



## Series 6300

Pneumatic grippers from the 6300 series are typically used in complex systems such as assembly machines, robots, manipulators etc. This series covers the wide range requirements of this sector, allowing a variety of applications.  
The range includes grippers equipped with holding fingers operating from -10° to +30° degrees, with 180° degree opening, or a parallel guided gripper with great rigidity throughout the stroke.  
The parallel grippers cater for larger openings (three different strokes for each diameter) with synchronised operation via a pinion-rack system with high strength thanks to a double piston mechanism.  
For the typical application of supplying a piece upon to a machine tool, make provision for an automatic three-pronged movement carried along by a wedge mechanism, containing the elevated force dimensions.  
The holding fingers can have a tolerance reference as a precise fixing device for the catching mechanism.  
Every type of "hand" offers different functional levels of performance at varying diameters and lengths, secondary to the application by the "fingers".

### Construction characteristics

|              | Materials                    | Series |      |      |      |      |      |
|--------------|------------------------------|--------|------|------|------|------|------|
| Body         | Anodized aluminium           | 6301   | 6302 | 6303 | 6310 | 6311 | 6312 |
| Piston       | AISI 303 stainless steel     | 6301   | /    | /    | /    | /    | /    |
|              | Aluminium                    | /      | 6302 | 6303 | /    | 6311 | 6312 |
|              | Aluminium or stainless steel | /      | /    | /    | 6310 | /    | /    |
|              | (based on bore)              |        |      |      |      |      |      |
| Fingers      | Steel                        | 6301   | 6302 | 6303 | 6310 | /    | 6312 |
|              | Anodized aluminium           | /      | /    | /    | /    | 6311 | /    |
| Rear end cap | Anodized aluminium           | 6301   | 6302 | 6303 | 6310 | /    | /    |
| Seals        | oil resistant NBR rubber     | 6301   | /    | /    | 6310 | /    | /    |
| Piston rod   | Steel                        | /      | /    | /    | /    | 6311 | /    |
| Rack         | Steel                        | /      | /    | /    | /    | 6311 | /    |
| Pinion       | Steel                        | /      | /    | /    | /    | 6311 | /    |
| Wedge        | Steel                        | /      | /    | /    | /    | /    | 6312 |

### Operational characteristics

| All series          |                                                                                                  |
|---------------------|--------------------------------------------------------------------------------------------------|
| Fluid               | filtered and preferably lubricated air or not (if lubricated the lubrication must be continuous) |
| Working pressure    | 1 ... 6 bar (double acting) - 2.5 ... 6 bar (single acting)                                      |
| Working temperature | -5 °C ... +70 °C                                                                                 |

|                             | 6301                               | 6302                              | 6303                                                                   | 6310                               | 6311                                           | 6312                                                                                                          |
|-----------------------------|------------------------------------|-----------------------------------|------------------------------------------------------------------------|------------------------------------|------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| Opening total stroke        | -10° ... 30°                       | -3° ... 180°                      | -5° ... 180°                                                           | /                                  | /                                              | /                                                                                                             |
| Maximum operating frequency | from Ø10 to Ø25, 190 cycles/minute | from Ø10 to Ø25, 60 cycles/minute | from Ø20 to Ø25, 60 cycles/minute<br>from Ø32 to Ø50, 30 cycles/minute | from Ø10 to Ø25, 180 cycles/minute | /                                              | from Ø16 to Ø25, 120 cycles/minute<br>from Ø32 to Ø63, 60 cycles/minute<br>from Ø80 to Ø125, 30 cycles/minute |
| Working pressure            | /                                  | /                                 | /                                                                      | /                                  | Ø10: 1.5 ... 6 bar<br>Ø16 ... Ø40: 1 ... 6 bar | 2 ... 6 bar (Ø16-Ø20-Ø25)<br>1 ... 6 bar (Ø32 ... Ø125)                                                       |
| Function                    | /                                  | /                                 | /                                                                      | /                                  | Double acting                                  | Double acting                                                                                                 |

| 6301                        |      |               |               |
|-----------------------------|------|---------------|---------------|
|                             | Bore | Double acting | Single acting |
| Holding force (Nm) at 5 bar | Ø10  | 0,1           | 0,07          |
|                             | Ø16  | 0,4           | 0,30          |
|                             | Ø20  | 0,7           | 0,55          |
|                             | Ø25  | 1,35          | 1,08          |

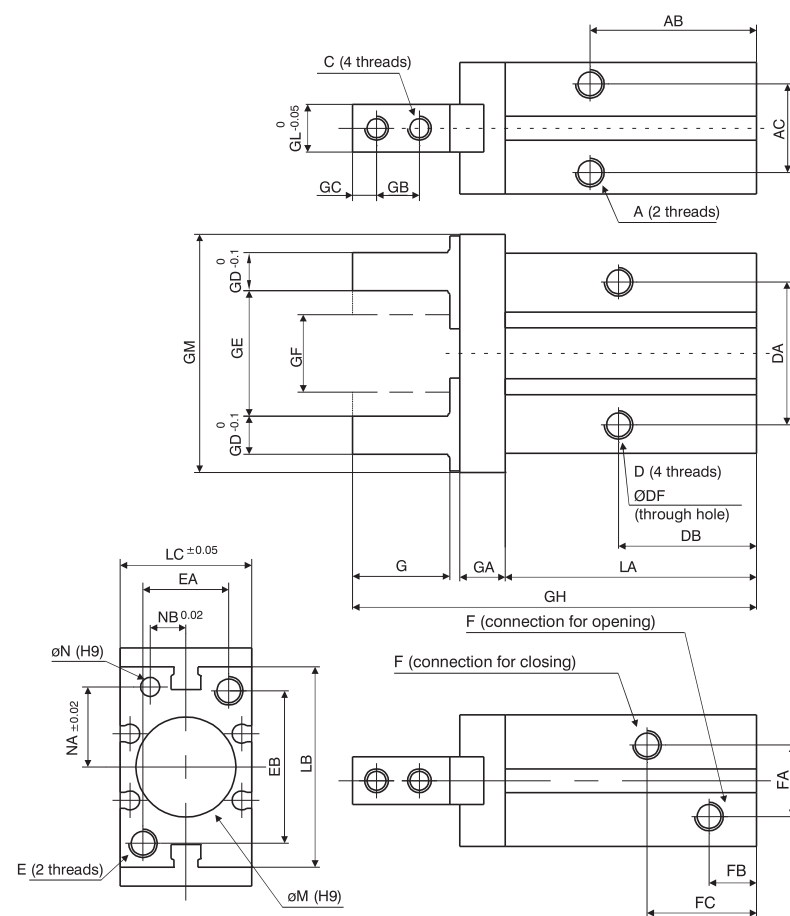
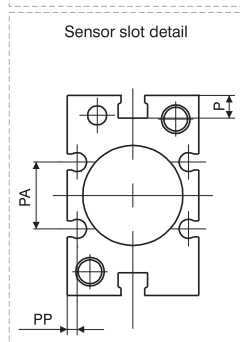
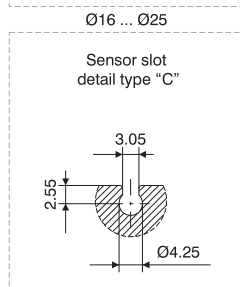
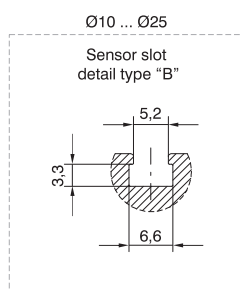


## Parallel style pneumatic grippers - Standard version

Coding: 6310.Ø.▼

### Overall dimensions

|   |                           |
|---|---------------------------|
| Ø | BORE                      |
|   | 10 = Ø10                  |
|   | 16 = Ø16                  |
|   | 20 = Ø20                  |
| ▼ | VERSION                   |
|   | D = Double acting         |
|   | NC = Single acting (N.C.) |
|   | NO = Single acting (N.O.) |



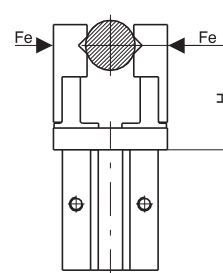
| Bore             |              | Ø10       | Ø16    | Ø20    | Ø25    |
|------------------|--------------|-----------|--------|--------|--------|
| A                | Useful depth | M3x0,5    | M4x0,7 | M5x0,8 | M6x1   |
|                  |              | 6         | 4,5    | 8      | 10     |
| AB               |              | 27        | 30     | 35     | 36,5   |
| AC               |              | 11,4      | 16     | 18,6   | 22     |
| C                | Useful depth | M2,5x0,45 | M3x0,5 | M4x0,7 | M5x0,8 |
|                  |              | M3x0,5    | M4x0,7 | M5x0,8 | M6x1   |
| D                |              | 5,5       | 8      | 10     | 12     |
| DA               |              | 16        | 24     | 30     | 36     |
| DB               |              | 23        | 24,5   | 29     | 30     |
| ØDF              |              | 2,6       | 3,4    | 4,3    | 5,1    |
| E                | Useful depth | M3x0,5    | M4x0,7 | M5x0,8 | M6x1   |
|                  |              | 6         | 8      | 10     | 12     |
| EA               |              | 12        | 15     | 18     | 22     |
| EB               |              | 18        | 22     | 32     | 40     |
| F                |              | M3x0,5    | M5x0,8 | M5x0,8 | M5x0,8 |
| FA               |              | 11        | 13     | 15     | 20     |
| FB               |              | 9         | 7,5    | 10     | 10,7   |
| FC               |              | 19        | 19     | 23     | 23,5   |
| G                |              | 12        | 15,5   | 20     | 25     |
| GA               |              | 6         | 7,5    | 9,5    | 11     |
| GB               |              | 5,7       | 7      | 9      | 12     |
| GC               |              | 3         | 4      | 5      | 6      |
| GD               |              | 4         | 5      | 8      | 10     |
| GE               |              | 15,2      | 20,9   | 26,3   | 33,3   |
| GF               |              | 11,2      | 14,9   | 16,3   | 19,3   |
| GH               |              | 57        | 67,5   | 84,8   | 102,7  |
| GL               |              | 5         | 8      | 10     | 12     |
| GM               |              | 29        | 38     | 50     | 63     |
| LA               |              | 37,8      | 42,5   | 52,8   | 63,6   |
| LB               |              | 23        | 30,6   | 42     | 52     |
| LC               |              | 16,4      | 23,6   | 27,6   | 33,6   |
| ØM <sup>H9</sup> | Useful depth | 11        | 17     | 21     | 26     |
|                  |              | 2         | 2      | 3      | 3,5    |
| ØN <sup>H9</sup> | Useful depth | 2         | 3      | 4      | 4      |
|                  |              | 3         | 3      | 4      | 4      |
| NO               |              | 7,6       | 11     | 16,8   | 21,8   |
| NB               |              | 5,2       | 6,5    | 7,5    | 10     |
| P                |              | 5,4       | 5,8    | 9      | 11,5   |
| PA               |              | /         | 11,6   | 14     | 19     |
| PP               |              | /         | 2,1    | 2,1    | 3,5    |
| Weight (g)       |              | 55        | 120    | 230    | 425    |

## Operating criteria

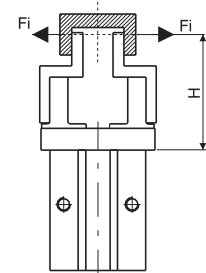
Gripping force (N) (pressure 5 bar, holding point H=20 half stroke)

|               |           | Bore |     |     |     |
|---------------|-----------|------|-----|-----|-----|
| Version       | Force (N) | Ø10  | Ø16 | Ø20 | Ø25 |
| Double acting | Fe        | 9,8  | 30  | 42  | 65  |
|               | Fi        | 17   | 40  | 66  | 104 |
| Single acting | N.O.      | Fe   | 6,3 | 24  | 28  |
|               | N.C.      | Fi   | 12  | 31  | 56  |

Fe = External hold Force Fi = Internal hold Force



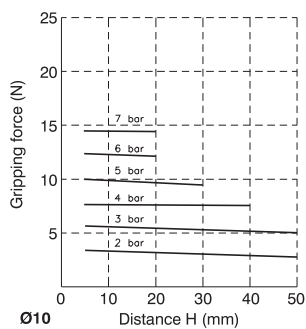
EXTERNAL HOLD



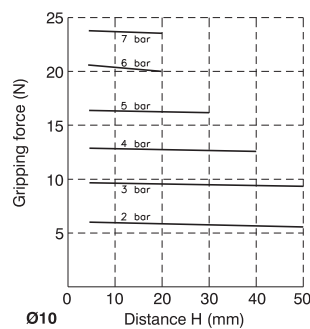
INTERNAL HOLD

## Double acting

External hold Force

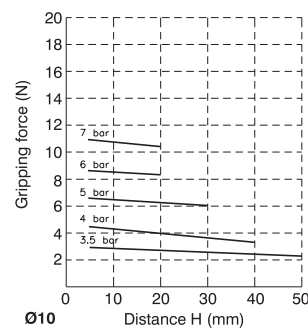


Internal hold Force



## Single acting

External hold Force



Internal hold Force

