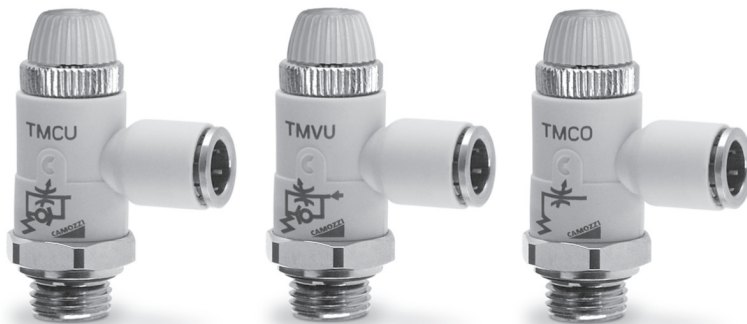


# Flow control valves

## Series TMCU, TMVU, TMCO

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



The unidirectional and bidirectional flow controllers, series TMCU, TMVU, TMCO 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

<b>Construction</b>	needle - type
<b>Valve group</b>	unidirectional and bidirectional controller
<b>Materials</b>	brass - technopolymer - NBR
<b>Mounting</b>	by male threaded
<b>Threaded ports</b>	G1/8 - G1/4 - G3/8 - G1/2
<b>Installation</b>	in any position
<b>Operating temperature</b>	0°C ÷ 60°C (with dry air -20°C)
<b>Operating pressure</b>	0,5 ÷ 10 bar
<b>Nominal pressure</b>	6 bar
<b>Nominal flow</b>	see graph
<b>Nominal dia.</b>	Tube 4 $\varnothing$ 2 - Tube 6 $\varnothing$ 3,8 - Tube 8 $\varnothing$ 5,8 - Tube 10 and 12 $\varnothing$ 8
<b>Fluid</b>	filtered air If lubricated air is used, it is recommended to use ISOVG 32 oil. Once applied the lubrication should never be interrupted.

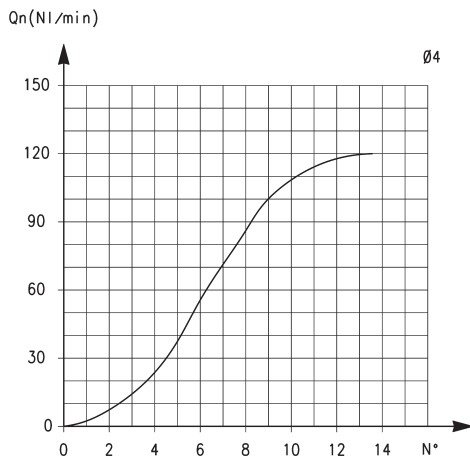
**CODING EXAMPLE**

<b>TM</b>	<b>CU</b>	<b>9</b>	<b>74</b>	<b>-</b>	<b>1/8</b>	<b>-</b>	<b>6</b>
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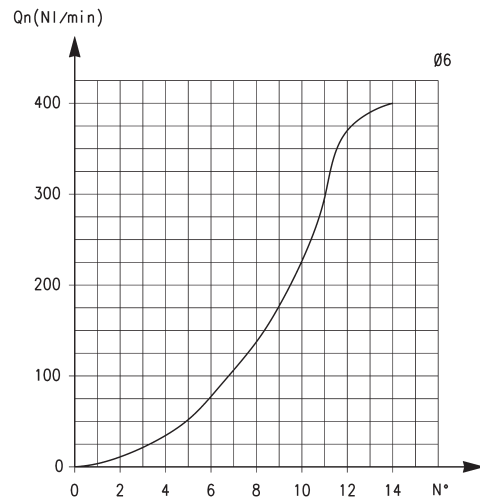
<b>TM</b>	ACTUATION: TM = manual																				
<b>CU</b>	ASSEMBLY: CU = on cylinders unidirectional VU = on valves unidirectional CO = bidirectional																				
<b>9</b>	VERSIONS: 9 = manual needle																				
<b>74</b>	REGULATION: <table border="0"> <thead> <tr> <th></th> <th>step</th> <th>-</th> <th>ø tube</th> </tr> </thead> <tbody> <tr> <td>72 =</td> <td>2</td> <td></td> <td>4</td> </tr> <tr> <td>74 =</td> <td>3.8</td> <td></td> <td>6</td> </tr> <tr> <td>76 =</td> <td>5.8</td> <td></td> <td>8</td> </tr> <tr> <td>78 =</td> <td>8</td> <td></td> <td>10</td> </tr> </tbody> </table>		step	-	ø tube	72 =	2		4	74 =	3.8		6	76 =	5.8		8	78 =	8		10
	step	-	ø tube																		
72 =	2		4																		
74 =	3.8		6																		
76 =	5.8		8																		
78 =	8		10																		
<b>1/8</b>	PORTS: 1/8 1/4 3/8 1/2																				
<b>6</b>	Ø TUBE: 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

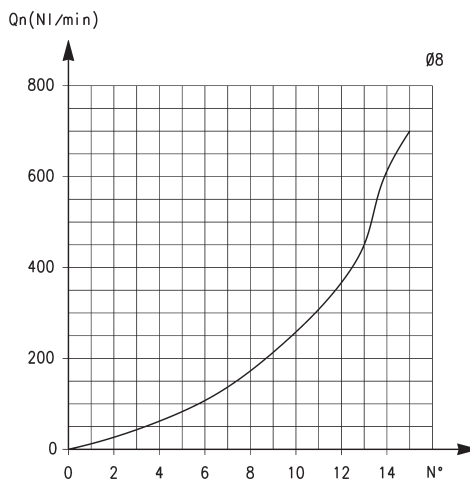

**TUBE Ø4**

Flow  $Q_n$  (NI/min.) from 2 → 1 with controller OPEN: 400  
 Flow  $Q_n$  (NI/min.) from 2 → 1 with controller CLOSED: 280  
 $Q_n$  is determined with a supply pressure of 6 bar and with  $\Delta P = 1$  bar at the outlet  
 $N^\circ$  = number of screw turns.

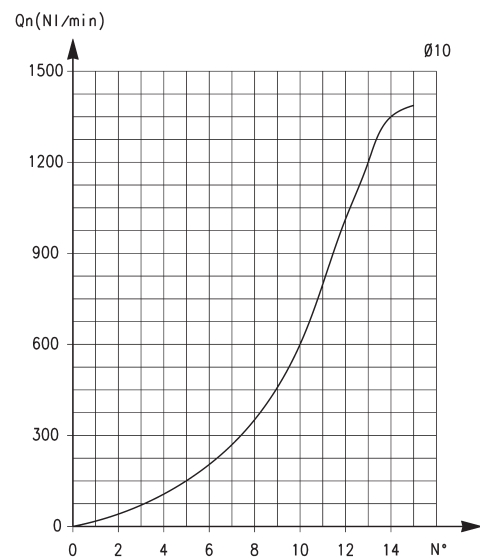

**TUBE Ø6**

Flow  $Q_n$  (NI/min.) from 2 → 1 with controller OPEN: 550  
 Flow  $Q_n$  (NI/min.) from 2 → 1 with controller CLOSED: 280  
 $Q_n$  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 CONTROL REGULATORS


**TUBE Ø8**

Flow  $Q_n$  (NI/min.) from 2 → 1 with controller OPEN: 890  
 Flow  $Q_n$  (NI/min.) from 2 → 1 with controller CLOSED: 460  
 $Q_n$  is determined with a supply pressure of 6 bar and with  $\Delta P = 1$  bar at the outlet  
 $N^\circ$  = number of screw turns.

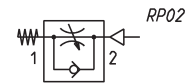
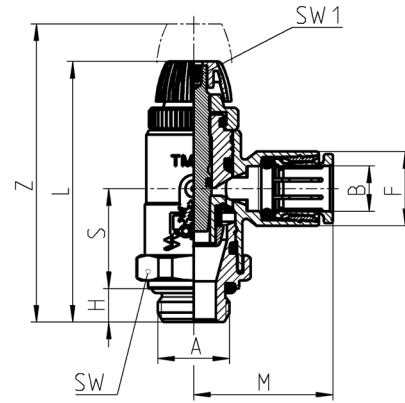

**TUBE Ø10**

Flow  $Q_n$  (NI/min.) from 2 → 1 with controller OPEN: Ø 10-1200/Ø12-1250  
 Flow  $Q_n$  (NI/min.) from 2 → 1 with controller CLOSED: Ø 10-600/Ø12-600  
 $Q_n$  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 TMCU



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

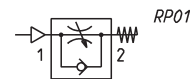
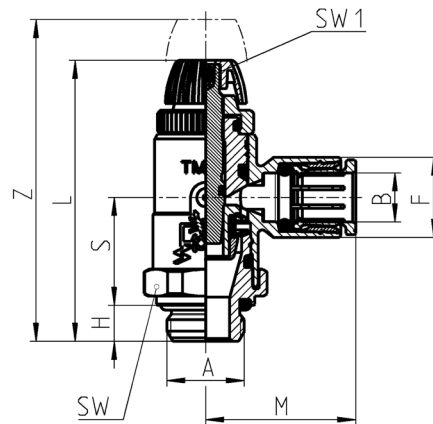


DIMENSIONS										
Mod.	A	B	F	H	L	M	S	SW	SW1	Z
<b>TMCU 972-1/8-4</b>	G1/8	4	11,5	5	43	21,5	16,5	16	1,5	50
<b>TMCU 974-1/8-6</b>	G1/8	6	11,5	5	43	21,5	16,5	16	1,5	50
<b>TMCU 974-1/4-6</b>	G1/4	6	11,5	6	44	21,5	16,5	17	1,5	51
<b>TMCU 976-1/8-8</b>	G1/8	8	13,5	5	47	25	17,5	19	2,5	54
<b>TMCU 976-1/4-8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

### Valves Series TMVU



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

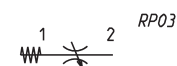
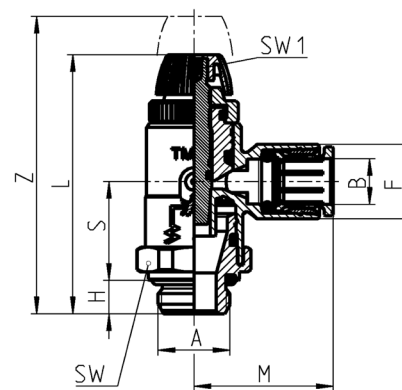


DIMENSIONS										
Mod.	A	B	F	H	L	M	S	SW	SW1	Z
<b>TMVU 972-1/8-4</b>	G1/8	4	11,5	5	43	21,5	16,5	16	1,5	50
<b>TMVU 974-1/8-6</b>	G1/8	6	11,5	5	43	21,5	16,5	16	1,5	50
<b>TMVU 974-1/4-6</b>	G1/4	6	11,5	6	44	21,5	16,5	17	1,5	51
<b>TMVU 976-1/8-8</b>	G1/8	8	13,5	5	47	25	17,5	19	2,5	54
<b>TMVU 976-1/4-8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

### Valves Series TMCO



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
<b>TMCO 972-1/8-4</b>	G1/8	4	11,5	5	43	21,5	16,5	16	1,5	50
<b>TMCO 974-1/8-6</b>	G1/8	6	11,5	5	43	21,5	16,5	16	1,5	50
<b>TMCO 974-1/4-6</b>	G1/4	6	11,5	6	44	21,5	16,5	17	1,5	51
<b>TMCO 976-1/8-8</b>	G1/8	8	13,5	5	47	25	17,5	19	2,5	54
<b>TMCO 976-1/4-8</b>	G1/4	8	13,5	6	48,5	25	18	19	2,5	55,5
<b>TMCO 976-3/8-8</b>	G3/8	8	13,5	7	49,5	25	18	20	2,5	56,5
<b>TMCO 978-3/8-10</b>	G3/8	10	16	7	51	29	17	25	2,5	59,5
<b>TMCO 978-1/2-10</b>	G1/2	10	16	8	52	29	17	25	2,5	60,5