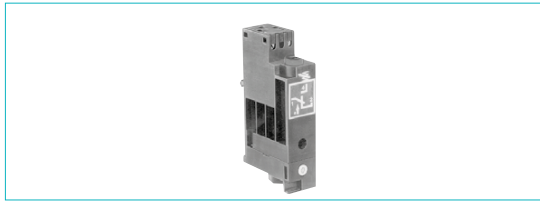


PRESSURE SWITCHES

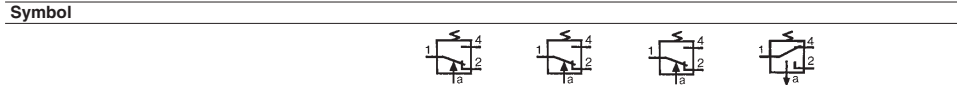
VACUUM

Pressure switches - vacuum (electrical output)

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

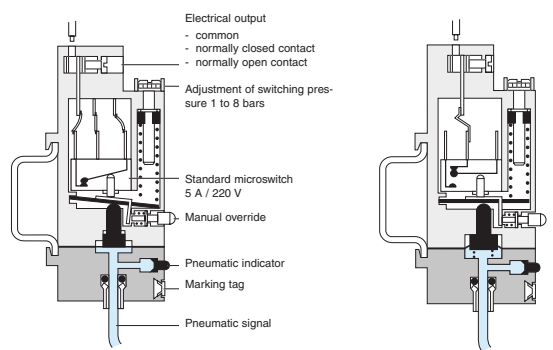


Part numbers				
Pressure and vacuum switches	81 513 552	81 513 502	81 513 501	81 513 522
Mounting	DIN rail	DIN rail	DIN rail	DIN rail
Actuators	Pressure with	Pressure without	Low pressure without	Vacuum without
Manual override				

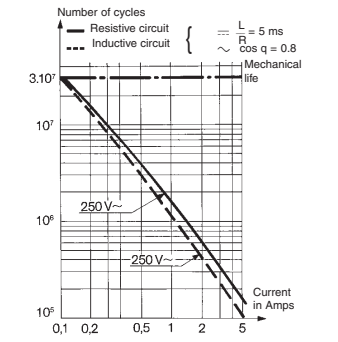


Characteristics		81 513 552	81 513 502	81 513 501	81 513 522
Pneumatic connection	Push-in connection for semi-rigid tubing (NFE 49100)	mm Ø 4 ext.	mm Ø 4 ext.	mm Ø 4 ext.	mm Ø 4 ext.
	Tapped BSP via connector	—	—	—	—
Protection	IEC 529	IP 20	IP 20	IP 20	IP 20
Permissible fluid:	air, inert gases and liquids				
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	0.5	0.5	—	—
	at 2 bars	0.6	0.6	—	—
	at 4 bars	0.8	0.8	—	—
	at 6 bars	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	56	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)

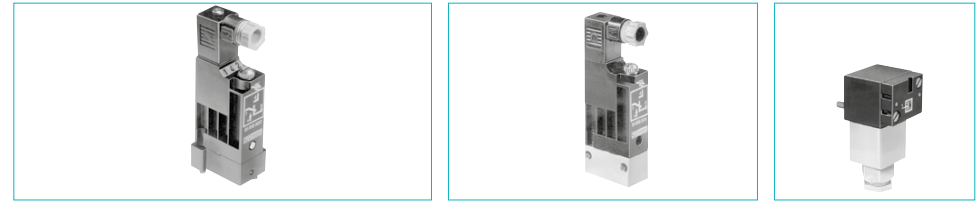
Operation
 Pressure operated Vacuum operated
 Electrical life (Crouzet microswitch "V4" ref 83 170 4-1-W2)



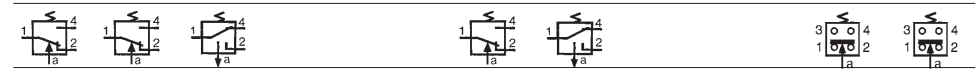
For continuous vacuum applications, please consult us.



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	Base mounted 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



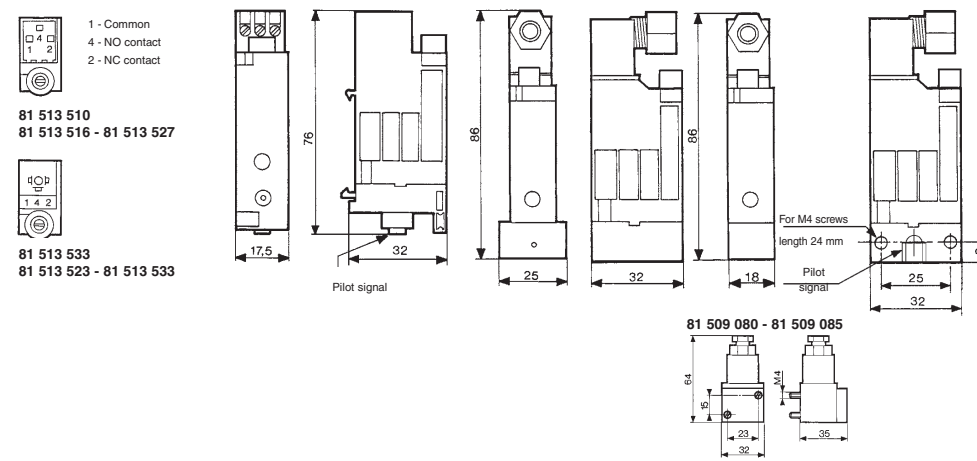
81 513 516	81 513 510	81 513 527	81 513 533	81 513 523	81 509 080	81 509 085
Ø 4 ext.	Ø 4 ext.	Ø 4 ext.	—	—	—	—
IP 54	IP 54	IP 54	1/8 BSP IP 54	1/8 BSP IP 54	Via sub-base IP 54	Via sub-base IP 54
2 → 8	2 → 8	-0.3 → -0.9	2 → 8	-0.3 → -0.8	1.4 ± 0.5	1.4 ± 0.5
0.5	0.5	—	0.5	—	—	—
0.6	0.6	—	0.6	—	—	—
0.8	0.8	—	0.8	—	—	—
1	1	—	1	—	—	—
—	—	•	—	•	—	—
—	—	•	—	•	—	—
10 ⁶	10 ⁶	10 ⁶	10 ⁶	10 ⁶	0.6 ± 0.2	0.6 ± 0.2
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

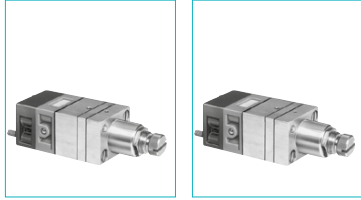


Adjustable pressure switches (manostats) (pneumatic output)

› 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

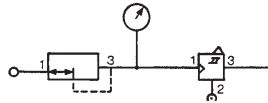


Characteristics

Orifice diameter	mm	2.5	2.5
Flow at 4 bars	NI/min	170	170
Hysteresis	50 → 500 mb	60 mb	60 mb
	0.1 → 2.5 b	100 mb	100 mb
	2 → 8 b	320 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

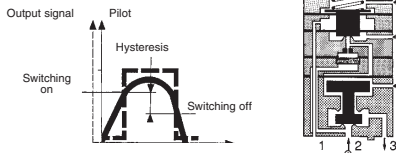
Example of pressure threshold adjustment (mini-regulator - manostat)



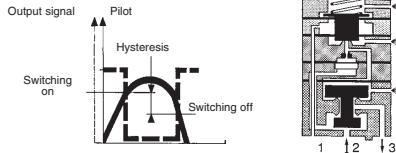
Principle of operation

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

Positive output

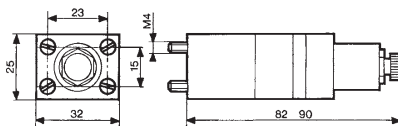


Negative output



Dimensions

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

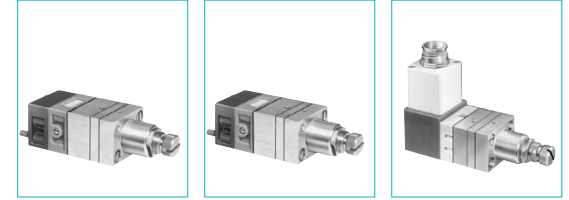


Other information Pressure switches with electrical output on request.

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)

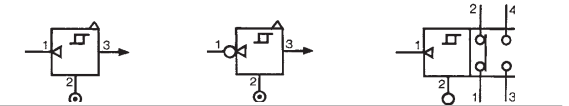
› 100 % pneumatic
› For vacuum -0.1 → -0.9 Bar



Part numbers

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

Symbol

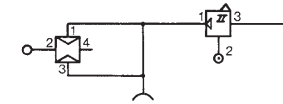


Characteristics

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

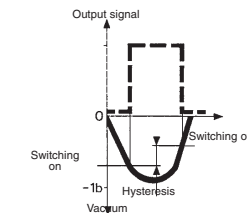
Example of use:
Vacuum handling (vacuum generator, vacuum pad, vacuostats).



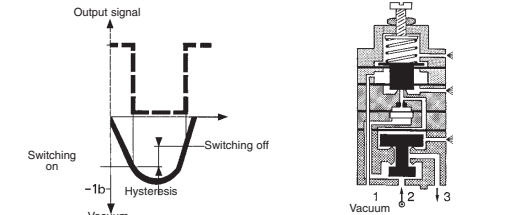
Principle of operation

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

Positive output

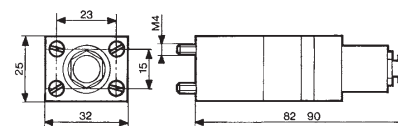


Negative output

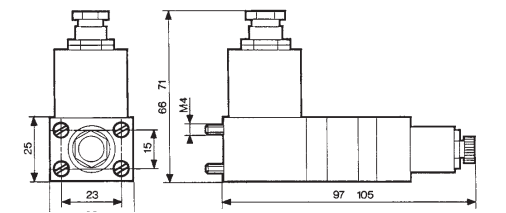


Dimensions

81 502 110 - 81 505 110




81 508 110



Vacuum handling components

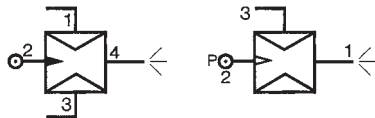
- › Sur le principe du Venturi
- › Facilement raccordable

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



Part numbers

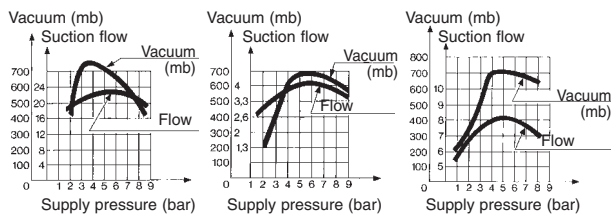
Vacuum generators	81 535 301 Sub-base mounting	81 545 001 Plug-in	81 545 005 Plug-in
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Characteristics

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

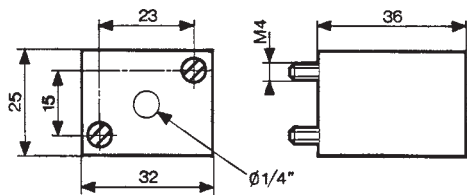
Detection of the pressure decrease can be achieved by the use of manostats (see pages 38/39)



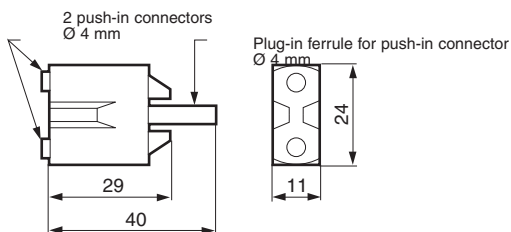
Dimensions

81 535 301

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



81 545 001



81 545 005

