



NK295C

Refilling combination

for closed heating systems

APPLICATION

The refilling combination serves automatic filling and refilling from closed heating systems to EN 12828:2014-07.

It can be connected in accordance with EN 1717 permanently 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 unit consists of all needed devices for refilling a heating installation according to conforming standards are contained.

SPECIAL FEATURES

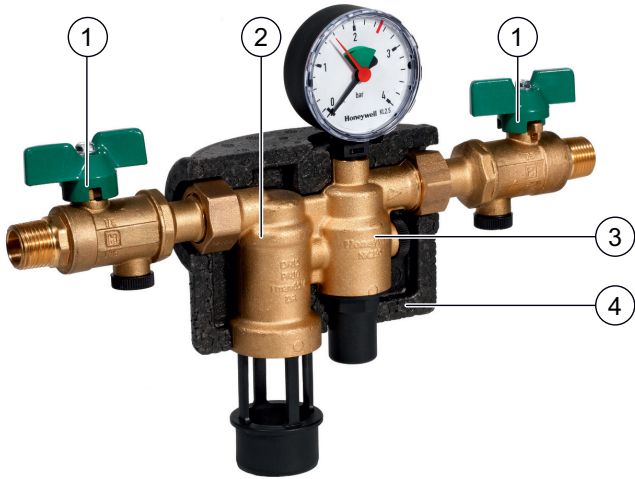
- Permanent connection with the drinking water supply in accordance with EN 1717 by hose line or piping is possible
- Optimal protection of the drinking water supply system up to fluid category 3
- Meets KTW recommendations for drinking water
- Field-tested, reliable pressure reducing valve
- Pressure reducing valve with inlet pressure balancing - inlet pressure fluctuation does not influence the outlet pressure
- Outlet pressure adjustable and directly visible on the pressure gauge
- Corrosion resistant by use of dezincification-resistant brass
- Low pressure loss and high flow rate
- Compact construction
- Variable connection options to the heating system
- Low maintenance effort



TECHNICAL DATA

Media	
Medium:	Water without inhibitors
Connections/Sizes	
Connection sizes:	1/2" AG
Connection size discharge:	40 mm
Pressure values	
Inlet pressure:	1.5 - 10 bar
Outlet pressure:	1.5 - 6 bar
Operating temperatures	
Max. operating temperature medium:	65 °C
Specifications	
Liquid category backflow preventer CA:	3 (slightly toxic materials)
Installation position:	horizontal pipework with discharge connection directed downwards

CONSTRUCTION

Overview	Components	Materials
	1 Shut-off valve, up- and downstream	Dezincification-resistant brass
	2 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	Discharge connection, valve cartridge, valve insert and springbonnet in high-grade synthetic material
	3 Complete pressure reducing valve with valve insert, spring bonnet (including adjustment knob), adjustment spring and pressure gauge	-
	4 Isolation shell	EPP
	Not depicted components:	
Adjustment spring	Spring steel	
Check valve	High-grade synthetic material	
Seals	NBR	

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 the quality of drinking water against back pressure, backflow and back syphonage of non-drinking water from plants and connected equipment.

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

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 not less than 10 % of the inlet pressure, the system disconnecter moves into disconnect position (back suction).

The inlet side backflow preventer closes and the discharge valve opens.

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

Spring-loaded pressure reducing valves work according to the force comparison principle. The outlet pressure works against the spring force. If the outlet pressure drops as a consequence of drawing water, the now higher spring force will open the valve.

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.

TRANSPORTATION AND STORAGE

Keep parts in their original packaging and unpack them shortly before use.

The following parameters apply during transportation and storage:

Parameter	Value
Environment:	clean, dry and dust free
Min. ambient temperature:	-15 °C
Max. ambient temperature:	+70 °C
Min. ambient relative humidity:	25 % *
Max. ambient relative humidity:	95 % *

*non condensing

INSTALLATION GUIDELINES

Setup requirements

- 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
 - Simplified maintenance and cleaning
 - Pressure gauge at the pressure reducing valve can be read off easily
- In order to avoid flooding, it is recommended to arrange a permanent, professionally dimensioned wastewater connection
 - Requires regular maintenance in accordance with EN 806-5
 - Provide a straight section of pipework of at least five times the nominal valve size after the pressure reducing valve (in accordance with EN 806-2)
 - The refilling combination has an integrated strainer - no separate strainer necessary
 - 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

Installation Example

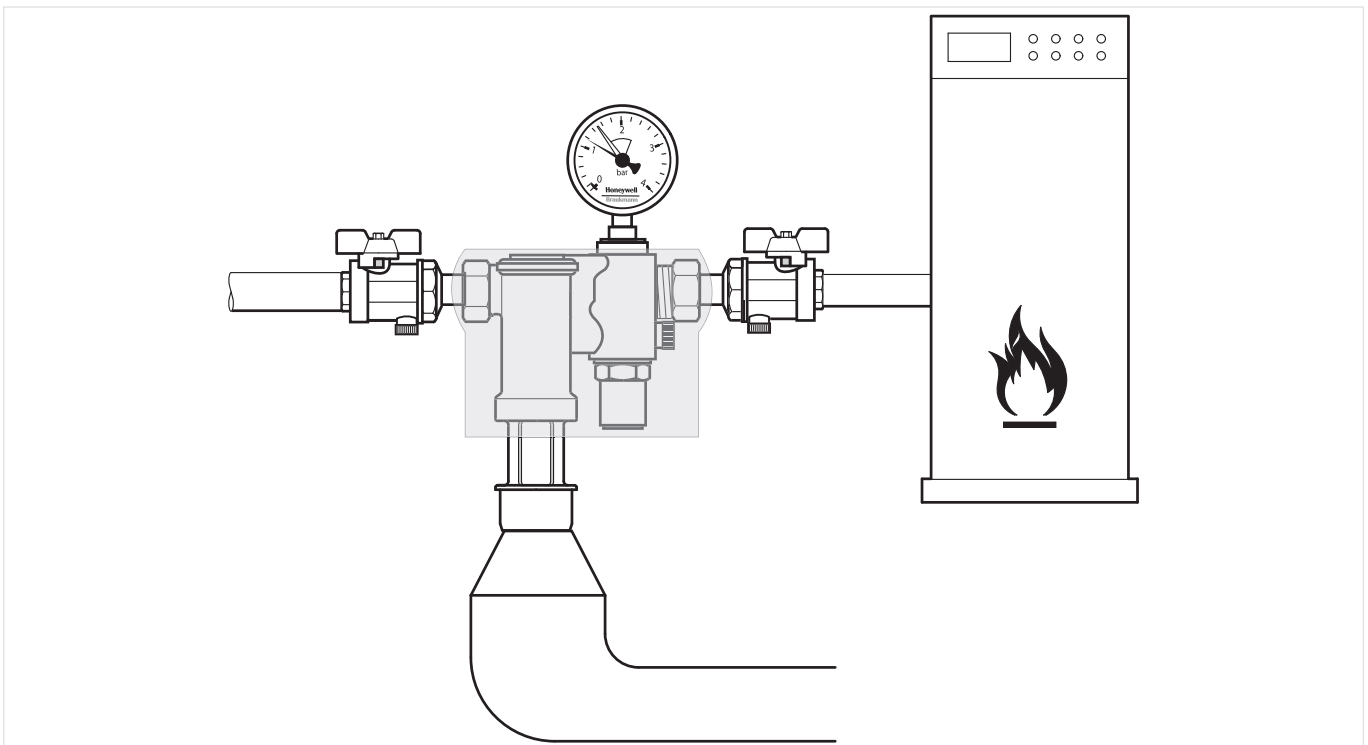
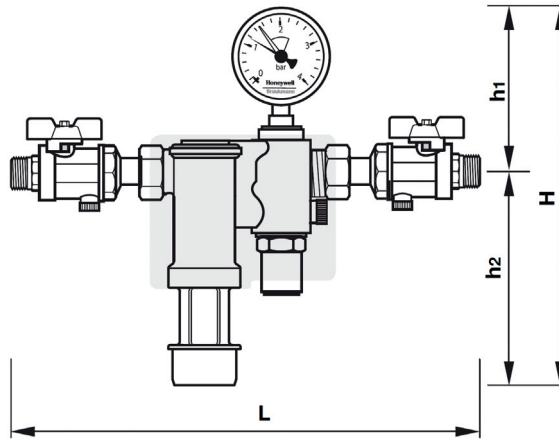


Fig. 1 Standard installation example for the refilling combination

DIMENSIONS

Overview



Parameter		Values
Connection size:	R	1/2"
Dimensions:	H	216
	h ₁	87.6
	h ₂	128
	L	318
Weight:	kg	1.4

Note: All dimensions in mm unless stated otherwise.

ORDERING INFORMATION

The following tables contain all the information you need to make an order of an item of your choice. When ordering, please always state the type, the ordering or the part number.

Options

The valve is available in the following sizes: 1/2"

- standard
- not available

		NK295C-1/2A
Connection type:	Standard version with threaded connection R ¹ / ₂ "	•

For more information

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