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Valves
Series RFU - RFO

Flow control valves
Unidirectional RFU and bidirectional RFO
Ports M5, G1/8, G1/4
Nominal diameter M5 = 1,5 - G1/8 = 2 & 3 mm - G1/4 = 4 & 6 mm





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), except for the M5.
They are used mainly for controlling the speed of cylinders.
They may be mounted on control panels or cylinders, as required.

GENERAL DATA

Construction	needle - type
Valve group	unidirectional and bidirectional controller
Materials	aluminium body - OT58 (brass) needle - NBR seals
Mounting	by through - holes in valve body or control panel
Threaded ports	M5 - G1/8 - G1/4
Installation	as required
Operating temperature	0°C ÷ 80°C (with dry air - 20°C)
Operating pressure	1 ÷ 10 bar
Nominal pressure	6 bar
Nominal flow	see graph
Nominal dia.	M5 = 1,5 - G1/8 = 2 or 3 mm - G1/4 = 4 or 6 mm
Fluid	filtered air

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CONTROL

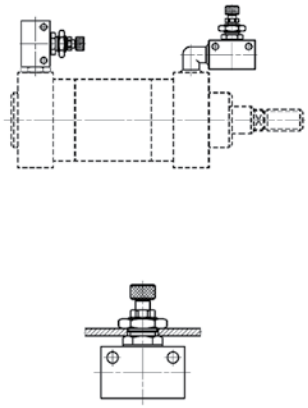
CODING EXAMPLE

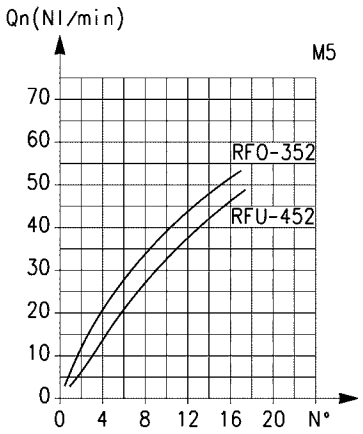
RF	U4	8	2

RF	SERIES: RF
U4	FUNCTION: U4 = unidirectional O3 = bidirectional
8	PORTS: 8 = G1/8 4 = G1/4 5 = M5
2	FLOW CONTROL RANGE: 2 = ø 2 max 3 = ø 3 max 4 = ø 4 max 6 = ø 6 max

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 graph to see which controller is the right type.

UNIDIRECTIONAL AND BIDIRECTIONAL FLOW CONTROLLERS





MOUNTING EXAMPLES

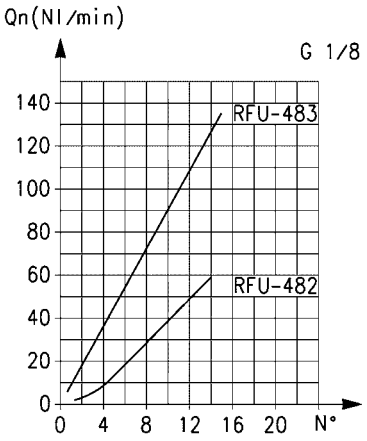
RFU 452-M5 - RFO 352-M5

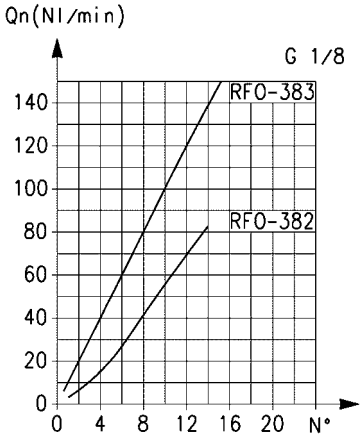
Mod. RFU - 452 flow from 2 → 1 needle type OPEN = 55 Nl/min
CLOSED = 41 Nl/min

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UNIDIRECTIONAL AND BIDIRECTIONAL FLOW CONTROLLERS

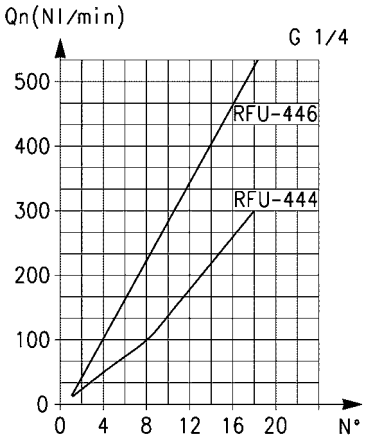


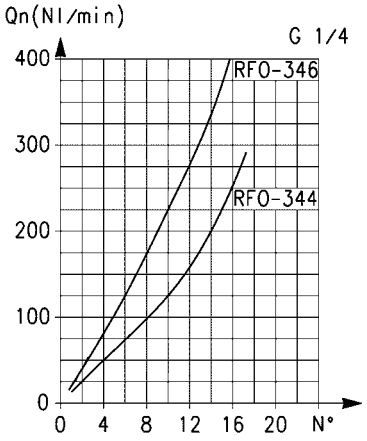


RFU 482-1/8 - RFU 483-1/8
Mod. RFU 482 flow from 2 → 1 needle type OPEN = 149 Nl/min
CLOSED = 130,5 Nl/min
Mod. RFU 483 flow from 2 → 1 needle type OPEN = 180 Nl/min
CLOSED = 140 Nl/min
NB: Qn is determined with a pressure of 6 bar at the inlet and ΔP = 1 bar at the outlet.
N° = number of screw turns.

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.

UNIDIRECTIONAL AND BIDIRECTIONAL FLOW CONTROLLERS





RFU 444-1/4 - RFU 446-1/4
Mod. RFU 444 flow from 2 → 1 needle type OPEN = 680 Nl/min
CLOSED = 534 Nl/min
Mod. RFU 446 flow from 2 → 1 needle type OPEN = 680 Nl/min
CLOSED = 534 Nl/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

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.

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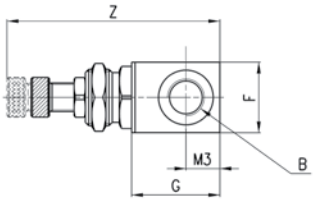
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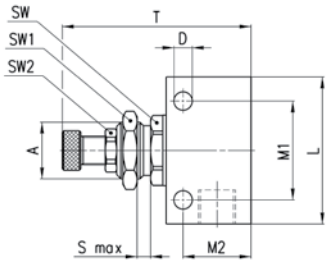
CONTROL

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 1 to the cylinder inlet
- connect the threaded outlet marked 2 to the valve user port.







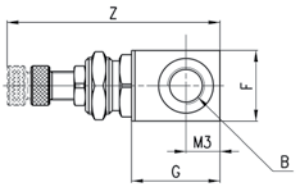
DIMENSIONS

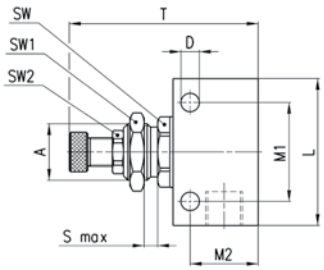
Mod.	⌀N	A	B	D	F	G	L	M1	M2	M3	T	Z	S_{Max}	SW	SW1	SW2
RFU 452-M5	1,5	M10x1	M5	4,2	14	16	26	18,5	13,2	7	39	44,5	3	12	14	8
RFU 482-1/8	2	M12x1	G1/8	4,5	16	21	34	24,5	16,5	8	46	51	4	14	17	9
RFU 483-1/8	3	M12x1	G1/8	4,5	16	21	34	24,5	16,5	8	46	51	4	14	17	9
RFU 444-1/4	4	M20x1,5	G1/4	6,5	25	25	52	35	24	12	60	69	7	22	24	14
RFU 446-1/4	6	M20x1,5	G1/4	6,5	25	25	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

Mod.	⌀N	A	B	D	F	G	L	M1	M2	M3	T	Z	S_{Max}	SW	SW1	SW2
RFO 352-M5	1,5	M10x1	M5	4,2	14	16	26	18,5	13,2	7	39	44,5	3	12	14	8
RFO 382-1/8	2	M12x1	G1/8	4,2	16	21	34	24,5	16,5	8	46	51	4	14	17	9
RFO 383-1/8	3	M12x1	G1/8	4,5	16	21	34	24,5	16,5	8	46	51	4	14	17	9
RFO 344-1/4	4	M20x1,5	G1/4	6,5	25	30	52	35	24	12	60	69	7	22	24	14
RFO 346-1/4	6	M20x1,5	G1/4	6,5	25	30	52	35	24	12	60	69	7	22	24	14

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