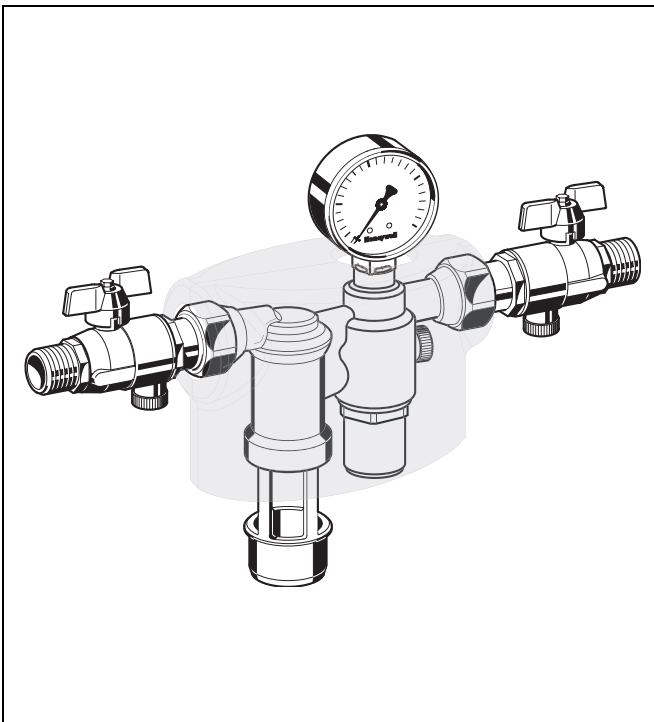


## NK295C

### Refilling combination Compact construction

#### Product specification sheet



#### Construction

The refilling combination consists of:

- Shut off 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, spring hood (including adjuster knob), setpoint spring and pressure gauge

#### Materials

- Dezincification-resistant brass housing
- Discharge connection, valve cartridge, valve insert and spring hood in high-grade synthetic material
- High-grade synthetic material check valve
- Seals in NBR
- Spring steel adjustment spring
- Isolation shell in EPP

#### Application

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

It can be connected in accordance to EN 1717 constantly with the drinking water supply.

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

All devices for refilling a heating installation according to conforming standards are contained.

#### Special Features

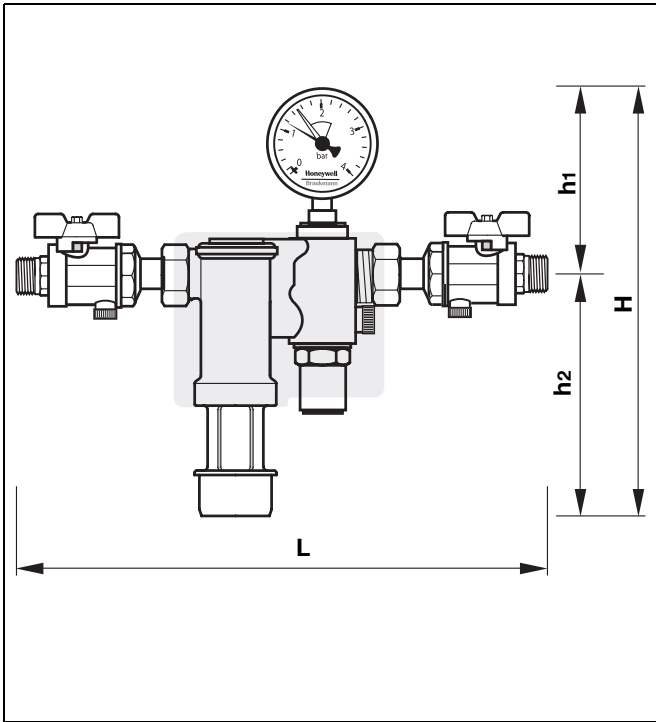
- Compact construction
- Constant connection with the drinking water supply in accordance with EN1717 by hose line or piping is possible
- Corrosion resistant by use of brass and stainless steel
- Low pressure loss and high flow rate
- Optimal protection of the drinking water supply system
- Triple security - 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
- Outlet pressure adjustable and directly at the pressure gauge readable
- DIN/DVGW approved check valve
- Variable connection options to the heating system
- Low maintenance effort
- Meets KTW recommendations for potable water

#### Range of Application

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	approx. kg	1.4
Dimensions	mm	
	H	216
	h <sub>1</sub>	87.6
	h <sub>2</sub>	128
	L	318

### Method of Operation

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

The backflow preventer is a safety device in accordance with EN 1717 to protect systems against back pressure, back flow and back syphonage of non-potable water into service pipe, plants and equipments.

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.

If the differential pressure between middle and inlet chambers is less than 10 % of the inlet pressure, the system disconnector moves into disconnect position (back suction). The inlet side backflow preventer closes and the discharge valve opens.

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

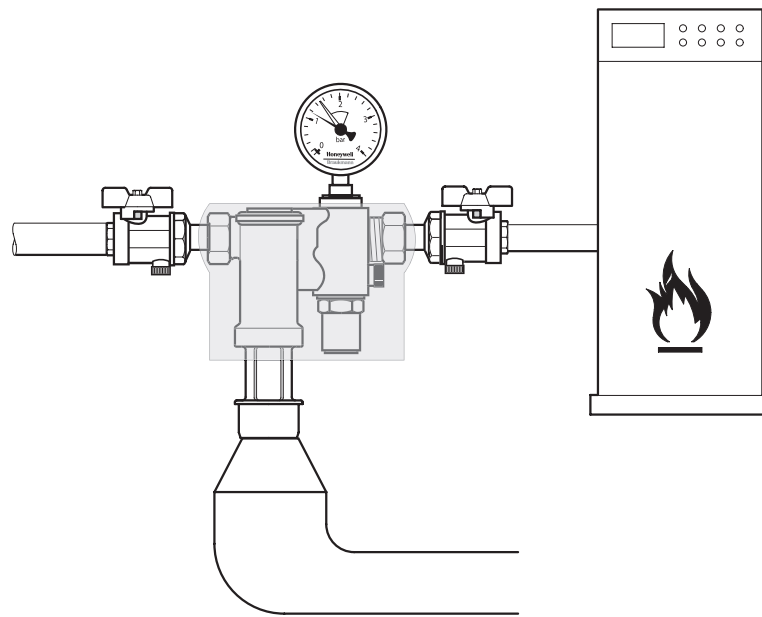
The pressure reducing valve reduces the pressure on the inlet side (admission pressure) to the level of the desired pressure on the outlet side (outlet pressure) in individual cases.

Spring-loaded pressure reducing valves work according to a system of force balance. The piston force works against the spring force of the control valve. If the outlet pressure (back pressure) drops as a consequence of drawing water, leading to the piston force dropping as well, the now greater spring force will open the valve. The outlet pressure is higher again until the balance between piston and spring force is once again achieved.

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.

### Options

NK295C-1/2A = Standard version with threaded connection R1/2"

**Installation Example****Installation Guidelines**

- 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 size 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 in consideration 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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