

# Flow control valves

## Series SCU, MCU, SVU, MVU, SCO, MCO

Unidirectional and bidirectional flow control valves  
Banjo flow control regulators  
Ports M5, G1/8, G1/4, G3/8, G1/2



These unidirectional and bidirectional flow controllers have been designed as small as possible so as to be mounted directly on valves or cylinders. The great variety of adjustable fittings makes it possible to complete the regulator with the most suitable system in relation to the available tube.

Only the G1/2 model is supplied complete with banjo flow controllers. For the other models the banjo flow controller is to be requested separately.

### GENERAL DATA

<b>Construction</b>	needle type
<b>Valve group</b>	unidirectional and bidirectional controller
<b>Materials</b>	body and regulation screw: M5 = stainless steel; 1/8 - 1/4 - 3/8 - 1/2 = OT; seals = NBR
<b>Mounting</b>	by male thread
<b>Ports</b>	M5 - G1/8 - G1/4 - G3/8 - G1/2
<b>Installation</b>	in any position
<b>Operating temperature</b>	0°C + 80°C (with dry air - 20°C)
<b>Operating pressure</b>	1 ÷ 10 bar
<b>Nominal pressure</b>	6 bar
<b>Nominal flow</b>	see graph
<b>Nominal diameter</b>	M5 = 1,5 mm - G1/8 = 2 mm - G1/4 = 4 mm - G3/8 = 7 mm - G1/2 = 12 mm
<b>Fluid</b>	filtered air

**CODING EXAMPLE**

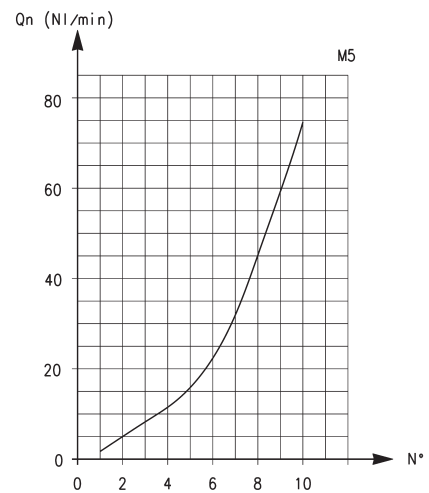
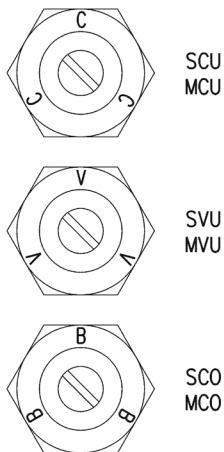
<b>M</b>	<b>CU</b>	<b>7</b>	<b>02</b>	<b>-</b>	<b>M5</b>
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<b>M</b>	ACTUATION: M = Manual S = Screwdriver
<b>CU</b>	ASSEMBLY / VALVE TYPE: CU = directly on double-acting cylinders / unidirectional VU = directly on valves / unidirectional CO = directly on valves exhaust / bidirectional
<b>7</b>	VERSIONS: 6 = needle (screwdriver operated) 7 = needle (manual operated)
<b>02</b>	NOMINAL DIAMETER: 02 = $\varnothing$ 1,5 max 04 = $\varnothing$ 2 max 06 = $\varnothing$ 4 max 08 = $\varnothing$ 7 max 10 = $\varnothing$ 12 max
<b>M5</b>	PORTS: M5 = M5 1/8 = G1/8 1/4 = G1/4 3/8 = G3/8 1/2 = G1/2

2

CONTROL

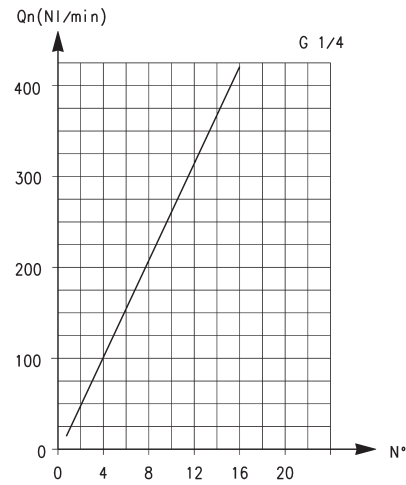
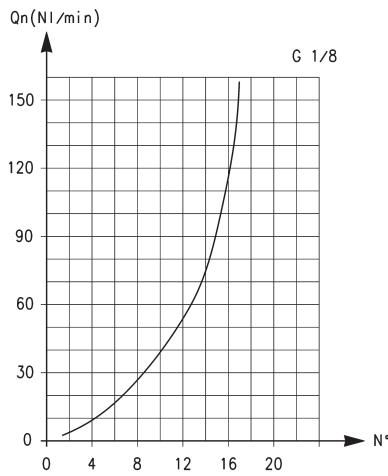
To ensure the right choice of unidirectional flow controller, proceed as follows: calculate the quantity of air in NI/min (see cylinder Table); determine the stroke time of the cylinder; refer to graph to see which controller is the right type.

**UNIDIRECTIONAL AND BIDIRECTIONAL FLOW CONTROLLERS**


IDENTIFICATION (SEE CODING EXAMPLE)

Flow Qn (NI/min.) from 2 → 1 with controller OPEN: 70  
 Flow Qn (NI/min.) from 2 → 1 with controller CLOSED: 33  
 Qn = supply pressure of 6 bar and with  $\Delta P = 1$  bar at the outlet  
 N° = number of screw turns.

UNIDIRECTIONAL AND BIDIRECTIONAL FLOW CONTROL REGULATORS



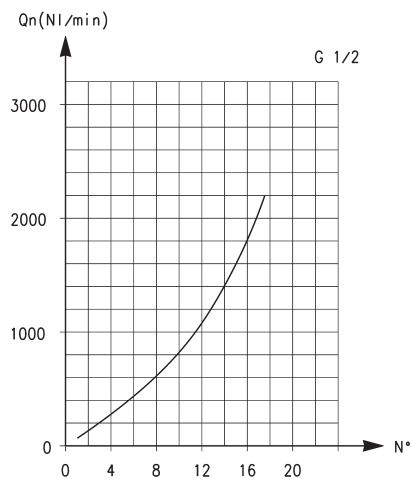
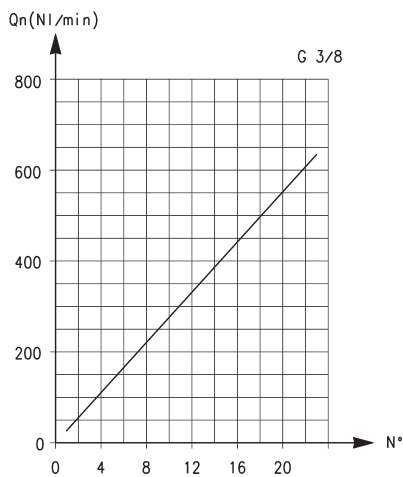
Flow Qn (NI/min.) from 2 → 1 with controller OPEN: 200  
 Flow Qn (NI/min.) from 2 → 1 with controller CLOSED: 70

Qn = supply pressure of 6 bar and with ΔP = 1 bar at the outlet  
 N° = number of screw turns.

Flow Qn (NI/min.) from 2 → 1 with controller OPEN: 530  
 Flow Qn (NI/min.) from 2 → 1 with controller CLOSED: 160

Qn = supply pressure of 6 bar and with ΔP = 1 bar at the outlet  
 N° = number of screw turns.

UNIDIRECTIONAL AND BIDIRECTIONAL FLOW CONTROL REGULATORS



Flow Qn (NI/min.) from 2 → 1 with controller OPEN: 710  
 Flow Qn (NI/min.) from 2 → 1 with controller CLOSED: 410

Qn = supply pressure of 6 bar and with ΔP = 1 bar at the outlet  
 N° = number of screw turns.

Flow Qn (NI/min.) from 2 → 1 with controller OPEN: 2570  
 Flow Qn (NI/min.) from 2 → 1 with controller CLOSED: 1330

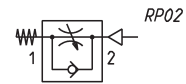
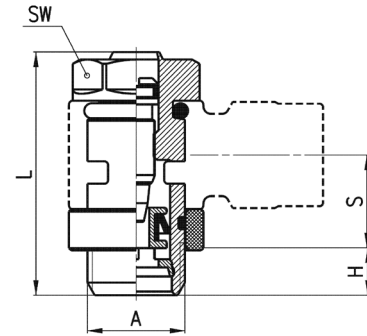
Qn = supply pressure of 6 bar and with ΔP = 1 bar at the outlet  
 N° = number of screw turns.



### Unidirectional flow controllers Series SCU

For mounting on single-acting or double-acting cylinders.  
Adjustment of setting by a screwdriver.  
Ports: M5, G1/8, G1/4 and G3/8.

Assembly with fittings Mod. 6610; 6620; 1610; 1620; 2023; 1170.



Note: M5 flow controllers must be used together with M6 adjustable fittings.

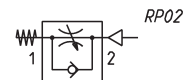
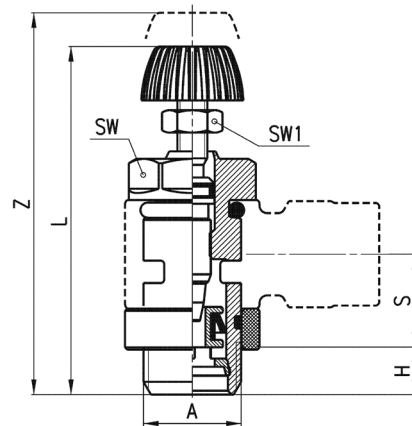
DIMENSIONS					
Mod.	A	H	L	S	SW
<b>SCU 602-M5</b>	M5	3,5	21,5	5,5	8
<b>SCU 604-1/8</b>	G1/8	5	31,5	12,5	12
<b>SCU 606-1/4</b>	G1/4	6	32,5	12,5	15
<b>SCU 608-3/8</b>	G3/8	7	40,5	12,5	18



### Unidirectional flow controllers Series MCU

For mounting on single-acting or double-acting cylinders.  
Adjustment of setting by a manually operated knurled screw.  
Ports: M5, G1/8, G1/4, G3/8.

Assembly with fittings Mod. 6610; 6620; 1610; 1620; 2023; 1170.



Note: M5 flow controllers must be used together with M6 adjustable fittings.

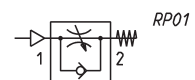
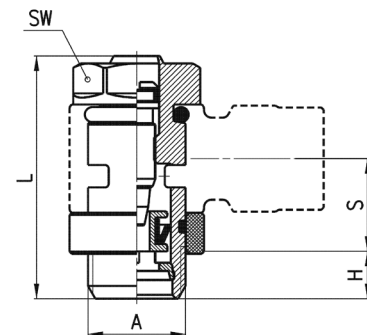
DIMENSIONS							
Mod.	A	H	L	S	SW	SW1	Z
<b>MCU 702-M5</b>	M5	3,5	31	5,5	8	5,5	35
<b>MCU 704-1/8</b>	G1/8	5	41	12,5	12	7	46
<b>MCU 706-1/4</b>	G1/4	6	43,5	12,5	15	7	49
<b>MCU 708-3/8</b>	G3/8	7	52,5	12,5	18	10	60,5



### Unidirectional flow controllers Series SVU

For mounting on valves.  
Adjustment of setting by a screwdriver.  
Ports: M5, G1/8, G1/4.

Assembly with fittings Mod. 6610; 6620; 1610; 1620; 2023; 1170.



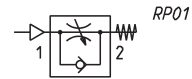
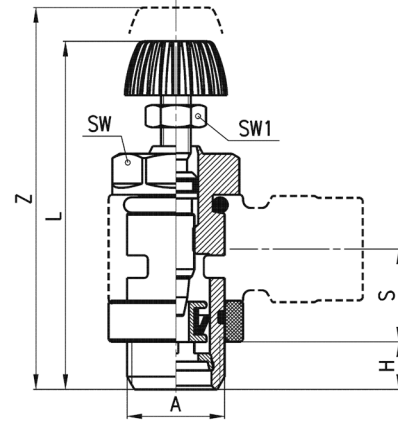
Note: M5 flow controllers must be used together with M6 adjustable fittings.

DIMENSIONS					
Mod.	A	H	L	S	SW
<b>SVU 602-M5</b>	M5	3,5	21,5	5,5	8
<b>SVU 604-1/8</b>	G1/8	5	31,5	12,5	12
<b>SVU 606-1/4</b>	G1/4	6	32,5	12,5	15

### Unidirectional flow controllers Series MVU

For mounting on valve. Adjustment of setting by a manually operated knurled screw.  
Ports: M5, G1/8, G1/4.

Assembly with fittings Mod. 6610; 6620; 1610; 1620; 2023; 1170.



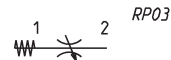
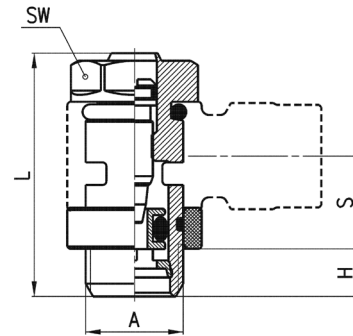
Note: M5 flow controllers must be used together with M6 adjustable fittings.

DIMENSIONS							
Mod.	A	H	L	S	SW	SW1	Z
<b>MVU 702-M5</b>	M5	3,5	31	5,5	8	5,5	35
<b>MVU 704-1/8</b>	G1/8	5	41	12,5	12	7	46
<b>MVU 706-1/4</b>	G1/4	6	43,5	12,5	15	7	49

### Bidirectional flow controllers Series SCO

Adjustment of setting by a screwdriver.  
Ports: M5, G1/8, G1/4.

Assembly with fittings Mod. 6610; 6620; 1610; 1620; 2023; 1170; 2905.



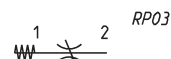
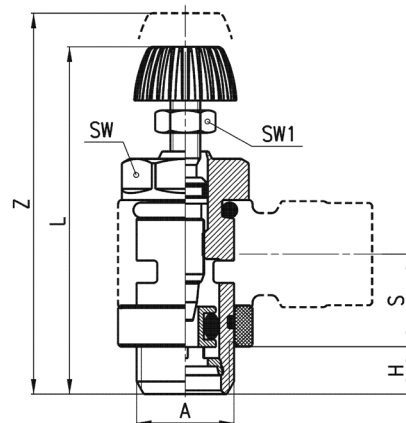
Note: M5 flow controllers must be used together with M6 adjustable fittings.

DIMENSIONS					
Mod.	A	H	L	S	SW
<b>SCO 602-M5</b>	M5	3,5	21,5	5,5	8
<b>SCO 604-1/8</b>	G1/8	5	31,5	12,5	12
<b>SCO 606-1/4</b>	G1/4	6	32,5	12,5	15

### Bidirectional flow controllers Series MCO

Adjustment of setting by a manually operated knurled screw.  
Ports: M5, G1/8, G1/4.

Assembly with fittings Mod. 6610; 6620; 1610; 1620; 2023; 1170; 2905.

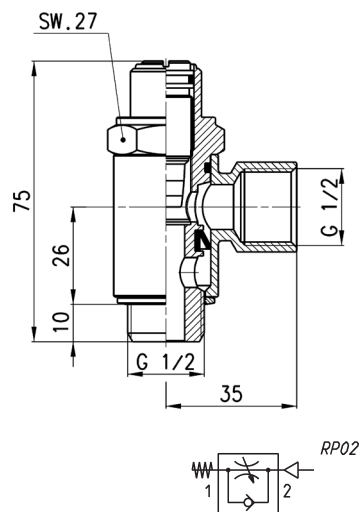


Note: M5 flow controllers must be used together with M6 adjustable fittings.

DIMENSIONS							
Mod.	A	H	L	S	SW	SW1	Z
<b>MCO 702-M5</b>	M5	3,5	31	5,5	8	5,5	35
<b>MCO 704-1/8</b>	G1/8	5	41	12,5	12	7	46
<b>MCO 706-1/4</b>	G1/4	6	43,5	12,5	15	7	49


**Unidirectional flow controllers Series SCU**

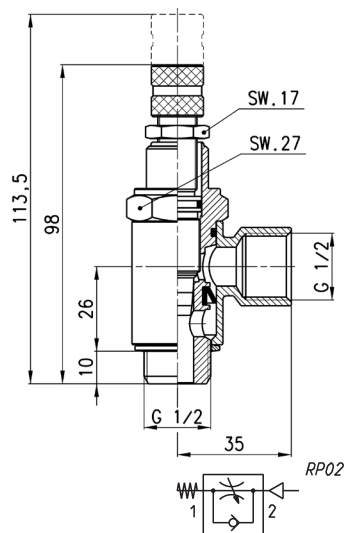
For mounting on single-acting or double-acting cylinders.  
Screwdriver adjustment.



Mod.  
**SCU 610-1/2**


**Unidirectional flow controllers Series MCU**

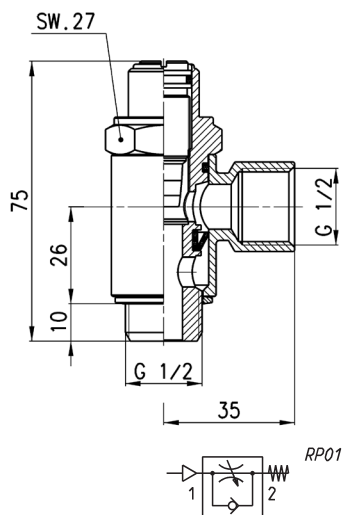
For mounting on single-acting or double-acting cylinders.  
Adjustment of setting by a manually operated knurled screw.



Mod.  
**MCU 710-1/2**


**Unidirectional flow controllers Series SVU**

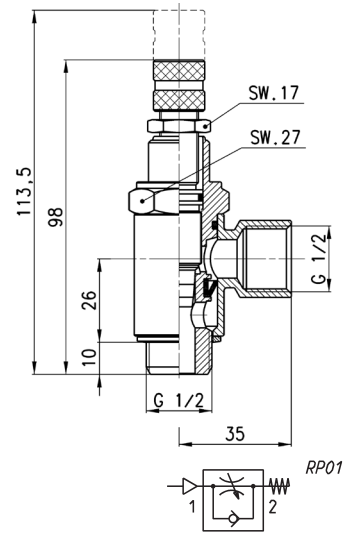
For mounting on valves.  
Screwdriver adjustment.



Mod.  
**SVU 610-1/2**

Unidirectional flow controllers Series MVU

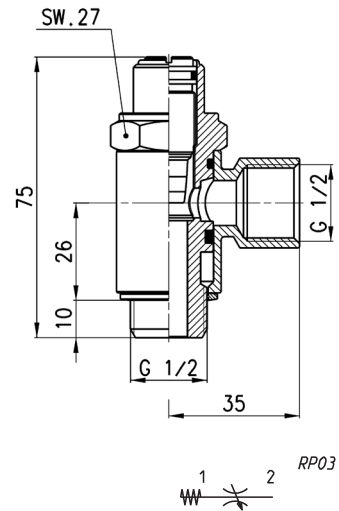
For mounting on valve.  
Adjustment of setting by a manually operated knurled screw.



Mod.  
**MVU 710-1/2**

Bidirectional flow controllers Series SCO

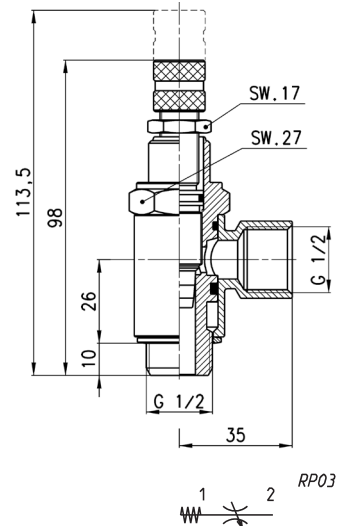
Screwdriver adjustment.



Mod.  
**SCO 610-1/2**

Bidirectional flow controllers Series MCO

Adjustment of setting by a manually operated knurled screw.

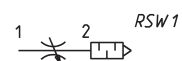
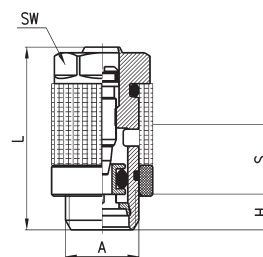


Mod.  
**MCO 710-1/2**



### Silenced exhaust controller Mod. SCO + 2905

The flow control valve Mod. 2905 and the silencer Mod. 2905 are supplied separately.  
For further information about the silencer see page 2/9.05.04.



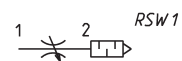
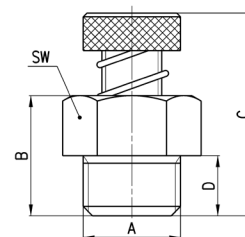
#### DIMENSIONS

Mod.	A	H	L	S	SW
<b>SCO 602-M5+2905 M5</b>	M5	3.5	21.5	5.5	8
<b>SCO 604-1/8+2905 1/8</b>	G1/8	5	31.5	12.5	12
<b>SCO 606-1/4+2905 1/4</b>	G1/4	6	32.5	12.5	15



### Flow control valves with silencer Series RSW

Flow control valves with silencer.  
Ports: G1/8, G1/4, G1/2.



#### DIMENSIONS

Mod.	A	B	C	D	SW	Q* (NI/min)
<b>RSW 1/8</b>	G1/8	13	22	6	12	410
<b>RSW 1/4</b>	G1/4	16	27	8	16	650
<b>RSW 1/2</b>	G1/2	26	35	11	26	1590

\*determined with supply pressure  
6 bar with free flow; ensuring  
screw is open to maximum output.