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Installation and Operation Manual

HOT WATER STORAGE TANK
NBC 170 HP

EN

NBC 170 HP

CONTENTS

1 - Description

NBC Hot Water Storage Tank with one stainless-steel heat exchanger, G 3/4“ connections (e.g. to connect a heat pump).
For the correct functioning of the tank it is necessary to optimally design a hot water heating system including a heat source, safety elements and shut-off valves in compliance with the respective standards and rules. The hydraulic variant shall be selected respecting the heating controller used. For a connection example, see Chapter 5 of this document.

1.1 - Models

One model of 162 l total capacity.

1.2 - Tank protection

The entire tank is made of stainless steel which guarantees a ling service life. Further qualitative improvement is reached thanks to a magnesium anode rod installed inside the tank. The anode must be checked regularly at intervals of up to 24 months and replaced in case of its loss. The service life of an anode rod depends on the hardness and chemical composition of water to be heated. In cases of a higher water hardness or a higher water consumption (processing facilities, hotels, hospitals, etc.), it is necessary to check magnesium anode rods every 4-8 months depending on the depletion detected, or use an electronic anode.

1.3 - Thermal insulation

Tanks are supplied with 50 mm thick EPU insulation, white surface.

1.4 - Connection points on the tank

2× top with G 3/4“ inner thread, for the heating coil
2× top with G 3/4“ inner thread, for cold water inlet and hot water outlet
1× top for temperature sensors, G 1/2”
1× top with G 3/4“ inner thread, for recirculation
1× top with G 3/4“ inner thread, for magnesium anode rod
1× lateral G 1/2“ with drain valve
1× lateral M8x25 earthing

1.5 - Packaging

Tanks are delivered standing, each screwed to its pallet, packed in bubble wrap.

2 - General Information

The appliance shall be installed by a qualified person according to valid rules and Manufacturer‘s Instructions.

This Manual is an integral and important part of the product and must be handed over to the User. Read carefully the instructions in this Manual as they contain important information concerning safety, installation, operation and maintenance. Keep this Manual for later reference.

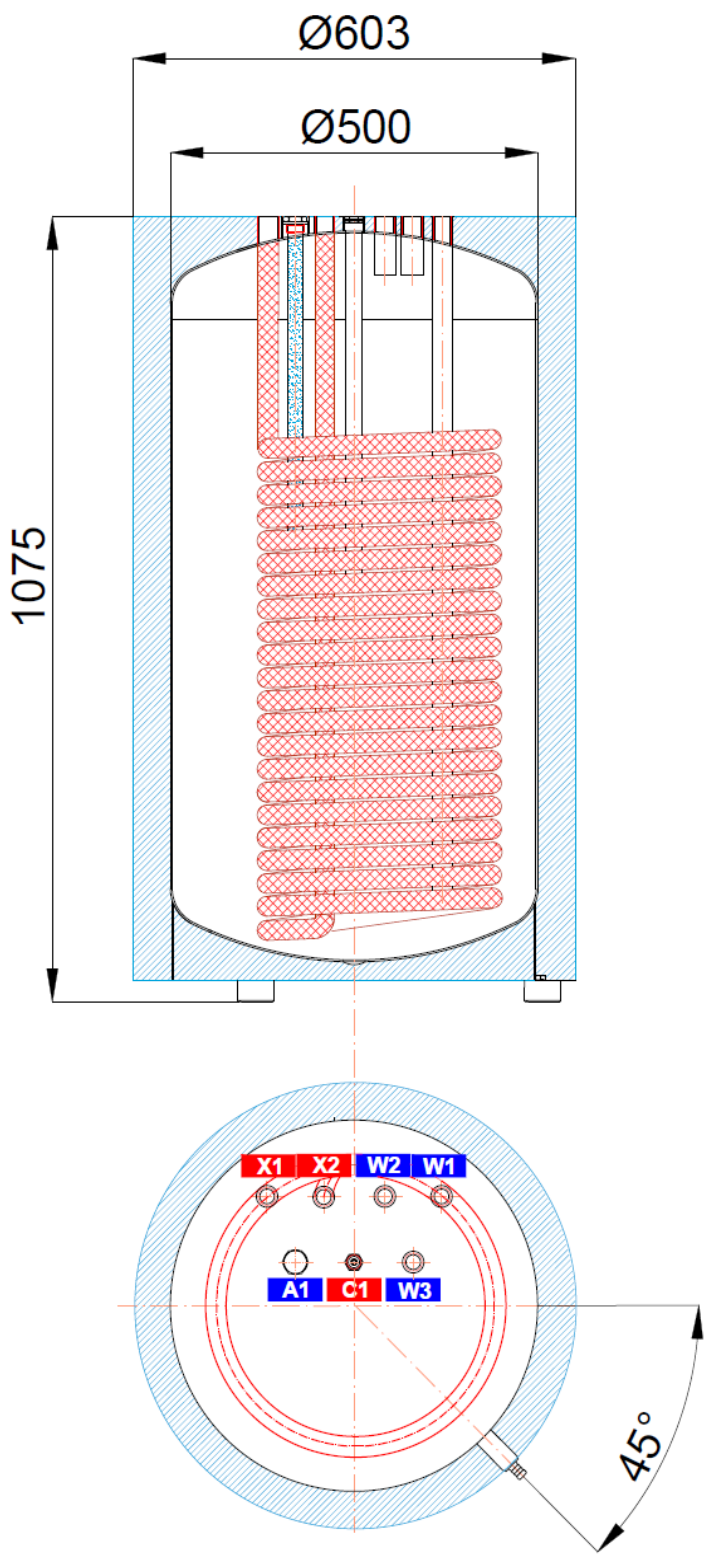
Using the tank for other purposes than stated above is prohibited and the manufacturer accepts no responsibility for damage caused by improper or wrong use.

3 - Technical Data and Dimensions of TV NBC 170 HP

Regulus NBC 170 HP Hot Water Storage Tank

code: 17615

Dimensions



TAPPINGS		
pos.	connections	height [mm]
DHW heating		
W1	G 3/4" F	1060 mm
W2	G 3/4" F	1060 mm
W3	G 3/4" F	1060 mm
Heat source		
X1	G 3/4" F	1060 mm
X2	G 3/4" F	1060 mm
Control & Safety		
C1	G 1/2" F	1060 mm
Magnesium anode rod		
A1	G 3/4" F	1060 mm

Energy Efficiency Data (as per EC Regulation No. 812/2013)	
	NBC 170 HP
Energy efficiency class	**B**
Standing loss	**42 W**
Storage volume	**162 l**

Technical Data	
Total tank volume	171 l
Fluid volume in tank	162 l
Fluid volume in heat exchanger	9 l
Heat exchanger surface area	2 m^2
Max. temperature in tank	95°C
Max. temperature in heat exchanger	95°C
Max. pressure in tank	7 bar
Max. pressure in heat exchanger	15 bar

Materials	
Tank material	stainless steel AISI 316L
Heat exchanger material	stainless steel AISI 304
Insulation material	EPU (expanded polyurethane)
Insulation outer surface	polyurethane (PU)

Dimensions, tipping height	
Tank diam.	500 mm
Tank diam. with insulation	603 mm
Total tank height	1075 mm
Tipping height	1233 mm
Empty weight	42 kg

4 - Operation

The tank is designed for operation in pressure circuits. Hot water is heated in the tank via the integrated heat exchanger (heating coil) from e.g. a heat pump.

Hot water temperature should be set to 55-60 °C. This temperature guarantees the best operation and at the same time, it prevents formation of Legionella bacteria.

5 - Examples of Assigning Connection Points

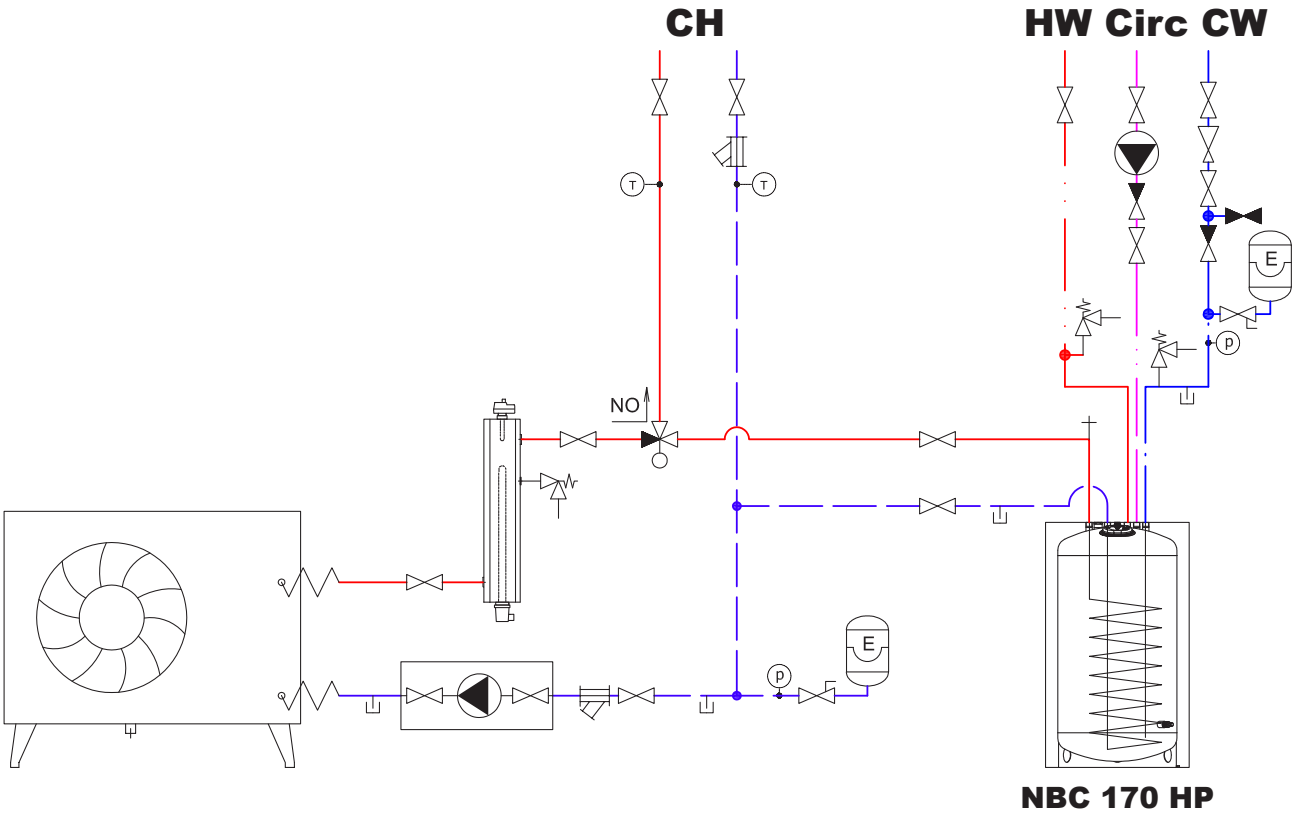


Table of limit values for total dissolved solids in hot water

Description	pH	Total dissolved solids (TDS)	Ca	Chlorides	Mg	Na	Fe
Max. value	6.5 - 9.5	600 mg/l	40 mg/l	100 mg/l	20 mg/l	200 mg/l	0.2 mg/l

6 - Installation and Commissioning

Installation shall meet valid rules and may be done only by qualified staff. The tank shall be placed on the floor, as close to the heat source as possible.

Warning: Defects caused by improper installation, use or handling are not covered by warranty.

6.1 - Connection to heat sources

Connect heating circuits to the inlet and outlet of the heating coil. The heat source connects to the tank using G 3/4" fittings.

6.2 - Connection to water mains

DHW piping shall be made according to valid rules. G 3/4" fittings are used to connect the tank to a cold water inlet and hot water outlet. A safety kit (code 17387) shall be installed at the cold water inlet. Installation of a reducing valve to the tank inlet is recommended. If the pressure from water mains exceeds 6 bar, a reducing valve is necessary. An 8-liter expansion tank shall be installed at the cold water inlet.

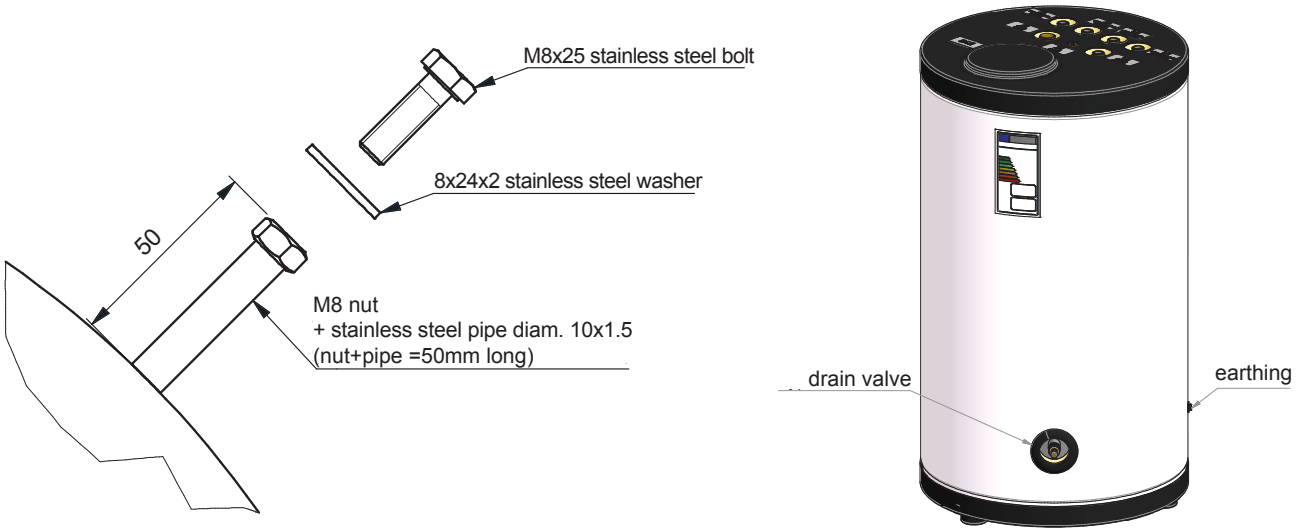
Should the water be too hard, install a water softener before the tank. In case the water contains mechanical impurities, install a strainer.

There is a drain valve at the lowest point of the tank.

Complete DHW piping shall be properly insulated.

6.3 - Tank earthing

Earth the tank before commissioning. The earthing bolt is at the same height as the drain valve (180mm from the floor) and rotated 90 degrees counter-clockwise behind the drain valve.



6.4 - Electronic anode rod installation

Magnesium anode rod is factory installed in the tank. An electronic anode rod (code 13793) can be installed in the tank instead of the magnesium one.

6.5 - Commissioning

Earth the tank before commissioning. The earthing screw is located at the marked place. Fill the entire system with liquids and air-vent. Check all connections for leaks and a system pressure.

The quality of top-up and heating water is set by ČSN 07 7401:1992. **Hot water quality must meet the conditions shown in the Table of limit values for total dissolved solids in hot water, page 7 of this Manual.**

It is recommended to maintain the temperature of the hot water in the tank, e.g. by means of a heat pump, in the temperature range of 48-52 °C. It is recommended to temporarily raise the temperature of the entire hot water system to 65-70 °C as a protection against the formation of bacteria, especially Legionella. It is recommended to carry out a temporary temperature increase whenever the hot water supply is shut down for a longer time. Requirements for the quality and temperature of hot water can be set by a special regulation according to the methods of hot water use (staff hygiene, hot water for hospitals, educational institutes, technological water, etc.). Set the parameters of the respective controller according to the manufacturer's documentation and recommendations. Check regularly that all control and adjustment elements are functioning properly.

7 - Tank Insulation

Product description

Thermal insulation is a component of tanks that prevents heat losses. Thermal insulation of EPU with polyurethane foil is used.

Warning

Do not use open fire near the product.

8 - Maintenance

Clean the exterior of the tank with a wet cloth and a suitable detergent.
Never use abrasives, solvents, petroleum-based products, etc.
Check for water leaks at the tank connection points.

9 - Disposal

Packaging shall be disposed of in compliance with the valid rules. When the product reaches the end of its life, it shall not be disposed of as household waste. It shall be dropped off at a Local Waste Recycling Centre. Insulation shall be recycled as plastic and the steel vessel as scrap iron.

10 - Warranty

This product is covered by warranty according to the conditions described in this Manual and according to the Warranty Certificate. A Warranty Certificate is an integral part of the supply.

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