

Construction and working characteristics

The modular air service units groups size 2, as the ones of size 1, allow a wide selection of combinations.

The threaded connections are machined directly on the valve body made with light alloy, so that each components can be used individually.

They can be wall mounted with head-guard screws masked by covers.

The bowls are made of transparent technopolymer, always supplied with shock resistant technopolymer protection, allowing the moisture and oil level control from any angle.

The filter can be equipped with manual or semiautomatic water drain valve; furthermore it's possible to install the automatic draining device inside the bowl.

The pressure regulator handle is lockable in the desired position.

The lubricator oil flow is adjustable with proper handle and it is visibly checked through the sight dome.

The shut-off valve can be equipped with pad-lock to prevent accidents or damages due to unauthorized operation.

The progressive start-up valve, pneumatically or electropneumatically controlled, allows air supply to the circuit progressively and with adjustable time.

Some accessories like the wall fixing bracket, pressure gauges with different scales and diameters, air intake block that assembled between the elements allows to get in the system filtered or filtered non-lubricated air, are completing the range.

Instruction for installation and operation

Pay attention to install a group or a single component with air flow direction according to the arrows and to the following sequence: filter, pressure regulator, lubricator and with bowls downwards. It's possible to fix the group to the wall by removing the covers, which can be installed again for covering the screw after fixing.

Do not exceed the recommended torque while assembling the connectors.

Do not exceed the recommended air pressure and temperature limits.

The moisture should not exceed the level marked on the bowl and it can be drawn off and carried away by a flexible tube of $\varnothing 6/4$ directly connected to the discharge valve handle.

The pressure should be set from minimum to maximum, rotating the adjusting handle clockwise.

As lubricant, we suggest to use oil class FD22 or HG32. Verify that the lubricator is not fed with a flow lower than the minimum operational.

To set the oil flow rotate the proper adjusting handle in order to get one drop of oil every 300-600 liters of air.

The oil flow will be kept automatically and proportionally to the air flow.

The oil can be refilled by mean of proper plug or directly into the bowl after having de-pressurized the system. Do not exceed the maximum level indicated on the bowl.

For opening the shut-off valve push and rotate clockwise the operating handle. For closing it and consequently discharging the down stream line, rotate the handle counter-clockwise.

Manutenzione

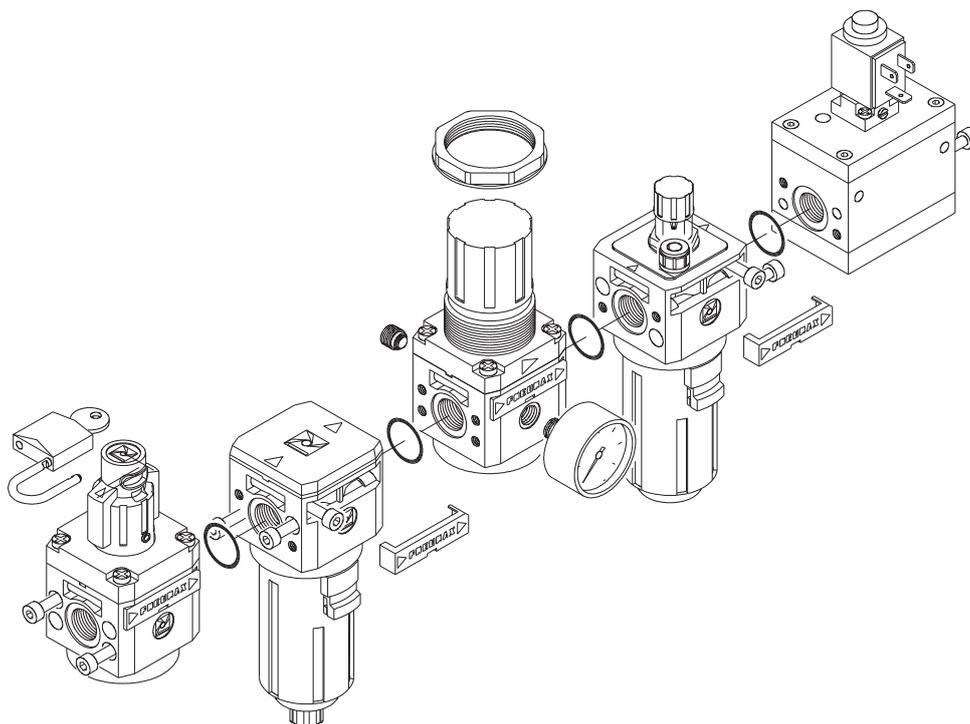
Clean the bowls with water and detergent. Do not use alcohol.

The filter element made with HPDE is reusable by blowing and cleaning it with proper detergent. For replacing or cleaning it, remove the bowl and unscrew the baffle spins.

Replace the pressure regulator diaphragm whenever the operation is not correct or there is a continuous air leaking through the relieving (over pressure discharge); reinstall the adjusting mechanism support locking it with about 8 Nm torque.

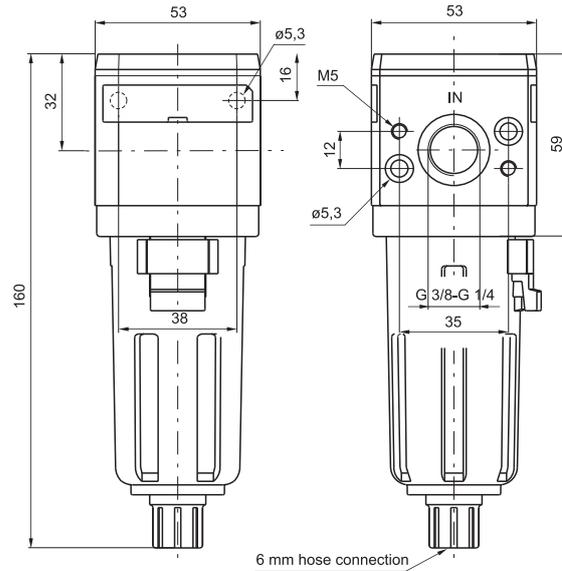
In case it is necessary to replace the lubricator transparent dome, tight it at 5 Nm torque maximum.

Assembling





Filter



Ordering code

17201 C.S.T

CONNECTIONS

- C** A = G 1/4"
- B = G 3/8"

FILTER PORE SIZE

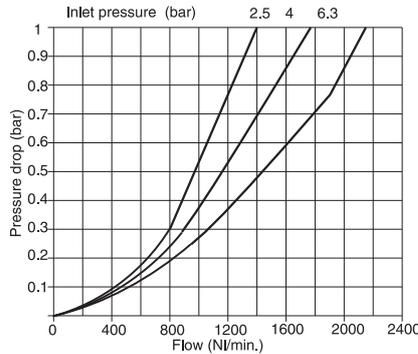
- S** A = 5µ
- B = 20µ
- C = 50µ

TYPE

- T** S = Automatic drain

Example: 17201A.B
Filter size 2 with G 1/4" connections and filter pore size 20µ.

Flow rate curves



Operational characteristic

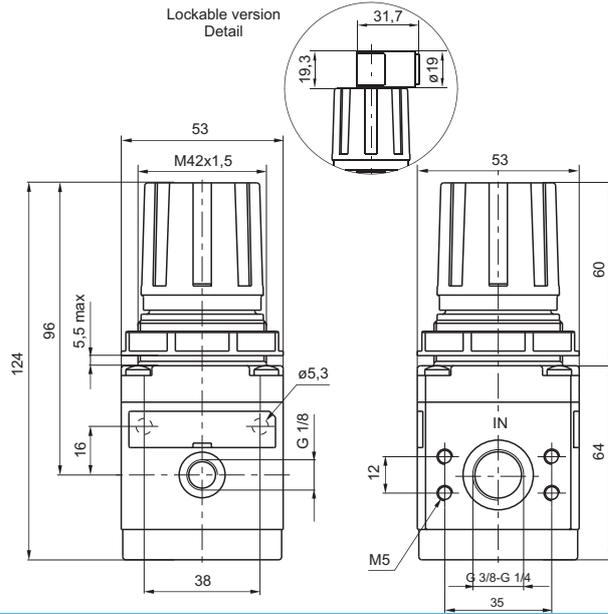
- Body made with light alloy.
- Wall mounting possibility with M5 screws protected by covers.
- Double filtering action : by air centrifuging and by replaceable and reusable HDPE porous filter element.
- Transparent technopolymer bowl with shock resistant technopolymer protection connected to the body with bayonet cap and safety button.
- Manual and semi-automatic water drain valve; in the semi-automatic version the drainage happens when there is no pressure or by pushing the valve up-wards.
- Possibility to see the water level on 360°.
- Automatic water drainage bowl available on request.

Technical characteristic

Connections	G 1/4" - G 3/8"
Max working pressure (bar)	13 bar - 1,3 MPa
Minimum working pressure with automatic drain (bar)	0,5
Maximum working pressure with automatic drain (bar)	10
Temperature °C	50°C
Weight	gr. 255
Filter pore size	5µ - 20µ - 50µ
Bowl capacity	30 cm³
Assembly position	Vertical
Wall fixing screw	M5
Max. fittings torque	25 Nm



Pressure regulator

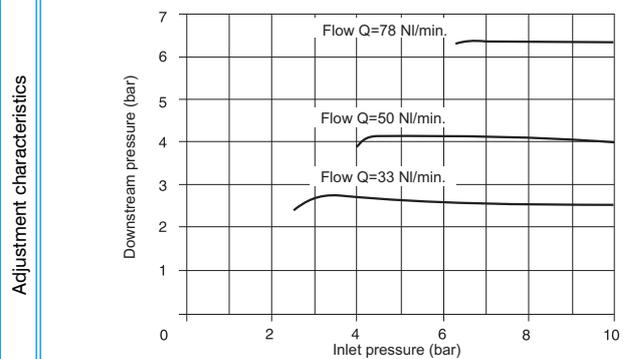
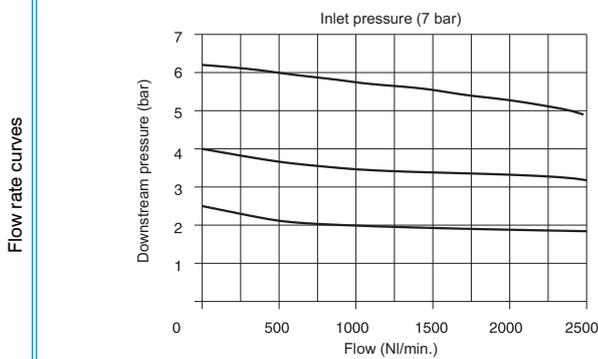


Ordering code

17202C.C.T.O

CONNECTIONS	
C	A = G 1/4"
	B = G 3/8"
ADJUSTING RANGE	
	A = 0 - 2 bar
C	B = 0 - 4 bar
	C = 0 - 8 bar
	D = 0 - 12 bar
TYPE	
T	L = Without Relieving
	SM = improved Relieving
OPTION	
	Standard (without options)
	K = Lockable version

Example: 17202A.C
Pressure regulator with G 1/4" connections, adjusting range 0 - 8 bar with relieving.



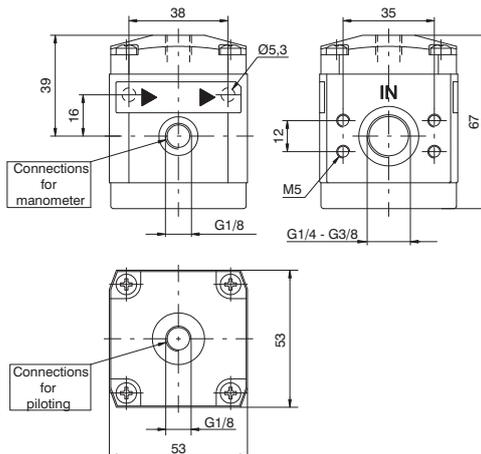
Operational characteristic

- Diaphragm pressure regulator with relieving.
- Balanced poppet.
- Lockable handle by simply pressing it downwards in the desired position.
- Body made with light alloy.
- Wall mounting possibility with M5 screws protected by covers.
- Two pressure gauge connections with plug complete of seal.
- Panel mounting bracket.

Technical characteristic

Connections	G 1/4" - G 3/8"
Max working pressure (bar)	13 bar - 1,3 MPa
Temperature °C	50°C
Pressure gauge connections	G 1/8"
Weight	gr. 390
Pressure range (bar)	0 - 2 / 0 - 4 / 0 - 8 / 0 - 12
Assembly position	Any
Wall fixing screw	M5
Max. fittings torque	25 Nm

Piloted pressure regulator



Ordering code

17202 C.P.T

CONNECTIONS

C = G 1/4"

B = G 3/8"

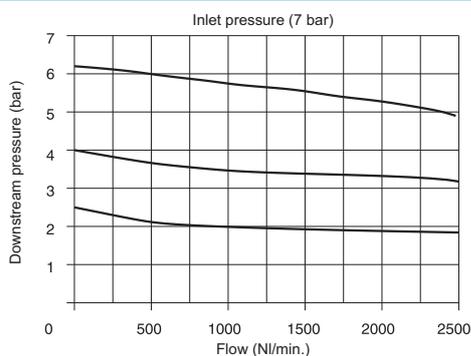
TYPE

T = Standard version

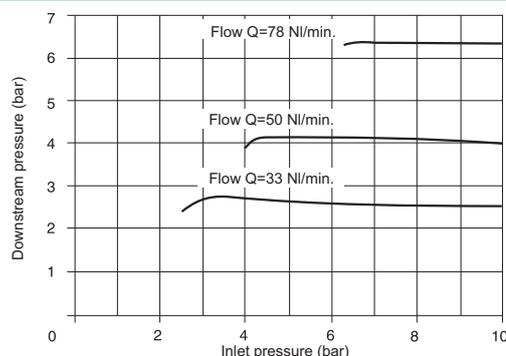
L = Without Relieving

Example: 17202A.P
Piloted pressure regulator with G 1/4" connections

Flow rate curves



Adjustment characteristics



Operational characteristic

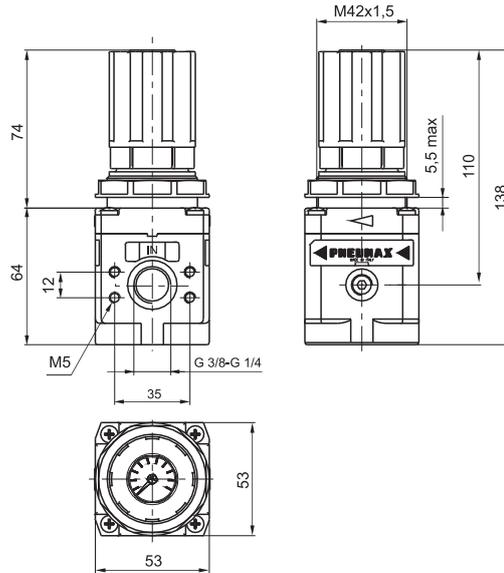
- Diaphragm pressure regulator with relieving.
- Balanced poppet.
- Body made with light alloy.
- Wall mounting possibility with M5 screws protected by covers.
- Two pressure gauge connections with plug complete of seal.
- Panel mounting bracket.

Technical characteristic

Connections	G 1/4" - G 3/8"
Max working pressure (bar)	13 bar - 1.3 MPa
Temperature °C	50°C
Assembly position	Any
Wall fixing screw	M5
Max. fittings torque	25 Nm
Weight	gr. 313



Pressure regulator including manometer



Ordering code

17222 **C**. **C**

CONNECTIONS

C A = G 1/4"

B = G 3/8"

ADJUSTING RANGE

C A = 0 - 2 bar

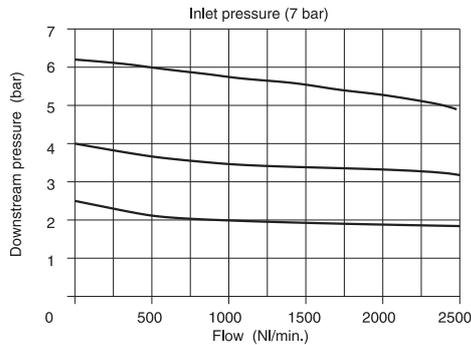
B = 0 - 4 bar

C = 0 - 8 bar

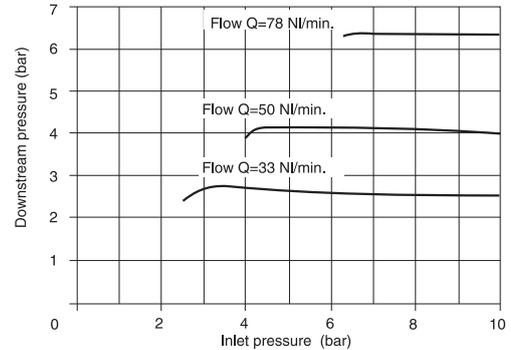
D = 0 - 12 bar

Example: 17222A.C
Pressure regulator with G 1/4" connections, adjusting range 0 - 8 bar with relieving.

Flow rate curves



Adjustment characteristics



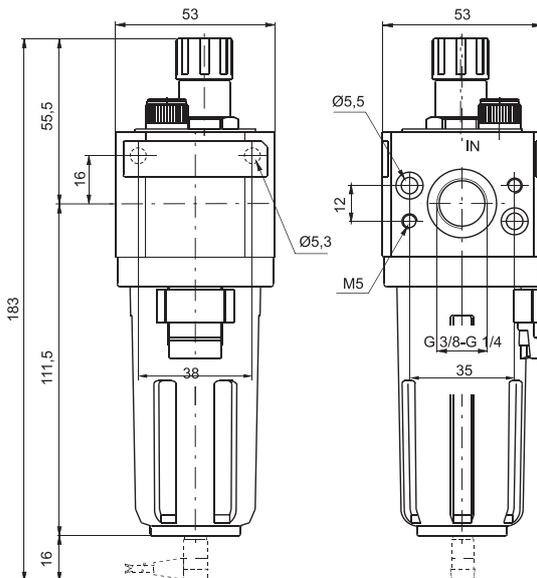
Operational characteristic

- Construction and working characteristics
- Diaphragm pressure regulator with relieving.
- Pressure gauge included on the top of adjusting knob.
- Balanced poppet.
- Lockable handle by simply pressing it downwards in the desired position.
- Body made with light alloy.
- Wall mounting possibility with M5 screws protected by covers.
- Panel mounting bracket.

Technical characteristic

Connections	G 1/4" - G 3/8"
Max working pressure (bar)	13 bar - 1,3 MPa
Temperature °C	50°C
Pressure gauge connections	G 1/8"
Weight	gr. 440
Pressure range (bar)	0 - 2 / 0 - 4 / 0 - 8 / 0 - 12
Assembly position	Any
Wall fixing screw	M5
Max. fittings torque	25 Nm

Lubricator



Ordering code

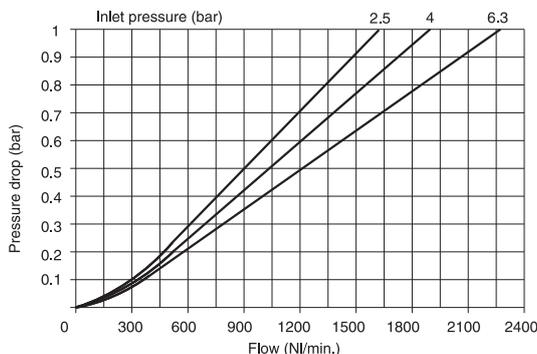
17203C.T

CONNECTIONS	
C	A = G 1/4"
	B = G 3/8"
TYPE	
	MA = Min. oil level indicator N.O. with plug connector
T	MC = Min. oil level indicator N.C. with plug connector

Example: 17203A : Lubricator with G 1/4" connections.

Note: on the MA version the contact is open when oil is present; on the MC version the contact is closed when oil is present

Flow rate curves



Operational characteristic

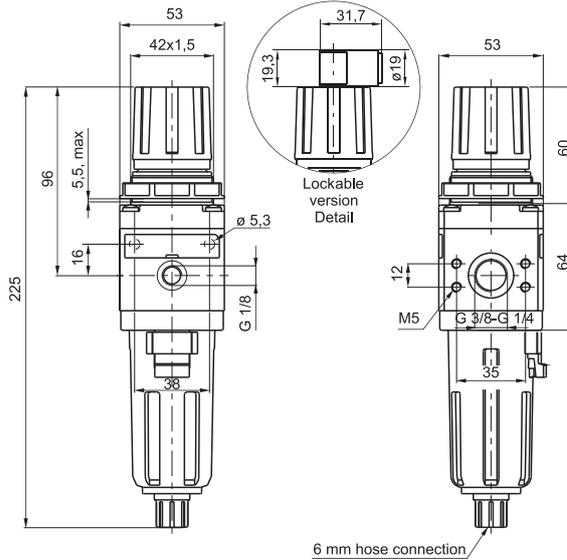
- Fog type lubrication with variable section orifice according to the flow.
- Body made with light alloy.
- Wall mounting possibility with M5 screws protected by covers.
- Transparent technopolymer bowl with shock resistant technopolymer protection
- Possibility to see the min. and max. level on 360° also with bowl protection assembled.
- Bowl assembled to the body with bayonet cap and safety button.
- Transparent technopolymer sight dome with adjusting handle.
- Oil filling plug.
- Electrical connector for low level indication.
- Use the C1, C2 or C3 lead for connection (see section 6 "Sensors").

Technical characteristic

Connections	G 1/4" - G 3/8"
Max working pressure (bar)	13 bar - 1,3 MPa
Temperature °C	50°C
Pressure gauge connections	G 1/8"
Weight	gr. 280
Indicative oil drip rate	1 drop every 300/600 NI
Oil type	FD22 - HG32
Bowl capacity	52 cm³
Assembly position	Vertical
Wall fixing screw	M5
Min. operational flow at 6,3 bar	20 NI/min
Max. fittings torque	25 Nm



Filter - pressure regulator

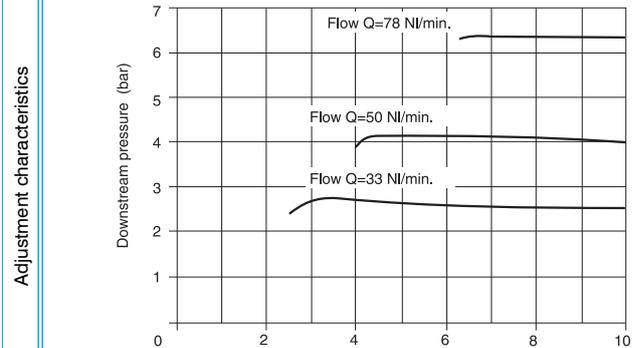
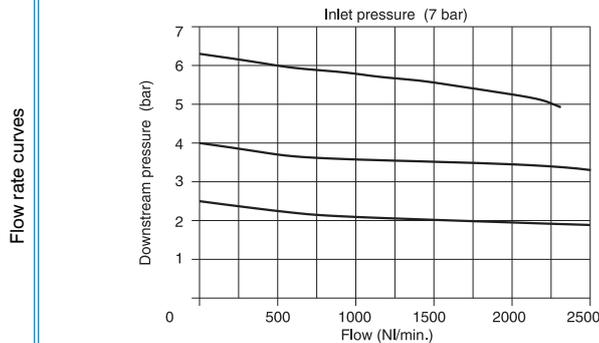


Ordering code

17204**C.S.C.T.O**

CONNECTIONS	
C	A = G 1/4"
	B = G 3/8"
FILTER PORE SIZE	
S	A = 5µ
	B = 20µ
	C = 50µ
ADJUSTING RANGE	
	A = 0 - 2 bar
C	B = 0 - 4 bar
	C = 0 - 8 bar
	D = 0 - 12 bar
TYPE	
T	S = Automatic drain
OPTION	
O	Standard (without options)
	K = Lockable version

Example: 17204A.B.C
Filter - pressure regulator size 2 with G 1/4" connections, filter pore size 20µ and adjusting range 0-8 bar.



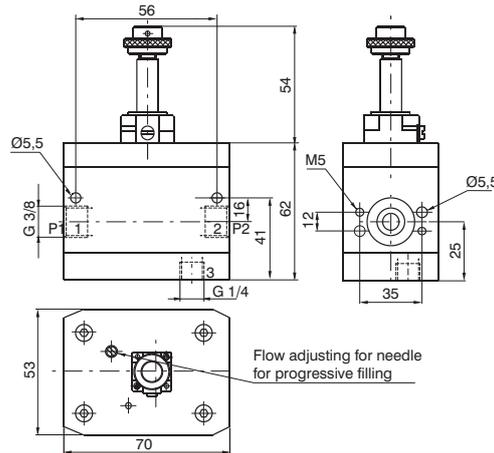
Operational characteristic

- Filter - diaphragm pressure regulator with relieving.
- Balanced poppet.
- Lockable handle by simply pressing it downwards in the desired position.
- Body made with light alloy.
- Wall mounting possibility with M5 screws protected by covers.
- Double filtering action: by air centrifuging and by replaceable and reusable HDPE porous filter element.
- Transparent technopolymer bowl with shock resistant technopolymer protection connected to the body with bayonet cap and safety button.
- Manual and semi-automatic water drain valve; in the semi-automatic version the drainage happens when there is no pressure or by pushing the valve up-wards.
- Possibility to see the water level on 360° also with bowl protection assembled.
- Automatic water drainage bowl available on request.
- Two pressure gauge connections with plug complete of seal.

Technical characteristic

Connections	G 1/4" - G 3/8"
Max working pressure (bar)	13 bar - 1,3 MPa
Minimum working pressure with automatic drain (bar)	0,5
Maximum working pressure with automatic drain (bar)	10
Temperature °C	50°C
Pressure gauge connections	G 1/8"
Weight with technopolymer body	gr. 450
Pressure range (bar)	0 - 2 / 0 - 4 / 0 - 8 / 0 - 12
Filter pore size	5µ - 20µ - 50µ
Bowl capacity	30 cm ³
Assembly position	Vertical
Wall fixing screw	M5
Max. fittings torque	25 Nm

Progressive start-up valve



Ordering code

1720T

TYPE

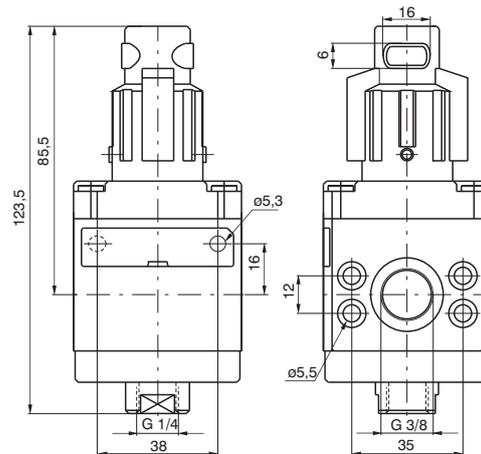
- T 10.M2 = Electric control complete with M2 mechanic (see pag. 2.15)
- 20 = with pneumatic control

Important note: the preventive or programmed maintenance of this product is not foreseen considering the elaborated assembling and the specific "PNEUMAX" testing; therefore, call the producer or its representative in case of necessity.

Operational characteristic	Technical characteristic																		
<ul style="list-style-type: none"> - 3-way valve with double poppet. - Possibility to adjust the down stream circuit filling time by the enclosed adjustable metering screw. - Quick down stream circuit discharge. - Possibility for a pneumatic or electric piloting control. - Body made with anodized 2011 aluminum alloy. - Wall mounting possibility with M5 screws. 	<table border="1"> <tr> <td>Connections</td> <td>G 3/8"</td> </tr> <tr> <td>Max working pressure (bar)</td> <td>10 bar - 1 MPa</td> </tr> <tr> <td>Temperature °C</td> <td>50°C</td> </tr> <tr> <td>Weight</td> <td>gr. 595</td> </tr> <tr> <td>Assembly position</td> <td>Any</td> </tr> <tr> <td>Wall fixing screw</td> <td>M5</td> </tr> <tr> <td>Min. working pressure</td> <td>2,5 bar - 0,25 MPa</td> </tr> <tr> <td>Nominal flow at 6 bar with $\Delta p=1$</td> <td>1700 NI/min.</td> </tr> <tr> <td>Flow with adjustable metering screw fully open</td> <td>340 NI/min.</td> </tr> </table>	Connections	G 3/8"	Max working pressure (bar)	10 bar - 1 MPa	Temperature °C	50°C	Weight	gr. 595	Assembly position	Any	Wall fixing screw	M5	Min. working pressure	2,5 bar - 0,25 MPa	Nominal flow at 6 bar with $\Delta p=1$	1700 NI/min.	Flow with adjustable metering screw fully open	340 NI/min.
Connections	G 3/8"																		
Max working pressure (bar)	10 bar - 1 MPa																		
Temperature °C	50°C																		
Weight	gr. 595																		
Assembly position	Any																		
Wall fixing screw	M5																		
Min. working pressure	2,5 bar - 0,25 MPa																		
Nominal flow at 6 bar with $\Delta p=1$	1700 NI/min.																		
Flow with adjustable metering screw fully open	340 NI/min.																		

3

Shut-off valve



Ordering code

17230.T

TYPE

- T A = Not lockable handle
- B = Lockable handle

Example: 17230.B

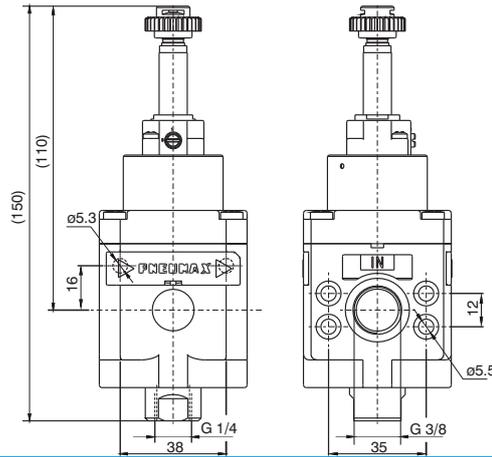
Shut-off valves size 2 complete with lockable handle.

Important note: the preventive or programmed maintenance of this product is not foreseen considering the elaborated assembling and the specific "PNEUMAX" testing; therefore, call the producer or its representative in case of necessity.

Operational characteristic	Technical characteristic																		
<ul style="list-style-type: none"> - 3 ways poppet valve. - Body made with anodized aluminum alloy 2011. - Wall mounting possibility with M5 screws protected by covers. - Double handle action for valve opening: pushing and rotating (clockwise). - Simple rotate the valve handle counter clockwise for valve closing and down stream circuit discharging. - Possibility to lock the valve in the discharging position by fitting in a padlock in the proper seat. 	<table border="1"> <tr> <td>Connections</td> <td>G 3/8"</td> </tr> <tr> <td>Max working pressure (bar)</td> <td>10 bar - 1,3 MPa</td> </tr> <tr> <td>Temperature °C</td> <td>50°C</td> </tr> <tr> <td>Weight</td> <td>gr. 380</td> </tr> <tr> <td>Nominal flow at 6 bar with $\Delta p=1$</td> <td>2100 NI/min.</td> </tr> <tr> <td>Wall fixing screw</td> <td>M5</td> </tr> <tr> <td>Handle opening and closing angle</td> <td>90°</td> </tr> <tr> <td>Max. fittings torque</td> <td>25 Nm</td> </tr> <tr> <td>Min. operational flow at 6,3 bar</td> <td>10 NI/min.</td> </tr> </table>	Connections	G 3/8"	Max working pressure (bar)	10 bar - 1,3 MPa	Temperature °C	50°C	Weight	gr. 380	Nominal flow at 6 bar with $\Delta p=1$	2100 NI/min.	Wall fixing screw	M5	Handle opening and closing angle	90°	Max. fittings torque	25 Nm	Min. operational flow at 6,3 bar	10 NI/min.
Connections	G 3/8"																		
Max working pressure (bar)	10 bar - 1,3 MPa																		
Temperature °C	50°C																		
Weight	gr. 380																		
Nominal flow at 6 bar with $\Delta p=1$	2100 NI/min.																		
Wall fixing screw	M5																		
Handle opening and closing angle	90°																		
Max. fittings torque	25 Nm																		
Min. operational flow at 6,3 bar	10 NI/min.																		



Electrically operated shut-off valve



Ordering code

17230.1

TYPE

1 M2 = Electric with M2

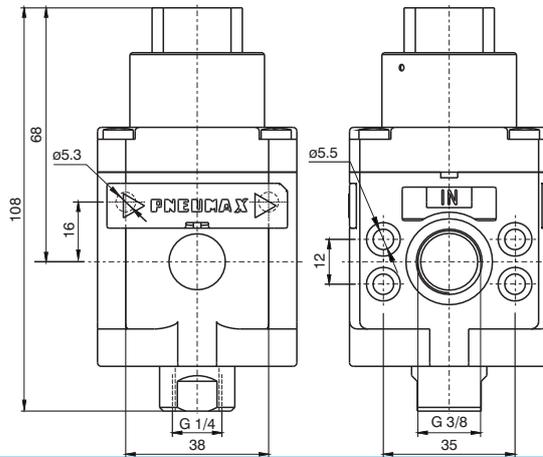
M2/9 = Electric with M2/9

Example: 17230.M2 : Shut-off valve size 2 with electric control complete with M2 mechanic

Important note: the preventive or programmed maintenance of this product is not foreseen considering the elaborated assembling and the specific "PNEUMAX" testing; therefore, call the producer or its representative in case of necessity.

Operational characteristic	Technical characteristic	
- 3 ways poppet valve, electric control.	Inlet connections	G 3/8"
- Zinc alloy body or reinforced technopolymer body with threaded brass insert connections.	Exhaust connections	G 1/4"
- Opening and closing of the valve via solenoid operator.	Temperature °C	-5 °C - 50°C
- The correct flow direction is indicated by the arrows stamped on the valve body.	Weight with anodized aluminium alloy 2011 body	gr. 440
- The supply pressure must be minimum 2 bars or higher for the solenoid operated version.	Assembly position	Any
- The piloting pressure must be minimum 2bar or higher for the pneumatic operated version.(inlet pressure can be lower than 2 bar).	Wall fixing screw	M5
- It is possible to produce the external supplied solenoid version by mounting the 305.10.05 between the valve main body and the solenoid pilot valve.	Max. fittings torque	25 Nm
- The air supply can only be done via port 1.	Min. working pressure	2 bar
- Ensure that the downstream air consumption will not cause a pressure drop which could result in the pressure falling below the minimum operating values. If the pressure inside the valve falls below 2 bars , the valve might shut off.	Max working pressure (bar)	13 bar
- Wall mounting possibility with M5 screws protected by covers.	Flow rate at 6 bar with Δp=1	2100 NI/min

Pneumatically operated shut-off valve



Ordering code

17230.PN

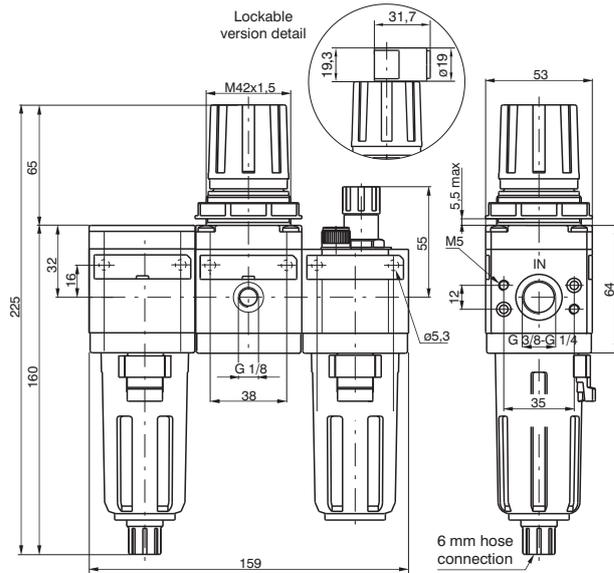
Example: 17230.PN : Shut-off valve size 2 with Pneumatic pilot.

Important note: the preventive or programmed maintenance of this product is not foreseen considering the elaborated assembling and the specific "PNEUMAX" testing; therefore, call the producer or its representative in case of necessity.

Operational characteristic	Technical characteristic	
- 3 ways poppet valve, pneumatic pilot.	Piloting connections	G 1/8"
- Zinc alloy body or reinforced technopolymer body with threaded brass insert connections.	Temperature °C	-5 - + 50
- Opening and closing of the valve via pneumatic operator	Assembly position	Any
- The correct flow direction is indicated by the arrows stamped on the valve body.	Weight with anodized aluminium alloy 2011 body	gr. 405
- The supply pressure must be minimum 2 bars or higher for the solenoid operated version.	Wall fixing screw	M5
- The piloting pressure must be minimum 2bar or higher for the pneumatic operated version.(inlet pressure can be lower than 2 bar).	Max. fittings torque	25 Nm
- It is possible to produce the external supplied solenoid version by mounting the 305.10.05 between the valve main body and the solenoid pilot valve.	Min. working pressure	0 bar
- The air supply can only be done via port 1.	Max working pressure (bar)	13 bar
- Ensure that the downstream air consumption will not cause a pressure drop which could result in the pressure falling below the minimum operating values. If the pressure inside the valve falls below 2 bars , the valve might shut off.	Piloting pressure	2 bar
- Wall mounting possibility with M5 screws protected by covers.	Flow rate at 6 bar with Δp=1	2100 NI/min



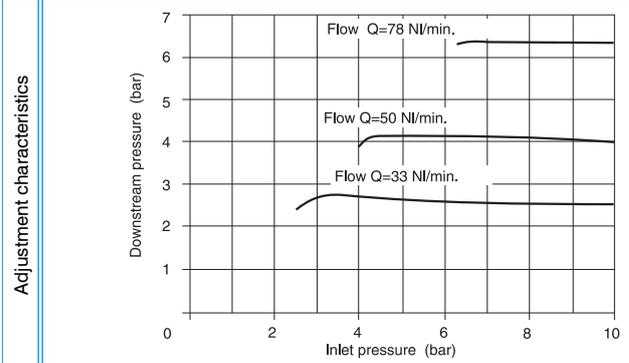
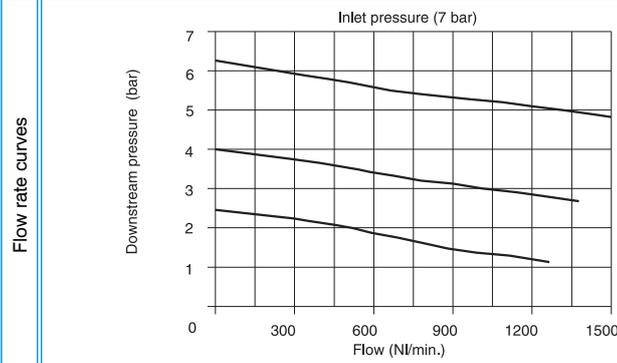
Filter + Pressure regulator + Lubricator



Ordering code	
17207C.S.C.T.O	
CONNECTIONS	
C	A = G 1/4"
	B = G 3/8"
FILTER PORE SIZE	
S	A = 5μ
	B = 20μ
	C = 50μ
ADJUSTING RANGE	
	A = 0 - 2 bar
C	B = 0 - 4 bar
	C = 0 - 8 bar
	D = 0 - 12 bar
TYPE	
T	S = Automatic drain
OPTION	
O	Standard (without options)
	K = Lockable version

Example: 17207A.B.C.S

Service unit combination complete with filter - pressure regulator and lubricator size 2, G 1/4" connections, filter pore size 20μ, adjusting range 0-8 bar and automatic drain.



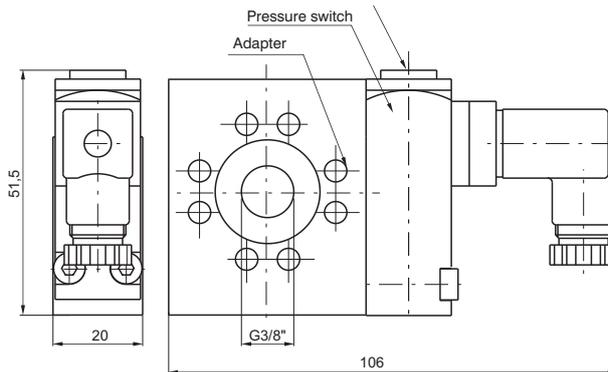
Operational characteristic

- Filter - diaphragm pressure regulator with relieving with balanced poppet.
- Double filtering action: by air centrifuging and by replaceable and reusable HDPE porous filter element.
- Body made with light alloy.
- Wall mounting possibility with M5 screws protected by covers.
- Pressure adjusting lockable handle by simply pressing it downwards in the desired position.
- Transparent technopolymer bowl with shock resistant technopolymer protection connected to the body with bayonet cap and safety button.
- Manual and semi-automatic water drain valve; in the semi-automatic version the drainage happens when there is no pressure or by pushing the valve up-wards.
- Automatic water drainage bowl available on request.
- Possibility to see the water level on 360° also with bowl protection assembled.
- Two pressure gauge connections with plug complete of seal.
- Fog type lubrication with variable section orifice according to the flow.
- Transparent technopolymer sight dome with adjusting handle.
- Oil filling plug.

Technical characteristic

Connections	G 1/4" - G 3/8"
Max working pressure (bar)	13 bar - 1,3 MPa
Temperature °C	50°C
Pressure gauge connections	G 1/8"
Weight	gr. 960
Pressure range (bar)	0 - 2 / 0 - 4 / 0 - 8 / 0 - 12
Filter pore size	5μ - 20μ - 50μ
Bowl capacity	30 cm ³
Indicative oil drip rate	1 drop every 300/600 NI
Oil type	FD22 - HG32
Bowl capacity	52 cm ³
Min. operational flow at 6,3 bar	20 NI/min
Assembly position	Vertical
Wall fixing screw	M5
Max. fittings torque	25 Nm

High sensitive air pressure regulator with adapter

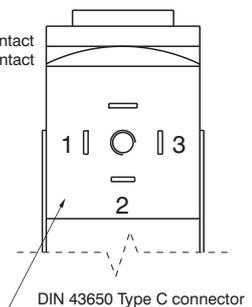


Ordering code	170
TYPE	24A = Pressure switch adapter 14B = Pressure switch 24C = Pressure switch complete with adapter

Example: 1724C
Pressure switch complete with adapter.

Connection

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



Operational characteristic

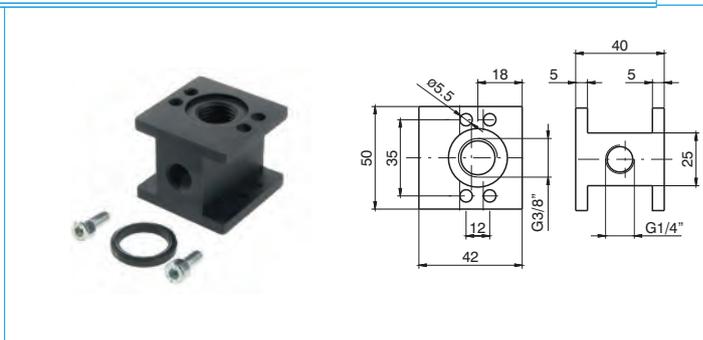
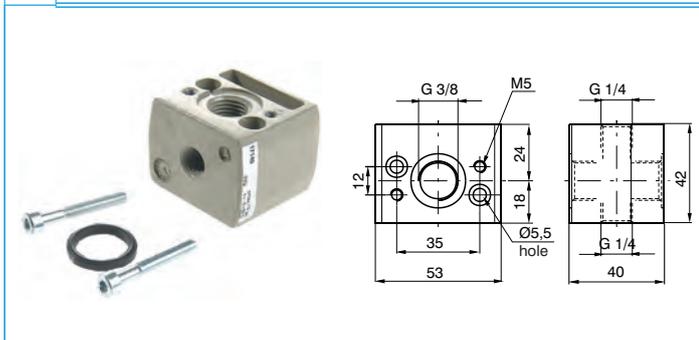
- The pressure switch complete of adapter has to be assembled between two elements of the FRL group.
- It cannot be utilized separately or at the end of the FRL group.
- The pressure switch can be set at desired pressure (Pressure range (bar) from 2 to 10 bar) by rotating the adjusting screw.
- The electrical connection is made by mean of a 15 connector DIN 43650 type C.
- The microswitch contact could be Normally Closed or open (change over switch).

Technical characteristic

Max working pressure (bar)	13 bar - 1,3 MPa
Temperature °C	50°C
Weight	gr. 200
Microswitch capacity	1A
Microswitch Maximum voltage	250 VAC
Grade of protection (with connector assembled)	IP 65
Pressure range (bar)	2 - 10 bar
Assembly position	Any

Air Intake

Air Intake - "H" profile



Ordering code

17240

Weight gr. 160

Ordering code

17240H

Weight gr. 116

Fixing bracket

Assembling kit

Ordering code

17250

Weight gr. 65



Ordering code

1726V

- VERSION
- 0 = Standard
 - 5 = for progressive start-up valve

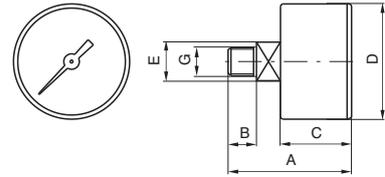
Weight gr. 20





Pressure gauge

Ordering code	
17070V.S	
VERSION	
V A = Dial ø40	
B = Dial ø50	
SCALE	
S A = Scale 0-4 bar	
B = Scale 0-6 bar	
C = Scale 0-12 bar	



DIMENSIONS

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

Manometer diameter D. 23 mm

Ordering code	
17070M.S	
SCALE	
S A = Scale 0-4 bar	
B = Scale 0-6 bar	
C = Scale 0-12 bar	

