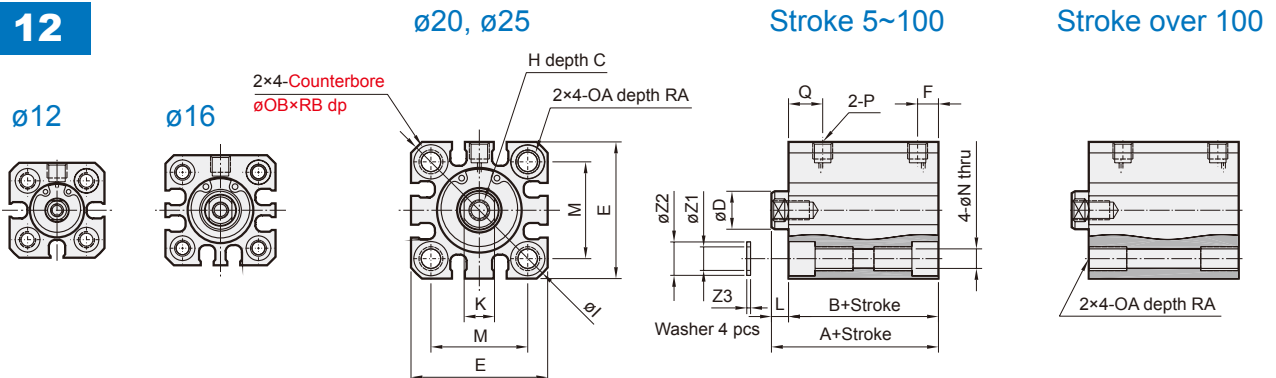
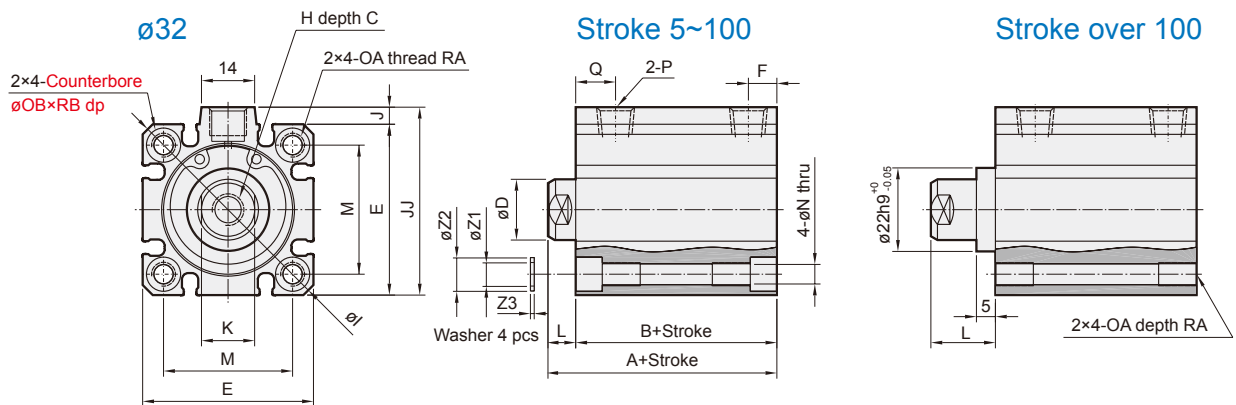


### 12



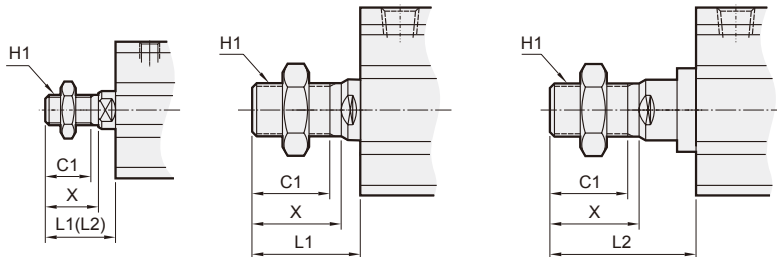
### $\phi 32$



### $\phi 12\sim 25$

### $\phi 32$ for stroke 5~100

### $\phi 32$ for stroke over 100



\* L1: Standard stroke, L2: Long stroke

### 11

### Male thread

| Code<br>Tube I.D. | C1   | H1       | L1   | L2   | X    |
|-------------------|------|----------|------|------|------|
| 12                | 9    | M5×0.8   | 14   | 24   | 10.5 |
| 16                | 10   | M6×1.0   | 15.5 | 25.5 | 12   |
| 20                | 12   | M8×1.25  | 18.5 | 28.5 | 14   |
| 25                | 15   | M10×1.25 | 22.5 | 32.5 | 17.5 |
| 32                | 20.5 | M14×1.5  | 28.5 | 38.5 | 23.5 |

### $\phi 12\sim 25$

| Code<br>Tube I.D. | Standard stroke |                |      |     |     |        |      |     |     |              |      |    | Long stroke |      |    |    |    |        |    |    |      |     |        |     | C      | D   | E  | H | I   | K   | M   | N | OA | OB | P | Q | RA | RB | Z1 | Z2 | Z3 |
|-------------------|-----------------|----------------|------|-----|-----|--------|------|-----|-----|--------------|------|----|-------------|------|----|----|----|--------|----|----|------|-----|--------|-----|--------|-----|----|---|-----|-----|-----|---|----|----|---|---|----|----|----|----|----|
|                   | Stroke range    | Without magnet |      |     |     | Magnet |      |     |     | Stroke range | A    | B  | F           | L    | A  | B  | F  | L      |    |    |      |     |        |     |        |     |    |   |     |     |     |   |    |    |   |   |    |    |    |    |    |
|                   |                 | A              | B    | F   | L   | A      | B    | F   | L   |              |      |    |             |      |    |    |    |        |    |    |      |     |        |     |        |     |    |   |     |     |     |   |    |    |   |   |    |    |    |    |    |
| 12                | 5~30            | 20.5           | 17   | 5   | 3.5 | 25.5   | 22   | 5   | 3.5 | 31~100       | 45.5 | 32 | 7.5         | 13.5 | 6  | 6  | 25 | M3×0.5 | 32 | 5  | 15.5 | 3.5 | M4×0.7 | 6.5 | M5×0.8 | 7.5 | 7  | 4 | 4.2 | 6.3 | 0.5 |   |    |    |   |   |    |    |    |    |    |
| 16                | 5~30            | 20.5           | 17   | 5   | 3.5 | 25.5   | 22   | 5   | 3.5 | 31~100       | 45.5 | 32 | 7.5         | 13.5 | 8  | 8  | 29 | M4×0.7 | 38 | 6  | 20   | 3.5 | M4×0.7 | 6.5 | M5×0.8 | 7.5 | 7  | 4 | 4.2 | 6.3 | 0.5 |   |    |    |   |   |    |    |    |    |    |
| 20                | 5~50            | 24             | 19.5 | 5.5 | 4.5 | 34     | 29.5 | 5.5 | 4.5 | 51~200       | 55.5 | 41 | 9           | 14.5 | 7  | 10 | 36 | M5×0.8 | 47 | 8  | 25.5 | 5.5 | M6×1.0 | 9   | M5×0.8 | 9   | 10 | 7 | 6.2 | 8.8 | 1   |   |    |    |   |   |    |    |    |    |    |
| 25                | 5~50            | 27.5           | 22.5 | 5.5 | 5   | 37.5   | 32.5 | 5.5 | 5   | 51~300       | 59   | 44 | 11          | 15   | 12 | 12 | 40 | M6×1.0 | 52 | 10 | 28   | 5.5 | M6×1.0 | 9   | M5×0.8 | 11  | 10 | 7 | 6.2 | 8.8 | 1   |   |    |    |   |   |    |    |    |    |    |

### $\phi 32$

| Code<br>Tube I.D. | Standard stroke |                |    |        |    |       |   | Long stroke |              |      |      |      |    |      | P     | C  | D  | E  | H       | I  | J   | JJ   | K  | M  | N   | OA     | OB | RA | RB | Z1  | Z2  | Z3 |
|-------------------|-----------------|----------------|----|--------|----|-------|---|-------------|--------------|------|------|------|----|------|-------|----|----|----|---------|----|-----|------|----|----|-----|--------|----|----|----|-----|-----|----|
|                   | Stroke range    | Without magnet |    | Magnet |    | F     | L | Q           | Stroke range | A    | B    | F    | L  | Q    |       |    |    |    |         |    |     |      |    |    |     |        |    |    |    |     |     |    |
|                   |                 | A              | B  | A      | B  |       |   |             |              |      |      |      |    |      |       |    |    |    |         |    |     |      |    |    |     |        |    |    |    |     |     |    |
| 32                | 5~50            | 30             | 23 | 40     | 33 | 7.5*1 | 7 | 10.5*1      | 101~300      | 62.5 | 45.5 | 12.5 | 17 | 12.5 | *1    | 13 | 16 | 45 | M8×1.25 | 60 | 4.5 | 49.5 | 14 | 34 | 5.5 | M6×1.0 | 9  | 10 | 7  | 6.2 | 8.8 | 1  |
|                   | 51~100          | 40             | 33 | 40     | 33 | 7.5   | 7 | 10.5        |              |      |      |      |    |      | Rc1/8 |    |    |    |         |    |     |      |    |    |     |        |    |    |    |     |     |    |

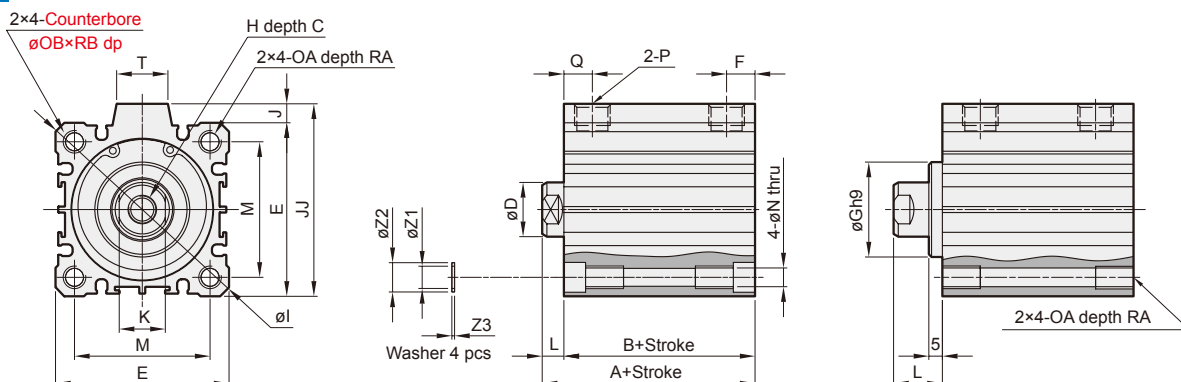
\*1. Without magnet with stroke=5mm, P=M5×0.8, Q=11.5, F=5.5

### 12

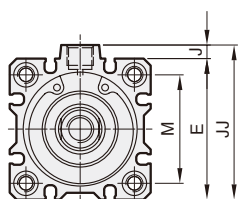
$\phi 50\sim\phi 100$

Stroke 5~100

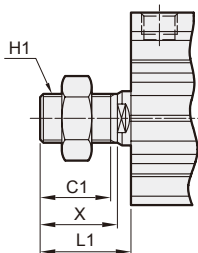
Stroke over 100



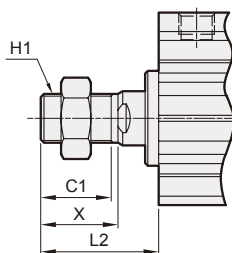
$\phi 40$



$\phi 40\sim\phi 100$   
(Stroke 5~100)



$\phi 40\sim\phi 80$   
(Stroke over 100)



### 11 Male thread

| Code<br>Tube I.D. | C1   | H1      | L1   | L2   | X    |
|-------------------|------|---------|------|------|------|
| 40                | 20.5 | M14×1.5 | 28.5 | 38.5 | 23.5 |
| 50                | 26   | M18×1.5 | 33.5 | 43.5 | 28.5 |
| 63                | 26   | M18×1.5 | 33.5 | 43.5 | 28.5 |
| 80                | 32.5 | M22×1.5 | 43.5 | 53.5 | 35.5 |
| 100               | 32.5 | M26×1.5 | 43.5 | —    | 35.5 |

| Code<br>Tube I.D. | Standard stroke |                |      |        |      |                    |    |                    |              | Long stroke |      |      |    |      |
|-------------------|-----------------|----------------|------|--------|------|--------------------|----|--------------------|--------------|-------------|------|------|----|------|
|                   | Stroke range    | Without magnet |      | Magnet |      | F                  | L  | Q                  | Stroke range | A           | B    | F    | L  | Q    |
|                   |                 | A              | B    | A      | B    |                    |    |                    |              |             |      |      |    |      |
| 40                | 5~50            | 36.5           | 29.5 | 46.5   | 39.5 | 8                  | 7  | 11                 | 125~300      | 72          | 55   | 14   | 17 | 14   |
|                   | 51~100          | 46.5           | 39.5 |        |      |                    |    |                    |              |             |      |      |    |      |
| 50                | 5~50            | 38.5           | 30.5 | 48.5   | 40.5 | 10.5 <sup>*1</sup> | 8  | 10.5 <sup>*1</sup> | 125~300      | 73.5        | 55.5 | 14   | 18 | 14   |
|                   | 51~100          | 48.5           | 40.5 |        |      |                    |    |                    |              |             |      |      |    |      |
| 63                | 5~50            | 44             | 36   | 54     | 46   | 10.5               | 8  | 15                 | 125~300      | 75          | 57   | 16.5 | 18 | 16.5 |
|                   | 51~100          | 54             | 46   |        |      |                    |    |                    |              |             |      |      |    |      |
| 80                | 5~50            | 53.5           | 43.5 | 63.5   | 53.5 | 12.5               | 10 | 16                 | 125~300      | 86          | 66   | 19   | 20 | 19   |
|                   | 51~100          | 63.5           | 53.5 |        |      |                    |    |                    |              |             |      |      |    |      |
| 100               | 5~50            | 65             | 53   | 75     | 63   | 13                 | 12 | 23                 | —            |             |      |      |    |      |
|                   | 51~100          | 75             | 63   |        |      |                    |    |                    |              |             |      |      |    |      |

| Code<br>Tube I.D. | C  | D  | E   | G <sup>h9</sup>                    | H       | I   | J   | JJ    | K  | M  | N   | OA       | OB   | P                   | RA | RB   | T  | Z1   | Z2   | Z3 |
|-------------------|----|----|-----|------------------------------------|---------|-----|-----|-------|----|----|-----|----------|------|---------------------|----|------|----|------|------|----|
| 40                | 13 | 16 | 52  | 28 <sup>+0</sup> <sub>-0.052</sub> | M8×1.25 | 70  | 5   | 57    | 14 | 40 | 5.5 | M6×1.0   | 9    | Rc1/8               | 10 | 7    | 14 | 6.2  | 8.8  | 1  |
| 50                | 15 | 20 | 64  | 35 <sup>+0</sup> <sub>-0.062</sub> | M10×1.5 | 86  | 7   | 71    | 17 | 50 | 6.6 | M8×1.25  | 11   | Rc1/4 <sup>*1</sup> | 14 | 8    | 19 | 8.2  | 10.8 | 1  |
| 63                | 15 | 20 | 77  | 35 <sup>+0</sup> <sub>-0.062</sub> | M10×1.5 | 103 | 7   | 84    | 17 | 60 | 9   | M10×1.5  | 14   | Rc1/4 <sup>*2</sup> | 18 | 10.5 | 19 | 10.2 | 13.8 | 1  |
| 80                | 21 | 25 | 98  | 43 <sup>+0</sup> <sub>-0.062</sub> | M16×2.0 | 132 | 6   | 104   | 22 | 77 | 11  | M12×1.75 | 17.5 | Rc3/8 <sup>*3</sup> | 22 | 13.5 | 26 | 12.2 | 17.3 | 2  |
| 100               | 27 | 30 | 117 | —                                  | M20×2.5 | 156 | 6.5 | 123.5 | 27 | 94 | 11  | M12×1.75 | 17.5 | Rc3/8 <sup>*3</sup> | 22 | 13.5 | 26 | 12.2 | 17.3 | 2  |

\*1. Without magnet with stroke=5mm, P=Rc1/8, Q=12, F=8

\*2. Without magnet with stroke=5mm, P=Rc1/8

\*3. Without magnet with stroke=5mm, P=Rc1/4

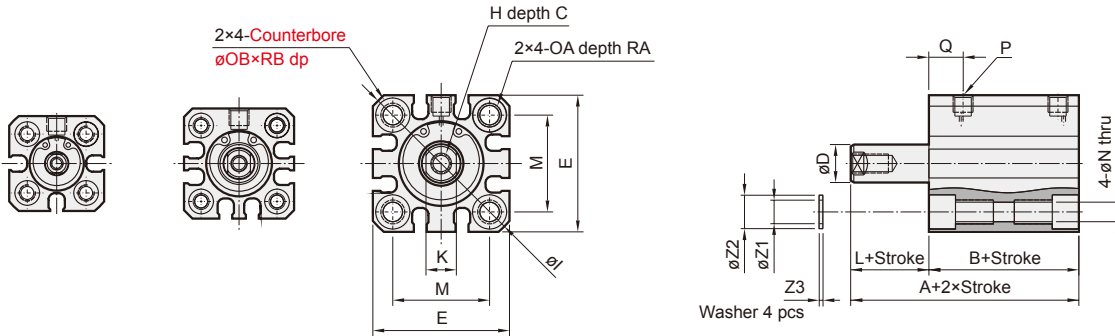
## COMPACT CYLINDER

### 14

$\phi 12$

$\phi 16$

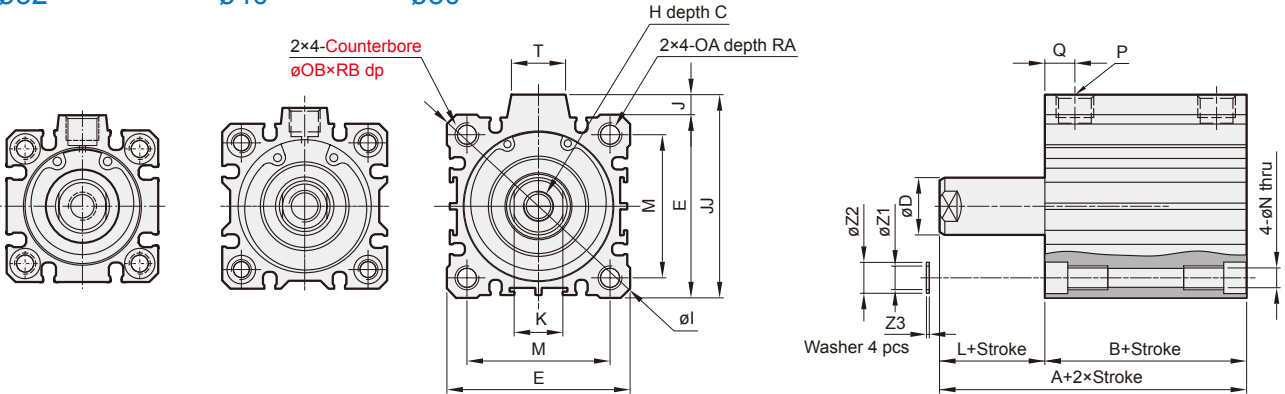
$\phi 20, \phi 25$



$\phi 32$

$\phi 40$

$\phi 50$



\* L1: Standard stroke

### 13 Male thread

| Code<br>Tube I.D. | C1   | H1       | L1   | X    |
|-------------------|------|----------|------|------|
| 12                | 9    | M5×0.8   | 14   | 10.5 |
| 16                | 10   | M6×1.0   | 15.5 | 12   |
| 20                | 12   | M8×1.25  | 18.5 | 14   |
| 25                | 15   | M10×1.25 | 22.5 | 17.5 |
| 32                | 20.5 | M14×1.5  | 28.5 | 23.5 |
| 40                | 20.5 | M14×1.5  | 28.5 | 23.5 |
| 50                | 26   | M18×1.5  | 33.5 | 28.5 |

Note: The value B of  $\phi 12\sim\phi 40$  type is greater than double acting type.

| Code<br>Tube I.D. | Standard stroke |      |        |      | C    | D  | E  | H  | I       | J  | JJ  | K    | L  | M   | N    | OA  | OB      | P   | Q       | RA     | RB | T | Z1 | Z2  | Z3   |     |
|-------------------|-----------------|------|--------|------|------|----|----|----|---------|----|-----|------|----|-----|------|-----|---------|-----|---------|--------|----|---|----|-----|------|-----|
|                   | Without magnet  |      | Magnet |      |      |    |    |    |         |    |     |      |    |     |      |     |         |     |         |        |    |   |    |     |      |     |
|                   | A               | B    | A      | B    |      |    |    |    |         |    |     |      |    |     |      |     |         |     |         |        |    |   |    |     |      |     |
| 12                | 5,10            | 30.5 | 27     | 35.5 | 32   | 6  | 6  | 25 | M3×0.5  | 32 | —   | —    | 5  | 3.5 | 15.5 | 3.5 | M4×0.7  | 6.5 | M5×0.8  | 7.5    | 7  | 4 | —  | 4.2 | 6.3  | 0.5 |
| 16                | 5,10            | 35.5 | 32     | 40.5 | 37   | 8  | 8  | 29 | M4×0.7  | 38 | —   | —    | 6  | 3.5 | 20   | 3.5 | M4×0.7  | 6.5 | M5×0.8  | 7.5    | 7  | 4 | —  | 4.2 | 6.3  | 0.5 |
| 20                | 5,10            | 34   | 29.5   | 44   | 39.5 | 7  | 10 | 36 | M5×0.8  | 47 | —   | —    | 8  | 4.5 | 25.5 | 5.5 | M6×1.0  | 9   | M5×0.8  | 9      | 10 | 7 | —  | 6.2 | 8.8  | 1   |
| 25                | 5,10            | 47.5 | 42.5   | 57.5 | 52.5 | 12 | 12 | 40 | M6×1.0  | 52 | —   | —    | 10 | 5   | 28   | 5.5 | M6×1.0  | 9   | M5×0.8  | 11     | 10 | 7 | —  | 6.2 | 8.8  | 1   |
| 32                | 5,10            | 55   | 48     | 65   | 58   | 13 | 16 | 45 | M8×1.25 | 60 | 4.5 | 49.5 | 14 | 7   | 34   | 5.5 | M6×1.0  | 9   | Rc1/8   | 10.5   | 10 | 7 | 14 | 6.2 | 8.8  | 1   |
| 40                | 5,10            | 61.5 | 54.5   | 71.5 | 64.5 | 13 | 16 | 52 | M8×1.25 | 70 | 5   | 57   | 14 | 7   | 40   | 5.5 | M6×1.0  | 9   | Rc1/8   | 11     | 10 | 7 | 14 | 6.2 | 8.8  | 1   |
| 50                | 5~20            | 38.5 | 30.5   | 48.5 | 40.5 | 15 | 20 | 64 | M10×1.5 | 86 | 7   | 71   | 17 | 8   | 50   | 6.5 | M8×1.25 | 11  | Rc1/4 * | 10.5 * | 14 | 8 | 19 | 8.2 | 10.8 | 1   |

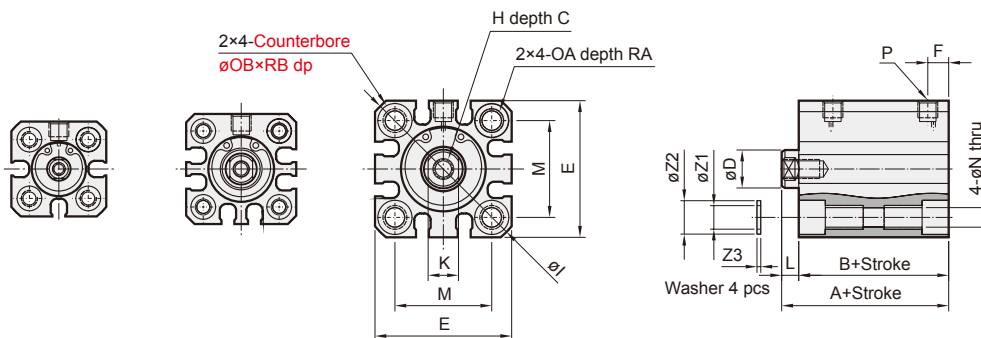
\*1. Without magnet with stroke=5mm, P=Rc1/8, Q=12

### 16

$\phi 12$

$\phi 16$

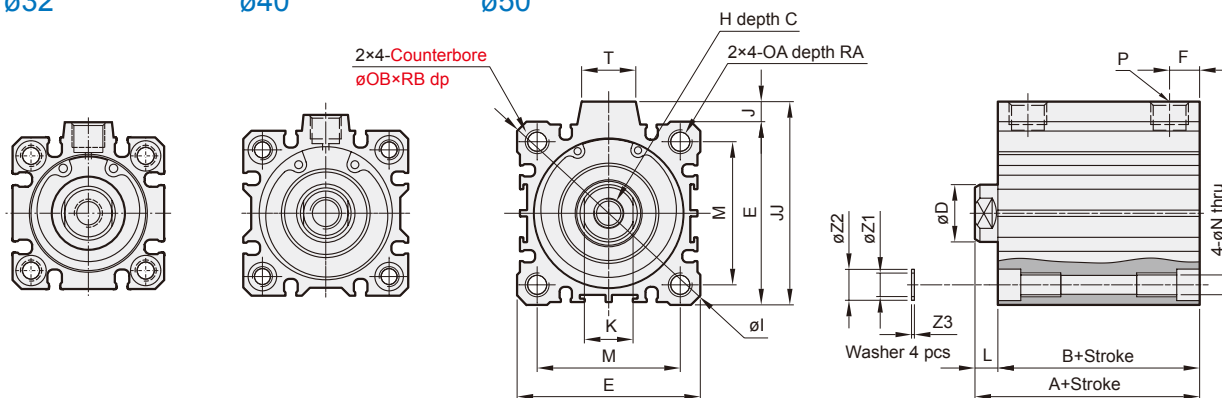
$\phi 20, \phi 25$



$\phi 32$

$\phi 40$

$\phi 50$



\* L1: Standard stroke

### 15 Male thread

| Code<br>Tube I.D. | C1   | H1       | L1   | X    |
|-------------------|------|----------|------|------|
| 12                | 9    | M5×0.8   | 14   | 10.5 |
| 16                | 10   | M6×1.0   | 15.5 | 12   |
| 20                | 12   | M8×1.25  | 18.5 | 14   |
| 25                | 15   | M10×1.25 | 22.5 | 17.5 |
| 32                | 20.5 | M14×1.5  | 28.5 | 23.5 |
| 40                | 20.5 | M14×1.5  | 28.5 | 23.5 |
| 50                | 26   | M18×1.5  | 33.5 | 28.5 |

| Code<br>Tube I.D. | Stroke<br>range | Standard stroke |      |        |      | C  | D  | E  | F                  | H       | I  | J   | JJ   | K  | L   | M    | N   | OA      | OB  | P                   | RA | RB | T  | Z1  | Z2   | Z3  |
|-------------------|-----------------|-----------------|------|--------|------|----|----|----|--------------------|---------|----|-----|------|----|-----|------|-----|---------|-----|---------------------|----|----|----|-----|------|-----|
|                   |                 | Without magnet  |      | Magnet |      |    |    |    |                    |         |    |     |      |    |     |      |     |         |     |                     |    |    |    |     |      |     |
|                   |                 | A               | B    | A      | B    |    |    |    |                    |         |    |     |      |    |     |      |     |         |     |                     |    |    |    |     |      |     |
| 12                | 5,10            | 20.5            | 17   | 25.5   | 22   | 6  | 6  | 25 | 5                  | M3×0.5  | 32 | –   | –    | 5  | 3.5 | 15.5 | 3.5 | M4×0.7  | 6.5 | M5×0.8              | 7  | 4  | –  | 4.2 | 6.3  | 0.5 |
| 16                | 5,10            | 20.5            | 17   | 25.5   | 22   | 8  | 8  | 29 | 5                  | M4×0.7  | 38 | –   | –    | 6  | 3.5 | 20   | 3.5 | M4×0.7  | 6.5 | M5×0.8              | 7  | 4  | –  | 4.2 | 6.3  | 0.5 |
| 20                | 5,10            | 24              | 19.5 | 34     | 29.5 | 7  | 10 | 36 | 5.5                | M5×0.8  | 47 | –   | –    | 8  | 4.5 | 25.5 | 5.5 | M6×1.0  | 9   | M5×0.8              | 10 | 7  | –  | 6.2 | 8.8  | 1   |
| 25                | 5,10            | 27.5            | 22.5 | 37.5   | 32.5 | 12 | 12 | 40 | 5.5                | M6×1.0  | 52 | –   | –    | 10 | 5   | 28   | 5.5 | M6×1.0  | 9   | M5×0.8              | 10 | 7  | –  | 6.2 | 8.8  | 1   |
| 32                | 5,10            | 30              | 23   | 40     | 33   | 13 | 16 | 45 | 7.5 <sup>*1</sup>  | M8×1.25 | 60 | 4.5 | 49.5 | 14 | 7   | 34   | 5.5 | M6×1.0  | 9   | Rc1/8 <sup>*1</sup> | 10 | 7  | 14 | 6.2 | 8.8  | 1   |
| 40                | 5,10            | 36.5            | 29.5 | 46.5   | 39.5 | 13 | 16 | 52 | 8                  | M8×1.25 | 70 | 5   | 57   | 14 | 7   | 40   | 5.5 | M6×1.0  | 9   | Rc1/8               | 10 | 7  | 14 | 6.2 | 8.8  | 1   |
| 50                | 5~20            | 38.5            | 30.5 | 48.5   | 40.5 | 15 | 20 | 64 | 10.5 <sup>*2</sup> | M10×1.5 | 86 | 7   | 71   | 17 | 8   | 50   | 6.5 | M8×1.25 | 11  | Rc1/4 <sup>*2</sup> | 14 | 8  | 19 | 8.2 | 10.8 | 1   |

\*1. Without magnet with stroke=5mm, P=M5×0.8, F=5.5

\*2. Without magnet with stroke=5mm, P=Rc1/8, F=8



22

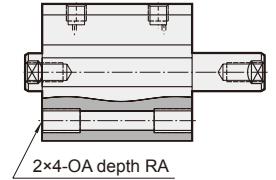
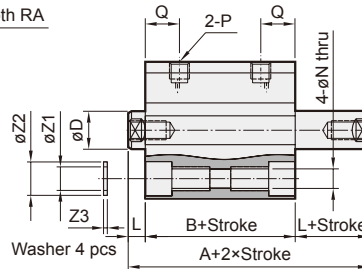
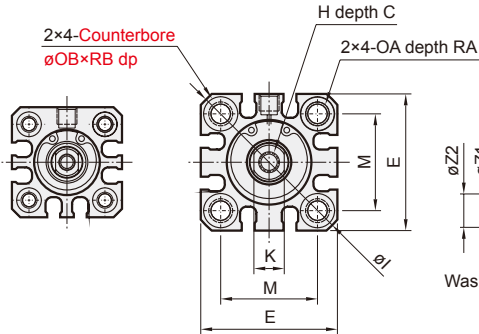
$\phi 16$

$\phi 20, \phi 25$

Stroke 5~100

Stroke over 100

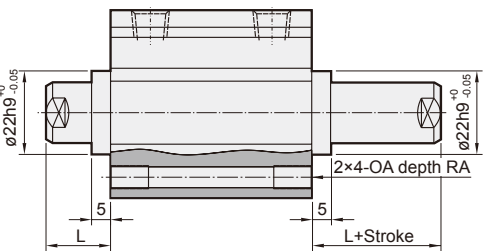
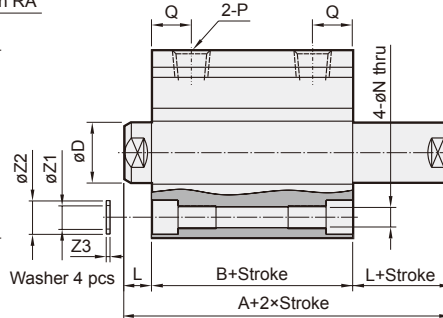
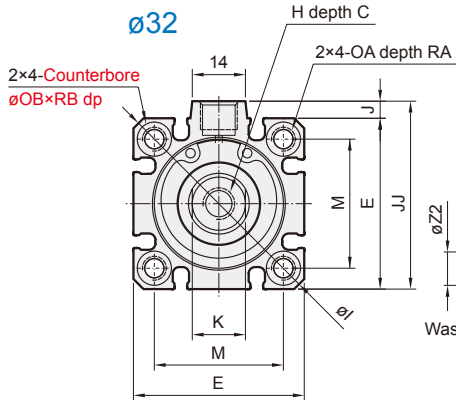
$\phi 12$



$\phi 32$

Stroke 5~100

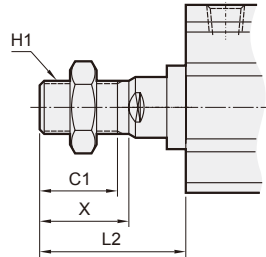
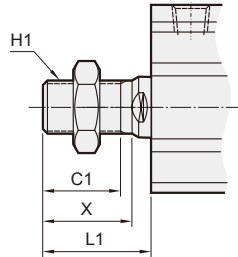
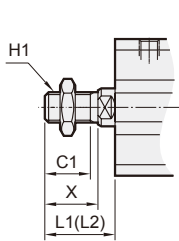
Stroke over 100



$\phi 12\sim 25$

$\phi 32$  for stroke 5~100  $\phi 32$  for stroke over 100

21 Male thread



| Code<br>Tube I.D. | C1   | H1       | L1   | L2   | X    |
|-------------------|------|----------|------|------|------|
| 12                | 9    | M5x0.8   | 14   | 24   | 10.5 |
| 16                | 10   | M6x1.0   | 15.5 | 25.5 | 12   |
| 20                | 12   | M8x1.25  | 18.5 | 28.5 | 14   |
| 25                | 15   | M10x1.25 | 22.5 | 32.5 | 17.5 |
| 32                | 20.5 | M14x1.5  | 28.5 | 38.5 | 23.5 |

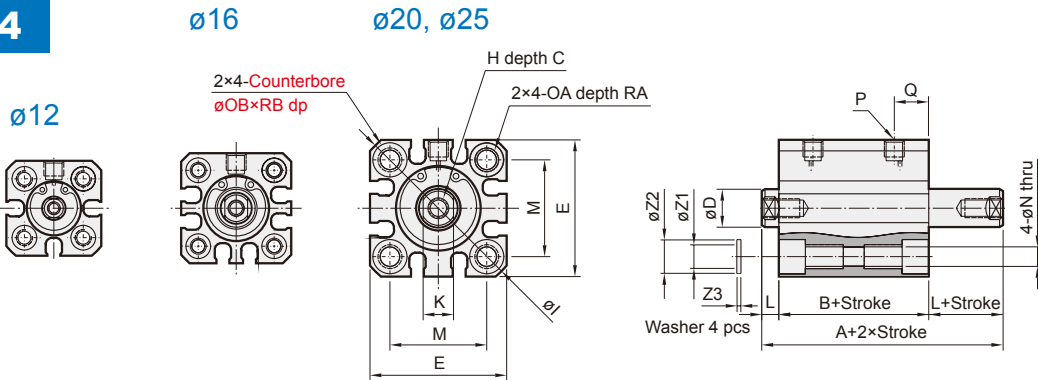
\* L1: Standard stroke, L2: Long stroke

| Code<br>Tube I.D. | Standard stroke |      |      |        |      |      | Long stroke  |         |      |      |      |    |    |    |         |    |     |      |    |      |     |        |     |          |      |    |    |     |     |     |
|-------------------|-----------------|------|------|--------|------|------|--------------|---------|------|------|------|----|----|----|---------|----|-----|------|----|------|-----|--------|-----|----------|------|----|----|-----|-----|-----|
|                   | Without magnet  |      |      | Magnet |      |      | Stroke range | A       | B    | L    | C    | D  | E  | H  | I       | J  | JJ  | K    | M  | N    | OA  | OB     | P   | Q        | RA   | RB | Z1 | Z2  | Z3  |     |
| 12                | 5~30            | 29   | 22   | 3.5    | 34   | 27   |              |         |      |      |      |    |    |    |         |    |     |      |    |      |     |        |     |          |      |    |    |     |     | 3.5 |
| 16                | 5~30            | 29   | 22   | 3.5    | 34   | 27   | 3.5          | 31~100  | 59   | 32   | 13.5 | 8  | 8  | 29 | M4x0.7  | 38 | -   | -    | 6  | 20   | 3.5 | M4x0.7 | 6.5 | M5x0.8   | 7.5  | 7  | 4  | 4.2 | 6.3 | 0.5 |
| 20                | 5~50            | 35   | 26   | 4.5    | 45   | 36   | 4.5          | 51~200  | 70   | 41   | 14.5 | 7  | 10 | 36 | M5x0.8  | 47 | -   | -    | 8  | 25.5 | 5.5 | M6x1.0 | 9   | M5x0.8   | 9    | 10 | 7  | 6.2 | 8.8 | 1   |
| 25                | 5~50            | 39   | 29   | 5      | 49   | 39   | 5            | 51~300  | 74   | 44   | 15   | 12 | 12 | 40 | M6x1.0  | 52 | -   | -    | 10 | 28   | 5.5 | M6x1.0 | 9   | M5x0.8   | 11   | 10 | 7  | 6.2 | 8.8 | 1   |
| 32                | 5~50            | 44.5 | 30.5 | 7      | 54.5 | 40.5 | 7            | 101~300 | 79.5 | 45.5 | 17   | 13 | 16 | 45 | M8x1.25 | 60 | 4.5 | 49.5 | 14 | 34   | 5.5 | M6x1.0 | 9   | Rc1/8 *1 | 12.5 | 10 | 7  | 6.2 | 8.8 | 1   |
|                   | 51~100          | 54.5 | 40.5 | 7      | 54.5 | 40.5 | 7            |         |      |      |      |    |    |    |         |    |     |      |    |      |     |        |     |          |      |    |    |     |     |     |

\*1. Without magnet with stroke=5mm, P=M5x0.8



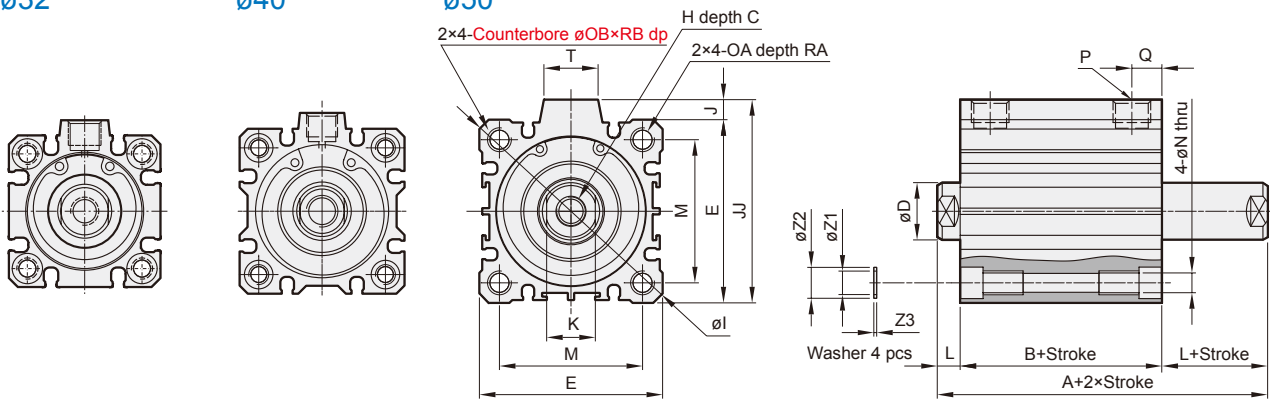
24

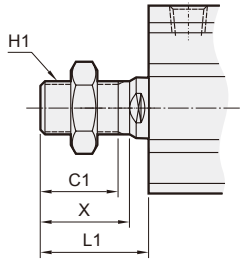


$\phi 32$

$\phi 40$

$\phi 50$





**23 Male thread**

| Code<br>Tube I.D. | C1   | H1       | L1   | X    |
|-------------------|------|----------|------|------|
| 12                | 9    | M5×0.8   | 14   | 10.5 |
| 16                | 10   | M6×1.0   | 15.5 | 12   |
| 20                | 12   | M8×1.25  | 18.5 | 14   |
| 25                | 15   | M10×1.25 | 22.5 | 17.5 |
| 32                | 20.5 | M14×1.5  | 28.5 | 23.5 |
| 40                | 20.5 | M14×1.5  | 28.5 | 23.5 |
| 50                | 26   | M18×1.5  | 33.5 | 28.5 |

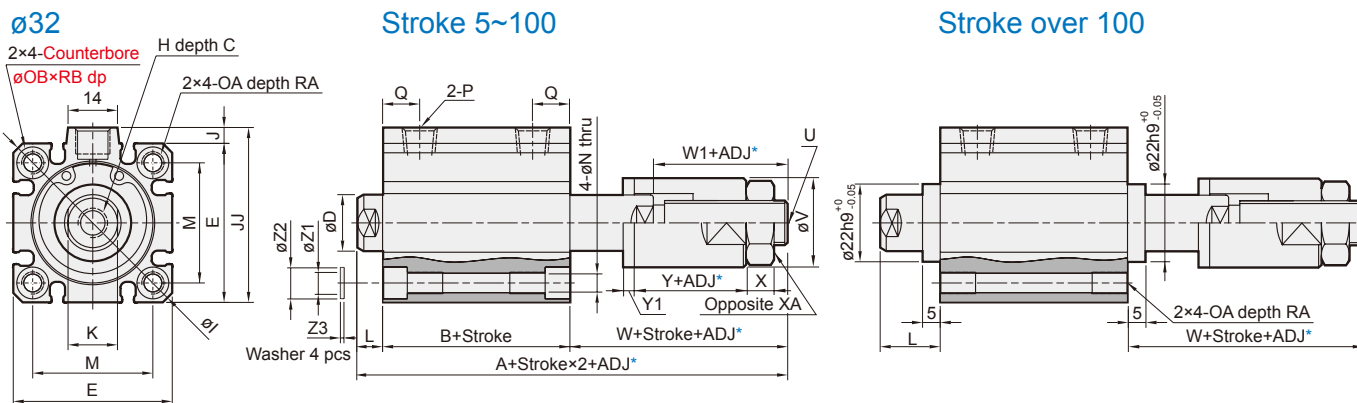
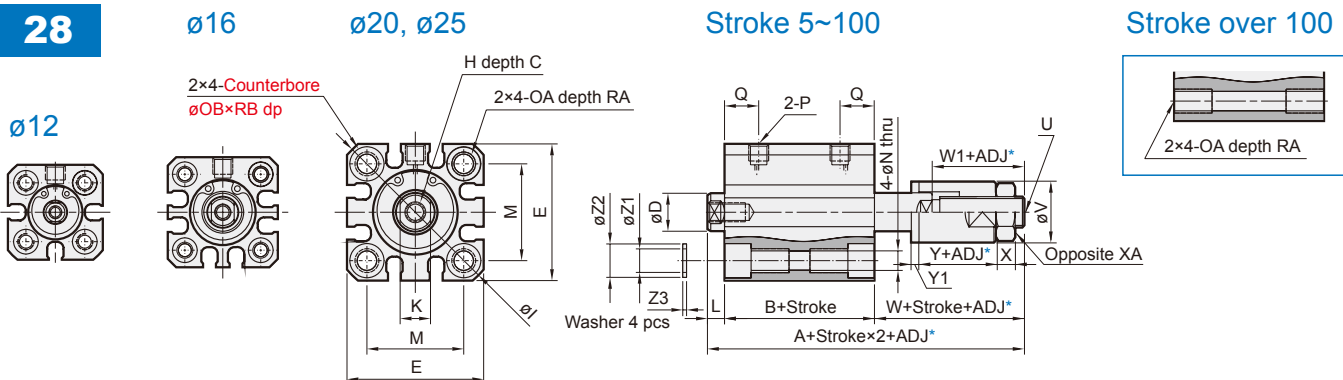
\* L1: Standard stroke

| Code<br>Tube<br>I.D. | Stroke<br>range | Standard stroke |      |        |      | C  | D  | E  | H       | I  | J   | JJ   | K  | L   | M    | N   | OA      | OB  | P       | Q    | RA | RB | T  | Z1  | Z2   | Z3  |
|----------------------|-----------------|-----------------|------|--------|------|----|----|----|---------|----|-----|------|----|-----|------|-----|---------|-----|---------|------|----|----|----|-----|------|-----|
|                      |                 | Without magnet  |      | Magnet |      |    |    |    |         |    |     |      |    |     |      |     |         |     |         |      |    |    |    |     |      |     |
|                      |                 | A               | B    | A      | B    |    |    |    |         |    |     |      |    |     |      |     |         |     |         |      |    |    |    |     |      |     |
| 12                   | 5,10            | 29              | 22   | 34     | 27   | 6  | 6  | 25 | M3×0.5  | 32 | —   | —    | 5  | 3.5 | 15.5 | 3.5 | M4×0.7  | 6.5 | M5×0.8  | 7.5  | 7  | 4  | —  | 4.2 | 6.3  | 0.5 |
| 16                   | 5,10            | 29              | 22   | 34     | 27   | 8  | 8  | 29 | M4×0.7  | 38 | —   | —    | 6  | 3.5 | 20   | 3.5 | M4×0.7  | 6.5 | M5×0.8  | 7.5  | 7  | 4  | —  | 4.2 | 6.3  | 0.5 |
| 20                   | 5,10            | 35              | 26   | 45     | 36   | 7  | 10 | 36 | M5×0.8  | 47 | —   | —    | 8  | 4.5 | 25.5 | 5.5 | M6×1.0  | 9   | M5×0.8  | 9    | 10 | 7  | —  | 6.2 | 8.8  | 1   |
| 25                   | 5,10            | 39              | 29   | 49     | 39   | 12 | 12 | 40 | M6×1.0  | 52 | —   | —    | 10 | 5   | 28   | 5.5 | M6×1.0  | 9   | M5×0.8  | 11   | 10 | 7  | —  | 6.2 | 8.8  | 1   |
| 32                   | 5,10            | 44.5            | 30.5 | 54.5   | 40.5 | 13 | 16 | 45 | M8×1.25 | 60 | 4.5 | 49.5 | 14 | 7   | 34   | 5.5 | M6×1.0  | 9   | Rc1/8 * | 12.5 | 10 | 7  | 14 | 6.2 | 8.8  | 1   |
| 40                   | 5,10            | 54              | 40   | 64     | 50   | 13 | 16 | 52 | M8×1.25 | 70 | 5   | 57   | 14 | 7   | 40   | 5.5 | M6×1.0  | 9   | Rc1/8   | 14   | 10 | 7  | 14 | 6.2 | 8.8  | 1   |
| 50                   | 5~20            | 56.5            | 40.5 | 66.5   | 50.5 | 15 | 20 | 64 | M10×1.5 | 86 | 7   | 71   | 17 | 8   | 50   | 6.5 | M8×1.25 | 11  | Rc1/4   | 14   | 14 | 8  | 19 | 8.2 | 10.8 | 1   |

\*1. Without magnet with stroke=5mm, P=M5×0.8



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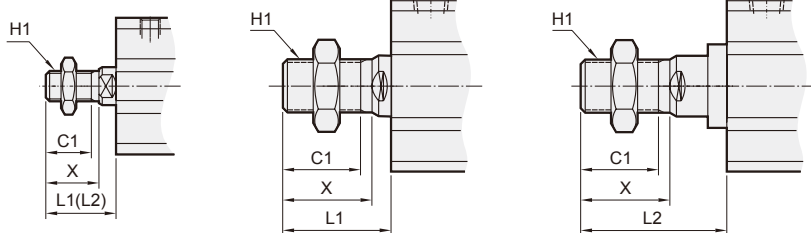
\* ADJ: Adjustable stroke

ø12~25

ø32 for stroke 5~100

ø32 for stroke over 100

27 Male thread



| Code | Tube I.D. | C1       | H1   | L1   | L2   | X |
|------|-----------|----------|------|------|------|---|
| 12   | 9         | M5×0.8   | 14   | 24   | 10.5 |   |
| 16   | 10        | M6×1.0   | 15.5 | 25.5 | 12   |   |
| 20   | 12        | M8×1.25  | 18.5 | 28.5 | 14   |   |
| 25   | 15        | M10×1.25 | 22.5 | 32.5 | 17.5 |   |
| 32   | 20.5      | M14×1.5  | 28.5 | 38.5 | 23.5 |   |

\* L1: Standard stroke, L2: Long stroke

| Code | Stroke range | Standard stroke |      |        |      | Long stroke |      |              |      |      |      |      |
|------|--------------|-----------------|------|--------|------|-------------|------|--------------|------|------|------|------|
|      |              | Without magnet  |      | Magnet |      | L           | W    | Stroke range | A    | B    | L    | W    |
|      |              | A               | B    | A      | B    |             |      |              |      |      |      |      |
| 12   | 5~30         | 45.5            | 22   | 50.5   | 27   | 3.5         | 20   | 31~100       | 65.5 | 32   | 13.5 | 20   |
| 16   | 5~30         | 49              | 22   | 54     | 27   | 3.5         | 23.5 | 31~100       | 69   | 32   | 13.5 | 23.5 |
| 20   | 5~50         | 54.3            | 26   | 64.3   | 36   | 4.5         | 23.8 | 51~200       | 79.3 | 41   | 14.5 | 23.8 |
| 25   | 5~50         | 56.5            | 29   | 66.5   | 39   | 5           | 22.5 | 51~300       | 81.5 | 44   | 15   | 22.5 |
| 32   | 5~50         | 60.9            | 30.5 | 70.9   | 40.5 | 7           | 23.4 | 101~300      | 91.5 | 45.5 | 17   | 29   |
|      | 51~100       | 70.9            | 40.5 |        |      |             |      |              |      |      |      |      |

\*1. Without magnet with stroke=5mm, P=M5×0.8

| Code | Tube I.D. | C  | D  | E       | H  | I   | J    | JJ | K    | M   | N      | OA  | OB     | P   | Q    |
|------|-----------|----|----|---------|----|-----|------|----|------|-----|--------|-----|--------|-----|------|
| 12   | 6         | 6  | 25 | M3×0.5  | 32 | -   | -    | 5  | 15.5 | 3.5 | M4×0.7 | 6.5 | M5×0.8 | 7.5 |      |
| 16   | 8         | 8  | 29 | M4×0.7  | 38 | -   | -    | 6  | 20   | 3.5 | M4×0.7 | 6.5 | M5×0.8 | 7.5 |      |
| 20   | 7         | 10 | 36 | M5×0.8  | 47 | -   | -    | 8  | 25.5 | 5.5 | M6×1.0 | 9   | M5×0.8 | 9   |      |
| 25   | 12        | 12 | 40 | M6×1.0  | 52 | -   | -    | 10 | 28   | 5.5 | M6×1.0 | 9   | M5×0.8 | 11  |      |
| 32   | 13        | 16 | 45 | M8×1.25 | 60 | 4.5 | 49.5 | 14 | 34   | 5.5 | M6×1.0 | 9   | Rc1/8  | *1  | 12.5 |

| Code | Tube I.D. | RA | RB       | U  | V  | W1 | X  | XA | Y | Y1  | Z1  | Z2  | Z3 |
|------|-----------|----|----------|----|----|----|----|----|---|-----|-----|-----|----|
| 12   | 7         | 4  | M5×0.8   | 12 | 16 | 4  | 8  | 13 | 2 | 4.2 | 6.3 | 0.5 |    |
| 16   | 7         | 4  | M8×1.25  | 16 | 19 | 5  | 13 | 15 | 2 | 4.2 | 6.3 | 0.5 |    |
| 20   | 10        | 7  | M8×1.25  | 16 | 19 | 5  | 13 | 15 | 2 | 6.2 | 8.8 | 1   |    |
| 25   | 10        | 7  | M10×1.25 | 20 | 18 | 6  | 17 | 12 | 2 | 6.2 | 8.8 | 1   |    |
| 32   | 10        | 7  | M12×1.25 | 30 | 19 | 7  | 19 | 12 | 2 | 6.2 | 8.8 | 1   |    |

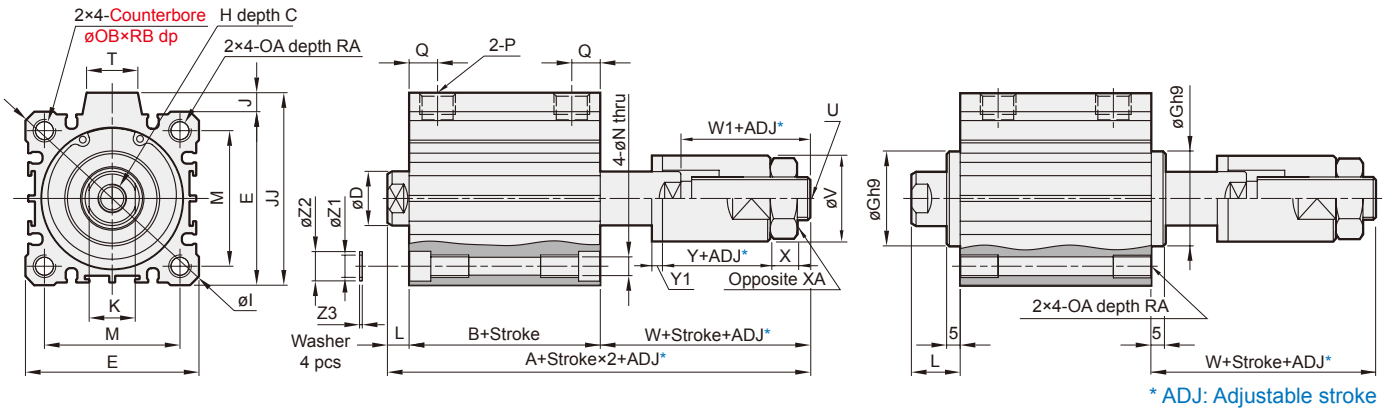


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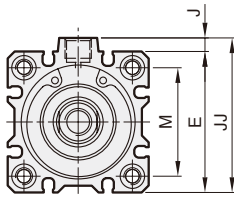
$\phi 50\sim\phi 100$

Stroke 5~100

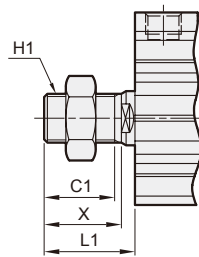
Stroke over 100



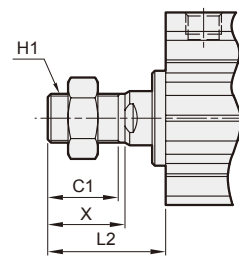
$\phi 40$



$\phi 40\sim\phi 100$   
(Stroke 5~100)



$\phi 40\sim\phi 80$   
(Stroke over 100)



27 Male thread

| Code<br>Tube I.D. | C1   | H1      | L1   | L2   | X    |
|-------------------|------|---------|------|------|------|
| 40                | 20.5 | M14×1.5 | 28.5 | 38.5 | 23.5 |
| 50                | 26   | M18×1.5 | 33.5 | 43.5 | 28.5 |
| 63                | 26   | M18×1.5 | 33.5 | 43.5 | 28.5 |
| 80                | 32.5 | M22×1.5 | 43.5 | 53.5 | 35.5 |
| 100               | 32.5 | M26×1.5 | 43.5 | —    | 35.5 |

| Code<br>Tube I.D. | Standard stroke |                |      |        |      |    |      |      | Long stroke  |       |      |    |      |      |
|-------------------|-----------------|----------------|------|--------|------|----|------|------|--------------|-------|------|----|------|------|
|                   | Stroke range    | Without magnet |      | Magnet |      | L  | Q    | W    | Stroke range | A     | B    | L  | Q    | W    |
|                   |                 | A              | B    | A      | B    |    |      |      |              |       |      |    |      |      |
| 40                | 5~50            | 71             | 40   | 81     | 50   | 7  | 14   | 24   | 101~300      | 102.5 | 55   | 17 | 14   | 30.5 |
|                   | 51~100          | 81             | 50   |        |      |    |      |      |              |       |      |    |      |      |
| 50                | 5~50            | 75             | 40.5 | 85     | 50.5 | 8  | 14   | 26.5 | 101~300      | 105.5 | 55.5 | 18 | 14   | 32   |
|                   | 51~100          | 85             | 50.5 |        |      |    |      |      |              |       |      |    |      |      |
| 63                | 5~50            | 80             | 42   | 90     | 52   | 8  | 15.5 | 30   | 101~300      | 110   | 57   | 18 | 16.5 | 35   |
|                   | 51~100          | 90             | 52   |        |      |    |      |      |              |       |      |    |      |      |
| 80                | 5~50            | 100            | 51   | 110    | 61   | 10 | 18   | 39   | 101~300      | 130   | 66   | 20 | 19   | 44   |
|                   | 51~100          | 110            | 61   |        |      |    |      |      |              |       |      |    |      |      |
| 100               | 5~50            | 111            | 60.5 | 121    | 70.5 | 12 | 22   | 38.5 | —            | —     | —    | —  | —    | —    |
|                   | 51~100          | 121            | 70.5 |        |      |    |      |      |              |       |      |    |      |      |

| Code<br>Tube I.D. | C  | D  | E   | G <sup>H9</sup>             | H       | I   | J   | JJ    | K  | M  | N   | OA       | OB   | P                   | RA | RB   | T  | U        | V  | W1   | X  | XA | Y  | Y1 | Z1   | Z2   | Z3 |
|-------------------|----|----|-----|-----------------------------|---------|-----|-----|-------|----|----|-----|----------|------|---------------------|----|------|----|----------|----|------|----|----|----|----|------|------|----|
| 40                | 13 | 16 | 52  | 28 <sup>+0<br/>-0.052</sup> | M8×1.25 | 70  | 5   | 57    | 14 | 40 | 5.5 | M6×1.0   | 9    | Rc1/8               | 10 | 7    | 14 | M12×1.25 | 30 | 21   | 7  | 19 | 12 | 2  | 6.2  | 8.8  | 1  |
| 50                | 15 | 20 | 64  | 35 <sup>+0<br/>-0.062</sup> | M10×1.5 | 86  | 7   | 71    | 17 | 50 | 6.6 | M8×1.25  | 11   | Rc1/4               | 14 | 8    | 19 | M16×1.5  | 40 | 22.5 | 8  | 24 | 15 | 2  | 8.2  | 10.8 | 1  |
| 63                | 15 | 20 | 77  | 35 <sup>+0<br/>-0.062</sup> | M10×1.5 | 103 | 7   | 84    | 17 | 60 | 9   | M10×1.5  | 14   | Rc1/4 <sup>*1</sup> | 18 | 10.5 | 19 | M16×1.5  | 40 | 25.5 | 8  | 24 | 15 | 2  | 10.2 | 13.8 | 1  |
| 80                | 21 | 25 | 98  | 43 <sup>+0<br/>-0.062</sup> | M16×2.0 | 132 | 6   | 104   | 22 | 77 | 11  | M12×1.75 | 17.5 | Rc3/8 <sup>*2</sup> | 22 | 13.5 | 26 | M22×1.5  | 50 | 33   | 13 | 32 | 20 | 3  | 12.2 | 17.3 | 2  |
| 100               | 27 | 30 | 117 | —                           | M20×2.5 | 156 | 6.5 | 123.5 | 27 | 94 | 11  | M12×1.75 | 17.5 | Rc3/8 <sup>*2</sup> | 22 | 13.5 | 26 | M22×1.5  | 50 | 33   | 13 | 32 | 20 | 3  | 12.2 | 17.3 | 2  |

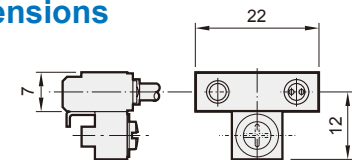
\*1. Without magnet with stroke=5mm, P=Rc1/8

\*2. Without magnet with stroke=5mm, P=Rc1/4

## COMPACT CYLINDER

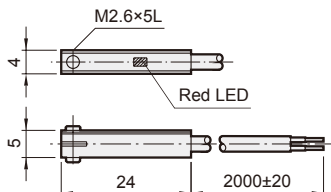
### Dimensions

**RCB  
RNB**

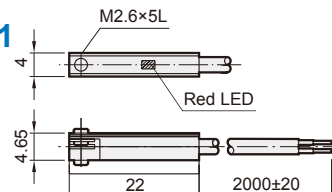


RCB, RNB: Red LED

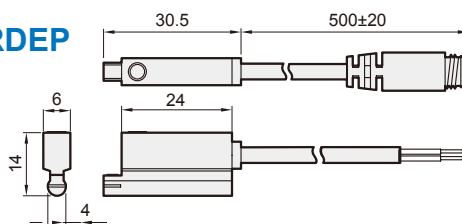
**RCE**



**RCE1  
RNE**

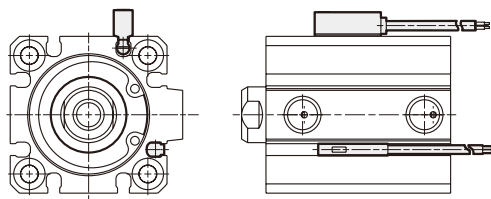


**RDEP**

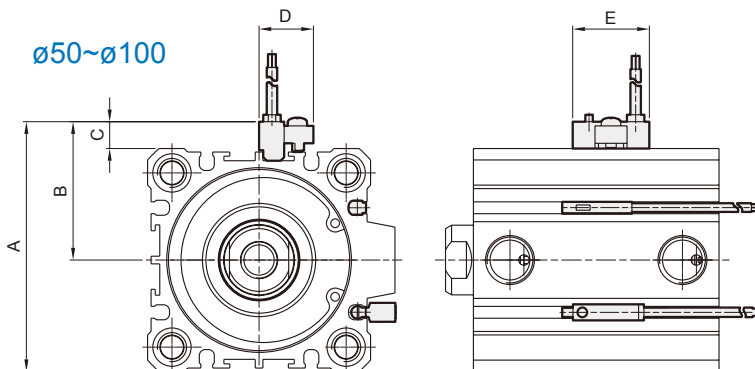


### Installation of sensor switch

$\phi 12\sim\phi 40$



$\phi 50\sim\phi 100$



### Order example

**RCE1** — □

MODEL

RCB / RCE / RCE1 (C: Reed switch)  
RNB / RNE (N: Solid state switch)  
RDEP (Solid state switch)

WIRE LENGTH

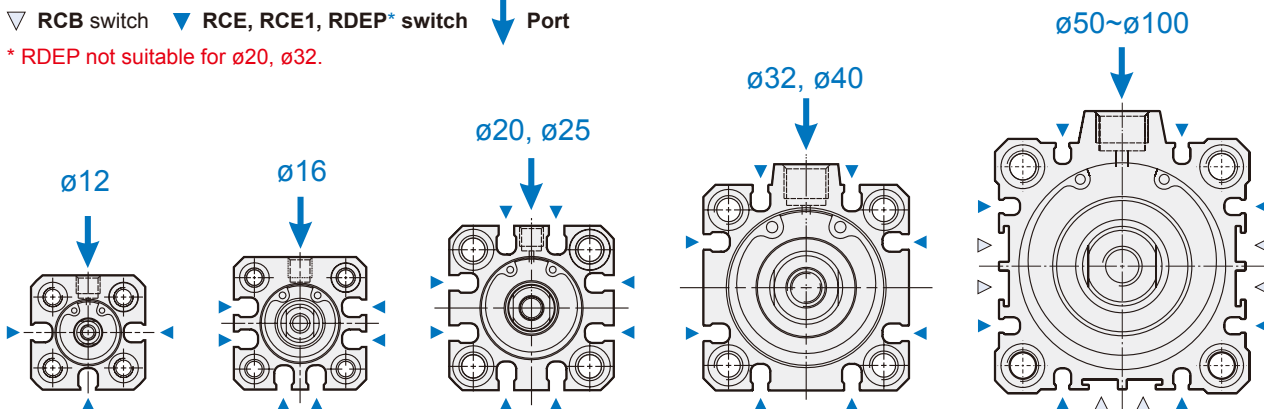
Blank: L=2000m  
1M: L=1000m  
QD: M8 3Pin connector  
EQD: M8 3Pin connector

| Code<br>Tube I.D. | A   | B    | C | D  | E  |
|-------------------|-----|------|---|----|----|
| 50                | 72  | 40   | 8 | 16 | 22 |
| 63                | 85  | 46.5 | 8 | 16 | 22 |
| 80                | 106 | 57   | 8 | 16 | 22 |
| 100               | 125 | 66.5 | 8 | 16 | 22 |

### Description

▽ RCB switch ▼ RCE, RCE1, RDEP\* switch ↓ Port







\* RDEP not suitable for  $\phi 20$ ,  $\phi 32$ .



### Cylinder weight







#### Standard stroke

Unit: g

| Model      |                   | Basic weight<br>MCJQ-11   | Basic weight<br>(magnet)<br>MCJQ-11   | Stroke 5 mm<br>MCJQ-11  | Basic weight<br>MCJQ-12  | Basic weight<br>(magnet)<br>MCJQ-12   | Stroke 5 mm<br>MCJQ-12  |
|------------|-------------------|---|---|---|--|---|---|
| Tube I.D.  | Stroke range (mm) |  |  |  |  |  |  |
| $\phi 12$  | 5~30              | 22  | 31  | 7   | 19   | 28  | 7   |
| $\phi 16$  | 5~30              | 33  | 42  | 8   | 28   | 37  | 8   |
| $\phi 20$  | 5~50              | 55  | 82  | 13  | 48   | 75  | 13  |
| $\phi 25$  | 5~50              | 92  | 140   | 16  | 75   | 123   | 16  |
| $\phi 32$  | 5~50              | 129   | 215   | 22  | 109  | 166   | 22  |
|            | 51~100            | 206   | 215   | 22  | 157  | 166   | 22  |
| $\phi 40$  | 5~50              | 226   | 315   | 24  | 184  | 266   | 24  |
|            | 51~100            | 298   | 315   | 24  | 249  | 266   | 24  |
| $\phi 50$  | 5~50              | 367   | 500   | 35  | 317  | 409   | 35  |
|            | 51~100            | 476   | 500   | 35  | 386  | 409   | 35  |
| $\phi 63$  | 5~50              | 530   | 714   | 41  | 446  | 622   | 41  |
|            | 51~100            | 685   | 714   | 41  | 594  | 622   | 41  |
| $\phi 80$  | 5~50              | 1032  | 1278  | 65  | 904  | 1109  | 65  |
|            | 51~100            | 1240  | 1278  | 65  | 1072   | 1109  | 65  |
| $\phi 100$ | 5~50              | 1864  | 2278  | 90  | 1679   | 2030  | 90  |
|            | 51~100            | 2230  | 2278  | 90  | 1982   | 2030  | 90  |








#### Long stroke

Unit: g

| Model     |                   | Basic weight<br>MCJQ-11   | Basic weight<br>(magnet)<br>MCJQ-11   | Stroke 5 mm<br>MCJQ-11  | Basic weight<br>MCJQ-12  | Basic weight<br>(magnet)<br>MCJQ-12   | Stroke 5 mm<br>MCJQ-12  |
|-----------|-------------------|---|---|---|--|---|---|
| Tube I.D. | Stroke range (mm) |  |  |  |  |  |  |
| $\phi 12$ | 31~100            | 46  | 47  | 7   | 43   | 44  | 7   |
| $\phi 16$ | 31~100            | 68  | 70  | 8   | 63   | 65  | 8   |
| $\phi 20$ | 51~200            | 116   | 120   | 13  | 106  | 110   | 13  |
| $\phi 25$ | 51~300            | 172   | 180   | 16  | 153  | 161   | 16  |
| $\phi 32$ | 101~300           | 287   | 295   | 22  | 238  | 247   | 22  |
| $\phi 40$ | 101~300           | 409   | 426   | 24  | 360  | 377   | 24  |
| $\phi 50$ | 101~300           | 658   | 682   | 35  | 566  | 589   | 35  |
| $\phi 63$ | 101~300           | 852   | 881   | 41  | 760  | 789   | 41  |
| $\phi 80$ | 101~300           | 1531  | 1568  | 65  | 1398   | 1436  | 65  |

#### Accessories weight

Unit: g

| Model      | LB  | CB  | FAC/FBC   | F   | RF  | Pin   | Nut   |
|------------|---|---|---|---|---|---|---|
| Tube I.D.  |  |  |  |  |  |  |  |
| $\phi 12$  | 51  | 31  | 56  | 1   | 1   | 2   | 1   |
| $\phi 16$  | 60  | 37  | 67  | 2   | 1   | 3   | 2   |
| $\phi 20$  | 145   | 61  | 135   | 3   | 1   | 8   | 4   |
| $\phi 25$  | 166   | 94  | 153   | 4   | 2   | 16  | 6   |
| $\phi 32$  | 107   | 136   | 165   | 9   | 3   | 25  | 18  |
| $\phi 40$  | 125   | 171   | 203   | 17  | 9   | 25  | 18  |
| $\phi 50$  | 209   | 331   | 357   | 28  | 16  | 61  | 32  |
| $\phi 63$  | 296   | 538   | 547   | 52  | 30  | 61  | 32  |
| $\phi 80$  | 586   | 1034  | 1046  | 107   | 52  | 127   | 56  |
| $\phi 100$ | 960   | 1765  | 1328  | 175   | 82  | 214   | 56  |