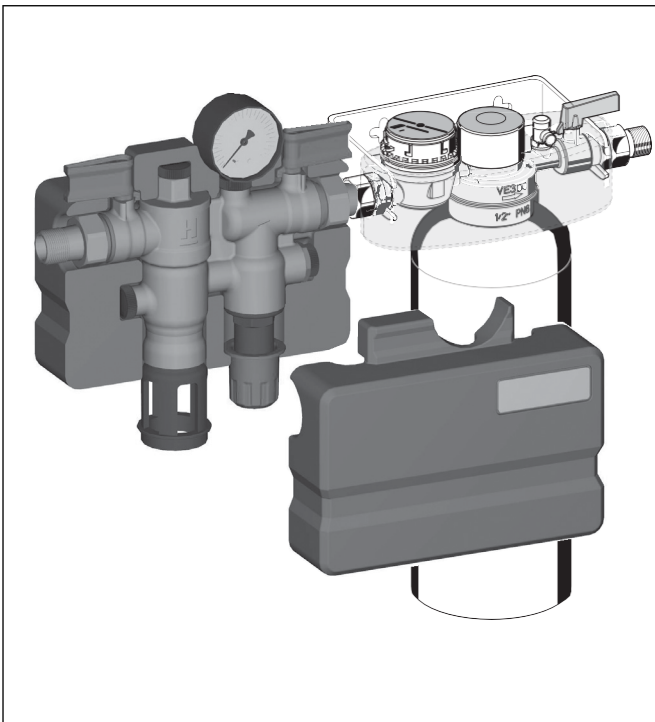


# Braukmann NK300S-VE

## Refilling combination with demineralisation cartridge for heating systems

### Product specification sheet



#### Construction

The refilling combination with softening unit consists of:

- integrated ball valve, inlet and outlet side
- Backflow preventer type BA with discharge valve, cartridge insert, integrated dirt trap on the inlet side, backflow preventer outlet side and three measuring points with sealing plugs
- Pressure reducing valve with pressure gauge
- Blending unit, consisting of water flow meter, outlet-sided blocking capability and bleeder valve
- Demineralisation cartridge
- Total hardness test-kit to determine water hardness

#### Materials

- Dezincification-resistant brass housing
- Discharge valve, cartridge insert, valve insert, mechanical components of the blending unit and spring bonnet made of high-quality plastic
- Fibre-reinforced EPDM diaphragm
- Seals in NBR and EPDM
- Spring steel adjustment spring
- Stainless steel fine filter mesh
- Polypropylene cartridge

#### Application

The demineralisation unit of the Resideo NK300S-VE facilitates the demineralisation of heating water according to VDI-guideleine 2035, sheet 1 and 2. Limescale and thereby caused damages and malfunction in hot water heating system (EN 12828) are avoided efficiently.

The refilling combination fitted on the inlet and based on a BA-type backflow preventer protects the potable water supply against back flow of heating water according to EN 1717.

#### Special Features

- Integrated water meters simplify the determination of cartridge exchange
- Easy exchange of cartridge without tools
- Permanent connection with the drinking water supply in accordance with EN1717 by hose line or piping is possible
- Optimal protection of the drinking water supply system
- Backflow preventer approved for noise level protection, class 2
- Pressure reducing valve approved for noise level protection, class 1
- 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

#### Range of Application

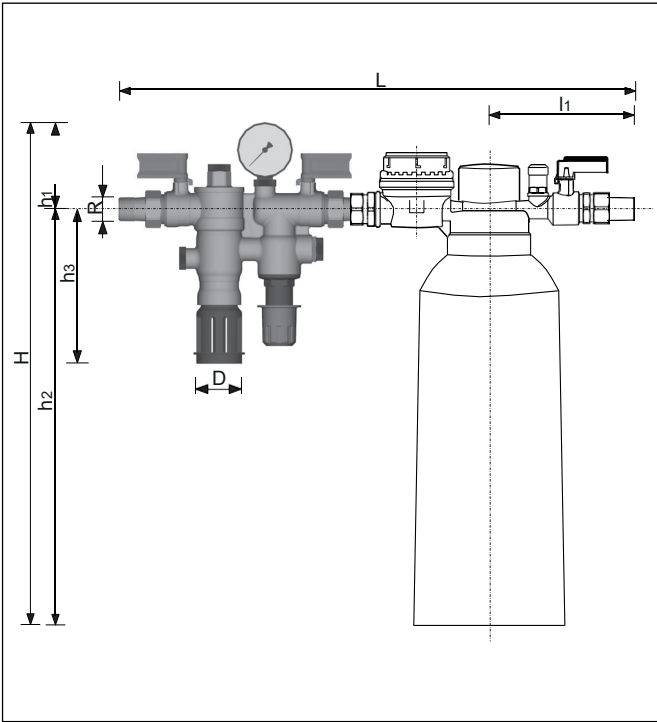
Medium	Water
Inlet pressure	max. 10.0 bar
Outlet pressure	1.5-4 bar adjustable, preset to 1.5 bar
Liquid category	Back-4 (toxic, highly toxic, tumourigenic, radioactive materials)

Suitable for heating systems with the following materials: aluminium, aluminium alloys, steel, copper, copper alloys and plastics.

Treated water has modified corrosive chemical parameters. Conditioning by means of inhibitors is to be provided for separately.

#### Technical Data

Installation position	horizontal pipework with discharge connection directed downwards
Operating temperature	max. 30 °C
$k_{vs}$ -value	0.30 m <sup>3</sup> /h
Connection ball valve	Back-G 1/4" flow preventer
Connection size discharge	HT 40
Connection size	1/2" External thread



Connection size	R	1/2"
Weight	kg	6
Dimensions	mm	
	H	524
	h <sub>1</sub>	76
	h <sub>2</sub>	450
	h <sub>3</sub>	136
	L	483
	l <sub>1</sub>	138
	D	40
k <sub>vs</sub> -value	m <sup>3</sup> /h	0,30

### Method of Operation

In the first instance the water passes through the refilling combination which protects the system against back flow of heating water. It combines backflow preventer, pressure reducing valve and ball valves in one appliance.

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.

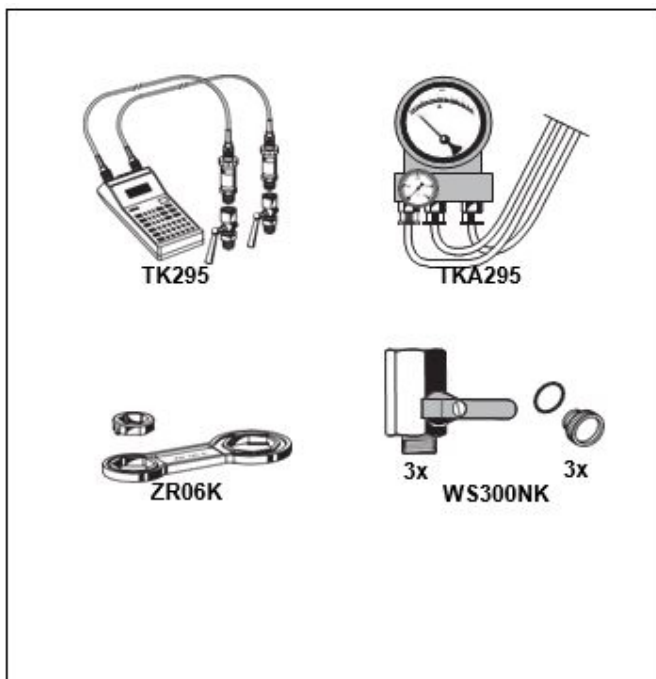
The pressure reducing valve reduces the inlet pressure to the desired set-pressure on the outlet side.

Inlet pressure fluctuation does not influence the outlet pressure, because the pressure reducing valves operate by means of a force equalising system (inlet pressure balancing).

The heater water treatment unit (VE300) installed directly below the refilling combination (NK300S) uses the ionic exchange principle to demineralise water and extracts all minerals from the water. Thereby the electric conductivity of the filling water is reduced.

### Options

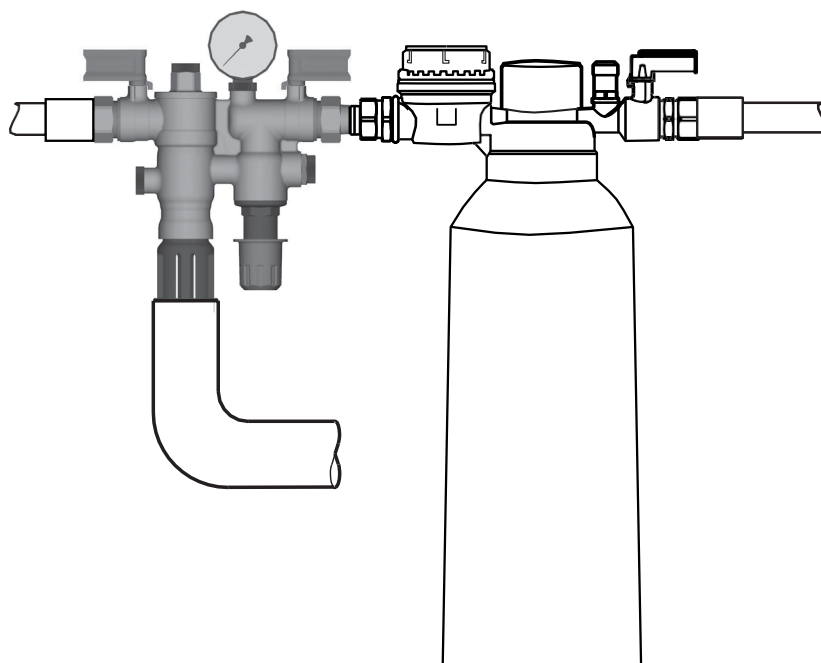
NK300S-VE-1/2A = Standard version with threaded connection R 1/2" and 200µm filter in the refilling combination



### Accessories

- TK295 Test kit  
Electronic pressure measuring device with digital indicator, battery-operated.  
With case and accessories, ideal for inspection and maintenance of backflow preventer type BA.
- TKA295 Test kit  
Analogue pressure measuring device with differential pressure display.  
With case and accessories, ideal for inspection and maintenance of backflow preventer type BA.
- AK-NK300 Replacement kit NK300  
Replacement kit when exchanging NK300 against NK300S
- WS300NK Maintenance set  
Maintenance set for refilling combination NK300 for use with TK295 resp. TKA295

## Installation Example

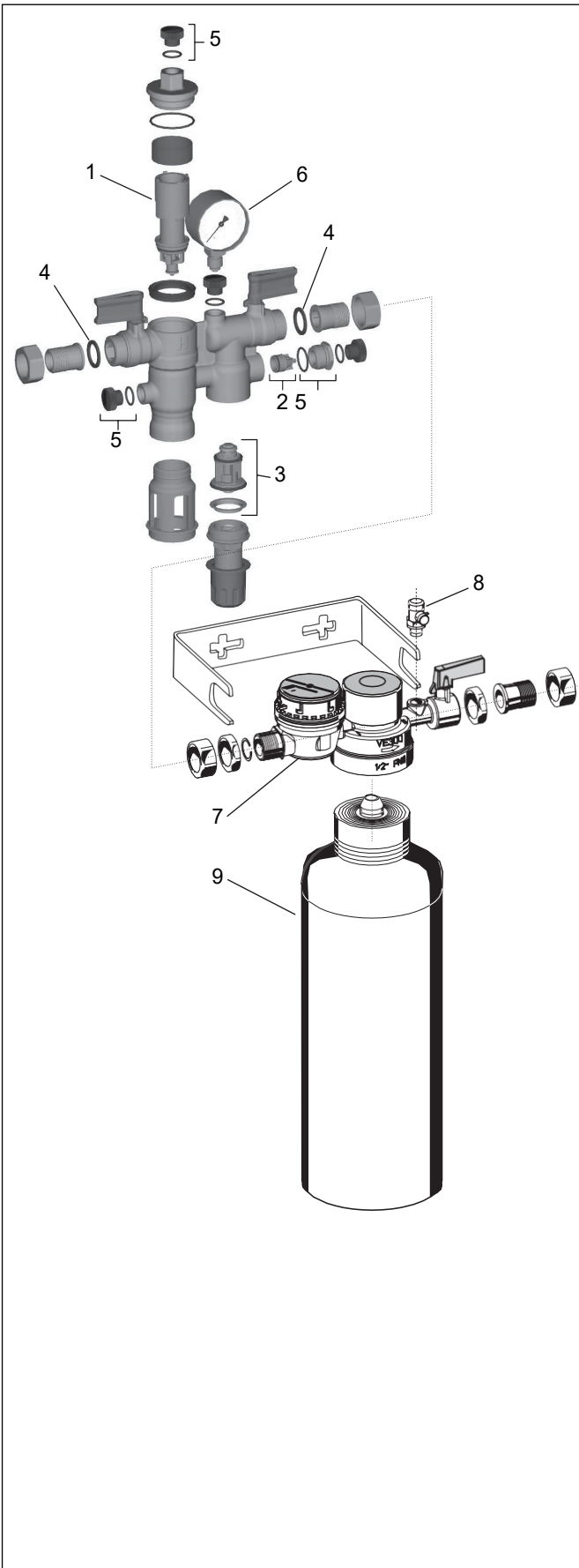


## Installation Guidelines

- Installation in the inlet to the heating system, fasten the heater water treatment unit (VE300) to the wall
- 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 environment should be protected against frost and ventilated well
- The installation location has to be easily accessible
  - Simplified maintenance and cleaning
  - Pressure gauge at the pressure reducing valve can be read off easily
- Acc. to EN 1717 in direction of flow, first install the refilling combination (NK300S) and directly after it, the heater water treatment unit (VE300)

## Typical Applications

The refilling combination serves filling and refilling of closed heating systems with demineralised water to DIN EN 12828:2003. The included backflow preventer BA protects the potable water supply against back flow of heating water of liquid category 4 (with inhibitors) into service pipe.



Spare Parts

Refilling combination NK300S-VE (from 2015 onwards)

No.	Description	Dimension	Part No.
1	Cartridge insert complete	1/2"	0903733
2	Check valve	1/2"	0904138
3	Valve insert complete (without sieve)	1/2"	D04FMA-1/2
4	Sealing ring set (10 piece)	1/2"	0901443
5	Blanking plug with O-ring R1/4" (5 pcs.)		S06K-1/4
6	Pressure gauge Ranges 0 - 10 bar		M38K-A10
7	Water flow meter		WZ300
8	Air bleed valve		2421100
9	3,5l demineralisation cartridge		P300-LES