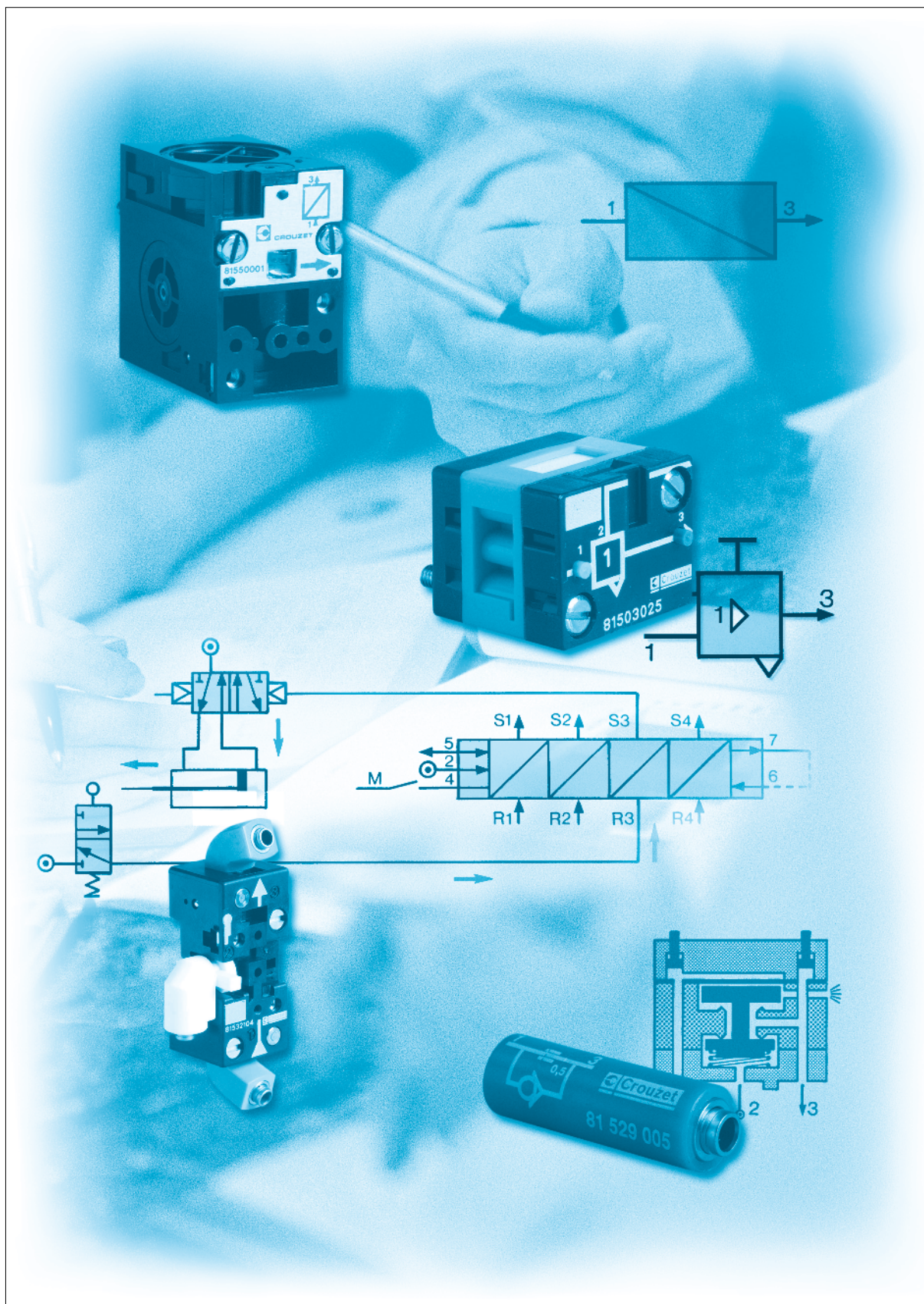


# Pneumatic logic components



# General characteristics

## Operating fluid

- Compressed air or inert gas.

## Conditions of use

- Operating pressure 2 to 8 bars (except for special conditions).
- Fluid: Filtered air to 50 microns - non lubricated.
- Operating temperature from - 5° C to + 50° C (under + 5° C the dew point must be below 10° C for the application).
- For optimum performance, the elements should be inter-connected by air supply tubing with an internal diameter  $\geq$  at 2.5 mm.

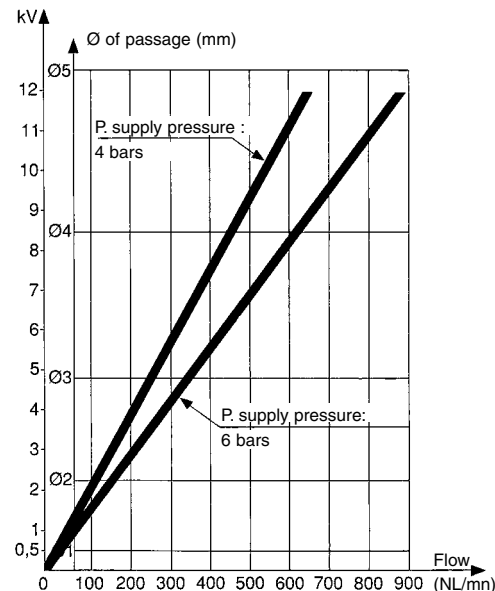
## Mounting recommendations

- The elements should be mounted and piped in a clean atmosphere in order to prevent any form of pollution entering the system.
- Minimum torque for element fixing screws: 5 cm/kg.
- maximum torque for element fixing screws: 10 cm/kg.

## Characteristics common to all elements in the modular system

- The characteristics have been obtained with a supply pressure at 6 bars.
- The flow in NI/min is the number of litres of air at normal atmospheric pressure obtained with the output open to atmosphere and the supply pressure at 4 bars
- The consumption in NI/min is the number of litres of free air necessary for the unit to function.
- kV = the flow coefficient of the equipment.
- Mechanical life > 10<sup>7</sup> operations.

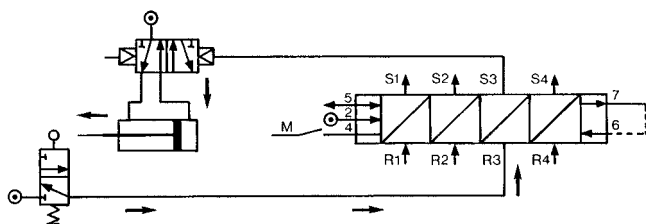
## flow graphs



## Sequencer modules

Operation results from the combination of a sequential cycle. A system comprises individual modules which are joined together by means of a sub-base. Each module has a memory which delivers an output signal and receives an input signal.

An indicator on each module allows the operator to monitor the progress of the cycle and identify quickly and easily any fault which may occur.

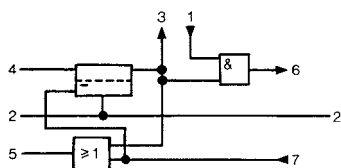


Operation results from the combination of three functions (memory, AND and OR) which constitute each module.

The memory activates the output and gives priority to the reset signal. The AND element ensures the transition to the next module but only if an input signal is present.

The OR element ensures the resetting of all previously operated modules.

## Function diagram

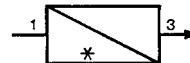
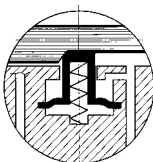


## sequencer module with maintained reset

### Brake

This maintains the memory spool in position only when the supply is lost.

## Module with auto reset



### Brake

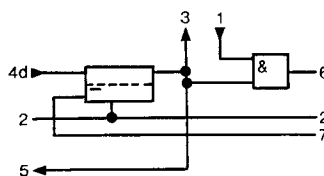
This returns the memory spool to the reset condition only when the supply is lost

### Shift register

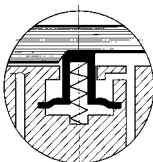
The general principle is to advance the sequencer step by command impulses to the inputs of the even steps, alternating with the command impulses to the inputs of the odd steps.

Used for example on a transfer machine to shift the information "bad component" collected at a test-test "n" steps further along the machine to a reject station.

## Function diagram



## Auto reset sequencer module



# Sequencer modules

- 100 % pneumatic
- Ideal for a simple pneumatic sequence



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



81 550 001  
with 'maintain'



81 550 201  
Reset to zero

81 550 401  
with 'maintain'

81 550 601  
Reset to zero

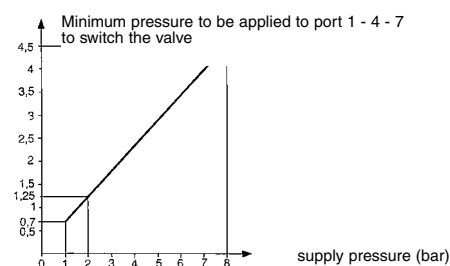
Versions sequencer  
shift register

## Symbol



## Characteristics

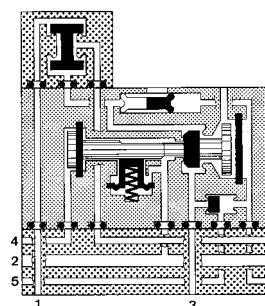
|                                               |        |          |          |          |          |
|-----------------------------------------------|--------|----------|----------|----------|----------|
| Operating pressure                            | bar    | 2 → 8    | 2 → 8    | 2 → 8    | 2 → 8    |
| Orifice diameter                              | mm     | 2.7      | 2.7      | 2.7      | 2.7      |
| Flow at 6 bars                                | NI/min | 150      | 150      | 150      | 150      |
| Operating temperature                         | °C     | -5 → +50 | -5 → +50 | -5 → +50 | -5 → +50 |
| Mechanical life 5 x 10 <sup>6</sup> at 6 bars |        | ●        | ●        | ●        | ●        |
| Connection - Sub-base page 26                 |        | ●        | ●        | ●        | ●        |
| Weight                                        | g      | 70       | 70       | 70       | 70       |



## Principle of operation

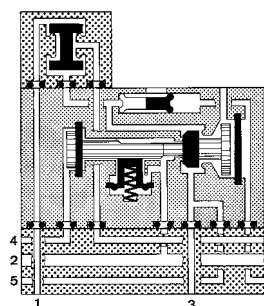
(supplied without logic element. For choice of units see pages 46/47)

### Sequencer module with maintained reset



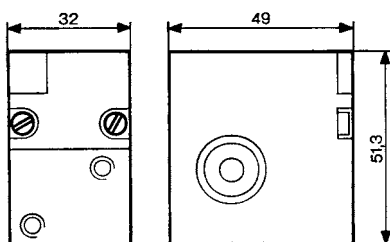
- 1 - Input signal
- 2 - Supply
- 3 - Output signal
- 4 - Start signal
- 5 - In cycle signal
- 6 - End of cycle signal
- 7 - Reset to zero signal

### Shif register with maintained reset

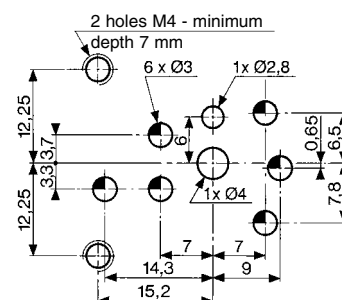


- 1 - Input signal
- 2 - Supply
- 3 - Output signal
- 4 - Start signal
- 5 - In cycle signal
- 6 - End of cycle signal
- 7 - Reset to zero signal

## Dimensions



## Mounting plan for sequencer

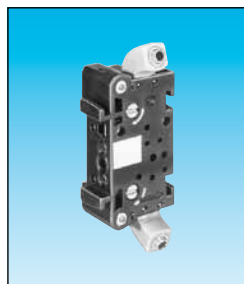


ATEX version products are available in the following catalogues: **Pneumatic products for explosive atmospheres** or on our website [www.crouzet.com](http://www.crouzet.com)

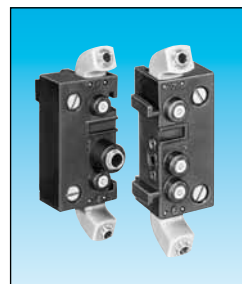
## Sequencer sub-bases



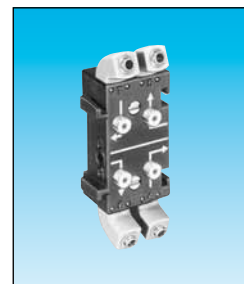
Also available in **ATEX** version for use in potentially explosive atmospheres in accordance with 94/9/EC Directive



81 551 101  
Sub-base (DIN oméga)



81 552 101  
End bases - one pair



81 552 601  
Diversion base

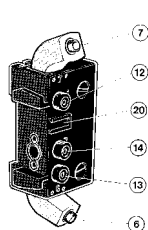
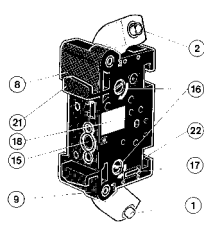
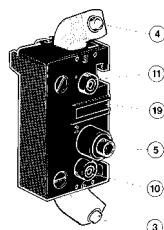
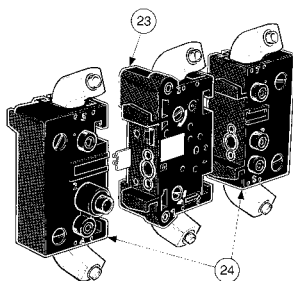
Versions Front connecting (DIN-omega)  
Rear connecting (with clips)

### Characteristics

|                       |                      |          |          |          |
|-----------------------|----------------------|----------|----------|----------|
| Sub-bases (fitted)    | Rotatable connectors |          |          |          |
|                       | Pressure indicators  |          |          |          |
| Operating temperature | °C                   | -5 → +50 | -5 → +50 | -5 → +50 |
| Weight                | g                    | 55       | 135      | 60       |

### Sequencer connections

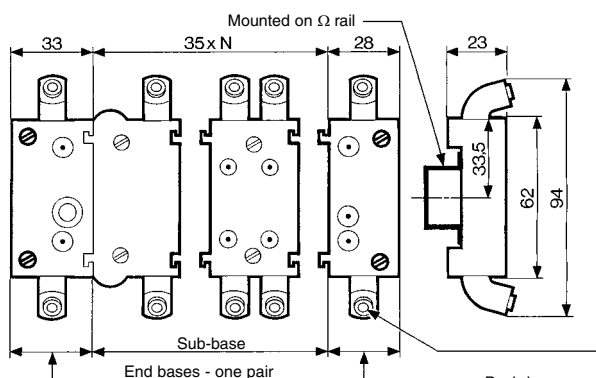
#### Front connecting



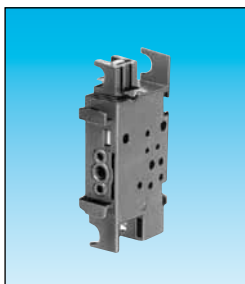
- 1 - Input port (green port 1) Ø 4
- 2 - Output port (red port 1) Ø 4
- 3 - Input port, cycle start (green port 1) Ø 4
- 4 - Output port, in-cycle signal (red port 1) Ø 4
- 5 - Output port, cycle end (red port 6) Ø 4
- 6 - Output port, cycle end (red port 6) Ø 4
- 7 - Input port, reset to zero (green port 7) Ø 4
- 8 - Output indicator (red)
- 9 - Input indicator (green)
- 10 - Cycle start indicator at port 4 (green)
- 11 - In-cycle indicator at port 5 (red)
- 12 - Input indicator at port 7 (green)
- 13 - End of cycle indicator at port 6 (red)
- 14 - Supply indicator at port 2 (yellow)
- 15 - Interconnecting ports
- 16 - Fixing screws
- 17 - Engraved arrow to indicate direction of sequence
- 18 - Marking tag
- 19 - Marking tag position
- 20 - Marking tag position
- 21 - Mounting tongue
- 22 - Mounting groove
- 23 - Sub-base
- 24 - End bases

### Dimensions

#### Front connecting



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



81 551 001

Sub-base (with clips)

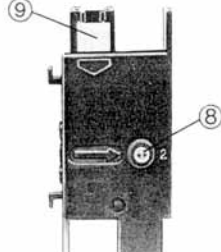
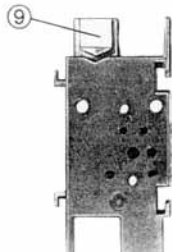
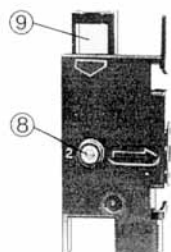
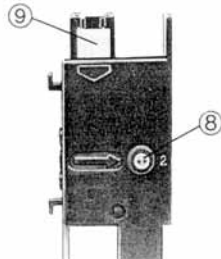
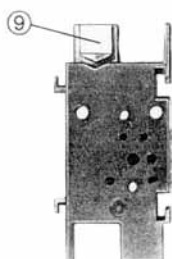
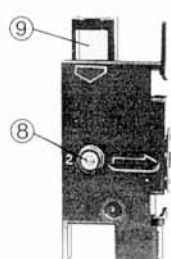
81 552 001

End bases - one pair

-5 → +50  
40

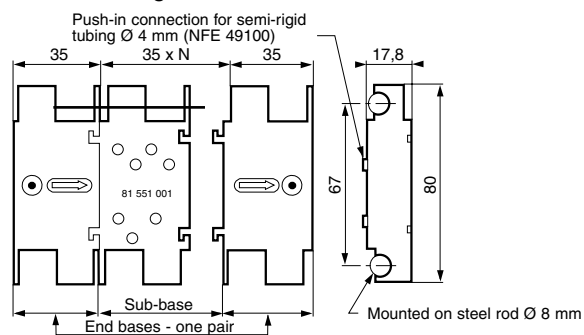
-5 → +50  
120

#### Rear connecting



- 1 - Input port (marked port 1)
- 2 - Supply port (Port 2)
- 3 - Output port (Port 3)
- 4 - Cycle start signal port (Port 4)
- 5 - In-cycle signal port (Port 5)
- 6 - End of cycle signal port (Port 6)
- 7 - Reset to zero signal port (Port 7)
- 8 - Indicator at supply port
- 9 - Marking area

#### Rear connecting



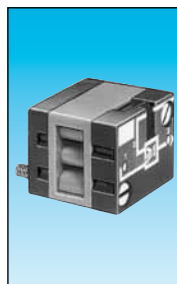
ATEX version products are available in the following catalogues: **Pneumatic products for explosive atmospheres** or on our website [www.crouzet.com](http://www.crouzet.com)

# Logic elements

- Performs "combined" Pneumatic
- Easy to use



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



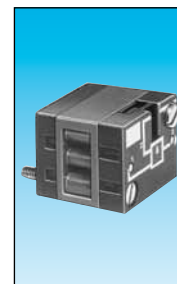
81 521 501



81 540 001



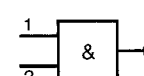
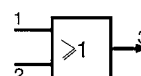
81 540 005



81 522 501

|           |     |                               |                |                |                               |
|-----------|-----|-------------------------------|----------------|----------------|-------------------------------|
| Functions | OR  | 81 521 501                    | 81 540 001     | 81 540 005     | 81 522 501                    |
|           | AND | —                             | —              | —              | —                             |
|           | YES | —                             | —              | —              | —                             |
|           | NO  | —                             | —              | —              | —                             |
| Version   |     | On Sub-base<br>page 4/14-4/15 | Plug-in<br>Ø 4 | Plug-in<br>Ø 6 | On Sub-base<br>page 4/14-4/15 |

## Symbol



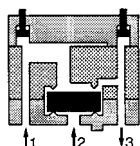
## Characteristics

|                                                      |                      |                  |                  |                  |                  |
|------------------------------------------------------|----------------------|------------------|------------------|------------------|------------------|
| Push-in connection for semi-rigid tubing (NFE 49100) | Male/Female/Female   | —                | Ø 4 mm           | —                | —                |
|                                                      | Female/Female/Female | —                | —                | Ø 6 mm           | —                |
| Colour                                               |                      | Blue             | Blue             | Blue             | Green            |
| Operating pressure                                   | bar                  | 2 → 8            | 2 → 8            | 2 → 8            | 2 → 8            |
| Orifice diameter                                     | mm                   | 2.7              | 2.7              | 4                | 2.7              |
| Flow at 6 bars                                       | NI/min               | 170              | 170              | 200              | 170              |
| Pressure indicator                                   |                      | ●                | —                | —                | ●                |
| Switching time                                       | ms                   | —                | —                | —                | —                |
| Operating temperature                                | °C                   | -5 → +50         | -5 → +50         | -5 → +50         | -5 → +50         |
| Mechanical life                                      | operations           | >10 <sup>7</sup> | >10 <sup>7</sup> | >10 <sup>7</sup> | >10 <sup>7</sup> |
| Weight                                               | g                    | 25               | 12               | 25               | 25               |

## Pilot/pressure curves

P<sub>p</sub> : Pilot pressure  
P<sub>a</sub> : Supply pressure

## Principle of operation

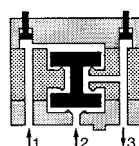


### Cellule OR

The output signal "S" is present when a signal at "a" OR "b" is present:

$$S = a \text{ OR } b$$

$$S = a + b$$



### Cellule AND

The output signal "S" is present only when signals "a" AND "b" are present simultaneously:

$$S = a \text{ AND } b$$

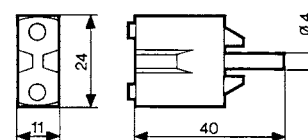
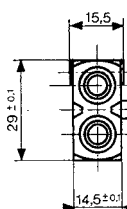
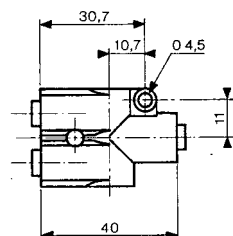
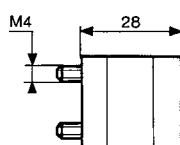
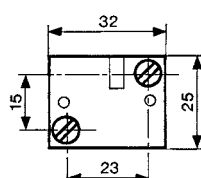
$$S = a \cdot b$$

## Dimensions

81 521 501 - 81 522 501

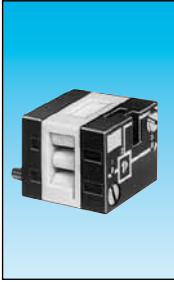
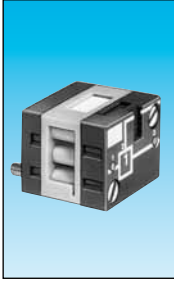
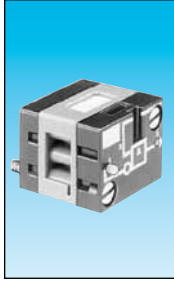
81 540 005 - 81 541 005

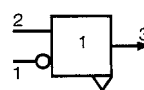
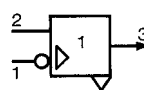
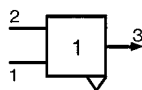
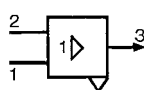
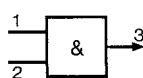
81 540 001 - 81 541 001



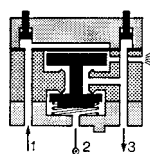
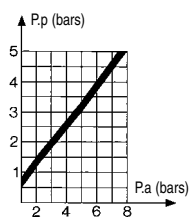
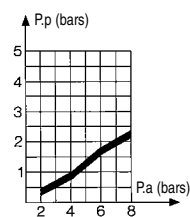
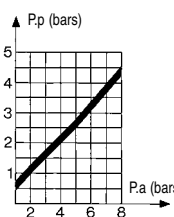
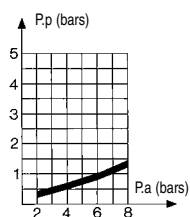
## Other information

See pages 54/55 for mounting plan for logic elements.

|                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |  |  |  |  |
| 81 541 001                                                                        | 81 541 005                                                                        | 81 501 025                                                                        | 81 503 025                                                                        | 81 504 025                                                                         | 81 506 025                                                                          |
| Plug-in<br>Ø 4                                                                    | Plug-in<br>Ø 6                                                                    | On sub-base<br>page 36-37                                                         | Threshold<br>On sub-base page<br>4/14-4/15                                        | Threshold<br>On sub-base page<br>4/14-4/15                                         | Threshold<br>On sub-base page<br>4/14-4/15                                          |



|                  |                  |                  |                  |                  |                  |
|------------------|------------------|------------------|------------------|------------------|------------------|
| Ø 4 mm           | Ø 6 mm           |                  |                  |                  |                  |
| Green            | Green            | Yellow           | Orange           | Light grey       | Dark grey        |
| 2 → 8            | 2 → 8            | 2 → 8            | 2 → 8            | 2 → 8            | 2 → 8            |
| 2.7              | 4                | 2.7              | 2.7              | 2.7              | 2.7              |
| 150              | 200              | 170              | 170              | 170              | 170              |
|                  | •                | •                | •                | •                | •                |
| < 4              | < 4              | < 4              | < 4              | < 4              | < 4              |
| -5 → +50         | -5 → +50         | -5 → +50         | -5 → +50         | -5 → +50         | -5 → +50         |
| >10 <sup>7</sup> | >10 <sup>7</sup> | >10 <sup>7</sup> | >10 <sup>7</sup> | >10 <sup>7</sup> | >10 <sup>7</sup> |
| 13               | 25               | 30               | 30               | 30               | 30               |

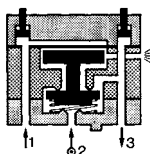


#### YES element

The output signal "S" is only present when the pilot is present "a" is present:

$$S = a \text{ YES } b$$

$$S = a$$



#### NOT element

The output signal "s" is present only if the input signal "a" is NOT present. The output signal is therefore the inverse of the pilot signal:

$$S = \text{NOT } a$$

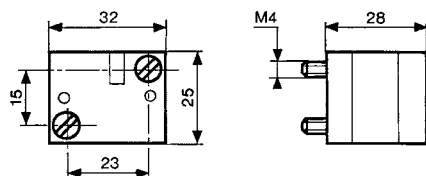
$$S = \bar{a}$$

If the supply port is connected to a 2nd input "b", the function obtained is called inhibition:

$$S = \text{NOT } a \text{ AND } b$$

$$S = \bar{a} \cdot b$$

81 501 025 - 81 503 025  
81 504 025 - 81 506 025



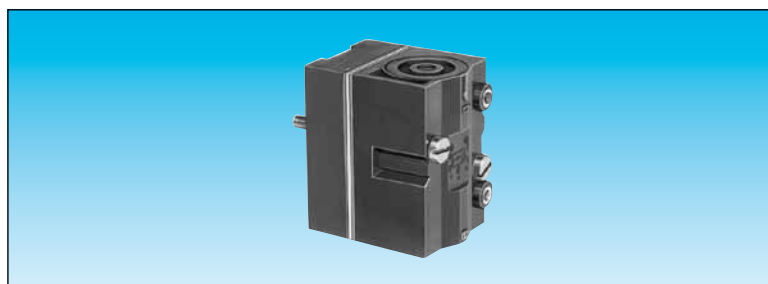
ATEX version products are available in the following catalogues: **Pneumatic products for explosive atmospheres** or on our website **www.crouzet.com**

# Memory element

- 100 % pneumatic
- Bistable pneumatic



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

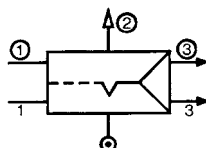


Version

**81 523 201**  
With pressure indicator

**81 523 601**  
With pressure indicator and manual override

## Symbol



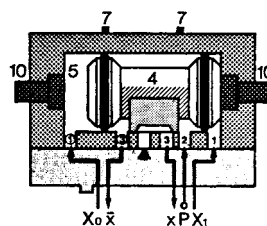
## Characteristics

|                                         |        |          |          |
|-----------------------------------------|--------|----------|----------|
| Colour                                  |        | Black    | Black    |
| Operating pressure                      | bar    | 2 → 8    | 2 → 8    |
| Orifice diameter                        | mm     | 2.7      | 2.7      |
| Minimum memory pilot pressure           | bar    | 2.5      | 2.5      |
| Operating temperature                   | °C     | -5 → +50 | -5 → +50 |
| Flow at 6 bars                          | NI/min | 200      | 200      |
| Connection - On sub-base page 4/14-4/15 |        | ●        | ●        |
| Weight                                  | g      | 90       | 90       |

## Principle of operation

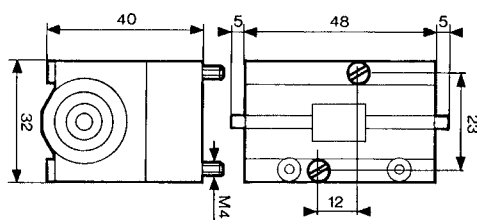
The function is that of a 4/2 valves. The appearance of signal "X1" causes the displacement of the slide valve. The output port "x" is then put under pressure. This state is remembered until the arrival of signal "X0". This signal reverses the slide valve, the output "x" is put under pressure. This state is likewise remembered. The output:

- "x" under pressure indicates that the information in the MEMORY is "X1",
- "x" under pressure indicates that the information in the MEMORY is "X0".

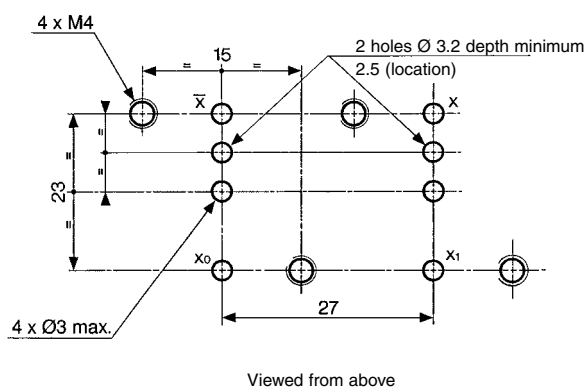


## Dimensions

81 523 201 - 81 523 601



## Dimensions of logic and memory elements

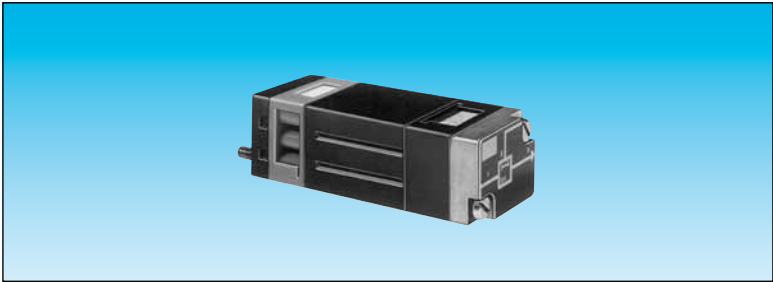


ATEX version products are available in the following catalogues: **Pneumatic products for explosive atmospheres** or on our website [www.crouzet.com](http://www.crouzet.com)

# Timers fixed timing

## ■ Fixed 0.4 s

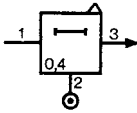
 Also available in **ATEX** version for use in potentially explosive atmospheres in accordance with 94/9/EC Directive



Version

81 503 540  
Positive output

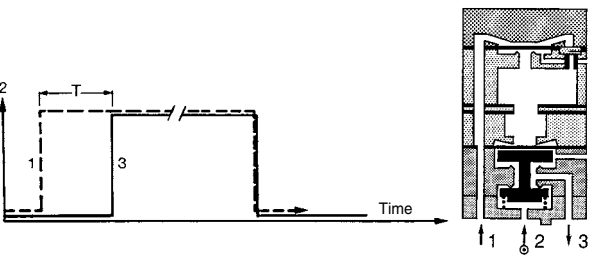
### Symbol



### Characteristics

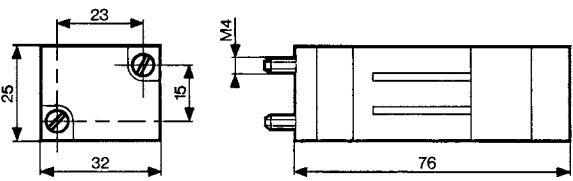
|                                     |            |                  |
|-------------------------------------|------------|------------------|
| Timing                              | s          | 0.4              |
| Operating pressure                  | bar        | 2 → 8            |
| Flow at 6 bars                      | NI/min     | 170              |
| Orifice diameter                    | mm         | 2.7              |
| Accuracy                            | %          | ± 5              |
| Min. reset time                     | s          | <0.1             |
| Connection - On sub-base page 36-37 |            | ●                |
| Operating temperature               | °C         | -5 → +50         |
| Mechanical life                     | operations | >10 <sup>7</sup> |
| Weight                              | g          | 106              |

### Principle of operation with positive output



### Dimensions

81 503 540



ATEX version products are available in the following catalogues: **Pneumatic products for explosive atmospheres** or on our website [www.crouzet.com](http://www.crouzet.com)

## Timers (with adjustable timing)

### ■ 60 s adjustable (60 s max.)



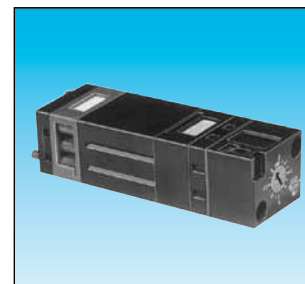
Also available in **ATEX** version for use in potentially explosive atmospheres in accordance with 94/9/EC Directive



81 503 710



81 506 710



81 503 720

81 506 720

81 503 725

81 506 725

Function positive  
negative

•

—

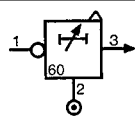
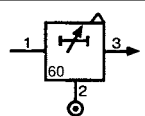
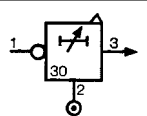
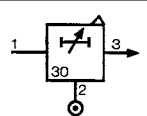
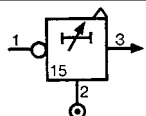
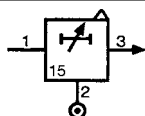
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### Symbol



### Characteristics

|                                         |            |                  |                  |                  |                  |                  |                  |
|-----------------------------------------|------------|------------------|------------------|------------------|------------------|------------------|------------------|
| Timing                                  | s          | 0.1 → 15         | 0.1 → 15         | 0.1 → 30         | 0.1 → 30         | 0.1 → 60         | 0.1 → 60         |
| Operating pressure                      | bar        | 2 → 8            | 2 → 8            | 2 → 8            | 2 → 8            | 2 → 8            | 2 → 8            |
| Flow at 6 bars                          | NI/min     | 170              | 170              | 170              | 170              | 170              | 170              |
| Orifice diameter                        | mm         | 2.7              | 2.7              | 2.7              | 2.7              | 2.7              | 2.7              |
| Accuracy                                | %          | ± 5              | ± 5              | ± 5              | ± 5              | ± 5              | ± 5              |
| Min. reset time                         | s          | <0.1             | <0.1             | <0.1             | <0.1             | <0.1             | <0.1             |
| Connection - On sub-base page 4/14-4/15 |            | •                | •                | •                | •                | •                | •                |
| Operating temperature                   | °C         | -5 → +50         | -5 → +50         | -5 → +50         | -5 → +50         | -5 → +50         | -5 → +50         |
| Mechanical life                         | operations | >10 <sup>7</sup> | >10 <sup>7</sup> | >10 <sup>7</sup> | >10 <sup>7</sup> | >10 <sup>7</sup> | >10 <sup>7</sup> |
| Weight                                  | g          | 90               | 90               | 100              | 100              | 120              | 120              |

### Accessories

|                        |   |            |            |            |            |   |   |
|------------------------|---|------------|------------|------------|------------|---|---|
| Panel mounting adaptor |   | 79 451 698 | 79 451 698 | 79 451 903 | 79 451 903 | — | — |
| Weight                 | g | 53         | 53         | 53         | 53         | — | — |

### Principle

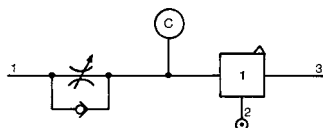
The operation of these pneumatic timers is similar to that of electronic timers (circuit with capacitor/resistor)

### Principle of operation

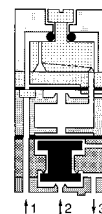
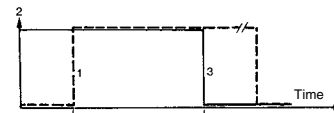
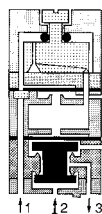
with positive output

with negative output

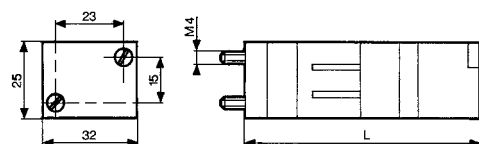
### Timing by charging of reservoir



The reservoir fills via the flow restrictor until the switching point of the timer output is reached (positive or negative). The non-return valve allows the reservoir to be emptied rapidly for the next timing.

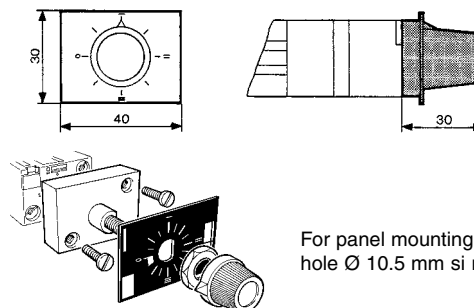


### Dimensions



|                         | L (mm) |
|-------------------------|--------|
| 81 503 710 - 81 506 710 | 78     |
| 81 503 720 - 81 506 720 | 92     |
| 81 503 725 - 81 506 725 | 125    |

### Adaptor 79 451 ...



For panel mounting, a pre-drilled hole Ø 10.5 mm is required

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

# Timers

## ■ Fixed and adjustable

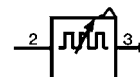
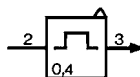


Also available in **ATEX** version for use in potentially explosive atmospheres in accordance with 94/9/EC Directive



|                                |            |            |            |            |
|--------------------------------|------------|------------|------------|------------|
| Single impulse generator       | Fixed      | 81 507 540 | —          | —          |
|                                | Adjustable | —          | 81 507 720 | —          |
| Adjustable frequency generator |            | —          | —          | 81 506 940 |

## Symbol



## Characteristics

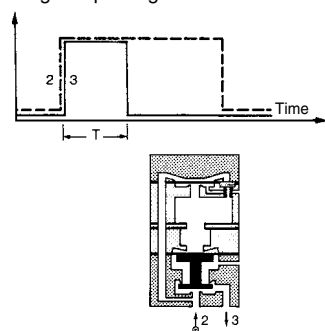
|                                         |            |                  |                  |                  |
|-----------------------------------------|------------|------------------|------------------|------------------|
| Timing                                  | s          | 0.4              | 0.1 → 30         | —                |
| Frequency                               | Hz         | —                | —                | 0.02 → 8         |
| Operating pressure                      | bar        | 2 → 8            | 2 → 8            | 2 → 8            |
| Flow at 6 bars                          | NI/min     | 170              | 170              | 170              |
| Orifice diameter                        | mm         | 2.7              | 2.7              | 2.7              |
| Accuracy                                | %          | ± 5              | ± 5              | ± 5              |
| Min. reset time                         | s          | <0.1             | <0.1             | <0.1             |
| Connection - On sub-base page 4/14-4/15 |            | ●                | ●                | ●                |
| Operating temperature                   | °C         | -5 → +50         | -5 → +50         | -5 → +50         |
| Mechanical life                         | operations | >10 <sup>7</sup> | >10 <sup>7</sup> | >10 <sup>7</sup> |
| Weight                                  | g          | 106              | 180              | 85               |

## Accessories

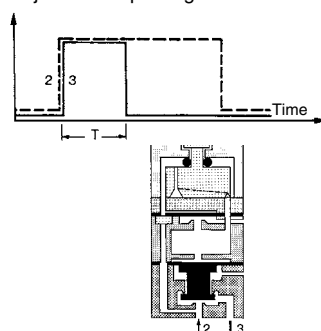
|                           |   |            |            |
|---------------------------|---|------------|------------|
| Panel mounting adaptators | — | 79 451 904 | 79 451 905 |
| Weight (g)                | — | 53         | 53         |

## Principle of operation

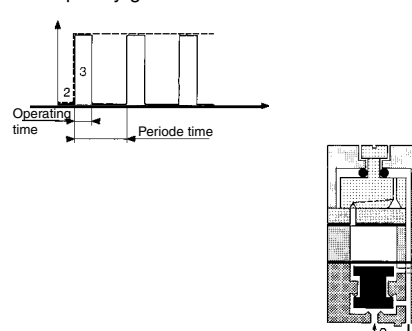
Single impulse generator



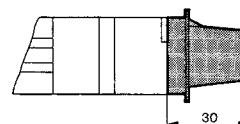
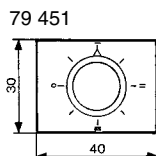
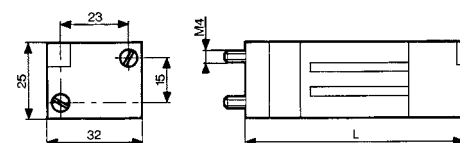
Adjustable impulse generator



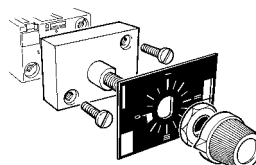
Frequency generator



## Dimensions



| Part numbers | L (mm) |
|--------------|--------|
| 81 507 540   | 73     |
| 81 507 720   | 99     |
| 81 506 940   | 72     |



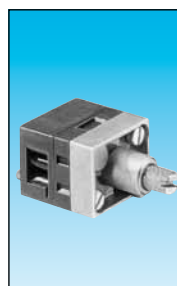
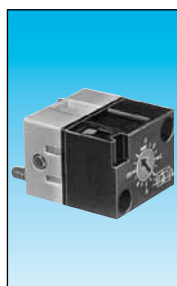
For panel mounting, a pre-drilled hole Ø 10.5 mm is required

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

## Timing Accessories



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



One-way in-line fixed flow restrictors

Flow at 4 bars  $\text{Nm}^3/\text{h}$   $\varnothing$  orifice (mm)

|             |      |        |
|-------------|------|--------|
| 0.18 → 0.30 | 0.3  | white  |
| 0.35 → 0.50 | 0.4  | yellow |
| 0.58 → 0.77 | 0.5  | red    |
| 0.80 → 1.06 | 0.6  | green  |
| 1.10 → 1.39 | 0.7  | blue   |
| 1.45 → 1.65 | 0.8  | grey   |
| 2.30 → 2.80 | 1    | black  |
| 0.08 → 0.12 | 0.25 | white  |

|            |
|------------|
| 81 529 003 |
| 81 529 004 |
| 81 529 005 |
| 81 529 006 |
| 81 529 007 |
| 81 529 008 |
| 81 529 010 |
| 81 529 025 |

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| — |

One-way adjustable flow restrictor  
Capacity for timing

10 • 60 s

—

81 525 101

81 526 001

79 458 808

### Symbol



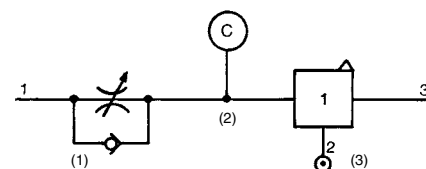
### Characteristics

|                       |                                                      |                      |          |          |          |
|-----------------------|------------------------------------------------------|----------------------|----------|----------|----------|
| Free flow             | Nl/min                                               | Depending on orifice | 30       | 200      | —        |
| Orifice diameter      | mm                                                   | Depending on orifice | 0 → 0.5  | 0 → 1.7  | —        |
| Operating pressure    | bars                                                 | 1 → 8                | 1 → 8    | 2 → 8    | —        |
| Timing                | s                                                    | —                    | —        | —        | 10 → 60  |
| Capacity              | cm <sup>3</sup>                                      | —                    | —        | —        | 30       |
| Connection            | Sub-base page 4/14-4/15                              | —                    | •        | •        | —        |
|                       | Push-in connection for semi-rigid tubing (NFE 49100) | mm                   | Ø 4      | —        | Ø 4      |
| Operating temperature | °C                                                   | -5 → +50             | -5 → +50 | -5 → +50 | -5 → +50 |
| Weight                | g                                                    | 8                    | 60       | 70       | 40       |

### Connections

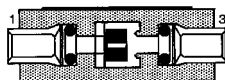
For timing circuit

- One-way flow restrictor 81 525 1 - 81 529 0 (1)
  - Reservoir 79 458 018 (2)
  - Relay element 81 503 0 - 81 506 0 (3) page 4/6-4/7
- Sub-base page 4/14-4/15

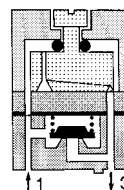


### Principle of operation

One-way with fixed flow



One-way with adjustable flow



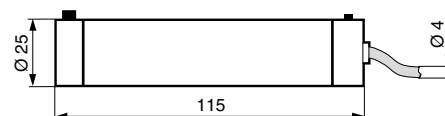
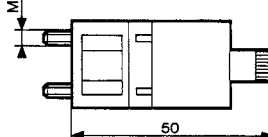
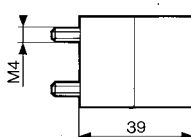
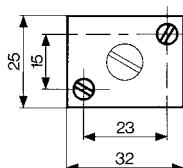
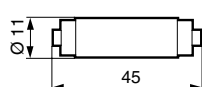
### Dimensions

81 529

81 525 101

81 526 001

79 452 808



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## Regulator accessories



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



### Part numbers

Mini-détenteur

81 527 001

—

—

Plug element

—

81 520 601

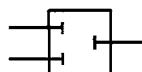
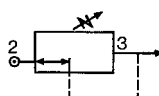
—

In-line non-return

—

81 529 901

### Symbol



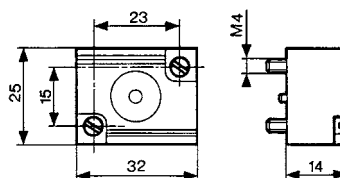
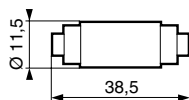
### Characteristics

|                            |                                                      |         |    |       |
|----------------------------|------------------------------------------------------|---------|----|-------|
| Operating pressure         | bars                                                 | 2 → 8   | —  | 2 → 8 |
| Flow at 6 bars             | NI/min                                               | 200     | —  | 200   |
| Adjustable output pressure | bar                                                  | 0,1 → 8 | —  | —     |
| Connection                 | Sub-base                                             | •       | •  | —     |
|                            | Push-in connection for semi-rigid tubing (NFE 49100) | mm      | —  | Ø 4   |
| Weight                     | g                                                    | 150     | 70 | 70    |

### Dimensions

81 529 901

81 520 601

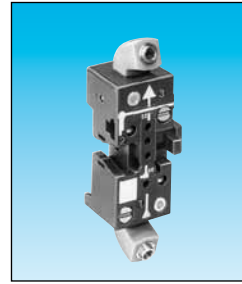
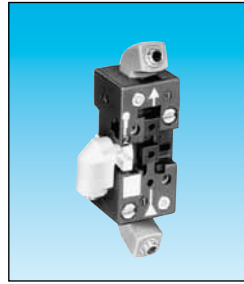


ATEX version products are available in the following catalogues: **Pneumatic products for explosive atmospheres** or on our website [www.crouzet.com](http://www.crouzet.com)

## Sub-bases for logic elements



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



|                                      | 81 532 104 | 81 532 102 |  |
|--------------------------------------|------------|------------|--|
| Two-hand start module                | ● 1        | ● 1        |  |
| Manostats - vacuostats               | ● 1        | ● 1        |  |
| Leak sensor and amplifier relays     | ● 1        | ● 1        |  |
| Logic elements AND Timers            | ● 1        | ● 1        |  |
| Regulator accessories                | ● 1        | ● 1        |  |
| Memory element                       | —          | —          |  |
| Operating temperature °C             | -5 → +50   | -5 → +50   |  |
| Electro-pneumatic miniature solenoid | ● 1        | ● 1        |  |

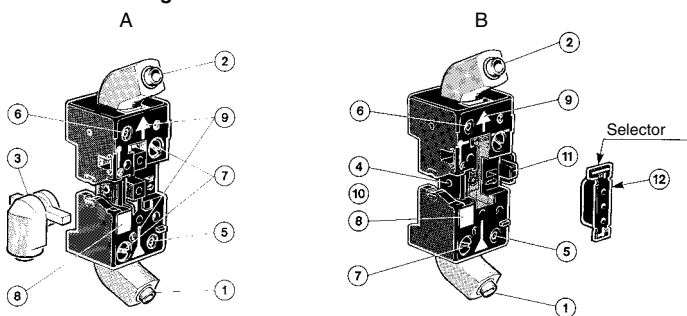
**NB:** The number indicates the number of components mounted on the sub-base

### Characteristics

|                                                                |                |                |  |
|----------------------------------------------------------------|----------------|----------------|--|
| Push-in connection for semi-rigid tubing<br>Ø 4 mm (NFE 49100) | rotatable      | rotatable      |  |
| Fixation                                                       | DIN rail 35 mm | DIN rail 35 mm |  |
| Weight g                                                       | 56             | 52             |  |

### Connections elements and relays

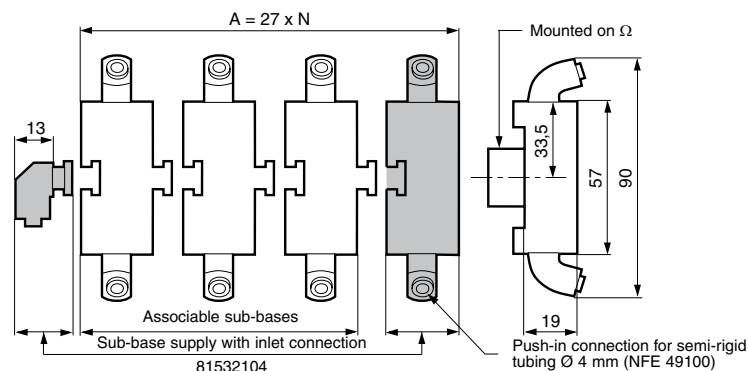
#### Front connecting



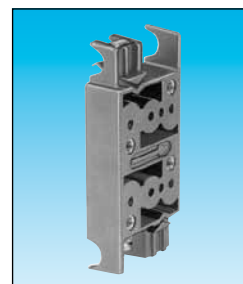
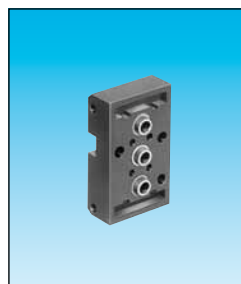
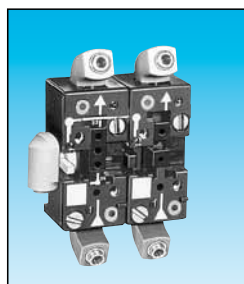
- A - Single sub-base or end base
- B - Associable sub-base
- 1 - Input port (green port 1)
- 2 - Output port (red port 3)
- 3 - Input/supply port (yellow port 2) Ø 4
- 4 - Input port integral to sub-base
- 5 - Input indicator (green)
- 6 - Output indicator (red)
- 7 - 1/4 turn screws
- 8 - Marking tag
- 9 - Arrow indicating flow direction
- 10 - Mounting tongue
- 11 - Mounting groove
- 12 - Selector

### Dimensions

81 532 104 3 x 81532102



ATEX version products are available in the following catalogues: **Pneumatic products for explosive atmospheres** or on our website [www.crouzet.com](http://www.crouzet.com)



|                                      |          |
|--------------------------------------|----------|
| Two-hand start module                |          |
| Manostats - vacuostats               |          |
| Leak sensor and amplifier relays     |          |
| Logic elements AND Timers            |          |
| Regulator accessories                |          |
| Memory element                       | ● 1      |
| Operating temperature °C             | -5 → +50 |
| Electro-pneumatic miniature solenoid | —        |

|            |   |
|------------|---|
| 81 542 002 |   |
|            | — |
|            | — |
|            | — |
|            | — |
|            | — |
|            | — |
|            | — |
|            | — |
|            | — |

|            |          |
|------------|----------|
| 81 532 001 | ● 1      |
|            | ● 1      |
|            | ● 1      |
|            | ● 1      |
|            | ● 1      |
|            | —        |
|            | -5 → +50 |
|            | ● 1      |

|            |          |
|------------|----------|
| 81 531 001 | ● 2      |
|            | ● 2      |
|            | ● 2      |
|            | ● 2      |
|            | ● 2      |
|            | ● 1      |
|            | -5 → +50 |
|            | ● 2      |

## Caractéristiques

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

rotatable

DIN rail 35 mm

rear

2 M4 screws

rear

Clips for rails  
 Ø 8 mm

Weight

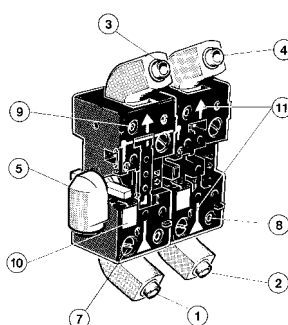
g

95

10

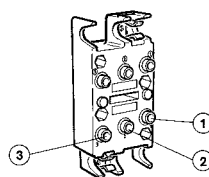
35

## Memory element sub-base, front and rear connecting



- 1 - Input port X1 (green port 1)
- 2 - Input port X0 (green port 1)
- 3 - Output port X (red port 3)
- 4 - Output port X (red port 3)
- 5 - Supply port (brass port 2)
- 7 - 1/4 turn screws
- 8 - Input indicator
- 9 - Output indicator
- 10 - Marking tag
- 11 - Arrow indicating the flow direction

## Rear connection



The modular system elements are fixed with two screws on the sub-base.

A locating device on each logic element prevents incorrect assembly.

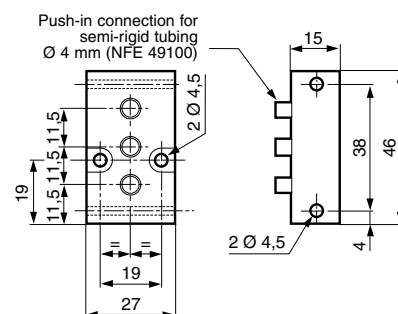
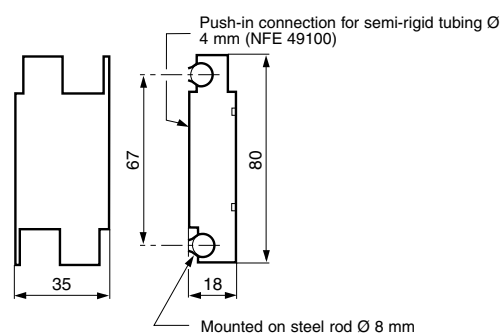
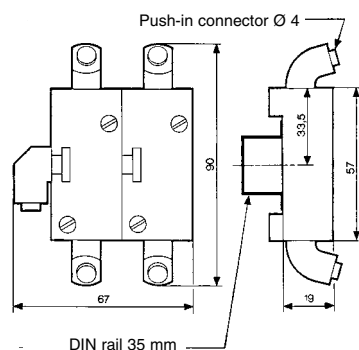
The logic element is connected via the sub-base. This sub-base has 3 instant connections for connecting semi-rigid tubes with outer Ø 4.

- 1 - Input signal
- 2 - Signal port for passive logic elements, air supply for active logic elements.
- 3 - Output signal

81 542 002 (for memory 81523201/601)

81 531 001

81 532 001

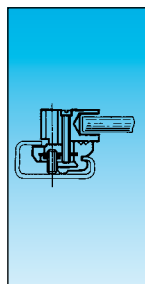


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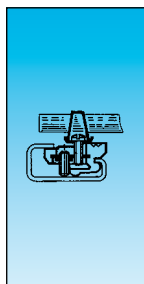
## Mounting accessories



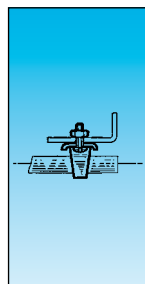
Also available in **ATEX** version for use in potentially explosive atmospheres in accordance with 94/9/EC Directive



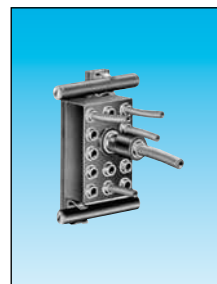
**81 533 501**  
Hole domino



**81 533 001**  
Clip domino



**79 450 609**  
Bar clips  
Ø 8



**81 536 801**

Mounting equipment

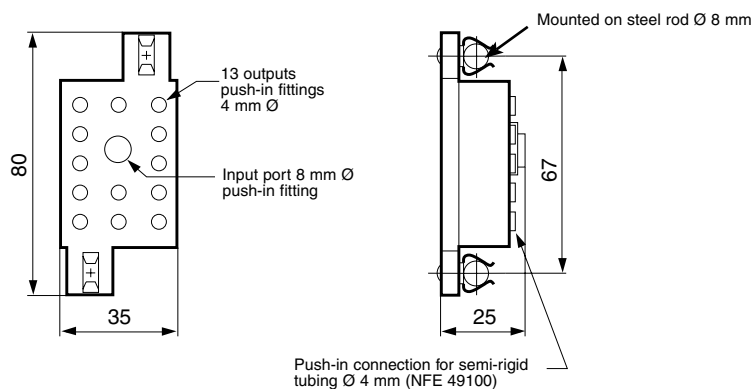
Supply manifold 13 outputs

### Characteristics

|                          |                                                                                                 |                                                                                                 |                            |          |
|--------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|----------------------------|----------|
| Weight (g)               | 8<br>For mounting on the end of a zinc-coated mild steel rod Ø 8 mm on an asymmetrical DIN rail | 4<br>For adjustable mounting on a zinc-coated mild steel rod Ø 8 mm on an asymmetrical DIN rail | 80<br>Packet of 100 pieces | 80       |
| Operating temperature °C | -5 → +50                                                                                        | -5 → +50                                                                                        | -5 → +50                   | -5 → +50 |

### Dimensions

**81 536 804**



### Other information

Use Weidmuller plastic labels for marking components part number FW 4734-6.

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