IN-LINE FLOW MICRO-REGULATOR SERIES RFL L

The RFL L flow micro-regulator belongs to the LINE ON LINE® family and can be connected in series or in parallel with all the other products.
The RFL L regulates the air input and thus the speed in pneumatic actuators.
Type U (unidirectional) regulates the flow only in one of the two directions of air flow and is available in the types with:
- push-in input and output fitting;
- push-in input fitting and threaded port on the exhaust (cylinder type);
- input threaded port and push-in fitting on the exhaust (valve type).

Type B (bidirectional) regulates the flow in both directions of air flow and is available in the types with:
- push-in input and output fitting;
- threaded port and push-in fitting.

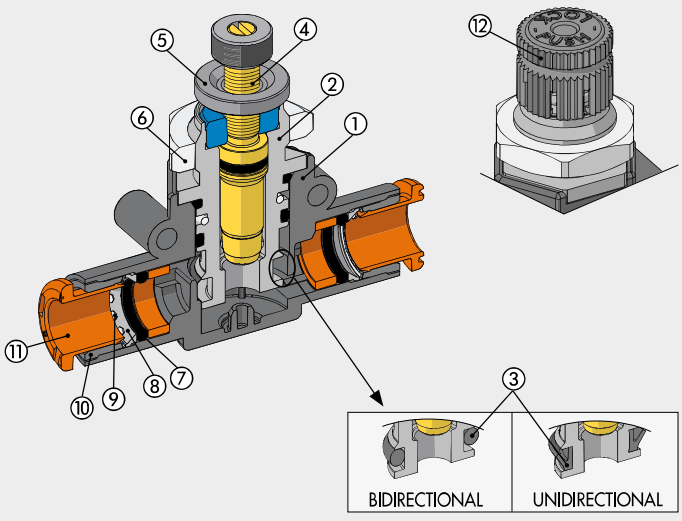


TECHNICAL DATA		Ø 4 (Ø5/32")	Ø 6	Ø 1/4"	Ø 8 (Ø5/16")	Ø 3/8" *	Ø 10 *
Max. operating pressure	MPa	1					
	bar	10					
	psi	145					
Temperature range	°C	– 20 to + 60					
	°F	– 4 to + 140					
Max flow rate on regulation at 6.3 bar	Nl/min	155	450	450	850	1400	1400
Flow rate on exhaust at 6.3 bar	Nl/min	160	550	550	950	1500	1500
Adjustment		Manual or using a screwdriver					
Internal system		Tapered needle					
Recommended pipe		Rilsan PA 11 - Nylon 6 - Polyamide 12 - Polypropylene					
Fluid		Lubricated or unlubricated filtered compressed air; if used, must be continuous					
Compatibility with oils		See **chapter Z1**					

***** To completely close the air flow in the PUSH-LOCK version, it is recommended to remove the plastic knob and tighten the pin with a screwdriver.

COMPONENTS

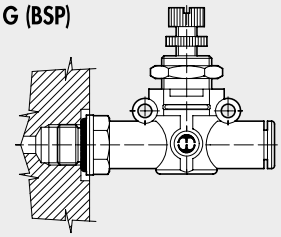
① Technopolymer body
② Nickel-plated brass seal support
③ NBR gasket
④ Brass adjusting needle
⑤ Nickel-plated brass needle ring nut
⑥ Wall fixing ring nut
⑦ NBR seal
⑧ Technopolymer spring ring
⑨ Stainless steel clip-on spring
⑩ Technopolymer stop bushing
⑪ Technopolymer release bushing
⑫ Technopolymer knob



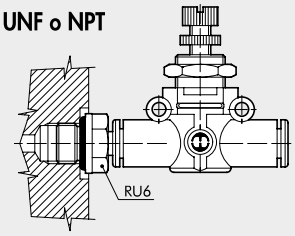
ASSEMBLY OPTIONS

Ⓐ

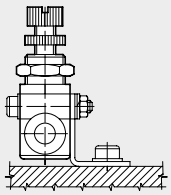
G (BSP)



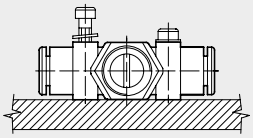
UNF o NPT



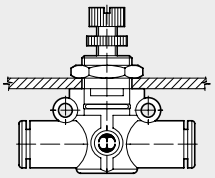
Ⓑ



Ⓒ



Ⓓ

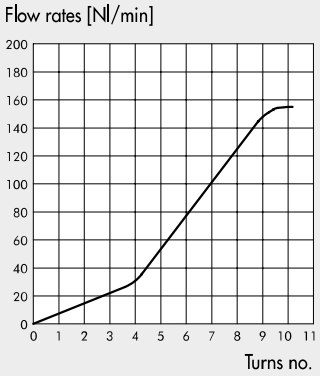


How to mount the RFL L:

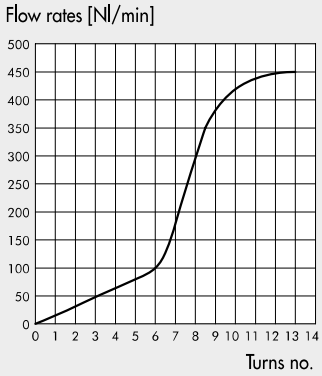
- Fig. Ⓐ **G (BSP)**: With the male threaded port it is possible to mount the RFL L straight onto the actuator or the control valve.
  UNF or NPT: Adding a RU6 fitting, with his male UNF or NPT thread, it is possible to mount the RFL L straight on to the actuator or the control valve.
- Fig. Ⓑ Fixing to the plate with the special SQU L bracket, except for Ø3/8 and Ø10.
- Fig. Ⓒ There are two robust rings on the plastic body for fixing the RFL L straight onto the wall.
- Fig. Ⓓ The ring nut is screwed onto the threaded metal part of the RFL L body for panel mounting.

FLOW RATE CHARTS AT 6.3 bar DEPENDING ON THE TURNS EFFECTED BY THE REGULATION SCREW

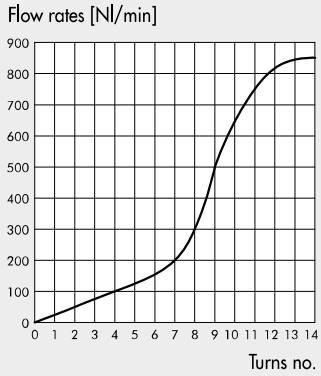
RFL L Ø 4 (Ø5/32")



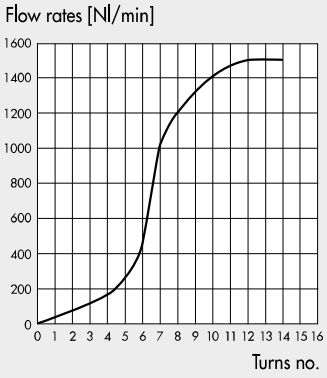
RFL L Ø 6 - RFL L Ø 1/4"



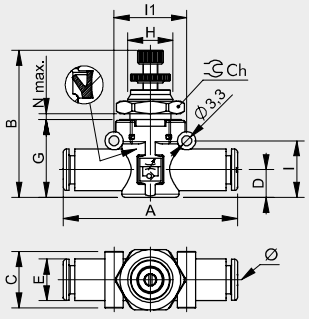
RFL L Ø 8 (Ø5/16")



RFL L Ø 10 - RFL L Ø 3/8"



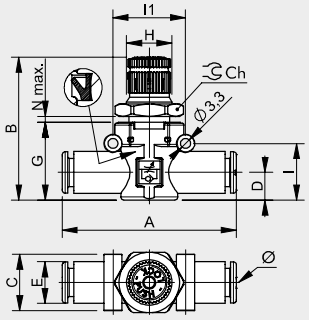
RFL L PIPE - PIPE UNIDIRECTIONAL



Code	Ref.	Ø	A	B	C	D	E	G	H	I	I1	Ch	Nmax
9041301	RFL L U Ø4-Ø4	4 ▲	42	35.5÷38.5	10.7	5.6	10	17.5	M9x0.75	12.8	16	11	4
9041316	RFL L U Ø6-Ø6	6	49.4	36÷41	14.7	6.4	11.4	20	M12x0.75	14.6	20	15	4
9041316U	RFL L U Ø1/4-Ø1/4	1/4	49.4	36÷41	14.7	6.4	11.4	20	M12x0.75	14.6	20	15	4
9041324	RFL L U Ø8-Ø8	8 ▲	57.3	44÷49	18.7	9.1	13.8	26	M15x1	18.7	24	20	4.5
9041332U	RFL L U Ø3/8-Ø3/8	3/8	65	51.5÷60	21	10.9	16	30	M18x1.5	21.4	26	22	5.5
9041332	RFL L U Ø10-Ø10	10	65	51.5÷60	21	10.9	16	30	M18x1.5	21.4	26	22	5.5

▲ **Ø4** = Ø5/32"; **Ø8** = Ø5/16"

RFL L PIPE - PIPE UNIDIRECTIONAL PUSH-LOCK

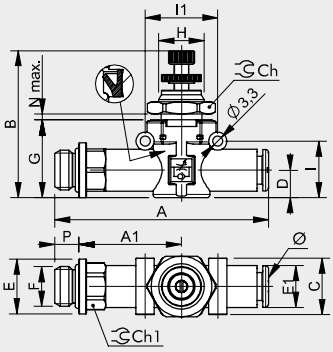


Code	Ref.	Ø	A	B	C	D	E	G	H	I	I1	Ch	Nmax
9041366	RFL L U Ø6-Ø6 PL	6	49.4	42.3÷44.5	14.7	6.4	11.4	20	M15x1	14.6	20	15	4
9041366U	RFL L U Ø1/4-Ø1/4 PL	1/4	49.4	42.3÷44.5	14.7	6.4	11.4	20	M15x1	14.6	20	15	4
9041374	RFL L U Ø8-Ø8 PL	8 ▲	57.3	47.2÷49.4	18.7	9.1	13.8	26	M15x1	18.7	24	20	4.5
9041382U	RFL L U Ø3/8-Ø3/8 PL	3/8	65	53.5÷55.8	21	10.9	16	30	M18x1.5	21.4	26	22	5.5
9041382	RFL L U Ø10-Ø10 PL	10	65	53.5÷55.8	21	10.9	16	30	M18x1.5	21.4	26	22	5.5

▲ **Ø8** = Ø5/16″



RFL L G (BSP) THREAD - PIPE UNIDIRECTIONAL CYLINDER VERSION

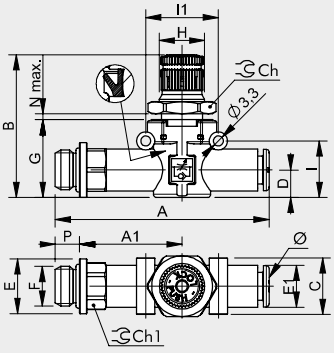


Code	Ref.	F	Ø	P	A	A1	B	C	D	E	E1	G	H	I	I1	Ch	Ch1	Nmax
9041401	RFL L U M5-Ø4	M5	4 ▲	4	47.7	22.7	35.5÷38.5	10.7	5.6	9.9	10	17.5	M9x0.75	12.8	16	11	9	4
9041402	RFL L U 1/8-Ø4	1/8	4 ▲	6	51.6	24.6	35.5÷38.5	10.7	5.6	14	10	17.5	M9x0.75	12.8	16	11	12	4
9041408	RLF L U 1/8-Ø6	1/8	6	6	58.5	27.8	36÷41	14.7	6.4	14	11.4	20	M12x0.75	14.6	20	15	12	4
9041409	RFL L U 1/4-Ø6	1/4	6	8	61.5	28.8	36÷41	14.7	6.4	18	11.4	20	M12x0.75	14.6	20	15	14	4
9041410	RFL L U 1/8-Ø8	1/8	8 ▲	6	66.2	31.8	44÷49	18.7	9.1	15	13.8	26	M15x1	18.7	24	20	14	4.5
9041411	RFL L U 1/4-Ø8	1/4	8 ▲	8	70.6	34.2	44÷49	18.7	9.1	18	13.8	26	M15x1	18.7	24	20	14	4.5
9041412	RFL L U 3/8-Ø8	3/8	8 ▲	9	72.2	34.8	44÷49	18.7	9.1	22	13.8	26	M15x1	18.7	24	20	17	4.5
9041415	RFL L U 1/4-Ø10	1/4	10	8	79.9	39.2	51.5÷60	20.7	10.9	18	16	30	M18x1.5	21.4	26	22	16	5.5
9041416	RFL L U 3/8-Ø10	3/8	10	9	81.2	40.4	51.5÷60	20.7	10.9	20	16	30	M18x1.5	21.4	26	22	17	5.5
9041417	RFL L U 1/2-Ø10	1/2	10	11	83.7	40	51.5÷60	20.7	10.9	26	16	30	M18x1.5	21.4	26	22	22	5.5

▲ **Ø4** = Ø5/32″; **Ø8** = Ø5/16″



RFL L G (BSP) THREAD - PIPE UNIDIRECTIONAL CYLINDER VERSION PUSH-LOCK

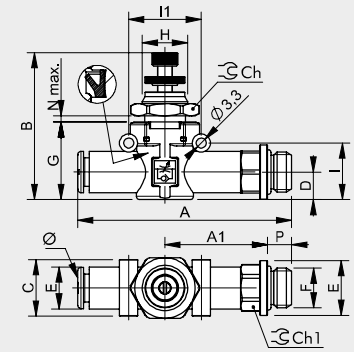


Code	Ref.	F	Ø	P	A	A1	B	C	D	E	E1	G	H	I	I1	Ch	Ch1	Nmax
9041458	RFL L U 1/8-Ø6 PL	1/8	6	6	58.5	27.8	42.3÷44.5	14.7	6.4	14	11.4	20	M15x1	14.6	20	15	12	4
9041459	RFL L U 1/4-Ø6 PL	1/4	6	8	61.5	28.8	42.3÷44.5	14.7	6.4	18	11.4	20	M15x1	14.6	20	15	14	4
9041460	RFL L U 1/8-Ø8 PL	1/8	8 ▲	6	66.2	31.8	47.2÷49.4	18.7	9.1	15	13.8	26	M15x1	18.7	24	20	14	4.5
9041461	RFL L U 1/4-Ø8 PL	1/4	8 ▲	8	70.6	34.2	47.2÷49.4	18.7	9.1	18	13.8	26	M15x1	18.7	24	20	14	4.5
9041462	RFL L U 3/8-Ø8 PL	3/8	8 ▲	9	72.2	34.8	47.2÷49.4	18.7	9.1	22	13.8	26	M15x1	18.7	24	20	17	4.5
9041465	RFL L U 1/4-Ø10 PL	1/4	10	8	79.9	39.2	53.5÷55.8	20.7	10.9	18	16	30	M18x1.5	21.4	26	22	16	5.5
9041466	RFL L U 3/8-Ø10 PL	3/8	10	9	81.2	40.4	53.5÷55.8	20.7	10.9	20	16	30	M18x1.5	21.4	26	22	17	5.5
9041467	RFL L U 1/2-Ø10 PL	1/2	10	11	83.7	40	53.5÷55.8	20.7	10.9	26	16	30	M18x1.5	21.4	26	22	22	5.5

▲ **Ø8** = Ø5/16″



RFL L PIPE - G (BSP) THREAD UNIDIRECTIONAL VALVE VERSION

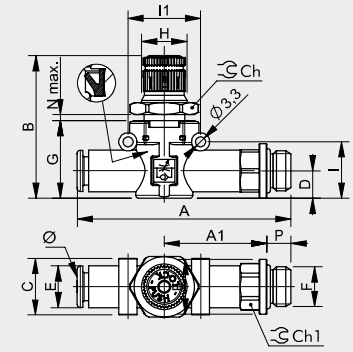


Code	Ref.	Ø	F	P	A	A1	B	C	D	E	E1	G	H	I	I1	Ch	Ch1	Nmax
9041501	RFL L U Ø4-M5	4 ▲	M5	4	47.7	22.7	35.5÷38.5	10.7	5.6	9.9	10	17.5	M9x0.75	12.8	16	11	9	4
9041502	RFL L U Ø4-1/8	4 ▲	1/8	6	51.6	24.6	35.5÷38.5	10.7	5.6	14	10	17.5	M9x0.75	12.8	16	11	12	4
9041508	RFL L U Ø6-1/8	6	1/8	6	58.5	27.8	36÷41	14.7	6.4	14	11.4	20	M12x0.75	14.6	20	15	12	4
9041509	RFL L U Ø6-1/4	6	1/4	8	61.5	28.8	36÷41	14.7	6.4	18	11.4	20	M12x0.75	14.6	20	15	14	4
9041510	RFL L U Ø8-1/8	8 ▲	1/8	6	66.2	31.8	44÷49	18.7	9.1	15	13.8	26	M15x1	18.7	24	20	14	4.5
9041511	RFL L U Ø8-1/4	8 ▲	1/4	8	70.6	34.2	44÷49	18.7	9.1	18	13.8	26	M15x1	18.7	24	20	14	4.5
9041512	RFL L U Ø8-3/8	8 ▲	3/8	9	72.2	34.8	44÷49	18.7	9.1	22	13.8	26	M15x1	18.7	24	20	17	4.5
9041515	RFL L U Ø10-1/4	10	1/4	8	79.9	39.2	51.5÷60	20.7	10.9	18	16	30	M18x1.5	21.4	26	22	16	5.5
9041516	RFL L U Ø10-3/8	10	3/8	9	81.2	40.4	51.5÷60	20.7	10.9	20	16	30	M18x1.5	21.4	26	22	17	5.5
9041517	RFL L U Ø10-1/2	10	1/2	11	83.7	40	51.5÷60	20.7	10.9	26	16	30	M18x1.5	21.4	26	22	22	5.5

▲ **Ø4** = Ø5/32"; **Ø8** = Ø5/16"



RFL L PIPE - G (BSP) THREAD UNIDIRECTIONAL VALVE VERSION PUSH-LOCK

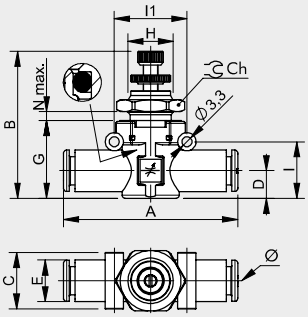


Code	Ref.	Ø	F	P	A	A1	B	C	D	E	E1	G	H	I	I1	Ch	Ch1	Nmax
9041558	RFL L U Ø6-1/8 PL	6	1/8	6	58.5	27.8	42.3÷44.5	14.7	6.4	14	11.4	20	M15x1	14.6	20	15	12	4
9041559	RFL L U Ø6-1/4 PL	6	1/4	8	61.5	28.8	42.3÷44.5	14.7	6.4	18	11.4	20	M15x1	14.6	20	15	14	4
9041560	RFL L U Ø8-1/8 PL	8 ▲	1/8	6	66.2	31.8	47.2÷49.4	18.7	9.1	15	13.8	26	M15x1	18.7	24	20	14	4.5
9041561	RFL L U Ø8-1/4 PL	8 ▲	1/4	8	70.6	34.2	47.2÷49.4	18.7	9.1	18	13.8	26	M15x1	18.7	24	20	14	4.5
9041562	RFL L U Ø8-3/8 PL	8 ▲	3/8	9	72.2	34.8	47.2÷49.4	18.7	9.1	22	13.8	26	M15x1	18.7	24	20	17	4.5
9041565	RFL L U Ø10-1/4 PL	10	1/4	8	79.9	39.2	53.5÷55.8	20.7	10.9	18	16	30	M18x1.5	21.4	26	22	16	5.5
9041566	RFL L U Ø10-3/8 PL	10	3/8	9	81.2	40.4	53.5÷55.8	20.7	10.9	20	16	30	M18x1.5	21.4	26	22	17	5.5
9041567	RFL L U Ø10-1/2 PL	10	1/2	11	83.7	40	53.5÷55.8	20.7	10.9	26	16	30	M18x1.5	21.4	26	22	22	5.5

▲ **Ø8** = Ø5/16"



RFL L PIPE - PIPE BIDIRECTIONAL



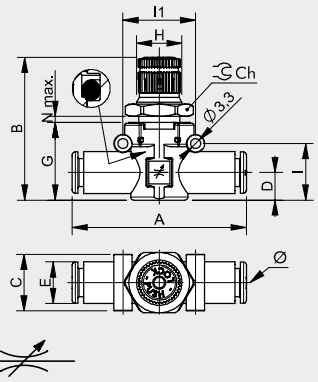
Code	Ref.	Ø	A	B	C	D	E	G	H	I	I1	Ch	Nmax
9041601	RFL L B Ø4-Ø4	4 ▲	42	35.5÷38.5	10.7	5.6	10	17.5	M9x0.75	12.8	16	11	4
9041616	RFL L B Ø6-Ø6	6	49.4	36÷41	14.7	6.4	11.4	20	M12x0.75	14.6	20	15	4
9041616U	RFL L B Ø1/4-Ø1/4	1/4	49.4	36÷41	14.7	6.4	11.4	20	M12x0.75	14.6	20	15	4
9041624	RFL L B Ø8-Ø8	8 ▲	57.3	44÷49	18.7	9.1	13.8	26	M15x1	18.7	24	20	4.5
9041632U	RFL L B Ø3/8-Ø3/8	3/8	65	51.5÷60	21	10.9	16	30	M18x1.5	21.4	26	22	5.5
9041632	RFL L B Ø10-Ø10	10	65	51.5÷60	21	10.9	16	30	M18x1.5	21.4	26	22	5.5

▲ **Ø4** = Ø5/32"; **Ø8** = Ø5/16"



METAL WORK PNEUMATIC

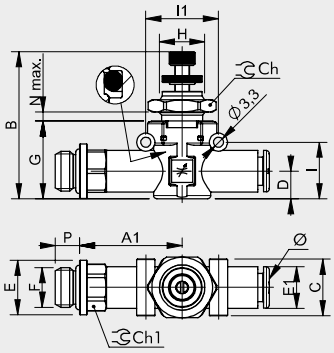
RFL L PIPE - PIPE BIDIRECTIONAL PUSH-LOCK



Code	Ref.	Ø	A	B	C	D	E	G	H	I	I1	Ch	Nmax
9041666	RFL L B Ø6-Ø6 PL	6	49.4	42.3÷44.5	14.7	6.4	11.4	20	M15x1	14.6	20	15	4
9041666U	RFL L B Ø1/4-Ø1/4 PL	1/4	49.4	42.3÷44.5	14.7	6.4	11.4	20	M15x1	14.6	20	15	4
9041674	RFL L B Ø8-Ø8 PL	8▲	57.3	47.2÷49.4	18.7	9.1	13.8	26	M15x1	18.7	24	20	4.5
9041682U	RFL L B Ø3/8-Ø3/8 PL	3/8	65	53.5÷55.8	21	10.9	16	30	M18x1.5	21.4	26	22	5.5
9041682	RFL L B Ø10-Ø10 PL	10	65	53.5÷55.8	21	10.9	16	30	M18x1.5	21.4	26	22	5.5

▲ **Ø8** = Ø5/16"

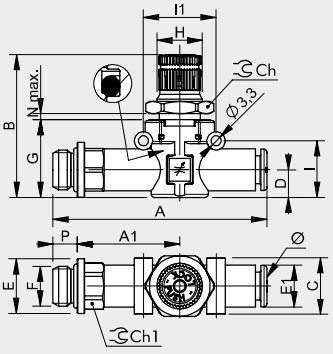
RFL L G (BSP) THREAD - PIPE BIDIRECTIONAL



Code	Ref.	F	Ø	P	A	A1	B	C	D	E	E1	G	H	I	I1	Ch	Ch1	Nmax
9041701	RFL L B M5-Ø4	M5	4▲	4	47.7	22.7	35.5÷38.5	10.7	5.6	9.9	10	17.5	M9x0.75	12.8	16	11	9	4
9041702	RFL L B 1/8-Ø4	1/8	4▲	6	51.6	24.6	35.5÷38.5	10.7	5.6	14	10	17.5	M9x0.75	12.8	16	11	12	4
9041708	RFL L B 1/8-Ø6	1/8	6	6	58.5	27.8	36÷41	14.7	6.4	14	11.4	20	M12x0.75	14.6	20	15	12	4
9041709	RFL L B 1/4-Ø6	1/4	6	8	61.5	28.8	36÷41	14.7	6.4	18	11.4	20	M12x0.75	14.6	20	15	14	4
9041710	RFL L B 1/8-Ø8	1/8	8▲	6	66.2	31.8	44÷49	18.7	9.1	15	13.8	26	M15x1	18.7	24	20	14	4.5
9041711	RFL L B 1/4-Ø8	1/4	8▲	8	70.6	34.2	44÷49	18.7	9.1	18	13.8	26	M15x1	18.7	24	20	14	4.5
9041712	RFL L B 3/8-Ø8	3/8	8▲	9	72.2	34.8	44÷49	18.7	9.1	22	13.8	26	M15x1	18.7	24	20	17	4.5
9041715	RFL L B 1/4-Ø10	1/4	10	8	79.9	39.2	51.5÷60	20.7	10.9	18	16	30	M18x1.5	21.4	26	22	16	5.5
9041716	RFL L B 3/8-Ø10	3/8	10	9	81.2	40.4	51.5÷60	20.7	10.9	20	16	30	M18x1.5	21.4	26	22	17	5.5
9041717	RFL L B 1/2-Ø10	1/2	10	11	83.7	40	51.5÷60	20.7	10.9	26	16	30	M18x1.5	21.4	26	22	22	5.5

▲ **Ø4** = Ø5/32"; **Ø8** = Ø5/16"

RFL L G (BSP) THREAD - PIPE BIDIRECTIONAL PUSH-LOCK

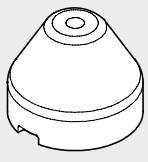


Code	Ref.	F	Ø	P	A	A1	B	C	D	E	E1	G	H	I	I1	Ch	Ch1	Nmax
9041758	RFL L B 1/8-Ø6 PL	1/8	6	6	58.5	27.8	42.3÷44.5	14.7	6.4	14	11.4	20	M15x1	14.6	20	15	12	4
9041759	RFL L B 1/4-Ø6 PL	1/4	6	8	61.5	28.8	42.3÷44.5	14.7	6.4	18	11.4	20	M15x1	14.6	20	15	14	4
9041760	RFL L B 1/8-Ø8 PL	1/8	8▲	6	66.2	31.8	47.2÷49.4	18.7	9.1	15	13.8	26	M15x1	18.7	24	20	14	4.5
9041761	RFL L B 1/4-Ø8 PL	1/4	8▲	8	70.6	34.2	47.2÷49.4	18.7	9.1	18	13.8	26	M15x1	18.7	24	20	14	4.5
9041762	RFL L B 3/8-Ø8 PL	3/8	8▲	9	72.2	34.8	47.2÷49.4	18.7	9.1	22	13.8	26	M15x1	18.7	24	20	17	4.5
9041765	RFL L B 1/4-Ø10 PL	1/4	10	8	79.9	39.2	53.5÷55.8	20.7	10.9	18	16	30	M18x1.5	21.4	26	22	16	5.5
9041766	RFL L B 3/8-Ø10 PL	3/8	10	9	81.2	40.4	53.5÷55.8	20.7	10.9	20	16	30	M18x1.5	21.4	26	22	17	5.5
9041767	RFL L B 1/2-Ø10 PL	1/2	10	11	83.7	40	53.5÷55.8	20.7	10.9	26	16	30	M18x1.5	21.4	26	22	22	5.5

▲ **Ø8** = Ø5/16"

ACCESSORIES RFL PUSH-LOCK

ANTI-TAMPERING KNOB



Code	Description
9200703	Anti-tampering knob

NOTE: Remove the knob on the Push-Lock RFL by pulling outwards.
Fit on the anti-tampe ring knob and make the necessary settings.
When the RFL has been set, press the knob firmly until it locks in position.
If the RFL needs to be recalibrated, remove the anti-tampering knob and push laterally using a screwdriver.