In-line Flow Control Valves NPTF/Inch Series RFU

Panel/Wall-Mount Design: Meter-Out, Meter-In
Thread Type: 10-32 UNF, 1/8”, 1/4”, NPTF

» Series RFU: unidirectional flow control valves for the speed regulation of a cylinder

The undirectional flow controllers are equipped with M5 [10-32 UNF], 1/8” and 1/4” 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.

GENERAL DATA

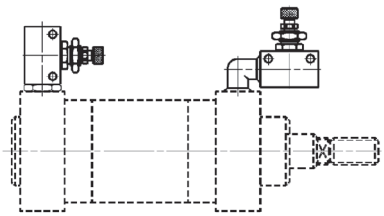
Construction	In-Line Needle type
Valve group	Unidirectional controller (meter-in, meter-out)
Materials	Aluminum body, Brass needle, Buna-N seals
Mounting	with screws in the holes of the valve body or panel mounted
Threaded ports	M5 (10-32 UNF), 1/8”, 1/4”, NPTF
Installation	as required
Operating temperature	32° - 175° F (dry air necessary down to -4° F)
Operating pressure	1.0 - 10 bar (14.5 - 145 psi)
Nominal pressure	6 bar (87 psi)
Nominal flow	see graph
Nominal diameter (flow orifice)	1/8” = 2 mm (.079”), or 3 mm (.118”) 1/4” = 4 mm (.157”), or 6 mm (.236”)
Fluid	filtered air
Lubricant	Oil compatible with Buna-N (3° - 10°F)
	*Qn flowrate (SCFM) determined iwht a supply pressure of 6 bar (87 psi), and with a pressure drop of 1 bar (14.5 psi). **Dimensions are in inches.

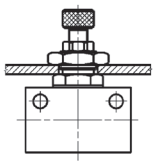
CODING EXAMPLE

RF	U4	8	2	-	02

RF	SERIES: RF
U4	FUNCTION: U4 = unidirectional, meter out/meter in
8	PORTS 5 = M5 [10-32 UNF] 8 = 1/8” NPTF 4 = 1/4” NPTF
2	FLOW CONTROL RANGE: 2 = ø 2 max 3 = ø 3 max 4 = ø 4 max 6 = ø 6 max 7 = ø 7 max
02	PORTS M5 = M5 (10-32 UNF) 02 = 1/8” NPTF 04 = 1/4” NPTF

EXAMPLES OF VALVES SERIES RFO - RFU ASSEMBLY





UNIDIRECTIONAL FLOW CONTROLLERS

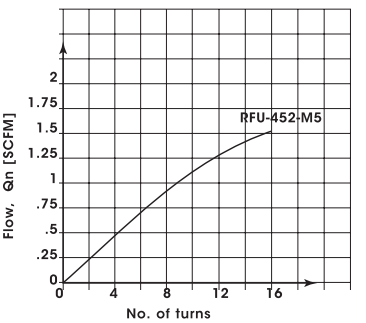
To ensure the right choice of unidirectional flow controller, proceed as follows: calculate the quantity of air in Nl/min. (see cylinder table), determine the stroke time of the cylinder; refer to the graph to see which controller is the right type. In the case of bidirectional regulators, refer to the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

M5 [10-32 UNF]

RFU 452-M5

Mod. RFU-452 flow from B → A needle type — OPEN = 55 NL/min [1.94 SCFM]; CLOSED = 41 NL/min [1.45 SCFM]

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



1/8" NPFT

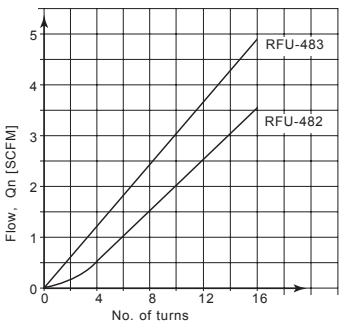
RFU 482-02
RFU 483-02

Mod. RFU 482 flow from B → A needle type — OPEN = 149 NL/min [6.32 SCFM]; CLOSED = 130.5 NL/min [4.61 SCFM]

Mod. RFU 483 flow from B → A needle type — OPEN = 180 NL/min [6.36 SCFM]; CLOSED = 140 NL/min [4.94 SCFM]

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.



1/4" NPFT

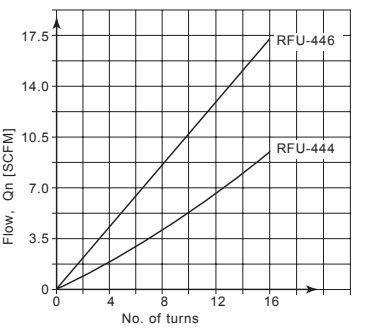
RFU 444-04
RFU 446-04

Mod. RFU 444 flow from B → A needle type — OPEN = 680 NL/min [24.01 SCFM]; CLOSED = 534 NL/min [18.86 SCFM]

Mod. RFU 446 flow from B → A needle type — OPEN = 680 NL/min [24.01 SCFM]; CLOSED = 534 NL/min [18.86 SCFM]

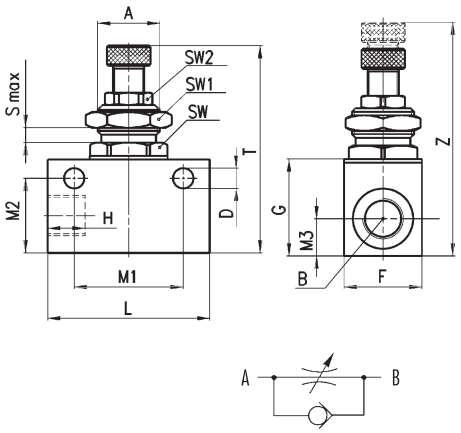
NB: Qn is determined with a pressure of 6 bar at the inlet and ΔP = 1 bar at the outlet.

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 (in inches)

Mod.	A	B	H	D	F	G	L	M1	M2	M3	T	Z	SMax	SW	SW1	SW2
	METRIC	UNF														
RFU 452-M5	M10x1	10-32	.256	.165	.551	.630	1.02	.728	.520	.280	1.54	1.750	.118	.472	.551	.315
		NPTF														
RFU 482-02	M12X1	1/8”	.354	.177	.629	.826	1.338	.964	.649	.315	1.811	2.007	.157	.551	.669	.354
RFU 483-02	M12X1	1/8”	.354	.177	.629	.826	1.338	.964	.649	.315	1.811	2.007	.157	.551	.669	.354
RFU 444-04	M20x1.5	1/4”	.492	.255	.984	1.181	2.047	1.377	.944	.472	2.362	2.716	.275	.866	.944	.551
RFU 446-04	M20x1.5	1/4”	.492	.255	.984	1.181	2.047	1.377	.944	.472	2.362	2.716	.275	.866	.944	.551