

Construction and working characteristics

The new "AIRPLUS" range of FRL units represents an evolution of the original 1700 series.

The latest technical features include; Improved performance and reliability as well as quick and easy assembly. The transparent polycarbonate (PC) bowls are fitted with a bowl protection guard which is assembled on the component body via a quick coupling mechanism which also includes a safety release button. The filters are available with 3 grades of filtration ($5\mu\text{m}$, $20\mu\text{m}$ and $50\mu\text{m}$) as standard and also include a manual/semi-automatic drain. An automatic drain is also available.

The regulators are based on the rolling diaphragm technology with a low hysteresis and a balanced system. They can be supplied with an integral flush mounted pressure gauge and are available in 4 different pressure ranges from 0 - 12 bar, the adjusting knob can be locked by depressing it into the lock position.

The lubricator has been designed using the venture principle and the amount of oil is regulated via the adjusting screw which is positioned on top of the unit on the polycarbonate (PC) dome which also provides a visual indication of the amount of oil being regulated. The oil suction pipe is fitted with a sintered filter as standard which helps prevent contaminants reaching the downstream circuit.

Two versions of the shut-off valve are available, one manual and one being solenoid operated, in both cases the units are fitted with a threaded connection for exhausting the air from the downstream circuit. On the manual version it's also possible to fit 3 padlocks whilst in the lock position in order to prevent accidental pressurization of the pneumatic system and avoid accidents or damage. The solenoid operated version is available with a 15mm solenoid operator.

The soft start valve provides a controlled progressive build-up of pressure downstream avoiding sudden pressure surges which could be dangerous for components fitted to the downstream circuit, the filling time can be adjusted via the built in flow regulator. The valve opens fully once the downstream pressure reaches 50% of the inlet pressure. The pressure switch module can be set between 2 - 10 bars and the intake module completes the range. All of the components are connected together using the technopolymer flange system which also allows the units to be panel mounted as well as the ability to replace components without having to disassemble the FRL from its position.

Instructions for installation and operation

The FRL must be installed as close as possible to the application

The airflow must follow the direction as indicated on the FRL components or correspond with that indicated on the threaded connections (IN and OUT). All components fitted with a bowl must be mounted vertically with the bowl facing downwards. The FRL units can be wall mounted directly through the 8.5mm mounting holes or via the "Y" type quick coupling flange.

All units must be operated in according to the specified pressure and temperature ranges; fittings must be installed without exceeding the maximum torque allowed. The condensate level in both the filter and filter-regulator units must never exceed the maximum level indicated on the bowl. The condensate on the manual/semi-automatic drain unit can be discharged using 6/4mm tube fitted directly to the drain tap. The regulators pressure value must always be set whilst the pressure is rising ensuring the correct regulator and required pressure range have been selected. Lubricators must be filled with either FD22 or HG32 oils and the operator must ensure that the flow rate is above the minimum flow rate required to operate the unit. Below this value the unit does not operate correctly.

The oil quantity dispensed by the lubricator can be regulated by the adjusting the screw on the transparent polycarbonate dome through which the oil flow is visible. A drop of oil every 300 - 600 litres should be allowed and please note: The oil refill can take place only with the lubricator bowl NOT under pressure.

The lubricator can be refilled whilst the pneumatic circuit is pressurized thanks to the built in exhaust valve which allows the bowl to be depressurized and the oil refilled in the bowl.

The manual shut off valve is operated (On) with two actions, firstly push the knob down and secondly turn the knob clockwise. To discharge the downstream air, turn the knob anti-clockwise.

The soft start valve is used to slowly and progressively pressurize the downstream circuit; the time needed is adjustable via the built in flow regulator. Please note: The soft start valve on its own does not allow for the discharge of the downstream circuit, in order to do this it is necessary to combine this unit with a shut off valve (To be mounted upstream)

Maintenance



For any maintenance that requires the removal of the top or bottom plug/supports from the main component body it is necessary to remove the side cover plates and retaining screws. If the top or bottom plugs/supports are removed with the retaining screws still in place the unit could be permanently damaged



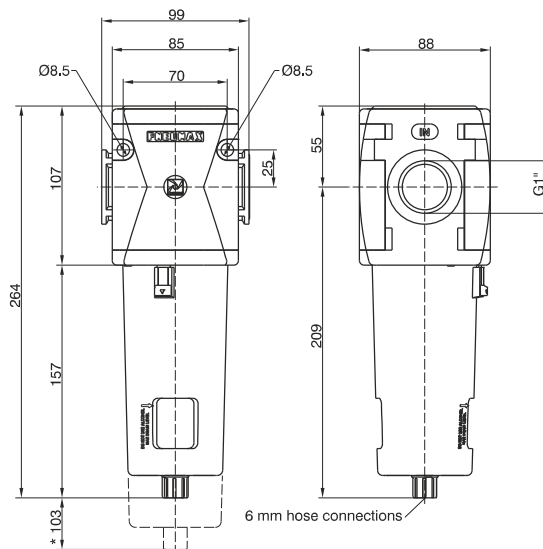
Bowls, plugs and supports are assembled with a bayonet type mechanism. In order to remove them rotate anti-clockwise until you reach a mechanical stop, then remove from the component body (For bowls, firstly press down the green safety button). Please note: Bowls and transparent parts can be cleaned with water and neutral soap. DO NOT USE SOLVENTS OR ALCOHOL

Filter elements (From filters and filter-regulators) made of HDPE can be regenerated by washing and blowing them. In order to remove the filter elements it is necessary to remove the bowl, unscrew the filter element, replace it with a new unit or clean the old one.

Lubricator oil can be refilled with the circuit pressurized thanks to the exhaust valve which is built and allows the bowl to be depressurized. Once this operation has been carried out it is possible to unscrew and remove the bowl to refill it or refill using the refill plug. Removing the bowl and refilling is preferred.

Should a pressure regulator not perform correctly or should a constant leak be detected from the relieving orifice beneath the adjusting knob it may be necessary to replace the diaphragm. Before attempting to replace the diaphragm unload the regulating spring before removing the regulator support. Due to the complexity of the regulator mechanism and the need to test the unit according to the Pneumax SpA specification any other repair should be carried out by the manufacturer.

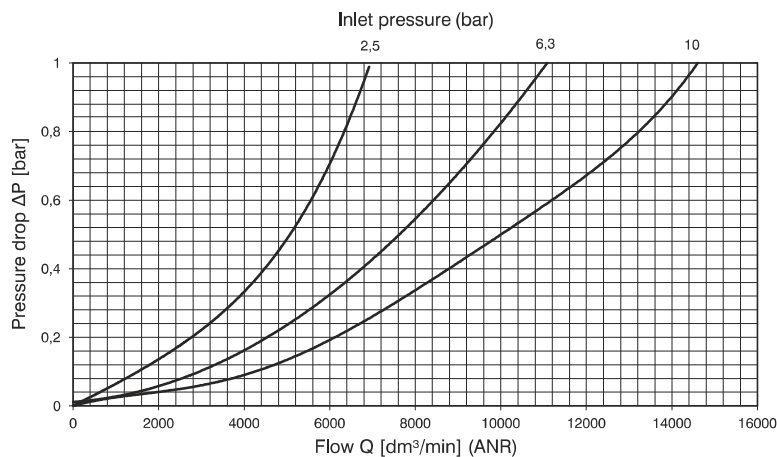
Filter (F)



*Bowl removal maximum height

Example : N174BFB : size 4, Filter, G1" connections, 20 μ m filter pore size

Flow rate curves



Operational characteristics

- Double filtering action: air flow centrifugation and filter element
- Filtering element made of HDPE (high density polyethylene) available in three different filtration grades (5 μ m, 20 μ m and 50 μ m) can be regenerated by washing it or replaced.
- Transparent bowl made off polycarbonate with bowl protection guard.
- Bowl assembly via bayonet type quick coupling mechanism with safety button.
- Semi-automatic drain mounted as standard; automatic drain upon request.

Note

In order to ensure adequate flow on the auto drain version it is recommended to use minimum a 6mm fitting.

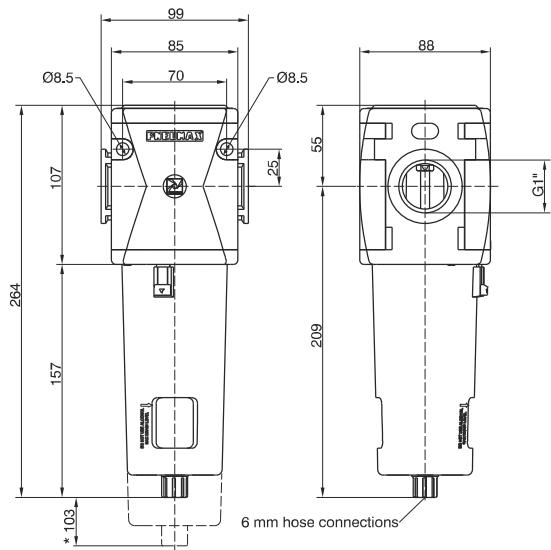
Technical characteristics

Connections	G1"	Ordering code
Max. inlet pressure	13 bar	
Minimum working pressure with automatic drain	0,5 bar	N174BFS
Maximum working pressure with automatic drain	10 bar	
Working temperature	-5°C +50°C	
Weight	1155 (gr)	OPTIONS
Filter pore size	5 μ m - 20 μ m - 50 μ m	
Bowl capacity	90 cm ³	= Standard *
Assembly positions	Vertical	
Wall fixing screw	M8	S = Automatic drain

* no additional letter required



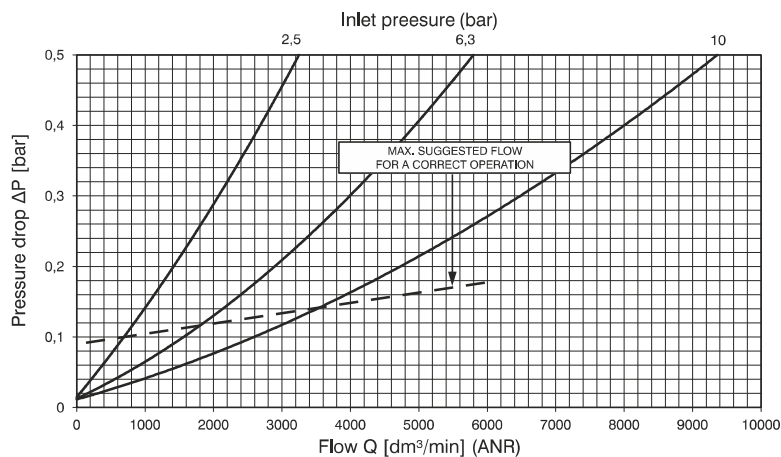
Coalescing filter (D)



*Bowl removal maximum height

Example : N174BDA : size 4, Coalescing filter, G1" connections, filter efficiency 99,97%

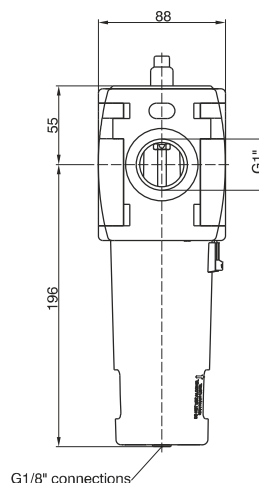
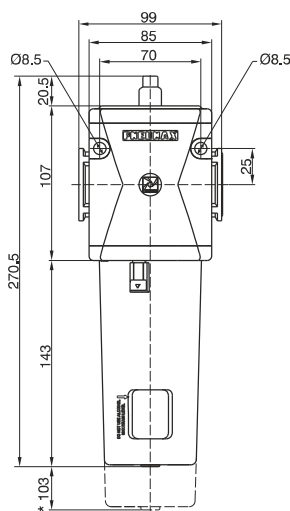
Flow rate curves



Operational characteristics	Technical characteristics		
<ul style="list-style-type: none">- Coalescing filter element with filtration grade of 0,01 µm- Transparent bowl made off polycarbonate with bowl protection guard.- Bowl assembly via bayonet type quick coupling mechanism with safety button.- Semi-automatic drain mounted as standard; automatic drain upon request.	Connections	G1"	Ordering code
	Max. inlet pressure	13 bar	N174BDE
	Minimum working pressure with automatic drain	0,5 bar	
	Maximum working pressure with automatic drain	10 bar	E FILTER EFFICIENCY
	Working temperature	-5°C +50°C	A = 99,97%
Note In order to ensure a better grade of filtration it is recommended to use a 5 µm filter before the coalescing filter. In order to ensure adequate flow on the auto drain version it is recommended to use minimum a 6mm fitting.	Weight	1235 (gr)	OPTIONS
	Filter efficiency with 0,01 µm particle	99,97%	S = Standard *
	Bowl capacity	90 cm³	S = Automatic drain
	Assembly positions	Vertical	
	Wall fixing screw	M8	

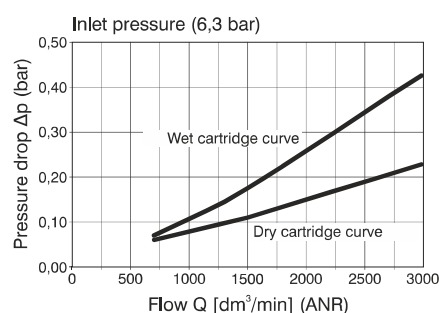
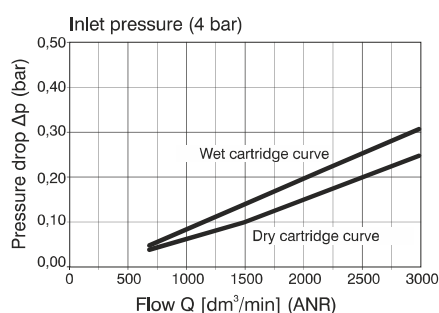
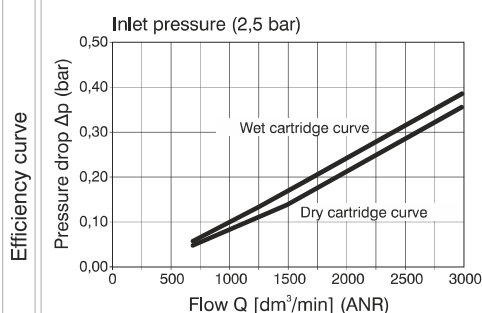
* no additional letter required

Oil removal filter (DAV)



*Bowl removal maximum height

Example : N174BDAV : size 4, Oil removal filter, with clogging gauge, G1\"/>



Operational characteristics

- Coalescing filtering cartridge particle removal 0,01 μm oil residual 0,01 ppm
- Clogging gauge
green: proper working
red: clogged cartridge (Δp 0,5 bar)
we recommend to change the cartridge
- Transparent bowl made off polycarbonate with bowl protection guard.
- Bowl assembly via bayonet type quick coupling mechanism with safety button.
- Automatic drain mounted as standard.

Note

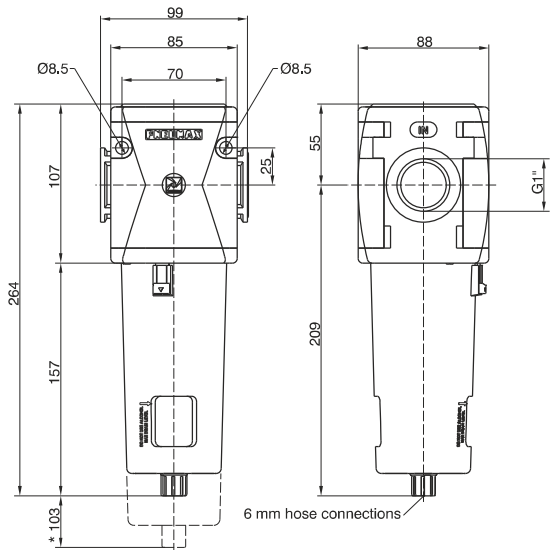
It is recommended to use a 5 μm filter before the oil removal filter. In order to ensure adequate flow on the auto drain version it is recommended to use minimum a 6mm fitting.

Technical characteristics

Connections	G1"	Ordering code
Nominal flow at 6,3 bar	13 bar	
Filter efficiency	3000 NI/min	N174BDAV
Max. inlet pressure	99,99%	
Minimum working pressure with automatic drain	0,5 bar	
Maximum working pressure with automatic drain	10 bar	
Working temperature	-5°C +50°C	
Weight	1260 (gr)	
Bowl capacity	90 cm ³	
Assembly positions	Vertical	
Wall fixing screw	M8	

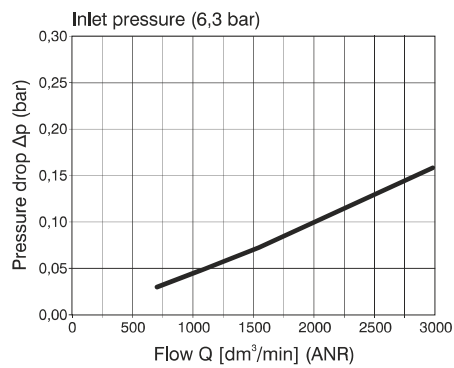
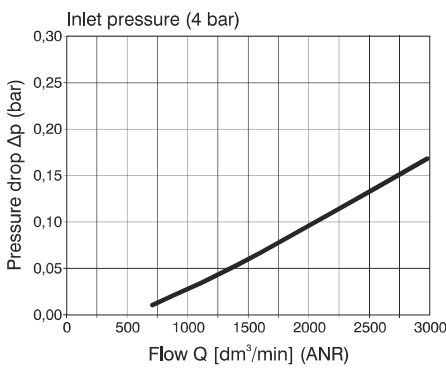
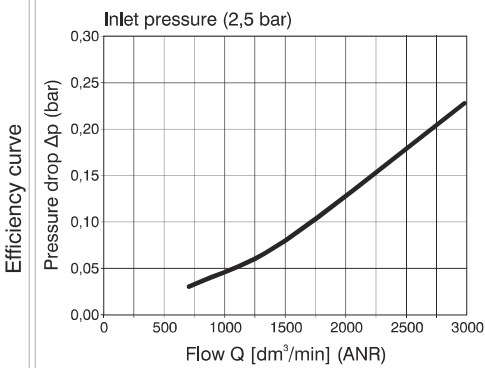


Carbon filter (DD)



*Bowl removal maximum height

Example : N174BDD : size 4, Carbon filter with Technopolymer threads, G1" connections.



Operational characteristics

- Active carbon cartridge with built in particulate filter. Used to remove oil vapours, hydrocarbons, odours and particles coming from the compressed air lines or gasses in industrial applications. Oil residue up to <0,003 ppm (max input aerosol 0.01ppm).
- Innovative filtering technology; high absorption capacity, with low differential pressure.
- Transparent bowl made off polycarbonate with bowl protection guard.
- Bowl assembly via bayonet type quick coupling mechanism with safety button.
- Semi-automatic drain mounted as standard.

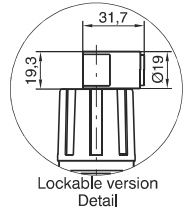
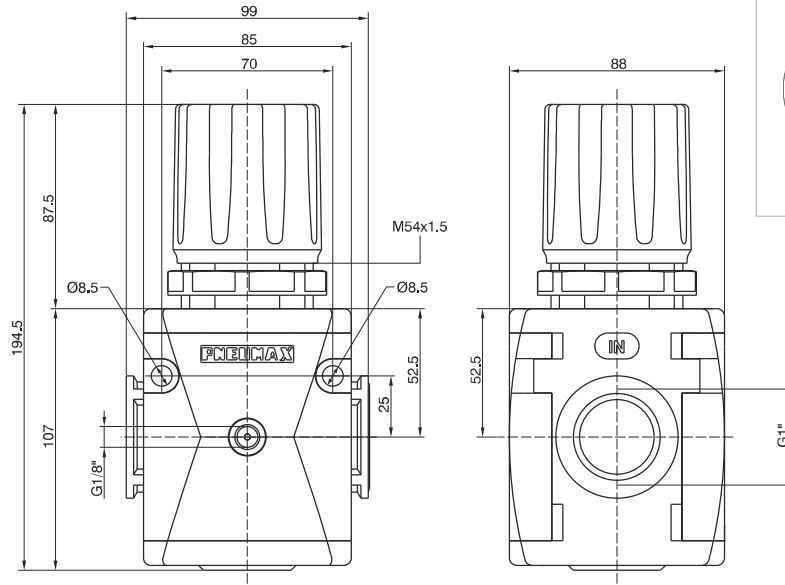
Note

A 5 micron filter followed by a coalescing filter must be installed before the Oil removal filter in order to ensure the correct functionality of the unit and to safeguard the life of the active carbon cartridge. It is also necessary to preventively replace the cartridges at fixed intervals.

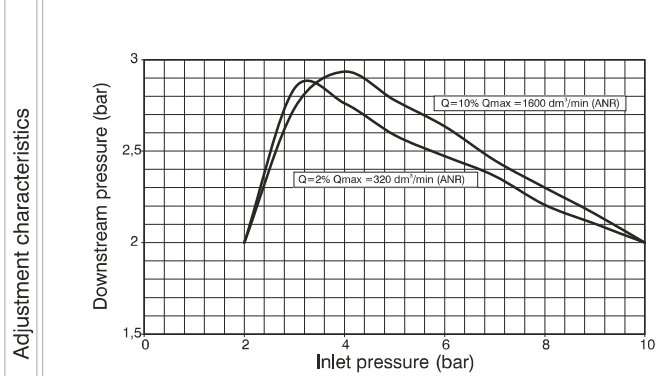
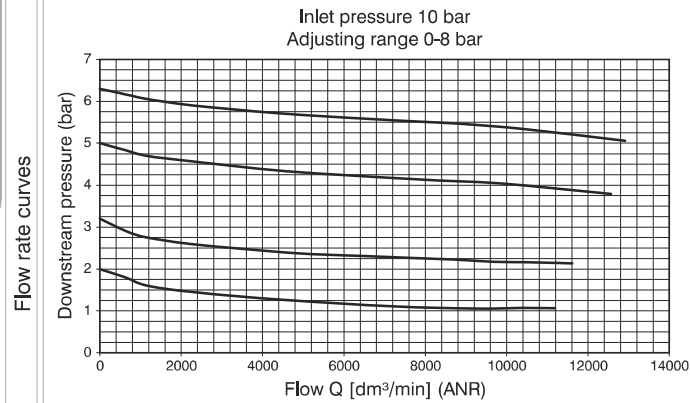
Technical characteristics

Connections	G 1"	Ordering code
Nominal flow at 6,3 bar	3000 NI/min	
Cartridge life	2000 hours	N174BDD
Max. inlet pressure	13 bar	
Working temperature	-5°C ÷ +50°C	
Weight	gr. 1260	
Bowl capacity	90 cm³	
Assembly positions	Vertical	
Wall fixing screw	M8	

Regulator (R)



Example: N174BRC : size 4, Regulator, G1" connections, 0 to 8 bar adjusting range



Operational characteristics

- Diaphragm pressure regulator with relieving.
- Low hysteresis rolling diaphragm.
- Balanced system.
- Available in four pressure ranges up to 12 bar.
- Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved.
- Fitted with panel mounting locking ring.

Note

The pressure must be **always** regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

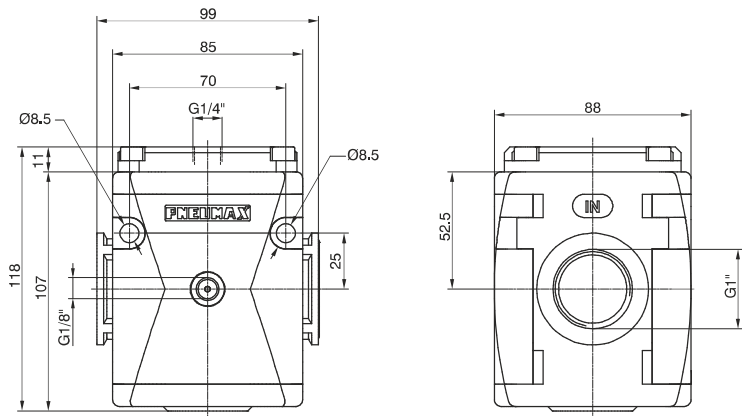
Technical characteristics

Connections	G1"	Ordering code N174BRC ADJUSTING RANGE A = 0-2 bar B = 0-4 bar C = 0-8 bar D = 0-12 bar TYPE = Standard* L = no relieving R = Improved relieving OPTIONS = Standard* K = Lockable version
Max. inlet pressure	13 bar	
Working temperature	-5°C + 50°C	
Pressure gauge connections	G 1/8"	
Weight	1225 (gr)	
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar	* no additional letter required
Assembly positions	Indifferent	
Wall fixing screw	M8	

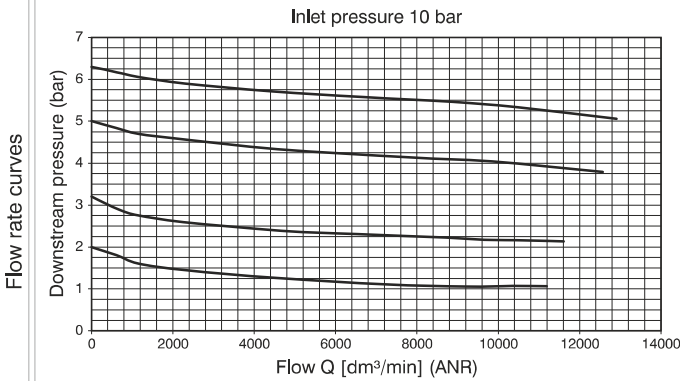
* no additional letter required



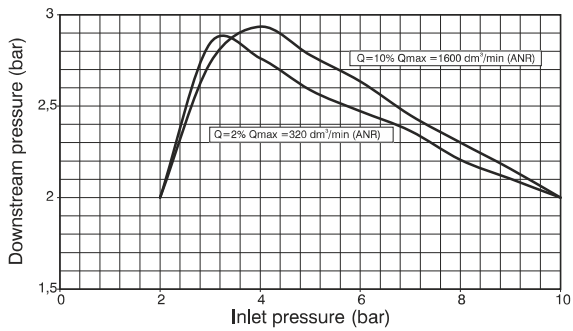
Piloted pressure regulator (R)



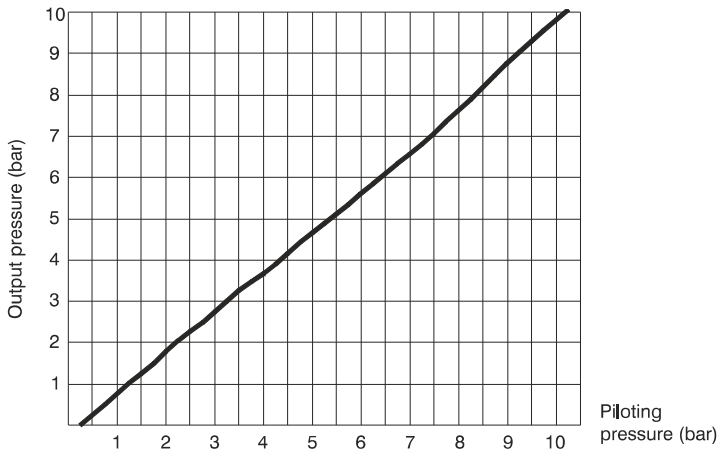
Example: N174BRP : size 4, Piloted pressure regulator with G1" connection



Adjustment characteristics



Piloting curves



Operational characteristics

- Piston pressure regulator with relieving
- Balanced system

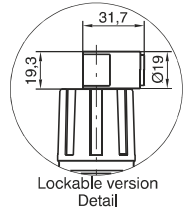
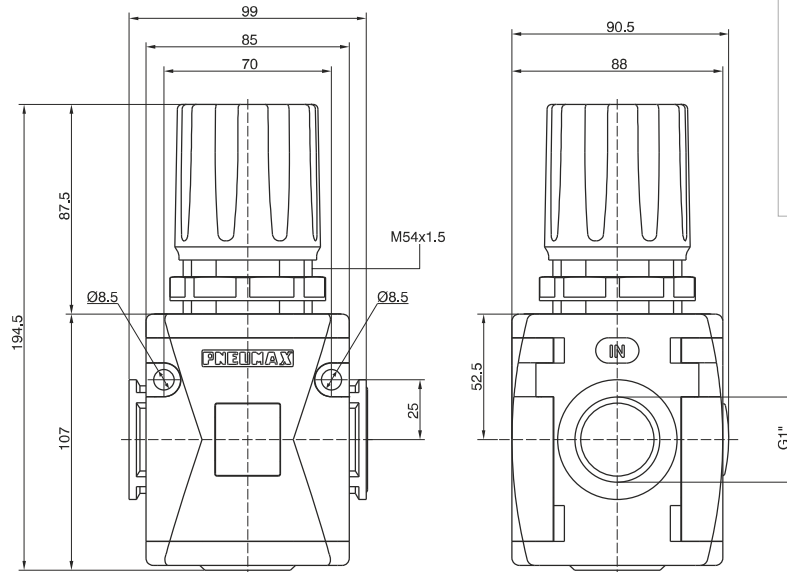
Note

Always regulate the rising pressure.

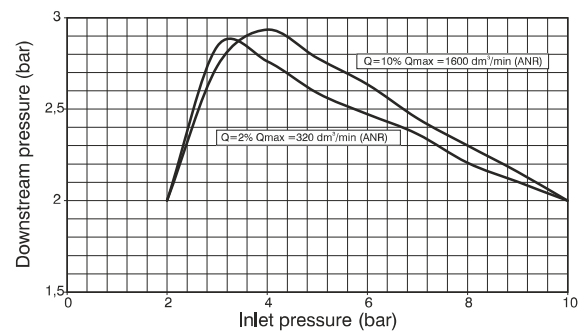
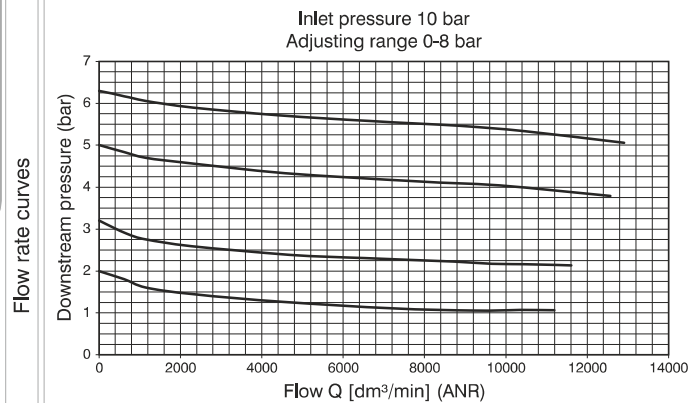
Technical characteristics

Connections	G1"	Ordering code
Pilot port size	G1/4"	
Max. inlet pressure	13 bar	N174BRP
Working temperature	-5°C +50°C	
Pressure gauge connections	G 1/8"	
Weight	1155 (gr)	
Assembly positions	Indifferent	
Wall fixing screw	M8	

Regulator including gauge (RM)(RW)



Example : N174BRMC : size 4, Regulator including gauge, G1" connections, 0 to 8 bar adjusting range



Operational characteristics

- Diaphragm pressure regulator with relieving.
- Low hysteresis rolling diaphragm.
- Balanced system.
- Available in four pressure ranges up to 12 bar.
- Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved.
- Fitted with panel mounting locking ring.
- Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

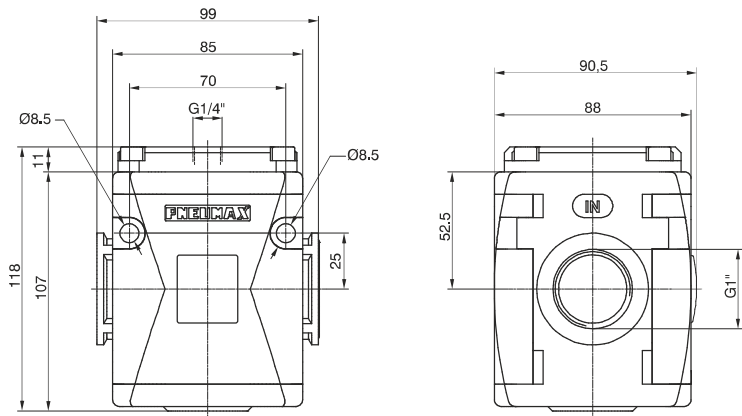
Technical characteristics

Connections	G1"	Ordering code N174BRG10 FLOW DIRECTION M = from left to right W = from right to left ADJUSTING RANGE A = 0-2 bar B = 0-4 bar C = 0-8 bar D = 0-12 bar TYPE = Standard * OPTIONS = Standard * K = Lockable version
Max. inlet pressure	13 bar	
Working temperature	-5°C +50°C	
Weight	1220 (gr)	
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar	
Assembly positions	Indifferent	Wall fixing screw M8

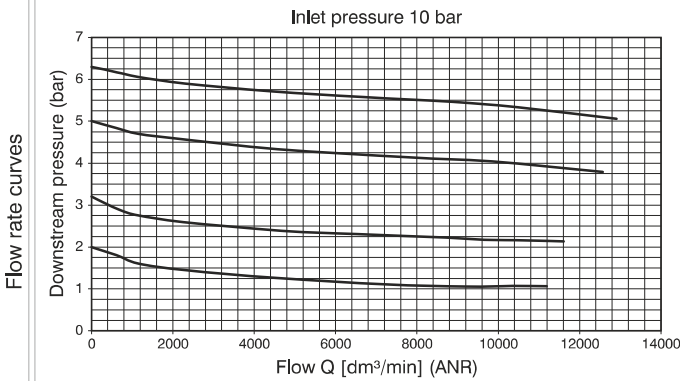
* no additional letter required



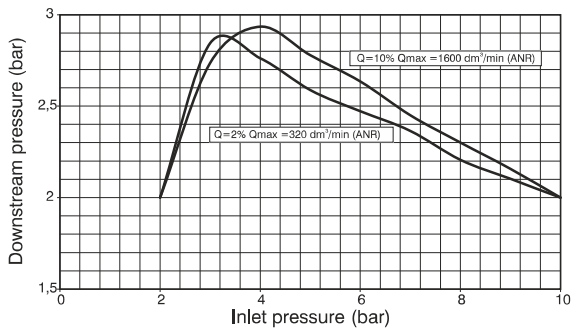
Piloted pressure regulator with integrated manometer (RM)(RW)



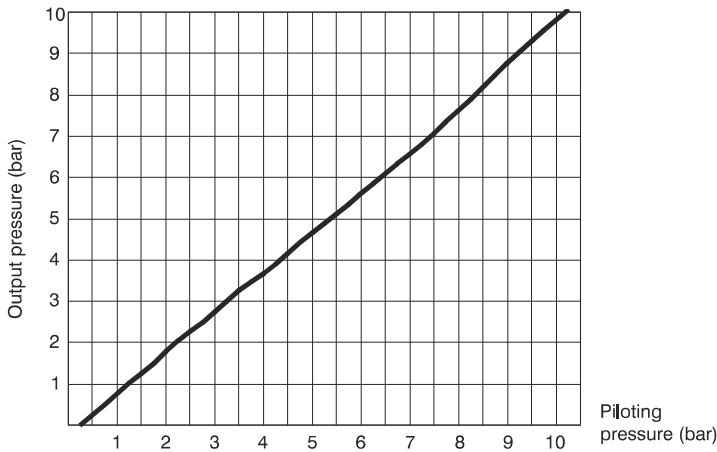
Example: N174BRMP : size 4, Piloted pressure regulator with integrated manometer with G1" connection



Adjustment characteristics



Piloting curves



Operational characteristics

- Piston pressure regulator with relieving
- Balanced system
- Built in gauge 0-12 bar range as standard.

Note

Always regulate the rising pressure.

Technical characteristics

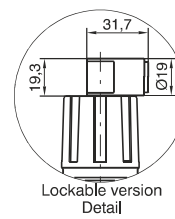
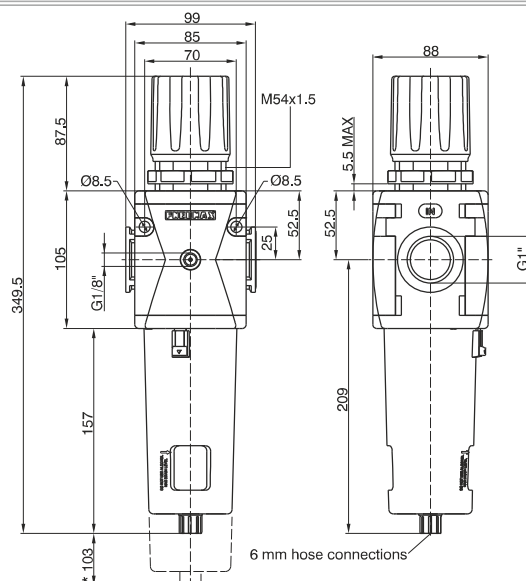
Connections	G1"
Pilot port size	G1/4"
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Pressure gauge connections	G 1/8"
Weight	1150 (gr)
Assembly positions	Indifferent
Wall fixing screw	M8

Ordering code

N174BR0P

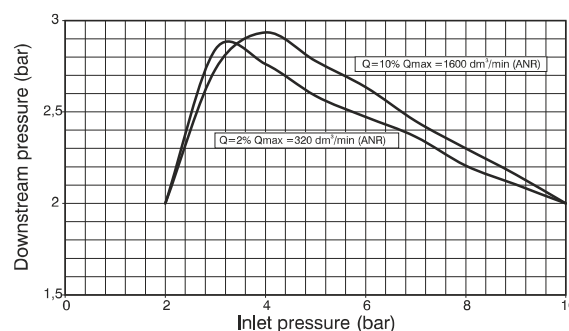
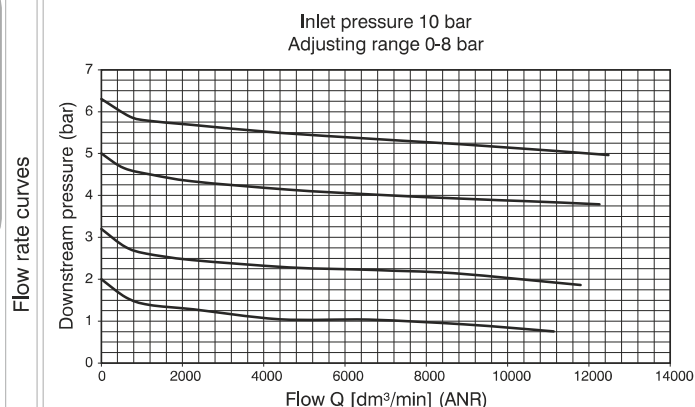
- FLOW DIRECTION
- ① M = from left to right
 - W = from right to left

Filter-Regulator (E)



*Bowl removal maximum height

Example : N174BEBC : size 4, Filter-regulator, G1" connections, 20 μ m filtering pore size, 0 to 8 bar adjusting range



Operational characteristics

- Filter - diaphragm pressure regulator with relieving.
- Low hysteresis rolling diaphragm.
- Balanced system.
- Double filtering action: air flow centrifugation and filter element.
- Filtering element made of HDPE (high density polyethylene) available in three different filtration grades (5 μ m, 20 μ m and 50 μ m) can be regenerated by washing it or replaced.
- Transparent bowl made off polycarbonate with bowl protection guard.
- Bowl assembly via bayonet type quick coupling mechanism with safety button.
- Semi-automatic drain mounted as standard; automatic drain upon request.
- Available in four pressure ranges up to 12 bar.
- Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved.
- Fitted with panel mounting locking ring.

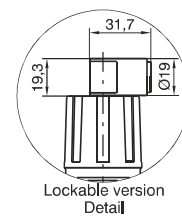
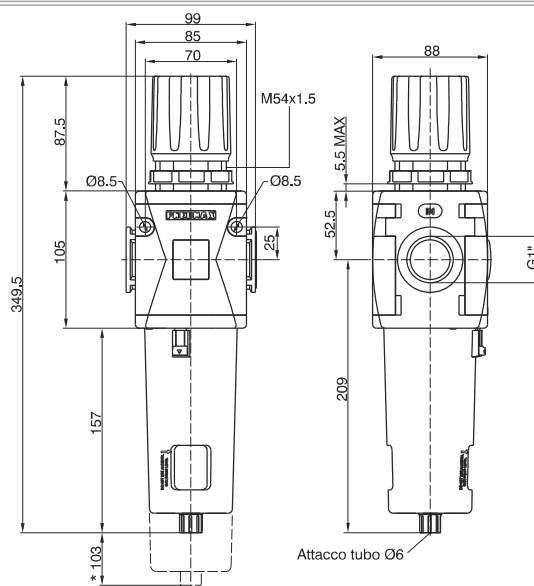
Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended. In order to ensure adequate flow on the auto drain version it is recommended to use minimum a 6mm fitting.

Technical characteristics

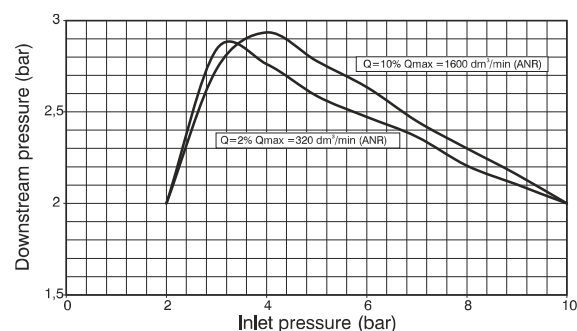
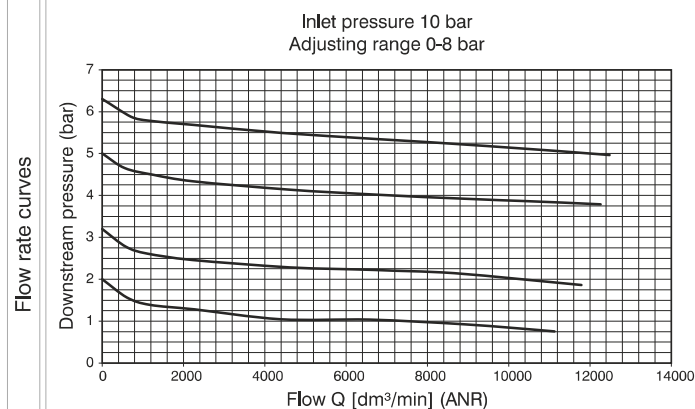
Connections	G1"	Ordering code N174BE S G T O FILTER PORE SIZE A = 5 μ m B = 20 μ m C = 50 μ m ADJUSTING RANGE A = 0-2 bar B = 0-4 bar C = 0-8 bar D = 0-12 bar TYPE T = Standard * S = Automatic drain OPTIONS O = Standard * K = Lockable version * no additional letter required
Max. inlet pressure	13 bar	
Minimum working pressure with automatic drain	0,5 bar	
Maximum working pressure with automatic drain	10 bar	
Working temperature	-5°C +50°C	
Pressure gauge connections	G 1/8"	
Weight	1450 (gr)	
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar	
Filter pore size	5 μ m - 20 μ m - 50 μ m	
Bowl capacity	90 cm ³	
Assembly positions	Vertical	
Wall fixing screw	M8	

Filter-regulator including gauge (EM)(EW)



*Bowl removal maximum height

Example: N174BEMBC : size 4, Filter-regulator including gauge, G1" connections, with 20 µm filtering pore size, 0 to 8 bar adjusting range



Operational characteristics

- Filter - diaphragm pressure regulator with relieving.
- Low hysteresis rolling diaphragm.
- Balanced system.
- Double filtering action: air flow centrifugation and filter element.
- Filtering element made of HDPE (high density polyethylene) available in three different filtration grades (5µm, 20µm and 50µm) can be regenerated by washing it or replaced.
- Transparent bowl made of polycarbonate with bowl protection guard.
- Bowl assembly via bayonet type quick coupling mechanism with safety button.
- Semi-automatic drain mounted as standard; automatic drain upon request.
- Available in four pressure ranges up to 12 bar.
- Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved.
- Fitted with panel mounting locking ring.
- Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

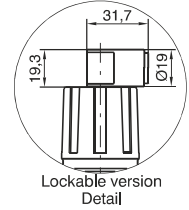
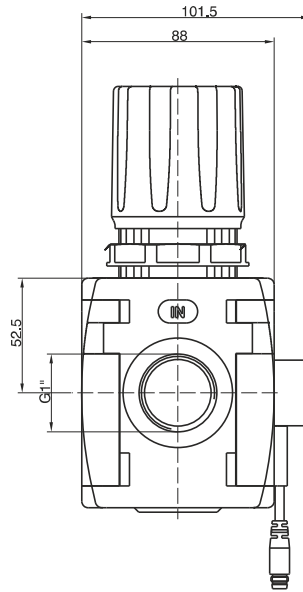
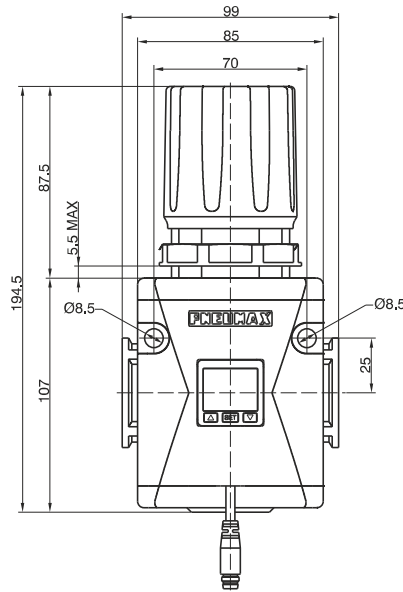
Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended. In order to ensure adequate flow on the auto drain version it is recommended to use minimum a 6mm fitting.

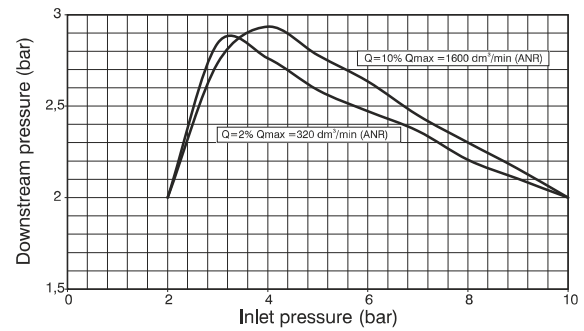
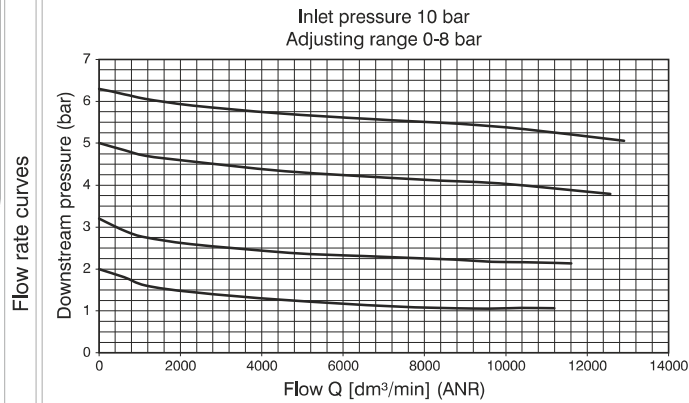
Technical characteristics

Connections	G1"	Ordering code
Max. inlet pressure	13 bar	
Minimum working pressure	0,5 bar	N174BESCTO
with automatic drain		
Maximum working pressure	10 bar	FLOW DIRECTION
with automatic drain		
Working temperature	-5°C +50°C	① M = from left to right
Weight	1440 (gr)	W = from right to left
Pressure range	0-2 bar / 0-4 bar	FILTER PORE SIZE
	0-8 bar / 0-12 bar	
Filter pore size	5 µm - 20 µm - 50 µm	A = 5 µm
Bowl capacity	90 cm³	B = 20 µm
Assembly positions	Vertical	C = 50 µm
Wall fixing screw	M8	ADJUSTING RANGE
		A = 0-2 bar
		B = 0-4 bar
		C = 0-8 bar
		D = 0-12 bar
		TYPE
		① = Standard *
		S = Automatic drain
		OPTIONS
		② = Standard *
		K = Lockable version
		* no additional letter required

Regulator with pressure switch (RP)(RZ)



Example : N174BRPCA : size 4, Regulator, G1" connections, 0 to 8 bar adjusting range, with pressure switch with M8 connector PNP



Operational characteristics

- Diaphragm pressure regulator with relieving.
- Low hysteresis rolling diaphragm.
- Balanced system.
- Available in four pressure ranges up to 12 bar.
- Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved.
- Fitted with panel mounting locking ring.
- Pressure switch as standard

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

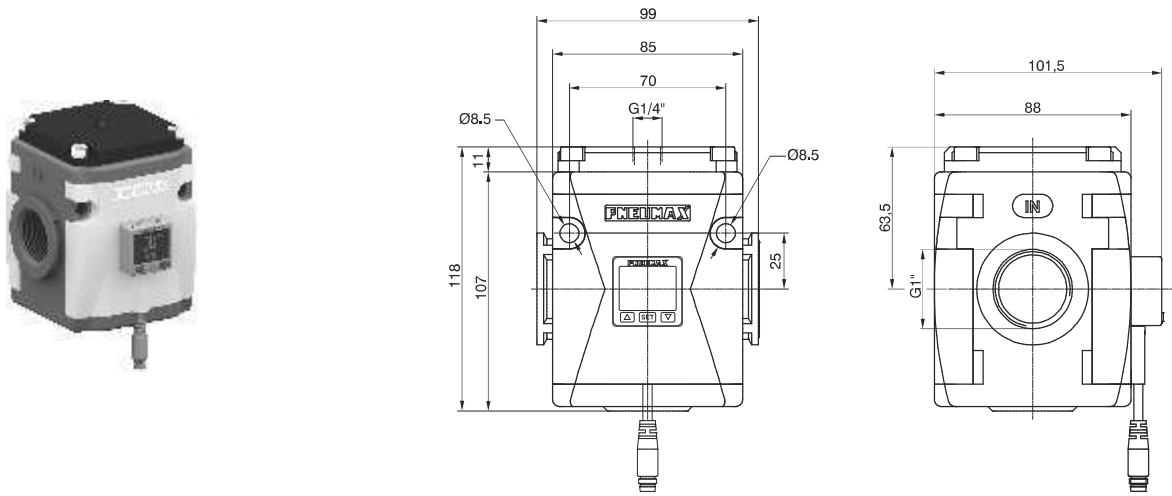
Technical characteristics

Connections	G1"	Ordering code N174BRDCTOP
Max. inlet pressure	13 bar	
Working temperature	0°C +50°C	
Weight	1260 (gr)	
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar	FLOW DIRECTION P = from left to right Z = from right to left ADJUSTING RANGE A = 0-2 bar B = 0-4 bar C = 0-8 bar D = 0-12 bar TYPE T = Standard * L = no relieving R = Improved relieving OPTIONS O = Standard * K = Lockable version PRESSURE SWITCH OPTION A = Cable 150 mm+M8 PNP B = Cable 150 mm+M8 NPN C = Cable 2 mt. PNP D = Cable 2 mt. NPN
Assembly positions	Indifferent	
Wall fixing screw	M8	

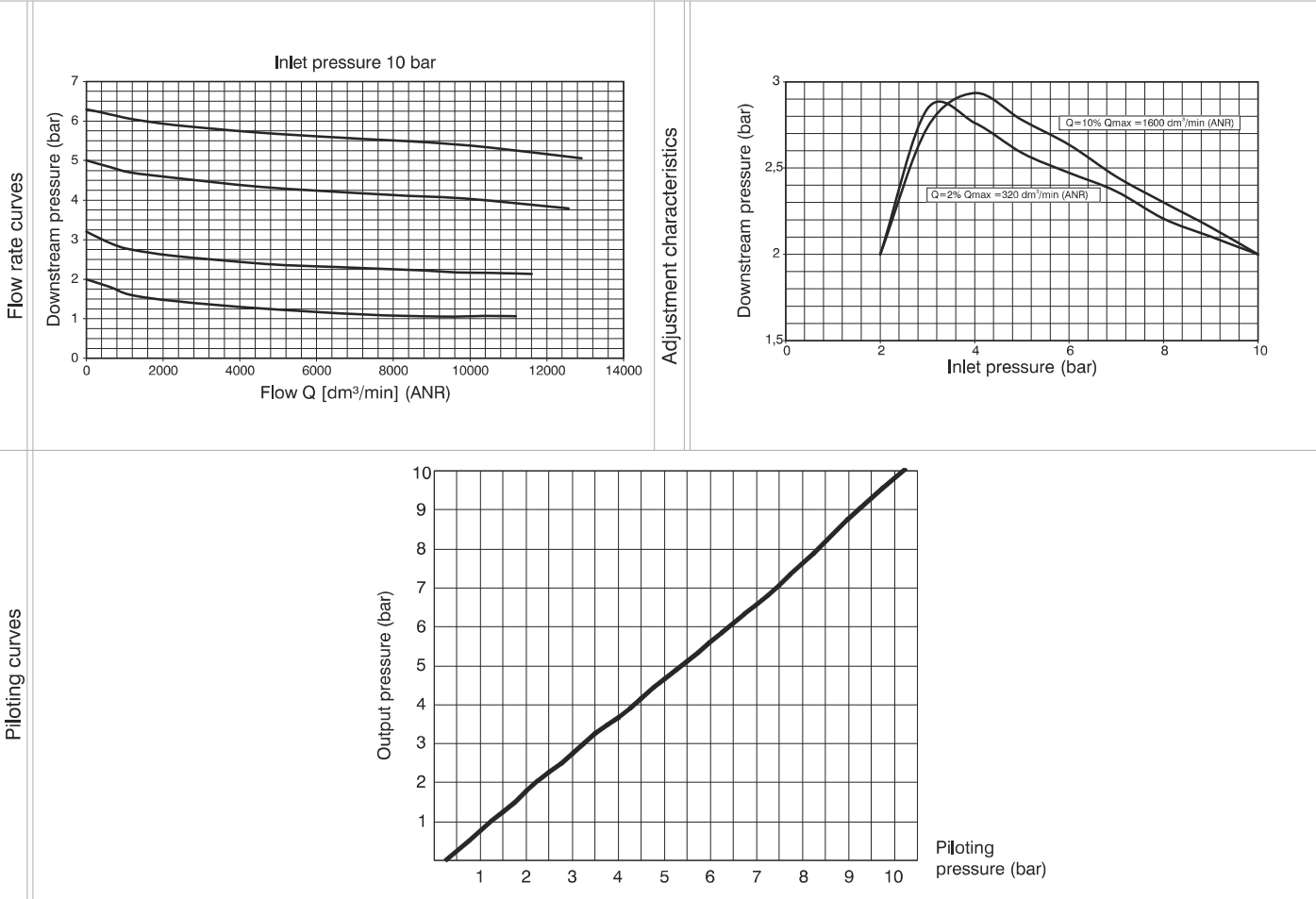
* no additional letter required



Piloted pressure regulator with digital pressure switch (RP)(RZ)

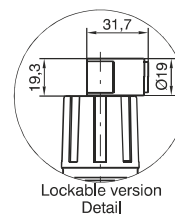
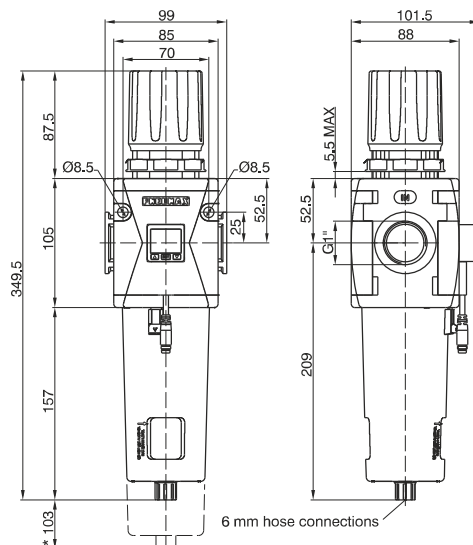


Example: N174BRPAP : size 4, Piloted pressure regulator, G1" connections, with pressure switch with M8 connector PNP



Operational characteristics		Technical characteristics	
- Piston pressure regulator with relieving - Balanced system - Pressure switch as standard	Connections	G1"	Ordering code
	Pilot port size	G1/4"	
	Max. inlet pressure	13 bar	
Note	Working temperature	-5°C +50°C	<div>FLOW DIRECTION</div> <div>P P = from left to right Z = from right to left</div> <div>PRESSURE SWITCH OPTION</div> <div>A = Cable 150 mm + M8 PNP B = Cable 150 mm + M8 NPN C = Cable 2 mt. PNP D = Cable 2 mt. NPN</div>
Always regulate the rising pressure.	Pressure gauge connections	G 1/8"	
	Weight	1190 (gr)	
	Assembly positions	Indifferent	
	Wall fixing screw	M8	

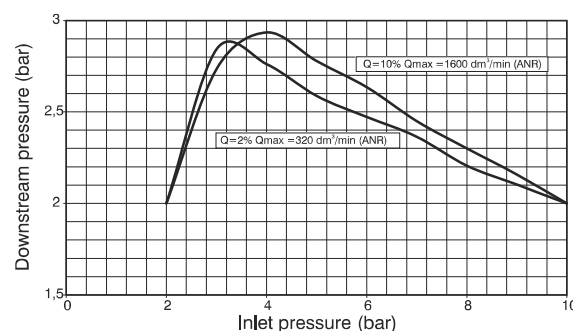
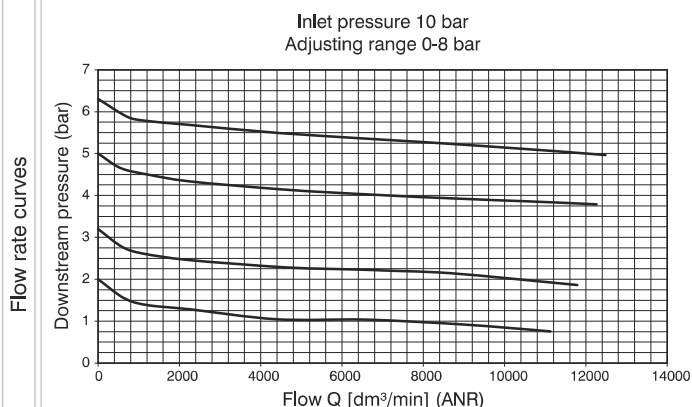
Filter regulator with pressure switch (EP)(EZ)



Lockable version
Detail

*Bowl removal maximum height

Example: N174BEPBCA : size 4, Filter-regulator, G1" connections, 20 μ m filtering pore size, 0 to 8 bar adjusting range, with pressure switch with M8 connector PNP



Operational characteristics

- Filter - diaphragm pressure regulator with relieving.
- Low hysteresis rolling diaphragm.
- Balanced system.
- Double filtering action: air flow centrifugation and filter element.
- Filtering element made of HDPE (high density polyethylene) available in three different filtration grades (5 μ m, 20 μ m and 50 μ m) can be regenerated by washing it or replaced.
- Transparent bowl made of polycarbonate with bowl protection guard.
- Bowl assembly via bayonet type quick coupling mechanism with safety button.
- Semi-automatic drain mounted as standard; automatic drain upon request.
- Available in four pressure ranges up to 12 bar.
- Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved.
- Fitted with panel mounting locking ring.
- Pressure switch as standard

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended. In order to ensure adequate flow on the auto drain version it is recommended to use minimum a 6mm fitting.

Technical characteristics

Connections	G1"	Ordering code N174BE0SG10P FLOW DIRECTION D P = from left to right Z = from right to left FILTER PORE SIZE S A = 5 μ m B = 20 μ m C = 50 μ m ADJUSTING RANGE G A = 0-2 bar B = 0-4 bar C = 0-8 bar D = 0-12 bar TYPE T = Standard * S = Automatic drain OPTIONS O = Standard * K = Lockable version PRESSURE SWITCH OPTION P A = Cable 150 mm+M8 PNP B = Cable 150 mm+M8 NPN C = Cable 2 mt. PNP D = Cable 2 mt. NPN * no additional letter required
Max. inlet pressure	13 bar	
Minimum working pressure with automatic drain	0,5 bar	
Maximum working pressure with automatic drain	10 bar	
Working temperature	0°C +50°C	
Weight	1490 (gr)	
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar	
Filter pore size	5 μ m - 20 μ m - 50 μ m	
Bowl capacity	90 cm ³	
Assembly positions	Vertical	
Wall fixing screw	M8	

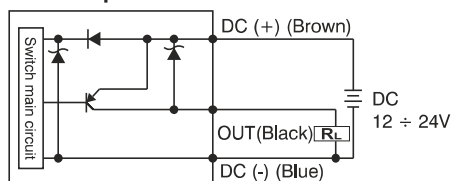


CHARACTERISTICS

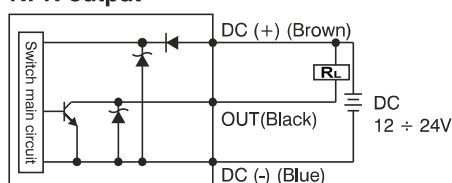
- 3 color digital LCD display, easy readout
- 4 units of measurement for pressure indication
- PNP and NPN output
- N.O. and N.C. output contact
- Not available individually, but only with a Regulator or a Filter-regulator

OUTPUT CIRCUIT WIRING DIAGRAMS

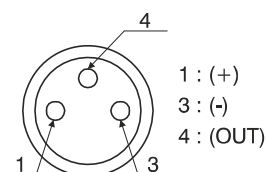
PNP output



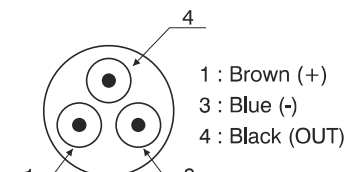
NPN output



M8 CONNECTOR PIN LAY OUT



3 WIRES CABLE LAY OUT



Cable ordering code

- MCH1** cable 3 wires l=2,5m with M8 connector
MCH2 cable 3 wires l=5m with M8 connector
MCH3 cable 3 wires l=10m with M8 connector

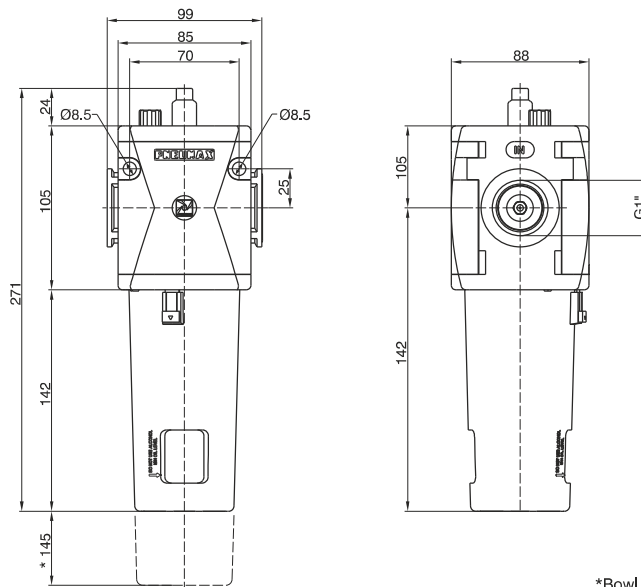
Connector



TECHNICAL CHARACTERISTICS

Adjusting range	0 - 10 bar / 0 - 1MPa
Max. inlet pressure	15 bar / 1,5 MPa
Fluid	Filtered and dehumidified air
Display unit of measurement	MPa - kgf/cm ² - bar - psi
Supply voltage	12 - 24 VDC
Current consumption	≤40mA (without load)
Digital output type	NPN - PNP
Type of contact	Normally Open - Normally Closed
Max. load current	125 mA
Digital output activation mode	single threshold with fixed hysteresis - window with fixed hysteresis - window without hysteresis
Digital output activation time	0.05s - 0.25s - 0.5s - 1s - 2s - 3s (selections for chattering-proof function)
Display characteristics	Double 3 1/2 digit display Digital output status indication Three-pushbuttons touchpad
Indicator accuracy	≤±2% F.S. ± 1 digit
Protection grade	IP 40
Temperature	0 - 50 °C
Cable section	3 x 0,129mm ² , Ø4 mm, PVC

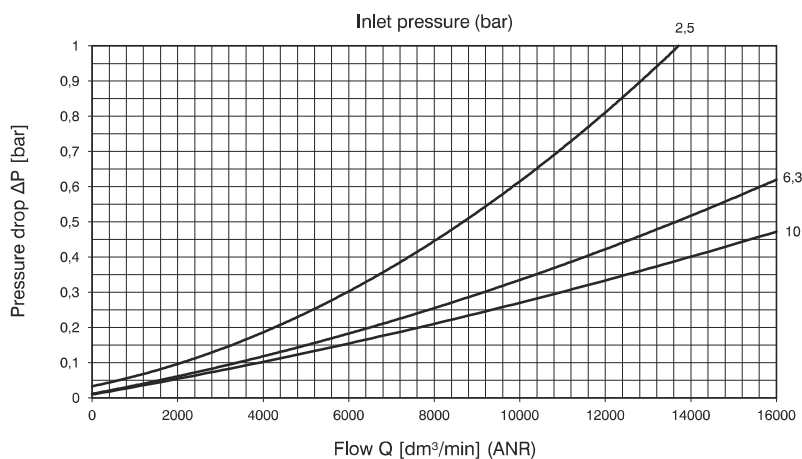
Lubricator (L)



*Bowl removal maximum height

Example : N174BL : size 4, Lubricator, G1" connections

Flow rate curves



Operational characteristics

- Oil mist lubrication with variable orifice size in function of the flow rate
- Oil quantity regulation mechanism and oil quantity visualization dome made of polycarbonate.
- Transparent bowl made of polycarbonate with bowl protection guard.
- Bowl assembly via bayonet type quick coupling mechanism with safety button.
- Oil filling plug
- Oil can be refilled with pressurized circuit.
- Available with electric min-level sensor N.O. or N.C. with connection for connector.
- For electrical connection use connectors type C1-C2-C3 (see sensors chapter in the catalogue).

Note

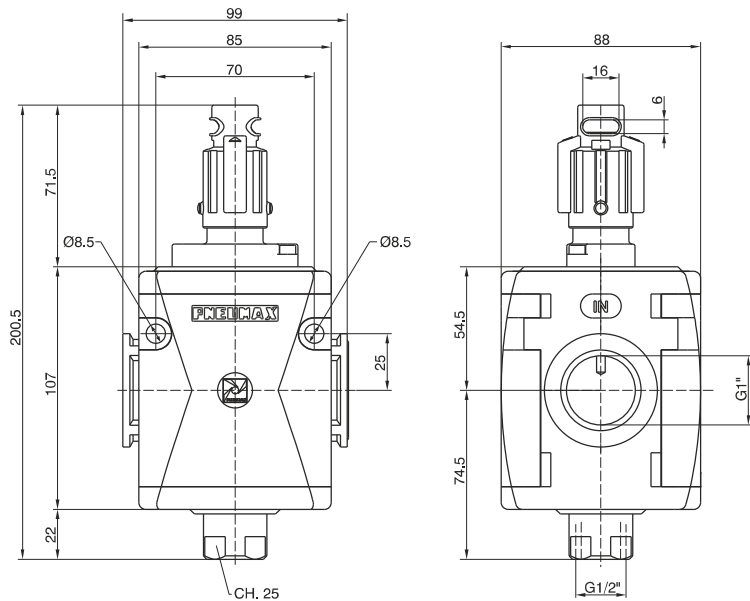
Install as close as possible to the point of use
Do not use alcohol, deterging oils or solvents.

Technical characteristics

Connections	G1"	Ordering code
Max. inlet pressure	13 bar	
Working temperature	-5°C + 50°C	N174BL●
Weight	1025 (gr)	
Indicative oil drip rate	1 drop every 300/600 NI	● OPTIONS A = Min. Oil level indicator Normally open C = Min. Oil level indicator Normally closed
Oil type	FD22 - HG32	
Bowl capacity	360 cm ³	
Assembly positions	Vertical	
Min. operational flow at 6,3 bar	100 dm ³ /min. (ANR)	
Wall fixing screw	M8	



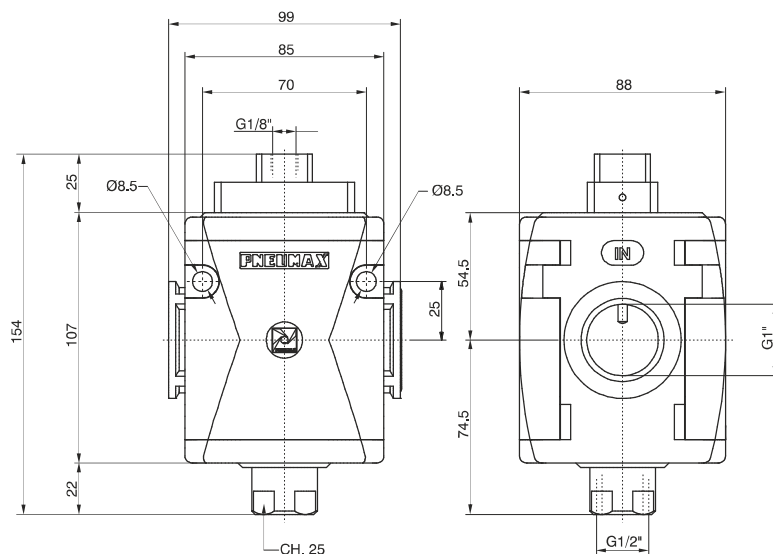
Shut-off valve (VL)



Example: N174BVL : size 4, Shut-off valve, G1" connections

Operational characteristics	Technical characteristics		
<ul style="list-style-type: none">- Manual operated 3 ways poppet valve.- Double handle action for valve opening: pushing and rotating (clockwise).- The valve can be closed and the down stream circuit depressurized by rotating anticlockwise the knob.- Knob lockable with three padlocks.	Connections	G1"	Ordering code
	Max. inlet pressure	10 bar	N174BVL
	Working temperature	-5°C +50°C	
	Weight	1100 (gr)	
	Assembly positions	Indifferent	
	Handle opening and closing angle	90°	
	Nominal flow rate at 6 bar with Δp=1 (from 1 to 2)	15000 dm³/min. (ANR)	
	Exhaust nominal flow rate at 6 bar with Δp=1 (from 2 to 3)	3600 dm³/min. (ANR)	
	Nominal flow rate with free exhaust at 6 bar (from 2 to 3)	5000 dm³/min. (ANR)	
	Wall fixing screw	M8	

Pneumatic shut-off valve (VP)

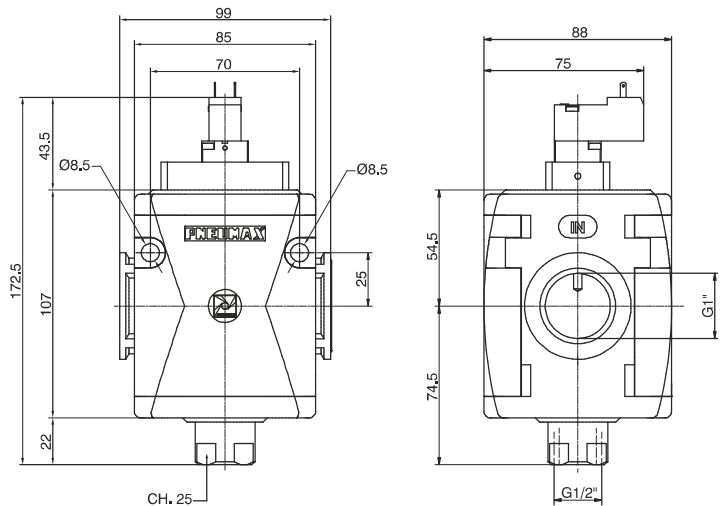
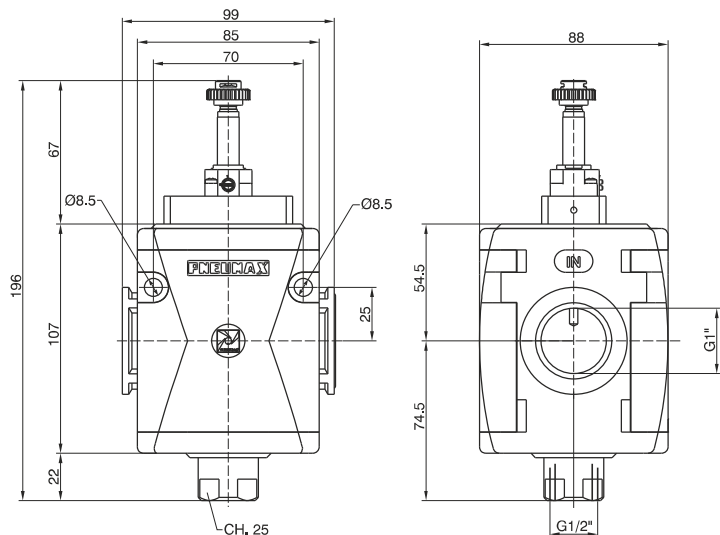


Example: N174BVP : size 4, Pneumatic shut-off valve with Technopolymer threads, G1" connections

Operational characteristics	Technical characteristics		
<div>3</div> <ul style="list-style-type: none"> - Pneumatic operated 3 ways poppet valve. - When the pneumatic signal is removed the valves exhaust the pneumatic circuit 	Connections	G1"	Ordering code
	Discharge connection	G1/2"	N174BVP
	Pilot port size	G1/8"	
	Working temperature	-5°C +50°C	
	Weight	gr. 1.133	
	Assembly positions	Indifferent	
	Min. pressure working	2,5 bar	
	Max. pressure working	10 bar	
	Nominal flow rate at 6 bar with $\Delta p=1$ (from 1 to 2)	15000 dm ³ /min. (ANR)	
	Exhaust nominal flow rate at 6 bar with $\Delta p=1$ (from 2 to 3)	3600 dm ³ /min. (ANR)	
	Nominal flow rate with free exhaust at 6 bar (from 2 to 3)	5000 dm ³ /min. (ANR)	
	Wall fixing screw	M8	



Electric shut-off valve (VE)



Example : N174BVEB2 : size 4, Electric shut-off valve, with M2 Pilot without coil, G1" connections

Operational characteristics

- Solenoid operated 3 ways poppet valve.
- The model fitted with 15 mm pilots uses pilots series N33_0A and N33_0E (1 Watt)

Technical characteristics

Supply and operating connections	G1"
Discharge connections	G 1/2"
Working temperature	-5°C +50°C
Weight	1170 (gr)
Assembly positions	Indifferent
Min. Pressure working	2,5 bar
Max. Pressure working	10 bar
Nominal flow rate at 6 bar with Δp=1 (from 1 to 2)	15000 dm³/min. (ANR)
Exhaust nominal flow rate at 6 bar with Δp=1 (from 2 to 3)	3600 dm³/min. (ANR)
Nominal flow rate with free exhaust at 6 bar (from 2 to 3)	5000 dm³/min. (ANR)

Wall fixing screw

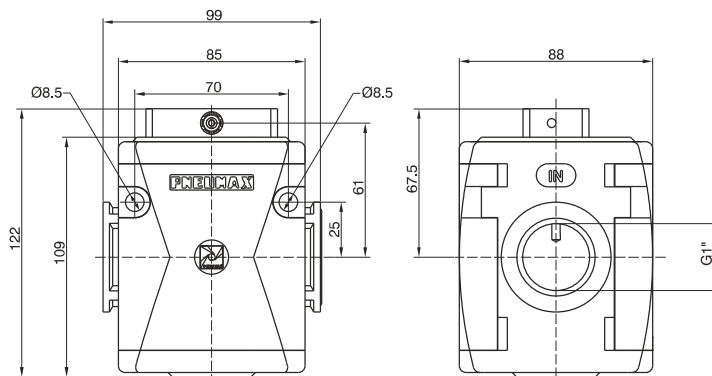
M8

Ordering code

N174BVEA

- 15 mm COIL VOLTAGE
- A4 = 12 V DC
- A5 = 24 V DC
- A6 = 24 V AC (50-60 Hz)
- A7 = 110 V AC (50-60 Hz)
- A8 = 220 V AC (50-60 Hz)
- A9 = 24 V DC (1 Watt)
- 22 mm COIL VOLTAGE
- B2 = Without coil
- M2 mechanic
- A B4 = 12 V DC
- B5 = 24 V DC
- B6 = 24 V AC (50-60 Hz)
- B7 = 110 V AC (50-60 Hz)
- B8 = 220 V AC (50-60 Hz)
- B9 = 24 V DC (2 Watt)
- 30 mm COIL VOLTAGE
- C5 = 24 V DC
- C6 = 24 V AC (50-60 Hz)
- C7 = 110 V AC (50-60 Hz)
- C8 = 230 V AC (50-60 Hz)
- C9 = 24 V DC (2 Watt)

Progressive start-up valve (AP)



Example : N174BAP : size 4, Progressive start-up valve, G1" connections

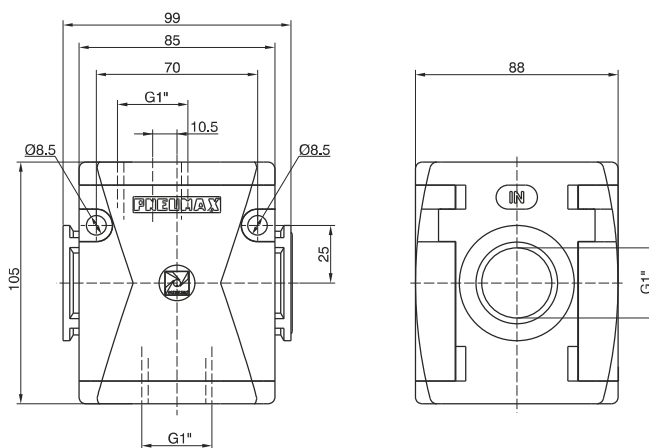
Operational characteristics

- Down stream circuit filling time regulated via a built in flow regulator.
- Full pressure is allowed once the down stream circuit pressure reaches 50% of the inlet pressure.

Technical characteristics

Connections	G1"	Ordering code
Max. inlet pressure	13 bar	
Working temperature	-5°C +50°C	N174BAP^①
Weight	1100 (gr)	
Assembly positions	Indifferent	① FLOW DIRECTION = from left to right W = from right to left
Min. pressure working	2,5 (bar)	
Nominal flow rate at 6 bar with $\Delta p = 1$	15000 dm ³ /min. (ANR)	
Fully open built in flow regulator flow rate	1000 dm ³ /min. (ANR)	
Wall fixing screw	M8	

Air intake (PA)



Example : N174BPA : size 4, Air intake, G1" connections

Operational characteristics

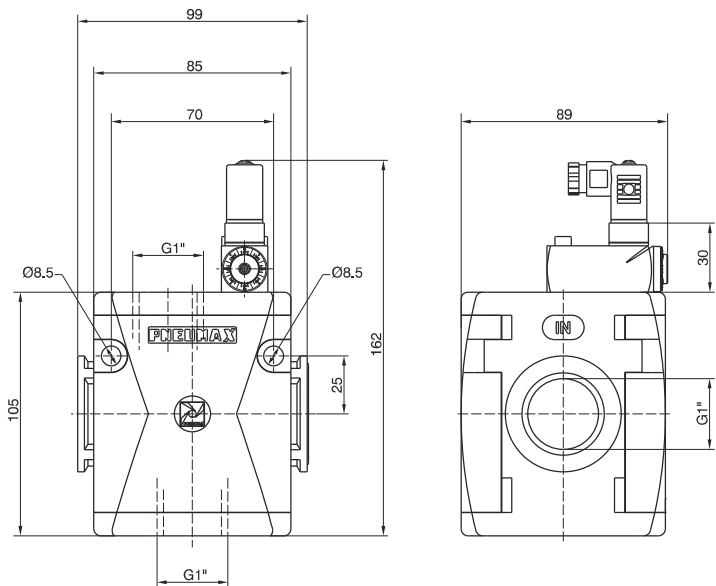
- Available with two G1" threaded connections.

Technical characteristics

Connections	G1"	Ordering code
Max. inlet pressure	13 bar	
Working temperature	-5°C +50°C	N174BPA
Weight	720 (gr)	
Assembly positions	Indifferent	
Wall fixing screw	M8	



Pressure switch (PP)



Example: N174BPP : Size 4, Pressure switch, G1" connections

Operational characteristics	Technical characteristics		
<ul style="list-style-type: none">- Built in adjustable pressure switch (2 to 10 bar) with electrical connection.- Available with two G1" threaded connections.- The electrical connection is made by mean of a 15 mm connector DIN 43650 type C. The microswitch contact could be normally closed or open (change overswitch).	Connections	G1"	Ordering code
	Max. inlet pressure	13 bar	
	Working temperature	-5°C +50°C	<div>N174BPP</div> <div>FLOW DIRECTION</div> <div>= from left to right</div> <div>W = from right to left</div>
	Weight	800 (gr)	
	Microswitch capacity	1A	
	Grade of protection (with connector assembled)	IP 65	
	Adjusting range	2 -10 bar	
	Assembly positions	Indifferent	
	Microswitch maximum tension	250 VAC	
	Wall fixing screw	M8	

Connection

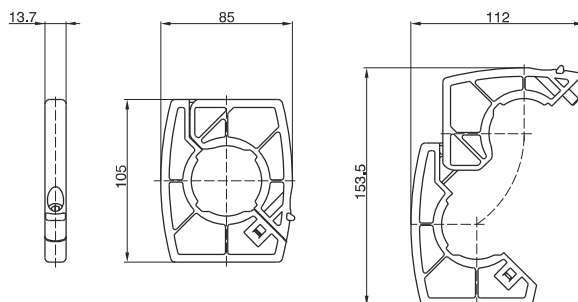
1 = neutral
2 = N.C. contact
3 = N.O. contact

DIN 43650 type C connector

Flange X

Ordering code

T174X

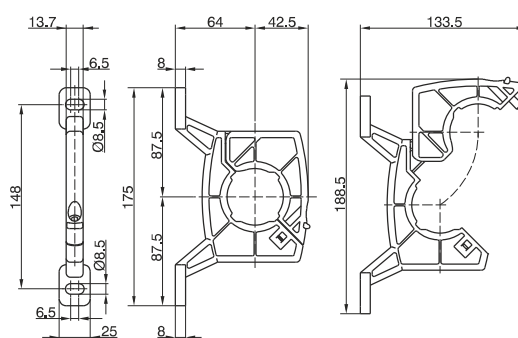


Weight 90 gr.
Example : T174X : Size 4 coupling flange
- Enables the quick connection of two functions.

Flange Y

Ordering code

T174Y



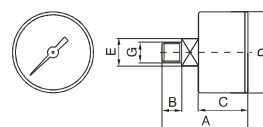
Weight 120 gr.
Example : T174Y : Size 4 coupling flange with mounting holes
- Used to couple together two elements and to panel mount them.
- Used to panel mount one single element.

Pressure gauge

Ordering code

17070

V	VERSION
	A = Dial Ø40 B = Dial Ø50
S	SCALE
	A = Scale 0-4 bar B = Scale 0-6 bar C = Scale 0-12 bar

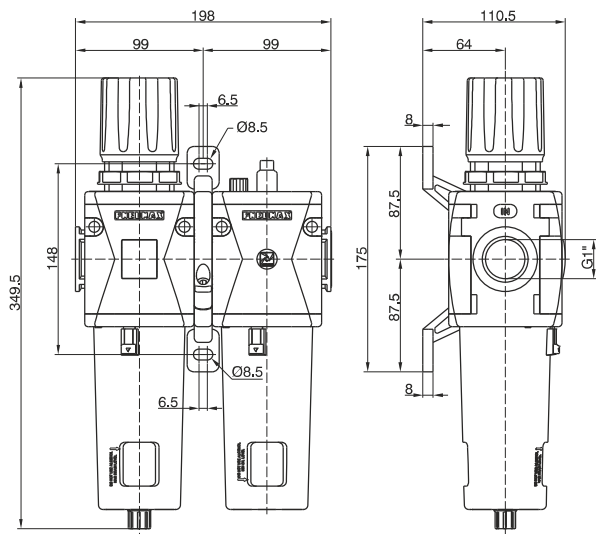


DIMENSIONS

CODE	A	B	C	D	E	G	Weight gr.
17070A	44	10	26	41	14	1/8"	60
17070B	45	10	27	49	14	1/8"	80



Service unit assembled (EM+L) (E+L) (EW+L)

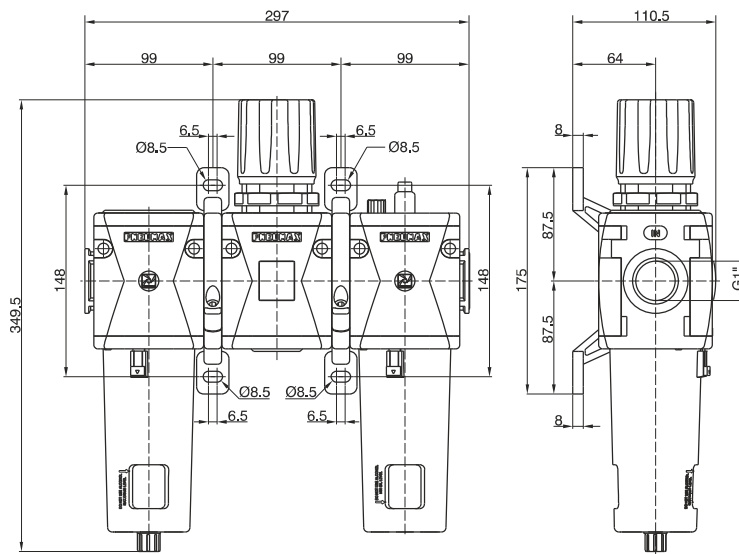


Example : GN174BHG : size 4, combined group comprising Filter-regulator and Lubricator, G1" connections, 0 to 8 bar adjusting range and 20 µm filter pore size

Operational characteristics	Technical characteristics		
Combined group comprising Filter-regulator with built in manometer and Lubricator assembled with a (Y) type coupling kit for panel mounting. Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range) Note The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.	Connections	G1"	Ordering code
	Max. inlet pressure	13 bar	GN174BT SOD
	Working temperature	-5°C +50°C	TYPE
	Weight	2585 (gr)	① H = Built in gauge J = G1/8" gauge connection
	Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar	FILTER PORE SIZE
	Filter pore size	5 µm - 20 µm - 50 µm	ADJUSTING RANGE
	Bowl capacity	90 cm³	C = 5 µm / 0-8 bar D = 5 µm / 0-12 bar
	Indicative oil drip rate	1 drop every 300/600 NI	⑤ G = 20 µm / 0-8 bar H = 20 µm / 0-12 bar N = 50 µm / 0-8 bar P = 50 µm / 0-12 bar
	Oil type	FD22 - HG32	OPTIONS
	Bowl capacity	360 cm³	= Standard *
	Assembly positions	Vertical	A = Min.oil level indicator NO C = Min.oil level indicator NC
	Min. operational flow rate at 6,3 bar	100 dm³/min. (ANR)	⑥ S = Automatic drain SA = Automatic drain + Min.oil level indicator NO SC = Automatic drain + Min.oil level indicator NC
	Wall fixing screw	M8	FLOW DIRECTION
			⑦ = Standard * (from left to right) W = from right to left

* no additional letter required

Service unit assembled (F+RM+L) (F+R+L) (F+RW+L)



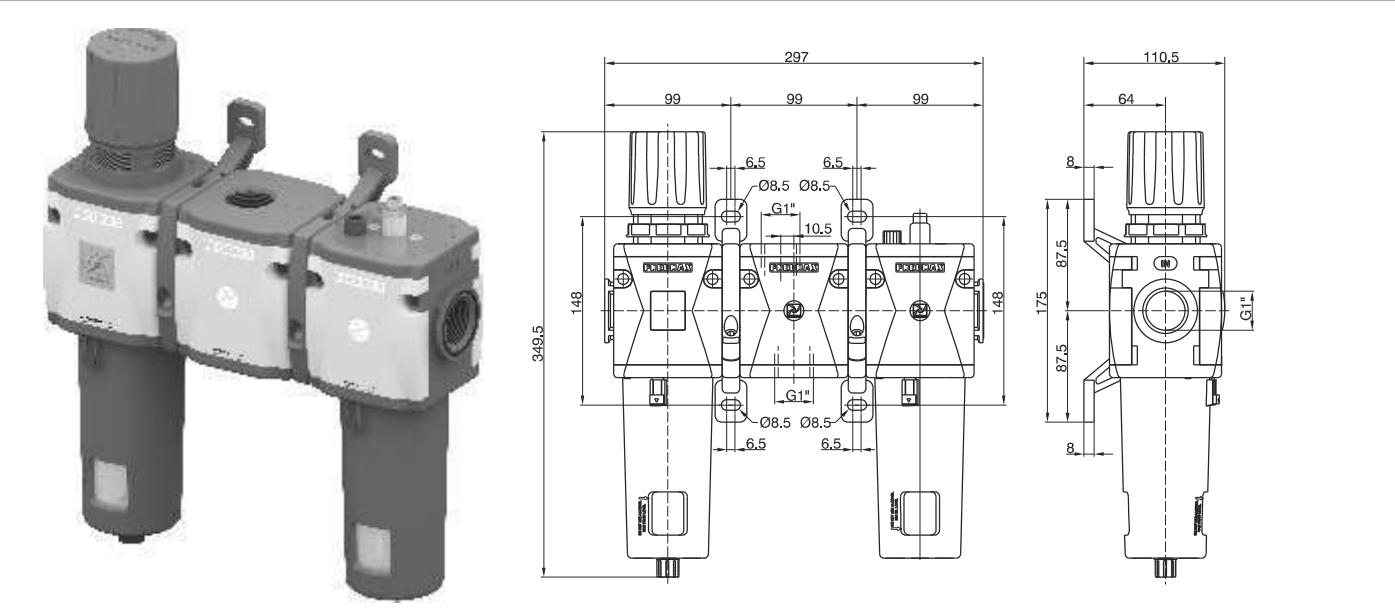
Example : GN174BKG : size 4 combined group comprising Filter, Regulator and Lubricator, G1" connections, 0 to 8 bar adjusting range and 20 µm filter pore size

Operational characteristics	Technical characteristics		Ordering code
<p>Combined group comprising Filter, Regulator with built in manometer and Lubricator assembled with two (Y) type coupling kits for panel mounting.</p> <p>Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)</p> <p>Note</p> <p>The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.</p>	Connections	G1"	<p>GN174BT S O O</p> <p>TYPE</p> <p>1 K = Built in gauge T = G1/8" gauge connection</p> <p>2 FILTER PORE SIZE ADJUSTING RANGE</p> <p>C = 5 µm / 0-8 bar D = 5 µm / 0-12 bar G = 20 µm / 0-8 bar H = 20 µm / 0-12 bar N = 50 µm / 0-8 bar P = 50 µm / 0-12 bar</p> <p>OPTIONS</p> <p>= Standard *</p> <p>A = Min.oil level indicator NO C = Min.oil level indicator NC</p> <p>3 S = Automatic drain SA = Automatic drain + Min.oil level indicator NO SC = Automatic drain + Min.oil level indicator NC</p> <p>4 FLOW DIRECTION</p> <p>= Standard * (from left to right) W = from right to left</p>
	Max. inlet pressure	13 bar	
	Working temperature	-5°C +50°C	
	Weight	3640 (gr)	
	Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar	
	Filter pore size	5 µm - 20 µm - 50 µm	
	Bowl capacity	90 cm³	
	Indicative oil drip rate	1 drop every 300/600 NI	
	Oil type	FD22 - HG32	
	Bowl capacity	360 cm³	
	Assembly positions	Vertical	
	Min. operational flow rate at 6,3 bar	100 dm³/min. (ANR)	
	Wall fixing screw	M8	

* no additional letter required



Service unit assembled (EM+PA+L) (E+PA+L) (EW+PA+L)

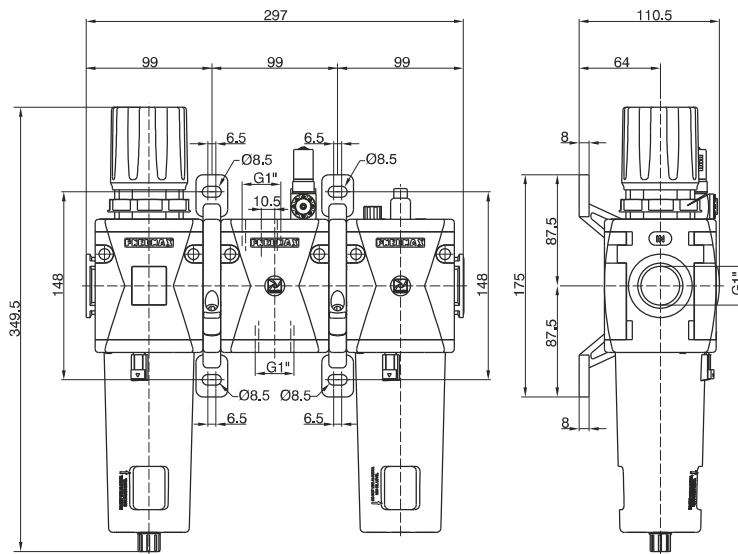


Example : GN174BNG : size 4 combined group comprising Filter-regulator, Air intake and Lubricator assembled, G1" connections, 0 to 8 bar adjusting range and 20 µm filter pore size

Operational characteristics	Technical characteristics		
Combined group comprising Filter-regulator with built in manometer, Air intake and Lubricator assembled with two (Y) type coupling kits for panel mounting. Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range) Note The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.	Connections	G1"	Ordering code
	Max. inlet pressure	13 bar	
	Working temperature	-5°C +50°C	GN174BT S O D
	Weight	3425 (gr)	
	Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar	T TYPE
	Filter pore size	5 µm - 20 µm - 50 µm	N = Built in gauge P = G1/8" gauge connection
	Bowl capacity	90 cm³	S FILTER PORE SIZE ADJUSTING RANGE C = 5 µm / 0-8 bar D = 5 µm / 0-12 bar G = 20 µm / 0-8 bar H = 20 µm / 0-12 bar N = 50 µm / 0-8 bar P = 50 µm / 0-12 bar
	Indicative oil drip rate	1 drop every 300/600 NI	
	Oil type	FD22 - HG32	
	Bowl capacity	360 cm³	
Assembly positions	Vertical		
Min. operational flow rate at 6,3 bar	100 dm³/min. (ANR)	O OPTIONS = Standard * A = Min.oil level indicator NO C = Min.oil level indicator NC S = Automatic drain SA = Automatic drain + Min.oil level indicator NO SC = Automatic drain + Min.oil level indicator NC	
Wall fixing screw	M8	D FLOW DIRECTION = Standard * (from left to right) W = from right to left	

* no additional letter required

Service unit assembled (EM+PP+L) (E+PP+L) (EW+PP+L)



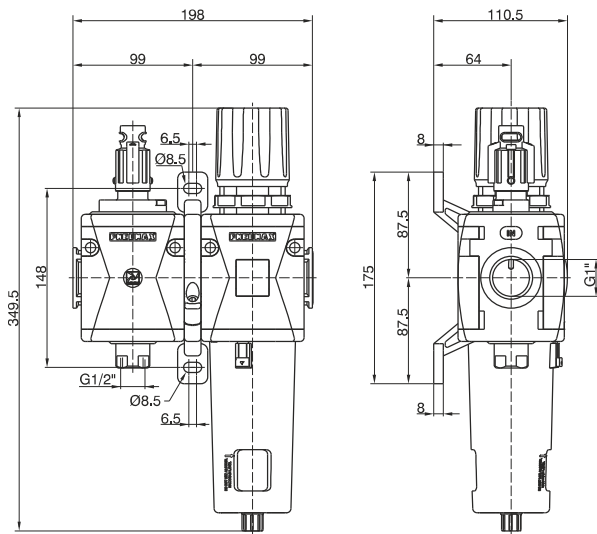
Example : GN174BRG : size 4 combined group comprising Filter-Regulator, Pressure switch and Lubricator, G1" connections 0 to 8 bar adjusting range and 20 μ m filter pore size

Operational characteristics	Technical characteristics		Ordering code
<p>Combined group comprising Filter-regulator with built in manometer, Pressure switch and Lubricator assembled with two (Y) type coupling kits for panel mountings.</p> <p>Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)</p> <p>Note</p> <p>The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.</p>	Connections	G1"	<p>GN174BT S O D</p> <p>TYPE</p> <p>1 R = Built in gauge C = G1/8" gauge connection</p> <p>FILTER PORE SIZE</p> <p>ADJUSTING RANGE</p> <p>C = 5 μm / 0-8 bar D = 5 μm / 0-12 bar G = 20 μm / 0-8 bar H = 20 μm / 0-12 bar N = 50 μm / 0-8 bar P = 50 μm / 0-12 bar</p> <p>OPTIONS</p> <p>= Standard *</p> <p>A = Min.oil level indicator NO C = Min.oil level indicator NC</p> <p>S S = Automatic drain SA = Automatic drain + Min.oil level indicator NO SC = Automatic drain + Min.oil level indicator NC</p> <p>D FLOW DIRECTION = Standard * (from left to right) W = from right to left</p>
	Max. inlet pressure	13 bar	
	Working temperature	-5°C +50°C	
	Weight	3505 (gr)	
	Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar	
	Filter pore size	5 μ m - 20 μ m - 50 μ m	
	Bowl capacity	90 cm ³	
	Indicative oil drip rate	1 drop every 300/600 NI	
	Oil type	FD22 - HG32	
	Bowl capacity	360 cm ³	
	Assembly positions	Vertical	
	Min. operational flow rate at 6,3 bar	100 dm ³ /min. (ANR)	
	Wall fixing screw	M8	

* no additional letter required



Service unit assembled (VL + EM) (VL + E) (VL + EW)

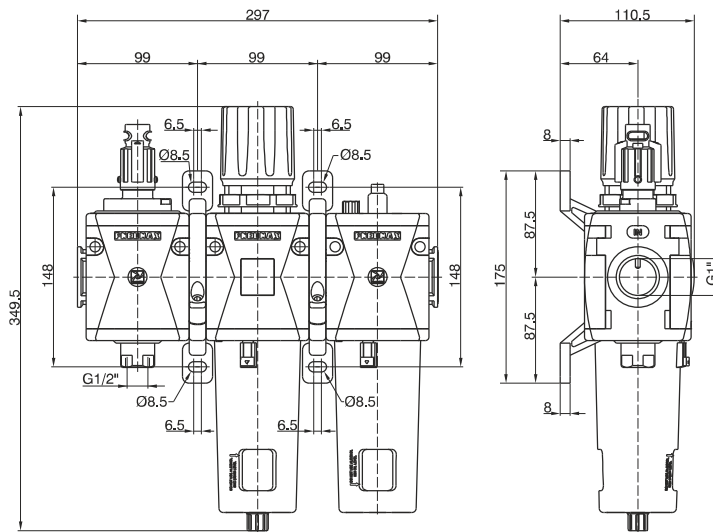


Example : GN174BVGG : size 4 combined group comprising Shut-off valve and Filter-regulator, G1" connections 0 to 8 bar adjusting range and 20 µm filter pore size

Operational characteristics	Technical characteristics		
Combined group comprising manual shut-off valve, Filter - regulator with built in manometer, assembled with one (Y) type coupling kit for panel mountings. Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range) Note The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.	Connections	G1"	Ordering code
	Max. inlet pressure	13 bar	GN174BT S O D
	Working temperature	-5°C +50°C	TYPE
	Weight	2660 (gr)	① VG = Built in gauge VU = G1/8" gauge connection
	Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar	FILTER PORE SIZE
	Filter pore size	5 µm - 20 µm - 50 µm	ADJUSTING RANGE
	Bowl capacity	90 cm³	C = 5 µm / 0-8 bar D = 5 µm / 0-12 bar
	Indicative oil drip rate	1 drop every 300/600 NI	S G = 20 µm / 0-8 bar H = 20 µm / 0-12 bar N = 50 µm / 0-8 bar P = 50 µm / 0-12 bar
	Oil type	FD22 - HG32	OPTIONS
	Bowl capacity	360 cm³	② = Standard * S = Automatic drain
	Assembly positions	Vertical	FLOW DIRECTION
	Wall fixing screw	M8	③ = Standard * (from left to right) W = from right to left

* no additional letter required

Service unit assembled (VL+EM+L) (VL+E+L) (VL+EW+L)



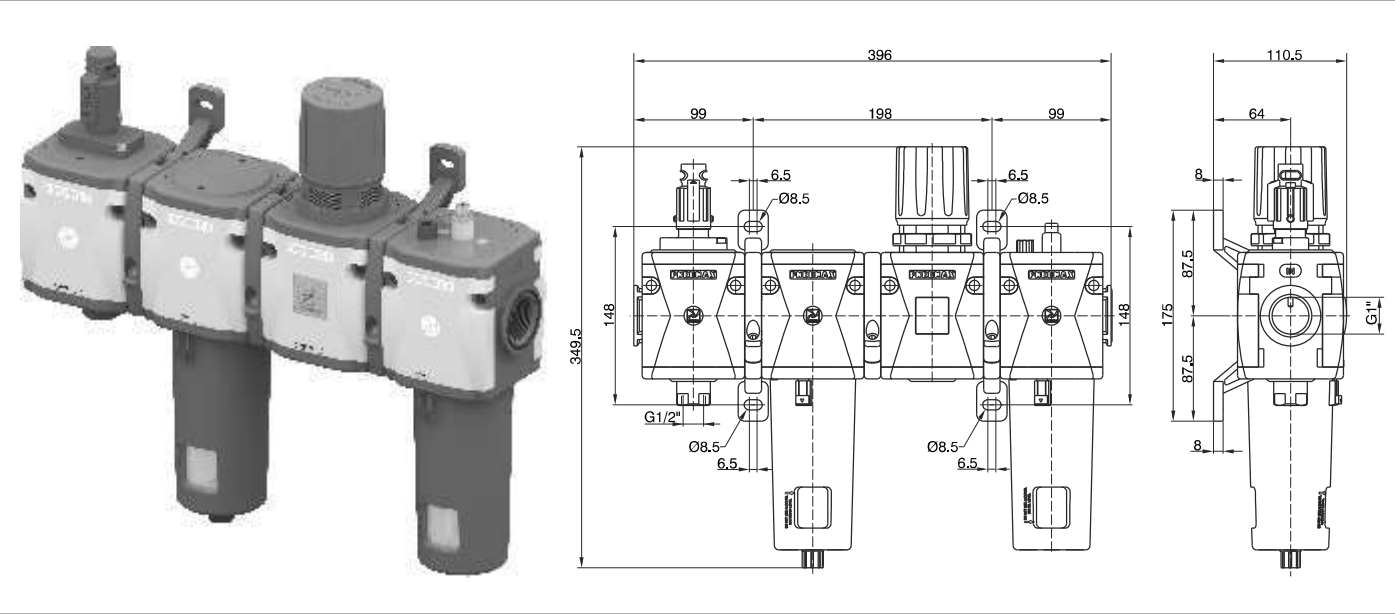
Example : GN174BVHG : Size 4 Combined group comprising Shut-off valve, Filter-regulator and Lubricator, G1" connections 0 to 8 bar adjusting range and 20 μ m filter pore size

Operational characteristics	Technical characteristics		Ordering code
<p>Combined group comprising manual shut-off valve, Filter - regulator with built in manometer and Lubricator assembled with two(Y) type coupling kits for panel mountings.</p> <p>Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)</p> <p>Note</p> <p>The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.</p>	Connections	G1"	GN174BT S O O
	Max. inlet pressure	13 bar	
	Working temperature	-5°C +50°C	<p>TYPE</p> <p>1 VH = Built in gauge VJ = G1/8" gauge connection</p> <p>FILTER PORE SIZE</p> <p>ADJUSTING RANGE</p> <p>C = 5 μm / 0-8 bar D = 5 μm / 0-12 bar G = 20 μm / 0-8 bar H = 20 μm / 0-12 bar N = 50 μm / 0-8 bar P = 50 μm / 0-12 bar</p> <p>OPTIONS</p> <p>= Standard *</p> <p>A = Min.oil level indicator NO C = Min.oil level indicator NC</p> <p>S S = Automatic drain SA = Automatic drain + Min.oil level indicator NO SC = Automatic drain + Min.oil level indicator NC</p> <p>FLOW DIRECTION</p> <p>D = Standard * (from left to right) W = from right to left</p>
	Weight	3805 (gr)	
	Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar	
	Filter pore size	5 μ m - 20 μ m - 50 μ m	
	Bowl capacity	90 cm ³	
	Indicative oil drip rate	1 drop every 300/600 NI	
	Oil type	FD22 - HG32	
	Bowl capacity	360 cm ³	
	Assembly positions	Vertical	
	Min. operational flow rate at 6,3 bar	100 dm ³ /min. (ANR)	
	Wall fixing screw	M8	

* no additional letter required



Service unit assembled (VL+F+RM+L) (VL+F+R+L) (VL+F+RW+L)

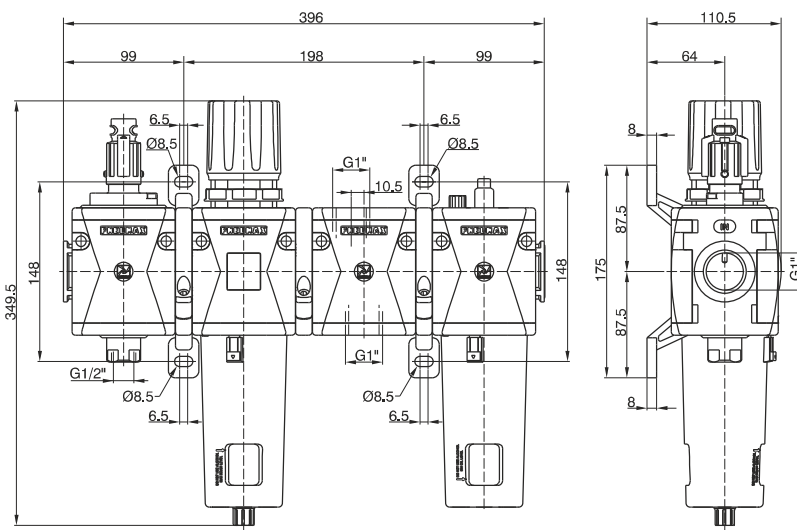


Example : GN174BVKG : size 4 combined group comprising Shut-off valve, Filter, Regulator and Lubricator, G1" connections 0 to 8 bar adjusting range and 20 µm filter pore size

Operational characteristics	Technical characteristics		
Combined group comprising manual shut - off valve, Filter, Regulator with built in manometer and Lubricator , assembled with two (Y) type coupling kits for panel mounting and one (X) type coupling kit. Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)	Connections	G1"	Ordering code
	Max. inlet pressure	13 bar	
	Working temperature	-5°C +50°C	
Note	Weight	4830 (gr)	GN174BT SOD
	Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar	
	Filter pore size	5 µm - 20 µm - 50 µm	
The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.	Bowl capacity	90 cm³	TYPE VK = Built in gauge VT = G1/8" gauge connection FILTER PORE SIZE ADJUSTING RANGE C = 5 µm / 0-8 bar D = 5 µm / 0-12 bar G = 20 µm / 0-8 bar H = 20 µm / 0-12 bar N = 50 µm / 0-8 bar P = 50 µm / 0-12 bar OPTIONS = Standard * A = Min,oil level indicator NO C = Min,oil level indicator NC S = Automatic drain SA = Automatic drain + Min,oil level indicator NO SC = Automatic drain + Min,oil level indicator NC FLOW DIRECTION = Standard * (from left to right) W = from right to left
	Indicative oil drip rate	1 drop every 300/600 NI	
	Oil type	FD22 - HG32	
	Bowl capacity	360 cm³	
	Assembly positions	Vertical	
	Min. operational flow rate at 6,3 bar	100 dm³/min. (ANR)	
	Wall fixing screw	M8	

* no additional letter required

Service unit assembled (VL+EM+PA+L) (VL+E+PA+L) (VL+EW+PA+L)



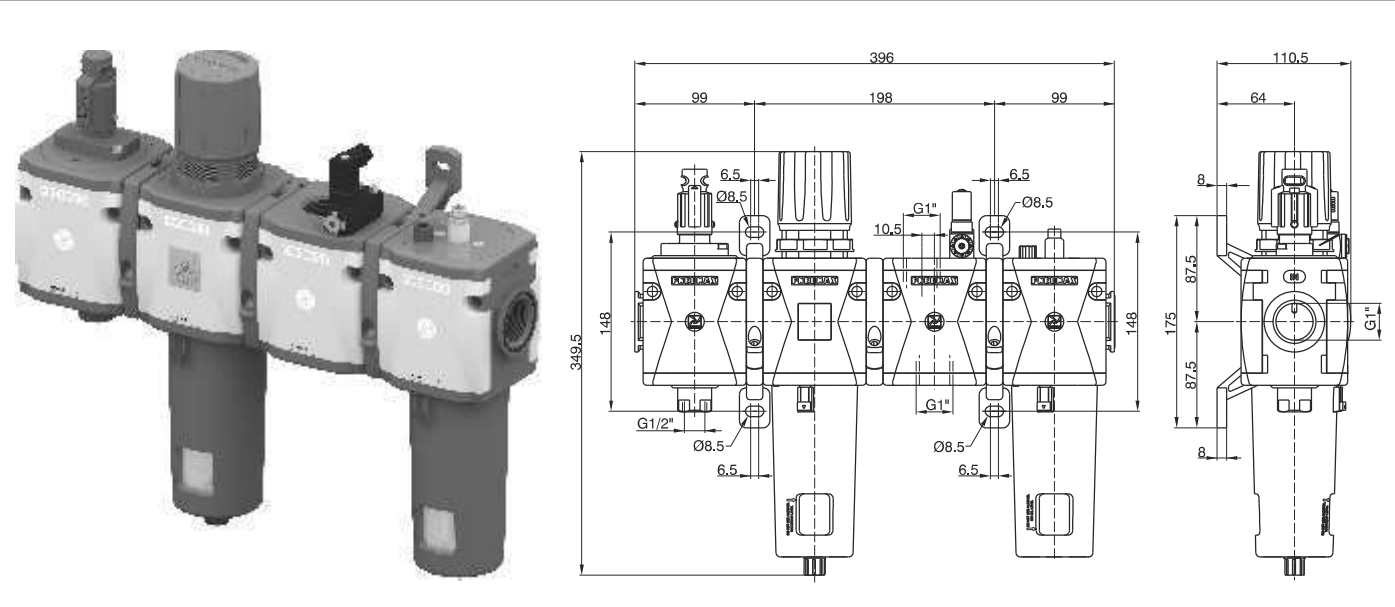
Example : GN174BVNG : size 4 combined group comprising Shut-off valve, Filter-regulator, Air intake and Lubricator, G1" connections 0 to 8 bar adjusting range and 20 µm filter pore size

Operational characteristics	Technical characteristics		Ordering code
Combined group comprising manual shut-off valve, Filter - regulator with built in manometer, Air intake and Lubricator, assembled with two (Y) type coupling kits for panel mounting and one (X) type coupling kit. Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)	Connections	G1"	GN174BTSD
	Max. inlet pressure	13 bar	
Note The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.	Working temperature	-5°C +50°C	TYPE ① VN = Built in gauge VP = G1/8" gauge connection
	Weight	4615 (gr)	
	Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar	⑤ FILTER PORE SIZE ADJUSTING RANGE C = 5 µm / 0-8 bar D = 5 µm / 0-12 bar G = 20 µm / 0-8 bar H = 20 µm / 0-12 bar N = 50 µm / 0-8 bar P = 50 µm / 0-12 bar
	Filter pore size	5 µm - 20 µm - 50 µm	
	Bowl capacity	90 cm³	OPTIONS = Standard * A = Min.oil level indicator NO C = Min.oil level indicator NC
	Indicative oil drip rate	1 drop every 300/600 NI	
	Oil type	FD22 - HG32	⑥ S = Automatic drain SA = Automatic drain + Min.oil level indicator NO SC = Automatic drain + Min.oil level indicator NC
	Bowl capacity	360 cm³	
	Assembly positions	Vertical	FLOW DIRECTION ⑦ = Standard * (from left to right) W = from right to left
	Min. operational flow rate at 6,3 bar	100 dm³/min. (ANR)	
	Wall fixing screw	M8	

* no additional letter required



Service unit assembled (VL+EM+PP+L) (VL+E+PP+L) (VL+EW+PP+L)

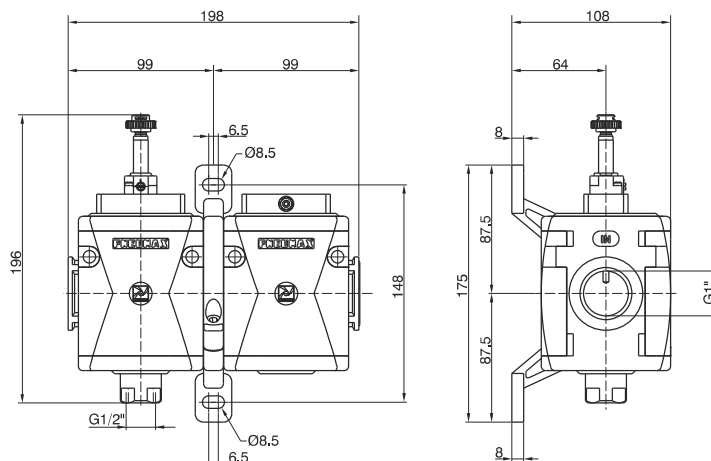


Example : GN174BVRG : size 4 combined group comprising Shut-off valve, Filter-regulator, Pressure switch and Lubricator, G1" connections adjusting range 0 to 8 bar and 20 µm filter pore size

Operational characteristics	Technical characteristics		
Combined group comprising manual shut-off valve, Filter - regulator with built in manometer, Pressure switch and Lubricator, assembled with two (Y) type coupling kits for panel mounting and one (X) type coupling kit. Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)	Connections	G1"	
	Max. inlet pressure	13 bar	
	Working temperature	-5°C +50°C	
Note	Weight	4695 (gr)	
	Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar	
	Filter pore size	5 µm - 20 µm - 50 µm	
The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.	Bowl capacity	90 cm³	
	Indicative oil drip rate	1 drop every 300/600 NI	
	Oil type	FD22 - HG32	
	Bowl capacity	360 cm³	
	Assembly positions	Vertical	
	Min. operational flow rate at 6,3 bar	100 dm³/min. (ANR)	
	Wall fixing screw	M8	
		Ordering code	
		GN174BTSOD	
		TYPE	
		① VR = Built in gauge VC = G1/8" gauge connection	
		FILTER PORE SIZE	
		⑤ ADJUSTING RANGE	
		C = 5 µm / 0-8 bar	
		D = 5 µm / 0-12 bar	
		G = 20 µm / 0-8 bar	
		H = 20 µm / 0-12 bar	
		N = 50 µm / 0-8 bar	
		P = 50 µm / 0-12 bar	
		OPTIONS	
		= Standard *	
		A = Min.oil level indicator NO	
		C = Min.oil level indicator NC	
		⑥ S = Automatic drain	
		SA = Automatic drain + Min.oil level indicator NO	
		SC = Automatic drain + Min.oil level indicator NC	
		FLOW DIRECTION	
		⑦ = Standard * (from left to right)	
		W = from right to left	

* no additional letter required

Service unit assembled (VE+AP)



Example : GN174BSB2 : size 4 combined group comprising Electric shut-off valve and Progressive start-up valve without coil with M2 pilot, G1" connections

Operational characteristics	Technical characteristics		
Combined group comprising Electric shut - off valve and Progressive start-up valve assembled with a (Y) type coupling kit for panel mounting.	Connections	G1"	Ordering code
	Max. inlet pressure	10 bar	GN174BSA0
	Min. inlet pressure	2,5 (bar)	
	Working temperature	-5°C +50°C	
	Weight	2390 (gr)	
	Assembly positions	Indifferent	
	Wall fixing screw	M8	15 mm COIL VOLTAGE A4 = 12 V DC A5 = 24 V DC A6 = 24 V AC (50-60 Hz) A7 = 110 V AC (50-60 Hz) A8 = 220 V AC (50-60 Hz) A9 = 24 V DC (1 Watt) 22 mm COIL VOLTAGE B2 = Without coil M2 mechanic B4 = 12 V DC B5 = 24 V DC A B6 = 24 V AC (50-60 Hz) B7 = 110 V AC (50-60 Hz) B8 = 220 V AC (50-60 Hz) B9 = 24 V DC (2 Watt) 30 mm COIL VOLTAGE C5 = 24 V DC C6 = 24 V AC (50-60 Hz) C7 = 110 V AC (50-60 Hz) C8 = 230 V AC (50-60 Hz) C9 = 24 V DC (2 Watt) D FLOW DIRECTION = Standard * (from left to right) W = from right to left

* no additional letter required