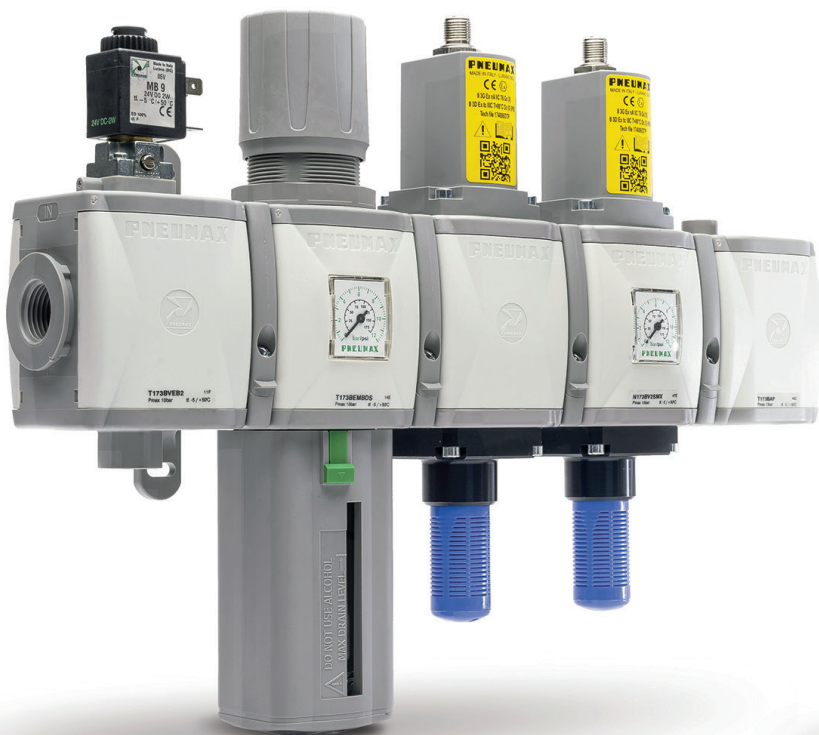




PNEUMAX



SERIES AIRPLUS AIR TREATMENT

SAFETY AND RELIABILITY



PNEUMAX

Pneumax

Smart Technologies and Human Competence

Founded in 1976, **Pneumax S.p.A.** is today one of the leading, international manufacturers of components and systems for automation. It is at the fore front of a group comprised of 25 companies, with over 730 employees worldwide. Ongoing investment in research and development has allowed **Pneumax** to continually expand its range of standard products and customised solutions, adding to the well-established pneumatic technology, a range of electric drive actuators and fluid control components. The desire to provide the service and specific application skills has led to the creation of 3 business units, dedicated to Industrial Automation, Process Automation and Automotive sector.



The ability to provide various technologies and solutions for each of our clients applications is the main objective of the Company, making Pneumax the ideal strategic partner.

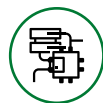
What defines us is the “**Pneumax Business Attitude**”, born out of the capacity to combine industry sectors, technology and our application skills via the clients collaboration with our business and product specialists.

The most effective solutions are studied around the TCO (Total cost of ownership) related to the entire life cycle of the product.

This represents the main Pneumax distinguishing factor.



**Pneumatic
technology**



**Electric
actuation**



**Fluid
control**



Index

Modular FRL series Airplus

Introduction 1

Overview series Airplus 3

Filtration 7



Filters	7	Carbon filters	22
Coalescing filters	12		
Oil removal filters	17		

Regulation 27



Filter regulators	27	Pressure regulators for manifold	46
Regulators	35	Manifold pressure regulators	50
Piloted pressure regulators	41		

Lubrication 55



Lubricators	55
-------------	----

Shut off 60



Shut off valves	60
-----------------	----

Complementary modules 64



Progressive start-up valve	64	Air intake with pressure gauge or	
Air intake	67	digital pressure switch integrated	72
Pressure switch	69		

Safety 77



Safeline valves	77
Supply and discharge valve single	79
Supply and discharge valve double	81

Manifold unit 84



Product overview

PRODUCT	VERSION	SIZE				MAX. PRESSURE		MIN - MAX AMBIENT TEMPERATURE			ATEX
		Size 1	Size 2	Size 3	Size 4	Technopolymer body or bowl	Metal body and bowl	Technopolymer body or bowl	Metal body and bowl	Automatic drain	
FILTER (F)	T : Technopolymer body and thread	●	●	●		13 bar - 10 bar (automatic drain)	/ 20 bar - 16 bar (automatic drain)	-5 °C ... +50 °C	/ -30 °C ... +80 °C -40 °C ... +80 °C	-5 °C ... +50 °C	●
	N : Technopolymer body and metal inserts	●	●	●							
	P : Aluminum body		●	●	●						
	L : Aluminum body, low temperature		●	●	●						
COALESCING FILTER (D)	T : Technopolymer body and thread	●	●	●		13 bar - 10 bar (automatic drain)	/ 20 bar - 16 bar (automatic drain)	-5 °C ... +50 °C	/ -30 °C ... +80 °C -40 °C ... +80 °C	-5 °C ... +50 °C	●
	N : Technopolymer body and metal inserts	●	●	●							
	P : Aluminum body		●	●	●						
	L : Aluminum body, low temperature		●	●	●						
OIL REMOVAL FILTER (DBV) (DCV) (DAV)	T : Technopolymer body and thread			●		10 bar		-5 °C ... +50 °C			●
	N : Technopolymer body and metal inserts			●							
	P : Aluminum body			●	●						
	L : Aluminum body, low temperature										
CARBON FILTER (DD)	T : Technopolymer body and thread			●		13 bar	/ 20 bar	-5 °C ... +50 °C	/ -30 °C ... +80 °C -40 °C ... +80 °C	-5 °C ... +50 °C	●
	N : Technopolymer body and metal inserts			●							
	P : Aluminum body			●	●						
	L : Aluminum body, low temperature			●	●						
REGULATOR (R) (RM) (RW)	T : Technopolymer body and thread	●	●	●		13 bar	20 bar	-5 °C ... +50 °C	/ -30 °C ... +80 °C -40 °C ... +80 °C	/ /	●
	N : Technopolymer body and metal inserts	●	●	●							
	P : Aluminum body		●	●	●						
	L : Aluminum body, low temperature		●	●	●						
PRESSURE REGULATORS FOR MANIFOLD (B - M)	T : Technopolymer body and thread	●				13 bar	/ /	-5 °C ... +50 °C	/ /	/ /	●
	N : Technopolymer body and metal inserts	●									
	P : Aluminum body										
	L : Aluminum body, low temperature										
PILOTTED PRESSURE REGULATORS (RP) (RMP) (RPP)	T : Technopolymer body and thread					/ / 20 bar	/ / 20 bar	/ / / -30 °C ... +80 °C	/ / / -30 °C ... +80 °C	/ / / -30 °C ... +80 °C	●
	N : Technopolymer body and metal inserts										
	P : Aluminum body				●						
	L : Aluminum body, low temperature										
PILOTTED PRESSURE REGULATORS WITH DIGITAL PRESSURE SWITCH (RPP) (RPZ)	T : Technopolymer body and thread					/ / 20 bar	/ / 20 bar	/ / / 0 °C ... +50 °C	/ / / 0 °C ... +50 °C	/ / / 0 °C ... +50 °C	
	N : Technopolymer body and metal inserts										
	P : Aluminum body				●						
	L : Aluminum body, low temperature										
FILTER REGULATOR (E) (EM) (EW)	T : Technopolymer body and thread	●	●	●		13 bar - 10 bar (automatic drain)	20 bar - 16 bar (automatic drain)	-5 °C ... +50 °C	/ -30 °C ... +80 °C -40 °C ... +80 °C	-5 °C ... +50 °C	●
	N : Technopolymer body and metal inserts	●	●	●							
	P : Aluminum body		●	●	●						
	L : Aluminum body, low temperature		●	●	●						
REGULATOR WITH DIGITAL PRESSURE SWITCH (RP) (RZ)	T : Technopolymer body and thread	●	●	●		13 bar	20 bar	0 °C ... +50 °C		/ /	
	N : Technopolymer body and metal inserts	●	●	●							
	P : Aluminum body		●	●	●						
	L : Aluminum body, low temperature		●	●	●						
FILTER REGULATOR WITH DIGITAL PRESSURE SWITCH (E) (EP) (EZ)	T : Technopolymer body and thread	●	●	●		13 bar - 10 bar (automatic drain)	20 bar - 16 bar (automatic drain)	0 °C ... +50 °C		-5 °C ... +50 °C	
	N : Technopolymer body and metal inserts	●	●	●							
	P : Aluminum body		●	●	●						
	L : Aluminum body, low temperature		●	●	●						
LUBRICATOR (L)	T : Technopolymer body and thread	●	●	●		13 bar		-5 °C ... +50 °C		/ /	●
	N : Technopolymer body and metal inserts	●	●	●							
	P : Aluminum body		●	●	●						
	L : Aluminum body, low temperature										

PRODUCT	VERSION	SIZE				MAX. PRESSURE		MIN - MAX AMBIENT TEMPERATURE			ATEX
		Size 1	Size 2	Size 3	Size 4	Technopolymer body or bowl	Metal body and bowl	Technopolymer body or bowl	Metal body and bowl	Automatic drain	
LUBRICATOR WITH ELECTRICAL MINIMUM LEVEL SENSOR (LA) (LC)	T : Technopolymer body and thread	•	•	•		13 bar		-5 °C ... +50 °C		/	
	N : Technopolymer body and metal inserts	•	•	•							
	P : Aluminum body		•	•	•						
	L : Aluminum body, low temperature					/		/			
SHUT OFF VALVE (VL)	T : Technopolymer body and thread	•	•	•		13 bar - 10 bar (for size 4)		-5 °C ... +50 °C	/	/	•
	N : Technopolymer body and metal inserts	•	•	•					-30 °C ... +80 °C		
	P : Aluminum body		•	•	•				-40 °C ... +80 °C		
	L : Aluminum body, low temperature		•	•	•						
PNEUMATIC SHUT OFF VALVE (VP)	T : Technopolymer body and thread	•	•	•		13 bar	20 bar	-5 °C ... +50 °C	/	/	•
	N : Technopolymer body and metal inserts	•	•	•					-30 °C ... +80 °C		
	P : Aluminum body		•	•	•				-40 °C ... +80 °C		
	L : Aluminum body, low temperature		•	•	•						
ELECTRIC SHUT OFF VALVE (VE)	T : Technopolymer body and thread	•	•	•		10 bar		-5 °C ... +50 °C		/	•
	N : Technopolymer body and metal inserts	•	•	•							
	P : Aluminum body		•	•	•						
	L : Aluminum body, low temperature					/		/			
PROGRESSIVE START-UP VALVE (AP)	T : Technopolymer body and thread	•	•	•		13 bar - 10 bar (for size 4)		-5 °C ... +50 °C		/	•
	N : Technopolymer body and metal inserts	•	•	•							
	P : Aluminum body		•	•	•						
	L : Aluminum body, low temperature		•	•	•						
AIR INTAKE (PA)	T : Technopolymer body and thread	•	•	•		13 bar	20 bar	-5 °C ... +50 °C	/	/	•
	N : Technopolymer body and metal inserts	•	•	•					-30 °C ... +80 °C		
	P : Aluminum body		•	•	•						
	L : Aluminum body, low temperature					/		/			
PRESSURE SWITCH (PP)	T : Technopolymer body and thread	•	•	•		13 bar	20 bar	-5 °C ... +50 °C		/	
	N : Technopolymer body and metal inserts	•	•	•							
	P : Aluminum body		•	•	•						
	L : Aluminum body, low temperature					/		/			
AIR INTAKE WITH INTEGRATED PRESSURE GAUGE (PM-PW)	T : Technopolymer body and thread	•	•	•		13 bar		-5 °C ... +50 °C	/	/	•
	N : Technopolymer body and metal inserts	•	•	•					-30 °C ... +80 °C		
	P : Aluminum body		•	•	•						
	L : Aluminum body, low temperature					/		/			
AIR INTAKE WITH INTEGRATED DIGITAL PRESSURE SWITCH (PP-PZ)	T : Technopolymer body and thread	•	•	•		13 bar		0 °C ... +50 °C		/	
	N : Technopolymer body and metal inserts	•	•	•							
	P : Aluminum body		•	•	•						
	L : Aluminum body, low temperature					/		/			

Modular FRL series AIRPLUS



- **Modular system**
- **Compact and linear design**
- **Maximum flexibility and reliability**
- **Plug-n-play connection thru couplig flanges**
- **Integral safety elements in assembled group**
- **Available in 4 sizes with connections from 1/8" to 1"**
- **ATEX certification (II 2GD or II 3GD)**

Construction and working characteristics

Pneumax AIRPLUS air treatment units have been designed and developed to increase reliability, modularity and user-friendly operation and installation. Thanks to a wide range of modules with different functions and characteristics, together with a wide choice of materials selection, make the Pneumax AIRPLUS air treatment units a robust, reliable and extremely flexible modular system, adaptable to many applications. AIRPLUS units correctly assembled are modular with unlimited configurations and solutions, capable of fulfilling all functions of compressed air treatment such as filtration, regulation, lubrication, interception and distribution.

Filters, including coalescing and active carbon elements as well as oil separators provide adequate media filtration. Precise and reliable pressure regulation is provided by the regulators or filter-regulators which are also available with a built in pressure gauge or integral digital pressure switch. The lubricators provide oil mist lubrication in proportion to air being consumed whilst the shut-off valves, which can be operated pneumatic, electro-pneumatic or manually will effectively manage the supply and exhaust of the compressed air system. The range is completed by a series of complementary modules, such as pneumatic connection by-pass, pressure switch and progressive start-up. The complete assembly is built up using the individual modules connected together via quick coupling flanges which provide a 'plug & play' assembly. This provides quick and easy installation or replacement. Pneumax Airplus air treatment units can be integrated with safety elements that comply with EN-ISO 13849-1 and CE marking according to EU Machinery Directive, Annex V. AIRPLUS air treatment units are available in 4 different sizes, with connections from 1/8 "to 1" and flow rates performances up to 8000NI/min.

Instruction for installation and operation

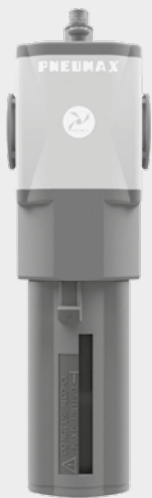
The FRL unit should be installed as close as possible to the 'point of use'. The air flow direction should follow the direction indicated on the individual modules, following threaded connections (IN and OUT). Units fitted with a bowl should be mounted vertically with the bowl facing down. All units should be operated in accordance to the specified pressure and temperature ranges and should never exceed 0.2 Hz max frequency whether pulsing inlet pressure occur. Fittings shall be mounted according to the maximum torque specified.

Maintenance

To carry out maintenance which involves the removal of the caps or supports above the body and where the retaining screws are present, it is necessary to remove the cover plates beforehand. If you attempt to dis-assemble the caps or supports without removing the cover plates and retaining screws, the integrity and function of the device could be compromised.

Bowls, plugs and supports are assembled with a bayonet type mechanism. In order to remove them, rotate anti-clockwise until the mechanical stop is reached and then remove from the body (for the bowls firstly press down the green safety button). Bowls and transparent parts can be cleaned with water and neutral soap. Do not use solvents or alcohol. Filtering elements (present in filters and filter regulators) made of HDPE can be regenerated by washing and blowing them. In order to remove them it is necessary to remove the bowl unscrew the filter element and replace it with a new one or clean it. Lubricator oil recharge might be performed during normal operation (apart TG1 size) depressurizing the bowl thru dedicated plug. Pneumax suggest refilling oil directly into the bowl. No others maintenance operation shall be carried out by client itself, due to complexity of the assembly and Pneumax dedicated post-maintenance testing activities.

FILTRATION



Filter pore sizes
from 50 μm to 5 μm

Coalescing filter with
retention efficiency of 99,97%
particle removal down to 0,01 μm

Coalescing/oil removal filter
with oil residual up to 0,01 ppm

Carbon filter
with oil residual up to < 0,003 ppm

REGULATION

Regulators and filter regulators
Pressure regulation range up to 12 bar

Available with
integrated pressure gauge,
pressure switch or G1/8" connection



AIR TREATMENT

LUBRICATION



Manual adjustment of oil quantity
complete with visual indicator

Oil refilled with
pressurized circuit

Oil mist lubrication

SHUT OFF

Manual, pneumatic
or electropneumatic
operation availability
Manual version lockable
up to 3 padlock



COMPLEMENTARY MODULES

Pressure switch

Air intake

Progressive start-up valve



SAFETY

Integrated diagnostic system

Single version CAT.2
in accordance with
ISO EN 13849 up to PL=C

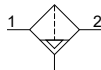
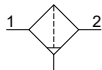
Double version CAT.4
in accordance with
ISO EN 13849 up to PL=E

In accordance with
EU Machinery directive,
annex V



Filters (F)


- ▶ Double filter action: air flow centrifugation and filter element
- ▶ Available in 4 sizes with flow rates up to 14000 NI/min and connections from 1/8" to 1"
- ▶ Filtering cartridge made of HDPE available in three different filtration grades (5 µm, 20 µm, 50 µm)
- ▶ Filter cartridge can be regenerated by washing / blowing it or replaced
- ▶ Bowl assembly via bayonet type quick coupling mechanism with safety button
- ▶ Semi-automatic or automatic drain
- ▶ Atex certification (II 2GD or II 3GD)
- ▶ Inlet pressures up to 20 bar


Note

In order to ensure that any fluid discharged by the auto drain assembly is adequately drained away, it is recommended you use a 6 mm fitting and tube.

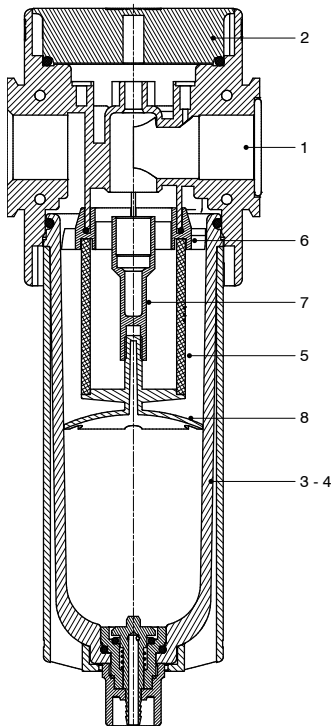
Technical characteristics					
Size		Size 1	Size 2	Size 3	Size 4
Body and connections type		Technopolymer body, integrated technopolymer connections (T version) Technopolymer body, metal connections (N version)			/
		/	Aluminium body, integrated aluminium connections (P - L versions)		
Protection and bowl type		Technopolymer protection - PC bowl Technopolymer protection - PA bowl			
		/	Metal protection - PC bowl Metal protection - PA bowl Metal bowl (blind metal bowl)		
IN / OUT connections	T version	G1/4"	G3/8"	G1/2"	not available
	N version	G1/8" - G1/4" - 1/4" NPT	G3/8" - G1/4" - 3/8" NPT	G3/8" - G1/2" - 1/2" NPT	
	P and L version	not available	G3/8" - 1/4" NPT	G1/2" - 1/2" NPT	G1" - 1" NPT
Assembly configuration		Stand alone			
		/			Panel mounted
Assembly positions		Vertical ±5°			
Filter pore size		5 µm 20 µm 50 µm			
Bowl capacity		18 cm³	34 cm³	68 cm³	90 cm³
Condensation drain		Semi-automatic Automatic			
Max. fittings torque IN / OUT connections		G1/8" metal: 15 Nm G1/4" metal: 20 Nm G1/4" technopolymer: 9 Nm	G1/4" metal: 20 Nm G3/8" metal: 25 Nm G3/8" technopolymer: 16 Nm	G3/8" metal: 25 Nm G1/2" metal: 30 Nm G1/2" technopolymer: 22 Nm	G1" metal: 35 Nm

Operational characteristics								
Size	Size 1	Size 2	Size 3	Size 4	Size 1	Size 2	Size 3	Size 4
Condensation drain	Semi-automatic				Automatic			
Maximum working pressure	13 bar				10 bar			
	/	20 bar (only with body and metal bowl)			/	16 bar (only with body and metal bowl)		
Minimum working pressure	0,5 bar				0,5 bar			
Working temperature	-5 °C ... +50 °C				-5 °C ... +50 °C			
	/	-30 °C ... +80 °C (only for P version and metal bowl) -40 °C ... +80 °C (only for L version and metal bowl)						

Weights	Size	Size 1	Size 2	Size 3	Size 4
Fully technopolymer version		129 g	226 g	355 g	/
Technopolymer body version, aluminium bowl protection and technopolymer bowl		/	257 g	393 g	/
Technopolymer body version, aluminium bowl		/	301 g	465 g	/
Aluminium body version, technopolymer protection and bowl		/	314 g	477 g	1163 g
Aluminium body version, aluminium bowl protection and technopolymer bowl		/	344 g	514 g	1306 g
Aluminium body version and aluminium bowl		/	389 g	587 g	1330 g

Materials

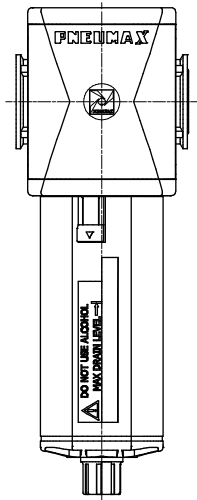
Exploded sectioned



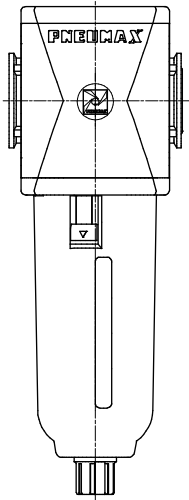
Filter		
1	Body	Polyamide Die-cast aluminium
2	Plug	Polyamide
3	Technopolymer bowl	Polycarbonate Polyamide
4	Metal bowl Bowl protection	Die-cast aluminium Polyamide - Die-cast aluminium
5	Filtering element	Polyethylene
6	Baffle	Acetal resin
7	Spool support	Acetal resin
8	Filtering element support	Acetal resin

Design

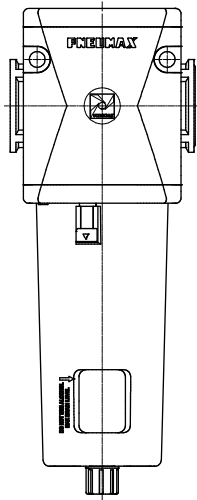
Size 1 - Size 2 - Size 3
Technopolymer protection



Size 1 - Size 2 - Size 3
Protection / Metal bowl



Size 4
All versions





Order codes

T 17 3B F B S T

Version

N : Technopolymer body and metal inserts (not available for size 4)
T : Technopolymer body and thread (not available for size 4)
P : Aluminum body (not available for size 1)
L : Aluminum body, low temperature (not available for size 1)

Size and connections

1A : Size 1 - G1/8" only for N version
1B : Size 1 - G1/4" only for T - N versions
1C : Size 1 - 1/4" NPT only for N version
2A : Size 2 - G1/4" only for N version
2B : Size 2 - G3/8" for all versions
2C : Size 2 - 3/8" NPT only for N version - 1/4" NPT only for P - L versions
3A : Size 3 - G3/8" only for N version
3B : Size 3 - G1/2" for all versions
3C : Size 3 - 1/2" NPT only for N - P - L versions
4B : Size 4 - G1" only for P - L versions
4C : Size 4 - 1" NPT only for P - L versions

Filter pore size

A : 5 μm
B : 20 μm
C : 50 μm

Condensation drain

: Semi-automatic drain
S : Automatic drain

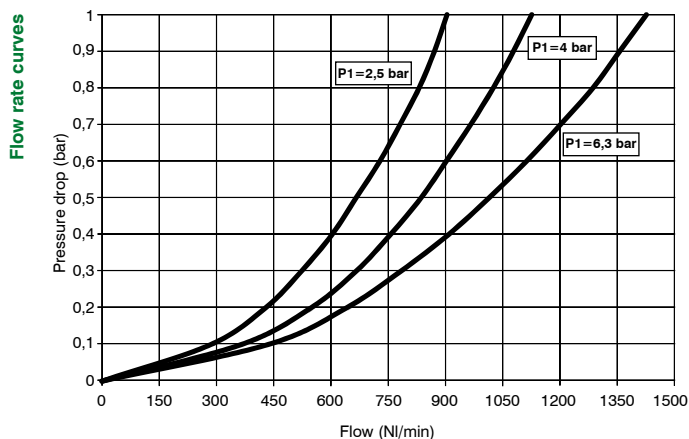
Bowl options

: Technopolymer protection - PC bowl
N : Technopolymer protection - PA bowl
P : Metal protection - PC bowl (not available for size 1)
R : Metal protection - PA bowl (not available for size 1)
T : Metal bowl (not available for size 1)

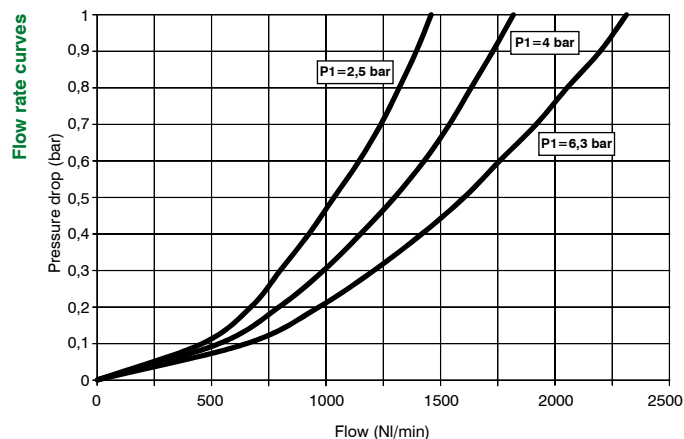
Example : T173BFBST : Size 3 filter G1/2" 20 μm , automatic drain and metal bowl

Characteristic curves

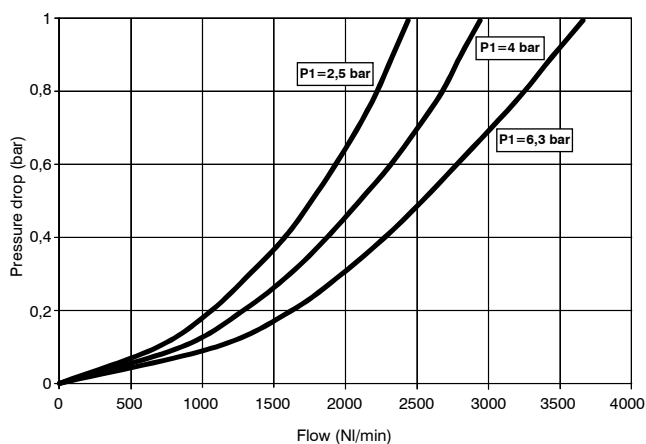
Size 1



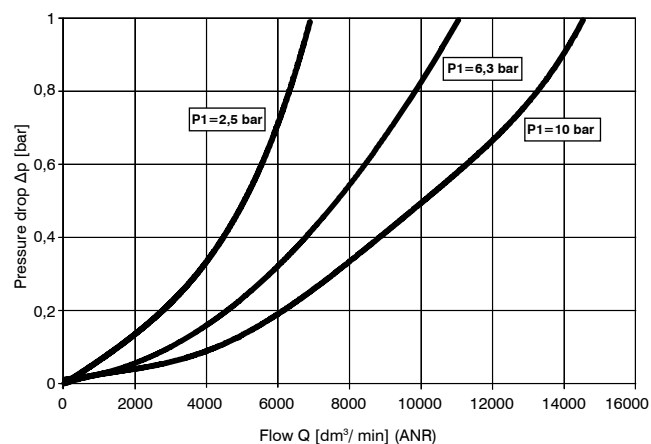
Size 2



Flow rate curves

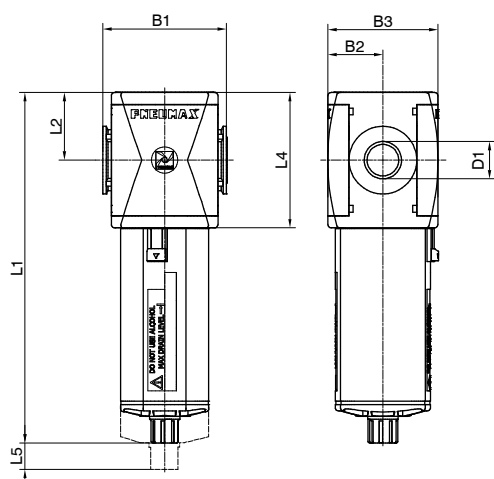
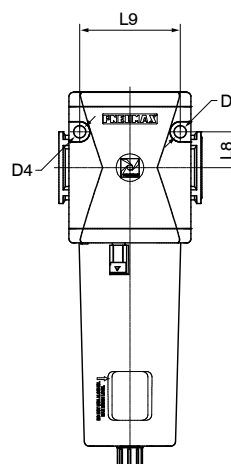


Flow rate curves



Dimensioni

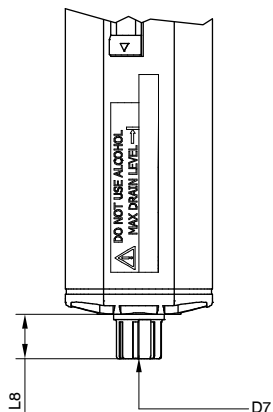
Semi-automatic drain version


Fixing holes dimension detail
(only for size 4)


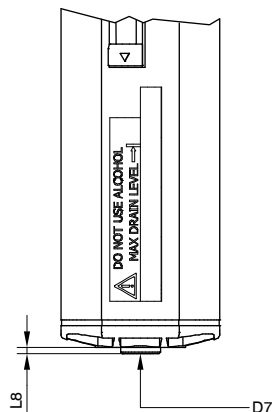
Model	B1	B2	B3	D1	D4	L1 - Bowl material		L2	L4	L5	L8	L9
						Technopolymer	Metal					
#171..	48	21	42	G1/8" G1/4" 1/4" NPT	/	148	/	27,5	55	40	/	/
#172..	62	28,5	57	G1/4" G3/8" 1/4" NPT 3/8" NPT	/	169,1	171,5	34	68	50	/	/
#173..	73	32,5	65	G3/8" G1/2" 1/2" NPT	/	207,2	209,5	40	80	65	/	/
#174..	99	44	88	G1" 1" NPT	8,5	262	264,5	52,5	105	103	25	70

Variable dimensions

Semi-automatic drain version



Automatic drain version

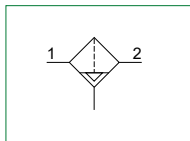
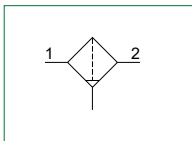


Model	L8 - Bowl material		D7
	Technopolymer	Metal	
Semi-automatic drain	15,7	18	Plastic hose connector Ø6
Automatic drain	2	4,5	G1/8"

Coalescing filters (DA)



- ▶ Coalescing filter
- ▶ Available in 4 sizes with flow rates up to 8000 NI/min and connections from 1/8" to 1"
- ▶ Filtering cartridge with filtration grade of 0,01 μm
- ▶ Filtering performances 99.97% (particles up to 0.01 μm)
- ▶ Bowl assembly via bayonet type quick coupling mechanism with safety button
- ▶ Semi-automatic or automatic drain
- ▶ Atex certification (II 2GD or II 3GD)
- ▶ Inlet pressures up to 20 bar



Note

In order to ensure the high level of filtration, it is recommended that a 5 μ filter is installed before the coalescing filter. In order to ensure that any fluid discharged by the auto drain assembly is adequately drained away, it is recommended you use a 6 mm fitting and tube.

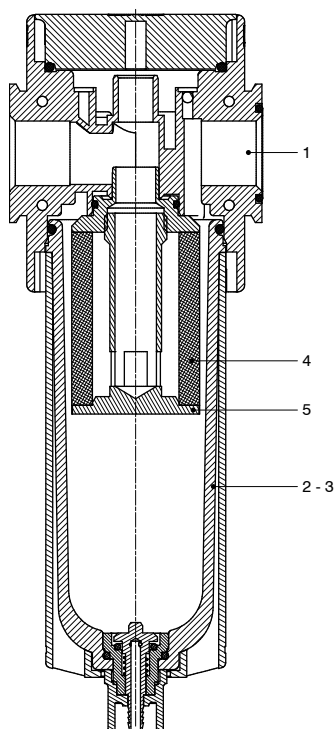
Technical characteristics					
Size		Size 1	Size 2	Size 3	Size 4
Body and connections type		Technopolymer body, integrated technopolymer connections (T version) Technopolymer body, metal connections (N version)			/
		/	Aluminium body, integrated aluminium connections (P - L versions)		
Protection and bowl type		Technopolymer protection - PC bowl Technopolymer protection - PA bowl			
		/	Metal protection - PC bowl Metal protection - PA bowl Metal bowl (blind metal bowl)		
IN / OUT connections	T version	G1/4"	G3/8"	G1/2"	not available
	N version	G1/8" - G1/4" - 1/4" NPT	G3/8" - G1/4" - 3/8" NPT	G3/8" - G1/2" - 1/2" NPT	
	P and L version	not available	G3/8"	G1/2"	G1"
Assembly configuration		Stand alone			
		/			Panel mounted
Assembly positions		Vertical ±5°			
Filter pore size		0,01 μm, efficiency of 99,97%			
Bowl capacity		18 cm³	34 cm³	68 cm³	90 cm³
Condensation drain		Semi-automatic Automatic			
Max. fittings torque IN / OUT connections		G1/8" metal: 15 Nm G1/4" metal: 20 Nm G1/4" technopolymer: 9 Nm	G1/4" metal: 20 Nm G3/8" metal: 25 Nm G3/8" technopolymer: 16 Nm	G3/8" metal: 25 Nm G1/2" metal: 30 Nm G1/2" technopolymer: 22 Nm	G1" metal: 35 Nm

Operational characteristics								
Size	Size 1	Size 2	Size 3	Size 4	Size 1	Size 2	Size 3	Size 4
Condensation drain	Semi-automatic				Automatic			
Maximum working pressure	13 bar				10 bar			
	/	20 bar (only with body and metal bowl)			/	16 bar (only with body and metal bowl)		
Minimum working pressure	0,5 bar				0,5 bar			
Working temperature	-5 °C ... +50 °C				-5 °C ... +50 °C			
	/	-30 °C ... +80 °C (only for P version and metal bowl) -40 °C ... +80 °C (only for L version and metal bowl)						

Weights					
	Size	Size 1	Size 2	Size 3	Size 4
Fully technopolymer version		130 g	224 g	366 g	/
Technopolymer body version, aluminium bowl protection and technopolymer bowl		/	251 g	402 g	/
Technopolymer body version, aluminium bowl		/	293 g	475 g	/
Aluminium body version, technopolymer protection and bowl		/	309 g	493 g	1197 g
Aluminium body version, aluminium bowl protection and technopolymer bowl		/	337 g	529 g	1340 g
Aluminium body version and aluminium bowl		/	378 g	603 g	1365 g

Materials

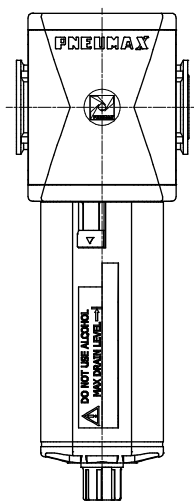
Exploded sectioned



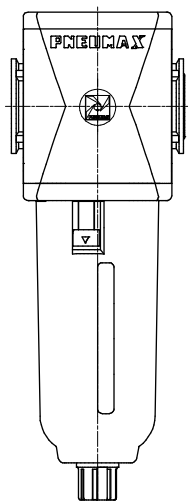
Coalescing filter		
1	Body	Polyamide Die-cast aluminium
2	Technopolymer bowl	Polycarbonate Polyamide
3	Metal bowl Bowl protection	Die-cast aluminium Polyamide - Die-cast aluminium
4	Filtering element	Borosilicate glass fiber
5	Filtering element support	Aluminium

Design

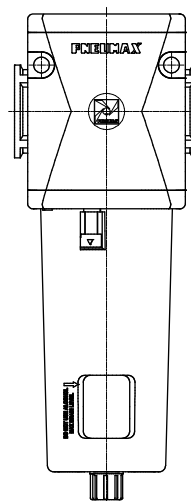
Size 1 - Size 2 - Size 3
Technopolymer protection



Size 1 - Size 2 - Size 3
Protection / Metal bowl



Size 4
All versions



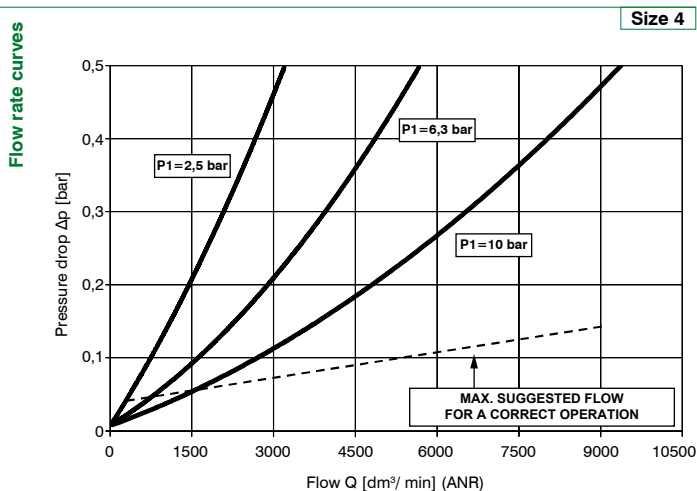
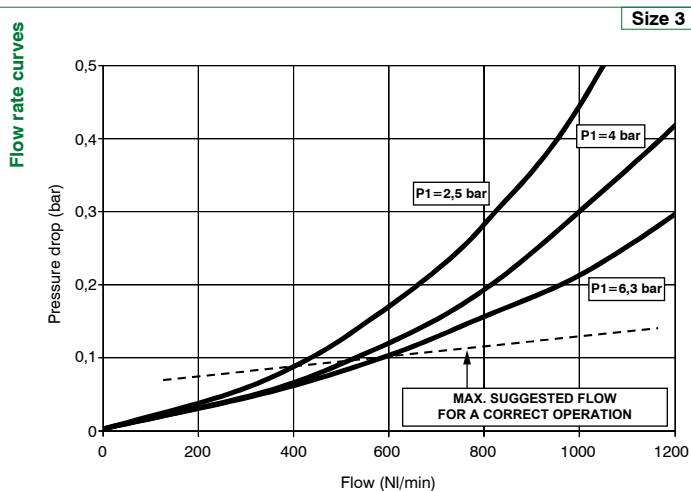
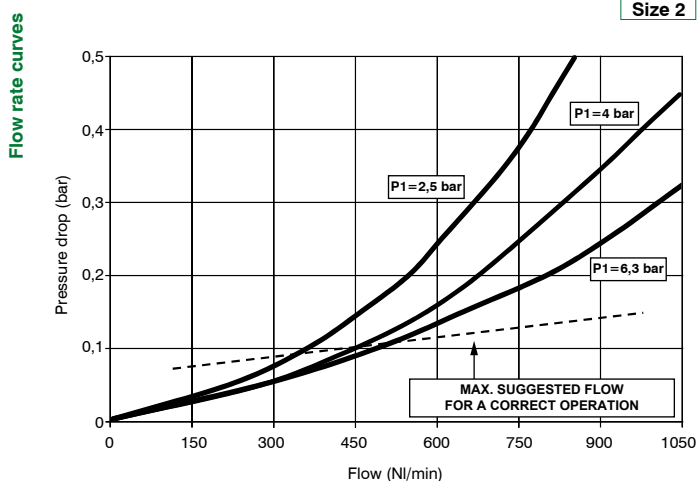
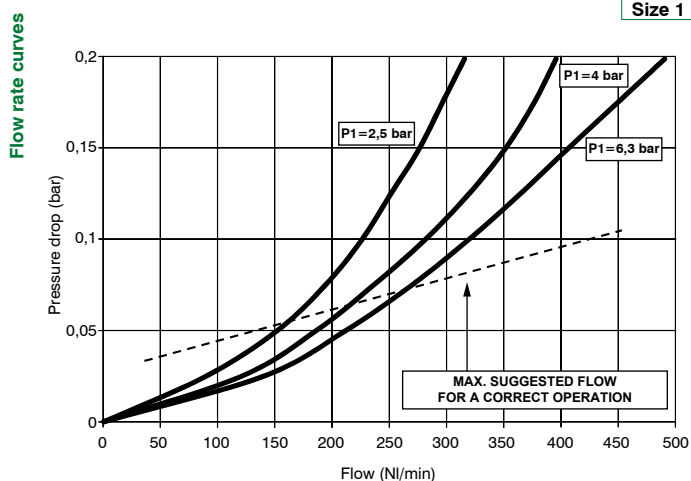
Order codes

	T	17	3B	DA	S	T
Version						
N : Technopolymer body and metal inserts (not available for size 4)						
T : Technopolymer body and thread (not available for size 4)						
P : Aluminum body (not available for size 1)						
L : Aluminum body, low temperature (not available for size 1)						
Size and connections						
1A : Size 1 - G1/8" only for N version						
1B : Size 1 - G1/4" only for T - N versions						
1C : Size 1 - 1/4" NPT only for N version						
2A : Size 2 - G1/4" only for N version						
2B : Size 2 - G3/8" for all versions						
2C : Size 2 - 3/8" NPT only for N version						
3A : Size 3 - G3/8" only for N version						
3B : Size 3 - G1/2" for all versions						
3C : Size 3 - 1/2" NPT only for N version						
4B : Size 4 - G1" only for P - L versions						
Condensation drain						
: Semi-automatic drain						
S : Automatic drain						
Bowl options						
: Technopolymer protection - PC bowl						
N : Technopolymer protection - PA bowl						
P : Metal protection - PC bowl (not available for size 1)						
R : Metal protection - PA bowl (not available for size 1)						
T : Metal bowl (not available for size 1)						

Example : T173BDAST : Size 3 coalescing filter G1/2" 0,01 µm, automatic drain and metal bowl

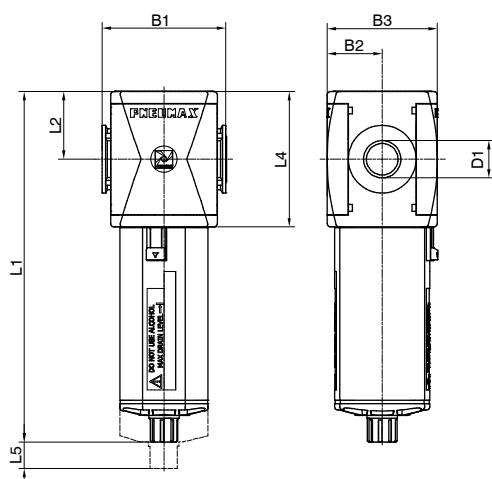
Characteristic curves

AIR TREATMENT

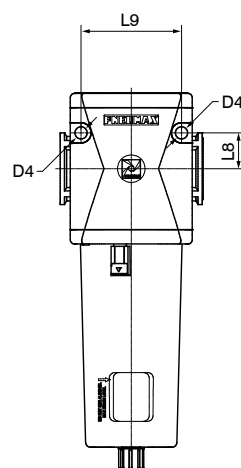


Dimensions

Semi-automatic drain version



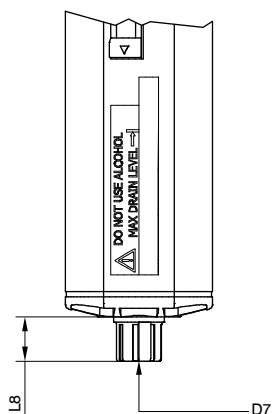
Fixing holes dimension detail
(only for size 4)



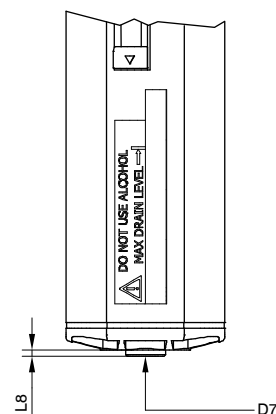
Model	B1	B2	B3	D1	D4	L1 - Bowl material		L2	L4	L5	L8	L9
						Technopolymer	Metal					
#171..	48	21	42	G1/8" G1/4" 1/4" NPT	/	148	/	27,5	55	40	/	/
#172..	62	28,5	57	G1/4" G3/8" 1/4" NPT 3/8" NPT	/	169,1	171,5	34	68	50	/	/
#173..	73	32,5	65	G3/8" G1/2" 1/2" NPT	/	207,2	209,5	40	80	65	/	/
#174..	99	44	88	G1" 1" NPT	8,5	262	264,5	52,5	105	103	25	70

Variable dimensions

Semi-automatic drain version



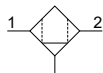
Automatic drain version



Model	L8 - Bowl material		D7
	Technopolymer	Metal	
Semi-automatic drain	15,7	18	Plastic hose connector Ø 6
Automatic drain	2	4,5	G1/8"

Oil removal filters (DBV - DCV - DAV)


- ▶ Oil removal filter with coalescing filter element
- ▶ Available in 2 sizes with connections from 3/8" to 1"
- ▶ Particle removal up to 0,01 μm
- ▶ Oil residual 0,01 ppm
- ▶ Cartridge clogging level display:
 - green color - ok
 - red color - warning ($\Delta p > 0,5 \text{ bar}$)
- ▶ Bowl assembly via bayonet type quick coupling mechanism with safety button
- ▶ Automatic drain mounted as standard
- ▶ Atex certification (II 2GD or II 3GD)


Note

In order to ensure the high level of filtration, it is recommended that a 5 μ filter is installed before the coalescing filter. In order to ensure that any fluid discharged by the auto drain assembly is adequately drained away, it is recommended you use a 6mm fitting and tube.

Technical characteristics			
Size		Size 3	Size 4
Body and connections type		Technopolymer body, integrated technopolymer connections (T version) Technopolymer body, metal connections (N version)	/
		Aluminium body, integrated aluminium connections (P version)	
Protection and bowl type		Technopolymer protection - PC bowl Technopolymer protection - PA bowl Metal protection - PC bowl Metal protection - PA bowl Metal bowl (blind metal bowl)	
IN / OUT connections	T version	G1/2"	not available
	N version	G3/8" - G1/2" - 1/2" NPT	
	P version	G1/2"	G1"
Assembly configuration		Stand alone	
		/	Panel mounted
Assembly positions		Vertical ±5°	
Filter pore size		Particle removal up to 0,01 µm Oil residual 0,01 ppm	
Bowl capacity		30 cm³	90 cm³
Condensation drain		Automatic	
Max. fittings torque IN / OUT connections		G3/8" metal: 25 Nm G1/2" metal: 30 Nm G1/2" technopolymer: 22 Nm	G1" metal: 35 Nm

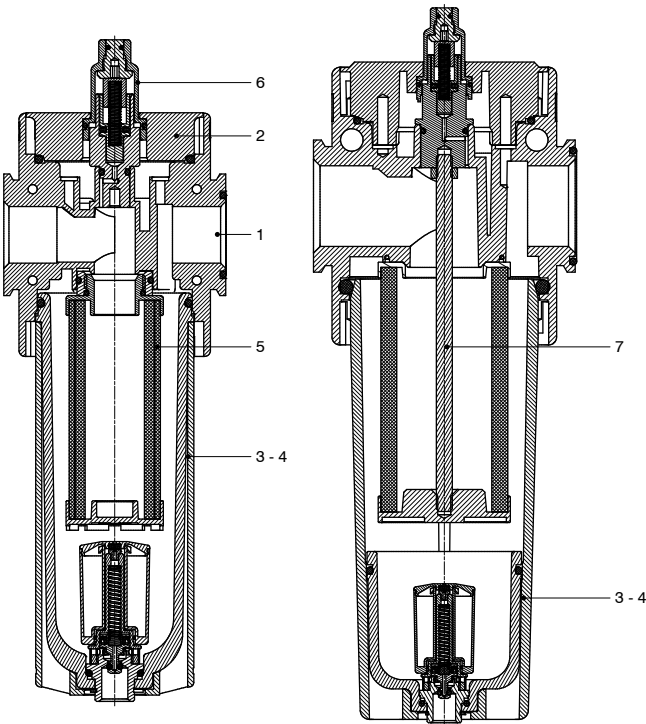
Operational characteristics		
Size	Size 3	Size 4
Condensation drain	Automatic	
Maximum working pressure	10 bar	
Minimum working pressure	0,5 bar	
Working temperature	-5 °C ... +50 °C	

Weights

Size	Size 3 Standard cartridge	Size 3 Oversize cartridge	Size 4
Fully technopolymer version	416 g	634 g	/
Technopolymer body version, aluminium bowl protection and technopolymer bowl	453 g	671 g	/
Technopolymer body version, aluminium bowl	526 g	742 g	/
Aluminium body version, technopolymer protection and bowl	538 g	661 g	1230 g
Aluminium body version, aluminium bowl protection and technopolymer bowl	575 g	698 g	1374 g
Aluminium body version and aluminium bowl	647 g	769 g	1398 g

Materials

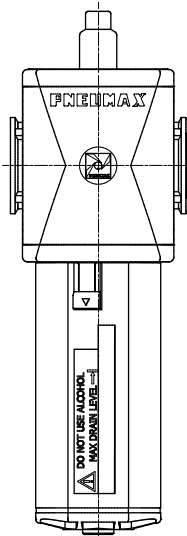
Exploded sectioned



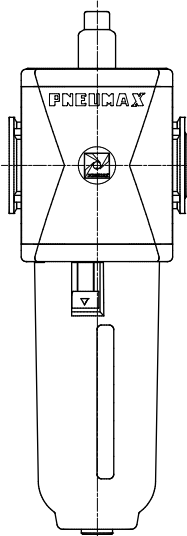
Oil removal filter		
1	Body	Polyamide Die-cast aluminium
2	Upper plug	Polyamide
3	Technopolymer bowl	Polycarbonate Polyamide
4	Metal bowl Bowl protection	Die-cast aluminium Polyamide - Die-cast aluminium
5	Filtering element	/
6	Visual indicator	Polycarbonate
7	Tie rod	Steel (only for size 4)
8	Automatic drain	/

Design

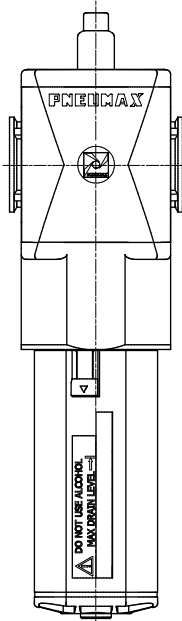
Size 3
Technopolymer protection



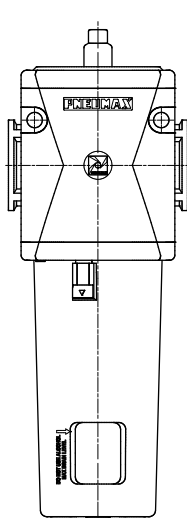
Size 3
Protection / Metal bowl



Size 3 - Oversize cartridge
Technopolymer protection



Size 4
All versions





Order codes

T 17 3BDBV T

Version

N : Technopolymer body and metal inserts (not available for size 4)
T : Technopolymer body and thread (not available for size 4)
P : Aluminium body

Size and connections

3ADBV : Size 3 - G3/8" standard cartridge only for N version
3BDBV : Size 3 - G1/2" standard cartridge for all versions
3CDBV : Size 3 - 1/2" NPT standard cartridge only for N version
3BDCV : Size 3 - G1/2" oversize cartridge only for P version
4BDAV : Size 4 - G1" standard cartridge only for P version

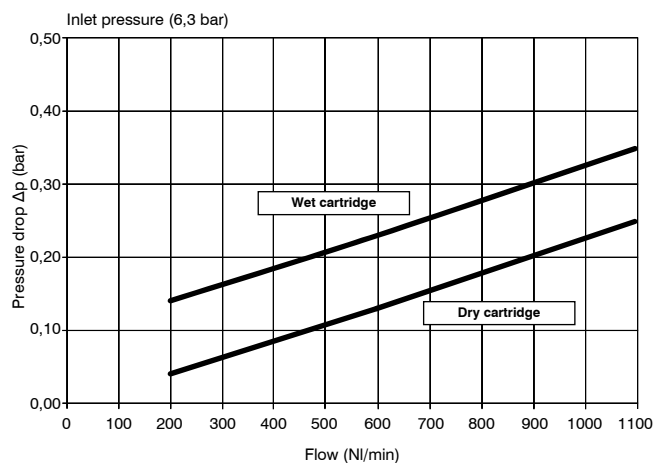
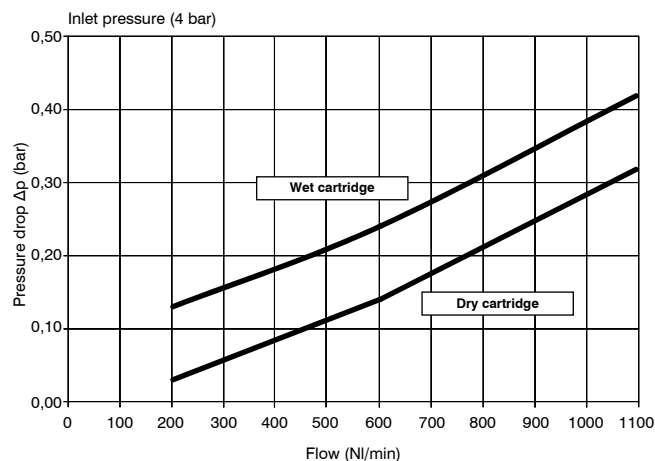
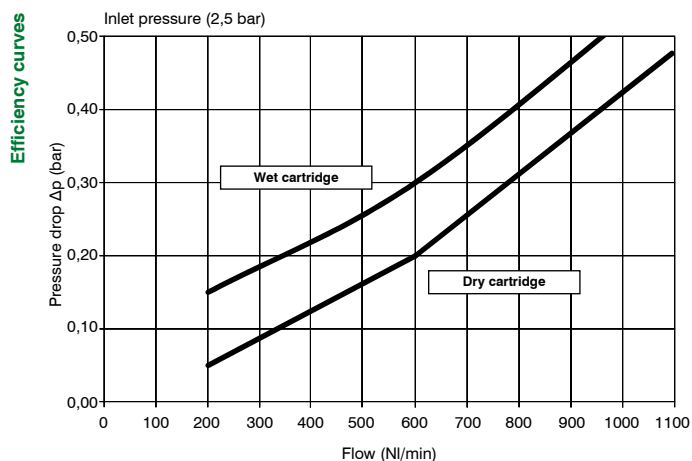
Bowl options

: Technopolymer protection - PC bowl
N : Technopolymer protection - PA bowl
P : Metal protection - PC bowl
R : Metal protection - PA bowl
T : Metal bowl

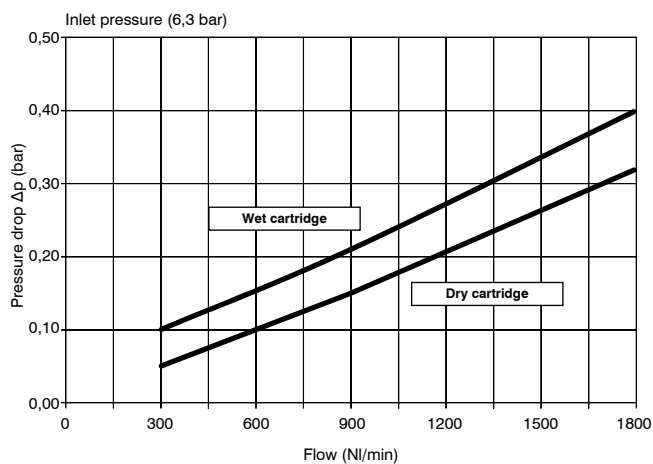
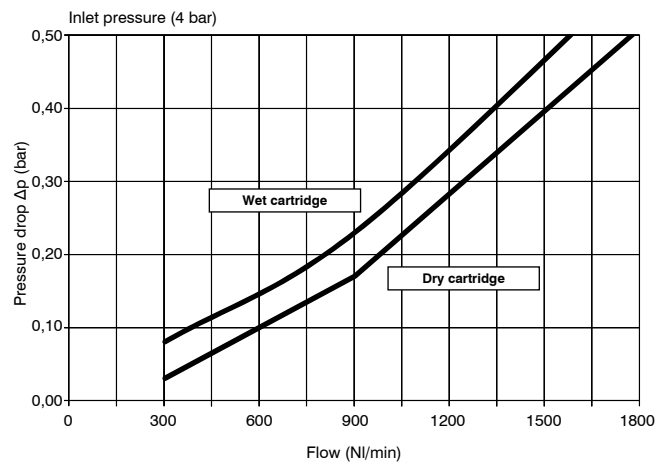
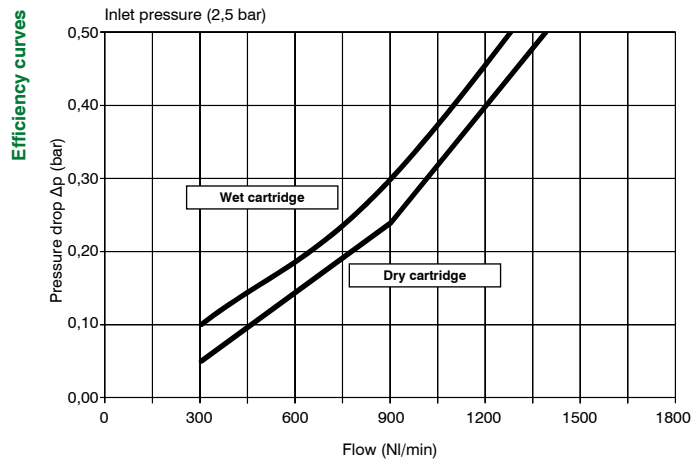
Example : T173BDBVT : Size 3 oil removal filter G1/2", standard cartridge, metal bowl

Characteristic curves

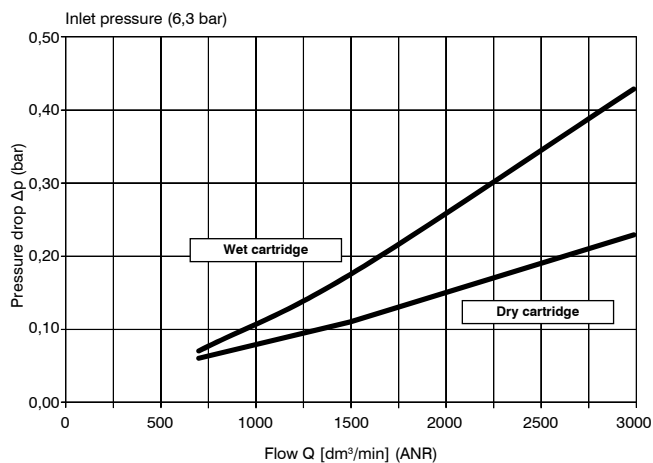
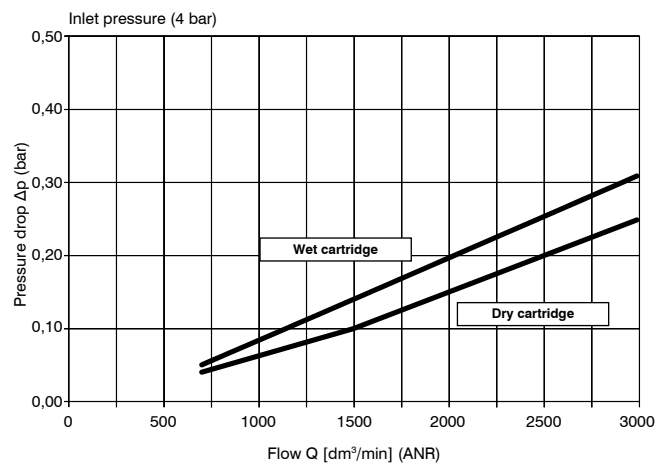
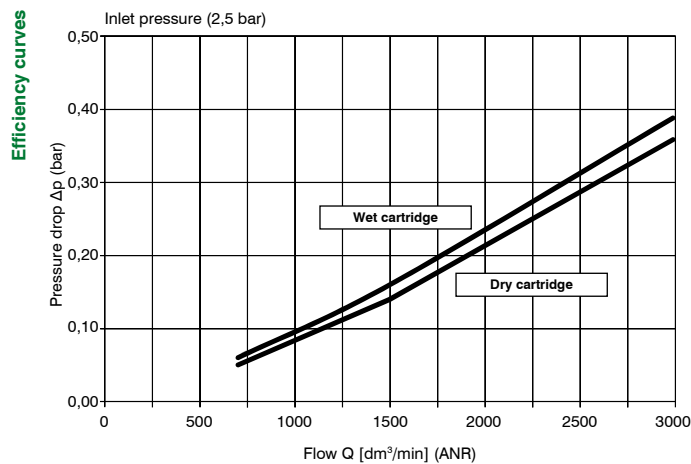
Size 3 - Standard cartridge



Size 3 - Oversize cartridge

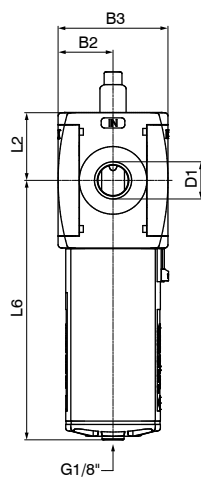
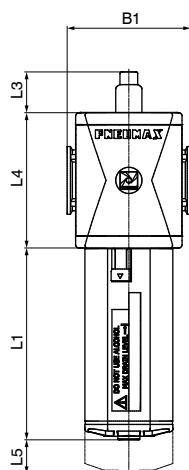


Size 4 - Standard cartridge

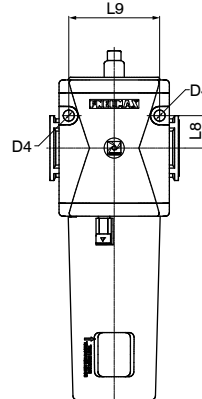




Dimensions



Fixing holes dimension detail
(only for size 4)

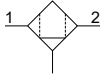


Model	B1	B2	B3	D1		L1 - Bowl material		L3	L4		L5	L8	L9
				Standard cartridge	Oversize cartridge	Technopolymer	Metal		Standard cartridge	Oversize cartridge			
#173..	73	32,5	65	G3/8" G1/2" 1/2" NPT	G1/2"	113,5	116	24,1	80	118	65	/	/
#174..	99	44	88	G1"	/	143	145,5	22,5	105	/	103	25	70

Carbon filters (DD)



- ▶ Carbon filter
- ▶ Available in 2 sizes with connections from 3/8" to 1"
- ▶ Active carbon cartridge with built in particulate filter
- ▶ Used to remove oil vapours, hydrocarbons, odours and particles
- ▶ Oil residue up to <0,003 ppm (max input aerosol 0.01 ppm)
- ▶ High absorption capacity, with low differential pressure
- ▶ Filtering performances 99.97% (particles up to 0.01 µm)
- ▶ Bowl assembly via bayonet type quick coupling mechanism with safety button
- ▶ Semi-automatic drain
- ▶ Atex certification (II 2GD or II 3GD)
- ▶ Inlet pressures up to 20 bar



Note

A 5 µ filter, coalescing filter and oil removing filter must be installed prior to the carbon filter, this is to ensure that the carbon filter operates correctly and safe guard the life of the active carbon element. It may also be necessary to replace the carbon element at fixed intervals.

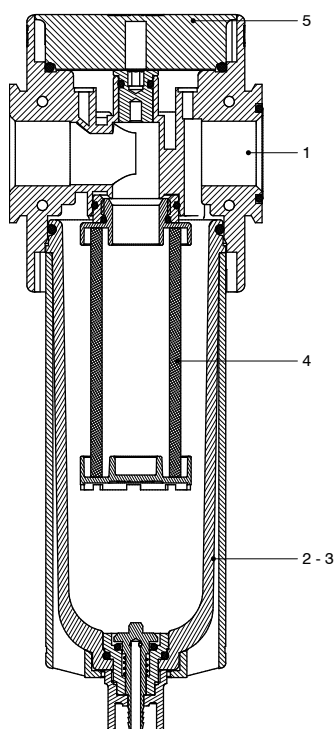
Technical characteristics			
Size		Size 3	Size 4
Body and connections type		Technopolymer body, integrated technopolymer connections (T version) Technopolymer body, metal connections (N version)	/
		Aluminium body, integrated aluminium connections (P - L versions)	
Protection and bowl type		Technopolymer protection - PC bowl Technopolymer protection - PA bowl Metal protection - PC bowl Metal protection - PA bowl Metal bowl (blind metal bowl)	
IN / OUT connections	T version	G1/2"	not available
	N version	G3/8" - G1/2" - 1/2" NPT	
	P and L version	G1/2"	G1"
Assembly configuration		Stand alone	Panel mounted
Assembly positions		Vertical ±5°	
Oil residue		< 0,003 ppm (max input aerosol 0.01 ppm)	
Bowl capacity		68 cm³	90 cm³
Condensation drain		Semi-automatic	
Max. fittings torque IN / OUT connections		G3/8" metal: 25 Nm G1/2" metal: 30 Nm G1/2" technopolymer: 22 Nm	G1" metal: 35 Nm

Operational characteristics		
Size	Size 3	Size 4
Condensation drain	Semi-automatic	
Maximum working pressure	13 bar 20 bar (only with body and metal bowl)	
Minimum working pressure	0,5 bar	
Working temperature	-5 °C ... +50 °C -30 °C +80 °C (only for P version and metal bowl) -40 °C +80 °C (only for L version and metal bowl)	
Cartridge life	2000 ore	

Weights		
	Size	
	Size 3	Size 4
Fully technopolymer version	395 g	/
Technopolymer body version, aluminium bowl protection and technopolymer bowl	432 g	/
Technopolymer body version, aluminium bowl	505 g	/
Aluminium body version, technopolymer protection and bowl	518 g	1201 g
Aluminium body version, aluminium bowl protection and technopolymer bowl	554 g	1344 g
Aluminium body version and aluminium bowl	628 g	1368 g

Materials

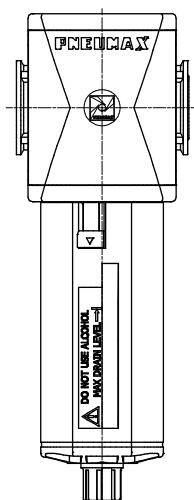
Exploded sectioned



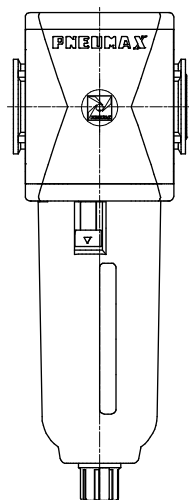
Carbon filter		
1	Body	Polyamide Die-cast aluminium
2	Technopolymer bowl	Polycarbonate Polyamide
3	Metal bowl Bowl protection	Die-cast aluminium Polyamide - Die-cast aluminium
4	Filtering element	Activated carbon
5	Plug	Polyamide Die-cast aluminium

Design

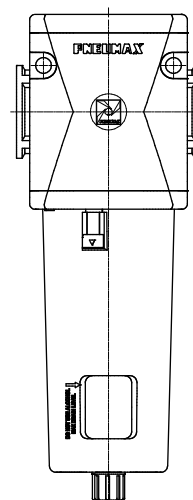
Size 3
Technopolymer protection



Size 3
Protection / Metal bowl



Size 4
All versions





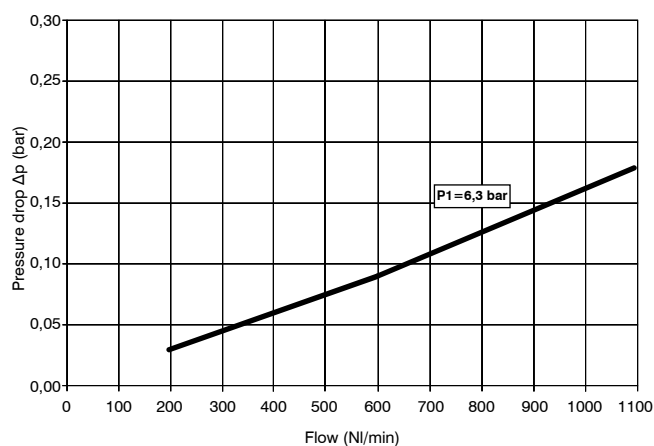
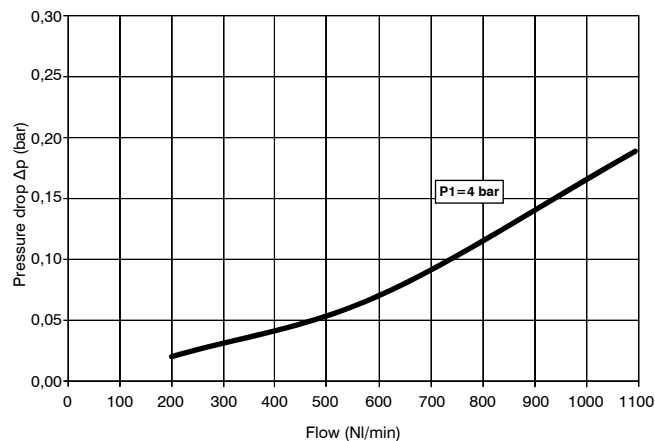
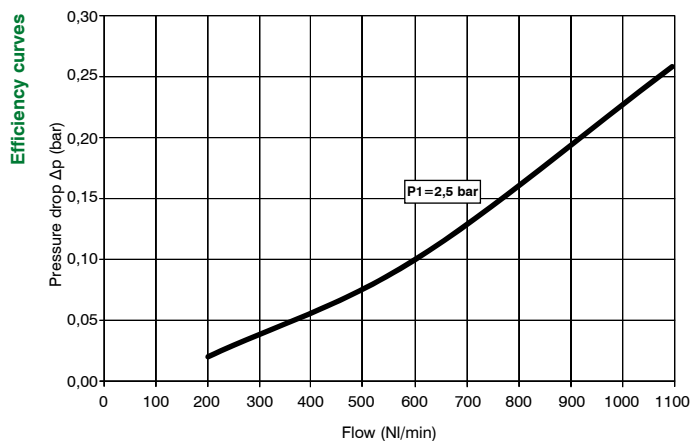
Order codes

	T	17	3B	DD	T
Version					
N : Technopolymer body and metal inserts (not available for size 4)					
T : Technopolymer body and thread (not available for size 4)					
P : Aluminium body					
L : Aluminium body, low temperature					
Size and connections					
3A : Size 3 - G3/8" only for N version					
3B : Size 3 - G1/2" for all versions					
3C : Size 3 - 1/2" NPT only for N version					
4B : Size 4 - G1" only for P - L versions					
Bowl options					
: Technopolymer protection - PC bowl					
N : Technopolymer protection - PA bowl					
P : Metal protection - PC bowl					
R : Metal protection - PA bowl					
T : Metal bowl					

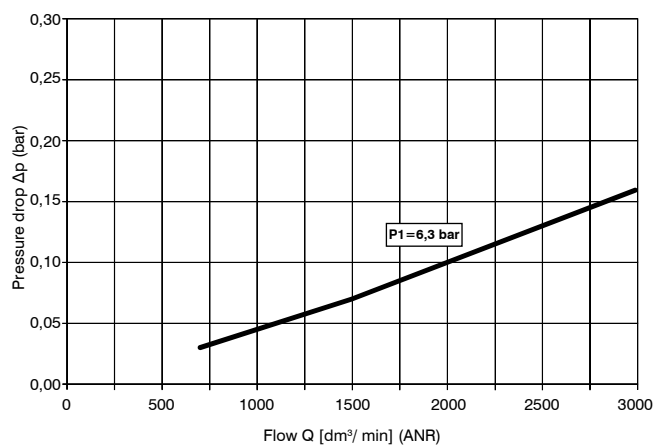
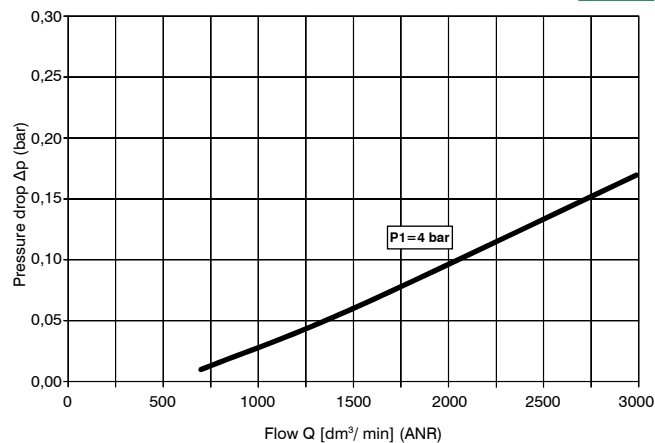
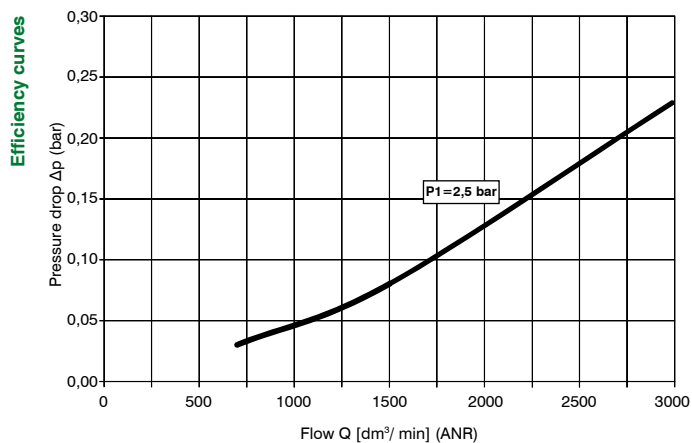
Example : T173BDDT : Size 3 carbon filter G1/2" metal bowl

Characteristic curves

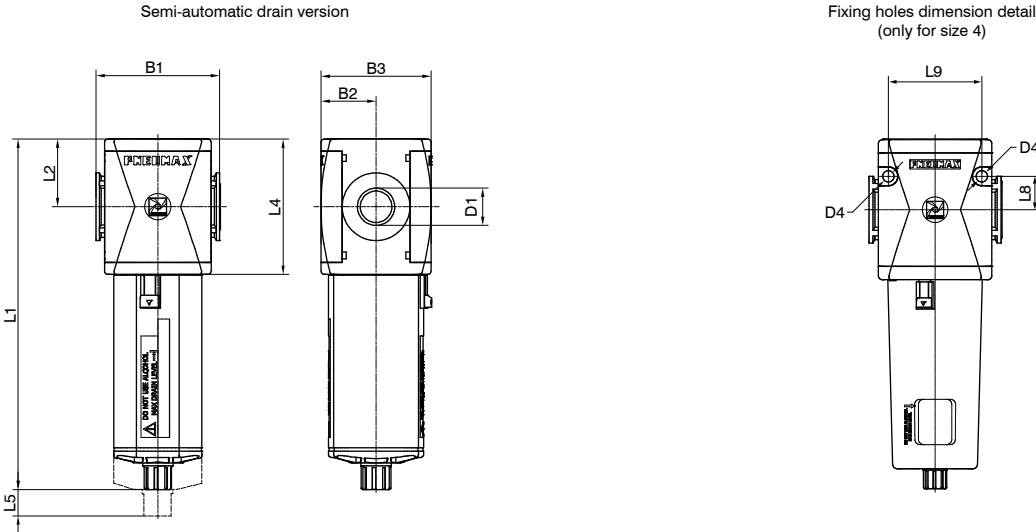
Size 3



Size 4

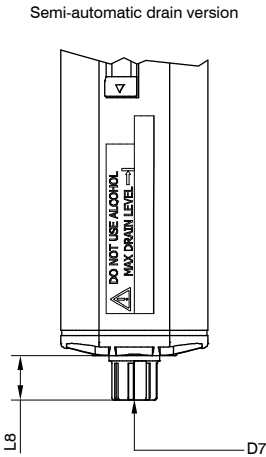


Dimensions



Model	B1	B2	B3	D1	D4	L1 - Bowl material		L2	L4	L5	L8	L9
						Technopolymer	Metal					
#173..	73	32,5	65	G3/8" G1/2" 1/2" NPT	/	207,2	209,5	40	80	65	/	/
#174..	99	44	88	G1" 1" NPT	8,5	262	264,5	52,5	105	103	25	70

Variable dimensions



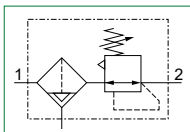
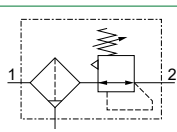
Model	L8 - Bowl material		D7
	Technopolymer	Metal	
Semi-automatic drain	15,7	18	Plastic hose connector Ø 6



Filter regulators (E - EM - EW - EP - EZ)



- Filter - diaphragm pressure regulator with relieving
- Available in 4 sizes with flow rates up to 8000 NI/min and connections from 1/8" to 1"
- Low hysteresis rolling diaphragm and balanced spool
- Filtering element made of HDPE available in 3 different filtration grades (5 µm, 20 µm and 50 µm)
- Bowl assembly via bayonet type quick coupling mechanism with safety button
- Semi-automatic or automatic drain
- Available in four pressure ranges up to 12 bar
- Fitted with panel mounting locking ring
- Available with pressure gauge or digital pressure switch integrated
- Atex certification (II 2GD or II 3GD)
- Inlet pressures up to 20 bar



Note

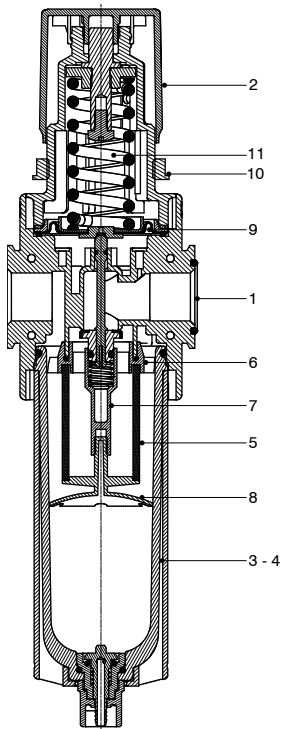
For installations where a more accurate and constant pressure is required, the unit should be installed as close as possible to the point of use. In order to ensure that any fluid discharged by the auto drain assembly is adequately drained away, it is recommended you use a 6 mm fitting and tube.

Technical characteristics					
Size		Size 1	Size 2	Size 3	Size 4
Body and connections type		Technopolymer body, integrated technopolymer connections (T version) Technopolymer body, metal connections (N version)			/
		/	Aluminium body, integrated aluminium connections (P - L versions)		
Protection and bowl type		Technopolymer protection - PC bowl Technopolymer protection - PA bowl			/
		Metal protection - PC bowl Metal protection - PA bowl Metal bowl (blind metal bowl)			
IN / OUT connections	T version	G1/4"	G3/8"	G1/2"	not available
	N version	G1/8" - G1/4" - 1/4" NPT	G3/8" - G1/4" - 3/8" NPT	G3/8" - G1/2" - 1/2" NPT	
	P and L version	non disponibile	G3/8" - 1/4" NPT	G1/2" - 1/2" NPT	G1" - 1" NPT
Assembly configuration		Stand alone Panel mounting With fixing bracket			/
		Panel mounted			
Assembly positions		Vertical ±5°			
Filter pore size		5 µm 20 µm 50 µm			
Pressure range		0-2 bar 0-4 bar 0-8 bar 0-12 bar (P2 max 10 Bar in case of digital pressure switch selection)			
Bowl capacity		18 cm³	34 cm³	68 cm³	90 cm³
Condensation drain		Semi-automatic Automatic			
Regulation		Manul push and lock with pressure Manual lockable with accessories			
Pressure measurement		G1/8" - 1/8" NPT pressure gauge connection port (only for versions with IN / OUT NPT connections) Integrated pressure gauge (optional) Digital pressure switch (optional)			
Max. fittings torque IN / OUT connections		G1/8" metal: 15 Nm G1/4" metal: 20 Nm G1/4" technopolymer: 9 Nm	G1/4" metal: 20 Nm G3/8" metal: 25 Nm G3/8" technopolymer: 16 Nm	G3/8" metal: 25 Nm G1/2" metal: 30 Nm G1/2" technopolymer: 22 Nm	G1" metal: 35 Nm
Max. fitting torque pressure gauge connection port		G1/8" technopolymer: 4 Nm G1/8" metal: 15 Nm			

Operational characteristics								
Size	Size 1	Size 2	Size 3	Size 4	Size 1	Size 2	Size 3	Size 4
Condensation drain	Semi-automatic				Automatic			
Maximum working pressure	13 bar				10 bar			
	/	20 bar (only with body and metal bowl)			/	16 bar (only with body and metal bowl)		
Minimum working pressure	0,5 bar				0,5 bar			
Working temperature	-5 °C ... +50 °C				-5 °C ... +50 °C			
	/	-30 °C +80 °C (only for P version and metal bowl) -40 °C +80 °C (only for L version and metal bowl)						
Working temperature with digital pressure switch	0 °C ... +50 °C							

Weights					
	Size	Size 1	Size 2	Size 3	Size 4
Fully technopolymer version		210 g	410 g	500 g	/
Technopolymer body version, aluminium bowl protection and technopolymer bowl		/	440 g	600 g	/
Technopolymer body version, aluminium bowl		/	460 g	660 g	/
Aluminium body version, technopolymer protection and bowl		/	480 g	710 g	1460 g
Aluminium body version, aluminium bowl protection and technopolymer bowl		/	510 g	730 g	1600 g
Aluminium body version and aluminium bowl		/	560 g	790 g	1620 g

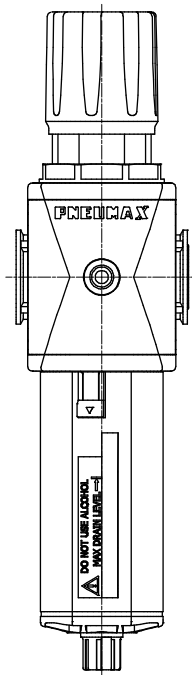
Materials
Exploded sectioned



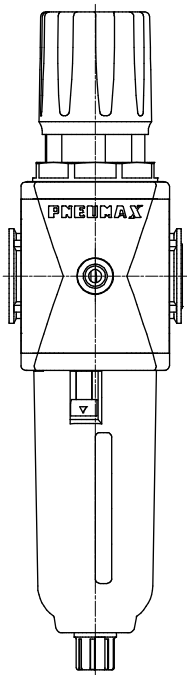
Filter regulator		
1	Body	Polyamide Die-cast aluminium
2	Adjusting knob	Polyamide
3	Technopolymer bowl	Polycarbonate Polyamide
4	Metal bowl Bowl protection	Die-cast aluminium Polyamide - Die-cast aluminium
5	Filtering element	Polyethylene
6	Baffle	Acetal resin
7	Spool support	Acetal resin
8	Filtering element support	Acetal resin
9	Diaphragm	NBR
10	Panel mounting locking ring	Polyamide
11	Adjusting spring	Steel

Design

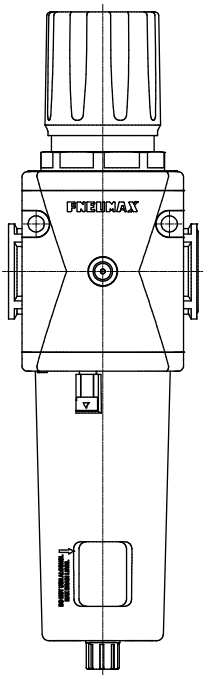
Size 1 - Size 2 - Size 3
Technopolymer protection



Size 1 - Size 2 - Size 3
Protection / Metal bowl



Size 4
All versions





Order codes

AIR TREATMENT

T 17 3B E M B D S [] [] [] T

Version

- N : Technopolymer body and metal inserts (not available for size 4)
- T : Technopolymer body and thread (not available for size 4)
- P : Aluminum body (not available for size 1)
- L : Aluminum body, low temperature (not available for size 1)

Size and connections

- 1A : Size 1 - G1/8" only for N version
- 1B : Size 1 - G1/4" only for T - N versions
- 1C : Size 1 - 1/4" NPT only for N version
- 2A : Size 2 - G1/4" only for N version
- 2B : Size 2 - G3/8" for all versions
- 2C : Size 2 - 3/8" NPT only for N version - 1/4" NPT only for P - L versions
- 3A : Size 3 - G3/8" only for N version
- 3B : Size 3 - G1/2" for all versions
- 3C : Size 3 - 1/2" NPT only for N - P - L versions
- 4B : Size 4 - G1" only for P - L versions
- 4C : Size 4 - 1" NPT only for P - L versions

Pressure measurement options

- : G1/8" - 1/8" NPT thread
- M : Integrated pressure gauge
- W : Integrated pressure gauge Right - Left
- P : Digital pressure switch
- Z : Digital pressure switch Right - Left

Filter pore size

- A : 5 μ m
- B : 20 μ m
- C : 50 μ m

Pressure range

- A : 0 - 2 bar
- B : 0 - 4 bar
- C : 0 - 8 bar
- D : 0 - 12 bar

Condensation drain

- : Semi-automatic drain
- S : Automatic drain

Relieving options

- : With relieving
- L : Without relieving

Knob options

- : Non-lockable version
- K : Lockable version
- U : Lockable version with universal key

Digital pressure switch options

- A : Cable 150 mm + M8 PNP
- B : Cable 150 mm + M8 NPN
- C : Cable 2 m PNP
- D : Cable 2 m NPN

Bowl options

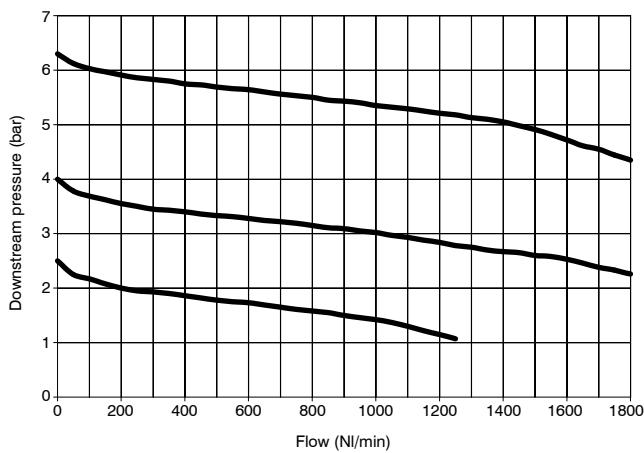
- : Technopolymer protection - PC bowl
- N : Technopolymer protection - PA bowl
- P : Metal protection - PC bowl (not available for size 1)
- R : Metal protection - PA bowl (not available for size 1)
- T : Metal bowl (not available for size 1)

Example : T173BEMBDST : Size 3 filter regulator G1/2" 20 μ m 0 - 12 bar, automatic drain and metal bowl

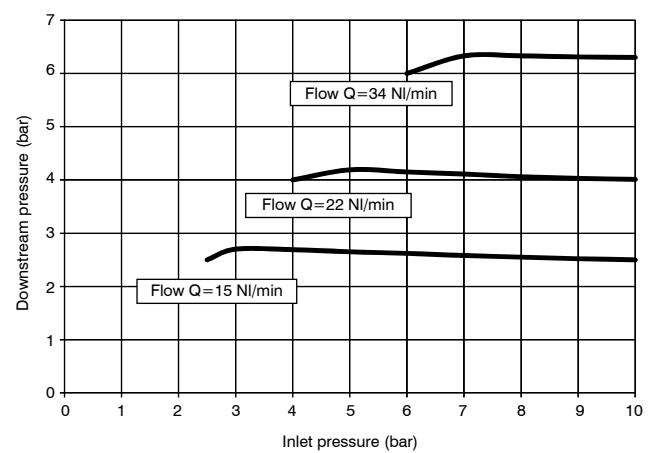
Characteristic curves

Flow rate curves

Size 1 - G1/4" 0-8 bar P1=7 bar

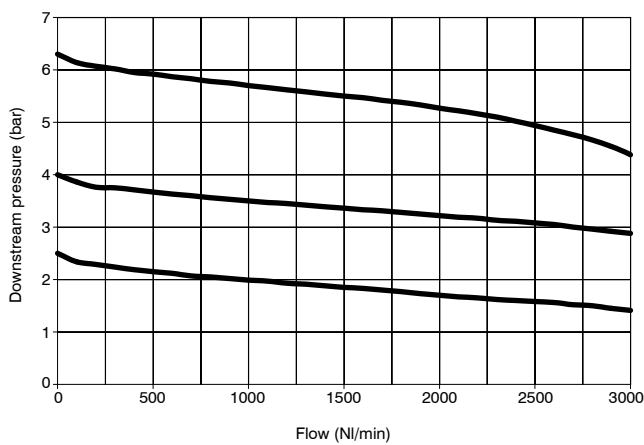


Adjustment characteristic

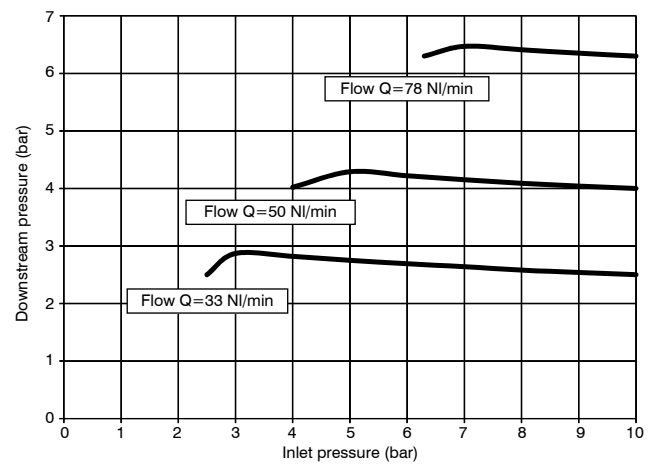


Flow rate curves

Size 2 - G3/8" 0-8 bar P1=7 bar

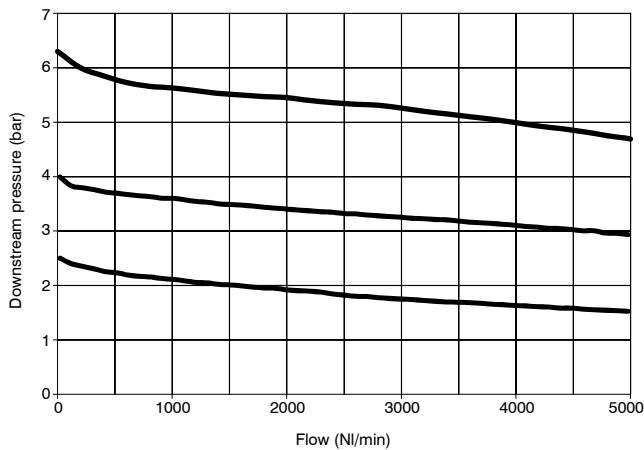


Adjustment characteristic

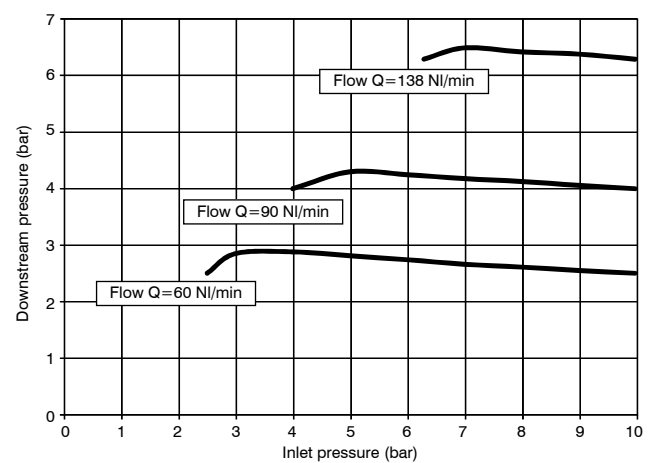


Flow rate curves

Size 3 - G1/2" 0-8 bar P1=7 bar

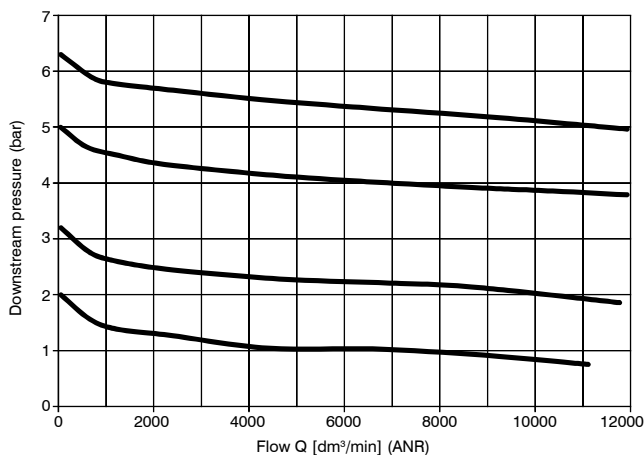


Adjustment characteristic

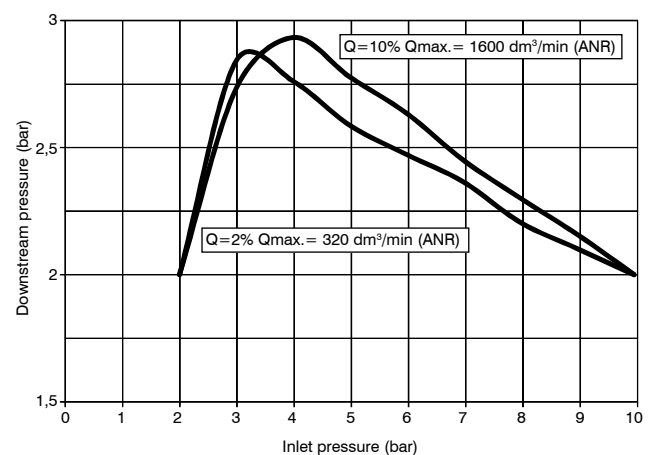


Flow rate curves

Size 4 - G1" 0-8 bar P1=10 bar

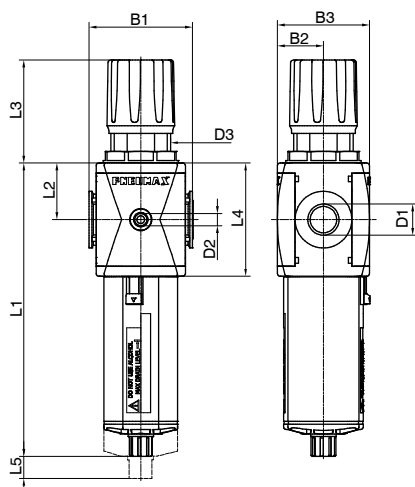


Adjustment characteristic

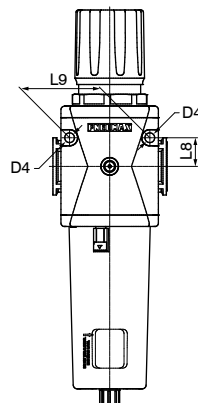


Dimensions

Pressure gauge connection port and semi-automatic drain version



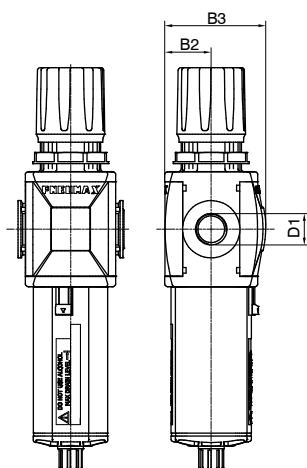
Fixing holes dimension detail (only for size 4)



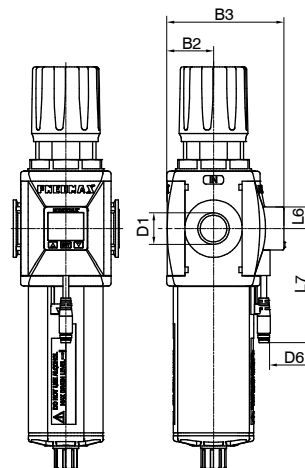
Model	B1	B2	B3	D1	D2	D3	D4	L1 - Bowl material		L2	L3	L4	L5	L8	L9
								Technopolymer	Metal						
#171..	48	21	42	G1/8" G1/4" 1/4" NPT	G1/8" 1/8" NPT	M30x1,5	/	148	/	27,5	54	55	40	/	/
#172..	62	28,5	57	G1/4" G3/8" 1/4" NPT 3/8" NPT	G1/8" 1/8" NPT	M42x1,5	/	169,1	171,5	34	71,8	68	50	/	/
#173..	73	32,5	65	G3/8" G1/2" 1/2" NPT	G1/8" 1/8" NPT	M42x1,5	/	207,2	209,5	40	72,8	80	65	/	/
#174..	99	44	88	G1" 1" NPT	G1/8" 1/8" NPT	M54x1,5	8,5	262	264,5	52,5	87,5	105	103	25	70

Variable dimensions

Integrated pressure gauge version

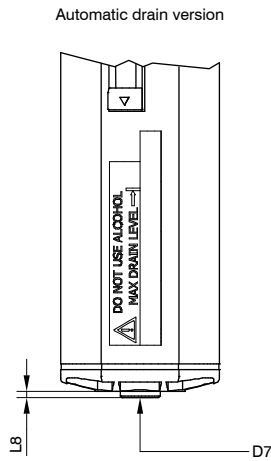
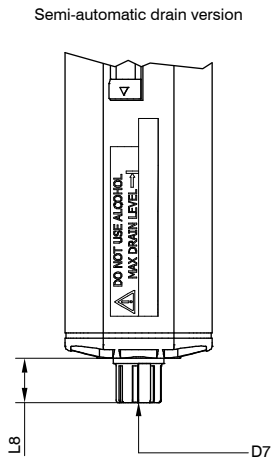


Integrated digital pressure switch version



Model	B2	B3		D1	D6 - Type of digital pressure switch		L6	L7 - Type of digital pressure switch	
		With pressure gauge	With digital pressure switch		A - B	C - D		A - B	C - D
#171..	21	48,5	60	G1/8" G1/4" 1/4" NPT	M8 - 3 PIN	3 x 0,129 mm, Ø 4 mm	15	150	2000
#172..	28,5	62,5	73,5	G1/4" G3/8" 1/4" NPT 3/8" NPT					
#173..	32,5	70,5	81,5	G3/8" G1/2" 1/2" NPT					
#174..	44	90,5	101,5	G1" 1" NPT					

Variable dimensions



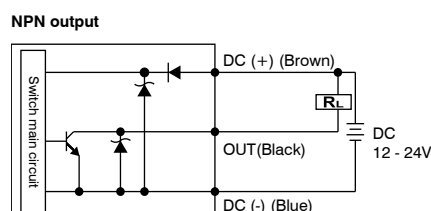
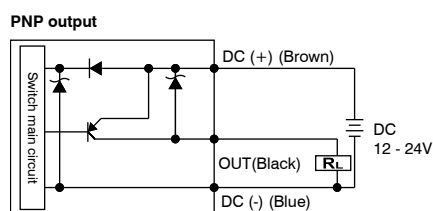
Model	L8 - Bowl material		D7
	Technopolymer	Metal	
Semi-automatic drain	15,7	18	Plastic hose connector Ø 6
Automatic drain	2	4,5	G1/8"

Digital pressure switch

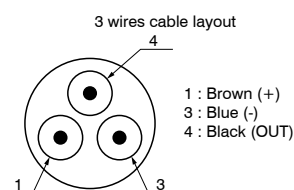
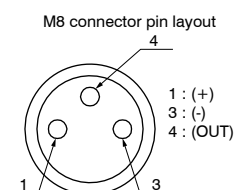


- ▶ 3 color digital LCD display, easy readout
- ▶ 4 units of measurement for pressure indication
- ▶ Optional PNP or NPN digital output
- ▶ N.O. and N.C. output contact selection directly on the digital pressure switch
- ▶ Available with M8-3PIN connector or 3 wire cable length 2 m
- ▶ Available only in combination with a filter regulator

Output circuit wiring diagrams



Digital pressure switch lay out



Cable ordering code

MCH1 : cable 3 wires l=2,5 m with M8 connector

MCH2 : cable 3 wires l=5 m with M8 connector

MCH3 : cable 3 wires l=10 m with M8 connector

Connector

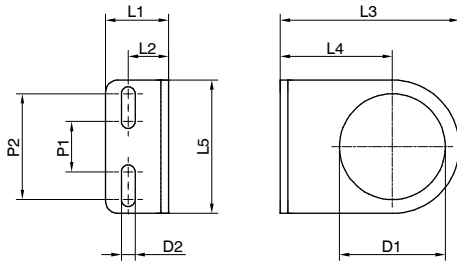


Technical characteristics	
Pressure range and display	0 ... 10 bar
Max. inlet pressure	15 bar
Fluid	40 µm filtered and dehumidified air
Display unit of measurement	MPa - kgf/cm ² - bar - psi
Supply voltage	12 ... 24 VDC
Current consumption	≤40mA (without load)
Digital output type	PNP - NPN
Type of contact output	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 options)
Display characteristics	Double 3 1/2 digit display Digital output status indication Three-pushbuttons touchpad
Indicator accuracy	≤±2% full scale value ± 1 digit
IP Rating	IP40
Working temperature	0 °C ... 50 °C
Cable section	3 x 0,129 mm ² , Ø 4 mm, PVC

Fixing bracket

T172 50

Size
171 : Size 1
T172 : Size 2 - Size 3



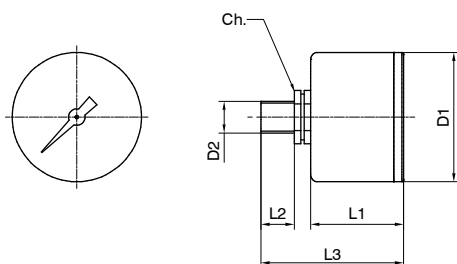
Model	L1	L2	L3	L4	L5	D1	D2	P1	P2
17150	20	13	50	30	40	30	5,5	20	30
T17250	25	16	71	44,5	53	42	5,5	20	42

Pressure gauge

17070 A C

Version
A : Dial Ø 40
B : Dial Ø 50

Scale
A : 0 - 4 bar
B : 0 - 6 bar
C : 0 - 12 bar



Model	L1	L2	L3	D1	D2	Ch
17070A..	26	10	44	41	Gc - 1/8"	14
17070B..	27	10	45	49	Gc - 1/8"	14

Regulators (R - RM - RW - RP - RZ)


- ▶ Diaphragm pressure regulator with relieving
- ▶ Available in 4 sizes with flow rates up to 8000 NI/min and connections from 1/8" to 1"
- ▶ Low hysteresis rolling diaphragm and balanced spool
- ▶ Available in four pressure ranges up to 12 bar
- ▶ Fitted with panel mounting locking ring
- ▶ Available with pressure gauge or digital pressure switch integrated
- ▶ Atex certification (II 2GD or II 3GD)
- ▶ Inlet pressures up to 20 bar


Note

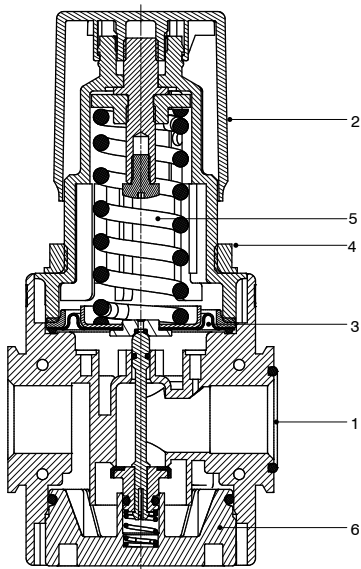
For installations where a more accurate and constant pressure is required, the unit should be installed as close as possible to the point of use.

Technical characteristics					
Size		Size 1	Size 2	Size 3	Size 4
Body and connections type		Technopolymer body, integrated technopolymer connections (T version) Technopolymer body, metal connections (N version)			/
		/	Aluminium body, integrated aluminium connections (P - L versions)		
IN / OUT connections	T version	G1/4"	G3/8"	G1/2"	not available
	N version	G1/8" - G1/4" - 1/4" NPT	G3/8" - G1/4" - 3/8" NPT	G3/8" - G1/2" - 1/2" NPT	
	P and L version	not available	G3/8" - 1/4" NPT	G1/2" - 1/2" NPT	G1" - 1" NPT
Assembly configuration		Stand alone Panel mounting With fixing bracket			
		/			Panel mounted
Assembly positions		Indifferent			
Pressure range		0-2 bar 0-4 bar 0-8 bar 0-12 bar (P2 max 10 Bar in case of digital pressure switch selection)			
Regulation		Manul push and lock with pressure Manual lockable with accessories			
Pressure measurement		G1/8" - 1/8" NPT pressure gauge connection port (only for versions with IN / OUT NPT connections) Integrated pressure gauge (optional) Digital pressure switch (optional)			
Max. fittings torque IN / OUT connections		G1/8" metal: 15 Nm G1/4" metal: 20 Nm G1/4" technopolymer: 9 Nm	G1/4" metal: 20 Nm G3/8" metal: 25 Nm G3/8" technopolymer: 16 Nm	G3/8" metal: 25 Nm G1/2" metal: 30 Nm G1/2" technopolymer: 22 Nm	G1" metal: 35 Nm
Max. fitting torque pressure gauge connection port		G1/8" technopolymer: 4 Nm G1/8" metal: 15 Nm			

Operational characteristics				
Size	Size 1	Size 2	Size 3	Size 4
Maximum working pressure	13 bar			
	/	20 bar (only for P - L versions)		
Minimum working pressure	0,5 bar			
Working temperature	-5 °C ... +50 °C			
	/	-30 °C ... +80 °C (only for P version) -40 °C ... +80 °C (only for L version)		
Working temperature with digital pressure switch	0 °C ... +50 °C			

Weights					
	Size	Size 1	Size 2	Size 3	Size 4
Technopolymer body version		150 g	310 g	390 g	/
Aluminium body version		/	400 g	560 g	1260 g

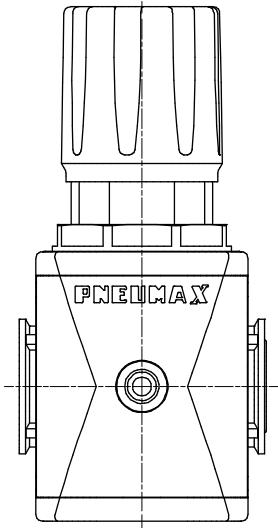
Materials
Exploded sectioned



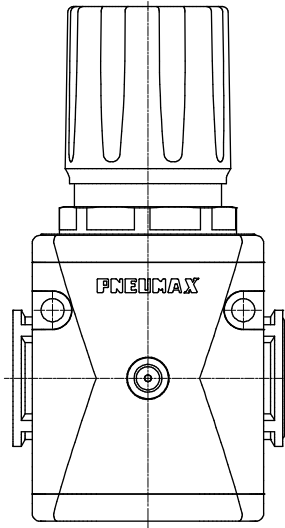
Regulator		
1	Body	Polyamide Die-cast aluminium
2	Adjusting knob	Polyamide
3	Diaphragm	NBR
4	Panel mounting locking ring	Polyamide
5	Adjusting spring	Steel
6	Rear end cap	Polyamide / Die-cast aluminium

Design

Size 1 - Size 2 - Size 3



Size 4
All versions





Order codes

AIR TREATMENT

T 17 3B R M D

Version

N : Technopolymer body and metal inserts (not available for size 4)
T : Technopolymer body and thread (not available for size 4)
P : Aluminum body (not available for size 1)
L : Aluminum body, low temperature (not available for size 1)

Size and connections

1A : Size 1 - G1/8" only for N version
1B : Size 1 - G1/4" only for T - N versions
1C : Size 1 - 1/4" NPT only for N version
2A : Size 2 - G1/4" only for N version
2B : Size 2 - G3/8" for all versions
2C : Size 2 - 3/8" NPT only for N version - 1/4" NPT only for P - L versions
3A : Size 3 - G3/8" only for N version
3B : Size 3 - G1/2" for all versions
3C : Size 3 - 1/2" NPT only for N - P - L versions
4B : Size 4 - G1" only for P - L versions
4C : Size 4 - 1" NPT only for P - L versions

Pressure measurement options

: G1/8" - 1/8" NPT thread
M : Integrated pressure gauge
W : Integrated pressure gauge Right - Left
P : Digital pressure switch
Z : Digital pressure switch Right - Left

Pressure range

A : 0 - 2 bar
B : 0 - 4 bar
C : 0 - 8 bar
D : 0 - 12 bar

Relieving options

: With relieving
F : Controlled refuel and improved relieving (not available for size 4)
L : Without relieving
R : Improved relieving

Knob options

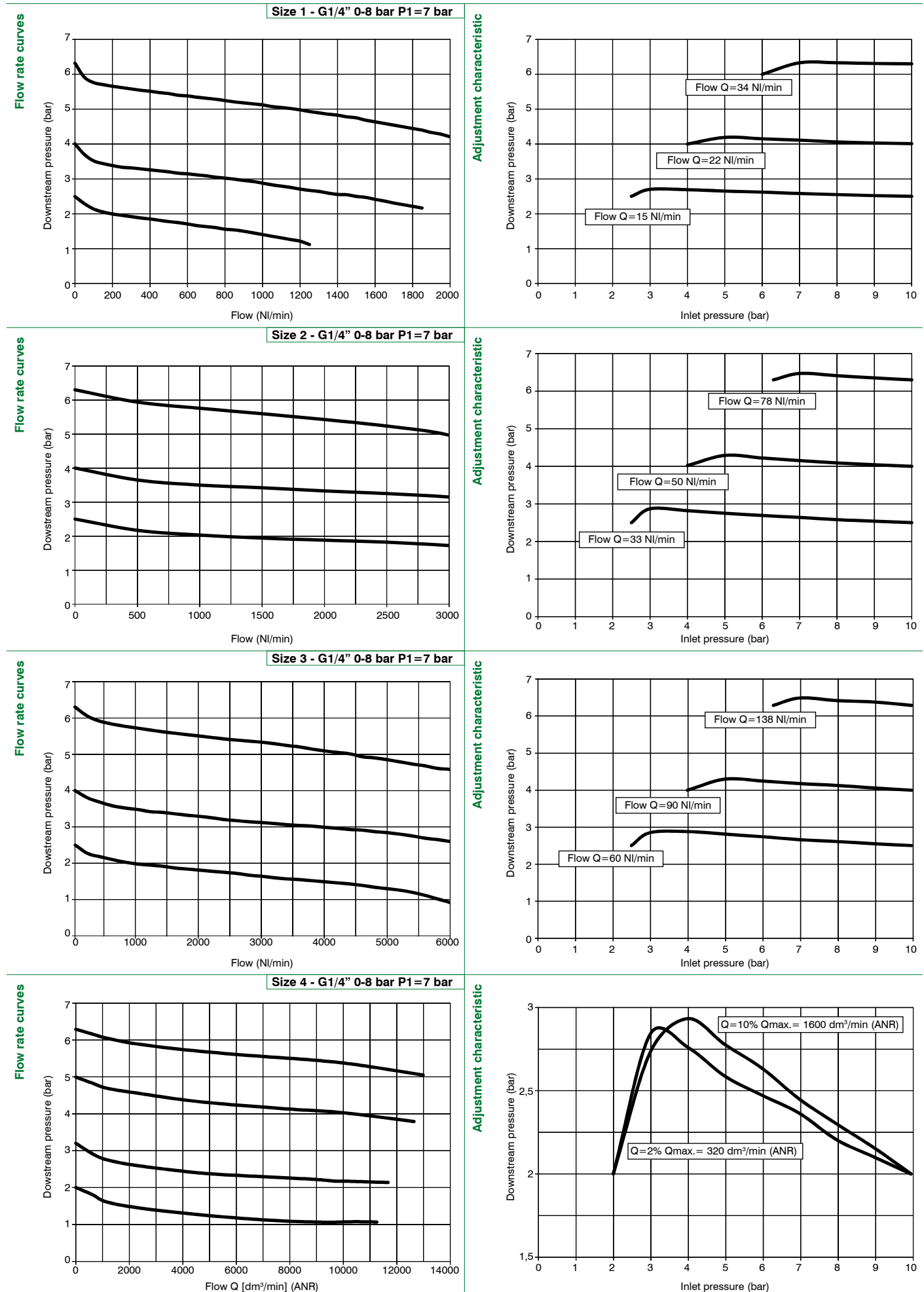
: Non-lockable version
K : Lockable version
U : Lockable version with universal key

Digital pressure switch options

A : Cable 150 mm + M8 PNP
B : Cable 150 mm + M8 NPN
C : Cable 2 m PNP
D : Cable 2 m NPN

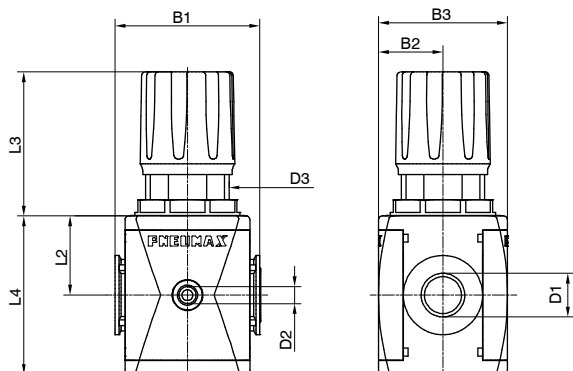
Example : T173BRMD : Size 3 regulator G1/2" 0 - 12 bar

Characteristic curves

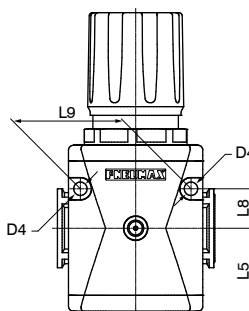


Dimensions

Pressure gauge connection port version



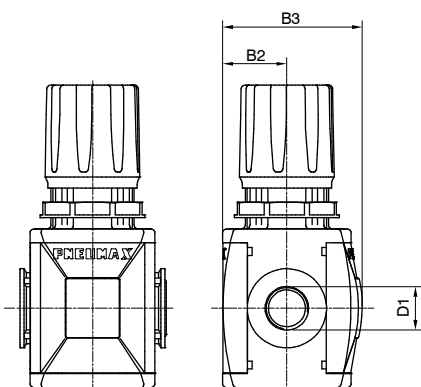
Fixing holes dimension detail
(only for size 4)



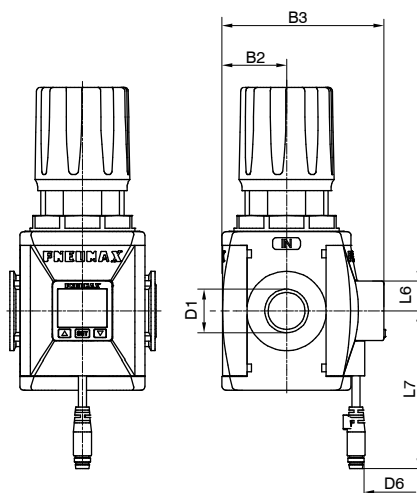
Model	B1	B2	B3	D1	D2	D3	D4	L2	L3	L4	L5	L8	L9
#171..	48	21	42	G1/8" G1/4" 1/4" NPT	G1/8" 1/8" NPT	M30x1,5	/	27,5	54	55	/	/	/
#172..	62	28,5	57	G1/4" G3/8" 1/4" NPT 3/8" NPT	G1/8" 1/8" NPT	M42x1,5	/	34	71,8	68	/	/	/
#173..	73	32,5	65	G3/8" G1/2" 1/2" NPT	G1/8" 1/8" NPT	M42x1,5	/	40	72,8	80	/	/	/
#174..	99	44	88	G1" 1" NPT	G1/8" 1/8" NPT	M54x1,5	8,5	52,5	87,5	105	54,5	25	70

Variable dimensions

Integrated pressure gauge version



Integrated digital pressure switch version

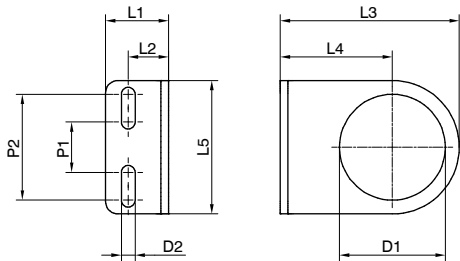


Model	B2	B3		D1	D6 - Type of digital pressure switch		L6	L7 - Type of digital pressure switch	
		With pressure gauge	With digital pressure switch		A - B	C - D		A - B	C - D
#171..	21	48,5	60	G1/8" G1/4" 1/4" NPT	M8 - 3 PIN	3 x 0,129 mm, Ø 4 mm	15	150	2000
#172..	28,5	62,5	73,5	G1/4" G3/8" 1/4" NPT 3/8" NPT					
#173..	32,5	70,5	81,5	G3/8" G1/2" 1/2" NPT					
#174..	44	90,5	101,5	G1" 1" NPT					

► Fixing bracket

T172 50

Size
171 : Size 1
T172 : Size 2 - Size 3



Model	L1	L2	L3	L4	L5	D1	D2	P1	P2
17150	20	13	50	30	40	30	5,5	20	30
T17250	25	16	71	44,5	53	42	5,5	20	42

► Pressure gauge

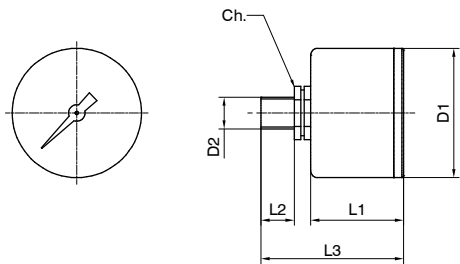
17070

A

C

Version
A : Dial Ø 40
B : Dial Ø 50

Scale
A : 0 - 4 bar
B : 0 - 6 bar
C : 0 - 12 bar



Model	L1	L2	L3	D1	D2	Ch
17070A..	26	10	44	41	Gc - 1/8"	14
17070B..	27	10	45	49	Gc - 1/8"	14

Piloted pressure regulators (RP - RMP - RPP)



- ▶ Piston piloted pressure regulator
- ▶ Available with pressure gauge or digital pressure switch integrated
- ▶ Atex certification (II 2GD or II 3GD)
- ▶ Inlet pressures up to 20 bar



Note

Always regulate the rising pressure.

Technical characteristics

Size	Size 4
Body and connections type	Aluminium body, integrated aluminium connections
IN / OUT connections	G1" - 1" NPT
Assembly configuration	Stand alone Panel mounted
Assembly positions	Indifferent
Pressure range	0,5 ... 10 bar
Regulation	Pneumatic piloting
Pressure measurement	G1/8" - 1/8" NPT pressure gauge connection port (only for versions with IN / OUT NPT connections) Integrated pressure gauge (optional) Digital pressure switch (optional)
Max. fittings torque IN / OUT connections	G1" metal: 35 Nm
Max. fitting torque pressure gauge connection port	G1/8"metal: 15 Nm

Operational characteristics

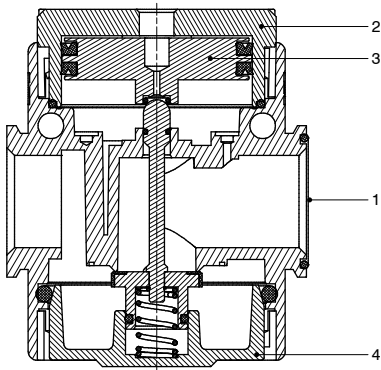
Size	Size 4
Maximum working pressure	20 bar
Minimum working pressure	0,5 bar
Pilot pressure range	0,5 ... 10 bar
Working temperature	-30 °C ... +80 °C
Working temperature with digital pressure switch	0 °C ... +50 °C



Weights	Size	Size 1	Size 2	Size 3	Size 4
Pneumatic pilot aluminum body version		/	/	/	1190 g

Materials

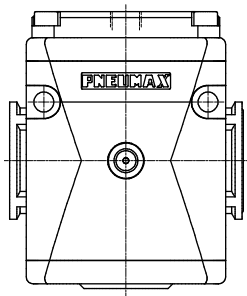
Exploded sectioned



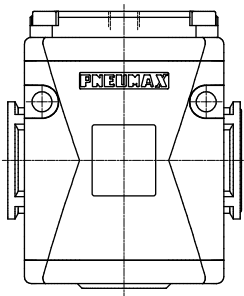
Piloted pressure regulator		
1	Body	Die-cast aluminium
2	Piloting operator	Aluminium
3	Piston	Aluminium
4	Rear end cap	Die-cast aluminium

Design

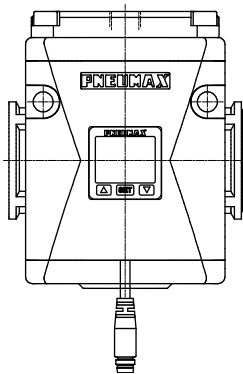
G1/8" pressure gauge
connection port version



Integrated pressure
gauge version



Integrated digital
pressure
switch version



Order codes

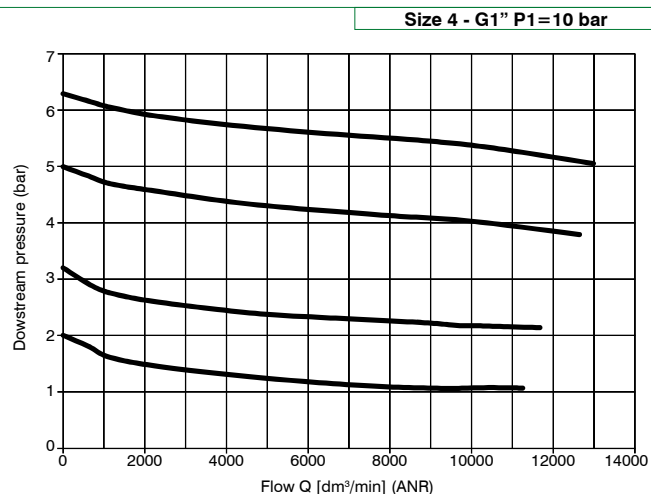
	P	17	4B	R	M		P
Version							
P : Aluminium body							
Size and connections							
4B : Size 4 - G1"							
4C : Size 4 - 1" NPT							
Pressure measurement options							
: G1/8" - 1/8" NPT thread							
M : Integrated pressure gauge							
W : Integrated pressure gauge Right - Left							
P : Digital pressure switch							
Z : Digital pressure switch Right - Left							
Digital pressure switch options							
A : Cable 150 mm + M8 PNP							
B : Cable 150 mm + M8 NPN							
C : Cable 2 m PNP							
D : Cable 2 m NPN							

Example : P174BRMP : Size 4 piloted pressure regulator G1", integrated pressure gauge

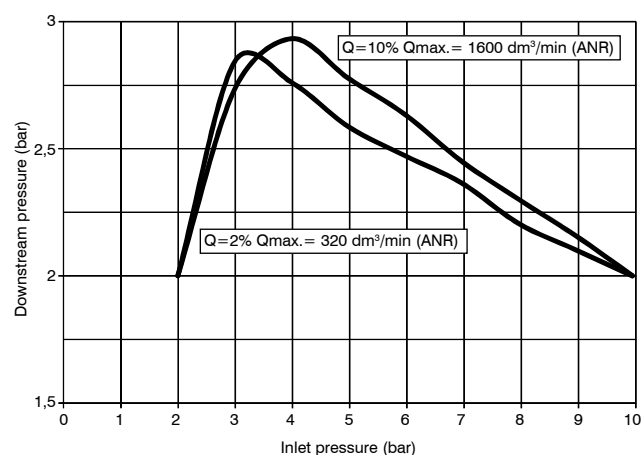
Characteristic curves

AIR TREATMENT

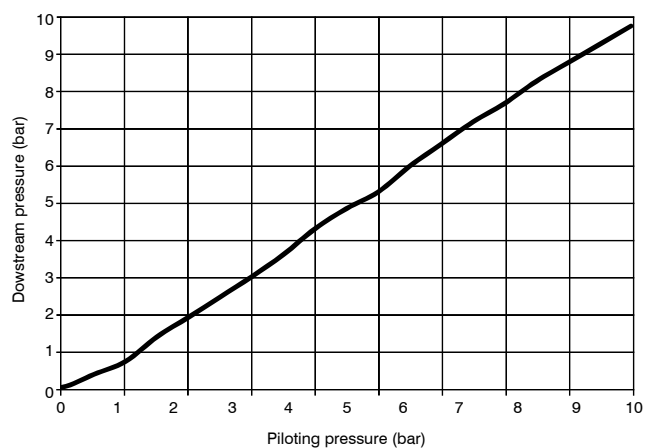
Flow rate curves



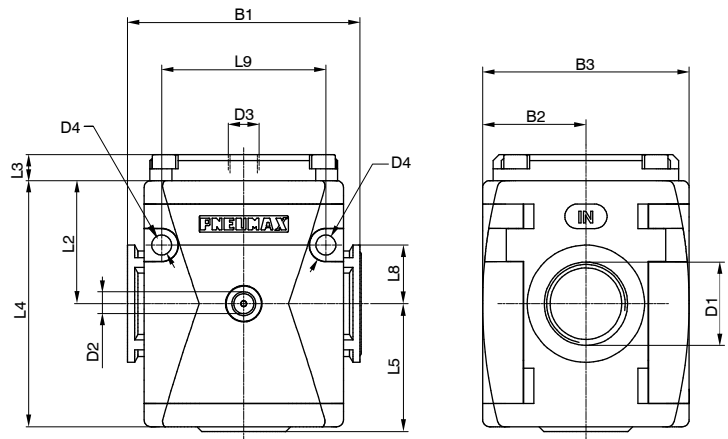
Adjustment characteristic



Flow rate curves



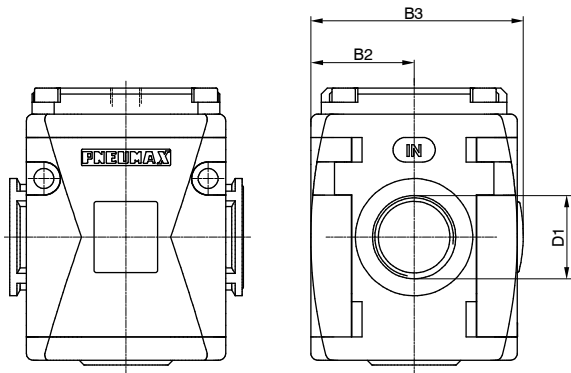
Dimensions



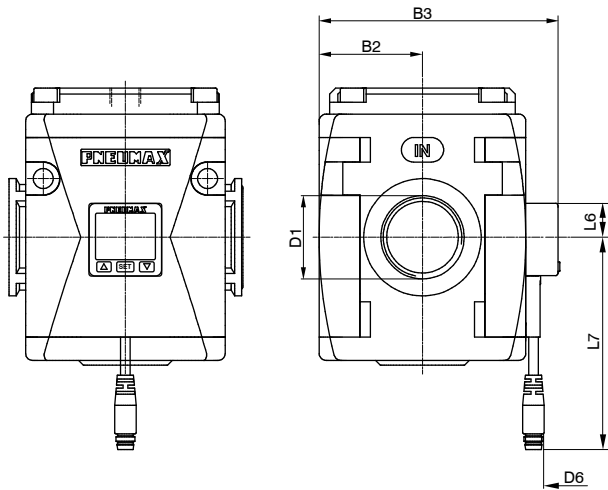
Model	B1	B2	B3	D1	D2	D3	D4	L2	L3	L4	L5	L8	L9
#174..	99	44	88	G1" 1" NPT	G1/8" 1/8" NPT	G1/4"	8,5	52,5	11	105	54,5	25	70

Variable dimensions

Integrated pressure gauge version



Integrated digital pressure switch version



Model	B2	B3		D1	D6 - Type of digital pressure switch		L6	L7 - Type of digital pressure switch	
		With pressure gauge	With digital pressure switch		A - B	C - D		A - B	C - D
#174..	44	90,5	101,5	G1" 1" NPT	M8 - 3 PIN	3 x 0,129 mm, Ø 4 mm	15	150	2000

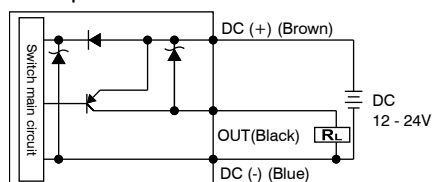
Digital pressure switch



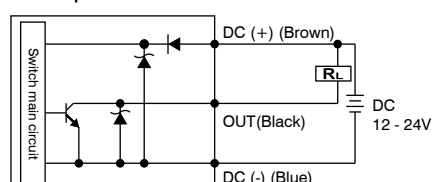
- ▶ 3 color digital LCD display, easy readout
- ▶ 4 units of measurement for pressure indication
- ▶ Optional PNP or NPN digital output
- ▶ N.O. and N.C. output contact selection directly on the digital pressure switch
- ▶ Available with M8-3PIN connector or 3 wire cable length 2 m
- ▶ Available only in combination with a regulator

Output circuit wiring diagrams

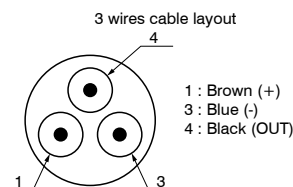
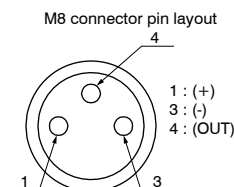
PNP output



NPN output



Digital pressure switch 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

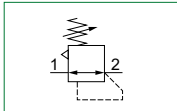


Technical characteristics	
Pressure range and display	0 ... 10 bar
Max. inlet pressure	15 bar
Fluid	40 µm filtered and dehumidified air
Display unit of measurement	MPa - kgf/cm² - bar - psi
Supply voltage	12 ... 24 VDC
Current consumption	≤40 mA (without load)
Digital output type	PNP - NPN
Type of contact output	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 options)
Display characteristics	Double 3 1/2 digit display Digital output status indication Three-pushbuttons touchpad
Indicator accuracy	≤±2% full scale value ± 1 digit
IP Rating	IP40
Working temperature	0 °C ... 50 °C
Cable section	3 x 0,129 mm², Ø 4 mm, PVC

► Pressure regulators for manifold (B - M)



- Diaphragm pressure regulator with relieving
- Available with 2 front outputs connections G1/8" or with 1 front output and integrated pressure gauge on the opposite side
- Low hysteresis rolling diaphragm and balanced spool
- Available in four pressure ranges up to 12 bar
- Fitted with panel mounting locking ring
- Available with Integrated pressure gauge
- Air supply can be applied by both directions (Right or Left)
- Max. 6 off pressure regulators in manifold configuration
- Atex certification (II 3GD)



Note

For installations where a more accurate and constant pressure is required, the unit should be installed as close as possible to the point of use.

Technical characteristics		
Size		Size 1
Body and connections type		Technopolymer body, integrated technopolymer connections (T version) Technopolymer body, metal connections (N version)
IN connections	T version	G1/4"
	N version	G1/8" - G1/4" - 1/4" NPT
OUT connections		G1/8"
Assembly configuration		Stand alone Panel mounting With fixing bracket
Assembly positions		Indifferent
Pressure range		0-2 bar 0-4 bar 0-8 bar 0-12 bar
Regulation		Manul push and lock with pressure Manual lockable with accessories
Pressure measurement		G1/8" pressure gauge connection port Integrated pressure gauge (optional)
Max. fittings torque IN / OUT connections		G1/8" metal: 15 Nm G1/4" metal: 20 Nm G1/4" technopolymer: 9 Nm
Max. fitting torque pressure gauge connection port		G1/8" technopolymer: 4 Nm G1/8" metal: 15 Nm

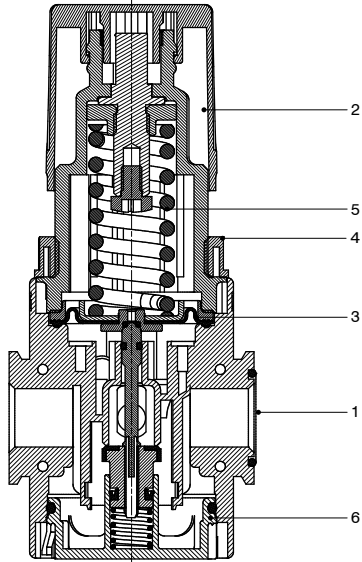
Operational characteristics	
Size	Size 1
Maximum working pressure	13 bar
Minimum working pressure	0,5 bar
Working temperature	-5 °C ... +50 °C

Weights

	Size	Size 1
Technopolymer body version		140 g

Materials

Exploded sectioned

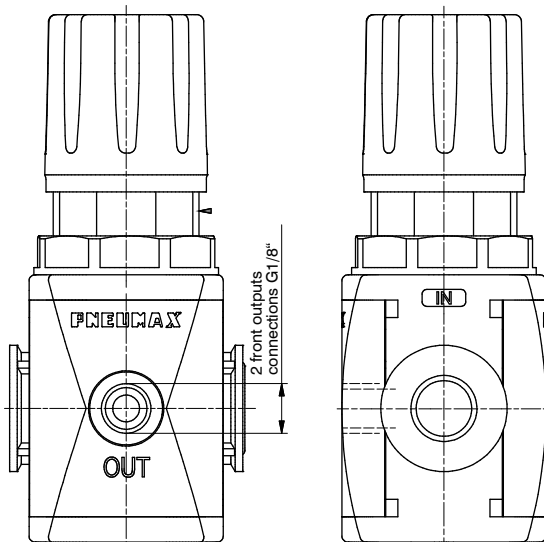


Pressure regulator for manifold

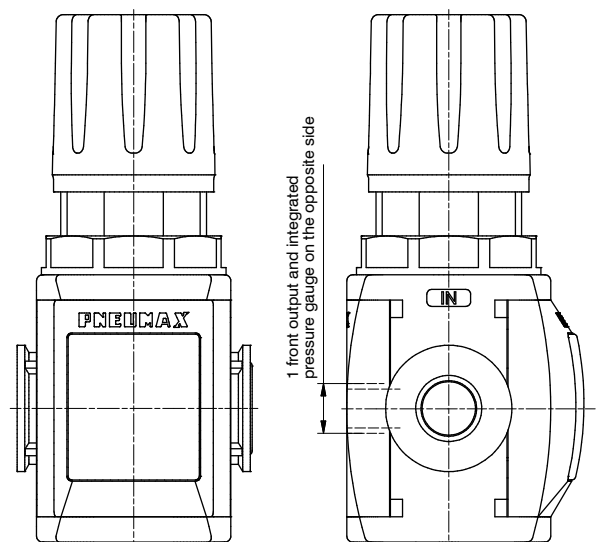
1	Body	Polyamide Die-cast aluminium
2	Adjusting knob	Polyamide
3	Diaphragm	NBR
4	Panel mounting locking ring	Polyamide
5	Adjusting spring	Steel
6	Rear end cap	Polyamide / Die-cast aluminium

Design

Pressure gauge connection port version



Integrated pressure gauge version

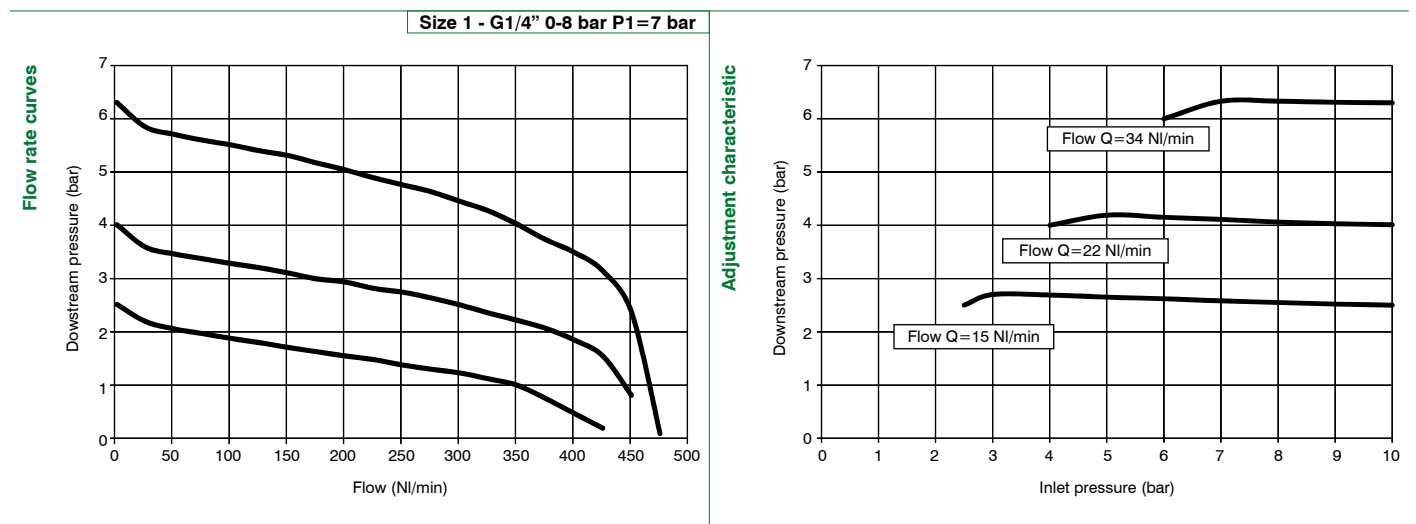


Order codes

Version	T	17	1B	B	D		
N : Technopolymer body and metal inserts							
T : Technopolymer body and thread							
Size and connections							
1A : Size 1 - G1/8"							
1B : Size 1 - G1/4"							
1C : Size 1 - 1/4" NPT only for N version							
Pressure measurement options							
B : G1/8" - 1/8" NPT thread							
M : Integrated pressure gauge							
Pressure range							
A : 0 - 2 bar							
B : 0 - 4 bar							
C : 0 - 8 bar							
D : 0 - 12 bar							
Relieving options							
: With relieving							
F : Controlled refuel and improved relieving							
L : Without relieving							
R : Improved relieving							
Knob options							
: Non-lockable version							
K : Lockable version							
U : Lockable version with universal key							

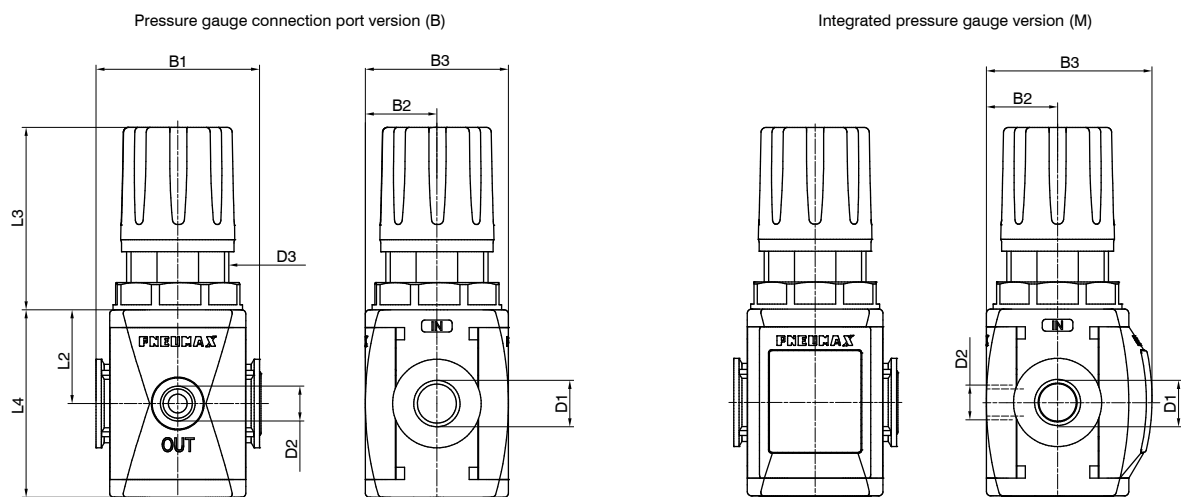
Example : T171BBD : Size 1 pressure regulator for manifold G1/4", 0 - 12 bar

Characteristic curves



Dimensions

AIR TREATMENT



Model	B1	B2	B3		D1	D2	D3	L2	L3	L4
			B version	M version						
#171..	48	24	42	48,5	G1/4" G1/8" 1/4" NPT	G1/8"	M30x1,5	27,5	54	55

Manifold pressure regulators



- ▶ Manifold pressure regulators
- ▶ Available in four pressure ranges up to 12 bar
- ▶ Inlet pressure common for the whole manifold of pressure regulator
- ▶ A maximum of 6 pressure regulators can be mounted
- ▶ Atex certification (II 3GD)
- ▶ Assembly with X or Y flanges

Technical characteristics		
Size		Size 1
Body and connections type		Technopolymer body, integrated technopolymer connections (T version) Technopolymer body, metal connections (N version)
IN connections	T version	G1/4"
	N version	G1/8" - G1/4" - 1/4" NPT
OUT connections		G1/8"
Assembly configuration		Stand alone Panel mounting With fixing bracket
Assembly positions		Indifferent
Pressure range		0-2 bar 0-4 bar 0-8 bar 0-12 bar
Regulation		Manul push and lock with pressure Manual lockable with accessories
Pressure measurement		G1/8" pressure gauge connection port Integrated pressure gauge (optional)
Max. fittings torque IN / OUT connections		G1/8" metal: 15 Nm G1/4" metal: 20 Nm G1/4" technopolymer: 9 Nm
Max. fitting torque pressure gauge connection port		G1/8" technopolymer: 4 Nm G1/8" metal: 15 Nm

Operational characteristics		
Size		Size 1
Maximum working pressure		13 bar
Minimum working pressure		0,5 bar
Working temperature		-5 °C ... +50 °C



Order codes

AIR TREATMENT

G T 17 1B M 6 C C C C C C

Version

N : Technopolymer body and metal inserts
T : Technopolymer body and thread

Size and connections

1A : Size 1 - G1/8"
1B : Size 1 - G1/4"
1C : Size 1 - 1/4" NPT only for N version

Pressure measurement options

B : G1/8" thread with flanges X
M : Integrated pressure gauge with flanges X
P : G1/8" thread with extended flanges Y
R : Integrated pressure gauge with extended flanges Y
W : G1/8" thread with flanges Y
Z : Integrated pressure gauge with flanges Y

Number of regulators

2 : n. 2 regulators
3 : n. 3 regulators
4 : n. 4 regulators
5 : n. 5 regulators
6 : n. 6 regulators

Pressure range

A : 0 - 2 bar
B : 0 - 4 bar
C : 0 - 8 bar
D : 0 - 12 bar

Pressure range

A : 0 - 2 bar
B : 0 - 4 bar
C : 0 - 8 bar
D : 0 - 12 bar

Pressure range

A : 0 - 2 bar
B : 0 - 4 bar
C : 0 - 8 bar
D : 0 - 12 bar

Pressure range

A : 0 - 2 bar
B : 0 - 4 bar
C : 0 - 8 bar
D : 0 - 12 bar

Pressure range

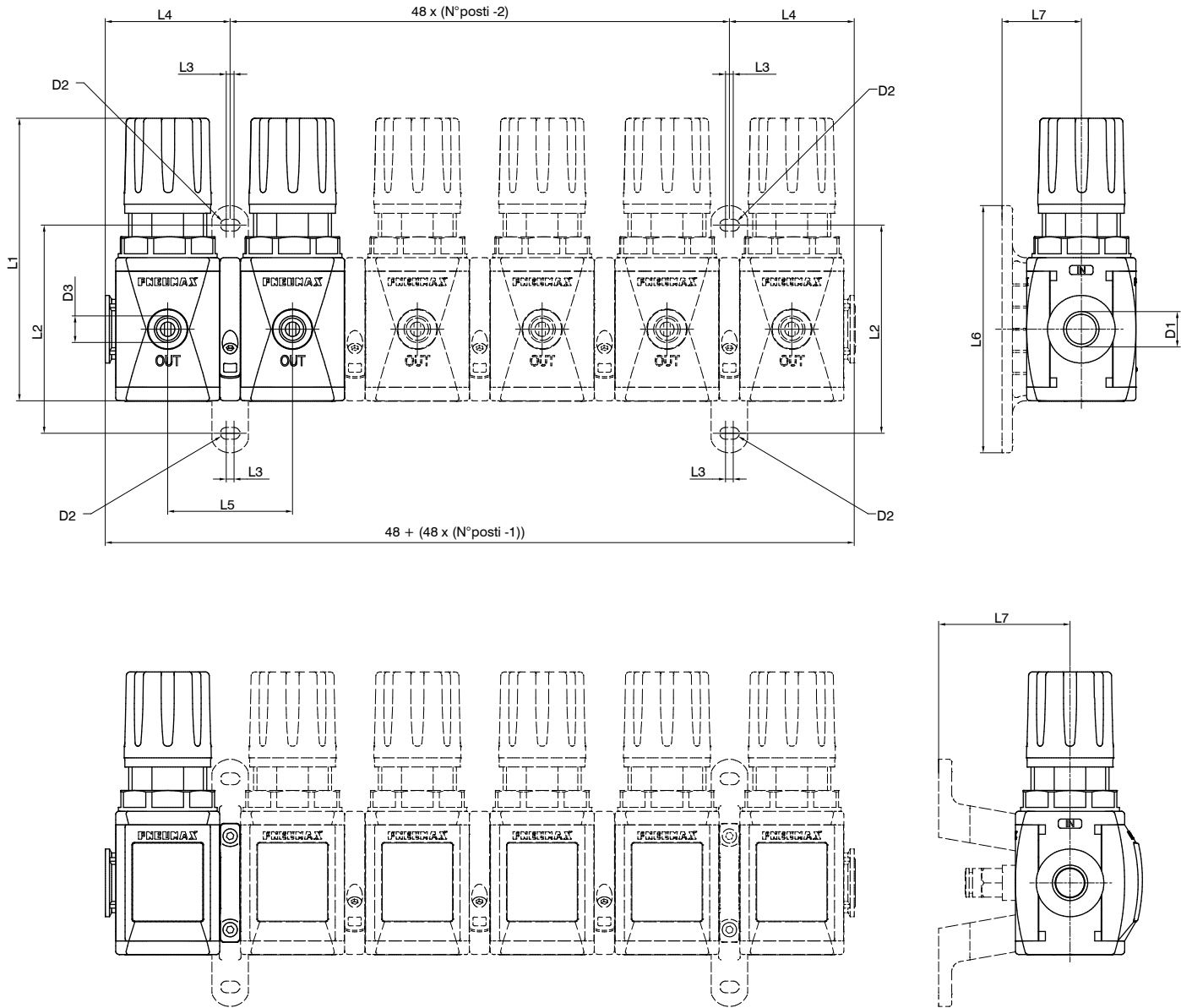
A : 0 - 2 bar
B : 0 - 4 bar
C : 0 - 8 bar
D : 0 - 12 bar

Pressure range

A : 0 - 2 bar
B : 0 - 4 bar
C : 0 - 8 bar
D : 0 - 12 bar

Example : T171BM6CCCCC : Size 1 manifold pressure regulators G1/4", 0 - 8 bar, integrated pressure gauge

Dimensions

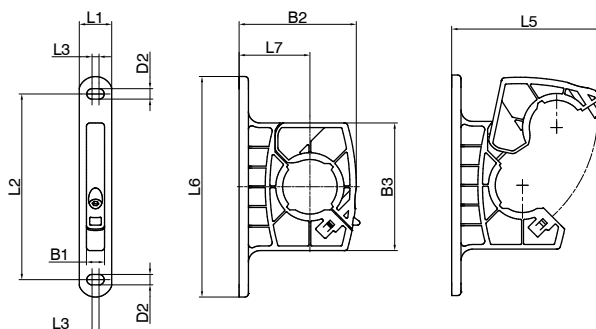


AIR TREATMENT

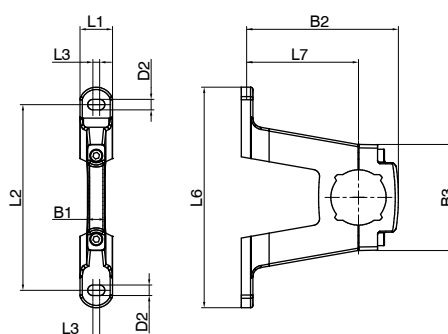
Model	D1	D2	D3	L1	L2	L3	L4	L5	L6	L7
#171..with flanges X	G1/4" G1/8" 1/4" NPT	/	G1/8"	109	/	/	48	48	/	/
#171..with flanges Y		Ø 4,5			80	3			105	30,5
#171..with extended flanges Y										50,5

Manifold mounting flanges

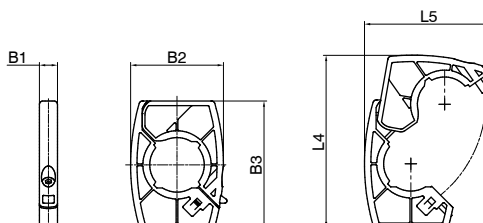
Flange Y



Extended flange Y



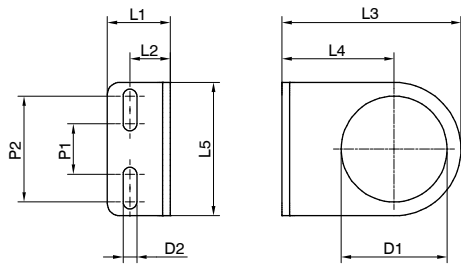
Flange X



Model	B1	B2	B3	D2	L1	L2	L3	L4	L5	L6	L7
T171Y	7,8	50,5	55	Ø 4,5	14	80	3	/	66	95	30,5
N171YP		67,7	45,7	Ø 4,5	14	80	3	/	66		50,5
T171X		40	55	/	/	/	/	74,5	55,5	/	/



► Fixing bracket

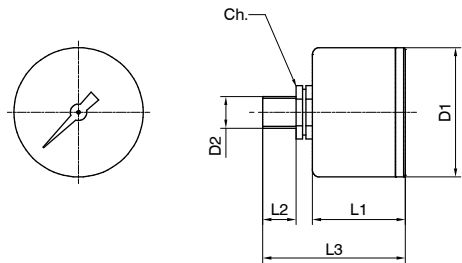


Model	L1	L2	L3	L4	L5	D1	D2	P1	P2
17150	20	13	50	30	40	30	5,5	20	30

► Pressure gauge

17070 A C

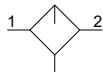
Version
A : Dial Ø 40
B : Dial Ø 50
Scale
A : 0 - 4 bar
B : 0 - 6 bar
C : 0 - 12 bar



Model	L1	L2	L3	D1	D2	Ch
17070A..	26	10	44	41	Gc - 1/8"	14
17070B..	27	10	45	49	Gc - 1/8"	14

Lubricators (L)


- ▶ Oil mist lubricator
- ▶ Available in 4 sizes with flow rates up to 16000 NI/min and connections from 1/8" to 1"
- ▶ Bowl assembly via bayonet type quick coupling mechanism with safety button
- ▶ Variable orifice size in function of the flow rate
- ▶ Oil quantity regulation mechanism and oil quantity visualization dome made of polycarbonate (PC)
- ▶ Oil refill plug
- ▶ Lubricator oil recharge with pressurized system
- ▶ Available with low level electrical sensor NO and NC
- ▶ Atex certification (II 2GD or II 3GD)



Technical characteristics					
Size		Size 1	Size 2	Size 3	Size 4
Body and connections type		Technopolymer body, integrated technopolymer connections (T version) Technopolymer body, metal connections (N version)			/
		/	Aluminium body, integrated aluminium connections (P version)		
Protection and bowl type		Technopolymer protection - PC bowl Technopolymer protection - PA bowl			/
		Metal protection - PC bowl Metal protection - PA bowl			
IN / OUT connections	T version	G1/4"	G3/8"	G1/2"	not available
	N version	G1/8" - G1/4" - 1/4" NPT	G3/8" - G1/4" - 3/8" NPT	G3/8" - G1/2" - 1/2" NPT	
	P version	not available	G3/8"	G1/2"	G1"
Assembly configuration		Stand alone			Panel mounted
		/			
Assembly positions		Vertical ±5°			
Bowl capacity		36 cm³	70 cm³	136 cm³	360 cm³
Lubrication type		Oil mist lubrication			
Oil level regulation		Manual, complete with visual indicator			
Max. fittings torque IN / OUT connections		G1/8" metal: 15 Nm G1/4" metal: 20 Nm G1/4" technopolymer: 9 Nm	G1/4" metal: 20 Nm G3/8" metal: 25 Nm G3/8" technopolymer: 16 Nm	G3/8" metal: 25 Nm G1/2" metal: 30 Nm G1/2" technopolymer: 22 Nm	G1" metal: 35 Nm

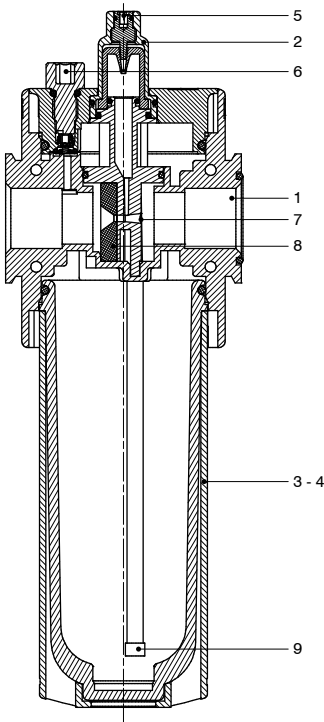
Operational characteristics				
Size	Size 1	Size 2	Size 3	Size 4
Maximum working pressure	13 bar			
Minimum working pressure	0,5 bar			
Min. operational flow at 6,3 bar	40 NI/min	70 NI/min	100 NI/min	100 NI/min
Indicative oil drop rate	1 drope every 300/600 NI/min			
Oil type	FD22 - HG32			
Working temperature	-5 °C ... +50 °C			

Weights

Size	Size 1	Size 2	Size 3	Size 4
Fully technopolymer version	121 g	215 g	347 g	/
Technopolymer body version, aluminium bowl protection and technopolymer bowl	/	245 g	383 g	/
Aluminium body version, technopolymer protection and bowl	/	315 g	477 g	1032 g
Aluminium body version, aluminium bowl protection and technopolymer bowl	/	345 g	513 g	1077 g

Materials

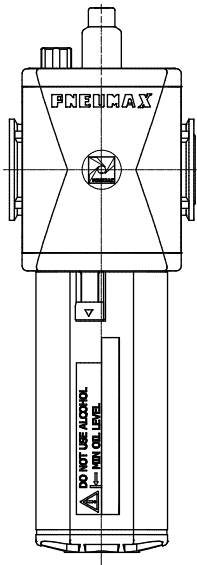
Exploded sectioned



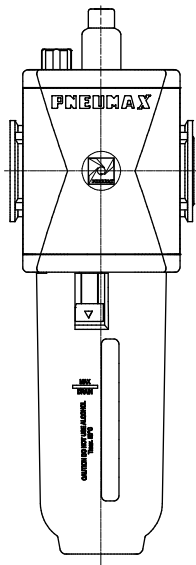
Lubricator		
1	Body	Polyamide Die-cast aluminium
2	Visual indicator	Polyamide
3	Technopolymer bowl	Polycarbonate Polyamide
4	Bowl protection	Polyamide - Die-cast aluminium
5	Oil regulation needle	Brass
6	Recharge plug	Acetal resin
7	Diaphragm support	Acetal resin
8	Diaphragm	NBR
9	Filter	Sintered brass

Design

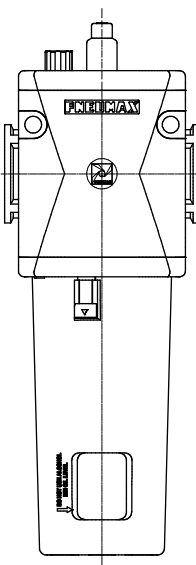
Size 1 - Size 2 - Size 3
Technopolymer protection



Size 1 - Size 2 - Size 3
Metal protection



Size 4
All versions





Order codes

AIR TREATMENT

T 17 3B L A N

Version

N : Technopolymer body and metal inserts (not available for size 4)
T : Technopolymer body and thread (not available for size 4)
P : Aluminium body (not available only for size 1)

Size and connections

1A : Size 1 - G1/8" only for N version
1B : Size 1 - G1/4" only for T - N versions
1C : Size 1 - 1/4" NPT only for N version
2A : Size 2 - G1/4" only for N version
2B : Size 2 - G3/8" for all versions
2C : Size 2 - 3/8" NPT only for N version
3A : Size 3 - G3/8" only for N version
3B : Size 3 - G1/2" for all versions
3C : Size 3 - 1/2" NPT only for N version
4B : Size 4 - G1" only for P version

Options

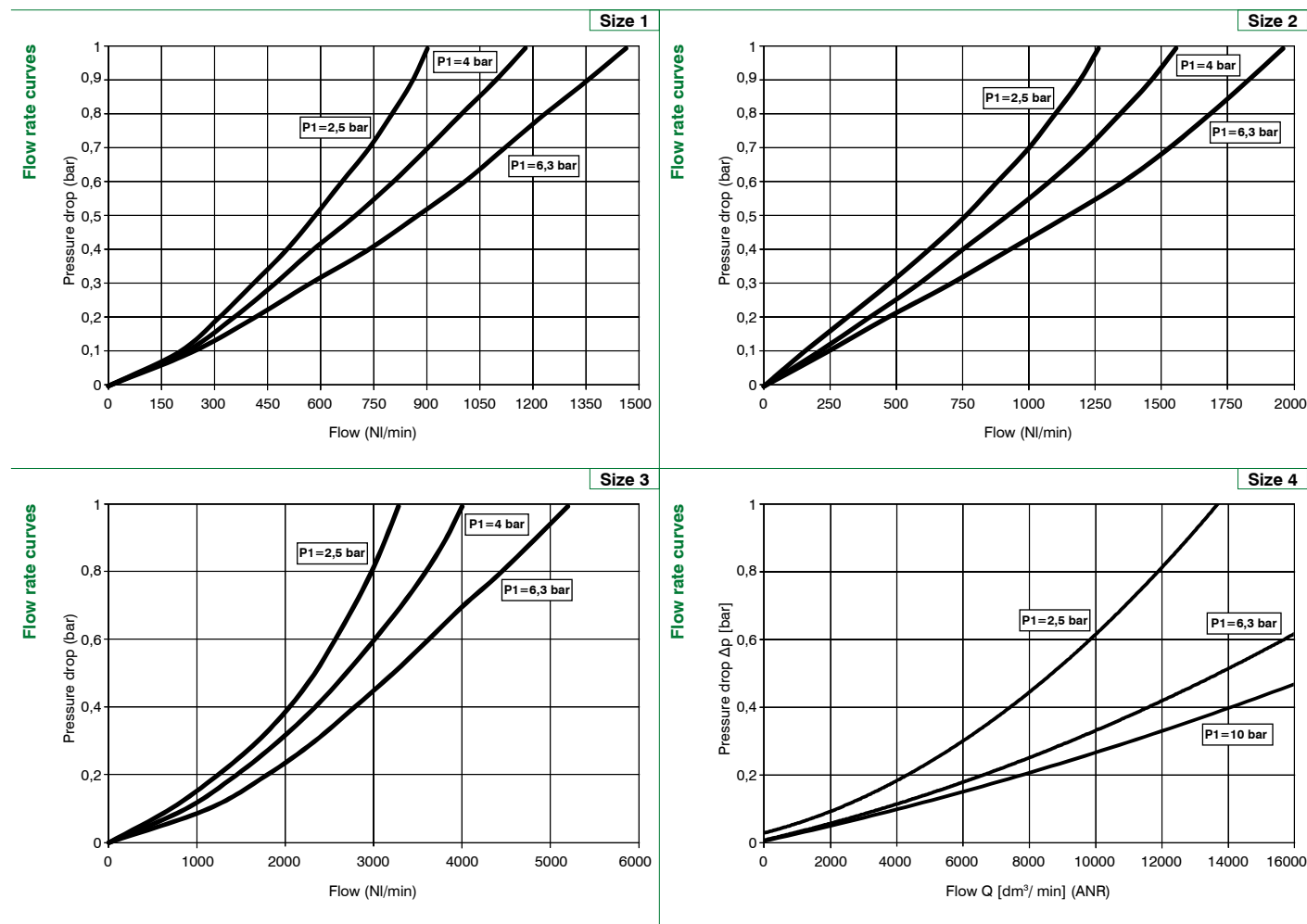
: No electric level sensor device
A : Electrical minimum level sensor NO (not available for size 1)
C : Electrical minimum level sensor NC (not available for size 1)

Bowl options

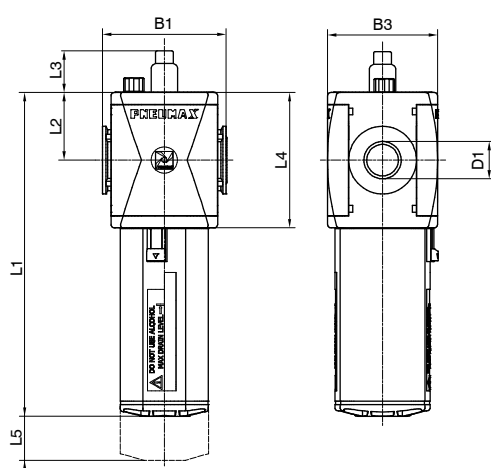
: Technopolymer protection - PC bowl
N : Technopolymer protection - PA bowl
P : Metal protection - PC bowl (not available for size 1)
R : Metal protection - PA bowl (not available for size 1)

Example : T173BLAN : TG3 Lubricator G1/2", normally open low level electrical sensor, PA bowl with technopolymer protection

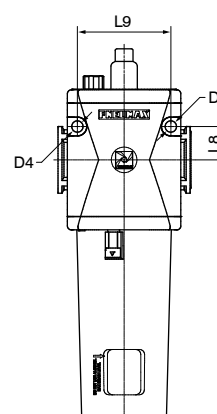
Characteristic curves



Dimensions

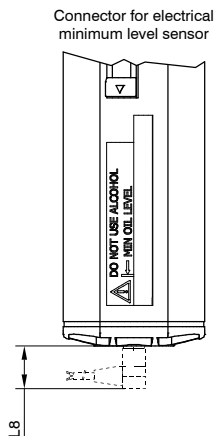


Fixing holes dimension detail
(only for size 4)



Model	B1	B3	D1	D4	L1	L2	L3	L4	L5	L8	L9
#171..	48	42	G1/8" G1/4" 1/4" NPT	/	131	27,5	24	55	80	/	/
#172..	62	57	G1/4" G3/8" 3/8" NPT	/	152,7	34	24	68	90	/	/
#173..	73	65	G3/8" G1/2" 1/2" NPT	/	191,4	40	24	80	120	/	/
#174..	99	88	G1"	8,5	247	52,5	24	105	145	25	70

Variable dimensions



Model	L8	Connectors for electrical connection
Electrical minimum level sensor NO (Normally open)	16	C1 - C2 - C3 (see sensors section of general catalog)
Electrical minimum level sensor NC (Normally closed)		

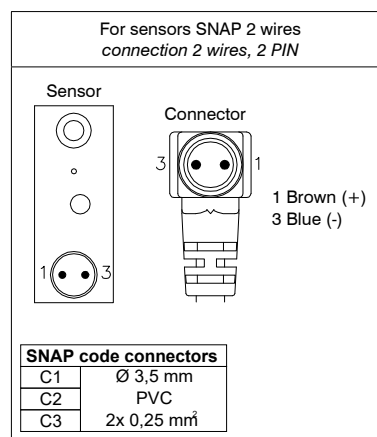
Accessories

Electrical connection details

C1 : connector with 2,5 m cable 2 wires (PVC Ø 3,5 mm 2x0,25 mm²)

C2 : connector with 5 m cable 2 wires (PVC Ø 3,5 mm 2x0,25 mm²)

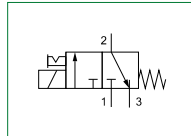
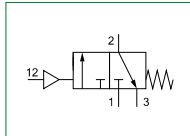
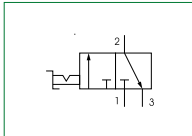
C3 : connector with 10 m cable 2 wires (PVC Ø 3,5 mm 2x0,25 mm²)



► Shut off valves (VL - VP - VE)



- 3/2 N.C. shut off valve
- Suitable for system downstream pneumatic feeding or exhaust
- Manual, pneumatic and electropneumatic operation available
- Up to 3off manual operation lockable device available (closed position)
- Atex certification (II 2GD or II 3GD)



Technical characteristics					
Size		Size 1	Size 2	Size 3	Size 4
Body and connections type		Technopolymer body, integrated technopolymer connections (T version) Technopolymer body, metal connections (N version)			/
		/	Aluminium body, integrated aluminium connections (P version)		
Operated type		Manual Pneumatic Electropneumatic			
IN / OUT connections	T version	G1/4"	G3/8"	G1/2"	not available
	N version	G1/8" - G1/4" - 1/4" NPT	G3/8" - G1/4" - 3/8" NPT	G3/8" - G1/2" - 1/2" NPT	
	P and L version	not available	G3/8"	G1/2"	G1"
Pilot connection		G1/8"			
Exhaust connection		G1/4"	G3/8"		G1/2"
Assembly configuration		Stand alone			
		/			Panel mounted
Assembly positions		Indifferent			
Max. fittings torque IN / OUT connections		G1/8" metal: 15 Nm G1/4" metal: 20 Nm G1/4" technopolymer: 9 Nm	G1/4" metal: 20 Nm G3/8" metal: 25 Nm G3/8" technopolymer: 16 Nm	G3/8" metal: 25 Nm G1/2" metal: 30 Nm G1/2" technopolymer: 22 Nm	G1/2"metal: 30 Nm G1" metal: 35 Nm

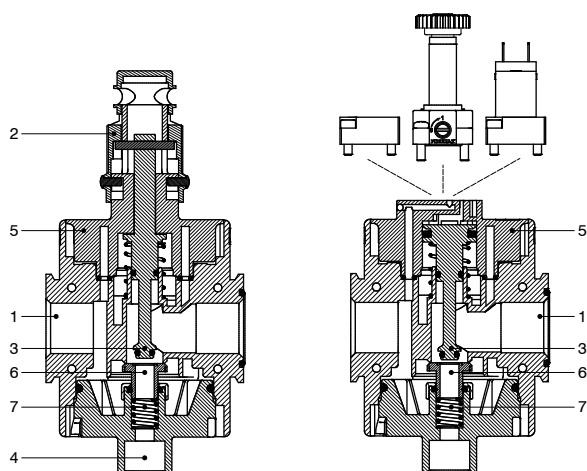
Operational characteristics								
Size	Size 1	Size 2	Size 3	Size 4	Size 1	Size 2	Size 3	Size 4
Operator	Manual				Pneumatic / Solenoid			
Maximum working pressure	13 bar			10 bar	10 bar			
Minimum working pressure	0,5 bar				2,5 bar			
Working temperature	-5 °C ... +50 °C				-5 °C ... +50 °C			
	/	30°C ... +80°C (only for P version) -40 °C ... +80 °C (only for L version)			/	-30 °C ... +80 °C (only with metal body and pneumatic version) -40 °C ... +80 °C (only with metal body and pneumatic version)		
Nominal flow rate at 6 bar with $\Delta p=1$ (from 1 to 2)	1400 NI/min	2200 NI/min	3600 NI/min	15000 NI/min	1400 NI/min	2200 NI/min	3600 NI/min	15000 NI/min
Exhaust nominal flow rate at 6 bar with $\Delta p=1$ (from 2 to 3)	550 NI/min	1500 NI/min		3600 NI/min	550 NI/min	1500 NI/min		3600 NI/min
Un-conveyed exhaust nominal flow rate (from 2 to 3)	1000 NI/min	2500 NI/min		5000 NI/min	1000 NI/min	2500 NI/min		5000 NI/min

Weights								
Size	Size 1				Size 2			
Operator	Manual	Pneumatic	Solenoid M2 actuator	Solenoid 15 mm coil	Manual	Pneumatic	Solenoid M2 actuator	Solenoid 15 mm coil
Technopolymer body version	110 g	99 g	140 g	140 g	190 g	181 g	210 g	216 g
Aluminium body version	/	/	/	/	270 g	265 g	298 g	301 g

Size	Size 3				Size 4			
Operator	Manual	Pneumatic	Solenoid M2 actuator	Solenoid 15 mm coil	Manual	Pneumatic	Solenoid M2 actuator	Solenoid 15 mm coil
Technopolymer body version	250 g	270 g	310 g	310 g	/	/	/	/
Aluminium body version	400 g	398 g	429 g	432 g	1100 g	1135 g	1170 g	1180 g

Materials

Exploded sectioned



Shut off valve		
1	Body	Polyamide Die-cast aluminium
2	Manual override	Polyamide
3	Drive pin Piston	Aluminium
4	Exhaust plug	Polyamide
5	Central support	Polyamide
6	Spool	Brass + NBR
7	Repositioning spring	Steel

Design

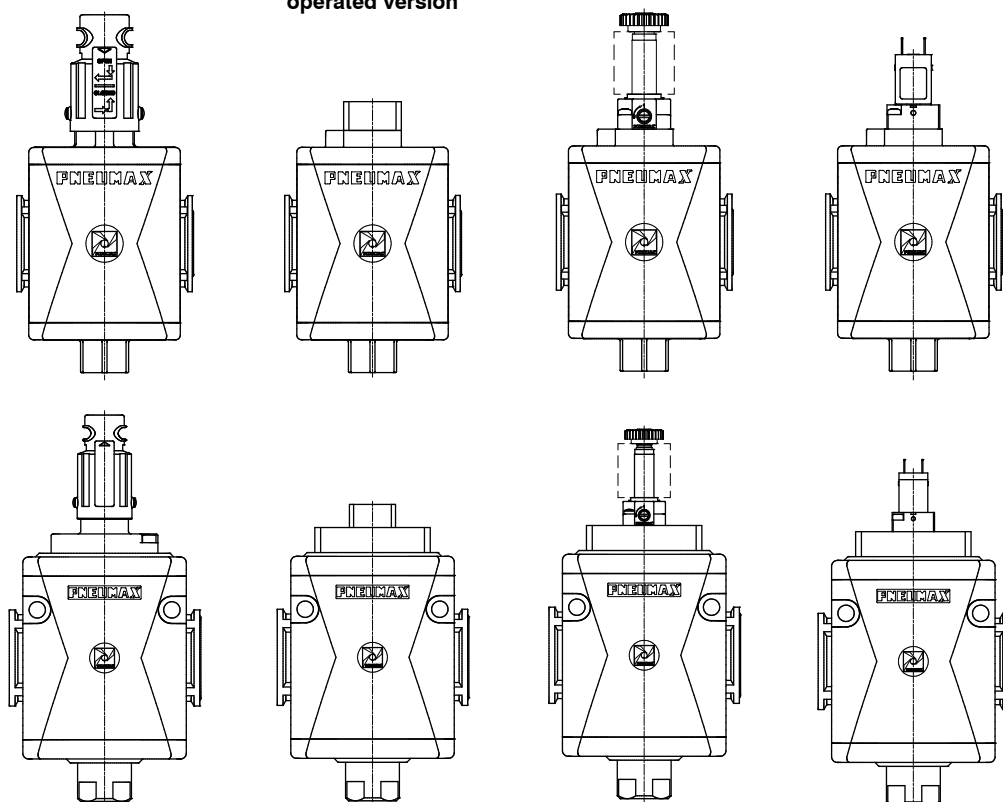
Manual operated version

Pneumatic
operated version

Solenoid operated version

Size 1 - Size 2
Size 3

Size 4





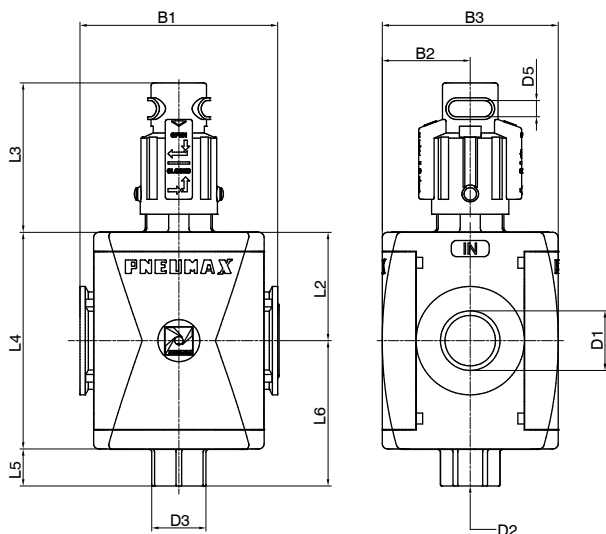
Order codes

	T	17	3B	V	E	A5
Version						
N : Technopolymer body and metal inserts (not available for size 4)						
T : Technopolymer body and thread (not available for size 4)						
P : Aluminum body (not available for size 1)						
L : Aluminium body, low temperature (not available for solenoid version)						
Size and connections						
1A : Size 1 - G1/8" only for N version						
1B : Size 1 - G1/4" only for T - N versions						
1C : Size 1 - 1/4" NPT only for N version						
2A : Size 2 - G1/4" only for N version						
2B : Size 2 - G3/8" for all versions						
2C : Size 2 - 3/8" NPT only for N version						
3A : Size 3 - G3/8" only for N version						
3B : Size 3 - G1/2" for all versions						
3C : Size 3 - 1/2" NPT only for N version						
4B : Size 4 - G1" only for P - L versions						
Operator						
L : Manual						
P : Pneumatic						
E : Solenoid						
Coil options						
15 mm coil						
A4 : 12 VDC						
A5 : 24 VDC						
A6 : 24 VAC (50-60 Hz)						
A7 : 110 VAC (50-60 Hz)						
A8 : 230 VAC (50-60 Hz)						
A9 : 24 VDC (1 Watt)						
22 mm coil						
B2 : Mechanical M2, without coil						
B4 : 12 VDC						
B5 : 24 VDC						
B6 : 24 VAC (50-60 Hz)						
B7 : 110 VAC (50-60 Hz)						
B8 : 230 VAC (50-60 Hz)						
B9 : 24 VDC (2 Watt) (Atex certification not available)						
30 mm coil						
C5 : 24 VDC						
C6 : 24 VAC (50-60 Hz)						
C7 : 110 VAC (50-60 Hz)						
C8 : 230 VAC (50-60 Hz)						
C9 : 24 VDC (2 Watt) (Atex certification not available)						

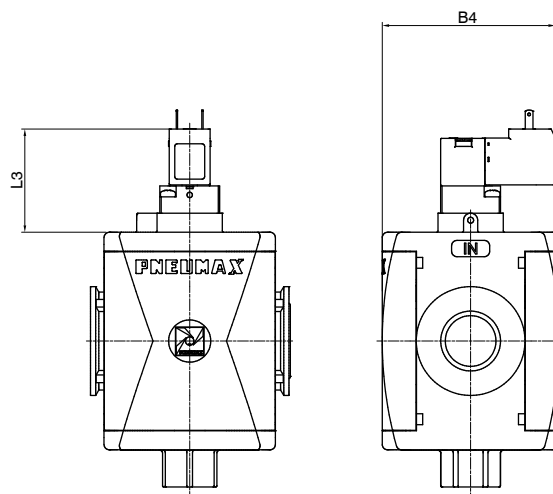
Example : T173BVEA5 : Size 3 electric shut off valve G1/2", 15 mm coil, 24 VDC

Dimensions

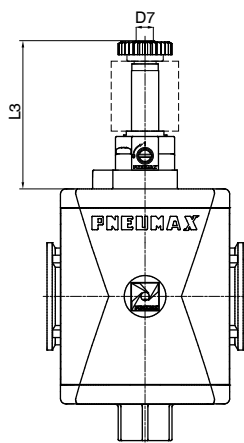
Manual operated version



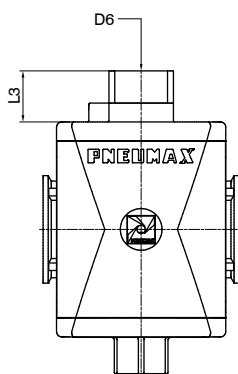
Solenoid operated version (15 mm coil)



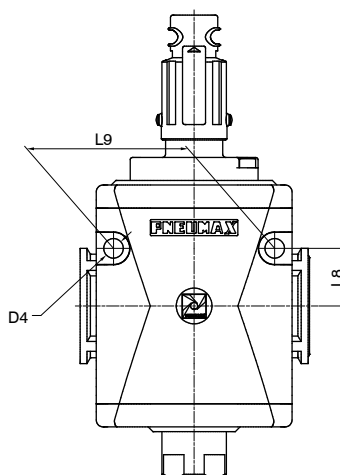
Solenoid operated version
(22 / 30 mm coil)



Pneumatic operated version



Fixing holes dimension detail
(only for size 4)

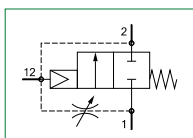


Model	B1	B2	B3	B4	D1	D2	D3	D4	D5	D6	D7	L2	L3				L4	L5	L6	L8	L9
													Manual	Pneumatic	Solenoid coil 22 or 30 mm	Solenoid 15 mm coil					
#171..	48	21	42	52	G1/8" G1/4" 1/4" NPT	G1/4"	Ch.17	/	6	G1/8"	M5	27,5	55	19	57	37,5	55	11	38,5	/	/
#172..	62	28,5	57	59,6	G1/4" G3/8" 3/8" NPT	G3/8"	Ch.20	/	6	G1/8"	M5	34	54,2	22	60	40,3	68	14	48	/	/
#173..	73	32,5	65	63,6	G3/8" G1/2" 1/2" NPT	G3/8"	Ch.20	/	6	G1/8"	M5	40	55	19	57	37,4	80	14	54	/	/
#174..	99	44	88	75	G1"	G1/2"	Ch.25	8,5	6	G1/8"	M5	52,5	71,5	27	67	45,5	105	22	74,5	25	70

Progressive start-up valve (AP - APW)



- ▶ Progressive start-up valve
- ▶ Available in 4 sizes with flow rates up to 15000 NI/min and connections from 1/8" to 1"
- ▶ Suitable for downstream system gradual pressurization
- ▶ Downstream 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
- ▶ Atex certification (II 2GD or II 3GD)



Technical characteristics					
Size		Size 1	Size 2	Size 3	Size 4
Body and connections type		Technopolymer body, integrated technopolymer connections (T version) Technopolymer body, metal connections (N version)			/
		/	Aluminium body, integrated aluminium connections (P version)		
IN / OUT connections	T version	G1/4"	G3/8"	G1/2"	not available
	N version	G1/8" - G1/4" - 1/4" NPT	G3/8" - G1/4" - 3/8" NPT	G3/8" - G1/2" - 1/2" NPT	
	P version	non disponibile	G3/8"	G1/2"	G1"
Assembly configuration		Stand alone			
		/			Panel mounted
Assembly positions		Indifferent			
Max. fittings torque IN / OUT connections		G1/8" metal: 15 Nm G1/4" metal: 20 Nm G1/4" technopolymer: 9 Nm	G1/4" metal: 20 Nm G3/8" metal: 25 Nm G3/8" technopolymer: 16 Nm	G3/8" metal: 25 Nm G1/2" metal: 30 Nm G1/2" technopolymer: 22 Nm	G1" metal: 35 Nm

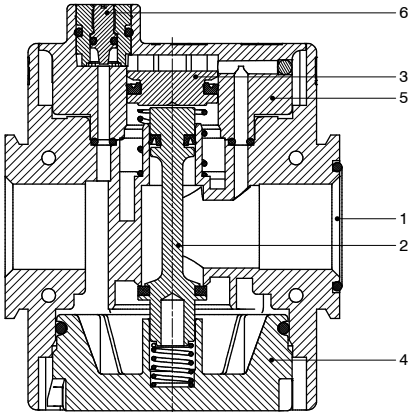
Operational characteristics				
Size	Size 1	Size 2	Size 3	Size 4
Maximum working pressure	13 bar			10 bar
Minimum working pressure	2,5 bar			
Working temperature	-5 °C ... +50 °C			
Nominal flow rate at 6 bar with Δp=1 (from 1 to 2)	1400 NI/min	2200 NI/min	3600 NI/min	15000 NI/min
Fully open flow control device maximum flow rate	75 NI/min	200 NI/min	200 NI/min	1000 NI/min



Weights					
	Size	Size 1	Size 2	Size 3	Size 4
Technopolymer body version		80 g	150 g	240 g	/
Aluminium body version		/	235 g	370 g	1100 g

Materials

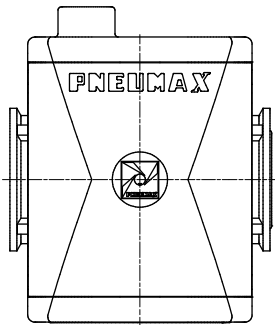
Exploded sectioned



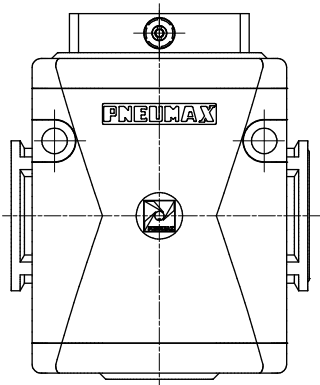
Progressive start-up valve		
1	Body	Polyamide Die-cast aluminium
2	Drive pin	Aluminium
3	Piston	Aluminium
4	Rear end cap	Polyamide / Die-cast aluminium
5	Central support	Polyamide / Aluminium
6	Modulating needle	Brass

Design

Size 1 - Size 2 - Size 3



Size 4

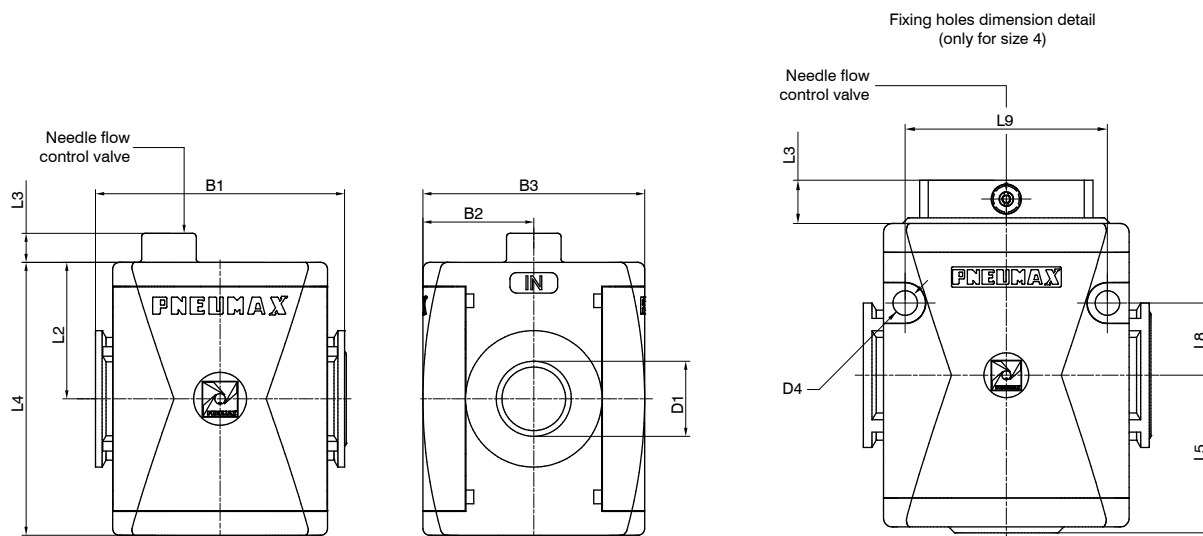


Order codes

Version	T	17	3B	AP	
N : Technopolymer body and metal inserts (not available for size 4)					
T : Technopolymer body and thread (not available for size 4)					
P : Aluminum body (not available for size 1)					
Size and connections					
1A : Size 1 - G1/8" only for N version					
1B : Size 1 - G1/4" only for T - N versions					
1C : Size 1 - 1/4" NPT only for N version					
2A : Size 2 - G1/4" only for N version					
2B : Size 2 - G3/8" for all versions					
2C : Size 2 - 3/8" NPT only for N version					
3A : Size 3 - G3/8" only for N version					
3B : Size 3 - G1/2" for all versions					
3C : Size 3 - 1/2" NPT only for N version					
4B : Size 4 - G1" only for P version					
Flow direction (only for size 4)					
: From left to right					
W : From right to left					

Example : T173BAP : Size 3 progressive start-up valve G1/2"

Dimensions

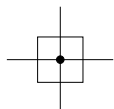


Model	B1	B2	B3	D1	D4	L2	L3	L4	L5	L8	L9
#171..	48	21	42	G1/8" G1/4"	/	27,5	12	55	/	/	/
#172..	62	28,5	57	G1/4" G3/8"	/	34	9,2	68	/	/	/
#173..	73	32,5	65	G3/8" G1/2"	/	40	8,7	80	/	/	/
#174..	99	44	88	G1"	8,5	52,5	13	105	54,5	25	70

Air intake (PA)



- ▶ Pneumatic by-pass
- ▶ Available with 2 threaded connections
- ▶ Atex certification (II 2GD or II 3GD)



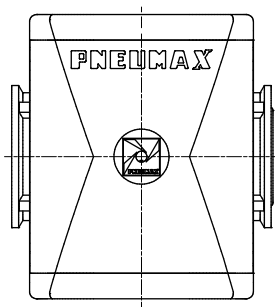
Technical characteristics					
Size		Size 1	Size 2	Size 3	Size 4
Body and connections type		Technopolymer body, integrated technopolymer connections (T version) Technopolymer body, metal connections (N version)			/
		/	Aluminium body, integrated aluminium connections (P version)		
IN / OUT / INTAKE connections	T version	G1/4"	G3/8"	G1/2"	not available
	N version	G1/8" - G1/4" - 1/4" NPT	G3/8" - G1/4" - 3/8" NPT	G3/8" - G1/2" - 1/2" NPT	
	P version	not available	G3/8"	G1/2"	G1"
Assembly configuration		Stand alone			
Assembly positions		/			Panel mounted
Max. fitting torque IN / OUT / INTAKE connections		G1/8" metal: 15 Nm G1/4" metal: 20 Nm G1/4" technopolymer: 9 Nm	G1/4" metal: 20 Nm G3/8" metal: 25 Nm G3/8" technopolymer: 16 Nm	G3/8" metal: 25 Nm G1/2" metal: 30 Nm G1/2" technopolymer: 22 Nm	G1" metal: 35 Nm

Operational characteristics					
Size		Size 1	Size 2	Size 3	Size 4
Maximum working pressure		13 bar			20 bar
Working temperature		-5 °C ... +50 °C			-30 °C ... +80 °C (only for P version)

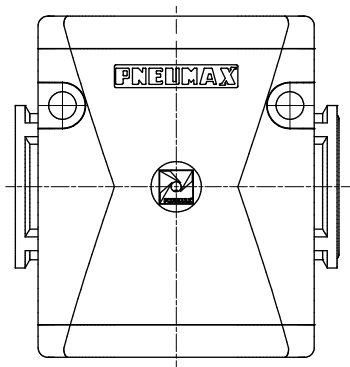
Weights					
	Size	Size 1	Size 2	Size 3	Size 4
Technopolymer body version		52 g	95,5 g	151 g	/
Aluminium body version		/	248 g	370 g	720 g

Design

Size 1 - Size 2 - Size 3



Size 4

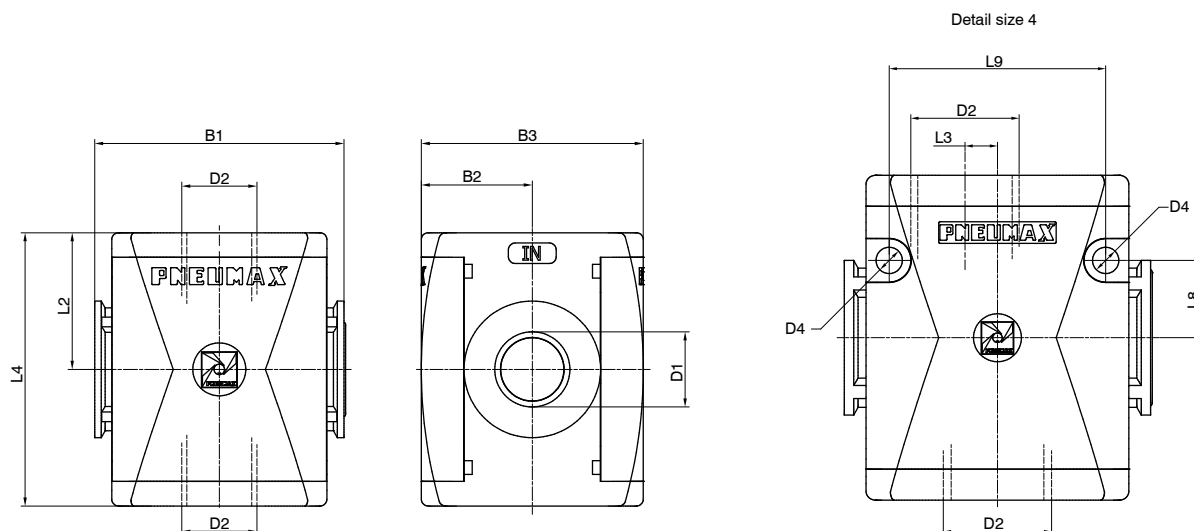


Order codes

Version	T	17	3B	PA
N : Technopolymer body and metal inserts (not available for size 4)				
T : Technopolymer body and thread (not available for size 4)				
P : Aluminium body (not available only for size 1)				
Size and connections				
1A : Size 1 - G1/8" only for N version				
1B : Size 1 - G1/4" only for T - N versions				
1C : Size 1 - 1/4" NPT only for N version				
2A : Size 2 - G1/4" only for N version				
2B : Size 2 - G3/8" for all versions				
2C : Size 2 - 3/8" NPT only for N version				
3A : Size 3 - G3/8" only for N version				
3B : Size 3 - G1/2" for all versions				
3C : Size 3 - 1/2" NPT only for N version				
4B : Size 4 - G1" only for P version				

Example : T173BPA : Size 3 air intake G1/2"

Dimensions

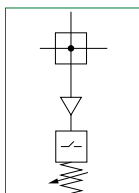


Model	B1	B2	B3	D1	D2	D4	L2	L3	L4	L8	L9
#171..	48	21	42	G1/8" G1/4" 1/4" NPT	/	27,5	/	55	/	/	/
#172..	62	28,5	57	G3/8" G1/4" 3/8" NPT	/	34	/	68	/	/	/
#173..	73	32,5	65	G3/8" G1/2" 1/2" NPT	/	40	/	80	/	/	/
#174..	99	44	88	G1"	8,5	52,5	10,5	105	25	70	70

Pressure switch (PP)



- ▶ 2 to 10 bar adjustable pressure switch with electrical connection
- ▶ 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)



Technical characteristics					
Size		Size 1	Size 2	Size 3	Size 4
Body and connections type		Technopolymer body, integrated technopolymer connections (T version) Technopolymer body, metal connections (N version)			/
		/	Aluminium body, integrated aluminium connections (P version)		
IN / OUT / INTAKE connections	T version	G1/4"	G3/8"	G1/2"	not available
	N version	G1/8" - G1/4" - 1/4" NPT	G3/8" - G1/4" - 3/8" NPT	G3/8" - G1/2" - 1/2" NPT	
	P version	not available	G3/8"	G1/2"	G1"
Assembly configuration		Stand alone			
Assembly positions		Indifferent			
Microswitch capacity		1A			
Microswitch maximum tension		250 VAC			
Microswitch IP Rating		IP65 (with connector installed)			
Max. fitting torque IN / OUT / INTAKE connections		G1/8" metal: 15 Nm G1/4" metal: 20 Nm G1/4" technopolymer: 9 Nm	G1/4" metal: 20 Nm G3/8" metal: 25 Nm G3/8" technopolymer: 16 Nm	G3/8" metal: 25 Nm G1/2" metal: 30 Nm G1/2" technopolymer: 22 Nm	G1" metal: 35 Nm

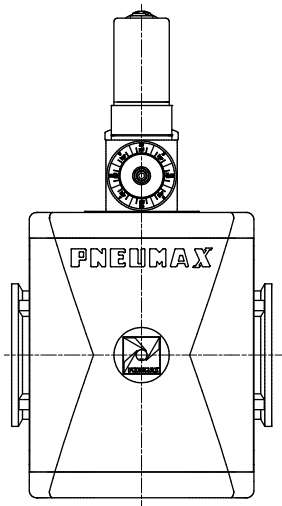
Operational characteristics					
Size		Size 1	Size 2	Size 3	Size 4
Maximum working pressure		13 bar			
Working temperature		-5 °C ... +50 °C			
Operating pressure range		2 - 10 bar			



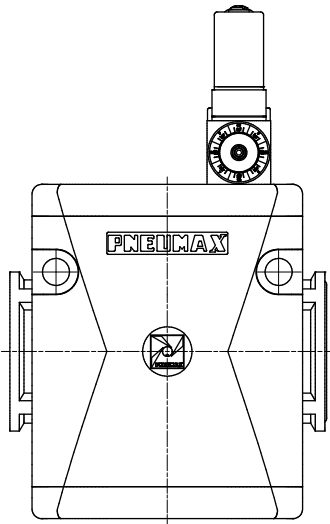
Weights					
	Size	Size 1	Size 2	Size 3	Size 4
Technopolymer body version		138 g	179 g	235 g	/
Aluminium body version		/	330 g	780 g	800 g

Design

Size 1 - Size 2 - Size 3



Size 4



Order codes

Version

N : Technopolymer body and metal inserts (not available for size 4)

T : Technopolymer body and thread (not available for size 4)

P : Aluminium body (not available only for size 1)

Size and connections

1A : Size 1 - G1/8" only for N version

1B : Size 1 - G1/4" only for T - N versions

1C : Size 1 - 1/4" NPT only for N version

2A : Size 2 - G1/4" only for N version

2B : Size 2 - G3/8" for all versions

2C : Size 2 - 3/8" NPT only for N version

3A : Size 3 - G3/8" only for N version

3B : Size 3 - G1/2" for all versions

3C : Size 3 - 1/2" NPT only for N version

4B : Size 4 - G1" only for P version

Flow direction (only for P versions)

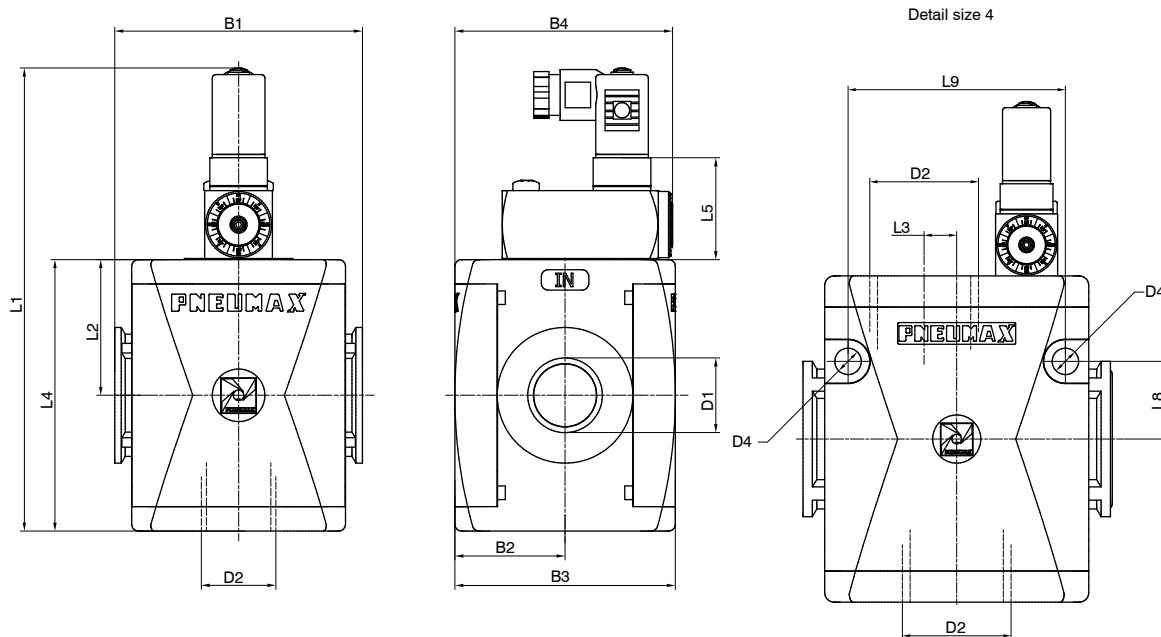
: Da sinistra verso destra

W : Da destra verso sinistra

T 17 3B PP

Example : T173BPP : Size 3 pressure switch G1/2"

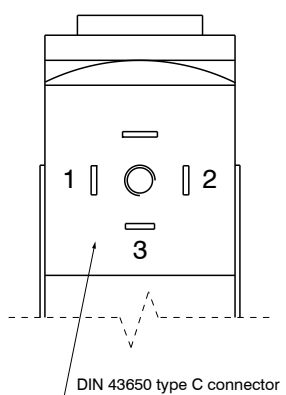
Dimensions



Model	B1	B2	B3	D1	D2	D4	L1	L2	L3	L4	L5	L8	L9
#171..	48	21	42	G1/8" G1/4" 1/4" NPT	/	/	114,7	27,5	/	55	32,7	/	/
#172..	62	28,5	57	G3/8" G1/4" 3/8" NPT	/	/	125	34	/	68	30	/	/
#173..	73	32,5	65	G3/8" G1/2" 1/2" NPT	/	/	137	40	/	80	30	/	/
#174..	99	44	88	G1"	8,5	162	52,5	10,5	105	30	25	70	

Electrical connection

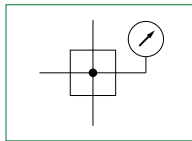
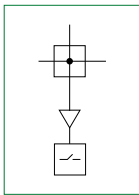
1 = neutral
2 = N.C. contact
3 = N.O. contact



Air intake with pressure gauge or digital pressure switch integrated (PM-PW-PP-PZ)



- ▶ Available with pressure gauge or digital pressure switch integrated
- ▶ Air intake connection device available
- ▶ Material and version wide selection
- ▶ Available in 4 sizes with connections from 1/8" to 1"
- ▶ Atex certification (II 2GD or II 3GD)
for Integrated pressure gauge version



Technical characteristics					
Size		Size 1	Size 2	Size 3	Size 4
Body and connections type		Technopolymer body, integrated technopolymer connections Technopolymer body, metal connections			/
		/	Aluminium body, integrated aluminium connections		
IN / OUT connections	T version	G1/4"	G3/8"	G1/2"	not available
	N version	G1/8" - G1/4" - 1/4" NPT	G3/8" - G1/4" - 3/8" NPT	G3/8" - G1/2" - 1/2" NPT	
	P version	not available	G3/8"	G1/2"	G1"
Air intake connection		G1/4"	G3/8"	G3/8"	G1/2"
Assembly configuration		Stand alone			
		/			Panel mounted
Assembly positions		Indifferent			
Pressure measurement		Integrated pressure gauge Digital pressure switch			
Max. fittings torque IN / OUT connections		G1/8" metal: 15 Nm G1/4" metal: 20 Nm G1/4" technopolymer: 9 Nm	G1/4" metal: 20 Nm G3/8" metal: 25 Nm G3/8" technopolymer: 16 Nm	G3/8" metal: 25 Nm G1/2" metal: 30 Nm G1/2" technopolymer: 22 Nm	G1" metal: 35 Nm

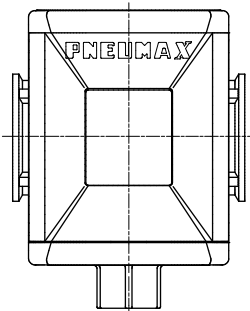
Operational characteristics				
Size	Size 1	Size 2	Size 3	Size 4
Maximum working pressure	13 bar			
Working temperature with integrated pressure gauge	-5 °C ... +50 °C			
	/	-30 °C ... +80 °C (only with metal body)		
Working temperature with digital pressure switch	0 °C ... +50 °C			

Weights					
	Size	Size 1	Size 2	Size 3	Size 4
Technopolymer body version with Integrated pressure gauge		83 g	161 g	249 g	/
Technopolymer body version with integrated digital pressure switch		111 g	189 g	277 g	/
Aluminium body version with Integrated pressure gauge		/	245 g	373 g	947 g
Aluminium body version with integrated digital pressure switch		/	273 g	401 g	963 g

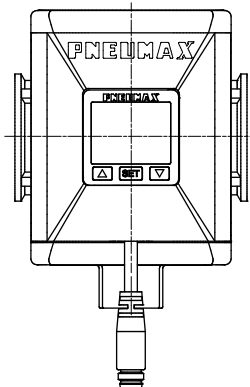
Design

AIR TREATMENT

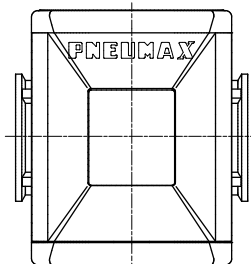
Size 1 - Size 2 - Size 3
Technopolymer body and
integrated pressure
gauge



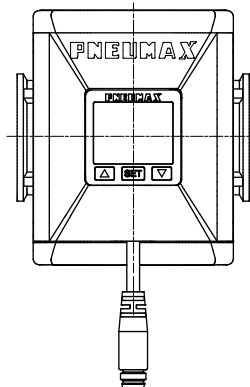
Size 1 - Size 2 - Size 3
Technopolymer body and
integrated digital
pressure switch



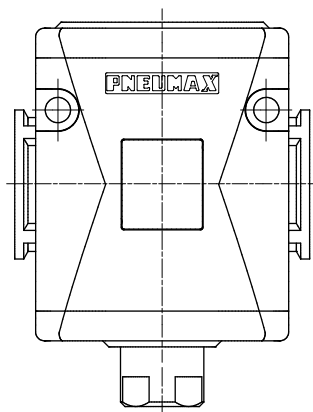
Size 2 - Size 3
Aluminium body and
integrated pressure
gauge



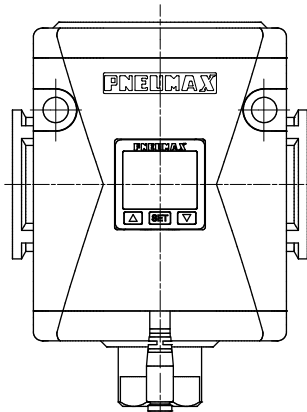
Size 2 - Size 3
Aluminium body and
integrated digital
pressure switch



Size 4
Integrated pressure
gauge version



Size 4
Integrated digital
pressure switch version



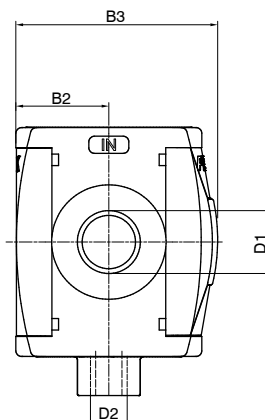
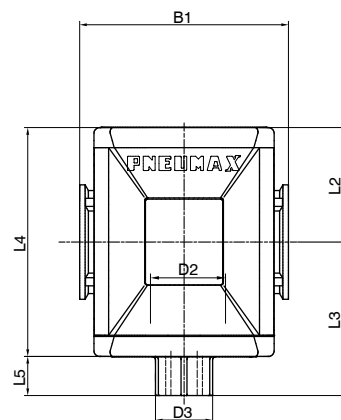
Order codes

Version	T	17	3B	P	P	A
N : Technopolymer body and metal inserts (not available for size 4)						
T : Technopolymer body and thread (not available for size 4)						
P : Aluminum body (not available for size 1)						
Size and connections						
1A : Size 1 - G1/8" only for N version						
1B : Size 1 - G1/4" only for T - N versions						
1C : Size 1 - 1/4" NPT only for N version						
2A : Size 2 - G1/4" only for N version						
2B : Size 2 - G3/8" for all versions						
2C : Size 2 - 3/8" NPT only for N version						
3A : Size 3 - G3/8" only for N version						
3B : Size 3 - G1/2" for all versions						
3C : Size 3 - 1/2" NPT only for N version						
4B : Size 4 - G1" only for P version						
Pressure measurement options						
M : Integrated pressure gauge						
W : Integrated pressure gauge Right - Left						
P : Digital pressure switch						
Z : Digital pressure switch Right - Left						
Digital pressure switch options						
A : Cable 150 mm + M8 PNP						
B : Cable 150 mm + M8 NPN						
C : Cable 2 m PNP						
D : Cable 2 m NPN						

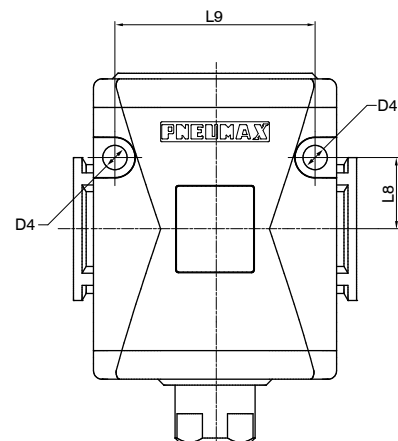
Example : T173BPPA : M8 PNP digital pressure switch, size 3 G1/2"

Dimensions - Integrated pressure gauge version

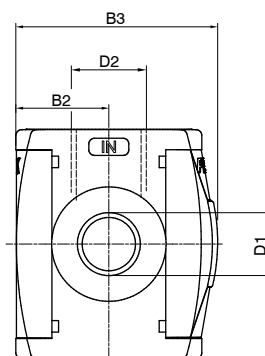
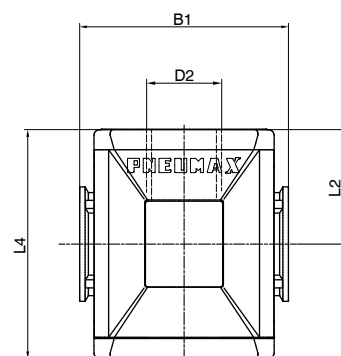
Technopolymer body version



Fixing holes dimension detail
(only for size 4)

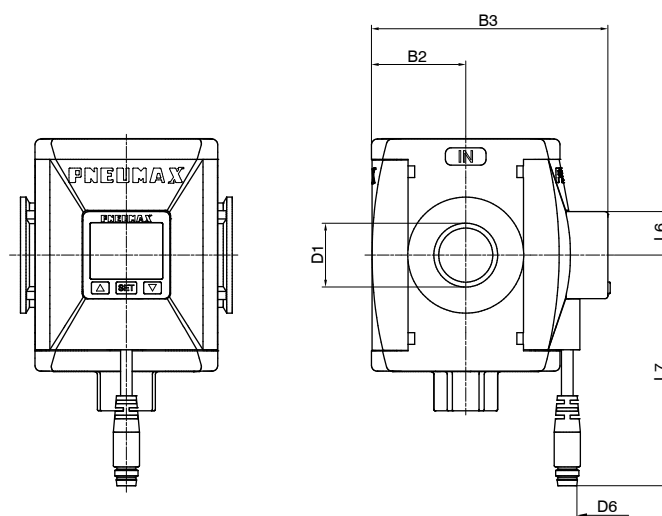


Aluminium body version (Size 2 - Size 3)



Model	B1	B2	B3	D1	D2	D3	D4	L2	L3	L4	L5	L8	L9
#171..	48	21	48,5	G1/8" G1/4" 1/4" NPT	G1/4"	Ch. 17	/	27,5	38,5	55	11	/	/
#172..	62	28,5	62,5	G1/4" G3/8" 3/8" NPT	G3/8"	Ch. 20	/	34	48	68	14	/	/
#173..	73	32,5	70,5	G3/8" G1/2" 1/2" NPT	G3/8"	Ch. 20	/	40	54	80	14	/	/
#174..	99	44	90,5	G1"	G1/2"	Ch. 25	8,5	52,5	74,5	105	22	25	70

Variable dimensions - Digital pressure switch version



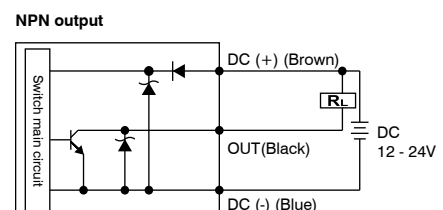
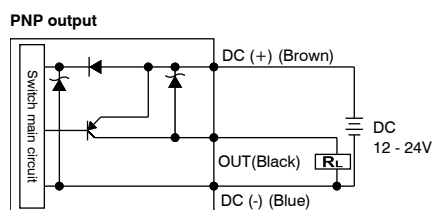
Model	B2	B3	D1	D6 - Type of digital pressure switch		L6	L7 - Type of digital pressure switch	
				A - B	C - D		A - B	C - D
#171..	21	60	G1/8" G1/4" 1/4" NPT	M8 - 3 PIN	3 x 0,129 mm, Ø 4 mm	15	150	2000
#172..	28,5	73,5	G1/4" G3/8" 3/8" NPT					
#173..	32,5	81,5	G3/8" G1/2" 1/2" NPT					
#174..	44	101,5	G1"					

Digital pressure switch

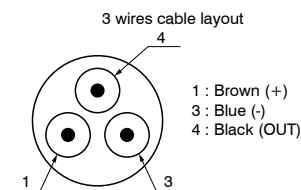
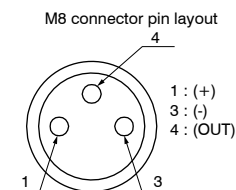


- ▶ 3 color digital LCD display, easy readout
- ▶ 4 units of measurement for pressure indication
- ▶ Optional PNP or NPN digital output
- ▶ N.O. and N.C. output contact selection directly on the digital pressure switch
- ▶ Available with M8-3PIN connector or 3 wire cable length 2 m
- ▶ Available only in combination with a air intake

Output circuit wiring diagrams



Digital pressure switch lay out



Cable ordering code

MCH1 : cable 3 wires l=2,5 m with M8 connector

MCH2 : cable 3 wires l=5 m with M8 connector

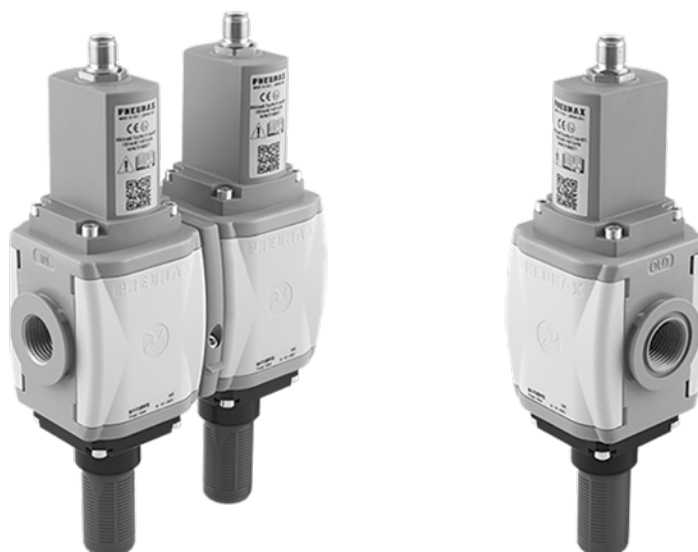
MCH3 : cable 3 wires l=10 m with M8 connector

Connector



Technical characteristics	
Pressure range and display	0 ... 10 bar
Max. inlet pressure	15 bar
Fluid	40 µm 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	PNP - NPN
Type of contact output	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 options)
Display characteristics	Double 3 1/2 digit display Digital output status indication Three-pushbuttons touchpad
Indicator accuracy	≤±2% full scale value ± 1 digit
IP Rating	IP40
Working temperature	0 °C ... 50 °C
Cable section	3 x 0,129 mm ² , Ø 4 mm, PVC

Supply and discharge valves SAFELINE



General

Upon implementation of the AIRPLUS TG3 series, air-treatment units, PNEUMAX develops a supply and discharge valve, with an electropneumatic control and spring-return, fitted with a diagnostic system regarding the state of the valve, with the possibility of creating a double channel to determine the system's redundancy. The valve, as a safety feature, provides the interruption of the air supply and the exhaust of the air circuit it is connected to. The version with one single channel emphasises the features of an EV 3/2 NC, monostable with electropneumatic control and spring-return, whose operation involves:

- condition of the VALVE AT REST, with a DE-ENERGISED coil; Port 1 (air supply) is not been connected to Port 2 (downstream air circuit). Port 2 is discharged out of Port 3;
- condition of the VALVE ACTIVATED, with an ENERGISED coil; Port 1 (air supply) is connected to Port 2 (downstream air circuit), with Port 3 (Discharge) closed.

By de-energising the coil, the system resets the condition of VALVE AT REST by means of the return spring, which repositions the spool. Once again Port 2 (downstream air circuit), discharges via Port 3. The state of the valve is constantly monitored by a diagnostic system, using a Hall effect sensor, which reads the position of the spool and consequently takes note of the valve's position. The sensor is in the ON position when the valve is at rest (DE-ENERGISED coil), while it is in the OFF position when the valve is activated (ENERGISED coil).

The sensor is in the OFF position under conditions of an activated valve (DE-ENERGISED coil), indicating a possible problem.

The SAFELINE supply and discharge valve in the single version is a classified component in CATEGORY 2 according to ISO EN 13849 and is appropriate for use in safety circuits until PL=C.

The version with a double redundant channel is made using two single solenoid valves 3/2 NC provided with diagnostics, mounted in series so that the Port 2 of the first solenoid valve is linked to the Port 1 of the second solenoid valve. It is sufficient that only one of the EV is de-energised to guarantee the discharge of the air circuit. If one of the two EV must remain blocked due to a malfunction, the other one ensures the discharge function of the pneumatic installation. Even in this case, the diagnostic system of both solenoid valves constantly monitors the state of the 2 single EV.

The SAFELINE supply and discharge valve in the double version is a classified component in CATEGORY 4 according to ISO EN 13849 and is appropriate for use in safety circuits until PL=E.

Both single and double solenoid valves are provided with the following certifications released by BUREAU VERITAS:

- TYPE APPROVAL certificate according to the EN ISO 13849 regulations
- certification of examination of compliance in accordance to the machinery directive 2006/42/CE

The AIRPLUS SAFELINE are solenoid valves marked as ATEX

II 3G Ex nA IIC T6 Gc (X)
II 3D Ex tc IIIC T=80°C Dc (X) IP65

Construction characteristics

Body	Aluminium
Operatore Solenoide	Technopolymer
Rear end cap	Aluminium
Spool	Aluminium
Spool seals	Polyurethane
Piston	Aluminium
Spring	EN 10270-1 DH steel
Electrical Interface	Male MP12 4 PIN TYPE A connector

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous.
Working temperature	-10 °C ... +50 °C
Minimum working pressure	2,5 bar
Maximum working pressure	10 bar

ASSEMBLY AND INSTALLATION:

Undertake the installation respecting the safety requirements with regards to the system and components for hydraulic and pneumatic transmissions. Install the device as close as possible to the point of use. Its assembly is possible in any position. Pay attention to the flow direction, indicated on the main body with the labels IN and OUT. During the components discharge, high levels of noise occur. The use of a silencer on the discharge port is recommended. Ensure there is sufficient space for assembly during the installation process. Please ensure that the discharge area is always clear, and in case a silencer is used, periodically verify that it is not obstructed. It is possible to integrate and install the device in an existing AIRPLUS group or in a new installation, or else to use the device individually attaching it by aligning the assembled unit with the relevant fastening flange for the supply and discharge valve, or to use the device individually attaching it by aligning the assembled unit with the type "Y" fastening flange for the double supply and discharge valve.



WARNING!

Pay particular attention to external factors such as the nearness of live wires, magnetic fields, metallic objects providing magnetic conduction very close to the device, which may influence and disturb the diagnostic system.



WARNING!

The electrical connection must be made exclusively by specialized personnel, using components that have no voltage present. Only use power supplies which can guarantee a safe electrical isolation of the working voltage in accordance to IEC/EN 60204-1. Additionally, observe the requirements anticipated by the PELV circuits in accordance to IEC/EN 60204-1.

CARE AND MAINTENANCE



WARNING!

Do not connect or disconnect the device when energised! Do not open and/or disassemble the parts that are included in the energised valve. Once the power supply is disconnected, wait for a few minutes before opening or disassembling parts of the valve that result in its disassembly.

Before carrying out any operation, it is essential to remove the pneumatic and power supply to the device and wait for the residual pressure to be completely discharged.

Please ensure that the discharge is always clear, and in case a silencer is used, periodically verify that it is not obstructed.

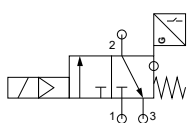
Periodically remove any dust deposits from the valve using a damp cloth. Use soapy water to clean the device.

Do not use corrosive or alcohol-based products.

For maintenance operations on internal components, please consult with PNEUMAX SPA.

Supply and discharge valve single (VS)

Pneumatic symbol

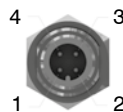


ATEX

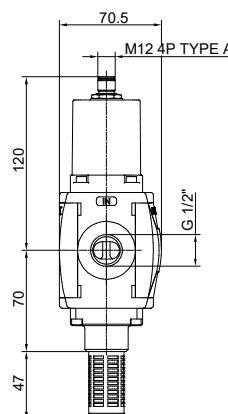
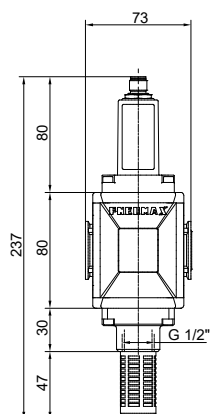
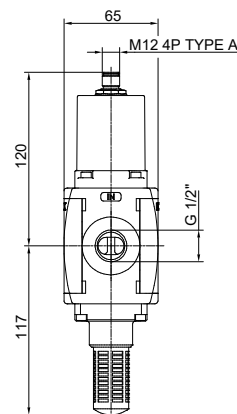
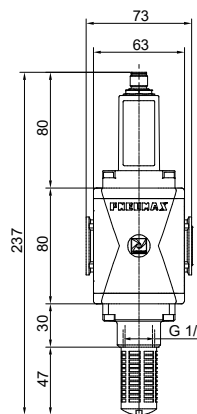
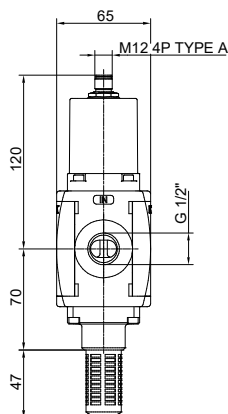
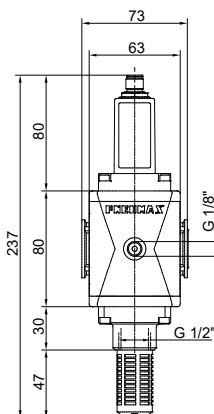
II 3G Ex nA IIC T6 Gc (X)

II 3D Ex tc IIIC T=80°C Dc (X) IP65

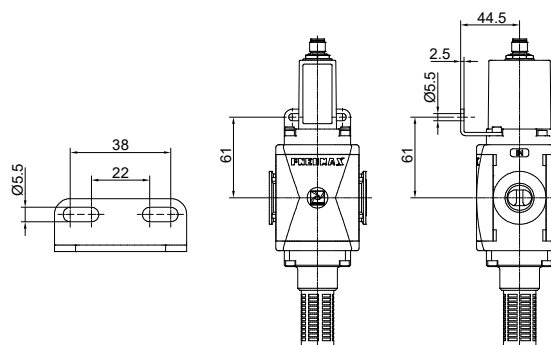
Electrical connection



PIN	Description
1	+24 VDC (Sensor)
2	+24 VDC (EV)
3	GND (Sensor+EV)
4	SENSOR OUTPUT



Dimensions with fixing bracket mounted



Electrical characteristics

Electrical connection	Male M12 4 PIN TYPE A connector
Coil Features	24 VDC, 1 Watt
Suppressor diode for coil reverse voltage spike	Present
Supply voltage allowance	-5% ... +10%

Electrical characteristics of sensor

Sensor characteristics	10 ... 30 VDC
Operating principle	Hall effect
Contact type	N.A.
Output type	PNP
Permanent maximum current	100 mA
Permanent maximum power	3 Watt
Voltage drop max.	2 V

Safety characteristics

Regulatory compliance	EN ISO 13849-1
Safety function fulfilled	Interruption of supply and unloading of the downstream pneumatic circuit
Performance Level (PL)	c
UNI EN 13849 category	2
Safety Integrity Level (SIL)	1
PFD _h	1,7*10 ⁻⁶
CE marking	In accordance with the EU Machinery Directive, annex V

Technical characteristics

Connections	G1/2" UNI-ISO 228/1
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous.
Function	3/2 N.C. monostable
Minimum working pressure	2,5 bar
Maximum working pressure	10 bar
Working temperature	-10°C ... +50°C
Flow rate at 6bar Δp (from 1 to 2)	3500 NL/min
Flow rate at 6bar Δp (from 2 to 3)	2000 NL/min
Flow rate at 6bar (from 2 to 3) with free discharge	3800 NL/min
Type of installation	Stand alone
Assembly positions	Indifferent
Noise level	90 dB
Response time ON ISO 12238	36 ms
Response time OFF ISO 12238	76 ms
IP Rating	IP65 (with connector installed)

Ordering code

N173BVS00	
VERSIONS	
= Standard* (without connections)	
M	Integrated pressure gauge
W	Integrated pressure gauge (Right-Left)
G	G1/8" pressure gauge connection
FIXING	
= Without fixing*	
01	Fixing bracket mounted (Left-Right)
02	Fixing bracket mounted (Right-Left)

* nessuna lettera aggiuntiva richiesta

Installation tip of a safety system by means of a single valve

Please note: the safety valve is not sufficient alone to guarantee the safety function. Its setup requires the use of a monitoring device.

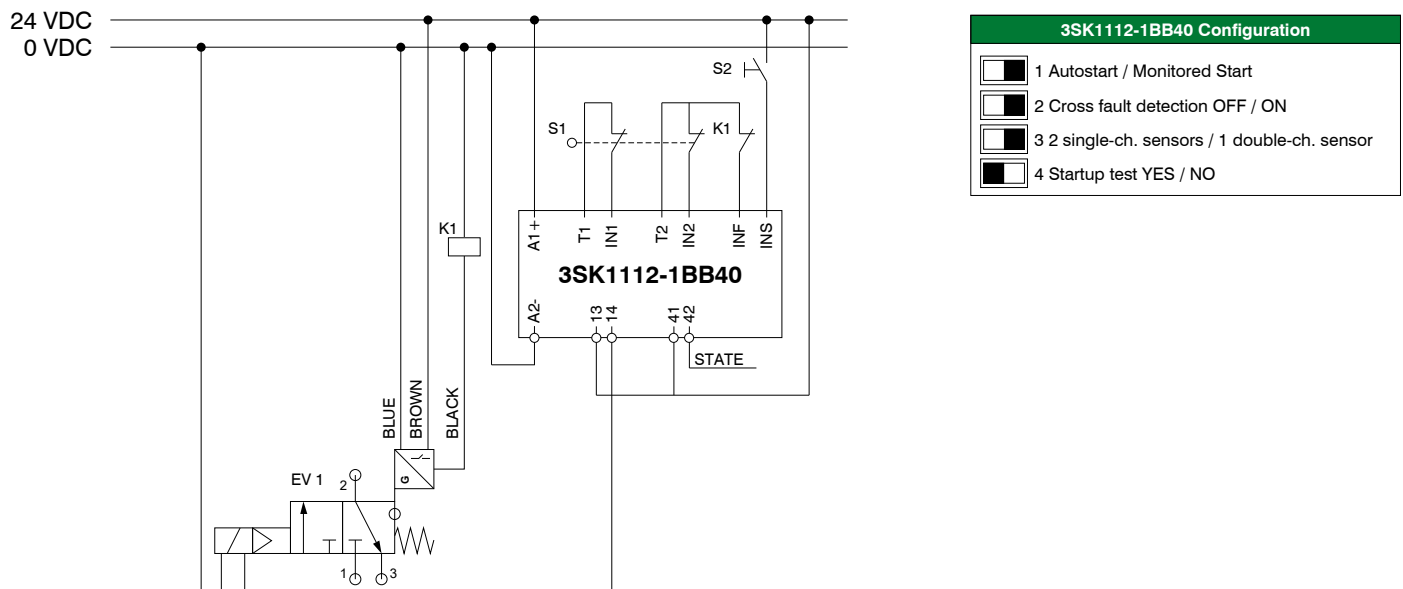
In this setup, the SIEMENS® 3SK1112-1BB40 monitoring device has been indicated, activated by an S2 start / reset pushbutton, blocked by an S1 emergency shutdown key. Said monitoring device, by means of the readings of the sensor placed inside the valve (reading made by means of the K1 relay), operates the activation of the valve itself. The monitoring device transmits the safety status as an output. The preliminary estimate and the final verification of the achieved PL are the responsibility of the designer of the part of the system dedicated to providing the safety function.

Note: with a single valve, it is not possible to obtain a PL greater than “c”.

Setup suggestions

- The double stop pushbutton is connected to clamps T1-IN1 and T2-IN2 of 3SK1112-1BB40.
- The start / reset pushbutton is connected between +24 V and the INS clamp of 3SK1112-1BB40.
- The valve is supplied between 0 V (Pin 3 of the supply connector) and the 14 clamp of 3SK1112-1BB40 (Pin 2 of the supply connector).
- The HALL effect sensor is supplied between 0 V (Pin 3 of the supply connector) and 24 V (Pin 1 of the supply connector).
- The HALL effect sensor drives (Pin 4 of the supply connector) the K1 relay, whose N.A. contact will be connected between the monitoring device's clamp T2 and INF.

The circuit diagram of the **suggested** configuration is provided, along with the configuration of 3SK1112-1BB40.

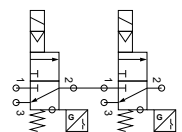


Analysis of malfunctions

The diagnostic system (monitoring device plus sensor) has the purpose of verifying the appearance of malfunctions within the valve that undermine the safety function. In particular, (with 3SK1112-1BB40 configured as in the illustration), the K1 relay prevents resetting the system by means of S2 when the coil is de-energised, but the sensor remains in the OFF position (K1 remains de-energised).

Supply and discharge valve double (V2S)

Pneumatic symbol



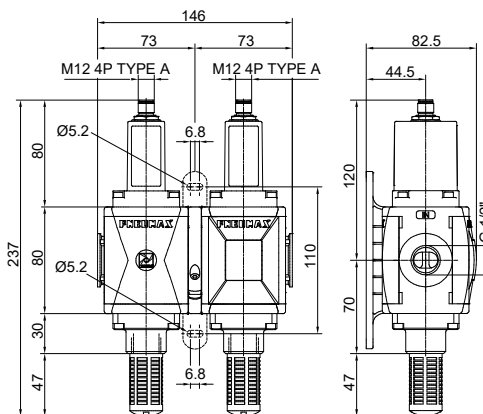
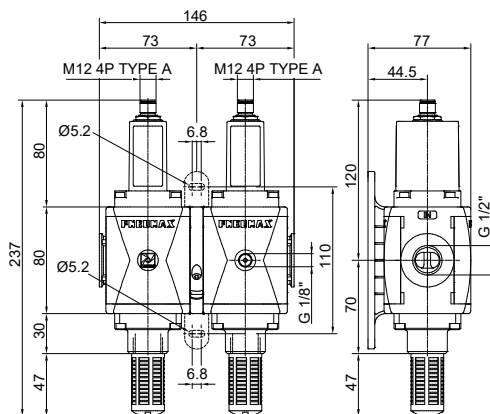
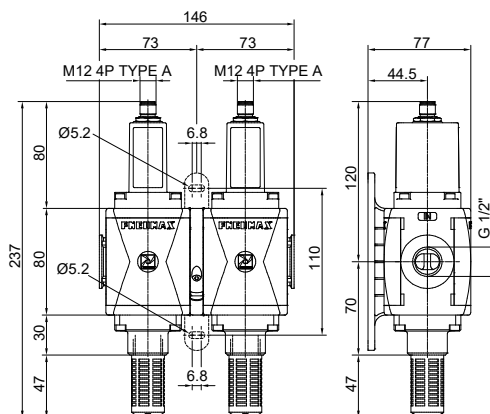
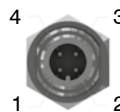
ATEX

II 3G Ex nA IIC T6 Gc (X)

II 3D Ex tc IIIC T=80°C Dc (X) IP65

Electrical connection

PIN	Description
1	+24 VDC (Sensor)
2	+24 VDC (EV)
3	GND (Sensor+EV)
4	SENSOR OUTPUT



Electrical characteristics

Electrical connection	Male M12 4 PIN TYPE A connector
Coil Features	24 VDC, 1 Watt + 1 Watt
Suppressor diode for coil reverse voltage spike	Present
Supply voltage allowance	-5% ... +10%

Electrical characteristics of sensor

Sensor characteristics	10 ... 30 VDC
Operating principle	Hall effect
Contact type	N.O.
Output type	PNP
Permanent maximum current	100 mA + 100 mA
Permanent maximum power	3 Watt + 3 Watt
Voltage drop max.	2 V + 2 V

Safety characteristics

Regulatory compliance	EN ISO 13849-1
Safety function fulfilled	Interruption of supply and unloading of the downstream pneumatic circuit
Performance Level (PL)	e
UNI EN 13849 category	4
Safety Integrity Level (SIL)	3
PFH _D	4,7*10 ⁻⁶
CE marking	In accordance with the EU Machinery Directive, annex V

Technical characteristics

Connections	G1/2" UNI-ISO 228/1
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous.
Function	3/2 N.C. monostable
Minimum working pressure	2,5 bar
Maximum working pressure	10 bar
Working temperature	-10°C ... +50°C
Flow rate at 6bar Δp (from 1 to 2)	2500 NL/min
Flow rate at 6bar Δp (from 2 to 3)	2000 NL/min
Flow rate at 6bar (from 2 to 3) with free discharge	3800 NL/min
Type of installation	Stand alone
Assembly positions	Indifferent
Noise level	90 dB
Response time ON ISO 12238	68 ms
Response time OFF ISO 12238	79 ms
IP Rating	IP65 (with connector installed)

Ordering code

N173BV2S	
VERSIONS	
	= Standard* (without connections)
M	= Integrated pressure gauge
G	= G1/8" pressure gauge connection
FIXING	
X	= Flange X
	Y = Flange Y
K	= Aluminium flange Y
Z	= Aluminium flange X
FLOW RATE DIRECTION	
	= Standard* (Left-Right)
W	= (Right-Left)

* no additional letter required

Installation tip of a safety system by means of a double valve

Please note: the safety valve is not sufficient alone to guarantee the safety function. Its setup requires the use of a monitoring device.

In this setup, the SIEMENS 3SK2112 monitoring device has been indicated, activated by an S2 start / reset pushbutton, blocked by an S1 emergency shutdown key. Said monitoring device, by means of the readings of the sensors placed inside the double valve, operates the activation of the valve itself. The preliminary estimate and the final verification of the achieved PL are the responsibility of the designer of the part of the system dedicated to providin the safety function.

Setup suggestions

- The double stop pushbutton is connected to clamps T1-F-IN1 and T2-F-IN2 of 3SK2112.
- The start /reset pushbutton is connected between +24 V and the F-IN10 clamp of 3SK2112.

The double valve, for notation simplicity, is indicated as consisting of 2 valves: EV1 and Ev2

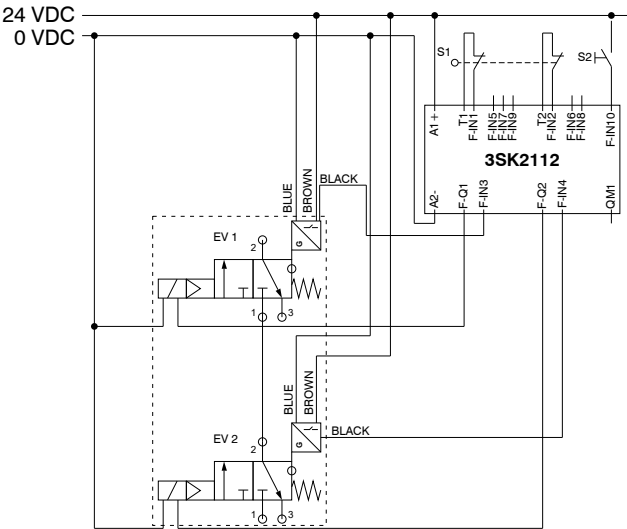
EV1

- The valve is supplied between 0 V (Pin 3 of the supply connector) and the F-Q1 clamp of 3SK2112 (Pin 2 of the supply connector).
- The HALL effect sensor is supplied between 0 V (Pin 3 of the supply connector) and 24 V (Pin 1 of the supply connector).
- The HALL effect sensor is attached (Pin 4 of the supply connector) to the monitoring device's F-IN3 clamp.

EV2

- The valve is supplied between 0 V (Pin 3 of the supply connector) and the F-Q2 clamp of 3SK2112 (Pin 2 of the supply connector).
- The HALL effect sensor is supplied between 0 V (Pin 3 of the supply connector) and 24 V (Pin 1 of the supply connector).
- The HALL effect sensor is attached (Pin 4 of the supply connector) to the monitoring device's F-IN4 clamp.

The circuit diagram of the **suggested** configuration is provided.



Analysis of malfunctions

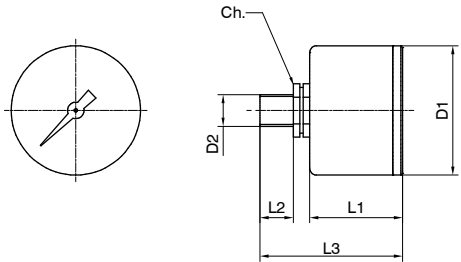
The diagnostic system (monitoring device plus sensors) has the purpose of verifying the appearance of malfunctions within the valves, which undermine the safety function. In particular, the monitoring device must be appropriately programmed to avoid the system's reset by means of S2 when both coils are de-energised and at least one sensor remains in an OFF position.

Accessories

Pressure gauge

17070 A C

Version	
A	Dial Ø 40
B	Dial Ø 50
Scale	
A	0 - 4 bar
B	0 - 6 bar
C	0 - 12 bar



Model	L1	L2	L3	D1	D2	Ch
17070A..	26	10	44	41	Gc - 1/8"	14
17070B..	27	10	45	49	Gc - 1/8"	14



Regulatory Framework

The purpose of the EU's Machinery Directive is to define the health and safety requirements in the framework of designing and constructing machinery. Since 2009, the new Machinery Directive has become effective in the European Union. Member countries of the EU are required to implement this standard.

The manufacturers of machinery can comply with the Machinery Directive applying the harmonised standards listed in the Official Journal of the European Union.

The design and manufacture of safety controls are developed in compliance with one of the two important harmonised standards:

UNI EN ISO 13849-1
Safety of machinery Safety-related parts of control systems Part 1: General design principles

EN 62061
Safety of machinery Functional safety of electrical, electronic and programmable control systems regarding safety

The UNI EN ISO 13849-1 standard is one of the most important harmonised standards, which has been widely used; it is intended to provide a guide to principles for design and integration of safety-related parts of the control system.

Each safety-related control system must be designed and constructed in accordance with the principles of ISO 12100 and ISO 14121 by which the possible risks are considered and assessed, in view of the intended uses and the reasonably anticipated incorrect uses.

The parts of a machinery's control system are called "Safety-related parts of control systems". Their capacity to perform a safety function under predictable conditions is assigned by means of five possible levels called "**performance levels**" (PL).

These levels are defined in terms of probability of dangerous malfunction per hour.

PL - Performance Level	Average probability of dangerous malfunction per hour (1/h)
a	$\geq 10^{-5}$ to $< 10^{-4}$
b	$\geq 3 \times 10^{-6}$ to $< 10^{-4}$
c	$\geq 10^{-6}$ to $< 3 \times 10^{-6}$
d	$\geq 10^{-7}$ to $< 10^{-6}$
e	$\geq 10^{-8}$ to $< 10^{-10}$

The calculated PL must be greater or equal to the necessary value, which arises from the calculation of the risk correlated to one single function and to the need to reduce it to an acceptable level.

S1 Slight danger	F1 Occasional danger and brief exposure	P1 - possibly avoidable danger P2 - largely unavoidable danger	PL= a PL= b
	F2 Frequent danger and long exposure	P1 - possibly avoidable danger P2 - largely unavoidable danger	
S2 Serious danger	F1 Occasional danger and brief exposure	P1 - possibly avoidable danger P2 - largely unavoidable danger	PL= c PL= d
	F2 Frequent danger and long exposure	P1 - possibly avoidable danger P2 - largely unavoidable danger	

Manifold unit



- › Modular system
- › Compact and linear design
- › Maximum flexibility and reliability
- › Up to 10 items assembly with unlimited configuration
- › Flange coupling plug-n-play configuration
- › Maintenance possible without completely disassembling the group
- › Manifold integrated safety function elements
- › Material and version wide selection
- › Available in 4 sizes with connections from 1/8" to 1"
- › Atex certification (II 2GD or II 3GD)

Operational characteristics					
Size		Size 1	Size 2	Size 3	Size 4
Maximum working pressure *		10 bar / 13 bar / 16 bar / 20 bar			
Minimum working pressure *		0,5 bar / 2,5 bar			
Working temperature *		-5 °C ... +50 °C / -30 °C ... +80 °C / -40 °C ... +80 °C			
IN / OUT connections	T version	G1/4"	G3/8"	G1/2"	not available
	N version	G1/8" - G1/4" - 1/4" NPT	G3/8" - G1/4" - 3/8" NPT	G3/8" - G1/2" - 1/2" NPT	
	P and L version	not available	G3/8" - 1/4" NPT	G1/2" - 1/2" NPT	G1" - 1" NPT
Assembly configuration		Stand alone Panel mounted thru fixing elements			
Assembly positions		Vertical $\pm 5^\circ$ with no restriction in case of elements without bowl			
Max. fittings torque IN / OUT connections		G1/8" metal: 15 Nm G1/4" metal: 20 Nm G1/4" technopolymer: 9 Nm	G1/4" metal: 20 Nm G3/8" metal: 25 Nm G3/8" technopolymer: 16 Nm	G3/8" metal: 25 Nm G1/2" metal: 30 Nm G1/2" technopolymer: 22 Nm	G1" metal: 35 Nm
Max. fittings torque G1/8" pressure gauge connection		G1/8" metal: 15 Nm G1/8" technopolymer: 4 Nm			



* Module configuration shall be identified according to individual technical details of each items included in applicable manifold

Manifold assembly

The assembly operation of selected items (module) is carried out thru dedicated quick connection flanges.
Both aluminum and techno polymer materials selection available, with fixing holes in case of panel mounting configuration.
Due to its design, Pneumax connection flanges allow user-friendly maintenance activities with no need of entire manifold disassembling procedure.



Thanks to a wide range of modules with different functions and characteristics, together with a wide choice of materials selection, make the Pneumax AIRPLUS air treatment units a robust, reliable and extremely flexible modular system, adaptable to different applications. AIRPLUS units properly assembled are modular with unlimited configurations and solutions and capable to satisfy and fulfill all their functions of compressed air treatment. Pneumax Airplus air treatment units can be integrated with safety elements that comply with EN-ISO 13849-1 and CE marking according to EU Machinery Directive, Annex V. Simple instruction provides an easy manifold configuration.



Configuration instructions

Manifold configuration as per following instructions.

As a result, a dedicated code will be provided, and the two main parameters will be identified, as follow:

- Features applicable to all items included in manifold (i.e. version, size, connection, flow direction);
- Assembly sequence of the single item + coupling flanges.

Note: Max 10 items for each manifold.

The group can be configured by consulting the Pneumax catalog here:

<http://pneumax.partcommunity.com/3d-cad-models/>

also reachable through a special link available on the home page of the Pneumax website

Browse
the new
Pneumax
3D Catalogue



Order codes

Initial code that identifies the main characteristics of the group such as:

- version
- size and connections
- flow direction

These will be the same for all the modules included in manifold, in accordance with the characteristics of the individual items available.

Code that identifies the succession of individual modules and related coupling flanges included in manifold from module 1 to 10.

COMPLETE APPLICABLE ORDER CODE

G 17 - - - - -

Version

- N** : Technopolymer body and metal inserts (not available for size 4)
- T** : Technopolymer body and thread (not available for size 4)
- P** : Aluminum body (not available for size 1)
- L** : Aluminum body, low temperature (not available for size 1)

Size and connections

- 1A** : Size 1 - G1/8" only for N version
- 1B** : Size 1 - G1/4" only for T - N versions
- 1C** : Size 1 - 1/4" NPT only for N version
- 2A** : Size 2 - G1/4" only for N version
- 2B** : Size 2 - G3/8" for all versions
- 2C** : Size 2 - 3/8" NPT only for N version - 1/4" NPT only for P - L versions
- 3A** : Size 3 - G3/8" only for N version
- 3B** : Size 3 - G1/2" for all versions
- 3C** : Size 3 - 1/2" NPT only for N - P - L versions
- 4B** : Size 4 - G1" only for P - L versions
- 4C** : Size 4 - 1" NPT only for P - L versions

Flow direction

- :** : From left to right
- W** : From right to left

Module 1

See list of modules

Mounting hardware 1

- X** : Technopolymer flange X
- Y** : Technopolymer flange Y
- K** : Aluminium flange X
- T** : Aluminium flange Y

Module 2

See list of modules

Mounting hardware 2

- X** : Technopolymer flange X
- Y** : Technopolymer flange Y
- K** : Aluminium flange X
- T** : Aluminium flange Y

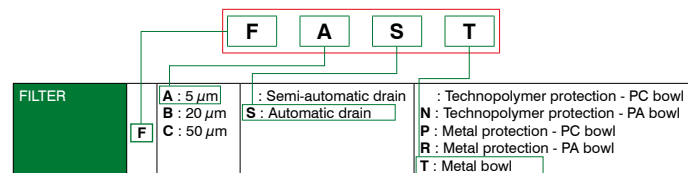
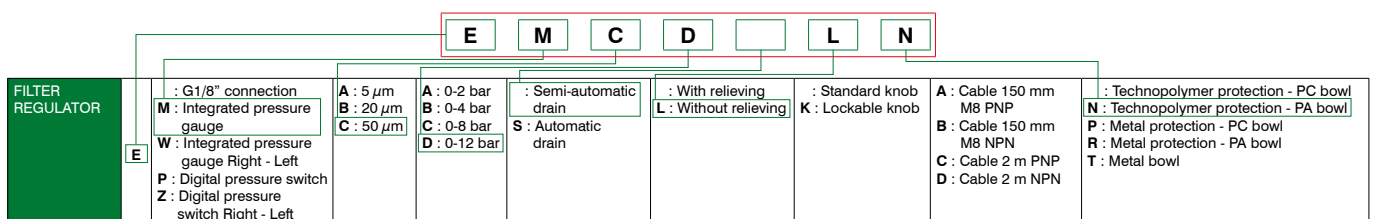
Module 10

See list of modules

Elenco moduli

Di seguito l'elenco dei moduli disponibili per il montaggio del gruppo

FILTER	F	A : 5 μ m B : 20 μ m C : 50 μ m	: Semi-automatic drain S : Automatic drain	: Technopolymer protection - PC bowl N : Technopolymer protection - PA bowl P : Metal protection - PC bowl R : Metal protection - PA bowl T : Metal bowl					
COALESCING FILTER	DA	: Semi-automatic drain S : Automatic drain	: Technopolymer protection - PC bowl N : Technopolymer protection - PA bowl P : Metal protection - PC bowl R : Metal protection - PA bowl T : Metal bowl						
OIL REMOVAL FILTER	D	AV : Size 4 BV : Size 3 CV : Size 3 oversize cartridge	: Semi-automatic drain S : Automatic drain	: Technopolymer protection - PC bowl N : Technopolymer protection - PA bowl P : Metal protection - PC bowl R : Metal protection - PA bowl T : Metal bowl					
CARBON FILTER	DD	: Technopolymer protection - PC bowl N : Technopolymer protection - PA bowl P : Metal protection - PC bowl R : Metal protection - PA bowl T : Metal bowl							
REGULATOR	R	: G1/8" connection M : Integrated pressure gauge W : Integrated pressure gauge Right - Left P : Digital pressure switch Z : Digital pressure switch Right - Left	A : 0-2 bar B : 0-4 bar C : 0-8 bar D : 0-12 bar	: With relieving F : Controlled refill and improved relieving L : Without relieving R : Improved relieving	: Standard knob K : Lockable knob	A : Cable 150 mm M8 PNP B : Cable 150 mm M8 NPN C : Cable 2 m PNP D : Cable 2 m NPN			
FILTER REGULATOR	E	: G1/8" connection M : Integrated pressure gauge W : Integrated pressure gauge Right - Left P : Digital pressure switch Z : Digital pressure switch Right - Left	A : 5 μ m B : 20 μ m C : 50 μ m	A : 0-2 bar B : 0-4 bar C : 0-8 bar D : 0-12 bar	: Semi-automatic drain S : Automatic drain	: With relieving L : Without relieving	: Standard knob K : Lockable knob	A : Cable 150 mm M8 PNP B : Cable 150 mm M8 NPN C : Cable 2 m PNP D : Cable 2 m NPN	: Technopolymer protection - PC bowl N : Technopolymer protection - PA bowl P : Metal protection - PC bowl R : Metal protection - PA bowl T : Metal bowl
LUBRICATOR	L	: No electric level sensor device A : Electrical minimum level sensor NO (Normally open) C : Electrical minimum level sensor NC (Normally closed)	: Technopolymer protection - PC bowl N : Technopolymer protection - PA bowl P : Metal protection - PC bowl R : Metal protection - PA bowl						
SHUT OFF VALVE	V	L : Manual P : Pneumatic E : Solenoid	15 mm coil A4 : 12 VDC A5 : 24 VDC A6 : 24 VAC (50-60 Hz) A7 : 110 VAC (50-60 Hz) A8 : 230 VAC (50-60 Hz) A9 : 24 VDC (1 Watt)	22 mm coil B2 : Mechanical M2, without coil B4 : 12 VDC B5 : 24 VDC B6 : 24 VAC (50-60 Hz) B7 : 110 VAC (50-60 Hz) B8 : 230 VAC (50-60 Hz) B9 : 24 VDC (2 Watt)	30 mm coil C5 : 24 VDC C6 : 24 VAC (50-60 Hz) C7 : 110 VAC (50-60 Hz) C8 : 230 VAC (50-60 Hz) C9 : 24 VDC (2 Watt)				
SAFETY VALVE	V	S : Single	: Without connection M : Integrated pressure gauge W : Integrated pressure gauge (Right - Left) G : G1/8" pressure gauge connection	2S : Double	: Without connection M : Integrated pressure gauge G : G1/8" pressure gauge connection	X = Flange X Y = Flange Y K = Aluminium flange Y Z = Aluminium flange X	: Standard (Right - Left) W : Integrated pressure gauge (Right - Left)		
PROGRESSIVE START-UP VALVE	AP	: Size 1 - Size 2 - Size 3 W : Size 4 - flow direction Right - Left							
AIR INTAKE	PA								
AIR INTAKE WITH PRESSURE GAUGE OR DIGITAL PRESSURE SWITCH INTEGRATED	P	M : Integrated pressure gauge W : Integrated pressure gauge (Right - Left) P : Integrated digital pressure switch Z : Integrated digital pressure switch (Right - Left)	A : Cable 150 mm M8 PNP B : Cable 150 mm M8 NPN C : Cable 2 m PNP D : Cable 2 m NPN						
PRESSURE SWITCH	PP	: Size 1 - Size 2 - Size 3 W : TG4 - flow direction Right - Left							

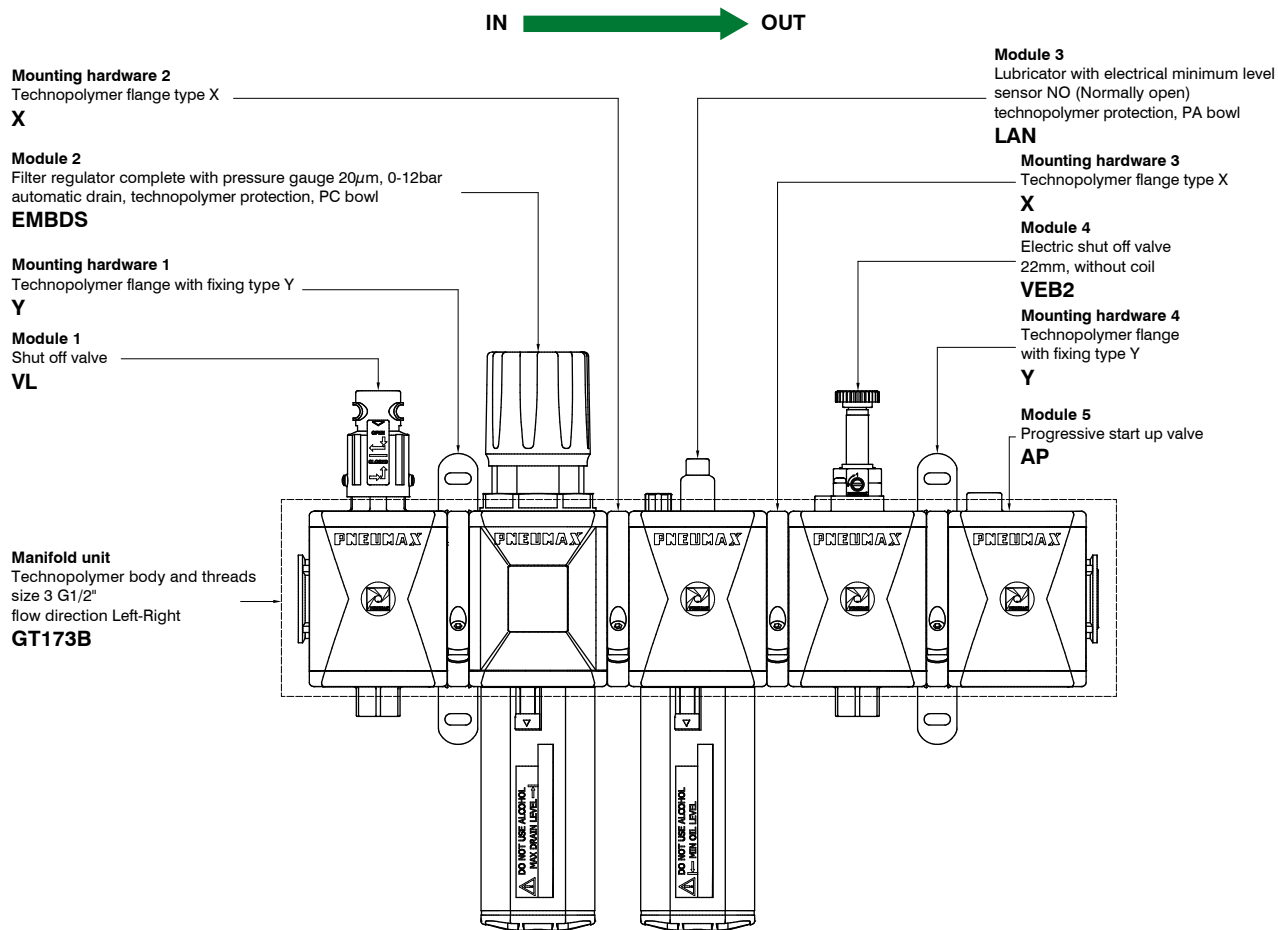
Examples of module identification: 5 μ m filter, automatic drain, metal bowl is identified as: **F A S T**- Filter regulator with pressure gauge 50 μ m, 0-12 bar semi-automatic drain, without relieving, technopolymer bowl protection, PA bowl, is identified as: **E M C D L N**

AIRPLUS assembled groups configuration

Configuration sample:

- Shut off valve
- Filter regulator, 20 μ m, 0-12 bar, automatic drain
- Lubricator with electrical minimum level sensor NO (Normally open)
- Electric shut off valve, 22 mm, without coil
- Progressive start-up valve

AIR TREATMENT



Applicable order code:

Initial code that identifies the main characteristics of the group such as:

- version
- size and connections
- flow direction

These will be the same for all the modules included in manifold, in accordance with the characteristics of the individual items available

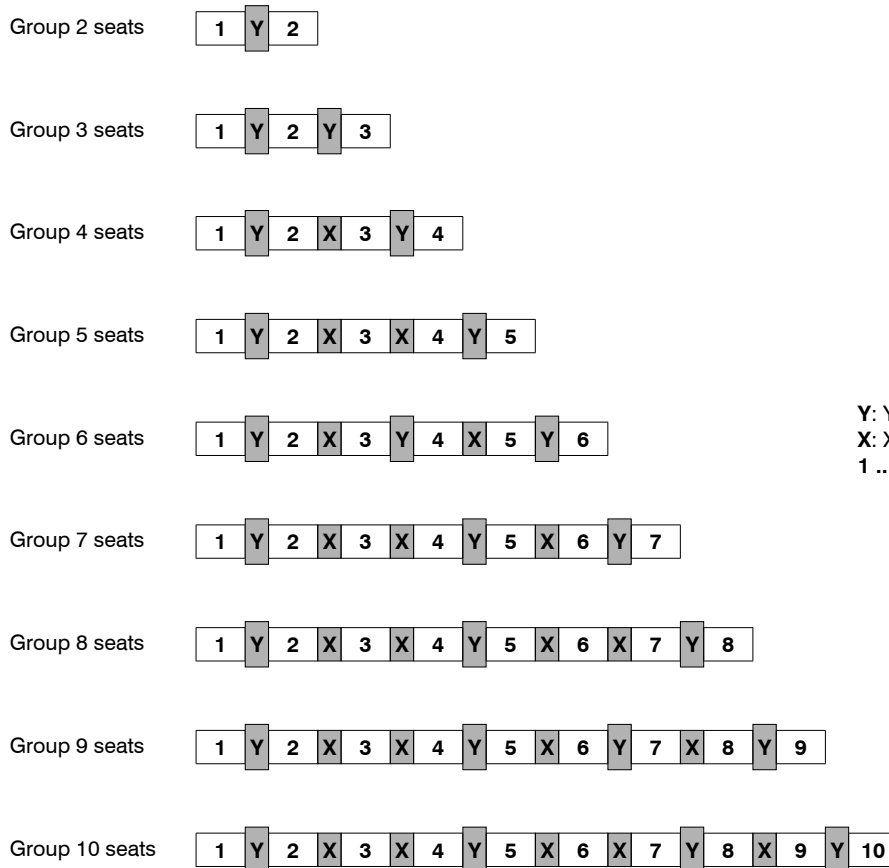
Code that identifies the succession of individual modules and related coupling flanges included in manifold from module 1 to 10

G T 17 3B - VL - Y - EMBDS - X - LAN - X - VEB2 - Y - AP

GT173 - VL - Y - EMBDS - X - LAN - X - VEB2 - Y - AP

Flanges positioning schematic

Here below some indications related to flanges positioning according to the number of seats.
Pneumax recommend configuration in compliance with the following schematic:



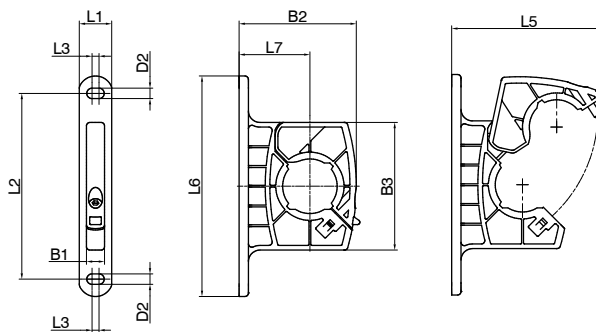
Y: Y type flange (Aluminium or technopolymer)
X: X type flange (Aluminium or technopolymer)
1 ... 10 : AIRPLUS modules

Quick coupling flanges

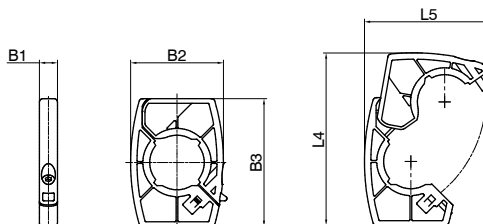
Pneumax Airplus quick coupling flanges series allow both module rapid fixing and panel mounted configuration. Due to its design, Pneumax connection flanges allow user-friendly maintenance activities with no need of entire manifold disassembling procedure.
Two types of flange are available: X type flange for assembling the modules together, and Y type flange suitable for panel mounted also. Both types are made of techno polymer or die-cast aluminum.

Technopolymer flanges

Flange Y



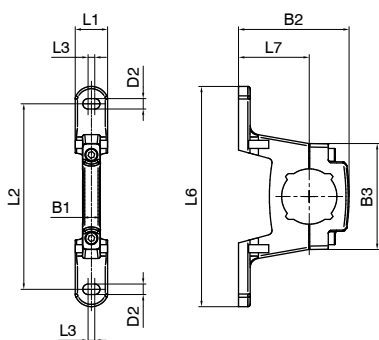
Flange X



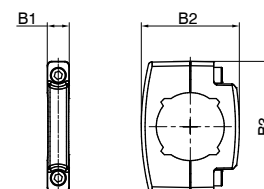
Model	B1	B2	B3	D2	L1	L2	L3	L4	L5	L6	L7
T171Y	7,8	50,5	55	Ø 4,5	14	80	3	/	66	95	30,5
T171X		40		/	/	/	/	74,5	55,5	/	/
T172Y	9,7	67,6	68	Ø 5,2	18	95	6,8	/	86,5	117,9	40,5
T172X		53,6		/	/	/	/	96,5	72,5	/	/
T173Y	9,7	75,5	80	Ø 5,2	18	110	6,8	/	98,3	133	44,5
T173X		62		/	/	/	/	112,8	85	/	/
T174Y	13,7	106,5	105	Ø 8,5	25	148	6,5	/	133,5	175	64
T174X		85		/	/	/	/	153,5	112	/	/

Aluminium flanges

Flange Y



Flange X



Model	B1	B2	B3	D2	L1	L2	L3	L4	L5	L6	L7
N171Y	7,8	47,7	45,7	Ø 4,5	14	80	3	/	66	95	30,5
N171X		34,4		/	/	/	/	74,5	55,5	/	/
N172Y	9,7	64,6	55,6	Ø 5,2	18	95	6,8	/	86,5	117,9	40,5
N172X		55,6		/	/	/	/	96,5	72,5	/	/
N173Y	9,7	75,5	56	Ø 5,2	18	110	6,8	/	98,3	133	44,5
N173X		62		/	/	/	/	112,8	85	/	/
N174Y	13,7	106,5	102	Ø 8,5	25	148	6,5	/	133,5	175	64
N174X		85		/	/	/	/	153,5	112	/	/



PNEUMAX

PNEUMAX S.p.A.

Via Cascina Barbellina, 10
24050 Lurano (BG) - Italy
P. +39 035 41 92 777
info@pneumaxspa.com