC

MY1H

End lock

MY1DW

Digital Catalogue

Digital catalogue www.smc.eu

Series MY1H Prior to Use

Maximum Allowable Moment/Maximum Load Weight

| Model | Bore size | Maximum a | allowable mo | ment [N·m] | Maximum load weight [kg] | | | |
|-------|-----------|-----------|--------------|------------|--------------------------|----------------|------|--|
| WOUEI | [mm] | M1 | M2 | Мз | m 1 | m ₂ | m₃ | |
| | 25 | 23 | 26 | 23 | 27.5 | 27.5 | 27.5 | |
| MY1H | 32 | 39 | 50 | 39 | 39.2 | 39.2 | 39.2 | |
| | 40 | 50 | 50 | 39 | 50 | 50 | 50 | |

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

Load weight (kg)



Calculation of Guide Load Factor

1) Maximum load weight (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 \Im (average speed) for (1) and (2), and \Im (collision speed \Im = 1.4 \Im a) for (3). Calculate m max for (1) from the maximum load weight graph (m1, m2, m3) and M max for (2) and (3) from the maximum allowable moment graph (M1, M2, M3).

| Sum of guide $\sum_{\alpha} \alpha$ - | Load weight [m] | Static moment [M] Note 1) | Dynamic moment [ME] Note 2) |
|---------------------------------------|-----------------------------|---------------------------------|---|
| load factors 200- | Maximum load weight [m max] | Allowable static moment [M max] | $\int \overline{\text{Allowable dynamic moment [ME max]}} \geq 1$ |

Note 1) Moment caused by the load, etc., with cylinder in resting condition

Note 2) Moment caused by the load equivalent to impact at the stroke end (at the time of impact with stopper)

Note 3) Depending on the shape of a 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 weight [kg]
- F : Load [N]
- F_E : Load equivalent to impact (at the time of impact with stopper) [N]
- **Ua**: Average speed [mm/s]
- M : Static moment [N·m]

 $\mathcal{U} = 1.4 \mathcal{U} \mathbf{a} \text{ [mm/s]} \quad \mathbf{F} \mathbf{E} = 1.4 \mathcal{U} \mathbf{a} \cdot \mathbf{\delta} \cdot \mathbf{m} \cdot \mathbf{g}$ Note 5)
Note 5)

 $\therefore \mathbf{M}\mathbf{E} = \frac{1}{3} \cdot \mathbf{F}\mathbf{E} \cdot \mathbf{L}\mathbf{1} = 4.57 \cdot \mathbf{D}\mathbf{a} \cdot \mathbf{\delta}\mathbf{m}\mathbf{L}\mathbf{1} [\text{N} \cdot \text{m}]$

 υ : Collision speed [mm/s]

- \textbf{L}_1 : Distance to the load center of gravity [m]
- ME: Dynamic moment [N·m]
- δ : Bumper coefficient With air cushion = 1/100
- With shock absorber = 1/100
- **g** : Gravitational acceleration (9.8 m/s²)



Note 4) 1.4 \Im a δ is a dimensionless coefficient for calculating impact force. Note 5) 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 Front matter 3 and 4.





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

Maximum Load Weight



be exceeded even within the operating limits shown in the graphs. Therefore, also check the allowable moment for the selected conditions.

MY1H/m₃

50 40 30 20 ğ **MY1H40** 10 Load weight MY 1H32 MY1H25 5 4 3 2 1 100 200 300 400 500 1000 1500 Piston speed mm/s

Series MY1H Model Selection

The following is the steps for selecting the most suitable MY1H series to your application.

Calculation of Guide Load Factor

1. Operating Conditions

Cylinder ······ MY1H40-500Z Average operating speed $\Im a \cdots 300$ mm/s Mounting orientation ······ Wall mounting Cushion ······ Air cushion ($\delta = 1/100$)





2. Load Blocking



| Weight and Centre of Gravity for Each Workpiece | | | | | | | | | | |
|---|------------|---------------------|---------------------|---------------------|--|--|--|--|--|--|
| Markninge | Waight | Centre of gravity | | | | | | | | |
| Wn | m n | X-axis Xn | Y-axis Yn | Z-axis Zn | | | | | | |
| Wa | 0.88 kg | 65 mm | 0 mm | 5 mm | | | | | | |
| Wb | 4.35 kg | 150 mm | 0 mm | 42.5 mm | | | | | | |
| Wc | 0.795 kg | 150 mm | 111 mm | 42.5 mm | | | | | | |
| Wa 0.5 kg | | 150 mm 210 mm | | 42.5 mm | | | | | | |
| | | | | n = a, b, c, d | | | | | | |

3. Calculation of Composite Centre of Gravity -

$$\mathbf{M3} = \Sigma \mathbf{mn}$$

= 0.88 + 4.35 + 0.795 + 0.5 = **6.525 kg**
$$\mathbf{X} = \frac{1}{\mathbf{M3}} \times \Sigma (\mathbf{mn} \times \mathbf{xn})$$

= $\frac{1}{6.525} (0.88 \times 65 + 4.35 \times 150 + 0.795 \times 150 + 0.5 \times 150) = \mathbf{138.5 mm}$
$$\mathbf{Y} = \frac{1}{\mathbf{M3}} \times \Sigma (\mathbf{mn} \times \mathbf{yn})$$

= $\frac{1}{6.525} (0.88 \times 0 + 4.35 \times 0 + 0.795 \times 111 + 0.5 \times 210) = \mathbf{29.6 mm}$
$$\mathbf{Z} = \frac{1}{\mathbf{M3}} \times \Sigma (\mathbf{mn} \times \mathbf{zn})$$

= $\frac{1}{6.525} (0.88 \times 5 + 4.35 \times 42.5 + 0.795 \times 42.5 + 0.5 \times 42.5) = \mathbf{37.4 mm}$

4. Calculation of Load Factor for Static Load



SMC



6. Sum and Examination of Guide Load Factors

$\Sigma \alpha = \Omega_1 + \Omega_2 + \Omega_3 + \Omega_4 + \Omega_5 = 0.60 \le 1$

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 $\Sigma \alpha$ in the formula above is over 1, consider either decreasing the speed, increasing the bore size, or changing the product series.

This calculation can be easily made using the "Guide Cylinder Selection Software", download it from http://www.smc.eu. Load Weight Allowable Moment



Mechanically Jointed Rodless Cylinder Linear Guide Type Series MY1H ø25, ø32, ø40 RoHS



Applicable Auto Switches/Refer to auto switch guide for further information on auto switches

| | | El a studio a l | light | | L | oad volta | ge | Auto swite | ch model | Lea | d wir | e ler | ngth | [m] | Describeral | | | | | | | | | | | | |
|----------------|--|-----------------|-----------|---|----------------------------|-------------------|-----------|---------------|---------------|------------|---------|-----------|------|--------|-------------|------------|------------|------------|-----|--------|--|--|---|---|---|---|--|
| Туре | Special function | entry | cator | (Output) | | C | AC | Perpendicular | In-lino | 0.5 | 1 | 3 | 5 | None | connector | Applical | ole load | | | | | | | | | | |
| | | onay | Indi | (= = = = = = = = = = = = = = = = = = = | | | | reipendicular | III-IIIIC | (—) | (M) | (L) | (Z) | (N) | | | | | | | | | | | | | |
| Ę | | | | 3-wire (NPN) | | EV 10 V | | M9NV | M9N | | | \bullet | 0 | 0 | 0 | IC circuit | | | | | | | | | | | |
| ,itc | | | | 3-wire (PNP) | | 5 V, 12 V | | M9PV | M9P | | | \bullet | 0 | 0 | 0 | | | | | | | | | | | | |
| s | | | | | | | | | | | | | | 2-wire | 1 | 12 V | 1 | M9BV | M9B | | | | 0 | 0 | 0 | _ | |
| 욕 | Diagnostic indication (2-colour indication) | | | 3-wire (NPN) | | | | 5 V 40 V | 1 | M9NWV M9NW | | | | 0 | 0 | 0 | | . | | | | | | | | | |
| ate at | |) Grommet Y | Yes | 3-wire (PNP) | 24 V | 5 V, 12 V 12 V | _ | M9PWV | M9PW | | | | 0 | 0 | 0 | IC CIrcuit | Relay, | | | | | | | | | | |
| | | | | 2-wire | | | 1 | M9BWV | M9BW | | | | 0 | 0 | 0 | _ | FLO | | | | | | | | | | |
| st | | | | 3-wire (NPN) | | 5 V, 12 V 12 V | | M9NAV ** | M9NA** | 0 | 0 | | 0 | _ | 0 | | | | | | | | | | | | |
| pilo | Water resistant | | | 3-wire (PNP) | | | 5 V, 12 V | 5 V, 12 V | | M9PAV ** | M9PA ** | 0 | 0 | | 0 | _ | 0 | IC CIrcuit | | | | | | | | | |
| ŭ | (2-colour indication) | | | 2-wire | | | | M9BAV ** | M9BA** | 0 | 0 | | 0 | — | 0 | — | | | | | | | | | | | |
| ed witch | (| Gromme | | Yes | 3-wire (NPN equivalent) | _ | 5 V | _ | A96V | A96 | • | — | • | - | - | _ | IC circuit | _ | | | | | | | | | |
| Ree auto sv | | | - Grommet | | Grommet N | Grommet | <u> </u> | 24 V 12 V | 40.14 | 100 V | A93V | A93 | | — | | | — | _ | | Relay, | | | | | | | |
| | | | | No | | 2-wire | 12 V | | 100 V or less | A90V | A90 | | — | | — | — | — | IC circuit | PLĆ | | | | | | | | |

** Water resistant type auto switches can be mounted on the above models, but in such case SMC cannot guarantee water resistance.

Please consult with SMC regarding water resistant types with the above model numbers.

- * Lead wire length symbols: 0.5 m --(Example) M9NW
- (Example) M9NWM 1 m M
- * Solid state auto switches marked with "O" are produced upon receipt of order. * Mounting bracket (BMY3-016) is separately required to retrofit the above auto
- 3 m L
 - (Example) M9NWL

switches.

5 m Z (Example) M9NWZ

* There are other applicable auto switches other than listed above. For details, refer to page 15.

* For details about auto switches with pre-wired connector, refer to auto switch guide.

* Auto switches are shipped together, (but not assembled). (For details about auto switch mounting, refer to page 15.)



Mechanically Jointed Rodless Cylinder Linear Guide Type Series MY1H

Specifications

| - | | | | | | | |
|------------|----------------------|---------------------|---------------|-------|--|--|--|
| Bor | re size [mm] | 25 | 32 | 40 | | | |
| Fluid | | Air | | | | | |
| Action | | | Double acting | | | | |
| Operating | pressure range | 0.1 to 0.8 MPa | | | | | |
| Proof pres | pressure 1.2 MPa | | | | | | |
| Ambient a | nd fluid temperature | nperature 5 to 60°C | | | | | |
| Cushion | | Air cushion | | | | | |
| Lubricatio | on | | Non-lube | | | | |
| Stroke ler | ngth tolerance | +1.8 | | | | | |
| Piping | Front/Side/Back port | Rc1/8 Rc1/4 | | | | | |
| port size | Bottom port | Rc1/16 | Rc1/16 | Rc1/8 | | | |



| Bore size [mm] | 25 | 32 | 40 | | | |
|-----------------------------------|---------------------------------|-----|-----|--|--|--|
| Lock position | One end (Selectable), Both ends | | | | | |
| Holding force (Max.) [N] | 270 | 450 | 700 | | | |
| Fine stroke adjustment range [mm] | 0 to -11.5 0 to -12 0 to -16 | | | | | |
| Backlash | 1 mm or less | | | | | |
| Manual release | Possible (Non-lock type) | | | | | |

25 to 40

100 to 1000 mm/s Note 1)

100 to 1000 mm/s

Made to Order

Made to Order (For details, refer to pages 17 and 18.)

| | (1 of details, refer to pages 17 and 10.) |
|---------|---|
| Symbol | Specifications |
| -XB22 | Shock absorber/soft type RJ series mounted |
| -XC56 | With knock pin holes |
| -XC67*1 | NBR rubber lining in dust seal band |
| -X168 | Helical insert thread |
| -X810 | Magnet for ø10 solid state auto switch specifications |
| | |

*1 Only ø16 and ø20 are available for t

Stroke adjustment Unit Specifications

| | adjustment unit | L unit and H unit | 100 to 1500 mm/s Note 2) | | | | | |
|------------------|---|---|---|--|--|--|--|--|
| band | Note 1) Be aware that when the stroke adjustment range is increased with the adjustment bolt, | | | | | | | |
| | the air cush | nion capacity decreases. Also, w | hen exceeding the air cushion stroke ranges | | | | | |
| n specifications | on page 4, | the piston speed should be 1 | 00 to 200 mm/s. | | | | | |
| the -XC67 | Note 2) The piston | speed is 100 to 1000 mm/s for a | centralised piping. | | | | | |
| IIIe -X007. | Nate 0) Line at a se | ومصمم مرماني مسمو مرام مرابل مراجاته والمانين امم م | Structure Defende neme 4 | | | | | |

Bore size [mm]

A unit

Without stroke adjustment unit

Note 3) Use at a speed within the absorption capacity range. Refer to page 4.

| Bore | Bore size [mm] | | | | 32 | | | | 40 | | | |
|---------------------------------------|-------------------|----------------------------|-----------------------------------|-----------------------------------|----------------------------|---|-----------------------------------|----------------------------|-----------------------------------|-----------------------------------|--|--|
| Unit symbol | | Α | L | Н | Α | L | Н | Α | L | н | | |
| Configuration Shock absor | n ber model | With adjustment bolt | RB1007 + adjustment bolt | RB1412 + adjustment bolt | With adjustment bolt | RB1412 + with adjustment bolt | RB2015 + adjustment bolt | With adjustment bolt | RB1412 + adjustment bolt | RB2015 + adjustment bolt | | |
| Stroke adjust- | Without spacer | | 0 to -11.5 | | | 0 to -12 | | | 0 to –16 | | | |
| intermediate fixing spacer [mm] | 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 | | | | |

Piston Speed

Stroke

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

Stroke Adjustment Unit Symbol

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

* Intermediate fixing spacer is not available for end lock mounting side.

* Spacers are used to fix the stroke adjustment unit at an intermediate stroke position.

Shock Absorber Model for L and H Units

| Turne | Stroke | Bore size [mm] | | | | | |
|----------------------------|-----------------|-----------------|---------|------|--|--|--|
| Туре | adjustment unit | 25 | 32 | 40 | | | |
| Standard | L | RB1007 | RB1 | 1412 | | | |
| (Shock absorber/RB series) | Н | H RB1412 RB2015 | | | | | |
| Shock absorber/soft type | L | RJ1007H | RJ1412H | | | | |
| RJ series mounted (-XB22) | Н | RJ1412H | _ | — | | | |

* The shock absorber service life is different from that of the MY1H cylinder depending on operating conditions. Refer to the Series RB/RJ Specific Product Precautions for the replacement period

* Shock absorber/soft type RJ series mounted (-XB22) is made to order. For details, refer to page 17.

Stroke adjustment unit mounting diagram

oke adjustment unit Intermediate



Place the protruding section on the stroke adjustment unit side



Shock Absorber Specifications

| Мо | del | RB 1007 | RB 2015 | | | | |
|---------------------|-------------------|------------|------------|-------|--|--|--|
| Max. absorbe | ed energy [J] | 5.9 | 19.6 | 58.8 | | | |
| Stroke abso | rption [mm] | 7 | 12 | 15 | | | |
| Max. collision | speed [mm/s] | 1500 | 1500 | 1500 | | | |
| Max. operating free | uency [cycle/min] | 70 | 45 | 25 | | | |
| Spring | Extended | 4.22 | 6.86 | 8.34 | | | |
| force [N] | Retracted | 6.86 | 15.98 | 20.50 | | | |
| Operating temper | rature range [°C] | 5 to 60 | | | | | |

*The shock absorber service life is different from that of the MY1H cylinder depending on operating conditions. Refer to the Series RB Specific Product Precautions for the replacement period.



Theoretical Output

| | | | | | | | | Unit: N | | | | |
|------|--------------------|-------------------------------|-----|-----|-----|-----|-----|---------|--|--|--|--|
| Bore | Piston | Operating pressure [MPa] | | | | | | | | | | |
| [mm] | [mm ²] | mm ²] 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 | | | | |

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

Weight

| | | | | | | Unit: kg | | | | | |
|--------------|--------|--------------------|---------------------------------------|--|------------------|------------------|--|--|--|--|--|
| Bore | Basic | Additional weight | Side support bracket weight (per set) | Side support bracket Stroke adjustment unit weig weight (per set) (per unit) | | | | | | | |
| sıze [mm] | weight | 50 mm 50 stroke | A/B type weight | A unit weight | L unit weight | H unit weight | | | | | |
| 25 | 2.17 | 0.30 | 0.02 | 0.04 | 0.07 | 0.11 | | | | | |
| 32 | 4.37 | 0.46 | 0.04 | 0.08 | 0.14 | 0.23 | | | | | |
| 40 | 5.84 | 0.55 | 0.08 | 0.12 | 0.19 | 0.28 | | | | | |

Calculation: (Example) MY1H25-300AZ

| Basic weight | 2.17 kg |
|-------------------|----------------------|
| Cylinder stroke | 300 mm stroke |
| Additional weight | 0.30 kg/50 mm stroke |
| A unit weight | 0.04 kg |

2.17 + 0.30 x 300 ÷ 50 + 0.04 x 2 ≈ 4.05 kg

Options



* Nuts are equipped on the cylinder body.

Side Support/Part No.

| Bore size [mm] Type | 25 | 32 | 40 |
|---------------------------|---------|---------|---------|
| Side support A | MY-S25A | MY-S32A | MY-S40A |
| Side support B | MY-S25B | MY-S32B | MY-S40B |

For details about dimensions, etc., refer to page 14. Side supports consist of a set of right and left support.

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 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.

A Caution

 Refer to the below figure when using the adjustment 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 adjustment bolt at the position where it protrudes approximately 0.5 mm from the shock absorber.



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

Absorption Capacity of Air Cushion and Stroke Adjustment Units







| Air Cushion S | troke Unit: mm |
|----------------------|----------------|
| Bore size [mm] | Cushion stroke |
| 25 | 15 |
| 32 | 19 |
| 40 | 24 |

Calculation of Absorbed Energy for Stroke Adjustment Unit with Shock Absorber $_{Unit:\ N\cdot m}$



Symbols

U: Speed of impact object [m/s]

F: Cylinder thrust [N]

s: Shock absorber stroke [m]

m: Weight of impact object [kg]

g: Gravitational acceleration (9.8 m/s²)

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



Be sure to read the below before handling. Refer to back cover for Safety Instructions. For Actuator and Auto Switch Precautions, refer to "Handling Precautions for SMC Products" (M-E03-3) and Operation Manual. Please download it via our website http://www.smc.eu

Selection

ACaution

1. When using a cylinder with long strokes, implement an intermediate support.

When using a cylinder with long strokes, implement an intermediate support to prevent the tube from sagging and being deflected by vibration or an external load.

2. For intermediate stops, use a dual-side pressure control circuit.

Since the mechanically jointed rodless cylinders have a unique seal structure, slight external leakage may occur. Controlling intermediate stops with a 3 position valve cannot hold the stopping position of the slide table (slider). The speed at the restarting state also may not be controllable. Use the dual-side pressure control circuit with a PAB-connected 3 position valve for intermediate stops.

3. Constant speed.

Since the mechanically jointed rodless cylinders have a unique seal structure, a slight speed change may occur. For applications that require constant speed, select an applicable equipment for the level of demand.

4. Load factor of 0.5 or less

When the load factor is high against the cylinder output, it may adversely affect the cylinder (condensation, etc.) and cause malfunctions. Select a cylinder to make the load factor less than 0.5.

5. 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.

6. Consider uncalculated loads such as piping, cableveyor, etc., when selecting a load moment Calculation does not include the external acting force of piping, cableveyor, etc. Select load factors taking into account the external acting force of piping, cableveyor, etc.

7. Accuracy

The mechanical jointed rodless cylinder does not guarantee traveling parallelism. When accuracy in traveling parallelism and a middle position of stroke is required, please consult SMC.

Mounting

▲Caution

1. Do not apply strong impacts or excessive moment to the slide table (slider).

• The slide table (slider) is supported by precision bearings. Therefore, do not apply strong impacts or excessive moment, etc., when mounting workpieces.

2. When connecting to a load which has an external guide mechanism, use a discrepancy absorption mechanism.

• Although the product can be used with a direct load within the allowable range, please note that careful alignment is necessary when connecting to a load that has an external guide mechanism.

3. Do not mount cylinders as they are twisted.

When mounting, be sure for a cylinder tube not to be twisted. The flatness of the mounting surface is not appropriate, the cylinder tube is twisted, which may cause air leakage due to the detachment of a seal belt, damage a dust seal band, and cause malfunctions.

4. Do not mount a slide table on the fixed equipment surface.

It may cause damage or malfunctions since an excessive load is applied to the bearing.





5. Consult SMC when mounting in a cantilevered way.

Since the cylinder body deflects, it may cause malfunctions. Please consult SMC when using it this way.



Mounting in a cantilevered way

6. Fixed parts of the cylinder on both ends must have at least 5 mm of contact between where the bottom of the cylinder tube and the equipment surface.







Be sure to read the below before handling. Refer to back cover for Safety Instructions. For Actuator and Auto Switch Precautions, refer to "Handling Precautions for SMC Products" (M-E03-3) and Operation Manual. Please download it via our website http://www.smc.eu

Mounting

▲Caution

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

Take precautions under operating conditions in which negative pressure is generated inside the cylinder by external forces or inertial forces. Air leakage may occur due to separation of the seal belt. Do not generate negative pressure in the cylinder by forcibly moving it with an external force during the trial operation or dropping it with self-weight under the non-pressure state, etc. When the negative pressure is generated, slowly move the cylinder by hand and move the stroke back and forth. (When using with a stroke adjustment unit, please either remove the unit or adjust the stroke to the full stroke.) After doing so, if air leakage still occurs, please consult SMC.

8. Do not get your hands caught during cylinder operation.

For the cylinder with a stroke adjustment unit, the space between the slide table and stroke adjustment unit is very small, and your hands may get caught. When operating without a protective cover, be careful not to get your hands caught.

Operating Environment

A Warning

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

• 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.

2. Carry out cleaning and grease application suitable for the operating environment.

Carry out cleaning regularly when using in an operating environment in which the product is likely to get dirty.

After cleaning, be sure to apply grease to the top side of the cylinder tube and the rotating part of the dust seal band. Apply grease to these parts regularly even if not after cleaning. Please consult SMC for the cleaning of the slide table (slider) interior and grease application.

Service Life and Replacement Period of Shock Absorber

ACaution

- 1. Allowable operating cycle under the specifications set in this catalog is shown below.
 - 1.2 million times RB08
 - 2 million times RB10 to RB2725
- Note) 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 absorber may need to be replaced before the allowable operating cycle above.

Be sure to read the below before handling. Refer to back cover for Safety Instructions. For Actuator and Auto Switch Precautions, refer to "Handling Precautions for SMC Products" (M-E03-3) and Operation Manual. Please download it via our website http://www.smc.eu

Operating Precautions

▲Caution

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

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



Port Variation

Port variation (Standard piping)



Port variation (Centralised piping)



Port variation (End lock)

<Fastening of unit>

The unit can be secured by evenly tightening the four unit holding bolts.

Tightening Torque for Stroke

| Adjustment Unit Hold | ding Bolts Unit: N·m |
|----------------------|----------------------|
| Bore size [mm] | Tightening torque |
| 25 | 1.8 |
| 32 | 3.5 |
| 40 | 5.8 |

∆Caution

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

When the stroke adjustment unit is fixed in an intermediate position, slippage can occur depending on the amount of energy released at the time of an impact. In that case, use a short spacer or a long spacer. For other lengths, please consult with SMC. (Refer to "Tightening Torque for Stroke Adjustment Unit Holding Bolts.")

<Adjustment bolt stroke adjustment>

Loosen the adjustment bolt lock nut, and adjust the stroke from the lock cover side using a hexagon wrench. Then, retighten the lock nut.

<Shock absorber stroke adjustment>

Loosen the two unit holding bolts at the shock absorber side, turn the shock absorber and adjust the stroke. Then, uniformly retighten the unit holding bolts to secure the shock absorber.



Be sure to read the below before handling. Refer to back cover for Safety Instructions. For Actuator and Auto Switch Precautions, refer to "Handling Precautions for SMC Products" (M-E03-3) and Operation Manual. Please download it via our website http://www.smc.eu

With End Lock



Operating Precautions

\land Caution

1. Do not use 3-position solenoid valves.

Avoid use in combination with 3-position solenoid valves (especially closed centre metal seal types). If pressure is trapped in the port on the lock mechanism side, the cylinder cannot be locked.

Furthermore, even after being locked, the lock may be released after some time due to air leaking from the solenoid valve and entering the cylinder.

2. Back pressure is required when releasing the lock.

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

- 3. Release the lock when mounting or adjusting the cylinder. If mounting or other work is performed when the cylinder is locked, the lock unit may be damaged.
- 4. Operate at 50% or less of the theoretical output. If the load exceeds 50% of the theoretical output, this may cause problems such as failure of the lock to release, or damage to the lock unit.
- 5. Do not operate multiple cylinders in synchronisation.

Avoid applications in which two or more end lock cylinders are synchronised to move one workpiece, as one of the cylinder locks may not be able to release when required.

6. Use a speed controller with meter-out control.

Lock cannot be released occasionally by meter-in control.

7. Be sure to operate completely to the cylinder stroke end on the side with the lock.

If the cylinder piston does not reach the end of the stroke, locking and unlocking may not be possible. (Refer to "End Lock Mechanism Adjustment.") Operating Pressure

\land Caution

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

Exhaust Speed

🗥 Caution

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

Relation to Cushion

\land Caution

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

End Lock Mechanism Adjustment

Caution

- 1. The end lock mechanism is adjusted at the time of shipping. Therefore, adjustment for operation at the stroke end is unnecessarv.
- 2. Adjust the end lock mechanism after the stroke adjustment unit has been adjusted. The adjustment bolt and shock absorber of the stroke adjustment unit must be adjusted and secured first. Locking and unlocking may not occur otherwise.
- 3. Perform fine adjustment of the end lock mechanism as follows. Loosen the lock finger holding bolts, and then adjust by aligning the centre of the lock piston with the centre of the lock finger hole. Secure the lock finger.



Lock Release

\land Warning

1. Before releasing the lock, be sure to supply air to the side without the lock mechanism, so that there is no load applied to the lock mechanism when it is released. (Refer to "Recommended Pneumatic Circuit.") If the lock is released when the port on the side without the lock is in an exhaust state, and with a load applied to the lock unit, the lock unit may be subjected to an excessive force and be damaged.

Furthermore, sudden movement of the slide table is very dangerous.

Manual Release

🗥 Caution

1. When manually releasing the end lock, be sure to release the pressure.

If it is unlocked while the air pressure still remains, it will lead to damage a workpiece, etc. due to unexpected lurching.

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



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

Construction

Standard type









Mechanically Jointed Rodless Cylinder Linear Guide Type Series MY1H

Component Parts

| No. | Description | Material | Note |
|-----|----------------------------------|---------------------------|---|
| 1 | Cylinder tube | Aluminium alloy | Hard anodised |
| 2 | Head cover | Aluminium alloy | Painted |
| 3 | Cushion boss | Special resin | |
| 4 | Slide table | Aluminium alloy | Hard anodised |
| 5 | Piston yoke | Aluminium alloy | Chromated |
| 6 | Piston | Aluminium alloy | Chromated |
| 7 | Wear ring | Special resin | |
| 8 | Belt separator | Special resin | |
| 9 | Guide roller | Special resin | |
| 10 | Parallel pin | Stainless steel | |
| 11 | Coupler | Sintered iron material | |
| 12 | Head plate | Stainless steel | |
| 13 | Cushion needle | Rolled steel | Nickel plated |
| 14 | Belt clamp | Special resin | |
| 17 | Guide | — | |
| 18 | End cover | Special resin | |
| 20 | Steel ball | Carbon tool steel | |
| 21 | Bearing | Special resin | |
| 22 | Magnet | Rare earth magnet | |
| 23 | Square nut | Carbon steel | Chromated |
| 24 | Spring pin | Bearing steel | Black zinc chromated |
| 26 | Thin head screw | Chromium molybdenum steel | Chromated |
| 27 | Hexagon socket head cap screw | Chromium molybdenum steel | Chromated |
| 28 | Hexagon socket head cap screw | Chromium molybdenum steel | Chromated |
| 29 | Hexagon socket head cap screw | Chromium molybdenum steel | Chromated |
| 33 | Hexagon socket head taper plug | Carbon steel | Chromated (Centralised piping: 10 pcs.) |
| 34 | Hexagon socket head taper plug | Carbon steel | Chromated (Centralised piping: 4 pcs.) |
| 38 | Stopper | Carbon steel | |
| 39 | Spacer | Stainless steel | |
| 40 | Hexagon socket button head screw | Chromium molybdenum steel | Chromated |
| 41 | CR retaining ring | Spring steel | |
| 42 | Seal magnet | Rubber magnet | |
| 43 | Lube retainer | Special resin | |

Replacement Parts: Seal Kit

| | | - | | | | | | | |
|-----|---------------------------|-----------------|------|-------------------|-------------------------------|----------------------|--|--|--|
| No. | Description Mater | | Qty. | MY1H25 | MY1H32 | MY1H40 | | | |
| 15 | Seal belt | Special resin | 1 | MY25-16C-Stroke | MY32-16C-Stroke | MY40-16A-Stroke | | | |
| 16 | Dust seal band | Stainless steel | 1 | MY1B25-16B-Stroke | MY1B32-16B-Stroke | MY1B40-16B-Stroke | | | |
| 25 | Cushion boss gasket | NBR | 2 | MYB25-16GA5900 | MYB25-16GA5900 MYB32-16GA5901 | | | | |
| 36 | O-ring | NBR | 2 | ø5.1 x ø3 x ø1.05 | ø7.15 x ø3.75 x ø1.7 | ø7.15 x ø3.75 x ø1.7 | | | |
| 37 | Side scraper | Special resin 2 | | MYH25-15BK2902B | MYH32-15BK2903B | MYH40-15BK2904B | | | |
| 19 | Scraper | NBR | 2 | | | | | | |
| 30 | Piston seal | NBR | 2 | | | | | | |
| 31 | Cushion seal | NBR | 2 | MY1H25-PS | MY1H32-PS | MY1H40-PS | | | |
| 32 | 2Tube gasketNBR5O-ringNBR | | 2 | | | | | | |
| 35 | | | 2 | | | | | | |

* Seal kit includes (9, 30, 3), 32 and 35. Order the seal kit based on each bore size. * Seal kit includes a grease pack (10 g). When (15 or (16 is shipped independently, a grease pack (20 g) is included.

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)

Construction







Component Parts

| No. | Description | Material | Note |
|-----|----------------------------------|------------------------------------|--|
| 1 | Locking body | Aluminium alloy | Painted |
| 2 | Lock finger | Carbon steel | After quenching, nickel plated |
| 3 | Lock finger bracket | Rolled steel | Nickel plated |
| 4 | Lock piston | Carbon tool steel | After quenching, electroless nickel plated |
| 5 | Rod cover | Aluminium alloy | Hard anodised |
| 6 | Return spring | Spring steel | Zinc chromated |
| 7 | Bypass pipe | Aluminium alloy | Hard anodised |
| 10 | Steel ball | High carbon chromium bearing steel | |
| 11 | Steel ball | High carbon chromium bearing steel | |
| 13 | Inverted internal retaining ring | Carbon tool steel | Nickel plated |
| 15 | Hexagon socket head cap screw | Chromium molybdenum steel | Chromated |
| 16 | Hexagon socket head cap screw | Chromium molybdenum steel | Chromated |
| 17 | Steel ball | High carbon chromium bearing steel | |
| 18 | Steel ball | High carbon chromium bearing steel | |
| 19 | Head cover WR | Aluminium alloy | Painted |
| 20 | Head cover WL | Aluminium alloy | Painted |
| 21 | Cushion ring | Aluminium alloy | |
| 22 | Hexagon socket head set screw | Chromium molybdenum steel | Chromated |

Replacement Parts: Seal Kit

| No. | . Description Ma | | Qty. | MY1H25 | MY1H32 | MY1H40 | | | |
|-----|------------------|-----|-------|--------|--------|--------|--|--|--|
| 8 | Rod seal | NBR | 1 | DYR8K | DYR8K | DYR8K | | | |
| 9 | Piston seal | NBR | 1 | DYP-20 | DYP-20 | DYP-20 | | | |
| 12 | O-ring | NBR | 1 | C-18 | C-18 | C-18 | | | |
| 14 | O-ring | NBR | 2 C-5 | | C-5 | C-5 | | | |

* Since the seal kit does not include a grease pack, order it separately. Grease pack part no.: GR-S-010 (10 g)

SMC

Mechanically Jointed Rodless Cylinder Linear Guide Type Series MY1H



Standard piping/Centralised piping

| Model | A | в | С | G | GB | н | | J | κ | L | LD | LL | LW | M | M | М | N | NC | NE | NF | NH | NW | F | , | PA | PB | PC |
|--------|------|----|-----|----|------|-----|------|-------|------|------|------|----|------|------|------|-------|----|------|------------|------|------|------|-----|----------|------|----|------|
| MY1H25 | 110 | 9 | 5.5 | 16 | 24.5 | 54 | M6 | x 1 | 9.5 | 114 | 5.6 | 53 | 90 | 9 | M5 x | k 0.8 | 30 | 18 | 40.2 | 40.5 | 39 | 53 | Rc | 1/8 | 60 | 50 | 14.5 |
| MY1H32 | 140 | 11 | 6.6 | 19 | 28.5 | 68 | M8 x | 1.25 | 16 | 140 | 6.8 | 70 | 110 | 13 | M6 | x 1 | 37 | 22 | 50.2 | 50 | 49 | 64 | Rc | 1/8 | 80 | 60 | 15 |
| MY1H40 | 170 | 14 | 8.5 | 23 | 35 | 84 | M10 | x 1.5 | 15 | 170 | 8.6 | 85 | 121 | 13 | M6 | x 1 | 45 | 26.5 | 62.7 | 62 | 61.5 | 75 | Rc | 1/4 | 100 | 80 | 20.5 |
| Model | PD | PE | PF | PG | PP | Q | QW | RR | TT | TTT | vv | WW | www | XXX | YH | Z | Z | Z | Centralise | | | | | | ping | | [mm] |
| MY1H25 | 32 | 13 | 5.5 | 7 | 12 | 206 | 42 | 15 | 14.5 | 20.5 | 23.3 | 11 | 15.5 | 15.5 | 37.5 | 220 | Rc | 1/16 | | | | Mod | el | QQ | SS | UU | XX |
| MY1H32 | 42 | 13 | 6.5 | 8 | 16 | 264 | 51 | 16 | 16 | 16 | 28.5 | 12 | 12 | 20 | 47 | 280 | Rc | 1/16 | | | | MY1 | 125 | 16 | 6 | 18 | 26.5 |
| MY1H40 | 37.5 | 23 | 8 | 9 | 18.5 | 322 | 59 | 23.5 | 20 | 20 | 35 | 14 | 14 | 23.5 | 59.5 | 340 | Rc | :1/8 | | | | MY1H | 132 | 16 | 11 | 32 | 40 |
| | | | | | | | | | | | | | MY1 | 140 | 24 | 12 | 35 | 47 | | | | | | | | | |



Hole Size for Centralised Piping on the Bottom (Machine the mounting side to the dimensions below.) Standard piping/Centralised piping [mm] Centralised piping [mm]

| andard piping/centransed piping [mm] | | | | | | | | | | | | | |
|--------------------------------------|------|------|---|------|-----|-------------------|--|--|--|--|--|--|--|
| Model | WXX | Υ | d | D | R | Applicable O-ring | | | | | | | |
| MY1H25 | 15.5 | 16.2 | 6 | 11.4 | 1.1 | 00 | | | | | | | |
| MY1H32 | 20 | 20.4 | 6 | 11.4 | 1.1 | C9 | | | | | | | |
| MY1H40 | 23.5 | 25.9 | 8 | 13.4 | 1.1 | C11.2 | | | | | | | |

| Centralised piping [mm] | | | | | | | | | | |
|-------------------------|------|-----|--|--|--|--|--|--|--|--|
| Model | WX | V | | | | | | | | |
| MY1H25 | 26.5 | 10 | | | | | | | | |
| MY1H32 | 40 | 5.5 | | | | | | | | |
| MY1H40 | 47 | 6 | | | | | | | | |

the mounting surface when viewed from the cylinder side. * Values inside the parentheses are those for **MY1HG**.

Stroke Adjustment Unit

With adjustment bolt

MY1H Bore size - Stroke AZ











| Applicable cylinder | Е | EA | EB | EC | EY | FA | FC | h | TT | W |
|---------------------|----|----|------|-----|------|------|----|-----|--------------|----|
| MY1H25 | 18 | 9 | 40 | 7.5 | 53.5 | 16 | 21 | 3.5 | 5 (Max.16.5) | 53 |
| MY1H32 | 25 | 14 | 45.6 | 9.5 | 67.5 | 23 | 20 | 4.5 | 8 (Max.20) | 64 |
| MY1H40 | 31 | 19 | 55 | 11 | 82 | 24.5 | 26 | 4.5 | 9 (Max.25) | 75 |

With low load shock absorber + adjustment bolt MY1H Bore size - Stroke LZ

FA FC









| | | | | | | | | | | | | | | luuu |
|---------------------|----|----|------|-----|------|---|------|----|-----|------|----|--------------|----|----------------------|
| Applicable cylinder | Е | EA | EB | EC | EY | F | FA | FC | h | S | Т | TT | W | Shock absorber model |
| MY1H25 | 18 | 9 | 40 | 7.5 | 53.5 | — | 16 | 21 | 3.5 | 46.7 | 7 | 5 (Max.16.5) | 53 | RB1007 |
| MY1H32 | 25 | 14 | 45.6 | 9.5 | 67.5 | _ | 23 | 20 | 4.5 | 67.3 | 12 | 8 (Max.20) | 64 | RB1412 |
| MY1H40 | 31 | 19 | 55 | 11 | 82 | _ | 24.5 | 26 | 4.5 | 67.3 | 12 | 9 (Max.25) | 75 | RB1412 |



Stroke Adjustment Unit

With high load shock absorber + adjustment bolt MY1H Bore size - Stroke HZ



* Since the EY dimension of H unit is greater than the table top height (H dimension), when a workpiece exceeding the overall length (L dimension) of the slide table is mounted, allow a clearance of size "a" or larger at the workpiece side.

| Applicable cylinder | Е | EA | EB | EC | EY | F | FA | FC | h | S | Т | TT | w | Shock absorber model | а |
|---------------------|----|----|------|------|----|---|------|------|-----|------|----|--------------|----|----------------------|-----|
| MY1H25 | 18 | 9 | 40 | 9 | 57 | _ | 18 | 17.5 | 4.5 | 67.3 | 12 | 5 (Max.16.5) | 53 | RB1412 | 3.5 |
| MY1H32 | 25 | 14 | 45.6 | 12.4 | 73 | — | 18.5 | 22.5 | 5.5 | 73.2 | 15 | 8 (Max.20) | 64 | RB2015 | 5.5 |
| MY1H40 | 31 | 19 | 55 | 12.4 | 86 | _ | 26.5 | 22 | 5.5 | 73.2 | 15 | 9 (Max.25) | 75 | RB2015 | 2.5 |

With End Lock

Dimensions for types other than end lock are identical to the standard type dimensions. For details about dimensions, etc., refer to page 10.

MY1H□−□WZ (Both ends)



| Model | Α | В | С | G | GB | н | | J | Κ | L | LD | LL | LW | M | MN | / | Ν | NC | NE | NH | NW | | 2 | PA | PB | PC | PD |
|-----------|-----|-----|-----|-----|------|------|-------------|----------|------|-----|-----|------|-----|------|------|-----|-----|------|----------|--------|----------|---------|----------|---------|---------|--------|------|
| MY1H25 | 110 | 9 | 5.5 | 16 | 24.5 | 54 | M6 | x 1 | 9.5 | 114 | 5.6 | 53 | 90 | 9 | M5 x | 0.8 | 30 | 20 | 40.5 | 39 | 53 | Rc | 1/8 | 60 | 50 | 14.5 | 32 |
| MY1H32 | 140 | 11 | 6.6 | 19 | 28.5 | 68 | M8 x | 1.25 | 16 | 140 | 6.8 | 70 | 110 | 13 | M6 x | x 1 | 37 | 25 | 50 | 49 | 64 | Rc | 1/8 | 80 | 60 | 15 | 42 |
| MY1H40 | 170 | 14 | 8.5 | 23 | 35 | 84 | M10 | x 1.5 | 15 | 170 | 8.6 | 85 | 121 | 13 | M6 x | x 1 | 45 | 30.5 | 63 | 61.5 | 75 | Rc | 1/4 | 100 | 80 | 20.5 | 37.5 |
| Model | PE | PF | PG | PP | Q | QW | RR | SS | TT | UU | vv | ww | XX | YH | Z | Z | Z | En | d lock i | nechar | lism (Si | tandard | l piping | /Centra | lised p | iping) | [mm |
| MY1H25 | 13 | 5.5 | 7 | 12 | 206 | 42 | 16 | 6 | 14.5 | 15 | 16 | 12.5 | 28 | 37.5 | 220 | Rc1 | /16 | | Мос | lel | H1 | H2 | L1 | TL | W1 | W2 | W3 |
| MY1H32 | 13 | 6.5 | 8 | 17 | 264 | 51 | 23 | 4 | 16 | 16 | 19 | 16 | 32 | 47 | 280 | Rc1 | /16 | | MY1H | 125 | 53.5 | 46 | 3 | 11.5 | 29.3 | 27.3 | 17.7 |
| MY1H40 | | 0 | 0 | 0.5 | 200 | 50 | 07 | 10 5 | 20 | 22 | 23 | 10.5 | 36 | 59 5 | 340 | Bc | 1/8 | | MV11 | 133 | 67 | 56 | 65 | 12 | 20.3 | 27.3 | 177 |
| 101111140 | 23 | 8 | 9 | 8.5 | 322 | - 59 | 21 | 10.5 | 20 | 22 | 20 | 13.5 | 50 | 53.5 | 040 | 110 | 1/0 | | | 132 | 107 | 50 | 0.5 | 12 | 20.0 | 21.0 | 1 |
| <u> </u> | 23 | 8 | 9 | 8.5 | 322 | 159 | -r <u>-</u> | 10.5 | 20 | 22 | 20 | 13.5 | 00 | 55.5 | 540 | 110 | 1/0 | | MY1 | 140 | 83 | 68.5 | 10.5 | 16 | 38 | 35 | 24.4 |

GSMC



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

Hole Size for Centralised Piping on the Bottom (Machine the mounting side to the dimensions below.)

Standard piping/Centralised piping

| Model | WX | Y | S | d | D | R | Applicable O-ring | | | | | | |
|--------|----|----|------|---|------|-----|-------------------|--|--|--|--|--|--|
| MY1H25 | 28 | 9 | 7 | 6 | 11.4 | 1.1 | ~ | | | | | | |
| MY1H32 | 32 | 11 | 9.5 | 6 | 11.4 | 1.1 | 69 | | | | | | |
| MY1H40 | 36 | 14 | 11.5 | 8 | 13.4 | 1.1 | C11.2 | | | | | | |

Mechanically Jointed Rodless Cylinder Linear Guide Type Series MY1H

Side Support



| [r | γ | ۱ſ | γ | ۱ |
|----|---|----|---|---|
| | | | | |

| | | | | | | | | | | [mm] |
|--|---------------------|-----|-----|----|----|------|-----|-----|-----|-----------|
| Part no. | Applicable cylinder | Α | В | С | D | E | F | G | Н | J |
| MY-S25 ^A | MY1H25 | 105 | 119 | 35 | 50 | 8 | 5 | 9.5 | 5.5 | M6 x 1 |
| MY-S32 ^A | MY1H32 | 130 | 148 | 45 | 64 | 11.7 | 6 | 11 | 6.6 | M8 x 1.25 |
| MY-S40 ^A | MY1H40 | 145 | 167 | 55 | 80 | 14.8 | 8.5 | 14 | 9 | M10 x 1.5 |
| * Side supports consist of a set of right and left supports. | | | | | | | | | | |

Guide to 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 below graph.



ACaution

- 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, use of a side support is recommended.
- 2. Support brackets are not for mounting; use them solely for providing support.



Series MY1H Auto Switch Mounting

Auto Switch Proper Mounting Position



Auto Switch Proper Mounting Position [mm]

| Auto switch model | D-M9□ D-M9□V D-M9□W | D-A9□ |
|----------------------|-------------------------------------|-------------|
| Bore size | D-M9⊟AL D-M9⊟AL D-M9⊟AVL A | D-A9⊡V A |
| 25 | 85 | 81 |
| 32 | 116.5 | 112.5 |
| 40 | 137.5 | 133.5 |

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

Operating Range

| | | Įmm |
|-----|-------------------------|--|
| | Bore size | |
| 25 | 32 | 40 |
| | | |
| 5.0 | 5.5 | 5.5 |
| | | |
| 7.0 | 10.0 | 9.0 |
| | 25 5.0 7.0 | Bore size 25 32 5.0 5.5 7.0 10.0 |

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

Auto Switch Mounting Bracket/Part No.





| | Other than the applicable auto switches listed in "How to Order", the following auto switches are mountable. | יי |
|---|---|----|
| ļ | Normally closed (NC = b contact) solid state auto switches (D-F9G/F9H) are also available. For details, consult with SMC. With pre-wired connector is also available for solid state auto switches. For details, consult with SMC. | |

Series MY1H Auto Switches Connection and Example

Basic Wiring



Example of Connection with PLC (Programmable Logic Controller)

• Sink input specifications 3-wire, NPN



 Source input specifications 3-wire, PNP



Connect according to the applicable PLC input specifications, as the connection method will vary depending on the PLC input specifications.

Example of AND (Series) and OR (Parallel) Connection



• 2-wire 2-wire with 2-switch AND connection



Load voltage at ON = Power supply voltage – Residual voltage x 2 pcs. = 24 V – 4 V x 2 pcs. = 16 V

Example: Power supply voltage 24 VDC Auto switch internal voltage drop 4 V

AND connection for NPN output (Performed with auto switches only)



The indicator lights will light up when both of the auto switches are in the ON state.

2-wire with 2-switch OR connection



Load voltage at OFF = Leakage current x 2 pcs. x Load impedance = 1 mA x 2 pcs. x 3 k Ω = 6 V

Example: Load impedance 3 kΩ Auto switch leakage current 1 mA

OR connection for NPN output



(Reed)

Because there is no leakage current, the load voltage will not increase in the OFF state. However, depending on number of the auto switches in the ON state. the indicator lights may sometimes grow dim or not light up, due to the dispersion and reduction of the current flowing to the auto switches

Series MY1H Made to Order

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



Symbol

-XB22

Shock absorber/ soft type RJ series

Stroke adjustment unit model

Refer to "How to Order" on page 3.

mounted

Made-to-Order List

| Series | Туре | Shock absorber/ soft type mounted | With knock pin holes | Helical insert thread |
|--------|------------|--------------------------------------|-------------------------|--------------------------|
| | | -XB22 | -XC56 | -X168 |
| MY1H | Basic type | • | • | • |

F Shock Absorber/Soft Type RJ Series Mounted

The shock absorber/soft type RJ series is mounted onto the standard cylinder, making a soft stop at the stroke end possible.



Absorption Capacity of Stroke Adjustment Units



[mm]

XE

55

70

80

Symbol

-XC56



Cylinder with knock positioning pin hole





Example) MY1H40G-200LZ-M9BW-XC56

Specifications: Same as standard type

Dimensions Dimensions other than below are the same as standard type.



Mounting surface of a workpiece for the slide table



| Mounting | surface | of c | vlinder | tube |
|----------|---------|------|----------|------|
| | 0411400 | •. • | <i>y</i> | |

| Bore size [mm] | XF | XG | хн | XJ |
|-------------------|----|----|----|----|
| 25 | 45 | 5 | 6 | 8 |
| 32 | 60 | 6 | 7 | 9 |

6

ΧВ

50

60

80

хс

14.5

20.5

7

15

XD

110

140

180

9

| | Symbol |
|-------------------------|--------|
| 3 Helical Insert Thread | -X168 |
| | |

Bore size

[mm]

25

32

40

40

XA

57

70

85

60.5

Helical insert thread is used for the slide table mounting thread, the thread size is the same as the standard model.





These safety instructions are intended to prevent hazardous situations and/or equipment ▲ Safety Instructions 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. 1) ISO 4414: Pneumatic fluid power – General rules and safety Danger indicates a hazard with a high level of risk requirements for systems and their components. **∧** Danger: which, if not avoided, will result in death or serious ISO 4413: Hydraulic fluid power - General rules and safety injury requirements for systems and their components. IEC 60204-1: Safety of machinery - Electrical equipment of machines. Warning indicates a hazard with a medium level of risk (Part 1: General requirements) **∧** Warning: which, if not avoided, could result in death or serious ISO 10218-1: Robots and robotic devices - Safety requirements for iniurv industrial robots - Part 1: Robots. Caution indicates a hazard with a low level of risk etc

∧ Warning

which, if not avoided, could result in minor or moderate

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

∧ Caution:

injury.

latest catalogue 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

also continuously review all specifications of the product referring to its

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

- 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, fuel 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 catalogues 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

We develop, design, and manufacture our products to be used for automatic control equipment, and provide them for peaceful use in manufacturing industries. Use in non-manufacturing industries is not covered.

Products we manufacture and sell cannot be used for the purpose of transactions or certification specified in the Measurement Act.

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

- 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 catalogue for the particular products.
- 2) Vacuum pads are excluded from this 1 year warranty. A 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 vacuum pad or failure due to the deterioration of rubber material are not covered 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.
- 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.

SMC Corporation (Europe)

Austria Belgium +32 (0)33551464 Bulgaria +359 (0)2807670 Croatia Czech Republic +420 541424611 Denmark +45 70252900 Estonia +372 651 0370 Finland +358 207513513 France Germany +49 (0)61034020 Greece +30 210 2717265 +36 23513000 Hungary Ireland +39 03990691 Italy Latvia +371 67817700

+43 (0)2262622800 www.smc.at www.smc.be www.smc.bg +385 (0)13707288 www.smc.hr www.smc.cz www.smcdk.com www.smcee.ee www.smc.fi +33 (0)164761000 www.smc-france.fr www.smc.de www.smchellas.gr www.smc.hu +353 (0)14039000 www.smcautomation.ie www.smcitalia.it www.smc.lv

office@smc.at info@smc.be office@smc.bg office@smc.hr office@smc.cz smc@smcdk.com info@smcee.ee smcfi@smc.fi supportclient@smc-france.fr info@smc.de sales@smchellas.gr office@smc.hu sales@smcautomation.ie mailbox@smcitalia.it info@smc.lv

Lithuania +370 5 2308118 Netherlands +31 (0)205318888 Norway +47 67129020 +48 222119600 Poland Portugal +351 214724500 Romania +40 213205111 Russia +7 (812)3036600 Slovakia +421 (0)413213212 www.smc.sk Slovenia +386 (0)73885412 Spain +34 945184100 Sweden +46 (0)86031240 Switzerland +41 (0)523963131 Turkey UК +44 (0)845 121 5122 www.smc.uk

www.smclt.lt www.smc.nl www.smc-norge.no www.smc.pl www.smc.eu www.smcromania.ro www.smc.eu www.smc.si www.smc.eu www.smc.nu www.smc.ch +90 212 489 0 440 www.smcturkey.com.tr

info@smclt.lt info@smc.nl post@smc-norge.no sales@smc.pl apoioclientept@smc.smces.es smcromania@smcromania.ro sales@smcru.com office@smc.sk office@smc.si post@smc.smces.es smc@smc.nu info@smc.ch info@smcturkey.com.tr sales@smc.uk

South Africa +27 10 900 1233 www.smcza.co.za zasales@smcza.co.za