

# Valves Series GSCU - GMCU - GSVU - GMVU - GSCO - GMCO

2

Flow control valves

Unidirectional and bidirectional M5, G1/8 and G1/4

Banjo flow controllers nominal diameters 1, 5 - 3,5 - 5 mm.



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

<b>Construction</b>	needle - type
<b>Valve group</b>	unidirectional and bidirectional controller
<b>Materials</b>	body and screws M5 inox; 1/8 - 1/4 - 3/8 - 1/2 OT58 seals NBR
<b>Mounting</b>	by male threaded
<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>GM</b>	<b>CU</b>	<b>9</b>	<b>03</b>	<b>-</b>	<b>1/8</b>	<b>-</b>	<b>6</b>
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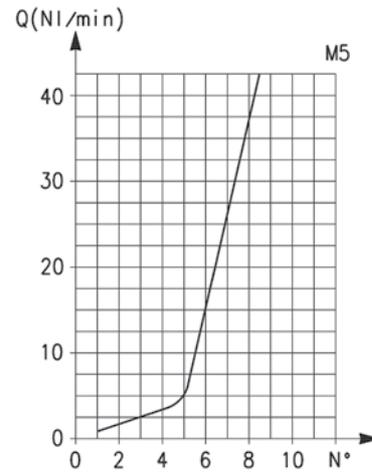
<b>GM</b>	ACTUATION: GM = manual GS = screwdriver																					
<b>CU</b>	ASSEMBLY: CU = on cylinders unidirectional VU = on valves unidirectional CO = bidirectional																					
<b>9</b>	VERSIONS: 8 = needle (screwdriver operated) 9 = needle (manually operated)																					
<b>03</b>	FLOW CONTROL RANGE: <table border="1"> <thead> <tr> <th></th> <th>size</th> <th>ø 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	ø tube	13 =	1.5	3	14 =	1.5	4	03 =	3.5	6	04 =	3.5	8	05 =	5	8	06 =	5	10
	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																				
<b>1/8</b>	PORTS: M5 1/8 1/4																					
<b>6</b>	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 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

2

CONTROL

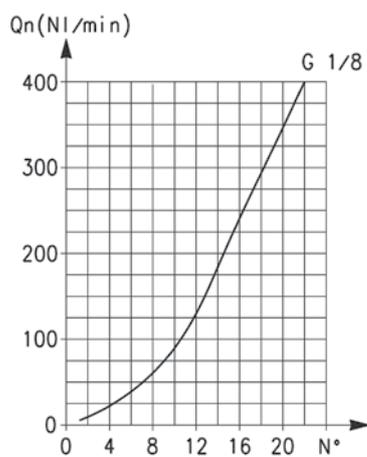


To ensure the right choice of unidirectional flow controller, proceed as follows: calculate the quantity of air in NI/min (see cylinder Table); determine the stroke time of the cylinder; refer to graph to see which controller is the right type. In the case of bidirectional regulators, refer to the graph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

M5

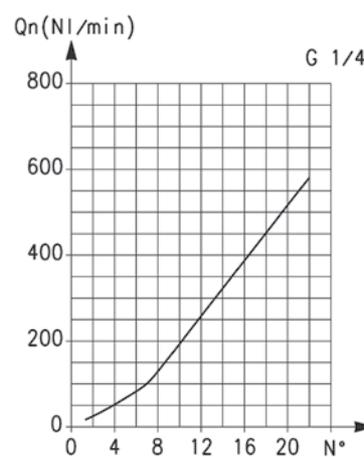
Flow  $Q_n$  (NI/min.) from 2 → 1 with controller OPEN: 46.6  
 Flow  $Q_n$  (NI/min.) from 2 → 1 with controller CLOSED: 33.3  
 NB:  $Q_n$  is determined with a supply pressure of 6 bar and with  $\Delta P = 1$  bar at the outlet.  
 $N^\circ$  = number of screw turns

## UNIDIRECTIONAL AND BIDIRECTIONAL FLOW CONTROLLERS



G1/8

Flow  $Q_n$  (NI/min.) from 2 → 1 with controller OPEN: 440  
 Flow  $Q_n$  (NI/min.) from 2 → 1 with controller CLOSED: 170  
 NB:  $Q_n$  is determined with a supply pressure of 6 bar and with  $\Delta P = 1$  bar at the outlet.  
 $N^\circ$  = number of screw turns

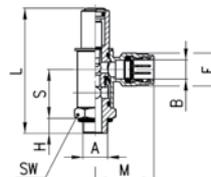


G1/4

Flow  $Q_n$  (NI/min.) from 2 → 1 with controller OPEN: 790  
 Flow  $Q_n$  (NI/min.) from 2 → 1 with controller CLOSED: 460  
 NB:  $Q_n$  is determined with a supply pressure of 6 bar and with  $\Delta P = 1$  bar at the outlet.  
 $N^\circ$  = number of screw turns

### Valves Series GSCU

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

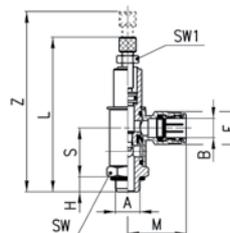


DIMENSIONS									
Mod.	A	B	S	H	L	M	F	SW	
<b>GSCU 813-M5-3</b>	M5	3	12	3	27,5	12,5	6,5	8	
<b>GSCU 814-M5-4</b>	M5	4	12	3	27,5	19	8,8	8	
<b>GSCU 803-1/8-6</b>	G1/8	6	22,5	5	50	26,5	13	14	
<b>GSCU 804-1/8-8</b>	G1/8	8	22,5	5	50	28	15	14	
<b>GSCU 805-1/4-8</b>	G1/4	8	27	7	67,5	28,5	15	19	
<b>GSCU 806-1/4-10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

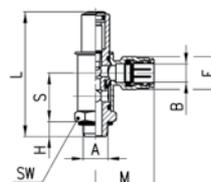


DIMENSIONS										
Mod.	A	B	S	H	L	Z	M	F	SW	SW1
<b>GMCU 913-M5-3</b>	M5	3	12	3	37	42,5	12,5	6,5	8	5,5
<b>GMCU 914-M5-4</b>	M5	4	12	3	37	42,5	19	8,8	8	5,5
<b>GMCU 903-1/8-6</b>	G1/8	6	22,5	5	65,5	72,5	26,5	13	14	7
<b>GMCU 904-1/8-8</b>	G1/8	8	22,5	5	65,5	72,5	28	15	14	7
<b>GMCU 905-1/4-8</b>	G1/4	8	27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

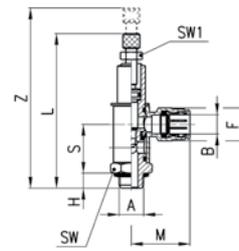


DIMENSIONS									
Mod.	A	B	S	H	L	M	F	SW	
<b>GSVU 813-M5-3</b>	M5	3	12	3	27,5	12,5	6,5	8	
<b>GSVU 814-M5-4</b>	M5	4	12	3	27,5	19	8,8	8	
<b>GSVU 803-1/8-6</b>	G1/8	6	22,5	5	50	26,5	13	14	
<b>GSVU 804-1/8-8</b>	G1/8	8	22,5	5	50	28	15	14	
<b>GSVU 805-1/4-8</b>	G1/4	8	27	7	67,5	28,5	15	19	
<b>GSVU 806-1/4-10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

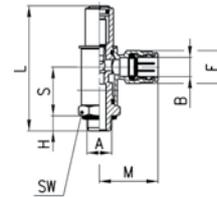


## DIMENSIONS

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

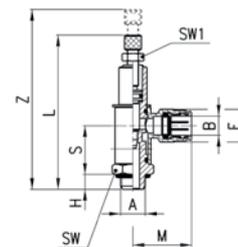


## DIMENSIONS

Mod.	A	B	S	H	L	M	F	SW
<b>GSCO 813-M5-3</b>	M5	3	12	3	27,5	12,5	6,5	8
<b>GSCO 814-M5-4</b>	M5	4	12	3	27,5	19	8,8	8
<b>GSCO 803-1/8-6</b>	G1/8	6	22,5	5	50	26,5	13	14
<b>GSCO 804-1/8-8</b>	G1/8	8	22,5	5	50	28	15	14
<b>GSCO 805-1/4-8</b>	G1/4	8	27	7	67,5	28,5	15	19
<b>GSCO 806-1/4-10</b>	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
<b>GMCO 913-M5-3</b>	M5	3	12	3	37	42,5	12,5	6,5	8	5,5
<b>GMCO 914-M5-4</b>	M5	4	12	3	37	42,5	19	8,8	8	5,5
<b>GMCO 903-1/8-6</b>	G1/8	6	22,5	5	65,5	72,5	26,5	13	14	7
<b>GMCO 904-1/8-8</b>	G1/8	8	22,5	5	65,5	72,5	28	15	14	7
<b>GMCO 905-1/4-8</b>	G1/4	8	27	7	85	97,5	28,5	15	19	10
<b>GMCO 906-1/4-10</b>	G1/4	10	27	7	85	97,5	31	17,5	19	10