

# ISO Cylinder: Standard/Non-rotating Type Double Acting, Single/Double Rod

## Series C85

ø8, ø10, ø12, ø16, ø20, ø25

### How to Order

|                                     |          |          |             |          |           |           |           |           |          |          |           |
|-------------------------------------|----------|----------|-------------|----------|-----------|-----------|-----------|-----------|----------|----------|-----------|
| <b>Double acting<br/>Single rod</b> | <b>C</b> | <b>D</b> | <b>85</b>   | <b>K</b> | <b>N</b>  | <b>16</b> | <b>40</b> | <b>C</b>  | <b>J</b> | <b>A</b> | <b>R2</b> |
| <b>Double acting<br/>Double rod</b> | <b>C</b> | <b>D</b> | <b>85 W</b> | <b>E</b> | <b>16</b> | <b>40</b> | <b>C</b>  | <b>JJ</b> | <b>B</b> |          |           |

|                        |                 |
|------------------------|-----------------|
| <b>Built-in magnet</b> |                 |
| <b>Nil</b>             | None            |
| <b>D</b>               | Built-in magnet |

|             |                                        |
|-------------|----------------------------------------|
| <b>Type</b> |                                        |
| <b>Nil</b>  | Standard                               |
| <b>K</b>    | Non-rotating rod (Rubber cushion only) |

|                       |                         |
|-----------------------|-------------------------|
| <b>Mounting style</b> |                         |
| <b>Symbol</b>         | <b>Mounting</b>         |
| <b>N</b>              | Basic integrated clevis |
| <b>E**</b>            | Double end              |
| <b>F**</b>            | Front nose              |
| <b>Y**</b>            | Front nose in line port |

\* Double acting, Double rod:  
Only double end style (E).  
\*\* Except air cushion type.

|                                  |               |
|----------------------------------|---------------|
| <b>Auto switch mounting type</b> |               |
| <b>A</b>                         | Rail mounting |
| <b>B</b>                         | Band mounting |

Applicable auto switches and bands are shown on page 6-11-44. Please order auto switches and bands separately.

|               |                                                          |
|---------------|----------------------------------------------------------|
| <b>Option</b> |                                                          |
| <b>R</b>      | Stainless steel piston rod, rod end nut and mounting nut |
| <b>R2</b>     | Stainless steel piston rod and rod end nut               |

Note) Please refer to page 6-11-47 for additional options. Only one option can be selected.

|                                 |                                     |
|---------------------------------|-------------------------------------|
| <b>Rod boot (Only ø20, ø25)</b> |                                     |
| <b>Nil</b>                      | Without rod boot                    |
| <b>J</b>                        | Nylon tarpaulin one side            |
| <b>K</b>                        | Heat resistant tarpaulin one side   |
| <b>JJ*</b>                      | Nylon tarpaulin both sides          |
| <b>KK*</b>                      | Heat resistant tarpaulin both sides |

\* In the case of double acting/double rod.

|                |                                                     |
|----------------|-----------------------------------------------------|
| <b>Cushion</b> |                                                     |
| <b>Nil</b>     | Rubber cushion (Standard)                           |
| <b>C</b>       | Air cushion (Only "N" execution, bores 10 to 25 mm) |

|                       |                                                  |                         |                     |                   |
|-----------------------|--------------------------------------------------|-------------------------|---------------------|-------------------|
| <b>Bore size (mm)</b> | <b>Standard stroke (mm)**</b>                    | <b>Max. stroke (mm)</b> |                     |                   |
|                       |                                                  | <b>Standard</b>         | <b>Non-rotating</b> | <b>Double rod</b> |
| <b>8*</b>             | 10, 25, 40, 50, 80, 100                          | 400                     | 100                 | 100               |
| <b>10</b>             |                                                  |                         |                     |                   |
| <b>12</b>             |                                                  |                         |                     |                   |
| <b>16</b>             | 10, 25, 40, 50, 80, 100, 125, 160, 200           | 1000                    | 1000                | 500               |
| <b>20</b>             | 10, 25, 40, 50, 80, 100, 125, 160, 200, 250, 300 |                         |                     |                   |
| <b>25</b>             |                                                  |                         |                     |                   |

\* Not available with air cushion.  
\*\* Other strokes available on request.

### Mounting Bracket Part No.

| Bore size (mm)   |                                       | 8          | 10         | 12         | 16          | 20 | 25 |
|------------------|---------------------------------------|------------|------------|------------|-------------|----|----|
| Mounting bracket | Foot (1 pc.)                          | C85L10A    | C85L16A    | C85L25A    |             |    |    |
|                  | Foot (2 pcs. with mounting nut 1 pc.) | C85L10B    | C85L16B    | C85L25B    |             |    |    |
|                  | Flange                                | C85F10     | C85F16     | C85F25     |             |    |    |
|                  | Trunnion                              | C85T10     | C85T16     | C85T25     |             |    |    |
|                  | Clevis                                | C85C10     | C85C16     | C85C25     |             |    |    |
| Accessory        | Single knuckle joint                  | KJ4D       | KJ6D       | KJ8D       | KJ10D       |    |    |
|                  | Double knuckle joint                  | GKM4-8     | GKM6-10    | GKM8-16    | GKM10-20    |    |    |
|                  | Floating joint                        | JA10-4-070 | JA15-6-100 | JA20-8-125 | JA30-10-125 |    |    |

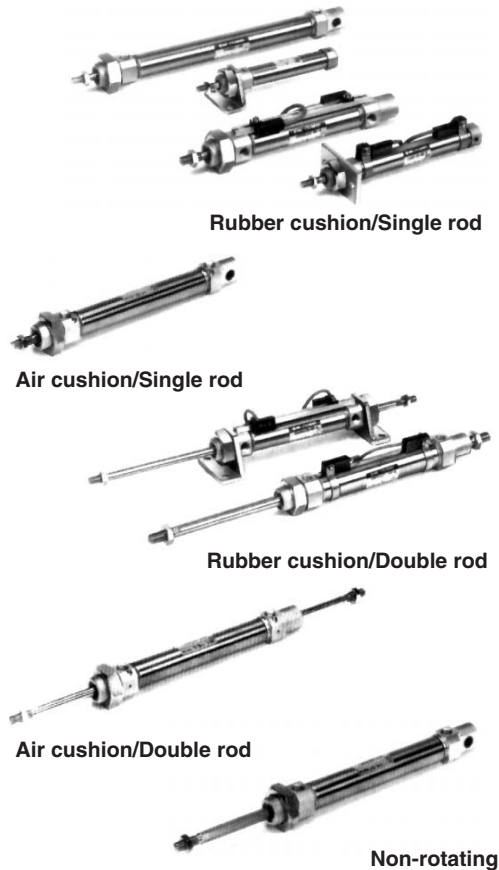
### Replacement Parts For Standard Cylinders

| Bore size (mm) | Part no. | Note                                                                                   |
|----------------|----------|----------------------------------------------------------------------------------------|
| 20             | C85-20PS | Every set includes:<br>n°1 rod seal<br>n°1 seal retaining washer<br>n°1 retaining ring |
| 25             | C85-25PS |                                                                                        |

### For Non-rotating Cylinders ("K")

| Bore size (mm) | Part no.  | Note                                                                                   |
|----------------|-----------|----------------------------------------------------------------------------------------|
| 20             | C85K-20PS | Every set includes:<br>n°1 rod seal<br>n°1 seal retaining washer<br>n°1 retaining ring |
| 25             | C85K-25PS |                                                                                        |

# ISO Cylinder: Standard/Non-rotating Type Double Acting, Single/Double Rod **Series C85**



## Specifications

| Bore size (mm)                |                          | 8                                                                          | 10       | 12       | 16       | 20                              | 25         |
|-------------------------------|--------------------------|----------------------------------------------------------------------------|----------|----------|----------|---------------------------------|------------|
| Piston rod dia. (mm)          |                          | 4                                                                          | 4        | 6        | 6        | 8                               | 10         |
| Piston rod thread             |                          | M4 x 0.7                                                                   | M4 x 0.7 | M6 x 1   | M6 x 1   | M8 x 1.25                       | M10 x 1.25 |
| Port size                     |                          | M5 x 0.8                                                                   | M5 x 0.8 | M5 x 0.8 | M5 x 0.8 | G 1/8                           | G 1/8      |
| Action                        |                          | Double acting, Single/Double rod                                           |          |          |          |                                 |            |
| Fluid                         |                          | Air                                                                        |          |          |          |                                 |            |
| Proof pressure                |                          | 1.5 MPa                                                                    |          |          |          |                                 |            |
| Max. operating pressure       |                          | 1.0 MPa                                                                    |          |          |          |                                 |            |
| Min. operating pressure       | Spring return            | 0.1 MPa                                                                    | 0.08 MPa | 0.05 MPa | 0.05 MPa |                                 |            |
|                               | Spring extended          |                                                                            |          |          | 0.08 MPa |                                 |            |
| Ambient and fluid temperature |                          | -20 to 80°C (Built-in magnet: -10 to 60°C)                                 |          |          |          |                                 |            |
| Cushion                       |                          | Rubber cushion, Air cushion (Except ø8) (Non-rotating: Rubber bumper only) |          |          |          |                                 |            |
| Lubrication                   |                          | Not required. Use turbine oil Class 1 ISO VG32, if lubricated.             |          |          |          |                                 |            |
| Rod boot                      | Nylon tarpaulin          | —                                                                          |          |          |          | Max. ambient temperature 60°C   |            |
|                               | Heat resistant tarpaulin | —                                                                          |          |          |          | Max. ambient temperature 110°C* |            |
| Piston speed                  |                          | 50 to 1500 mm/s                                                            |          |          |          |                                 |            |
| Allowable kinetic energy      | Rubber cushion           | 0.02 J                                                                     | 0.03 J   | 0.04 J   | 0.09 J   | 0.27J                           | 0.4 J      |
|                               | Air cushion              | —                                                                          | 0.17 J   | 0.19 J   | 0.4 J    | 0.66 J                          | 0.97 J     |
| Non-rotating accuracy         |                          | ±1° 30'                                                                    | ±1° 30'  | ± 1°     | ±1°      | ±0° 42'                         | ±0° 42'    |
| Stroke tolerance (mm)         |                          | 0/+1                                                                       |          |          |          | 0/+1.4                          |            |

\* Maximum ambient temperature of rod boots only.

## JIS Symbol

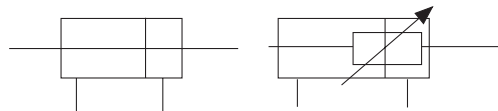
Double acting, Single rod



Rubber cushion

Air cushion

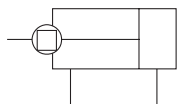
Double acting, Double rod



Rubber cushion

Air cushion

Non-rotating rod: Double acting, Single rod



## Weight (Standard, Non-rotating rod)

(g)

| Bore size (mm)   |                                       | 8       | 10  | 12  | 16  | 20       | 25       |
|------------------|---------------------------------------|---------|-----|-----|-----|----------|----------|
| Double action    | Basic weight                          | 45      | 49  | 96  | 109 | 183(203) | 258(286) |
|                  | Add'l weight for each 10 mm of stroke | 3       | 3.2 | 6.2 | 7.2 | 11.8     | 18.4     |
| Mounting bracket |                                       | C85L□A  | 20  | 40  | 95  |          |          |
|                  |                                       | C85L□B  | 55  | 105 | 210 |          |          |
|                  |                                       | C85F□   | 12  | 25  | 90  |          |          |
|                  |                                       | C85T□   | 20  | 50  | 75  |          |          |
|                  |                                       | C85C□   | 20  | 40  | 85  |          |          |
| Accessory        | Single knuckle joint                  | KJID    | 17  | 25  | 45  | 70       |          |
|                  | Double knuckle joint                  | GKM□-□  | 10  | 20  | 50  | 100      |          |
|                  | Floating joint                        | JA□-□-□ | 10  | 20  | 50  | 70       |          |

Calculation: (Example) C85N10-50, C85F10

Basic weight ——— 49 (ø10)g

Additional weight ——— 3.2/10 mm of stroke

Cylinder stroke ——— 50 mm

Mounting bracket ——— 12g

49 + 3.2 x 50/10 = 65g    65 + 12 = 77g

( ) : In the case of air cushion