

The units in the BIT range feature:

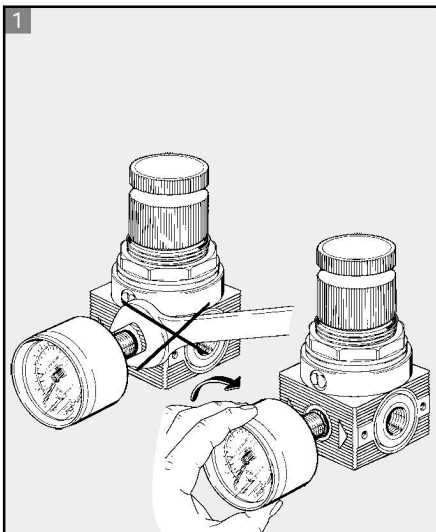
- reduced dimensions
- negligible load loss
- long life
- excellent quality-to-price ratio

Thanks to its technical features the BIT air treatment range is particularly suitable for de-centralized use near the final actuators.



TECHNICAL DATA	BIT 1/8"	BIT 1/4"
Threaded port	1/8"	1/4"
Degree of filtration	5µm (yellow) 20µm (white) 50µm (blue)	
Degree of purification	99.97% @ 0.01µm	
Setting range	0 ÷ 2 - 0 ÷ 4 - 0 ÷ 8 - 0 ÷ 12	
Max. inlet pressure	bar	1.3
	MPa	13
	bar	188
	psi	350 NI/min = 12 scfm
Flow rate at 6.3 bar (0.63 MPa - 91 psi) ΔP 0.5 bar (0.05 MPa - 7 psi)	Compressed air	
Fluid	-10° - +50°	
Max temperature at 1 MPa; 10 bar; 145 psi	14° - 122°	
Elements	Filter - Regulator - Lubricator - Filter-regulator - Depurator	
Mounting	Units: FRL, FR+L, F+L, F+D By means of the bracket provided	

GENERAL RULES - USE AND MAINTENANCE

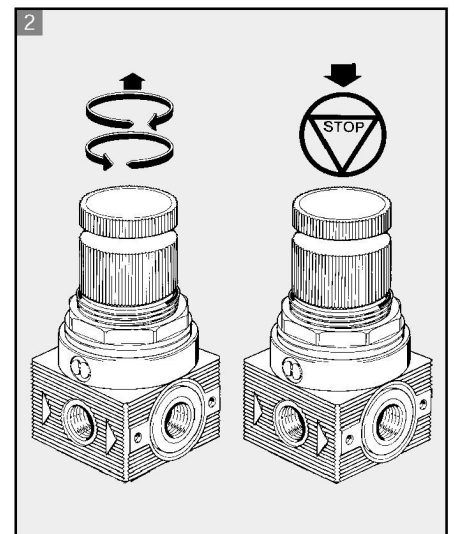


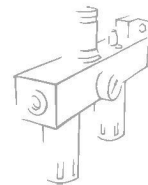
MOUNTING THE GAUGE

1 The gauge must be mounted by hand without using a spanner. Use fluid sealants to provide a good seal. N.B. Do not use Teflon.

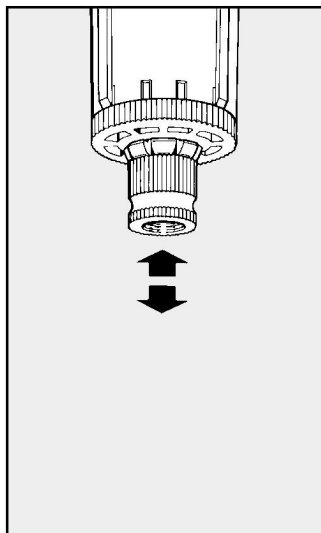
SETTING THE PRESSURE

2 The air pressure must always be set upwards. The knob can be locked so that the set pressure cannot be altered (see fig. 2).

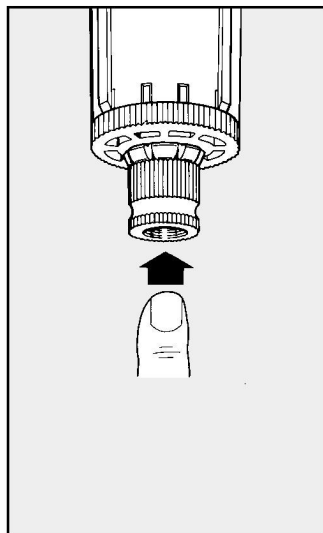




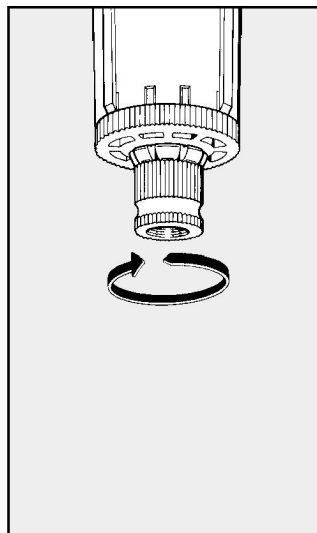
GENERAL RULES - USE AND MAINTENANCE



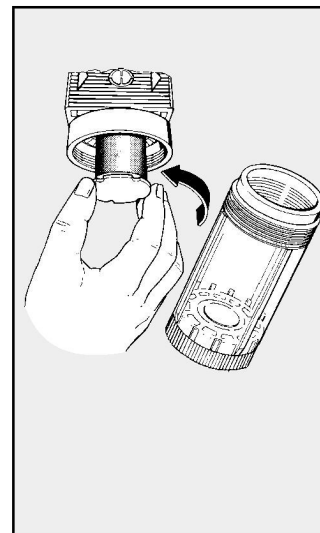
With the knob in the centre position, the drain is semi-automatic. The drain operates when the bowl is not pressurized and closes when it is.



Press the button to drain condensate when the bowl is pressurized.



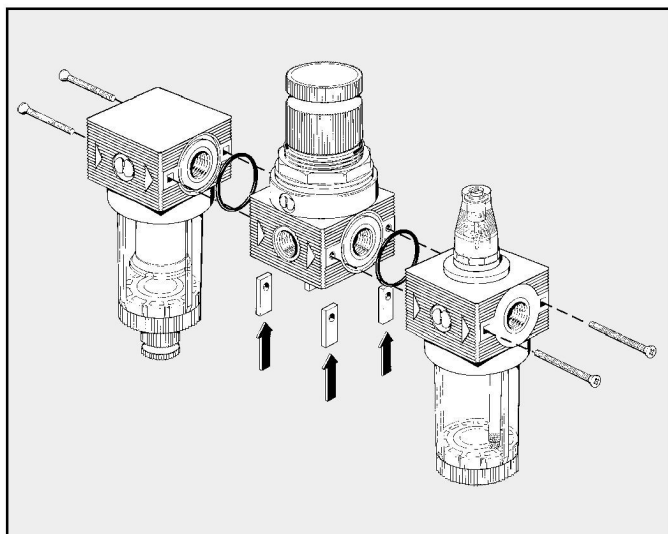
Turn the knob anticlockwise to close the valve with bowl pressurized or not pressurized.



To clean or replace the filter element unscrew the screen of the centrifuge assembly. Use a no. 3 compass spanner to unscrew the bowl.

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ASSEMBLY



Use ASSEMBLY PLATES (code 9170201) to assemble the Bit elements correctly.

Assembly procedure:

- Fit the plates right into the slots under the body of the Bit element
- Check that there O-rings round the threaded outlet
- Assemble the elements, making sure that the flow run in the direction of the arrows marked on the body.

bit FILTER

Mini-filter with different degrees of filtration and two types of drain (semi-automatic, automatic).

- Minimum load loss as the flow rate varies
- All-round condensate level viewing.

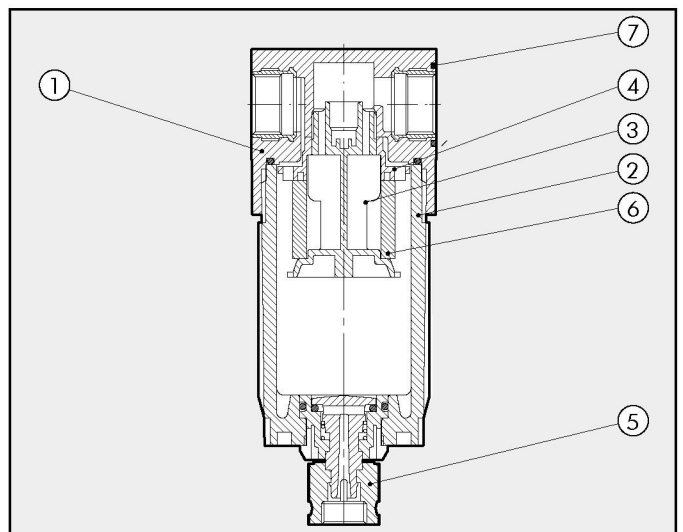
The degree of filtration is shown by the colour of the cartridge: yellow = 5µm, white = 20µm, blue = 50µm.

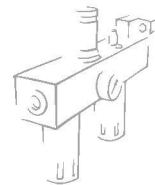


TECHNICAL DATA	BIT 1/8"	BIT 1/4"
	Threaded port	1/8"
Degree of filtration	5µm (giallo) 20µm (white) 50µm (blue)	
Max. inlet pressure	MPa	1.3
	bar	13
	psi	188
Flow rate at 6.3 bar (0.63 MPa – 91 psi) ΔP 0.5 bar (0.05 MPa – 7 psi)	NI/min	860 NI/min=30.5 scfm
Flow rate at 6.3 bar (0.63 MPa – 91 psi) ΔP 1 bar (0.1 MPa – 14 psi)	NI/min	1200 NI/min=42.5 scfm
Fluid	Compressed air	
Max temperature at 1 MPa; 10 bar; 145 psi	°C	50
	°F	122
Weight	gr	40
Wall fixing screws	M 4	
Mounting position	Vertical	
Condensate drain	Manual/Semi-auto (RMSA) Automatic (SAC)	
Bowl capacity	cm ³	16

BIT FILTER ELEMENTS

- ① Technopolymer body with OT58 threaded element
- ② Clear technopolymer bowl
- ③ Technopolymer baffle plug
- ④ Technopolymer centrifuge
- ⑤ Condensate drain (RMSA)
- ⑥ HDPE sintered filter cartridge
- ⑦ NBR gaskets





FLOW CHARTS

FIL

$\Delta P = (P_m - P_f)$
psi KPa bar

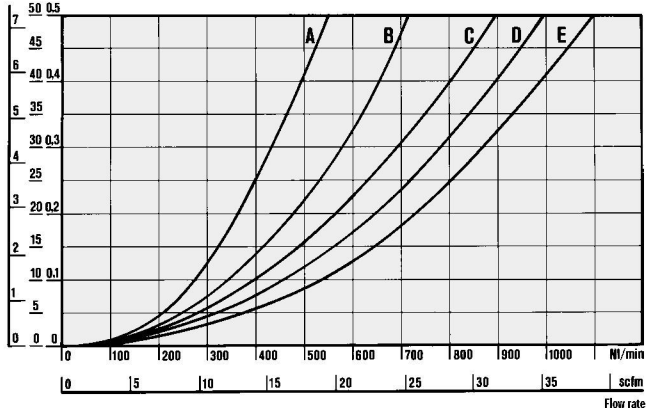
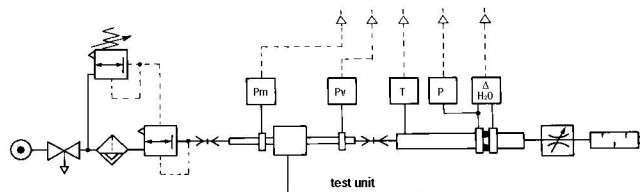


Chart referring to a filter with 1/4 ports



**Department
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Turin Polytechnic

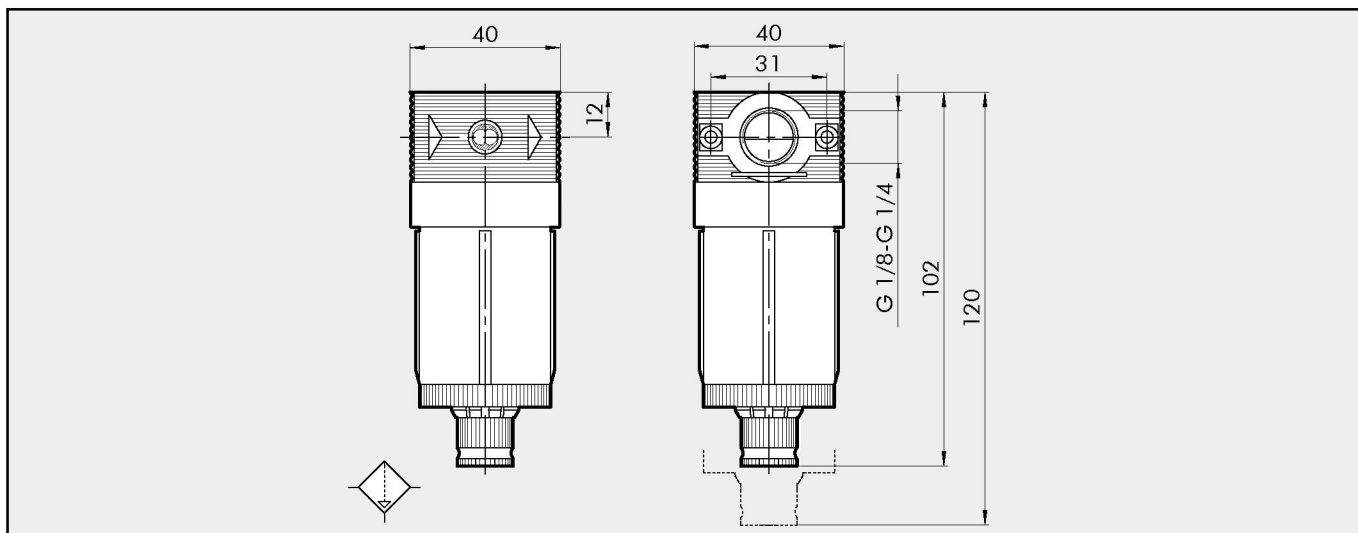


• Flow tests carried out at the Department of Mechanics, Turin Polytechnic, using the computerized test bench following CETOP RP50R recommendations (ISO DIS 6358-2-approved) with ISO 5167 diaphragm gauge.

A = 2 bar - 0,2 MPa - 29 psi
B = 4 bar - 0,4 MPa - 58 psi
C = 6 bar - 0,6 MPa - 87 psi

D = 8 bar - 0,8 MPa - 116 psi
E = 10 bar - 1 MPa - 145 psi

DIMENSIONS



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KEY TO CODES

FIL	BIT	1/8	5 μm	RMSA
ELEMENT	SIZE	THREADED PORT	DEGREE OF FILTRATION	CONDENSATE DRAIN
FIL	BIT	1/8 1/4	5 μm 20 μm 50 μm	RMSA SAC

ORDERING CODES

Code	Description
5101001	FIL BIT 1/8 5 RMSA
5101004	FIL BIT 1/8 5 SAC
5101002	FIL BIT 1/8 20 RMSA
5101005	FIL BIT 1/8 20 SAC
5101003	FIL BIT 1/8 50 RMSA
5101006	FIL BIT 1/8 50 SAC
5201001	FIL BIT 1/4 5 RMSA
5201004	FIL BIT 1/4 5 SAC
5201002	FIL BIT 1/4 20 RMSA
5201005	FIL BIT 1/4 20 SAC
5201003	FIL BIT 1/4 50 RMSA
5201006	FIL BIT 1/4 50 SAC

RMSA: Semi-auto drain

SAC: Automatic drain. Operates by depression – requires variable air take-offs.

bit MICRO-REGULATOR

Micro-regulator with rolling diaphragm.

- Preset pressure stability as the upstream pressure varies.
- High flow rates with reduced pressure drops
- Quick overpressure exhaust

Versions available

Bit FC: controlled relief to allow greater accuracy in regulation by means of slight continuous air relief.

Bit for water: used to regulate the pressure in water circuits; without blowoff valve

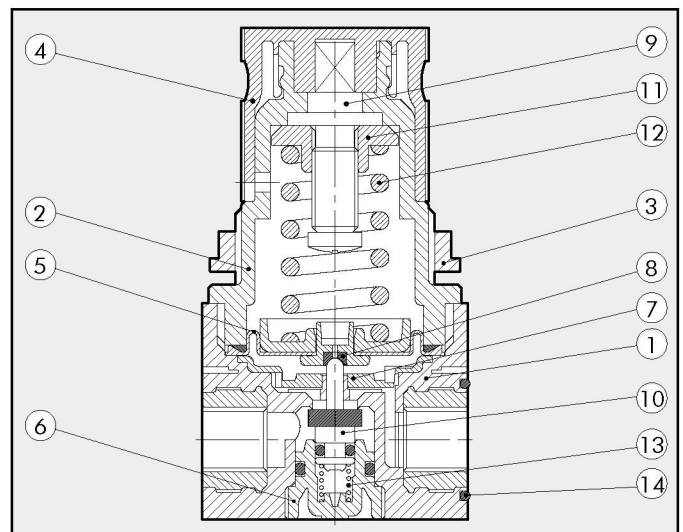
Bit SR: for use when the downstream circuit needs to be relieved quickly as the upstream pressure drops. Mount the SR regulator between the power supply valve and the point of use.

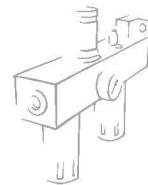


TECHNICAL DATA	MR BIT 1/8"	MR BIT 1/4"
Threaded port	1/8"	1/4"
Setting range	0 to 2 - 0 to 4 - 0 to 8 - 0 to 12	
Max. inlet pressure	MPa	1.3
	bar	13
	psi	188
Flow rate at 6.3 bar (0.63 MPa-91 psi) ΔP 0.5 bar (0.05 MPa - 7 psi)	340 NI/min = 12 scfm	
Flow rate at 6.3 bar (0.63 MPa-91 psi) ΔP 1 bar (0.1 MPa - 14 psi)	600 NI/min = 21 scfm	
Fluid	Filtered, lubricated or unlubricated compressed air. Lubrication, if used, must be continuous	
Max temperature at 1 Mpa; 10 bar; 145 psi	°C	50
	°F	122
Weight	gr	80
Wall fixing screws	M 4	
Mounting	In any position	
Gauge port	G 1/8"	
Notes:	The regulator pressure must always be set upwards. For increased sensitivity, use a pressure regulator with a rated pressure as close as possible to the required value.	

COMPONENTS

- ① Technopolymer body with OT58 threaded elements
- ② Technopolymer bell
- ③ Technopolymer fixing ring nut
- ④ Technopolymer knob
- ⑤ Rolling diaphragm
- ⑥ Technopolymer plug
- ⑦ Technopolymer anti-vibration screen
- ⑧ NBR relieving gasket
- ⑨ OT58 brass adjusting screws
- ⑩ OT58 valve with NBR vulcanized gasket
- ⑪ OT58 brass nut
- ⑫ Steel adjusting spring
- ⑬ Stainless steel valve compression spring
- ⑭ NBR gaskets



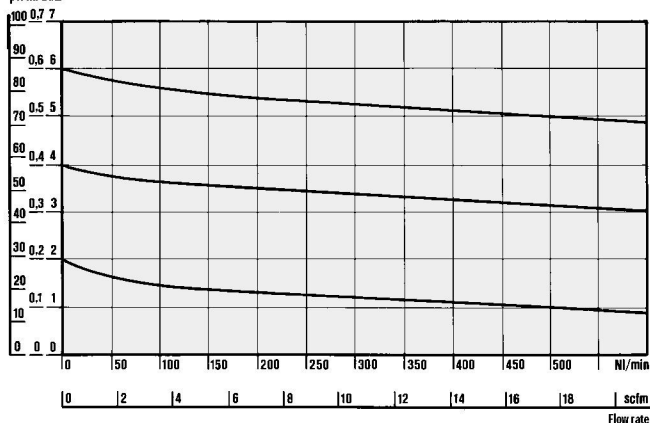


FLOW CHARTS

MR

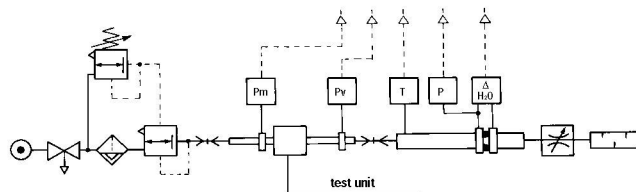
$P_m = 0,7 \text{ MPa}; 7 \text{ bar}; 102 \text{ psi}$
Inlet pressure

psi MPa bar



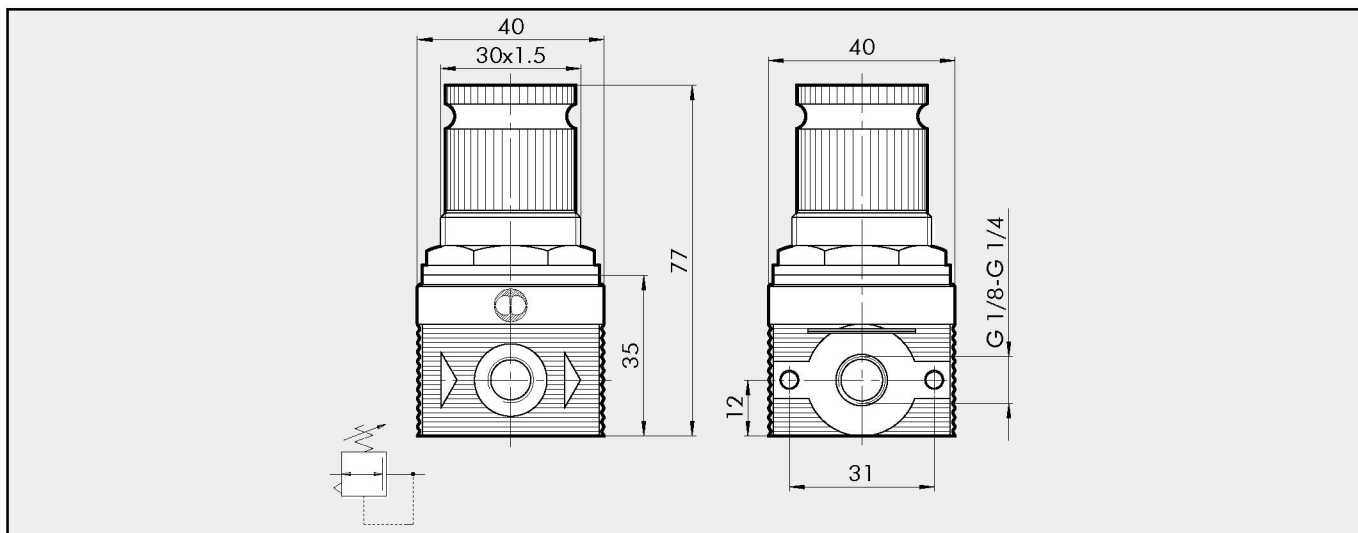
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• Flow tests carried out at the Department of Mechanics, Turin Polytechnic, using the computerized test bench following CETOP RP50R recommendations (ISO DIS 6358-2-approved) with ISO 5167 diaphragm gauge.

DIMENSIONS



3

KEY TO CODES

MR	BIT	FC	1/8	02
ELEMENT	SIZE	VERSION	THREADED PORT	CONDENSATE DRAIN
MR	BIT	FC	1/8	02
	BIT	SR	1/4	04
	BIT			08
MRA	BIT	(for WATER)		012

FC: Controlled relief
SR: Quickly relieved
MRA: Without relief (for water)

ORDERING CODES

Code	Description	Code	Description
	MICROREGULATOR (MR)		MICROREGULATOR WITH QUICK RELIEF
5107001	MR BIT 1/8 02	5102001	MR BIT SR 1/8 02
5107002	MR BIT 1/8 04	5102002	MR BIT SR 1/8 04
5107003	MR BIT 1/8 08	5102003	MR BIT SR 1/8 08
5107004	MR BIT 1/8 012	5102004	MR BIT SR 1/8 012
5207001	MR BIT 1/4 02	5202001	MR BIT SR 1/4 02
5207002	MR BIT 1/4 04	5202002	MR BIT SR 1/4 04
5207003	MR BIT 1/4 08	5202003	MR BIT SR 1/4 08
5207004	MR BIT 1/4 012	5202004	MR BIT SR 1/4 012
	MICROREGULATOR WITH CONTROLLED RELIEF		WATER MICROREGULATOR
5111001	MR BIT FC 1/8 02	5108001	MRA BIT 1/8 02
5111002	MR BIT FC 1/8 04	5108002	MRA BIT 1/8 04
5211001	MR BIT FC 1/4 02	5108003	MRA BIT 1/8 08
5211002	MR BIT FC 1/4 04	5108004	MRA BIT 1/8 012
		5208001	MRA BIT 1/4 02
		5208002	MRA BIT 1/4 04
		5208003	MRA BIT 1/4 08
		5208004	MRA BIT 1/4 012

bit LUBRICATOR

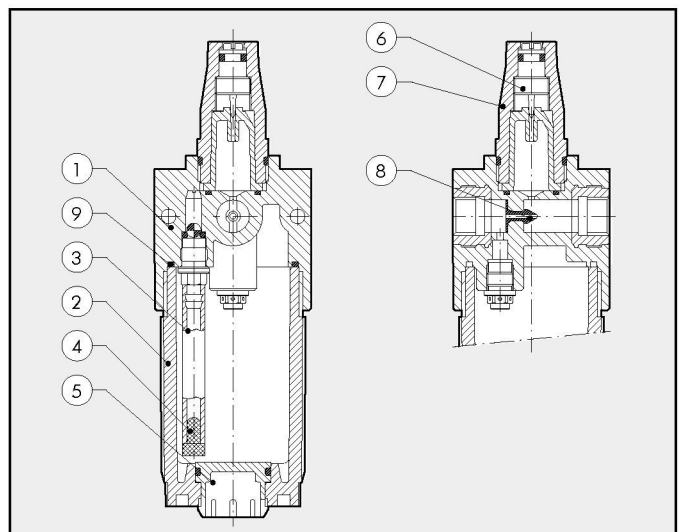
- Mini-lubricator with high lubrication stability.
- Quantity of lubricant proportioned to air flow
 - Activates at low flow rates
 - Micrometric regulation of lubricant flow
 - All-round oil level viewing

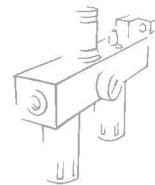


TECHNICAL DATA	LUB BIT 1/8"	LUB BIT 1/4"
	Threaded port	1/8"
Type of lubrication	Oil mist	
Bowl capacity	26.5 cm ³	
Lubricator version	Manual filling with the bowl disassembled	
Max. inlet pressure	MPa	
	bar	
	psi	
Flow rate at 6.3 bar (0.63 MPa-91 psi) ΔP 0.5 bar (0.05 MPa – 7 psi)	400 NI/min = 14 scfm	
Flow rate at 6.3 bar (0.63 MPa-91 psi) ΔP 1 bar (0.1 MPa – 14 psi)	710 NI/min = 25 scfm	
Fluid	Filtered compressed air	
Max temperature at 1 Mpa; 10 bar; 145 psi	°C	
	°F	
Weight	40 gr	
Wall fixing screws	M 4	
Mounting position	Vertical	

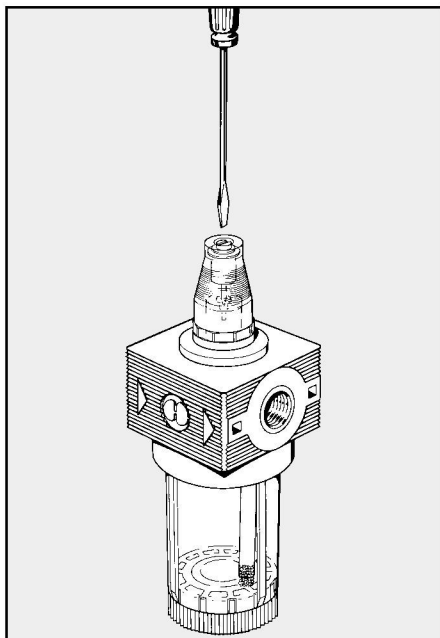
COMPONENTS

- ① Technopolymer body with OT58 threaded elements
- ② Clear technopolymer bowl
- ③ Rilsan oil suction pipe
- ④ Filter
- ⑤ Technopolymer plug
- ⑥ Oil flow adjustment regulation needle made of OT58 brass
- ⑦ Clear technopolymer cover
- ⑧ NBR Venturi diaphragm
- ⑨ NBR gaskets



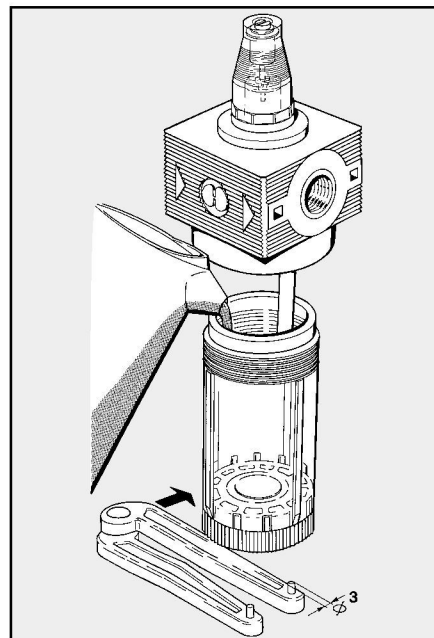


GENERAL RULES - USE AND MAINTENANCE



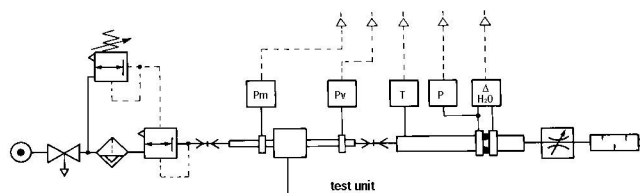
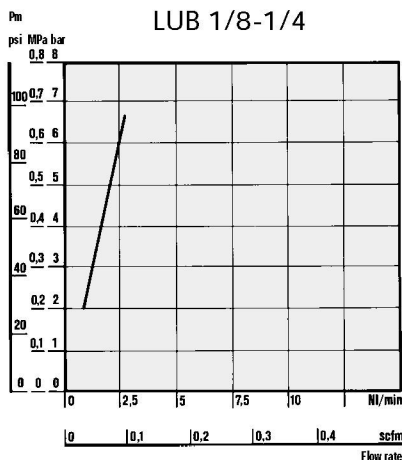
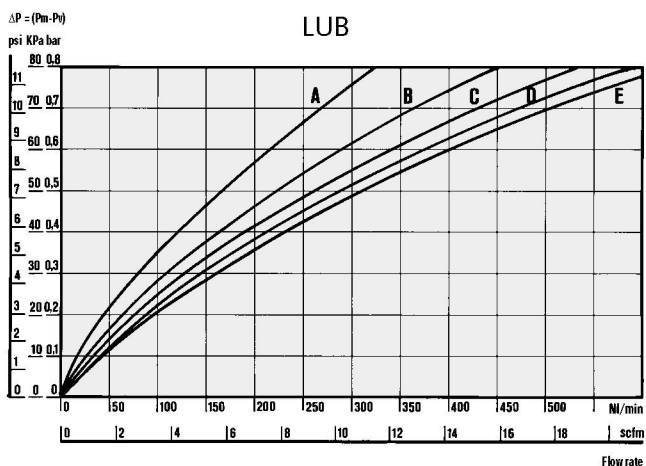
REGULATING LUBRICATION

- Use a no. 3 compass spanner to unscrew the bowl.
- Fit the lubricator as close as possible to the point of use
- Fill the bowl with oil before pressurizing the system
- Do not use cleaning oil, brake fluid or solvents in general
- For correct lubrication, set the drip rate to approximately 1 drop every 300-600 NI via the adjusting screw.
- Recommended lubricants:
ISO and UNI FD22
E.g. Energol HLP 22(BP) – Spinesso 22 (Esso) - Mobil DTE 22 (Mobil) – Tellus Oil 22 (Shell).



FILLING THE BOWL WITH OIL

FLOW CHARTS



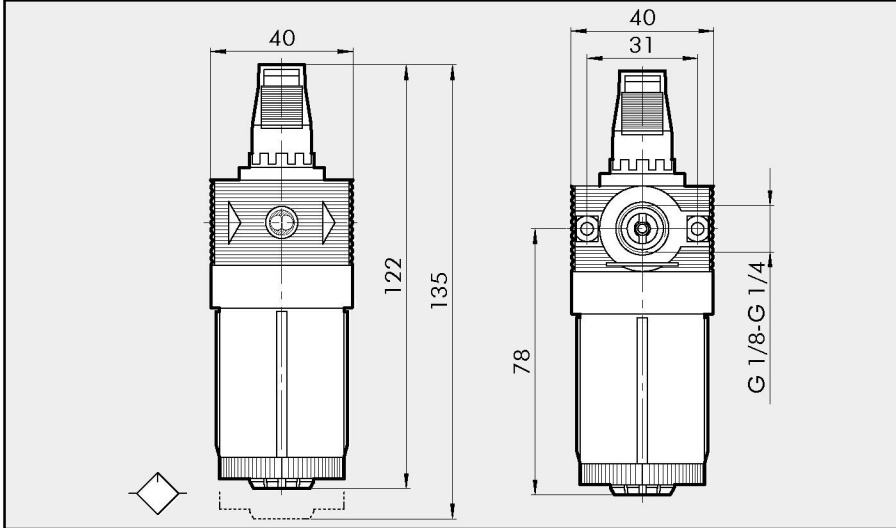
• Flow tests carried out at the Department of Mechanics, Turin Polytechnic, using the computerized test bench following CETOP RP50R recommendations (ISO DIS 6358-2-approved) with ISO 5167 diaphragm gauge.

A = 2 bar - 0,2 MPa - 29 psi
B = 4 bar - 0,4 MPa - 58 psi
C = 6 bar - 0,6 MPa - 87 psi

D = 8 bar - 0,8 MPa - 116 psi
E = 10 bar - 1 MPa - 145 psi

MINIMUM OPERATION FLOW CHARTS
Minimum flow tests were performed in compliance with ISO/DP 6301/2.

DIMENSIONS



ORDERING CODES

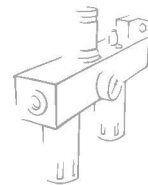
Code	Description
5103001	LUB BIT 1/8
5203001	LUB BIT 1/4

NOTES

Blank area for notes.

NOTES

Blank area for notes.



bit FILTER REGULATOR

Filter regulator with rolling diaphragm.

- High flow rate with reduced pressure drop
- Excellent degree of condensate separation
- Semi-automatic or automatic drain
- All-round condensate level viewing

The degree of filtration is shown by the colour of the cartridge: yellow = 5µm, white = 20µm, blue = 50µm.

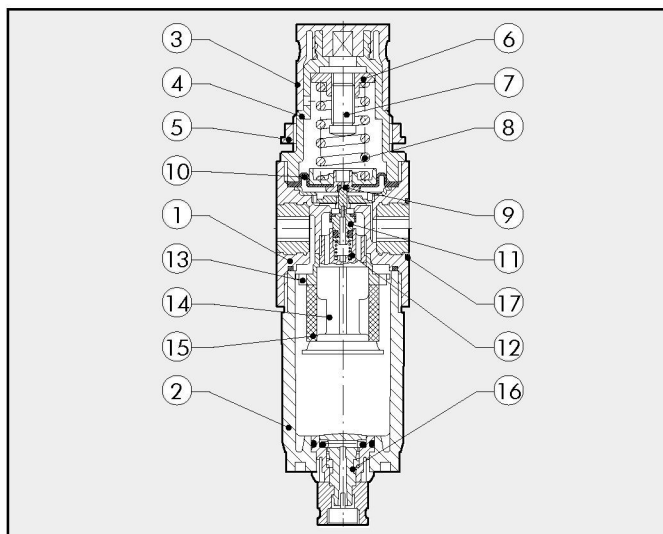


TECHNICAL DATA		FR BIT 1/8"	FR BIT 1/4"
Threaded port		1/8"	1/4"
Setting range		0 to 2 - 0 to 4 - 0 to 8 - 0 to 12	
Degree of filtration		5µm (yellow) 20µm (white) 50µm (blue)	
Max. inlet pressure	MPa	1.3	
	bar	13	
	psi	188	
Flow rate at 6.3 bar (0.63 MPa-91 psi) ΔP 0.5 bar (0.05 MPa – 7 psi)		290 NI/min = 10 scfm	
Flow rate at 6.3 bar (0.63 MPa-91 psi) ΔP 1 bar (0.1 MPa – 14 psi)		600 NI/min = 21 scfm	
Fluid		Compressed air	
Max temperature at 1 MPa; 10 bar; 145 psi	°C	50	
	°F	122	
Weight	gr	110	
Wall fixing screws		M 4	
Mounting position		Vertical	
Gauge port		G 1/8"	
Bowl capacity	cm ³	16	
Condensate drain		Manual/semi-automatic (RMSA) Automatic (SAC)	
Notes:		The regulator pressure must always be set upwards. For increased sensitivity, use a pressure regulator with a rated pressure as close as possible to the required value.	

3

COMPONENTS

- ① Technopolymer body with OT58 threaded elements
- ② Clear technopolymer bowl
- ③ Technopolymer knob
- ④ Technopolymer dell
- ⑤ Technopolymer fixing ring nut
- ⑥ OT58 brass nut
- ⑦ OT58 brass adjusting screw
- ⑧ Steel adjusting spring
- ⑨ NBR relieving gasket
- ⑩ Rolling diaphragm
- ⑪ OT58 valve with NBR vulcanized gasket
- ⑫ Stainless steel valve compression spring
- ⑬ Technopolymer centrifuge
- ⑭ Technopolymer baffle plug
- ⑮ Sintered HDPE filter cartridge
- ⑯ Condensate drain (RMSA)
- ⑰ NBR gaskets

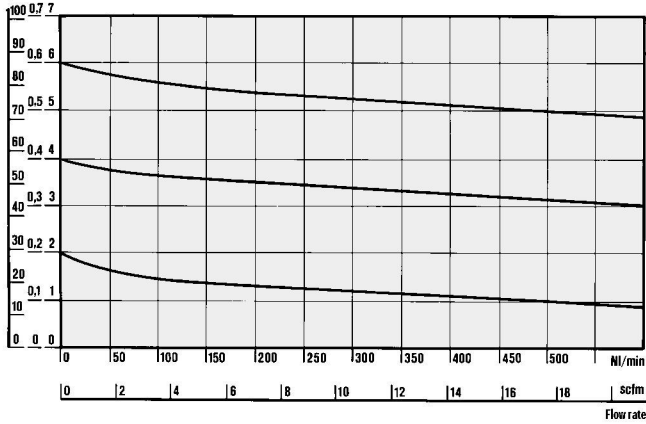


FLOW CHARTS

FR

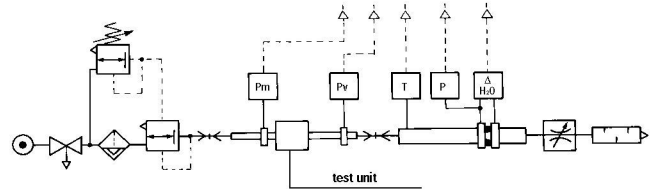
$P_m = 0,7 \text{ MPa}; 7 \text{ bar}; 102 \text{ psi}$
Inlet pressure

psi MPa bar



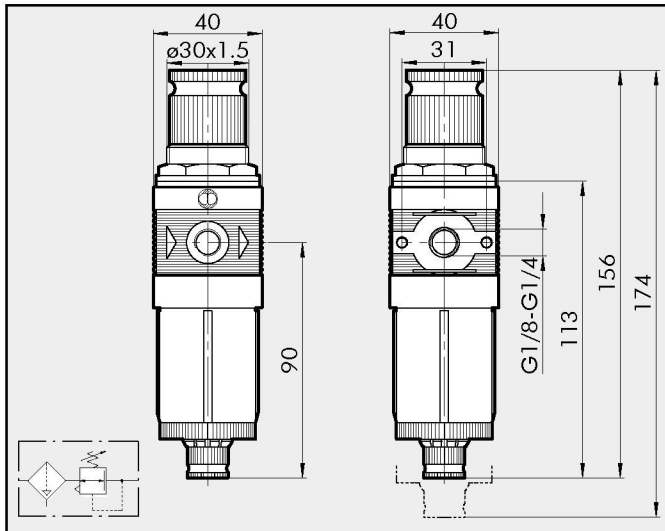
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DIMENSIONS



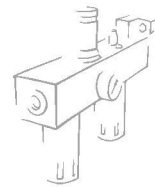
KEY TO CODES

FR	BIT	1/8	5µm	02	RMSA
ELEMENT	SIZE	THREADED PORT	DEGREE OF FILTRATION	SETTING RANGE	CONDENSATE DRAIN
FR	BIT	1/8 1/4	5µm 20µm 50µm	02 04 08 012	RMSA SAC

RMSA: Semi-auto drain
SAC: Automatic drain. Operates by depression – requires variable air take-offs.

ORDERING CODES

Code	Description	Code	Description	Code	Description
5105001	FR BIT 1/8 5 02 RMSA	5105022	FR BIT 1/8 5 012 SAC	5205008	FR BIT 1/4 20 08 RMSA
5105013	FR BIT 1/8 5 02 SAC	5105011	FR BIT 1/8 20 012 RMSA	5205020	FR BIT 1/4 20 08 SAC
5105002	FR BIT 1/8 20 02 RMSA	5105023	FR BIT 1/8 20 012 SAC	5205009	FR BIT 1/4 50 08 RMSA
5105014	FR BIT 1/8 20 02 SAC	5105012	FR BIT 1/8 50 012 RMSA	5205021	FR BIT 1/4 50 08 SAC
5105003	FR BIT 1/8 50 02 RMSA	5105024	FR BIT 1/8 50 012 SAC	5205010	FR BIT 1/4 5 012 RMSA
5105015	FR BIT 1/8 50 02 SAC	5205001	FR BIT 1/4 5 02 RMSA	5205022	FR BIT 1/4 5 012 SAC
5105004	FR BIT 1/8 5 04 RMSA	5205013	FR BIT 1/4 5 02 SAC	5205011	FR BIT 1/4 20 012 RMSA
5105016	FR BIT 1/8 5 04 SAC	5205002	FR BIT 1/4 20 02 RMSA	5205023	FR BIT 1/4 20 012 SAC
5105005	FR BIT 1/8 20 04 RMSA	5205014	FR BIT 1/4 20 02 SAC	5205012	FR BIT 1/4 50 012 RMSA
5105017	FR BIT 1/8 20 04 SAC	5205003	FR BIT 1/4 50 02 RMSA	5205024	FR BIT 1/4 50 012 SAC
5105006	FR BIT 1/8 50 04 RMSA	5205015	FR BIT 1/4 50 02 SAC		
5105018	FR BIT 1/8 50 04 SAC	5205004	FR BIT 1/4 5 04 RMSA		
5105007	FR BIT 1/8 5 08 RMSA	5205016	FR BIT 1/4 5 04 SAC		
5105019	FR BIT 1/8 5 08 SAC	5205005	FR BIT 1/4 20 04 RMSA		
5105008	FR BIT 1/8 20 08 RMSA	5205017	FR BIT 1/4 20 04 SAC		
5105020	FR BIT 1/8 20 08 SAC	5205006	FR BIT 1/4 50 04 RMSA		
5105009	FR BIT 1/8 50 08 RMSA	5205018	FR BIT 1/4 50 04 SAC		
5105021	FR BIT 1/8 50 08 SAC	5205007	FR BIT 1/4 5 08 RMSA		
5105010	FR BIT 1/8 5 012 RMSA	5205019	FR BIT 1/4 5 08 SAC		



bit DEPURATOR

Coalescing mini-depurator

- Space saving
- Minimum load loss as the flow rate varies
- All-round condensate level viewing

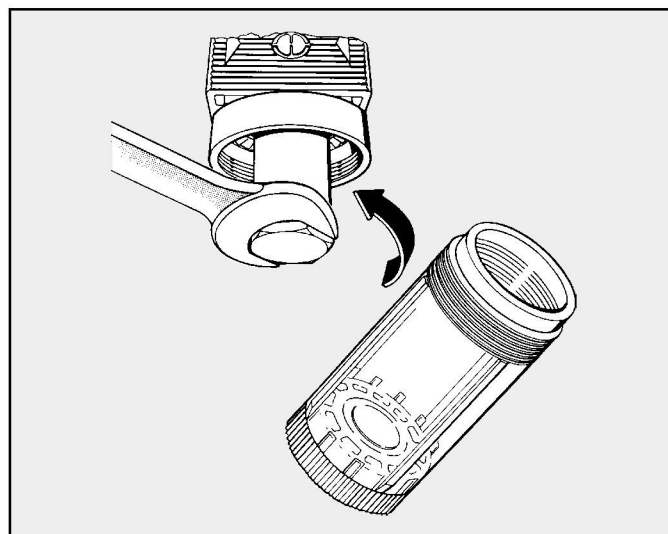


TECHNICAL DATA	DEP BIT 1/8"	DEP BIT 1/4"
Threaded port	1/8"	1/4"
Degree of filtration	99.97% 0,01 μm	
Max. inlet pressure	MPa	1.3
	bar	13
	psi	188
Flow rate at 6.3 bar (0.63 MPa-91 psi) ΔP 0.5 bar (0.05 MPa - 7 psi)	700 NI/min = 25 scfm	
Flow rate at 6.3 bar (0.63 MPa-91 psi) ΔP 1 bar (0.1 MPa - 14 psi)	1000 NI/min = 35.5 scfm	
Suggested flow at 6 bar	200 NI/min = 7 scfm	
Fluid	Filtered 5μm compressed air	
Max temperature at 1 MPa; 10 bar; 145 psi	°C	50
	°F	122
Weight	gr	65
Wall fixing screws	M4	
Mounting position	Vertical	
Condensate drain	Manual/semi-automatic (RMSA) - Automatic (SAC)	
Bowl capacity	cm ³	16
Notes:	A It is advisable to mount a 5m filter upstream the depurator acting as a rough filter.	

3

USE AND MAINTENANCE

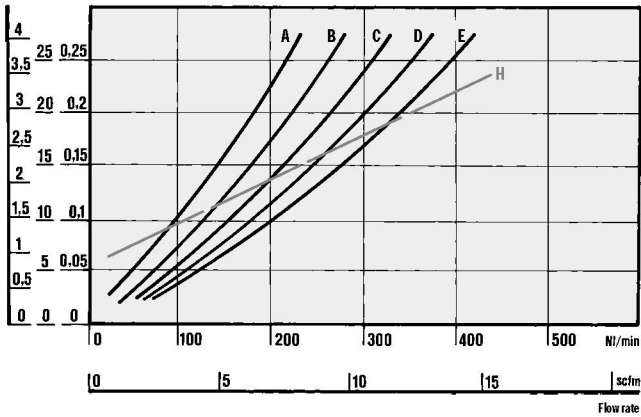
When replacing the coalescing cartridge, unscrew the bowl and then unscrew the screen of the cartridge assembly. Then replace the cartridge. Use a no. 3 compass spanner to unscrew the bowl.



FLOW CHARTS

DEP

$\Delta P = (P_m - P_v)$
psi KPa bar

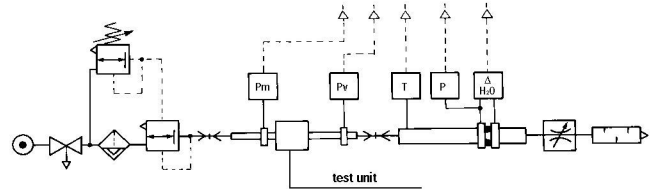


H = Maximum recommended flow for optimal operation



**Department
of Mechanics**

Turin Polytechnic

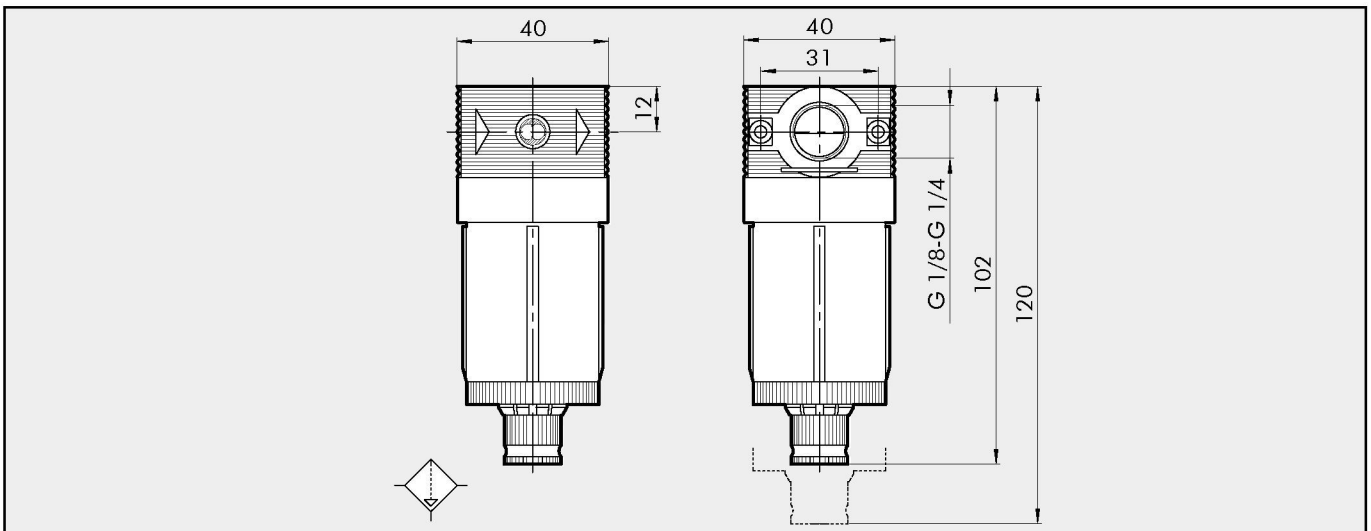


• Flow tests carried out at the Department of Mechanics, Turin Polytechnic, using the computerized test bench following CETOP RP50R recommendations (ISO DIS 6358-2-approved) with ISO 5167 diaphragm gauge.

A = 2 bar - 0,2 MPa - 29 psi
B = 4 bar - 0,4 MPa - 58 psi
C = 6 bar - 0,6 MPa - 87 psi

D = 8 bar - 0,8 MPa - 116 psi
E = 10 bar - 1 MPa - 145 psi

DIMENSIONS



KEY TO CODES

DED	BIT	1/8	RMSA
ELEMENT	SIZE	THREADED PORT	CONDENSATE DRAIN
DED	BIT	1/8 1/4	RMSA SAC

ORDERING CODES

Code	Description
5112001	DEP BIT 1/8 RMSA
5112002	DEP BIT 1/8 SAC
5212001	DEP BIT 1/4 RMSA
5212002	DEP BIT 1/4 SAC