

### AIR CYLINDER SERIES C85

#### BORE SIZES:

Ø8, 10, 12, 16, 20, 25

- ✓ Conforms to CETOP RP52P and ISO 6432 standards
- ✓ Double or single acting models
- ✓ High speed actuation
- ✓ Auto switch sensing optional
- ✓ Special shaped rod seal gives high resistance to dust ingress
- ✓ Easy and accurate mounting
- ✓ Exceptional service life
- ✓ Non-rotate and double rod options are available
- ✓ Air Cushioning available



#### TECHNICAL SPECIFICATIONS

|                                                  |                                                                                                         |                                  |      |         |                                                        |                 |
|--------------------------------------------------|---------------------------------------------------------------------------------------------------------|----------------------------------|------|---------|--------------------------------------------------------|-----------------|
| Bore size (mm)                                   | 8                                                                                                       | 10                               | 12   | 16      | 20                                                     | 25              |
| Piston rod dia. (mm)                             | 4                                                                                                       | 4                                | 6    | 6       | 8                                                      | 10              |
| Piston rod thread                                | M4X0.7                                                                                                  | M4X0.7                           | M6X1 | M6X1    | M8X1.25                                                | M10X1.25        |
| Ports                                            | M5                                                                                                      | M5                               | M5   | M5      | G $\frac{1}{8}$                                        | G $\frac{1}{8}$ |
| Action                                           | Double acting: single + double rod, non rotating<br>Single acting: spring return + extend, non-rotating |                                  |      |         |                                                        |                 |
| Fluid                                            | Air                                                                                                     |                                  |      |         |                                                        |                 |
| Proof pressure                                   | 15 Bar                                                                                                  |                                  |      |         |                                                        |                 |
| Max. operating pressure                          | 10 Bar                                                                                                  |                                  |      |         |                                                        |                 |
| Min. operating pressure<br>Double acting         | 1 Bar                                                                                                   | 0.8 Bar                          |      | 0.5 Bar |                                                        |                 |
| Min. operating pressure<br>Single acting         | 2.2 Bar                                                                                                 | 1.8 Bar                          |      | 1.3 Bar | 2.3 Bar                                                |                 |
| Ambient and fluid<br>temperature                 | -20°~+80°C (Built-in magnet type: Max. 60°C)                                                            |                                  |      |         |                                                        |                 |
| Cushion                                          | Rubber cushion (standard)/Air cushion                                                                   |                                  |      |         |                                                        |                 |
| Lube                                             | None (Non-lubricated)                                                                                   |                                  |      |         |                                                        |                 |
| Piston speed                                     | 50 - 1500mm/s                                                                                           |                                  |      |         |                                                        |                 |
| Allowable kinetic<br>energy (J) (Rubber cushion) | 0.02                                                                                                    | 0.03                             | 0.04 | 0.09    | 0.27                                                   | 0.40            |
| Allowable kinetic<br>energy (J) (Air cushion)    | -                                                                                                       | 0.17                             | 0.19 | 0.4     | 0.66                                                   | 0.97            |
| Stroke tolerance (mm)                            | 0 / +1                                                                                                  |                                  |      |         | 0 / +1.4                                               |                 |
| Non-rotating model<br>accuracy                   | ±1° 30'                                                                                                 |                                  | ±1°  |         | ±0° 42'                                                |                 |
| Construction                                     | Rod cover                                                                                               | Alluminium alloy (White alumite) |      |         |                                                        |                 |
|                                                  | Cylinder tube                                                                                           | Stainless steel                  |      |         |                                                        |                 |
|                                                  | Piston rod                                                                                              | Stainless steel                  |      |         | Carbon steel Hard chrome finish<br>Ø20, Ø25 bores only |                 |

#### INTERNATIONAL STANDARDS



CETOP

ISO 6432

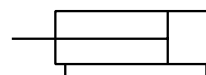
CETOP RP 52P

- See also SMC products: C65, C75, C92 and C95

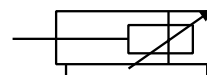
#### SYMBOLS

##### DOUBLE ACTING

##### Double Acting / Single Rod

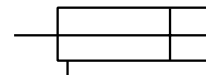


Rubber Cushion

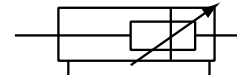


Air Cushion

##### Double Acting / Double Rod

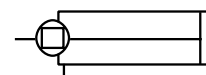


Rubber Cushion



Air Cushion

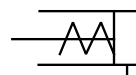
##### Non-Rotation: Double Acting / Single Rod



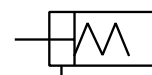
#### SYMBOLS

##### SINGLE ACTING

##### Standard

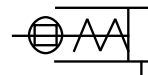


Spring return

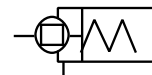


Spring extended

##### Non-rotating



Spring return



Spring extended



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FOR FURTHER TECHNICAL DETAILS ON THIS PRODUCT CONTACT YOUR LOCAL REGIONAL CENTRE

How To  
ORDER  
C85 AIR CYLINDER ACTUATORS

**C 85**

**PISTON**  
Nil ...basic  
D .....Magnetic

**ROD OPTION**  
Nil ...Standard  
K .....Non-rotating  
W .....Double rod  
(E type mounting only)

**MOUNTING**  
N .....Basic  
E .....Double end  
F .....Front nose  
Y .....Front nose in-line

**BORE**  
See table below

**STANDARD STROKE**  
See table below

**AUTO SWITCH MOUNTING TYPE**  
Nil ...Non-magnetic piston type  
B .....Bare cylinder suitable for band mounting. Order band(s) separately  
- see accessories below  
A .....Rail mount type (fitted). Nuts and screws to attach switch supplied with rail.

**GAITER (Ø20 & 25MM ONLY)**  
Nil ...without  
J .....Nylon tarpaulin  
K .....Neoprene cloth  
\*JJ .....Nylon tarpauline both sides  
\*KK .....Neoprene cloth both sides  
\*in case of double acting double rod

**CUSHION**  
Nil ...Rubber cushion  
C .....Air cushion - available on all double acting single rod 'N' mounting models and double acting double rod 'E' mounting models except Ø8mm and non-rotating models.

**SINGLE ACTION FUNCTION**  
S .....Single acting spring return  
T .....Single acting spring extended  
Nil ...Double acting

| Single Acting        |                | Double Acting                                    |                     |
|----------------------|----------------|--------------------------------------------------|---------------------|
| Standard stroke (mm) | Bore size (mm) | Standard stroke (mm)**                           | Maximum stroke (mm) |
| 10, 25, 50mm         | *Ø8            | 10, 25, 40, 50, 80, 100                          | 400                 |
| 10, 25, 50mm         | Ø10            | 10, 25, 40, 50, 80, 100                          | 400                 |
| 10, 25, 50mm         | Ø12            | 10, 25, 40, 50, 80, 100, 125, 160, 200           | 400                 |
| 10,25,50,100,150mm   | Ø16            | 10, 25, 40, 50, 80, 100, 125, 160, 200           | 400                 |
| 10,25,50,100,150mm   | Ø20            | 10, 25, 40, 50, 80, 100, 125, 160, 200, 250, 300 | 1000                |
| 10,25,50,100,150mm   | Ø25            | 10, 25, 40, 50, 80, 100, 125, 160, 200, 250, 300 | 1000                |

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

ORDERING  
EXAMPLES

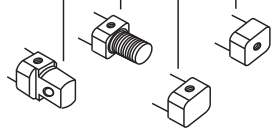
**C85N 10 - 10 S**  
A single acting spring return cylinder with standard rod and basic mounting. Ø10mm - 10mm stroke.

**CD85 WE20 - 50 C KKB**  
**BM2 - 020 (x2)** Band mounts  
**D - A73L (x2)** Reed switches  
A magnetic, double acting double rod, air cushioned cylinder, neoprene gaiters on both sides, double end mounted. With band mounted Reed switches

VARIATION  
SERIES C85

| Series | Action                        | Variations                 | Basic Integrated clevis (N) |    |    |   |   |   | Gaiter (only Ø20, Ø25) |   |                       |   | Only bores Ø20, Ø25mm |      |               |              | Bores Ø8 to Ø16 and all non-rotating piston rod are already stainless steel |                        |   |    |
|--------|-------------------------------|----------------------------|-----------------------------|----|----|---|---|---|------------------------|---|-----------------------|---|-----------------------|------|---------------|--------------|-----------------------------------------------------------------------------|------------------------|---|----|
|        |                               |                            | Bore Size (mm)              |    |    |   |   |   | Double end (E)         |   | Boss cut (F)          |   | Autoswitch            |      | XB6 High temp | XB7 Low temp | XB9 Low speed                                                               | XC4 Heavy duty scraper | R | R2 |
|        |                               |                            |                             |    |    |   |   |   |                        |   | Boss cut end port (Y) |   |                       | Rail |               |              |                                                                             |                        |   |    |
| 8      | 10                            | 12                         | 16                          | 20 | 25 |   |   |   |                        |   |                       |   |                       |      |               |              |                                                                             |                        |   |    |
| C85    | Double acting Single rod      | Rubber cushion             | •                           | •  | •  | • | • | • | •                      | • | •                     | • | •                     | •    | •             | •            | •                                                                           | •                      | • | •  |
|        |                               | Air cushion                |                             | •  | •  | • | • | • | •                      |   |                       | • | •                     |      |               | •            |                                                                             |                        | • | •  |
|        |                               | Non rotating               | •                           | •  | •  | • | • | • | •                      | • | •                     |   | •                     | •    |               |              |                                                                             |                        | • | •  |
|        |                               | Direct mounting Base type  | •                           | •  | •  | • | • | • |                        | • | •                     |   | •                     |      |               |              |                                                                             |                        |   | •  |
|        |                               | Direct mounting Front type |                             |    |    |   | • | • |                        | • | •                     |   | •                     |      |               |              |                                                                             |                        |   | •  |
|        | Double acting Double rod      | Rubber cushion             | •                           | •  | •  | • | • | • |                        | • |                       | • | •                     | •    | •             | •            | •                                                                           | •                      | • | •  |
|        |                               | Air cushion                |                             | •  | •  | • | • | • |                        | • |                       | • | •                     | •    |               |              |                                                                             |                        | • | •  |
|        | Single acting Spring return   | Rubber cushion             | •                           | •  | •  | • | • | • | •                      | • | •                     |   | •                     | •    |               |              |                                                                             |                        | • | •  |
|        |                               | Non rotating               | •                           | •  | •  | • | • | • | •                      | • | •                     |   | •                     | •    |               |              |                                                                             |                        | • | •  |
|        | Single acting Spring extended | Rubber cushion             | •                           | •  | •  | • | • | • | •                      | • | •                     |   | •                     | •    |               |              |                                                                             |                        | • | •  |
|        |                               | Non rotating               | •                           | •  | •  | • | • | • | •                      | • | •                     |   | •                     | •    |               |              |                                                                             |                        | • | •  |

• See How to order  
• Contact SMC for ordering details



**MOUNTING FLEXIBILITY**  
Different head covers allow a great variety of mounting options.

Stainless steel piston rod and nuts  
Stainless steel piston rod and piston rod nut

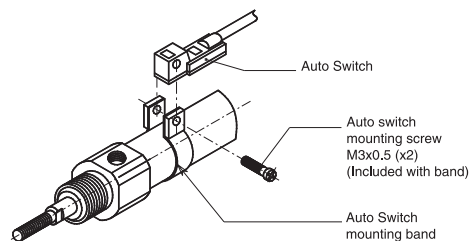
### ACCESSORIES

#### MOUNTING BRACKETS

| Bore size (mm)                      | 8            | 10         | 12            | 16             | 20 | 25 |
|-------------------------------------|--------------|------------|---------------|----------------|----|----|
| Mounting accessory                  |              |            |               |                |    |    |
| Foot (1pc.)                         | C85L10A      | C85L16A    | C85L25A       |                |    |    |
| Foot (2pcs. with Mounting nut 1pc.) | C85L10B      | C85L16B    | C85L25B       |                |    |    |
| Piston Rod nut                      | M4X0.7 (C85) | M6X1 (C85) | M8X1.25 (C85) | M10X1.25 (C85) |    |    |
| Flange                              | C85F10       | C85F16     | C85F25        |                |    |    |
| Trunnion                            | C85T10       | C85T16     | C85T25        |                |    |    |
| Clevis                              | C85C10       | C85C16     | C85C25        |                |    |    |
| Piston rod ball joint               | KJ4D         | KJ6D       | KJ8D          | KJ10D          |    |    |
| Piston rod clevis                   | GKM4-8       | GKM6-12    | GKM8-16       | GKM10-20       |    |    |
| Floating joint                      | JA10-04-070  | JA15-6-100 | JA20-8-125    | JA30-10-125    |    |    |
| Repair kit                          | —            | —          | PDU-8Z        | PDU-10Z        |    |    |

### ACCESSORIES

#### BAND MOUNTED



### STOCKED PRODUCTS

FOR A LIST OF STOCKED PRODUCTS, PLEASE SEE THE CURRENT SMC PRICE LIST

### ACCESSORIES

#### AUTO SWITCHES - BAND MOUNTING TYPE

| Part No. Grommet Type | Part No. Connector Type | TYPE                      | LOAD VOLTAGE                  | LOAD CURRENT         | POWER SOURCE | INTERNAL VOLTAGE DROP | INDICATOR LAMP  |
|-----------------------|-------------------------|---------------------------|-------------------------------|----------------------|--------------|-----------------------|-----------------|
| D-C73L                | D-C73CL                 | REED                      | 24VDC<br>100VAC               | 5~40mA<br>5~20mA     | —            | MAX 2.4V              | ON:RED<br>L.E.D |
| D-C80L                | D-C80CL                 | REED                      | 24VDC/AC OR LESS<br>100VDC/AC | MAX 50mA<br>MAX 20mA | —            | 0                     | NONE            |
| D-H7A1L-Q             | ~                       | 3 WIRE<br>SOLID STATE NPN | 28VDC OR LESS                 | MAX 150mA            | 5~28VDC      | 0.8V MAX              | ON:RED<br>L.E.D |
| D-H7A2L-Q             | ~                       | 3 WIRE<br>SOLID STATE PNP | 28VDC OR LESS                 | MAX 100mA            | 5~28VDC      | 0.8V MAX              | ON:RED<br>L.E.D |
| D-H7BL-Q              | D-K79CL-Q               | 2 WIRE<br>SOLID STATE     | 10~28VDC                      | 5~ 150mA             | ~            | 3V MAX                | ON:RED          |

### ACCESSORIES

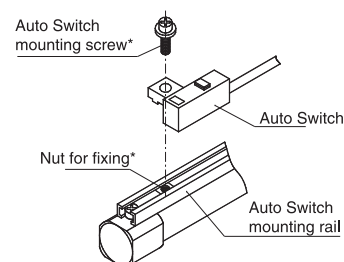
#### SWITCH BANDS

| Bore size             | Ø8      | Ø10     | Ø12     | Ø16     | Ø20     | Ø25     |
|-----------------------|---------|---------|---------|---------|---------|---------|
| Auto switch model     |         |         |         |         |         |         |
| D-C7, D-C8, D-H7 type | BJ2-008 | BJ2-010 | BJ2-012 | BJ2-016 | BM2-020 | BM2-025 |

(Also D-K79CL-Q)

### ACCESSORIES

#### RAIL MOUNTED



\* Supplied with rail as part of cylinder

### ACCESSORIES

#### AUTO SWITCHES - RAIL MOUNTING TYPE

| Part No. Grommet Type | Part No. Connector Type | TYPE                      | LOAD VOLTAGE                        | LOAD CURRENT                     | POWER SOURCE | INTERNAL VOLTAGE DROP | INDICATOR LAMP  |
|-----------------------|-------------------------|---------------------------|-------------------------------------|----------------------------------|--------------|-----------------------|-----------------|
| D-A73L                | -                       | REED                      | 24VDC                               | 5~40mA                           | 5~28VDC      | 2.4V MAX              | ON:RED<br>L.E.D |
| D-A80L                | -                       | REED                      | 24V AC/DC<br>48V AC/DC<br>110VAC/DC | MAX 50mA<br>MAX 40mA<br>MAX 20mA | 5~28VDC      | -                     | NONE            |
| -                     | D-A73CN                 | REED                      | 24 VDC                              | 5~40mA                           | 5~28VDC      | 2.4V MAX              | ON:RED<br>L.E.D |
| -                     | D-A80CN                 | REED                      | 24V AC/DC                           | MAX 50mA                         | 5~28VDC      | -                     | NONE            |
| D-F79L-Q              | -                       | SOLID STATE<br>3 WIRE NPN | 28 VDC                              | MAX 150mA                        | 5~28VDC      | 0.8V MAX              | ON:RED<br>L.E.D |
| D-F7PL-Q              | -                       | SOLID STATE<br>3 WIRE PNP | -                                   | MAX 100mA                        | 5~28VDC      | 0.8V MAX              | ON:RED<br>L.E.D |
| D-F7PWL-Q             | -                       | SOLID STATE<br>3 WIRE PNP | -                                   | MAX 80mA                         | 5~28VDC      | 0.8V MAX              | TWO COLOURS     |



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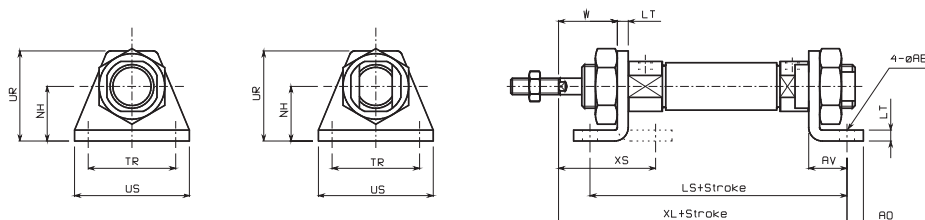
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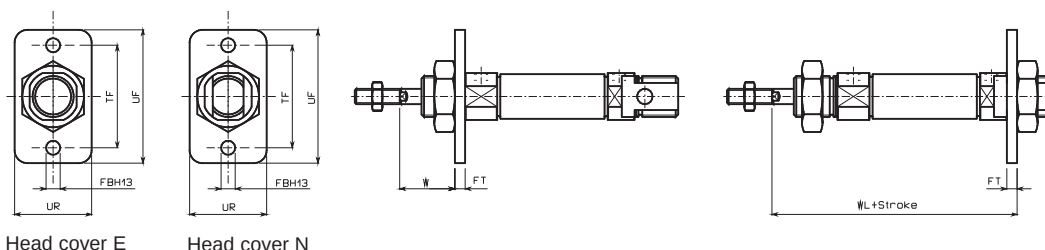
### DIMENSIONS

DOUBLE ACTING: SINGLE ROD  
C85N/C85E  
WITH MOUNTING BRACKETS

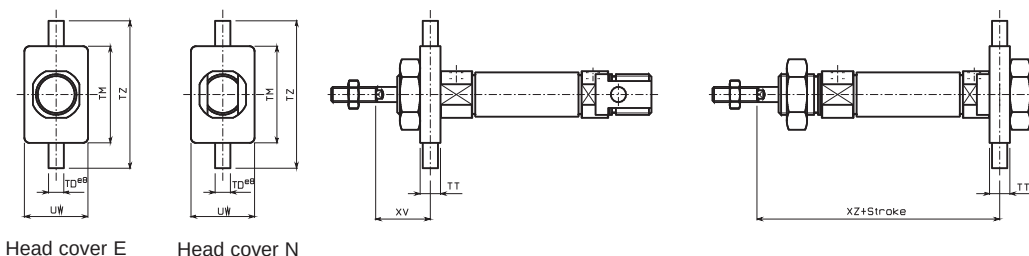
Rod Foot, Rod And Head Foot: C85L10<sup>A</sup><sub>B</sub>, C85L16<sup>A</sup><sub>B</sub>, C85L25<sup>A</sup><sub>B</sub>



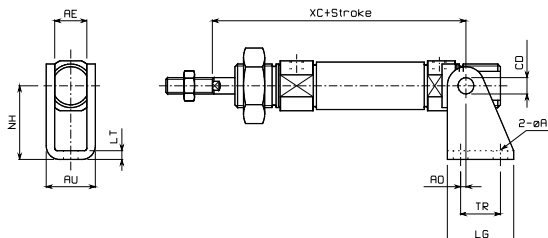
Rod Flange, Head Flange: C85F10, C85F16, C85F25



Rod Trunnion, Head Trunnion: C85T10, C85T16, C85T25



Clevis: C85C10, C85C16, C85C25



Unit: mm

| Bore | Rod foot, Rod and head foot |    |     |     |    |        |        |         |      |    |    |      | Rod flange, Head flange |       |     |    |    |      |            |
|------|-----------------------------|----|-----|-----|----|--------|--------|---------|------|----|----|------|-------------------------|-------|-----|----|----|------|------------|
|      | AO                          | US | ØAB | LT  | NH | LS     | XL     | TR JS14 | XS   | AV | UR | W    | UR                      | FBH13 | FT  | TF | UF | W    | WL         |
| Ø8   | 5                           | 35 | 4.5 | 3.2 | 16 | 68     | 73     | 25      | 23.8 | 11 | 26 | 12.8 | 22                      | 4.5   | 3.2 | 30 | 40 | 12.8 | 65.2       |
| Ø10  | 5                           | 35 | 4.5 | 3.2 | 16 | 68(75) | 73(80) | 25      | 23.8 | 11 | 26 | 12.8 | 22                      | 4.5   | 3.2 | 30 | 40 | 12.8 | 65.2(72.2) |
| Ø12  | 6                           | 42 | 5.5 | 4   | 20 | 78(82) | 86(90) | 32      | 32   | 14 | 33 | 18   | 30                      | 5.5   | 4   | 40 | 52 | 18   | 76(80)     |
| Ø16  | 6                           | 42 | 5.5 | 4   | 20 | 84(84) | 92(92) | 32      | 32   | 14 | 33 | 18   | 30                      | 5.5   | 4   | 40 | 52 | 18   | 82(82)     |
| Ø20  | 8                           | 54 | 6.6 | 5   | 25 | 96     | 103    | 40      | 36   | 17 | 42 | 19   | 40                      | 6.6   | 5   | 50 | 66 | 19   | 91         |
| Ø25  | 8                           | 54 | 6.6 | 5   | 25 | 99     | 110    | 40      | 40   | 17 | 42 | 23   | 40                      | 6.6   | 5   | 50 | 66 | 23   | 98         |

| Bore | Rod trunnion, Head trunnion |    |       |    |    |    |        | Clevis                                |      |     |     |      |      |    |    |     |        |
|------|-----------------------------|----|-------|----|----|----|--------|---------------------------------------|------|-----|-----|------|------|----|----|-----|--------|
|      | TT                          | UW | TD e8 | TM | TZ | XV | XZ     | ØCD                                   | AE   | ØAB | AO  | AU   | TR   | LG | NH | LT  | XC     |
| Ø8   | 6                           | 20 | 4     | 26 | 38 | 13 | 65     | 4H9                                   | 8.1  | 4.5 | 1.5 | 13.1 | 12.5 | 20 | 24 | 2.5 | 64     |
| Ø10  | 6                           | 20 | 4     | 26 | 38 | 13 | 65(72) | 4H9                                   | 8.1  | 4.5 | 1.5 | 13.1 | 12.5 | 20 | 24 | 2.5 | 64(71) |
| Ø12  | 8                           | 25 | 6     | 38 | 58 | 18 | 76(80) | 6H9                                   | 12.1 | 5.5 | 2   | 18.5 | 15   | 25 | 27 | 3.2 | 75(79) |
| Ø16  | 8                           | 25 | 6     | 38 | 58 | 18 | 82(82) | 6H9                                   | 12.1 | 5.5 | 2   | 18.5 | 15   | 25 | 27 | 3.2 | 82(82) |
| Ø20  | 8                           | 32 | 6     | 46 | 66 | 20 | 90     | 8 <sup>+0.036</sup> <sub>-0.006</sub> | 16.1 | 6.6 | 4   | 24.1 | 20   | 32 | 30 | 4   | 95     |
| Ø25  | 8                           | 32 | 6     | 46 | 66 | 24 | 97     |                                       | 16.1 | 6.6 | 4   | 24.1 | 20   | 32 | 30 | 4   | 104    |

( ): In case of air cushion.



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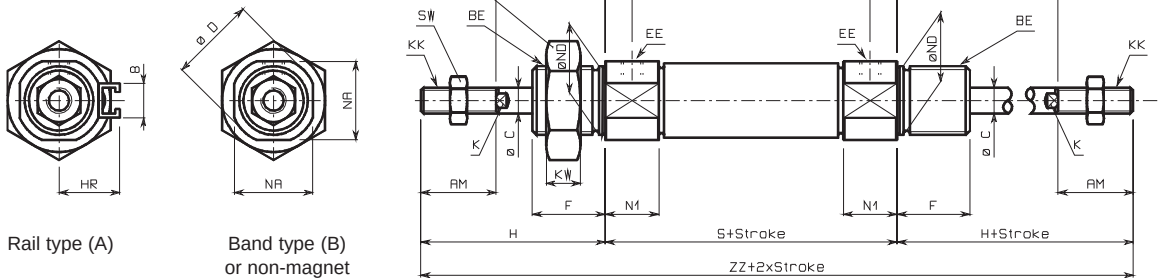


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DETAILS ON THIS PRODUCT  
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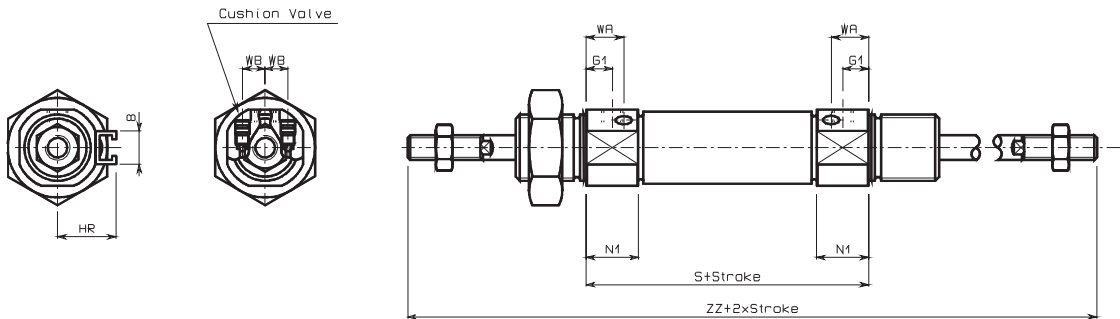
DIMENSIONS

DOUBLE ACTING: DOUBLE ROD  
C○85WE/RUBBER CUSHION, AIR CUSHION

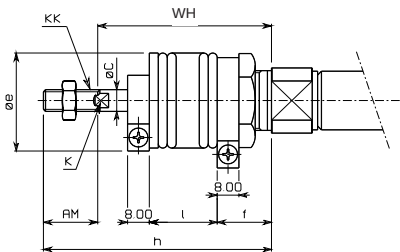
Rubber Cushion/C○85WE **Bore** – **Stroke** – ○  
Without Magnet, Built-in Magnet



Air Cushion/C○85WE **Bore** – **Stroke** C – ○  
Without Magnet, Built-in Magnet



With Gaiter



Unit: mm

| Bore | AM | BE         | ØC | ØD   | EE       | F  | G1     | WA       | WB   | H  | HR   | K | KK         | KV | KW | N1         | NA | ØND(h8) | S      | SW | WH | ZZ       |
|------|----|------------|----|------|----------|----|--------|----------|------|----|------|---|------------|----|----|------------|----|---------|--------|----|----|----------|
| Ø8   | 12 | M12 x 1.25 | 4  | 16.7 | M5 x 0.8 | 12 | 7      | —        | —    | 28 | 10   | — | M4 x 0.7   | 19 | 7  | 11.5       | 15 | 12      | 48{54} | 7  | 16 | 104{110} |
| Ø10  | 12 | M12 x 1.25 | 4  | 16.7 | M5 x 0.8 | 12 | 7{5.5} | 10.5     | 4.5  | 28 | 10.5 | — | M4 x 0.7   | 19 | 7  | 11.5{13.5} | 15 | 12      | 48{53} | 7  | 16 | 104{109} |
| Ø12  | 16 | M16 x 1.5  | 6  | 19.7 | M5 x 0.8 | 17 | 8{5.5} | 9.5      | 5.5  | 38 | 14   | 5 | M6 x 1     | 24 | 8  | 12.5{12.5} | 18 | 16      | 52{54} | 10 | 22 | 128{130} |
| Ø16  | 16 | M16 x 1.5  | 6  | 19.7 | M5 x 0.8 | 17 | 8{5.5} | 9.5      | 5.5  | 38 | 14   | 5 | M6 x 1     | 24 | 8  | 12.5{12.5} | 18 | 16      | 52{54} | 10 | 22 | 128{143} |
| Ø20  | 20 | M22 x 1.5  | 8  | 28   | G1/8     | 20 | 8      | 11.5{13} | 8.5  | 44 | 17   | 6 | M8 x 1.25  | 32 | 11 | 15{17}     | 24 | 22      | 62     | 13 | 24 | 150      |
| Ø25  | 22 | M22 x 1.5  | 10 | 33.5 | G1/8     | 22 | 8      | 11.5{13} | 10.5 | 50 | 20   | 8 | M10 x 1.25 | 32 | 11 | 15{17}     | 30 | 22      | 65     | 17 | 28 | 165      |

( ): In case of air cushion. { }: In case of built in magnet

With Gaiter

| Bore | Item<br>Stroke | AM | ØC | Øe | f  | K | KK         | h    |        |         |         |         |         |         |
|------|----------------|----|----|----|----|---|------------|------|--------|---------|---------|---------|---------|---------|
|      |                |    |    |    |    |   |            | 1~50 | 51~100 | 101~150 | 151~200 | 201~300 | 301~400 | 401~500 |
| 20   | 20             | 20 | 8  | 35 | 20 | 6 | M8 x 1.25  | 71   | 84     | 96      | 109     | 134     | 159     | —       |
| 25   | 22             | 22 | 10 | 35 | 20 | 8 | M10 x 1.25 | 74   | 87     | 99      | 112     | 137     | 162     | 187     |

| Bore | Item<br>Stroke | I    |        |         |         |         |         |         | Wh   |        |         |         |         |         |         |
|------|----------------|------|--------|---------|---------|---------|---------|---------|------|--------|---------|---------|---------|---------|---------|
|      |                | 1~50 | 51~100 | 101~150 | 151~200 | 201~300 | 301~400 | 401~500 | 1~50 | 51~100 | 101~150 | 151~200 | 201~300 | 301~400 | 401~500 |
| 20   | 20             | 12.5 | 25     | 37.5    | 50      | 75      | 100     | —       | 51   | 64     | 76      | 89      | 114     | 139     | —       |
| 25   | 25             | 12.5 | 25     | 37.5    | 50      | 75      | 100     | 125     | 52   | 65     | 77      | 90      | 115     | 140     | 165     |



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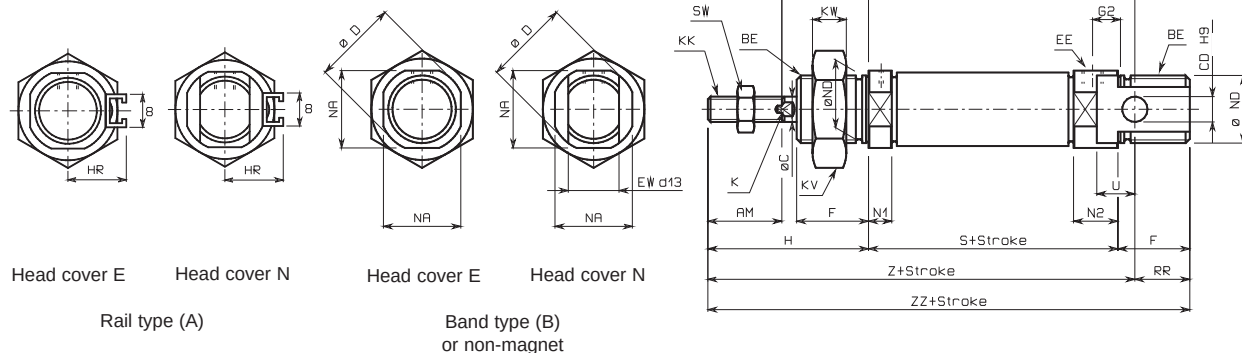
### DIMENSIONS

SINGLE ACTING

C085N, C085E/SPRING RETURN, NON-ROTATING

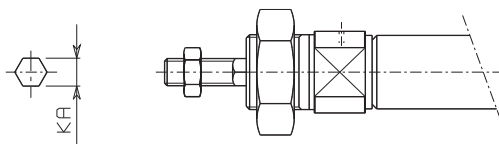
C 85<sup>N</sup><sub>E</sub> Bore – Stroke S –

Without Magnet, Built-in Magnet



C 85KN, C 85KE

Non-rotating (piston rod)



Rod cross section

Unit: mm

| Bore | AM | BE       | ØC | ØCD                                   | ØD   | EE       | EW | F  | G2 | H  | HR   | K | KA   | KK         | KV | KW | N1  | N2   | NA | ØND(h8) | RR | SW | U  | WH |
|------|----|----------|----|---------------------------------------|------|----------|----|----|----|----|------|---|------|------------|----|----|-----|------|----|---------|----|----|----|----|
| Ø8   | 12 | M12x1.25 | 4  | 4H9                                   | 16.7 | M5 x 0.8 | 8  | 12 | 5  | 28 | 10   | — | 4.2  | M4 x 0.7   | 19 | 7  | 5.5 | 9.5  | 15 | 12      | 10 | 7  | 6  | 16 |
| Ø10  | 12 | M12x1.25 | 4  | 4H9                                   | 16.7 | M5 x 0.8 | 8  | 12 | 5  | 28 | 10.5 | — | 4.2  | M4 x 0.7   | 19 | 7  | 5.5 | 9.5  | 15 | 12      | 10 | 7  | 6  | 16 |
| Ø12  | 16 | M16x1.5  | 6  | 6H9                                   | 19.7 | M5 x 0.8 | 12 | 17 | 6  | 38 | 14   | 5 | 6.2  | M6 x 1     | 24 | 8  | 5.5 | 10.5 | 18 | 16      | 14 | 10 | 9  | 22 |
| Ø16  | 16 | M16x1.5  | 6  | 6H9                                   | 19.7 | M5 x 0.8 | 12 | 17 | 6  | 38 | 14   | 5 | 6.2  | M6 x 1     | 24 | 8  | 5.5 | 10.5 | 18 | 16      | 13 | 10 | 9  | 22 |
| Ø20  | 20 | M22x1.5  | 8  | 8 <sup>+0.036</sup> <sub>-0.006</sub> | 27.9 | G1/8     | 16 | 20 | 8  | 44 | 17   | 6 | 8.2  | M8 x 1.25  | 32 | 10 | 15  | 15   | 24 | 22      | 11 | 13 | 12 | 24 |
| Ø25  | 22 | M22x1.5  | 10 |                                       | 33.4 | G1/8     | 16 | 22 | 8  | 50 | 20   | 8 | 10.2 | M10 x 1.25 | 32 | 10 | 15  | 15   | 30 | 22      | 11 | 17 | 12 | 28 |

| Bore | S                  |                    |                      | XC                 |                       |                        | Z                     |                        |                        | ZZ                     |                        |                        |
|------|--------------------|--------------------|----------------------|--------------------|-----------------------|------------------------|-----------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
|      | 1-50               | 51-100             | 101-150              | 1-50               | 51-100                | 101-150                | 1-50                  | 51-100                 | 101-150                | 1-50                   | 51-100                 | 101-150                |
| Ø8   | 46{52}{56{62}}     | —                  | —                    | 64{70}{74{80}}     | —                     | —                      | 76{82}{86{92}}        | —                      | —                      | 86{92}{96{102}}        | —                      | —                      |
| Ø10  | 46{50}{56{60}}     | —                  | —                    | 64{68}{74{78}}     | —                     | —                      | 76{80}{86{90}}        | —                      | —                      | 86{90}{96{100}}        | —                      | —                      |
| Ø12  | 50{53.5}{60{63.5}} | —                  | —                    | 75{78.5}{85{88.5}} | —                     | —                      | 91{94.5}{101{104.5}}  | —                      | —                      | 106{108.5}{115{118.5}} | —                      | —                      |
| Ø16  | 56{59.5}{66{69.5}} | 71.5{75}{92{95.5}} | 87{90.5}{118{121.5}} | 82{85.5}{92{95.5}} | 97.5{101}{118{121.5}} | 113{116.5}{144{147.5}} | 98{101.5}{108{111.5}} | 113.5{117}{134{137.5}} | 129{132.5}{160{163.5}} | 111{114.5}{121{124.5}} | 126.5{130}{147{150.5}} | 142{145.5}{173{176.5}} |
| Ø20  | 62{87}             | 112                | 137                  | 95{120}            | 145                   | 170                    | 115{140}              | 165                    | 190                    | 126{151}               | 176                    | 201                    |
| Ø25  | 65{88.5}           | 113.5              | 138.5                | 104{127.5}         | 152.5                 | 177.5                  | 126{149.5}            | 174.5                  | 199.5                  | 137{160.5}             | 185.5                  | 210.5                  |

( ) : In case of autoswitch type. { } : In case of non-rotating.



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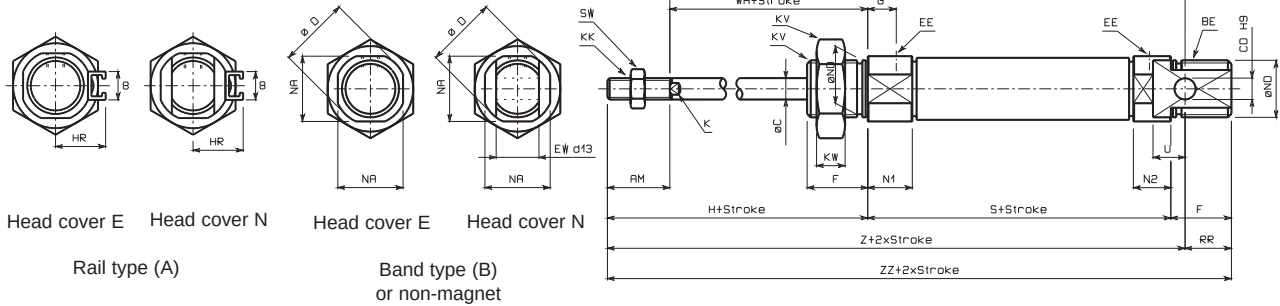


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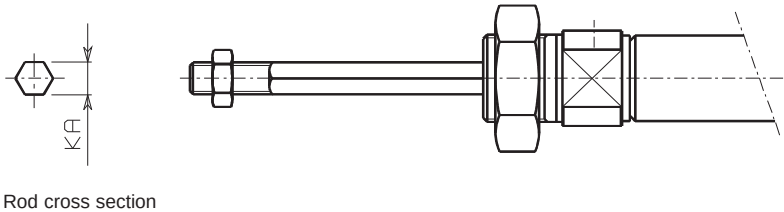


**DIMENSIONS**  
SINGLE ACTING  
CØ85N, CØ85E/SRING EXTENDED, NON-ROTATING

C Ø 85 <sup>N</sup> **E** Bore – Stroke T – ●  
Without magnet, built-in magnet



C Ø 85KN,E  
Non-Rotating (piston rod)



Unit: mm

| Bore | AM | BE       | ØC | ØCD                                   | ØD   | EE       | EW | F  | G | H  | HR   | K | KA   | KK         | KV | KW | N1   | N2   | NA | ØND(h8) | RR | SW | U  | WH |
|------|----|----------|----|---------------------------------------|------|----------|----|----|---|----|------|---|------|------------|----|----|------|------|----|---------|----|----|----|----|
| Ø8   | 12 | M12x1.25 | 4  | 4H9                                   | 16.7 | M5 x 0.8 | 8  | 12 | 7 | 28 | 10   | — | 4.2  | M4 x 0.7   | 19 | 7  | 11.5 | 9.5  | 15 | 12      | 10 | 7  | 6  | 16 |
| Ø10  | 12 | M12x1.25 | 4  | 4H9                                   | 16.7 | M5 x 0.8 | 8  | 12 | 7 | 28 | 10.5 | — | 4.2  | M4 x 0.7   | 19 | 7  | 11.5 | 9.5  | 15 | 12      | 10 | 7  | 6  | 16 |
| Ø12  | 16 | M16x1.5  | 6  | 6H9                                   | 19.7 | M5 x 0.8 | 12 | 17 | 8 | 38 | 14   | 5 | 6.2  | M6 x 1     | 24 | 8  | 12.5 | 10.5 | 18 | 16      | 14 | 10 | 9  | 22 |
| Ø16  | 16 | M16x1.5  | 6  | 6H9                                   | 19.7 | M5 x 0.8 | 12 | 17 | 8 | 38 | 14   | 5 | 6.2  | M6 x 1     | 24 | 8  | 12.5 | 10.5 | 18 | 16      | 13 | 10 | 9  | 22 |
| Ø20  | 20 | M22x1.5  | 8  | 8 <sup>+0.036</sup> <sub>-0.006</sub> | 27.9 | G1/8     | 16 | 20 | 8 | 44 | 17   | 6 | 8.2  | M8 x 1.25  | 32 | 10 | 15   | 15   | 24 | 22      | 11 | 13 | 12 | 24 |
| Ø25  | 22 | M22x1.5  | 10 |                                       | 33.4 | G1/8     | 16 | 22 | 8 | 50 | 20   | 8 | 10.2 | M10 x 1.25 | 32 | 10 | 15   | 15   | 30 | 22      | 11 | 17 | 12 | 28 |

| Bore | S          |            |            | Z           |            |            | XC         |            |            | ZZ           |            |            |
|------|------------|------------|------------|-------------|------------|------------|------------|------------|------------|--------------|------------|------------|
|      | 1~50       | 51~100     | 101~150    | 1~50        | 51~100     | 101~150    | 1~50       | 51~100     | 101~150    | 1~50         | 51~100     | 101~150    |
| Ø8   | 64.5(70.5) | —          | —          | 94.5(100.5) | —          | —          | 82.5(88.5) | —          | —          | 104.5(110.5) | —          | —          |
| Ø10  | 64.5(68.5) | —          | —          | 94.5(98.5)  | —          | —          | 82.5(86.5) | —          | —          | 104.5(108.5) | —          | —          |
| Ø12  | 70(73.5)   | —          | —          | 111(114.5)  | —          | —          | 95(98.5)   | —          | —          | 125(128.5)   | —          | —          |
| Ø16  | 75(78.5)   | 101(104.5) | 127(130.5) | 117(120.5)  | 143(146.5) | 169(172.5) | 101(104.5) | 127(130.5) | 153(156.5) | 130(133.5)   | 156(159.5) | 182(185.5) |
| Ø20  | 87         | 112        | 137        | 140         | 165        | 190        | 120        | 145        | 170        | 151          | 176        | 201        |
| Ø25  | 88.5       | 113.5      | 138.5      | 149.5       | 174.5      | 199.5      | 127.5      | 152.5      | 177.5      | 160.5        | 185.5      | 210.5      |

( ) : In case of autoswitch type.



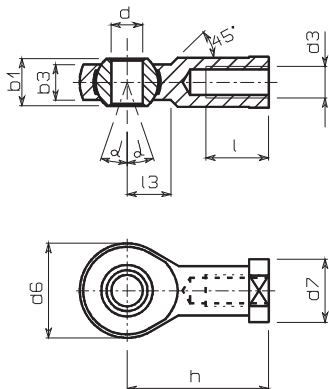
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### DIMENSIONS SINGLE ACTING ROD ACCESSORIES

### Actuators

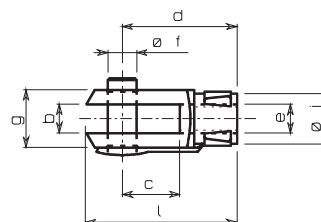
#### Single Knuckle Joint/DIN648 - DIN24335



Unit: mm

| Bore Size | Model | Thread d3 | dH7 | h  | d6 | b3   | b1 | l  | d7 | $\alpha^0$ | l3 |
|-----------|-------|-----------|-----|----|----|------|----|----|----|------------|----|
| Ø8        | KJ4D  | M4        | 5   | 27 | 18 | 6.0  | 8  | 10 | 11 | 7.5        | 10 |
| Ø10       | KJ4D  | M4        | 5   | 27 | 18 | 6.0  | 8  | 10 | 11 | 7.5        | 10 |
| Ø12       | KJ6D  | M6        | 6   | 30 | 20 | 6.75 | 9  | 12 | 13 | 6.5        | 10 |
| Ø16       | KJ6D  | M6        | 6   | 30 | 20 | 6.75 | 9  | 12 | 13 | 6.5        | 10 |
| Ø20       | KJ8D  | M8        | 8   | 36 | 24 | 9    | 12 | 16 | 16 | 13         | 12 |
| Ø25       | KJ10D | M10x1.25  | 10  | 43 | 28 | 10.5 | 14 | 20 | 19 | 13         | 14 |

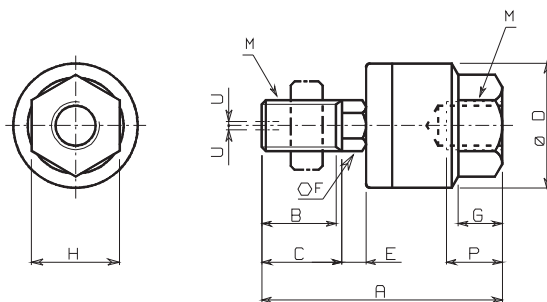
#### Double Knuckle Joint/ISO8140 - DIN71752



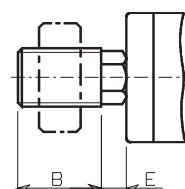
Unit: mm

| Bore Size | Model    | Thread e | b  | d  | f  | g  | c  | j  | a  |
|-----------|----------|----------|----|----|----|----|----|----|----|
| Ø8        | GKM4-8   | M4       | 4  | 16 | 4  | 8  | 8  | 6  | 8  |
| Ø10       | GKM4-8   | M4       | 4  | 16 | 4  | 8  | 8  | 6  | 8  |
| Ø12       | GKM6-12  | M6       | 6  | 24 | 6  | 10 | 12 | 8  | 12 |
| Ø16       | GKM6-12  | M6       | 6  | 24 | 6  | 10 | 12 | 8  | 12 |
| Ø20       | GKM8-16  | M8       | 8  | 32 | 8  | 12 | 16 | 10 | 16 |
| Ø25       | GKM10-20 | M10x1.25 | 10 | 40 | 10 | 18 | 20 | 12 | 20 |

#### Floating-Joint/Series JA



#### In case of dimension without C



Unit: mm

| Bore Size | Model       | M                      |       | A    | B    | C  | D  | E   | F | G | H  | Maximum<br>screwed<br>depth P | Allowable<br>eccentricity U | Max. operating<br>tension and<br>compression<br>power kgf (kN) |
|-----------|-------------|------------------------|-------|------|------|----|----|-----|---|---|----|-------------------------------|-----------------------------|----------------------------------------------------------------|
|           |             | Nominal<br>thread dia. | Pitch |      |      |    |    |     |   |   |    |                               |                             |                                                                |
| Ø8, Ø10   | JA10-4-070  | 4                      | 0.7   | 26   | 9    | 10 | 12 | 1.5 | 4 | 4 | 7  | 5.5                           | 0.5                         | 5.4(0.054)                                                     |
| Ø12, Ø16  | JA15-6-100  | 6                      | 1     | 34.5 | 12.5 | 14 | 16 | 2   | 6 | 5 | 10 | 7                             | 0.5                         | 12.3(0.123)                                                    |
| Ø20       | JA20-8-125  | 8                      | 1.25  | 44   | 17.5 | —  | 21 | 4.5 | 7 | 7 | 13 | 8                             | 0.5                         | 110(1.1)                                                       |
| Ø25       | JA30-10-125 | 10                     | 1.25  | 49.5 | 19.5 | —  | 24 | 5   | 8 | 8 | 17 | 9                             | 0.5                         | 250(2.5)                                                       |



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