

Vacuum Automation 2.1

The future depends on good product choices





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| Optimising controls | | For pump/system | | Air saving | Control Vacuum on/off |
|------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------|------------------------------------|------------|-----------------------|
| | | Included in the code | Recommended | | |
| AVM™2 (Automatic Vacuum Management) |  | P3010 P5010 P6010 | | X | X |
| CU (Control Unit) |  | P3010 P5010 P6010 | | | X |
| Vacustat/ES (Automatic energy saving) |  | P3010 P5010 P6010 piCLASSIC | VGS™3010 VGS™5010 Any system | X | |
| PCC (Piab Cruise Control) |  | P6010 | | X | X |
| Solenoid valves |  | P3010 P6040 | Any system | | X |
| Regulators |  | | Any system | X | |
| QR (Quick-release valve) |  | P3010 VGS™3040 | VGS™3010 VGS™5010 Any system | X | |
| Blow-off check valve |  | VGS™3040 | VGS™3010 P3010 Any system | | |
| Vacuum switches (Pneumatic) |  | | Any system | | |
| Vacuum switches (Electro-mechanical) |  | P3010 | Any system | | |
| Vacuum switches (Solid state) |  | piCOMPACT P3010 | Any system | | |

| Function | | | Features and benefits |
|----------------------|-------------------|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Release/ blow-off | Vacuum sensing | Pressure sensing | |
| X | X | | <ul style="list-style-type: none"> ▶ Complete electrical operated control unit with built in air saving and monitoring system. ▶ Suitable for pumps in sealed applications. |
| X | | | <ul style="list-style-type: none"> ▶ Electrical operated control unit. ▶ Suitable for pumps in leaking applications or small, fast pick-and-place applications. |
| | X | X | <ul style="list-style-type: none"> ▶ Independent air saving for vacuum or blow pumps, pneumatic or electrical operated. ▶ Suitable in sealed applications or centralized vacuum system with external manifolds. |
| | | | <ul style="list-style-type: none"> ▶ Electrical operated control device which automatically regulates the feed pressure towards an optimal programmed vacuum level. ▶ The function gives air savings in leaking applications. |
| | | | <ul style="list-style-type: none"> ▶ Electrical operated air valves to control when the pump is to be turned on/off. |
| | | | <ul style="list-style-type: none"> ▶ Pneumatic or mechanical compressed air regulators for controlling the pump's optimum feed pressure. |
| X | | | <ul style="list-style-type: none"> ▶ Valves that uses the atmospheric pressure to quickly eliminate vacuum in, e.g. suction cups. ▶ Saves energy and simplifies the vacuum system since its control is synchronized with pump. |
| X | | | <ul style="list-style-type: none"> ▶ Non-return valve that separates the vacuum- and the blow-off part in a vacuum system. ▶ Optimized opening blow-off pressure for being used in decentralized vacuum systems. |
| | X | | <ul style="list-style-type: none"> ▶ Air operated vacuum sensors that gives a pneumatic clear signal at desired vacuum level. ▶ Suitable for increased safety and monitoring in fully pneumatic system e.g. ergonomic lifting devices. |
| | X | | <ul style="list-style-type: none"> ▶ Electrical operated vacuum sensors that gives a electrical clear signal at desired vacuum level. ▶ Suitable to be used to feed another load, like connecting several sensors serially to provide one common output to a PLC or BUS-I/O, e.g. in decentralized vacuum systems in robot applications. |
| | X | X | <ul style="list-style-type: none"> ▶ Electrical operated vacuum sensors with a transistor output that gives a clear signal at desired vacuum level. ▶ Available with display and recommended when accuracy and repeatability are needed. ▶ Intended for integrations into control and monitoring systems. |

Vacuum switches, pneumatic



- ▶ Converts a vacuum level to a pneumatic signal.
- ▶ Vacuum-actuated membrane linked to a pneumatic switch.
- ▶ Available preset or with adjustable vacuum level.

Technical data

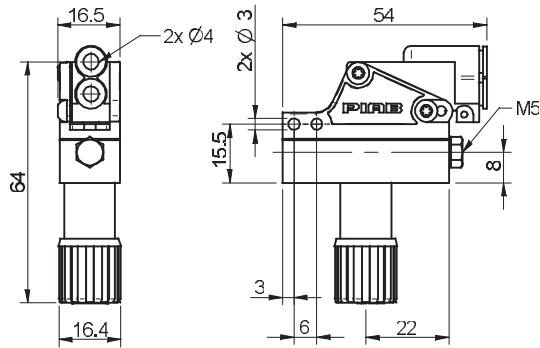
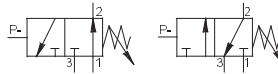
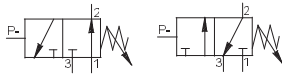
| Description | Unit | Value |
|----------------------------------------|------|----------------------------|
| Feed pressure, range | MPa | 0.15–0.8 |
| Feed pressure, max @ vacuum connection | MPa | 0.6 |
| Material | | PA, SS, NBR, POM, Al, CuZn |
| Temperature range | °C | -10-60 |
| Weight | g | 39 |
| Connection, compressed air | mm | 2 x Ø4 |
| Connection, vacuum | mm | M5 |

Technical data, specific

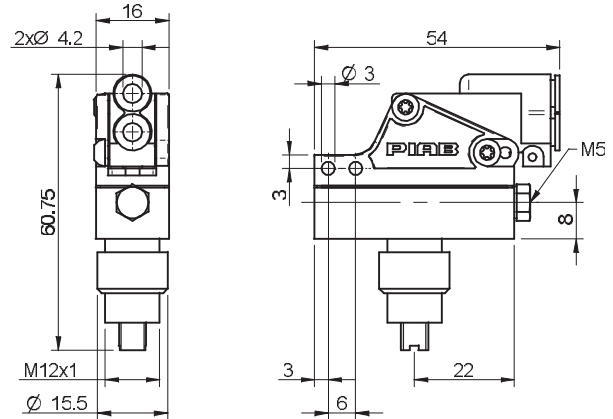
| Description | Unit | Value | | | | | |
|-----------------------|------|------------|------------|---------|---------|---------|---------|
| | | 3116062 | 3116063 | 3116084 | 3116085 | 3116087 | 3116088 |
| Vacuum, level setting | | Screw/Knob | Screw/Knob | Preset | Preset | Preset | Preset |
| Signal range | -kPa | 10–95 | 15–95 | 25±4 | 65±8 | 30±5 | 70±10 |
| Function output | | NO | NC | NO | NO | NC | NC |
| Hysteresis | kPa | 3 | 12 | 3 | 3 | 12 | 12 |

Ordering information

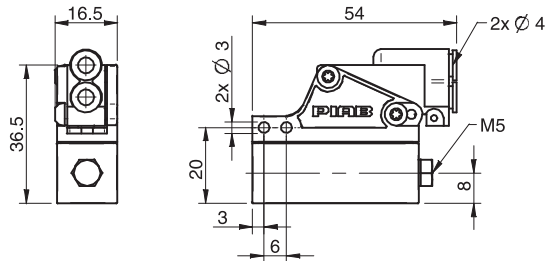
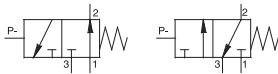
| | Description | Art. No. |
|---|---------------------------------------------------------------|----------|
| A | Vacuum switch, pneumatic, adjustable with screw and knob (NO) | 3116062 |
| A | Vacuum switch, pneumatic, adjustable with screw and knob (NC) | 3116063 |
| B | Vacuum switch, pneumatic, preset (NO 25 -kPa) | 3116084 |
| B | Vacuum switch, pneumatic, preset (NO 65 -kPa) | 3116085 |
| B | Vacuum switch, pneumatic, preset (NC 30 -kPa) | 3116087 |
| B | Vacuum switch, pneumatic, preset (NC 70 -kPa) | 3116088 |



A Knob



A Screw



B

Ordering information, accessories

| Description | Art. No. |
|----------------------------------|----------|
| Connection set for vacuum switch | 0100488 |

Contents: Barrel nipple G1/8" M5 long, hose connector 4/2 M5. Material: Nickel-plated brass, SS, PA66, NBR, PA6. Fits: All pre-set and adjustable vacuum switches.

Vacuum switches VS4118/VS4128



- ▶ Pre-set vacuum switch with digital output.
- ▶ Durable and compact design with G1/8" 90° angle swivel connection for easy installation.
- ▶ VS4118 hardwired enables PNP NO/NC or NPN NO/NC functionality.
- ▶ VS4128 suitable for plug in I/Os. Available in PNP NO or NPN NO models.
- ▶ Possible to connect several units serially with T-connectors to provide a common output (VS4128 PNP).

Technical data

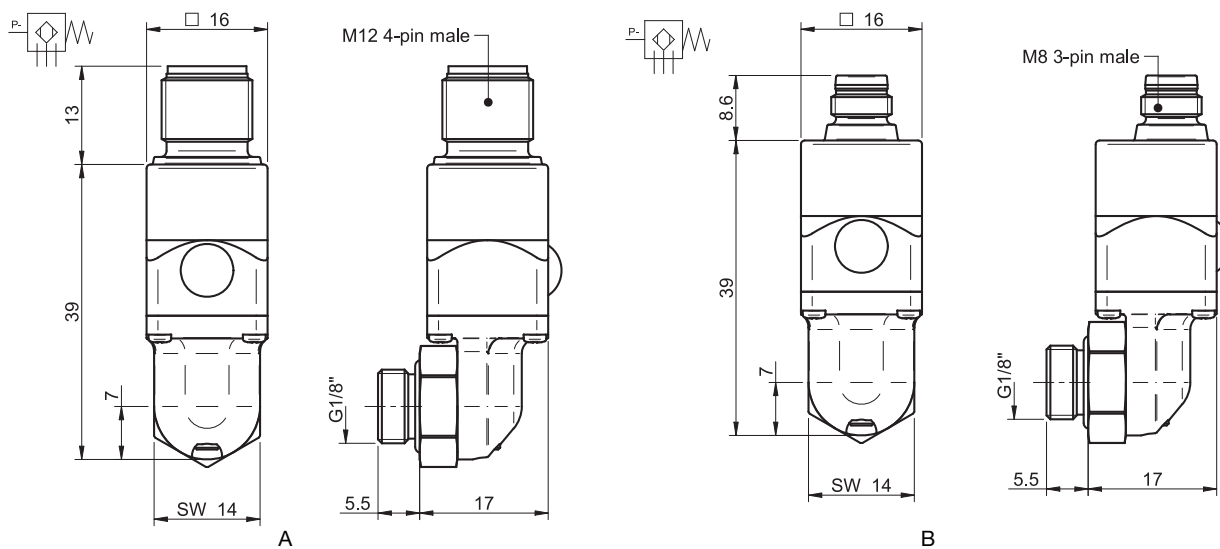
| Description | Unit | Value |
|----------------------------------------------|------|------------------|
| Feed pressure, max @ vacuum connection | MPa | 0.6 |
| Material | | AL, SS, CuZn, PA |
| Temperature range | °C | -25 – 85 |
| Weight | g | 23 |
| Connection, vacuum | | G1/8" |
| Function | | NO/NC |
| Hysteresis | kPa | 8 |
| Voltage | VDC | 24 (12-30) |
| Safety classification | | IP65 |
| Current, max inductive | A | 0,1 |
| Current, max resistive | A | 0,4 |
| Voltage drop, max (100mA/24V inductive load) | VDC | 0.055 |
| Response time | ms | 4 |
| Display | | LED indicator |

Technical data, specific

| Description | Unit | Value | | | | | |
|---------------------|------|-----------|-----------|-----------|------------|------------|------------|
| | | 0110630 | 0110631 | 0124450 | 0110730 | 0110731 | 0110732 |
| Signal range | -kPa | 30±4 | 50±4 | 50±4 | 30±4 | 50±4 | 70±4 |
| Electric connection | | M12 4-pin | M12 4-pin | M12 4-pin | M8 3-pin | M8 3-pin | M8 3-pin |
| Dimension, WxDxH | mm | 52x16x17 | 52x16x17 | 52x16x17 | 47.6x16x17 | 47.6x16x17 | 47.6x16x17 |

Ordering information

| | Description | Art. No. |
|---|------------------------------------------------|----------|
| A | Vacuum Switch VS4128 30 -kPa, M12 PNP NO | 0110630 |
| A | Vacuum Switch VS4128 50 -kPa, M12 PNP NO | 0110631 |
| A | Vacuum switch VS4128 30 -kPa, M12 NPN NO | 0124449 |
| A | Vacuum Switch VS4128 50 -kPa, M12 NPN NO | 0124450 |
| B | Vacuum Switch VS4118 30 -kPa, M8 PNP/NPN NO/NC | 0110730 |
| B | Vacuum Switch VS4118 50 -kPa, M8 PNP/NPN NO/NC | 0110731 |
| B | Vacuum Switch VS4118 70 -kPa, M8 PNP/NPN NO/NC | 0110732 |



Ordering information, accessories

| Description | Art. No. |
|----------------------------|----------|
| Cable M8 3-pin female L=2m | 0108141 |

T-connector M12



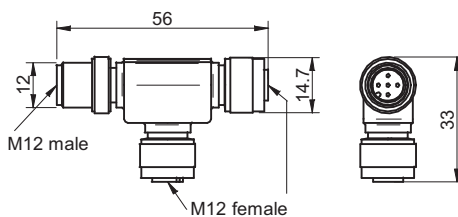
- ▶ Serially connects two or several vacuum switches, VS4128, into one common output to the PLC or BUS-I/O.
- ▶ Quick and simple installation with standard male to female M12 eurofast cable assemblies.
- ▶ Suitable if the PLC or BUS-I/O is limited to one or two input signals from a vacuum system with several vacuum switches.

Technical data

| Description | Unit | Value |
|-----------------------|------|--------------|
| Material | | TPU, Zn |
| Temperature range | °C | -25 – 90 |
| Weight | g | 25 |
| Voltage, max | VDC | 60 |
| Safety classification | | IP65 |
| Current, max | A | 4 |
| Humidity | %RH | 90 |
| Electric connection | | 3x M12 4-pin |
| Dimension, WxDxH | mm | 56x14,7x33 |

Ordering information

| Description | Art. No. |
|------------------------------------|----------|
| T-connector M12 male, 2xM12 female | 0119558 |



Ordering information, accessories

| Description | Art. No. |
|--------------------------------------------------|----------|
| Cable M12 4-pin female, M12 4-pin male, PUR, L=2 | 0118322 |

Vacuum switches VS4015/VS4016



- ▶ Pre-set vacuum switch with digital output.
- ▶ Very low weight and small format, push-in or thread connections.
- ▶ PNP NO/NC or NPN NO/NC output functions.

Technical data

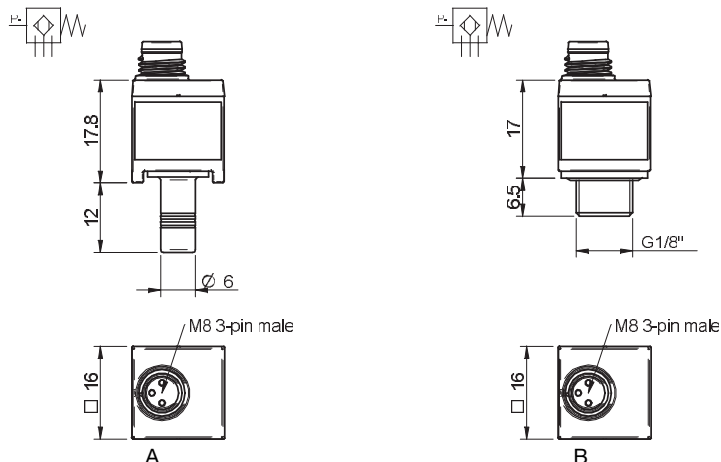
| Description | Unit | Value |
|----------------------------------------------|------|-----------------------|
| Feed pressure, max @ vacuum connection | MPa | 0.2 |
| Material | | PA, TPU, SS, CuZn(Au) |
| Temperature range | °C | -25 – 85 |
| Weight | g | 5 |
| Function | | NO/NC |
| Hysteresis | kPa | 6 ± 1 |
| Voltage | VDC | 24 (12-30) |
| Safety classification | | IP40 |
| Current, max inductive | A | 0,1 |
| Current, max resistive | A | 0,4 |
| Voltage drop, max (100mA/24V inductive load) | VDC | 0.055 |
| Response time | ms | 4 |
| Display | | LED indicator |
| Electric connection | | M8 3-pin |

Technical data, specific

| Description | Unit | Value | | | | | |
|--------------------|-----------|------------|------------|------------|------------|------------|------------|
| | | 0110245 | 0110246 | 0110247 | 0110248 | 0110249 | 0110250 |
| Connection, vacuum | mm / inch | Ø6 | Ø6 | Ø6 | G1/8" | G1/8" | G1/8" |
| Signal range | -kPa | 30 +5/-3 | 50 +5/-3 | 70 +5/-3 | 30 +5/-3 | 50 +5/-3 | 70 +5/-3 |
| Dimension, WxDxH | mm | 16x16x22.3 | 16x16x22.3 | 16x16x22.3 | 16x16x21.5 | 16x16x21.5 | 16x16x21.5 |

Ordering information

| | Description | Art. No. |
|---|-------------------------------------------|----------|
| A | Vacuum switch VS4015, Ø6, 30 -kPa | 0110245 |
| A | Vacuum switch VS4015, Ø6, 50 -kPa | 0110246 |
| A | Vacuum switch VS4015, Ø6, 70 -kPa | 0110247 |
| B | Vacuum switch VS4016, G1/8" male, 30 -kPa | 0110248 |
| B | Vacuum switch VS4016, G1/8" male, 50 -kPa | 0110249 |
| B | Vacuum switch VS4016, G1/8" male, 70 -kPa | 0110250 |



Ordering information, accessories

| Description | Art. No. |
|----------------------------|----------|
| Cable M8 3-pin female L=2m | 0108141 |

Vacuum switches, electro-mechanical



- ▶ Converts a vacuum level to an electric signal, VAC or VDC.
- ▶ Vacuum-actuated membrane linked to an electro-mechanical switch.
- ▶ Integrated cable with open ends included.
- ▶ Available preset or with adjustable vacuum level.

Technical data

| Description | Unit | Value |
|----------------------------------------|---------|---------------------------------------|
| Feed pressure, max @ vacuum connection | MPa | 0,6 |
| Material | | PBTP, PVC, PA, SS, NBR, POM, Al, CuZn |
| Temperature range | °C | -20 – 80 |
| Weight | g | 62 |
| Connection, vacuum | mm | M5 |
| Function | | NO/NC |
| Hysteresis | kPa | 10 |
| Cable | | 3 x 0.75 mm ² x 0.5 m |
| Voltage, max | VAC/VDC | 250/30 |
| Safety classification | | IP67 |
| Current, max | A | 5 |

Technical data, specific

| Description | Unit | Value | | |
|-----------------------|------|--------------|--------------|--------------|
| | | 3116061 | 3116095 | 3116096 |
| Vacuum, level setting | | Screw/Knob | Preset | Preset |
| Signal range | -kPa | 15–95 | 25±5 | 65±10 |
| Dimension, WxDxH | mm | 48x16.5x64.5 | 48x16.5x44.5 | 48x16.5x44.5 |

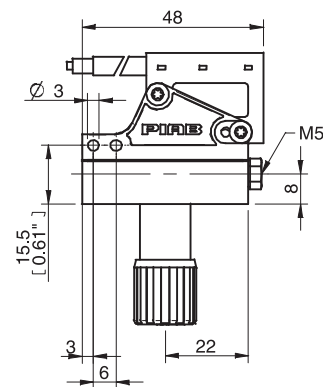
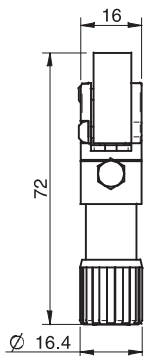
Note:

NO, Normally Open, in electrical circuits corresponds to an open circuit breaker, which means that, if the gate is open, no current can pass through.

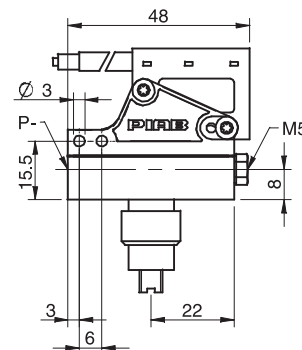
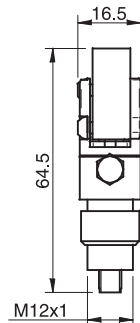
NO, Normally Open, in pneumatic circuits corresponds to an open valve, which means that, if the valve is open, compressed air passes through.

Ordering information

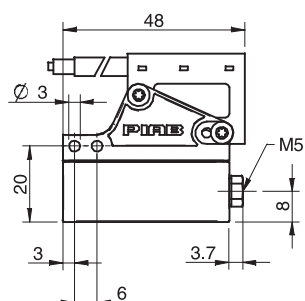
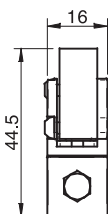
| | Description | Art. No. |
|---|-------------------------------------------------------------------|----------|
| A | Vacuum switch, electro-mechanical, adjustable with screw and knob | 3116061 |
| B | Vacuum switch, electro-mechanical, preset (Signal range 25 -kPa) | 3116095 |
| B | Vacuum switch, electro-mechanical, preset (Signal range 65 -kPa) | 3116096 |



A Knob



A Screw



B

Ordering information, accessories

| Description | Art. No. |
|----------------------------------|----------|
| Connection set for vacuum switch | 0100488 |

Contents: Barrel nipple G1/8" M5 long, hose connector 4/2 M5. Material: Nickel-plated brass, SS, PA66, NBR, PA6. Fits: All pre-set and adjustable vacuum switches.

Vacuum switches, inductive universal



- ▶ Converts a vacuum level to a digital signal, 24 VDC.
- ▶ Vacuum-actuated membrane linked to a proximity-inductive universal switch.
- ▶ Integrated cable with open ends included.
- ▶ PNP NO/NC or NPN NO/NC output functions.
- ▶ The switch must be connected in series with the load.

Technical data

| Description | Unit | Value |
|----------------------------------------|------|---------------------------------------|
| Feed pressure, max @ vacuum connection | MPa | 0.6 |
| Material | | PBTP, PVC, PA, SS, NBR, POM, Al, CuZn |
| Temperature range | °C | -25–80 |
| Weight | g | 71 |
| Function | | PNP NO/NC, NPN NO/NC |
| Hysteresis | kPa | 2 |
| Cable | | 2 x 0.14 mm ² x 2m |
| Voltage | VDC | 24 (5–36) |
| Safety classification | | IP67 |
| Current, max | A | 0.2 |
| Voltage drop, max | VDC | 4.6 |

Technical data, specific

| Description | Unit | Value | | | |
|-----------------------|------|----------------|----------------|----------------|----------------|
| | | 0104350 | 3116064 | 3116089 | 3116090 |
| Vacuum, level setting | | Knob | Knob | Preset | Preset |
| Connection, vacuum | mm | Ø6 | M5 | M5 | M5 |
| Signal range | -kPa | 10–95 | 10–95 | 10±1 | 30±3 |
| Dimension, WxDxH | mm | 48.5x16.5x63.8 | 47.5x16.5x63.8 | 47.5x16.5x36.5 | 47.5x16.5x36.5 |

Supplement

PNP NO = Normally Open, Positive logic. As the switch is activated, the gate at the feed current (+) closes and contact is established.

PNP NC = Normally Closed, Positive logic. As the switch is activated, the gate at the feed current (+) opens and contact is interrupted.

NPN NO = Normally Open, Negative logic. As the switch is activated, the gate at ground (-) closes and contact is established.

NPN NC = Normally Closed, Negative logic. As the switch is activated, the gate at ground (-) opens and contact is interrupted.

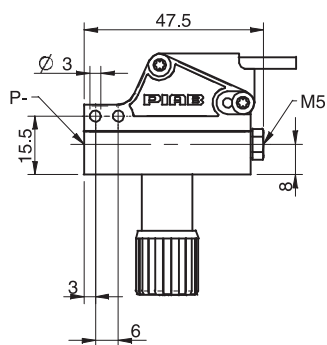
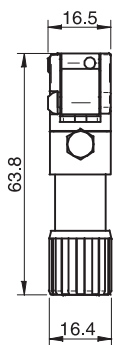
Note:

NO, Normally Open, in electrical circuits corresponds to an open circuit breaker, which means that, if the gate is open, no current can pass through.

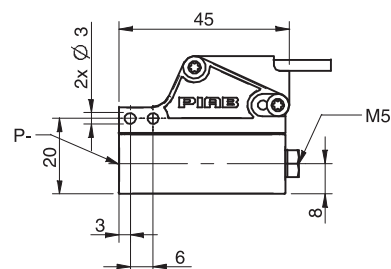
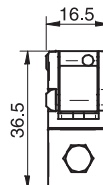
NO, Normally Open, in pneumatic circuits corresponds to an open valve, which means that, if the valve is open, compressed air passes through.

Ordering information

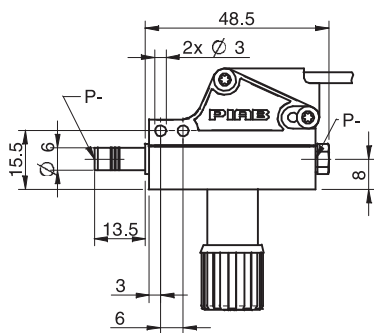
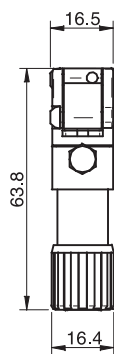
| | Description | Art. No. |
|---|-------------------------------------------------------------------|----------|
| A | Vacuum switch, inductive universal, adjustable with knob | 3116064 |
| B | Vacuum switch, inductive universal, preset (Signal range 10 -kPa) | 3116089 |
| B | Vacuum switch, inductive universal, preset (Signal range 30 -kPa) | 3116090 |
| C | Vacuum switch, inductive universal, adjustable with knob Ø6 | 0104350 |



A



B



C

Ordering information, accessories

| Description | Art. No. |
|----------------------------------|----------|
| Connection set for vacuum switch | 0100488 |

Contents: Barrel nipple G1/8" M5 long, hose connector 4/2 M5. Material: Nickel-plated brass, SS, PA66, NBR, PA6. Fits: All pre-set and adjustable vacuum switches.

Vacuum switch 3-colour digital display M8



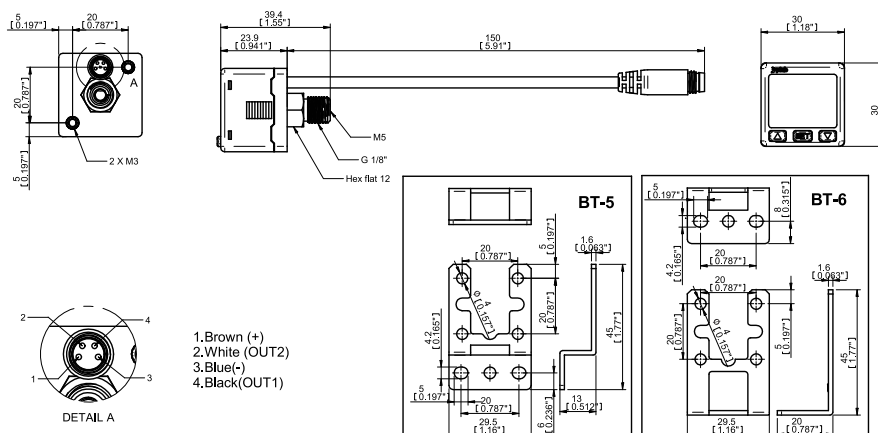
- ▶ 2 PNP outputs, NO or NC. Independently selectable for each output.
- ▶ 3-colour LCD display, easy readout.
- ▶ 7 programmable vacuum units, for example kPa, inHg, mmHg, etc.
- ▶ Dual display allows actual and set value to be displayed at the same time.
- ▶ Selectable "Key-Lock mode" with display indicator to avoid unauthorized changes.
- ▶ Selectable "Power-Save mode" with display indicator.
- ▶ Mounting brackets included.

Technical data

| Description | Unit | Value |
|--------------------------------------------------------|--------|---------------------------------------------------|
| Feed pressure, max. | MPa | 0.3 |
| Vacuum range | -kPa | 0.0 ~ 101.3 |
| Temperature range | °C | 0-50 |
| Weight | kg | 0.045 |
| Function | | 2x PNP output NO/NC |
| Hysteresis | kPa | adjustable, 1-8 |
| Cable with connector | mm | 150 |
| Voltage, supply | VDC | 12-24 |
| Safety classification | | IP40 |
| Current, max/ load (switch output) | A | 0.125 |
| Humidity | % RH | 35-85 |
| Response time, ≤ | ms | 2.5-1500 (adjustable) |
| Accuracy, at 25°C | % F.S. | ±2 |
| Current consumption, ≤ | mA | 40 |
| High-voltage resistance/dielectric strength | VAC | 1000 |
| Insulation, at 500 VDC | MΩ/MW | 50 |
| Vibration resistant, 1.5mm or 10G, 2h in XYZ direction | Hz | 10-150-10 scan for 1 min |
| Display | | 7 segment LCD 3 colour display (Red/Green/Orange) |
| Shock resistant, 3 x XYZ | G | 10 |

Ordering information

| Description | Art. No. |
|-------------------------------------------|----------|
| Vacuum switch 3-colour digital display M8 | 0126934 |



Ordering information, accessories

| Description | Art. No. |
|-------------------------------------------------|----------|
| Cable M8 4-pin female L=2m, straight connection | 0107727 |

Vacuum switch, MM8



- ▶ Converts vacuum to an analogue output signal and an adjusted vacuum level to a digital output.
- ▶ Adjustable hysteresis.
- ▶ Separate cable with open ends included.

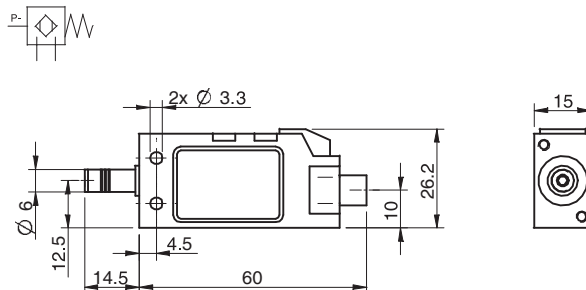
Technical data

| Description | Unit | Value |
|---------------------------------------------------------|--------|------------------|
| Feed pressure, max @ vacuum connection | MPa | 0.2 |
| Material | | PC, POM, NBR, SS |
| Temperature range | °C | -20–70 |
| Weight | g | 68 |
| Connection vacuum | mm | Ø6/M5 |
| Signal range | -kPa | 0–100 |
| Function | | NO |
| Hysteresis | % F.S. | 1–5 |
| Voltage | VDC | 24 (10.8–30) |
| Voltage, output | VDC | 1–15 |
| Safety classification | | IP40 |
| Current, max output | A | 0.08 |
| Current, max analogue output (load resistance min. 5kΩ) | A | 0.001 |
| Voltage drop, max | VDC | 4.6 |
| Humidity | % RH | 35–85 |
| Response time | ms | 2 |
| Accuracy, @ 25°C | % F.S. | ±3 |
| Current consumption | mA | 17 |
| High-voltage resistance | VAC | 500 |
| Insulation, resistance @ 500 VDC | MOhm | 100 |
| Vibration resistant, 1,5 mm, XYZ, 2 h | Hz | 10–500 |
| Electric connection | | M8 4-pin |
| Dimension, WxDxH | mm | 26x15x60 |

Non-lubricated air, non-corrosive gases, compatible with Polycarbonate and Polyacetal.

Ordering information

| Description | Art. No. |
|---------------------------------------|----------|
| Vacuum switch, adjustable, PNP NO MM8 | 0107729 |
| Vacuum switch, adjustable, NPN NO MM8 | 0107730 |



Vacuum switch, DM8



- ▶ Converts adjusted vacuum levels to 2 separate digital outputs.
- ▶ Digital vacuum level display.
- ▶ Integrated cable with M8 connector included.

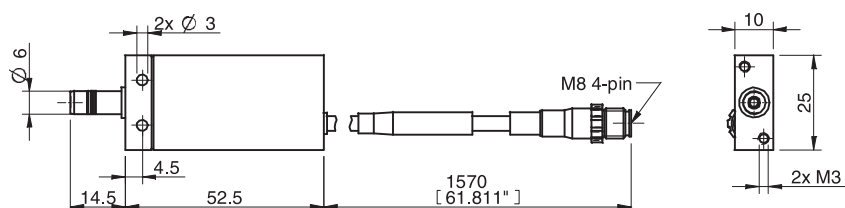
Technical data

| Description | Unit | Value |
|----------------------------------------|--------|-------------------------|
| Feed pressure, max @ vacuum connection | MPa | 0.2 |
| Material | | PC, POM, NBR, Al |
| Temperature range | °C | -20–60 |
| Weight | g | 52 |
| Connection vacuum | mm | Ø6/M5 |
| Signal range | -kPa | 0–100 |
| Function | | NO |
| Hysteresis | % F.S. | 2 |
| Cable | m | 1.5 |
| Voltage | VDC | 12–24 |
| Safety classification | | IP40 |
| Current, max output | A | 0.08 |
| Humidity | % RH | 35–85 |
| Response time | ms | 2 |
| Accuracy, @ 25°C | % F.S. | ±3 |
| Current consumption | mA | 35 |
| High-voltage resistance | VAC | 500 |
| Insulation, resistance @ 500 VDC | MOhm | 100 |
| Display | | LED indicators, numeric |
| Electric connection | | M8 4-pin |
| Dimension, WxDxH | mm | 25x10x53 |

Non-lubricated air, non-corrosive gases, compatible with Polycarbonate and Polyacetal.

Ordering information

| Description | Art. No. |
|---------------------------------------|----------|
| Vacuum switch, adjustable, PNP NO DM8 | 0107732 |
| Vacuum switch, adjustable, NPN NO DM8 | 0107733 |



Vacuum switch, LM8



- ▶ Converts an adjusted vacuum level to a digital output.
- ▶ Very low weight and small format with push-in connection.
- ▶ Integrated cable with M8 connector included.

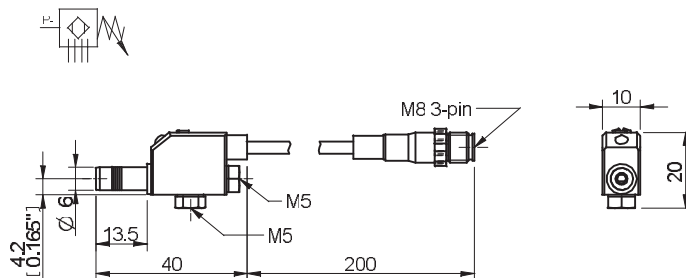
Technical data

| Description | Unit | Value |
|----------------------------------------|--------|---------------|
| Feed pressure, max @ vacuum connection | MPa | 0.2 |
| Material | | PC, AI, SS |
| Temperature range | °C | -100–60 |
| Weight | g | 55 |
| Connection vacuum | mm | Ø6/M5 |
| Signal range | -kPa | 0–100 |
| Function | | NO PNP |
| Hysteresis | % F.S. | 2 |
| Cable | m | 0.2 |
| Voltage | VDC | 24 (10.8–30) |
| Safety classification | | IP40 |
| Current, max output | A | 0.08 |
| Humidity | % RH | 35–85 |
| Response time | ms | 1 |
| Accuracy, @ 25°C | % F.S. | ±3 |
| Current consumption | mA | 20 |
| High-voltage resistance | VDC | 500 |
| Insulation, resistance @ 500 VDC | MOhm | 100 |
| Vibration resistance, 1.5 mm, XYZ, 2 h | Hz | 10–55 |
| Display | | LED indicator |
| Electric connection | | M8 3-pin |
| Dimension, WxDxH | mm | 20x10x27 |

Non-lubricated air, non-corrosive gases, compatible with Polycarbonate and Polyacetal.

Ordering information

| Description | Art. No. |
|---------------------------------------|----------|
| Vacuum switch, adjustable, PNP NO LM8 | 0107731 |



Vacuum switch, M5



- ▶ Converts an adjusted vacuum level to a digital output signal for pressure or vacuum.
- ▶ NC in vacuum range 0–100 -kPa. NO in pressure range 0–300 kPa.
- ▶ Very low weight and small format with M5 90° angle swivel connection.
- ▶ Integrated cable with open ends included.

Technical data

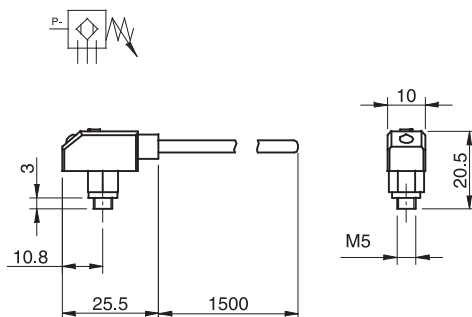
| Description | Unit | Value |
|----------------------------------------|--------|----------------------------------|
| Feed pressure, max @ vacuum connection | MPa | 0.6 |
| Material | | PC, SS |
| Temperature range | °C | -10–60 |
| Weight | g | 6 |
| Connection vacuum | mm | M5 |
| Signal range | kPa | -100–300 |
| Function | | NO, NC |
| Hysteresis | % F.S. | 2 |
| Cable | | 3 x 0.14 mm ² x 1.5 m |
| Voltage | VDC | 24 (10.8–30) |
| Safety classification | | IP40 |
| Current, max output | A | 0.08 |
| Humidity | % RH | 35–85 |
| Response time | ms | 1 |
| Accuracy, @ 25°C | % F.S. | ±3 |
| Current consumption | mA | 20 |
| High-voltage resistance | VDC | 500 |
| Insulation, resistance @ 500 VDC | MOhm | 100 |
| Vibration resistance, 1.5 mm, XYZ, 2 h | Hz | 10–55 |
| Display | | LED indicator |
| Dimension, WxDxH | mm | 26x10x18 |

Non-lubricated air, non-corrosive gases, compatible with Polycarbonate and Polyacetal.

Note: Normally closed, opens at set value from -100~300 kPa.

Ordering information

| Description | Art. No. |
|----------------------|----------|
| Vacuum switch PNP M5 | 0110358 |
| Vacuum switch NPN M5 | 0110359 |



Vacuum switch/sensor, piCOMPACT10



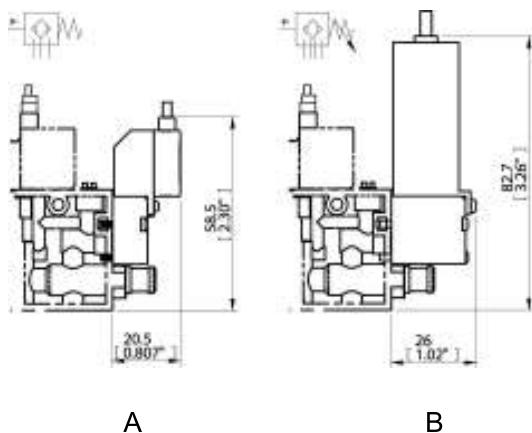
- ▶ Vacuum sensor/switch options for piCOMPACT10.
- ▶ Sensor with analog output 1-5 VDC.
- ▶ Digital switch with LED Display, PNP or NPN output + analog output (1-5 VDC).
- ▶ Easy to set vacuum level, hysteresis and change display units (bar, kPa, inHg, mmHg)
- ▶ 2m cable included, open ends.

Technical data

| Description | Unit | Value | |
|----------------------------|------|---------------------------------------------------------|---------------------------------------------------------|
| | | Vacuum sensor 1A Analog | Vacuum sensor/switch 1D, 2D Digital/ Analog |
| Vacuum range | -kPa | 0-101 | 0-101 |
| Overpressure, max. | MPa | 0.5 | 0.5 |
| Material | | PC, Al | PC, Al |
| Temperature range | °C | 0-50 | 0-50 |
| Weight | g | 32 | 57 |
| Vacuum connection | | M5 threaded female | M5 threaded female |
| Humidity | %RH | 35-85 | 35-85 |
| Safety classification | | IP40 | IP40 |
| Voltage supply | VDC | 10.8-30, Ripple (Vp-p) 10% max | 10.8-30, Ripple (Vp-p) 10% max |
| Response time | ms | 2 | 2 |
| Dielectric strength, 1 min | VAC | 100 | 100 |
| Accuracy | | ±1% of F.S. | ±2% of F.S. |
| Repeatability | | - | ±0.2% of F.S. |
| Analog output | VDC | 1-5 (±0.1), linearity ±0.5% F.S. Output impedance 500 Ω | 1-5 (±0.1), linearity ±0.5% F.S. Output impedance 500 Ω |
| Switch/digital output | | - | PNP or NPN open collector Max 125mA (load current) |
| Display | | - | 3 1/2 digit 7 segment |
| Current consumption | mA | 20 or less | 60 or less |
| Vibration resistance | Hz | 0-55, amplitude 1.5mm XYZ 2h | 0-150, amplitude 1.5mm XYZ 2h |

Ordering information, spare parts

| | Description | Code | Art. No. |
|---|----------------------------------------------------|------|----------|
| A | No display, analog output vacuum sensor | 1A | 0125645 |
| B | Display, analog & digital output vacuum sensor PNP | 1D | 0125648 |
| B | Display, analog & digital output vacuum sensor NPN | 2D | 0125647 |



Blow-off Check valve G1/8"



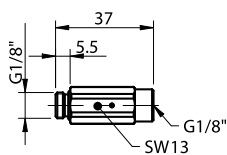
- ▶ Prevents vacuum from being pulled through the blow-off lines, which means faster response time and completely independent vacuum units.
- ▶ Reliable quick-release function even in larger systems with several units, due to the very low feed pressure required to break away for blow-off.
- ▶ Suitable in applications where cleaning of the suction cup filters or cooling of the object to be picked is important.

Technical data

| Description | Unit | Value |
|---------------------------------------------------|------|-------------------|
| Feed pressure, range | MPa | 0.3–0.7 |
| Feed pressure, minimum to break away for blow-off | MPa | 0.1 |
| Material | | AL, CuZn, SS, NBR |
| Temperature range | °C | -10–80 |
| Weight | g | 12.4 |
| Flow, rate @ 0.3-0.7 MPa | l/s | 1.5–2.8 |
| Connection, compressed air | | G1/8" |
| Connection, vacuum | | G1/8" |
| Dimension, WxDxH | mm | 14x14x31,5 |

Ordering information

| Description | Art. No. |
|----------------------------|----------|
| Blow-off Check valve G1/8" | 0115314 |



AQR 02 (Atmospheric Quick-Release Valve)



- ▶ Equalises pressure in the suction cups to provide fast release of the product.
- ▶ Extra fast release by accumulating and utilising the feed-air pressure as a boost.
- ▶ ON/OFF activated simultaneously with the ejector.
- ▶ No additional controls required – use a single 3/2 control valve for the ejector and AQR 02.

Technical data

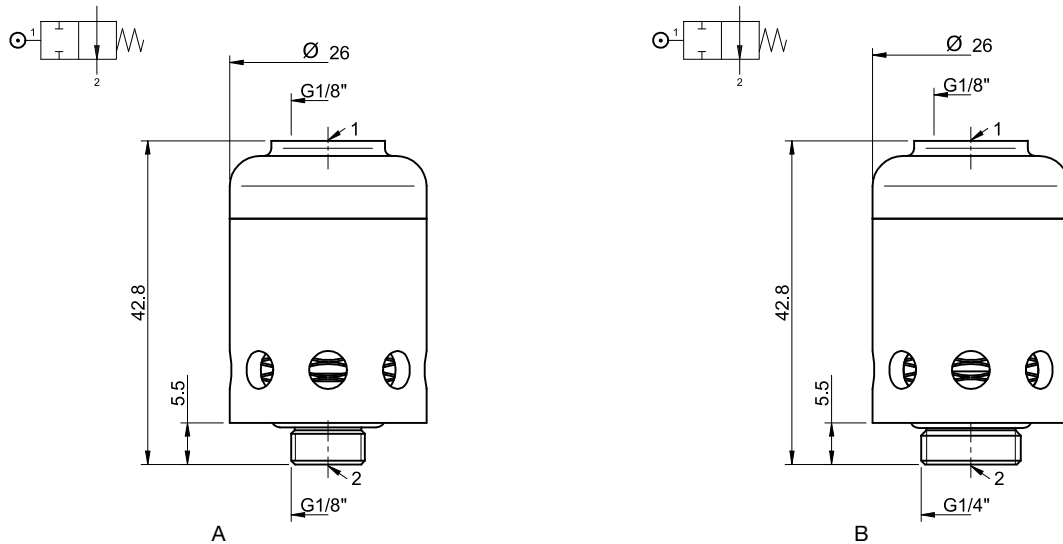
| Description | Unit | Value |
|----------------------------|------|-------------|
| Feed pressure, range | MPa | 0.3–0.7 |
| Material | | Al, SS, NBR |
| Temperature range | °C | 0–50 |
| Weight | g | 47 |
| Connection, compressed air | | G1/8" |
| Dimension, WxDxH | mm | 26x26x37,3 |

Technical data, specific

| Description | Unit | Value | |
|--------------------|------|---------|---------|
| | | 0119721 | 0119720 |
| Connection, vacuum | | G1/8" | G1/4" |
| Flow, atmospheric | l/s | 3.85 | 7.85 |

Ordering information

| Description | Art. No. |
|-----------------------------------------------------|----------|
| A Atmospheric quick-release valve – AQR 0207, G1/8" | 0119721 |
| B Atmospheric quick-release valve – AQR 0210, G1/4" | 0119720 |



AQR (Atmospheric Quick-Release Valve)



- ▶ Equalises pressure in vacuum gripper systems to provide fast release of product.
- ▶ Consumes no additional compressed air.
- ▶ ON/OFF activated simultaneously with the ejector.
- ▶ No additional controls required — use a single 3/2 control valve for the ejector and AQR.
- ▶ Optional with fitting kit containing straight connector G1/8" and nylon tube.

Technical data

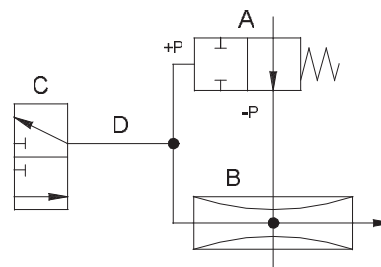
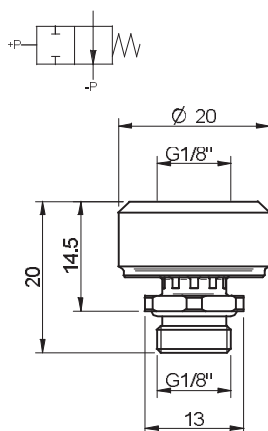
| Description | Unit | Value |
|----------------------------|------|------------|
| Feed pressure, range | MPa | 0.3–0.7 |
| Temperature range | °C | 10–50 |
| Connection, compressed air | | G1/8" |
| Connection, vacuum | | G1/8" |
| Flow, atmospheric | NI/s | 3.3 |
| Dimension, WxDxH | mm | 20x20x14,5 |

Technical data, specific

| Description | Unit | Value | |
|-------------|------|----------------|----------------------------|
| | | 0111236 | 0117156 |
| Material | | CuZn, PUR, NBR | CuZn, NBR, Ni, PA, PUR, SS |
| Weight | g | 20 | 36 |

Ordering information

| Description | Art. No. |
|--------------------------------------------------------------|----------|
| Atmospheric quick-release valve – AQR | 0111236 |
| Atmospheric quick-release valve – AQR, including fitting kit | 0117156 |



A=AQR, B=Vacuum pump, C=Control valve, D=Rec. max. 1.5m

QR (Quick-Release valve)



- ▶ For vacuum pump P3010.
- ▶ Quick release by accumulating and utilising the feed-air pressure as a boost.
- ▶ ON/OFF activated simultaneously with the P3010
- ▶ Three sizes for optimising release volume with system volume.

Technical data

| Description | Unit | Value |
|-----------------------|-----------------|----------------------|
| Feed pressure, max. | MPa | 0.7 |
| Material | | Al, SS, PPS, NBR, PA |
| Temperature range | °C | -10-50 |
| Volume, Quick-Release | cm ³ | 3 |

For dimensions, please go to data sheet for vacuum pump P3010.

Ordering information

| Description |
|------------------------------------------------------------------------------------|
| Available in product configuration, please go to data sheet for vacuum pump P3010. |

Technical data, accessories

| Description | Unit | Value | |
|----------------------------|-----------------|------------|-----------|
| | | 0104272 | 0104273 |
| Weight | g | 72 | 118 |
| Volume, Quick-Release tank | cm ³ | 30 | 60 |
| Dimension, WxDxH | mm | 57,5x16x52 | 120x16x52 |

Ordering information, accessories

| Description | Art. No. |
|-----------------------------------------------------|----------|
| Quick-Release tank module P3010, 30 cm ³ | 0104272 |
| Quick-Release tank module P3010, 60 cm ³ | 0104273 |

Solenoid valve DS 23



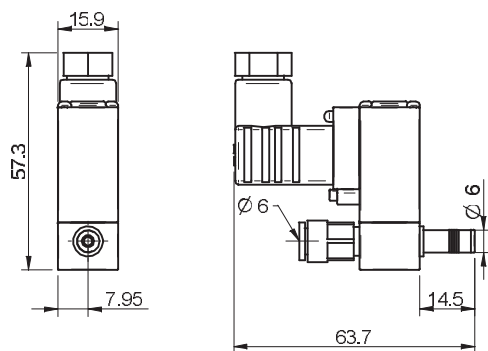
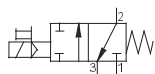
- ▶ Electric 3/2 valve with manual override.
- ▶ Quick and easy mounting with push-in connections.
- ▶ Body with 3 M5 ports.
- ▶ Suitable for compressed air, filtration 40µ.

Technical data

| Description | Unit | Value |
|-------------------------------------------|--------|----------------------------|
| Feed pressure, range | MPa | 0.2-0.7 |
| Material | | Ni, Al, SS, POM, CuZn, NBR |
| Temperature range | °C | -18-50 |
| Weight | g | 100 |
| Connection, compressed air | mm | 2 x Ø6 |
| Voltage | VDC | 24 (22-28) |
| Safety classification | | IP65 |
| Current consumption | mA | 100 |
| Display | | LED indicator |
| Flow @ P ₁ =6 bar and Δp=1 bar | NI/s | 1.3 |
| Life span, mechanical | cycles | 100,000,000 |
| Ratings, load time | % | 100 |
| Electrical connection | | DIN (c) |
| Dimension, WxDxH | mm | 49,7x15,9x57,3 |

Ordering information

| Description | Art. No. |
|-----------------------------------------|----------|
| Solenoid valve DS 23 for control ON/OFF | 0104274 |



Electrically controlled 2/2 valves DIP 55



- ▶ On/off valve
- ▶ 1/8" NPSF ports
- ▶ 0.6 W solenoid
- ▶ Electrical connections: plug-in contacts and DIN (c)
- ▶ Suitable for PIAB vacuum pumps up to Classic size.
- ▶ Manual override

Technical data

| Description | Unit | Value |
|--------------------------------|--------|----------------------------------|
| Feed pressure, range | MPa | 0.4–0.7 MPa |
| Material | | PPS, PA, TPU, AI, NBR, CuZn, PUR |
| Temperature range | °C | 0–60 |
| Weight | g | 102 |
| Connection compressed air | | 2 x NPSF 1/8" |
| Function | | NC |
| Supply voltage | VDC | 24 |
| Display | | LED |
| Flow, nominal | NI/s | 8.6 |
| Kv | | 7.8 |
| Lifespan, mechanical | cycles | 10,000,000 |
| Power consumption | W | 0.6 |
| Load time rating | % | 100 |
| Bore-through diameter, nominal | mm | 3.7 |

Electrical connections are included.

Compressed air, filtration 40µm, non-lubricated.

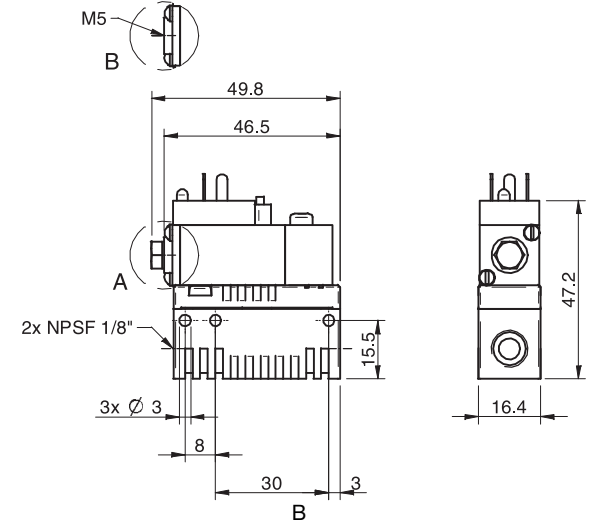
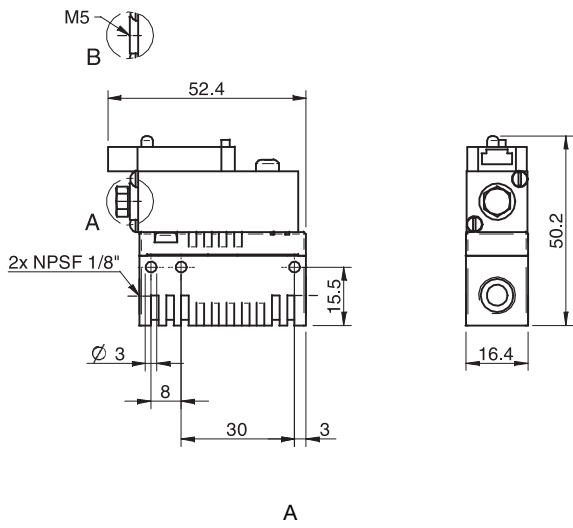
Technical data, specific

| Description | Value | |
|-----------------------|-----------------------------|------------------------------|
| | 0101071 DIP55 NC 2406 SD | 0101017 DIP 55 NO 2406 SE |
| Electrical connection | DIN (c) * | Plug-in connection * |
| Safety specification | IP65 | — |

**) Electrical connections are included. * Electrical connections are to be ordered separately.*

Ordering information

| | Description | Art. No. |
|---|----------------------------------------------------|----------|
| A | Electrically controlled 2/2 valve DIP55 NO 2406 SE | 0101017 |
| B | Electrically controlled 2/2 valve DIP55 NC 2406 SD | 0101071 |



Vacuum Check Valve VT1



- ▶ Check valve that traps vacuum in sealed applications for safe operation.
- ▶ Built-in blow off check valve for fast release of object.
- ▶ Optional two-stage COAX® cartridge MINI Pi12-2 integrated.
- ▶ Optional integrated energy-saving device, Vacustat results in virtually no air consumption in sealed applications.

Technical data

| Description | Unit | Value |
|----------------------------------------|------|--------------------|
| Feed pressure, max. | MPa | 0.7 |
| Feed pressure, min. breakaway blow-off | MPa | 0.25 |
| Material | | Al, Steel, Ceramic |

Technical data, specific

| Description | Unit | Value | | |
|-------------------|------|-----------------|-----------------|-----------------|
| | | 0109233/0121236 | 0110456/0121237 | 0120323/0121238 |
| Weight | g | 272 | 390 | 650 |
| Temperature range | °C | -30-70 | -10-80 | -10-80 |
| Noise level | dBA | — | 66-68 | 66-68 |
| Signal | -kPa | — | — | 65 |
| Function | | — | — | 2/2 NO |
| Hysteresis | kPa | — | — | 8 |
| Vacuum flow, max. | NI/s | — | 0.68 | 0.68 |

Vacuum flow

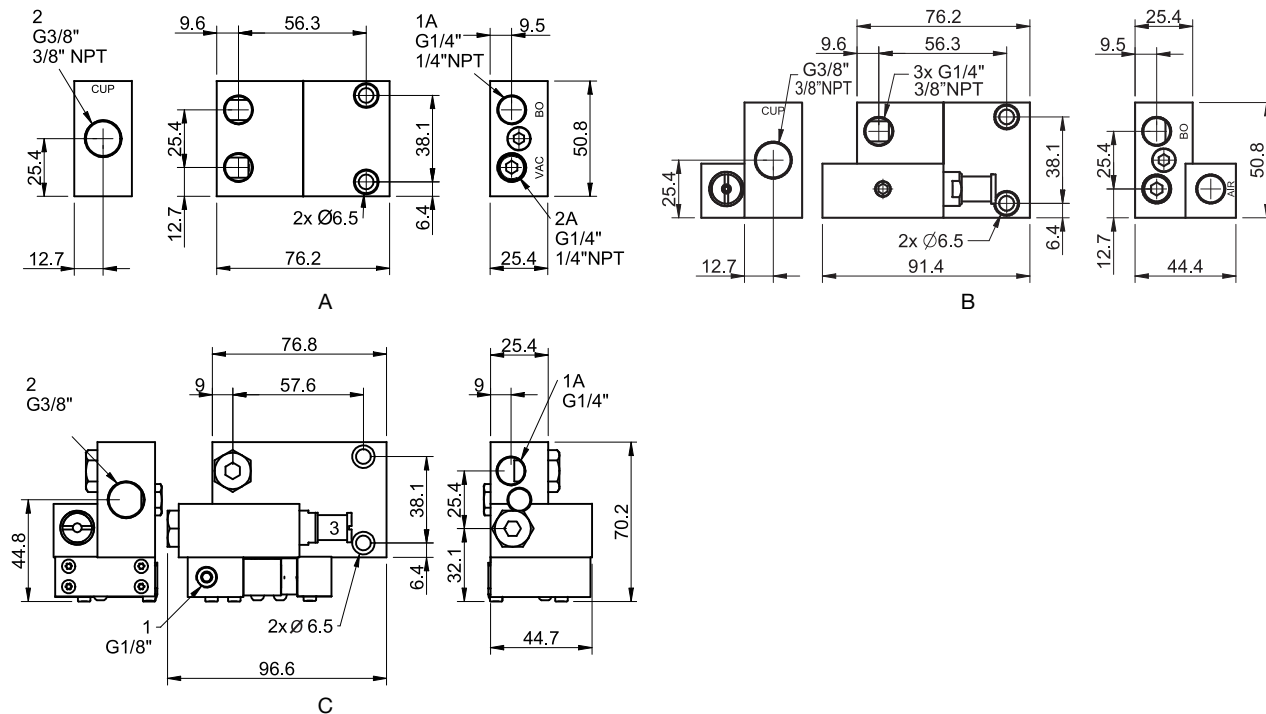
| Feed pressure MPa | Air consumption NI/s | Vacuum flow (NI/s) at different vacuum levels (-kPa) | | | | | | | | | | Max vacuum -kPa |
|----------------------|-------------------------|------------------------------------------------------|------|------|------|-------|-------|-------|-------|-------|---|--------------------|
| | | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | | |
| 0.17 | 0.29 | 0.57 | 0.40 | 0.22 | 0.15 | 0.070 | — | — | — | — | — | 49 |
| 0.22 | 0.34 | 0.64 | 0.48 | 0.29 | 0.20 | 0.14 | 0.080 | 0.020 | — | — | — | 64 |
| 0.314 | 0.44 | 0.68 | 0.60 | 0.44 | 0.27 | 0.19 | 0.14 | 0.10 | 0.060 | 0.030 | — | 90 |
| 0.40 | 0.53 | 0.66 | 0.60 | 0.52 | 0.39 | 0.24 | 0.12 | 0.10 | 0.060 | 0.020 | — | 84 |

Evacuation time

| Feed pressure MPa | Air consumption NI/s | Evacuation time (s/l) to reach different vacuum levels (-kPa) | | | | | | | | Max vacuum -kPa |
|----------------------|-------------------------|---------------------------------------------------------------|------|------|------|-----|-----|-----|-----|--------------------|
| | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | |
| 0.17 | 0.29 | 0.28 | 0.56 | 1.13 | 2.13 | — | — | — | — | 49 |
| 0.22 | 0.34 | 0.20 | 0.42 | 0.85 | 1.5 | 2.3 | 3.0 | — | — | 64 |
| 0.314 | 0.44 | 0.17 | 0.32 | 0.58 | 1.1 | 1.8 | 2.7 | 4.0 | 6.4 | 90 |
| 0.40 | 0.53 | 0.18 | 0.33 | 0.54 | 0.85 | 1.5 | 2.5 | 3.8 | 7.1 | 84 |

Ordering information

| | Description | PMAT No. | Art. No. |
|---|----------------------------------------------------------------------------------|----------|----------|
| A | Vacuum Check Valve VT1 G3/8"-G1/4" | X1000 | 0109233 |
| A | Vacuum Check Valve VT1 3/8"NPT-1/4"NPT | 1000 | 0121236 |
| B | Vacuum Check Valve VT1 COAX® cartridge MINI Pi12-2, non-return valve G3/8"-G1/4" | X1041 | 0110456 |
| B | Vacuum Check Valve VT1 COAX® cartridge MINI Pi12-2, 3/8"NPT-1/4"NPT | 1041 | 0121237 |
| C | Vacuum Check Valve VT1 Vacustat COAX® cartridge MINI Pi12-2, G3/8"-G1/4" | X2098 | 0120323 |



CU (Control Unit) P3010, P5010 & P6010



- ▶ For vacuum pumps P3010, P5010 and P6010.
- ▶ CU with electric valves for vacuum on/off and blow-off.
- ▶ Mechanical valve for blow-off flow adjustment.
- ▶ Special M12 4-pin cable assembly with LED for status of valve signal.

Technical data

| Description | Unit | Value |
|-----------------------|------------------|-----------------------|
| Feed pressure, max. | MPa | 0.7 |
| Material | | PA, NBR, AI, SS, PMMA |
| Temperature range | °C | 0–50 |
| Function, on/off | | NC |
| Voltage | VDC | 24 (22–28) |
| Safety classification | | IP65 [NEMA 4] |
| Humidity | %RH | 90 |
| Current consumption | mA | 60 |
| Ripple, max. | V _{rms} | 1 |
| Electric connection | | M 12 4-pin |

For dimensions, please go to data sheet for vacuum pumps P3010, P5010 and P6010.

Technical data, specific

| Description | Unit | Value | | |
|-------------------------------------------------------|------|-------|-------|-------|
| | | P3010 | P5010 | P6010 |
| Flow, blow-off @ P ₁ =6 bar and Δp=0.5 bar | NI/s | 0–7.5 | 0–7.5 | 0–7.5 |

Ordering information

| Description |
|------------------------------------------------------------------------------------------------------|
| Available in product configuration, please go to data sheet for vacuum pumps P3010, P5010 and P6010. |

Pilot regulators



- ▶ Pilot-operated pressure regulator with secondary pressure relief and flow compensation.
- ▶ Suitable for remote control.

Technical data

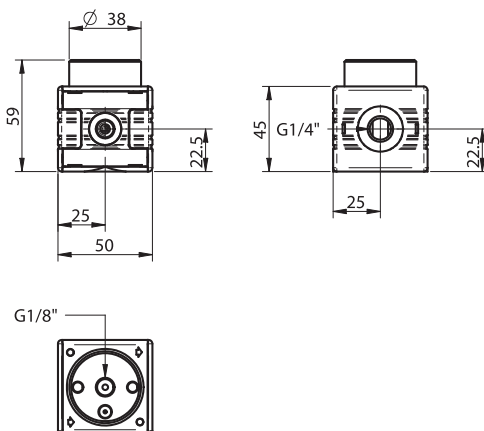
| Description | Unit | Value |
|---------------------------------|------|------------------------|
| Feed pressure, max | MPa | 1.6 |
| Air consumption, internal | NI/s | 0.8xP ₂ /60 |
| Temperature range | °C | 0–60 |
| Pressure, outlet P ₂ | MPa | 0.05–0.8 |

Technical data, specific

| Description | Unit | Value |
|-------------------------------------------------------|------|----------------|
| | | 0114283 |
| Weight | g | 400 |
| Connection, P ₁ /P ₂ | | G1/4" |
| Connection, pilot | | G1/8" |
| Connection, gauge | | G1/8" |
| Flow, @ P ₁ =0.7 & P ₂ =0.6 MPa | NI/s | 9 |

Ordering information

| | Description | Art. No. |
|---|-------------------------------------------|----------|
| A | Pressure regulator, pilot operated, G1/4" | 0114283 |



A

Filter regulators



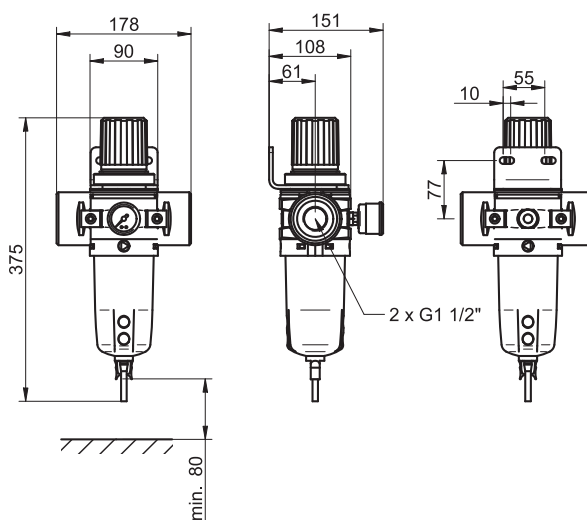
- ▶ Regulator for optimising feed pressure level, high flow capacity.
- ▶ Separates particles and condensation from the compressed air.
- ▶ Reduces the risk of operation breakdown or stoppage of the pump.
- ▶ Replaceable filter element.
- ▶ Manometer for feed pressure control.

Technical data, specific

| Description | Unit | Value | |
|---------------------------------------------------|------|--------------|-------------|
| | | 0109897 | 0113033 |
| Feed pressure, max. | MPa | 1,75 | 1,75 |
| Temperature range | °C | -10-50 | -10-50 |
| Weight | g | 1500 | 2200 |
| Connection | | G1" | G1½" |
| Flow, @ P ₁ =0,8 & P ₂ =0.7 | NI/s | 100 | 133 |
| Particle size, min. | µm | 5 | 30 |
| Dimension, WxDxH | mm | 88,5x151x346 | 178x151x375 |

Ordering information

| Description | Art. No. |
|----------------------|----------|
| Filter regulator 1" | 0109897 |
| Filter regulator 1½" | 0113033 |



Ordering information, accessories

| Description | Art. No. |
|--------------------|----------|
| Filter element 1" | 0121244 |
| Filter element 1½" | 0113052 |

Regulators



- ▶ Regulator for optimising feed pressure to vacuum pumps or smaller vacuum systems.
- ▶ Manometer for feed pressure control.

Technical data

| Description | Unit | Value |
|---------------------|------|----------|
| Feed pressure, max. | MPa | 1 |
| Temperature range | °C | 0–50 |
| Weight | g | 110 |
| Dimension, WxDxH | mm | 43x88x71 |

Technical data, specific

| Description | Unit | Value |
|-------------------------------------------------------|------|----------------|
| | | 0113123 |
| Connection | | G1/4" |
| Flow, @ P ₁ =0.8 & P ₂ =0.7 MPa | NI/s | 9 |

Ordering information

| Description | Art. No. |
|---------------------------|----------|
| Regulator 1/4", manometer | 0113123 |

Vacustat, 2/2 NO (Automatic energy saving)



- ▶ Independent pneumatic air-saving device for vacuum pumps.
- ▶ Adjustable vacuum controlled 2/2 NO valve.
- ▶ Available with large hysteresis for object handling and small hysteresis for process applications.
- ▶ The Vacustat is recommended for vacuum pumps in non-leaking systems.
- ▶ The vacuum pump must be fitted with a non-return valve.

Technical data

| Description | Unit | Value |
|---------------------------------------------|--------|-------------------------|
| Feed pressure, range | MPa | 0.17–0.7 |
| Feed pressure, max @ vacuum connection | MPa | 0.6 |
| Material | | Al, NBR, PA, SS, CuZn |
| Temperature range | °C | 0–60 |
| Weight | g | 89 |
| Connection, compressed air | | 2x Ø8 mm / 2x 1/8" NPSF |
| Connection, vacuum | | 2 x M5 |
| Signal range | -kPa | 15–99 |
| Function | | 2/2 NO |
| Flow @ P ₁ =6 bar and Δp=0.5 bar | NI/s | 7.3 |
| Life span | cycles | >10,000,000 |
| Dimension, WxDxH | mm | 44x16,5x89 |

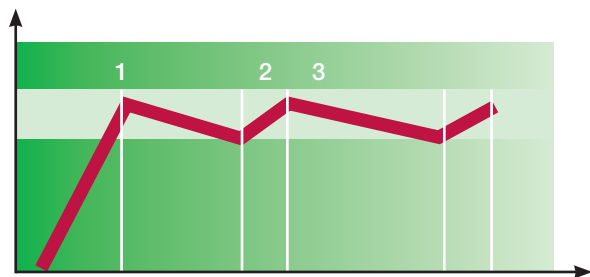
For dimensions, please go to data sheet for vacuum pumps P3010 and P5010.

Technical data, specific

| Description | Unit | Value | |
|-------------|------|---------|---------|
| | | 0118100 | 0118200 |
| Hysteresis | kPa | 1–6 | 5–10 |

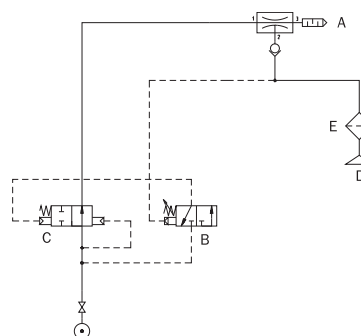
Function

A vacuum-controlled valve shuts off the flow of compressed air to the pump when the pre-set vacuum level is reached (1). The vacuum level is set by a knob. Because of minor leakage in a vacuum system the vacuum level drops, and after a while the start-up level of the valve is reached (2). Then the pump will start and work until the shut-off level is reached again (3), etc.



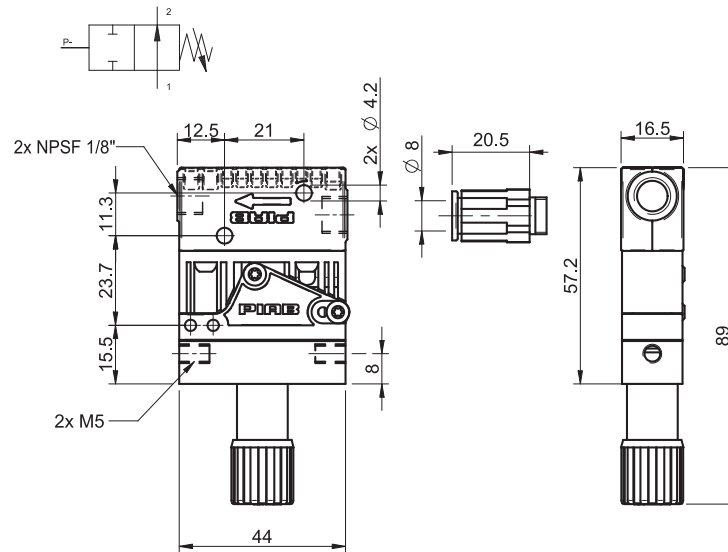
Connection

- A = Vacuum pump with non-return valve
- B = Vacuum switch
- C = Feed valve
- D = Suction cup
- E = Vacuum filter



Ordering information

| Description | Art. No. |
|----------------------------------|----------|
| Vacustat 1 with small hysteresis | 0118100 |
| Vacustat 2 with large hysteresis | 0118200 |



Function ES vacuum



- ▶ Electrically operated air-saving device for P6040 vacuum pump.
- ▶ Adjustable vacuum controlled 2/2 NO valve.
- ▶ Manometer for feed pressure control.
- ▶ Recommended for P6040 vacuum pump in non-leaking systems.

Technical data

| Description | Unit | Value |
|-----------------------|------------------|-------------------------------------------|
| Feed pressure, max. | MPa | 0.7 |
| Material | | Al, PA, NBR, SS, POM, HDPE, PC, CuZn, PBT |
| Temperature range | °C | 0–50 |
| Signal range | -kPa | 15–95 |
| Hysteresis | kpa | 1.5 |
| Voltage | VDC | 24 (14–28) |
| Safety classification | | IP40 |
| Current consumption | mA | 60 |
| Ripple | V _{rms} | 1 |
| Display | | LED indicator |
| Electric connection | | DIN (c) |

For dimensions, please go to data sheet for vacuum pump P6040.

Ordering information

| Description |
|------------------------------------------------------------------------------------|
| Available in product configuration, please go to data sheet for vacuum pump P6040. |

PCC (Piab Cruise Control)



- ▶ For vacuum pump P6010.
- ▶ Programmable for constant vacuum level.
- ▶ The signal input regulates the feed pressure to maintain a constant vacuum level.
- ▶ Integrated analogue vacuum sensor.

Technical data

| Description | Unit | Value |
|-----------------------------------|------|--------------------------|
| Feed pressure, max. | MPa | 1.0 |
| Vacuum, scale factor signal input | -kPa | 0–90 |
| Material | | Al, PA, NBR, SS, AiSi302 |
| Temperature range | °C | 3–50 |
| Voltage | VDC | 24 (21.8–26.4) |
| Voltage, signal input | VDC | 0–10 |
| Safety classification | | IP65 |
| Current consumption | mA | <120 |
| Electric connection | | 8-pin DIN 45326 |

The design of PCC requires that the inlet pressure is 0.1 MPa higher than the outlet pressure. For dimensions, please go to data sheet for vacuum pump P6010.

Ordering information

| Description |
|------------------------------------------------------------------------------------|
| Available in product configuration, please go to data sheet for vacuum pump P6010. |

Ordering information, accessories

| Description | Art. No. |
|------------------------------------------|----------|
| Cable M16 8-pin female, angled 90°, L=3m | 0112395 |
| Cable M16 8-pin female, straight, L=3m | 0112393 |

**) Pin no. 5 is not used. M12 4-pin cable will fit the M12 5-pin connector.*

AVM™2 (Automatic Vacuum Management)



- ▶ For vacuum pumps P3010, P5010 and P6010.
- ▶ AVM™2 unit with built-in control and monitoring functions.
- ▶ Integrated energy saving function (ES) minimises the air consumption in sealed systems.
- ▶ Valves for vacuum on/off and blow-off with electrical power failsafe function.
- ▶ Two digital outputs, 16 pre-set combinations of vacuum levels.
- ▶ Digital vacuum level display.
- ▶ Mechanical valve for blow-off flow adjustment.

Technical data

| Description | Unit | Value |
|---------------------------|------------------|-------------------------|
| Feed pressure, max. | MPa | 0.7 |
| Material | | PA, NBR, Al, SS, PMMA |
| Temperature range | °C | 0–50 |
| Signal range, adjustable | -kPa | 20–80 |
| Function, on/off | | NO/NC |
| Hysteresis | kPa | 7±1 |
| Voltage | VDC | 24 (22–28) |
| Safety classification | | IP65 [NEMA 4] |
| Current, max. output load | mA | 100 |
| Humidity | %RH | 90 |
| Current consumption | mA | 110 |
| Ripple, max. | V _{rms} | 1 |
| Display | | LED indicators, numeric |
| Electric connection | | M12 8-pin |

For dimensions, please go to data sheet for vacuum pumps P3010, P5010 and P6010.

Technical data, specific

| Description | Unit | Value | | |
|-------------------------------------------------------|------|-------|-------|-------|
| | | P3010 | P5010 | P6010 |
| Flow, blow-off @ P ₁ =6 bar and Δp=0.5 bar | NI/s | 0–7.5 | 0–7.5 | 0–7.5 |

Ordering information

| Description |
|------------------------------------------------------------------------------------------------------|
| Available in product configuration, please go to data sheet for vacuum pumps P3010, P5010 and P6010. |

Ordering information, accessories

| Description | Art. No. |
|------------------------------------------------------------|----------|
| Cable M12 8-pin female, PUR, L=2m | 0110238 |
| Cable M12 8-pin female, PUR, L=5m | 0117746 |
| Y-cable M12 8-pin female, 2xM12 4-pin male, PNP, PUR, L=2m | 0118407 |
| Y-cable M12 8-pin female, 2xM12 5-pin male, NPN, PUR, L=2m | 0120229 |
| Y-cable MIL 18-pin male, 2xM12 8-pin female, PNP, L=0.3m | 0113248 |