

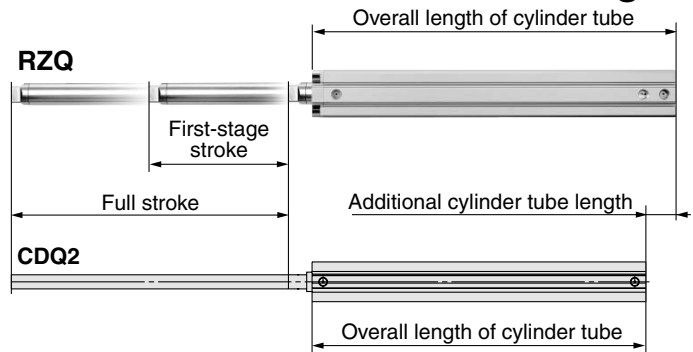
3 Position Cylinder Series RZQ

ø32, ø40, ø50, ø63

Provides intermediate stop mechanism



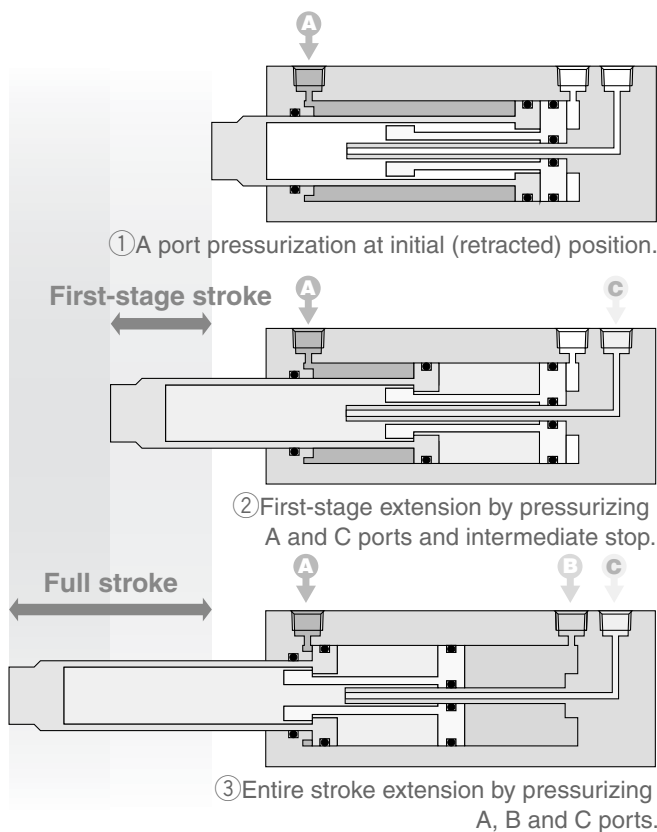
• 2-stage stroke enabled with a small increase in length



Comparison of cylinder tube overall length (mm)

Full stroke = 300 mm (150 + 150 = 300 mm in case of CG1BN)

| Bore size (mm) | RZQA□-300-150 | CDQ2A□-300D | RZQ-CDQ2 Additional cylinder tube length | CG1BN□-150+150-XC11 Dual stroke cylinder |
|----------------|---------------|-------------|--|--|
| 32 | 382.5 | 345.5 | 37 | 591 |
| 40 | 392 | 355 | 37 | 606 |
| 50 | 396.5 | 355.5 | 41 | 631 |
| 63 | 402 | 357.5 | 44.5 | 631 |



- ◆ **First-stage stroke can be specified without changing the overall length.**
- ◆ **±0.02 or less repeatability in intermediate stop positioning**
High accuracy is achieved by an intermediate stop method of pressing metallic components against each other
- ◆ **First-stage stroke can be freely specified.**
Standard: Available in 5 mm increments
Optional: Available in 1 mm increments
- ◆ **Large bore tube rod to withstand lateral load**
Use of a tube rod with a large bore which is 70% the piston diameter
- ◆ **Wide variations in mounting**
Direct mounting: Mounting taps of the same dimensions as those of Series CQ2.
Through holes are also available for full strokes of 75 mm or less.
Static mounting: Foot style, Front flange style
Rotation bracket: Double clevis

RE^A_B

REC

C□X

C□Y

MQ^Q_M

RHC

MK(2)

RS^Q_G

RS^H_A

RZQ

MI^W_S

CEP1

CE1

CE2

ML2B

C¹₆-S

CV

MVGQ

CC

RB

J

D-

-X

20-

Data

3 Position Cylinder Series RZQ

ø32, ø40, ø50, ø63

How to Order

RZQ A 32 200 100 M9N

Mounting style

| | |
|---|---------------------|
| A | Both ends tapped |
| B | Through-hole |
| L | Foot style |
| F | Front flange style |
| G | Rear flange style |
| D | Double clevis style |

Bore size

| | |
|----|------|
| 32 | 32mm |
| 40 | 40mm |
| 50 | 50mm |
| 63 | 63mm |

Thread type

| | |
|-----|-----|
| Nil | Rc |
| TN | NPT |
| TF | G |

Number of auto switches

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

Auto switch

| | |
|-----|---------------------------------------|
| Nil | Without auto switch (Built-in magnet) |
|-----|---------------------------------------|

* For the applicable auto switch model, refer to the table below.
* Auto switch is shipped unmounted (except for D-P5DWL).

First-stage stroke
Refer to "Standard Stroke" on page 10-10-3.

Full stroke
Refer to "Standard Stroke" on page 10-10-3.
* Full stroke is 75 mm or less in the case of RZQB (through-hole type).

Mounting Bracket Part No.

| Bore size (mm) | Foot ^{Note 1)} | Flange | Double clevis ^{Note 2)} |
|----------------|-------------------------|----------|----------------------------------|
| 32 | RZQ-L032 | RZQ-F032 | RZQ-D032 |
| 40 | RZQ-L040 | RZQ-F040 | RZQ-D040 |
| 50 | RZQ-L050 | RZQ-F050 | RZQ-D050 |
| 63 | RZQ-L063 | RZQ-F063 | RZQ-D063 |

Note 1) When ordering foot brackets, order two pieces per cylinder.

Note 2) The following parts are included with each mounting bracket.

Foot, Flange/Body mounting bolts

Double clevis/Clevis pins, type C snap ring for axis, Body mounting bolts

Applicable Auto Switch/Refer to page 10-20-1 for further information on auto switches.

| Type | Special function | Electrical entry | Indicator light | Wiring (output) | Load voltage | | Rail mounting | | Direct mounting | | Lead wire length* (m) | | | | Pre-wire connector | Applicable load | | | | |
|--------------------|------------------|------------------|-----------------|-----------------|--------------|--------|---------------|---------|-----------------|---------|-----------------------|-------|-------|----------|--------------------|-----------------|------------|---|------------|------------|
| | | | | | DC | AC | Perpendicular | In-line | Perpendicular | In-line | 0.5 (Nil) | 3 (L) | 5 (Z) | None (N) | | IC circuit | Relay, PLC | | | |
| Reed switch | — | Grommet | Yes | 3-wire (NPN) | — | 5V | — | — | A76H | A96V | A96 | ● | ● | — | — | — | IC circuit | — | | |
| | | | | 2-wire | 24V | 12V | 200V | A72 | A72H | — | — | ● | ● | — | — | — | — | — | — | Relay, PLC |
| | | | | | | | | — | — | A93V | A93 | ● | ● | — | — | — | — | | | |
| | | | | | | | | A73C | — | — | — | ● | ● | — | — | — | — | | | |
| | | | | | | | | A79W | — | — | — | ● | ● | — | — | — | — | | | |
| Solid state switch | — | Grommet | Yes | 3-wire (NPN) | — | 5V,12V | — | F7NV | F79 | M9NV | M9N | ● | ● | ○ | — | ○ | IC circuit | — | | |
| | | | | 3-wire (PNP) | | | | F7PV | F7P | M9PV | M9P | ● | ● | ○ | — | ○ | | | | |
| | | Connector | | 2-wire | 24V | 12V | — | F7BV | J79 | M9BV | M9B | ● | ● | ○ | — | ○ | — | — | — | |
| | | | | J79C | | | | — | — | — | ● | ● | ● | — | — | — | | | | |
| | | Grommet | | 3-wire (NPN) | 24V | 5V,12V | — | F7NWV | F79W | F9NWV | F9NW | ● | ● | ○ | — | ○ | — | ○ | IC circuit | Relay, PLC |
| | | | | 3-wire (PNP) | | | | — | F7PW | F9PWV | F9PW | ● | ● | ○ | — | ○ | | | | |
| | | | | 2-wire | | | | — | F7BWV | J79W | F9BWV | F9BW | ● | ● | ○ | — | ○ | | | |
| | | | | — | | | | — | F7BA | — | F9BA | — | ● | ● | ○ | — | ○ | | | |
| | | | | — | | | | — | F7BAV | — | — | — | — | ● | ● | ○ | — | ○ | | |
| | | | | — | | | | — | — | F79F | — | — | — | ● | ● | ○ | — | ○ | | |
| — | — | — | P5DW | — | — | — | — | ● | ● | — | ○ | — | | | | | | | | |

* Lead wire length symbols: 0.5 m Nil (Example) A73C
 3 m L (Example) A73CL
 5 m Z (Example) A73CZ
 None N (Example) A73CN

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

• D-P5DWL is available in sizes ø40 to ø63.

• In addition to the models in the above table, there are some other auto switches that are applicable. For more information, refer to page 10-10-14.

3 Position Cylinder Series RZQ

Specifications



| Bore size (mm) | 32 | 40 | 50 | 63 |
|-------------------------------|--------------------------------|----|-----|----|
| Action | Double acting, Single rod | | | |
| Fluid | Air | | | |
| Proof pressure | 1.5MPa | | | |
| Maximum operating pressure | 1.0MPa | | | |
| Minimum operating pressure | 0.1MPa | | | |
| Ambient and fluid temperature | -10 to 60°C (with no freezing) | | | |
| Lubrication | Non-lube | | | |
| Operating piston speed | 50 to 300mm/s | | | |
| Stroke length tolerance | +1.0 0 | | | |
| Cushion | Rubber bumper | | | |
| Thread tolerance | JIS class 2 | | | |
| Port size (Rc, NPT, G) | 1/8 | | 1/4 | |

Auto Switch Mounting Bracket Part No. (Rail mounting)

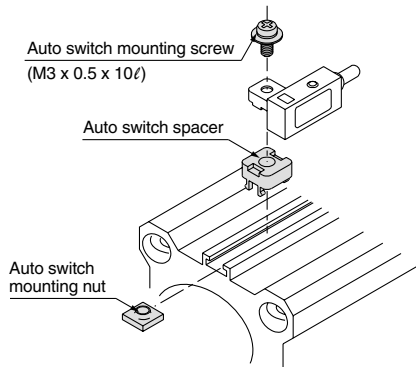
| Bore size (mm) | Mounting Bracket Part no. | Note |
|--|---------------------------|---|
| 32, 40 50, 63 | BQ-2 | <ul style="list-style-type: none"> Switch mounting screws (M3 x 0.5 x 10ℓ) Switch spacer Switch mounting nut |
| Applicable auto switch | | |
| Reed switch | | Solid state switch |
| D-A7□, A80 D-A73C, A80C D-A7□H, A80H D-A79W | | D-F7□, J79 D-F7□V D-J79C D-F7□W, J79W D-F7□WV D-F7BAL D-F79F D-F7NTL |

[Stainless steel mounting screw kit]

Use the following stainless steel mounting screw kit (including nuts) if the operating environment requires. (Auto switch spacer must be ordered separately.)
BBA2: D-A7/A8/F7/J7

The above stainless steel screw kit is used for water resistant auto switch type D-F7BAL when they are shipped mounted on a cylinder.

Also, BBA2 is included when an auto switch alone is shipped.



Standard Stroke

| | |
|---------------------------------------|---|
| Full stroke ^{Note 1)} | 25, 50, 75, 100, 125, 150, 175, 200, 250, 300 |
| First-stage stroke ^{Note 2)} | 5 mm to "Full stroke" -5 mm |

Note 1) RZQB (through hole type) is only available for full strokes 25, 50 and 75.

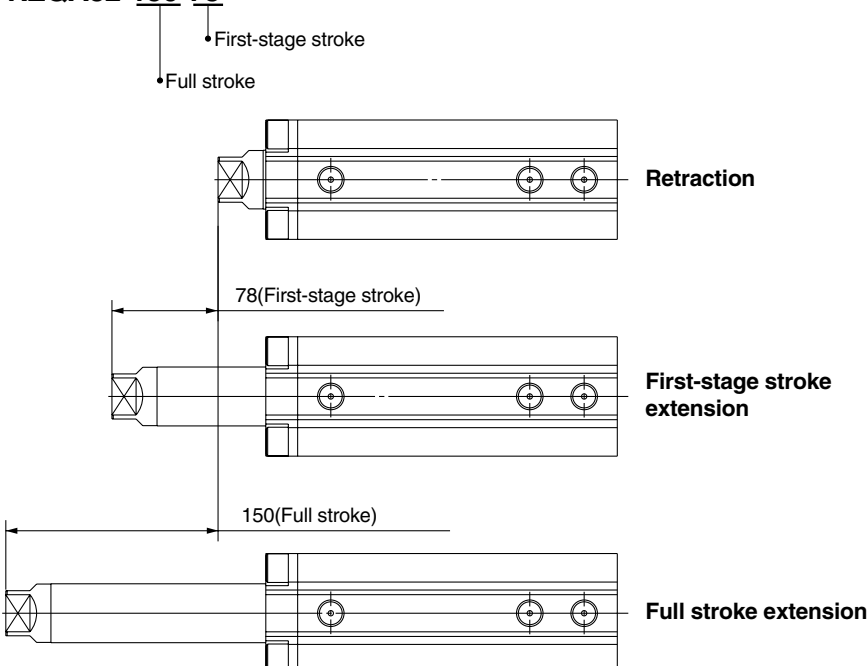
Note 2) Available in 1 mm increments.

Manufacture of Intermediate Stroke

| | |
|--------------|---|
| Method | Spacers installed in standard stroke body. |
| Ordering | Refer to standard part number and ordering on page 10-10-2. |
| Description | Strokes are available in 5 mm increments by installing spacers in standard stroke cylinders. |
| Stroke range | Only available for full strokes of 5 to 295 mm |
| Example | Part no.: RZQA50-135-50 A 15 mm spacer is installed in a standard cylinder RZQA50-150-50. The B dimension is 246.5 mm. |

How to Order Strokes

RZQA32-150-78



* Please consult with SMC for intermediate strokes of a full stroke.

RE^A_B

REC

C□X

C□Y

MQ^Q_M

RHC

MK(2)

RS^Q_GRS^H_A

RZQ

MI^W_S

CEP1

CE1

CE2

ML2B

C_G5-S

CV

MVGQ

CC

RB

J

D-

-X

20-

Data

Series RZQ

Theoretical Output

Theoretical Output Table 1

[N]

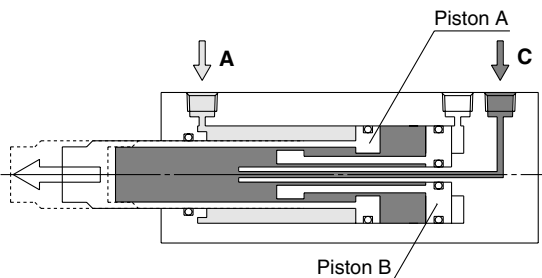
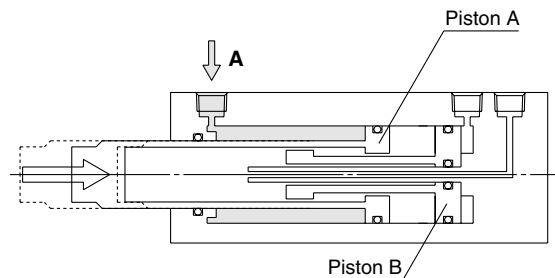
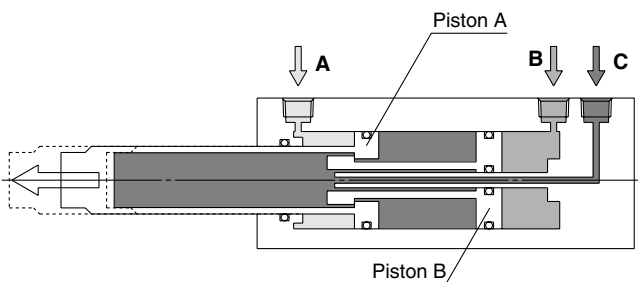
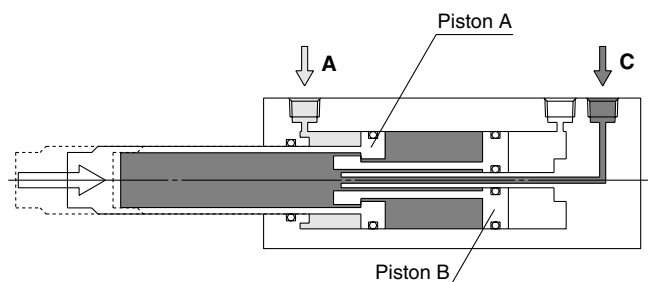
| Bore size (mm) | Piston area [mm ²] | | | | Air pressure [MPa] (with same air pressure applied to each port) | | | | | | | | | | | |
|----------------|--------------------------------|-----------|------------|-----------|--|-----|------|------------|-----|------|--------------|-----|------|------------|-----|------|
| | Piston A | | Piston B | | First stage | | | | | | Second stage | | | | | |
| | Front side | Rear side | Front side | Rear side | Extension | | | Retraction | | | Extension | | | Retraction | | |
| | ①* | ②* | ③* | ④* | 0.3 | 0.5 | 0.7 | 0.3 | 0.5 | 0.7 | 0.3 | 0.5 | 0.7 | 0.3 | 0.5 | 0.7 |
| 32 | 410 | 804 | 792 | 792 | 118 | 197 | 276 | 123 | 205 | 287 | 118 | 197 | 276 | 119 | 199 | 279 |
| 40 | 641 | 1257 | 1244 | 1244 | 185 | 308 | 431 | 192 | 321 | 449 | 185 | 308 | 431 | 188 | 314 | 440 |
| 50 | 1001 | 1963 | 1935 | 1935 | 289 | 481 | 673 | 300 | 501 | 701 | 289 | 481 | 673 | 292 | 487 | 681 |
| 63 | 1527 | 3117 | 3067 | 3067 | 477 | 795 | 1113 | 458 | 764 | 1069 | 477 | 795 | 1113 | 443 | 739 | 1034 |

Theoretical Output

| Action | First stage | | | | Second stage | | | | |
|-------------------------------------|--|----------------|------------------------|--|---|------------------|------------------|---|----------------|
| | Extension | | Retraction | | Extension | | | Retraction | |
| Pressure port | A | C | A | | A | B | C | A | C |
| Air pressure [MPa] | P _A | P _C | P _A | | P _A | P _B * | P _C * | P _A | P _C |
| Formula for theoretical output F[N] | F = -① x P _A + ② x P _C | | F = ① x P _A | | F = -① x P _A + ④ x P _B + (② - ③) x P _C | | | F = ① x P _A + (③ - ①) x P _C | |

* ①, ② and ③ are piston areas. (Refer to Table 1.)

* Assume P_B ≤ P_C.


First-stage extension

First-stage retraction

Second-stage extension

Second-stage retraction

Weight

Weight Table

Unit: kg

| Bore size (mm) | Cylinder stroke | | | | | | | | | |
|----------------|-----------------|------|------|-------|-------|-------|-------|-------|-------|-------|
| | 25-5 | 50-5 | 75-5 | 100-5 | 125-5 | 150-5 | 175-5 | 200-5 | 250-5 | 300-5 |
| 32 | 0.81 | 0.88 | 0.94 | 1.01 | 1.07 | 1.13 | 1.20 | 1.26 | 1.39 | 1.52 |
| 40 | 1.19 | 1.27 | 1.35 | 1.43 | 1.50 | 1.58 | 1.66 | 1.73 | 1.89 | 2.04 |
| 50 | 1.80 | 1.92 | 2.04 | 2.16 | 2.28 | 2.40 | 2.52 | 2.64 | 2.89 | 3.13 |
| 63 | 2.53 | 2.71 | 2.87 | 3.04 | 3.20 | 3.36 | 3.53 | 3.69 | 4.02 | 4.35 |

Note) Calculate the first-stage stroke referring to the values for "10 mm increase" in the Additional Weight [Table 2] below.

Additional Weight Table 2

Unit: kg

| Item | Model | Bore size (mm) | | | |
|---|-----------|----------------|-----|-----|-----|
| | | 32 | 40 | 50 | 63 |
| 10 mm increase of first-stage stroke | RZQ□ | 3 | 3 | 6 | 15 |
| Foot style (including bolts) | RZQL | 143 | 155 | 243 | 324 |
| Flange style (including bolts) | RZQG,RZQF | 165 | 198 | 348 | 534 |
| Double clevis style (including bolts, pins and snap ring) | RZQD | 151 | 196 | 393 | 554 |

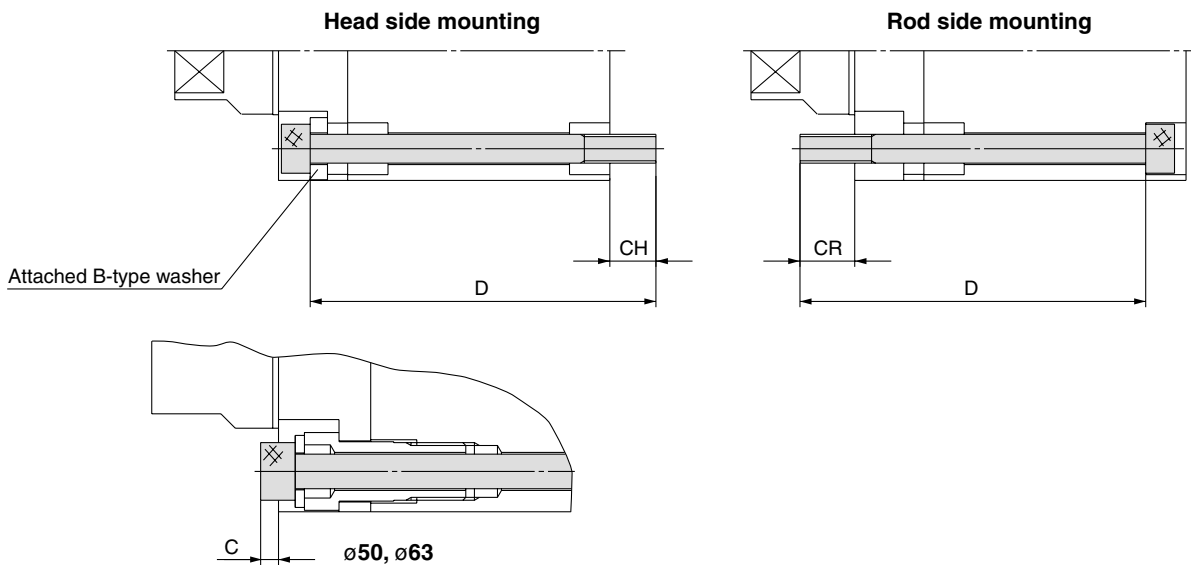
Note) Add the weight in [Table 2] to those in Weight Table.

RZQ Mounting Bolt

Mounting / Mounting bolts for the through hole type RZQB are available.
How to order: Add "Bolt" in front of the bolts to be used.

(Example) Bolt M5 x 110ℓ

(Two bolts are necessary per cylinder)



Note) Use the attached washer when inserting the bolt from the rod side.

RZQ Mounting Bolt

| Model | CH | CR | C | D | Mounting bolt |
|-------------|------|------|-----|-----|---------------|
| RZQB32-25-□ | 8 | 9.5 | — | 110 | M5 x 110ℓ |
| RZQB32-50-□ | | | | 135 | M5 x 135ℓ |
| RZQB32-75-□ | | | | 160 | M5 x 160ℓ |
| RZQB40-25-□ | 8.5 | 10 | — | 120 | M5 x 120ℓ |
| RZQB40-50-□ | | | | 145 | M5 x 145ℓ |
| RZQB40-75-□ | | | | 170 | M5 x 170ℓ |
| RZQB50-25-□ | 11.5 | 16.5 | 3 | 130 | M6 x 130ℓ |
| RZQB50-50-□ | | | | 155 | M6 x 155ℓ |
| RZQB50-75-□ | | | | 180 | M6 x 180ℓ |
| RZQB63-25-□ | 12.5 | 17.5 | 3.5 | 135 | M8 x 135ℓ |
| RZQB63-50-□ | | | | 160 | M8 x 160ℓ |
| RZQB63-75-□ | | | | 185 | M8 x 185ℓ |

RE_B^A

REC

C□X

C□Y

MQ_M^Q

RHC

MK(2)

RS_G^QRS_A^H

RZQ

MI_S^W

CEP1

CE1

CE2

ML2B

C_G^{1/5}-S

CV

MVGQ

CC

RB

J

D-

-X

20-

Data

Series RZQ

Model Selection

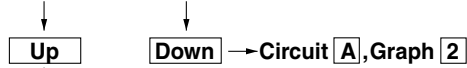
Selection chart for pneumatic circuit and selection graph

Select the pneumatic circuit and selection graph according to the following chart.

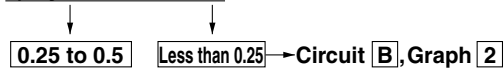
1) Transfer direction of load



2) Cylinder orientation



3) Cylinder load ratio

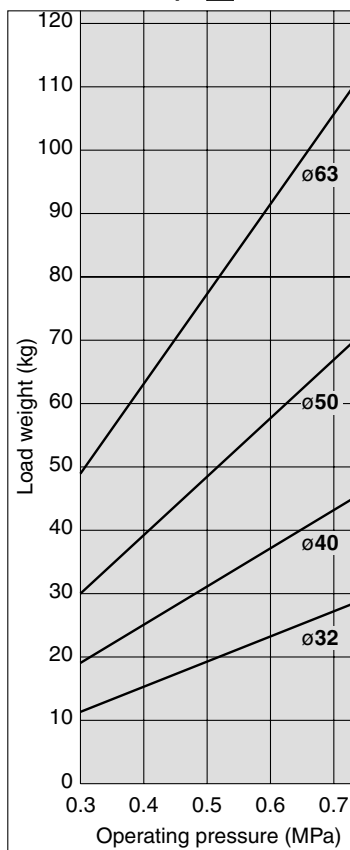


Circuit **C**, Graph **1**, Minimum load weight = Graph **2**

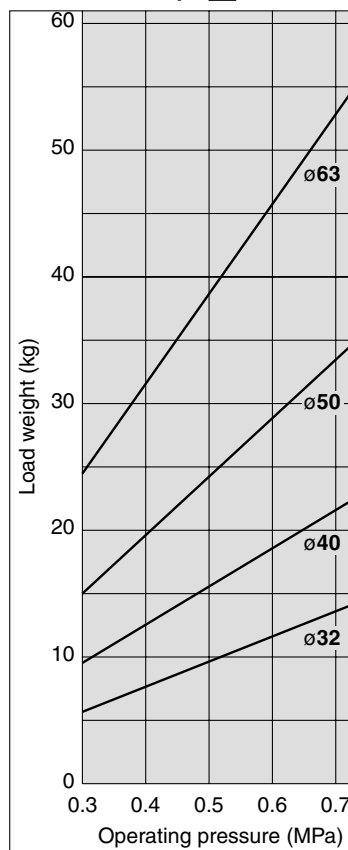
Selection graph

The optimum size is determined from the intersection of the operating pressure and load weight.

Graph **1**



Graph **2**



Selection example

Selection conditions: Transfer direction: Vertical movement

Cylinder orientation: Down

Load weight: 15 kg

Operating pressure: 0.4 MPa

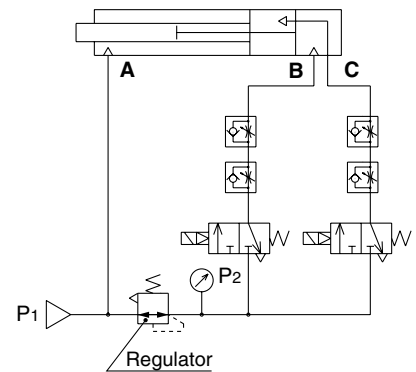
→ Circuit **A** and Graph **2** are selected according to the chart.

Find the intersection of an operation pressure of 0.4 MPa and load weight of 15 kg in Graph **2**.

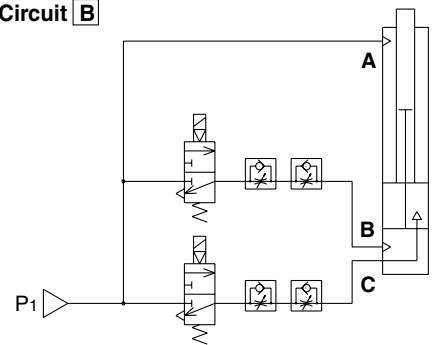
→ ø50 is selected.

Pneumatic circuit

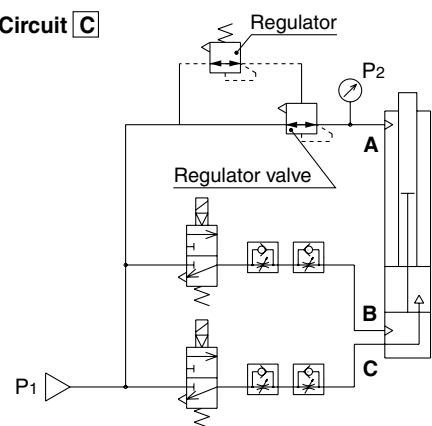
Circuit **A**



Circuit **B**



Circuit **C**



Confirmation of allowable kinetic energy

Confirm the internal stopper strength at extension and retraction ends in the graph on page 10-10-8.

Pneumatic Circuit Adjustment

Regulator set pressure

Set the pressures of circuit [A] and circuit [C] regulators at values found by the formula in the following table.

| Circuit | Orientation | Bore size (mm) | P ₂ [MPa] |
|---------|-------------|----------------|-----------------------------|
| [A] | Horizontal | — | 0.75P ₁ |
| [A] | Down | 32 | 0.75P ₁ -0.012m |
| | | 40 | 0.75P ₁ -0.0078m |
| | | 50 | 0.75P ₁ -0.0050m |
| | | 63 | 0.75P ₁ -0.0031m |
| [C] | Up | 32 | 1.5P ₁ -0.024m |
| | | 40 | 1.5P ₁ -0.016m |
| | | 50 | 1.5P ₁ -0.010m |
| | | 63 | 1.5P ₁ -0.0063m |

P₁: Operating pressure [MPa], m: Load weight [kg]

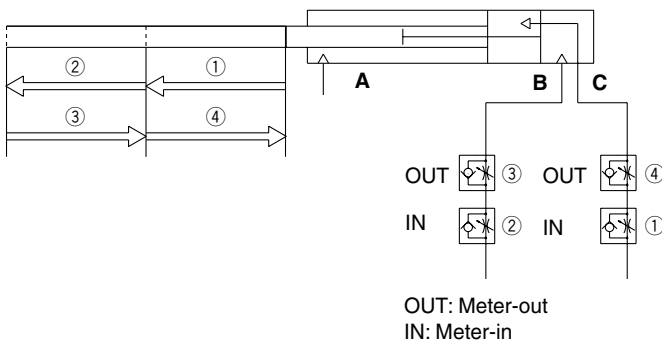
* In cases with load fluctuations, substitute the median value of the weight.

Example) Assume circuit [C] with an operating pressure of 0.5 MPa, load weight of 10 kg, fluctuation to 20 kg and a cylinder bore of 32 mm.

$$\rightarrow P_2 = 1.5 \times 0.5 - 0.024 \times 15 = 0.39 \text{ MPa}$$

Speed adjustment

The data below illustrates the strokes controlled by the respective speed controllers. Gradually increase from a low speed to the desired speed setting.



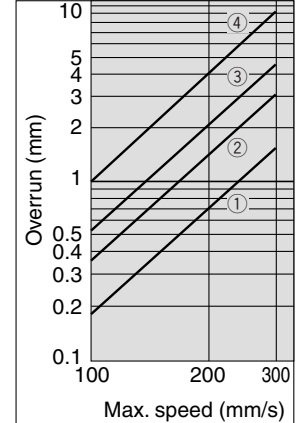
Overrun at intermediate stop

When stopping at an intermediate point, the cylinder first moves the piston past the intermediate point and then returns it. To confirm this distance of an extra travel (overrun) in Graph [3], Lines ① to ④ can be selected from the following table.

| Circuit | Orientation | Movement | Line |
|---------|-------------|------------|------|
| [A] | Horizontal | Extension | ③ |
| | | Retraction | ④ |
| [A] | Down | Extension | ③ |
| | | Retraction | ③ |
| [B] | Up | Extension | ① |
| | | Retraction | ③ |
| [C] | Up | Extension | ② |
| | | Retraction | ④ |

* The above values are for cases where the maximum payload found by the selection method is loaded.

Graph [3]



Change of the return point at the time of power failure

At the time of power failure, circuits [A] to [C] return the piston to the retraction end.

To return the piston to the intermediate point at the time of power failure, add changes to the 3 port valve on the cylinder rear side so that it will be normally open.

To return the piston to the extension end at the time of power failure, add changes to both 3 port valves so that they will be normally open.

Change to motion holding circuit

To hold the present motion at the time of power failure instead of performing a return to the specified stop point, change both 3 port valves to 5 port double valves and plug A or B port, whichever is open.

RE^A_B

REC

C□X

C□Y

MQ^Q_M

RHC

MK(2)

RS^Q_GRS^H_A

RZQ

MI^W_S

CEP1

CE1

CE2

ML2B

C_G¹_{5-S}

CV

MVGQ

CC

RB

J

D-

-X

20-

Data



Series **RZQ**

Specific Product Precautions

Be sure to read before handling.

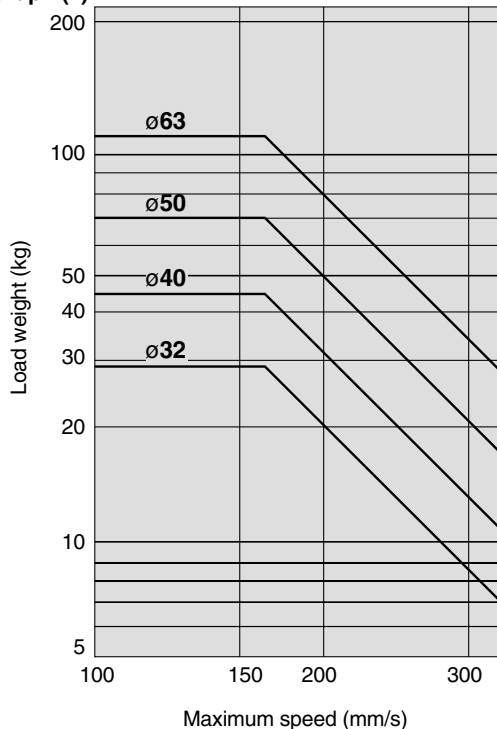
Selection

⚠ Caution

1. Keep the relation between the load weight and the maximum speed below the limit lines in Graph (1). If it exceeds the limit line, receive the load with an external stopper.

Operation beyond the limiting lines will cause damage to machinery.

Graph (1)



2. Use the cylinder in applications in which the overrun will not cause any problem.

When stopping at an intermediate point, this cylinder first moves the piston past the intermediate point and then returns it. Confirm this distance of an extra travel (overrun) in Graph [3] on page 10-10-7 and use the cylinder in applications in which the overrun will not cause any problem.

3. In cases where a positioning repeatability of 0.1 mm or less is required at the retraction and extension ends, use an external stopper for stops.

Use of an internal stopper will result in approximately 0.1 mm of displacement due to changes in the operating pressure and external forces.

4. Use an external guide to receive a moment or torque which can generate a load.

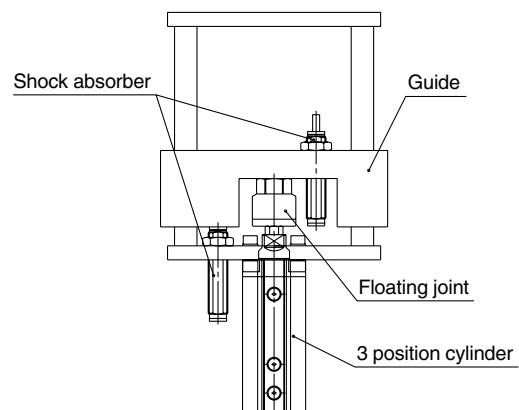
If a moment or torque directly acts on the cylinder, it will lead to reduced service life or damage to machinery.

Selection

5. To connect a direct acting guide, use floating joints in the following table.

If the direct acting guide is directly connected in operation, it may lead to malfunction or reduced service life.

| Model | Applicable floating joint |
|-----------|---------------------------|
| RZQ□32 | JB40-8-125 |
| RZQ□40/50 | JB63-10-150 |
| RZQ□63 | JB80-16-200 |



Maintenance

⚠ Caution

1. If reapplication of grease is needed, apply grease specifically provided for this purpose:

Grease: Product name: Grease pack

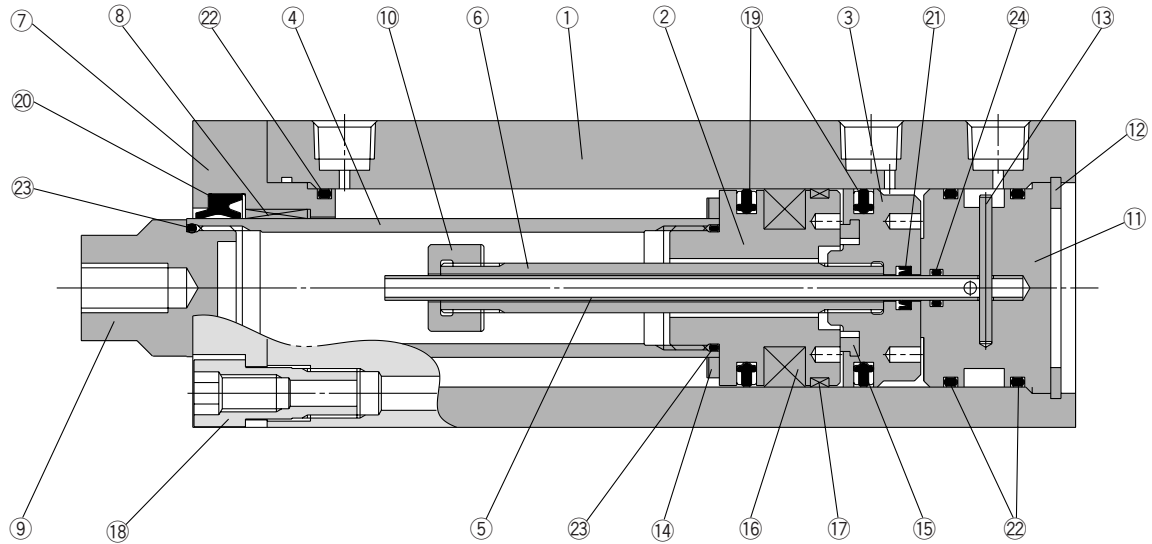
Part no.: 10 g GR-L-010

150 g GR-L-150

2. When dynamic seals are replaced, use a seal kit provided for each bore size.

Dedicated seal kit: Refer to "Construction" on page 10-10-9.

Construction



Component Parts

| | Description | Material | Note |
|---|----------------|-------------------------|---------------------------|
| ① | Cylinder tube | Aluminum alloy | Hard anodized |
| ② | Piston A | Aluminum alloy | Chromated |
| ③ | Piston B | Aluminum alloy | Chromated |
| ④ | Tube rod | Carbon steel | Hard chrome plated |
| ⑤ | Inner pipe | Stainless steel | |
| ⑥ | Outer pipe | Carbon steel | Zinc chromated |
| ⑦ | Rod cover | Aluminum alloy | White hard anodized |
| ⑧ | Bushing | Special friction lining | |
| ⑨ | Tube rod cover | Carbon steel | Electroless nickel plated |
| ⑩ | Nut | Carbon steel | Zinc chromated |
| ⑪ | Head cover | Aluminum alloy | Colorless chromated |
| ⑫ | Snap ring | Carbon tool steel | Phosphate coated |

| | Description | Material | Note |
|---|--------------|------------------|---------------|
| ⑬ | Parallel pin | Carbon steel | |
| ⑭ | Bumper A | Polyurethane | |
| ⑮ | Bumper B | Polyurethane | |
| ⑯ | Magnet | Synthetic rubber | |
| ⑰ | Wear ring | Resin | |
| ⑱ | Fitting bolt | Carbon steel | Nickel plated |
| ⑲ | Piston seal | NBR | |
| ⑳ | Rod seal A | NBR | |
| ㉑ | Rod seal B | NBR | |
| ㉒ | Gasket A | NBR | |
| ㉓ | Gasket B | NBR | |
| ㉔ | Gasket C | NBR | |

Replacement Parts: Seal Kit

| Bore size (mm) | Kit no. | Contents |
|----------------|-----------------|---|
| 32 | RZQ32-PS | A set of Nos. ⑲, ⑳, ㉑, ㉒ and ㉔ from the table above |
| 40 | RZQ40-PS | |
| 50 | RZQ50-PS | |
| 63 | RZQ63-PS | |

* Seal kits are sets consisting of items 19, 20, 21, 22 and 24 and can be ordered using the seal kit number for each cylinder bore size.

RE_B^A

REC

C□X

C□Y

MQ_M^Q

RHC

MK(2)

RS_G^QRS_A^H**RZQ**MI_S^W

CEP1

CE1

CE2

ML2B

C_G¹5-S

CV

MVGQ

CC

RB

J

D-

-X

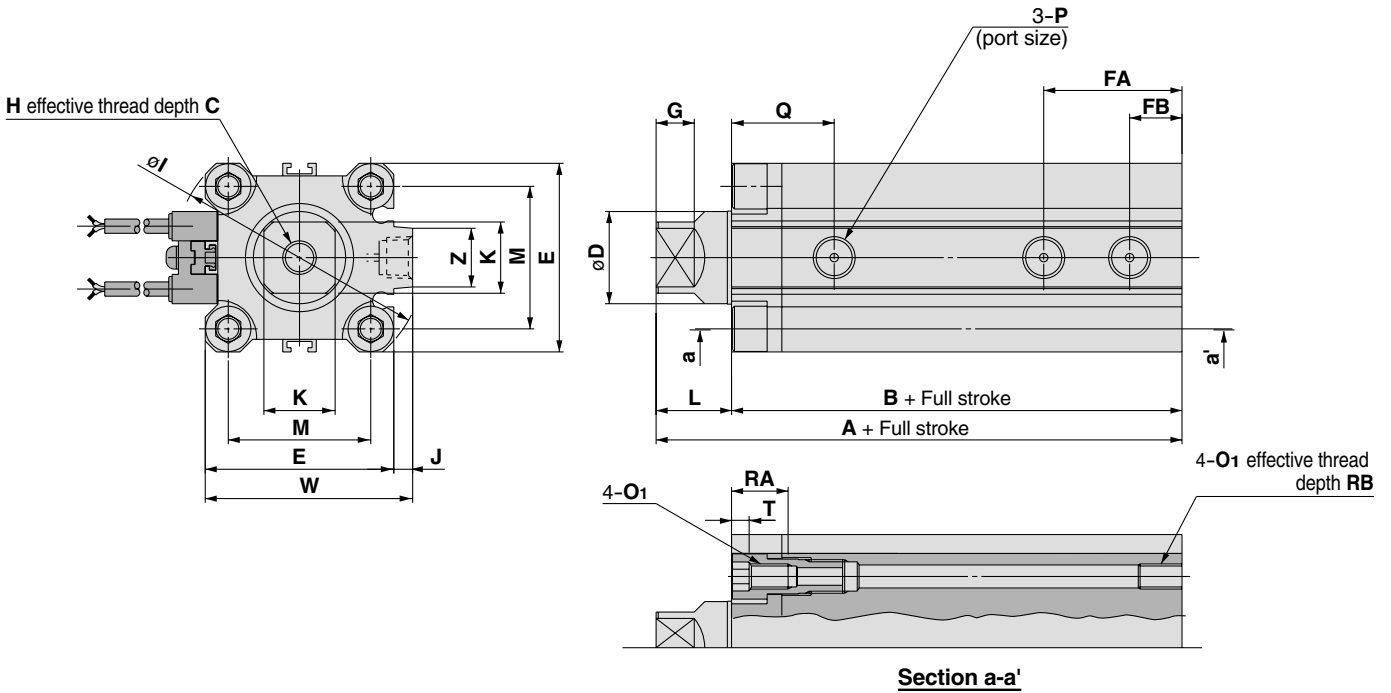
20-

Data

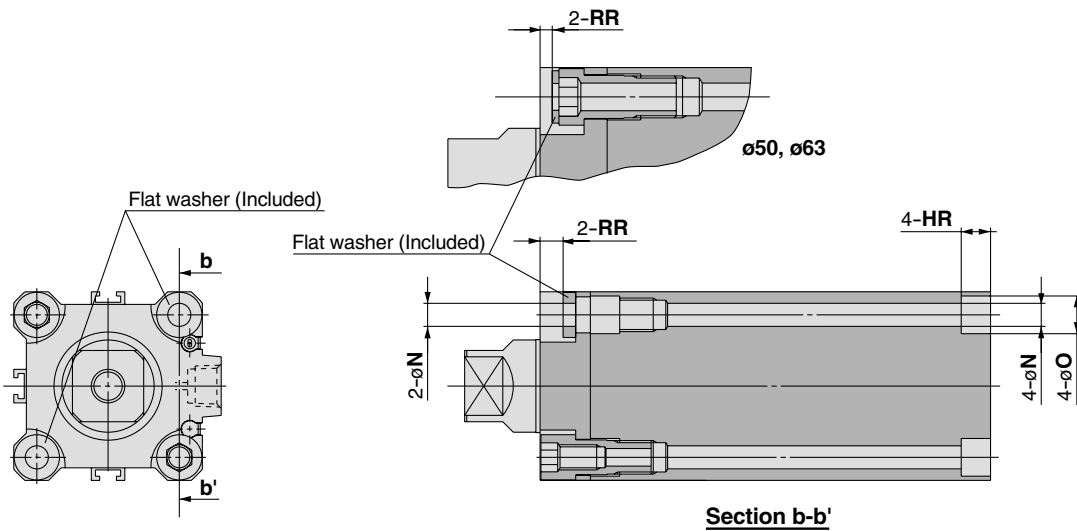
Series RZQ

Dimensions

Basic style (Double end tapped): RZQA



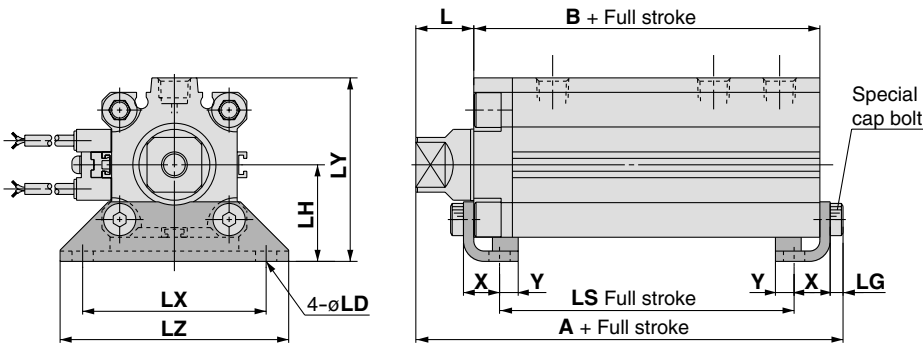
Basic style (Through-hole): RZQB



| Bore size (mm) | A | B | C | D | E | FA | FB | G | H | I | J | K | L | M | N | O ₁ | O | P | Q | RA | RB | RR | RH | T | W | Z |
|----------------|-------|------|----|------|----|------|------|----|-----------|-----|-----|----|----|----|-----|----------------|----|-------|------|------|----|-----|------|-----|------|----|
| 32 | 100.5 | 82.5 | 14 | 22.4 | 45 | 33 | 12.5 | 9 | M8 x 1.25 | 60 | 4.5 | 17 | 18 | 34 | 5.5 | M6 x 1.0 | 9 | Rc1/8 | 24.5 | 14 | 10 | 5.5 | 7 | 4.5 | 49.5 | 14 |
| 40 | 110 | 92 | 16 | 28 | 52 | 35 | 14 | 9 | M10 x 1.5 | 69 | 5 | 24 | 18 | 40 | 5.5 | M6 x 1.0 | 9 | Rc1/8 | 26 | 14 | 10 | 5.5 | 7 | 4.5 | 57 | 14 |
| 50 | 118.5 | 96.5 | 16 | 35 | 64 | 37 | 14 | 12 | M10 x 1.5 | 86 | 7 | 30 | 22 | 50 | 6.6 | M8 x 1.25 | 11 | Rc1/4 | 30 | 17 | 14 | 3 | 8 | 5.5 | 71 | 19 |
| 63 | 130 | 102 | 21 | 45 | 77 | 39.5 | 16.5 | 15 | M16 x 2.0 | 103 | 7 | 36 | 28 | 60 | 9 | M10 x 1.5 | 14 | Rc1/4 | 36.5 | 21.5 | 18 | 4.5 | 10.5 | 6.5 | 84 | 19 |

3 Position Cylinder Series RZQ

Foot style: RZQL

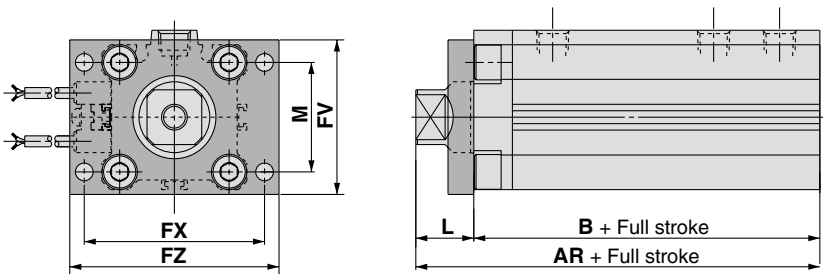


Foot Style

| (mm) | | | | | | | |
|----------------|-------|------|----|-----|----|----|------|
| Bore size (mm) | A | B | L | LD | LG | LH | LS |
| 32 | 107.7 | 82.5 | 18 | 6.6 | 4 | 30 | 66.5 |
| 40 | 117.2 | 92 | 18 | 6.6 | 4 | 33 | 76 |
| 50 | 126.7 | 96.5 | 22 | 9 | 5 | 39 | 73.5 |
| 63 | 138.2 | 102 | 28 | 11 | 5 | 46 | 76 |

| Bore size (mm) | LX | LY | LZ | X | Y |
|----------------|----|------|-----|------|-----|
| 32 | 57 | 57 | 71 | 11.2 | 5.8 |
| 40 | 64 | 64 | 78 | 11.2 | 7 |
| 50 | 79 | 78 | 95 | 14.7 | 8 |
| 63 | 95 | 91.5 | 113 | 16.2 | 9 |

Front flange style: RZQF

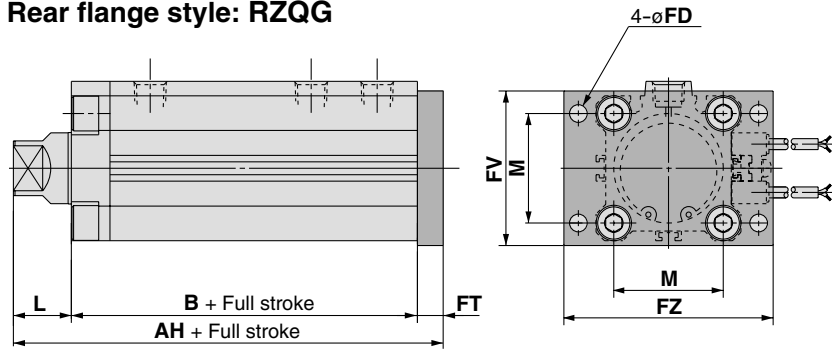


Flange Style

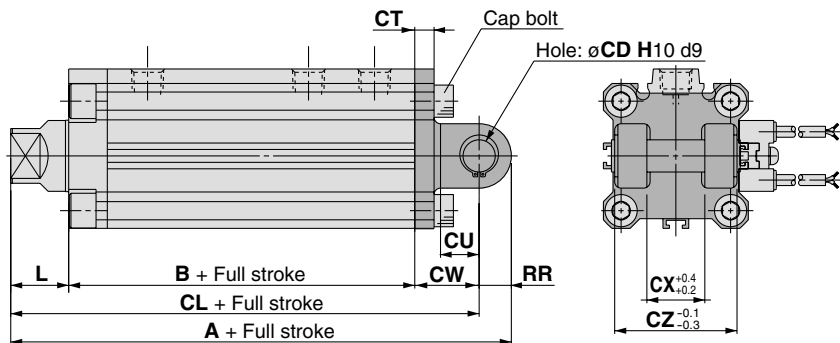
| (mm) | | | | | | | |
|----------------|-------|-------|------|-----|----|----|----|
| Bore size (mm) | AR | AH | B | FD | FT | FV | FX |
| 32 | 100.5 | 108.5 | 82.5 | 5.5 | 8 | 50 | 56 |
| 40 | 110 | 118 | 92 | 5.5 | 8 | 56 | 62 |
| 50 | 118.5 | 127.5 | 96.5 | 6.6 | 9 | 67 | 76 |
| 63 | 130 | 139 | 102 | 9 | 9 | 90 | 92 |

| Bore size (mm) | FZ | L | M |
|----------------|-----|----|----|
| 32 | 65 | 18 | 34 |
| 40 | 72 | 18 | 40 |
| 50 | 90 | 22 | 50 |
| 63 | 108 | 28 | 60 |

Rear flange style: RZQG



Double clevis style: RZQD



Double Style

| (mm) | | | | | | | |
|----------------|-------|------|----|-------|----|----|----|
| Bore size (mm) | A | B | CD | CL | CT | CU | CW |
| 32 | 112.5 | 82.5 | 10 | 102.5 | 5 | 14 | 20 |
| 40 | 124 | 92 | 10 | 114 | 6 | 14 | 22 |
| 50 | 134.5 | 96.5 | 14 | 124.5 | 7 | 20 | 28 |
| 63 | 146 | 102 | 14 | 132 | 8 | 20 | 30 |

| Bore size (mm) | CX | CZ | RR |
|----------------|----|----|----|
| 32 | 18 | 36 | 10 |
| 40 | 18 | 36 | 10 |
| 50 | 22 | 44 | 14 |
| 63 | 22 | 44 | 14 |

RE^A_B

REC

C□X

C□Y

MQ^Q_M

RHC

MK(2)

RS^Q_G

RS^H_A

RZQ

MI^W_S

CEP1

CE1

CE2

ML2B

C₆¹/₅-S

CV

MVGQ

CC

RB

J

D-

-X

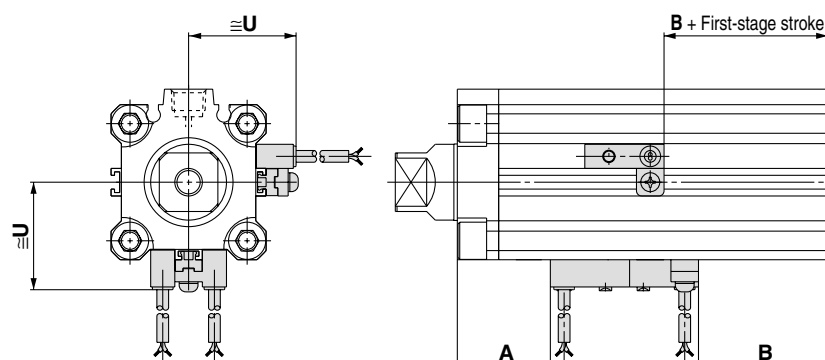
20-

Data

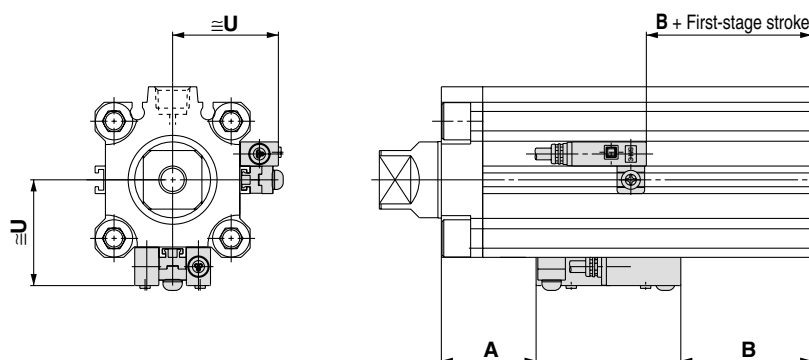
Series RZQ

Proper Auto Switch Mounting Position (For Detection of Piston A Stop Position) and Its Mounting Height

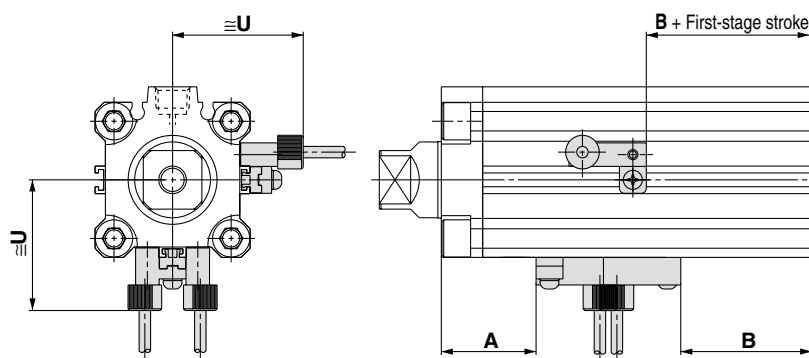
D-A7□
D-A80



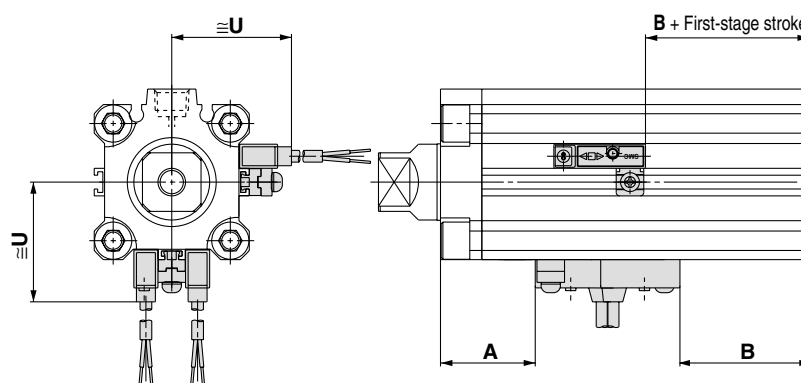
D-A7□H
D-A80H
D-F7□
D-J79
D-F7□W
D-J79W
D-F79F
D-Y7NTL
D-F7BAL



D-A73C
D-A80C
D-J79C



D-A79W
D-F7□WV
D-F7□V
D-F7BAVL

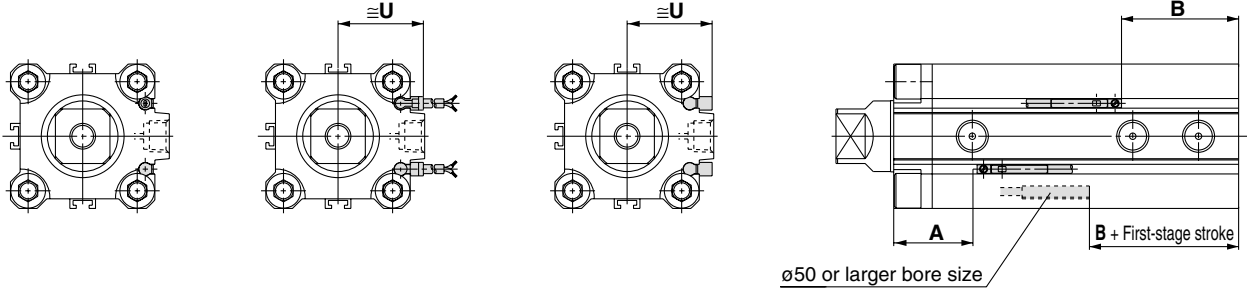


3 Position Cylinder Series RZQ

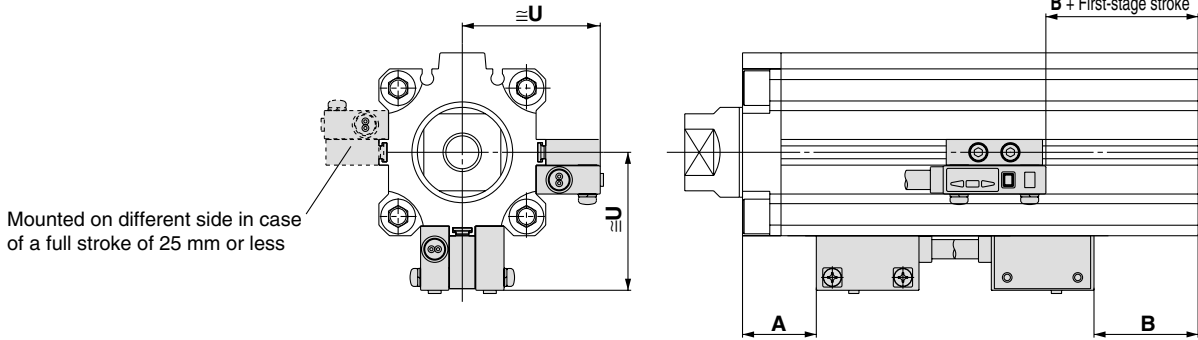
D-A9□
D-M9□
D-F9□W

D-A9□V
D-M9□V
D-F9□WV

D-F9BAL



D-P5DW
ø40, 50, 63



Proper Mounting Position

| Bore size (mm) | D-A7□, A80 | | D-A7□H, A80H D-A73C, A80C D-F7□, J79, J79W D-F7□V, J79C D-F7□W, F7□WV D-F7BAL, F7BAVL D-F79F | | D-A79W | | D-A9□ D-A9□V | | D-M9□ D-M9□V D-F9□W D-F9□WV | | D-F9BAL | | D-P5DWL | |
|----------------|------------|------|--|------|--------|------|-----------------|------|--------------------------------------|------|---------|------|---------|----|
| | A | B | A | B | A | B | A | B | A | B | A | B | A | B |
| 32 | 27 | 37.5 | 27.5 | 38 | 24.5 | 35 | 26 | 36.5 | 30 | 40.5 | 29 | 39.5 | — | — |
| 40 | 31 | 43 | 31.5 | 43.5 | 28.5 | 40.5 | 30 | 42 | 34 | 46 | 33 | 45 | 27 | 39 |
| 50 | 33.5 | 44 | 34 | 44.5 | 31 | 41.5 | 32.5 | 43 | 36.5 | 47 | 35.5 | 46 | 29.5 | 40 |
| 63 | 37 | 47 | 37.5 | 47.5 | 34.5 | 44.5 | 36 | 46 | 40 | 50 | 39 | 49 | 33 | 43 |

| Bore size (mm) | D-A7□, A80 | D-A7□H, A80H D-F7□, D-F79F D-J79, J79W D-F7□W D-F7BAL D-F7NTL | D-A73C D-A80C | D-F7□V D-F7□WV D-F7BAVL | D-J79C | D-A79W | D-A9□V | D-M9□V D-F9□WV | D-F9BAL | D-P5DWL |
|----------------|------------|--|------------------|-------------------------------|--------|--------|--------|-------------------|---------|---------|
| | U | U | U | U | U | U | U | U | U | U |
| 32 | 31.5 | 32.5 | 38.5 | 35 | 38 | 34 | 27 | 29 | 26.5 | — |
| 40 | 35 | 36 | 42 | 38.5 | 41.5 | 37.5 | 30.5 | 32.5 | 30 | 44 |
| 50 | 41 | 42 | 48 | 44.5 | 47.5 | 43.5 | 36.5 | 38.5 | 36 | 50 |
| 63 | 47.5 | 48.5 | 54.5 | 51 | 54 | 50 | 40 | 42 | 39.5 | 56.5 |

RE^A_B

REC

C□X

C□Y

MQ^Q_M

RHC

MK(2)

RS^Q_G

RS^H_A

RZQ

MI^W_S

CEP1

CE1

CE2

ML2B

C¹/₅-S

CV

MVGQ

CC

RB

J

D-

-X

20-

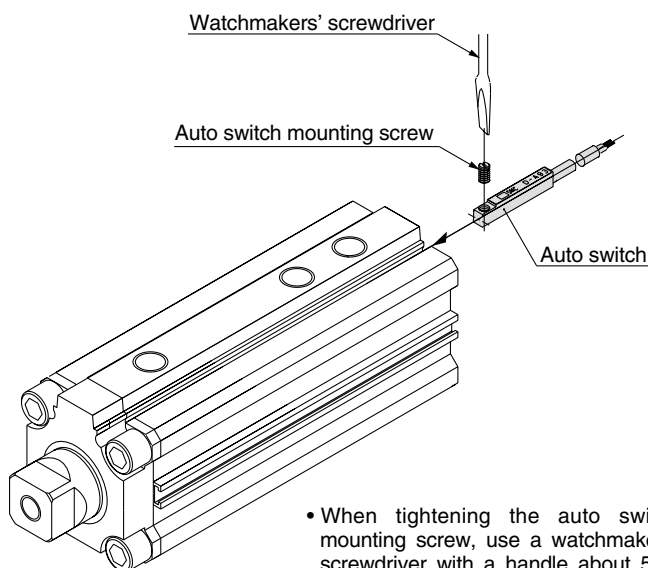
Data

Series RZQ

Mounting of Auto Switch

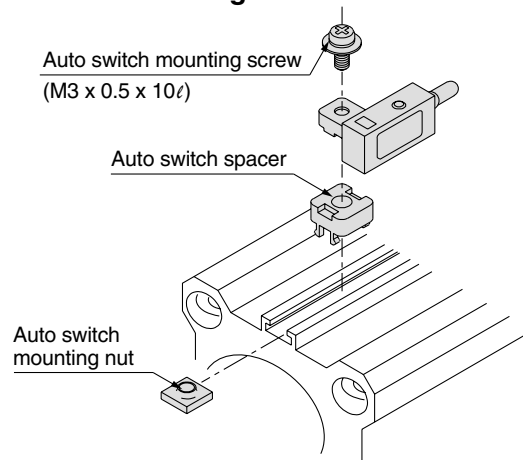
Follow the procedures below to mount auto switches.

Direct mounting



- When tightening the auto switch mounting screw, use a watchmakers' screwdriver with a handle about 5 to 6mm in diameter. Tighten with a torque of 0.10 to 0.20N·m.

Rail mounting



- Apply a tightening torque of 0.5 to 0.7N·m to the auto switch mounting screw.

* Auto switch mounting brackets are included with a cylinder with built-in magnet.

In addition to the models listed in "How to Order" the following auto switches can be mounted.
For detailed specifications, refer to page 10-20-1.

| Type | Part No. | Electrical entry | Features | Applicable bore size |
|--------------------|-------------------------|---------------------------|-------------------------|----------------------|
| Reed switch | D-A80 | Grommet (perpendicular) | Without indicator light | ø12 to ø160 |
| | D-A80H | Grommet (in-line) | | |
| | D-A80C | Connector (perpendicular) | | ø125 to ø200 |
| | D-Z80 | Grommet (in-line) | | |
| | D-A90 | Grommet (in-line) | | |
| D-A90V | Grommet (perpendicular) | ø32 to ø100 | | |
| Solid state switch | D-F7NTL | Grommet (in-line) | With timer | ø12 to ø160 |

* D-F7NTL is also available with pre-wired connector.

* Normally closed type (NC = b contact) solid state auto switches are also available (D-F9G, F9H, Y7G, Y7H)