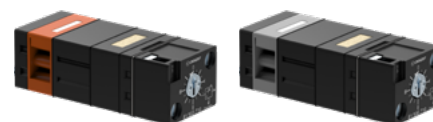


# › Pneumatic Timers

## Sub-base Mount

- › 4 Timing Functions: Positive Output (On-delay), Negative Output, Impulse Generator and Frequency Generator
- › Timing ranges: 0.4 s, 0.1 to 15 s, 0.1 to 30 s, 0.1 to 60 s
- › Long lifetime (10<sup>7</sup> operation cycles)
- › ATEX compliant options for explosive environments



Standard version

ATEX Compliant Version

| Selection guide            |                           |                      |                            |
|----------------------------|---------------------------|----------------------|----------------------------|
| Timing Functions           | Timing/Frequency          | Standard Part Number | ATEX compliant Part Number |
| Positive Output (On-Delay) | 0.4 s (Fixed)             | <b>81503540</b>      | <b>81503543</b>            |
|                            | 0.1 → 15 s (Adjustable)   | <b>81503710</b>      | <b>81503728</b>            |
|                            | 0.1 → 30 s (Adjustable)   | <b>81503720</b>      | <b>81503729</b>            |
|                            | 0.1 → 60 s (Adjustable)   | <b>81503725</b>      | <b>81503731</b>            |
| Negative Output            | 0.1 → 15 s (Adjustable)   | <b>81506710</b>      | <b>81506714</b>            |
|                            | 0.1 → 30 s (Adjustable)   | <b>81506720</b>      | <b>81506721</b>            |
|                            | 0.1 → 60 s (Adjustable)   | <b>81506725</b>      | <b>81506727</b>            |
| Impulse Generator          | 0.4 s (Fixed)             | <b>81507540</b>      | <b>81507543</b>            |
|                            | 0.1 → 30 s (Adjustable)   | <b>81507720</b>      | <b>81507724</b>            |
| Frequency Generator        | 0.02 → 8 Hz (Adjustable)  | <b>81506940</b>      | <b>81506945</b>            |
|                            | 0.02 → 14 Hz (Adjustable) | <b>81506920</b>      | -                          |

Do you have a special project with specific needs? Contact us on [www.crouzet.com](http://www.crouzet.com)

### Description:

Crouzet offers a wide **pneumatic timers** range, with several functions and timing range to suit different customer needs.

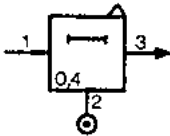
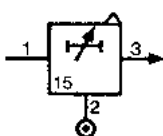
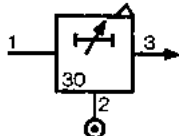
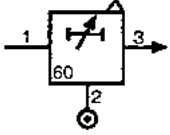
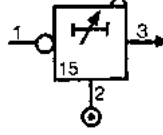
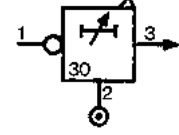
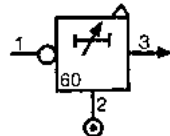
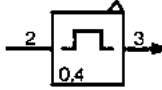
**ATEX compliant options are also available for applications in explosive environment.**

For more information about Crouzet's pneumatic timers range, please visit [www.crouzet.com](http://www.crouzet.com)

|                              | Positive Output<br>(On-Delay)                                                                    | Negative Output                                                                       | Impulse Generator                       | Frequency Generator                                     |
|------------------------------|--------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------------|---------------------------------------------------------|
| <b>Timing Specifications</b> |                                                                                                  |                                                                                       |                                         |                                                         |
| Specified time ranges        | Fixed: 0.4 s<br>Adjustable 1: 0.1 → 15 s<br>Adjustable 2: 0.1 → 30 s<br>Adjustable 3: 0.1 → 60 s | -<br>Adjustable 1: 0.1 → 15 s<br>Adjustable 2: 0.1 → 30 s<br>Adjustable 3: 0.1 → 60 s | Single: 0.4 s<br>Adjustable: 0.1 → 30 s | Adjustable 1: 0.02 → 8 Hz<br>Adjustable 2: 0.02 → 14 Hz |

|                 |        |
|-----------------|--------|
| Accuracy        | ± 5 %  |
| Min. reset time | <0.1 s |

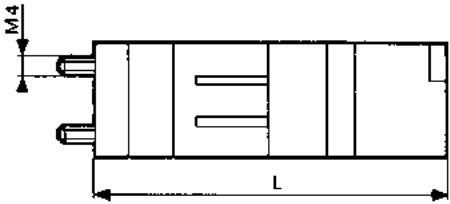
|                                |                                                 |
|--------------------------------|-------------------------------------------------|
| <b>General characteristics</b> |                                                 |
| Operating pressure             | 2 → 8 bar                                       |
| Flow at 6 bars                 | 170 NI/min.                                     |
| Orifice diameter               | 2.7 mm (without sub-base)<br>4 mm with sub-base |
| Mounting                       | Sub-base Mount                                  |
| Casing                         | 32 x 25 mm                                      |
| Operating temperature          | -5 → + 50 °C                                    |
| Mechanical life                | 10 <sup>7</sup> operations                      |

|                                                                                                             |                                                                                                             |                                                                                                               |
|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| <b>Timers symbols</b>                                                                                       |                                                                                                             |                                                                                                               |
| Part Number 81503540<br>  | Part Number 81503710<br>  | Part Number 81503720<br>  |
| Part Number 81503725<br> | Part Number 81506710<br> | Part Number 81506720<br> |
| Part Number 81506725<br> | Part Number 81507540<br> | Part Number 81507720<br> |
| Part Number 81506940<br> | Part Number 81506920<br> |                                                                                                               |

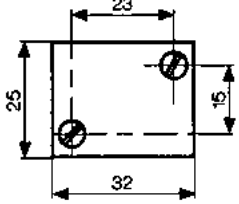
Diagrams

Dimensions (mm)

Side View



Front view

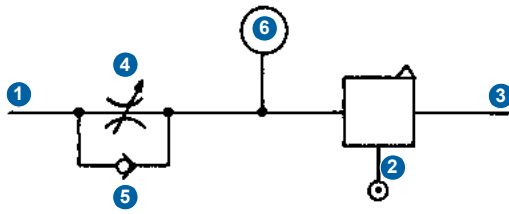


| Standard / ATEX compliant Part Number | L (mm) | Weight (g) |
|---------------------------------------|--------|------------|
| 81503540 / 81503543                   | 76     | 106        |
| 81503710 / 81503728                   | 78     | 90         |
| 81506710 / 81506714                   |        |            |
| 81503720 / 81503729                   | 92     | 100        |
| 81506720 / 81506721                   |        |            |
| 81503725 / 81503731                   | 125    | 120        |
| 81506725 / 81506727                   |        |            |
| 81507540 / 81507543                   | 73     | 106        |
| 81507720 / 81507724                   | 99     | 180        |
| 81506940 / 81506945                   | 72     | 85         |
| 81506920                              | 58     |            |

Functional Diagram

The operation of these pneumatic timers is similar to the one of electronic timers (circuit with capacitor/resistor) as can be seen in the following functional diagram:

Timing by charging of reservoir



1

Control input

2

Air supply

3

Air Output

4

Flow Restrictor

5

Non-return valve

6

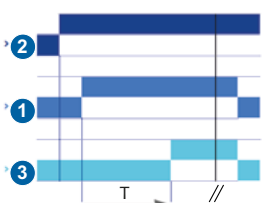
Capacitor

The reservoir inside the timer fills via the connection (1) that is passing through the flow restrictor (4), until it reaches the switching point (Timing set-up). The non-return valve (5) allows the reservoir of the timer to be emptied rapidly for the next timing.

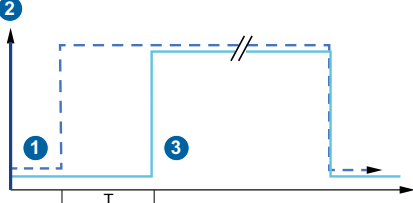
Timing Functions

Positive Output (On-Delay)

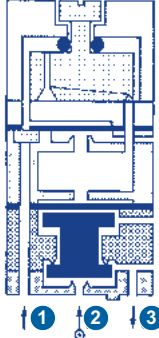
Time chart style 1



Time chart style 2



Timer view in 2D



1

Control input

2

Air supply

3

Air Output

T

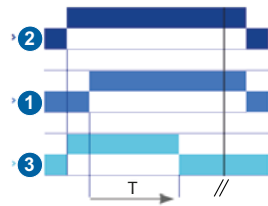
Timing

//

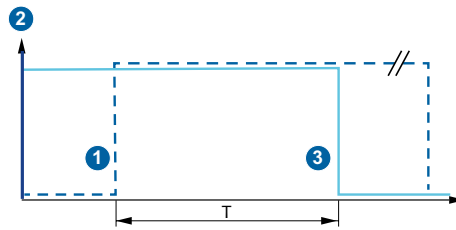
Supply off

## Negative Output

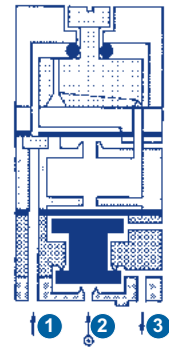
Time chart style 1



Time chart style 2



Timer view in 2D

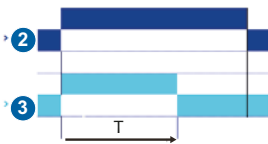


- 1 Control input
- 2 Air supply
- 3 Air Output

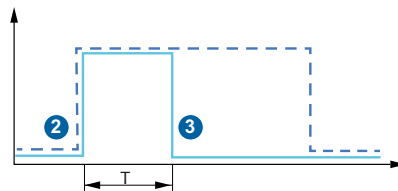
T: Timing  
// Supply off

## Impulse Generator

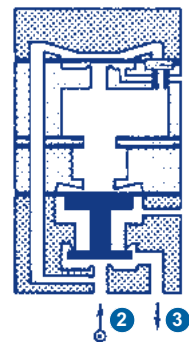
Time chart style 1



Time chart style 2 - Single impulse generator



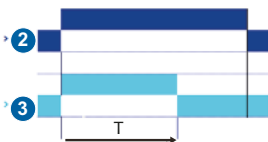
Timer view in 2D



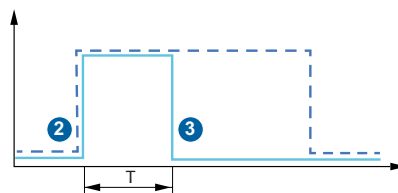
- 2 Air supply
- 3 Air Output

T: Timing

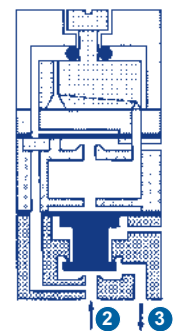
Time chart style 1



Time chart style 2 - Adjustable impulse generator



Timer view in 2D

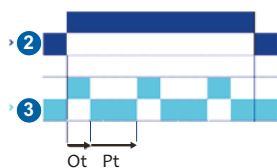


- 2 Air supply
- 3 Air Output

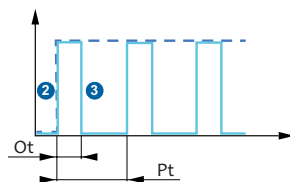
T: Timing

## Frequency Generator

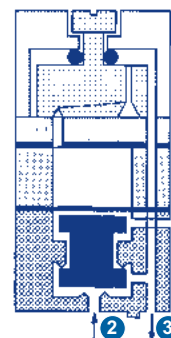
Time chart style 1



Time chart style 2



Timer view in 2D



- 2 Air supply  
3 Air Output

Ot: Operating time  
Pt: Period time

## Complementary Products

### SUB-BASE

|                                                                                     | Description                      | Standard P/N | ATEX compliant P/N |
|-------------------------------------------------------------------------------------|----------------------------------|--------------|--------------------|
|   | DIN-Rail Mount Multiple products | 81 532 102   | 81 532 109         |
|  | DIN-Rail Mount                   | 81 532 104   | 81 532 111         |
|  | Shaft Mount                      | 81 531 001   | 81 531 008         |
|  | Panel Mount                      | 81 532 001   | 81 532 009         |

### OTHER PRODUCTS

|                                                                                     | Description                    | Standard P/N                                         | ATEX compliant P/N |
|-------------------------------------------------------------------------------------|--------------------------------|------------------------------------------------------|--------------------|
|  | Non-return valve (Check-Valve) | 81 529 901                                           | -                  |
|  | Air Pressure Regulator         | 81 527 001                                           | -                  |
|  | Air Capacitor                  | 79 452 808                                           | -                  |
|  | Manual Timing Set-Up Knob      | 79 451 698<br>79 451 903<br>79 451 904<br>79 451 905 | -<br>-<br>-<br>-   |

### AIR FLOW REGULATORS

|                                                                                     | Description                | Standard P/N | ATEX compliant P/N |
|-------------------------------------------------------------------------------------|----------------------------|--------------|--------------------|
|   | Free flow of 30 NL/min     | 81 525 101   | -                  |
|  | Free flow of 200 NL/min    | 81 526 001   | -                  |
|  | At 4 bar 0.18 → 0.30 Nm3/h | 81 529 003   | 81 529 013         |
|  | At 4 bar 0.35 → 0.5 Nm3/h  | 81 529 004   | 81 529 014         |
|  | At 4 bar 0.58 → 0.77 Nm3/h | 81 529 005   | -                  |
|  | At 4 bar 0.80 → 1.06 Nm3/h | 81 529 006   | -                  |
|  | At 4 bar 1.10 → 1.39 Nm3/h | 81 529 007   | 81 529 017         |
|  | At 4 bar 1.45 → 1.65 Nm3/h | 81 529 008   | 81 529 018         |
|  | At 4 bar 2.30 → 2.80 Nm3/h | 81 529 010   | -                  |
|  | At 4 bar 0.08 → 0.12 Nm3/h | 81 529 025   | -                  |

#### Warning:

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