Series SCU, MCU, SVU, MVU, SCO, MCO flow control valves

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

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

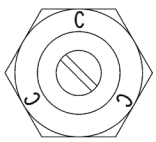
CODING EXAMPLE

M	CU		7	02	-	M5

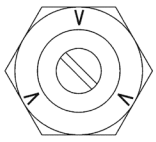
M	ACTUATION: M = Manual S = Screwdriver
CU	ASSEMBLY: CU = on cylinders unidirectional VU = on valves unidirectional CO = bidirectional
7	VERSIONS: 6 = needle (screwdriver operated) 7 = needle (manual operated)
02	NOMINAL DIAMETER: 02 = ø 1,5 max 04 = ø 2 max 06 = ø 4 max 08 = ø 7 max 10 = ø 12 max
M5	PORTS: M5 = M5 1/8 = G1/8 1/4 = G1/4 3/8 = G3/8 1/2 = G1/2

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

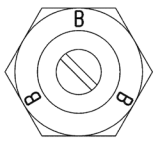
UNIDIRECTIONAL AND BIDIRECTIONAL FLOW CONTROLLERS



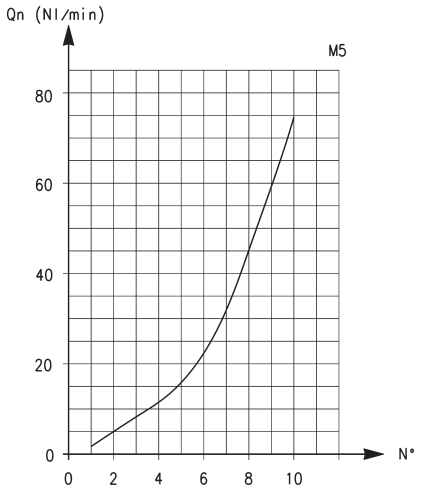
SCU
MCU



SVU
MVU



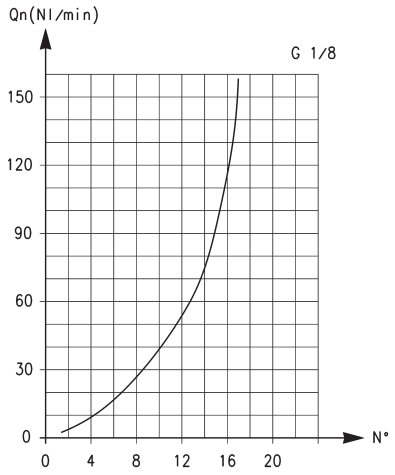
SCO
MCO



IDENTIFICATION OF DIFFERENT TYPES:
SCU - MCU = assembly directly on the cylinders
SVU - MVU = assembly directly on the valves
SCO - MCO = assembly directly on the cylinders or valves

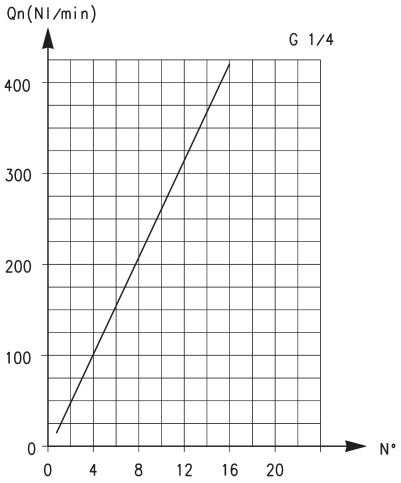
Flow Qn (Nl/min.) from 2 → 1 with controller OPEN: 70
Flow Qn (Nl/min.) from 2 → 1 with controller CLOSED: 33
Qn = supply pressure of 6 bar and with ΔP = 1 bar at the outlet
N° = number of screw turns.

UNIDIRECTIONAL AND BIDIRECTIONAL FLOW CONTROL REGULATORS



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

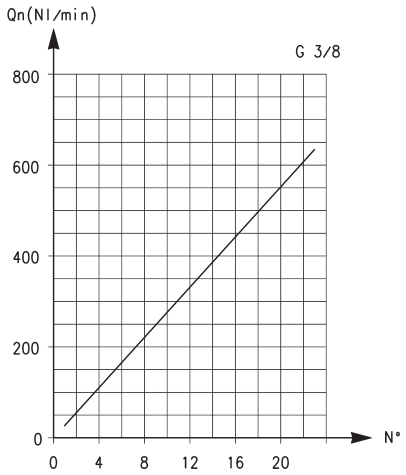
Qn = supply pressure of 6 bar and with ΔP = 1 bar at the outlet
N° = number of screw turns.



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

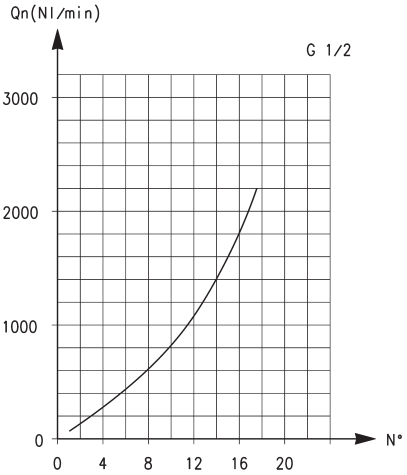
Qn = supply pressure of 6 bar and with ΔP = 1 bar at the outlet
N° = number of screw turns.

UNIDIRECTIONAL AND BIDIRECTIONAL FLOW CONTROL REGULATORS



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



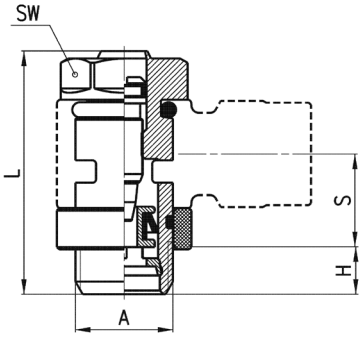
Flow Qn (Nl/min.) from 2 → 1 with controller OPEN: 2570
Flow Qn (Nl/min.) from 2 → 1 with controller CLOSED: 1330

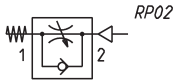
Qn = supply pressure of 6 bar and with ΔP = 1 bar at the outlet
N° = number of screw turns.

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.





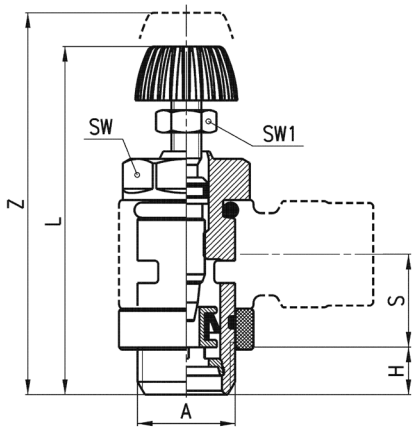
DIMENSIONS					
Mod.	A	H	L	S	SW
SCU 602-M5	M5	3,5	21,5	5,5	8
SCU 604-1/8	G1/8	5	31,5	12,5	12
SCU 606-1/4	G1/4	6	32,5	12,5	15
SCU 608-3/8	G3/8	7	40,5	12,5	18

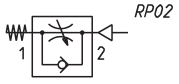
Note: M5 flow controllers must be used together with M6 adjustable fittings.

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.





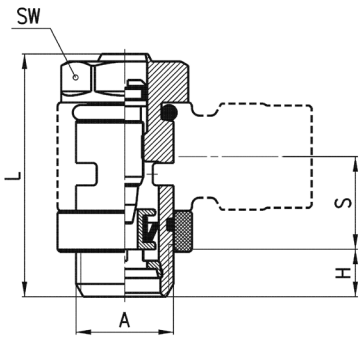
DIMENSIONS							
Mod.	A	H	L	S	SW	SW1	Z
MCU 702-M5	M5	3,5	31	5,5	8	5,5	35
MCU 704-1/8	G1/8	5	41	12,5	12	7	46
MCU 706-1/4	G1/4	6	43,5	12,5	15	7	49
MCU 708-3/8	G3/8	7	52,5	12,5	18	10	60,5

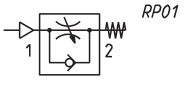
Note: M5 flow controllers must be used together with M6 adjustable fittings.

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.





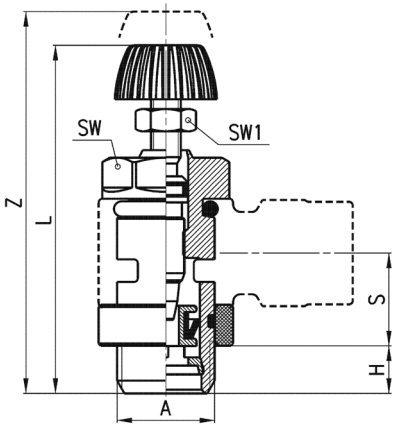
DIMENSIONS					
Mod.	A	H	L	S	SW
SVU 602-M5	M5	3,5	21,5	5,5	8
SVU 604-1/8	G1/8	5	31,5	12,5	12
SVU 606-1/4	G1/4	6	32,5	12,5	15

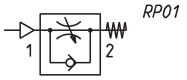
Note: M5 flow controllers must be used together with M6 adjustable fittings.

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.





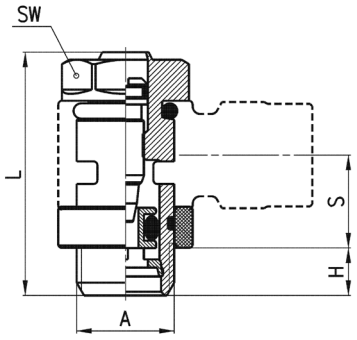
DIMENSIONS							
Mod.	A	H	L	S	SW	SW1	Z
MVU 702-M5	M5	3,5	31	5,5	8	5,5	35
MVU 704-1/8	G1/8	5	41	12,5	12	7	46
MVU 706-1/4	G1/4	6	43,5	12,5	15	7	49

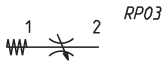
Note: M5 flow controllers must be used together with M6 adjustable fittings.

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.





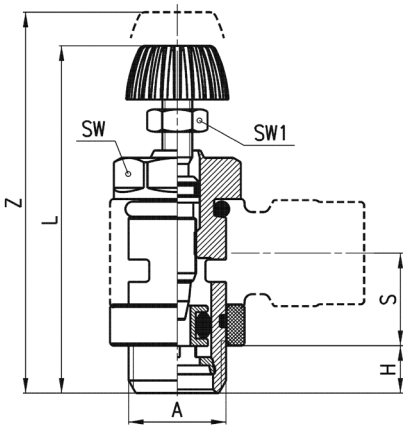
DIMENSIONS					
Mod.	A	H	L	S	SW
SCO 602-M5	M5	3,5	21,5	5,5	8
SCO 604-1/8	G1/8	5	31,5	12,5	12
SCO 606-1/4	G1/4	6	32,5	12,5	15

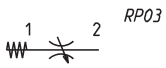
Note: M5 flow controllers must be used together with M6 adjustable fittings.

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.



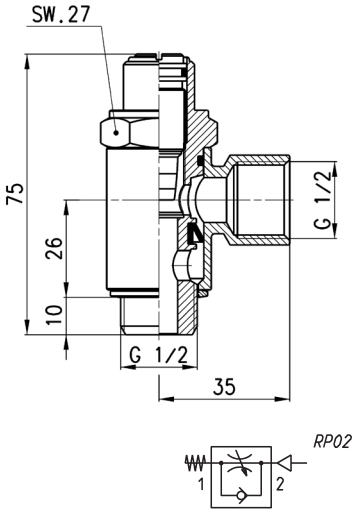


DIMENSIONS							
Mod.	A	H	L	S	SW	SW1	Z
MCO 702-M5	M5	3,5	31	5,5	8	5,5	35
MCO 704-1/8	G1/8	5	41	12,5	12	7	46
MCO 706-1/4	G1/4	6	43,5	12,5	15	7	49

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

Unidirectional flow controllers Series SCU

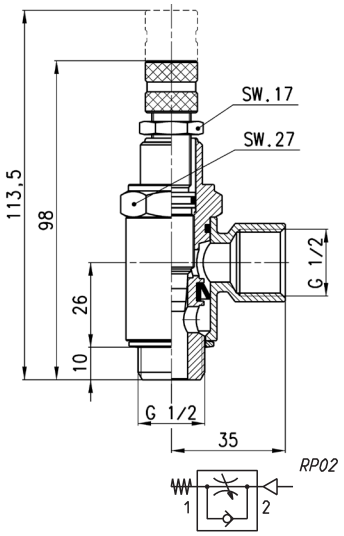
For mounting on single-acting or double-acting cylinders.
Screwdriver adjustment.



Mod.
SCU 610-1/2

Unidirectional flow controllers Series MCU

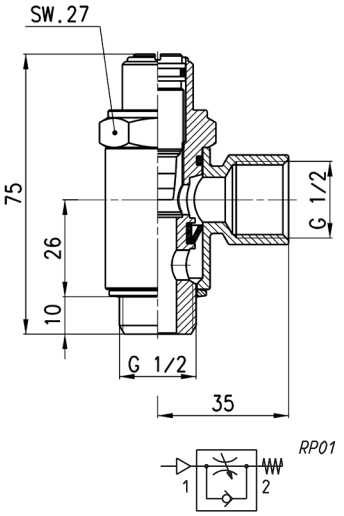
For mounting on single-acting or double-acting cylinders.
Adjustment of setting by a manually operated knurled screw.



Mod.
MCU 710-1/2

Unidirectional flow controllers Series SVU

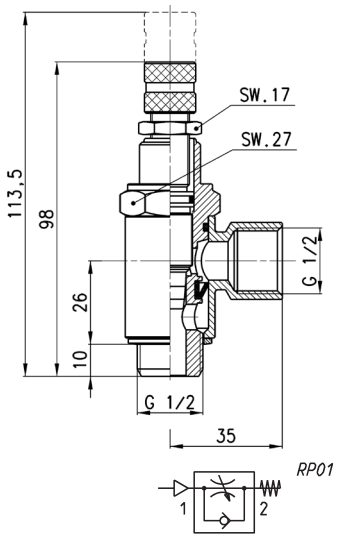
For mounting on valves.
Screwdriver adjustment.



Mod.
SVU 610-1/2

Unidirectional flow controllers Series MVU

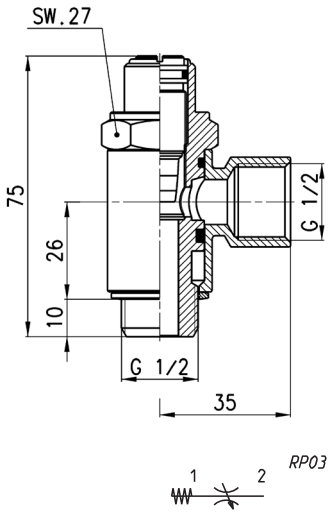
For mounting on valve.
Adjustment of setting by a manually operated knurled screw.



Mod.
MVU 710-1/2

Bidirectional flow controllers Series SCO

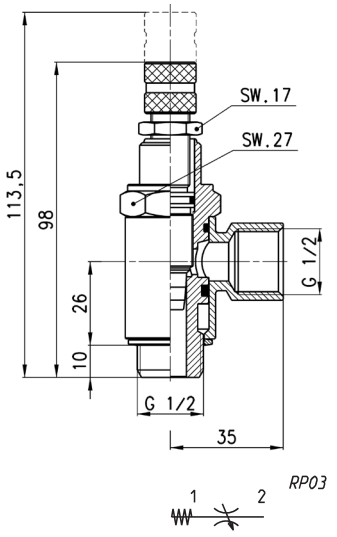
Screwdriver adjustment.



Mod.
SCO 610-1/2

Bidirectional flow controllers Series MCO

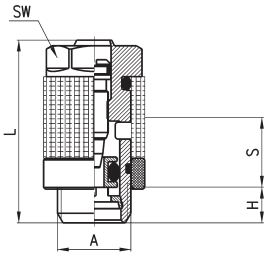
Adjustment of setting by a manually operated knurled screw.

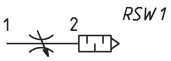


Mod.
MCO 710-1/2

Silenced exhaust controllers Mod. SCO + 2905

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



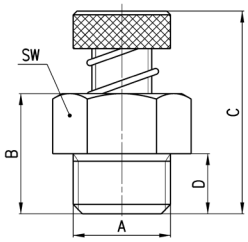


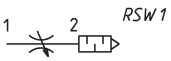
DIMENSIONS

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

Series RSW flow control valves with silencer

Ports: G1/8, G1/4, G1/2.





DIMENSIONS

Mod.	A	B	C	D	SW	Q* (Nl/min)
RSW 1/8	G1/8	10.5	22	6	13	410
RSW 1/4	G1/4	13	27	7.5	16	650
RSW 3/8	G3/8	16	30	9.5	20	1100
RSW 1/2	G1/2	18	40	10.5	26	1700

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

Series PSCU, PMCU, PSVU, PMVU, PSCO, PMCO flow control valves

Unidirectional and bidirectional flow regulators with ports M5, G1/8, G1/4, G3/8 and with banjo in brass (port M5) or in technopolymer (ports G1/8, G1/4, G3/8)

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.

All models are supplied complete with banjo flow controllers.

GENERAL DATA

Construction	needle type
Valve group	unidirectional and bidirectional controller
Materials	body, regulation screw: stainless steel (M5), brass (G1/8 - G1/4 - G3/8) collet and insert = brass banjo: brass (M5), technopolymer (G1/8 - G1/4 - G3/8) controller = technopolymer - seals = NBR
Mounting	by male thread
Ports	M5 - G1/8 - G1/4 - G3/8
Installation	in any position
Operating temperature	0°C ÷ 60°C (with dry air -20°C)
Operating pressure	1 ÷ 10 bar
Nominal pressure	6 bar
Nominal flow	see graph
Nominal diameter	M5 = 1.5 mm - G1/8 = 2 mm - G1/4 = 4 mm - G3/8 = 7 mm
Fluid	filtered air

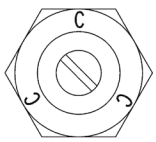
CODING EXAMPLE

P	M	CU		7	04	-	1/8	-	4

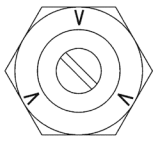
P	SERIES
M	ACTUATION: M = Manual S = Screwdriver
CU	ASSEMBLY: CU = on cylinders unidirectional VU = on valves unidirectional CO = bidirectional
7	VERSIONS: 6 = needle (screwdriver operated) 7 = needle (manual operated)
04	NOMINAL DIAMETER: 02 = Ø1.5 MAX 04 = Ø2 MAX 06 = Ø4 MAX 08 = Ø7 MAX
1/8	PORTS: M5 = M5 1/8 = G1/8 1/4 = G1/4 3/8 = G3/8
4	TUBE: 4 = Ø 4 6 = Ø 6 8 = Ø 8 10 = Ø 10 12 = Ø 12

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

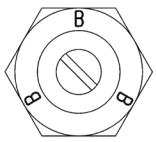
UNIDIRECTIONAL AND BIDIRECTIONAL FLOW CONTROLLERS



PSCU
PMCU



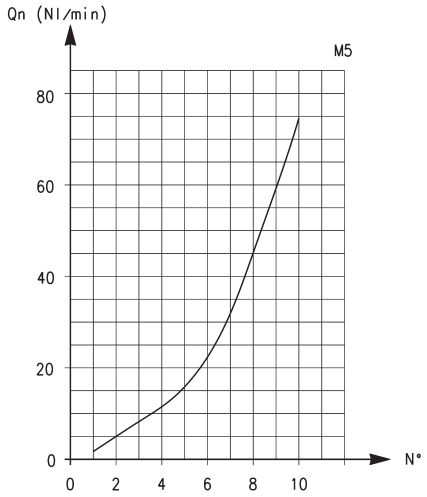
PSVU
PMVU



PSCO
PMCO

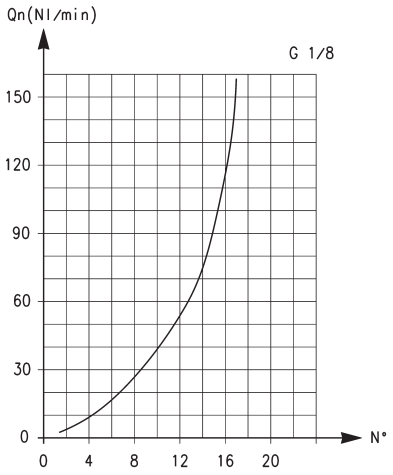
IDENTIFICATION OF DIFFERENT TYPES:
PSCU - PMCU = assembly directly on the cylinders
PSVU - PMVU = assembly directly on the valves
PSCO - PMCO = assembly directly on the cylinders or valves

UNIDIRECTIONAL AND BIDIRECTIONAL FLOW CONTROL REGULATORS



Flow Qn (Nl/min.) from 2 → 1 with controller OPEN: 70
Flow Qn (Nl/min.) from 2 → 1 with controller CLOSED: 33

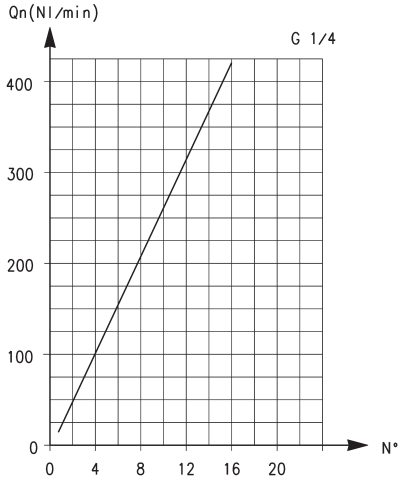
Qn = supply pressure of 6 bar and with ΔP = 1 bar at the outlet
N° = number of screw turns



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

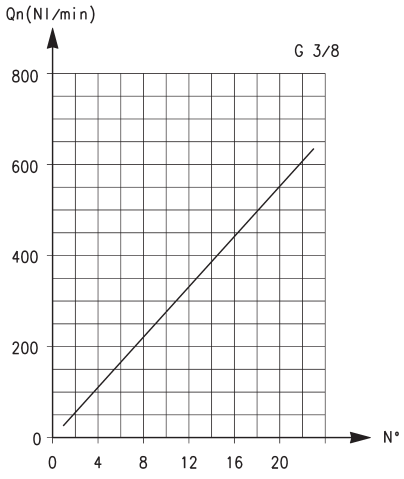
Qn = supply pressure of 6 bar and with ΔP = 1 bar at the outlet
N° = number of screw turns

UNIDIRECTIONAL AND BIDIRECTIONAL FLOW CONTROL REGULATORS



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



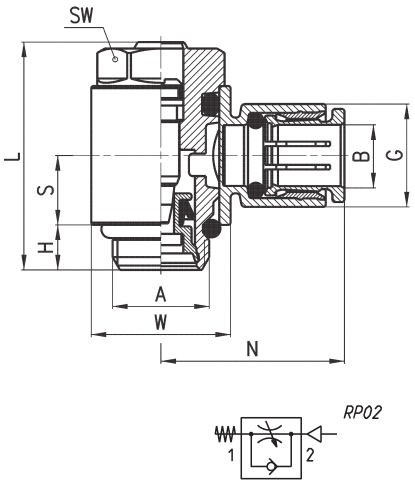
Flow Qn (Nl/min.) from 2 → 1 with controller OPEN: 710
Flow Qn (Nl/min.) from 2 → 1 with controller CLOSED: 410

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

Unidirectional flow controllers Series PSCU

For mounting on single-acting or double-acting cylinders.
A screwdriver must be used to adjust the registration setting.
Ports: M5, G1/8, G1/4 and G3/8.

Port M5: banjo in brass



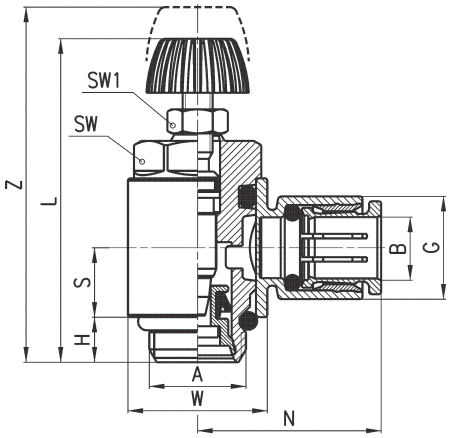
DIMENSIONS

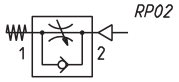
Mod.	A	B	G	H	L	N	S	W	SW
PSCU 602-M5-4	M5	4	8.6	3.5	21.5	18	5.7	8	8
PSCU 602-M5-6	M5	6	10.4	3.5	21.5	19	5.7	8	8
PSCU 604-1/8-4	G1/8	4	11.6	5	27	21	7.75	14	12
PSCU 604-1/8-6	G1/8	6	11.6	5	27	21	7.75	14	12
PSCU 604-1/8-8	G1/8	8	13.9	5	27	22.5	7.75	14	12
PSCU 606-1/4-6	G1/4	6	13.9	6	30.5	24.5	9.25	18.6	15
PSCU 606-1/4-8	G1/4	8	13.9	6	30.5	24.5	9.25	18.6	15
PSCU 606-1/4-10	G1/4	10	16.1	6	30.5	27	9.25	18.6	15
PSCU 608-3/8-10	G3/8	10	20.2	7	36.5	29	11	22	18
PSCU 608-3/8-12	G3/8	12	20.2	7	36.5	29	11	22	18

Unidirectional flow controllers Series PMCU

For mounting on single-acting or double-acting cylinders.
A manually operated knurled screw must be used to adjust the registration setting.
Ports: M5, G1/8, G1/4 and G3/8.

Port M5: banjo in brass





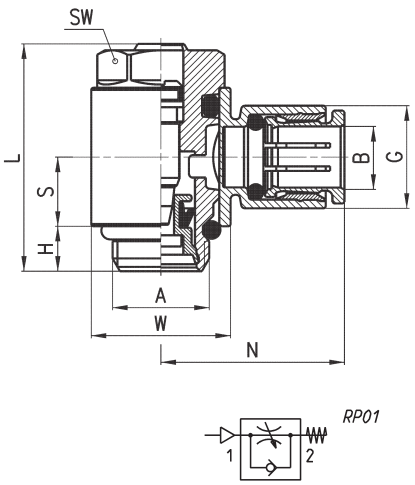
DIMENSIONS

Mod.	A	B	G	H	L	N	S	W	SW	SW1	Z
PMCU 702-M5-4	M5	4	8.6	3.5	31	18	5.7	8	8	5.5	35
PMCU 702-M5-6	M5	6	10.4	3.5	31	19	5.7	8	8	5.5	35
PMCU 704-1/8-4	G1/8	4	11.6	5	36.5	21	7.75	14	12	7	42.5
PMCU 704-1/8-6	G1/8	6	11.6	5	36.5	21	7.75	14	12	7	42.5
PMCU 704-1/8-8	G1/8	8	13.9	5	36.5	22.5	7.75	14	12	7	42.5
PMCU 706-1/4-6	G1/4	6	13.9	6	42	24.5	9.25	18.6	15	7	48
PMCU 706-1/4-8	G1/4	8	13.9	6	42	24.5	9.25	18.6	15	7	48
PMCU 706-1/4-10	G1/4	10	16.1	6	42	27	9.25	18.6	15	7	48
PMCU 708-3/8-10	G3/8	10	20.2	7	48.5	29	11	22	18	10	56.5
PMCU 708-3/8-12	G3/8	12	20.2	7	48.5	29	11	22	18	10	56.5

Unidirectional flow controllers Series PSVU

For mounting on valves.
A screwdriver must be used to adjust the registration setting.
Ports: M5, G1/8, G1/4 and G3/8.

Port M5: banjo in brass



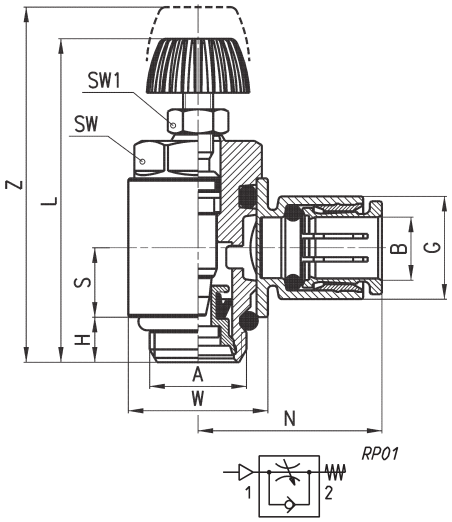
DIMENSIONS

Mod.	A	B	G	H	L	N	S	W	SW
PSVU 602-M5-4	M5	4	8.6	3.5	21.5	18	5.7	8	8
PSVU 602 M5-6	M5	6	10.4	3.5	21.5	19	5.7	8	8
PSVU 604-1/8-4	G1/8	4	11.6	5	27	21	7.75	14	12
PSVU 604-1/8-6	G1/8	6	11.6	5	27	21	7.75	14	12
PSVU 604-1/8-8	G1/8	8	13.9	5	27	22.5	7.75	14	12
PSVU 606-1/4-6	G1/4	6	13.9	6	30.5	24.5	9.25	18.6	15
PSVU 606-1/4-8	G1/4	8	13.9	6	30.5	24.5	9.25	18.6	15
PSVU 606-1/4-10	G1/4	10	16.1	6	30.5	27	9.25	18.6	15
PSVU 608-3/8-10	G3/8	10	20.2	7	36.5	29	11	22	18
PSVU 608-3/8-12	G3/8	12	20.2	7	36.5	29	11	22	18

Unidirectional flow controllers Series PMVU

For mounting on valve.
A manually operated knurled screw must be used to adjust the registration setting.
Ports: M5, G1/8, G1/4 and G3/8.

Port M5: banjo in brass



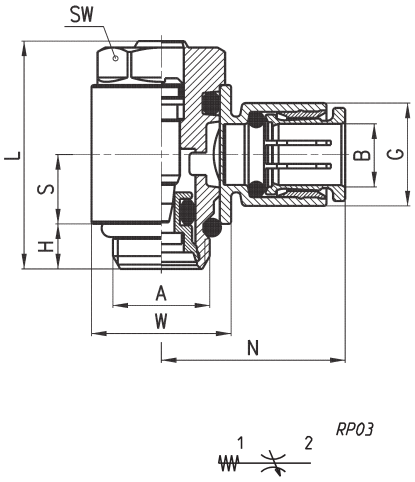
DIMENSIONS

Mod.	A	B	G	H	L	N	S	W	SW	SW1	Z
PMVU 702-M5-4	M5	4	8.6	3.5	31	18	5.7	8	8	5.5	35
PMVU 702-M5-6	M5	6	10.4	3.5	31	19	5.7	8	8	5.5	35
PMVU 704-1/8-4	G1/8	4	11.6	5	36.5	21	7.75	14	12	7	42.5
PMVU 704-1/8-6	G1/8	6	11.6	5	36.5	21	7.75	14	12	7	42.5
PMVU 704-1/8-8	G1/8	8	13.9	5	36.5	22.5	7.75	14	12	7	42.5
PMVU 706-1/4-6	G1/4	6	13.9	6	42	24.5	9.25	18.6	15	7	48
PMVU 706-1/4-8	G1/4	8	13.9	6	42	24.5	9.25	18.6	15	7	48
PMVU 706-1/4-10	G1/4	10	16.1	6	42	27	9.25	18.6	15	7	48
PMVU 708-3/8-10	G3/8	10	20.2	7	48.5	29	11	22	18	10	56.5
PMVU 708-3/8-12	G3/8	12	20.2	7	48.5	29	11	22	18	10	56.5

Bidirectional flow controllers Series PSCO

A screwdriver must be used to adjust the registration setting.
Ports: M5, G1/8, G1/4 and G3/8.

Port M5: banjo in brass



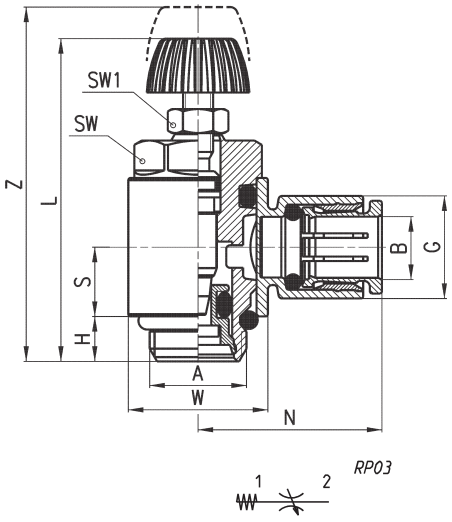
DIMENSIONS

Mod.	A	B	G	H	L	N	S	W	SW
PSCO 602-M5-4	M5	4	8.6	3.5	21.5	18	5.7	8	8
PSCO 602-M5-6	M5	6	10.4	3.5	21.5	19	5.7	8	8
PSCO 604-1/8-4	G1/8	4	11.6	5	27	21	7.75	14	12
PSCO 604-1/8-6	G1/8	6	11.6	5	27	21	7.75	14	12
PSCO 604-1/8-8	G1/8	8	13.9	5	27	22.5	7.75	14	12
PSCO 606-1/4-6	G1/4	6	13.9	6	30.5	24.5	9,25	18.6	15
PSCO 606-1/4-8	G1/4	8	13.9	6	30.5	24.5	9.25	18.6	15
PSCO 606-1/4-10	G1/4	10	16.1	6	30.5	27	9.25	18.6	15
PSCO 608-3/8-10	G3/8	10	20.2	7	36.5	29	11	22	18
PSCO 608-3/8-12	G3/8	12	20.2	7	36.5	29	11	22	18

Bidirectional flow controllers Series PMCO

A manually operated knurled screw must be used to adjust the registration setting.
Ports: M5, G1/8, G1/4 and G3/8.

Port M5: banjo in brass

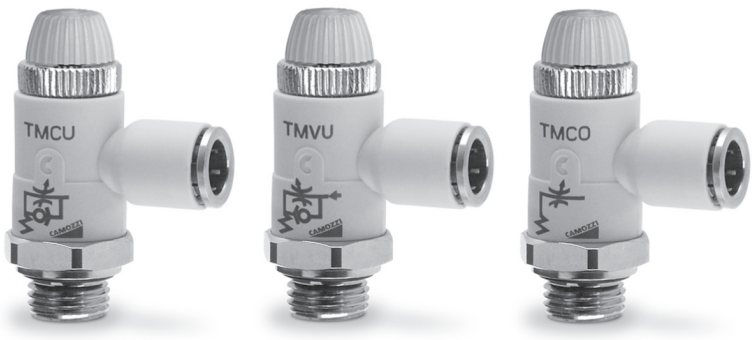


DIMENSIONS

Mod.	A	B	G	H	L	N	S	W	SW	SW1	Z
PMCO 702-M5-4	M5	4	8.6	3.5	31	18	5.7	8	8	5.5	35
PMCO 702-M5-6	M5	6	10.4	3.5	31	19	5.7	8	8	5.5	35
PMCO 704-1/8-4	G1/8	4	11.6	5	36.5	21	7.75	14	12	7	42.5
PMCO 704-1/8-6	G1/8	6	11.6	5	36.5	21	7.75	14	12	7	42.5
PMCO 704-1/8-8	G1/8	8	13.9	5	36.5	22.5	7.75	14	12	7	42.5
PMCO 706-1/4-6	G1/4	6	13.9	6	42	24.5	9.25	18.6	15	7	48
PMCO 706-1/4-8	G1/4	8	13.9	6	42	24.5	9.25	18.6	15	7	48
PMCO 706-1/4-10	G1/4	10	16.1	6	42	27	9.25	18.6	15	7	48
PMCO 708-3/8-10	G3/8	10	20.2	7	48.5	29	11	22	18	10	56.5
PMCO 708-3/8-12	G3/8	12	20.2	7	48.5	29	11	22	18	10	56.5

Series TMCU, TMVU, TMCO flow control valves

Unidirectional and bidirectional flow control valves
Banjo flow controllers nominal diameters ø 2 - 3,8 - 5,8 - 8 mm
Ports G1/8, G1/4, G3/8, G1/2



Series TMCU, TMVU, TMCO unidirectional and bidirectional flow controllers have been revised in order to decrease their dimensions and improve their flow rate characteristics. Their construction allows for easy assembly to cylinders and valves and allows the regulation adjustment to be precise and gradual.

GENERAL DATA

Construction	needle - type
Valve group	unidirectional and bidirectional controller
Materials	brass - technopolymer - NBR
Mounting	by male threaded
Threaded ports	G1/8 - G1/4 - G3/8 - G1/2
Installation	in any position
Operating temperature	0°C ÷ 60°C (with dry air -20°C)
Operating pressure	0,5 ÷ 10 bar
Nominal pressure	6 bar
Nominal flow	see graph
Nominal dia.	Tube 4 Ø2 - Tube 6 Ø3,8 - Tube 8 Ø5,8 - Tube 10 and 12 Ø8
Fluid	filtered air If lubricated air is used, it is recommended to use ISOVG 32 oil. Once applied the lubrication should never be interrupted.

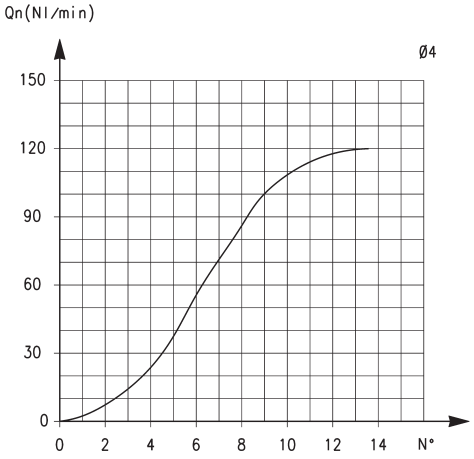
CODING EXAMPLE

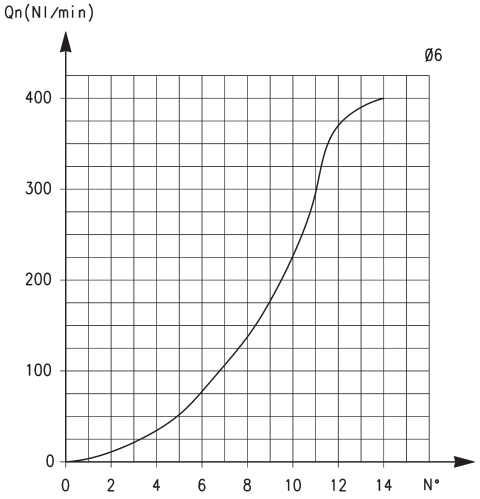
TM	CU		9	74	-	1/8	-	6

TM	ACTUATION: TM = manual
CU	ASSEMBLY: CU = on cylinders unidirectional VU = on valves unidirectional CO = bidirectional
9	VERSIONS: 9 = manual needle
74	REGULATION: step - ø tube 72 = 2 4 74 = 3.8 6 76 = 5.8 8 78 = 8 10
1/8	PORTS: 1/8 1/4 3/8 1/2
6	Ø TUBE: 4 6 8 10

To ensure the right choice of unidirectional flow controller, proceed as follows: calculate the quantity of air in Nl/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 CONTROL REGULATORS

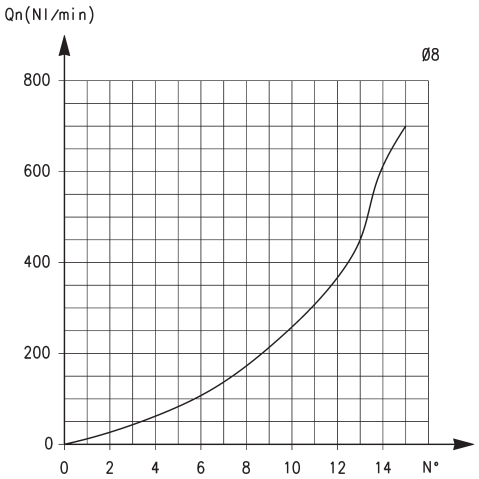


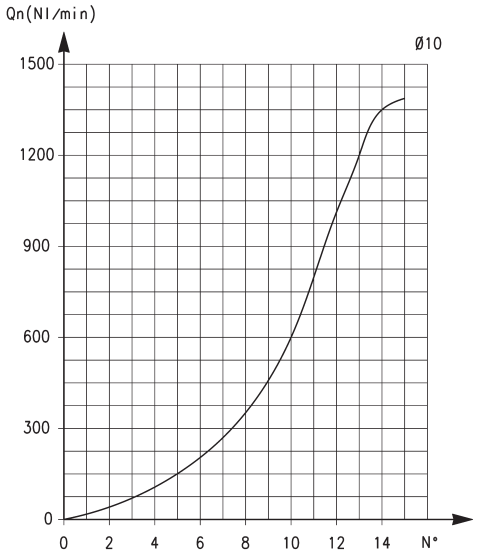


TUBE Ø4
Flow Qn (Nl/min.) from 2 → 1 with controller OPEN: 400
Flow Qn (Nl/min.) from 2 → 1 with controller CLOSED: 280
Qn is determined with a supply pressure of 6 bar and with ΔP = 1 bar at the outlet
N° = number of screw turns.

TUBE Ø6
Flow Qn (Nl/min.) from 2 → 1 with controller OPEN: 550
Flow Qn (Nl/min.) from 2 → 1 with controller CLOSED: 280
Qn is determined with a supply pressure of 6 bar and with ΔP = 1 bar at the outlet
N° = number of screw turns.

UNIDIRECTIONAL AND BIDIRECTIONAL FLOW CONTROL REGULATORS



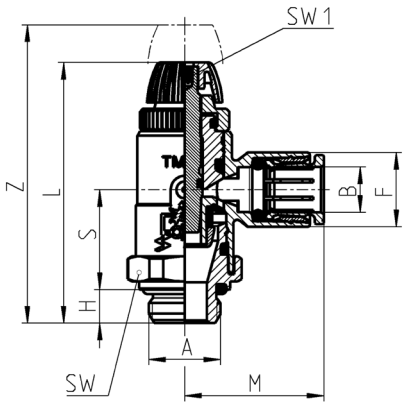


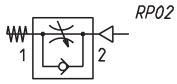
TUBE Ø8
Flow Qn (Nl/min.) from 2 → 1 with controller OPEN: 890
Flow Qn (Nl/min.) from 2 → 1 with controller CLOSED: 460
Qn is determined with a supply pressure of 6 bar and with ΔP = 1 bar at the outlet
N° = number of screw turns.

TUBE Ø10
Flow Qn (Nl/min.) from 2 → 1 with controller OPEN: Ø 10-1200/Ø12-1250
Flow Qn (Nl/min.) from 2 → 1 with controller CLOSED: Ø 10-600/Ø12-600
Qn is determined with a supply pressure of 6 bar and with ΔP = 1 bar at the outlet
N° = number of screw turns.

Series TMCU valves

Unidirectional flow controller for mounting on single-acting or double-acting cylinders.
Adjustment of setting by a hexagonal male key or a manually operated knurled screw.
Ports: G1/8, G1/4, G3/8, G1/2



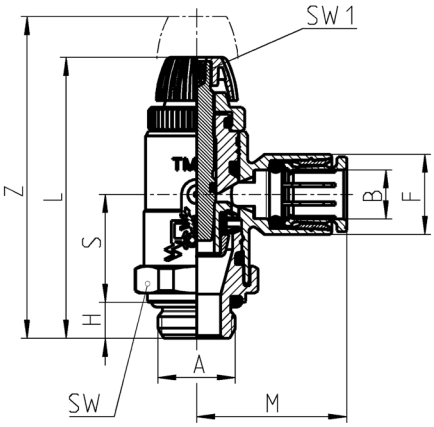


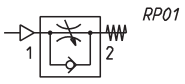
DIMENSIONS

Mod.	A	B	F	H	L	M	S	SW	SW1	Z
TMCU 972-1/8-4	G1/8	4	11,5	5	43	21,5	16,5	16	1,5	50
TMCU 974-1/8-6	G1/8	6	11,5	5	43	21,5	16,5	16	1,5	50
TMCU 974-1/4-6	G1/4	6	11,5	6	44	21,5	16,5	17	1,5	51
TMCU 976-1/8-8	G1/8	8	13,5	5	47	25	17,5	19	2,5	54
TMCU 976-1/4-8	G1/4	8	13,5	6	48,5	25	18	19	2,5	55,5
TMCU 976-3/8-8	G3/8	8	13,5	7	49,5	25	18	20	2,5	56,5
TMCU 978-3/8-10	G3/8	10	16	7	51	29	17	25	2,5	59,5
TMCU 978-1/2-10	G1/2	10	16	8	52	29	17	25	2,5	60,5

Series TMVU valves

Unidirectional flow controller for mounting on valves.
Adjustment of setting by a hexagonal male key or a manually operated knurled screw.
Ports: G1/8, G1/4, G3/8, G1/2



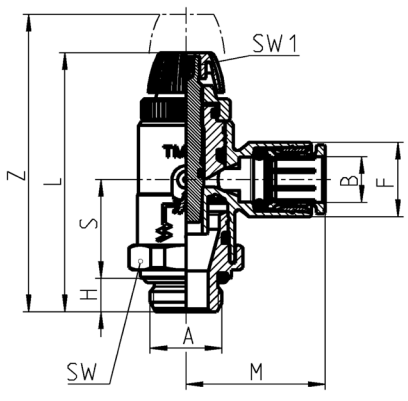


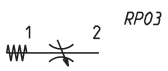
DIMENSIONS

Mod.	A	B	F	H	L	M	S	SW	SW1	Z
TMVU 972-1/8-4	G1/8	4	11,5	5	43	21,5	16,5	16	1,5	50
TMVU 974-1/8-6	G1/8	6	11,5	5	43	21,5	16,5	16	1,5	50
TMVU 974-1/4-6	G1/4	6	11,5	6	44	21,5	16,5	17	1,5	51
TMVU 976-1/8-8	G1/8	8	13,5	5	47	25	17,5	19	2,5	54
TMVU 976-1/4-8	G1/4	8	13,5	6	48,5	25	18	19	2,5	55,5
TMVU 976-3/8-8	G3/8	8	13,5	7	49,5	25	18	20	2,5	56,5
TMVU 978-3/8-10	G3/8	10	16	7	51	29	17	25	2,5	59,5
TMVU 978-1/2-10	G1/2	10	18	8	52	29	17	25	2,5	60,5

Series TMCO valves

Bidirectional flow controller.
Adjustment of setting by a hexagonal male key or a manually operated knurled screw.
Ports: G1/8, G1/4, G3/8, G1/2





DIMENSIONS

Mod.	A	B	F	H	L	M	S	SW	SW1	Z
TMCO 972-1/8-4	G1/8	4	11,5	5	43	21,5	16,5	16	1,5	50
TMCO 974-1/8-6	G1/8	6	11,5	5	43	21,5	16,5	16	1,5	50
TMCO 974-1/4-6	G1/4	6	11,5	6	44	21,5	16,5	17	1,5	51
TMCO 976-1/8-8	G1/8	8	13,5	5	47	25	17,5	19	2,5	54
TMCO 976-1/4-8	G1/4	8	13,5	6	48,5	25	18	19	2,5	55,5
TMCO 976-3/8-8	G3/8	8	13,5	7	49,5	25	18	20	2,5	56,5
TMCO 978-3/8-10	G3/8	10	16	7	51	29	17	25	2,5	59,5
TMCO 978-1/2-10	G1/2	10	16	8	52	29	17	25	2,5	60,5

Series GSCU, GMCU, GSVU, GMVU, GSCO, GMCO flow control valves

Unidirectional and bidirectional flow control valves
Banjo flow controllers nominal diameters 1,5 - 3,5 - 5 mm
Ports M5, G1/8 and G1/4

**These unidirectional and bidirectional flow controllers have been designed as small as possible to enable mounting directly on valves or cylinders.
The flow regulation range is wide and gradual, allowing the regulation to be very accurate either at minimum or maximum flow.**

GENERAL DATA

Construction	needle - type
Valve group	unidirectional and bidirectional controller
Materials	body and screws M5 inox; 1/8 - 1/4 - 3/8 - 1/2 OT58 seals NBR
Mounting	by male threaded
Installation	in any position
Operating temperature	0°C ÷ 80°C (with dry air -20°C)
Operating pressure	1 ÷ 10 bar
Nominal pressure	6 bar
Nominal flow	see graph
Nominal diameter	M5 = 1.5 mm - G1/8 = 2 mm - G1/4 = 4 mm G3/8 = 7 mm - G1/2 = 12 mm
Fluid	filtered air

CODING EXAMPLE

GM	CU		9	03	-	1/8	-	6

GM ACTUATION:
GM = manual
GS = screwdriver

CU ASSEMBLY:
CU = on cylinders unidirectional
VU = on valves unidirectional
CO = bidirectional

9 VERSIONS:
8 = needle (screwdriver operated)
9 = needle (manually operated)

03 FLOW CONTROL RANGE:

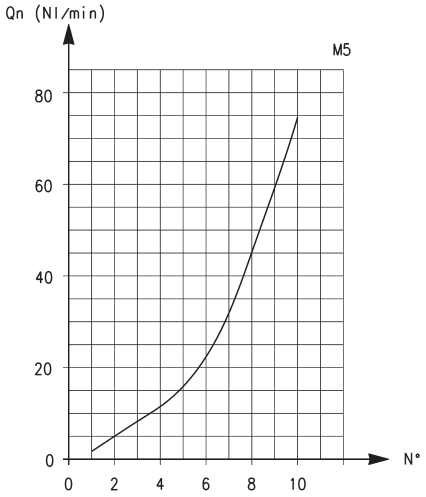
	size	ø tube
13 =	1.5	3
14 =	1.5	4
03 =	3.5	6
04 =	3.5	8
05 =	5	8
06 =	5	10

1/8 PORTS:
M5
1/8
1/4

6 Ø TUBE:
3
4
6
8
10

To ensure the right choice of unidirectional flow controller, proceed as follows: calculate the quantity of air in Nl/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 CONTROL REGULATORS

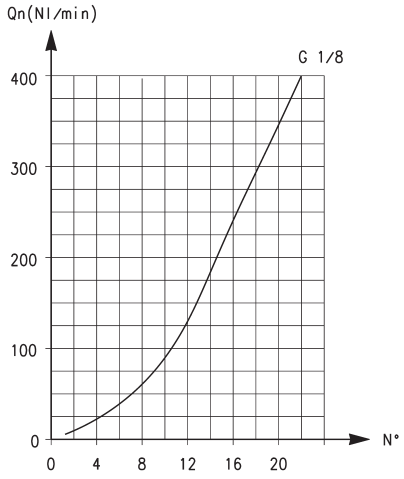


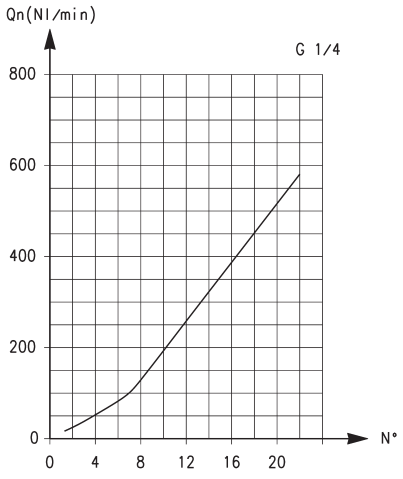
To ensure the right choice of unidirectional flow controller, proceed as follows: calculate the quantity of air in Nl/min (see cylinder Table); determine the stroke time of the cylinder; refer to graph to see which controller is the right type.
In the case of bidirectional regulators, refer to the graph and check whether the flow control range is suitable for the work required.

M5
Flow Qn (Nl/min.) from 2 → 1 with controller OPEN: 70
Flow Qn (Nl/min.) from 2 → 1 with controller CLOSED: 33

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

UNIDIRECTIONAL AND BIDIRECTIONAL FLOW CONTROL REGULATORS





G1/8
Flow Qn (Nl/min.) from 2 → 1 with controller OPEN: 440
Flow Qn (Nl/min.) from 2 → 1 with controller CLOSED: 170

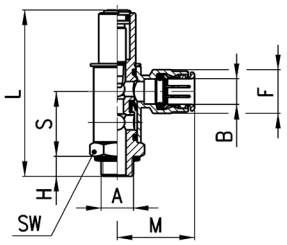
N° = number of screw turns
NB: Qn is determined with a supply pressure of 6 bar and with ΔP = 1 bar at the outlet.

G1/4
Flow Qn (Nl/min.) from 2 → 1 with controller OPEN: 790
Flow Qn (Nl/min.) from 2 → 1 with controller CLOSED: 460

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

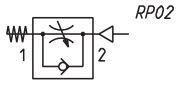
Valves Series GSCU

Unidirectional flow controller for mounting on single-acting or double-acting cylinders.
Screwdriver adjustment.
Ports: M5, G1/8, G1/4 .



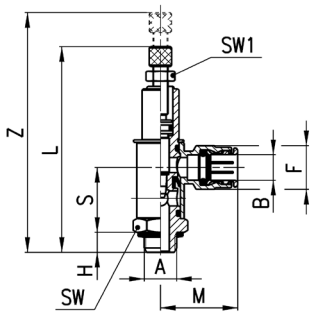
DIMENSIONS

Mod.	A	B	S	H	L	M	F	SW
GSCU 813-M5-3	M5	3	12	3	27,5	12,5	6,5	8
GSCU 814-M5-4	M5	4	12	3	27,5	19	8,8	8
GSCU 803-1/8-6	G1/8	6	22,5	5	50	26,5	13	14
GSCU 804-1/8-8	G1/8	8	22,5	5	50	28	15	14
GSCU 805-1/4-8	G1/4	8	27	7	67,5	28,5	15	19
GSCU 806-1/4-10	G1/4	10	27	7	67,5	31	17,5	19



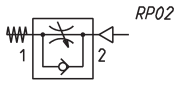
Valves Series GMCU

Unidirectional flow controller for mounting on single-acting or double-acting cylinders.
Knurled screw adjustment.
Ports: M5, G1/8, G1/4.



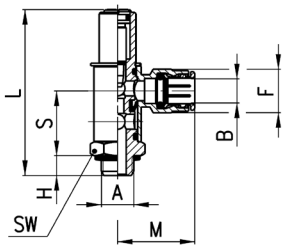
DIMENSIONS

Mod.	A	B	S	H	L	Z	M	F	SW	SW1
GMCU 913-M5-3	M5	3	12	3	37	42,5	12,5	6,5	8	5,5
GMCU 914-M5-4	M5	4	12	3	37	42,5	19	8,8	8	5,5
GMCU 903-1/8-6	G1/8	6	22,5	5	65,5	72,5	26,5	13	14	7
GMCU 904-1/8-8	G1/8	8	22,5	5	65,5	72,5	28	15	14	7
GMCU 905-1/4-8	G1/4	8	27	7	85	97,5	28,5	15	19	10
GMCU 906-1/4-10	G1/4	10	27	7	85	97,5	31	17,5	19	10



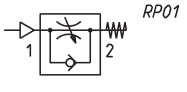
Valves Series GSVU

Unidirectional flow controller for mounting on valves.
Screwdriver adjustment.
Ports: M5, G1/8, G1/4.



DIMENSIONS

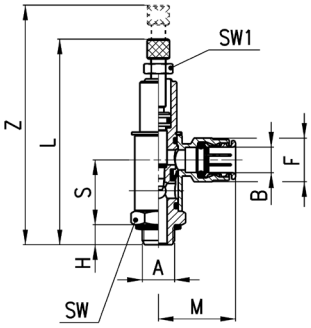
Mod.	A	B	S	H	L	M	F	SW
GSVU 813-M5-3	M5	3	12	3	27,5	12,5	6,5	8
GSVU 814-M5-4	M5	4	12	3	27,5	19	8,8	8
GSVU 803-1/8-6	G1/8	6	22,5	5	50	26,5	13	14
GSVU 804-1/8-8	G1/8	8	22,5	5	50	28	15	14
GSVU 805-1/4-8	G1/4	8	27	7	67,5	28,5	15	19
GSVU 806-1/4-10	G1/4	10	27	7	67,5	31	17,5	19



2
CONTROL

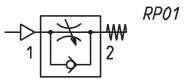
Valves Series GMVU

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



DIMENSIONS

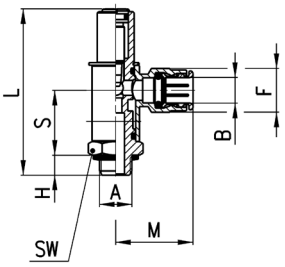
Mod.	A	B	S	H	L	Z	M	F	SW	SW1
GMVU 913-M5-3	M5	3	12	3	37	42,5	12,5	6,5	8	5,5
GMVU 914-M5-4	M5	4	12	3	37	42,5	19	8,8	8	5,5
GMVU 903-1/8-6	G1/8	6	22,5	5	50	72,5	26	13	14	7
GMVU 904-1/8-8	G1/8	8	22,5	5	50	72,5	28	15	14	7
GMVU 905-1/4-8	G1/4	8	27	7	67,5	97,5	29	15	19	10
GMVU 906-1/4-10	G1/4	10	27	7	67,5	97,5	31	17,5	19	10



RP01

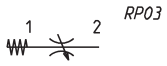
Valves Series GSCO

Bidirectional flow controller.
Screwdriver adjustment.
Ports: M5, G1/8, G1/4.



DIMENSIONS

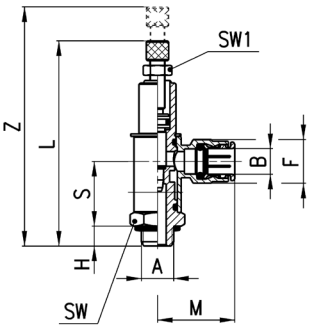
Mod.	A	B	S	H	L	M	F	SW
GSCO 813-M5-3	M5	3	12	3	27,5	12,5	6,5	8
GSCO 814-M5-4	M5	4	12	3	27,5	19	8,8	8
GSCO 803-1/8-6	G1/8	6	22,5	5	50	26,5	13	14
GSCO 804-1/8-8	G1/8	8	22,5	5	50	28	15	14
GSCO 805-1/4-8	G1/4	8	27	7	67,5	28,5	15	19
GSCO 806-1/4-10	G1/4	10	27	7	67,5	31	17,5	19



RP03

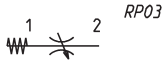
Valves Series GMCO

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



DIMENSIONS

Mod.	A	B	S	H	L	Z	M	F	SW	SW1
GMCO 913-M5-3	M5	3	12	3	37	42,5	12,5	6,5	8	5,5
GMCO 914-M5-4	M5	4	12	3	37	42,5	19	8,8	8	5,5
GMCO 903-1/8-6	G1/8	6	22,5	5	65,5	72,5	26,5	13	14	7
GMCO 904-1/8-8	G1/8	8	22,5	5	65,5	72,5	28	15	14	7
GMCO 905-1/4-8	G1/4	8	27	7	85	97,5	28,5	15	19	10
GMCO 906-1/4-10	G1/4	10	27	7	85	97,5	31	17,5	19	10



RP03

Series RFU - RFO flow control valves

Unidirectional and bidirectional flow control valves
Ports: M5, G1/8, G1/4, G3/8 and G1/2
Nominal diameter: M5 = 1,5 mm; G1/8 = 2 and 3 mm;
G1/4 = 4 and 6 mm; G3/8 and G1/2 = 7 mm

» Series RFU: unidirectional flow control valves for the speed regulation of a cylinder

» Series RFO: bidirectional flow control valves for the air flow regulation in both directions and for the pressurization or depressurization of a container.

The unidirectional flow controllers are equipped with M5, G1/8, G1/4, G3/8 and G1/2 ports.
G1/8 and G1/4 ports are available with two different types of adjustment (see diagrams), whereas M5, G3/8 and G1/2 ports have just one type of adjustment.
All models can be panel or wall mounted or they can be mounted on cylinders, as required.

To choose the most suitable model, it is recommended to:
1. calculate the quantity of air in Nl/min (see the cylinders tables in the catalogue appendix);
2. determine the stroke time of the cylinder;
3. check the flow diagrams (see pages 2/7.20.03 and 2/7.20.04).

GENERAL DATA

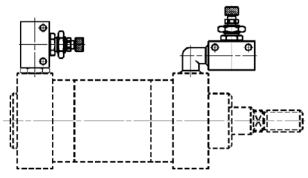
Construction	needle-type
Valve group	unidirectional and bidirectional controller
Materials	AL body - brass needle (not nickel-plated) - NBR seals
Mounting	with screws in the holes of the valve body or panel mounted
Threaded ports	M5 - G1/8 - G1/4 - G3/8 - G1/2
Installation	as required
Operating temperature	0°C ÷ 80°C (with dry air - 20°C)
Operating pressure	1 ÷ 10 bar (for models with M5 - G1/8 - G1/4 ports) 2 ÷ 10 bar (for models with G3/8 - G1/2 ports)
Nominal pressure	6 bar
Nominal flow	see graph
Nominal diameter	M5 = 1,5 - G1/8 = 2 or 3 mm - G1/4 = 4 or 6 mm - G3/8 and G1/2 = 7 mm
Fluid	filtered air

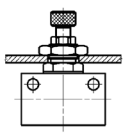
CODING EXAMPLE

RF	U		4	8	2	-	1/8

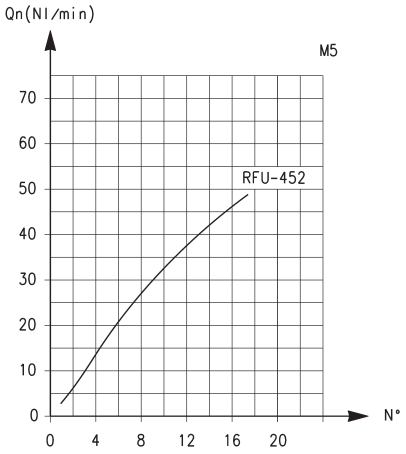
RF	SERIES
U 4	FUNCTION: U 4 = unidirectional O 3 = bidirectional
8	PORTS: 4 = G1/4 5 = M5 6 = G3/8 7 = G1/2 8 = G1/8
2	FLOW CONTROL RANGE: 2 = ø 1.5 mm max (for ports M5) ø 2 mm max (for ports 1/8 only) 3 = ø 3 mm max (for ports 1/8 only) 4 = ø 4 mm max (for ports 1/4 only) 6 = ø 6 mm max (for ports 1/4 only) 7 = ø 7 mm max (for ports 3/8, 1/2 only)
1/8	PORTS: M5 1/8 1/4 3/8 1/2

EXAMPLES OF SERIES RFO - RFU VALVES ASSEMBLY



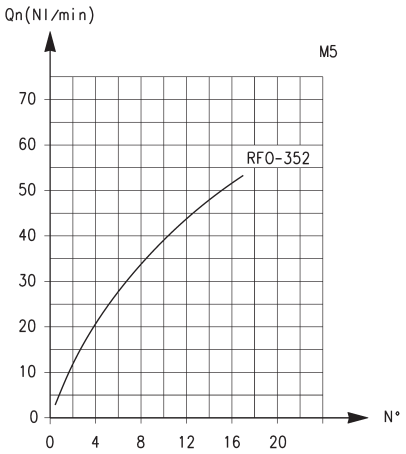


FLOW DIAGRAMS (1 → 2) - VALVES SERIES RFU / RFO - M5 PORTS



RFU 452-M5: flow from 2 → 1 needle type OPEN = 55 Nl/min
CLOSED = 41 Nl/min

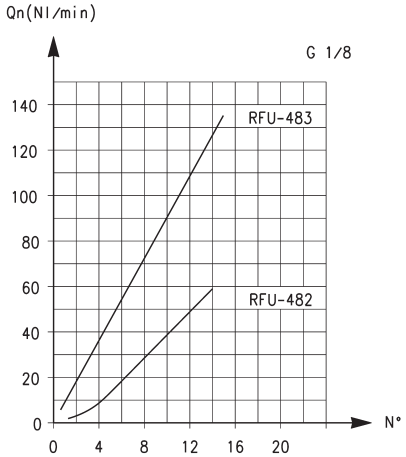
N° = number of screw turns
Note: the flow (Qn) is determined with a pressure of 6 bar at the inlet and ΔP = 1 bar at the outlet.



RFO 352-M5

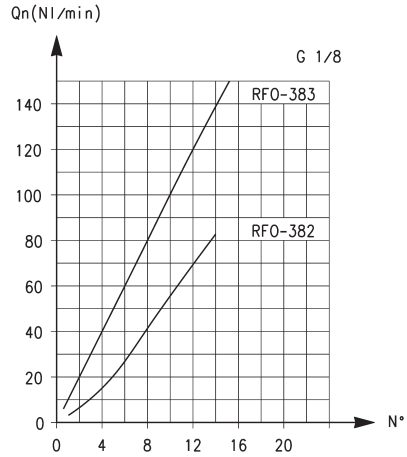
N° = number of screw turns
Note: the flow (Qn) is determined with a pressure of 6 bar at the inlet and ΔP = 1 bar at the outlet.

FLOW DIAGRAMS (1 → 2) - VALVES SERIES RFU / RFO - G1/8 PORTS



RFU 482-1/8: flow from 2 → 1 needle type OPEN = 149 Nl/min
CLOSED = 130,5 Nl/min
RFU 483-1/8: flow from 2 → 1 needle type OPEN = 180 Nl/min
CLOSED = 140 Nl/min

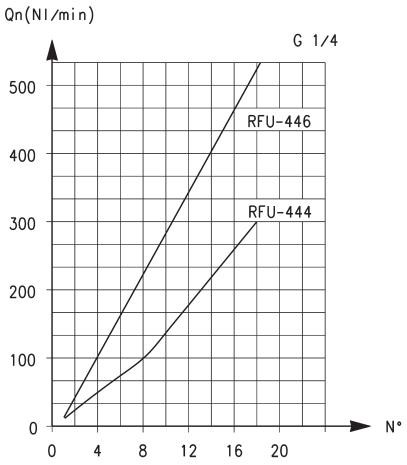
N° = number of screw turns
Note: the flow (Qn) is determined with a pressure of 6 bar at the inlet and ΔP = 1 bar at the outlet.

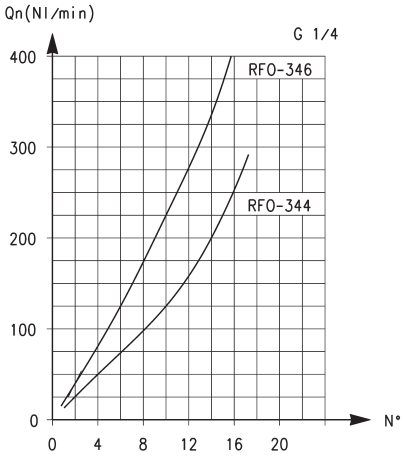


RFO 382-1/8 - RFO 383-1/8

N° = number of screw turns
Note: the flow (Qn) is determined with a pressure of 6 bar at the inlet and ΔP = 1 bar at the outlet.

FLOW DIAGRAMS (1 → 2) - VALVES SERIES RFU / RFO - G1/4 PORTS





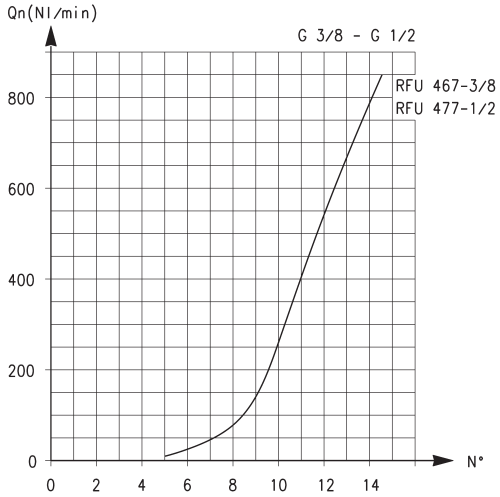
RFU 444-1/4: flow from 2 → 1 needle type OPEN = 680 Nl/min
CLOSED = 534 Nl/min
RFU 446-1/4: flow from 2 → 1 needle type OPEN = 680 Nl/min
CLOSED = 534 Nl/min

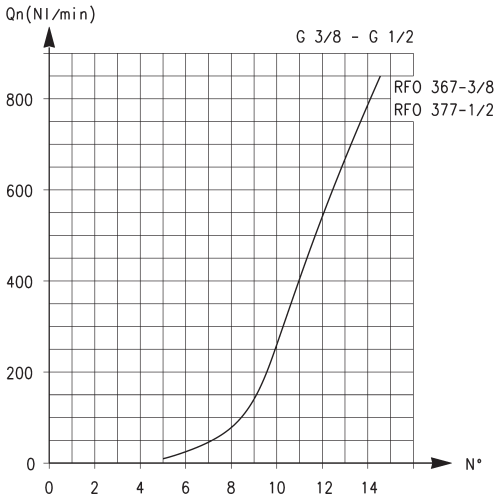
N° = number of screw turns
Note: the flow (Qn) is determined with a pressure of 6 bar at the inlet and ΔP = 1 bar at the outlet.

RFO 344-1/4 - RFO 346-1/4

N° = number of screw turns.
Note: the flow (Qn) is determined with a pressure of 6 bar at the inlet and ΔP = 1 bar at the outlet.

FLOW DIAGRAMS (1 → 2) - VALVES SERIES RFU / RFO - G3/8, G1/2 PORTS





RFU 467-3/8: flow from 2 → 1 needle type OPEN = 1700 Nl/min
CLOSED = 1700 Nl/min
RFU 477-1/2: flow from 2 → 1 needle type OPEN = 1700 Nl/min
CLOSED = 1700 Nl/min

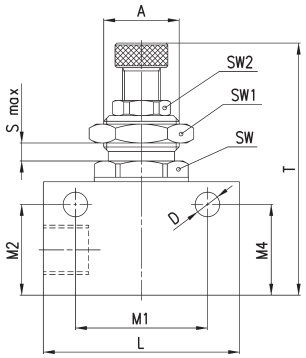
N° = number of screw turns
Note: the flow (Qn) is determined with a pressure of 6 bar at the inlet and ΔP = 1 bar at the outlet.

RFO 367-3/8 - RFO 377-1/2

N° = number of screw turns
Note: the flow (Qn) is determined with a pressure of 6 bar at the inlet and ΔP = 1 bar at the outlet.

Unidirectional flow control valves Series RFU

To regulate the cylinder speed, the discharging chamber air flow has to be controlled. Therefore, it is recommended to connect the valve threaded outlet 1 to the cylinder inlet and the outlet 2 to the valve user port.



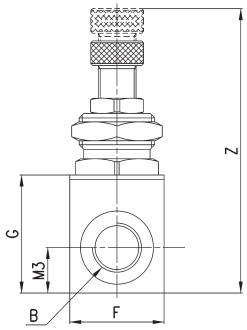


TABLE NOTE:

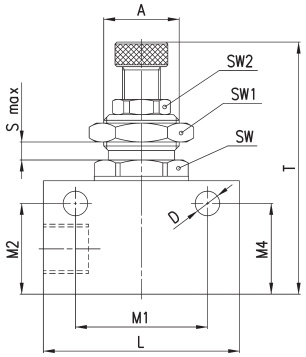
* knurled ring nut

RFU1

DIMENSIONS

Mod.	Ø	A	B	D	F	G	L	M1	M2	M3	M4	T	Z	S_{Max}	SW	SW1	SW2
RFU 452-M5	1,5	M10x1	M5	4,2	14	16	26	18,5	13,2	7	13,2	39	44,5	3	12	14	8
RFU 482-1/8	2	M12x1	G1/8	4,5	16	21	34	24,5	16,5	8	16,5	46	51	4	14	17	9
RFU 483-1/8	3	M12x1	G1/8	4,5	16	21	34	24,5	16,5	8	16,5	46	51	4	14	17	9
RFU 444-1/4	4	M20x1,5	G1/4	6,5	25	30	52	35	24	12	24	60	69	7	22	24	14
RFU 446-1/4	6	M20x1,5	G1/4	6,5	25	30	52	35	24	12	24	60	69	7	22	24	14
RFU 467-3/8	7	M18x1	G3/8	6,5	27	42	56	43	34,5	28	7,5	75	85	8	22	22	*
RFU 477-1/2	7	M18x1	G1/2	6,5	27	42	56	43	34,5	28	7,5	75	85	8	22	22	*

Bidirectional flow control valves Series RFO



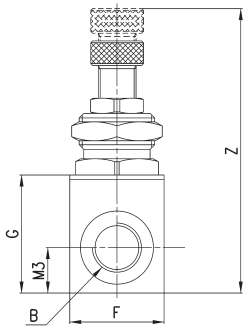


TABLE NOTE:

* knurled ring nut

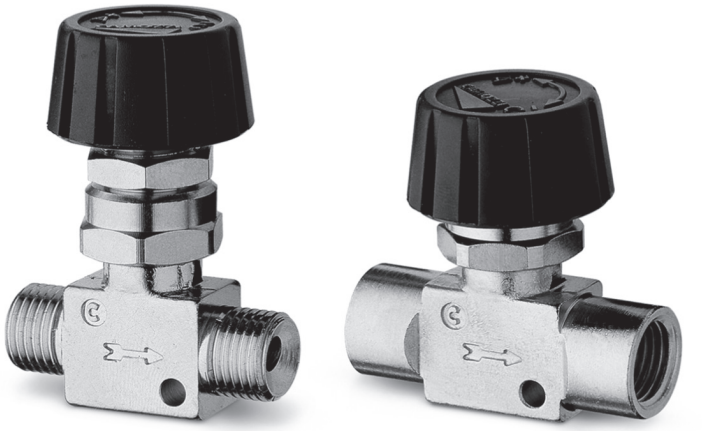
RF01

DIMENSIONS

Mod.	Ø	A	B	D	F	G	L	M1	M2	M3	M4	T	Z	S_{Max}	SW	SW1	SW2
RFO 352-M5	1,5	M10x1	M5	4,2	14	16	26	18,5	13,2	7	13,2	39	44,5	3	12	14	8
RFO 382-1/8	2	M12x1	G1/8	4,2	16	21	34	24,5	16,5	8	16,5	46	51	4	14	17	9
RFO 383-1/8	3	M12x1	G1/8	4,5	16	21	34	24,5	16,5	8	16,5	46	51	4	14	17	9
RFO 344-1/4	4	M20x1,5	G1/4	6,5	25	30	52	35	24	12	24	60	69	7	22	24	14
RFO 346-1/4	6	M20x1,5	G1/4	6,5	25	30	52	35	24	12	24	60	69	7	22	24	14
RFO 367-3/8	7	M18x1	G3/8	6,5	27	42	56	43	34,5	28	7,5	75	85	8	22	22	*
RFO 377-1/2	7	M18x1	G1/2	6,5	27	42	56	43	34,5	28	7,5	75	85	8	22	22	*

Series 28
flow control valves

Bidirectional flow control valves
Ports G1/8, G1/4, G3/8, G1/2

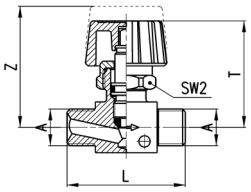


These are bidirectional control valves made entirely of nickel-plated brass, with NBR seals and a technopolymer control knob.
They are suitable for regulating compressed air, water or mineral oil.
For models 2810, 2820, 2819 and 2829 exists the possibility to connect plastic, brass or copper tubes, using nut Mod. 1303 and cushion sleeve Mod. 1310/1320.

GENERAL DATA

Construction	cone - type
Materials	body = nickel-plated brass control knob = technopolymer seals = NBR
Ports	G1/8, G1/4, G3/8, G1/2
Installation	as required
Operating pressure	0°C ÷ 80°C (with dry air - 20°)
Operating pressure	0 ÷ 10 bar
Nominal flowrate	see table

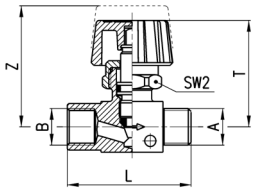
Valve Mod. 2810



DIMENSIONS							
Mod.	A	L	T	Z	SW2	Δ1bar Nl/min	Free flow Nl/min
2810 1/8	G1/8	40	37	42,5	19	415	590
2810 1/4	G1/4	42	37	42,5	19	508	740
2810 3/8	G3/8	42	37	42,5	19	620	900
2810 1/2	G1/2	54	42	48	22	1540	2080

RF01

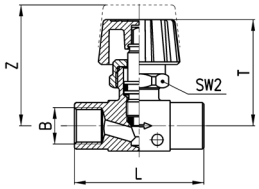
Valve Mod. 2820



DIMENSIONS								
Mod.	A	B	L	T	Z	SW2	Δ1bar Nl/min	Free flow Nl/min
2820 1/8	G1/8	G1/8	41	37	42,5	19	400	640
2820 1/4	G1/4	G1/4	44	37	42,5	19	530	840
2820 3/8	G3/8	G3/8	55,5	41,5	48	22	1415	1990
2820 1/2	G1/2	G1/2	59	42	49	22	1520	2150

RF01

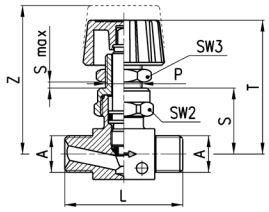
Valve Mod. 2830

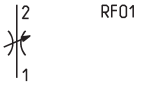


DIMENSIONS							
Mod.	B	L	T	Z	SW2	Δ1bar Nl/min	Free flow Nl/min
2830 1/8	G1/8	42	37	42,5	19	415	635
2830 1/4	G1/4	46	37	42,5	19	530	850
2830 3/8	G3/8	62	41,4	48	22	1415	1980
2830 1/2	G1/2	64	42	49	22	1520	2100

RF01

Valve Mod. 2819

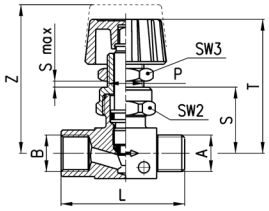


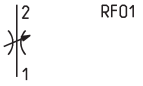


DIMENSIONS

Mod.	A	L	P	S	T	Z	S_{Max}	SW2	SW3
2819 1/8	G1/8	40	1/4	23	47	52,5	7	19	17
2819 1/4	G1/4	42	1/4	23	47	52,5	7	19	17

Valve Mod. 2829

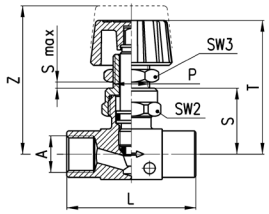


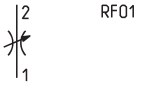


DIMENSIONS

Mod.	A	B	L	P	S	T	Z	S max	SW2	SW3
2829 1/8	G1/8	G1/8	41	1/4	23	47	52,5	7	19	17
2829 1/4	G1/4	G1/4	44	1/4	23	47	52,5	7	19	17

Valve Mod. 2839





DIMENSIONS

Mod.	A	L	P	S	T	Z	S max	SW2	SW3
2839 1/8	G1/8	42	1/4	23	47	52,5	7	19	17
2839 1/4	G1/4	46	1/4	23	47	52,5	7	19	17
2839 3/8	G3/8	62	14X1	28	56,5	63	7	22	17
2839 1/2	G1/2	64	14X1	29	57	64	7	22	17