

**Pressure reducing valve****Type****481 SP/481 HP/481 LP****482 SP/482 HP/482 LP****681 SP/681 HP/681 LP****682 SP/682 HP/682 LP**Geprüft nach  
DIN EN 1567**1****General Notes of Safety**

1. Only use the pressure reducer:
  - for the specified purpose
  - in satisfactory condition
  - with respect for safety and potential hazards.
2. Always observe the installation instructions.
3. To ensure correct use always make sure to only install the pressure reducer in places where the operating pressure and temperature do not exceed the design criteria on which the order is based. The manufacturer shall not be responsible for damage caused by outside forces or other external influences! Hazards at the pressure reducer caused by the flow medium and operating pressure are to be avoided through appropriate measures.
4. All assembly work is to be carried out by authorized specialist staff.

Pressure reducer fig. 681/481

R	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
Installed length L	135	160	180	195	225	255
Weight in kg	1.2	1.3	2.4	2.6	5.5	6.0
Field of use	Water, neutral and non-adhesive liquids, compressed air, neutral and non-combustible gasses					
Primary pressure	up to 25 bar (HP up to 30 bar)					
Secondary pressure	SP: 1 - 8 bar (DVGW 1 - 6 bar) HP: 5 - 15 bar LP: 0.5 - 2 bar					
Materials	Red brass/brass or stainless steel/stainless steel					
Temperature range	up to 95 °C (DVGW up to 80 °C)					

Pressure reducer fig. 682/482

DN	20	25	32	40	50	65	80
Installed length L	150	160	180	200	230	290	310
Weight in kg	4.2	4.7	5.9	8.6	10.5	20	22
Field of use	Water, neutral and non-adhesive liquids, compressed air, neutral and non-combustible gasses						
Primary pressure	up to 16 bar (PN 16); up to 25 bar (HP up to 30 bar) (PN 40)						
Secondary pressure	SP: 1 - 8 bar (DVGW 1 - 6 bar) HP: 5 - 15 bar LP: 0.5 - 2 bar						
Materials	Red brass/brass or stainless steel/stainless steel						
Temperature range	up to 95 °C (DVGW up to 80 °C)						

The pressure reducer is set at the factory to a secondary pressure of 3 bar (in standard version) and is to be installed in the pipe without applying stress.

After the reducer we recommend to consider a slow downsection of  $5 \times D$ .

The flow direction must coincide with the arrow on the housing. The valve can be installed in any mounting position. The pipe must be thoroughly flushed prior to installation of the pressure reducer to prevent impurities picked up by the medium having an impact on the satisfactory operation.

The pressure gauges are screwed into the sockets using hemp or gasket strip and indicate the prevailing secondary pressure (Fig. 681/481/682/482) or the prevailing primary and secondary pressure (Fig. 682/482 DN 65 and DN 80).

The desired secondary pressure is set by turning the adjusting spindle at idle pressure (zero consumption).

Turning the adjusting spindle in clockwise direction increases the secondary pressure and turning the spindle in counter-clockwise direction reduces the secondary pressure. During this adjustment always observe that, based on pressure and friction losses, the end pressure adjusted at zero consumption is reduced further when drawing water, in dependence of the quantity drawn off. The set desired value can be checked at the pressure gauge arranged on the secondary pressure side.

#### **Caution!!!**

Before commissioning the pressure reducer, it should be ensured that both pressure gauge connections on the housing are sealed with pressure gauges or sealing plugs.

The device should be checked at intervals which correspond to the respective operating conditions in order to eliminate any faulty operation which may be caused by impurities, scaling and natural wear.

After long periods of non-use the function of the valve must be tested.

The operating or installation company must carry out an annual inspection according to DIN 1988-8.

#### **Caution!!!**

When carrying out assembly work on the pressure reducer the corresponding system part must always be relieved of pressure and emptied, depending on the medium used.

At high temperatures you must always wait for the temperature to cool down to ambient temperature.

**Fig. 681 SP/481 SP/682 SP/482 SP  
681 HP/481 HP/682 HP/482 HP:**

1. Remove plastic protective cap; loosen counter-nut
2. Tension spring by turning the setting spindle counter-clockwise
3. Unscrew spring housing or remove screws
4. Remove spring housing, spring plate, setting spindle, copper ring and spring.
5. By means of 2 screwdrivers lever-out the complete valve insert ( dia. 1 ) and replace with a new one. In the case of DN65 and DN80 re-fit two screws on opposite sides of the body, as these are required as supports for the screwdrivers ( dia. 2)
6. Installation is carried-out in reverse order. In the case of DN65 /DN80 tighten the screws to a maximum equal torque of 18 Nm, this must not to be exceeded !

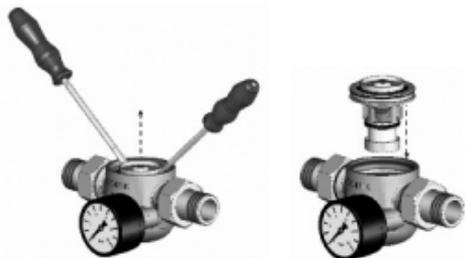


Fig. 1: Removal and installation of control unit 681/481

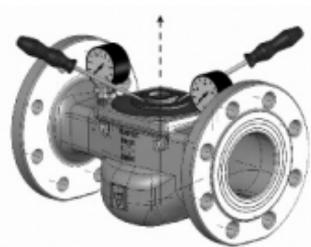


Fig. 2: Removal of control unit 682/482 DN65-DN80

**Fig. 681 LP/481 LP/682 LP/482 LP:**

1. Remove plastic cap, release lock nut (do not unscrew!)
2. De-tension the spring by turning the setting spindle clockwise.
3. Release and unscrew bonnet with open end spanner
4. Remove spring and slide ring
5. Release and unscrew hexagon nuts with open end spanner and screwdriver (Fig. 3)
6. Remove spring seat
7. Loosen membranes on the outer diameter along entire length with a screwdriver and unscrew (Fig. 4)
8. Loosen and unscrew low-pressure adapter with hook spanner (optional accessory) (Fig. 5)

9. Remove O-ring seal
10. Screw the hexagon nuts back onto the threaded bolts. Position two screwdrivers (used as lever) on the housing and in the groove of the hexagon nut, and pull out the valve insert (Fig. 6)
11. To assemble, repeat the sequence in reverse order (see Fig. 7).



Fig. 3



Fig. 4



Fig. 5



Fig. 6



Fig. 7

## 6

### Cleaning the Dirt Trap

Release lock nut on adjusting spindle. Relieve spring of pressure by turning the spindle in counter-clockwise direction. After unscrewing the upper part and removing the spring, pull control unit out of the housing (refer to point 5, Fig. 1 up to dia.7): The strainer can be pulled off and cleaned after removing the bottom O-ring from the valve insert. After cleaning, slide strainer over the valve insert and insert O-ring back in the provided groove. Assemble complete valve insert.

## 7

### Cause of Faults, Remedial Action

#### a) Pressure gauge indicates pressure increase

In water heating systems in compliance with DIN 1988 and DIN 4753 the non-return valve installed between pressure reducer and water heater may be leaking, which, during the heating process of the boiler, leads to the expanding water of the boiler causing a rise in secondary pressure at the pressure gauge although the pressure reducer is operating correctly.

#### Remedial action:

Replace non-return valve.

#### b) Damage to seat seal or sleeve

If the secondary pressure of the pressure reducer increases or water discharges at the upper part of the valve, this may be due to damage to the seat seal and / or sleeve.

#### Remedial action:

Restore correct operation of the valve by replacing the valve insert.

If water discharges at the spring bonnet, this may also simply be due to it not being screwed tight.

### c) Scale (furring)

Pressure reducers are always to be installed in the cold water supply of the system. The distance to the non-return valve must be such that no hot water can be applied to the pressure reducer, even in the event of the fitting leaking. If you do not observe this rule during the installation there is a risk of the pressure reducer liming up.

#### Remedial action:

Correct the installation arrangement. If this is not possible you must replace the complete valve insert from time to time.

## 8 Declaration of Conformity

according to Annex VII of the Directive 97/23/EC

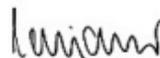
We, **Goetze KG Armaturen, D-71636 Ludwigsburg**  
declare under sole responsibility that the delivered product:

Pressure-keeping equipment	Type	Nominal width
Pressure reducing valve	681/481/SP/HP/LP	DN 15 – DN 50
Pressure reducing valve	682/482/SP/HP/LP	DN 20 – DN 80

to which this declaration relates, has been manufactured in compliance with the Directive 97/23/EC and was subjected to the conformity assessment procedure:

**Modul A.**

Ludwigsburg, 06.08.2012  
(Place and name of issuer)



D. Weimann