Operation and Installation Manual

Storage tanks

Type NAD

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1. 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. Some types of storage tanks allow combination of connecting even multiple sources.

The NAD type storage tanks serve accumulation of heat in the heating system only. Incorporation of a storage 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 tanks and potential tubular exchangers are made of steel, without the inner surface treatment, the outer surface of the storage tank is provided with a protective paint. The storage tanks are equipped with a removable 100 m thick insulation – polyurethane foam (foam rubber) with artificial leather and a zip-fastener. The storage tanks are manufactured in 500, 700 and 1000-litre volumes. Individual versions are additionally equipped with one or two tubular exchangers, each of 1.5 m^2 area and an inspection hole of 182 mm clearance with an option of installation of an in-built electric heating unit TPK.

The storage tanks are not designed for accumulation of HSW - hot service water.

2. General dimensions

Capacity (l)	Diameter (mm)	Height (mm)
500	600	1990
750	750	2020
1000	850	2053

3. Description of individual versions

NAD v1

Storage tank with a possibility of placing one up to three flanges. A 210 mm spacing flange may be used for assembly of an in-built TPK flange electric heating unit. In the standard version, the flange is blinded. The delivery includes insulation of 100 mm thickness.

NAD v2

Storage tank with a possibility of placing G6/4“ funnels. Funnel G6/4“ can be used for fitting an electric heating unit TJ G 6/4“. The delivery includes insulation of 100 mm thickness.

NAD v3

Storage tank with a flange of 210 mm screw spacing and funnels, or with funnels only. A 210 mm spacing flange may be used for assembly of an in-built electric heating TPK flange unit. In the standard version, the flange is blinded. The delivery includes insulation of 100 mm thickness.

NAD v4

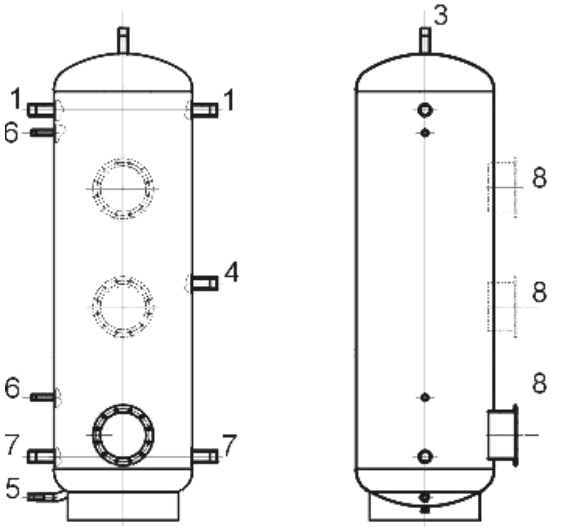
Storage tank with a flange of 210 mm screw spacing for the assembly of an in-built flange electric heating unit TPK and one exchanger of 1.5 m^2 area for connection of an additional heating system (e.g. SOLAR). In the standard version, the flange is blinded. The delivery includes insulation of 100 mm thickness.

NAD v5

Storage tank with a flange of 210 mm screw spacing for the assembly of an in-built flange electric heating unit TPK and two exchangers, either of 1.5 m^2 area for connection of an additional heating system (e.g. SOLAR). In the standard version, the flange is blinded. The delivery includes insulation of 100 mm thickness.

4. Illustration of NAD versions

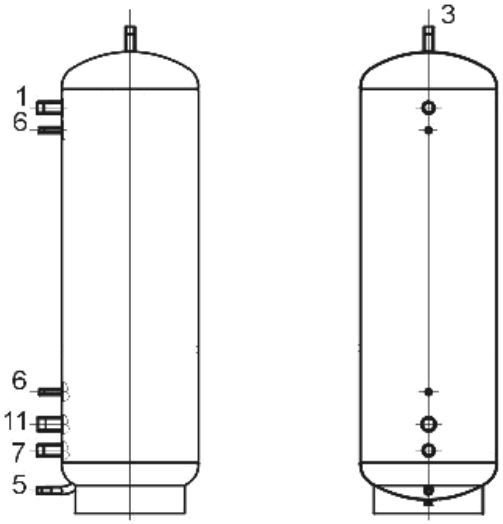
NAD v1



Outlets:

1. water inlet to accu. tank	inner	G5/4"
3. hot water accumulator outlet (bleeding)	outer	G1"
4. next inlet	inner	G5/4"
5. water inlet to accu. tank (drain)	outer	G1"
6. thermowells (thermometer, thermostat)	inner	G1/2"
7. water outlet from accu. tank (return water)	inner	G5/4"
8. flange, right 210 for assembly of TPK		

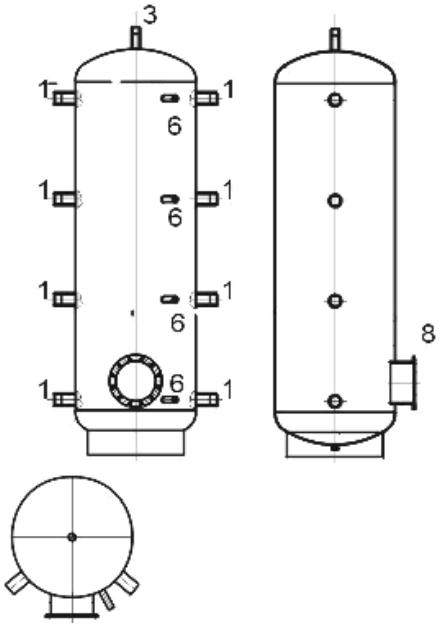
NAD v2



Outlets:

1. water inlet to accu. tank	inner	G5/4"
3. hot water accumulator outlet (bleeding)	outer	G1"
5. water inlet to accu. tank (drain)	outer	G1"
6. thermowells (thermometer, thermostat)	inner	G1/2"
7. water outlet from accu. tank (return water)	inner	G5/4"
11. option of fitting el. heating unit TJ 6/4"		

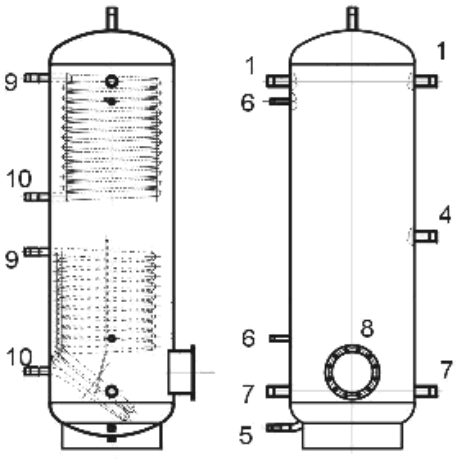
NAD v3



Outlets:

1 water outlet (inlets) from accu. tank,
option of fitting el. heating unit TJ 6/4"
3. hot water accumulator outlet (bleeding) outer G 1"
6. thermowells (thermometer, thermostat) inner G1/2"
8. flange, right 210 for assembly of TPK

NAD v4- lower exchanger only
NAD v5-both exchangers



Outlets:

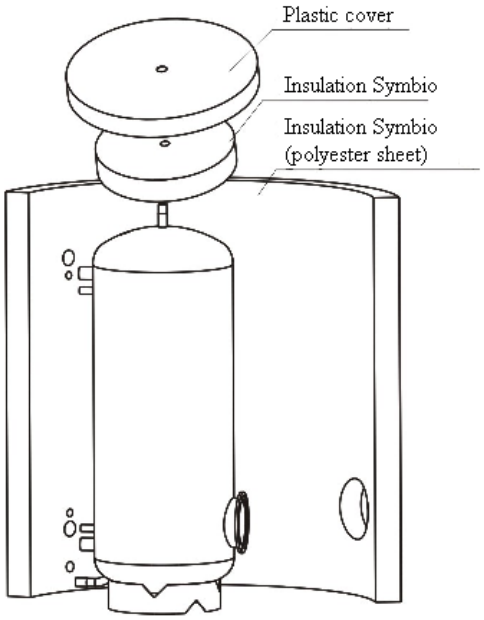
1. water inlet to accu. tank	inner	G5/4"
3. hot water accumulator outlet (bleeding)	outer	G 1"
4. next inlet	inner	G5/4"
5. water inlet to accu. tank (drain)	outer	G1"
6. thermowells (thermometer, thermostat)	inner	G1/2"
7. water outlet from accu. tank (return water)	inner	G5/4"
8. flange, right 210 for assembly of TPK		
separated heating system – solar, heat pump		
9. heating water inlet	outer	G 1"
10 hot water outlet	outer	G 1"

5. 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).
Prior to commissioning, we recommend that you run the heating circuit and any impurities that are trapped in the filter clean, then the system is fully operational.
It is recommended to use the product in an indoor environment with air temperatures from +5°C to 45°C and a maximum relative humidity of 80%.

6. General Technical Parameters

The maximum operating pressure in the storage tank is 0.3 MPa. The maximum heating water temperature in the storage tank is 90°C.
In version 4 a 5 additionally:
The maximum operating pressure in the exchanger is 1 MPa, the maximum temperature of heating water in the exchanger is 110°C.



Thermal insulation

Polyester sheet of 100 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.

Technical parameters

	NAD 500 v1 Symbio II	NAD 500 v1 Symbio LB PP	NAD 500 v2 Symbio II	NAD 500 v2 Symbio LB PP	NAD 500 v3 Symbio II	NAD 500 v3 Symbio LB PP	NAD 500 v4 Symbio II	NAD 500 v4 Symbio LB PP	NAD 500 v5 Symbio II	NAD 500 v5 Symbio LB PP	NAD 300 v3 Symbio II
Standing loss (W)	83	132	83	132	83	132	80	128	83	132	80
Storage tank volume (l)	475	475	475	475	475	475	475	475	447	447	320

	NAD 750 v1 Symbio II	NAD 750 v1 Symbio LB PP	NAD 750 v2 Symbio II	NAD 750 v2 Symbio LB PP	NAD 750 v3 Symbio II	NAD 750 v3 Symbio LB PP	NAD 750 v4 Symbio II	NAD 750 v4 Symbio LB PP	NAD 750 v5 Symbio II	NAD 750 v5 Symbio LB PP
Standing loss (W)	122	156	122	156	122	156	119	153	122	156
Storage tank volume (l)	772	772	772	772	772	772	758	758	772	772

	NAD 1000 v1 Symbio II	NAD 1000 v1 Symbio LB PP	NAD 1000 v2 Symbio II	NAD 1000 v2 Symbio LB PP	NAD 1000 v3 Symbio II	NAD 1000 v3 Symbio LB PP	NAD 1000 v4 Symbio II	NAD 1000 v4 Symbio LB PP	NAD 1000 v5 Symbio II	NAD 1000 v5 Symbio LB PP
Standing loss (W)	135	183	135	183	135	183	133	180	126	183
Storage tank volume (l)	999	999	999	999	999	999	985	985	971	971