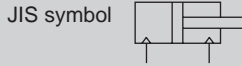


Guided super compact cylinder double acting/single rod

# SSG Series

● Bore size:  $\phi 12/\phi 16/\phi 20/\phi 25/\phi 32/\phi 40/\phi 50/\phi 63/\phi 80/\phi 100$



## Specifications

| Item                      | SSG  |  |           |           |           |           |                                |           |           |           |           |            |
|---------------------------|--|--|-----------|-----------|-----------|-----------|--------------------------------|-----------|-----------|-----------|-----------|------------|
|                           | Bore size  | mm   | $\phi 12$ | $\phi 16$ | $\phi 20$ | $\phi 25$ | $\phi 32$                      | $\phi 40$ | $\phi 50$ | $\phi 63$ | $\phi 80$ | $\phi 100$ |
| Actuation                 | Double acting  |  |           |           |           |           |                                |           |           |           |           |            |
| Working fluid             | Compressed air   |  |           |           |           |           |                                |           |           |           |           |            |
| Max. working pressure     | MPa  | 1.0 ( $\approx 150$ psi, 10 bar)   |           |           |           |           |                                |           |           |           |           |            |
| Min. working pressure     | MPa  | 0.15 ( $\approx 22$ psi, 1.5 bar)  |           |           |           |           | 0.1 ( $\approx 15$ psi, 1 bar) |           |           |           |           |            |
| Proof pressure            | MPa  | 1.6 ( $\approx 230$ psi, 16 bar)   |           |           |           |           |                                |           |           |           |           |            |
| Ambient temperature       | $^{\circ}\text{C}$   | -10 ( $14^{\circ}\text{F}$ ) to 60 ( $140^{\circ}\text{F}$ ) (no freezing) |           |           |           |           |                                |           |           |           |           |            |
| Port size                 |  | M5   |           |           |           | Rc1/8 *1  |                                | Rc1/4     |           | Rc3/8     |           |            |
| Stroke tolerance          | mm   | Without cushion  |           |           |           |           |                                |           |           |           |           |            |
|                           |  | With rubber cushion  |           |           |           |           |                                |           |           |           |           |            |
| Working piston speed      | mm/s   | 50 to 500  |           |           |           |           |                                | 50 to 300 |           |           |           |            |
| Cushion                   | With a rubber cushion or without can be selected.                            |  |           |           |           |           |                                |           |           |           |           |            |
| Lubrication               | Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication) |  |           |           |           |           |                                |           |           |           |           |            |
| Allowable absorbed energy | J  | Without cushion  | 0.004     | 0.01      | 0.016     | 0.021     | 0.025                          | 0.092     | 0.1       | 0.12      | 0.27      | 0.56       |
|                           |  | With rubber cushion  | 0.03      | 0.05      | 0.10      | 0.16      |                                | 0.44      | 0.75      | 0.78      | 2.51      | 3.92       |

\*1: The  $\phi 32$  bore size with a 5 mm stroke and without a switch has a port size of M5.

## Stroke

| Bore size (mm) | Standard stroke (mm)    | Max. stroke (mm) | Min. stroke (mm) |
|----------------|-------------------------|------------------|------------------|
| $\phi 12$      | 5/10/15/20/             | 30               | 1                |
| $\phi 16$      | 25/30                   |                  |                  |
| $\phi 20$      | 5/10/15/20/25/          | 50               |                  |
| $\phi 25$      | 30/35/40/45/50          |                  |                  |
| $\phi 32$      | 5/10/15/20/25/30/35/40/ | 100              |                  |
| $\phi 40$      | 45/50/75/100            |                  |                  |
| $\phi 50$      | 10/15/20/25/            |                  |                  |
| $\phi 63$      | 30/35/40/45/50          |                  |                  |
| $\phi 80$      | 75/100                  |                  |                  |
| $\phi 100$     |                         |                  |                  |

\*1 : The custom stroke is available in 1 mm increments.  
The dimensions of the total length with the custom stroke are the same as the next longer standard stroke.  
\*2 : When using the type with a switch, refer to the table below.

## Min. stroke with switch (with 1 or 2 switches)

| Bore size (mm) | T0H/V / T5H/V | T2H/V / T3H/V |
|----------------|---------------|---------------|
| $\phi 12$      | 6             | 5             |
| $\phi 16$      |               |               |
| $\phi 20$      |               |               |
| $\phi 25$      |               |               |
| $\phi 32$      |               |               |
| $\phi 40$      |               |               |
| $\phi 50$      |               |               |
| $\phi 63$      |               |               |
| $\phi 80$      |               |               |
| $\phi 100$     |               |               |

\*1: Less than 10 mm with the 2-color LED switch is not available.

## Switch specifications (F-switch)

● 1-color/2-color LED

| Item                 | 2-wire proximity                      | 3-wire proximity                   | 2-wire proximity                      |                                | 3-wire proximity                   |                              |                                |
|----------------------|---------------------------------------|------------------------------------|---------------------------------------|--------------------------------|------------------------------------|------------------------------|--------------------------------|
|                      | F2S                                   | F3S                                | F2H/F2V                               | F2YH/F2YV                      | F3H/F3V                            | F3PH/F3PV<br>(made to order) | F3YH/F3YV                      |
| Applications         | Dedicated for programmable controller | For programmable controller, relay | Dedicated for programmable controller |                                | For programmable controller, relay |                              |                                |
| Output method        | -                                     | NPN output                         | -                                     |                                | NPN output                         | PNP output                   | NPN output                     |
| Power supply voltage | -                                     | 10 to 28 VDC                       | -                                     |                                | 10 to 28 VDC                       | 4.5 to 28 VDC                | 10 to 28 VDC                   |
| Load voltage         | 10 to 30 VDC                          | 30 VDC or less                     | 10 to 30 VDC                          | 24 VDC $\pm 10\%$              | 30 VDC or less                     |                              |                                |
| Load current         | 5 to 20 mA                            | 50 mA or less                      | 5 to 20 mA                            |                                | 100 mA or less                     | 50 mA or less                |                                |
| Indicator            | LED<br>(Lit when ON)                  |                                    | Yellow LED<br>(Lit when ON)           | Red/green LED<br>(Lit when ON) | Yellow LED<br>(Lit when ON)        |                              | Red/green LED<br>(Lit when ON) |
| Leakage current      | 1 mA or less                          | 10 $\mu\text{A}$ or less           | 1 mA or less                          |                                | 10 $\mu\text{A}$ or less           |                              |                                |
| Weight               | g                                     |                                    | 1 m:10 3 m:29                         |                                |                                    |                              |                                |

### Switch specifications (T-switch)

● 1-color/2-color LED/for AC magnetic field

| Item            | 2-wire proximity   |                            |                                       |                                   | 3-wire proximity                   |                             |                                   |                                   | 2-wire reed                        |   |                                    | 2-wire proximity                      |                                   |            |            |             |
|-----------------|--|----------------------------|---------------------------------------|-----------------------------------|------------------------------------|-----------------------------|-----------------------------------|-----------------------------------|------------------------------------|---|------------------------------------|---------------------------------------|-----------------------------------|------------|------------|-------------|
|                 | T1H/<br>T1V  | T2H/T2V/<br>T2JH/T2JV      | T2YH/<br>T2YV                         | T2WH/<br>T2WV                     | T3H/<br>T3V                        | T3PH/<br>T3PV               | T3YH/<br>T3YV                     | T3WH/<br>T3WV                     | T0H/T0V                            | T5H/T5V   | T8H/T8V                            | T2YD (*4)<br>T2YDT                    |                                   |            |            |             |
| Applications    | For programmable controller, relay, compact solenoid valve |                            | Dedicated for programmable controller |                                   | For programmable controller, relay |                             |                                   |                                   | For programmable controller, relay | For programmable controller, relay, IC circuit (no indicator lamp), serial connection | For programmable controller, relay | Dedicated for programmable controller |                                   |            |            |             |
| Output method   | -  |                            |                                       |                                   | NPN output                         | PNP output                  | NPN output                        | NPN output                        | -                                  |   |                                    |                                       |                                   |            |            |             |
| Pwr. supp. V.   | -  |                            |                                       |                                   | 10 to 28 VDC                       |                             |                                   |                                   | -                                  |   |                                    |                                       |                                   |            |            |             |
| Load voltage    | 85 to 265 VAC  | 10 to 30 VDC               |                                       | 24 VDC ±10%                       | 30 VDC or less                     |                             |                                   |                                   | 12/24 VDC                          | 100/110 VAC   | 5/12/24 VDC                        | 100/110 VAC                           | 12/24 VDC                         | 110 VAC    | 220 VAC    | 24 VDC ±10% |
| Load current    | 5 to 100 mA  | 5 to 20 mA (*3)            |                                       |                                   | 100 mA or less                     |                             | 50 mA or less                     |                                   | 5 to 50 mA                         | 7 to 20 mA  | 50 mA or less                      | 20 mA or less                         | 5 to 50 mA                        | 7 to 20 mA | 7 to 10 mA | 5 to 20 mA  |
| Indicator       | LED<br>(Lit when ON)                                       | LED<br>(Lit when ON)       | Red/green<br>LED<br>(Lit when ON)     | Red/green<br>LED<br>(Lit when ON) | LED<br>(Lit when ON)               | Yellow LED<br>(Lit when ON) | Red/green<br>LED<br>(Lit when ON) | Red/green<br>LED<br>(Lit when ON) | LED<br>(Lit when ON)               | No indicator<br>lamp  | LED<br>(Lit when ON)               |                                       | Red/green<br>LED<br>(Lit when ON) |            |            |             |
| Leakage current | ≤ 1mA at 100 VAC<br>≤ 2mA at 200 VAC                       | 1 mA or less               |                                       |                                   | 10 µA or less                      |                             |                                   |                                   | 0 mA                               |   |                                    |                                       | 1 mA or less                      |            |            |             |
| Weight g        | 1 m:33<br>3 m:87<br>5 m:142                                | 1 m:18<br>3 m:49<br>5 m:80 | 1 m:33<br>3 m:87<br>5 m:142           | 1 m:18<br>3 m:49<br>5 m:80        | 1 m:18<br>3 m:49<br>5 m:80         | 1 m:33<br>3 m:87<br>5 m:142 | 1 m:18<br>3 m:49<br>5 m:80        |                                   | 1 m:18 3 m:49 5 m:80               |   |                                    | 1 m:33<br>3 m:87<br>5 m:142           | 1 m:61<br>3 m:166<br>5 m:272      |            |            |             |

\*1: Refer to Ending Page 1 for detailed switch specifications and dimensions.

\*2: Switches other than the above models, such as switches with connectors, are also available. Refer to Ending Page 1.

\*3: The max. load current is 20 mA at 25°C. The current is lower than 20 mA if the operating ambient temperature around the switch is higher than 25°C. (5 to 10 mA at 60°C)

\*4: AC magnetic field proof switch (T2YD/T2YDT) cannot be used in DC magnetic field.

### Cylinder weight table (the weight of the switches is when there are 2 cylinder switches.)

● No switch

(Unit: g)

| Stroke (mm)    | 5   | 10   | 15   | 20   | 25   | 30   | 35   | 40   | 45   | 50   | 75   | 100  |
|----------------|-----|------|------|------|------|------|------|------|------|------|------|------|
| Stroke (mm)    |     |      |      |      |      |      |      |      |      |      |      |      |
| Bore size (mm) |     |      |      |      |      |      |      |      |      |      |      |      |
| ø12            | 49  | 58   | 67   | 76   | 85   | 95   |      |      |      |      |      |      |
| ø16            | 61  | 74   | 86   | 99   | 111  | 124  |      |      |      |      |      |      |
| ø20            | 90  | 105  | 120  | 135  | 150  | 165  | 179  | 194  | 209  | 224  |      |      |
| ø25            | 117 | 135  | 153  | 171  | 189  | 207  | 225  | 243  | 261  | 279  |      |      |
| ø32            | 170 | 194  | 218  | 242  | 266  | 290  | 314  | 338  | 362  | 386  | 576  | 740  |
| ø40            | 245 | 274  | 303  | 331  | 360  | 389  | 418  | 446  | 475  | 504  | 742  | 934  |
| ø50            |     | 464  | 510  | 556  | 603  | 649  | 695  | 741  | 787  | 833  | 1206 | 1488 |
| ø63            |     | 738  | 802  | 866  | 930  | 994  | 1058 | 1122 | 1185 | 1249 | 1794 | 2168 |
| ø80            |     | 1336 | 1434 | 1533 | 1632 | 1730 | 1829 | 1928 | 2026 | 2125 | 2971 | 3525 |
| ø100           |     | 2028 | 2154 | 2279 | 2405 | 2531 | 2657 | 2782 | 2908 | 3034 | 4163 | 4859 |

● With switch

| Stroke (mm)    | 5   | 10   | 15   | 20   | 25   | 30   | 35   | 40   | 45   | 50   | 75   | 100  |
|----------------|-----|------|------|------|------|------|------|------|------|------|------|------|
| Stroke (mm)    |     |      |      |      |      |      |      |      |      |      |      |      |
| Bore size (mm) |     |      |      |      |      |      |      |      |      |      |      |      |
| ø12            | 92  | 101  | 110  | 119  | 127  | 136  |      |      |      |      |      |      |
| ø16            | 107 | 119  | 132  | 144  | 156  | 169  |      |      |      |      |      |      |
| ø20            | 155 | 173  | 190  | 208  | 226  | 243  | 261  | 279  | 296  | 314  |      |      |
| ø25            | 208 | 226  | 244  | 262  | 280  | 298  | 316  | 334  | 352  | 370  |      |      |
| ø32            | 284 | 308  | 332  | 356  | 380  | 404  | 428  | 452  | 476  | 500  | 620  | 740  |
| ø40            | 388 | 417  | 446  | 474  | 503  | 532  | 561  | 589  | 618  | 647  | 791  | 934  |
| ø50            |     | 658  | 704  | 750  | 797  | 843  | 889  | 935  | 981  | 1027 | 1257 | 1488 |
| ø63            |     | 1017 | 1081 | 1145 | 1209 | 1273 | 1337 | 1401 | 1464 | 1528 | 1848 | 2168 |
| ø80            |     | 1749 | 1847 | 1946 | 2045 | 2143 | 2242 | 2341 | 2439 | 2538 | 3031 | 3525 |
| ø100           |     | 2595 | 2721 | 2846 | 2972 | 3098 | 3224 | 3349 | 3475 | 3601 | 4230 | 4859 |

### Theoretical thrust table

(Unit: N)

| Bore size (mm) | Operating direction | Working pressure MPa |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |
|----------------|---------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
|                |                     | 0.1                  | 0.15                 | 0.2                  | 0.3                  | 0.4                  | 0.5                  | 0.6                  | 0.7                  | 0.8                  | 0.9                  | 1.0                  |
| ø12            | Push                | -                    | 17.0                 | 22.6                 | 33.9                 | 45.2                 | 56.5                 | 67.9                 | 79.2                 | 90.5                 | 1.02x10 <sup>2</sup> | 1.13x10 <sup>2</sup> |
|                | Pull                | -                    | 12.7                 | 17.0                 | 25.4                 | 33.9                 | 42.4                 | 50.9                 | 59.4                 | 67.9                 | 76.3                 | 84.8                 |
| ø16            | Push                | -                    | 30.2                 | 40.2                 | 60.3                 | 80.4                 | 1.01x10 <sup>2</sup> | 1.21x10 <sup>2</sup> | 1.41x10 <sup>2</sup> | 1.61x10 <sup>2</sup> | 1.81x10 <sup>2</sup> | 2.01x10 <sup>2</sup> |
|                | Pull                | -                    | 22.6                 | 30.2                 | 45.2                 | 60.3                 | 75.4                 | 90.5                 | 1.06x10 <sup>2</sup> | 1.21x10 <sup>2</sup> | 1.36x10 <sup>2</sup> | 1.51x10 <sup>2</sup> |
| ø20            | Push                | -                    | 47.1                 | 62.8                 | 94.2                 | 1.26x10 <sup>2</sup> | 1.57x10 <sup>2</sup> | 1.88x10 <sup>2</sup> | 2.20x10 <sup>2</sup> | 2.51x10 <sup>2</sup> | 2.83x10 <sup>2</sup> | 3.14x10 <sup>2</sup> |
|                | Pull                | -                    | 35.3                 | 47.1                 | 70.7                 | 94.2                 | 1.18x10 <sup>2</sup> | 1.41x10 <sup>2</sup> | 1.65x10 <sup>2</sup> | 1.88x10 <sup>2</sup> | 2.12x10 <sup>2</sup> | 2.36x10 <sup>2</sup> |
| ø25            | Push                | -                    | 73.6                 | 98.2                 | 1.47x10 <sup>2</sup> | 1.96x10 <sup>2</sup> | 2.45x10 <sup>2</sup> | 2.95x10 <sup>2</sup> | 3.44x10 <sup>2</sup> | 3.93x10 <sup>2</sup> | 4.42x10 <sup>2</sup> | 4.91x10 <sup>2</sup> |
|                | Pull                | -                    | 56.7                 | 75.6                 | 1.13x10 <sup>2</sup> | 1.51x10 <sup>2</sup> | 1.89x10 <sup>2</sup> | 2.27x10 <sup>2</sup> | 2.64x10 <sup>2</sup> | 3.02x10 <sup>2</sup> | 3.40x10 <sup>2</sup> | 3.78x10 <sup>2</sup> |
| ø32            | Push                | 80.4                 | 1.21x10 <sup>2</sup> | 1.61x10 <sup>2</sup> | 2.41x10 <sup>2</sup> | 3.22x10 <sup>2</sup> | 4.02x10 <sup>2</sup> | 4.83x10 <sup>2</sup> | 5.63x10 <sup>2</sup> | 6.43x10 <sup>2</sup> | 7.24x10 <sup>2</sup> | 8.04x10 <sup>2</sup> |
|                | Pull                | 60.3                 | 90.5                 | 1.21x10 <sup>2</sup> | 1.81x10 <sup>2</sup> | 2.41x10 <sup>2</sup> | 3.02x10 <sup>2</sup> | 3.62x10 <sup>2</sup> | 4.22x10 <sup>2</sup> | 4.83x10 <sup>2</sup> | 5.43x10 <sup>2</sup> | 6.03x10 <sup>2</sup> |
| ø40            | Push                | 1.26x10 <sup>2</sup> | 1.88x10 <sup>2</sup> | 2.51x10 <sup>2</sup> | 3.77x10 <sup>2</sup> | 5.03x10 <sup>2</sup> | 6.28x10 <sup>2</sup> | 7.54x10 <sup>2</sup> | 8.80x10 <sup>2</sup> | 1.01x10 <sup>3</sup> | 1.13x10 <sup>3</sup> | 1.26x10 <sup>3</sup> |
|                | Pull                | 1.06x10 <sup>2</sup> | 1.58x10 <sup>2</sup> | 2.11x10 <sup>2</sup> | 3.17x10 <sup>2</sup> | 4.22x10 <sup>2</sup> | 5.28x10 <sup>2</sup> | 6.33x10 <sup>2</sup> | 7.39x10 <sup>2</sup> | 8.44x10 <sup>2</sup> | 9.50x10 <sup>2</sup> | 1.06x10 <sup>3</sup> |
| ø50            | Push                | 1.96x10 <sup>2</sup> | 2.95x10 <sup>2</sup> | 3.93x10 <sup>2</sup> | 5.89x10 <sup>2</sup> | 7.85x10 <sup>2</sup> | 9.82x10 <sup>2</sup> | 1.18x10 <sup>3</sup> | 1.37x10 <sup>3</sup> | 1.57x10 <sup>3</sup> | 1.77x10 <sup>3</sup> | 1.96x10 <sup>3</sup> |
|                | Pull                | 1.65x10 <sup>2</sup> | 2.47x10 <sup>2</sup> | 3.30x10 <sup>2</sup> | 4.95x10 <sup>2</sup> | 6.60x10 <sup>2</sup> | 8.25x10 <sup>2</sup> | 9.90x10 <sup>2</sup> | 1.15x10 <sup>3</sup> | 1.32x10 <sup>3</sup> | 1.48x10 <sup>3</sup> | 1.65x10 <sup>3</sup> |
| ø63            | Push                | 3.12x10 <sup>2</sup> | 4.68x10 <sup>2</sup> | 6.23x10 <sup>2</sup> | 9.35x10 <sup>2</sup> | 1.25x10 <sup>3</sup> | 1.56x10 <sup>3</sup> | 1.87x10 <sup>3</sup> | 2.18x10 <sup>3</sup> | 2.49x10 <sup>3</sup> | 2.81x10 <sup>3</sup> | 3.12x10 <sup>3</sup> |
|                | Pull                | 2.80x10 <sup>2</sup> | 4.20x10 <sup>2</sup> | 5.61x10 <sup>2</sup> | 8.41x10 <sup>2</sup> | 1.12x10 <sup>3</sup> | 1.40x10 <sup>3</sup> | 1.68x10 <sup>3</sup> | 1.96x10 <sup>3</sup> | 2.24x10 <sup>3</sup> | 2.52x10 <sup>3</sup> | 2.80x10 <sup>3</sup> |
| ø80            | Push                | 5.03x10 <sup>2</sup> | 7.54x10 <sup>2</sup> | 1.01x10 <sup>3</sup> | 1.51x10 <sup>3</sup> | 2.01x10 <sup>3</sup> | 2.51x10 <sup>3</sup> | 3.02x10 <sup>3</sup> | 3.52x10 <sup>3</sup> | 4.02x10 <sup>3</sup> | 4.52x10 <sup>3</sup> | 5.03x10 <sup>3</sup> |
|                | Pull                | 4.54x10 <sup>2</sup> | 6.80x10 <sup>2</sup> | 9.07x10 <sup>2</sup> | 1.36x10 <sup>3</sup> | 1.81x10 <sup>3</sup> | 2.27x10 <sup>3</sup> | 2.72x10 <sup>3</sup> | 3.17x10 <sup>3</sup> | 3.63x10 <sup>3</sup> | 4.08x10 <sup>3</sup> | 4.54x10 <sup>3</sup> |
| ø100           | Push                | 7.85x10 <sup>2</sup> | 1.18x10 <sup>3</sup> | 1.57x10 <sup>3</sup> | 2.36x10 <sup>3</sup> | 3.14x10 <sup>3</sup> | 3.93x10 <sup>3</sup> | 4.71x10 <sup>3</sup> | 5.50x10 <sup>3</sup> | 6.28x10 <sup>3</sup> | 7.07x10 <sup>3</sup> | 7.85x10 <sup>3</sup> |
|                | Pull                | 7.15x10 <sup>2</sup> | 1.07x10 <sup>3</sup> | 1.43x10 <sup>3</sup> | 2.14x10 <sup>3</sup> | 2.86x10 <sup>3</sup> | 3.57x10 <sup>3</sup> | 4.29x10 <sup>3</sup> | 5.00x10 <sup>3</sup> | 5.72x10 <sup>3</sup> | 6.43x10 <sup>3</sup> | 7.15x10 <sup>3</sup> |

## How to order

No switch (without magnet for switch)

**SSG** - 12 D - 10

With switch (built-in magnet for switch)

**SSG-L** - 12 D - 10 - T2H - R

2-color LED/off-delay, with T1\* switch (ø12/ø16 only)

**SSG-L1** - 12 D - 10 - T2YH - R

Ⓐ Model No.

Ⓑ Bore size

Ⓒ Cushion

Ⓓ Stroke

Custom stroke  
Available in 1 mm increments. (Less than 5 mm with switch is not available) Note that the dimensions of the total length with the custom stroke are the same as the longer standard stroke.

Ⓔ Switch model No.

### ⚠ Precautions for model No. selection

- \*1 : The T0\* and T5\* switches cannot be mounted on the 5 mm stroke of the ø12 and ø16 bore sizes.
- \*2 : The T2YD\* switch cannot be mounted on the ø12 and ø16 bore sizes.
- \*3 : The T8\* switch cannot be mounted on the ø12 to ø32 bore sizes.
- \*4 : The F-switch can only be mounted on the piping port surface of bore size ø25.
- \*5 : Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.

### [Example of model No.]

**SSG-L-12D-10-T2H-R**

Model: Guided compact cylinder  
Double acting/single rod

- Model No. : Double acting/single rod with switch
- Bore size : ø12 mm
- Cushion : Two-sided rubber cushion
- Stroke : 10 mm
- Switch model No. : Proximity switch T2H, lead wire length 1 m
- Switch quantity : 1 on rod side

## How to order switch

**SW** - T0H

Switch model No.  
(Item Ⓔ above)

| Code               | Description                                      |
|--------------------|--|
| <b>Ⓐ Model No.</b> |  |
| <b>SSG</b>         | Double acting/single rod                         |
| <b>SSG-L</b>       | Double acting/single rod/with switch             |
| <b>SSG-L1</b>      | ø12, ø16 2-color LED, off-delay, with T1* switch |

| <b>Ⓑ Bore size (mm)</b> |      |
|-------------------------|------|
| 12                      | ø12  |
| 16                      | ø16  |
| 20                      | ø20  |
| 25                      | ø25  |
| 32                      | ø32  |
| 40                      | ø40  |
| 50                      | ø50  |
| 63                      | ø63  |
| 80                      | ø80  |
| 100                     | ø100 |

| <b>Ⓒ Cushion</b> |                               |
|------------------|-------------------------------|
| <b>Blank</b>     | Without cushion               |
| <b>D</b>         | With two-sided rubber cushion |

| <b>Ⓓ Stroke (mm)</b> |     | <b>Bore size (ø)</b> |    |    |    |    |    |    |    |    |     |
|----------------------|-----|----------------------|----|----|----|----|----|----|----|----|-----|
|                      |     | 12                   | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 |
| 5                    | 5   | ●                    | ●  | ●  | ●  | ●  | ●  |    |    |    |     |
| 10                   | 10  | ●                    | ●  | ●  | ●  | ●  | ●  | ●  | ●  | ●  | ●   |
| 15                   | 15  | ●                    | ●  | ●  | ●  | ●  | ●  | ●  | ●  | ●  | ●   |
| 20                   | 20  | ●                    | ●  | ●  | ●  | ●  | ●  | ●  | ●  | ●  | ●   |
| 25                   | 25  | ●                    | ●  | ●  | ●  | ●  | ●  | ●  | ●  | ●  | ●   |
| 30                   | 30  | ●                    | ●  | ●  | ●  | ●  | ●  | ●  | ●  | ●  | ●   |
| 35                   | 35  |                      |    | ●  | ●  | ●  | ●  | ●  | ●  | ●  | ●   |
| 40                   | 40  |                      |    | ●  | ●  | ●  | ●  | ●  | ●  | ●  | ●   |
| 45                   | 45  |                      |    | ●  | ●  | ●  | ●  | ●  | ●  | ●  | ●   |
| 50                   | 50  |                      |    | ●  | ●  | ●  | ●  | ●  | ●  | ●  | ●   |
| 75                   | 75  |                      |    |    |    | ●  | ●  | ●  | ●  | ●  | ●   |
| 100                  | 100 |                      |    |    |    | ●  | ●  | ●  | ●  | ●  | ●   |

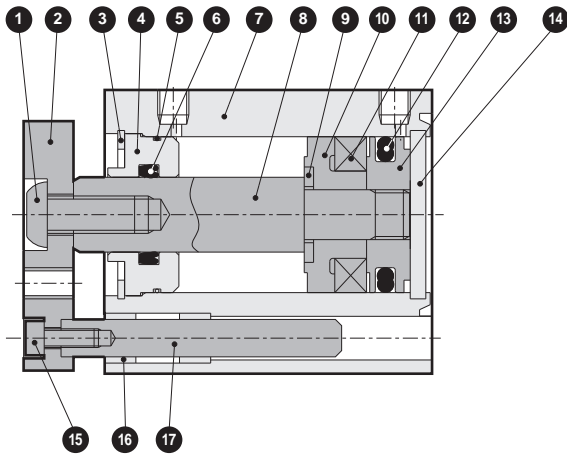
| <b>Ⓔ Switch model No.</b> |       | Axial lead wire | Contact | Voltage AC/DC | Indicator                         | Lead wire   | <b>Bore size</b> |        |    |    |    |    |    |    |    |     |   |   |   |
|---------------------------|-------|-----------------|---------|---------------|-----------------------------------|-------------|------------------|--------|----|----|----|----|----|----|----|-----|---|---|---|
|                           |       |                 |         |               |                                   |             | 12               | 16     | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 |   |   |   |
| -                         | F2S*  |                 |         | ●             | 1-color LED                       | 2-wire      |                  |        | ●  |    |    |    |    |    |    |     |   |   |   |
| -                         | F3S*  |                 |         | ●             |                                   | 3-wire      |                  |        |    |    |    |    |    |    |    |     |   |   |   |
| F2H*                      | F2V*  |                 |         | ●             |                                   | 2-wire      |                  |        |    | ●  |    |    |    |    |    |     |   |   |   |
| F3H*                      | F3V*  |                 |         | ●             | 1-color LED (PNP output) (custom) | 3-wire      |                  |        |    | ●  |    |    |    |    |    |     |   |   |   |
| F3PH*                     | F3PV* |                 |         | ●             |                                   | 3-wire      |                  |        |    |    | ●  |    |    |    |    |     |   |   |   |
| F2YH*                     | F2YV* |                 |         | ●             |                                   | 2-wire      |                  |        |    |    | ●  |    |    |    |    |     |   |   |   |
| F3YH*                     | F3YV* |                 |         | ●             | 2-color LED                       | 3-wire      |                  |        |    | ●  |    |    |    |    |    |     |   |   |   |
| T0H*                      | T0V*  |                 |         | ●             |                                   | 1-color LED | 2-wire           | ●      | ●  | ●  | ●  | ●  | ●  | ●  | ●  | ●   | ● | ● |   |
| T5H*                      | T5V*  |                 |         | ●             |                                   |             | 2-wire           | ●      | ●  | ●  | ●  | ●  | ●  | ●  | ●  | ●   | ● | ● | ● |
| T8H*                      | T8V*  |                 |         | ●             | 2-wire                            |             |                  |        |    |    | ●  | ●  | ●  | ●  | ●  | ●   | ● | ● |   |
| T1H*                      | T1V*  |                 |         | ●             | 1-color LED                       | 2-wire      | ●                | ●      | ●  | ●  | ●  | ●  | ●  | ●  | ●  | ●   | ● | ● |   |
| T2H*                      | T2V*  |                 |         | ●             |                                   |             | 2-wire           | ●      | ●  | ●  | ●  | ●  | ●  | ●  | ●  | ●   | ● | ● | ● |
| T3H*                      | T3V*  |                 |         | ●             |                                   |             | 3-wire           | ●      | ●  | ●  | ●  | ●  | ●  | ●  | ●  | ●   | ● | ● | ● |
| T3PH*                     | T3PV* |                 |         | ●             | 1-color LED (PNP output)          | 3-wire      | ●                | ●      | ●  | ●  | ●  | ●  | ●  | ●  | ●  | ●   | ● | ● |   |
| T2YH*                     | T2YV* |                 |         | ●             |                                   |             | 2-wire           | ●      | ●  | ●  | ●  | ●  | ●  | ●  | ●  | ●   | ● | ● | ● |
| T2WH*                     | T2WV* |                 |         | ●             |                                   |             | 2-wire           | ●      | ●  | ●  | ●  | ●  | ●  | ●  | ●  | ●   | ● | ● | ● |
| T3YH*                     | T3YV* |                 |         | ●             | 2-color LED                       | 3-wire      | ●                | ●      | ●  | ●  | ●  | ●  | ●  | ●  | ●  | ●   | ● | ● |   |
| T3WH*                     | T3WV* |                 |         | ●             |                                   |             | 3-wire           | ●      | ●  | ●  | ●  | ●  | ●  | ●  | ●  | ●   | ● | ● | ● |
| T2YD*                     | -     |                 |         | ●             |                                   |             | 2-color LED      | 2-wire |    |    |    | ●  | ●  | ●  | ●  | ●   | ● | ● | ● |
| T2YDT*                    | -     |                 |         | ●             | 2-wire                            |             |                  |        |    |    | ●  | ●  | ●  | ●  | ●  | ●   | ● | ● | ● |
| T2JH*                     | T2JV* |                 |         | ●             | 2-wire                            | ●           |                  |        | ●  | ●  | ●  | ●  | ●  | ●  | ●  | ●   | ● | ● | ● |

| <b>* Lead wire length</b> |   |
|---------------------------|---|
| <b>Blank</b>              | 1 m (standard)  |
| <b>3</b>                  | 3 m (option)  |
| <b>5</b>                  | 5 m (option) * T-switch only. The F-switch can be configured for up to 3 m. |

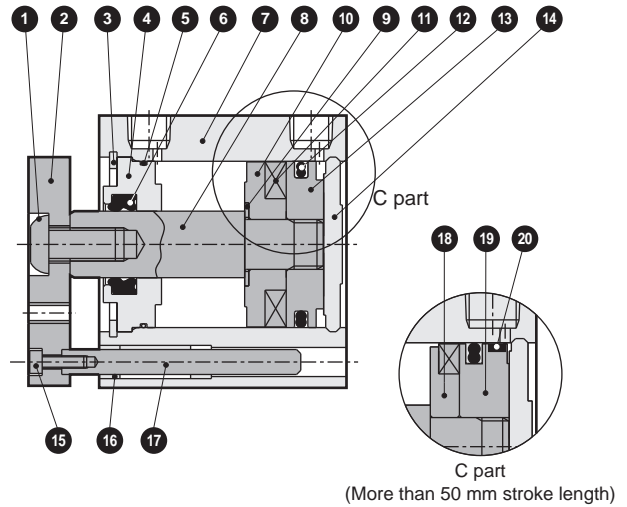
| <b>Ⓕ Switch quantity</b> |                |
|--------------------------|----------------|
| <b>R</b>                 | 1 on rod side  |
| <b>H</b>                 | 1 on head side |
| <b>D</b>                 | 2              |
| <b>T</b>                 | 3              |

### Internal structure and parts list (ø12 to ø50) (without cushion)

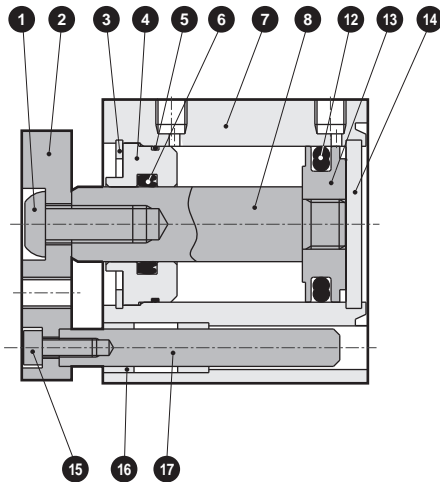
● SSG-L-12 to 25 (double acting/with switch)



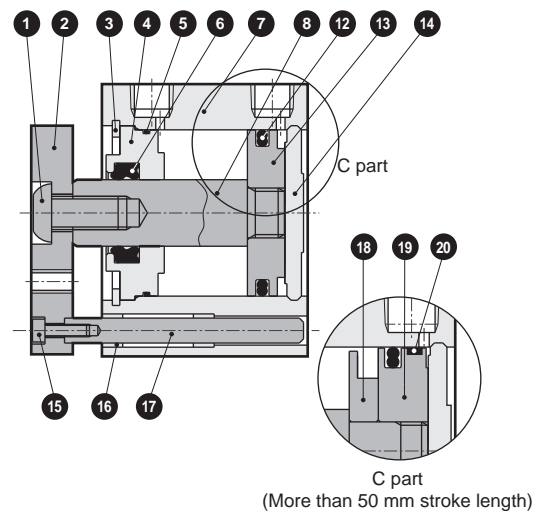
● SSG-L-32 to 50 (double acting/with switch)



● SSG-12 to 25 (double acting)



● SSG-32 to 50 (double acting)



**Cannot be disassembled**

| No. | Part name                            | Material                     | Remarks                               | No. | Part name                     | Material  | Remarks                               |
|-----|--------------------------------------|------------------------------|---------------------------------------|-----|-------------------------------|---|---------------------------------------|
| 1   | Hexagon socket head cap screw (ø12)  | Alloy steel                  | Zinc chromate                         | 11  | Magnet                        | Plastic   |                                       |
|     | Hex socket button head bolt (ø16-50) | Alloy steel                  | Zinc chromate                         | 12  | Piston packing                | Nitrile rubber  |                                       |
| 2   | End plate                            | Aluminum alloy               | Alumite                               | 13  | Piston                        | Aluminum alloy  | Chromate                              |
| 3   | C-snap ring                          | Steel                        | Phosphate coating                     | 14  | Cover                         | Stainless steel (ø12 to ø25)<br>Aluminum alloy (ø32 to ø50) | Alumite<br>Alumite                    |
| 4   | Rod metal                            | Special aluminum alloy       | Alumite                               | 15  | Hexagon socket head cap screw | Alloy steel   | Zinc chromate                         |
| 5   | O-ring                               | Nitrile rubber               |                                       | 16  | Metal                         | Oil impregnated bearing alloy                               |                                       |
| 6   | Rod packing                          | Nitrile rubber               |                                       | 17  | Guide rod                     | Stainless steel   | ø12 to ø50: Industrial chrome plating |
| 7   | Body                                 | Aluminum alloy               | Hard alumite                          | 18  | Spacer                        | Aluminum alloy  | Chromate                              |
| 8   | Piston rod                           | Stainless steel (ø12 to ø25) | ø16 to ø25: Industrial chrome plating | 19  | Piston                        | Aluminum alloy  | Chromate                              |
|     |                                      | Steel (ø32 to ø50)           | Industrial chrome plating             | 20  | Wear ring                     | Acetal resin  |                                       |
| 9   | Spacer washer                        | Stainless steel              | ø20 to 50                             |     |                               |   |                                       |
| 10  | Spacer                               | Stainless steel (ø12)        |                                       |     |                               |   |                                       |
|     |                                      | Special resin (ø16 to ø50)   |                                       |     |                               |   |                                       |

SCP\*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/  
COVP/N2

SSD2

**SSG**

SSD

CAT

MDC2

MVC

SMG

MSD/  
MSDG

FC\*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

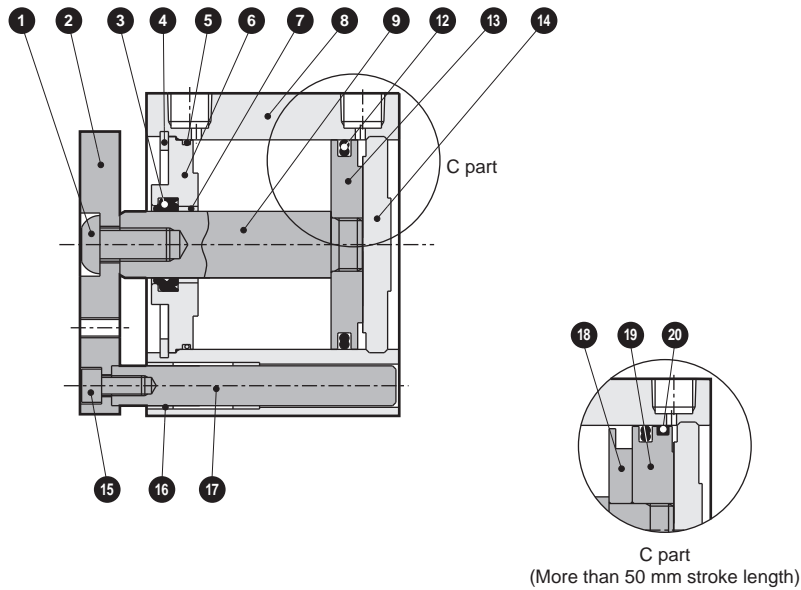
FK

Spd  
Contr

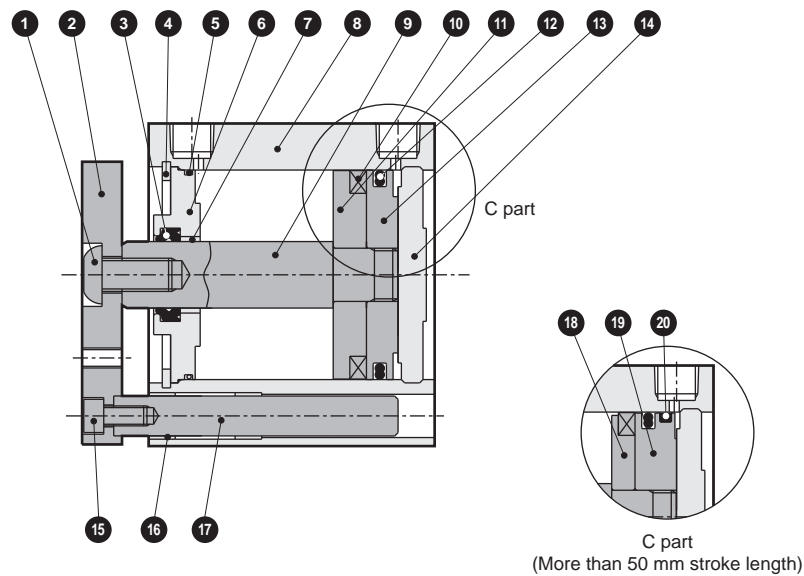
Ending

## Internal structure and parts list (ø63 to 100) (no cushion)

● SSG-L-63 to 100 (double acting/with switch)



● SSG-63 to 100 (double acting)

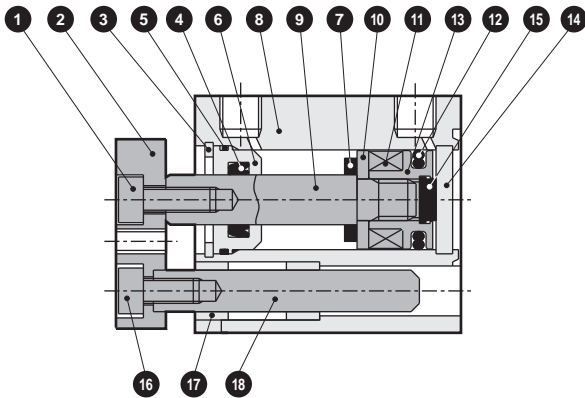


**Cannot be disassembled**

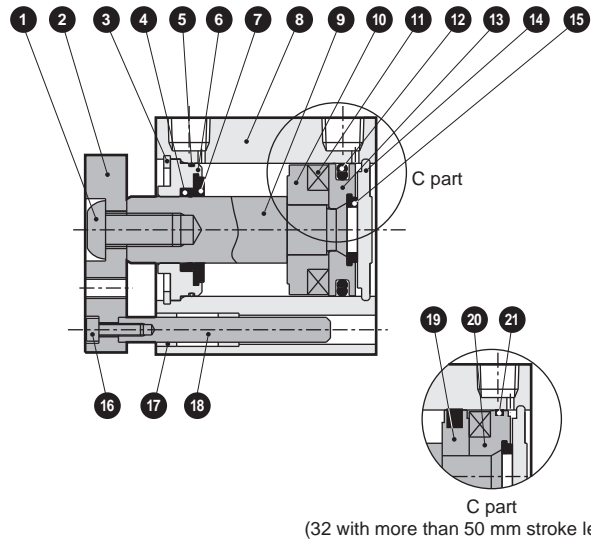
| No. | Part name                       | Material       | Remarks                   | No. | Part name                     | Material                      | Remarks                   |
|-----|---------------------------------|----------------|---------------------------|-----|-------------------------------|-------------------------------|---------------------------|
| 1   | Hexagon socket button head bolt | Alloy steel    | Zinc chromate             | 11  | Spacer                        | Aluminum alloy                | Chromate                  |
| 2   | End plate                       | Aluminum alloy | Alumite                   | 12  | Piston packing                | Nitrile rubber                |                           |
| 3   | Rod packing                     | Nitrile rubber |                           | 13  | Piston                        | Aluminum alloy                | Chromate                  |
| 4   | C-snap ring                     | Steel          | Phosphate coating         | 14  | Cover                         | Aluminum alloy                | Alumite                   |
| 5   | O-ring                          | Nitrile rubber |                           | 15  | Hexagon socket head cap screw | Alloy steel                   | Zinc chromate             |
| 6   | Rod metal                       | Aluminum alloy | Chromate                  | 16  | Metal                         | Oil impregnated bearing alloy |                           |
| 7   | Bush                            | Oiles drymet   |                           | 17  | Guide rod                     | Steel                         | Industrial chrome plating |
| 8   | Body                            | Aluminum alloy | Hard alumite              | 18  | Spacer                        | Aluminum alloy                | Chromate                  |
| 9   | Piston rod                      | Steel          | Industrial chrome plating | 19  | Piston                        | Aluminum alloy                | Chromate                  |
| 10  | Magnet                          | Plastic        |                           | 20  | Wear ring                     | Polyacetal resin              |                           |

### Internal structure and parts list (ø12 to ø32) (with rubber cushion)

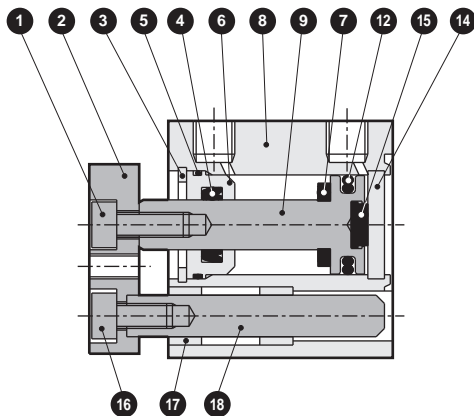
#### ● SSG-L-12D (double acting/with switch)



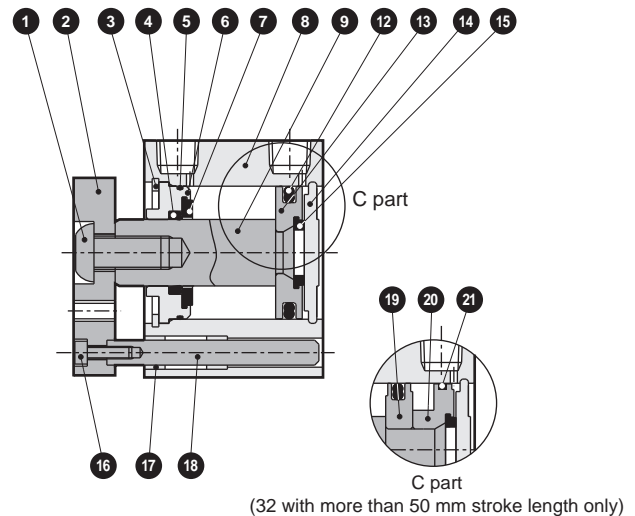
#### ● SSG-L-16D to 32D (double acting/with switch)



#### ● SSG-12D (double acting)



#### ● SSG-16D to 32D (double acting)



**Cannot be disassembled**

| No. | Part name                            | Material                    | Remarks                   | No. | Part name                     | Material                      | Remarks                                |
|-----|--------------------------------------|-----------------------------|---------------------------|-----|-------------------------------|-------------------------------|--|
| 1   | Hexagon socket head cap screw (ø12)  | Alloy steel                 | Zinc chromate             | 11  | Magnet                        | Plastic                       |  |
|     | Hex socket button head bolt (ø16-32) |                             |                           | 12  | Piston packing                | Nitrile rubber                |  |
| 2   | End plate                            | Aluminum alloy              | Alumite                   | 13  | Piston                        | Aluminum alloy                | Chromate                               |
| 3   | C-snap ring                          | Steel                       | Phosphate coating         | 14  | Cover                         | Stainless steel (ø12)         |  |
| 4   | Rod packing                          | Nitrile rubber              |                           |     |                               | Aluminum alloy (ø16 to ø32)   | Alumite                                |
| 5   | O-ring                               | Nitrile rubber              |                           | 15  | Cushion rubber                | Urethane rubber               |  |
| 6   | Rod metal                            | Special aluminum alloy      | Alumite                   | 16  | Hexagon socket head cap screw | Alloy steel                   | Zinc chromate                          |
| 7   | Cushion rubber                       | Urethane rubber             |                           | 17  | Metal                         | Oil impregnated bearing alloy |  |
| 8   | Body                                 | Aluminum alloy              | Hard alumite              | 18  | Guide rod                     | Stainless steel               | Industrial chrome plating (ø16 to ø32) |
|     |                                      |                             |                           | 9   | Piston rod                    | Stainless steel (ø12)         |  |
|     |                                      | Steel (ø16 to ø32)          | Industrial chrome plating | 20  |                               | Piston                        | Aluminum alloy                         |
| 10  | Spacer                               | Stainless steel (ø12)       |                           | 21  | Wear ring                     | Polyacetal resin              |  |
|     |                                      | Aluminum alloy (ø16 to ø32) |                           |     |                               |                               |  |

SCP\*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/  
COVP/N2

SSD2

**SSG**

SSD

CAT

MDC2

MVC

SMG

MSD/  
MSDG

FC\*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd  
Contr

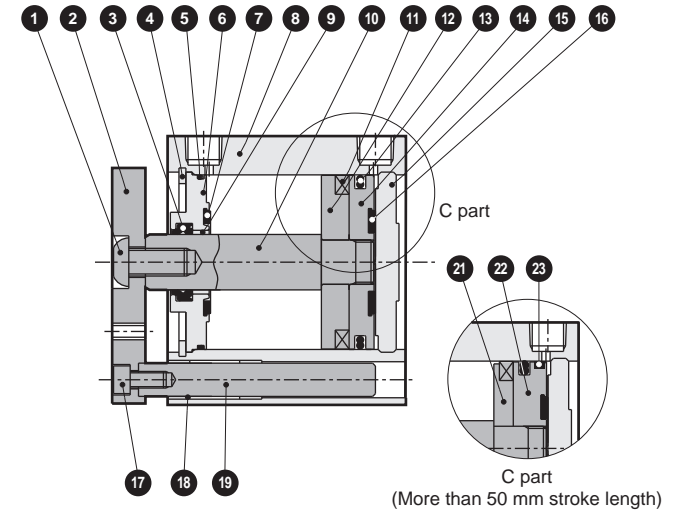
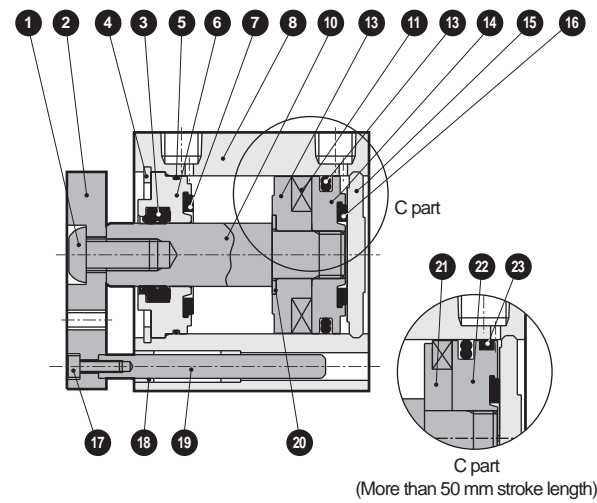
Ending



## Internal structure and parts list (ø40 to ø100) (with rubber cushion)

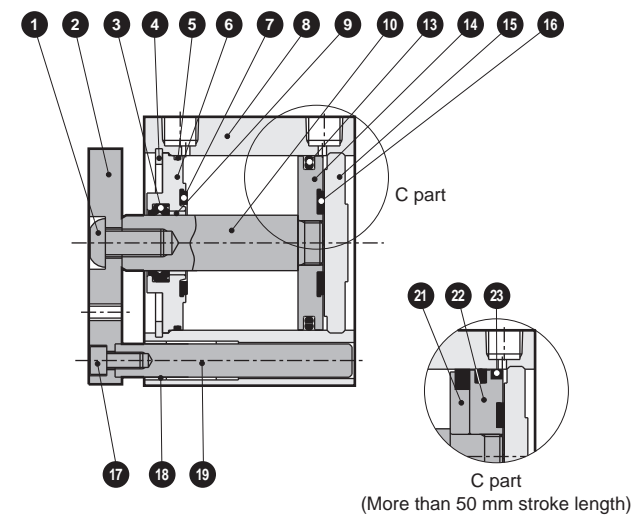
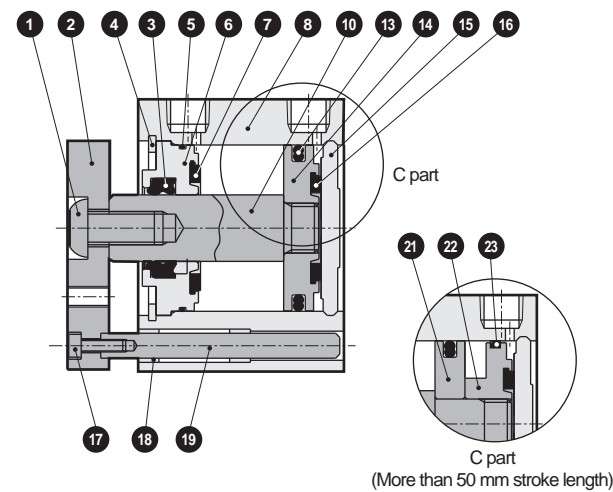
● SSG-L-40D, 50D (double acting/with switch)

● SSG-L-63D to 100D (double acting/with switch)



● SSG-40D, 50D (double acting)

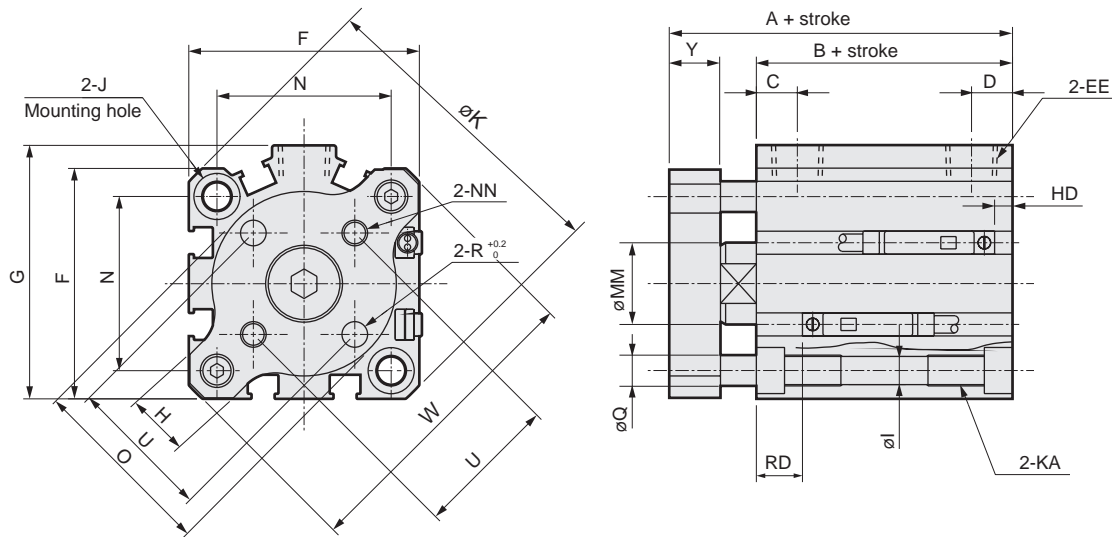
● SSG-63D to 100D (double acting)



**Cannot be disassembled**

| No. | Part name                       | Material   | Remarks                   | No. | Part name                     | Material                      | Remarks                   |
|-----|---------------------------------|--|---------------------------|-----|-------------------------------|-------------------------------|---------------------------|
| 1   | Hexagon socket button head bolt | Alloy steel  | Zinc chromate             | 13  | Piston packing                | Nitrile rubber                |                           |
| 2   | End plate                       | Aluminum alloy   | Alumite                   | 14  | Piston                        | Aluminum alloy                | Chromate                  |
| 3   | Rod packing                     | Nitrile rubber   |                           | 15  | Cover                         | Aluminum alloy                | Alumite                   |
| 4   | C-snap ring                     | Steel  | Phosphate coating         | 16  | Cushion rubber                | Urethane rubber               |                           |
| 5   | O-ring                          | Nitrile rubber   |                           | 17  | Hexagon socket head cap screw | Alloy steel                   | Zinc chromate             |
| 6   | Rod metal                       | Special aluminum alloy (ø40/ø50)<br>Aluminum alloy (ø63 to ø100) | Alumite<br>Chromate       | 18  | Metal                         | Oil impregnated bearing alloy |                           |
| 7   | Cushion rubber                  | Urethane rubber  |                           | 19  | Guide rod                     | Stainless steel<br>Steel      | Industrial chrome plating |
| 8   | Body                            | Aluminum alloy   | Hard alumite              | 20  | Spacer washer                 | Stainless steel               |                           |
| 9   | Bush                            | Oiles drymet   |                           | 21  | Spacer                        | Aluminum alloy                | Chromate                  |
| 10  | Piston rod                      | Steel  | Industrial chrome plating | 22  | Piston                        | Aluminum alloy                | Chromate                  |
| 11  | Magnet                          | Plastic  |                           | 23  | Wear ring                     | Polyacetal resin              |                           |
| 12  | Spacer                          | Aluminum alloy   | Chromate                  |     |                               |                               |                           |

### Dimensions



● Precautions regarding the switch mounting groove

- \*1 : Bore sizes  $\phi 12$  to  $20$  do not have a switch groove on the piping port surface.
- \*2 : Bore sizes  $\phi 12$  and  $16$  have only one switch groove on each surface.
- \*3 : The piping port surface of bore size  $\phi 25$  can only mount an F-switch.

| Code       | No switch         |            | With switch |              | Common dimensions |        |                                      |           |                                 |           |                  |                         |                     |              |    |      |     |
|------------|-------------------|------------|-------------|--------------|-------------------|--------|--------------------------------------|-----------|---------------------------------|-----------|------------------|-------------------------|---------------------|--------------|----|------|-----|
| Bore size  | A *5              | B *5       | A *6        | B *6         | C *4              | D *4   | EE                                   | F         | G                               | H         | I                | J                       | K                   | KA           | MM | N    | NN  |
| $\phi 12$  | 26.5              | 17         | 31.5(36.5)  | 22(27)       | 5.5               | 5.5    | M5                                   | 25        | -                               | 8.5       | 3.5              | 6.5 spot face depth 3.5 | 32                  | M4 depth 7   | 6  | 15.5 | M3  |
| $\phi 16$  | 26.5              | 17         | 31.5(36.5)  | 22(27)       | 5.5               | 5.5    | M5                                   | 29        | -                               | 9         | 3.5              | 6.5 spot face depth 3.5 | 38                  | M4 depth 7   | 8  | 20   | M3  |
| $\phi 20$  | 32                | 19.5       | 42          | 29.5         | 8                 | 5.5    | M5                                   | 36        | -                               | 10        | 5.5              | 9 spot face depth 5.5   | 47                  | M6 depth 11  | 10 | 25.5 | M4  |
| $\phi 25$  | 35.5              | 22.5       | 45.5        | 32.5         | 11                | 6      | M5                                   | 40        | -                               | 11        | 5.5              | 9 spot face depth 5.5   | 51                  | M6 depth 11  | 12 | 28   | M5  |
| $\phi 32$  | 40(50)            | 23(33)     | 50          | 33           | 8(10)             | 8(5.5) | Rc1/8 *3                             | 45        | 49.5                            | 12        | 5.5              | 9 spot face depth 5.5   | 60                  | M6 depth 11  | 16 | 34   | M5  |
| $\phi 40$  | 46.5(56.5)        | 29.5(39.5) | 56.5        | 39.5         | 12(11.5)          | 8.5(8) | Rc1/8                                | 52        | 57                              | 12        | 5.5              | 9 spot face depth 5.5   | 69                  | M6 depth 11  | 16 | 40   | M5  |
| $\phi 50$  | 50.5(60.5)        | 30.5(40.5) | 60.5        | 40.5         | 10.5              | 10.5   | Rc1/4                                | 64        | 71                              | 15        | 6.9              | 11 spot face depth 6.5  | 86                  | M8 depth 13  | 20 | 50   | M6  |
| $\phi 63$  | 56(66)            | 36(46)     | 66          | 46           | 13                | 11     | Rc1/4                                | 77        | 84                              | 18        | 8.7              | 14 spot face depth 9    | 103                 | M10 depth 25 | 20 | 60   | M6  |
| $\phi 80$  | 67.5(77.5)        | 43.5(53.5) | 77.5        | 53.5         | 16                | 13     | Rc3/8                                | 98        | 104                             | 22        | 10.5             | 17.5 spot face depth 11 | 132                 | M12 depth 28 | 25 | 77   | M8  |
| $\phi 100$ | 79(89)            | 53(63)     | 89          | 63           | 23                | 15     | Rc3/8                                | 117       | 123.5                           | 22        | 10.5             | 17.5 spot face depth 11 | 156                 | M12 depth 28 | 30 | 94   | M10 |
| Code       | Common dimensions |            |             |              |                   |        | With switch (reed/proximity 1-color) |           | With switch (proximity 2-color) |           | With switch (T8) |                         | With switch (T2/3W) |              |    |      |     |
| Bore size  | O                 | Q          | R           | U            | Y                 | W      | HD *5, *7                            | RD *5, *7 | HD *5, *7                       | RD *5, *7 | HD *5            | RD *5                   | HD *5               | RD *5        |    |      |     |
| $\phi 12$  | 15                | 5          | 3           | 10 $\pm$ 0.1 | 6                 | 31     | 0                                    | 2.5       | 4.5                             | 1         | -                | -                       | 7.5                 | 4            |    |      |     |
| $\phi 16$  | 19                | 5          | 3           | 14 $\pm$ 0.1 | 6                 | 37     | 0                                    | 2         | 4.5                             | 0.5       | -                | -                       | 7.5                 | 3.5          |    |      |     |
| $\phi 20$  | 26                | 6          | 4           | 17 $\pm$ 0.1 | 8                 | 46     | 3                                    | 6.5       | 1.5                             | 5         | -                | -                       | 4.5                 | 8            |    |      |     |
| $\phi 25$  | 30                | 6          | 5           | 22 $\pm$ 0.1 | 8                 | 50     | 3(8.5)                               | 9.5(14)   | 1.5(8.5)                        | 8(14)     | -                | -                       | 4.5                 | 11           |    |      |     |
| $\phi 32$  | 36                | 6          | 5           | 28 $\pm$ 0.2 | 10                | 59     | 3.5(2)                               | 9(10.5)   | 2(0.5)                          | 7.5(9)    | -                | -                       | 5(3.5)              | 10.5(13)     |    |      |     |
| $\phi 40$  | 42                | 6          | 5           | 33 $\pm$ 0.2 | 10                | 68     | 7(4.5)                               | 12(14.5)  | 5.5(3)                          | 10.5(13)  | 1(0)             | 6(8.5)                  | 8.5(6)              | 13.5(16)     |    |      |     |
| $\phi 50$  | 54                | 8          | 6           | 42 $\pm$ 0.2 | 12                | 85     | 7.5(10.5)                            | 12.5(9.5) | 6(9)                            | 11(8)     | 1.5(4.5)         | 6.5(3.5)                | 9(12)               | 14(11)       |    |      |     |
| $\phi 63$  | 68                | 12         | 6           | 50 $\pm$ 0.2 | 12                | 102    | 12.5(15.5)                           | 13(10)    | 11(14)                          | 11.5(8.5) | 6.5(9.5)         | 7(4)                    | 14(17)              | 14.5(11.5)   |    |      |     |
| $\phi 80$  | 88                | 14         | 8           | 65 $\pm$ 0.2 | 14                | 131    | 17.5(21)                             | 15.5(12)  | 16(19.5)                        | 14(10.5)  | 11.5(15)         | 9.5(6)                  | 19(22.5)            | 17(13.5)     |    |      |     |
| $\phi 100$ | 106               | 14         | 10          | 80 $\pm$ 0.2 | 16                | 155    | 23(26.5)                             | 19.5(16)  | 21.5(25)                        | 18(14.5)  | 17(20.5)         | 13.5(10)                | 24.5(28)            | 21(17.5)     |    |      |     |

\*1 : To calculate A+ stroke or B+ stroke when using custom stroke, apply the next longer standard stroke (instead of the custom stroke) to the stroke value.

(Example) If the custom stroke is 7 mm, apply the standard stroke of 10 mm.

\*2 : HD and RD dimensions for 5 mm stroke differ from these dimensions by production lot.

\*3 : The  $\phi 32$  bore size with a 5 mm stroke and without a switch has a port size of M5.\*4 : Dimensions in ( ) of codes C and D are when the value is for a 5 mm stroke without switch.

\*5 : Dimensions in ( ) of codes A, B, HD, and RD are values for 75/100 mm stroke.

\*6 : Dimensions in ( ) of codes A and B are values for the 2-color LED with switch (L1)

\*7 : Dimensions in ( ) of codes HD and RD are values for units with F-switch. (The F-switch can only be mounted on the piping port surface.)



- SCP\*3
- CMK2
- CMA2
- SCM
- SCG
- SCA2
- SCS2
- CKV2
- CAV2/  
COVPIN2
- SSD2
- SSG**
- SSD
- CAT
- MDC2
- MVC
- SMG
- MSD/  
MSDG
- FC\*
- STK
- SRL3
- SRG3
- SRM3
- SRT3
- MRL2
- MRG2
- SM-25
- ShkAbs
- FJ
- FK
- Spd  
Contr
- Ending

## How to order mounting bolts

### How to order

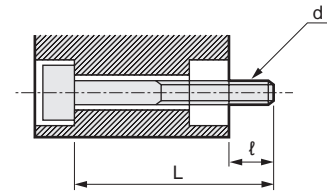
**SSD - BOLT - d x L** Refer to the following table for "d" and "L".

Note) Although these will be shipped in units of 4 bolts per set, use with this product will only require 2 bolts.

Example) For SSG-L-32D-30 ... SSD-BOLT-M5X65

| Bore size | ℓ    | d   | L                 |                  |               |
|-----------|------|-----|-------------------|------------------|---------------|
|           |      |     | 50 stroke or less |                  | 75/100 stroke |
|           |      |     | No switch         | With switch      |               |
| ø12/16    | 6.5  | M3  | 20 + stroke       | 25 + stroke (*1) |               |
| ø20       | 6    | M5  | 20 + stroke       | 25 + stroke      |               |
| ø25       | 8    | M5  | 25 + stroke       | 35 + stroke      |               |
| ø32       | 7.5  | M5  | 25 + stroke       | 35 + stroke      | 35 + stroke   |
| ø40       | 6    | M5  | 30 + stroke       | 40 + stroke      | 40 + stroke   |
| ø50       | 11   | M6  | 35 + stroke       | 45 + stroke      | 45 + stroke   |
| ø63       | 13   | M8  | 40 + stroke       | 50 + stroke      | 50 + stroke   |
| ø80       | 17.5 | M10 | 50 + stroke       | 60 + stroke      | 60 + stroke   |
| ø100      | 18   | M10 | 60 + stroke       | 70 + stroke      | 70 + stroke   |

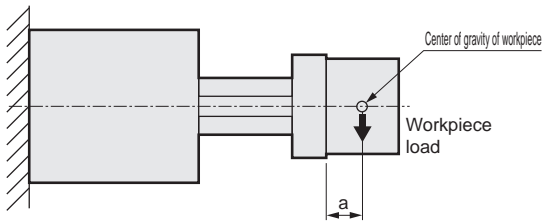
\*1 : For SSG-L1, this is "30 + stroke".



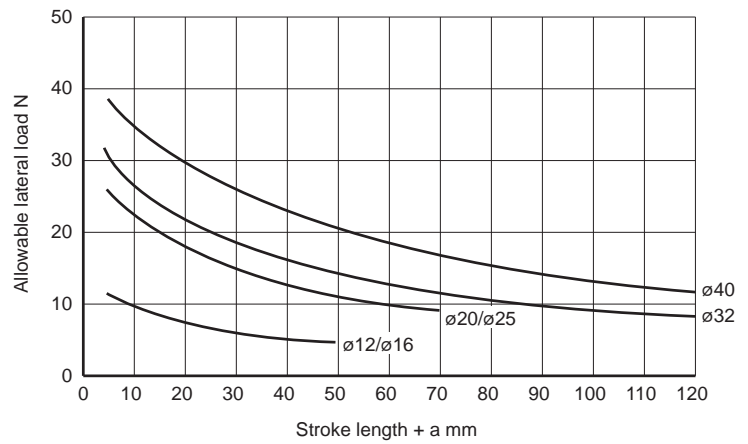
Material: Steel  
Treatment: Black finish

d: Mounting bolt screw diameter  
L: Mounting bolt length  
ℓ: Mating side screw-in available length  
(Note) The mounting bolts will be displayed as d x L.

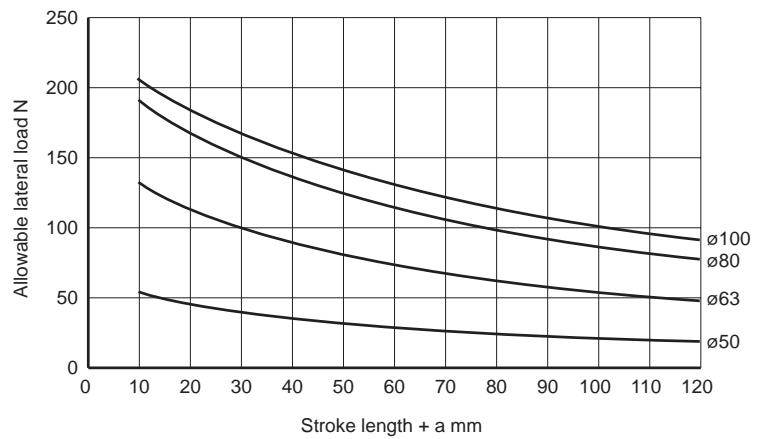
## Allowable lateral load



ø12 to ø40

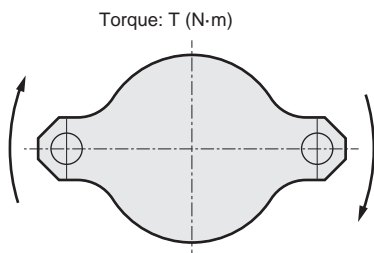


ø50 to ø100



The allowable lateral load is a value for when the load is acting on the end surface of the end plate. When the center of gravity of the workpiece mounted on the end plate will be moved, substitute this distance for the stroke before selection.

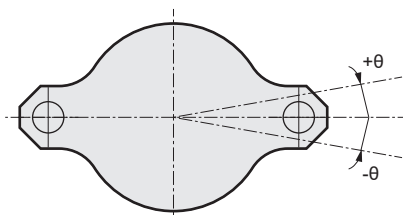
## Allowable torque



Unit: N·m

| Bore size (mm) | Stroke |      |       |       |      |      |      |      |
|----------------|--------|------|-------|-------|------|------|------|------|
|                | 5      | 10   | 20    | 30    | 40   | 50   | 75   | 100  |
| 12             | 0.12   | 0.10 | 0.080 | 0.066 |      |      |      |      |
| 16             | 0.16   | 0.13 | 0.10  | 0.085 |      |      |      |      |
| 20             | 0.40   | 0.35 | 0.28  | 0.23  | 0.20 | 0.17 |      |      |
| 25             | 0.44   | 0.38 | 0.31  | 0.25  | 0.22 | 0.19 |      |      |
| 32             | 0.69   | 0.62 | 0.51  | 0.43  | 0.38 | 0.33 | 0.26 | 0.21 |
| 40             | 1.1    | 0.99 | 0.83  | 0.72  | 0.63 | 0.57 | 0.45 | 0.37 |
| 50             |        | 1.9  | 1.6   | 1.4   | 1.2  | 1.1  | 0.87 | 0.73 |
| 63             |        | 4.3  | 3.7   | 3.3   | 2.9  | 2.6  | 2.1  | 1.8  |
| 80             |        | 7.9  | 6.9   | 6.2   | 5.6  | 5.1  | 4.2  | 3.6  |
| 100            |        | 12   | 11    | 9.9   | 9.0  | 8.3  | 6.9  | 5.9  |

## Non-rotating accuracy (reference value)



| Bore size (mm) | Non-rotating accuracy θ (degrees) |
|----------------|-----------------------------------|
| ø12/16         | ±0.2                              |
| ø20/25/32/40   | ±0.1                              |
| ø50/63/80/100  | ±0.08                             |

(Default value during PULL)  
Note: Excluding sag of guide rod

SCP\*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/  
COVP/N2

SSD2

**SSG**

SSD

CAT

MDC2

MVC

SMG

MSD/  
MSDG

FC\*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd  
Contr

Ending