

## Series HE

Mini cylinders ISO 6432, single acting

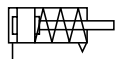
### Technical details

|                           |   |                |                 |           |               |             |                 |        |         |
|---------------------------|---|----------------|-----------------|-----------|---------------|-------------|-----------------|--------|---------|
| <b>Operating pressure</b> | 1 ... 10 bar  |                |                 |           |               |             |                 |        |         |
| <b>Temperature range</b>  | -30°C ... +80°C   |                |                 |           |               |             |                 |        |         |
| <b>Medium</b>             | Filtered, oil-free and dried compressed air according to ISO 8573-1:2010, Class 7:2:4, instrument air, free of aggressive additives. Alternatively the pressure dew point must be at least 10°C below lowest occurring ambient temperature.       |                |                 |           |               |             |                 |        |         |
| <b>Materials</b>          | <table border="0"> <tr> <td>Cylinder tube:</td> <td>stainless steel</td> </tr> <tr> <td>End caps:</td> <td>Al (anodized)</td> </tr> <tr> <td>Piston rod:</td> <td>stainless steel</td> </tr> <tr> <td>Seals:</td> <td>PU, NBR</td> </tr> </table> | Cylinder tube: | stainless steel | End caps: | Al (anodized) | Piston rod: | stainless steel | Seals: | PU, NBR |
| Cylinder tube:            | stainless steel   |                |                 |           |               |             |                 |        |         |
| End caps:                 | Al (anodized)   |                |                 |           |               |             |                 |        |         |
| Piston rod:               | stainless steel   |                |                 |           |               |             |                 |        |         |
| Seals:                    | PU, NBR   |                |                 |           |               |             |                 |        |         |

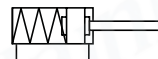


Single acting pneumatic cylinder with built-in cushioning rings.

### Versions



HE, HES, HEZ  
single acting, normally retracted



HE, HEH, HES, HEZ ... -300  
single acting, normally extended

### Order code

| Series |                              | Options     |                                      |
|--------|------------------------------|-------------|--------------------------------------|
| HE     | standard                     | without     | standard version, normally retracted |
| HEM    | high temperature version     | 300         | standard version, normally extended  |
| HES*   | lateral air connection, rear |             |                                      |
| HEZ*   | central air connection, rear |             |                                      |
|        |                              | Stroke (mm) |                                      |
|        |                              | xxx         | 10, 25, 50                           |
|        |                              | Piston Ø    |                                      |
|        |                              | 08          | 8 mm                                 |
|        |                              | 10          | 10 mm                                |
|        |                              | 12          | 12 mm                                |
|        |                              | 16          | 16 mm                                |
|        |                              | 20          | 20 mm                                |
|        |                              | 25          | 25 mm                                |

HE\*--\*\*\*--\*\*\*--\*\*\*

\* only for Ø 16, 20 and 25 mm

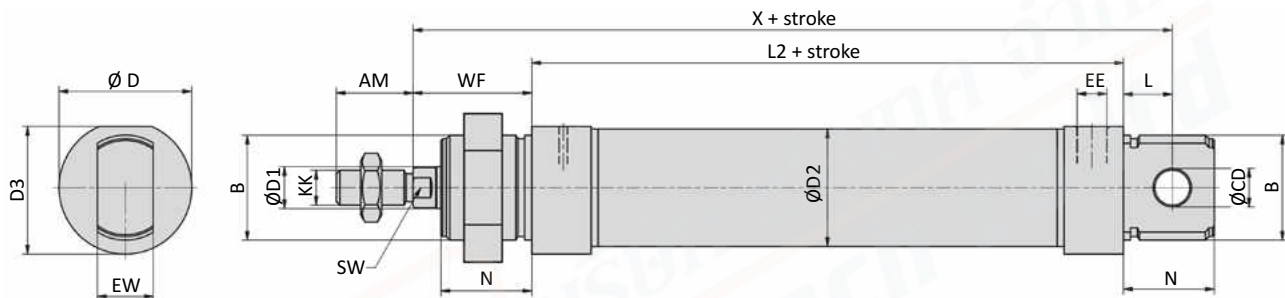
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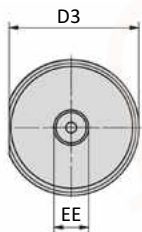
### Technical data

| Model-no.:                          |            | HE-08-...     | HE-10-...     | HE-12-...     | HEx-16-...    | HEx-20-...      | HEx-25-...      |
|-------------------------------------|------------|---------------|---------------|---------------|---------------|-----------------|-----------------|
| Piston $\varnothing$ (mm)           |            | 8             | 10            | 12            | 16            | 20              | 25              |
| Force at 6 bar and 10 mm stroke (N) | Extension  | 19.0 ... 19.7 | 36.0 ... 36.7 | 51.7 ... 52.0 | 87.5 ... 90.0 | 142.8 ... 145.0 | 243.7 ... 245.0 |
|                                     | Retraction | 4.5 ... 5.2   | 4.5 ... 5.2   | 5.7 ... 6.0   | 15.0 ... 17.5 | 21.3 ... 23.5   | 18.2 ... 19.5   |
| Force at 6 bar and 25 mm stroke (N) | Extension  | 19.0 ... 20.3 | 36.0 ... 37.3 | 51.7 ... 52.6 | 87.5 ... 93.5 | 142.8 ... 148.3 | 243.7 ... 247.0 |
|                                     | Retraction | 3.9 ... 5.2   | 3.9 ... 5.2   | 5.1 ... 6.0   | 11.5 ... 17.5 | 18.0 ... 23.5   | 16.2 ... 19.5   |
| Force at 6 bar and 50 mm stroke (N) | Extension  | 19.0 ... 21.7 | 36.0 ... 38.7 | 51.7 ... 53.6 | 87.5 ... 99.7 | 142.8 ... 153.8 | 243.7 ... 250.3 |
|                                     | Retraction | 2.5 ... 5.2   | 2.5 ... 5.2   | 4.1 ... 6.0   | 5.3 ... 17.5  | 12.5 ... 23.5   | 12.9 ... 19.5   |
| Connection                          |            | M5            | M5            | M5            | M5            | G1/8            | G1/8            |
| Piston rod thread                   |            | M4            | M4            | M6            | M6            | M8              | M10 x 1.25      |

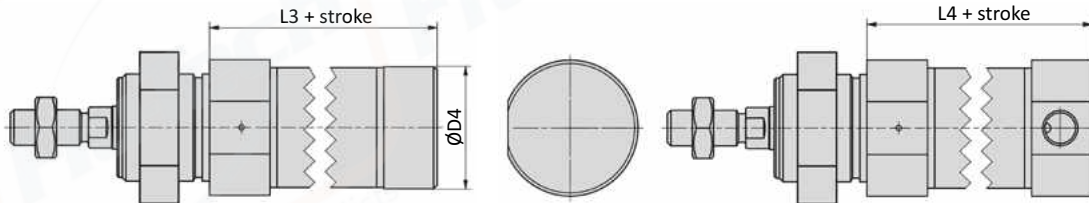
### Dimensions series HE



### Series HEZ



### Series HES



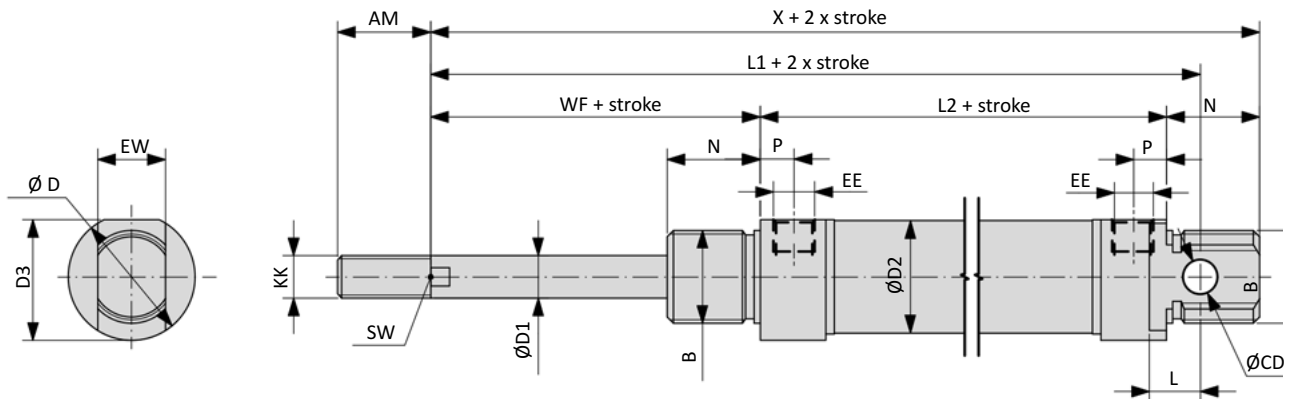
| Piston $\varnothing$ | AM | B          | $\varnothing$ CD | $\varnothing$ D | $\varnothing$ D1 | $\varnothing$ D2 | D3   | $\varnothing$ D4 | EE   |
|----------------------|----|------------|------------------|-----------------|------------------|------------------|------|------------------|------|
| 8                    | 12 | M12 x 1.25 | 4                | 16              | 4                | 9.27             | 15   | -                | M5   |
| 10                   | 12 | M12 x 1.25 | 4                | 16              | 4                | 11.27            | 15   | -                | M5   |
| 12                   | 16 | M16 x 1.5  | 6                | 19              | 6                | 13.27            | 18   | -                | M5   |
| 16                   | 16 | M16 x 1.5  | 6                | 19              | 6                | 17.27            | 18   | 17.2             | M5   |
| 20                   | 20 | M22 x 1.5  | 8                | 27              | 8                | 21.27            | 25.5 | 22.2             | G1/8 |
| 25                   | 22 | M22 x 1.5  | 8                | 30              | 10               | 26.5             | 28.5 | 27               | G1/8 |

| Piston $\varnothing$ | EW | KK         | L  | L2 | L3 | L4   | N  | SW | WF | X   |
|----------------------|----|------------|----|----|----|------|----|----|----|-----|
| 8                    | 8  | M4         | 6  | 46 | -  | -    | 12 | -  | 16 | 64  |
| 10                   | 8  | M4         | 6  | 46 | -  | -    | 12 | -  | 16 | 64  |
| 12                   | 12 | M6         | 9  | 48 | -  | -    | 18 | 5  | 22 | 75  |
| 16                   | 12 | M6         | 9  | 53 | 52 | 52.5 | 18 | 5  | 22 | 82  |
| 20                   | 16 | M8         | 12 | 67 | 65 | 67   | 20 | 7  | 24 | 95  |
| 25                   | 16 | M10 x 1.25 | 12 | 68 | 66 | 68   | 22 | 9  | 28 | 104 |

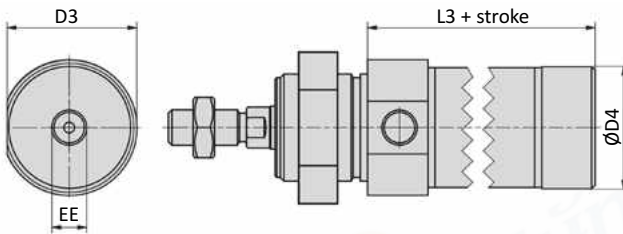
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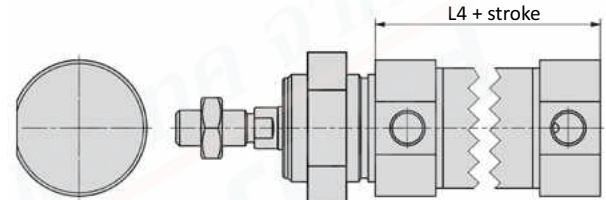
### Dimensions series HE, option 300 (normally extended)



#### Series HEZ



#### Series HES



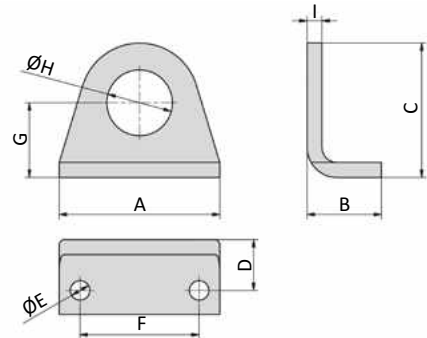
| Piston-Ø | AM | B          | Ø CD | Ø D | Ø D1 | Ø D2  | D3   | Ø D4 | EE   | EW | KK         |
|----------|----|------------|------|-----|------|-------|------|------|------|----|------------|
| 8        | 12 | M12 x 1,25 | 4    | 16  | 4    | 9,27  | 15   | -    | M5   | 8  | M4         |
| 10       | 12 | M12 x 1,25 | 4    | 16  | 4    | 11,27 | 15   | -    | M5   | 8  | M4         |
| 12       | 16 | M16 x 1,5  | 6    | 19  | 6    | 13,27 | 18   | -    | M5   | 12 | M6         |
| 16       | 16 | M16 x 1,5  | 6    | 19* | 6    | 17,27 | 18   | 17,2 | M5   | 12 | M6         |
| 20       | 20 | M22 x 1,5  | 8    | 27  | 8    | 21,27 | 25,5 | 22,2 | G1/8 | 16 | M8         |
| 25       | 22 | M22 x 1,5  | 8    | 30  | 10   | 26,5  | 28,5 | 27   | G1/8 | 16 | M10 x 1,25 |

| Piston-Ø | L  | L1    | L2   | L3   | L4   | N   | P   | SW | WF | X     |
|----------|----|-------|------|------|------|-----|-----|----|----|-------|
| 8        | 6  | 82    | 64   | -    | -    | 12  | 5   | -  | 16 | 92    |
| 10       | 6  | 89,5  | 71,5 | -    | -    | 12  | 5   | -  | 16 | 99,5  |
| 12       | 9  | 97,5  | 70,5 | -    | -    | 18  | 5   | 5  | 22 | 110,5 |
| 16       | 9  | 111   | 82   | 81   | 81,5 | 18* | 4,5 | 5  | 22 | 122   |
| 20       | 12 | 126,5 | 98,5 | 96,5 | 98,5 | 20  | 8   | 7  | 24 | 142,5 |
| 25       | 12 | 135,5 | 99,5 | 97,5 | 99,5 | 22  | 8   | 9  | 28 | 149,5 |

## Series HM

### Mounting accessories

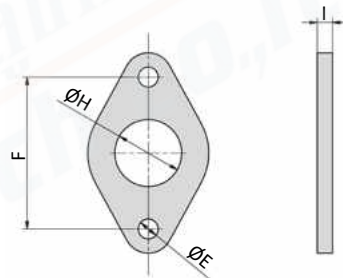
#### RA-xx Foot mount



| Model-no.: | for cylinder $\varnothing$ | A  | B  | C    | D  | $\varnothing E$ | F  | G  | $\varnothing H$ | I |
|------------|----------------------------|----|----|------|----|-----------------|----|----|-----------------|---|
| RA-10      | 8, 10                      | 35 | 16 | 26   | 11 | 4.5             | 25 | 16 | 12              | 3 |
| RA-16      | 12, 16                     | 42 | 20 | 32.5 | 14 | 5.5             | 32 | 20 | 16              | 4 |
| RA-25      | 20, 25                     | 54 | 25 | 45   | 17 | 6.6             | 40 | 25 | 22              | 5 |

material: steel, zinc plated

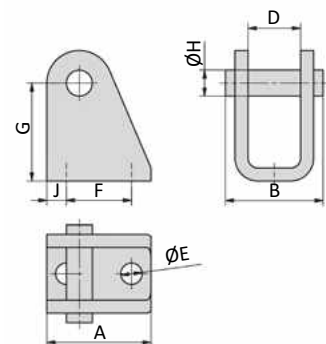
#### RB-xx Flange mount



| Model-no.: | for cylinder $\varnothing$ | $\varnothing E$ | F  | $\varnothing H$ | I |
|------------|----------------------------|-----------------|----|-----------------|---|
| RB-10      | 8, 10                      | 4.5             | 30 | 12              | 3 |
| RB-16      | 12, 16                     | 5.5             | 40 | 16              | 4 |
| RB-25      | 20, 25                     | 6.6             | 50 | 22              | 5 |

material: steel, zinc plated

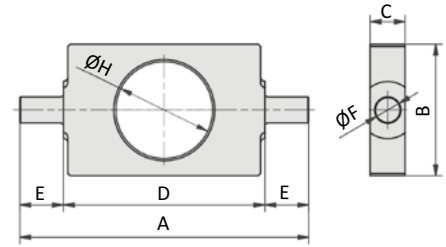
#### RC-xx Clevis mount



| Model-no.: | for cylinder $\varnothing$ | A  | B  | D    | $\varnothing E$ | F    | G  | $\varnothing H$ | J |
|------------|----------------------------|----|----|------|-----------------|------|----|-----------------|---|
| RC-10      | 8, 10                      | 20 | 17 | 8.1  | 4.5             | 12.5 | 24 | 4               | 5 |
| RC-16      | 12, 16                     | 25 | 23 | 12.1 | 5.5             | 15   | 27 | 6               | 5 |
| RC-30      | 20, 25                     | 32 | 30 | 16.1 | 6.6             | 20   | 30 | 8               | 6 |

material: steel, zinc plated, 2 snap rings are included

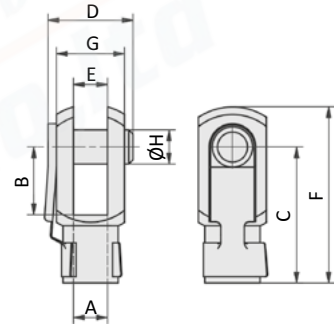
**RH-xx Trunnion mount**



| Model-no.: | for cylinder $\varnothing$ | A  | B  | C | D  | E  | $\varnothing F$ | $\varnothing H$ |
|------------|----------------------------|----|----|---|----|----|-----------------|-----------------|
| RH-10      | 8, 10                      | 38 | 20 | 6 | 26 | 6  | 4               | 12              |
| RH-16      | 12, 16                     | 58 | 25 | 8 | 38 | 10 | 6               | 16              |
| RH-25      | 20, 25                     | 66 | 30 | 8 | 46 | 10 | 6               | 22              |

material: steel, zinc plated

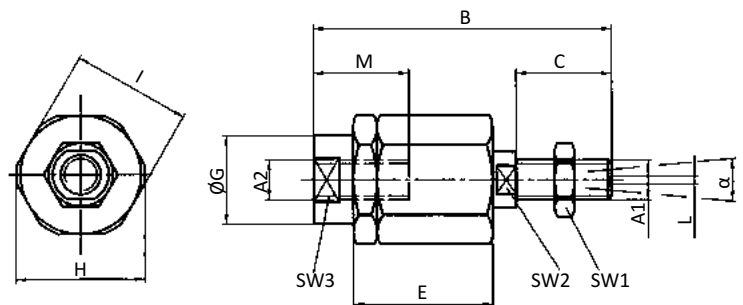
**RD-xx Rod clevis**



| Model-no.: | for cylinder $\varnothing$ | A          | B  | C  | D    | E  | F  | G  | $\varnothing H$ |
|------------|----------------------------|------------|----|----|------|----|----|----|-----------------|
| RD-10      | 8, 10                      | M4         | 8  | 16 | 11.5 | 4  | 21 | 8  | 4               |
| RD-16      | 12, 16                     | M6         | 12 | 24 | 16   | 6  | 31 | 12 | 6               |
| RD-20      | 20                         | M8         | 16 | 32 | 22   | 8  | 42 | 16 | 8               |
| RD-25      | 25                         | M10 x 1.25 | 20 | 40 | 26   | 10 | 52 | 20 | 10              |

material: steel, zinc plated

**FK-xx Flexible coupling**



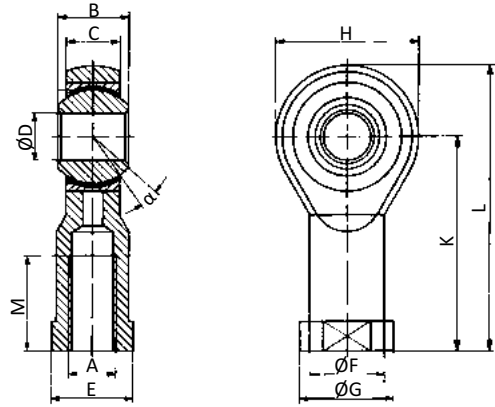
| Model-no.: | for cylinder $\varnothing$ | A1, A2     | B    | C  | D   | E    | $\varnothing G$ | H    | I  | L | M    | SW1 | SW2 | SW3 | $\alpha$ |
|------------|----------------------------|------------|------|----|-----|------|-----------------|------|----|---|------|-----|-----|-----|----------|
| FK-16      | 12, 16                     | M6         | 35   | 11 | 2.5 | 17.5 | 8.5             | 14.5 | 13 | 1 | 12.5 | 10  | 5   | 7   | 6°       |
| FK-20      | 20                         | M8         | 57   | 21 | 5   | 26   | 12.5            | 19   | 17 | 2 | 16   | 13  | 7   | 11  | 8°       |
| FK-32      | 25                         | M10 x 1.25 | 71.5 | 20 | 7.5 | 35   | 22              | 32   | 30 | 2 | 22   | 17  | 12  | 19  | 8°       |

material: steel, zinc plated

## Series HM

### Mounting accessories

#### RO-xx Rod eye



| Model-no.: | for cylinder $\phi$ | A          | B  | C    | $\phi$ D | E  | $\phi$ F | $\phi$ G | H  | K  | L  | M  | $\alpha$ |
|------------|---------------------|------------|----|------|----------|----|----------|----------|----|----|----|----|----------|
| RO-16      | 12, 16              | M6         | 9  | 6.75 | 6        | 11 | 10       | 13       | 20 | 30 | 40 | 12 | 13°      |
| RO-20      | 20                  | M8         | 12 | 9    | 8        | 14 | 12.5     | 16       | 24 | 36 | 48 | 16 | 14°      |
| RO-25      | 25                  | M10 x 1.25 | 14 | 10.5 | 10       | 17 | 15       | 19       | 28 | 43 | 57 | 20 | 13°      |

materials: steel, zinc plated, bearing steel, bronze bushing