

Assembly and installation instructions

water heat exchanger of the series D-HWT / D-TWT / D-SHWT / D-NWT / D-KWT

If you don't pay proper attention to these installation instructions the manufacturer cannot accept liability for any resulting damage to the device itself, the environment, property, or personal injury.

Your safety is our concern!

These cross-flow heat exchangers consist of a casing, smooth coiled tubing with inner sheath and a baffle plate.

1. Purpose:

These heat exchangers are made to heat up bathing water using warm water from heating, solar plants, heat pumps or low temperature heating systems.

2. Safety Instructions:

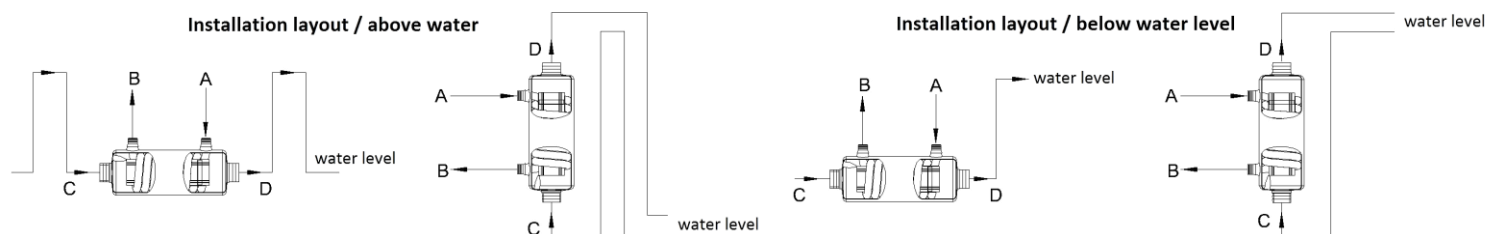
This device has not been designed for being used neither by individuals (including children) with physical, mental or sensory disabilities nor by people who lack the necessary experience and/or knowledge, unless they are under the supervision of someone entrusted with their safety or they are instructed by that person in how the device should be used.

3. Hazards:

- 3.1 Do not exceed the maximum allowable pressure loads. Bathing water circuit 3 bar * or 2 bar ** – heating circuit 10 bar* or 6 bar **.
- 3.2 There is danger of getting burned! If there is no bathing water flowing through it, the heat exchanger might heat up to the flow temperature of the heating water.
The hot water connections can reach temperatures up to 100 °C.
To prevent burns and/or the destruction of the heat exchanger as a result of overheating, it is essential that the heating pump stops automatically through the filter pump. It should not be possible to switch it on if the filter pump is not in operation. In case of higher flow temperatures it is recommended that a switch-off delay is installed for the filter pump. Disconnect the heating pump from the circuit approximately 10 minutes before the filter pump.
- 3.3 To prevent damage to the heat exchanger and its surroundings, check the heat exchanger regularly (at least once a week) during the bathing season for external signs of damage and for leaks.

4. Assembly instructions:

- 4.1 Always install the heat exchanger after the filter.
- 4.2 The heat exchanger needs to be protected against frost.
- 4.3 During assembly, carefully follow the directions in the diagram below. This way, damage and performance decrease can be avoided. Keep in mind the loops of the pipes to prevent idling!
- 4.4 To prevent corrosion, be careful that no metals containing iron get washed into the heat exchanger (contact corrosion).
- 4.5 Keep the heat exchanger always full of water (above and below water level) if the bathing facility gets shot down over the winter months. If there is risk of frost the heat exchanger needs to be completely empty. Under these circumstances, vertical positioning of the heat exchanger is an advantage.
- 4.6 If after initial start-up the heat exchanger fails to perform properly, all air must be completely removed from the primary side (A/B). The water inlet and outlet (see diagram A-B/C-D) should be checked to ensure that they have been properly installed.
- 4.7 Install a backflow preventer on the primary input (A) as overheat protection.



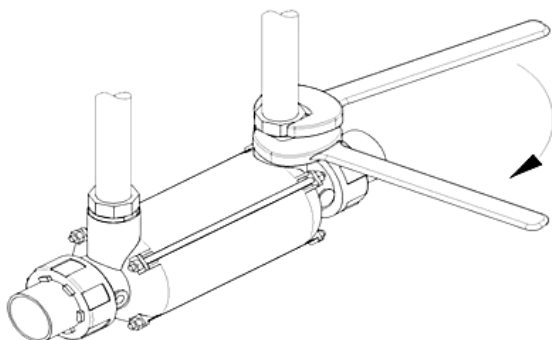
5. Important information regarding water quality:

Do not exceed the following parameters:

<u>Stainless steel V4A:</u>	Chloride content	max. 500 mg/l	<u>Titanium:</u>	Chloride content	max. 3000 mg/l
	Free chlorine	max. 3 mg/l		Free chlorine	no limit
	PH	max. 6,8 – 7,8		PH	max. 6,8 – 7,8
				Salt	max. 3,5%

- 5.1 If these limits are being disregarded, the heat exchanger might be damaged through corrosion.
- 5.2 Always install the disinfection device after the heat exchanger and in a way that chemicals or other gases cannot get into the heat exchanger.
- 5.3 Please consider 4.3 and 4.5 also as prevention against corrosion. If the heat exchanger is halfway filled with pool water during standstill or during winterizing, corrosion will happen. Air in combination with chlorine residue or similar chemicals, even in the smallest amounts, build an aggressive atmosphere in the heat exchanger and will destroy it.

6. Appropriate fitting of pipes in the heating circuit with model D-KWT:



To prevent the stainless steel fitting from detaching itself from the heat exchanger housing and, as a result, also from the corrugated coil, and to prevent leaks from occurring, the stainless steel fitting should be firmly tightened with a second spanner or pliers.
(See illustration)

7. Important general note:

The heat exchanger needs to be installed in an area with sufficiently dimensioned drainage. If heat exchangers, filters and similar devices are damaged, water may leak uncontrollably. Basements and nearby rooms may quickly get flooded and suffer material damage.

8. Please keep these assembly and installation instructions on file for further reference. Thank you.

06.09.2015 max dapràKG-daprà andreas&Co Grafenweg2 I-39050 Völs
technical changes reserved

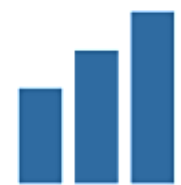
*) the model D-HWT / D-TWT / D-SHWT / D-NWT

**) the model D-KWT

TECHNISCHE INFORMATIONEN ALLER WASSER/WASSER-ROHRSCHLANGENWÄRMETAUSCHER

INFORMAZIONI TECNICHE SU TUTTI GLI SCAMBIATORI DI CALORE ACQUA/ACQUA CON TUBO A SERPENTINA

TECHNICAL INFORMATION FOR ALL WATER/WATER COILED TUBE HEAT EXCHANGERS



calculate your
heat exchanger

type	capacity	temperature difference	heating area	pump capacity primary	pump capacity secondary	loss primary	loss secondary
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	90 °C						
D-HWT 35	42 kW	70 °C = 0,60 kW / °C	0,17 m ²	2 m ³ /h	10 m ³ /h	0,18 bar	0,10 bar
D-HWT 65	76 kW	70 °C = 1,09 kW / °C	0,35 m ²	3 m ³ /h	12 m ³ /h	0,22 bar	0,18 bar
D-HWT 93	105 kW	70 °C = 1,50 kW / °C	0,56 m ²	5 m ³ /h	15 m ³ /h	0,40 bar	0,22 bar
D-HWT 122	146 kW	70 °C = 2,08 kW / °C	0,80 m ²	2x3 m ³ /h	20 m ³ /h	0,25 bar	0,50 bar
D-HWT 182	210 kW	70 °C = 3,00 kW / °C	0,99 m ²	2x5 m ³ /h	25 m ³ /h	0,30 bar	0,80 bar

	50°C						
D-NWT 18	29 kW	30 °C = 0,96 kW / °C	0,35 m ²	2 m ³ /h	10 m ³ /h	0,10 bar	0,18 bar
D-NWT 35	52 kW	30 °C = 1,73 kW / °C	0,79 m ²	3,6 m ³ /h	12 m ³ /h	0,35 bar	0,25 bar
D-NWT-Ti 45	52 kW	30 °C = 1,73 kW / °C	0,79 m ²	3,6 m ³ /h	12 m ³ /h	0,35 bar	0,25 bar

	50/90 °C						
D-SHWT 9/35 solar	18 kW	30 °C = 0,60 kW / °C	0,17 m ²	2 m ³ /h	10 m ³ /h	0,18 bar	0,12 bar
D-SHWT 9/35 heating	42 kW	70 °C = 0,60 kW / °C	0,17 m ²	2 m ³ /h	10 m ³ /h	0,18 bar	0,12 bar
D-SHWT 18/35 solar	29 kW	30 °C = 0,96 kW / °C	0,35 m ²	2 m ³ /h	10 m ³ /h	0,22 bar	0,20 bar
D-SHWT 18/35 heating	42 kW	70 °C = 0,60 kW / °C	0,17 m ²	2 m ³ /h	10 m ³ /h	0,22 bar	0,20 bar
D-HWT 122 solar	36 kW	30 °C = 1,20 kW / °C	0,40 m ²	3 m ³ /h	20 m ³ /h	0,35 bar	0,50 bar
D-HWT 122 heating	84 kW	70 °C = 1,20 kW / °C	0,40 m ²	5 m ³ /h	20 m ³ /h	0,35 bar	0,50 bar
D-HWT 182 solar	45 kW	30 °C = 1,50 kW / °C	0,50 m ²	3 m ³ /h	25 m ³ /h	0,40 bar	0,80 bar
D-HWT 182 heating	105 kW	70 °C = 1,50 kW / °C	0,50 m ²	5 m ³ /h	25 m ³ /h	0,40 bar	0,80 bar

	90°C						
D-TWT 35	42 kW	70 °C = 0,60 kW / °C	0,17 m ²	3 m ³ /h	12 m ³ /h	0,18 bar	0,10 bar
D-TWT 65	76 kW	70 °C = 1,09 kW / °C	0,35 m ²	4 m ³ /h	15 m ³ /h	0,22 bar	0,18 bar
D-TWT 93	105 kW	70 °C = 1,50 kW / °C	0,56 m ²	6 m ³ /h	18 m ³ /h	0,40 bar	0,22 bar
D-TWT 115	132 kW	70 °C = 1,88 kW / °C	0,79 m ²	6 m ³ /h	18 m ³ /h	0,42 bar	0,27 bar

	90°C						
D-KWT-VA 25	28 kW	70 °C = 0,40 kW / °C	0,10 m ²	2 m ³ /h	8 m ³ /h	0,20 bar	0,12 bar
D-KWT-VA 45	46 kW	70 °C = 0,66 kW / °C	0,16 m ²	2 m ³ /h	10 m ³ /h	0,25 bar	0,15 bar
D-KWT-VA 85	85 kW	70 °C = 1,20 kW / °C	0,35 m ²	3 m ³ /h	12 m ³ /h	0,35 bar	0,22 bar
D-KWT-VA 105	108 kW	70 °C = 1,55 kW / °C	0,55 m ²	5 m ³ /h	15 m ³ /h	0,50 bar	0,30 bar

	90°C						
D-KWT-Ti 25	28 kW	70 °C = 0,40 kW / °C	0,10 m ²	2 m ³ /h	8 m ³ /h	0,20 bar	0,12 bar
D-KWT-Ti 45	46 kW	70 °C = 0,66 kW / °C	0,16 m ²	2 m ³ /h	10 m ³ /h	0,25 bar	0,15 bar
D-KWT-Ti 85	85 kW	70 °C = 1,20 kW / °C	0,35 m ²	3 m ³ /h	12 m ³ /h	0,35 bar	0,22 bar
D-KWT-Ti 105	105 kW	70 °C = 1,55 kW / °C	0,55 m ²	5 m ³ /h	15 m ³ /h	0,50 bar	0,30 bar



EC declaration of conformity

Herewith we declare that the products

Series:

Coil heat exchanger

HWT, NWT, SHWT, TWT, KWT

comply with the following provisions applying to:

Make:

Daprà

Operating medium:

liquid

Max. operating pressure casing:

3 bar * or 2 bar **

Test pressure casing:

4,29bar * or 2,9 bar **

Max. service pressure tube:

10 bar * or 6 bar **

Test pressure tube:

14,3 bar * or 8,6 bar **

Norm:

pressure equipment directive 97/23/EG

Date:

23.05.2014

Signatory:

Andreas Daprà