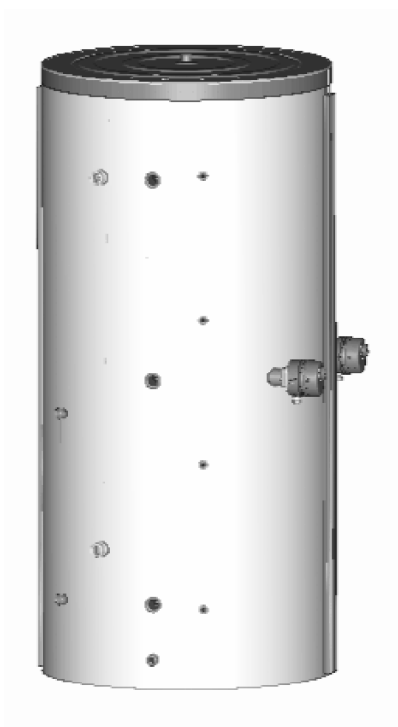


OPERATING AND INSTALLATION MANUAL

STORAGE TANKS

NADO 800/35v9
NADO 1000/35v9



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CAREFULLY READ THIS MANUAL BEFORE INSTALLING THE TANK!

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.



The product is not intended to be controlled by

- a) people (including children) with reduced physical, sensual or mental capacities, or
- b) people with insufficient knowledge and experiences unless supervised by responsible person, or unless properly instructed by such responsible person.

The manufacturer reserves the right for engineering modification of the product. The product is designed for permanent contact with drinkable water.

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

Product's reliability and safety is proven by tests implemented by the Engineering Test Institute in Brno.

Made in the Czech Republic.

Meaning of pictograms used in the Manual



Important information for heater users.



Abiding by the recommendations of the manufacturer serves to ensure trouble-free operation and the long service life of the product.



Caution!
Important notice to be observed.

1 PRODUCT TECHNICAL SPECIFICATION

1.1 FUNCTION DESCRIPTION

Storage tanks serve accumulation of excessive heat from its source. The source may be a solid fuel boiler, heat pump, solar collectors, fireplace inserts, etc.

The NADO type storage tanks serve accumulation of heat in the heating system and allow heating or preheating of HSW (Hot Service Water) in an inner stainless tank. Incorporation of a storage tank in the heating system with a solid fuel boiler allows an ideal run of a boiler at favourable temperature during the boiler operation. The main benefit lies in the period of optimum operation (i.e. with maximum efficiency) when the excessive unconsumed heat accumulates in the storage tank.

The storage tanks are manufactured in 800 and 1000-litre volumes. The tanks and tubular exchangers are made of steel, without the inner surface treatment, the outer surface of the tank is provided with a protective paint. Individual versions are equipped with a tubular exchanger and a buried stainless exchanger of 32 litre volume, and two funnels G1½" with the possibility to install an electric heating element of TJ 6/4" series. The storage tanks are equipped with a removable 80 mm thick insulation and a lock.

The NADO type enables direct heating of HSW (Hot Service Water) in a stainless exchanger, or its preheating for another water heater. Connection to a boiler usually allows direct HSW heating in the inner tank to the desired temperature whilst, on the contrary, connection to solar collectors or heat pump only preheats HSW and another, e.g. electric, heater has to be used, in order to complete heating the water to the desired temperature, or final electric heating has to be fitted in the storage tank which is enabled by the electric heating unit of TJ 6/4" series.

1.2 DESIGNING THE SIZE AND CONNECTION OF STORAGE TANK TO THE HEATING SYSTEM

An ideal size of the storage tank is designed by a design engineer, or a person sufficiently qualified to design heating systems.

Product assembly must be implemented by an authorised person (confirmed in the warranty certificate).



Notice: When putting into operation, water has to be filled first into the inner stainless HSW exchanger and the operating pressure inside it has to be kept, only then heating water can be filled into the outer storage tank, otherwise the product might get damaged!

2 TECHNICAL PARAMETERS

	NADO 800/35v9	NADO 1000/35v9
STORAGE TANK CAPACITY [l]	820	999
CAPACITY OF STAINLESS EXCHANGER [l]	32	32
CAPACITY OF BOTTOM EXCHANGER [l]	25	25
CAPACITY OF UPPER EXCHANGER [l]	18	25
WEIGHT [kg]	224	275
HEATING SURFACE OF STAINLESS EXCHANGER [m ²]	8.5	8.5
HEATING SURFACE OF BOTTOM EXCHANGER [m ²]	3.3	3.3
HEATING SURFACE OF UPPER EXCHANGER [m ²]	2.2	3.3
MAXIMUM TANK PRESSURE [MPa]	0.3	0.3
MAXIMUM PRESSURE OF STAINLESS EXCHANGER [MPa]	0.6	0.6
MAXIMUM PRESSURE OF BOTTOM AND UPPER EXCHANGER [MPa]	1	1
MAXIMUM TEMPERATURE OF WATER IN THE TANK [°C]	90	90
MAXIMUM TEMPERATURE OF WATER IN THE EXCHANGER [°C]	90	90
MAXIMUM WORKING TEMPERATURE IN THE HEAT EXCHANGER [°C]	110	110
AMOUNT OF 40°C HOT WATER AT 53°C WATER TEMPERATURE IN THE TANK AND INLET WATER 15°C / HOT WATER FLOW [l/(l/min)]	*620 / 10	*750 / 10
AMOUNT OF 40°C HOT WATER AT 80°C WATER TEMPERATURE IN THE TANK AND INLET WATER 15 °C / HOT WATER FLOW [l/(l/min)]	*1287 / 10	*1450 / 10
MAXIMUM OUTPUT OF EL. HEATING ELEMENT OF TJ 6/4" SERIES [kW]	2 x 6	2 x 6
STANDING LOSS [W]	118	138

* value stated by calculation

Table 1

3 IMPORTANT WARNING



Connection of internal tank for hot water must comply with CSN 060830, i.e. on cold water inlet is necessary to install a safety valve.

We recommend to start up the heating circle before commissioning and to clean possible dirt caught in the filter and after this the system would be fully functional.



Recommended operating pressure of hot water circle is 0.4 MPa. We recommend installing return valve and an expansion vessel (min. 4 % of hot water in pipeline) on hot water outlet to eliminate back pressure impacts.

The reservoir is possible to use only in compliance with conditions stated on performance plate and with instructions for wiring. It is also necessary to observe terms for connection stipulated by some local electrical and water companies as same as manual for assembling and operation besides statutory accepted national regulations and standards.

Shut down the reservoir cold water intake if you are not using the reservoir for longer than 24 hours or if the object with the heater is without presence of any person.

4 TECHNICAL DESCRIPTION

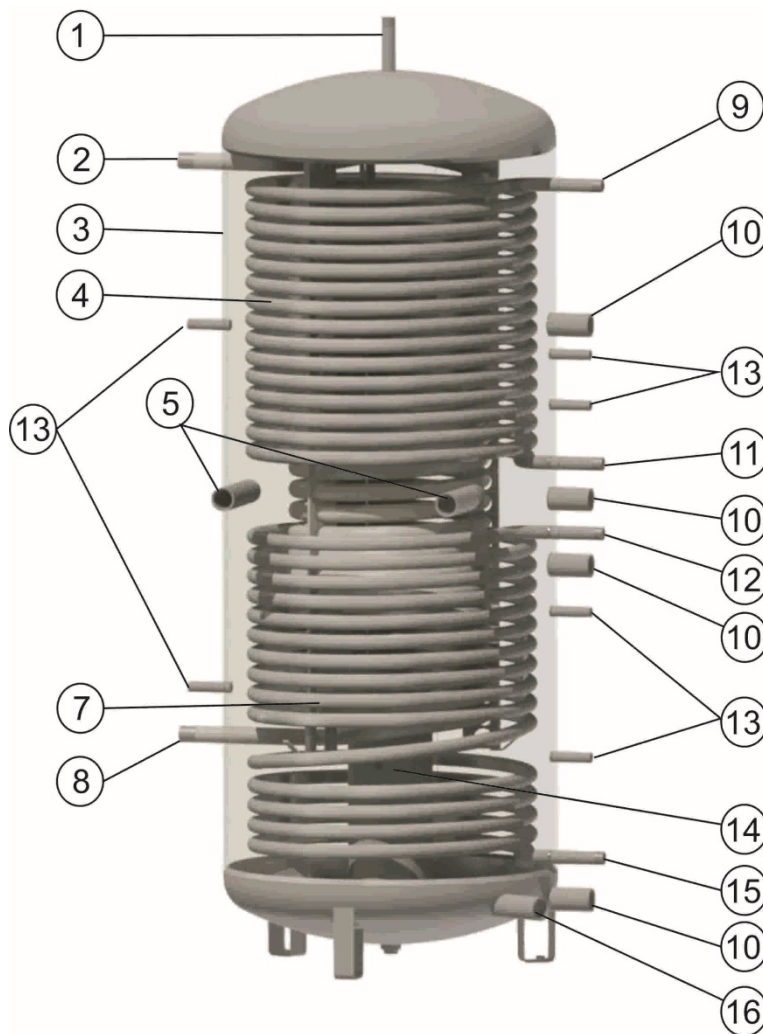


Figure 1

1. Bleeding (heating water outlet) - G1"
2. Hot service water outlet - G 1 ¼"
3. Steel receptacle
4. Exchanger for connecting an additional heating source
5. Funnel for additional heating element TJ 6/4 - G 1 ½" (2 units)
6. Buried stainless exchanger for service water heating by flow
7. Exchanger for connecting solar collectors (heat pump)
8. Cold water inlet - G 1 ¼"
9. Inlet into exchanger - G 1"
10. Funnel for connecting an additional heating water source - G 1 ½" (3 units)
11. Outlet from exchanger - G 1"
12. Entry to (solar) exchanger - G1"
13. Funnel for a thermowell - G ½" (6 units)
14. Stratification pipe
15. Outlet from exchanger (solar) - G 1"
16. Water inlet for connection of return water of heating system - G 1½" (TJ 6/4" mustn't be installed)

NADO 800/35v9, NADO 1000/35v9

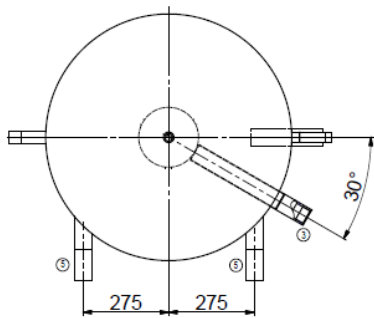
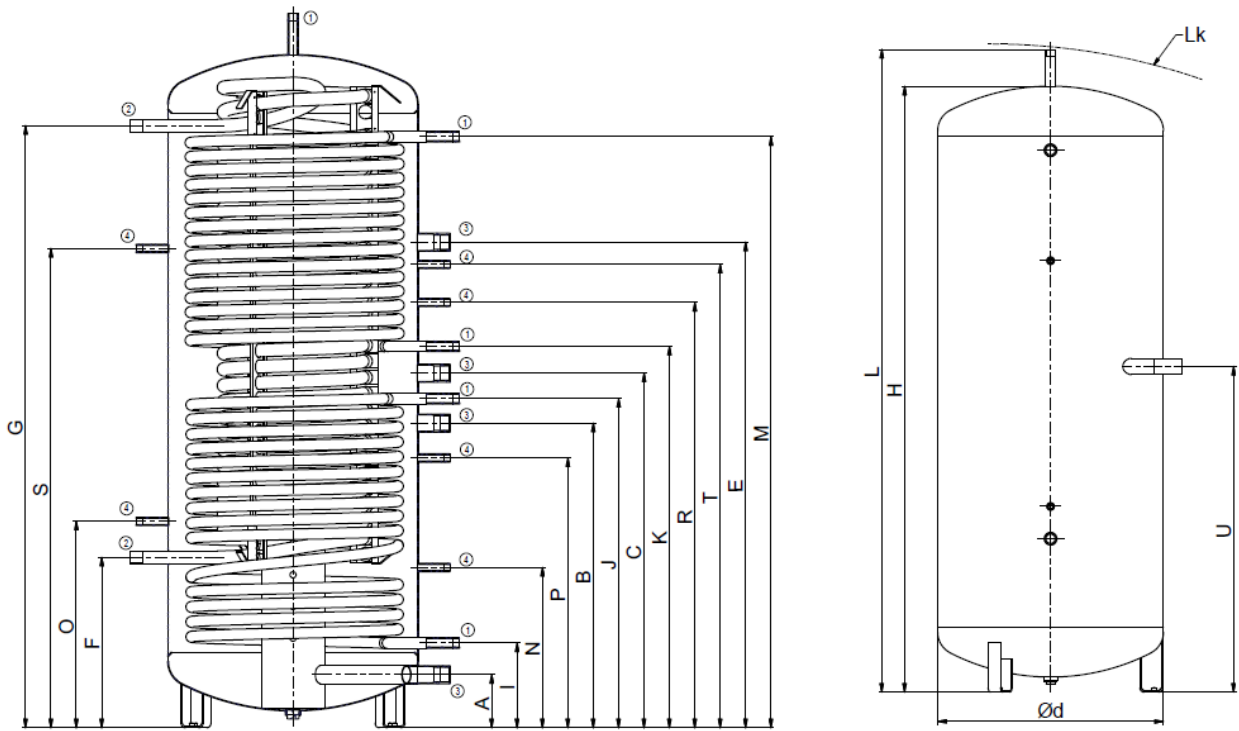


Figure 2

	NADO 800/35v9	NADO 1000/35v9
D	790	790
L	1945	2245
Lk	1985	2280
A	156	156
B	879	952
C	1019	1109
E	1392	1552
F	259	529
G	1599	1889
H	1815	2115
I	289	259
J	949	1029
K	1115	1194
M	1552	1854
N	487	497
O	572	842
P	-	1209
R	1192	1332
S	1292	1502
T	1292	1452
U	1019	1132

①	1" outer
②	1/4" outer
③	1 1/2" inner
④	1/2" inner
⑤	for TJ 6/4" inner

Table 2

Thermal insulation: NEODUL LB PP

Polyester sheet of 80 mm thickness. It consists of an upper cover, flange cover and hole caps. Insulation is supplied in a separate packaging.

We recommend that the insulation was fitted at room temperature.

At temperatures significantly below 20°C the insulation shrinks. This disables its easy fitting.

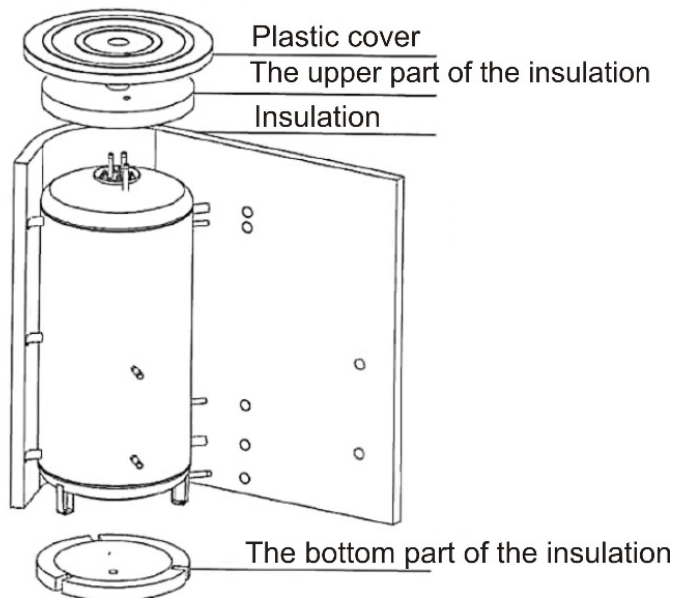


Figure 3

5 DISPOSAL OF PACKAGING MATERIAL AND NON-FUNCTIONING PRODUCT

A service fee for providing return and recovery of packaging material has been paid for the packaging in which the product was delivered. The service fee 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 water tank packages to a waste disposal place determined 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.



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