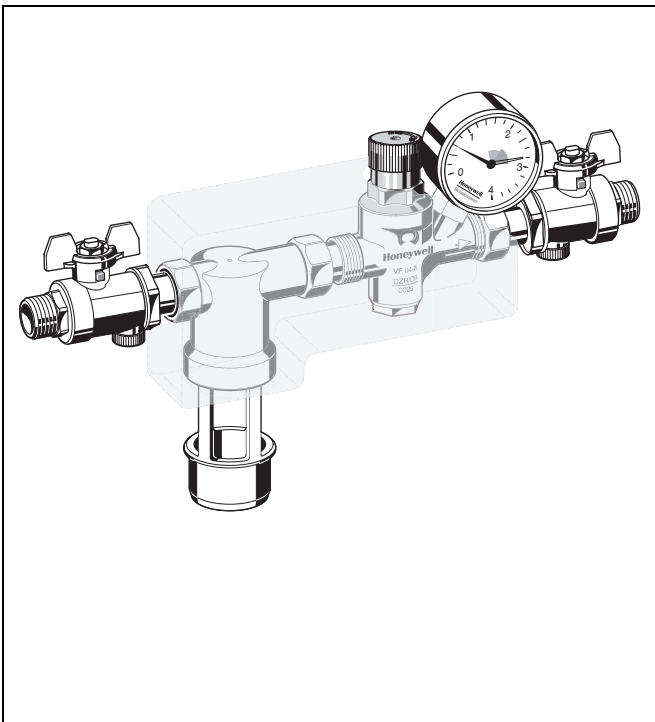


NK295S

Refilling combination Compact construction

Product specification sheet



Construction

The refilling combination consists of:

- Ball valve, up- and downstream
- Complete backflow preventer with discharge connection, valve cartridge (incl. integrated check valve and discharge valve, upstream), integrated strainer upstream (mesh size approx. 0,5 mm) and check valve downstream
- Complete pressure reducing valve with valve insert (incl. diaphragm and valve seat), spring hood (incl. adjustment screw), adjustment spring and pressure gauge

Materials

- Dezincification resistant brass housing
- Discharge connection, valve cartridge, valve insert and spring hood in high-grade synthetic material
- High-quality synthetic material check valves
- Fibre-reinforced NBR diaphragm
- Spring steel adjustment spring
- Seals in NBR and EPDM
- Insulation jacket in EPP

Application

The refilling combination serves automatic filling and refilling from closed heating systems to DIN EN 12828:2003.

The refilling combination can be connected in accordance to DIN EN 1717 constantly with the drinking water supply.

The refilling combination combines a CA type backflow preventer, pressure reducing valve and two ball valves in one appliance.

The refilling combination contains all devices for refilling a heating installation, according to conforming standards.

Special Features

- Compact construction
- Permanent connection with the drinking water supply in accordance with EN1717 by hose line or piping is possible
- Corrosion resistant by use of brass and stainless steel
- Low pressure loss and high flow rate
- Optimal protection of the drinking water supply system
- Triple security - two check valves and a discharge valve separate the backflow preventer into three pressure zones
- Field-tested reliable pressure reducing valve
- Pressure reducing valve with inlet pressure balancing - inlet pressure fluctuation does not influence the outlet pressure
- DIN/DVGW approved check valve
- Variable connection options to the heating system
- Low maintenance effort
- Meets KTW recommendations for potable water

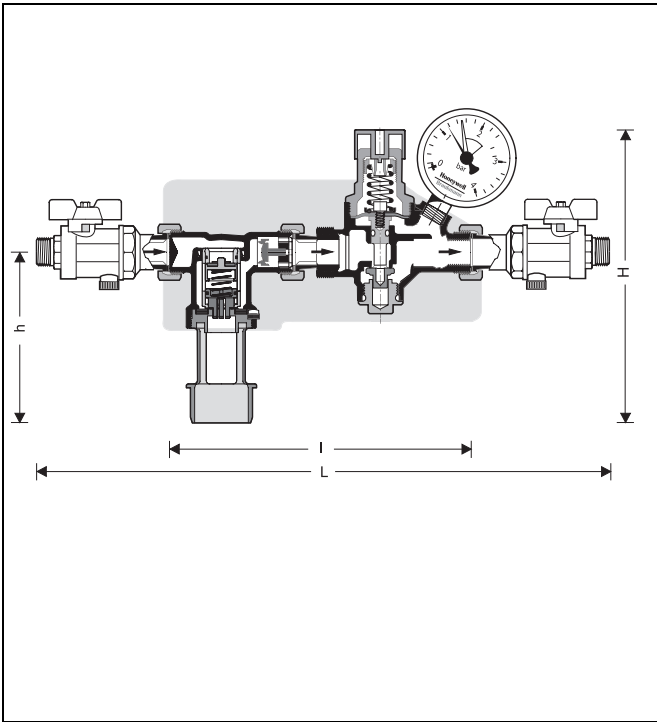
Range of Application

The refilling combination serves automatic filling and refilling from closed heating systems to DIN EN 12828:2003.

Medium	Water without inhibitors
Inlet pressure	min. 1.5 bar max. 10.0 bar
Outlet pressure	1.5-6 bar
Liquid category	3 (slightly toxic materials)
Backflow Preventer	

Technical Data

Installation position	horizontal pipework with discharge connection directed downwards
Operating temperature	max. 65 °C
Connection size	HT 40
Discharge	
Connection size	1/2" AG



Connection size	R	1/2"
Weight	kg	1.6
Dimensions	mm	
	H	188.5
	h ₁	67.5
	h ₂	121
	L	389
	l ₁	104
	l ₂	85
	l ₃	100
	l ₄	100

Method of Operation

The refilling combination serves automatic filling and refilling from closed heating systems to DIN EN 12828:2003.

The refilling combination combines backflow preventer, pressure reducing valve and ball valve in one appliance.

The backflow preventer is a safety device in accordance with EN 1717 to protect the quality of potable water against back pressure, back flow and back syphonage of non-potable water from plants and connected equipment..

The backflow preventer is separated in three chambers (inlet, middle and outlet chamber).

If no water is drawn from the downstream system, the backflow preventer is in normal position. The up- and downstream check valves and the discharge valve are closed.

If water is drawn from the downstream system, the backflow preventer is in flow position. The check valves up- and downstream are opened and the discharge valve is closed.

The backflow preventer changes to shut-off position (back pressure) if the differential pressure between middle- and inlet chamber falls under 0.14 bar. The check valves are closed and the discharge valve is opened.

There is no possibility to control the safety function by measuring.

The pressure reducing valve reduces the inlet pressure to the desired set-pressure on the outlet side.

The pressure reducing valve works according to the force comparison principle. The force of a diaphragm operates against the spring force of the regulating valve. If the outlet pressure and therefore diaphragm force fall because water is drawn, then the greater force of the spring causes the valve to open. The outlet pressure then increases until the forces between the diaphragm and the spring are equal again.

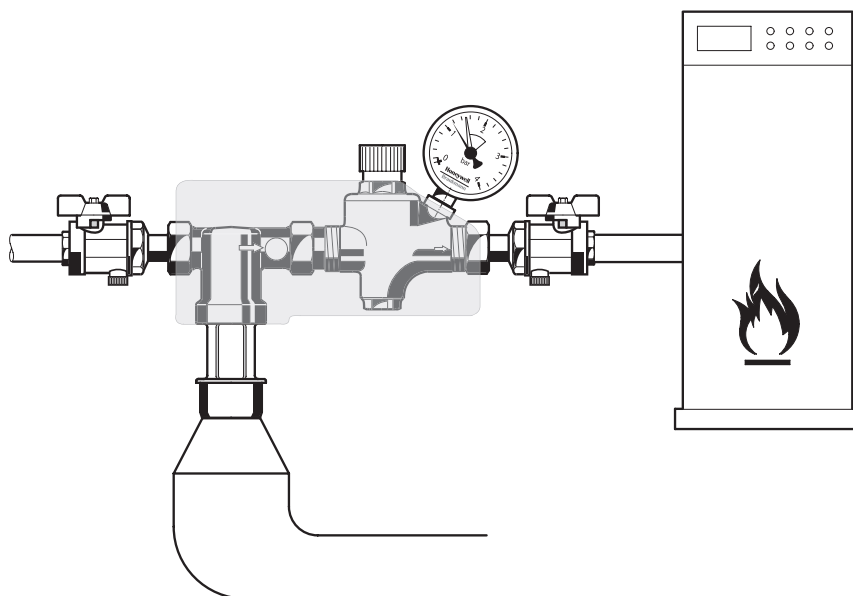
The inlet pressure has no influence in either opening or closing of the valve. Because of this, inlet pressure fluctuation does not influence the outlet pressure, thus providing inlet pressure balancing.

The refilling combination can be connected in accordance to DIN EN 1717 constantly by hose line or piping. (KTW approval for hose line necessary).

In order to prevent an uncontrolled refill of the heating system, the shut off valvemust be closed after the filling procedure..

Options

NK295S-1/2A= Standard version with threaded connection R1/2"

Installation Example**Installation Guidelines**

- The installation must take place at the deepest point of the heating system
- Install in horizontal pipework with discharge connection directed downwards
- The installation may not take place in areas or ducts where poisonous gases or vapours may be present or where flooding can occur
- The installation location must be ventilated well
- The installation location should be protected against frost and be easily accessible
 - o Simplified maintenance and cleaning
 - o Pressure gauge at the pressure reducing valve can be read off easily
- Provide a straight section of pipework of at least five times the nominal valve diameter after the pressure reducing valve (in accordance with DIN 1988, Part 5)
- The refilling combination has an integrated strainer - no separate strainer necessary
 - o Refilling combination is protected against malfunction and corrosion damage resulting from ingress of foreign bodies, e.g. welding beads, sealing materials, metal cuttings and rust

Typical Applications

The refilling combination is priority suitable for domestic drinking water supply.

The refilling combination can be used for commercial and industrial applications within the range of its specifications.

Below two typical applications:

- Automatic refilling of the heating system
- Automatic refilling of system up to liquid category 3 in accordance with DIN EN 1717

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