GENIKITHERMANSEON

KondTherm DXR

Domestic hot water tank with double-wall refrigerant heat exchanger

Refrigeration heat, turned into hot water

KondTherm DXR is a 1,000–5,000 L domestic-hot-water tank with an integrated double-wall refrigerant heat exchanger. The refrigerant of a heat pump or refrigeration plant condenses directly inside the tank and heats the sanitary water — no intermediate loop, higher efficiency, and complete refrigerant-to-water separation for potable safety.

Available with two internal linings and modular output from 10 to 210 kW.

The principle

Every heat pump and every refrigeration plant rejects heat at its condenser — heat that is normally thrown away to the air. KondTherm DXR places the double-wall heat exchanger directly inside the tank, so the refrigerant condenses against the sanitary water and heats it. The deeper and more continuous the refrigeration, the more — and the hotter — the recovered heat.

Key features

Direct refrigerant condensation (DX)

The refrigerant condenses directly inside the tank — no intermediate water loop, so the system runs at a higher COP.

Double wall — potable-water safety EN 1717

Refrigerant and drinking water stay fully separated; any leak is led to a detectable gap and never into the water.

Modular output 10–210 kW

Built from 10 kW double-wall exchanger modules — added to match the load, as a single merged exchanger or several independent circuits.

Water temperature

From heat recovery the store reaches up to 65 °C, and the upper zone up to 70 °C where the hot discharge gas is desuperheated. The vessel itself is rated to 95 °C, and a connection for an electric element is provided for Legionella protection or a top-up.

The double-wall heat exchanger

The lower fitting reveals the inner tube inside the outer wall.

Every refrigerant path through the tank is a tube within a tube. The refrigerant flows in the inner copper tube; an outer wall surrounds it with a controlled gap between the two.

If either wall is ever breached, the refrigerant escapes into that gap — visible at the connection — and can never reach the sanitary water. This is the principle behind EN 1717 potable-water protection, and it is what makes heating drinking water directly with refrigerant safe.

Construction & internal protection

/316 · AISI 316L stainless steel (1.4404)

For potable and sanitary water, chlorinated or corrosive water, food contact and marine duty. Bare stainless interior — no coating required.

/C · S235JR carbon steel with polymer bio-ceramic lining

A flexible, high-adhesion lining that prevents micro-cracking from thermal deformation, with biocides that inhibit pitting corrosion. Sacrificial magnesium anode or, optionally, an impressed-current anode. Certified to EN 12897.

Body & insulation

Wall thickness 3–4 mm depending on model; flanged inspection hatch; 5-year warranty. Insulation: PL/PVC, PU/PVC, PL/ABS or the premium PS/ABS (100 mm graphite polystyrene, ErP 2009/125/EC compliant — class B up to 500 L, class C to 2000 L).

Technical data

Model	Volume (L)	Ø w/o insul. (mm)	Ø w/ insul. (mm)	Height (mm)	Max exchangers ×10 kW	Max power (kW)
1000	1008	850	1050	2260	6	**60**
1500	1449	1000	1200	2360	9	**90**
2000	2158	1200	1400	2450	12	**120**
3000	3050	1400	1600	2560	15	**150**
4000	4051	1600	1800	2630	21	**210**
5000	5055	1600	1800	3130	21	**210**

Rated 6 bar / 95 °C · custom builds available — dimensions and connections to project requirements.

Standards: EN 1717 · EN 12897 · PED 2014/68/EU · ErP 814/2013

Typical applications: meat, poultry & abattoirs · dairies & ice-cream · cruise ships · ice rinks · hospitals · commissary kitchens · water parks & spas · breweries — wherever refrigeration runs continuously and hot water is in steady demand.

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