

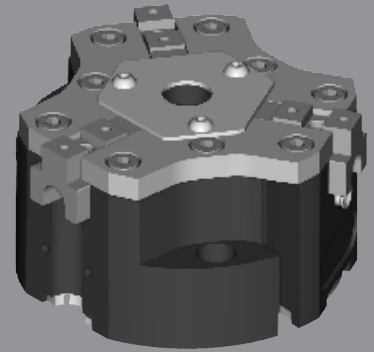
# Pneumatic Parallel Grippers

## QPGB 3-Finger

QPGB is a universal three-finger centric gripper, with a hollow center, featuring high reliability and a long service life, suitable for applications that require a center bore, (e.g. for workpiece feed, special sensor systems or optical recognition systems)

### Advantages

- Robust lightweight housing made of hard-coated aluminum alloy.
- Sturdy T-slot with hardened steel gibs for effective jaw guidance, precise handling, and easy maintenance.
- Central through-hole which can be used for feed through of supply hoses and utilities.
- Mounting from one side in two screw directions for versatile and flexible integration.
- Integrated permanent magnets for direct monitoring of piston movement.
- Slots for mounting and positioning magnetic-field sensors.
- Air supply via hose-free direct connections or fitting screw connections.



## 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 |
|-------------------|----------------|-----------------------------------------|-------------------------------|-------------------------------|-----------------------------|-----------------------------|-------------------------------|---------|---------------|
| <b>QPGB 307 K</b> | 4 mm           | 13.5 cm <sup>3</sup>                    | 165 N                         | 194 N                         | 495 N                       | 582 N                       | 1.65 kg                       | 0.50 kg | ± 0.01 mm     |
|                   | 0.16 in        | 0.82 in <sup>3</sup>                    | 37.1 lb                       | 43.61 lb                      | 111.3 lb                    | 130.84 lb                   | 3.64 lb                       | 1.10 lb | ± 0.0004 in   |
| <b>QPGB 309</b>   | 6 mm           | 28.5 cm <sup>3</sup>                    | 230 N                         | 265 N                         | 690 N                       | 796 N                       | 2.30 kg                       | 0.85 kg | ± 0.01 mm     |
|                   | 0.24 in        | 1.74 in <sup>3</sup>                    | 51.7 lb                       | 59.57 lb                      | 155.1 lb                    | 178.95 lb                   | 5.10 lb                       | 1.87 lb | ± 0.0004 in   |
| <b>QPGB 309 S</b> | 3 mm           | 28.5 cm <sup>3</sup>                    | 455 N                         | 530 N                         | 1365 N                      | 1590 N                      | 4.55 kg                       | 0.85 kg | ± 0.01 mm     |
|                   | 0.12 in        | 1.74 in <sup>3</sup>                    | 102.3 lb                      | 119.15 lb                     | 306.9 lb                    | 357.45 lb                   | 10.00 lb                      | 1.87 lb | ± 0.0004 in   |
| <b>QPGB 311</b>   | 8 mm           | 66 cm <sup>3</sup>                      | 385 N                         | 452 N                         | 1155 N                      | 1358 N                      | 3.85 kg                       | 1.30 kg | ± 0.01 mm     |
|                   | 0.31 in        | 4.03 in <sup>3</sup>                    | 86.5 lb                       | 101.61 lb                     | 259.6 lb                    | 305.29 lb                   | 8.50 lb                       | 2.86 lb | ± 0.0004 in   |
| <b>QPGB 311 S</b> | 4 mm           | 66 cm <sup>3</sup>                      | 770 N                         | 905 N                         | 2310 N                      | 2715 N                      | 7.70 kg                       | 1.30 kg | ± 0.01 mm     |
|                   | 0.16 in        | 4.03 in <sup>3</sup>                    | 173.1 lb                      | 203.45 lb                     | 519.3 lb                    | 610.36 lb                   | 16.90 lb                      | 2.86 lb | ± 0.0004 in   |
| <b>QPGB 313</b>   | 10 mm          | 130 cm <sup>3</sup>                     | 610 N                         | 716 N                         | 1830 N                      | 2148 N                      | 6.10 kg                       | 2.00 kg | ± 0.01 mm     |
|                   | 0.39 in        | 7.93 in <sup>3</sup>                    | 137.1 lb                      | 160.96 lb                     | 411.4 lb                    | 482.89 lb                   | 13.40 lb                      | 4.40 lb | ± 0.0004 in   |
| <b>QPGB 313 S</b> | 5 mm           | 130 cm <sup>3</sup>                     | 1200 N                        | 1415 N                        | 3600 N                      | 4245 N                      | 12.00 kg                      | 2.00 kg | ± 0.01 mm     |
|                   | 0.20 in        | 7.93 in <sup>3</sup>                    | 269.8 lb                      | 318.10 lb                     | 809.3 lb                    | 954.31 lb                   | 26.40 lb                      | 4.40 lb | ± 0.0004 in   |

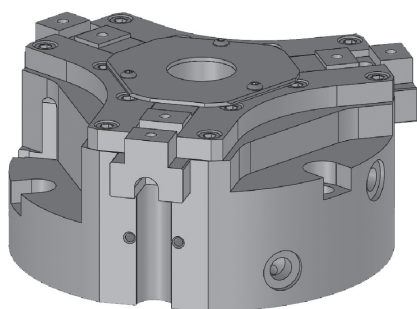
\* Recommended workpiece weight is calculated for force-fit gripping with a coefficient of static friction of 0.15 and a safety factor of 3 against workpiece slippage.

Operating Pressure **2 - 8 bar (29 - 116 psi)** - **QPGB 307 K: 2 - 7 bar (29 - 101)**

Working Temperature **5 - 60 °C (41 - 140 °F)**

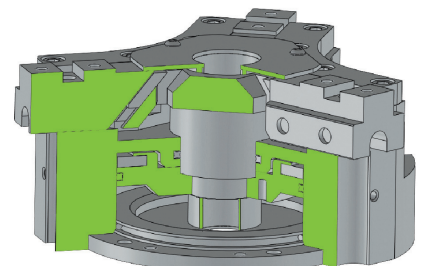
Noise Emission (Sound Pressure) **≤ 70 dB(A) in any direction**

## 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.



# PRODUCT INFORMATION

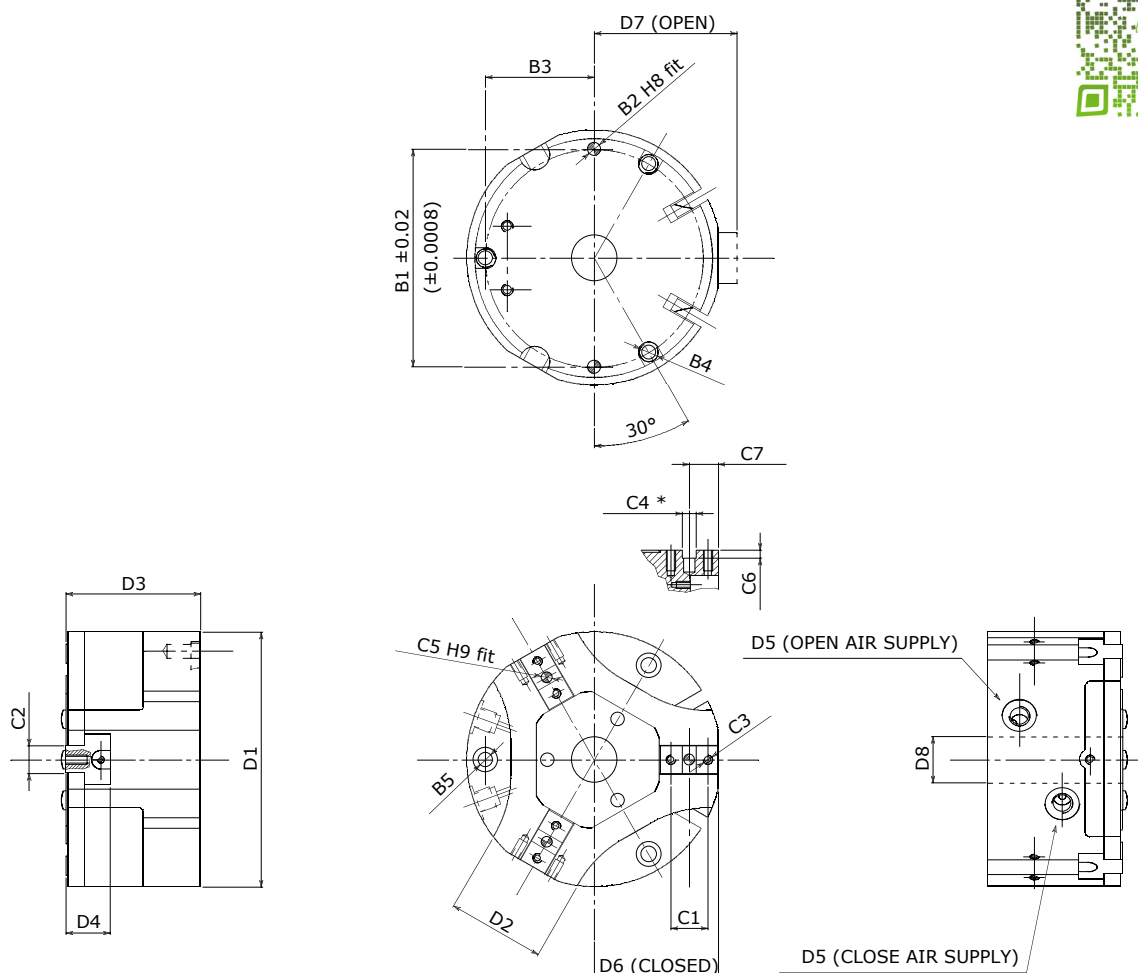
# QPGB 3-Finger

Dowel hole depth: Body  $\geq 1.5 d$  - Jaws  $\geq 1.2 d$

C4\* Up to 6 mm =  $0/+0.025$  mm - From 6 mm to 10 mm =  $0/+0.030$  mm - Over 10 mm =  $0/+0.040$  mm



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## Options

- High force version (S version)
- Mounting brackets for inductive proximity switches
- Magnetic switches

|            | Mounting - Option # 2 |             |                |     |               | Finger Application |              |    |             |             |               |                | Informational Dimensions |               |              |                |      |                |                |              |
|------------|-----------------------|-------------|----------------|-----|---------------|--------------------|--------------|----|-------------|-------------|---------------|----------------|--------------------------|---------------|--------------|----------------|------|----------------|----------------|--------------|
|            | B1                    | B2          | B3             | B4  | B5            | C1                 | C2           | C3 | C4          | C5          | C6            | C7             | D1                       | D2            | D3           | D4             | D5   | D6             | D7             | D8           |
| QPGB 307 K | 63<br>(2.48)          | 4<br>(0.16) | 31.5<br>(1.24) | M6  | 5.2<br>(0.20) | 12<br>(0.47)       | 8<br>(0.31)  | M3 | 5<br>(0.20) | 4<br>(0.16) | 2.5<br>(0.1)  | 9<br>(0.35)    | 75<br>(2.95)             | 40<br>(1.57)  | 43<br>(1.69) | 15<br>(0.59)   | M5   | 35<br>(1.38)   | 39<br>(1.54)   | 11<br>(0.43) |
| QPGB 309   | 76<br>(2.99)          | 6<br>(0.24) | 38<br>(1.50)   | M8  | 6.5<br>(0.26) | 13<br>(0.51)       | 10<br>(0.39) | M4 | 5<br>(0.20) | 4<br>(0.16) | 3<br>(0.12)   | 10.5<br>(0.41) | 90<br>(3.54)             | 80<br>(3.15)  | 48<br>(1.89) | 16.5<br>(0.65) | G1/8 | 42.5<br>(1.67) | 48.5<br>(1.91) | 12<br>(0.47) |
| QPGB 309 S |                       |             |                |     |               |                    |              |    |             |             |               |                |                          |               |              |                |      |                |                |              |
| QPGB 311   | 94<br>(3.70)          | 6<br>(0.24) | 47<br>(1.85)   | M8  | 6.5<br>(0.26) | 16<br>(0.63)       | 12<br>(0.47) | M4 | 6<br>(0.24) | 5<br>(0.20) | 3.5<br>(0.14) | 12.5<br>(0.49) | 110<br>(4.33)            | 84<br>(3.31)  | 58<br>(2.28) | 19<br>(0.75)   | G1/8 | 53.5<br>(2.11) | 61.5<br>(2.42) | 20<br>(0.79) |
| QPGB 311 S |                       |             |                |     |               |                    |              |    |             |             |               |                |                          |               |              |                |      |                |                |              |
| QPGB 313   | 122<br>(4.80)         | 8<br>(0.31) | 61<br>(2.40)   | M10 | 8.5<br>(0.33) | 20<br>(0.79)       | 16<br>(0.63) | M5 | 8<br>(0.31) | 8<br>(0.31) | 4<br>(0.16)   | 16<br>(0.63)   | 138<br>(5.43)            | 110<br>(4.33) | 67<br>(2.64) | 22.5<br>(0.89) | G1/8 | 66<br>(2.60)   | 76<br>(2.99)   | 25<br>(0.98) |
| QPGB 313 S |                       |             |                |     |               |                    |              |    |             |             |               |                |                          |               |              |                |      |                |                |              |

\* Dimensions are in millimeters (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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