General

The operational safety and durability of a pneumatic circuit depends on the quality of the compressed air. The compressed air and the moisture increase the rate of wear of the surfaces and seals, reducing the efficiency and the life of the pneumatic components. Furthermore the pressure fluctuation due to a discontinuous demand of air, adversely affect the correct operation of the circuit. To eliminate these disadvantages it is essential to install the service unit: filter, pressure regulator and lubricator.

Construction and working characteristics

The new FRL units AIRPLUS series represents the evolution of the well known and consolidated 1700 series. The main features are increased performances, reliability, easy and fast assembly and the introduction of the latest technical features.

With the exception of the air intake module and the pressure switch module all elements are available in two configurations: with technopolimer connections (I N and OUT), (T series), or with metal threaded inserts, (N series).

Bowls made of transparent polycarbonate (PC) are fitted with a bowl protection guard which is assembled on the body via a quick coupling mechanism provided with a safety button.

The filter, available with three filtration grades (5um, 20um and 50um) is fitted as standard with a drain mechanism which can be operated manually or semi-automatically. The regulator is based on the rolling diaphragm technology with low hysteresis and the system is balanced. The unit can be fitted with integrated flush mounting pressure gauge (0 to 12 bar range).

4 pressure ranges are available going from 0 to 12 bar and the regulating knob can be blocked in position simply by pressing it down, A dedicated version is available for battery mounting, up to a maximum of 6 units.

The lubricator is based on the Venturi principle and the oil quantity is regulated via the adjusting screw positioned on the transparent polycarbonate (PC) regulating dome which also ensure clear visibility of the oil flow and regulation.

The oil suction pipe is fitted as standard with a sintered filter which ensures that any contaminant that should be present in the oil will reach the down stream circuit.

Shoot off valve is available in two versions, one manually operated and one solenoid operated. In both cases the unit is fitted with a thread connection for depressurising the down stream circuit.

On the manually operated version, in the lock position, it is possible to fit up to three locks in order to prevent the accidental pressurisation of the pneumatic circuit avoiding accidents or damages.

The solenoid operated version is available with a 15mm or with a 22mm solenoid valve.

The soft start valve ensures a progressive pressurization of the down stream circuit avoiding sudden pressure surges which could be dangerous for the devices fitted on the down stream circuit.

The filling time can be easily adjusted via a built in flow regulator. The full flow rate is allowed only once the down stream pressure has reached 50% of the value of the inlet pressure.

The pressure switch module which can be set between 2 and 10 bar and the air intake module complete the range.

The elements are joint together via dedicated quick coupling technopolimer flanges which allows for the units to be panel mounted moreover ensure the possibility to replace any component without disassembling the FRL group from its position.

90° mounting brackets and standard gauges are also available.

Instruction for installation and operation

The FRL unit must be installed as close as possible to the application. The air flow direction must follow the directions indicated on the single units in correspondence of the threaded connections (I N and OUT).

Units provided with bowl must be mounted vertically with the bawl facing down.

Single units or groups can be panel mounted via the Y type flanges, regulators and filter-regulators can be mounted via the 90° zinc plated steel bracket. In order to mount the 90° bracket it is necessary to remove the regulating knob and then the locking ring before positioning the bracket.

All units must be operated according to the specified pressure and temperature ranges; fittings must be mounted without exceeding the maximum torque allowed.

Ensure that the units cover plates are in position before pressure is applied. The cover plates are needed to lock in position the top part of the unit.

The condense level in filer and filter-regulators bowls must never exceed the maximum level indicated on the bowls. With manual or semi automatic drain the condense can be discharged via a 6/4mm tube directly connected to the drain tap.

On the pressure regulator the pressure value must always set while pressure is rising and ideally the unit pressure range should be chosen based on the pressure value to be regulated.

Lubricators must be filled with class FD22 and HG32 oils. Ensure, both on the inlet and on the outlet, that the flow rate is above the minimum flow rate required to operate the unit. Below this value the units does not operate.

The oil quantity can be regulated via the regulating screw on the transparent polycarbonate dome through which it is also clearly visible the oil flow. A drop every 300-600 litres should be allowed.

The oil refill can take place only with the bowl not under pressure. This size does not have the dedicated oil re-fill plug.

The manual shut off valve needs, to be operated, a push and turn action (clockwise) in order to close it and discharge the down stream circuit it is necessary to turn anti clock wise the knob.

The soft start valve is used to slowly and progressively pressurize the down stream circuit, the time needed to do so can be set by means of the built in flow regulator.

The soft start valve on its own does not allow for the down stream circuit to be discharged, in order to do so it is necessary to combine it with a shut off valve (to be mounted upstream).
Maintenance

For any maintenance which requires the removal of the top plugs/supports from the body it is necessary to preventively remove the sides cover plates. If the top plugs/supports are removed with the sides plates still in their position the unit could be permanently damaged.

Bowls, plugs and supports are assembled with a bayonet type mechanism. In order to remove them rotate anti-clockwise until the mechanical stop is reached and than 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 (from 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.

The oil refill process can take place only if the bowl in not pressurized. The oil refill plug is not available on this size.

Should the pressure regulator not perform properly or should present a constant leakage from the relieving replaced the diaphragm by unloading completely the regulating spring before removing the regulation support.

Any other maintenance operation, in consideration of the complexity of the assembly, and the need of a through test according to the Pneumax spa specification, should be carried out by the manufacturer.

Fittings maximum recommended torque applicable

<table>
<thead>
<tr>
<th>THREAD</th>
<th>Technopolymer version (T)</th>
<th>Metal version (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1/8&quot;</td>
<td>4 Nm</td>
<td>/</td>
</tr>
<tr>
<td>G1/4&quot;</td>
<td>9 Nm</td>
<td>20 Nm</td>
</tr>
<tr>
<td>G3/8&quot;</td>
<td>16 Nm</td>
<td>25 Nm</td>
</tr>
<tr>
<td>G1/2&quot;</td>
<td>22 Nm</td>
<td>30 Nm</td>
</tr>
</tbody>
</table>
**Operational characteristics**

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

**Technical characteristics**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connections</td>
<td>G 1/8” - G 1/4”</td>
</tr>
<tr>
<td>Max. inlet pressure</td>
<td>13 bar - 1,3 Mpa</td>
</tr>
<tr>
<td>Working temperature</td>
<td>-5°C to +50°C</td>
</tr>
<tr>
<td>Weight with Technopolymer threads</td>
<td>gr. 120</td>
</tr>
<tr>
<td>Weight with threaded inserts</td>
<td>gr. 130</td>
</tr>
<tr>
<td>Filter pore size</td>
<td>5 μm - 20 μm - 50 μm</td>
</tr>
<tr>
<td>Bowl capacity</td>
<td>18 cm³</td>
</tr>
<tr>
<td>Assembly positions</td>
<td>Vertical</td>
</tr>
<tr>
<td>Max. fitting torque (with Technopolymer threads)</td>
<td>G1/4” = 9 Nm</td>
</tr>
<tr>
<td>Max. fitting torque (with threaded inserts)</td>
<td>G1/8” = 15 Nm</td>
</tr>
<tr>
<td>G1/4” = 15 Nm</td>
<td></td>
</tr>
</tbody>
</table>

**Ordering code**

- V = Metal inserts
- T = Technopolymer thread
- A = G1/8” code for insert version;
- B = G1/4”
- FILTER PORE SIZE
  - A = 5 μm
  - B = 20 μm
  - C = 50 μm

**Example:** T171FB3: size 1, Filter with Technopolymer threads, G1/4” connections, 20 μm filter pore size
Air service units
Coalescing filter (D)

Example: T17150A - Coalescing size 1, Filter with Technopolymer threads, G1/4" connections, filter efficiency 99.97%
**Operational characteristics**

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

**Note**

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

**Technical characteristics**

- **Connections**: G 1/8" - G 1/4"
- **Max. inlet pressure**: 13 bar - 1,3 Mpa
- **Working temperature**: -5°C - +50°C
- **Pressure gauge connections**: G 1/8"
- **Weight with Technopolymer threads**: gr. 130
- **Weight with threaded inserts**: gr. 140
- **Pressure range**: 0-2 bar / 0-4 bar
  - 0-8 bar / 0-12 bar

**Ordering code**

1710R(C)C

**VERSION**

- M = Metal inserts
- T = Technopolymer thread

**CONNECTIONS**

- A = G 1/8" (code for insert version)
- B = G 1/4"

**ADJUSTING RANGE**

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

**OPTIONS**

- Standard (without options)
- F = Controlled relief + improved relieving
- L = no relieving
- R = Improved relieving
Air service units
Regulator including gauge (RM)

Example: T171BRMC - size 1. Regulator including gauge with Technopolymer threads, G 1/4" connections, 0 to 8 bar adjusting range.

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

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

Technical characteristics

<table>
<thead>
<tr>
<th>Connections</th>
<th>G 1/8&quot; - G 1/4&quot;</th>
<th>Ordering code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. inlet pressure</td>
<td>13 bar - 1.3 Mpa</td>
<td>VERSION</td>
</tr>
<tr>
<td>Working temperature</td>
<td>-5°C - +50°C</td>
<td></td>
</tr>
<tr>
<td>Weight with Technopolymer threads</td>
<td>gr. 140</td>
<td></td>
</tr>
<tr>
<td>Weight with threaded inserts</td>
<td>gr. 150</td>
<td></td>
</tr>
<tr>
<td>Pressure range</td>
<td>0-2 bar / 0-4 bar</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0-8 bar / 0-12 bar</td>
<td></td>
</tr>
<tr>
<td>Assembly positions</td>
<td>indifferent</td>
<td></td>
</tr>
<tr>
<td>Max. fitting torque (with Technopolymer threads)</td>
<td>G1/8&quot; = 4 Nm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>G1/4&quot; = 9 Nm</td>
<td></td>
</tr>
<tr>
<td>Max. fitting torque (with threaded inserts)</td>
<td>G1/8&quot; = 15 Nm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>G1/4&quot; = 15 Nm</td>
<td></td>
</tr>
</tbody>
</table>

Options
- Standard (without options)
- F: Controlled relief + improved relieving
- L: no relieving
- R: Improved relieving

Flow rate curves

- Inlet pressure 7 bar
- Adjusting range 0-8 bar

Flow downstream pressure (bar)

Flow (Nl/min)

4 5 6 7

0 200 400 600 800 1000 1200 1400 1600 1800

Adjustment characteristics

- Flow Q=34 Nl/min
- Flow Q=22 Nl/min
- Flow Q=15 Nl/min

Flow (Nl/min)

4 5 6 7

0 1 2 3 4 5 6 7 8 9 10

Inlet pressure (bar)
Example: T171B08C : size 1, Regulator with Technopolymer threads, G 1/4" connections, 0 to 8 bar adjusting range

### Operational characteristics
- Diaphragm pressure regulator with relieving.
- Low hysteresis rolling diaphragm.
- Balanced system.
- Available in four pressure ranges up to 12 bar.
- Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved.
- G1/8" output front connection.
- Air supply can be applied by both directions.

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

### Technical characteristics
- Connections: G 1/8" - G 1/4"
- Max. inlet pressure: 13 bar - 1,3 Mpa
- Working temperature: -5°C ÷ +50°C
- Pressure gauge connections: G 1/8"
- Weight with Technopolymer threads: gr. 130
- Weight with threaded inserts: gr. 140
- Pressure range: 0-2 bar / 0-4 bar
- Assembly positions: Indifferent
- Max. fitting torque
  - (with Technopolymer threads): G1/8" = 4 Nm, G1/4" = 9 Nm
  - (with threaded inserts): G1/8" = 15 Nm, G1/4" = 15 Nm

### Ordering code
- VERSION:
  - N = Metal inserts
  - T = Technopolymer thread
- CONNECTIONS:
  - A = G1/8" (Fitting for insert version)
  - B = G1/4"
- ADJUSTING RANGE:
  - A = 0-2 bar
  - B = 0-4 bar
  - C = 0-8 bar
  - D = 0-12 bar
- OPTIONS:
  - Standard (without options)
  - F = Controlled relief + improved relieving
  - L = no relieving
  - R = Improved relieving
**Operational characteristics**

- Diaphragm pressure regulator with relieving.
- Low hysteresis rolling diaphragm.
- Balanced system.
- Available in four pressure ranges up to 12 bar.
- Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved.
- G 1/8” output connection positioned on the opposite side of the built-in gauge.
- Air supply can be applied by both directions.
- Built-in gauge 0-12 bar range as standard.

**Technical characteristics**

<table>
<thead>
<tr>
<th>Connections</th>
<th>G 1/8” - G 1/4”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. inlet pressure</td>
<td>13 bar - 1.3 Mpa</td>
</tr>
<tr>
<td>Working temperature</td>
<td>-5°C to +50°C</td>
</tr>
<tr>
<td>Weight with Technopolymer threads</td>
<td>gr. 140</td>
</tr>
<tr>
<td>Weight with threaded inserts</td>
<td>gr. 150</td>
</tr>
<tr>
<td>Pressure range</td>
<td>0-2 bar / 0-4 bar</td>
</tr>
<tr>
<td></td>
<td>0-8 bar / 0-12 bar</td>
</tr>
<tr>
<td>Assembly positions</td>
<td>Indifferent</td>
</tr>
<tr>
<td>Max. fitting torque</td>
<td>G1/8” = 4 Nm</td>
</tr>
<tr>
<td>(with Technopolymer threads)</td>
<td>G1/4” = 9 Nm</td>
</tr>
<tr>
<td>Max. fitting torque</td>
<td>G1/8” = 15 Nm</td>
</tr>
<tr>
<td>(with threaded inserts)</td>
<td>G1/4” = 15 Nm</td>
</tr>
</tbody>
</table>

**Ordering code**

- **VERSION**
  - N = Metal inserts
  - T = Technopolymer thread

- **CONNECTIONS**
  - A = G 1/8” (options in brackets)
  - B = G 1/4”

- **ADJUSTING RANGE**
  - A = 0-2 bar
  - B = 0-4 bar
  - C = 0-8 bar
  - D = 0-12 bar

- **OPTIONS**
  - F = Controlled relief + improved relieving
  - L = No reliefing
  - R = Improved relieving

**Note**

The pressure must be always regulating while increasing. For a more precise regulation and higher sensitivity, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.
### Operational characteristics
- Inlet pressure common for the whole manifold of regulator.
- A maximum of 6 regulators can be mounted.
- Air supply can be applied by both directions.

### Technical characteristics
- Connections: G 1/8" - G 1/4"
- Max. inlet pressure: 13 bar - 1.3 Mpa
- Working temperature: -5°C ~ +50°C

### Pressure range
- 0-2 bar / 0-4 bar
- 0-8 bar / 0-12 bar

### Max. fitting torque
- with Technopolymer threads: G1/8" = 4 Nm, G1/4" = 9 Nm
- with threaded inserts: G1/8" = 15 Nm, G1/4" = 15 Nm

### Ordering code
- **VERSION**
  - N = Metal inserts
  - T = Technopolymer thread

- **CONNECTIONS**
  - A = G1/8" female for insert version
  - B = G1/4"

- **TYPES**
  - B = Standard with flanges X
  - M = Manometer included

- **REMARKS**
  - W = Standard with flanges Y
  - Z = Manometer included with flanges Y

- **NUMBER REGULATORS**
  - 1 = 1 regulator
  - 2 = 2 regulators
  - 3 = 3 regulators
  - 4 = 4 regulators
  - 5 = 5 regulators
  - 6 = 6 regulators

- **ADJUSTING RANGE 1**
  - A = 0-2 bar
  - B = 0-4 bar
  - C = 0-8 bar
  - D = 0-12 bar

- **ADJUSTING RANGE 2**
  - A = 0-2 bar
  - B = 0-4 bar
  - C = 0-8 bar
  - D = 0-12 bar

- **ADJUSTING RANGE 3**
  - A = 0-2 bar
  - B = 0-4 bar
  - C = 0-8 bar
  - D = 0-12 bar

- **ADJUSTING RANGE 4**
  - A = 0-2 bar
  - B = 0-4 bar
  - C = 0-8 bar
  - D = 0-12 bar

- **ADJUSTING RANGE 5**
  - A = 0-2 bar
  - B = 0-4 bar
  - C = 0-8 bar
  - D = 0-12 bar

Example: GT171B84C808 - Combined group comprising 4 size 1 Regulators Technopolymer threads, G1/4" connections and 0 to 8 bar adjusting range.
### Operational characteristics
- Filler - diaphragm pressure regulator with relieving.
- Low hysteresis rolling diaphragm.
- Balanced system.
- Double filtering action: air flow centrifugation and filter element.
- Filtering element made of HDPE (high density polyethylene) available in three different filtration grades (5μm, 20μm e 50μm) can be regenerated by washing it or replaced.
- Transparent bowl made of polycarbonate with bowl protection guard.
- Bowl assembly via bayonet type quick coupling mechanism with safety button.
- Semi-automatic drain mounted as standard.
- Available in four pressure ranges up to 12 bar.
- Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved.
- Fitted with panel mounting locking ring.

### Technical characteristics
- Connections: G 1/8“ - G 1/4“
- Max. inlet pressure: 13 bar - 1.3 MPa
- Working temperature: -5°C ÷ +50°C
- Pressure gauge connections: G 1/8“
- Weight with Technopolymer threads: gr. 190
- Weight with threaded inserts: gr. 200
- Pressure range: 0-2 bar / 0-4 bar
- Flow Q = 34 Nl/min
- 0-4 bar / 0-12 bar
- Flow Q = 22 Nl/min
- Flow Q = 15 Nl/min
- Filter pore size: 5 μm - 20 μm - 50 μm
- Bowl capacity: 18 cm³
- Assembly positions: Vertical
- Max. fitting torque (with Technopolymer threads): G1/8“ = 4 Nm
- G1/4“ = 9 Nm
- Max. fitting torque (with threaded inserts): G1/8“ = 15 Nm
- G1/4“ = 15 Nm

### Ordering code
- VERSION
  - N = Metal inserts
  - T = Technopolymer thread
- CONNECTIONS
  - A = G1/8“ (code for insert version)
  - B = G1/4“
- FILTER PORE SIZE
  - A = 5 μm
  - B = 20 μm
  - C = 50 μm
- ADJUSTING RANGE
  - A = 0-2 bar
  - B = 0-4 bar
  - C = 0-8 bar
  - D = 0-12 bar

### Note
The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.
### Operational characteristics
- Filter - diaphragm pressure regulator with relieving.
- Low hysteresis rolling diaphragm.
- Balanced system.
- Double filtering action: air flow centrifugation and filter element.
- Filtering element made of HDPE (high density polyethylene) available in three different filtration grades (5µm, 20µm e 50µm) can be regenerated by washing it or replaced.
- Transparent bowl made off polycarbonate with bowl protection guard.
- Bowl assembly via bayonet type quick coupling mechanism with safety button.
- Semi-automatic drain mounted as standard.
- Available in four pressure ranges up to 12 bar.
- Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved.
- Fitted with panel mounting locking ring.
- Built in gauge 0-12 bar range as standard.

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

### Technical characteristics
- **Connections**: G 1/8" - G 1/4"
- **Max. inlet pressure**: 13 bar - 1.3 Mpa
- **Working temperature**: -5°C + +50°C
- **Weight with Technopolymer threads**: gr. 200
- **Weight with threaded inserts**: gr. 210
- **Pressure range**: 0-2 bar / 0.4 bar 0-8 bar / 0-12 bar
- **Filter pore size**: 5 µm - 20 µm - 50 µm
- **Bowl capacity**: 18 cm³
- **Assembly positions**: Vertical
- **Max. fitting torque (with Technopolymer threads)**: G1/4" = 9 Nm  
  G1/8" = 15 Nm
- **Max. fitting torque (with threaded inserts)**: G1/4" = 15 Nm

### Ordering code

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1715EMBC</td>
<td>Size 1, Filter-Regulator including gauge with Technopolymer threads, G1/4&quot; connections, with 20 µm filtering pore size, 0 to 8 bar adjusting range</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FILTER PORE SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>A = 5 µm</td>
</tr>
<tr>
<td>B = 20 µm</td>
</tr>
<tr>
<td>C = 50 µm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ADJUSTING RANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>A = 0.2 bar</td>
</tr>
<tr>
<td>B = 0.4 bar</td>
</tr>
<tr>
<td>C = 0.8 bar</td>
</tr>
<tr>
<td>D = 1.2 bar</td>
</tr>
</tbody>
</table>
**Operational characteristics**

- Oil mist lubrication with variable orifice size in function of the flow rate
- Oil quantity regulation mechanism and oil quantity visualization dome made of polycarbonate.
- Transparent bowl made off polycarbonate with bowl protection guard.
- Bowl assembly via bayonet type quick coupling mechanism with safety button.

**Note**

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

**Technical characteristics**

- **Connections**: G 1/8" - G 1/4"
- **Max. inlet pressure**: 13 bar - 1.3 MPa
- **Working temperature**: 0°C - +50°C
- **Weight with Technopolymer threads**: gr. 110
- **Weight with threaded inserts**: gr. 120
- **Indicative oil drip rate**: 1 drop every 300/600 Nl
- **Oil type**: FD22 - HG32
- **Bowl capacity**: 36 cm³
- **Assembly positions**: Vertical
- **Max. fitting torque** (with Technopolymer threads): G1/4" = 9Nm
- **Max. fitting torque** (with threaded inserts): G1/8" = 15 Nm
- **G1/4" = 15 Nm
- **Min. operational flow at 6.3 bar**: 40 Nl/min.

**Ordering code**

- **1710L**
- **VERSION**
  - N = Metal Inserts
  - T = Technopolymer thread
- **CONNECTIONS**
  - A = G 1/8"
  - B = G 1/4"
**Air service units**

**Shut-off valve (VL)**

---

**Example:** T171VL : size 1, Shut-off valve with Technopolymer threads, G1/4" connections

<table>
<thead>
<tr>
<th>Operational characteristics</th>
<th>Technical characteristics</th>
<th>Ordering code</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Manual operated 3 ways poppet valve.</td>
<td>Connections</td>
<td>G 1/8&quot; - G 1/4&quot;</td>
</tr>
<tr>
<td>- Double handle action for valve opening: pushing and rotating (clockwise).</td>
<td>Max. inlet pressure</td>
<td>13 bar - 1.3 Mpa</td>
</tr>
<tr>
<td>- The valve can be closed and the downstream circuit depressurized by rotating anticlockwise the knob.</td>
<td>Working temperature</td>
<td>-5°C + +50°C</td>
</tr>
<tr>
<td>- Knob lockable with three padlocks.</td>
<td>Weight with Technopolymer threads</td>
<td>gr. 100</td>
</tr>
<tr>
<td></td>
<td>Weight with threaded inserts</td>
<td>gr. 110</td>
</tr>
<tr>
<td></td>
<td>Assembly positions</td>
<td>Indifferent</td>
</tr>
<tr>
<td></td>
<td>Handle opening and closing angle</td>
<td>90°</td>
</tr>
<tr>
<td></td>
<td>Max. fitting torque (with Technopolymer threads)</td>
<td>G1/4&quot; = 9 Nm</td>
</tr>
<tr>
<td></td>
<td>Max. fitting torque (with threaded inserts)</td>
<td>G1/8&quot; = 15 Nm</td>
</tr>
<tr>
<td></td>
<td>G1/4&quot; = 15 Nm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nominal flow at 6 bar with Δp=1</td>
<td>1400 Nl/min.</td>
</tr>
<tr>
<td></td>
<td>Exhaust nominal flowrate at 6 bar with Δp=1</td>
<td>550 Nl/min.</td>
</tr>
</tbody>
</table>
### Operational characteristics

- Solenoid operated 3 ways poppet valve.
- Available also with 15mm solenoid operator.

### Technical characteristics

<table>
<thead>
<tr>
<th>Supply and operating connections</th>
<th>Discharge connections</th>
<th>Working temperature</th>
<th>Weight with Technopolymer threads</th>
<th>Weight with threaded inserts</th>
<th>Assembly positions</th>
<th>Min. Pressure working</th>
<th>Max. Pressure working</th>
<th>Max. fitting torque (with Technopolymer threads)</th>
<th>Max. fitting torque (with threaded inserts)</th>
<th>Nominal flow at 6 bar with $\Delta p=1$</th>
<th>Exhaust nominal flowrate at 6 bar with $\Delta p=1$</th>
</tr>
</thead>
<tbody>
<tr>
<td>G 1/8&quot; - G 1/4&quot;</td>
<td>G 1/4&quot;</td>
<td>0°C - 50°C</td>
<td>gr. 130</td>
<td>gr. 140</td>
<td>Indifferent</td>
<td>2.5 bar</td>
<td>10 bar</td>
<td>G 1/4&quot; = 9 Nm</td>
<td>G 1/4&quot; = 15 Nm</td>
<td>1400 Nl/min</td>
<td>550 Nl/min</td>
</tr>
</tbody>
</table>

### Ordering code

- **1711**
- **VE**
- **A**
- **B**

**VERSION**
- **N** = Metal inserts
- **T** = Technopolymer thread

**CONNECTIONS**
- A = G 1/8" (for insert version)
- B = G 1/4"

<table>
<thead>
<tr>
<th>15 mm COIL VOLTAGE</th>
<th>A4 = 12 V DC</th>
<th>A5 = 24 V DC</th>
<th>A6 = 24 V AC (50-60 Hz)</th>
<th>A7 = 110 V AC (50-60 Hz)</th>
<th>A8 = 220 V AC (50-60 Hz)</th>
<th>A9 = 24 V DC (1 Watt)</th>
</tr>
</thead>
<tbody>
<tr>
<td>22 mm COIL VOLTAGE</td>
<td>B2 = Without coil</td>
<td>M2 mechanic</td>
<td>B4 = 12 V DC</td>
<td>B5 = 24 V DC</td>
<td>B6 = 24 V AC (50-60 Hz)</td>
<td>B7 = 110 V AC (50-60 Hz)</td>
</tr>
<tr>
<td>30 mm COIL VOLTAGE</td>
<td>C2 = Without coil</td>
<td>M1 mechanic</td>
<td>C5 = 24 V DC</td>
<td>C6 = 24 V AC (50-60 Hz)</td>
<td>C7 = 110 V AC (50-60 Hz)</td>
<td>C8 = 230 V AC (50-60 Hz)</td>
</tr>
</tbody>
</table>
### Operational characteristics
- Down stream circuit filling time regulated via a built in flow regulator.
- Full pressure is allowed once the down stream circuit pressure reaches 50% of the inlet pressure.

<table>
<thead>
<tr>
<th>Connections</th>
<th>G 1/8&quot; - G 1/4&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. inlet pressure</td>
<td>13 bar - 1.3 MPa</td>
</tr>
<tr>
<td>Working temperature</td>
<td>-5°C + +50°C</td>
</tr>
<tr>
<td>Weight with Technopolymer threads</td>
<td>gr. 70</td>
</tr>
<tr>
<td>Weight with threaded inserts</td>
<td>gr. 80</td>
</tr>
</tbody>
</table>
| Max. fitting torque
  (with Technopolymer threads) | G1/4" = 9 Nm |
| Max. fitting torque
  (with threaded inserts) | G1/8" = 15 Nm |
| Assembly positions | Indifferent |
| Min. pressure working | 2.5 bar - 0.25 MPa |
| Nominal flow
  at 6 bar with Δp=1 | 1400 N/min |
| fully open built in flow regulator Flow rate | 75 Nl/min |

### Technical characteristics

### Ordering code
0171@AP

**VERSION**
- N = Metal inserts
- T = Technopolymer thread

**CONNECTIONS**
- A = G1/8" (only for insert versions)
- B = G1/4"
### Operational characteristics

- Available with two G1/4" threaded connections.

### Technical characteristics

<table>
<thead>
<tr>
<th>Features</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connections</td>
<td>G 1/4&quot;</td>
</tr>
<tr>
<td>Max. inlet pressure</td>
<td>13 bar - 1.3 Mpa</td>
</tr>
<tr>
<td>Working temperature</td>
<td>-5°C ÷ +50°C</td>
</tr>
<tr>
<td>Weight</td>
<td>gr. 52</td>
</tr>
<tr>
<td>Assembly positions</td>
<td>Indifferent</td>
</tr>
<tr>
<td>Max. fitting torque (with Technopolymer threads)</td>
<td>G1/4&quot; = 9 Nm</td>
</tr>
</tbody>
</table>

### Ordering code

- T171BPA
Example: T171BPP : Size 1, Pressure switch with Technopolymer threads, G1/4" connections

<table>
<thead>
<tr>
<th>Operational characteristics</th>
<th>Technical characteristics</th>
<th>Ordering code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Built in adjustable pressure switch (2 to 10 bar) with electrical connection.</td>
<td>Connections</td>
<td>G 1/4&quot;</td>
</tr>
<tr>
<td>G 1/4&quot; threaded connection on the bottom face.</td>
<td>Max. inlet pressure</td>
<td>13 bar - 1.3 Mpa</td>
</tr>
<tr>
<td>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).</td>
<td>Working temperature</td>
<td>-5°C + +50°C</td>
</tr>
<tr>
<td>Weight</td>
<td></td>
<td>gr. 138</td>
</tr>
<tr>
<td>Microswitch capacity</td>
<td></td>
<td>1A</td>
</tr>
<tr>
<td>Grade of protection (with connector assembled)</td>
<td></td>
<td>IP 65</td>
</tr>
<tr>
<td>Adjusting range</td>
<td></td>
<td>2 - 10 bar</td>
</tr>
<tr>
<td>Assembly positions</td>
<td></td>
<td>Indifferent</td>
</tr>
<tr>
<td>Max. fitting torque (with Technopolymer threads)</td>
<td></td>
<td>G1/4&quot; - 9 Nm</td>
</tr>
<tr>
<td>Microswitch maximum tension</td>
<td></td>
<td>250 VAC</td>
</tr>
</tbody>
</table>

Attention
For this product are available only Technopolymer connections

Connection

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

DIN 43650 type C connector
Flange X

Example: T171X: Size 1 coupling flange

Operational characteristics

- Enables the quick connection of two functions

<table>
<thead>
<tr>
<th>Weight gr. 12</th>
<th>Ordering code</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>T171X</td>
</tr>
</tbody>
</table>

Flange Y

Example: T171Y: Size 1 coupling flange with mounting holes

Operational characteristics

- Used to couple together two elements and to panel mount them.
- Used to panel mount one single element.

<table>
<thead>
<tr>
<th>Weight gr. 18</th>
<th>Ordering code</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>T171Y</td>
</tr>
</tbody>
</table>
### Fixing bracket

![Fixing bracket image]

### Operational characteristics

<table>
<thead>
<tr>
<th>Feature</th>
<th>Metric</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allows for regulators and filter regulators to be panel mounted.</td>
<td>Weight gr. 32</td>
</tr>
</tbody>
</table>

| Ordering code | 17150 |

### Pressure gauge

![Pressure gauge image]

### Dimensions

<table>
<thead>
<tr>
<th>Code</th>
<th>Dim (mm)</th>
<th>Weight gr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>17070A</td>
<td>44 10 26 41 14 1/8&quot;</td>
<td>60</td>
</tr>
<tr>
<td>17070B</td>
<td>45 10 27 49 14 1/8&quot;</td>
<td>80</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>17070...</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>17070...</td>
</tr>
</tbody>
</table>

**VERSION**

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

---

**21**
## Operational characteristics

- Combined group comprising Filter-regulator with built-in manometer and Lubricator assembled with a (Y) type coupling kit for panel mounting.
- Built in gauge 0 to 12 bar as standard

**Note**

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

## Technical characteristics

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connections</td>
<td>G 1/8&quot; - G 1/4&quot;</td>
</tr>
<tr>
<td>Max. inlet pressure</td>
<td>13 bar - 1.3 Mpa</td>
</tr>
<tr>
<td>Working temperature</td>
<td>-5°C to +50°C</td>
</tr>
<tr>
<td>Weight with Technopolymer threads</td>
<td>gr. 328</td>
</tr>
<tr>
<td>Weight with threaded inserts</td>
<td>gr. 348</td>
</tr>
<tr>
<td>Pressure range</td>
<td>0-2 bar / 0-4 bar</td>
</tr>
<tr>
<td></td>
<td>0-6 bar / 0-12 bar</td>
</tr>
<tr>
<td>Filter pore size</td>
<td>5 μm - 20 μm - 50 μm</td>
</tr>
<tr>
<td>Bowl capacity</td>
<td>18 cm³</td>
</tr>
<tr>
<td>Indicative oil drip rate</td>
<td>1 drop every 300/600 Nl</td>
</tr>
<tr>
<td>Oil type</td>
<td>FD22 - HG32</td>
</tr>
<tr>
<td>Bowl capacity</td>
<td>36 cm³</td>
</tr>
<tr>
<td>Assembly positions</td>
<td>Vertical</td>
</tr>
<tr>
<td>Max. fitting torque (with threads)</td>
<td>G1/4&quot; = 9 Nm</td>
</tr>
<tr>
<td>Max. fitting torque (with threads)</td>
<td>G1/8&quot; = 15 Nm</td>
</tr>
<tr>
<td>Min. operational flow at 6.3 bar</td>
<td>40 Nl/min</td>
</tr>
</tbody>
</table>

## Ordering code

- **G 171 B/H**
  - **N** = Metal Inserts
  - **T** = Technopolymer thread
- **VERSION**
  - **A** = G1/8" (for metric version)
  - **B** = G1/4"
- **CONNECTIONS**
  - **A** = G1/8" (for metric version)
  - **B** = G1/4"
- **ADJUSTING RANGE**
  - **C** = 5 μm / 0-4 bar
  - **D** = 5 μm / 0-12 bar
  - **G** = 20 μm / 0-6 bar
  - **H** = 20 μm / 0-12 bar
  - **N** = 50 μm / 0-6 bar
  - **P** = 50 μm / 0-12 bar
Air service units
Service unit assembled (F + RM + L)

Example: GT171BG - size 1 combined group comprising Filter, Regulator and Lubricator Technopolymer threads, G1/4" connections, 0 to 8 bar adjusting range and 20 μm filter pore size

Operational characteristics
Combined group comprising Filter, Regulator with built in manometer and Lubricator assembled with two (Y) type coupling kits for panel mounting.
Built in gauge 0 to 12 bar as standard

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

Technical characteristics
Connections: G 1/8" - G 1/4"
Max. inlet pressure: 13 bar - 1.3 Mpa
Working temperature: -5°C to +50°C
Weight with Technopolymer threads: gr. 406
Weight with threaded inserts: gr. 436
Pressure range: 0-2 bar / 0-4 bar / 0-8 bar / 0-12 bar
Filter pore size: 5 μm - 20 μm - 50 μm
Bowl capacity: 18 cm³
Indicative oil drip rate: 1 drop every 300/600 Nl
Oil type: FO22 - HG32
Bowl capacity: 36 cm³
Assembly positions: Vertical
Max. fitting torque (with Technopolymer threads): G1/4" = 9 Nm
Max. fitting torque (with threaded inserts): G1/8" = 15 Nm
G1/4" = 15 Nm
Min. operational flow at 6.3 bar: 40 Nl/min.

Ordering code
G1711BG

VERSION
N = Metal inserts
T = Technopolymer thread

CONNECTIONS
A = G1/8" (only for insert version)
B = G1/4"

FILTER PORE SIZE
A = 5 μm / 0-4 bar
B = 5 μm / 0-12 bar
C = 20 μm / 0-4 bar
D = 20 μm / 0-12 bar
E = 50 μm / 0-4 bar
F = 50 μm / 0-12 bar

ADJUSTING RANGE
G = 1.3 Mpa
### Operational characteristics

Combined group comprising Filter-regulator with built in manometer. Air intake and Lubricator assembled with two (Y) type coupling kits for panel mounting. Built in gauge 0 to 12 bar as standard.

**Note**

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

### Technical characteristics

- **Connections**: G 1/8" - G 1/4"
- **Max. inlet pressure**: 13 bar - 1.3 Mpa
- **Working temperature**: -5°C to +50°C
- **Weight with Technopolymer threads**: gr. 388
- **Weight with threaded inserts**: gr. 418
- **Pressure range**: 0-2 bar / 0-4 bar
- **Filter pore size**: 5 μm - 20 μm - 50 μm
- **Bowl capacity**: 18 cm³
- **Indicative oil drip rate**: 1 drop every 300/600 Nl
- **Oil type**: FD22 - HG32
- **Bowl capacity**: 36 cm³
- **Assembly positions**: Vertical
- **Max. fitting torque (with Technopolymer threads)**: G1/4" = 9 Nm
- **Max. fitting torque (with threaded inserts)**: G1/8" = 15 Nm
- **Min. operational flow at 6.3 bar**: 40 Nl/min

### Ordering code

**G171**

- **VERSION**
  - M = Metal Inserts
  - T = Technopolymer thread

- **CONNECTIONS**
  - A = G1/8" (supply to inlet exercises)
  - B = G1/4"

- **FILTER PORE SIZE**
  - C = 5 μm / 0.48 bar
  - D = 5 μm / 0.12 bar
  - E = 20 μm / 0.8 bar
  - H = 20 μm / 0.12 bar
  - N = 50 μm / 0.8 bar
  - F = 50 μm / 0.12 bar

---

**Example**: GT1715NG - size 1 combined group comprising Filter-regulator, Air intake and Lubricator Technopolymer threads, G1/4" connections, 0 to 8 bar adjusting range and 20 μm filter pore size.

---

**Flow rate curves**

- **Inlet pressure 7 bar**
  - Adjusting range 0-6 bar

- **Dowstream pressure (bar)**
  - Flow Q = 34 Nl/min
  - Flow Q = 22 Nl/min
  - Flow Q = 15 Nl/min

---

**Downstream pressure (bar)**

- Flow Q = 34 Nl/min
- Flow Q = 22 Nl/min
- Flow Q = 15 Nl/min
**Operational characteristics**

Combined group comprising Filter-regulator with built-in manometer, Pressure switch and Lubricator assembled with two Y type coupling kits for panel mountings. Built in gauge 0 to 12 bar as standard

**Note**

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

---

**Technical characteristics**

- Connections: G 1/8" - G 1/4"
- Max. inlet pressure: 13 bar = 1,3 Mpa
- Working temperature: -5°C = +50°C
- Weight with Technopolymer threads: gr. 464
- Weight with threaded inserts: gr. 504
- Pressure range: 0-2 bar / 0-4 bar
- 0-8 bar / 0-12 bar
- Filter pore size: 5 μm - 20 μm - 50 μm
- Bowl capacity: 18 cm³
- Indicative oil drop rate: 1 drop every 300/600 Nl
- Oil type: FD22 - HG32
- Bowl capacity: 36 cm³
- Assembly positions: Vertical
- Max. fitting torque:
  - with Technopolymer threads: G1/4" = 9 Nm
  - with threaded inserts: G1/8" = 15 Nm
  - G1/4" = 15 Nm
- Min. operational flow at 6,3 bar: 40 Nl/min.

**Ordering code**

G0171080
Operational characteristics
Combined group comprising manual shut-off valve, Filter - regulator with built in manometer, assembled with one (Y) type coupling kit for panel mountings. Built in gauge 0 to 12 bar as standard.

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

Technical characteristics
Connections G 1/8" - G 1/4"
Max. inlet pressure 13 bar - 1,3 Mpa
Working temperature -5°C + +50°C
Weight with Technopolymer threads gr. 318
Weight with threaded inserts gr. 338
Pressure range 0-2 bar / 0-4 bar
0-6 bar / 0-12 bar
Filter pore size 5 µm - 20 µm - 50 µm
Bowl capacity 18 cm³
Indicative oil drip rate 1 drop every 300/600 Nl
Oil type FD22 - HG32
Bowl capacity 36 cm³
Assembly positions Vertical
Max. fitting torque (with Technopolymer threads) G1/4" = 9 Nm
Max. fitting torque (with threaded inserts) G1/8" = 15 Nm
Min. operational flow at 0,3 bar 40 Nl/min

Ordering code
G0171VGG
VERSION
N = Metal inserts
T = Technopolymer thread
CONNECTIONS
A = G 1/8" [ substitution, see insert version]
B = G 1/4"
FILTER PORE SIZE
G = 5 µm / 0-8 bar
D = 5 µm / 0-12 bar
Q = 20 µm / 0-8 bar
H = 20 µm / 0-12 bar
N = 50 µm / 0-8 bar
P = 50 µm / 0-12 bar
ADJUSTING RANGE
G = 5 µm / 0-8 bar
D = 5 µm / 0-12 bar
Q = 20 µm / 0-8 bar
H = 20 µm / 0-12 bar
N = 50 µm / 0-8 bar
P = 50 µm / 0-12 bar
### Operational characteristics

- Combined group comprising manual shut-off valve, Filter-regulator and Lubricator Technopolymer threads, G1/4" connections 0 to 8 bar adjusting range and 20 μm filter pore size.

### Technical characteristics

- Connections: G 1/8" - G 1/4"
- Max. inlet pressure: 13 bar = 1,3 Mpa
- Working temperature: -5°C = +60°C
- Weight with Technopolymer threads: gr. 446
- Weight with threaded inserts: gr. 476
- Pressure range: 0-2 bar / 0-4 bar = 0-8 bar / 0-12 bar
- Filter pore size: 5 μm - 20 μm = 50 μm
- Bowl capacity: 18 cm³
- Indicative oil drip rate: 1 drop every 300-600 Nl
- Oil type: FD22 - HGG32
- Bowl capacity: 36 cm³
- Assembly positions: Vertical
- Max. fitting torque:
  - with Technopolymer threads: G1/4" = 9 Nm
  - with threaded inserts: G1/8" = 15 Nm
  - G1/4" = 15 Nm
- Min. operational flow at 6,3 bar: 40 Nl/min.

### Ordering code

- G6171VHG
  - VERSION
  - N = Metal inserts
  - T = Technopolymer thread
  - CONNECTIONS
  - A = G1/8" only for insert version
  - B = G1/4"
  - FILTER PORE SIZE
  - ADJUSTING RANGE
  - C = 5 μm / 0-8 bar
  - D = 5 μm / 0-12 bar
  - G = 20 μm / 0-8 bar
  - H = 20 μm / 0-12 bar
  - N = 50 μm / 0-8 bar
  - P = 50 μm / 0-12 bar
Series Airplus
Size 1
Air service units
Service unit assembled (VL + F + RM + L)

Example: GT171/V/KG: size 1 combined group comprising Shut-off valve, Filter, Regulator and Lubricator Technopolymer threads, G1/4” connections 0 to 8 bar adjusting range and 20 μm filter pore size.

### Operational characteristics

- Combined group comprising manual shut-off valve, Filter, Regulator with built in manometer and Lubricator, assembled with two (Y) type coupling kits for panel mounting and one (X) type coupling kit.
- Built-in pressure gauge 0 to 12 bar range.

**Note**

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

### Technical characteristics

- **Connections**: G 1/8” - G 1/4”
- **Max. inlet pressure**: 13 bar / 1.3 Mpa
- **Working temperature**: -5°C to +50°C
- **Weight with Technopolymer threads**: gr. 518
- **Weight with threaded inserts**: gr. 588
- **Pressure range**: 0-2 bar / 0-4 bar
- **Filter pore size**: 5 μm - 20 μm - 50 μm
- **Bowl capacity**: 18 cm³
- **Indicative oil drip rate**: 1 drop every 300/600 Nl
- **Oil type**: FD22 / HG32
- **Bowl capacity**: 36 cm³
- **Assembly positions**: Vertical
- **Max. fitting torque (with Technopolymer threads)**: G1/4" = 9 Nm
- **Max. fitting torque (with threaded inserts)**: G1/4" = 15 Nm
- **Min. operational flow at 6.3 bar**: 40 Nl/min.

### Ordering code

- **VERSION**: N = Metal Inserts
- **T = Technopolymer thread
- **A = G1/8” indicators (not included)
- **B = G1/4”

### Filter pore size

- **Flow Q=34 Nl/min
- **Flow Q=22 Nl/min
- **Flow Q=15 Nl/min

### Adjustment Characteristics

- **Inlet pressure (bar)**: 7
- **Downstream pressure (bar)**: 1
- **Flow (Nl/min)**: 0 to 1,400

- **Inlet pressure (bar)**: 7
- **Downstream pressure (bar)**: 3
- **Flow (Nl/min)**: 0 to 1,400
Air service units
Service unit assembled (VL + EM + PA + L)

Example: GT171BRNG - size 1 combined group comprising shut-off valve, Filter-regulator, Air intake and Lubricator Technopolymer threads, G1/4" connections 0 to 8 bar, adjusting range and 20 μm filter pore size.

### Operational characteristics
Combined group comprising manual shut-off valve, Filter-regulator with built-in manometer, Air intake and Lubricator, assembled with two (Y) type coupling kits for panel mounting and one (X) type coupling kit. Built-in pressure gauge 0 to 12 bar range.

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

### Technical characteristics

**Connections:**
G 1/8" - G 1/4"

**Max. inlet pressure:**
13 bar - 1.3 Mpa

**Working temperature:**
-5°C + 50°C

**Weight with Technopolymer threads:**
gr. 510

**Weight with threaded inserts:**
gr. 540

**Pressure range:**
0-2 bar / 0-4 bar
0-8 bar / 0-12 bar

**Filter pore size:**
5 μm - 20 μm - 50 μm

**Bowl capacity:**
18 cm³

**Indicative oil drip rate:**
1 drop every 300/600 Nl

**Oil type:**
FD22 - HGI32

**Bowl capacity:**
36 cm³

**Assembly positions:**
Vertical

**Max. fitting torque (with Technopolymer threads):**
G1/4" = 9 Nm

**Max. fitting torque (with threaded inserts):**
G1/8" = 15 Nm

**G1/4" = 15 Nm**

**Min. operational flow at 6.3 bar:**
50 Nl/min.
Example: G171/VRG: size 1 combined group comprising Shut-off valve, Filter-regulator, Pressure switch and Lubricator Technopolymer threads, G1/4" connections adjusting range 0 to 8 bar and 20 µm filter pore size.

**Operational characteristics**

Combined group comprising manual shut-off valve, Filter-regulator with built in manometer, Pressure switch and Lubricator, assembled with two (Y) type coupling kits for panel mounting and one (X) type coupling kit.

Built in pressure gauge 0 to 12 bar range

**Note**

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

**Technical characteristics**

<table>
<thead>
<tr>
<th>Connections</th>
<th>G 1/8&quot; - G 1/4&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. inlet pressure</td>
<td>13 bar - 1.3 Mpa</td>
</tr>
<tr>
<td>Working temperature</td>
<td>-6°C + 50°C</td>
</tr>
<tr>
<td>Weight with Technopolymer threads</td>
<td>gr. 596</td>
</tr>
<tr>
<td>Weight with threaded inserts</td>
<td>gr. 626</td>
</tr>
<tr>
<td>Pressure range</td>
<td>0-2 bar / 0-4 bar</td>
</tr>
<tr>
<td></td>
<td>0-6 bar / 0-12 bar</td>
</tr>
<tr>
<td>Filter pore size</td>
<td>5 µm - 20 µm - 50 µm</td>
</tr>
<tr>
<td>Bowl capacity</td>
<td>16 cm³</td>
</tr>
<tr>
<td>Indicative oil drip rate</td>
<td>1 drop every 300/600 Nl</td>
</tr>
<tr>
<td>Oil type</td>
<td>FD22 - HG32</td>
</tr>
<tr>
<td>Bowl capacity</td>
<td>36 cm³</td>
</tr>
<tr>
<td>Assembly positions</td>
<td>Vertical</td>
</tr>
<tr>
<td>Max. fitting torque (with Technopolymer threads)</td>
<td>G1/4&quot; = 9 Nm</td>
</tr>
<tr>
<td>Max. fitting torque (with threaded inserts)</td>
<td>G1/4&quot; = 15 Nm</td>
</tr>
<tr>
<td>Min. operational flow at 6.3 bar</td>
<td>40 Nl/min</td>
</tr>
</tbody>
</table>

**Ordering code**

<table>
<thead>
<tr>
<th>VERSION</th>
<th>N = Metal inserts</th>
</tr>
</thead>
<tbody>
<tr>
<td>T = Technopolymer thread</td>
<td></td>
</tr>
</tbody>
</table>

**CONNECTIONS**

| A = G1/8" (standard version) |
| B = G1/4" |

**FILTER PORE SIZE**

| ADJUSTING RANGE | C = 5 µm / 0-4 bar |
|                 | D = 20 µm / 0-4 bar |
|                 | G = 20 µm / 0-12 bar |
|                 | H = 50 µm / 0-12 bar |
|                 | N = 50 µm / 0-8 bar |
|                 | F = 50 µm / 0-12 bar |
Operational characteristics

- Combined group comprising manual shut-off valve, filter-regulator, lubricator, electric shut-off valve, progressive start-up valve, Technopolymer threads, G 1/4" connections 3 to 8 bar adjusting range and 20 µm filter pore size.

- Example: GT171VHS9: size 1 combined group comprising shut-off valve, filter-regulator, lubricator, electric shut-off valve, progressive start-up valve, Technopolymer threads, G 1/4" connections 3 to 8 bar adjusting range and 20 µm filter pore size.

- Flow rate curves:
  - Inlet pressure 7 bar
  - Adjusting range 0-8 bar
  - Downstream pressure (bar)
  - Flow rate (Nl/min)

Technical characteristics

- Connections: G 1/8" - G 1/4"
- Max. inlet pressure: 13 bar / 1.3 Mpa
- Working temperature: -5°C to +50°C
- Weight with Technopolymer threads: gr. 670
- Weight with threaded inserts: gr. 720
- Pressure range: 0-2 bar / 0-4 bar
- 0-8 bar / 0-12 bar
- Filter pore size: 5 µm - 20 µm - 50 µm
- Bowl capacity: 18 cm³
- Indicative oil drip rate: 1 drop every 300/600 sec
- Oil type: FD22 - HG32
- Bowl capacity: 36 cm³
- Assembly positions: Vertical
- Max. fitting torque (with Technopolymer threads): G1/4" = 9 Nm
- Max. fitting torque (with threaded inserts): G1/8" = 15 Nm
- G1/4" = 15 Nm
- Min. operational flow at 6.3 bar: 40 Nl/min

Ordering code

- Connection: 711711VHS9
- Version: N = Nut, T = Technopolymer thread
- Connections: A = G1/8" (for insert version)
- B = G1/4"

Flow characteristics:

- Flow Q = 34 Nl/min
- Flow Q = 29 Nl/min
- Flow Q = 15 Nl/min

Notes:

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

- 15 mm COIL VOLTAGE
  - A4 = 12 V DC
  - A5 = 24 V DC
  - A6 = 24 V AC (50-60 Hz)
  - A7 = 110 V AC (50-60 Hz)
  - A8 = 220 V AC (50-60 Hz)
  - A9 = 24 V DC (1 Watt)

- 30 mm COIL VOLTAGE
  - G2 = Without coil
  - G1 = M1 mechanic
  - G5 = 24 V DC
  - G6 = 24 V AC (50-60 Hz)
  - G7 = 110 V AC (50-60 Hz)
  - G8 = 230 V AC (50-60 Hz)
  - G9 = 24 V DC (2 Watt)

- 22 mm COIL VOLTAGE
  - B2 = Without coil
  - B3 = M2 mechanic
  - B4 = 12 V DC
  - B5 = 24 V DC
  - B6 = 24 V AC (50-60 Hz)
  - B7 = 110 V AC (50-60 Hz)
  - B8 = 220 V AC (50-60 Hz)
  - B9 = 24 V DC (2 Watt)
**Operational characteristics**

- Combined group comprising Electric shut-off valve and Progressive start-up valve assembled with a (Y) type coupling kit for panel mounting.

**Technical characteristics**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connections</td>
<td>G 1/8&quot; - G 1/4&quot;</td>
</tr>
<tr>
<td>Max. inlet pressure</td>
<td>10 bar - 1 Mpa</td>
</tr>
<tr>
<td>Min. inlet pressure</td>
<td>2.5 bar - 0.25 Mpa</td>
</tr>
<tr>
<td>Working temperature</td>
<td>-5°C to +50°C</td>
</tr>
<tr>
<td>Weight with Technopolymer threads</td>
<td>gr. 218</td>
</tr>
<tr>
<td>Weight with threaded inserts</td>
<td>gr. 238</td>
</tr>
<tr>
<td>Assembly positions</td>
<td>Indifferent</td>
</tr>
<tr>
<td>Max. fitting torque (with Technopolymer threads)</td>
<td>G1/4&quot; = 9 Nm</td>
</tr>
<tr>
<td>Max. fitting torque (with threaded inserts)</td>
<td>G1/8&quot; = 15 Nm</td>
</tr>
<tr>
<td>G1/4&quot; = 15 Nm</td>
<td></td>
</tr>
<tr>
<td>Flow at 6 bar with Δp = 1</td>
<td>1200 N/min</td>
</tr>
<tr>
<td>Ordering code</td>
<td>G171SAT</td>
</tr>
<tr>
<td>VERSION</td>
<td></td>
</tr>
<tr>
<td>N = Metal inserts</td>
<td></td>
</tr>
<tr>
<td>T = Technopolymer thread</td>
<td></td>
</tr>
<tr>
<td>CONNECTIONS</td>
<td></td>
</tr>
<tr>
<td>A = G 1/8&quot; (long for insert version)</td>
<td></td>
</tr>
<tr>
<td>B = G 1/4&quot;</td>
<td></td>
</tr>
<tr>
<td>15 mm COIL VOLTAGE</td>
<td></td>
</tr>
<tr>
<td>A4 = 12 V DC</td>
<td></td>
</tr>
<tr>
<td>A5 = 24 V DC</td>
<td></td>
</tr>
<tr>
<td>A6 = 24 V AC (50-60 Hz)</td>
<td></td>
</tr>
<tr>
<td>A7 = 110 V AC (50-60 Hz)</td>
<td></td>
</tr>
<tr>
<td>A8 = 220 V AC (50-60 Hz)</td>
<td></td>
</tr>
<tr>
<td>A9 = 24 V DC (1 Watt)</td>
<td></td>
</tr>
<tr>
<td>22 mm COIL VOLTAGE</td>
<td></td>
</tr>
<tr>
<td>B2 = Without coil</td>
<td></td>
</tr>
<tr>
<td>B4 = 12 V DC</td>
<td></td>
</tr>
<tr>
<td>B5 = 24 V DC</td>
<td></td>
</tr>
<tr>
<td>B6 = 24 V AC (50-60 Hz)</td>
<td></td>
</tr>
<tr>
<td>B7 = 110 V AC (50-60 Hz)</td>
<td></td>
</tr>
<tr>
<td>B8 = 220 V AC (50-60 Hz)</td>
<td></td>
</tr>
<tr>
<td>B9 = 24 V DC (2 Watt)</td>
<td></td>
</tr>
<tr>
<td>30 mm COIL VOLTAGE</td>
<td></td>
</tr>
<tr>
<td>C2 = Without coil</td>
<td></td>
</tr>
<tr>
<td>C5 = 24 V DC</td>
<td></td>
</tr>
<tr>
<td>C6 = 24 V AC (50-60 Hz)</td>
<td></td>
</tr>
<tr>
<td>C7 = 110 V AC (50-60 Hz)</td>
<td></td>
</tr>
<tr>
<td>C8 = 220 V AC (50-60 Hz)</td>
<td></td>
</tr>
<tr>
<td>C9 = 24 V DC (2 Watt)</td>
<td></td>
</tr>
</tbody>
</table>
Example: GT171/VKSG9: size 1 combined group comprising Shut-off valve, Filter, Regulator, Lubricator, Electrical shut-off valve and Progressive start-up valve Technopolymer threads, G1/4" connections 0 to 8 bar adjusting range 20 µm filter pore size and 24V DC(RW) coil

Operational characteristics
Combined group comprising manual shut-off valve, Filter, Regulator with built in manometer, Lubricator, Electric shut-off valve and Progressive start-up valve assembled with two (Y) type coupling kits for panel mounting and three (X) type coupling kits. Built in pressure gauge 0 to 12 bar range

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

Technical characteristics
Connections
G 1/8" - G 1/4"
Max. inlet pressure
13 bar - 1.3 Mpa
Working temperature
-5°C to +50°C
Weight with Technopolymer threads
gr. 742
Weight with threaded inserts
gr. 802
Pressure range
0-2 bar / 0.4 bar
0-8 bar / 0-12 bar
Filter pore size
5 µm - 20 µm - 50 µm
Bowl capacity
18 cm³
Indicative oil droop rate
1 drop every 300/600 Nl
Oil type
FD22 - HG32
Bowl capacity
36 cm³
Assembly positions
Vertical
Max. fitting torque
G1/4" = 9 Nm
(with Technopolymer threads)
Max. fitting torque
G1/8" = 15 Nm
(with threaded inserts)
G1/4" = 15 Nm
Min. operational flow at 6.3 bar
40 Nl/min.

Ordering code

Technical characteristics
Connections
G 1/8" - G 1/4"
Max. inlet pressure
13 bar - 1.3 Mpa
Working temperature
-5°C to +50°C
Weight with Technopolymer threads
gr. 742
Weight with threaded inserts
gr. 802
Pressure range
0-2 bar / 0.4 bar
0-8 bar / 0-12 bar
Filter pore size
5 µm - 20 µm - 50 µm
Bowl capacity
18 cm³
Indicative oil droop rate
1 drop every 300/600 Nl
Oil type
FD22 - HG32
Bowl capacity
36 cm³
Assembly positions
Vertical
Max. fitting torque
G1/4" = 9 Nm
(with Technopolymer threads)
Max. fitting torque
G1/8" = 15 Nm
(with threaded inserts)
G1/4" = 15 Nm
Min. operational flow at 6.3 bar
40 Nl/min.
Operational characteristics


Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.
Air service units
Service unit assembled (VL + EM + PP + L + VE + AP)

Series Airplus
Size 1

Example - GT1718RSG99 : size 1 combined group comprising Shut-off valve, Filter-regulator, Pressure switch, Lubricator, Electrical shut-off valve and Progressive startup valve
Technopolymer threads, G1/4” connections 0 to 8 bar adjusting range, 20 µm filter pore size and 24V DC(2W) coil

Operational characteristics
Combined group comprising manual shut-off valve, Filter - regulator with built in manometer, Pressure switch, Lubricator, Electric shut-off valve and Progressive startup valve assembled with two (2) type coupling kits for panel mounting and three (3) type coupling kits.
Built in pressure gauge 0 to 12 bar range

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

Technical characteristics

<table>
<thead>
<tr>
<th>Connection</th>
<th>G 1/8” - G 1/4”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. inlet pressure</td>
<td>13 bar - 1.3 Mpa</td>
</tr>
<tr>
<td>Working temperature</td>
<td>-5°C +50°C</td>
</tr>
</tbody>
</table>
| Weight with Tech
  nopolymer threads | gr. 820                  |
| Weight with threaded inserts | gr. 870       |
| Pressure range     | 0-2 bar / 0.4 bar        |
|                    | 0-8 bar / 0-12 bar       |
| Filter pore size   | 5 µm - 20 µm - 50 µm     |
| Bowl capacity      | 18 cm²                   |
| Indicative oil drip rate | 1 drop every 300/400       |
| Oil type           | FD22 - HG32              |
| Bowl capacity      | 36 cm²                   |
| Assembly positions | Vertical                 |
| Max. fitting torque (with Technopolymer threads) | G1/4” = 9 Nm |
| Max. fitting torque (with threaded inserts) | G1/8” = 15 Nm |
| Min. operational flow at 6,3 bar | 40 Nl/min. |

30 mm COIL VOLTAGE
| G2 = Without coil | M1 mechanical |
| C5 = 24 V DC     |
| C6 = 24 V AC (50/60 Hz) |
| C7 = 110 V AC (50/60 Hz) |
| C8 = 230 V AC (50/60 Hz) |
| C9 = 24 V DC (2 Watt) |

22 mm COIL VOLTAGE
| B2 = Without coil | M2 mechanical |
| B4 = 12 V DC     |
| B5 = 24 V AC (50/60 Hz) |
| B6 = 24 V AC (50/60 Hz) |
| B7 = 220 V AC (50/60 Hz) |
| B9 = 24 V DC (2 Watt) |
Construction and working characteristics

The new FRL units AIRPLUS series represents the evolution of the well known and consolidated 1700 series. The main features are increased performances, reliability, easy and fast assembly and the introduction of the latest technical features. With the exception of the air intake module and the pressure switch module all elements are available in two configurations: with technopolymer connections (IN and OUT), (T series), or with metal threaded inserts. (N series). Bowls made of transparent polycarbonate (PC) are fitted with a bowl protection guard which is assembled on the body via a quick coupling mechanism provided with a safety button.

The filter, available with three filtration grades (5µm, 20µm and 50µm) is fitted as standard with a drain mechanism which can be operated manually or semi-automatically. On request it is available the auto-drain mechanism.

The regulator is based on the rolling diaphragm technology with low hysteresis and the system is balanced. The unit can be fitted with integrated flush mounting pressure gauge (0 to 12 bar range).

4 pressure ranges are available going from 0 to 12 bar and the regulating knob can be blocked in position simply by pressing it down. A dedicated version is available for battery mounting, up to a maximum of 6 units.

The lubricator is based on the Venturi principle and the oil quantity is regulated via the adjusting screw positioned don the transparent polycarbonate (PC) regulating dome which also ensure clear visibility of the oil flow and regulation.

The oil suction pipe is fitted as standard with a sintered filter which ensures that any contaminant that should be present in the oil will reach the downstream circuit.

Shoot off valve is available in two versions, one manually operated and one solenoid operated. In both cases the unit is fitted with a threaded connection for depressurising the downstream circuit. On the manually operated version, in the lock position, it is possible to fit up to three locks in order to prevent the accidental pressurisation of the pressurising circuit avoiding accidents or damages.

The solenoid operated version is available with a 15mm or with a 22mm solenoid valve.

The soft start valve ensure a progressive pressurisation of the downstream circuit avoiding sudden pressure surges which could be dangerous for the devices fitted on the downstream circuit.

The filling time can be easily adjusted via a built-in flow regulator. The full flow rate is allowed only once the down stream pressure has reached 50% of the value of the inlet pressure.

The pressure switch module which can be set between 2 and 10 bar and the air intake module complete the range.

The elements are joint together via dedicated quick coupling technopolymer flanges which allows for the units to be panel mounted moreover ensure the possibility to replace any component without disassembling the FRL group from its position.

90° mounting brackets and standard gauges are also available.

Instruction for installation and operation

The FRL unit must be installed as close as possible to the application. The air flow direction must follow the directions indicated on the single units in correspondence of the threaded connections. (IN and OUT)

Units provided with bowl must be mounted vertically with the bowl facing down.

Single units or groups can be panel mounted via the Y type flanges, regulators and filter-regulators can be mounted via the 90° zinc plated steel bracket. In order to mount the 90° bracket it is necessary to remove the regulating knob and then the locking ring before positioning the bracket.

All units must be operated according to the specified pressure and temperature ranges; fittings must be mounted without exceeding the maximum torque allowed.

Ensure that the units cover plates are in position before pressure is applied. The cover plates are needed to lock in position the top part of the unit.

The condenser level in filter and filter-regulators bowls must never exceed the maximum level indicated on the bowls. With manual or semi automatic drain the condensate can be discharged via a 6/4mm tube directly connected to the drain tap.

On the pressure regulator the pressure value must always set wise pressure is rising and ideally the unit pressure range should be chosen based on the pressure value to be regulated.

Lubricators must be filled with class FD22 and HG32 oils. Ensure, both on the inlet and on the outlet, that the flow rate is above the minimum flow rate required to operate the unit. Below this value the units do not operate.

The oil quantity can be regulated via the regulating screw on the transparent polycarbonate dome through which it is also clearly visible the oil flow. A drop every 300-600 litres should be allowed.

The oil can be re-filled while the pneumatic circuit is pressurized thanks to the exhaust valve which is built in the refill plug and allows for the bowl to be depressurized and the oil refill directly form the bowl or from the plug.

The manual shoot off valve needs, to be operated, a push and turn action (clockwise) in order to close it and discharge the down stream circuit it is necessary to turn and clock wise the knob.

The soft start valve is used to slowly and progressively pressurize the down stream circuit, the time needed to do so can be set by means of the built in flow regulator.

The soft start valve on its own does not allow for the down stream circuit to be discharged, in order to do so it is necessary to combine it with a shoot off valve (to be mounted upstream).
Maintenance

For any maintenance which requires the removal of the top plugs/s supports from the body it is necessary to preventively remove the sides cover plates. If the top plugs/s supports are removed with the sides plates still in their position the unit could be permanently damaged.

Bowls, plugs and supports are assembled with a bayonet type mechanism. In order to remove them rotate anti clockwise until the mechanical stop is reached and than 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 (from 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.
The oil can be re-filled while the pneumatic circuit is pressurized thanks to the exhaust valve which is built in the refill plug and allows for the bowl to be depressurized. In order to be able to un-mount the bowl it is necessary unscrew the refill plug positioned near the oil dome, once this operation has been carried out it is possible to remove the bowl to re-fill it or to refill from the refill plug. Refilling directly the bowl is suggested.
Should the pressure regulator not perform properly or should present a constant leakage from the relieving replaced the diaphragm by unloading completely the regulating spring before removing the regulation support.
Any other maintenance operation, in consideration of the complexity of the assembly, and the need of a through test according to the Pneumax spa specification, should be carried out by the manufacturer.

Fittings maximum recommended torque applicable

<table>
<thead>
<tr>
<th>THREAD</th>
<th>Technopolymer version (T)</th>
<th>Metal version (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1/8&quot;</td>
<td>4 N/m</td>
<td>/</td>
</tr>
<tr>
<td>G1/4&quot;</td>
<td>9 N/m</td>
<td>20 N/m</td>
</tr>
<tr>
<td>G3/8&quot;</td>
<td>16 N/m</td>
<td>25 N/m</td>
</tr>
<tr>
<td>G1/2&quot;</td>
<td>22 N/m</td>
<td>30 N/m</td>
</tr>
</tbody>
</table>
Operational characteristics

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

Technical characteristics

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connections</td>
<td>G 1/4&quot; - G 3/8&quot;</td>
</tr>
<tr>
<td>Max. inlet pressure</td>
<td>13 bar - 1,3 Mpa</td>
</tr>
<tr>
<td>Working temperature</td>
<td>-5°C ÷ +50°C</td>
</tr>
<tr>
<td>Weight with Technoploymer threads</td>
<td>gr. 220</td>
</tr>
<tr>
<td>Weight with threaded inserts</td>
<td>gr. 230</td>
</tr>
<tr>
<td>Filter pore size</td>
<td>5 µm - 20 µm - 50 µm</td>
</tr>
<tr>
<td>Bowl capacity</td>
<td>34 cm³</td>
</tr>
<tr>
<td>Assembly positions</td>
<td>Vertical</td>
</tr>
<tr>
<td>Max. fitting torque</td>
<td>G3/8&quot; = 16 Nm</td>
</tr>
<tr>
<td>(with Technopolymer threads)</td>
<td></td>
</tr>
<tr>
<td>Max. fitting torque</td>
<td>G1/4&quot; = 20 Nm</td>
</tr>
<tr>
<td>(with threaded inserts)</td>
<td>G3/8&quot; = 25 Nm</td>
</tr>
</tbody>
</table>

Ordering code

1720F00

VERSION
A = Metal inserts
T = Technopolymer thread

CONNECTIONS
A = G1/4" code for insert versions
B = G3/8"

FILTER PORE SIZE
A = 5 µm
B = 20 µm

OPTIONS
S = Standard (without options)
A = Automatic drain
Operational characteristics

- Coalescing filter element with filtration grade of 0.01μm
- Transparent bowl made off polycarbonate with bowl protection guard.
- Bowl assembly via bayonet type quick coupling mechanism with safety button.
- Semi-automatic drain mounted as standard; automatic drain upon request.

Note

In order to ensure a better grade of filtration it is recommended to use a 5 μm filter before the coalescing filter.

Technical characteristics

<table>
<thead>
<tr>
<th>Connections</th>
<th>G 1/4&quot; - G 3/8&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. inlet pressure</td>
<td>13 bar - 1.3 Mpa</td>
</tr>
<tr>
<td>Working temperature</td>
<td>-5°C + 50°C</td>
</tr>
<tr>
<td>Weight with Technopolymer threads</td>
<td>gr. 225</td>
</tr>
<tr>
<td>Weight with threaded inserts</td>
<td>gr. 235</td>
</tr>
<tr>
<td>Filter efficiency with 0.01 μm particle</td>
<td>99.97%</td>
</tr>
</tbody>
</table>

Ordering code

- VERSION
- T = Technopolymer thread
- A = G1/4" (standard version)
- B = G3/8"
- FILTER EFFICIENCY A = 99.97%
- OPTIONS
- S = Automatic drain

Flow rate curves

Flow rate (Nl/min) | Pressure drop (bar) | Inlet pressure (bar)
-------------------|---------------------|-------------------
0                  | 0.0                 | 0.0               |
250                | 0.2                 | 0.5               |
500                | 0.3                 | 0.5               |
750                | 0.4                 | 0.5               |
1000               | 0.5                 | 2.5               |

Max. Suggested flow for a correct operation:

- 1 bar = 1.3 Mpa
- 5°C to +50°C
- 34 cm² bowl capacity
- Vertical assembly positions

Max. fitting torque

- (with Technopolymer threads) G3/8" = 16 Nm
- (with threaded inserts) G1/4" = 29 Nm
- G3/8" = 25 Nm

Example: T17250DA - Coalescing size 2, Filter with Technopolymer threads, G3/8" connections, filter efficiency 99.97%
Operational characteristics

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

Note

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

Technical characteristics

- Connections G 1/4" - G 3/8"
- Max. inlet pressure 13 bar - 1,3 Mpa
- Working temperature -5°C - +50°C
- Pressure gauge connections G 1/8"
- Weight with Technopolymer threads gr. 300
- Weight with threaded inserts gr. 310
- Pressure range 0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
- Assembly positions Indifferent
- Max. fitting torque (with Technopolymer threads) G1/8" = 4 Nm G3/8" = 16 Nm
- Max. fitting torque (with threaded inserts) G1/4" = 20 Nm G3/8" = 25 Nm

Ordering code

172BRC

VERSION
- M = Metal inserts
- T = Technopolymer thread

CONNECTIONS
- A = G1/4" code for Inlet port
- B = G3/8" code for Outlet port

ADJUSTING RANGE
- A = 0-2 bar
- B = 0-4 bar
- D = 0-8 bar
- D = 0-12 bar

OPTIONS
- Standard (without options)
- F = Controlled relieve + improved relieving
- L = no relieving
- R = Improved relieving
Air service units
Regulator including gauge (RM)

Example: T12SP/RM2 - size 2, Regulator including gauge with Technopolymer threads, G3/8" connections, 0 to 8 bar adjusting range

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

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

Technical characteristics

| Connections | G 1/4" - G 3/8" |
| Max. inlet pressure | 13 bar - 1.3 Mpa |
| Working temperature | -5°C + 50°C |
| Weight with Technopolymer threads | gr. 300 |
| Weight with threaded inserts | gr. 310 |
| Pressure range | 0-2 bar / 0-4 bar 0-8 bar / 0-12 bar |
| Assembly positions | Indifferent |
| Max. fitting torque (with Technopolymer threads) | G1 1/8" = 4 Nm G3 5/8" = 16 Nm |
| Max. fitting torque (with threaded inserts) | G1 1/4" = 29 Nm G3 5/8" = 25 Nm |

Ordering code

- VERSION
- N = Metal inserts
- T = Technopolymer thread
- CONNECTIONS
- A = G1/4" (indicated as default)
- B = G3/8"

ADJUSTING RANGE
- A = 0.2 bar
- B = 0.4 bar
- C = 0.8 bar
- D = 1.2 bar

OPTIONS
- Standard(without options)
- F = Controlled relief + improved relieving
- L = no relieving
- R = Improved relieving

Flow rate curves

Flow rate (L/min) vs. Downstream pressure (bar)

Flow rate (L/min) vs. Downstream pressure (bar)

Flow rate (L/min) vs. Inlet pressure (bar)

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

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

Technical characteristics

<table>
<thead>
<tr>
<th>Connections</th>
<th>G 1/4&quot; - G 3/8&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. inlet pressure</td>
<td>13 bar - 1.3 Mpa</td>
</tr>
<tr>
<td>Working temperature</td>
<td>-5°C + 50°C</td>
</tr>
<tr>
<td>Pressure gauge connections</td>
<td>G 1/8&quot;</td>
</tr>
<tr>
<td>Weight with Technopolymer threads</td>
<td>gr. 390</td>
</tr>
<tr>
<td>Weight with threaded inserts</td>
<td>gr. 400</td>
</tr>
<tr>
<td>Pressure range</td>
<td>0-2 bar / 0-4 bar 0-8 bar / 0-12 bar</td>
</tr>
<tr>
<td>Filter pore size</td>
<td>5 μm - 20 μm - 50 μm</td>
</tr>
<tr>
<td>Bowl capacity</td>
<td>34 cm³</td>
</tr>
<tr>
<td>Assembly positions</td>
<td>Vertical</td>
</tr>
<tr>
<td>Max. fitting torque (with Technopolymer threads)</td>
<td>G1/8&quot; = 4 Nm G3/8&quot; = 16 Nm</td>
</tr>
<tr>
<td>Max. fitting torque (with threaded inserts)</td>
<td>G1/4&quot; = 20 Nm G3/8&quot; = 25 Nm</td>
</tr>
</tbody>
</table>

Ordering code

<table>
<thead>
<tr>
<th>VERSION</th>
<th>N = Metal inserts T = Technopolymer thread</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONNECTIONS</td>
<td>A = G1/4&quot; blank to insert attached</td>
</tr>
<tr>
<td>FILTER PORE SIZE</td>
<td>A = 5 μm</td>
</tr>
<tr>
<td>B = 20 μm</td>
<td></td>
</tr>
<tr>
<td>C = 50 μm</td>
<td></td>
</tr>
<tr>
<td>ADJUSTING RANGE</td>
<td>A = 0-2 bar</td>
</tr>
<tr>
<td>B = 0-4 bar</td>
<td></td>
</tr>
<tr>
<td>C = 0-8 bar</td>
<td></td>
</tr>
<tr>
<td>D = 0-12 bar</td>
<td></td>
</tr>
<tr>
<td>OPTIONS</td>
<td>Standard (without options)</td>
</tr>
<tr>
<td>S = Automatic drain</td>
<td></td>
</tr>
</tbody>
</table>
Air service units
Filter-regulator including gauge (EM)

Example: T172EM90C - size 2, Filter-Regulator including gauge with Technopolymer threads. G3/8" connections, with 20 µm filtering pore size. 0 to 8 bar adjusting range.

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

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

Technical characteristics
- Connections: G 1/4" - G 3/8"
- Max. inlet pressure: 13 bar - 1.3 Mpa
- Working temperature: -5°C + +50°C
- Weight with Technopolymer threads: gr. 400
- Weight with threaded inserts: gr. 410
- Pressure range: 0-2 bar / 0-4 bar
- 0-8 bar / 0-12 bar
- Filter pore size: 5 µm - 20 µm - 50 µm
- Bowl capacity: 34 cm³
- Assembly positions: Vertical
- Max. fitting torque (with Technopolymer threads): G3/8" = 16 Nm
- Max. fitting torque (with threaded inserts): G1/4" = 20 Nm G3/8" = 25 Nm

Ordering code
TV172EM90C
VERSION
N = Metal inserts
T = Technopolymer thread
CONNECTIONS
A = G1/4" and/or G3/8"
B = G3/8"
FILTER PORE SIZE
A = 5 µm
B = 20 µm
C = 50 µm
ADJUSTING RANGE
A = 0-2 bar
B = 0-4 bar
C = 0-8 bar
D = 0-12 bar
OPTIONS
S = Automatic drain

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### Operational characteristics

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

### Note

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

### Technical characteristics

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connections</td>
<td>G 1/4&quot; - G 3/8&quot;</td>
</tr>
<tr>
<td>Max. inlet pressure</td>
<td>13 bar - 1,3 Mpa</td>
</tr>
<tr>
<td>Working temperature</td>
<td>-5°C to +50°C</td>
</tr>
<tr>
<td>Weight with Technopolymer threads</td>
<td>gr. 210</td>
</tr>
<tr>
<td>Weight with threaded inserts</td>
<td>gr. 220</td>
</tr>
<tr>
<td>Indicative oil drip rate</td>
<td>1 drop every 300/600 NI</td>
</tr>
<tr>
<td>Oil type</td>
<td>FD22 - HG32</td>
</tr>
<tr>
<td>Bowl capacity</td>
<td>70 cm³</td>
</tr>
<tr>
<td>Assembly positions</td>
<td>Vertical</td>
</tr>
<tr>
<td>Max. fitting torque (with Technopolymer threads)</td>
<td>G3/8&quot; = 16 Nm</td>
</tr>
<tr>
<td>Max. fitting torque (with threaded inserts)</td>
<td>G1/4&quot; = 20 Nm</td>
</tr>
<tr>
<td>G1/8&quot; = 25 Nm</td>
<td></td>
</tr>
</tbody>
</table>

### Ordering code

- **172**

**VERSION**
- A = MetalInserts
- T = Technopolymer thread

**CONNECTIONS**
- A = G1/4" (nº for insert existing)
- B = G3/8"

**OPTIONS**
- A = Min. Oil level indicator Normally open
- G = Min. Oil level indicator Normally closed

**Min. operational flow at 6.3 bar**

70 NL/min.
Example: TL728VL : size 2, Shut-off valve with Technopolymer threads, G3/8" connections

### Operational characteristics

- Manual operated 3 ways poppet valve.
- Double handle action for valve opening: pushing and rotating (clockwise).
- The valve can be closed and the down stream circuit depressurized by rotating anticlockwise the knob.
- Knob lockable with three padlocks.

### Technical characteristics

<table>
<thead>
<tr>
<th>Connections</th>
<th>G 1/4&quot; - G 3/8&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. inlet pressure</td>
<td>13 bar - 1.3 Mpa</td>
</tr>
<tr>
<td>Working temperature</td>
<td>-5°C to +50°C</td>
</tr>
<tr>
<td>Weight with Technopolymer threads</td>
<td>gr. 180</td>
</tr>
<tr>
<td>Weight with threaded inserts</td>
<td>gr. 190</td>
</tr>
<tr>
<td>Assembly positions</td>
<td>Indifferent</td>
</tr>
<tr>
<td>Handle opening and closing angle</td>
<td>90°</td>
</tr>
<tr>
<td>Max. fitting torque</td>
<td>G3/8&quot; = 16 Nm</td>
</tr>
<tr>
<td>(with Technopolymer threads)</td>
<td></td>
</tr>
<tr>
<td>Max. fitting torque</td>
<td>G1/4&quot; = 20 Nm</td>
</tr>
<tr>
<td>(with threaded inserts)</td>
<td></td>
</tr>
<tr>
<td>Nominal flow</td>
<td>2200 Nl/min.</td>
</tr>
<tr>
<td>at 6 bar with Δp=1</td>
<td></td>
</tr>
<tr>
<td>Exhaust nominal flowrate</td>
<td>1500 Nl/min.</td>
</tr>
<tr>
<td>at 6 bar with Δp=1</td>
<td></td>
</tr>
</tbody>
</table>

### Ordering code

- **1728VL**
  - VERSION
  - N = Metal inserts
  - T = Technopolymer thread
  - CONNECTIONS
  - A = G1/4" (only for insert versions)
  - B = G3/8"
**Operational characteristics**

- Solenoid operated 3 ways poppet valve.
- Available also with 15 mm solenoid operator.

| Supply and operating connections | G 1/4" - G 3/8" |
| Discharge connections | G 1/4" |
| Working temperature | -5°C to +50°C |
| Weight with Technopolymer threads | gr. 200 |
| Weight with threaded inserts | gr. 210 |
| Assembly positions | Indifferent |
| Min. Pressure working | 2.5 bar |
| Max. Pressure working | 10 bar |
| Max. fitting torque (with Technopolymer threads) | G3/8" = 16 Nm |
| Max. fitting torque (with threaded inserts) | G1/4" = 20 Nm, G3/8" = 25 Nm |
| Nominal flow at 6 bar with Δp=1 | 2200 Nl/min. |

**Technical characteristics**

- Exhaust nominal flowrate at 6 bar with Δp=1 | 1400 Nl/min |

**Ordering code**

172VE

**VERSION**

- N = Metal inserts
- T = Technopolymer thread

**CONNECTIONS**

- A = G1/4" (code for insert version)
- B = G3/8"

<table>
<thead>
<tr>
<th>Size and Voltage Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 mm COIL VOLTAGE</td>
</tr>
<tr>
<td>A4 = 12 V DC</td>
</tr>
<tr>
<td>A5 = 24 V DC</td>
</tr>
<tr>
<td>A6 = 24 V AC (50-60 Hz)</td>
</tr>
<tr>
<td>A7 = 110 V AC (50-60 Hz)</td>
</tr>
<tr>
<td>A8 = 220 V AC (50-60 Hz)</td>
</tr>
<tr>
<td>A9 = 24 V DC (1 Watt)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>22 mm COIL VOLTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>B2 = Without coil</td>
</tr>
<tr>
<td>B4 = 12 V DC</td>
</tr>
<tr>
<td>B5 = 24 V DC</td>
</tr>
<tr>
<td>B6 = 24 V AC (50-60 Hz)</td>
</tr>
<tr>
<td>B7 = 110 V AC (50-60 Hz)</td>
</tr>
<tr>
<td>B8 = 220 V AC (50-60 Hz)</td>
</tr>
<tr>
<td>B9 = 24 V DC (2 Watt)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>30 mm COIL VOLTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>C2 = Without coil</td>
</tr>
<tr>
<td>C4 = 12 V DC</td>
</tr>
<tr>
<td>C5 = 24 V DC</td>
</tr>
<tr>
<td>C6 = 24 V AC (50-60 Hz)</td>
</tr>
<tr>
<td>C7 = 110 V AC (50-60 Hz)</td>
</tr>
<tr>
<td>C8 = 220 V AC (50-60 Hz)</td>
</tr>
<tr>
<td>C9 = 24 V DC (2 Watt)</td>
</tr>
</tbody>
</table>
**Operational characteristics**

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

<table>
<thead>
<tr>
<th>Connections</th>
<th>G 1/4&quot; - G 3/8&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. inlet pressure</td>
<td>13 bar - 1.3 Mpa</td>
</tr>
<tr>
<td>Working temperature</td>
<td>-5°C to +50°C</td>
</tr>
<tr>
<td>Weight with Technopolymer threads</td>
<td>gr. 140</td>
</tr>
<tr>
<td>Weight with threaded inserts</td>
<td>gr. 150</td>
</tr>
<tr>
<td>Max. fitting torque (with Technopolymer threads)</td>
<td>G 3/8&quot; = 16 Nm</td>
</tr>
<tr>
<td>Max. fitting torque (with threaded inserts)</td>
<td>G 1/4&quot; = 20 Nm</td>
</tr>
<tr>
<td>Assembly positions</td>
<td>Indifferent</td>
</tr>
<tr>
<td>Min. pressure working</td>
<td>2.5 bar - 0.25 Mpa</td>
</tr>
</tbody>
</table>

**Technical characteristics**

<table>
<thead>
<tr>
<th>Ordering code</th>
<th>172 @AP</th>
</tr>
</thead>
</table>

**Ordering code**

- **1** = VERSION
  - N = Metal inserts
  - T = Technopolymer thread
- **A** = G 1/4" (only for input versions)
- **B** = G 3/8"