

1. Design and principle of operation

The pressure regulator supplies pneumatic measuring and control equipment with constant auxiliary air.

This reduces the available compressed air pressure in the equipment max. 12 bar to a adjustable minimum pressure between 0 to 1.6 bar or 0.5 to 6 bar.

In pressure reducing stations, the pressure regulator is equipped with an upstream filter and a downstream manometer.

Pressure regulators designed as build-on blocks can be directly attached to positioners. In addition, the pressure regulator can be combined with a manual/automatic selector switch which blocks the positioner output signal.

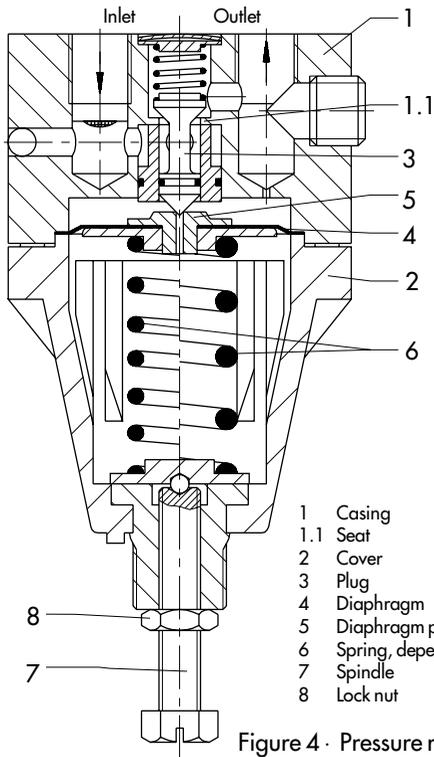


Figure 4 · Pressure regulator

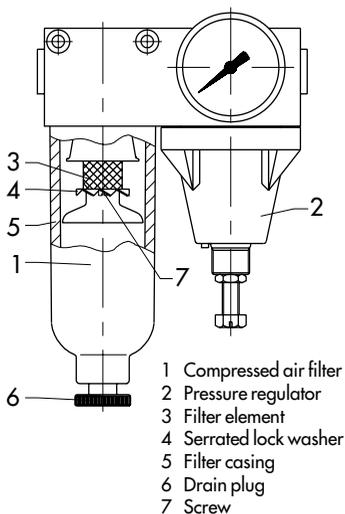


Figure 5 · Pressure reducing station

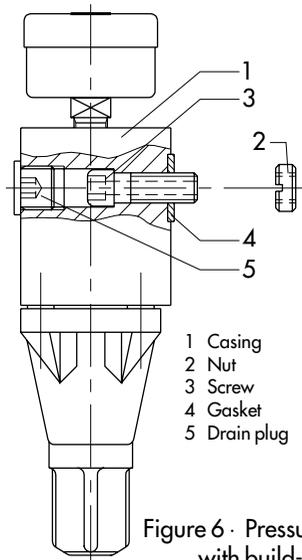


Figure 6 · Pressure regulator with build-on block

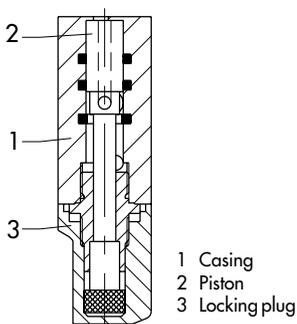


Figure 7 · Manual/Auto selector switch

Pressure regulator (Fig. 4)

The air pressure available at the regulator input flows across the free area between the seat (1.1) and the plug (3), and leaves the outlet at a reduced pressure.

The output pressure is transmitted to the diaphragm (4) via a hole and produces an actuating force that is balanced by the power of the spring (6).

If the spring is compressed by turning the spindle (7), the diaphragm plate with diaphragm and plug moves upward. As a result, the free area between the seat and the plug becomes larger causing the output pressure to increase.

If the output pressure becomes too high, or the set point is reduced by relieving the spring tension, the diaphragm plate is lifted from the plug. The excess pressure is reduced to the outside via the hole in the diaphragm plate until a new state of equilibrium is achieved.

The pressure regulator set point ranges of 0 to 1.6 bar and 0.5 to 6 bar are determined depending on the installed spring strength.

Pressure reducing station (Fig. 5)

The supplied compressed air flows through a compressed air filter with a mesh size of 20 µm. If the air contains condensate, this condensate flows off over the serrated lock washer (4) and splashes centrifugally against the filter walls. The collected condensate can then be drained via the drain plug (6).

Pressure regulator with build-on block (Fig. 6)

The build-on block allows a simple mechanical and pneumatic connection between the pressure regulator and the various positioners.

For this purpose, special nuts (2) are screwed into the associated tapped holes of the instruments intended for attachment to the regulator. The build-on block is then tightly secured to the instrument using the hollow bored M8 special screws (3). The screws serve as air ducts.

A gasket (4) on the casing seals the connec-

tion and the air duct is sealed by means of a drain plug (5).

Manual/ auto selector switch (Fig. 7)

With Type 4763/ 4765 or 3766/ 3767 Positioners the switch makes it possible to block off the positioner outlet and to manually actuate the control valve via the pressure regulator.

Automatic operation: In normal position, when the slide valve piston (2) is pushed in and the locking plug (3) is screwed on, the signal pressure is connected to the actuator via the selector switch.

Manual operation: In the "manual" position, the piston (2) can be pulled out after the locking plug has been unscrewed. Thus, the actuator signal pressure line is blocked and the pressure regulator output is directly connected to the actuator.

The valve can be adjusted by manually turning the regulator adjuster.

2. Installation

The pressure regulator can be mounted in any position. It can be mounted to pipes or, with mounting brackets, to panels, walls or valves.

As pressure reducing station, the filter casing with drain plug must be vertically installed.

The pressure reducing station should be mounted as close to the compressor or compressed air reservoir as possible, in order to avoid excessive trapping of water in long air lines.

The air connections are given in G or NPT thread sizes (refer to dimensions, chapter 5).

Attention must be paid to the direction of flow at all times. The direction of flow or inlet and outlet are indicated by arrows on the casing.

Assembly of the pressure regulator with build-on block and positioner using special nuts and banjo bolts is illustrated in figure 6. The configuration is given in the respective dimensional drawings in chapter 5.

3. Operation

3.1 Set point adjustment

The desired output pressure is adjusted on the spindle (7) depending on the set point. Right turn increases the output pressure and left turn decreases the output pressure.

Secure the adjustment with the lock nut (8).

3.1.1 Manual control valve adjustment

Only with the manual/auto selector switch model.

Unscrew the drain plug (3) and remove the piston (2) - the signal pressure to the actuator is now blocked.

Bring the connected valve into the desired position using the pressure regulator spindle.

For automatic operation, push the piston back and screw on the cap.

4. Maintenance

It is recommended that the pressure reduction station (figure 5) filter be checked as often as possible. Let any fluid that may have collected flow out using the drain plug (6).

When trouble shooting, unscrew the filter casing and take out the filter insert after unscrewing the fastening screw (7).

Replace the filter insert after thorough cleaning in petrol and drying out.

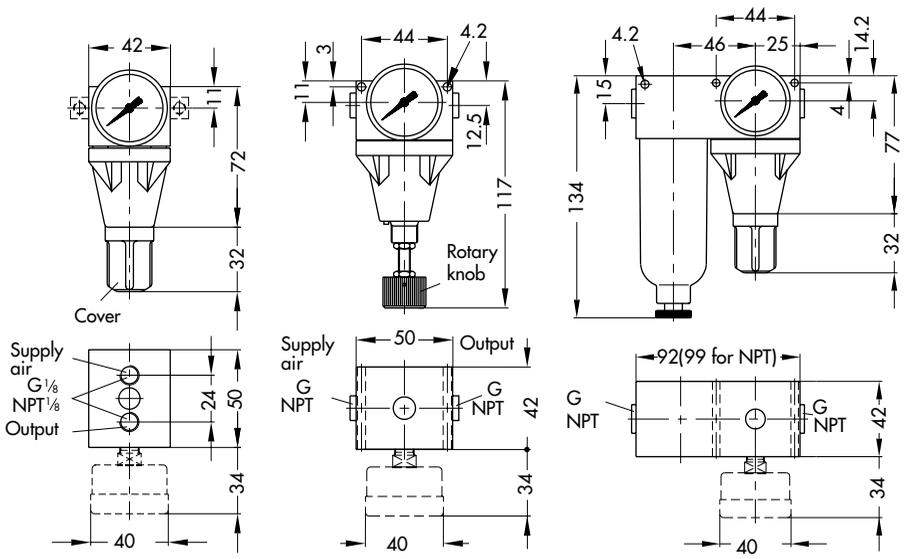
If necessary, replace the filter insert 20 µm, order number 8504-9027.

Models with build-on blocks have a filter situated in the casing inlet underneath a drain plug.

When trouble shooting, disassemble and clean the filter, and replace when necessary.

Order number 0559-0002 for 20 µm filter.

5. Dimensions in mm

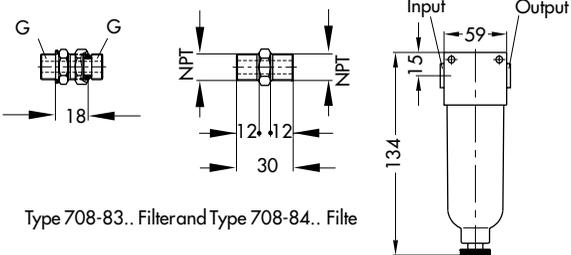


Type 708-00.. Pressure Regulator for pipe mounting and Type 708-5003 for Type 3430 Controller Station

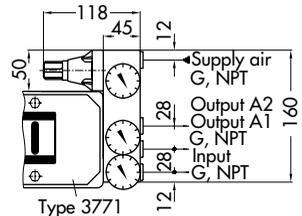
Type 708-10.. Pressure Regulator for wall mounting

Type 708-11.../12.. Pressure Regulator for pipe or wall mounting

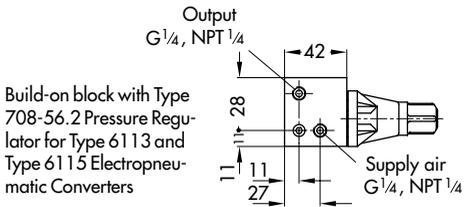
Double nipple for attachment of a pressure regulator, a pressure reducing station or a filter to the connection block of Type 3766 Pneumatic and Type 3767 Electropneumatic Positioners



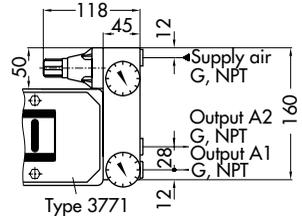
Type 708-83.. Filter and Type 708-84.. Filter



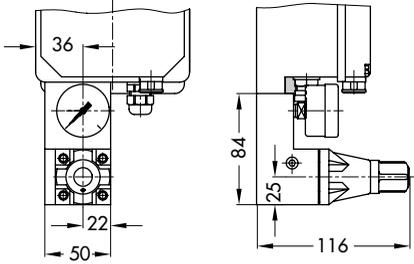
Build-on block with Type 708-51.2 Pressure Regulator for Type 3772 Positioner

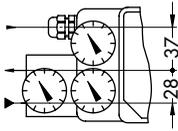


Build-on block with Type 708-56.2 Pressure Regulator for Type 6113 and Type 6115 Electropneumatic Converters

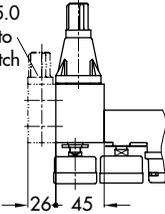


Build-on block with Type 708-52.2 Pressure Regulator for Type 3772 Positioner

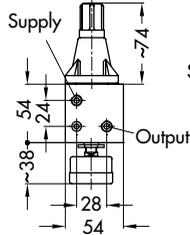




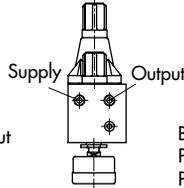
Type 708-85.0
Manual/Auto
Selector Switch



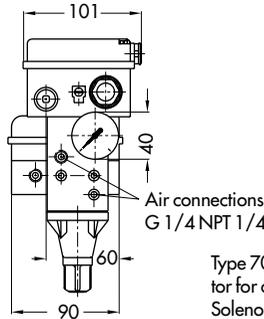
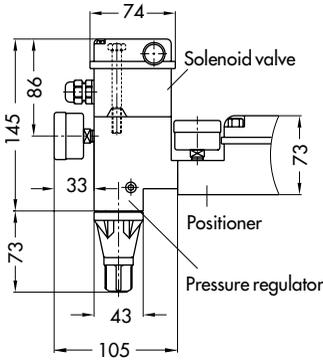
Without
Manual/Auto Selector Switch



With

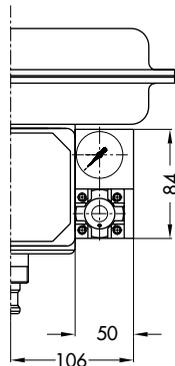
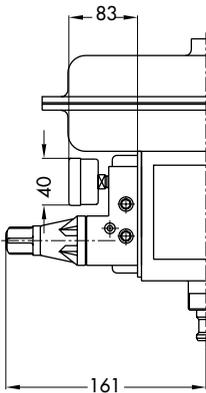


Build-on block with Type 708-55.2
Pressure Regulator for Type 4765
Pneumatic/4763 Electropneumatic
Positioner (optionally with Type 708-
85.0 Manual/Auto Selector Switch



Air connections
G 1/4 NPT 1/4

Type 708-5422 Pressure Regul -
ator for connecting a Type 3701
Solenoid valve or Type 4763 o
4765 Positione



Type 708-57... Pressure Regulator,
attached to Type 3760 Positioner



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