

Level compensator LC



- ▶ Adjust differences in levels, for example on lifting devices with several suction cups.
- ▶ Less demand for exact positioning of vacuum handling device.
- ▶ Provides a certain degree of shock and vibration absorption.
- ▶ Allows for soft placement of cups on sensitive or thin objects.
- ▶ Non-rotational design, suitable for use with oval suction cups.
- ▶ Wide range of thread connections and stroke lengths.

Technical data

| Description | Unit | Value |
|-------------------|------|--------|
| Material | | Al, SS |
| Temperature range | °C | 0-60 |

Technical data, specific

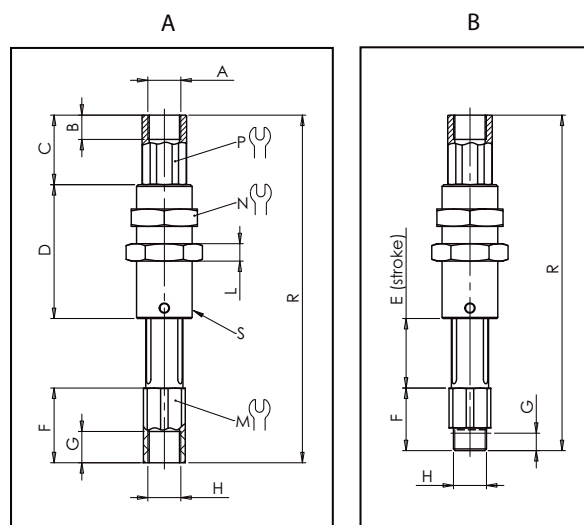
| Art. No. | Spring force N/mm | Internal force N | End force N | Weight g | Volume cm ³ | Connection | Action range/ Stroke mm | Max. recommended suction cup |
|----------|----------------------|---------------------|----------------|-------------|---------------------------|------------|-------------------------------|--------------------------------------|
| 0127103 | 0.21 | 1.9 | 4.1 | 17 | 0.22 | M5 | 10 | Ø30mm (Area: 700mm ²) |
| 0127104 | 0.21 | 1.9 | 4.1 | 17 | 0.22 | M5 | 10 | Ø30mm (Area: 700mm ²) |
| 0127105 | 0.12 | 2 | 5 | 23 | 0.22 | M5 | 25 | Ø30mm (Area: 700mm ²) |
| 0127106 | 0.12 | 2 | 5 | 23 | 0.22 | M5 | 25 | Ø30mm (Area: 700mm ²) |
| 0124951 | 0.27 | 3.6 | 9.0 | 36 | 1.14 | G1/8" | 20 | Ø50mm (Area: 2000mm ²) |
| 0124952 | 0.27 | 3.6 | 9.0 | 36 | 1.14 | G1/8" | 20 | Ø50mm (Area: 2000mm ²) |
| 0124953 | 0.15 | 4.3 | 9.5 | 46 | 1.63 | G1/8" | 35 | Ø50mm (Area: 2000mm ²) |
| 0124954 | 0.15 | 4.3 | 9.5 | 46 | 1.83 | G1/8" | 35 | Ø50mm (Area: 2000mm ²) |
| 0124955 | 0.27 | 4.1 | 11 | 64 | 2.47 | G1/4" | 25 | Ø80mm (Area: 5000mm ²) |
| 0124956 | 0.27 | 4.1 | 11 | 64 | 2.8 | G1/4" | 25 | Ø80mm (Area: 5000mm ²) |
| 0124957 | 0.14 | 4.3 | 11.4 | 90 | 4.1 | G1/4" | 50 | Ø80mm (Area: 5000mm ²) |
| 0124958 | 0.14 | 4.3 | 11.4 | 90 | 4.4 | G1/4" | 50 | Ø80mm (Area: 5000mm ²) |
| 0124959 | 0.27 | 5.6 | 16.5 | 164 | 6.6 | G3/8" | 40 | Ø125mm (Area: 12000mm ²) |
| 0124960 | 0.27 | 5.6 | 16.5 | 164 | 7.4 | G3/8" | 40 | Ø125mm (Area: 12000mm ²) |
| 0124961 | 0.14 | 6 | 17 | 231 | 11.16 | G3/8" | 80 | Ø125mm (Area: 12000mm ²) |
| 0124962 | 0.14 | 6 | 17 | 231 | 11.96 | G3/8" | 80 | Ø125mm (Area: 12000mm ²) |

Ordering information

| Description | Art. No. |
|------------------------------|----------|
| Level compensator LC12-F0510 | 0127103 |
| Level compensator LC12-M0510 | 0127104 |
| Level compensator LC12-F0525 | 0127105 |
| Level compensator LC12-M0525 | 0127106 |
| Level compensator LC16-F1820 | 0124951 |
| Level compensator LC16-M1820 | 0124952 |
| Level compensator LC16-F1835 | 0124953 |
| Level compensator LC16-M1835 | 0124954 |
| Level compensator LC20-F1425 | 0124955 |
| Level compensator LC20-M1425 | 0124956 |
| Level compensator LC20-F1450 | 0124957 |
| Level compensator LC20-M1450 | 0124958 |
| Level compensator LC25-F3840 | 0124959 |
| Level compensator LC25-M3840 | 0124960 |
| Level compensator LC25-F3880 | 0124961 |
| Level compensator LC25-M3880 | 0124962 |

Dimensions mm

| | Art. No. | A | B | C | D | E | F | G | H | L | M | N | P | R | S |
|---|----------|-------|-----|----|------|----|------|-----|-------|---|----|----|----|-------|---------|
| A | 0127103 | M5 | 5.5 | 17 | 25 | 10 | 8 | 5.5 | M5 | 4 | 10 | 15 | 10 | 60 | M12x1 |
| B | 0127104 | M5 | 5.5 | 17 | 25 | 10 | 9.5 | 4.5 | M5 | 4 | 10 | 15 | 10 | 61.5 | M12x1 |
| A | 0127105 | M5 | 5.5 | 17 | 44 | 25 | 8 | 5.5 | M5 | 4 | 10 | 15 | 10 | 94 | M12x1 |
| B | 0127106 | M5 | 5.5 | 17 | 44 | 25 | 9.5 | 4.5 | M5 | 4 | 10 | 15 | 10 | 95.5 | M12x1 |
| A | 0124951 | G1/8" | 7 | 20 | 38.5 | 20 | 21.5 | 9 | G1/8" | 5 | 12 | 19 | 12 | 100 | M16x1 |
| B | 0124952 | G1/8" | 7 | 20 | 38.5 | 20 | 18 | 5 | G1/8" | 5 | 12 | 19 | 12 | 96.5 | M16x1 |
| A | 0124953 | G1/8" | 7 | 20 | 58.5 | 35 | 21.5 | 9 | G1/8" | 5 | 12 | 19 | 12 | 135 | M16x1 |
| B | 0124954 | G1/8" | 7 | 20 | 58.5 | 35 | 18 | 5 | G1/8" | 5 | 12 | 19 | 12 | 131.5 | M16x1 |
| A | 0124955 | G1/4" | 10 | 23 | 50 | 25 | 15 | 10 | G1/4" | 6 | 16 | 24 | 16 | 113 | M20x1.5 |
| B | 0124956 | G1/4" | 10 | 23 | 50 | 25 | 14 | 6.5 | G1/4" | 6 | 16 | 24 | 16 | 112 | M20x1.5 |
| A | 0124957 | G1/4" | 10 | 23 | 82.5 | 50 | 15 | 10 | G1/4" | 6 | 16 | 24 | 16 | 170.5 | M20x1.5 |
| B | 0124958 | G1/4" | 10 | 23 | 82.5 | 50 | 14 | 6.5 | G1/4" | 6 | 16 | 24 | 16 | 169.5 | M20x1.5 |
| A | 0124959 | G3/8" | 11 | 33 | 71 | 40 | 15 | 11 | G3/8" | 8 | 22 | 32 | 22 | 159 | M25x1.5 |
| B | 0124960 | G3/8" | 11 | 33 | 71 | 40 | 18 | 9.5 | G3/8" | 8 | 22 | 32 | 22 | 162 | M25x1.5 |
| A | 0124961 | G3/8" | 11 | 33 | 121 | 80 | 15 | 11 | G3/8" | 8 | 22 | 32 | 22 | 249 | M25x1.5 |
| B | 0124962 | G3/8" | 11 | 33 | 121 | 80 | 18 | 9.5 | G3/8" | 8 | 22 | 32 | 22 | 252 | M25x1.5 |



Level compensators



- ▶ Adjust differences in levels, for example on lifting devices with several suction cups on a frame.
- ▶ A level compensator is often advantageous since it places less demand on exact vertical positioning, for example on a handling robot.
- ▶ The level compensator provides a certain degree of shock absorption.
- ▶ Level Compensator G1/2" with stiffer spring is identical to standard level compensator G1/2" except for thicker spring material. Suits e.g. robot vision systems in applications such as auto-racking.

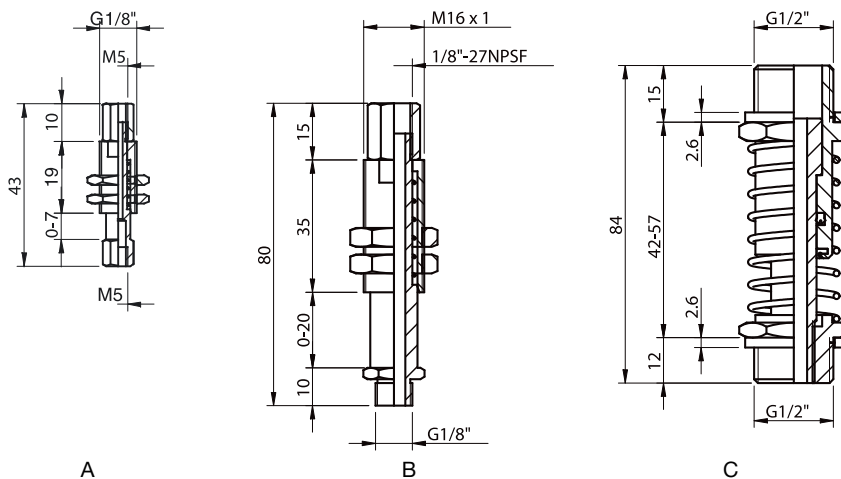
Technical data

| Description | Unit | Value | | | |
|-------------------|------|------------|------------|--------|---------------------------|
| | | M5 | G1/8" | G1/2" | G1/2" with stiffer spring |
| Weight | g | 10 | 70 | 160 | 196 |
| Temperature range | °C | -20-120 | -20-120 | -20-90 | -20-90 |
| Stroke | mm | 0-7 | 0-20 | 0-15 | 0-15 |
| Max. Load | kg | 3.0 | 25 | 50 | 50 |
| Material | | Steel/CuZn | Steel/CuZn | Steel | Steel |

Ordering information

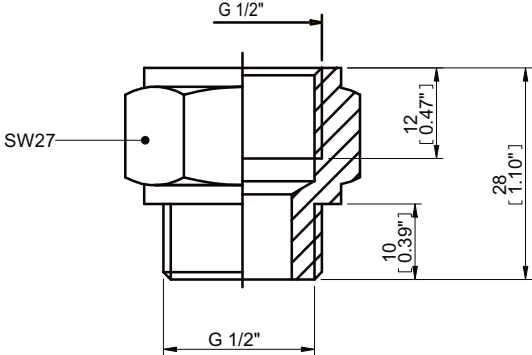
| | Description | Art. No. |
|---|---|----------|
| A | Level compensator M5 | 3350068 |
| B | Level compensator G1/8" | 3350069 |
| C | Level compensator G1/2" | 3350071 |
| C | Level compensator G1/2" with stiffer spring | 0114291 |

When using Level compensator G1/2" (3350071 and 0114291) with Suction cup F75 G1/2" female with cone valve (0101872 and 0101879), a Connector G1/2" (3107757) must be used.



Ordering information, accessories

| Description | Art. No. |
|-------------------------|----------|
| Connector ext-int G1/2" | 3107757 |



Level compensator LC30



- ▶ Tailor made for the Vacuum Gripper System, VGS™, but can also be used together with other Piab products.
- ▶ Developed for use with standard profile systems.
- ▶ Easy installation with the option of fine adjustments and positioning of the suction cup.
- ▶ Non-rotational for use with, for example, oval suction cups. Can easily be made rotational.
- ▶ Quiet and reliable level compensation with load protection and shock absorption.

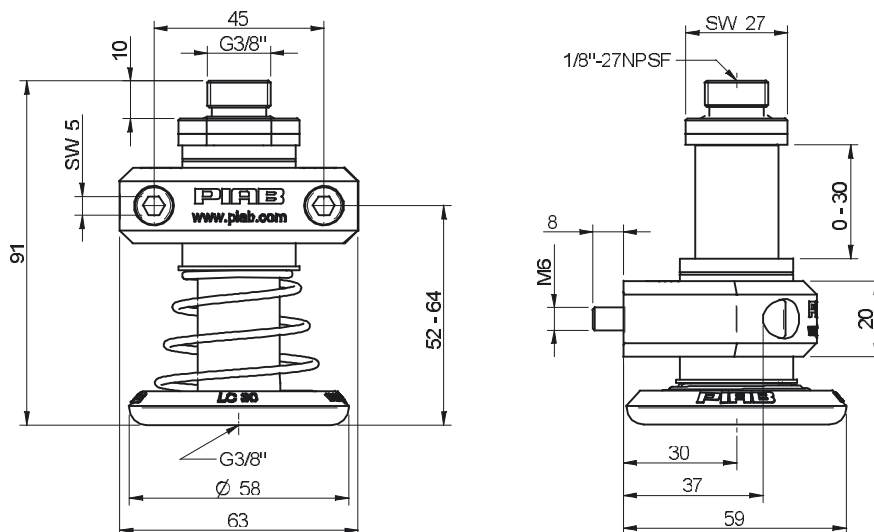
Technical data

| Description | Unit | Value |
|------------------------------------|-----------------|---------------------------|
| Spring force | N | 5–42 |
| Stroke | mm | 30 |
| Weight | g | 220 |
| Volume, internal | cm ³ | 5 |
| Maximum load, vertical | N | 700 |
| Temperature range | C° | 10–50 |
| Adjustable in height | mm | 12 |
| Adjustable in rotational direction | ° | 0–360 |
| Material | | Al, NBR, PA, POM, PUR, SS |

Ordering information

| Description | Art. No. |
|------------------------|----------|
| Level compensator LC30 | 0111552 |

LC 30 is delivered with two MC6S M6x45 fzb screws.



Ball joints



- ▶ Ball joint fittings could be used when lifting sheet metal with a device using several suction cups.
- ▶ To avoid bending stress a suction cup can be fitted with a balljoint.

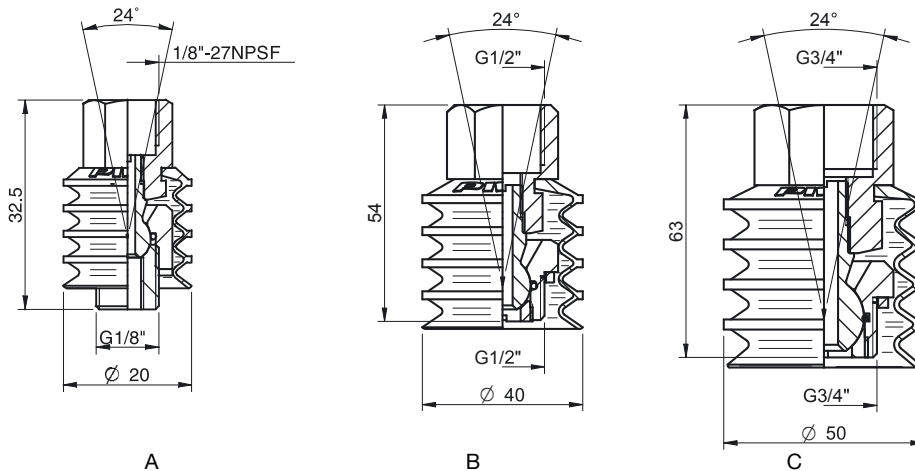
Technical data

| Description | Unit | Value | | |
|-------------------|------|-----------------|-----------------|-----------------|
| | | G1/8" | G1/2" | G3/4" |
| Weight | g | 20 | 110 | 200 |
| Temperature range | °C | -40-110 | -40-110 | -40-110 |
| Angle | ° | ±12 | ±12 | ±12 |
| Max. Load | kg | 25 | 50 | 150 |
| Material | | Steel/CR/PA/NBR | Steel/CR/PA/NBR | Steel/CR/PA/NBR |

Ordering information

| | Description | Art. No. |
|---|------------------|----------|
| A | Ball joint G1/8" | 3350065 |
| B | Ball joint G1/2" | 3350066 |
| C | Ball joint G3/4" | 3350067 |

When using Ball joint G1/2" (3350066) with Suction cup F75 G1/2" with cone valve (0101872 and 0101879), a Connector G1/2" (3107757) must be used.



Ordering information, accessories

| Description | Art. No. |
|-------------------------|----------|
| Connector ext-int G1/2" | 3107757 |

Angle adaptors



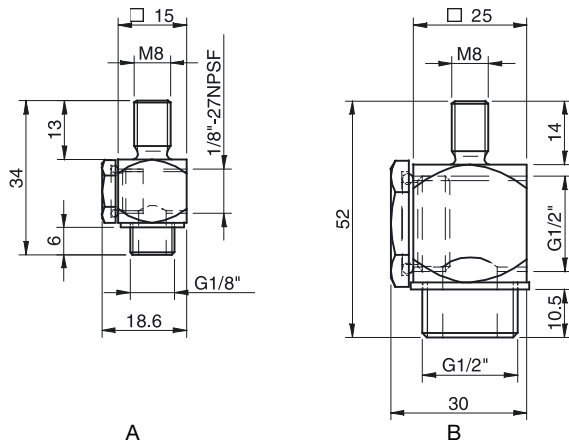
- ▶ Angle adaptors facilitate vacuum connections when space and headroom are limited.
- ▶ Can also be used as T-connectors.

Technical data

| Description | Unit | Value | |
|-------------------|------|-------------|-----------|
| | | G1/8" – M8 | G1/2" –M8 |
| Weight | g | 20 | 120 |
| Temperature range | °C | -40-110 | -40-110 |
| Material | | CuZn/NBR/PA | SS/NBR/PA |

Ordering information

| | Description | Art. No. |
|---|------------------------|----------|
| A | Angle adapter G1/8"–M8 | 3150053 |
| B | Angle adapter G1/2"–M8 | 3150054 |



T-slot adapters



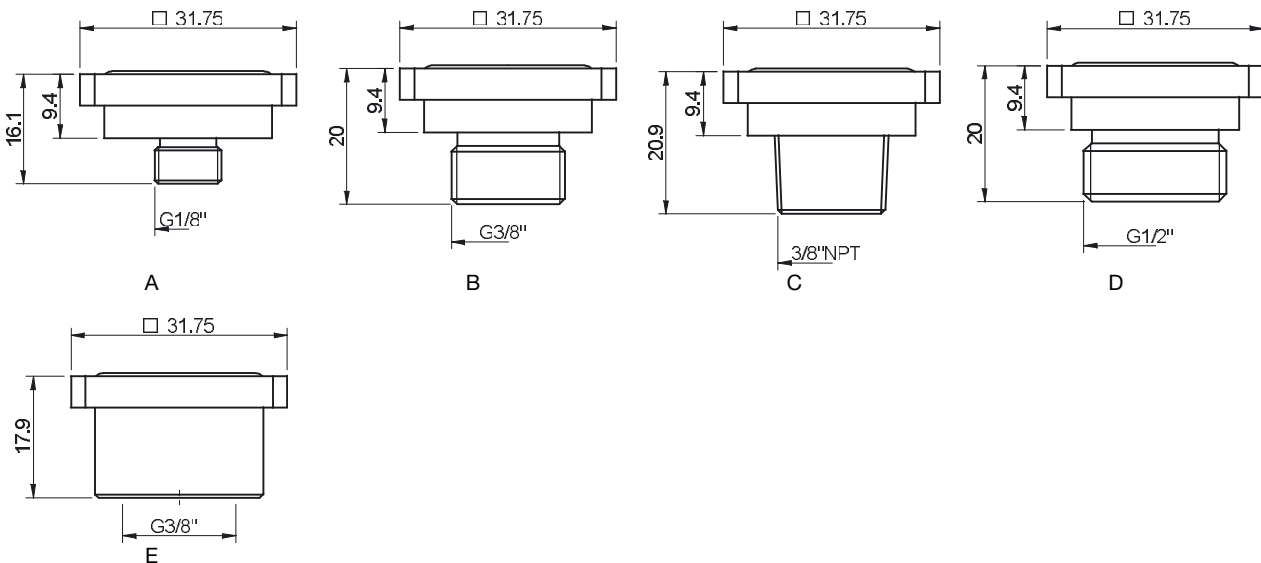
- ▶ The Piab T-slot adapter enables Piab suction cups to mount to existing boom assemblies and end-of-arm tooling used in the automotive industry. The T-slot adapter threads into the Piab cup fitting and can then be mounted accordingly.
- ▶ The suction cups can be changed quickly and with great ease.
- ▶ Non-rotating feature — good when using oval suction cups.

Technical data

| Description | Unit | Value |
|---------------------|------|--------|
| Weight | g | 17–22 |
| Working temperature | °C | -20–90 |
| Material | | Al/NBR |

Ordering information

| | Description | Art. No. |
|---|-----------------------------|----------|
| A | T-slot adapter G1/8" male | 0104108 |
| B | T-slot adapter G3/8" male | 0104110 |
| C | T-slot adapter 3/8" NPT | 0104111 |
| D | T-slot adapter G1/2" male | 0104112 |
| E | T-slot adapter G3/8" female | 0107942 |



Ball joint fitting



- ▶ Fitted to a suction cup to avoid bending stress.
- ▶ Non-leaking design to work with Vacuum Check Valve and Vacustat.
- ▶ Available in a loose-fit, a locking version or one with 5° movement.

Technical data

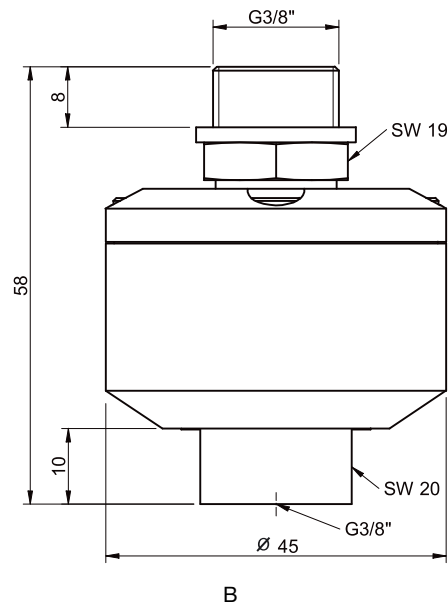
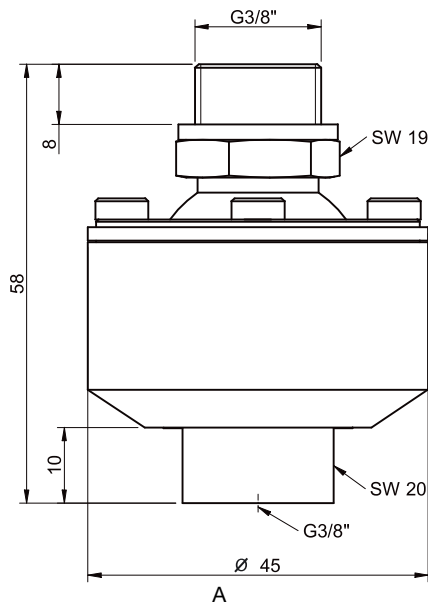
| Description | Unit | Value |
|-------------------|------|-------------------|
| Material | | SS, Zn, CuZn, NBR |
| Temperature range | °C | -30-70 |
| Weight | g | 348-393 |

Technical data, specific

| Description | Unit | Value | | |
|------------------|------|---------|---------|---------|
| | | 0110636 | 0121177 | 0110635 |
| Angular movement | ° | ±20 | ±5 | ±20 |

Ordering information

| | Description | PMAT No. | Art. No. |
|---|--|----------|----------|
| A | Ball joint fitting G3/8" | X7016 | 0110635 |
| A | Ball joint fitting G3/8", locking | X7018 | 0110636 |
| B | Ball joint fitting G3/8", limited movement | X7026 | 0121177 |



Ordering information, accessories

| Description | Art. No. |
|--|----------|
| Adapter fitting G3/8" male x 3/8" NPT male | 0121240 |

Height adjuster



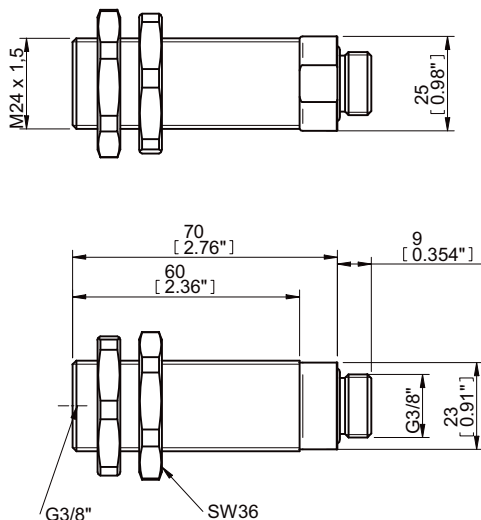
- ▶ Provides a height extension between the tooling and the suction cup.
- ▶ Adjustable in height.
- ▶ Can be used with Suction cup extension.
- ▶ Key handle to avoid rotation when connecting vacuum ports.

Technical data

| Description | Unit | Value |
|---------------------------------|-----------------|----------------|
| Material | | Al, NBR, Steel |
| Temperature range | °C | -30-70 |
| Weight | g | 130 |
| Volume, internal | cm ³ | 32 |
| Action range, adjustable length | mm | 48 |

Ordering information

| Description | Art. No. |
|---|----------|
| Height adjuster G3/8" male x G3/8" female | 0121122 |



Ordering information, accessories

| Description | Art. No. |
|--|----------|
| Adapter fitting G3/8" male x 3/8" NPT male | 0121240 |

Suction cup extension



- ▶ Solid extension for mounting a suction cup.
- ▶ Several heights available.
- ▶ Can be used with Height adjuster.

Technical data

| Description | Unit | Value |
|----------------------------|------|---------|
| Material | | AL, NBR |
| Temperature range | °C | -30-70 |
| Max. load, radial | N | 400 |
| Max. load, axial | N | 700 |
| Radial deflection at 400 N | mm | <1 |

Operational lifetime: 10,000,000 cycles at max. load

Technical data, specific - G threads

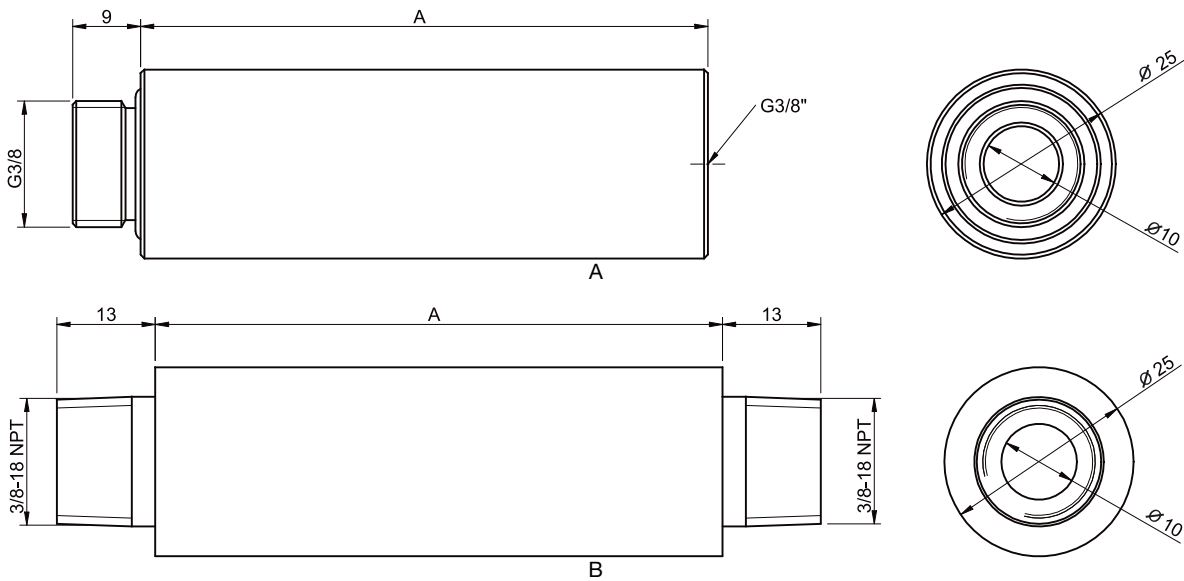
| Description | Unit | Value | | | | | |
|------------------|-----------------|---------|---------|---------|---------|---------|---------|
| | | 0110653 | 0110655 | 0110657 | 0110659 | 0110661 | 0110663 |
| Weight | g | 29 | 56 | 84 | 123 | 168 | 223 |
| Volume, internal | cm ³ | 3 | 5 | 7 | 9 | 12 | 16 |

Technical data, specific - NPT threads

| Description | Unit | Value | | | | | |
|------------------|-----------------|---------|---------|---------|---------|---------|---------|
| | | 0121138 | 0121139 | 0121140 | 0121141 | 0121142 | 0121143 |
| Weight | g | 39 | 66 | 94 | 133 | 178 | 233 |
| Volume, internal | cm ³ | 3 | 5 | 7 | 9 | 12 | 16 |

Ordering information

| | Description | PMAT No. | Art. No. |
|---|--|----------|----------|
| A | Suction cup extension 25, G3/8" male x G3/8" female | X7044 | 0110653 |
| A | Suction cup extension 50, G3/8" male x G3/8" female | X7046 | 0110655 |
| A | Suction cup extension 75, G3/8" male x G3/8" female | X7051 | 0110657 |
| A | Suction cup extension 110, G3/8" male x G3/8" female | X7054 | 0110659 |
| A | Suction cup extension 150, G3/8" male x G3/8" female | X7058 | 0110661 |
| A | Suction cup extension 200, G3/8" male x G3/8" female | X7062 | 0110663 |
| B | Suction cup extension 25, 3/8" NPT male x 3/8" NPT male | -- | 0121138 |
| B | Suction cup extension 50, 3/8" NPT male x 3/8" NPT male | -- | 0121139 |
| B | Suction cup extension 75, 3/8" NPT male x 3/8" NPT male | -- | 0121140 |
| B | Suction cup extension 110, 3/8" NPT male x 3/8" NPT male | -- | 0121141 |
| B | Suction cup extension 150, 3/8" NPT male x 3/8" NPT male | -- | 0121142 |
| B | Suction cup extension 200, 3/8" NPT male x 3/8" NPT male | -- | 0121143 |



Dimensions

| Description | A mm |
|---------------------------|------|
| Suction cup extension 25 | 25 |
| Suction cup extension 50 | 50 |
| Suction cup extension 75 | 75 |
| Suction cup extension 110 | 110 |
| Suction cup extension 150 | 150 |
| Suction cup extension 200 | 200 |

Ordering information, accessories

| Description | Art. No. |
|---|----------|
| Height adjuster G3/8" male x G3/8" female | 0121122 |