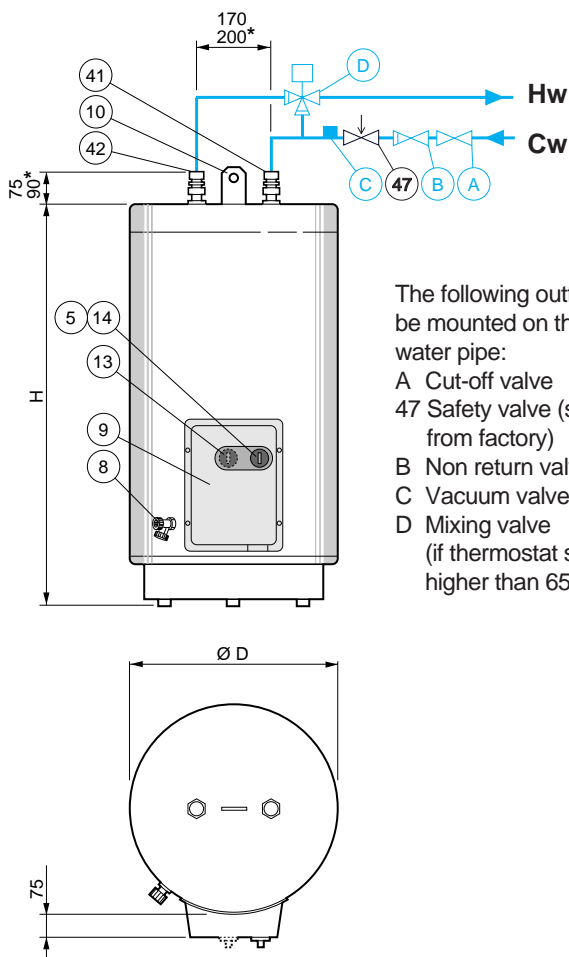


Dimensions



The following outfit must be mounted on the cold water pipe:

- A Cut-off valve
- 47 Safety valve (supplied from factory)
- B Non return valve
- C Vacuum valve
- D Mixing valve (if thermostat setting is higher than 65 °C)

* ES-500

Equipment

- 8 Draining valve
- 9 Switch box containing
- 4 Terminal block
- 5 Combined thermostat and temperature limiter (3 kW)
- 6 Immersion heater (1 kW/3 kW)
- 2 Immersion heater (6 kW)
- 3 Combined thermostat and temperature limiter (6 kW)
- 14 Output selector switch (6 kW)
- 15 Connection terminal block, 3 phases
- 10 Lifting eye bolt, only on ES 500
- 41 Cold water inlet
- 42 Hot water outlet
- 47 Safety valve, Ø 15 mm, 9 bar (supplied from factory)

Installation

The copper lined water heater must be installed in a vertical position. Ensure that there is sufficient space (approximately 410 mm) in front of the switch box to enable the thermostat or immersion heater to be removed for the maintenance purpose.

Electrical installation

Note! The electrical installation and possible maintenance should be carried out under the supervision of a qualified electrician.

This water heater must be installed by way of an all terminal pole breaker.

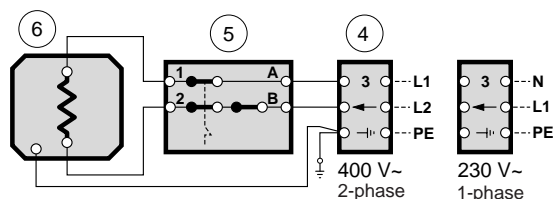
Connect the leads in the connection lead to the terminal block (4) alternative (15) in the switch box (9) according to the marks on the terminal block and clamp the leads in the strain relief clamp. Check also the circuit diagram in the switch box.

When 1-phase is installed the output of only 1 kW can be obtained.

Note! The water heater must be completely filled with water before the heater is connected to the electrical supply.

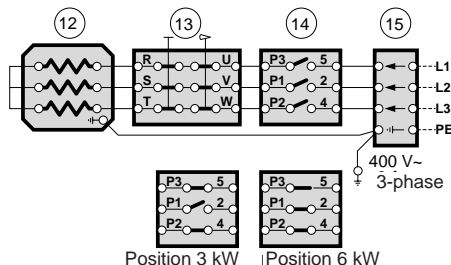
Circuit diagram for 3 kW

Standard for ES 160/210/300.



Circuit diagram for 6 kW

Standard for ES 500 as well as alternative performance for ES 160/210/300.



Output selector switch

The output selector switch of the water heater is to be placed on the output required. As the immersion heater gets the lowest surface charge effect at 3 kW, this position should be used in the first hand. If this output is not sufficient, i.e., when using the night tariff, the output selector switch must be set on 6 kW. This position also can be used when instantaneous heating of the water heater is required.

Pipe connections

The pipe installation must be done according to current regulations.

All connections are clamp ring connection-mounted for copper or plastic pipes. When using plastic pipes or annealed copper pipes, an internal stay tube must be mounted.

From the safety valve a waste water pipe must lead to a suitable gully. The diameter of the waste water pipe must be the same as the one of the safety valve (Ø 15 mm). This pipe should have a falling angle to the gully, avoiding water pockets and installed frost less. The orifice of the waste water pipe must be visible. If the water heater will be installed without a mixing valve, the setting of the thermostat may not exceed 65 °C.

Care and maintenance

The safety valve should be regularly checked about four times per year. When checking the function of the safety valve one has to turn its knob counterclockwise, waiting for water to come out of the waste water pipe of the safety valve. If this does not happen, the safety valve is defective and must be replaced.

Sometimes it can happen that the safety valve will release some waters after a recently done tap of warm water. The reason depends on the cold water getting warmer which results in an increase of the pressure that will consequently open the safety valve.

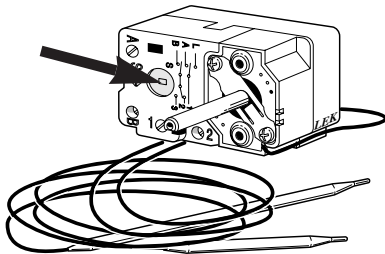
Actions taken on shutdowns

If the water heater does not work check at first the fuses in the fuse box. Have none of the fuses blown, check the temperature limiter; they may have disconnected as a result of a fault in the water heater. Once the fault has been traced and remedied, the temperature limiter can be reset (check diagrams below). The resetting should only be done under the supervision of a qualified electrician.

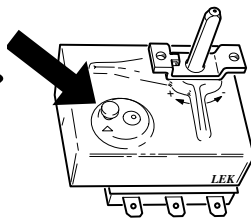
Check the settings of the mixing valve (D).

Wait for several hours without tapping warm water and check if the temperature has risen. Still no warm waters available then get into contact with an installer.

2-phase installation



3-phase installation



Draining

Deenergize the water heater.

Cut off the cold water inlet by closing valve A.

Loosen the lid of the drain valve (8) (connection R15) and fasten a hose nipple with a hose to the drain valve. The tap of the drain valve can be turned to the required position.

Open the drain valve by turning its knob counterclockwise.

When draining the water heater it must be fed with air by loosing a warm water connection or the top of a tap. Must the water heater be drained completely, the hose connection must be completely tight and the hose has to be orifice lower than the lowest level of the water heater. Is the water heater installed in a position exposed to the risk of frost damage it always should be drained, if not used, as freezing results in bursting the tank.

Technical data



Type	Volume (litres)	Height (mm)	Diam. (mm)	Weight (kg)	H&C Conn. (mm)
ES - 160	160	965	550	60	22
ES - 210	210	1195	550	80	22
ES - 300	300	1225	650	105	22
ES - 500	500	1725	725	155	35

Volume (l)	160			210		
	1	3	6	1	3	6
Output (kW)	1	3	6	1	3	6
Heating time to 45 °C (h)	6,5	2,5	1,5	9,0	3,0	1,5
Heating time to 80 °C (h)	13,0	4,5	2,5	17,5	6,0	3,0
Required fuse (A)	6	10	10	6	10	10

Volume (l)	300			500	
	1	3	6	3	6
Output (kW)	1	3	6	3	6
Heating time to 45 °C (h)	12,5	4,5	2,5	7,0	3,5
Heating time to 80 °C (h)	24,5	8,5	4,5	14,0	7,0
Required fuse (A)	6	10	10	10	10

Service

As service is required, kindly get into contact with your main contractor, stating necessarily the date of installation and number of production.

Note! All encroachment into the switch box may only be carried out under supervision of a qualified electrician.

Only electrical equipment supplied by NIBE AB, Markaryd, Sweden may be used for operating this water heater.