

Flow control valves

Series GSCU, GMCU, GSVU, GMVU, GSCO, GMCO

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

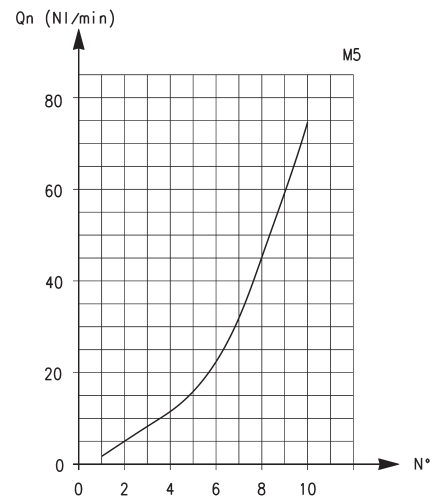
| | |
|------------------------------|--|
| Construction | needle - type |
| Valve group | unidirectional and bidirectional controller |
| Materials | body and screws M5 inox; 1/8 - 1/4 - 3/8 - 1/2 OT58 seals NBR |
| Mounting | by male threaded |
| Installation | in any position |
| Operating temperature | 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: <table border="1"> <thead> <tr> <th></th> <th>size</th> <th>∅ tube</th> </tr> </thead> <tbody> <tr> <td>13 =</td> <td>1.5</td> <td>3</td> </tr> <tr> <td>14 =</td> <td>1.5</td> <td>4</td> </tr> <tr> <td>03 =</td> <td>3.5</td> <td>6</td> </tr> <tr> <td>04 =</td> <td>3.5</td> <td>8</td> </tr> <tr> <td>05 =</td> <td>5</td> <td>8</td> </tr> <tr> <td>06 =</td> <td>5</td> <td>10</td> </tr> </tbody> </table> | | size | ∅ tube | 13 = | 1.5 | 3 | 14 = | 1.5 | 4 | 03 = | 3.5 | 6 | 04 = | 3.5 | 8 | 05 = | 5 | 8 | 06 = | 5 | 10 |
| | size | ∅ 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 | ∅ TUBE: 3 4 6 8 10 | | | | | | | | | | | | | | | | | | | | | |

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 CONTROL REGULATORS
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.

In the case of bidirectional regulators, refer to the graph and check whether the flow control range is suitable for the work required.

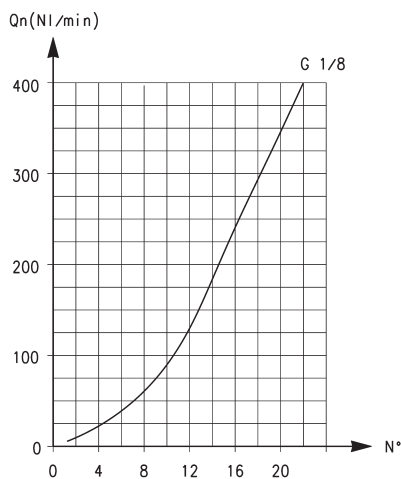
M5

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

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

N° = number of screw turns

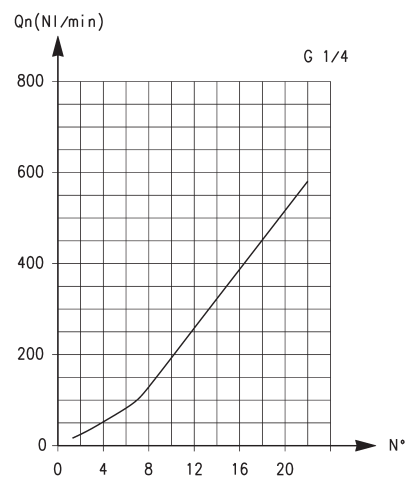
 NB: Qn is determined with a supply pressure of 6 bar and with $\Delta P = 1$ bar at the outlet.

UNIDIRECTIONAL AND BIDIRECTIONAL FLOW CONTROL REGULATORS

G1/8

Flow Qn (NI/min.) from 2 → 1 with controller OPEN: 440

Flow Qn (NI/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 $\Delta P = 1$ bar at the outlet.

G1/4

Flow Qn (NI/min.) from 2 → 1 with controller OPEN: 790

Flow Qn (NI/min.) from 2 → 1 with controller CLOSED: 460

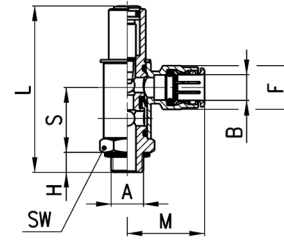
N° = number of screw turns

 NB: Qn is determined with a supply pressure of 6 bar and with $\Delta P = 1$ bar at the outlet.

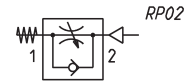
Valves Series GSCU



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



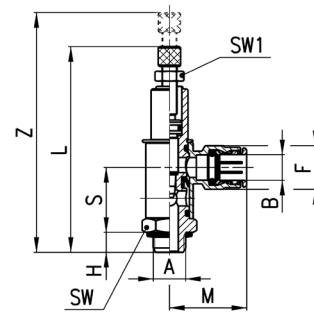
| DIMENSIONS | | | | | | | | |
|------------------------|------|----|------|---|------|------|------|----|
| Mod. | A | B | S | H | L | M | F | SW |
| GSCU 813-M5-3 | M5 | 3 | 12 | 3 | 27,5 | 12,5 | 6,5 | 8 |
| GSCU 814-M5-4 | M5 | 4 | 12 | 3 | 27,5 | 19 | 8,8 | 8 |
| GSCU 803-1/8-6 | G1/8 | 6 | 22,5 | 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 |



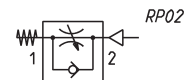
Valves Series GMCU



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



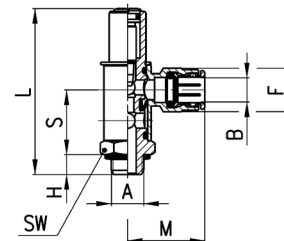
| DIMENSIONS | | | | | | | | | | |
|------------------------|------|----|------|---|------|------|------|------|----|-----|
| Mod. | A | B | S | H | L | Z | M | F | SW | SW1 |
| GMCU 913-M5-3 | M5 | 3 | 12 | 3 | 37 | 42,5 | 12,5 | 6,5 | 8 | 5,5 |
| GMCU 914-M5-4 | M5 | 4 | 12 | 3 | 37 | 42,5 | 19 | 8,8 | 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 |



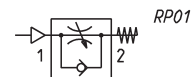
Valves Series GSVU



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



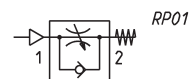
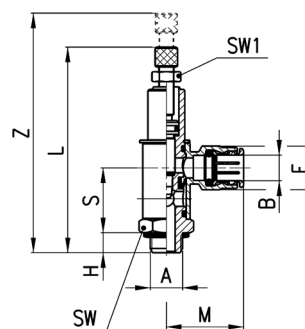
| DIMENSIONS | | | | | | | | |
|------------------------|------|----|------|---|------|------|------|----|
| Mod. | A | B | S | H | L | M | F | SW |
| GSVU 813-M5-3 | M5 | 3 | 12 | 3 | 27,5 | 12,5 | 6,5 | 8 |
| GSVU 814-M5-4 | M5 | 4 | 12 | 3 | 27,5 | 19 | 8,8 | 8 |
| GSVU 803-1/8-6 | G1/8 | 6 | 22,5 | 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 |





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.

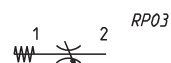
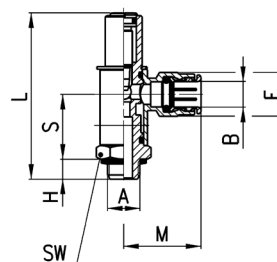


| DIMENSIONS | | | | | | | | | | |
|-----------------|------|----|------|---|------|------|------|------|----|-----|
| Mod. | A | B | S | H | L | Z | M | F | SW | SW1 |
| GMVU 913-M5-3 | M5 | 3 | 12 | 3 | 37 | 42,5 | 12,5 | 6,5 | 8 | 5,5 |
| GMVU 914-M5-4 | M5 | 4 | 12 | 3 | 37 | 42,5 | 19 | 8,8 | 8 | 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 |



Valves Series GSCO

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

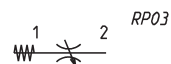
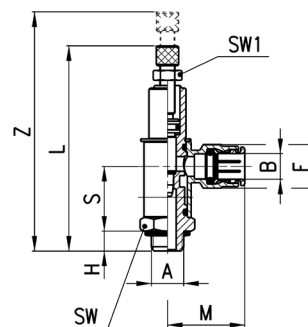


| DIMENSIONS | | | | | | | | |
|-----------------|------|----|------|---|------|------|------|----|
| Mod. | A | B | S | H | L | M | F | SW |
| GSCO 813-M5-3 | M5 | 3 | 12 | 3 | 27,5 | 12,5 | 6,5 | 8 |
| GSCO 814-M5-4 | M5 | 4 | 12 | 3 | 27,5 | 19 | 8,8 | 8 |
| GSCO 803-1/8-6 | G1/8 | 6 | 22,5 | 5 | 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 |



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 |