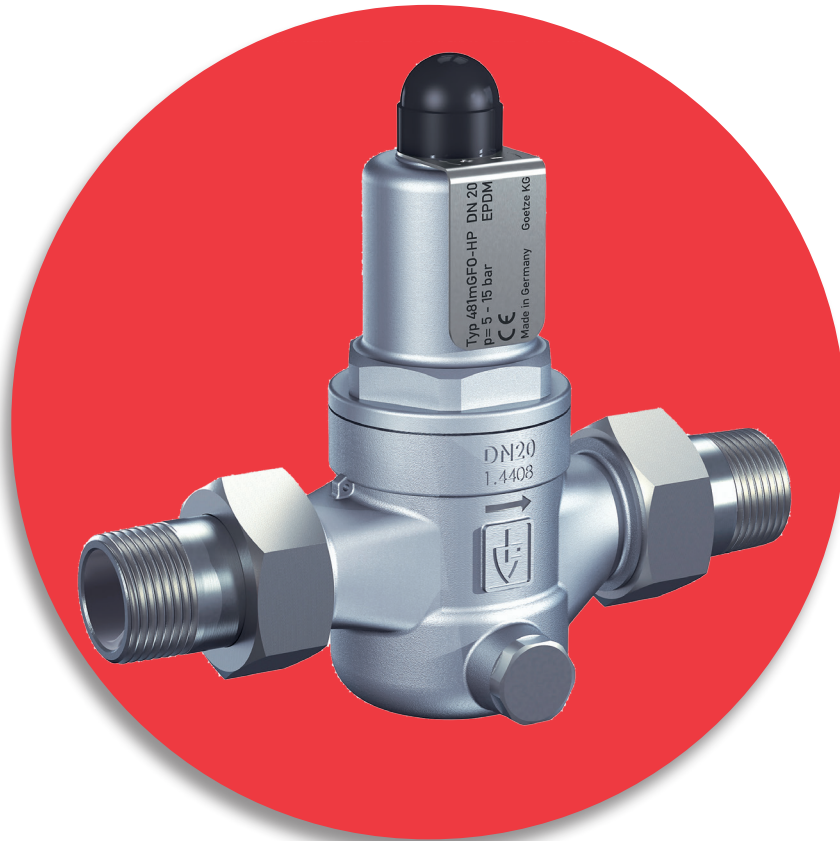




Installation & Operating Manual



ART 481 & ART 681 Pressure Reducing Valve

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1. General Notes of Safety

Only use the valve: -

- For the intended purpose
- In satisfactory conditions
- With respect for safety and potential hazards
- Always observe the installation instructions

Consideration should always be given to the following standards: -

- EN 806-2 “Specifications for installations inside buildings conveying water for human consumption”
- EN 1988-200 “Codes of practice for drinking water installations”

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.

All installation and assembly work should only be carried out by competent personnel.

2. Technical Data

Pressure Reducer ART 481 / ART 681

	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
Installed Length	135	160	180	195	225	255
Weight (Kg)	1.2	1.3	2.4	2.6	5.5	6.0
Use	Water, neutral and non-adhesive liquids, compressed air, neutral and non-combustible gasses					



Pressure (Primary)	Up to 40 bar (LP to 25 bar)
Pressure (Secondary)	SP 1-8 bar HP 5-15 bar LP 0.5-2bar
Materials	Gunmetal / Stainless Steel
Temperature Range	Up to 95°C

3. Installation & Adjustment

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 any undue stress. After the pressure reducer we recommend a downstream pipe length of 5 x DN. 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 suitable sealing materials and indicate the prevailing secondary pressure (Fig. 681/481) or the prevailing primary and secondary pressure. 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 frictional losses, the end pressure adjusted at zero consumption is reduced further when drawing water, regardless of the quantity drawn off. The set desired value can be checked at the pressure gauge on the secondary pressure side.

****Caution****

Before commissioning the pressure reducer please ensure that both pressure gauge connections on the housing are sealed with pressure gauges or sealing plugs.

4. Maintenance

According to EN 806-5, an annual inspection and service at least must be performed, in order to correct possible malfunctions that which can arise due to dirt, corrosion, calcification and natural wear. This interval may be shortened, depending on the operating conditions.

During this service, the sieve must be cleaned, the condition of the valve insert must be checked and if necessary, it must be replaced. After long periods of inactivity, the function of the valve must be tested.

5. Replacing the Valve Insert

Model Variants ART 481 SP / HP & ART 681 SP / HP

- Remove plastic protective cap; loosen counter-nut
- Tension spring by turning the setting spindle counter clockwise
- Unscrew spring housing or remove screws
- Remove spring housing, spring plate, setting spindle, copper ring and spring.
- By means of 2 screwdrivers lever-out the complete valve insert (Fig a) and replace with a new one. In the case of DN65, DN80, DN100 re-fit two screws on opposite sides of the body, as these are required as supports for the screwdrivers (Fig b)
- Installation is carried-out in reverse order. For nominal width DN65, DN80, DN100, tighten screws equally, the maximum tightening torque may not be exceeded! For DN65 and DN80, the maximum torque is 20Nm, for DN100 the maximum torque is 30Nm.

Model Variants ART 481 LP & ART 681 LP

- Remove plastic cap, release lock nut (do not unscrew!)
- De-tension the spring by turning the setting spindle clockwise.
- Release and unscrew bonnet with open end spanner
- Remove spring and slide ring
- Release and unscrew hexagon nuts with open end spanner and screwdriver (Fig c)
- Remove spring seat
- Loosen membranes on the outer fig meter along entire length with a screwdriver and unscrew (Fig d)
- Loosen and unscrew low-pressure adapter with hook spanner (optional accessory) (Fig e)
- Remove O-ring seal
- 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 f)
- To assemble, repeat the sequence in reverse order (Fig g)

6. Cleaning & Maintenance

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. a up to fig. g): 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. Faults and Corrective Actions

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

Damage to the seat gasket or membranes

If the back pressure of the pressure reducer increases or if water escapes at the top of the valve, this may be caused by damage to the seat gasket and / or membranes.

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.

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 building up with scale.

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 / Product Approvals

Albion Valves (UK) Ltd declare that the ART 481 / ART 681 has been approved to the following standards: -

- Pressure Equipment Directive – PED 2014/68/EU
- WRAS approved for use on potable water

Fig a



Fig b

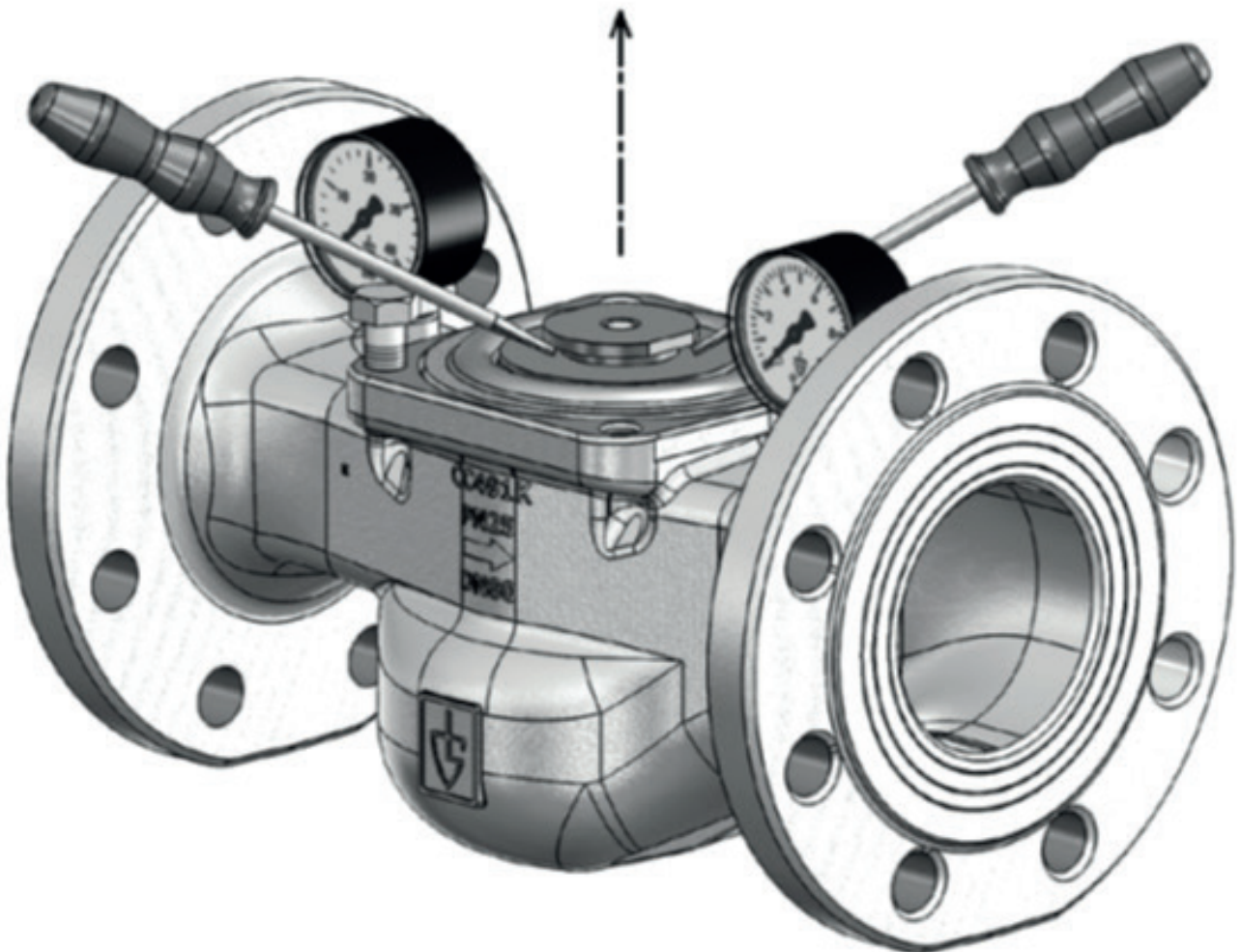


Fig c

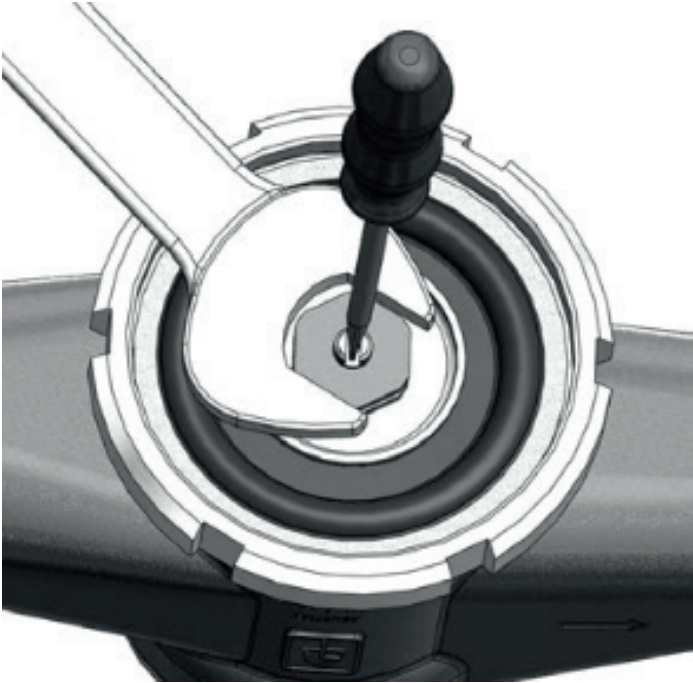


Fig d



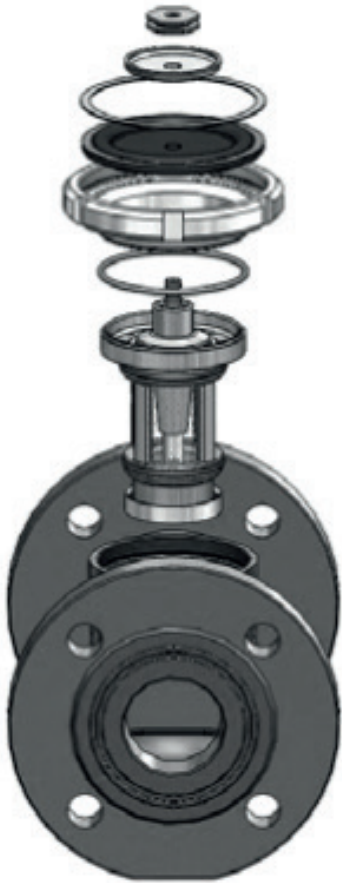
Fig e



Fig f



Fig g





About Albion Valves (UK) Ltd

Albion has been supplying valves and fittings to the building services and industrial markets for the past 40 years.

Albion was created with the sole purpose of providing quality products at an affordable price. With a growing reputation for quality and reliability, Albion is now an established brand providing the industry with a trusted alternative to premium-priced products.

Our commitment to setting the highest standards in all areas of our business means, if you're looking for quality, service, delivery and choice — you'll find it's all at Albion.

Quality

Whatever you need, you can rest assured that if it comes from Albion it has been designed and manufactured to deliver optimum performance and is accredited with the necessary approvals. Our in-house quality department are always on hand too!

Service

We pride ourselves on our customer service – we have even won awards for it! Our cradle to grave approach means you will never be on your own!

Delivery

We know that time is money, and when a priority project depends on a part you can trust Albion to deliver – next day for all orders placed before 4:00PM.

Choice

We may have started out with a single brass ball valve, but our range has grown substantially since and we now consider ourselves to be a 'One Stop Shop' with our comprehensive range. It is becoming more and more apparent to the industry, that it really is all at Albion.

AVION

