

Built-in Speed Controller: Double Acting Single Rod

Series CJ2Z



ø10, ø16

How to Order

Bore size

| | |
|----|------|
| 10 | 10mm |
| 16 | 16mm |

Mounting

| | |
|---|---------------|
| B | Basic |
| L | Axial foot |
| F | Front flange |
| D | Double clevis |

Standard stroke (mm)

| | |
|-----|---|
| ø10 | 15, 30, 45, 60, 75, 100, 125, 150 |
| ø16 | 15, 30, 45, 60, 75, 100, 125, 150, 175, 200 |

Standard CJ2Z L 16 60

With auto switch CDJ2Z L 16 60 C73

Band mounting

Rail mounting

With auto switch (Built-in magnet)

Port location on head cover

| Symbol | Port location |
|--------|---------------|
| — | Perpendicular |
| R | In-line |

* Refer to p.1.3-43 for the configuration.

Auto switch

* Refer to the table below for selecting applicable auto switches.

* If requiring a built-in-magnet cylinder without an auto switch, refer to the model number example below.

Number of switches

| | |
|---|---|
| — | 2 |
| S | 1 |
| n | n |

Applicable Auto Switches/Refer to p.5.3-2 for further information on auto switch.

| Style | Special function | Electrical entry | Indicator | Wiring (Output) | Load voltage | | Auto switch model** | | Lead wire* (m) | | | | Applicable load | | | | | | | | | | | | | |
|----------------------------------|---------------------------------|------------------|--------------|---------------------------|--------------|----|---------------------|-------|----------------|---------|--------|--------------|-----------------|-----|-----------|---|------|---------|-------|------|------|------|---|----|---|---|
| | | | | | DC | AC | Band | Rail | | 0.5 (-) | 3 (L) | 5 (Z) | None (N) | IC | Relay PLC | | | | | | | | | | | |
| | | | | | | | | Perp. | In-line | | | | | | | | | | | | | | | | | |
| Reed switch | — | Grommet | Yes | 3 wire (NPN) | — | 5V | — | C76 | — | A76H | ● | ● | — | — | IC | — | | | | | | | | | | |
| | | | | | | | | | | | 2 wire | 24V | — | A72 | | | A72H | ● | ● | — | — | | | | | |
| | | | | | | | | | | | | | | | | | | 12V | 100V | C73 | A73 | A73H | ● | ● | ● | — |
| | | | | | | | | | | | | | | | | | | 5V, 12V | ≤100V | C80 | A80 | A80H | ● | ● | — | — |
| | | | | | | | | | | | | | | | | | | 12V | — | C73C | A73C | — | ● | ● | ● | ● |
| 5V, 12V | ≤24V | C80C | A80C | — | ● | ● | ● | ● | | | | | | | | | | | | | | | | | | |
| — | — | — | A79W | — | — | ● | ● | — | — | | | | | | | | | | | | | | | | | |
| Solid state switch | — | Grommet | Yes | 3 wire (NPN) | 5V, 12V | — | H7A1 | F7NV | F79 | ● | ● | ○ | — | IC | — | | | | | | | | | | | |
| | | | | 3 wire (PNP) | | | | | | H7A2 | F7PV | F7P | ● | | | ● | ○ | — | | | | | | | | |
| | | | | 2 wire | | | | | | H7B | F7BV | J79 | ● | | | ● | ○ | — | | | | | | | | |
| | | | | | | | | | | H7C | J79C | — | ● | | | ● | ● | ● | | | | | | | | |
| | Diagnostic indication (2 color) | Grommet | Yes | 3 wire (NPN) | 5V, 12V | — | H7NW | F7NWV | F79W | ● | ● | ○ | — | IC | Relay PLC | | | | | | | | | | | |
| | | | | 3 wire (PNP) | | | | | | H7PW | — | F7PW | ● | | | ● | ○ | — | | | | | | | | |
| | | | | 2 wire | | | | | | H7BW | H7BWV | J79W | ● | | | ● | ○ | — | | | | | | | | |
| | | | | | | | | | | H7BA | — | F7BA | — | | | ● | ○ | — | | | | | | | | |
| | | | | Water resistant (2 color) | | | | | | Grommet | — | 2 wire | 12V | | | — | — | — | F7NT | — | ● | ○ | — | — | | |
| | | | | | | | | | | | | | | | | | | | | — | — | F7NT | — | | ● | ○ |
| | | | | With timer | | | | | | Grommet | — | 3 wire (NPN) | 5V, 12V | | | — | — | — | F79F | ● | ● | ○ | — | IC | | |
| | | | | | | | | | | | | | | | | | | | | — | — | F79F | ● | | ● | ○ |
| With diagnostic output (2 color) | Grommet | — | 4 wire (NPN) | — | — | — | — | F7LF | ● | ● | ○ | — | — | | | | | | | | | | | | | |
| | | | | | | | | | — | — | F7LF | ● | | ● | ○ | — | | | | | | | | | | |

* Lead wire length 0.5m..... e.g.) C73C 5m.....Z e.g.) C73CZ
3m.....L C73CL None.....N C73CN

* Solid state switches marked with "○" are manufactured upon receipt of order.

** "D-A79W" cannot be mounted on bore size ø10 cylinder with air cushion.

Part No. of Cylinder with Built-in Magnet

Symbol "-A" (rail mounting) or "-B" (band mounting) should be suffixed to the part No. of the cylinder with auto switch.

| | | |
|-----|---------------|---------------|
| Ex. | Rail mounting | CDJ2ZB16-60-A |
| | Band mounting | CDJ2ZB10-45-B |

Built-in Speed Controller: Double Acting Single Rod *Series CJ2Z*

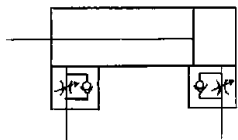
Space saving air cylinder with built-in speed controller

Auto switch available



JIS symbol

Double acting/single rod



Port Location on Head Cover

Either perpendicular to the cylinder axis or in-line with the cylinder axis is available for basic style.



In-line



Perpendicular

⚠ Precautions

Refer to p.1.3-3 before handling.

Specifications

| | | |
|-------------------------------|--|--------|
| Action | Double acting/Single rod | |
| Fluid | Air | |
| Proof pressure | 1.05MPa | |
| Max. operating pressure | 0.7MPa | |
| Min. operating pressure | 0.06MPa | |
| Ambient and fluid temperature | Without auto switch: -10°C to 70°C, With auto switch: -10°C to 60°C* | |
| Cushion | Rubber bumper (Standard equipment) | |
| Lubrication | Non-lube | |
| Thread tolerance | JIS class 2 | |
| Stroke tolerance | +1.0 0 | |
| Speed controller | Built-in | |
| Mounting | Basic, Axial foot, Front flange, Double clevis | |
| Piston speed | 50 to 750mm/s | |
| Allowable kinetic energy | ø10 | 0.035J |
| | ø16 | 0.090J |

* No freezing

Standard Stroke

| Bore size | Standard stroke (mm) |
|-----------|---|
| 10 | 15, 30, 45, 60, 75, 100, 125, 150 |
| 16 | 15, 30, 45, 60, 75, 100, 125, 150, 175, 200 |

Minimum Strokes for Auto Switches Mounting

•Refer to p.1.3-3.

Mounting Accessories/Refer to p.1.3-12 for details.

| Mounting | | Basic | Axial foot | Front flange | Double clevis* |
|----------|-----------------------|-------|------------|--------------|----------------|
| Standard | Mounting nut | ● | ● | ● | — |
| | Rod end nut | ● | ● | ● | ● |
| | Clevis pin | — | — | — | ● |
| Option | Single knuckle joint | ● | ● | ● | ● |
| | Double knuckle joint* | ● | ● | ● | ● |
| | T bracket | — | — | — | ● |

* Double clevis or double knuckle joint are packaged with pins and rings.

CJ1

CJP

CJ2

CM2

C85

CG1

MB

C95

CA1

CS1

Series CJ2Z

Weight

(g)

| Bore size (mm) | | 10 | 16 |
|---|-----------------------------|----|-----|
| Basic weight* | | 40 | 73 |
| Additional weight for each 15 of stroke | | 4 | 6.5 |
| Mounting bracket weight | Axial foot | 8 | 20 |
| | Front flange | 5 | 15 |
| | Double clevis** (with pins) | 4 | 10 |

* This basic weight includes weights of mounting nut and rod end nut.

** The mounting nut is not attached to the double clevis style, so the mounting nut weight is already reduced.

Calculation example: CJ2ZL10-45

- Basic weight: 40 (ø10)
 - Additional weight: 4/15 stroke
 - Cylinder stroke: 45 stroke
 - Mounting bracket weight: 8 (Axial foot)
- 44+4/15 X 45+8=60g


Mounting Bracket Part No.

| Mounting bracket | Bore size (mm) | |
|------------------|----------------|----------|
| | 10 | 16 |
| Foot | CJ-L010B | CJ-L016B |
| Flange | CJ-F010B | CJ-F016B |
| T bracket* | CJ-T010B | CJ-T016B |

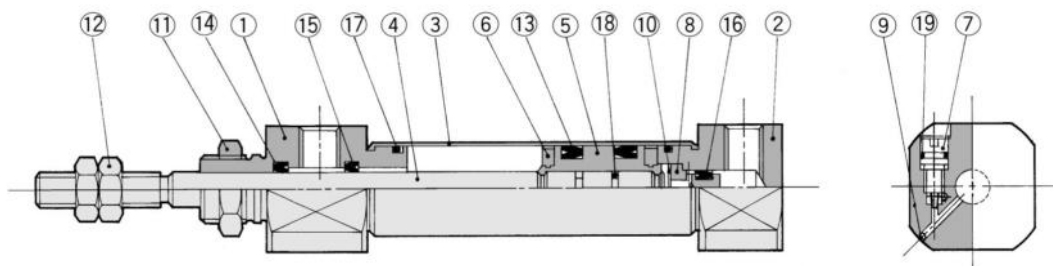
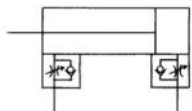
* T bracket is used with double clevis (D).

Auto Switch Mounting Bracket Part No. (Band mounting)

| Bore size (mm) | Bracket part No. | Note |
|----------------|------------------|--|
| 10 | BJ2-010 | Common use to all of D-C7, C8 and D-H7 |
| 16 | BJ2-016 | |

 Note) A set of stainless steel mounting screws "BBA4" is attached. (A switch mounting band is not attached. Please order the band separately.) "BBA4" screws are used for D-C7/C8/H7. "D-H7BAL" switch is set on the cylinder with the screws above when shipped. Also, when a switch only is shipped, "BBA4" screws are attached.

Construction (The cylinder cannot be disassembled)



Component Parts

| No. | Description | Material | Note |
|-----|-------------------------|-------------------|----------------------|
| ① | Rod cover | Aluminum alloy | White anodized |
| ② | Head cover | Aluminum alloy | White anodized |
| ③ | Cylinder tube | Stainless steel | |
| ④ | Piston rod | Stainless steel | |
| ⑤ | Piston | Brass | |
| ⑥ | Bumper | Urethane | |
| ⑦ | Speed controller needle | Stainless steel | |
| ⑧ | Check packing sleeve | Brass | |
| ⑨ | Steel ball | Bearing steel | |
| ⑩ | Retaining ring | Carbon tool steel | Black zinc chromated |

Copper Free

20-CJ2Z Mounting Bore size Stroke Port location on head cover

• Copper free

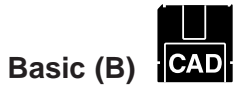
To eliminate influences of copper ions or halogen ions during CRT manufacturing processes, copper and fluorine materials are not used as component parts.



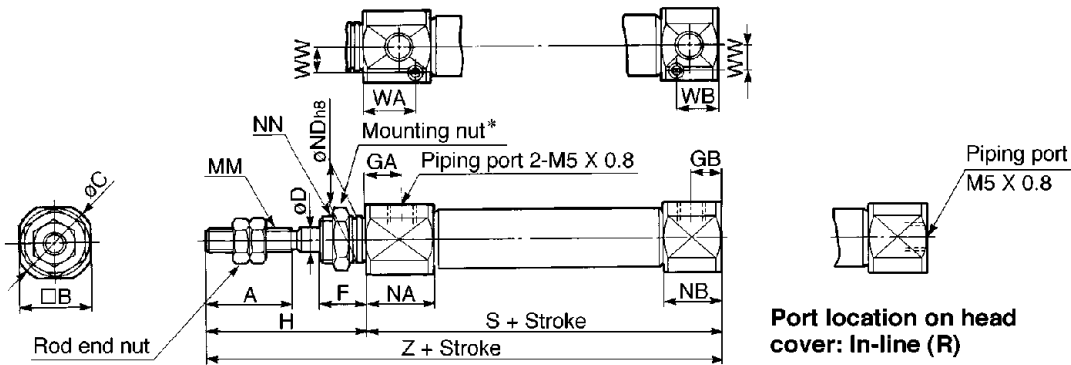
Specifications

| | |
|-------------------------|--|
| Action | Double acting/Single rod |
| Bore size (mm) | ø10, ø16 |
| Max. operating pressure | 0.7MPa |
| Min. operating pressure | 0.06MPa |
| Cushion | Rubber bumper (standard equipment) |
| Standard stroke (mm) | Same as the standard (Refer to p.1.3-43.) |
| Auto switch | Possible to be mounted |
| Mounting | Basic, Axial foot, Front flange, Double clevis |

Built-in Speed Controller: Double Acting Single Rod *Series CJ2Z*



CJ2ZB Bore size Stroke Port location on head cover

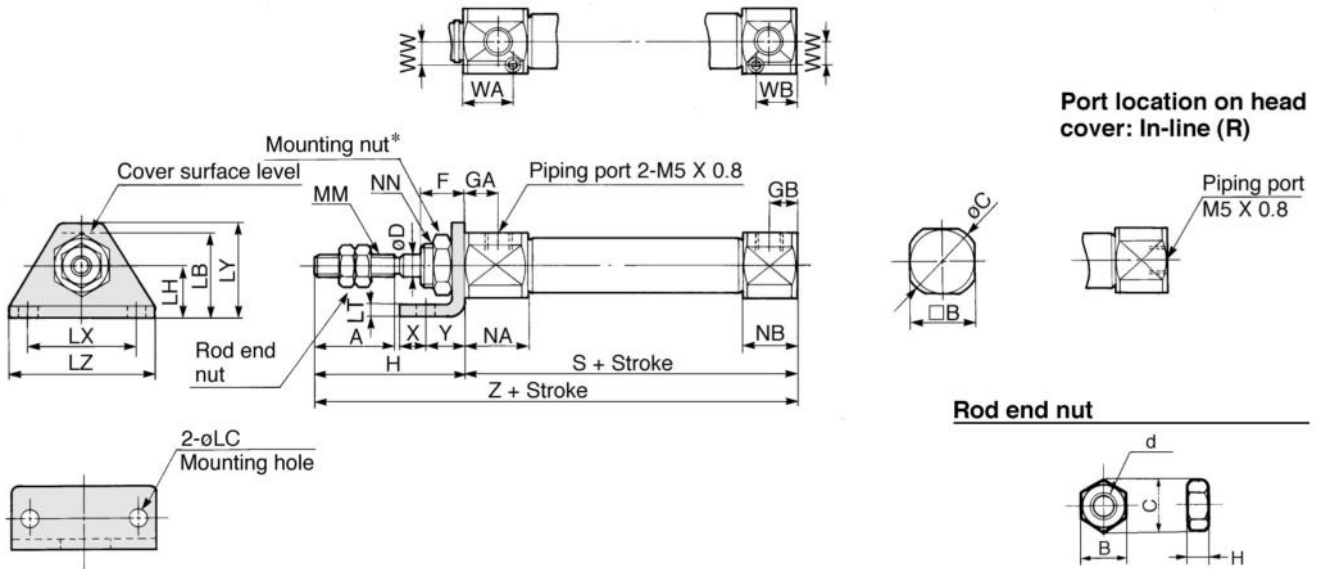


* Refer to p.1.3-12 for details of the mounting nut.

| Bore | A | B | C | D | F | GA | GB | H | MM | NA | NB | NDh8 | NN | WA | WB | WW | S | Z |
|------|----|----|----|---|---|-----|-----|----|----------|----|----|-----------------------------------|-----------|------|------|-----|----|----|
| 10 | 15 | 15 | 17 | 4 | 8 | 7.5 | 6.5 | 28 | M4 X 0.7 | 21 | 18 | 8 ⁰ _{-0.022} | M8 X 1.0 | 14.5 | 13.5 | 4.5 | 63 | 91 |
| 16 | 15 | 18 | 20 | 5 | 8 | 7.5 | 6.5 | 28 | M5 X 0.8 | 21 | 18 | 10 ⁰ _{-0.022} | M10 X 1.0 | 14.5 | 13.5 | 5.5 | 64 | 92 |

Axial Foot (L)

CJ2ZL Bore size Stroke Port location on head cover



Material: Iron

| Part No. | Bore | B | C | d | H |
|----------|------|---|-----|----------|-----|
| NTJ-010A | 10 | 7 | 8.1 | M4 X 0.7 | 3.2 |
| NTJ-015A | 16 | 8 | 9.2 | M5 X 0.8 | 4 |

* Refer to p.1.3-12 for details of the mounting nut.

| Bore | A | B | C | D | F | GA | GB | H | LB | LC | LH | LT | LX | LY | LZ | MM | NA | NB | NN | S | WA | WB | WW | X | Y | Z |
|------|----|----|----|---|---|-----|-----|----|------|-----|----|-----|----|------|----|----------|----|----|-----------|----|------|------|-----|---|---|----|
| 10 | 15 | 15 | 17 | 4 | 8 | 7.5 | 6.5 | 28 | 16.5 | 4.5 | 9 | 1.6 | 24 | 16.5 | 32 | M4 X 0.7 | 21 | 18 | M8 X 1.0 | 63 | 14.5 | 13.5 | 4.5 | 5 | 7 | 91 |
| 16 | 15 | 18 | 20 | 5 | 8 | 7.5 | 6.5 | 28 | 23 | 5.5 | 14 | 2.3 | 33 | 25 | 42 | M5 X 0.8 | 21 | 18 | M10 X 1.0 | 64 | 14.5 | 13.5 | 5.5 | 6 | 9 | 92 |



Basic Foot
 CJ2Z□10 SCJ210, #9 SCJ210, #9, #3
 CJ2Z□16 SCJ216, #9 SCJ216, #9, #3

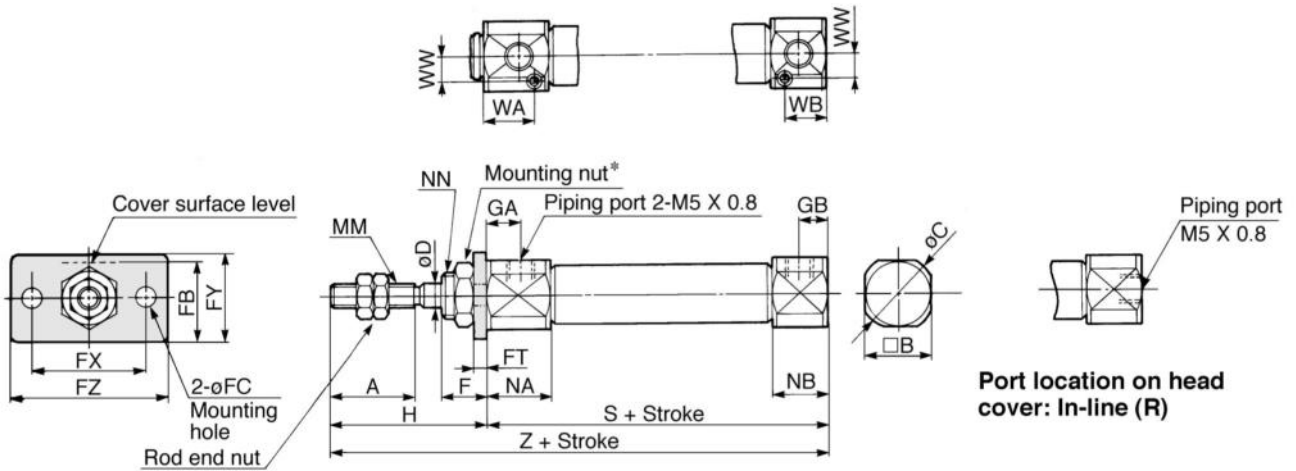
* The data shows auto switch styles.
 Please delete the unnecessary parts.

Series CJ2Z

Front Flange (F)



CJ2ZF **Bore size** **Stroke** **Port location on head cover**

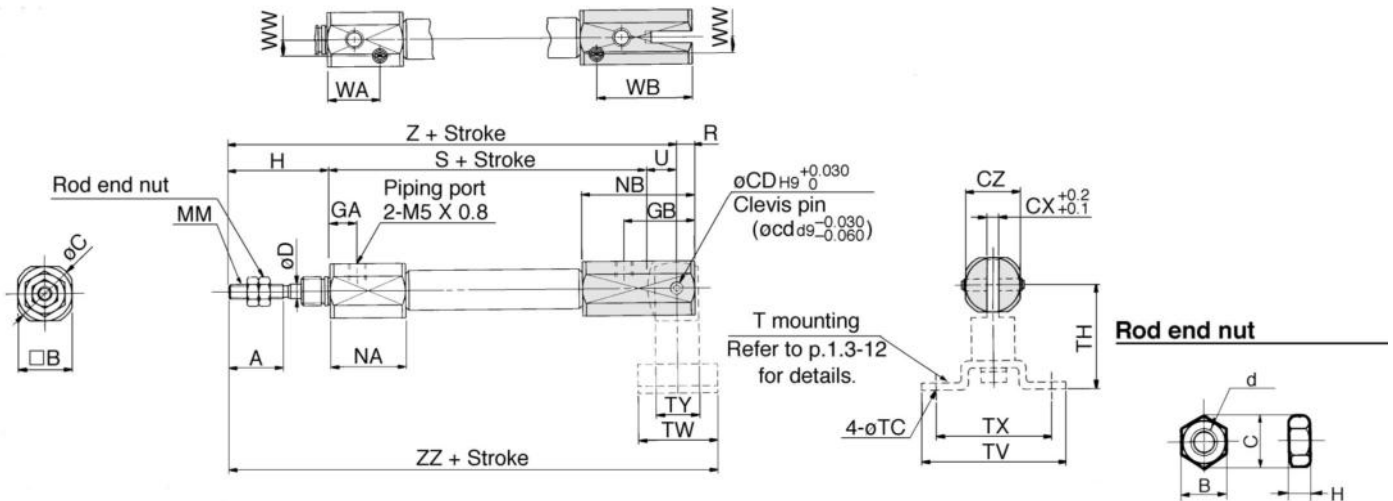


* Refer to p.1.3-12 for details of the mounting nut.

| Bore | A | B | C | D | F | FB | FC | FT | FX | FY | FZ | GA | GB | H | MM | NA | NB | NN | WA | WB | WW | S | Z |
|------|----|----|----|---|---|------|-----|-----|----|----|----|-----|-----|----|----------|----|----|-----------|------|------|-----|----|----|
| 10 | 15 | 15 | 17 | 4 | 8 | 14.5 | 4.5 | 1.6 | 24 | 14 | 32 | 7.5 | 6.5 | 28 | M4 X 0.7 | 21 | 18 | M8 X 1.0 | 14.5 | 13.5 | 4.5 | 63 | 91 |
| 16 | 15 | 18 | 20 | 5 | 8 | 19 | 5.5 | 2.3 | 33 | 20 | 42 | 7.5 | 6.5 | 28 | M5 X 0.8 | 21 | 18 | M10 X 1.0 | 14.5 | 13.5 | 5.5 | 64 | 92 |

Double Clevis (D)

CJ2ZD **Bore size** **Stroke**



Material: Iron

| Part No. | Bore | B | C | d | H |
|----------|------|---|-----|----------|-----|
| NTJ-010A | 10 | 7 | 8.1 | M4 X 0.7 | 3.2 |
| NTJ-015A | 16 | 8 | 9.2 | M5 X 0.8 | 4 |

* Clevis pins and set rings are attached.

| Bore | A | B | C | CD(ct) | CX | CZ | D | GA | GB | H | MM | NA | NB | R | S | U | WA | WB | WW | Z | ZZ |
|------|----|----|----|--------|-----|----|---|-----|------|----|----------|----|----|---|----|----|------|------|-----|-----|-----|
| 10 | 15 | 15 | 17 | 3.3 | 3.2 | 15 | 4 | 7.5 | 19.5 | 28 | M4 X 0.7 | 21 | 31 | 5 | 63 | 8 | 14.5 | 26.5 | 4.5 | 99 | 110 |
| 16 | 15 | 18 | 20 | 5 | 6.5 | 18 | 5 | 7.5 | 24.5 | 28 | M5 X 0.8 | 21 | 36 | 8 | 64 | 10 | 14.5 | 31.5 | 5.5 | 102 | 116 |

T mounting dimensions

(mm)

| Bore | TC | TH | TV | TW | TX | TY |
|------|-----|----|----|----|----|----|
| 10 | 4.5 | 29 | 40 | 22 | 32 | 12 |
| 16 | 5.5 | 35 | 48 | 28 | 38 | 16 |



Basic Flange Double clevis
 CJ2Z□10 SCJ210, #9 SCJ210, #9, #4
 CJ2Z□16 SCJ216, #9 SCJ216, #9, #4

* The data shows auto switch equipped styles.
 Please delete the unnecessary parts.