## Pneumatic Angular Grippers

OF 2-Finger

OF is an angular gripper for universal use in clean or dirty environments.
Suitable for space sensitive applications
Advantages

- Slim design allows multiple grippers to be arranged in a row.
- Available a range of piston plate diameters from 20 to 32 mm .
- Light, compact design for space-saving handling without interference.
- Integrated permanent magnets for direct monitoring of piston movement.
- Slots for mounting and positioning of magnetic-field sensors.



## SPECIFICATIONS

| Model | Stroke Per Jaw | Air Consumption Per Cycle (Dual Stroke) | Closing Force Per Jaw @ 6 bar | Opening Force Per Jaw @ 6 bar | Total Closing Force © 6 bar | Total Opening Force @ 6 bar | Recommended Workpiece Weight* | Weight | Repeatability |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| OF 20 | $80^{\circ}$ | $\begin{aligned} 7.6 & \mathrm{~cm}^{3} \\ 0.46 & \mathrm{in}^{3} \end{aligned}$ | $\begin{array}{r} 28.7 \mathrm{~N} \\ 6.5 \mathrm{lb} \end{array}$ | $\begin{array}{r} 32.6 \mathrm{~N} \\ 7.3 \mathrm{lb} \end{array}$ | $\begin{aligned} & 57.4 \mathrm{~N} \\ & 12.9 \mathrm{lb} \end{aligned}$ | $\begin{aligned} & 65.2 \mathrm{~N} \\ & 14.7 \mathrm{lb} \end{aligned}$ | $\begin{aligned} & 0.29 \mathrm{~kg} \\ & 0.60 \mathrm{lb} \end{aligned}$ | $\begin{aligned} & 0.25 \mathrm{~kg} \\ & 0.55 \mathrm{lb} \end{aligned}$ | $\begin{array}{rl}  \pm 0.05 & \mathrm{~mm} \\ \pm 0.002 & \text { in } \end{array}$ |
| OF 25 | $80^{\circ}$ | $\begin{aligned} & 16.2 \mathrm{~cm}^{3} \\ & 0.99 \mathrm{in}^{3} \end{aligned}$ | $\begin{array}{r} 60 \mathrm{~N} \\ 13.5 \mathrm{lb} \end{array}$ | $\begin{array}{r} 67 \mathrm{~N} \\ 15.1 \mathrm{lb} \end{array}$ | $\begin{array}{r} 120 \mathrm{~N} \\ 27.0 \mathrm{lb} \end{array}$ | $\begin{array}{r} 134 \mathrm{~N} \\ 30.1 \mathrm{lb} \end{array}$ | $\begin{array}{ll} 0.60 \mathrm{~kg} \\ 1.30 \mathrm{lb} \end{array}$ | $\begin{array}{ll} 0.45 & \mathrm{~kg} \\ 0.99 \mathrm{lb} \end{array}$ | $\begin{array}{rl}  \pm 0.05 & \mathrm{~mm} \\ \pm 0.002 \mathrm{in} \end{array}$ |
| OF 32 | $85^{\circ}$ | $\begin{aligned} & 32.2 \mathrm{~cm}^{3} \\ & 1.96 \mathrm{in}^{3} \end{aligned}$ | $\begin{array}{r} 118 \mathrm{~N} \\ 26.5 \mathrm{lb} \end{array}$ | $\begin{array}{r} 130 \mathrm{~N} \\ 29.2 \mathrm{lb} \end{array}$ | $\begin{array}{r} 236 \\ 53.1 \end{array}$ | $\begin{array}{r} 260 \\ 58.4 \mathrm{l} \\ \hline \end{array}$ | $\begin{array}{ll} 1.18 \mathrm{~kg} \\ 2.60 \mathrm{lb} \end{array}$ | $\begin{array}{ll} 0.78 & \mathrm{~kg} \\ 1.72 \mathrm{lb} \end{array}$ | $\begin{array}{rl}  \pm 0.05 & \mathrm{~mm} \\ \pm 0.002 & \mathrm{in} \end{array}$ |

* Recommended workpiece weight is calculated for force-fit gripping with a coefficient of static friction of 0.15 and a safety factor of 3 against workpiece slippage. Operating Pressure 3-8 bar (29-116 psi)
Working Temperature 5-60 ${ }^{\circ} \mathrm{C}$ (41-140 ${ }^{\circ} \mathrm{F}$ )
Noise Emission (Sound Pressure) $\leq 70 \mathbf{d B}(\mathbf{A})$ in any direction


## SECTIONAL DIAGRAM



Guidelines for the selection of a gripper model Selection of the correct gripper model depends on the workpiece's weight, the friction coefficient between the fingers and the workpiece and the required motion of the application. Due to inertial forces associated with motion, we recommend that the holding force of the gripper model should be from 10 to 20 times the workpiece's weight. If the application presents high acceleration/deceleration or impacts during the motion,
then a further safety margin should be considered.


[^0]Body dowel hole depth $\geq 1 \mathrm{~d}$
C4＊Up to $6 \mathrm{~mm}=0 /+0.025 \mathrm{~mm}$－From 6 mm to $10 \mathrm{~mm}=0 /+0.030 \mathrm{~mm}-$ Over $10 \mathrm{~mm}=0 /+0.040 \mathrm{~mm}$


Options
－Mounting brackets for inductive proximity switches
－Magnetic switches

|  | Mounting－Option \＃ 1 |  |  |  |  | Mounting－Option \＃ 2 |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | A1 | A2 | A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | $B 6$ | 87 |
| OF 20 | $\begin{gathered} 28.0 \\ (1.10) \end{gathered}$ | $\begin{gathered} 4.5 \\ (0.18) \end{gathered}$ | $\begin{gathered} 18 \\ (0.71) \end{gathered}$ | M4 | $\begin{gathered} 4 \\ (0.16) \end{gathered}$ | $\begin{aligned} & 20.00 \\ & (0.79) \end{aligned}$ | $\begin{gathered} 14 \\ (0.55) \end{gathered}$ | $\begin{gathered} 4 \\ (0.16) \end{gathered}$ | $\begin{gathered} 4 \\ (0.16) \end{gathered}$ | $\begin{gathered} 28 \\ (1.10) \end{gathered}$ | $\begin{gathered} 22 \\ (0.87) \end{gathered}$ | M5 |
| OF 25 | $\begin{gathered} 32.0 \\ (1.26) \end{gathered}$ | $\begin{gathered} 5.5 \\ (0.22) \end{gathered}$ | $\begin{gathered} 20 \\ (0.79) \end{gathered}$ | M5 | $\begin{gathered} 4 \\ (0.16) \end{gathered}$ | $\begin{gathered} 25.00 \\ (0.98) \end{gathered}$ | $\begin{gathered} 18 \\ (0.71) \end{gathered}$ | $\begin{gathered} 5 \\ (0.20) \end{gathered}$ | $\begin{gathered} 5 \\ (0.20) \end{gathered}$ | $\begin{gathered} 36 \\ (1.42) \end{gathered}$ | $\begin{gathered} 30 \\ (1.18) \end{gathered}$ | M6 |
| OF 32 | $\begin{gathered} 36.0 \\ (1.42) \end{gathered}$ | $\begin{gathered} 6.5 \\ (0.26) \end{gathered}$ | $\begin{gathered} 32 \\ (1.26) \end{gathered}$ | M6 | $\begin{gathered} 5 \\ (0.20) \end{gathered}$ | $\begin{gathered} 32.00 \\ (1.26) \end{gathered}$ | $\begin{gathered} 24 \\ (0.94) \end{gathered}$ | $\begin{gathered} 8 \\ (0.31) \end{gathered}$ | $\begin{gathered} 5 \\ (0.20) \end{gathered}$ | $\begin{gathered} 48 \\ (1.89) \end{gathered}$ | $\begin{gathered} 38 \\ (1.50) \end{gathered}$ | M6 |


|  | Finger Application |  |  |  |  |  |  | Informational Dimensions |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | C1 | C2 | C3 | C4 | C5 | C6 | C7 | D1 | D2 | D3 | D4 | D5 | D6 | D7 | D8 |
| OF 20 | $\begin{gathered} 8 \\ (0.31) \end{gathered}$ | $\begin{gathered} 12 \\ (0.47) \end{gathered}$ | M4 | $\begin{gathered} 8 \\ (0.31) \end{gathered}$ | $\begin{gathered} 4 \\ (0.16) \end{gathered}$ | $\begin{gathered} 17 \\ (0.67) \end{gathered}$ | $\begin{gathered} 3 \\ (0.12) \end{gathered}$ | $\begin{gathered} 32 \\ (1.26) \end{gathered}$ | $\begin{gathered} 38 \\ (1.50) \end{gathered}$ | $\begin{gathered} 75 \\ (2.95) \end{gathered}$ | $\begin{gathered} 54 \\ (2.13) \end{gathered}$ | M5 | $\begin{gathered} 38 \\ (1.50) \end{gathered}$ | $15^{\circ}$ | $65^{\circ}$ |
| OF 25 | $\begin{gathered} 10 \\ (0.39) \end{gathered}$ | $\begin{gathered} 16 \\ (0.63) \end{gathered}$ | M5 | $\begin{gathered} 10 \\ (0.39) \end{gathered}$ | $\begin{gathered} 5 \\ (0.20) \end{gathered}$ | $\begin{gathered} 21 \\ (0.83) \end{gathered}$ | $\begin{gathered} 3 \\ (0.12) \end{gathered}$ | $\begin{gathered} 41 \\ (1.61) \end{gathered}$ | $\begin{gathered} 47 \\ (1.85) \end{gathered}$ | $\begin{gathered} 90 \\ (3.54) \end{gathered}$ | $\begin{gathered} 63.5 \\ (2.50) \end{gathered}$ | M5 | $\begin{gathered} 47 \\ (1.85) \end{gathered}$ | $15^{\circ}$ | $65^{\circ}$ |
| OF 32 | $\begin{gathered} 14 \\ (0.55) \end{gathered}$ | $\begin{gathered} 20 \\ (0.79) \end{gathered}$ | M6 | $\begin{gathered} 14 \\ (0.55) \end{gathered}$ | $\begin{gathered} 6 \\ (0.24) \end{gathered}$ | $\stackrel{27}{(1.06)}$ | $\begin{gathered} 3 \\ (0.12) \end{gathered}$ | $\begin{gathered} 49 \\ (1.93) \end{gathered}$ | $\begin{gathered} 59 \\ (2.32) \end{gathered}$ | $\begin{gathered} 110 \\ (4.33) \end{gathered}$ | $\begin{gathered} 75.5 \\ (2.97) \end{gathered}$ | G1／8 | $\begin{gathered} 59 \\ (2.32) \end{gathered}$ | $20^{\circ}$ | $65^{\circ}$ |

＊Dimensions are in millime ters（inches）
＊＊All dimensions are descriptive and subject to variation for technical upgrading．We reserve the right to make variations without prior notification

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