

## In-line Flow Control Valves Series RFU - RFO BSP/METRIC

Panel or wall-mounted flow controllers  
Unidirectional RFU and bidirectional RFO  
Ports M5, G1/8, G1/4  
Nominal diameter:  
M5 = 1.5 mm (10-32 UNF)  
G1/8 = 2 and 3mm  
G1/4 = 4 and 6mm

The unidirectional flow controllers are equipped with M5, G1/8 and G1/4 ports, each of which is available with two different types of adjustment (see diagrams). They are used mainly for controlling the speed of cylinders. They may be mounted on control panels or cylinders, as required. Bidirectional controllers are also available with the same bodies, but suitably modified.



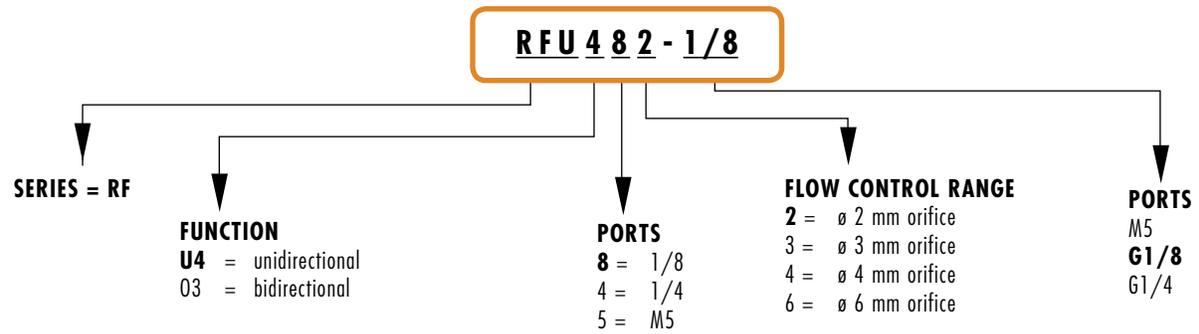
### TECHNICAL SPECIFICATIONS

Construction	needle-type
Valve group	unidirectional and bidirectional controller
Materials	aluminium body - OT58 (brass) needle - Buna-N seals
Mounting	by through-holes in valve body or control panel
Threaded ports	M5 - G1/8 - G1/4
Installation	as required
Operating temperature	0 — 80°C (with dry air -20°C) [32°F - 175°F (with dry air necessary down to -4°F)]
Lubricant	oil compatible with Buna-N (3° — 10° E)

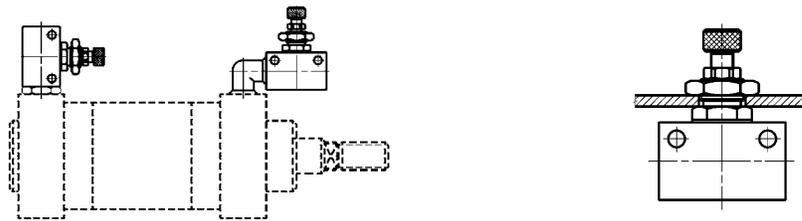
### PNEUMATIC DATA

Operating pressure	1 — 10 bar [14.5 - 145 psi]
Nominal pressure	6 bar [87 psi]
Nominal flow	see graph
Nominal diameter (flow orifice)	M5 = 1.5 mm (10-32 UNF) - G1/8 = 2 or 3 mm (.079" or .118") - G1/4 = 4 or 6 mm (.157" or .236")
Fluid	filtered air

**CODING OF BANJO FLOW CONTROLLERS**



**EXAMPLES OF VALVE MOUNTING**



**UNIDIRECTIONAL AND BIDIRECTIONAL FLOW CONTROLLERS**

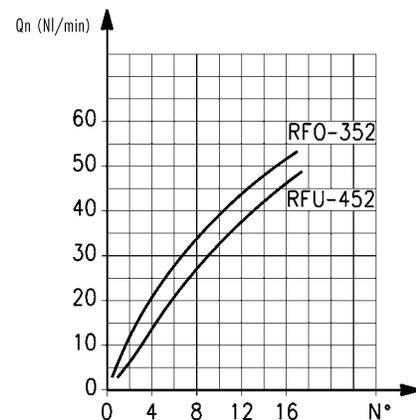
To ensure the right choice of 1/4 unidirectional flow controller Mod. RFU 444 or Mod. RFU 446, proceed as follows: calculate the quantity of air in NI/min. (see cylinder table), determine the stroke time of the cylinder; refer to the graph to see which controller is the right type. In the case of bidirectional regulators, refer to the graph and check whether the flow control range is suitable for the work required.

**M5**

**RFU 452-M5**  
**RFO 352-M5**

Mod. RFU-452 flow from B → A needle type  
 OPEN = 55 NI/min  
 CLOSED = 41 NI/min

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



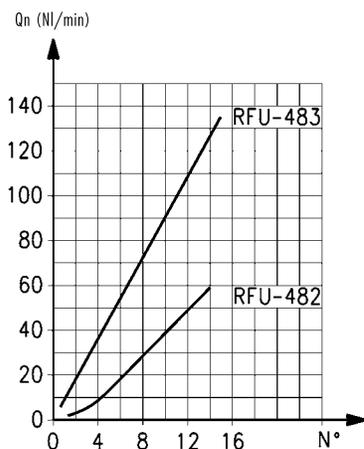
**CODING OF BANJO FLOW CONTROLLERS**

G1/8

**RFU 482-1/8  
RFU 483-1/8**

Mod. RFU 482 flow from B → A needle type  
 OPEN = 149 NI/min  
 CLOSED = 130.5 NI/min  
 Mod. RFU 483 flow from B → A needle type  
 OPEN = 180 NI/min  
 CLOSED = 140 NI/min

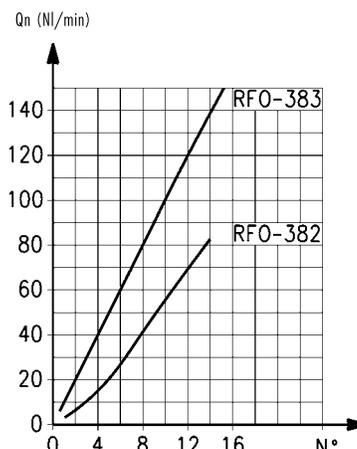
NB: Qn is determined with a pressure of 6 bar at the inlet and ΔP = 1 bar at the outlet. N° = number of screw turns.



G1/8

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

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

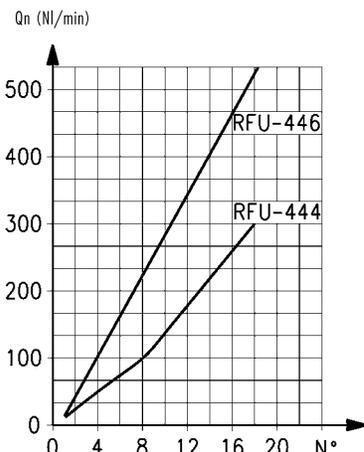


G1/4

**RFU 444-1/4  
RFU 446-1/4**

Mod. RFU 444 flow from B → A needle type  
 OPEN = 680 NI/min  
 CLOSED = 534 NI/min  
 Mod. RFU 446 flow from B → A needle type  
 OPEN = 680 NI/min  
 CLOSED = 534 NI/min

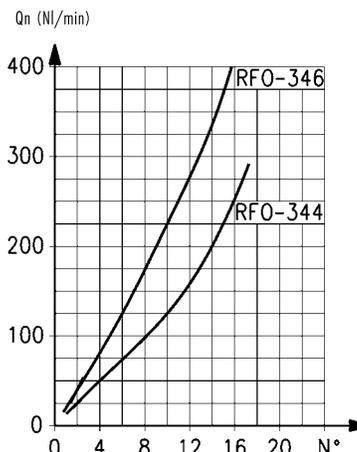
NB: Qn is determined with a pressure of 6 bar at the inlet and ΔP = 1 bar at the outlet. N° = number of screw turns.



G1/4

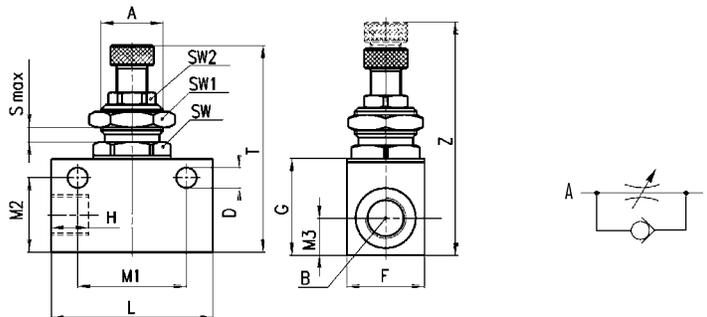
**RFO 344-1/4  
RFO 346-1/4**

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



Unidirectional flow controller Series RFU

To regulate the speed of a cylinder, the air flow from the chamber which is being discharged must be regulated. For this reason, the unidirectional flow controller must be connected as follows:  
 -connect the threaded outlet marked A to the cylinder inlet and the threaded outlet marked B to the valve user port.

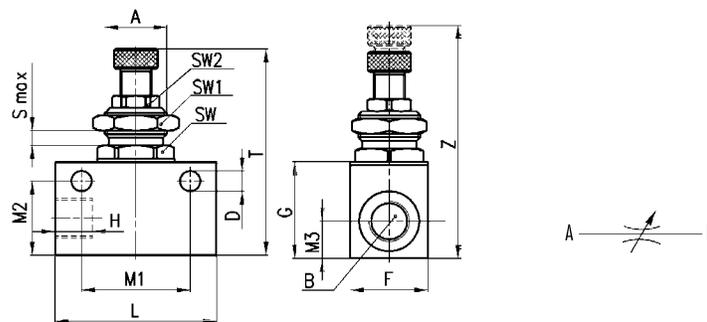


DIMENSIONS (MM)

Mod.	Orifice			H	D	F	G	L	M1	M2	M3	T	Z	S max	SW	SW1	SW2
	oN	A	B														
RFU 452-M5	1.5	M 10x1	M5	6.5	4.2	14	16	26	18.5	13.2	7	39	44.5	3	12	14	8
RFU 482-1/8	2	M 12x1	G1/8	8	4.5	16	21	34	24.5	16.5	8	46	51	4	14	17	9
RFU 483-1/8	3	M 12x1	G1/8	8	4.5	16	21	34	24.5	16.5	8	46	51	4	14	17	9
RFU 444-1/4	4	M 20x1.5	G1/4	12	6.5	25	30	52	35	24	12	60	69	7	22	24	14
RFU 446-1/4	6	M 20x1.5	G1/4	12	6.5	25	30	52	35	24	12	60	69	7	22	24	14

Bidirectional flow controller Series RFO

The bidirectional flow controller is suitable for regulating the air flow in both directions and for pressurising or depressurising containers. When choosing the model, reference must always be made to the M5, G1/8 and G1/4 graph, although it is necessary to know in advance the number of litres of air to be regulated per unit of time.



DIMENSIONS (MM)

Mod.	Orifice			H	D	F	G	L	M1	M2	M3	T	Z	S max	SW	SW1	SW2
	oN	A	B														
RFO 352-M5	1.5	M 10x1	M5	6.5	4.2	14	16	26	18.5	13.2	7	39	44.5	3	12	14	8
RFO 382-1/8	2	M 12x1	G1/8	8	4.2	16	21	34	24.5	16.5	8	46	51	4	14	17	9
RFO 383-1/8	3	M 12x1	G1/8	8	4.5	16	21	34	24.5	16.5	8	46	51	4	14	17	9
RFO 344-1/4	4	M 20x1.5	G1/4	12	6.5	25	30	52	35	24	12	60	69	7	22	24	14
RFO 346-1/4	6	M 20x1.5	G1/4	12	6.5	25	30	52	35	24	12	60	69	7	22	24	14