# FILTER REGULATOR

Dear Customer,

Thank you for your confidence in our product.
In the following pages you will find the technical data required for the trouble-free installation and maintenance of these pneumatic components. Please read the instructions fully to ensure that the product will give you long, trouble-free service.

**Warning:** Servicing and repair work must only be carried out by a qualified technician.

## 1. TECHNICAL DATA—For Standard Unit

| *Characteristics* | | | Pressures quoted as gauge pressure | |
|---|---|---|---|---|
| Port size | | | G3/8 | G1/2 |
| Pore size of filter element | | µm | 30 (white)<br>5 (yellow) | |
| max. condensate capacity | | $cm^3$ | 57 | |
| Condensate drainage | | | Standard: manual<br>Semiautomatic (with pressure relief)<br>Fully automatic (level dependent) | |
| Installation | | | Vertical | |
| Medium and ambient temperature range | $\vartheta_{min}$<br>$\vartheta_{max}$ | °C<br>°C | 0<br>+50 at 10 bar | (other temperatures on request) |
| Weight (mass) | | kg | 0,75 | |
| *Pneumatic Characteristics* | | | | |
| Operating pressure range inlet | $p_{1min}$<br>$p_{1max}$ | bar | 0<br>16 | |
| Operating pressure range outlet | $p_{2min}$<br>$p_{2max}$ | bar | 0,5 on request 0,5 0,5<br>**8** 4 10 | |
| Min. pressure difference | $p_1$-$p_2$ | bar | 0,2 | |
| Hysteresis $p_1$=10/$p_2$=0<br>Hysteresis $p_1$=10/$p_2$=8 | | bar | 0,9<br>0,7 | |
| Recommended flow rate ① | $Q_n$ | l/min<br>$m^3/h$ | **850**<br>**51** | **1900**<br>**114** |
| Maximum flow rate ② | $Q_{max}$ | l/min<br>$m^3/h$ | 3000<br>180 | 3300<br>198 |
| Filtration efficiency at recommended flow rate | η | % | 95 | |

① at $p_2$=6 bar and 25 m/s

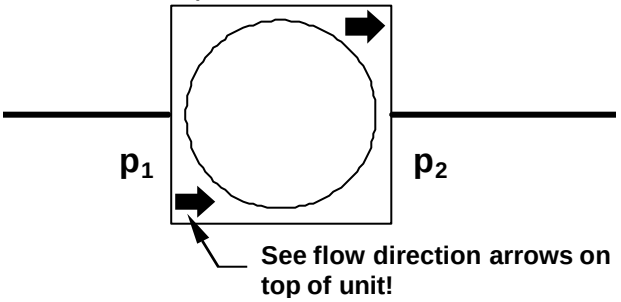
② at $p_1$=10 bar on $p_2$=6,3 bar, Δp=1 bar

## 2. INSTALLATION INSTRUCTIONS

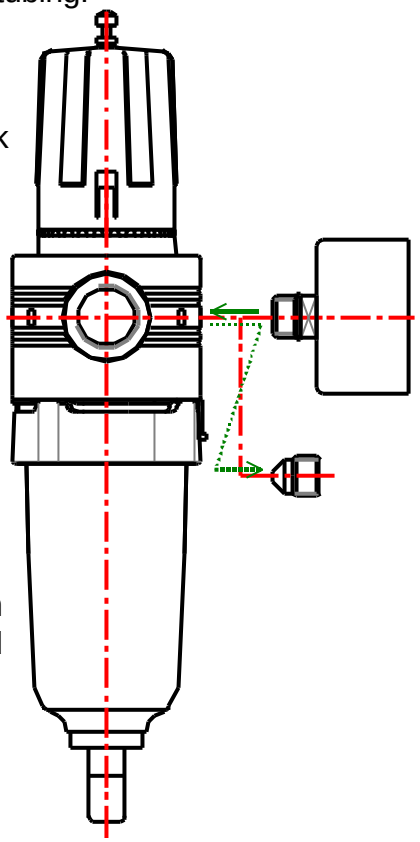
**Warning:** The unit must only be used in industrial applications for compressed air.
To avoid danger of injuries, the compressed air system must be fully depressurized while pneumatic components are being installed.

**Note**: The bowl must not come into contact with the following materials (whether in liquid or gaseous form):
acetone, benzene, brake fluid, chloroform, acetic acid, glycerine, methanol, carbon bisulphide, tri-, tetra- and per-compounds, toluene, xylene (cellulose thinners) and high flash-point synthetic oils (e.g. phosphoric ester base, etc.). If in doubt, please consult your sales contact.

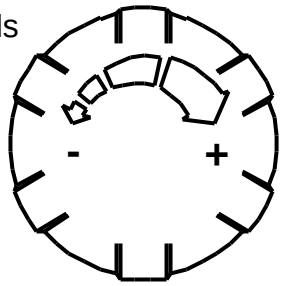
1. Clean any rust particles or other dirt out of the tubing.
2. Fit a mounting bracket, if applicable.
3. Fit a pressure gauge, if applicable.
4. Connect the tubing to the filter regulator (check flow direction!).




5. Pull the handwheel upwards and turn it anti-clockwise (see arrow on handwheel).
6. Turn on the compressed air supply and turn the handwheel clockwise until the desired pressure is obtained.
   Lock the handwheel.



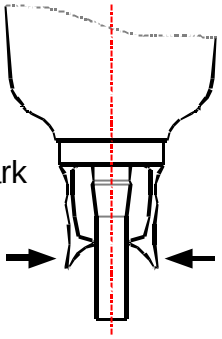
## 3. PRESSURE SETTING




1. To set the desired pressure, pull the handwheel upwards and turn it anticlockwise until the pressure is below the new desired pressure.
2. Turn the handwheel clockwise until the new desired pressure is obtained. Lock the handwheel.

## 4. MAINTENANCE

### 4.1. Manual Drainage



To drain condensate from the bowl, press the plastic tabs together as shown ⇒ this opens the valve.
The condensate level should never be above the “Maximum” mark on the bowl.

### 4.2. Cleaning

As soon as serious pressure drop is observed, clean the filter element and bowl.
Clean the filter element with petrol, paraffin or similar and blow it out from inside to outside. The element must be completely dry before reassembly.
The bowl and other plastic parts should only be cleaned with warm water and normal washing-up liquid.

## 5. DISMANTLING

**Warning:** To avoid danger of injuries, the unit must only be dismantled with the pneumatic system completely depressurized!

### 5.1. Dismantling the Upper Part

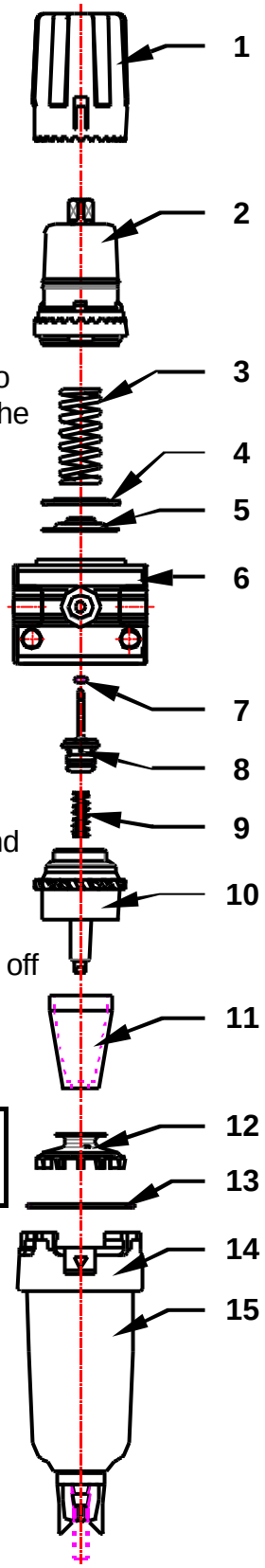
1. Pull handwheel ① upwards and turn it anticlockwise to the stop. Then pull handwheel up and off (bending the retaining claws away carefully).
2. Screw off upper part ②.
3. Remove regulating spring ③.
4. Remove white spacer disc ④ and diaphragm assembly ⑤ from housing ⑥.

### 5.2. Dismantling the Lower Part

1. Preferably remove the filter regulator from the air line.
2. Press on lower part of unlocking tab of holding ring and turn bayonet ring ⑭ to the left.
3. Remove bowl ⑮ and bayonet ring.
4. Unlock deflector disc ⑫ by turning it to the left and pull it off the spigot.
5. Pull conical filter element ⑪ from its seat.
6. Screw deflector ring ⑩ out of housing.

**Caution:** The spring ⑨ falls out of the housing with the deflector ring.

7. Remove O-ring ∅48 × 2 ⑬ from housing ⑥.
8. Pull valve piston ⑧ out of housing ⑥.
9. Remove O-ring ∅3 x 2⑦ from housing ⑥.



## 6. REASSEMBLY

Reassembly of the unit is carried out in reverse order to dismantling: lower part first, upper part last.

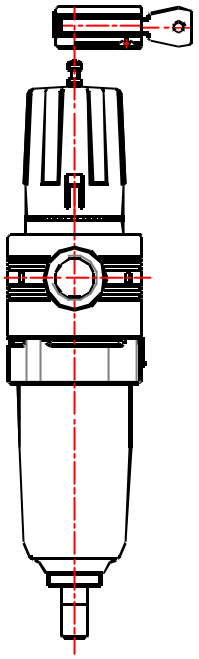
**Note:** If new seals are fitted, grease them thoroughly before fitting.

### Reassembling the Lower Part

1. Place O-ring ∅3 x 2⑦ in housing ⑥.
2. Place O-Ring ∅48 × 2 ⑬ in housing ⑥.
3. Push valve piston ⑧ into housing ⑥.
4. Place spring ⑨ in the centring of the deflector ring ⑩.
5. Screw deflector ring ⑩ into housing (centring spring in seat in deflector ring).
6. Push conical filter element ⑪ into its seat.
7. Push deflector disk ⑫ on to spigot and lock it by turning it to the right.
8. Fit bowl ⑮ with bayonet ring.

### Reassembling the Upper Part:

1. Screw upper part 1—2 turns into housing.
2. Unlock handwheel, hold upper part with one hand and turn handwheel 3—4 turns to the right ⇒ this centres diaphragm to valve piston.
3. Turn handwheel to the left again and lock it.
4. Screw upper part tight up to its stop.



## 7. FITTING THE LOCK

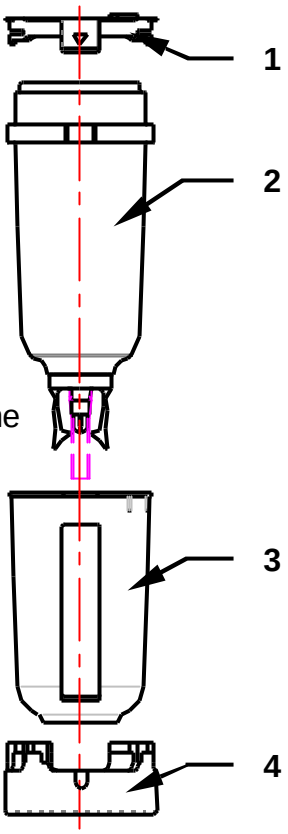
Note: The lock can only be used on regulators fitted with the projecting locking post to take it.

1. Position the key obliquely to the hole and place the lock on the post.
2. Turn the key clockwise and remove it.

## 8. FITTING THE BOWL GUARD

The bowl guard set consists of:

- locking ring
- bowl guard and
- bayonet ring




Fitting:

First remove the bowl, then proceed as follows:

1. Take the locking ring ① out of the bayonet ring ④ (using some force if necessary).
2. Pull the bayonet ring ④ off the bowl ②.
3. Fit the bayonet ring ④ and the bowl guard ③ (from the kit) together.
4. Insert the bowl ② into the bayonet ring ④.
5. Insert the locking ring ① into the bayonet ring ④.

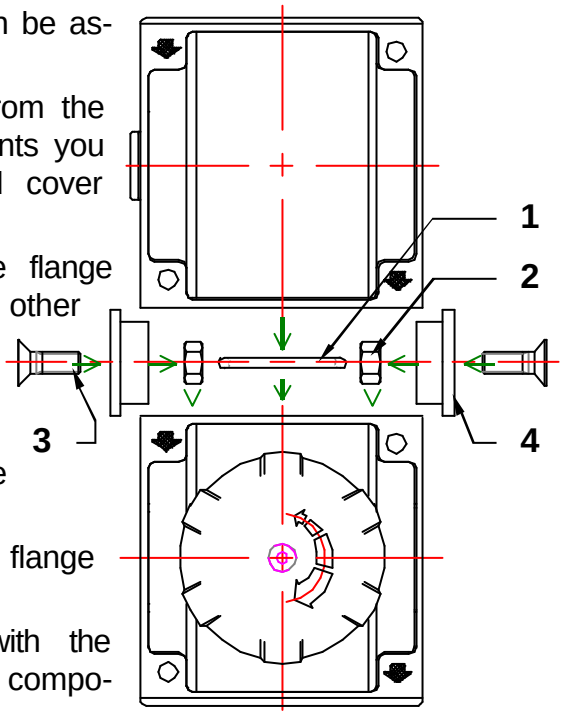
**Note:** ! The unlocking latch (arrow) must line up with the recess in the bayonet ring.

## 9. DISPOSAL

The method of disposal of packaging and discarded parts must comply with local regulations.

## 10. ASSEMBLY OF SEVERAL COMPONENTS

Only components of the same size can be assembled into combined units.




1. Remove the black cover plates from the inlets and outlets of the components you wish to assemble. The coloured cover plates remain in place.
2. Turn the component so that the flange surface which is to be joined to the other component is on top.
3. Lay the O-ring ① from the coupling kit on the flange surface.
4. Place the hexagon nuts ② in the recesses on the component.
5. Place the other component on the flange surface.
6. Place the clamping cones ④ with the screws ③ in the recesses on the components.

7. Tighten the clamping screws.

## 11. FITTING THE MOUNTING BRACKET

1. Remove the prestamped parts which cover the through-holes on both sides of the unit.
2. Fit the mounting bracket and secure it with the screws provided. Tighten them with a screwdriver.

Note: The mounting bracket can be fitted with the mounting strap either upwards or downwards.