

Braukmann

NK300soft

Refilling combination with softening unit 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
- 3.5l cartridge with ionic exchange resin
- 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 NBR diaphragm
- Seals in NBR and EPDM
- Spring steel adjustment spring
- Stainless steel fine filter mesh
- Polypropylene cartridge

Application

The softening unit of the Resideo NK300soft facilitates the softening of heating water according to VDI-guideline 2035/l. Limescale and thereby caused damages and malfunction in hot water heating system (DIN 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 DIN EN 1717.

Special Features

- Integrated water meter 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

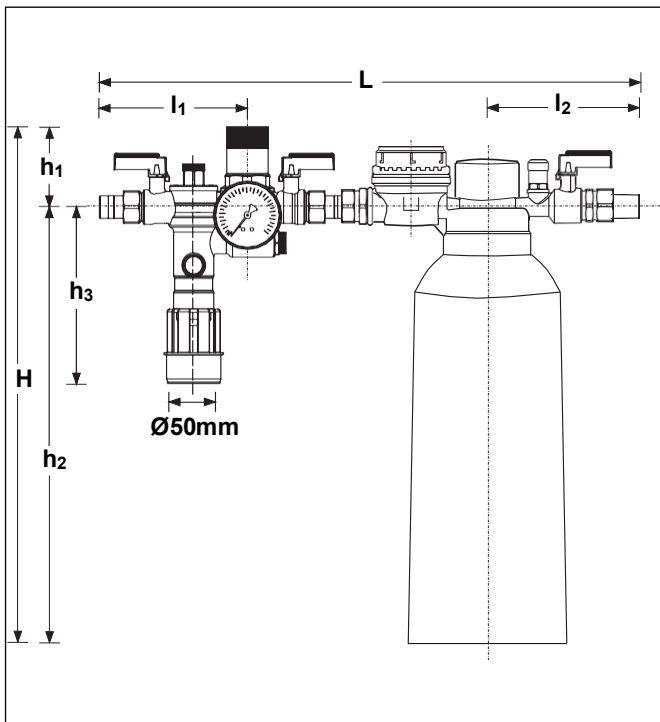
Liquid category Backflow preventer BA 4 (toxic, highly toxic, tumorigenic, radioactive materials)

Suitable for heating systems with the following materials: 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	0.45 m ³ /h
Connection ball valve	G 1/4"
Backflow preventer	
Connection size	HT 50
Discharge	
Connection size	1/2" External thread



Connection size	R	1/2"
Weight	kg	6
Dimensions	mm	
	H	524
	h ₁	74
	h ₂	450
	h ₃	162
	L	495
	l ₁	137,5
	l ₂	138
k _{VS} -value	m ³ /h	0,45

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).

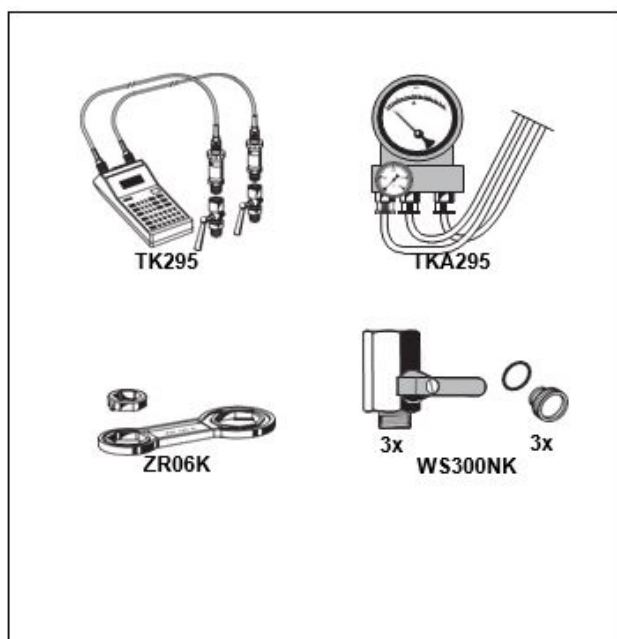
The heater water treatment unit (VE300) installed directly below the refilling combination (NK300) uses the ionic exchange principle to soften water, replacing alkaline earths such as calcium and magnesium with sodium ions.

Depending on the regional water hardness, the heater water treatment unit is set to partially soften (<8°dH) or completely soften (<0.11°dH) the water.

Options

NK300soft-1/2A = Standard version with threaded connection R¹/₂" and 600µm filter in the refilling combination

NK300soft-1/2AZ25 = Version with threaded connection R¹/₂" and 25µm filter in the refilling combination



Accessories

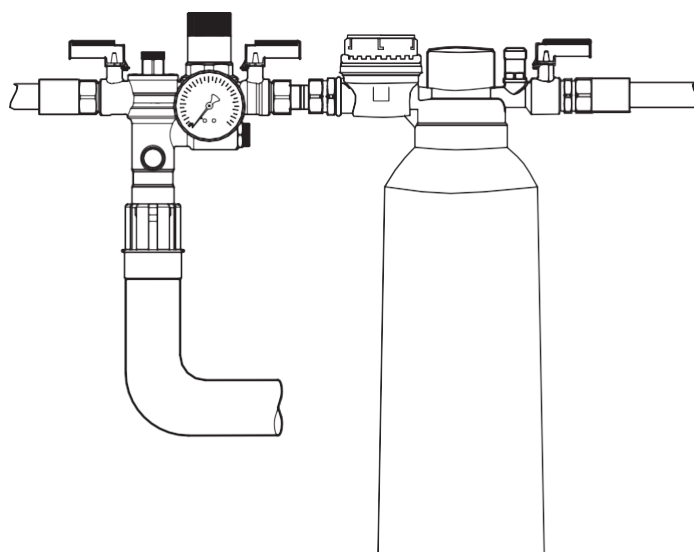
TK295 Test kit
Electronic pressure measuring device with digital indicator, battery-operated.
With case and accessories, ideal for inspection and maintenance of backflow preventer type BA.

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.

ZR06K Double ring spanner
For removal of spring hood and filter bowl

WS300NK Maintenance set
Maintenance set for refilling combination NK300 for use with TK295 resp. TKA295

Installation Example

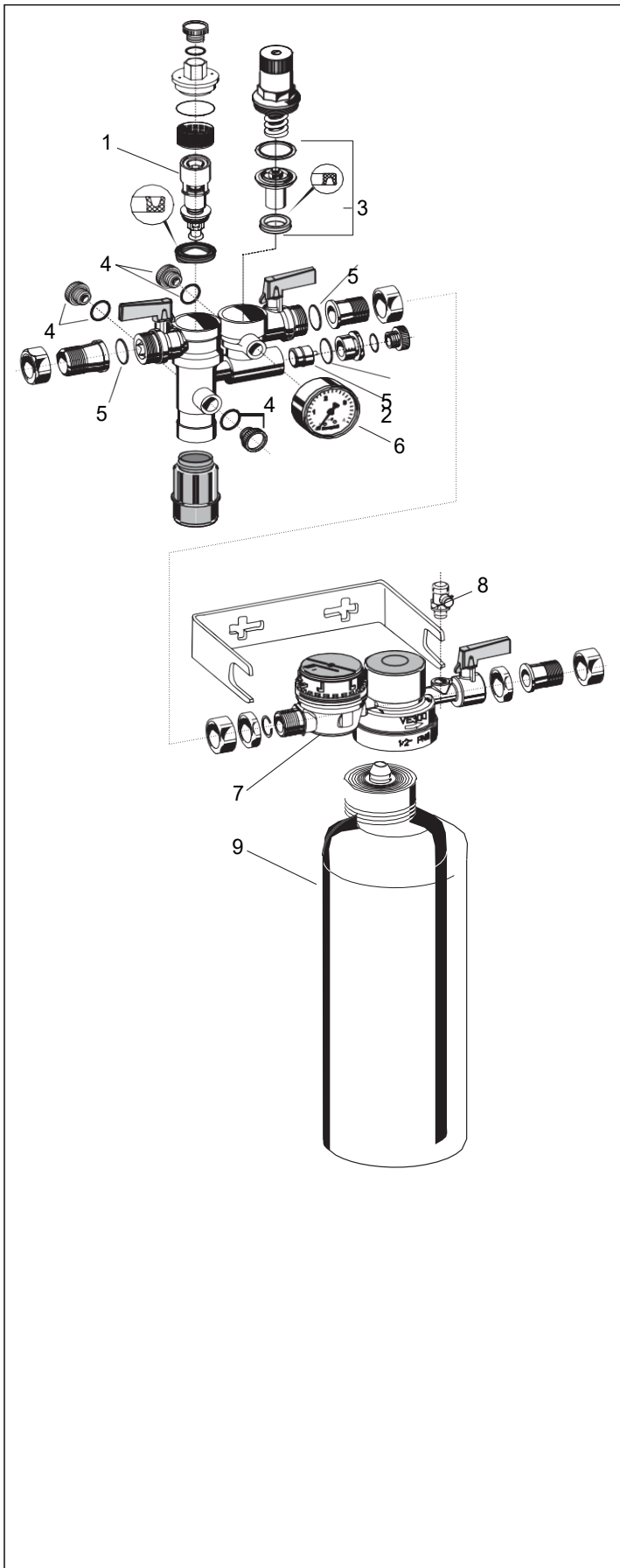


Installation Guidelines

- 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
 - o Simplified maintenance and cleaning
 - o Pressure gauge at the pressure reducing valve can be read off easily
- Acc. to DIN EN 1717 in direction of flow, first install the refilling combination (NK300) and directly after it, the heater water treatment unit (VE300)
- The national installation regulations must be observed during the assembly.

Typical Applications

The refilling combination serves filling and refilling of closed heating systems with softened 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 NK300soft (from 2008 onwards)

No.	Description		Part No.
1	Cartridge insert complete	1/2"	0903733
2	Check valve	1/2"	2166200
3	Valve insert complete (without sieve)	1/2"	D06FA-1/2
4	Blanking plug with O-ring R1/4" (5 pcs.)		S06K-1/4
5	Sealing ring set (10 piece)	1/2"	0901443
6	Pressure gauge	0 - 4 bar	M07M-A4
7	Water flow meter		WZ300
8	Air bleed valve		2421100
9	Cartridge	0.75 l 3.5 l	P300-S P300-L