

Amplifier with intégral régulateur, positive output

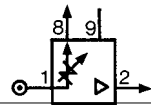
- › Setting Flow
- › Fixing rail 35mm wide



Part numbers

| | |
|------------------------------------|-------------------|
| Amplifiers with integral regulator | 81 510 001 |
| Version | Positive output |

Symbol



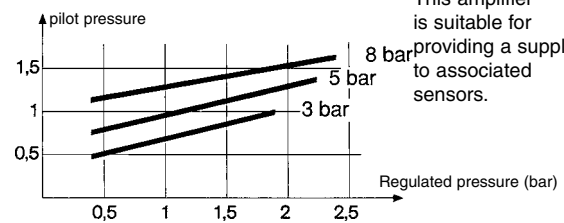
Characteristics

| | | | | |
|---|-----------------------------|---------------------|---------------------|---------------------|
| Pressure to make | mb | 0.5 → 1.5 | — | — |
| Reduced pressure supplied at port 8 | bar | 0.5 → 2.5 | — | — |
| Flow through port 8 | Nm³/h | 0.1 → 2.5 | — | — |
| Consumption of amplifier only | NI/h | 100 → 200 | — | — |
| Permissible overload for 1 hour | mb | 300 | — | — |
| Operating temperature | °C | -5 → +50 | -5 → +50 | -5 → +50 |
| Mechanical life | operations | 3 x 10 ⁶ | 3 x 10 ⁶ | 3 x 10 ⁶ |
| Weight | g | 380 | — | — |
| Detectors (see page 28) | | | Gap | Proximity |
| Nominal range | mm | 81 371 401 | Ø 12 | Ø 12 |
| Min. total consumption for detection (0.5 b regulated pressure) | | 8 | Ø 18 | Ø 18 |
| Max. total consumption for short response time (2.5 b regulated pressure) | NI/h | 880 | 140 | — |
| Min. detectable dimensions | nominal sensing distance mm | Ø 3 | Ø 2 - Ø 1.5 | Ø 7 - Ø 6.5 |
| Max. frequency of use | mm | 2 | — | — |
| Force exerted by the jet on the parts to be detected | Hz | 5 | 5 | 5 |
| | N | 0.02 → 0.7 | 0.01 → 0.03 | 0.1 |

Connection

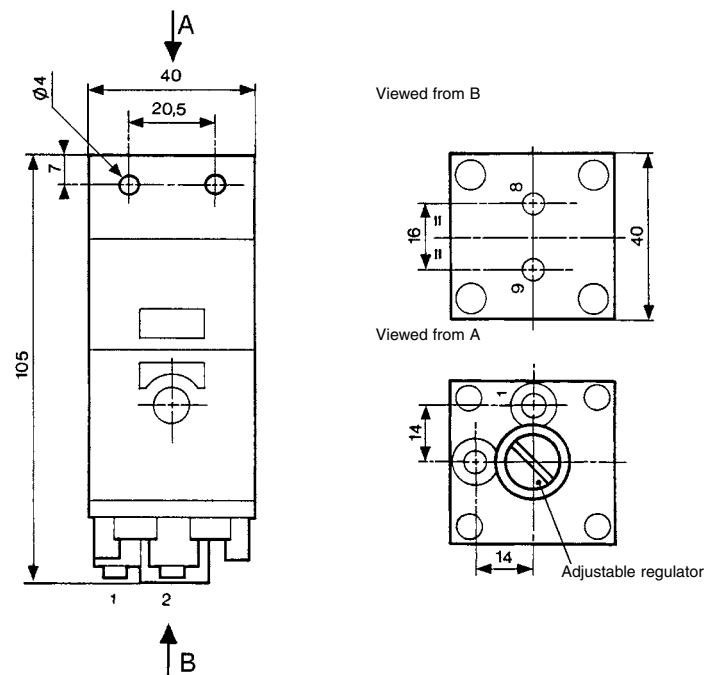
To use with detectors page 32

Principle of operation



Dimensions

Push-in connection for semi-rigid tubing Ø 4 mm (NFE 49100)



PRESSURE SWITCHES VACUUM

Pressure switches - vacuum (electrical output)

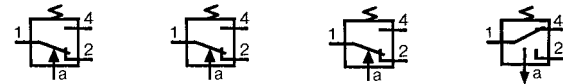


- › Conform to the Low Voltage Directive
- › Can be used without enclosure according to IEC 664-1 pollution group III

Part numbers

| Pressure and vacuum switches | 81 513 552 | 81 513 502 | 81 513 501 | 81 513 522 |
|------------------------------|---------------|------------------|----------------------|----------------|
| Mounting | DIN rail | DIN rail | DIN rail | DIN rail |
| Actuators | Pressure with | Pressure without | Low pressure without | Vacuum without |

Symbol



Characteristics

| Pneumatic connection | Push-in connection for semi-rigid tubing (NFE 49100) Tapped BSP via connector | mm | Ø 4 ext. | Ø 4 ext. | Ø 4 ext. | Ø 4 ext. |
|--|--|-----|------------------|------------------|------------------|------------------|
| Protection | IEC 529 | | IP 20 | IP 20 | IP 20 | IP 20 |
| Permissible fluid: | air, inert gases and liquids | | | | | |
| Adjustment of switching pressure (* adjusted to 0.3) | bar | | 2 → 8 | 2 → 8 | 0.3 → 1.2 * | -0.3 → -0.8 |
| Hysteresis | at 1 bar | bar | 0.5 | 0.5 | — | — |
| | at 2 bars | bar | 0.6 | 0.6 | — | — |
| | at 4 bars | bar | 0.8 | 0.8 | — | — |
| | at 6 bars | bar | 1 | 1 | — | — |
| | max. 200 mb | | — | — | • | — |
| max. 250 mb | | — | — | — | • | |
| Pressure to break | | | — | — | — | — |
| Mechanical life (operations) | | | 10 ⁶ | 10 ⁶ | 10 ⁶ | 10 ⁶ |
| Contact rating (V resistive) | | | 5A - 220-230 V | 5A - 220-230 V | 5A - 220-230 V | 5A - 220-230 V |
| Wire cross-section | mm ² | | 0.75 | 0.75 | 0.75 | 0.75 |
| Operating temperature | °C | | -10 → +70 | -10 → +70 | -10 → +70 | -10 → +70 |
| Weight | g | | 48 | 46 | 46 | 46 |
| Standard electrical contact | | | V4 83 170 4 I W2 | V4 83 170 4 I W2 | V4 83 170 4 I W2 | V4 83 170 4 I W2 |
| UL and cUL approval | | | MH15213 (R) | MH15213 (R) | MH15213 (R) | MH15213 (R) |

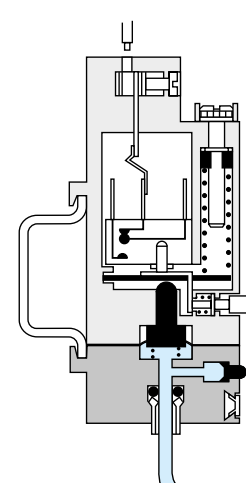
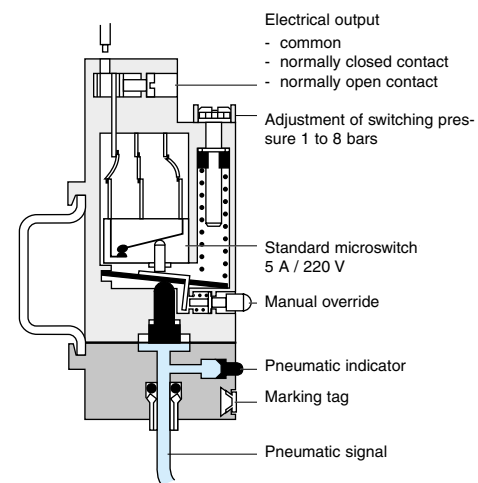
Operation

Pressure operated

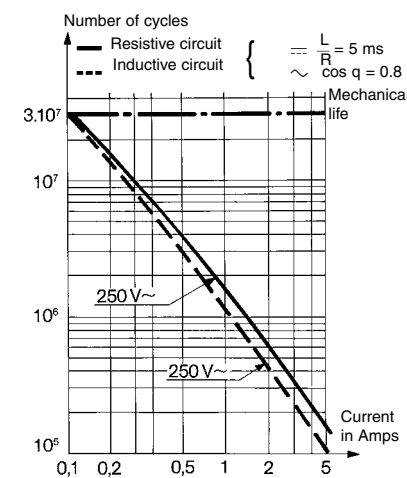
Vacuum operated

Electrical life

(Crouzet microswitch "V4" ref 83 170 4-1-W2)



For continuous vacuum applications, please consult us.

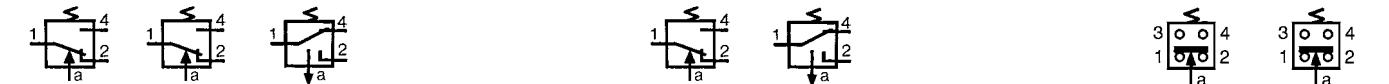


Other information

- On request :
- Microswitch V4 ref. 83 170 0 i W2 high current
 - Microswitch V4 ref. 83 170 9 i W2 low current



| 81 513 516 | 81 513 510 | 81 513 527 | 81 513 533 | 81 513 523 | 81 509 080 | 81 509 085 |
|------------------------|------------------------|------------------------|------------------|----------------|------------------------|------------------------|
| Base mounted page 4/14 | Base mounted page 4/14 | Base mounted page 4/14 | 2 screws M4 | 2 screws M4 | Base mounted page 4/14 | Base mounted page 4/14 |
| Pressure without | Pressure with | Vacuum without | Pressure without | Vacuum without | Pressure without | Pressure with |



| Ø 4 ext. | Ø 4 ext. | Ø 4 ext. | — | — | — | — |
|------------------|------------------|------------------|------------------|------------------|--------------------|--------------------|
| IP 54 | IP 54 | IP 54 | 1/8 BSP IP 54 | 1/8 BSP IP 54 | Via sub-base IP 54 | Via sub-base IP 54 |
| 2 → 8 | 2 → 8 | -0.3 → -0.9 | 2 → 8 | -0.3 → -0.8 | 1.4 ± 0.5 | 1.4 ± 0.5 |
| 0.5 | 0.5 | — | 0.5 | — | — | — |
| 0.6 | 0.6 | — | 0.6 | — | — | — |
| 0.8 | 0.8 | — | 0.8 | — | — | — |
| 1 | 1 | — | 1 | — | — | — |
| — | — | • | — | • | — | — |
| — | — | — | — | — | 0.6 ± 0.2 | 0.6 ± 0.2 |
| 10 ⁶ | 10 ⁶ | 10 ⁶ | 10 ⁶ | 10 ⁶ | 10 ⁶ | 10 ⁶ |
| 5A - 220-230 V | 5A - 220-230 V | 5A - 220-230 V | 5A - 220-230 V | 5A - 220-230 V | 5A - 220-230 V | 5A - 220-230 V |
| 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 1.5 | 1.5 |
| -10 → +70 | -10 → +70 | -10 → +70 | -10 → +70 | -10 → +70 | -10 → +70 | -10 → +70 |
| 56 | 58 | 56 | 65 | 65 | 80 | 80 |
| V4 83 170 4 I W2 | V4 83 170 4 I W2 | V4 83 170 4 I W2 | V4 83 170 4 I W2 | V4 83 170 4 I W2 | 83 133 004 | 83 133 004 |
| MH15213 (R) | MH15213 (R) | MH15213 (R) | MH15213 (R) | MH15213 (R) | | |

Electrical connections

81 513 501 - 81 513 502
81 513 522 - 81 513 552

Dimensions

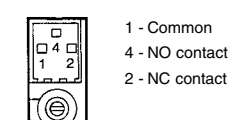
81 513 552 - 81 513 502
81 513 501 - 81 513 522

Pressure switch with connector

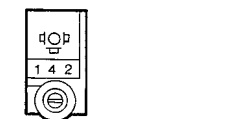
81 513 516 - 81 513 510
81 513 527

81 516 082

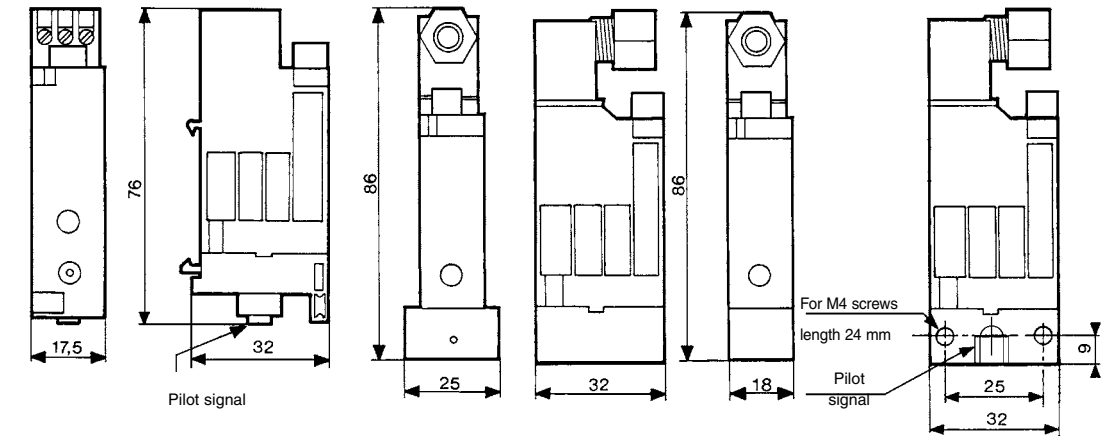
81 513 533
81 513 523



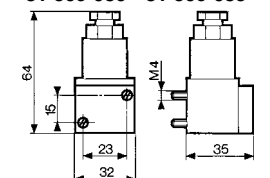
81 513 510
81 513 516 - 81 513 527



81 513 533
81 513 523 - 81 513 533



81 509 080 - 81 509 085

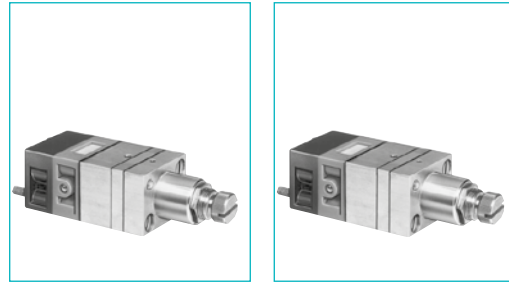


Adjustable pressure switches (manostats) (pneumatic output)

> 100 % pneumatic



Also available in **ATEX** version for use in potentially explosive atmospheres in accordance with 94/9/EC Directive



Part numbers (and adjustment ranges)

| Adjustment range | 50 → 500 mb 0.1 → 2.5 b 2 → 8 b | 81 505 140 81 505 150 81 505 160 | 81 502 140 81 502 150 81 502 160 |
|------------------|---------------------------------------|--|--|
| Version | | Positive output | Negative output |
| Accuracy | 50 → 500 mb 0.1 → 2.5 b 2 → 8 b | 10 % 4 % 4 % | 10 % 4 % 4 % |

Symbol

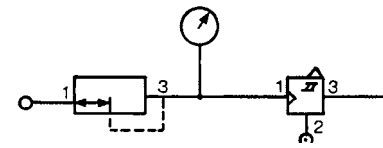


Characteristics

| Orifice diameter | mm | 2.5 | 2.5 |
|-----------------------------------|---------------------------------------|---------------------------|---------------------------|
| Flow at 4 bars | NI/min | 170 | 170 |
| Hysteresis | 50 → 500 mb 0.1 → 2.5 b 2 → 8 b | 60 mb 100 mb 320 mb | 60 mb 100 mb 320 mb |
| Connection - sub-base pages 54/55 | | | |
| Operating temperature | °C | -5 → +50 | -5 → +50 |
| Mechanical life | operations | 3 x 10 ⁶ | 3 x 10 ⁶ |
| Weight | g | 160 | 160 |

Connections

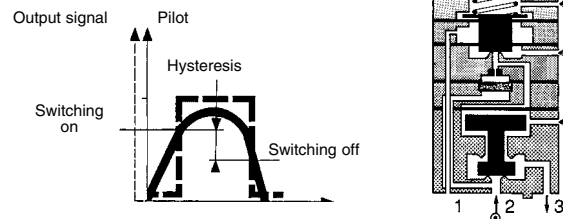
Example of pressure threshold adjustment (mini-regulator - manostat)



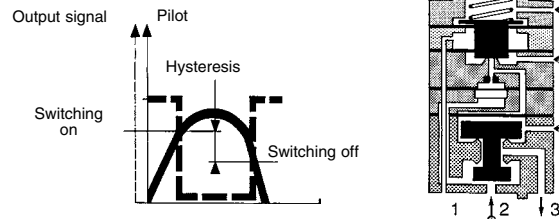
Principle of operation

The manostats provide an on or off output signal when the input signal reaches a predetermined pressure threshold.

Positive output

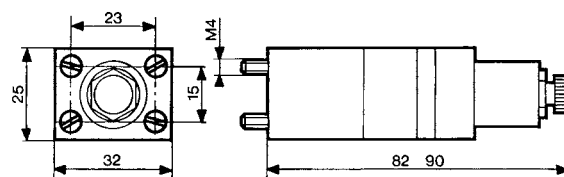


Negative output



Dimensions

81 502 140 - 81 502 150 - 81 502 160
81 505 140 - 81 505 150 - 81 505 160



Other information Pressure switches with electrical output on request.

ATEX version products are available in the following catalogues: **Pneumatic products for explosive atmospheres** or on our website www.crouzet.com

Adjustable vacuum switches (vacuostat)

> 100 % pneumatic

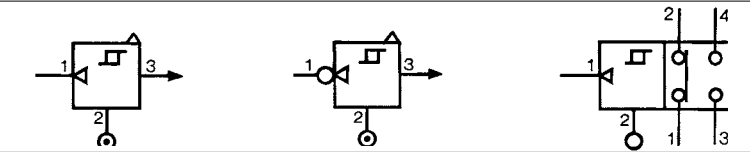
> For vacuum -0,1 → -0,9 Bar



Part numbers

| | 81 505 110 | 81 502 110 | 81 508 110 |
|--|-----------------|-----------------|-------------------|
| | Positive output | Negative output | Electrical output |

Symbol



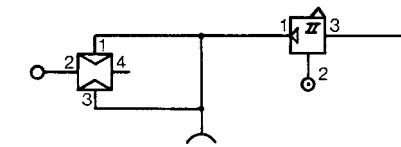
Characteristics

| Adjustment range | b | -0.1 → -0.9 | -0.1 → -0.9 | -0.1 → -0.9 |
|-----------------------------------|------------|---------------------|---------------------|---------------------|
| Flow at 6 bars | NI/min | 170 | 170 | 170 |
| Hysteresis | mb | 80 | 80 | 80 |
| Connection - sub-base pages 54/55 | | | | |
| Operating temperature | °C | -5 → +50 | -5 → +50 | -5 → +50 |
| Mechanical life | operations | 3 x 10 ⁶ | 3 x 10 ⁶ | 3 x 10 ⁶ |
| Weight | g | 160 | 160 | 180 |

Connections

Example of use:

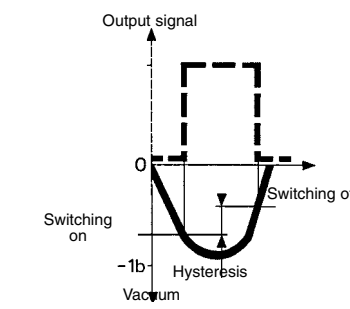
Vacuum handling (vacuum generator, vacuum pad, vacuostats).



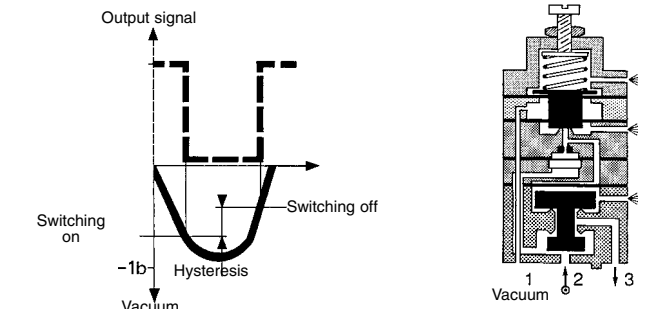
Principle of operation

Vacuostats provide an on or off output signal when the input signal reaches a predetermined pressure threshold.

Positive output

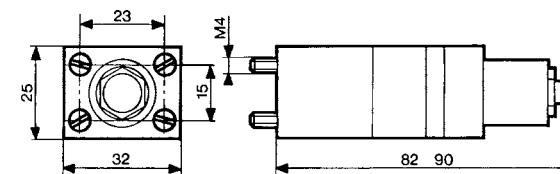


Negative output

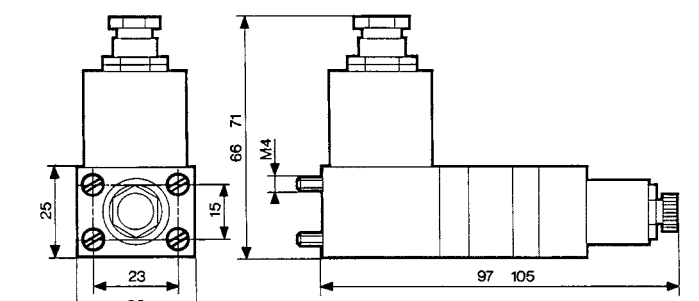


Dimensions

81 502 110 - 81 505 110



81 508 110

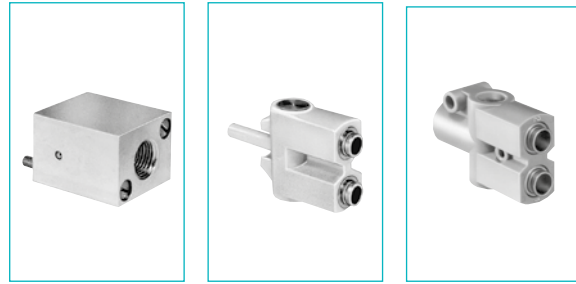


Vacuum handling components

- › Sur le principe du Venturi
- › Facilement raccordable

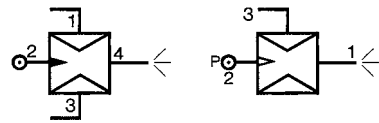


Also available in **ATEX** version for use in potentially explosive atmospheres in accordance with 94/9/EC Directive



Part numbers

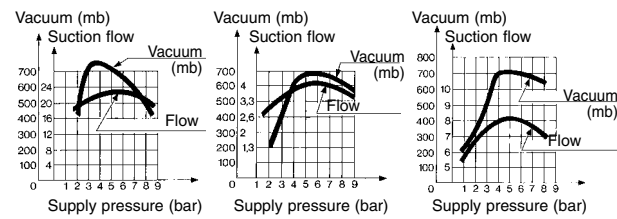
| | | | |
|-------------------|--|------------------------------|------------------------------|
| Vacuum generators | 81 535 301 Sub-base mounting | 81 545 001 Plug-in | 81 545 005 Plug-in |
|-------------------|--|------------------------------|------------------------------|



Characteristics

| | | | | |
|--|--|-------|--------|-------|
| Push-in connectors for semi-rigid tubing (NFE 49100) | Male/Female/Female (MFF) Female/Female/Female (FFF) | — | Ø 4 mm | — |
| Operating pressure | bar | 2 → 8 | 2 → 8 | 2 → 8 |
| Vacuum pad material | | — | — | — |
| Weight | g | 80 | 13 | 25 |

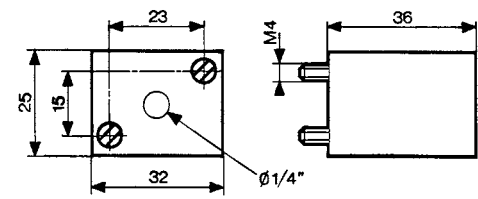
Detection of the pressure decrease can be achieved by the use of manostats (see pages 38/39)



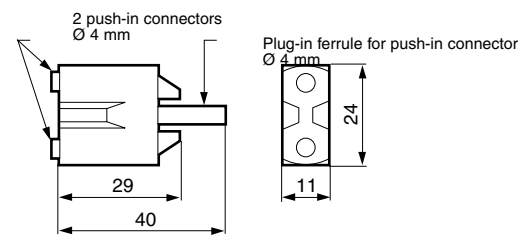
Dimensions

81 535 301

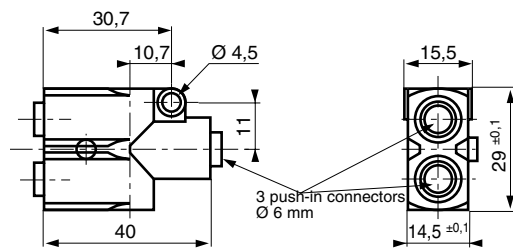
Sub-base mounting 81 531... and 81 532...



81 545 001



81 545 005



ATEX version products are available in the following catalogues: **Pneumatic products for explosive atmospheres** or on our website www.crouzet.com

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[X5M41-M4](#) [E2E-X14MD1-G](#) [E2E-X2D1-G](#) [E2EX2ME2N](#) [E2EX3D1SM1N](#) [E2E-X4MD1-G](#) [E2E-X5E1-5M-N](#) [E2E-X5Y2-N](#) [E2E-X7D1-](#)
[M1J-T-0.3M-N](#) [E2FMX1R5D12M](#) [E2K-F10MC1](#) [5M](#) [EH-302](#) [EI3010TBOP](#) [EI5515NPAP](#) [MS605AU](#) [EP175-32000](#) [IFRM04N35B1/L](#)
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[ILFK12E9189/I02](#) [ILFK12E9193/I02](#) [IMM2582C](#) [OISN-013](#) [25.161.3253.0](#) [25.332.0653.1](#) [25.352.0653.0](#) [25.352.0753.0](#)