Flip-Flop

Valve operation

This is a high-flow device which, by applying a pilot pressure either pneumatic or electrical to point **X**, will, for example, extend and retract a double acting cylinder. The "flip-flop" valve requires two pilot signals for a complete cycle: one momentary signal to extend the cylinder stroke and one momentary signal to retract. A maintained pilot signal will generate one half of the cycle. The valve will stay in this position until the signal is exhausted and then applied again. In the event of pilot pressure failure or system maintenance a manual override facility is provided.

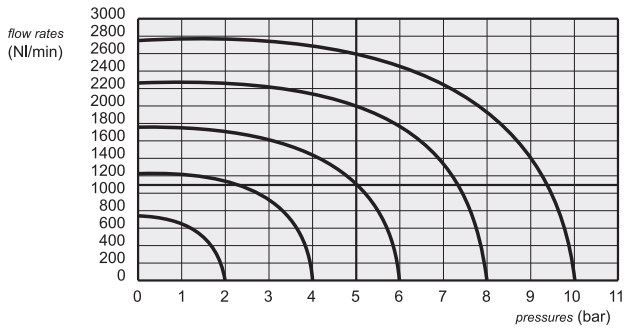
Two types of flip-flop valves are available:
code **US10.035.4** The valve is actuated by applying a pneumatic signal to point **X**.
The signal pressure can be different to the pressure at port **1**.

code **US10.018.3** The valve is actuated by an electrical signal.

Materials
Body: aluminium 11S
Springs: stainless steel
Seals: NBR
Spools: nickel plated aluminium
Internal parts: brass OT58

The following listed products are sold without coils, which are bought separately.

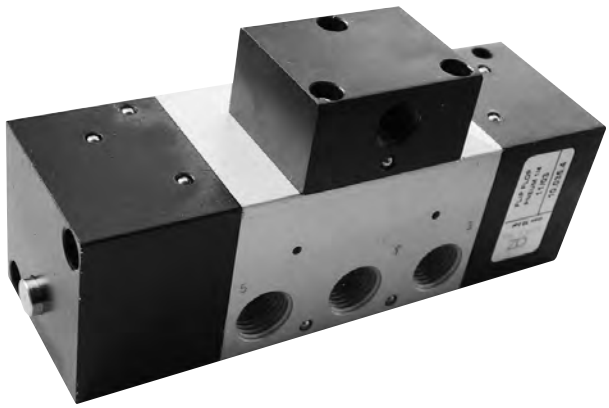
Ports	1/4" NPT
Operating pressure	3 ... 10 bar (43 ... 145 PSI) 0.3 ... 1 MPa
Pneumatic actuating pressure (X)	2 ... 10 bar (30 ... 145 PSI) 0.2 ... 1 MPa
Temperature range	-**15**+**60**°C (**5**-**140**°F)
Fluid	50μ filtered, lubricated or non lubricated air

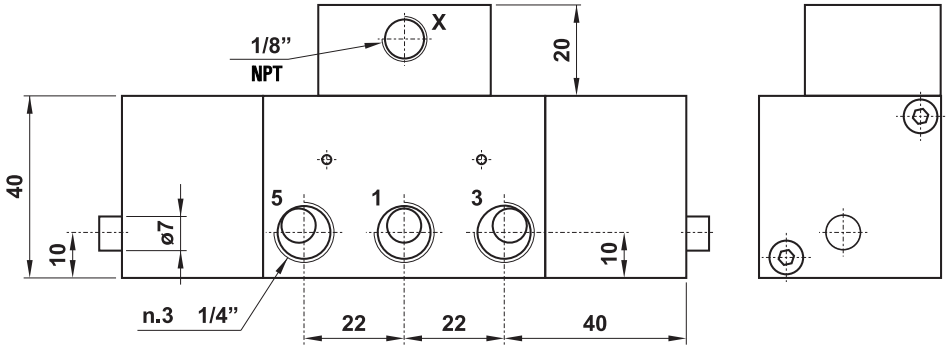


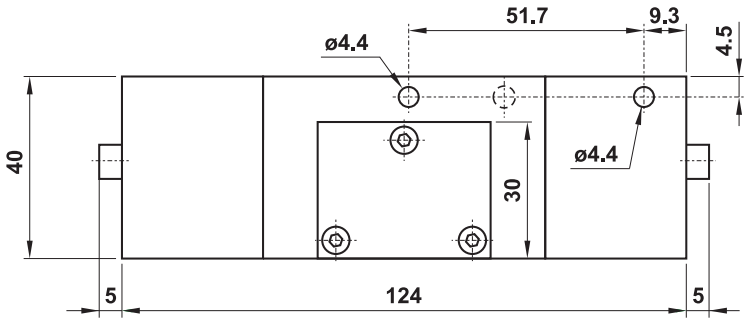
Pneumatically Piloted

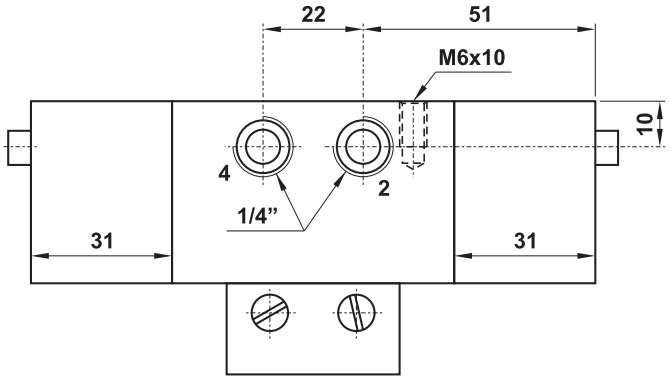
ORDER CODE

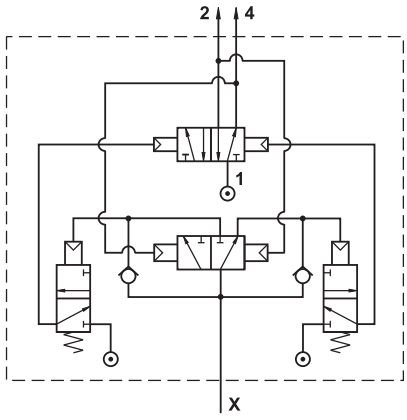
US10.035.4







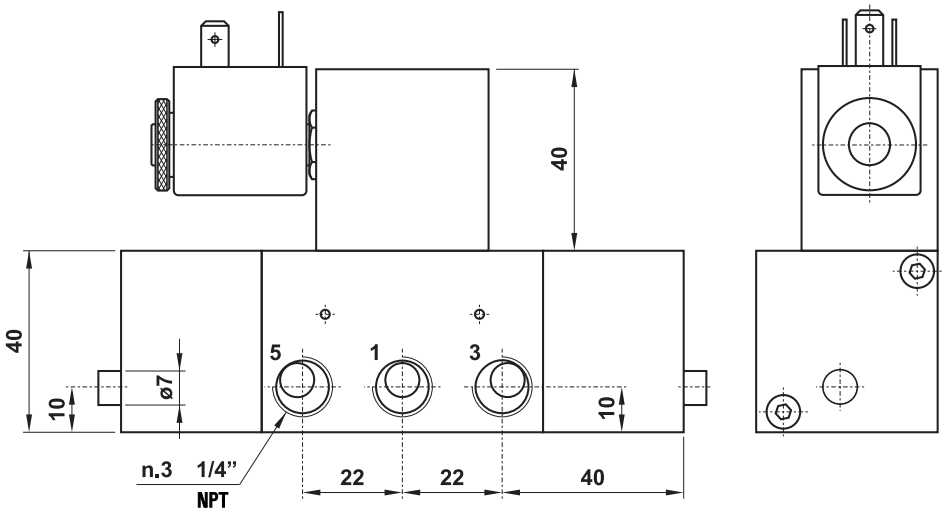


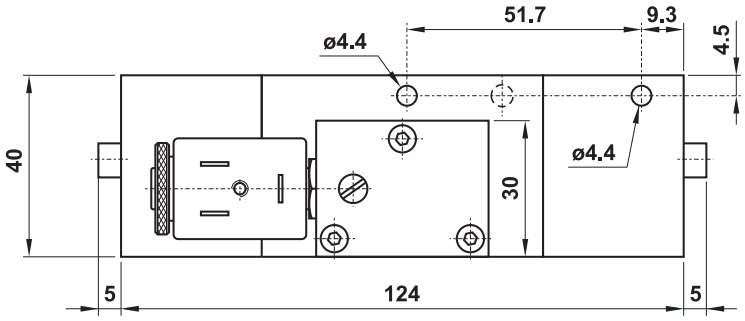


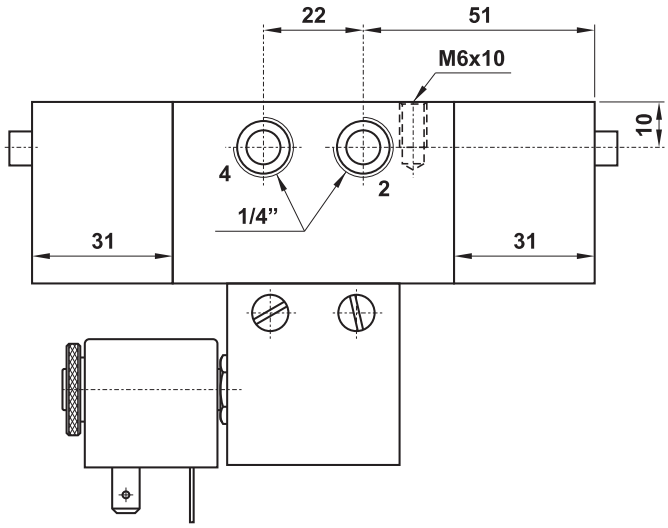
Solenoid Piloted

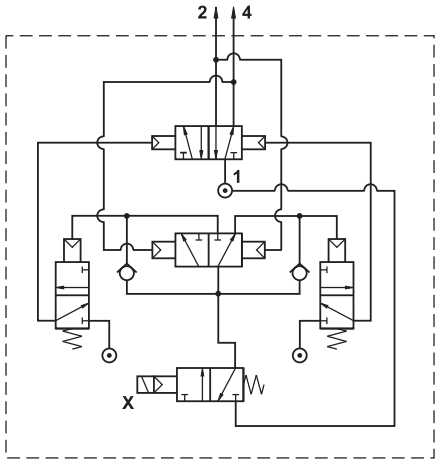
ORDER CODE

US10.018.3









Valve operation

It is a high-flow device which allows a double acting cylinder or analogue pneumatic equipment to automatically extend and retract without the need for limit switches. The frequency of the phases is set through the two adjusting screws which are placed at the end of the oscillating valve and protected by a cover. One screw is to set the retract dwell time and the other is to set the extend dwell time. On request the adjusting screws can be mounted on a panel in remote position.

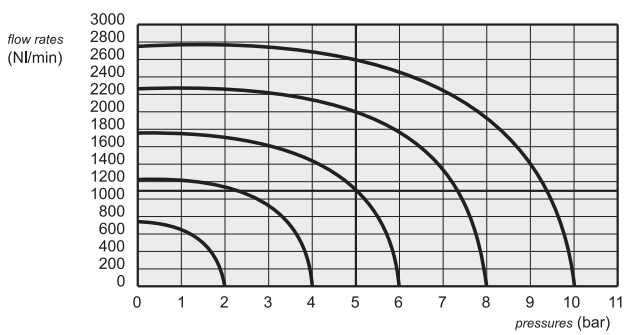
Standard version:
code **01.044.4** Oscillations are activated by system pressure only.
code **01.046.4** Oscillations are activated by a constant pilot signal at point **X**.
This pressure can be independent to the pressure at port **1**.
code **01.008.3** Oscillations are activated by an electrical signal with separate air supply.
It is therefore necessary to apply to point X a pilot pressure (that can be of a different value to port 1) and an electrical signal at the solenoid pilot.

Version with re-start feature:
When system pressure is applied or removed, the valve automatically moves to the start position ensuring no device is left in a semi-actuated position.
code **01.089.4** Oscillations are activated by a constant pilot signal at point **X.**
code **01.070.3** Oscillations are activated by an electrical signal with separate air supply.

Materials
Body: aluminium 11S
Springs: stainless steel
Seals: NBR
Spools: nickel plated aluminium
Internal parts: brass OT58

The following listed products are sold without coils, which are bought separately (refer to page 372).

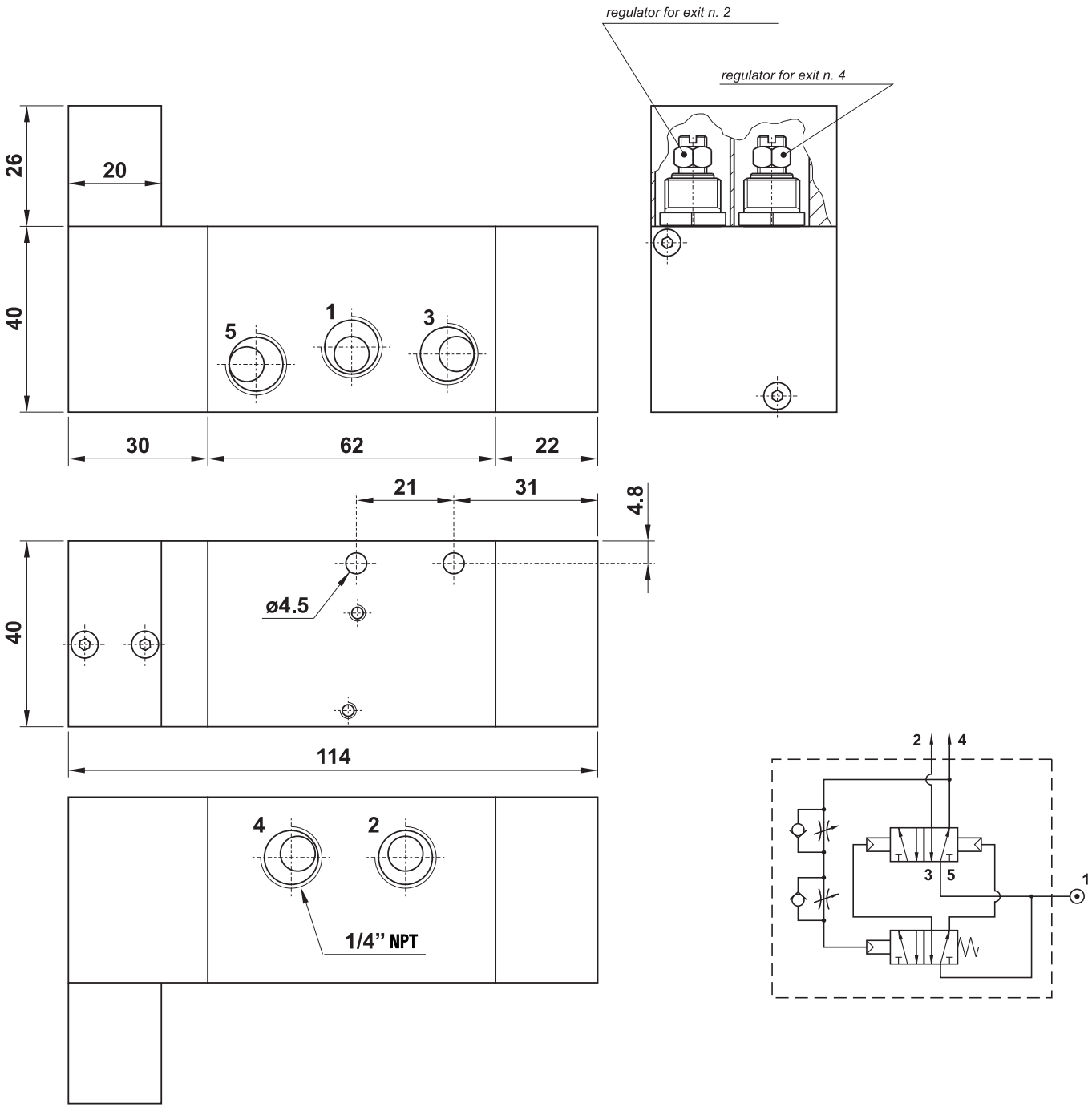
Ports	1/4" NPT
Working pressure	2 ... 10 bar (30 ... 145 PSI) 0.2 ... 1 MPa
Actuating pressure (X)	3 ... 10 bar (43 ... 145 PSI) 0.3 ... 1 MPa
Temperature range	**-15+60°C (5-140°F)**
Time regulation range	0 ... 10 s
Fluid	50μ filtered, lubricated or non lubricated air



continuous cycle

ORDER CODE

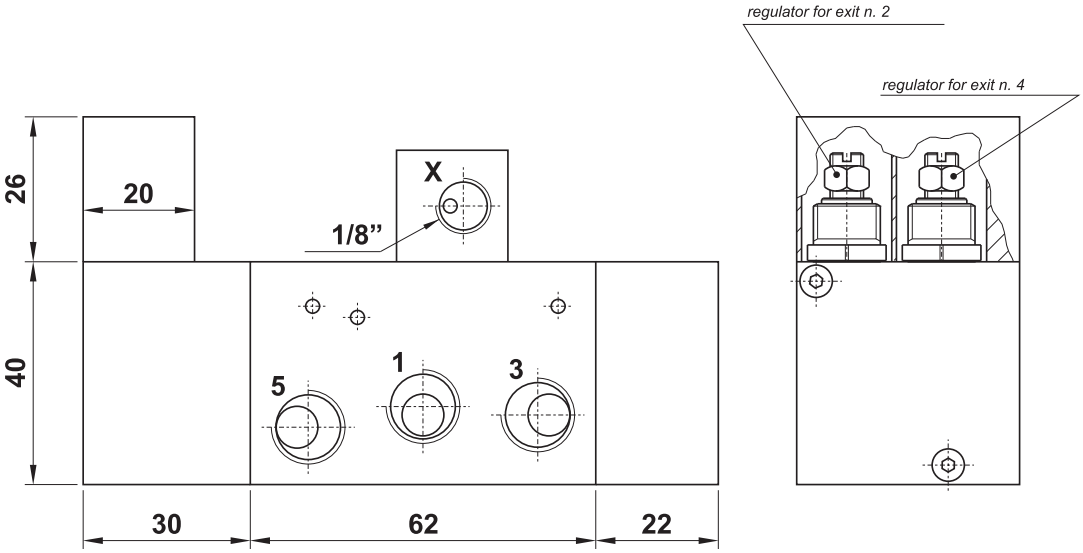
US01.044.4

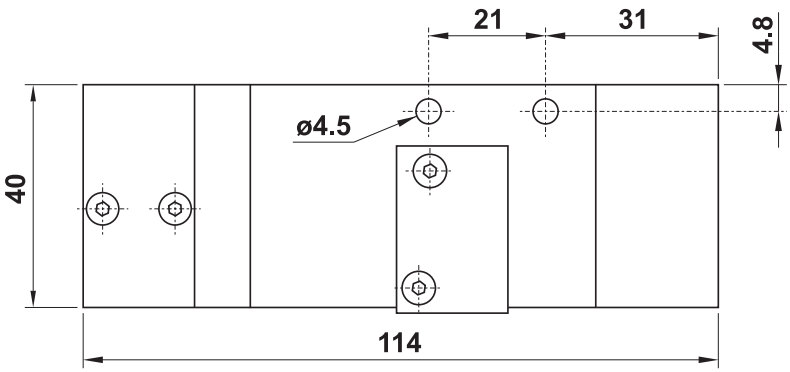


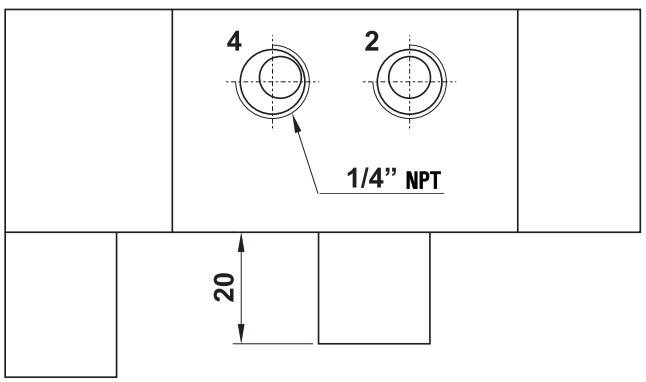
Pneumatically piloted

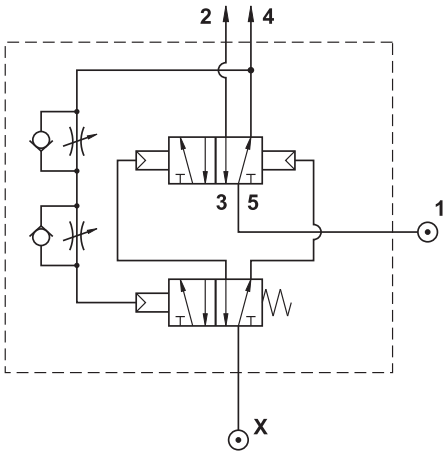
ORDER CODE

US01.046.4	standard version
US01.089.4	with re-start function





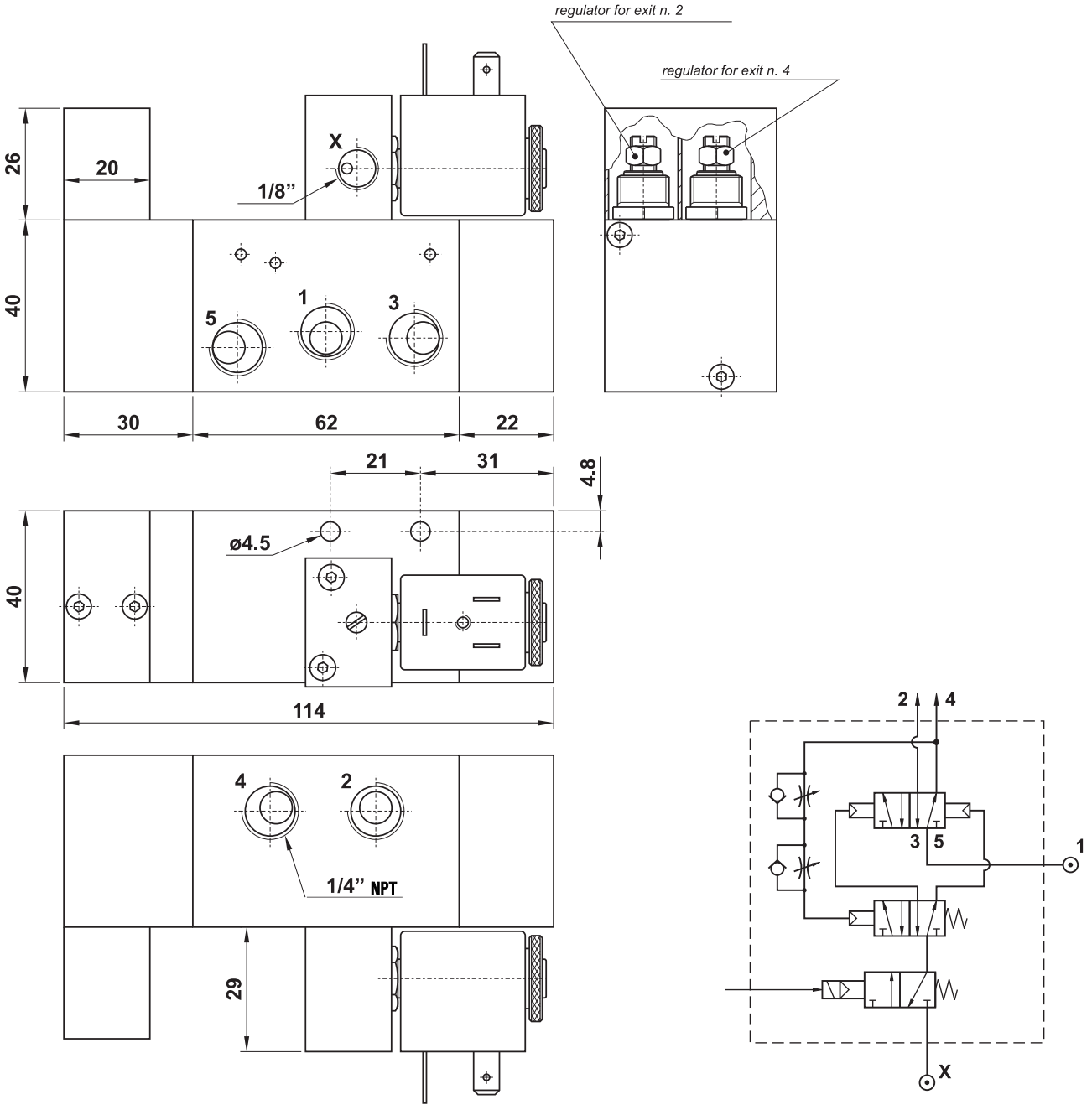




solenoid pilot - separate air supply

ORDER CODE

US01.008.3	standard version
US01.070.3	with re-start function



Oscillating valves with NOT logic elements

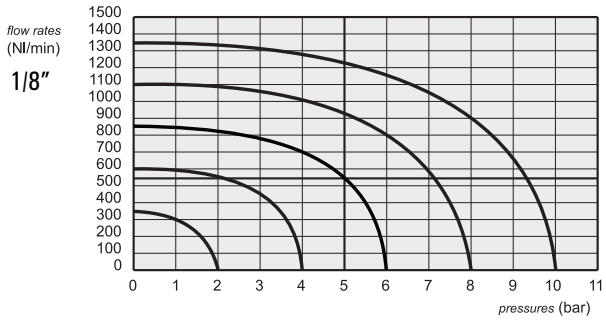
Valve operation

It is a high-flow device which allows a double acting cylinder or analogue pneumatic equipment to automatically extend and retract without the need for limit switches. The frequency of the phases is set by regulation of the exhausts 3 and 5 using RSW 1/8" NPT and RSW 1/4" NPT, which are bought separately. When actuating signal is applied or removed the valve automatically moves to the start position ensuring no device is left in a semi-actuated position. A manual override is integrated to re-activate the oscillator if it gets accidentaly blocked.

Four types of oscillating valve are available:

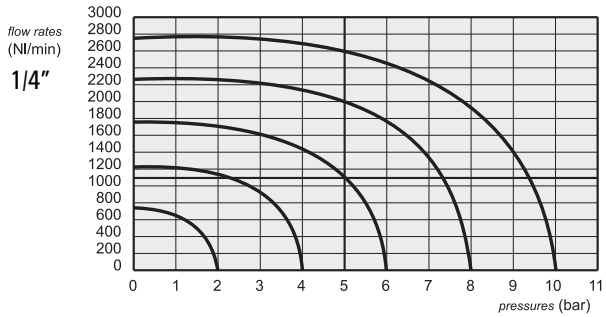
code US10.017.3 1/8" NPT with NOT, solenoid actuated.
It requires a solenoid signal to activate the oscillations.
code US10.019.3 1/4" NPT with NOT, solenoid actuated.
It requires a solenoid signal to activate the oscillations.
code US10.029.4 1/8" NPT with NOT, pneumatically piloted.
It requires a pneumatic signal at point X to activate the oscillations.
code US10.027.4 1/4" NPT with NOT, pneumatically piloted.
It requires a pneumatic signal at point X to activate the oscillations.

Materials
Body: aluminium 11S
Springs: stainless steel
Seals: NBR
Spools: nickel plated aluminium
Internal parts: brass OT58



The following listed products are sold without coils, which are bought separately.

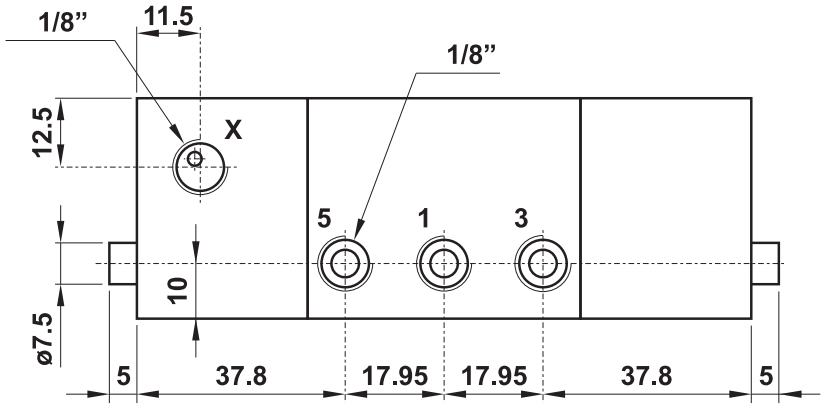
Ports	1/8" NPT - 1/4" NPT
Operating pressure	2 ... 7 bar (30 ... 101 PSI) 0.2 ... 0.7 MPa
Actuating pressure (X)	3 ... 7 bar (43 ... 101 PSI) 0.3 ... 0.7 MPa)
Temperature range	**-15+60°C (5-140°F)**
Fluid	50μ filtered, lubricated or non lubricated air

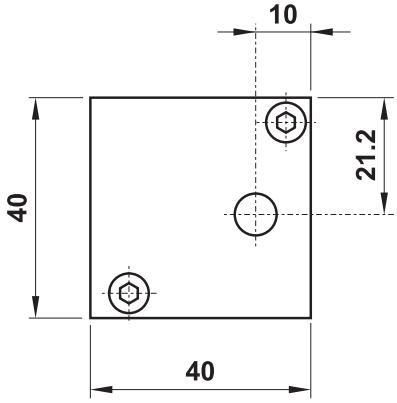


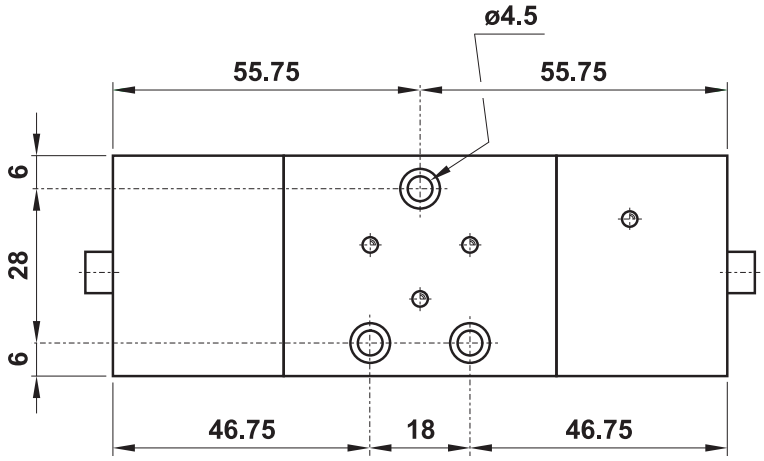
1/8" NPT pneumatically piloted

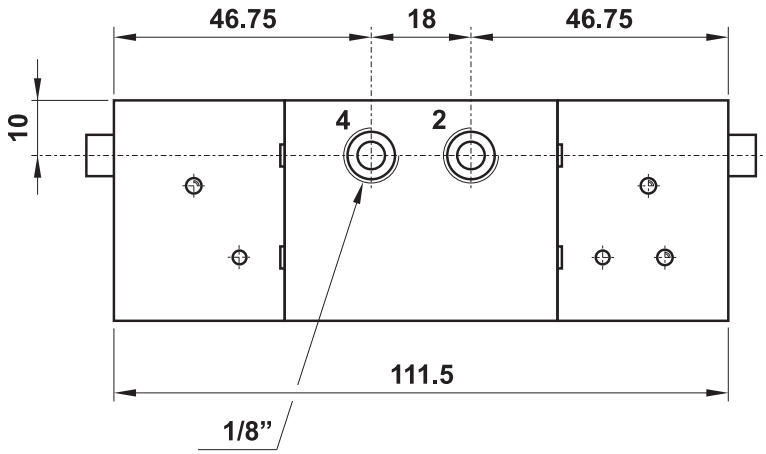
ORDER CODE

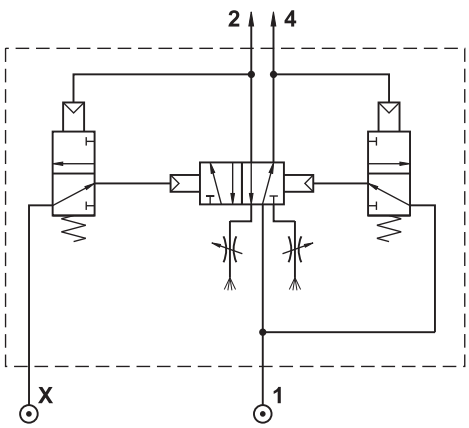
US10.029.4







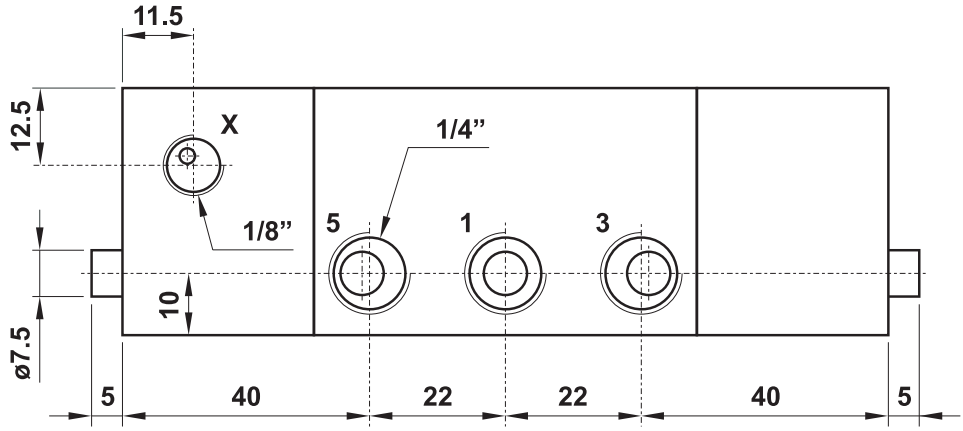


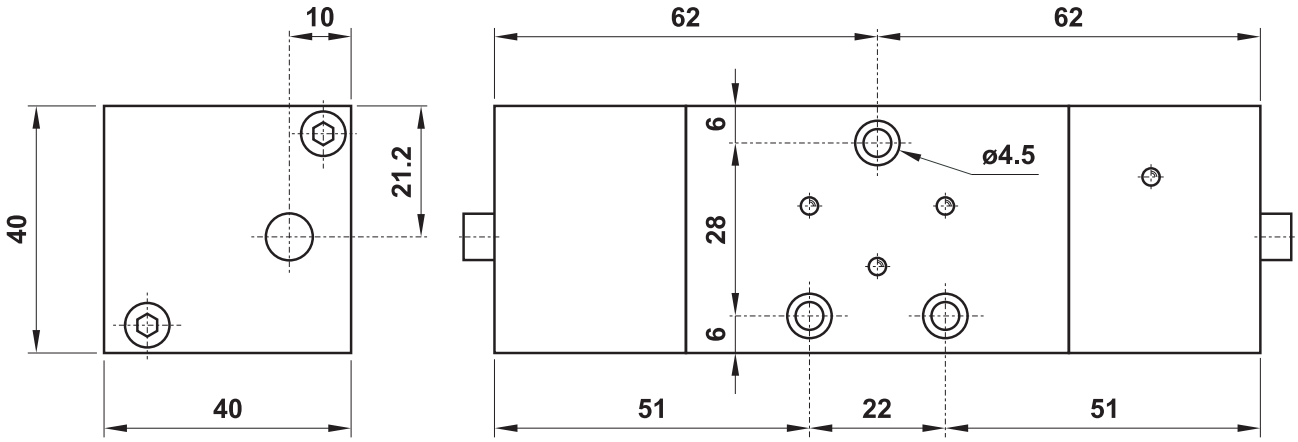


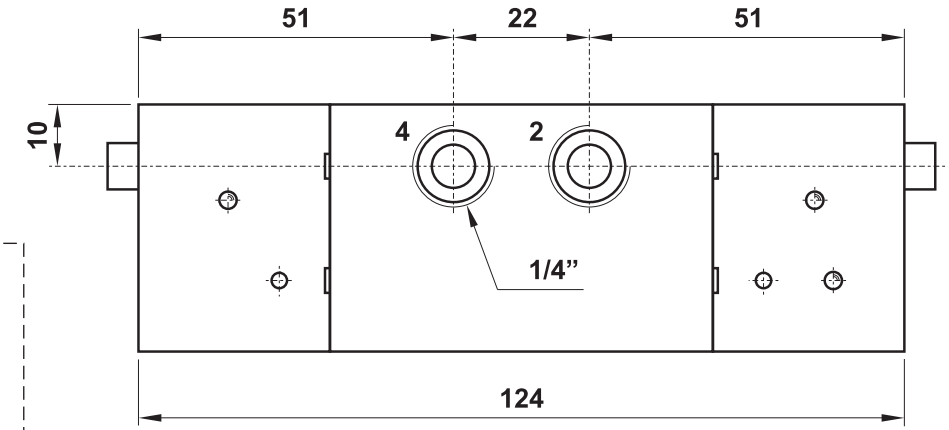
1/4" NPT pneumatically piloted

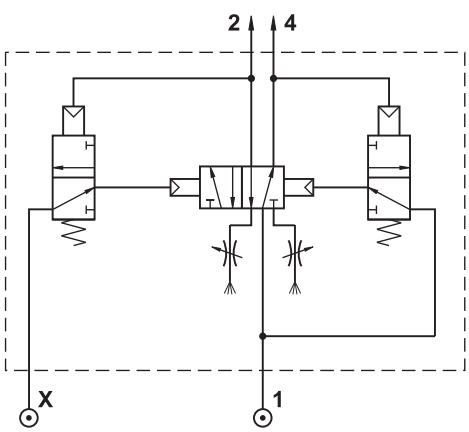
ORDER CODE

US10.027.4





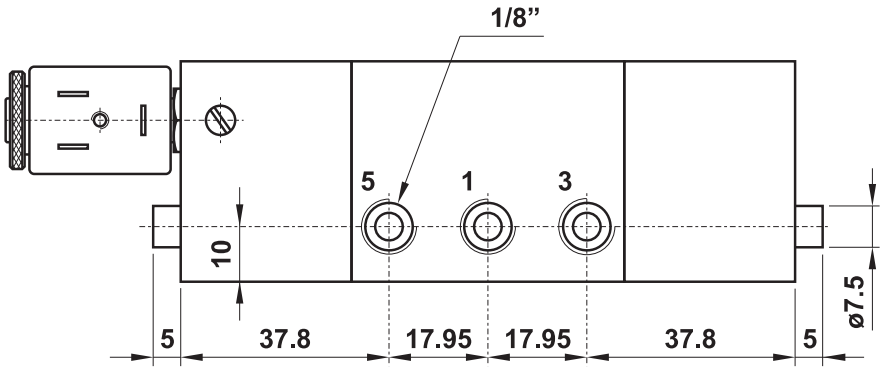


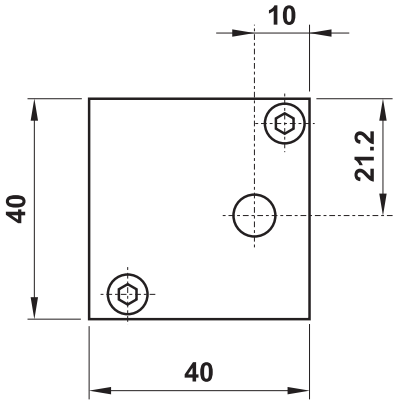


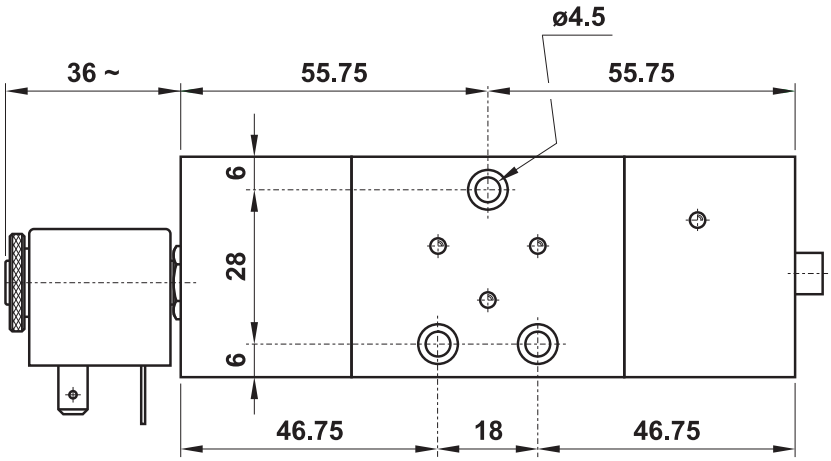
1/8" NPT solenoid actuated

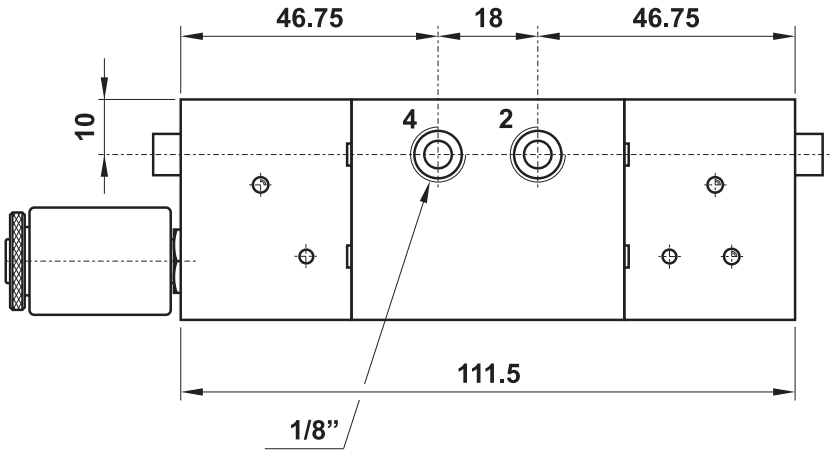
ORDER CODE

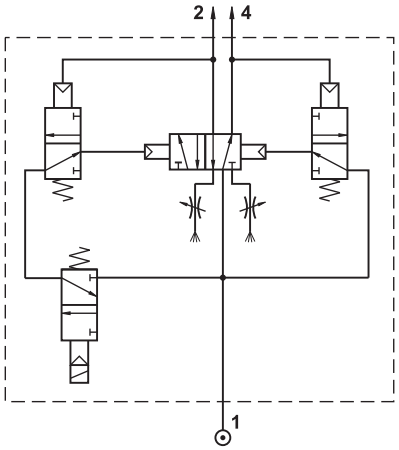
US10.017.3







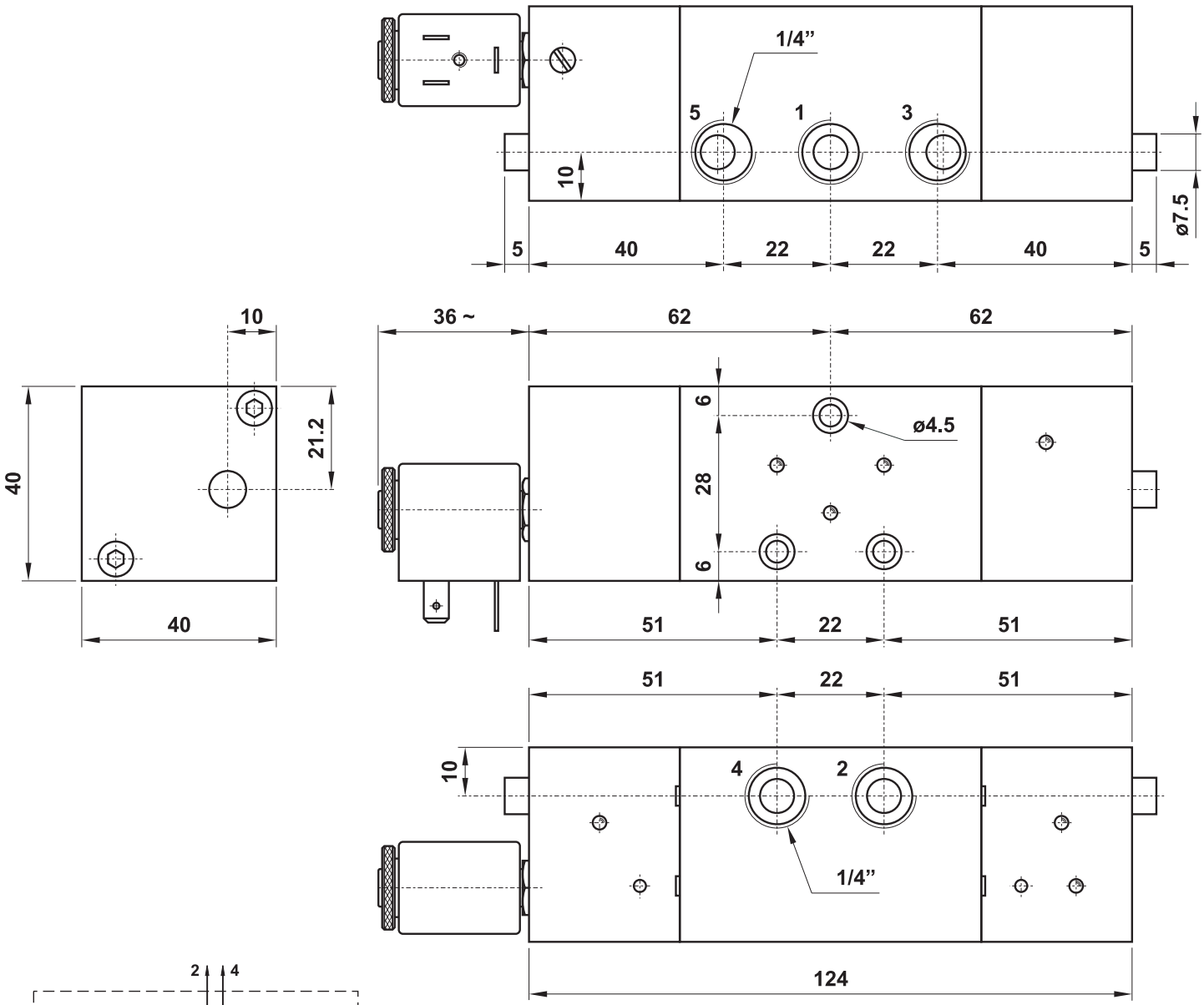


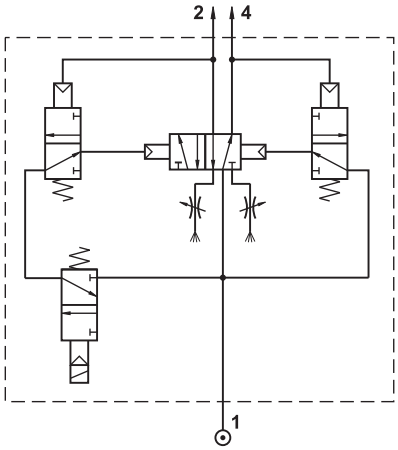


1/4" NPT solenoid actuated

ORDER CODE

US10.019.3





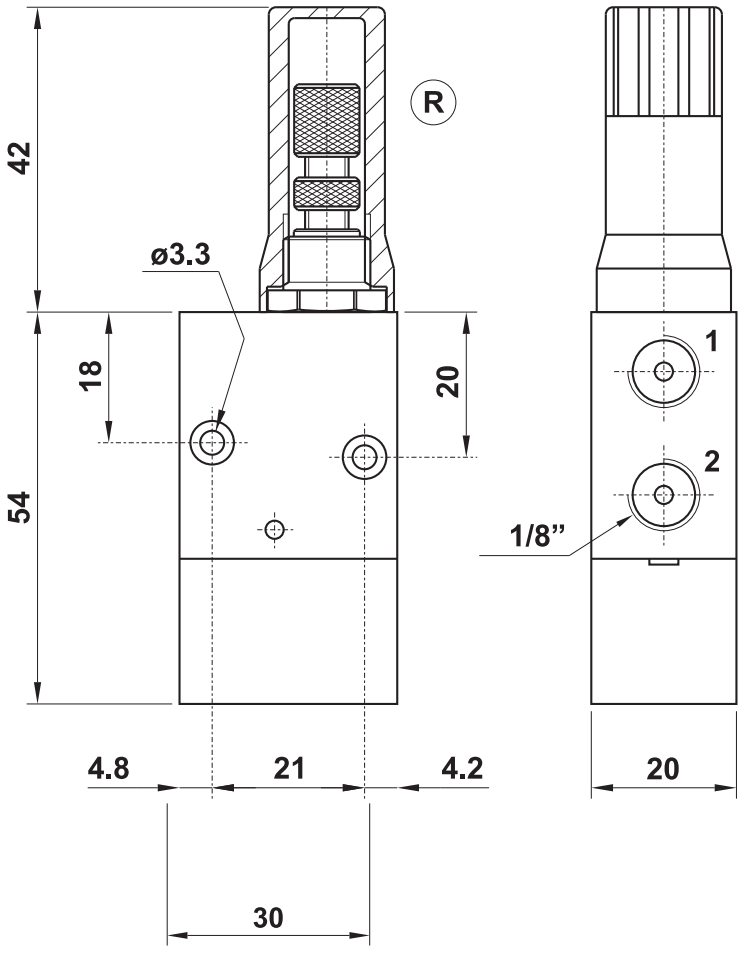
Normally open impulse generator

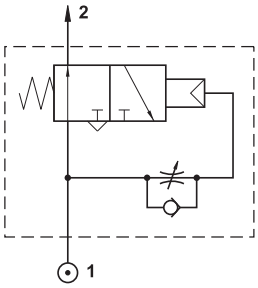
Valve operation

It is a device which produces an adjustable impulse of fixed duration by adjusting screw (**R**).
When a signal is applied from a three way valve and maintained at port **1** the impulse generator is activated and will generate an impulse period which was pre-set by screw **R**.
If the signal is interrupted the duration of the impulse is terminated. To repeat the cycle the pilot signal must be exhausted and applied again.

ORDER CODE

US10.001.4





Ports	1/8” NPT
Operating pressure	2 ... 10 bar (30 ... 145 PSI) 0.2 ... 1 MPa
Temperature range	-15+60°C (5-140°F)
Time regulation range	0 ... 10 s
Fluid	50μ filtered, lubricated or non lubricated air

Materials
Body: aluminium 11S
Springs: stainless steel
Seals: NBR
Internal parts: brass OT58

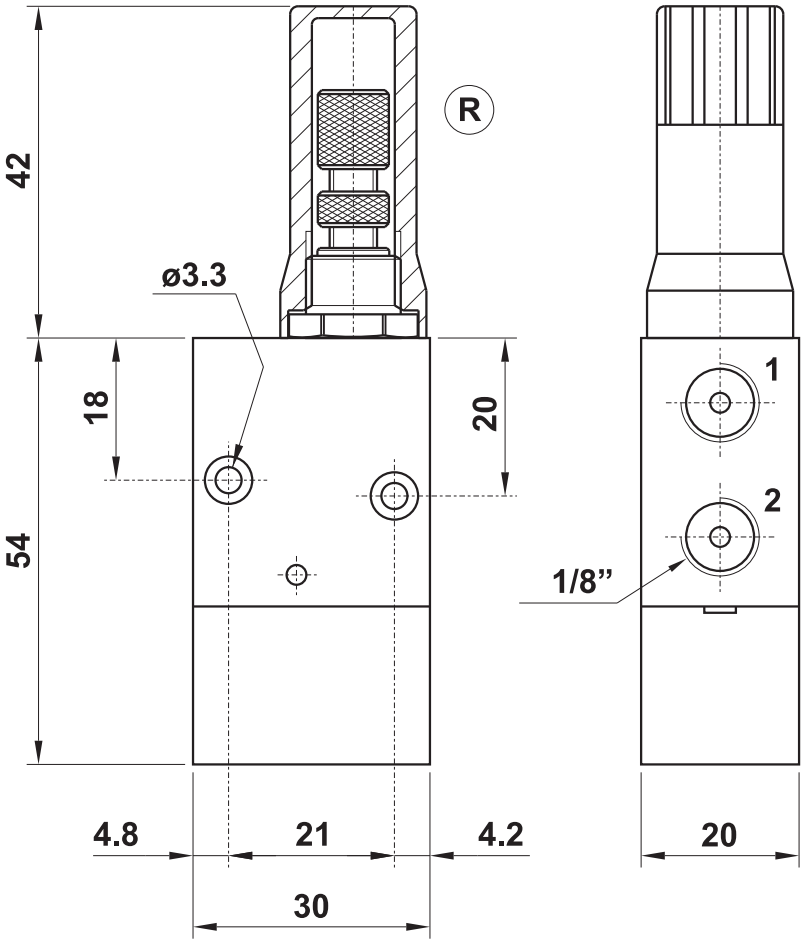
Normally closed impulse generator

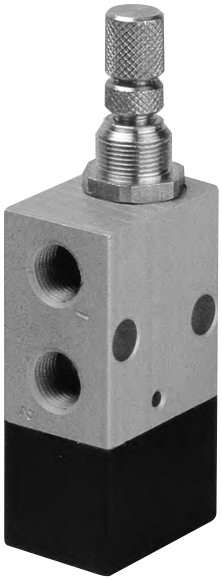
Valve operation

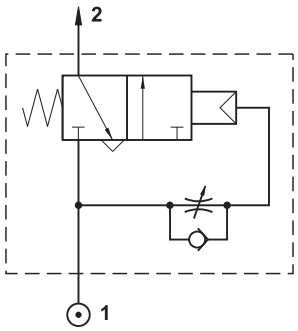
This device, if air is supplied at port **1**, lets the air go out from port **2** when the adjustable dwell time (pre-set by screw **R**) has elapsed. The air flow can then be interrupted by removing the air supply from port **1**. The difference from the normally open version (10.001.4) is that the screw **R** adjusts the dwell time and not the duration of the air impulse.

ORDER CODE

US10.009.4







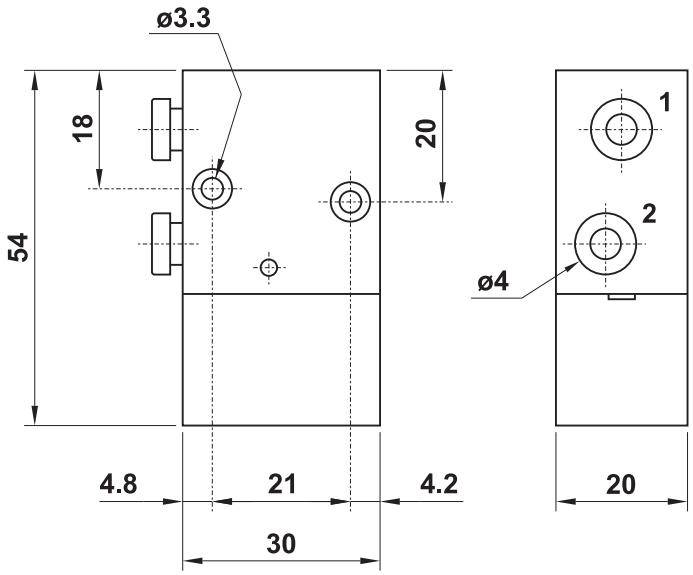
Ports	1/8” NPT
Operating pressure	2 ... 10 bar (30 ... 145 PSI) 0.2 ... 1 MPa
Temperature range	**-15+60°C (5-140°F)**
Time regulation range	0 ... 10 s
Fluid	50μ filtered, lubricated or non lubricated air

Materials
Body: aluminium 11S
Springs: stainless steel
Seals: NBR
Internal parts: brass OT58

Non adjustable impulse generator

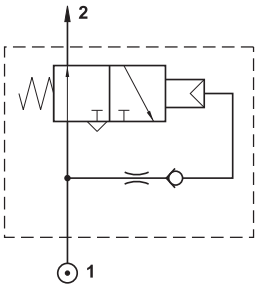
Valve operation

It is a device which produces an impulse of fixed and not adjustable duration (very short, about 0.2 s).
When a signal is applied from a three way valve and maintained at port **1** the impulse generator is activated. To repeat the cycle the pilot signal must be exhausted and applied again.



ORDER CODE

10.003.4



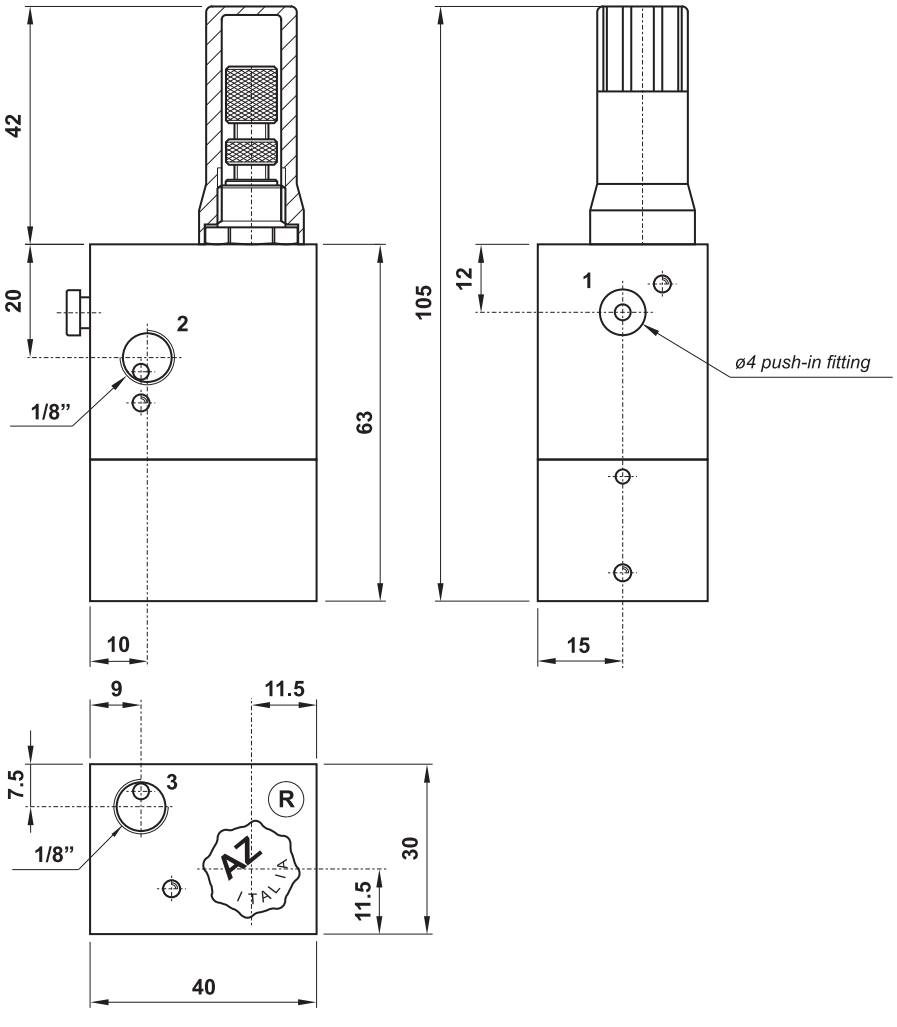
Ports	5/32 '' or ø4 push-in fittings
Operating pressure	2 ... 10 bar (30 ... 145 PSI) 0.2 ... 1 MPa
Temperature range	**-15+60°C (5-140°F)**
Fluid	50μ filtered, lubricated or non lubricated air

Materials
Body: aluminium 11S
Springs: stainless steel
Seals: NBR
Internal parts: brass OT58

Mini oscillating valve 3/2 1/8" NPT

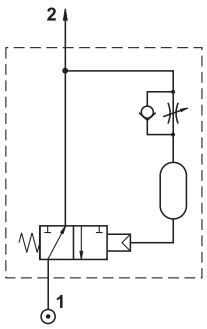
Valve operation

It is a device which, when air is present at port **1**, gives as output impulses with variable frequency.
The frequency can be regulated by the screw **R**.
For a correct operation the minimum main pressure must be 3 bar (43.5 PSI), otherwise the valve can get blocked.



ORDER CODE

USAX.007.4



Ports	5/32'' or ø4 push-in fittings
Working pressure	3 ... 10 bar (43.5 ... 145 PSI) 0.3 ... 1 MPa
Temperature range	-15+60°C (5-140°F)
Time regulation range	0 ... 10 s
Fluid	50μ filtered, lubricated or non lubricated air

Materials
Body: aluminium 11S
Springs: stainless steel
Seals: NBR
Internal parts: brass OT58

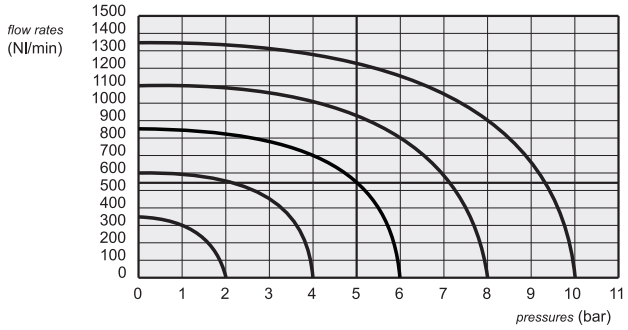
High-flow pneumatic timer for automatic return

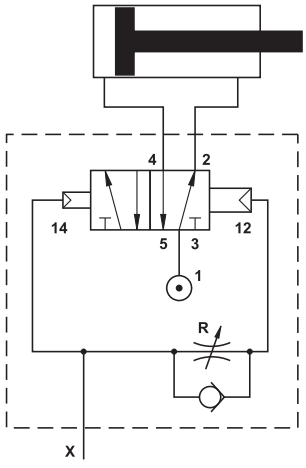
Valve operation

This is a high-flow 5 way valve with a pneumatic timer which allows the automatic return of the valve after a preset time. The time is adjusted by screw (**R**).
When a signal is applied to **X** the valve will stay operated until the time which was set at **R** has elapsed, and then the valve will automatically re-set.
To repeat the cycle the signal must be exhausted and then applied again.
If a momentary signal is applied the valve will operate as a conventional 5 way mono-stable valve without the time delay function. The valve will only operate when pressure signal is applied to **X**.

ORDER CODE

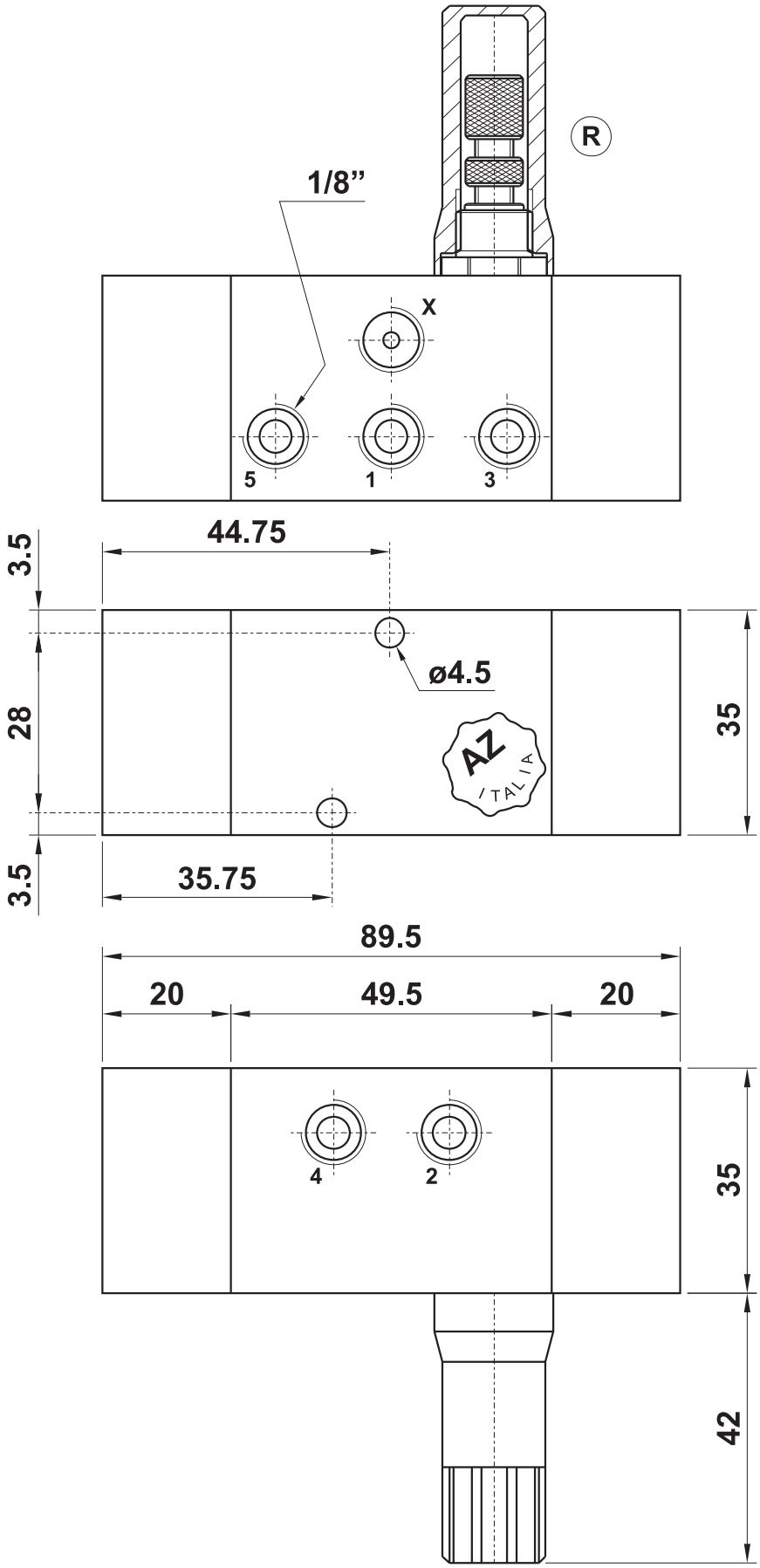
US00.074.4





Ports	1/8" NPT
Working pressure	2 ... 10 bar (30 ... 145 PSI) 0.2 ... 1 MPa
Actuating pressure	3 ... 10 bar (43.5 ... 145 PSI) 0.3 ... 1 MPa
Temperature range	**-15+60°C (5-140°F)**
Time regulation range	0 ... 10 s
Fluid	50μ filtered, lubricated or non lubricated air

Materials
Body: aluminium 11S
Springs: stainless steel
Seals: NBR
Spool: nickel plated aluminium
Internal parts: brass OT58


R
1/8”
X
5
1
3
44.75
3.5
28
3.5
ø4.5
35
35.75
89.5
20
49.5
20
4
2
35
42
AZ
ITALIA

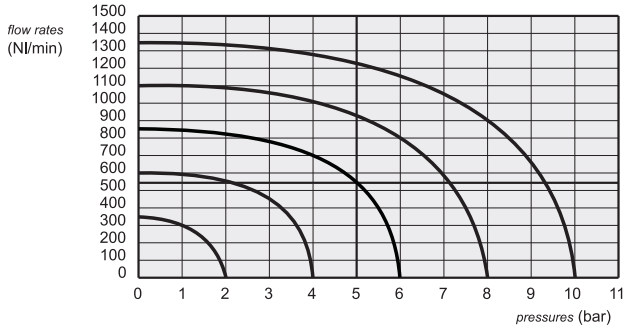
High-flow pneumatic timer for delayed actuation

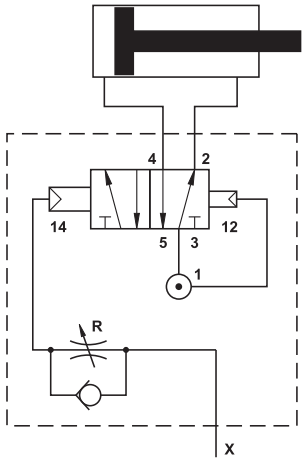
Valve operation

This is a high-flow 5 way valve with a pneumatic timer which delays the effect of the pneumatic pilot after a preset time. The time is adjusted by screw (**R**).
When a signal is applied to **X** the valve will stay in the quiet position until the time which was set at **R** has elapsed, and then the valve will automatically switch to the actuated position.
Then the valve will remain in the actuated position. When the pilot signal stops, the valve returns to the quiet position.
The valve will only operate when pressure signal is applied to **X**.

ORDER CODE

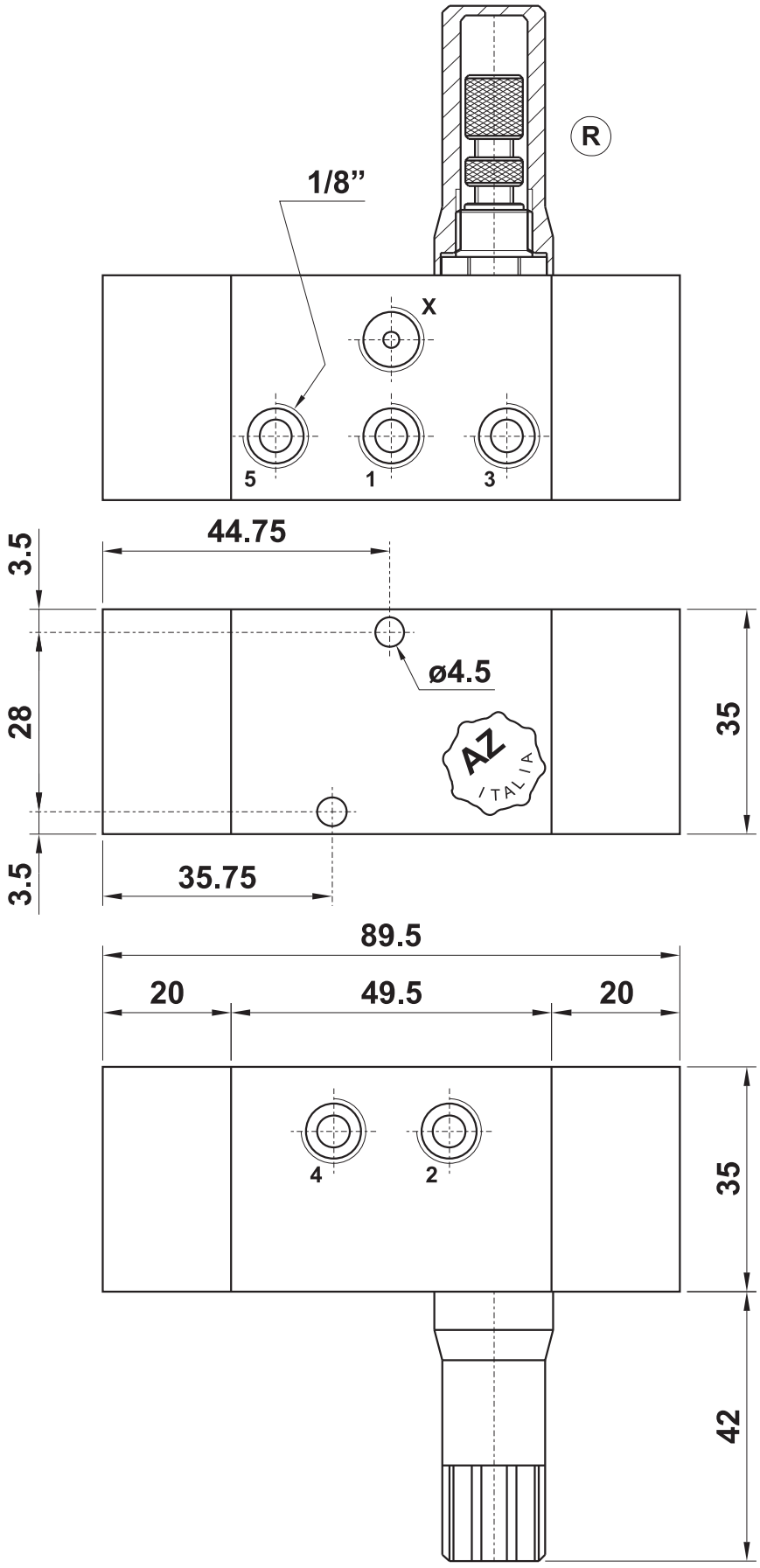
US00.177.4





Ports	1/8" NPT
Operating pressure	2 ... 10 bar (30 ... 145 PSI) 0.2 ... 1 MPa
Actuating pressure	3 ... 10 bar (43.5 ... 145 PSI) 0.3 ... 1 MPa
Temperature range	**-15+60°C (5-140°F)**
Time regulation range	0 ... 10 s
Fluid	50μ filtered, lubricated or non lubricated air

Materials
Body: aluminium 11S
Springs: stainless steel
Seals: NBR
Spool: nickel plated aluminium
Internal parts: brass OT58


R
1/8”
X
5
1
3
44.75
3.5
28
ø4.5
35
AZ
ITALIA
3.5
35.75
89.5
20
49.5
20
4
2
35
42