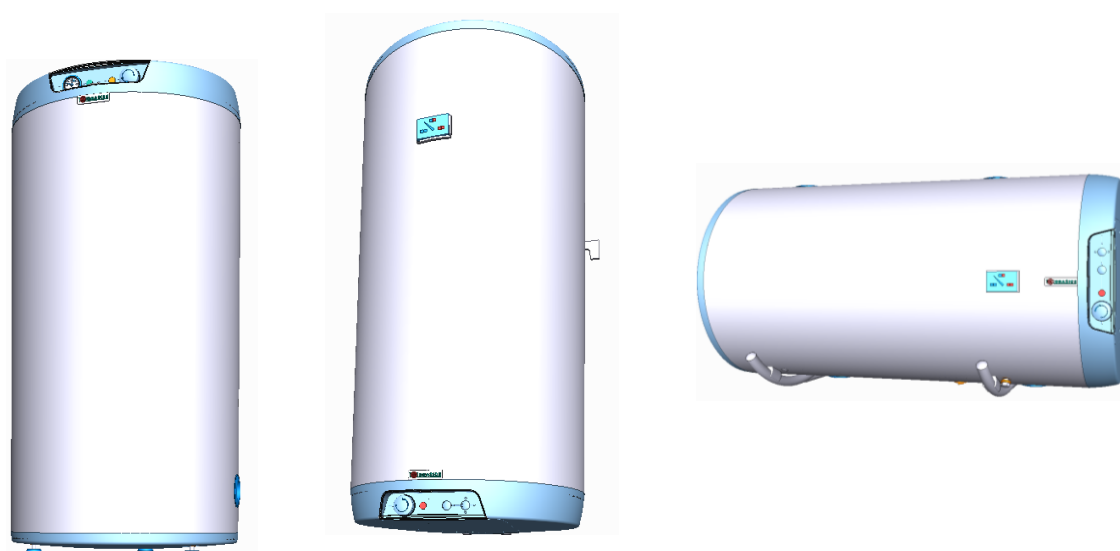


Operation and Installation Manual



TANK TYPE INDIRECT WATER HEATERS



OKC 100 NTR
OKC 125 NTR
OKC 160 NTR

OKC 100 NTR/HV
OKC 125 NTR/HV
OKC 160 NTR/HV

OKC 80 NTR/Z
OKC 100 NTR/Z
OKC 125 NTR/Z
OKC 160 NTR/Z

OKCV 125 NTR
OKCV 160 NTR
OKCV 180 NTR
OKCV 200 NTR

OKC 200 NTR
OKC 250 NTR
OKC 200 NTRR
OKC 250 NTRR

OKC 200 NTR/Z

Družstevní závody Dražice - strojírna s.r.o.

Dražice 69

294 71 Benátky nad Jizerou

Tel.: 326 370 911, fax: 326 370 980

www.dzd.cz

dzd@dzd.cz

Read carefully the below instructions prior to the installation of the heater!

Dear Customer,

The Works Cooperative of Dražice – Machine Plant, Ltd., would like to thank you for your decision to use a product of our brand.

With this guide, we will introduce you to the use, location, construction, maintenance and other information on the tank type pressure water heater. Product's reliability and safety is proven by tests implemented by the Engineering Test Institute in Brno.

We believe you will be fully satisfied with our product.

The manufacturer reserves the right for engineering modification of the product.

The product is designed for permanent contact with drinkable water.

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Environment Type:

It is recommended to use the product in indoor environment with air temperatures from +2°C to 45°C and a max. relative humidity of 80%.

1. FUNCTION DESCRIPTION

Indirect stationary heaters of NTR and NTRR series are used for HSW water heating in conjunction with another source of heating water, most often a gas boiler, for NTRR types combination of two heating water sources (gas boiler + solar system, heat pump). Their nominal performance provides sufficient amount of hot service water (HSW) even for large flat units - premises, restaurants and similar establishments. **In case of increased hot water consumption, these tanks heat water continuously, operating similarly to flow heaters.**

2. MESSAGE FOR CUSTOMERS

Hot water consumption

Consumption of hot water in households depends on the number of people, amount of sanitary equipment, length, diameter and insulation of piping in the flat, or on individual habits of users.

Energy saving

Hot utility water reservoir is insulated by means of a first-class polyurethane foam with zero Freon content. Adjust the temperature of the heater's thermostat to that level only that you need to run your home. Thus you will reduce electricity consumption, as well as the amount of lime sediments on the walls of the receptacle and on the heat exchanger.

Advantages of using indirect heater

- Easy installation and connection to heating water supply.
- Very fast HSW heating
- Enamelled steel tank ensures all hygienic requirements on the quality of HSW.
- Built-in Mg anode increases resistance to corrosion.
- Good quality polyurethane insulation ensures minimum thermal losses.
- Continuously adjustable temperature of HSW| up to 74°C
- Connection of multiple withdrawal points.
- The type with two heat exchangers can use two heating water supplies, or double heat transfer surface can be obtained if those are combined.
- Heater operation control light.
- Accurate check of HSW temperature.
- Possibility of connecting HSW circulation.

3. TECHNICAL DESCRIPTION

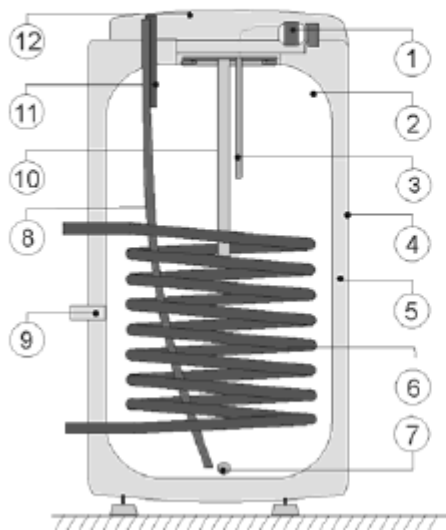
The heater receptacle is made of a steel plate and tested by 0.9 MPa overpressure. The inside of the receptacle is enamelled. A flange is welded onto the lower bottom of the receptacle with a flange lid screwed onto it. A sealing ring is inserted between the flange lid and the flange.

Thermowells for thermostat sensors and thermometer installation are placed in the flange lid. Anode rod is mounted on M8 nut. **The water reservoir is insulated by means of polyurethane foam.** Electric wiring is placed underneath the plastic removable cover. The temperature of water can be set using the thermostat.

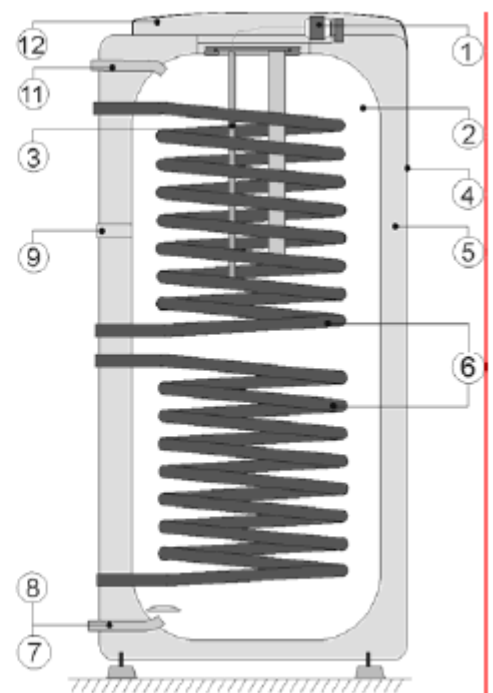
Heat exchanger(s) is/are welded onto the pressure tank.

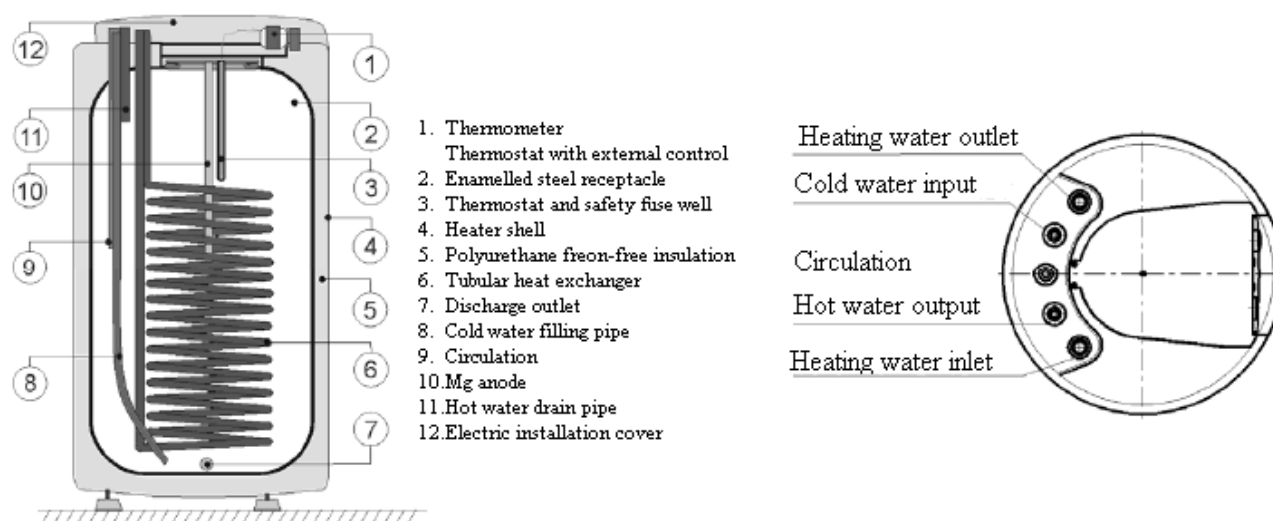
Technical description:

OKC 100 NTR, OKC 125 NTR, OKC 160 NTR,
OKC 200 NTR, OKC 250 NTR,
OKC 200 NTRR, OKC 250 NTRR



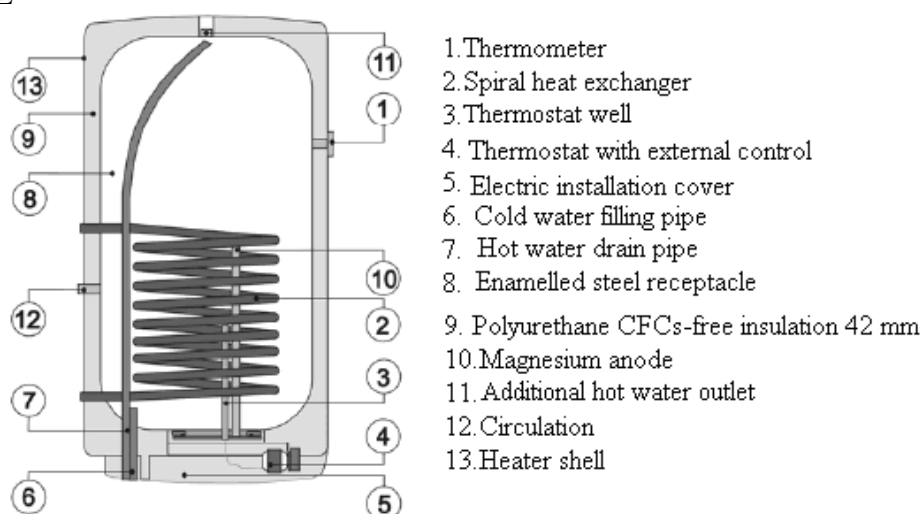
- 1 Thermometer
- Thermostat with external control
- 2 Enamelled steel receptacle
- 3 Thermostat and safety fuse well
- 4 Heater shell
- 5 Polyurethane freon-free insulation
- 6 Tubular heat exchanger
- 7 Discharge outlet
- 8 Cold water filling pipe
- 9 Circulation
- 10 Mg anode
- 11 Hot water drain pipe
- 12 Electric installation cover



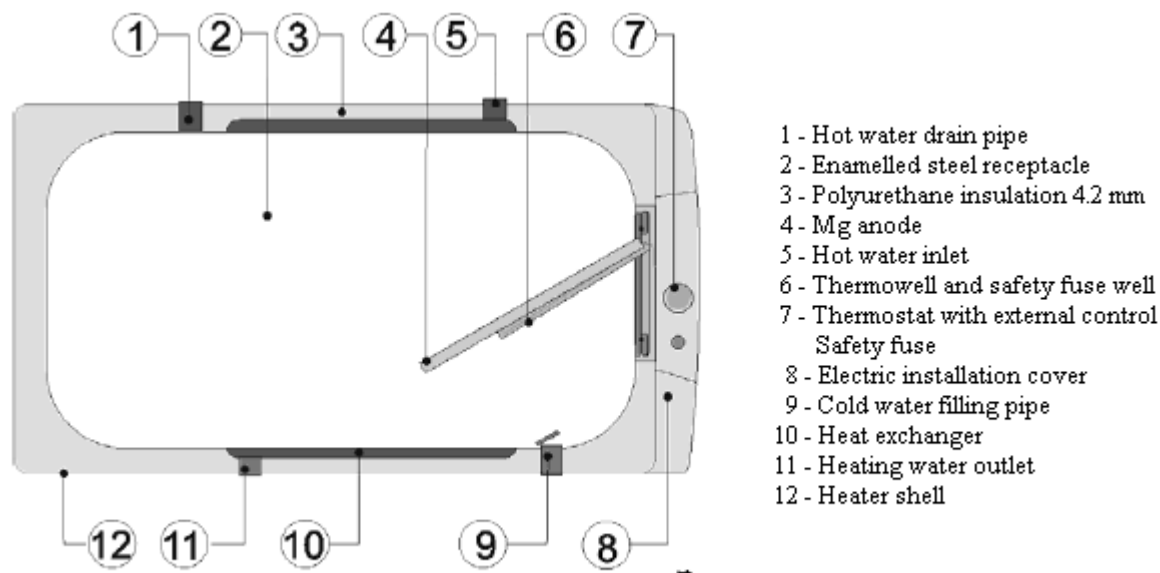


Technical description: OKC 100 NTR/HV, OKC 125 NTR/HV, OKC 160 NTR/HV

Technical description: OKC 80 NTR/Z, OKC 100 NTR/Z, OKC 125 NTR/Z, OKC 160 NTR/Z, OKC 200 NTR/Z



Technical description: OKCV125 NTR, OKCV 160 NTR, OKCV 180 NTR, OKCV 200 NTR



4. OPERATING ACTIVITY

Service water heating via thermal energy through heat exchanger

Closing valves of the heat exchanger must be opened which ensures heating water flow from the hot water heating system.

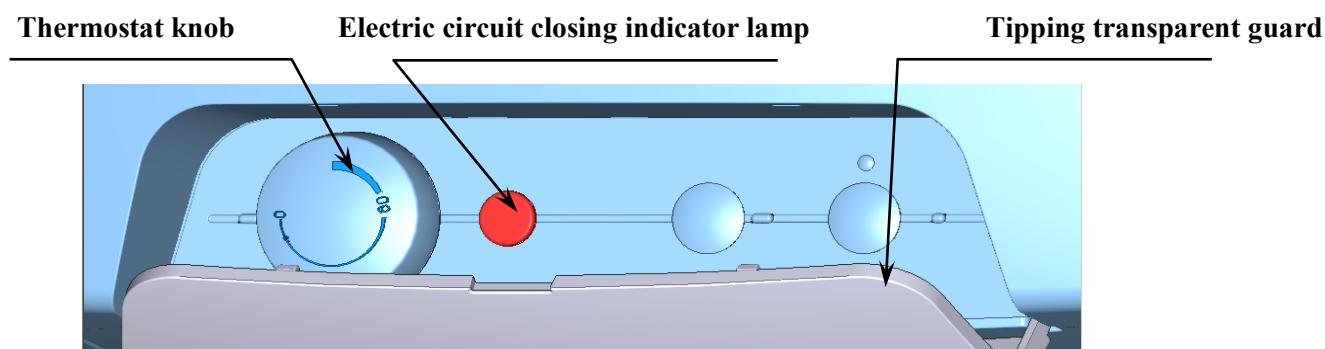
Together with the closing valve, it is recommended to install an air outlet valve at the inlet to the heat exchanger in order to bleed the heat exchanger (Fig. 1) as needed, in particular before the beginning of the heating season.

The time of heating using the heat exchanger depends on the temperature and flow of water in the hot water heating system. Combined heater is made in universal design – depending on the need of connecting the closing valves to the heating element from the right or left (Fig. 1).

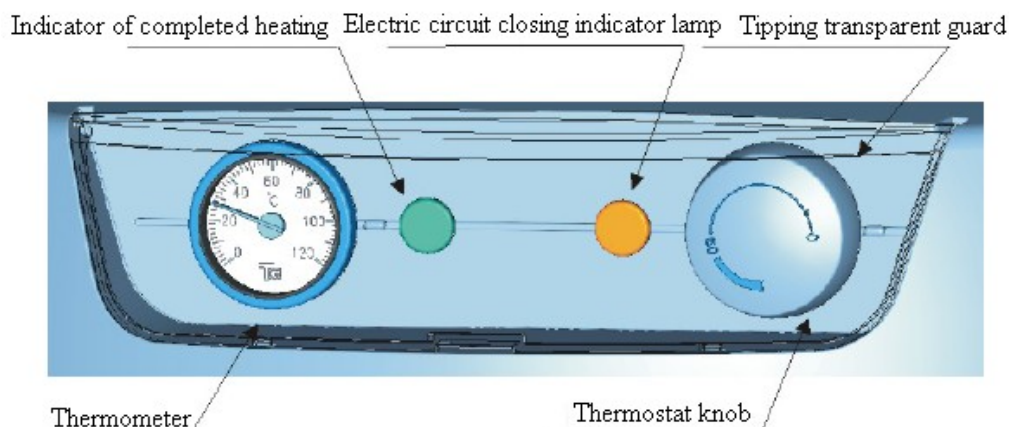
5. SERVICING

Service devices of heaters of 80 to 250 l capacity are located under the transparent guard of the control panel.

PANEL OF OKC NTR / Z & OKCV NTR HEATERS of 80 up to 200 l capacity

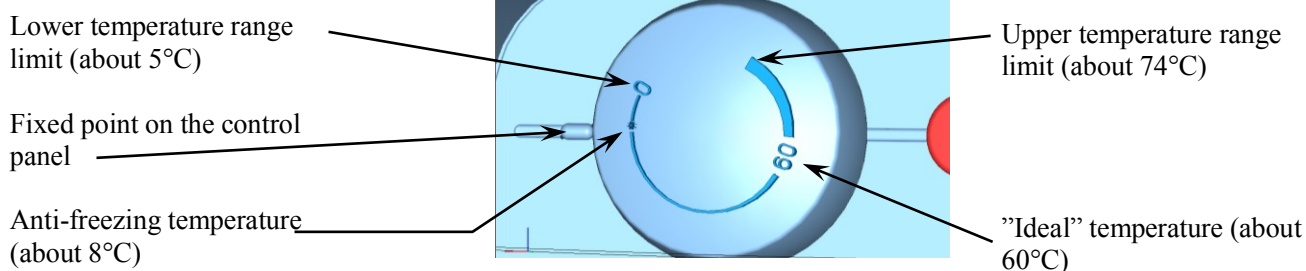


PANEL OF OKC NTR,R & OKC NTR / HV HEATERS of 100 up to 250 l capacity



Temperature setting

Teplota vody se nastavuje otočením knoflíku termostatu. Požadovaný symbol se nastaví proti pevnému bodu na ovládacím panelu.

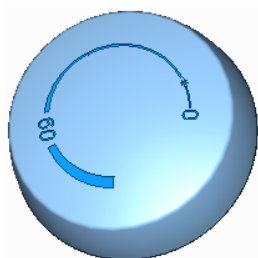


Notice: Adjusting the thermostat selector to the left backstop does not mean permanent shutoff of the heating element. When the heater is in use without blocking the daily rate, we do not recommend the temperature to be set above 65°C. The maximum value to select is “60”.

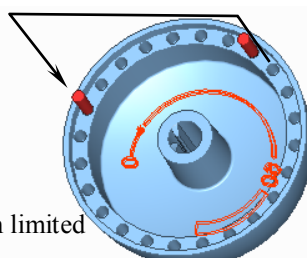
Limiting the regulation range; locked settings.

For various safety reasons (unintentional scalding, preventing children or unauthorised person from handling), the regulation range can be **limited**, or the setting on the thermostat **blocked**.

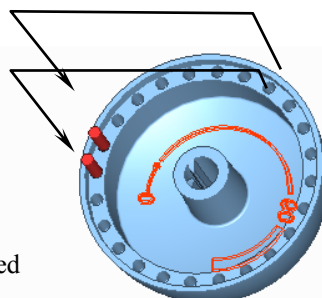
Regulation limited: - pull off the thermostat knob (it will be hard for the first time), and you will find two $\phi 2.15\text{mm}$ cylindrical pins on the back side of the knob
 - pull off one pin and insert it to the corresponding hole of the selected maximum temperature.
 - put the knob back on to the stop



Regulation limited



Setting blocked



To block the setting: - set the selected temperature
 - pull off the thermostat knob without changing the setting, there are two pins on the back side of the knob
 - pull off both of them and fit them into the holes corresponding with the selected temperature so that the gap between the pins was without a hole, and the position was opposite the set temperature.

6. PLUMBING FIXTURE

Connection of heaters to plumbing fixtures is illustrated on Fig.1. For potential disconnection of the heater, the service water inlets and outlets must be provided with screw coupling Js 3/4". If the hot service water (HSW) distribution is equipped with circulation circuit, the reverse pipe is connected to the inlet identified as CIRCULATION.

The 100, 125, 160 NTR and 100, 125, 160 NTR / HV types are equipped with a discharge outlet. In 200 and 250 NTR(R) types, the HSW inlet has to be provided with a “T” fixture with a drain valve.

For operation, the heater must be equipped with a safety valve. Safety valve is mounted on the cold water inlet identified with a blue ring.

The heaters must be equipped with a drain valve.

Each hot service water pressure heater must have a safety valve with a membrane spring. The safety valve must be easily accessible, as close to the heater as possible. The input pipes must have at least the same clearance as the safety valve. The safety valve is placed high enough to secure dripping water drain by gravity. We recommend mounting the safety valve onto a branch pipe. This allows easier exchange without having to drain the water from the heater. Safety valves with fixed pressure settings from the manufacturer are used for the assembly. Starting pressure of a safety valve must be identical to the maximum allowed heater pressure, and at least 20% higher than the maximum pressure in the water main. If the water main pressure exceeds such value, a reduction valve must be added to the system. No stop valves can be put between the heater and the safety valve. During the assembly, follow the guide provided by the safety equipment manufacturer. It is necessary to check the safety valve each time before putting it into operation. It is checked by manual moving of the membrane from the seat, turning the make-and-break device button always in the direction of the arrow.

After being turned, the button must click back into a notch. Proper function of the make-and-break device results in water draining through the safety valve outlet pipe. In common operation, such a check needs to be implemented at least once a month, and after each heater shutdown for more than 5 days. Water may be dripping off the drain pipe of the safety valve; the pipe must be open into the air, pointed down; environment temperatures must not drop below zero.

When draining the heater, use a recommended drain valve. First, close water input into the heater.

Find necessary pressure values in the following table.

For proper safety valve operation, a backflow valve must be mounted on the inlet pipes, preventing spontaneous heater draining and hot water penetrating back into the water main.

When assembling the security equipment, follow ČSN 06 0830.

Safety valve starting pressure (MPa)	Admissible operating water heater pressure (MPa)	Max. pressure in the cold water pipe (MPa)
0.6	0.6	do 0.48
0.7	0.7	do 0.56
1	1	do 0.8

7. CONNECTION OF INDIRECT HEATER TO HOT WATER HEATING SYSTEM (Fig. Examples of connection... and Fig. 1)

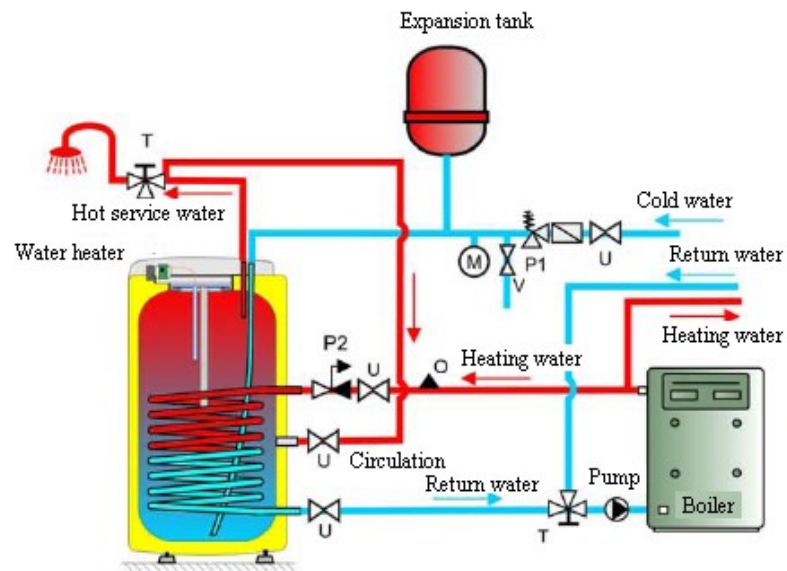
It is recommended to install stop valves on the heating water inlet and outlet (for possible dismantling of the heater). The valves have to be as close to the heater as possible to avoid higher thermal losses.

The heating circuit is connected to marked inputs and outputs of the heater exchanger; the deaerating valve is mounted in the highest place. It is necessary to install a filter into the circuit in order to protect the pumps, the three-way valve, and backflow flaps, and the exchanger from sedimentation. It is recommended to flush the heating circuit before the assembly. All wiring connections must be properly insulated from heat.

If the system works with priority heating of HSW using a three-way valve, always follow the installation instructions of the three-way valve's manufacturer.

Examples of connection of the heater to water and heating system

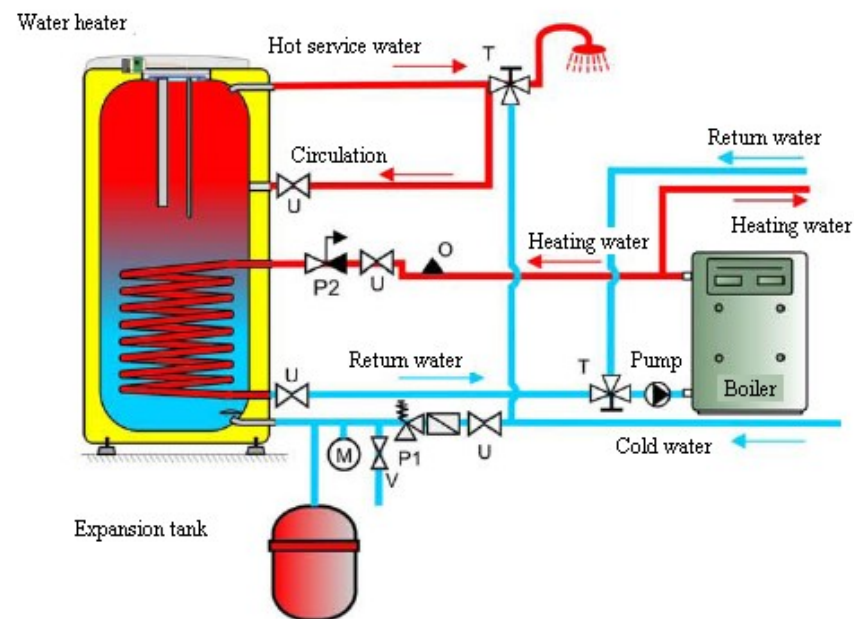
OKC 100 NTR, OKC125 NTR, OKC 160 NTR
OKC 80 NTR/Z, OKC 100 NTR/Z, OKC 125 NTR/Z, OKC 160 NTR/Z



- U - Closing valve
- P1 - Safety valve with backflow flap
- P2 - Safety valve for heating circuit
- V - Drain valve
- M - Manometer
- T - Three-way valve
- O - Air outlet valve

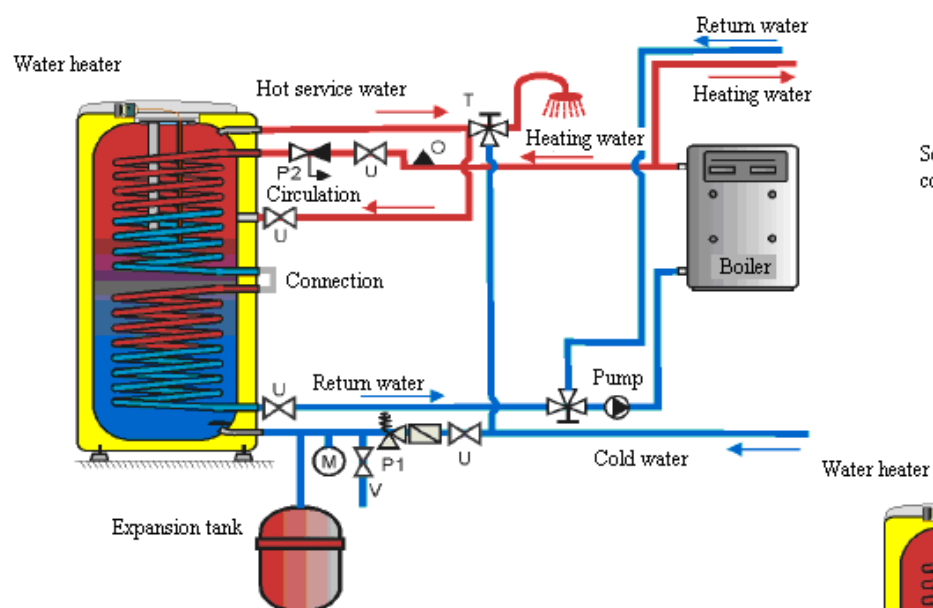
* Use of expansion tank is not a prerequisite of correct connection but just a possible design variant

OKC 200 NTR, OKC 250 NTR



OKC 200 NTRR, OKC 250 NTRR

Exchangers combined in a series

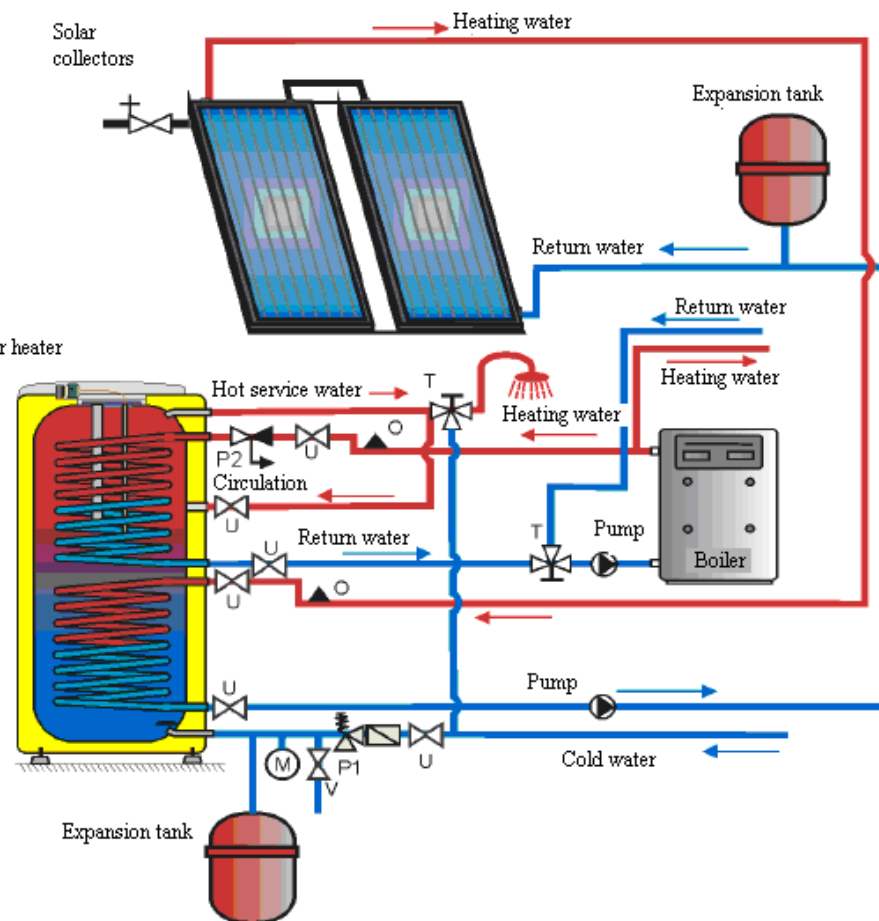


- U - Closing valve
- P1 - Safety valve with backflow flap
- P2 - Safety valve for heating circuit
- V - Drain valve
- M - Manometer
- T - Three-way valve
- O - Air outlet valve

* Use of expansion tank is not a prerequisite of correct connection but just a possible design variant

OKC 200 NTRR, OKC 250 NTRR

Two heating water sources



8. WALL MOUNTING (applies to NTR/Z & OKCV NTR only)

Prior to mounting, check the loading capacity of the wall and, depending on the type of masonry, choose a suitable anchorage material, or reinforce the wall, if needed. The NTR/Z series water heater shall only be mounted in vertical position so that the lower edge of the heater was placed at least 600 mm above the floor (Fig. 5, 6). The OKCV NTR series water heater shall only be mounted in horizontal position so that, from the front view, the right edge of the heater was placed at least 600 mm from the opposite wall.

In combined heaters, elbows have to be attached to the heating water inlet and outlet and, by turning them, determined the mounting either from the right or from the left (Fig. 1).

With regard to various types of carrying masonry and broad assortment of special anchorage material available at the market, we do not **provide** heaters with this material. The anchorage system has to be selected individually, depending on the conditions. We recommend an **authorised company** perform **mounting on the wall** and anchorage, or discuss the **anchorage with a professional**.

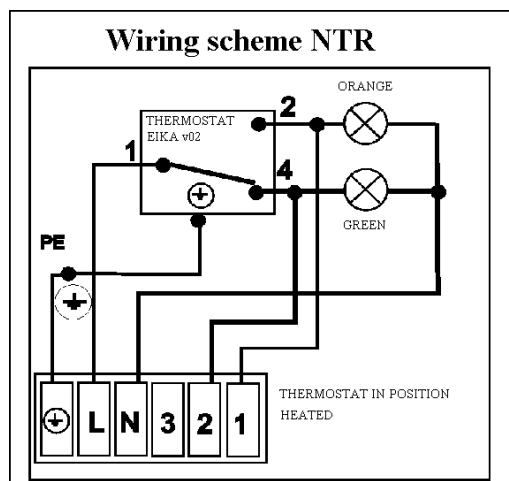
9. ELECTRIC INSTALLATION

Check the insertion of the thermostat sensor in the thermowell, the so-called insertion all the way.

The heater can be connected to any hot water heating boiler up to the power output of 50 kW. Electrically, the heater is powered directly by boiler with 230 V/50 Hz control voltage. Elastic cable CYSY 4C x 0.75 can be used for interconnection. Connecting terminals are identified on the terminal board of the heater.

Electric connection to heaters of the below types:

OKC 100 NTR, OKC 125 NTR, OKC 160 NTR, OKC 200 NTR, OKC 200 NTRR, OKC 250 NTRR, OKC 100 NTR/HV, OKC125 NTR/HV, OKC160 NTR/HV



- there is voltage on connecting terminal 2 when heater is heated
- there is voltage on connecting terminal 1 when heater is not heated

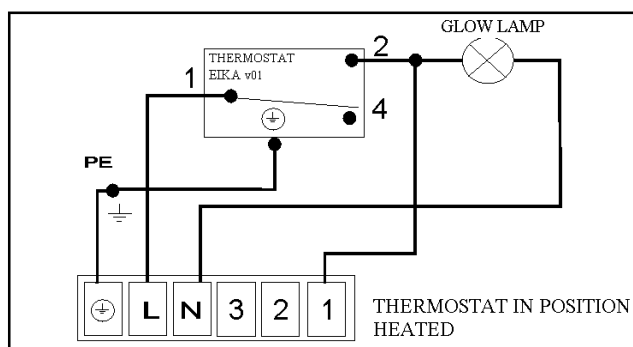
Installations in bathrooms, showers and lavatories must obey the ČSN33 2000-7-701 standard.

Touch thermometer is installed on the control panel to control the temperature of water, additionally there is a capillary thermostat to set the desired water temperature and two signal lights: “green” – heater heated, and “orange” – heating in process.

Electric connection to heaters of the below types:

OKC 80 NTR/Z, OKC 100 NTR/Z, OKC 125 NTR/Z, OKC 160 NTR/Z, OKC 200 NTR/Z
OKCV 125 NTR, OKCV 160 NTR, OKCV 180 NTR, OKCV 200 NTR

Wiring scheme OKC NTR/Z



- there is voltage on connecting terminal 1 when heater is not heated

The touch panel features control of the capillary thermostat to set the desired temperature of water, and the orange control lamp is on when the heater is heating.

10. PUTTING THE HEATER INTO OPERATION

After connecting the heater to the water supply, the hot water heating system, the electric network, and after testing its safety valve (based on the valve manual attached), the heater may be put into operation.

Procedure:

- a) Check both water and electric installation; for combined heaters, check also the installation to the hot water heating system. Check proper placement of thermostat sensors; The sensors in the thermowell have to be inserted all the way.
- b) Open the hot water valve on the combination faucet
- c) Open the cold water inlet valve to the heater.
- d) As soon as the water starts running through the hot water valve, the heater is filled and the valve closes.
- e) In case of a leakage (flange lid), we recommend fastening the flange lid bolts.
- f) Fasten the electric installation cover.
- g) When heating service water with electric energy from the hot water heating system, open the heating water inlet and outlet valves, possibly de-aerate the heat exchanger.
- h) When commencing operation, flush the heater until the cloudiness in the water is gone.
- i) Make sure to fill in properly the warranty certificate.

11. HEATER CLEANING AND ANODE ROD EXCHANGE

Repetitive water heating causes limestone sediment on both the tank walls and chiefly the flange lid. The sedimentation depends on the hardness of water heated, its temperature, and amount of hot water consumed.

We recommend checking and cleaning the tank from scale and eventual replacement of the anode rod after two years of operation. The anode life is theoretically calculated for two years of operation; however, it changes with water hardness and chemical composition in the place of use. Based on such an inspection, the next term of anode rod exchange may be determined. Have the company in charge of service affairs clean and exchange the anode.

When discharging water from the heater, the combination faucet valve for hot water must be open in order to avoid creating underpressure that would prevent water discharge.

12. IMPORTANT NOTICES

- Check and exchange the Mg anode regularly.
- **No stop valves can be put between the heater and the safety valve.**
- If the overpressure in the water main exceeds 0.6 MPa, a reduction valve must be mounted before the safety valve.
- All outlets of hot water must be equipped with a combination faucet.
- Before filling the heater with water for the first time, it is recommended to fasten the flange connection nuts of the tank.
- It is not allowed to handle the thermostat, aside from temperature resetting with a control button.
- All electric installation handling, setting, and regulation feature exchange, may only be implemented by a service company.

Disposal of packaging material and functionless product

A service fee for providing return and recovery of packaging material has been paid for the packaging in which the water heater was delivered was paid pursuant to Act No. 477/2001 Coll., as amended, at EKO-KOM a.s. The client number of the company is F06020274. Take the product packages to a waste disposal place designated to that purpose by the municipality. When the operation terminates, disassemble and transport the discarded and unserviceable heater to a waste recycling centre (collecting yard), or contact the manufacturer.



13. FIRE-FIGHTING REGULATIONS FOR INSTALLATION AND USE OF HEATER

We would like to emphasise that the heater must not be connected to power supply if work involving flammable liquids (petrol, spot remover) or gases, etc., is performed nearby.

14. INSTALLATION REGULATIONS

Regulations and instructions that must be obeyed if the heater is connected

- a) to the heating system
 - ČSN 06 0310 – Thermal systems in buildings – Designing and Installation
 - ČSN 06 0830 – Thermal systems in buildings – Protecting devices
- b) for electric network
 - ČSN 33 2180 - Connecting of electric devices and appliances
 - ČSN 33 2000-4-41 - Low voltage electric installations Protective measures to ensure safety – Protection against electric shock
 - ČSN 33 2000-7-701 - Low voltage electric installations Single-purpose devices and devices in special premises
 - Premises with bathtub or shower
- c) to the HSW heating system
 - ČSN 06 0320 - Thermal systems in buildings - Hot water preparation – Design and Project Engineering
 - ČSN 06 0830 – Thermal systems in buildings – Protecting devices
 - ČSN 73 6660 – Internal water mains
 - ČSN 07 7401 - Water and steam for thermal energy equipments with working steam pressure up to 8 MPa
 - ČSN 06 1010 - Tank water heaters with water and steam heating; and combined with electric heating. Technical requirements. Testing.
 - ČSN 75 5455 – Calculation of water installations inside buildings
 - ČSN EN 12897 – Water supply – Indirectly heated closed tank-type water heaters

Both electric and water installation must follow and meet requirements and regulations relevant in the country of use.

15. MOST FREQUENT FUNCTION FAILURES AND THEIR CAUSES

Temperature of water is not corresponding with the set value		Defective thermostat
Water is constantly dripping of the safety valve	LED is not on	Input pressure too high; faulty safety valve

Do not try to repair the failure yourselves. Seek either expert or service help. It does not take much for an expert to remove the defect. When making a repair appointment, report the type and serial number you find on the performance plate of your water heater.

16. PRODUCT ACCESSORIES

G3/4" safety valve is packed with the product and the OKC 100, 125 NTR and OKC 100, 125, 160 NTR/ HV types are additionally equipped with a discharge valve. The OKC NTR/Z and OKCV NTR types packaging include suspension elements and thermometer.

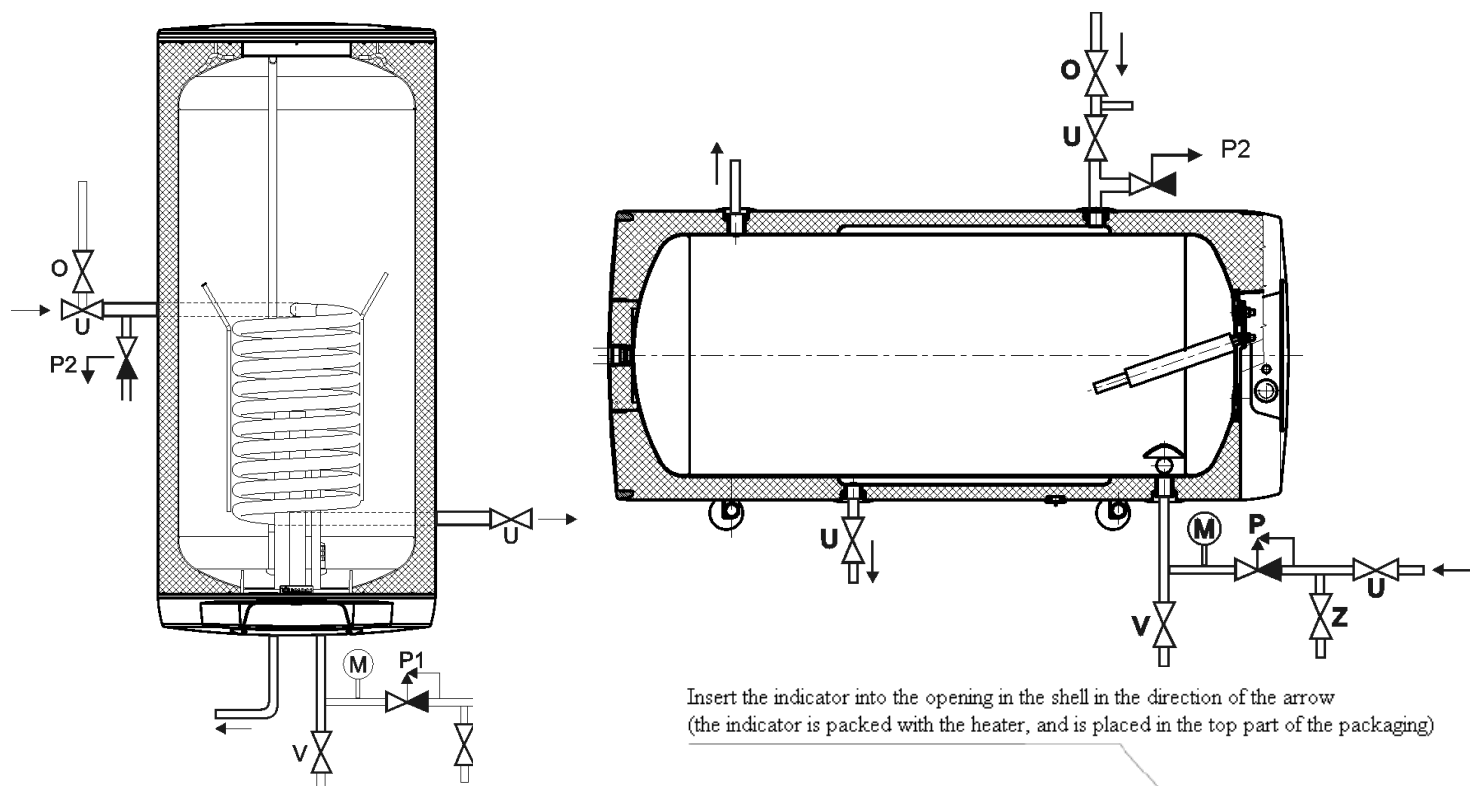
It is in your own interest to check the completeness of the accessories.

Water heaters' pressure and heat losses

TYPE	HEATING WATER FLOW (L/H)	PRESSURE LOSS (MBAR)	kW/24 h
OKC 100 NTR	720	33	0,9
OKC 125 NTR			1,05
OKC 160 NTR			1,4
OKC 200 NTR			1,8
OKC 250 NTR		2x 33	2,1
OKC 200 NTRR			1,8
OKC 250 NTRR		61	2,1

Fig. 1

Connection of the heater exchanger (left, right) and fittings at the cold water inlet



Connection to the cold water inlet must conform to ČSN 060830.

O - Air outlet valve

U - Shut-off valve

P1 - Safety valve with backflow flap

P2 - Safety valve for heating circuit

M - Manometer

Z - Test valve

V - Drain valve

Fig. 2

Fitting of hinges and thermometer onto the heater

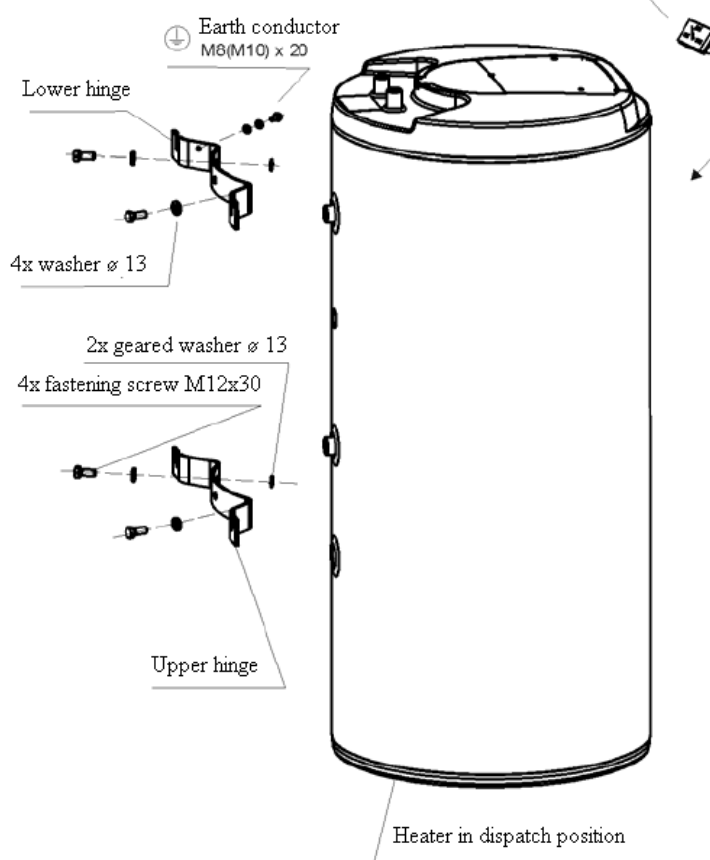
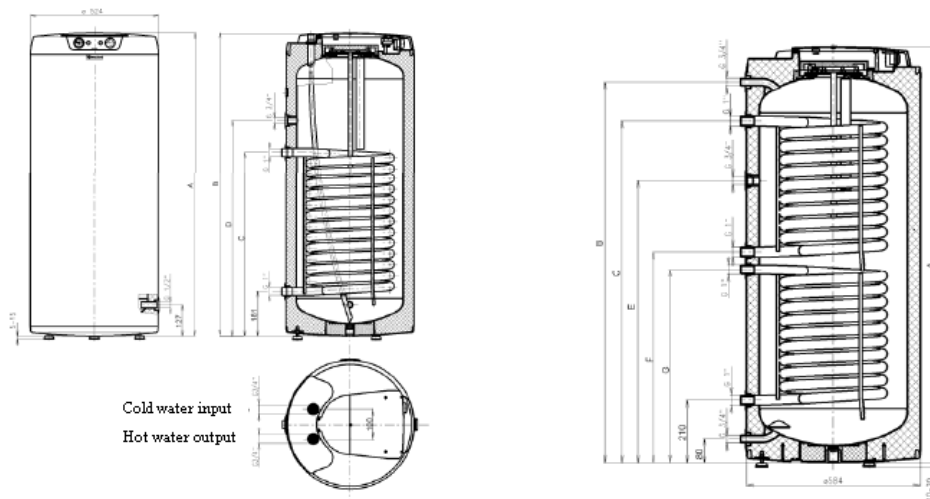


Fig. 3
Technical Data
Heater dimensions

OKC 100 NTR, OKC 125 NTR, OKC 160 NTR OKC 200 NTR, OKC 250 NTR
OKC 200 NTRR, OKC 250 NTRR



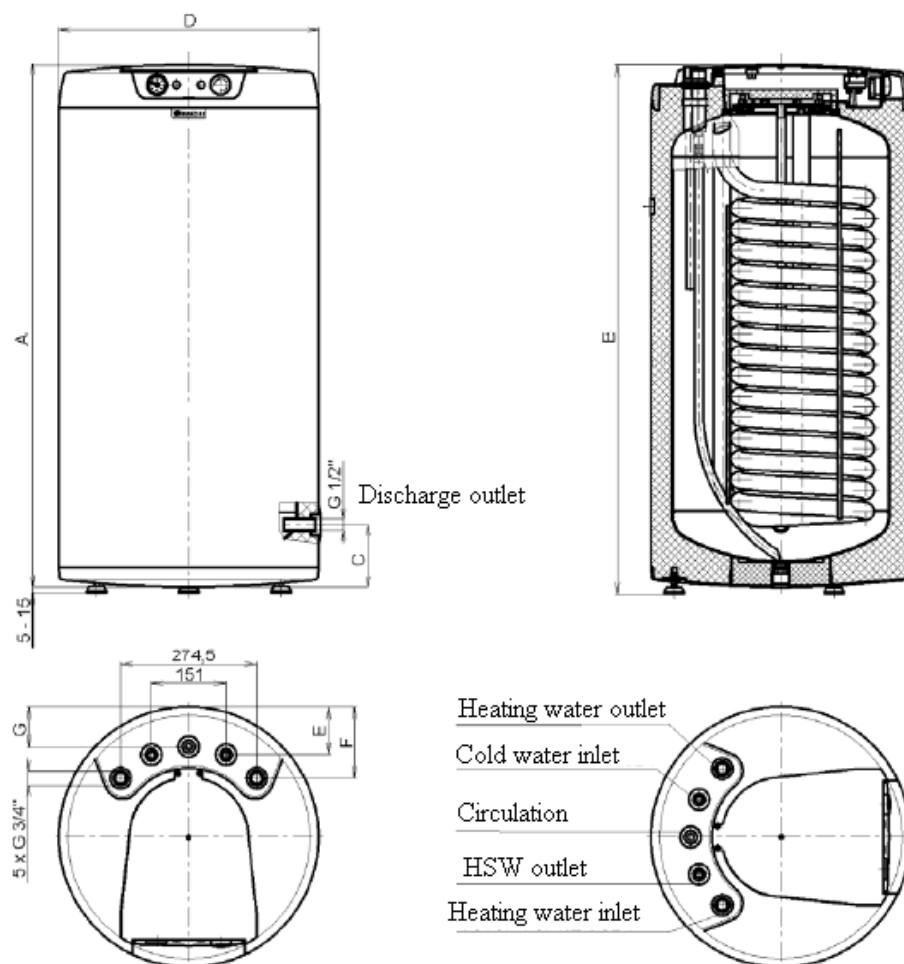
	OKC 100 NTR	OKC 125 NTR	OKC 160 NTR
A	881	1046	1235
B*	876	1041	1230
C	621	751	751
D	521	621	881

*Height from the bottom heater's edge to the end of the water inlet and outlet tube

	OKC 200 NTR	OKC 200 NTRR	OKC 250 NTR	OKC 250 NTRR
A	1400	1400	1580	1580
B	1280	1280	1460	1460
C	-	1150	-	1330
E	950	950	1060	1060
F	-	710	-	890
G	780	650	780	650

Type		OKC 100 NTR	OKC 125 NTR	OKC 160 NTR	OKC 200 NTR	OKC 200 NTRR	OKC 250 NTR	OKC 250 NTRR
Capacity	l	95	115	145	210	200	250	245
Max operating overpressure in the tank	MPa	0,6						
Maximum operating pressure in the exchanger	MPa	1						
Electric connection of control elements		1 PE-N 230V/50Hz						
El.protection		IP 44						
Max temperature of HSW	°C	80						
Recommended HSW temperature	°C	60						
Max weight of the heater without heat exchanger	kg	57	69	77	95	108	107	118
Exchanger heat surface	m ²	1,08	1,45	1,45	1,45	2 x 1,08	1,45	2 x 1,08
Rated thermal output at heating water temperature of 80°C and flow 720 l/h	W	24000	32000	32000	32000	2 x 24000	32000	2 x 24000
Time of heating by exchanger from 10°C	min	14	14	17	22	28 / 16	28	36 / 20
Heat losses	kWh/24h	0,9	1,1	1,33	1,4	1,4	1,73	1,73

Fig. 4
OKC 100 NTR/HV, OKC125 NTR/HV, OKC160 NTR/HV

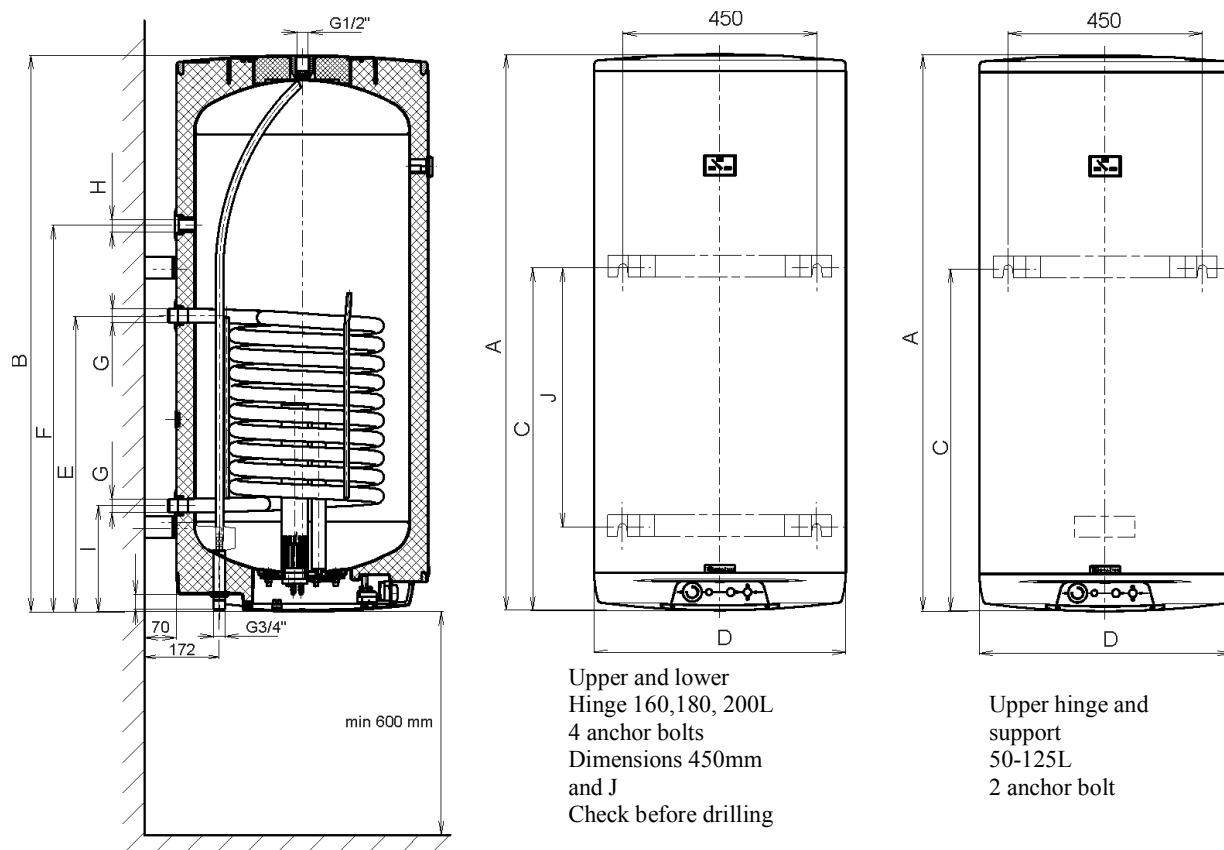


	OKC 100 NTR/HV	OKC 125 NTR/HV	OKC 160 NTR/HV
A	881	1046	1087
B*	876	1041	1082
C	124	124	146
D	524	524	584
E	95	95	134
F	142	142	174
G	78	78	110

Type		OKC 100 NTR/HV	OKC 125 NTR/HV	OKC 160 NTR/HV
Capacity	l	95	120	155
Max operating overpressure in the tank	MPa	0,6		
Maximum operating overpressure in the exchanger	MPa	1		
Electric connection of control elements		1 PE-N 230V/50Hz		
IP Protection		IP 44		
Max. hot water temperature	°C	80		
Recommended HSW temperature	°C	60		
Max weight f the heater without water	kg	56	70	78
Exchanger heat surface	m ²	1,08	1,45	1,45
Rated thermal output at heating water temperature of 80°C and flow 720 l/h	W	24000	32000	32000
Time of heating by exchanger from 10°C to 60°C	min	14	14	17
Heat losses	kWh/24h	0,9	1,1	1,39

Fig. 5

OKC 80 NTR/Z, OKC 100 NTR/Z, OKC 125 NTR/Z, OKC 160 NTR/Z, OKC 200 NTR/Z

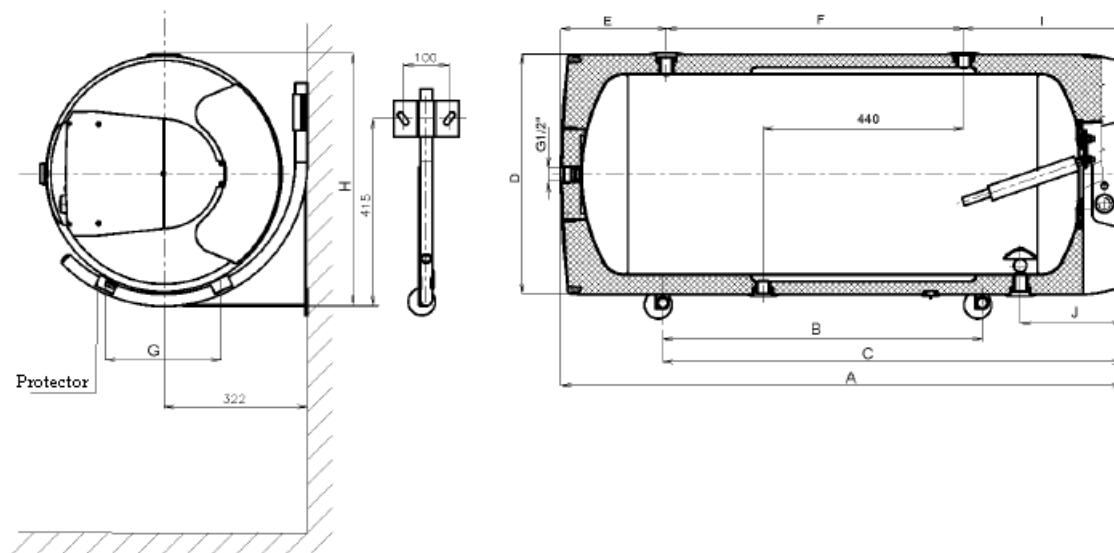


Type	OKC 80 NTR/Z	OKC 100 NTR/Z	OKC 125 NTR/Z	OKC 160 NTR/Z	OKC 200 NTR/Z
A	736	881	1046	1235	1287
B*	731	876	1041	1230	1282
C	615	636	801	1005	793
D	524	524	524	524	584
E	501	701	701	701	685
F	-	551	551	831	895
G	3/4"	1"	1"	1"	1"
H	-	3/4"	3/4"	3/4"	3/4"
I	211	261	261	261	245
J	-	-	-	815	600

Type		OKC 80 NTR/Z	OKC 100 NTR/Z	OKC 125 NTR/Z	OKC 160 NTR/Z	OKC 200 NTR/Z
Capacity	l	80	100	125	155	195
Max operating overpressure in the tank	MPa	0,6				
Maximum operating pressure in the exchanger	MPa	1				
Electric connection of control elements		1 PE-N 230V/50Hz				
El.protection		IP 45				
Max temperature of HSW	°C	80				
Recommended HSW temperature	°C	60				
Height of the heater	mm	736	881	1046	1235	1287
Diameter of the heater	mm	524	524	524	524	584
Max weight of the heater without heater	kg	39	56	62	70	87
Exchanger heat surface	m ²	0,41	1,08	1,08	1,08	1,08
Rated thermal output at heating water temperature of 80°C and flow 720 l/h	W	9000	24000	24000	24000	24000
Time of heating by exchanger from 10°C to 60°C	min	32	14	17	23	28
Heat losses	kWh/24h	0,71	0,88	1,09	1,39	1,4

Fig. 6

OKCV 125 NTR, OKCV 160 NTR, OKCV 180 NTR, OKCV 200 NTR



Type	OKCV 125 NTR	OKCV 160 NTR	OKCV 180 NTR	OKCV 200 NTR
A	1046	1235	1187	1287
B	600	700	600	600
C	908	1008	907	907
D	524	524	584	584
E	184	230	258	255
F	513	650	570	670
G	200	200	240	240
H	559	559	616	616
I	350	350	358	362
J	225	225	252	252

Type		OKCV 125 NTR	OKCV 160 NTR	OKCV 180 NTR	OKCV 200 NTR
Capacity	l	125	152	180	200
Max operating overpressure in the tank	MPa	0,6			
Maximum operating pressure in the exchange	MPa	0,4			
Electric connection of control elements		1 PE-N 230V/50Hz			
El.protection		IP 44			
Max temperature of HSW	°C	80			
Recommended HSW temperature	°C	60			
Max weight of the heater without heater	kg	55	65	76	80
Exchanger heat surface	m ²	0,7	0,7	0,75	0,75
Rated thermal output at heating water temperature of 80°C and flow 720 l/h	W	15000	16800	18000	18000
Time of heating by exchanger from 10°C to 60°C	min	37	35	38	43
Rated thermal output at heating water temperature of 80°C and flow 310 l/h	W	8000	10260	11000	11000
Time of heating by exchanger from 10°C to 60°C	min	70	60	63	72
Heat losses	kWh/24h	1,09	1,36	1,39	1,4