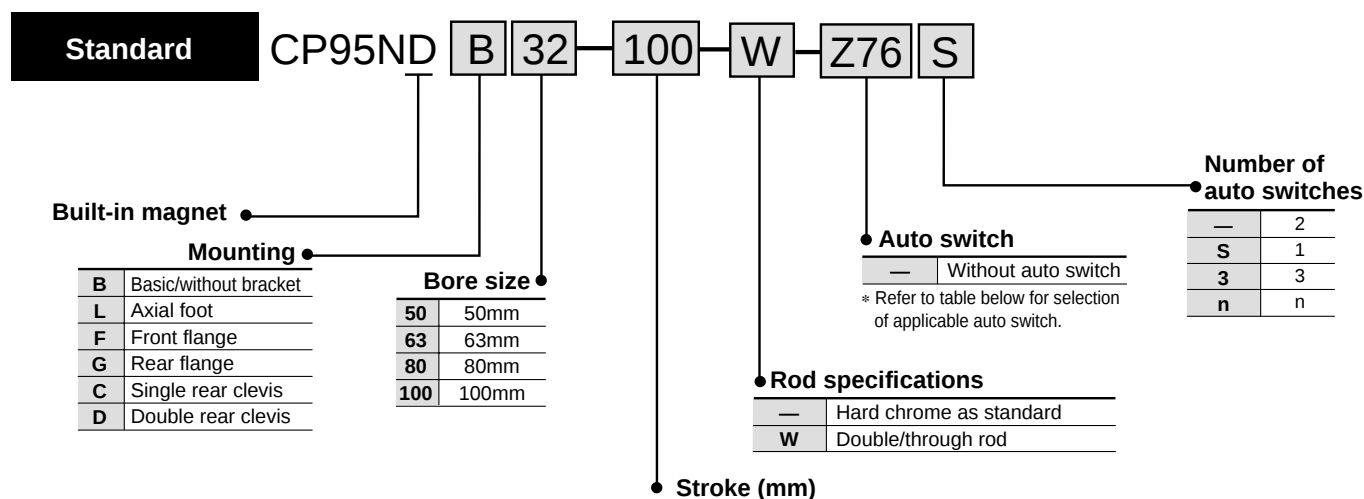


# ISO Cylinder/Standard: Double Acting with Lock

## Series CP95N

ø32, ø40, ø50, ø63, ø80, ø100

### How to Order



### Applicable Auto Switches/Direct mounting type

Refer to standard stroke table  
on p.1.11-23 maximum 1000mm

| Type                                       | Special function | Electrical entry | Indicator light | Wiring (output) | Load voltage |         |                            | Auto switch model |           | Lead wire length (m) <sup>Note)</sup> |       |            | Applicable load |           | Mounting bracket |
|--------------------------------------------|------------------|------------------|-----------------|-----------------|--------------|---------|----------------------------|-------------------|-----------|---------------------------------------|-------|------------|-----------------|-----------|------------------|
|                                            |                  |                  |                 |                 | DC           | AC      | Electrical entry direction |                   | 0.5 (Nil) | 3 (L)                                 | 5 (Z) |            |                 |           |                  |
|                                            |                  |                  |                 |                 |              |         | Vertical                   | Lateral           |           |                                       |       |            |                 |           |                  |
| Reed switch                                | —                | Grommet          | Yes             | 3 wire          | —            | 5V      | —                          | —                 | Z76       | ●                                     | ●     | —          | IC circuit      | —         | BMP1-032         |
|                                            |                  |                  |                 | 2 wire          | 24V          | 5V, 12V | 100V or less               | —                 | Z73       | ●                                     | ●     | ●          | —               | Relay PLC |                  |
|                                            |                  |                  | No              |                 |              |         |                            | —                 | Z80       | ●                                     | ●     | —          | IC circuit      |           |                  |
| Solid state switch                         | —                | Grommet          | Yes             | 3 wire (NPN)    | 24V          | 5V, 12V | —                          | Y69A              | Y59A      | ●                                     | ●     | ○          | IC circuit      | Relay PLC |                  |
|                                            |                  |                  |                 | 3 wire (PNP)    |              |         |                            | Y7PV              | Y7P       | ●                                     | ●     | ○          | —               |           |                  |
|                                            |                  |                  |                 | 2 wire          |              |         |                            | Y69B              | Y59B      | ●                                     | ●     | ○          | —               |           |                  |
|                                            | 3 wire (NPN)     |                  |                 | 5V, 12V         |              | Y7NWV   |                            | Y7NW              | ●         | ●                                     | ○     | IC circuit |                 |           |                  |
|                                            | 3 wire (PNP)     |                  |                 |                 |              | Y7PWV   |                            | Y7PW              | ●         | ●                                     | ○     | —          |                 |           |                  |
|                                            | 2 wire           |                  |                 |                 |              | 12V     |                            | Y7BWV             | Y7BW      | ●                                     | ●     | ○          | —               |           |                  |
|                                            | —                |                  |                 | Y7BA            |              |         |                            | —                 | ●         | —                                     | —     |            |                 |           |                  |
|                                            | —                |                  |                 | —               |              |         |                            | —                 | —         | —                                     | —     | —          |                 |           |                  |
| Diagnostic indication (2 colour indicator) | —                | —                | —               | —               | —            | —       | —                          |                   |           |                                       |       |            |                 |           |                  |
| Water resistant (2 colour indicator)       | —                | —                | —               | —               | —            | —       | —                          |                   |           |                                       |       |            |                 |           |                  |

\* Lead wire length 0.5m..... — (Example: A53)  
3m..... L (Example: A53L)  
5m..... Z (Example: A53Z)

○: Manufactured upon receipt of order.

# Cylinder

## Series CP95N

### with lock

#### Cylinder Specifications

|                               |                                                                                                                             |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Bore Size [mm]                | 32, 40, 50, 63, 80, 100                                                                                                     |
| Fluid                         | Air                                                                                                                         |
| Proof Pressure                | 1.5MPa                                                                                                                      |
| Max. operating pressure       | 1.0MPa                                                                                                                      |
| Min. operating pressure       | 0.08MPa                                                                                                                     |
| Piston speed                  | 50 to 1000mm/s <small>note)</small>                                                                                         |
| Ambient and fluid temperature | Without autoswitch : -10°C to 70°C (without freezing)<br>With autoswitch : -10°C to 70°C (without freezing)                 |
| Cushion                       | Double air side cushion                                                                                                     |
| Stroke length tolerance       | to 250: $^{+1.0}_0$ , 251 to 1000: $^{+1.4}_0$                                                                              |
| Bracket type                  | Basic type, Axial foot type, Front flange type, Rear flange type, Single clevis type, Double clevis type, Spherical bearing |
| max. possible stroke [mm]     | 1000                                                                                                                        |

Note) Load limits exist depending upon piston speed when locked, mounting direction and operating pressure.

#### Lock Specifications

|                         |                            |
|-------------------------|----------------------------|
| Lock actuation          | Spring lock (exhaust lock) |
| Unlocking pressure      | $\geq 0.25\text{MPa}$      |
| Locking pressure        | " 0.20MPa                  |
| Max. operating pressure | 1.0MPa                     |
| Locking direction       | 2 Two-way                  |

#### Standard Stroke

| Bore Size [mm] | Standard Stroke [mm]                                             | Max. Stroke |
|----------------|------------------------------------------------------------------|-------------|
| 32             | 25,50,75,100,125,150,175,200,250,300,350,400,450,500             | 1000        |
| 40             | 25,50,75,100,125,150,175,200,250,300,350,400,450,500             |             |
| 50             | 25,50,75,100,125,150,175,200,250,300,350,400,450,500,600         |             |
| 63             | 25,50,75,100,125,150,175,200,250,300,350,400,450,500,600         |             |
| 80             | 25,50,75,100,125,150,175,200,250,300,350,400,450,500,600,700,800 |             |
| 100            | 25,50,75,100,125,150,175,200,250,300,350,400,450,500,600,700,800 |             |

#### Stopping Accuracy

[mm]

| Locking system | Piston speed [mm/s] |           |           |           |
|----------------|---------------------|-----------|-----------|-----------|
|                | 100                 | 300       | 500       | 1000      |
| Spring lock    | $\pm 0.3$           | $\pm 0.6$ | $\pm 1.0$ | $\pm 2.0$ |

Conditions/Horizontal supply pressure P=0.5MPa

Load weight ..... Upper limit of allowable value

Solenoid valve for locking mounted on the locking pdr

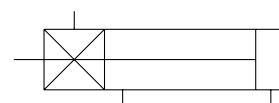
Maximum value of stopping position dispersion from 100 measurements

#### Spring Lock Holding Power (Maximum static Load)

| Bore size [mm]    | 32  | 40  | 50   | 63   | 80   | 100  |
|-------------------|-----|-----|------|------|------|------|
| Holding power [N] | 552 | 882 | 1370 | 2160 | 3430 | 5390 |



Cylinder with lock



CJ1

CJP

CJ2

CM2

C85

C76

CG1

MB

MB1

**CP95**

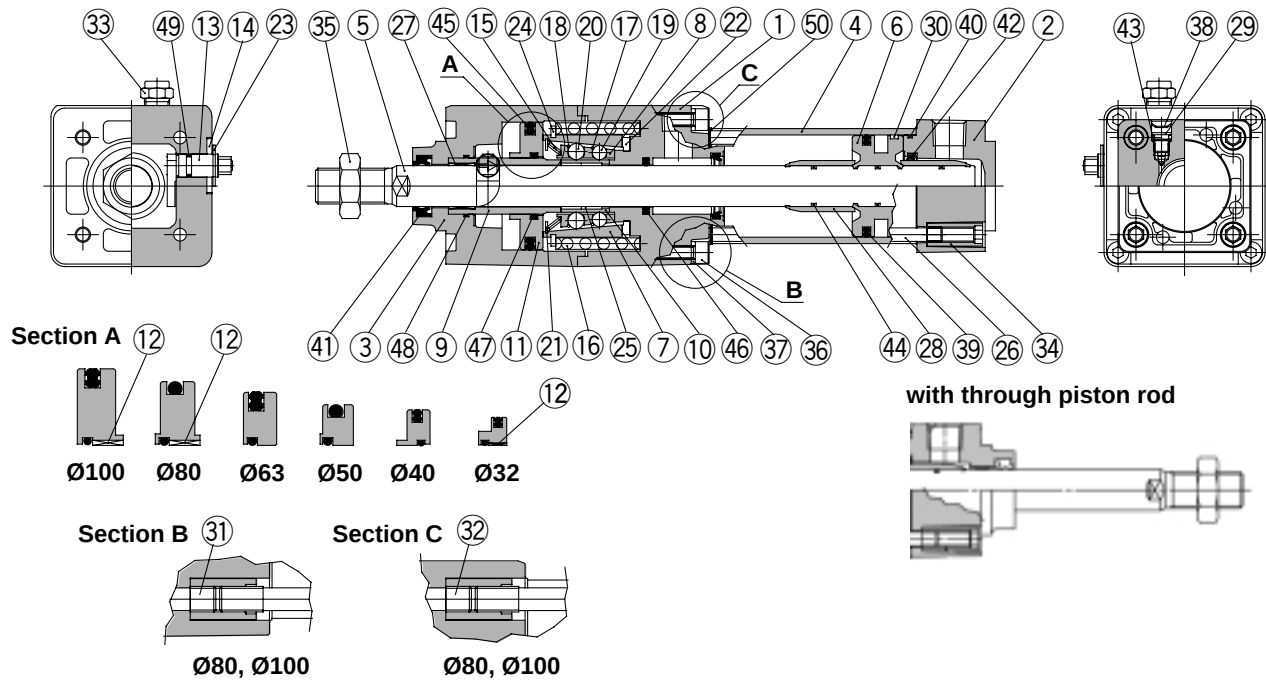
C95

C92

CA1

CS1

## Construction



### Parts list

| No. | Description                                   | Material                  | Note                            |
|-----|-----------------------------------------------|---------------------------|---------------------------------|
| ①   | Rod cover                                     | Aluminium alloy           | Hard anodised & metallic coated |
| ②   | Head cover                                    | Aluminium alloy           | Chromated & metallic coated     |
| ③   | Cover                                         | Aluminium alloy           | Hard anodised & metallic coated |
| ④   | Cylinder tubing                               | Aluminium alloy           | Hard anodised                   |
| ⑤   | Piston rod                                    | Carbon steel              | Hard chrome plated              |
| ⑥   | Piston                                        | Aluminium alloy           | Chromated                       |
| ⑦   | Taper Ring                                    | Carbon steel              | Heat treated                    |
| ⑧   | Ball retainer                                 | Special resin             |                                 |
| ⑨   | Piston guide                                  | Carbon steel              | Zinc chromated                  |
| ⑩   | Brake shoe holder                             | Carbon steel              | Heat treated                    |
| ⑪   | Release piston                                | Ø40                       | Aluminium alloy                 |
|     |                                               | Ø50                       |                                 |
|     |                                               | Ø63                       |                                 |
|     |                                               | Ø32                       | Carbon steel                    |
|     |                                               | Ø80                       |                                 |
|     |                                               | Ø100                      |                                 |
| ⑫   | Release piston bushing                        | Steel + special resin     | Ø32, Ø80, Ø100 only             |
| ⑬   | Unlocking cam                                 | Carbon steel              | Glossy chromated                |
| ⑭   | Washer                                        | Carbon steel              | Black zinc chromated            |
| ⑮   | Retainer pre-load spring                      | Carbon steel              | Zinc chromated                  |
| ⑯   | Brake spring                                  | Carbon steel              | Zinc chromated                  |
| ⑰   | Clip A                                        | Stainless steel           |                                 |
| ⑱   | Clip B                                        | Stainless steel           |                                 |
| ⑲   | Steel ball A                                  | Carbon steel              |                                 |
| ⑳   | Steel ball B                                  | Carbon steel              |                                 |
| ㉑   | Tooth ring                                    | Stainless steel           |                                 |
| ㉒   | Damper                                        | Polyurethane rubber       |                                 |
| ㉓   | C type retaining ring for unlocking cam shaft | Carbon steel              |                                 |
| ㉔   | C type retaining ring for taper ring          | Carbon steel              |                                 |
| ㉕   | Brake shoe                                    | Special friction material |                                 |
| ㉖   | Tie rod                                       | Carbon steel              | Chromated                       |
| ㉗   | Bushing                                       | Lead-bronze casting       |                                 |
| ㉘   | Cushion ring                                  | Brass                     |                                 |

### Parts list

| No. | Description                                  | Material     | Note                        |
|-----|----------------------------------------------|--------------|-----------------------------|
| ㉙   | Cushion valve                                | Carbon steel | Nickel plated               |
| ㉚   | Wear ring                                    | PUR          |                             |
| ㉛   | Unit holding tie-rod A                       | Carbon steel | Chromated Ø80, Ø100 only    |
| ㉜   | Unit holding tie-rod B                       | Carbon steel | Chromated Ø80, Ø100 only    |
| ㉝   | BC element                                   |              |                             |
| ㉞   | Tie-rod nut                                  | Carbon steel | Nickel plated               |
| ㉟   | Rod end nut                                  | Carbon steel | Nickel plated               |
| ㊱   | Hexagon socket head cap screw                | Carbon steel | Nickel plated Ø32, Ø63 only |
| ㊲   | Spring washer for hex. socket head cap screw | Carbon steel | Nickel plated Ø32, Ø63 only |
| ㊳   | Retaining ring                               | Carbon steel |                             |
| ㊴   | Piston seal                                  | NBR          |                             |
| ㊵   | Cylinder tube gasket                         | NBR          |                             |
| ㊶   | Rod seal A                                   | NBR          |                             |
| ㊷   | Cushion seal                                 | NBR          |                             |
| ㊸   | Cushion valve seal                           | NBR          |                             |
| ㊹   | Piston gasket                                | NBR          |                             |
| ㊺   | Release piston gasket                        | NBR          |                             |
| ㊻   | Rod seal B                                   | NBR          |                             |
| ㊼   | Release piston gasket                        | NBR          |                             |
| ㊽   | Piston guide gasket                          | NBR          |                             |
| ㊾   | Unlocking cam gasket                         | NBR          |                             |
| ㊿   | Spacer disc                                  | CR           |                             |

CJ1

CJP

CJ2

CM2

C85

C76

CG1

MB

MB1

CP95

C95

C92

CA1

CS1