

Valves Series TMCU – TMVU – TMCO

2

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

Construction	needle - type
Valve group	unidirectional and bidirectional controller
Materials	OT58 - 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 \varnothing 2 - Tube 6 \varnothing 3,8 - Tube 8 \varnothing 5,8 - Tube 10 and 12 \varnothing 8
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
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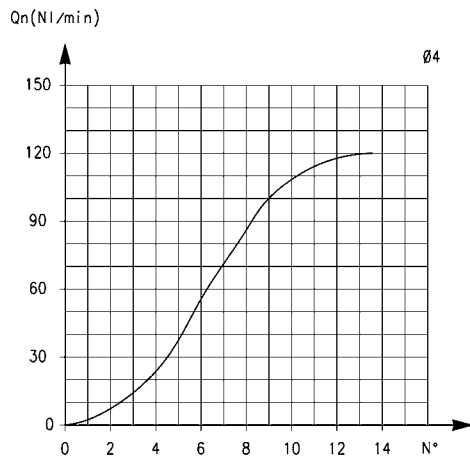
TM	ACTUATION: TM = manual																				
CU	ASSEMBLY: CU = on cylinders unidirectional VU = on valves unidirectional CO = bidirectional																				
9	VERSIONS: 9 = manual needle																				
74	REGULATION: <table border="0"> <thead> <tr> <th></th> <th>step</th> <th>-</th> <th>ø tube</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																		
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 NI/min (see cylinder Table); determine the stroke time of the cylinder; refer to graph to see which controller is the right type.

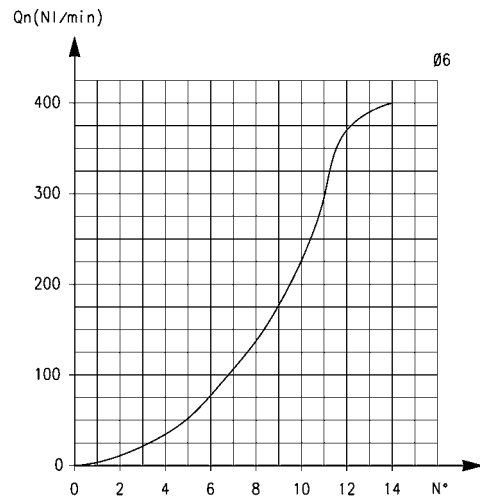
UNIDIRECTIONAL AND BIDIRECTIONAL FLOW CONTROLS

2

CONTROL

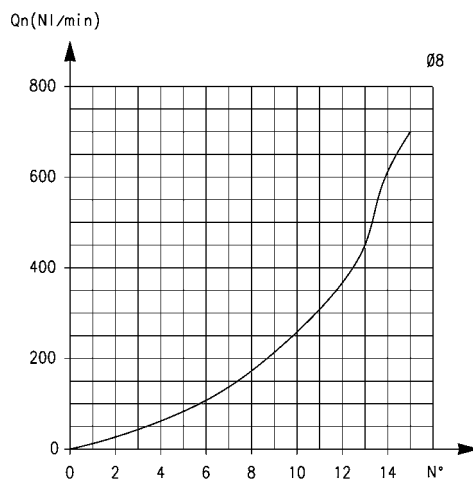
**TUBE Ø4**

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° = number of screw turns.

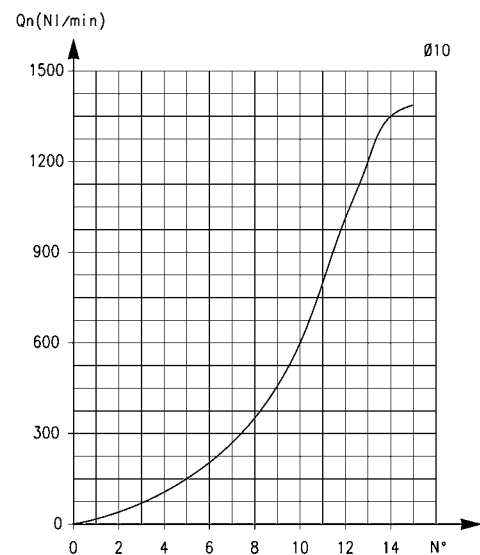
**TUBE Ø6**

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° = number of screw turns.

UNIDIRECTIONAL AND BIDIRECTIONAL FLOW CONTROLS

**TUBE Ø8**

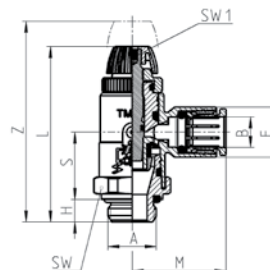
Flow Q_n (NI/min.) from 2 → 1 with controller OPEN: 890
 Flow Q_n (NI/min.) from 2 → 1 with controller CLOSED: 460
 Q_n is determined with a supply pressure of 6 bar and with $\Delta P = 1$ bar at the outlet
 N° = number of screw turns.

**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° = number of screw turns.

Valves Series TMCU

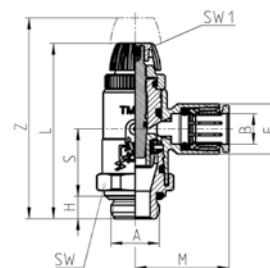
Unidirectional flow controller for mounting on single-acting or double-acting cylinders.
Adjustment of setting by a hexagonal male key or a manually operated knurled screw.
Ports: G1/8, G1/4, G3/8, G1/2



DIMENSIONS										
Mod.	A	B	F	H	L	M	S	SW	SW1	Z
TMCU 972-1/8-4	G1/8	4	11,5	5	41	21,5	16,5	16	1,5	48
TMCU 974-1/8-6	G1/8	6	11,5	5	41	21,5	16,5	16	1,5	48
TMCU 974-1/4-6	G1/4	6	11,5	6	42	21,5	16,5	17	1,5	49
TMCU 976-1/8-8	G1/8	8	13,5	5	45	25	17,5	19	2,5	52
TMCU 976-1/4-8	G1/4	8	13,5	6	46,5	25	18	19	2,5	53,5
TMCU 976-3/8-8	G3/8	8	13,5	7	47,5	25	18	20	2,5	54,5
TMCU 978-3/8-10	G3/8	10	16	7	49	29	17	25	2,5	57,5
TMCU 978-1/2-10	G1/2	10	16	8	50	29	17	25	2,5	58,5

Valves Series TMVU

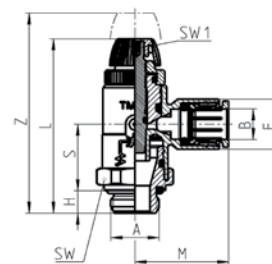
Unidirectional flow controller for mounting on valves.
Adjustment of setting by a hexagonal male key or a manually operated knurled screw.
Ports: G1/8, G1/4, G3/8, G1/2



DIMENSIONS										
Mod.	A	B	F	H	L	M	S	SW	SW1	Z
TMVU 972-1/8-4	G1/8	4	11,5	5	41	21,5	16,5	16	1,5	48
TMVU 974-1/8-6	G1/8	6	11,5	5	41	21,5	16,5	16	1,5	48
TMVU 974-1/4-6	G1/4	6	11,5	6	42	21,5	16,5	17	1,5	49
TMVU 976-1/8-8	G1/8	8	13,5	5	45	25	17,5	19	2,5	52
TMVU 976-1/4-8	G1/4	8	13,5	6	46,5	25	18	19	2,5	53,5
TMVU 976-3/8-8	G3/8	8	13,5	7	47,5	25	18	20	2,5	54,5
TMVU 978-3/8-10	G3/8	10	16	7	49	29	17	25	2,5	57,5
TMVU 978-1/2-10	G1/2	10	18	8	50	29	17	25	2,5	58,5

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
TMCO 972-1/8-4	G1/8	4	11,5	5	41	21,5	16,5	16	1,5	48
TMCO 974-1/8-6	G1/8	6	11,5	5	41	21,5	16,5	16	1,5	48
TMCO 974-1/4-6	G1/4	6	11,5	6	42	21,5	16,5	17	1,5	49
TMCO 976-1/8-8	G1/8	8	13,5	5	45	25	17,5	19	2,5	52
TMCO 976-1/4-8	G1/4	8	13,5	6	46,5	25	18	19	2,5	53,5
TMCO 976-3/8-8	G3/8	8	13,5	7	47,5	25	18	20	2,5	54,5
TMCO 978-3/8-10	G3/8	10	16	7	49	29	17	25	2,5	57,5
TMCO 978-1/2-10	G1/2	10	16	8	50	29	17	25	2,5	58,5