Opteon™

Opteon™ XL20: The safe, economical and sustainable solution for heat pumps

Chemours™

OLYMP
Die Wärme aus Tirol

Brief history of Olymp Werk GmbH

Nestled in the picturesque Tyrolean Alps of Austria, the history of Olympus began more than 50 years ago. In 1960, Anton Schwarz began working on energy-saving burner technology, in a decade when environmental protection was still in its infancy.

Shortly after the company was founded, when the global energy shock occurred, Olymp developed radiators for operation at low temperatures which are now successfully used in combination with heat pumps without an additional fan. A new era in thermal engineering began in 1977, an Olymp invention changed the market: Viscostat oil preheating. A breakthrough that is now part of the general state of the art.
Olymp invested in a professional service network, and now a large number of service technicians are on the road throughout Europe every day to provide good customer service to consumers everywhere.
In the pursuit of innovation and environmental protection, the company has continued to develop and today offers an extensive range of different heating technologies – one of which is the heat pump heating cabinet (WHS).

Objective of the case study

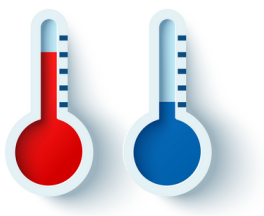
It is now undisputed that the introduction of heat pumps as a technology for heating and hot water production is a must to achieve the European Union's climate and decarbonisation targets. This applies to both new construction and the renovation of existing buildings.

The recent implementation of the EU F-Gas Regulation EU 573/2024 underlines the European Union's commitment to gradually reducing the use of HFCs with high global warming potential (GWP). Due to different operating mechanisms, HFC refrigerants, especially R-410A and R-407C, will face limitations in new plants, and their availability for servicing existing systems will gradually decrease. This initiative promotes the introduction of advanced alternative refrigerants that can effectively replace existing fluids while ensuring high performance, ease of use and a lower impact on climate change. Opteon™ refrigerants are specifically designed to provide an optimal balance between performance, safety, ease of use and low global warming potential thanks to their HFO (hydrofluoroolefins) based formulation.

After evaluating several alternatives, Olymp selected **Opteon™ XL20 (R-454C)**, A2L, non-ozone-depleting, low GWP (146) for low, medium and high temperature applications in new system installations that complies with the latest EU F-Gas Regulation and the Ecodesign Directive. It represents a future-proof long-term solution that offers high performance, energy efficiency and sustainability. In addition, this is the ideal solution even in residential buildings where the use of other highly flammable refrigerants such as propane is not allowed, as is the case in many countries of the European Union.

Features of the Opteon™ XL20 Heat Pump

A central heating system with the efficient combination of comfort heating and hot water preparation including cycle reversal represents a state-of-the-art heat pump system for heating and cooling for the living area.



The heat pump heating cabinet from Olymp is a multi-energy central unit, can be combined in a variety of ways and can be perfectly integrated into numerous systems. Flexibility, reliability and redundancy are the focus here.

Efficiency Heating and cooling by means of different heat sources. The WHS range also includes the possibility to choose from the heat sources brine groundwater and air, thus ensuring maximum flexibility in the selection.

TYP	BRINE		GROUNDWATER		AIR		DIMENSIONS	BUFFERVOLUME
	Capacity B0/W35 [kW]	SCOP	Capacity W10/W35 [kW]	SCOP	Capacity A2/W35 [kW]	SCOP	HxWxD [mm]	[Litre]
WP26 WHS 500	8.8	4.6	11.6	5.9	9.1	3.8	1.380x900x1.170	500.0
WP26 WHS 500	8.8	4.6	11.6	5.9	9.1	3.8	1.800 x 1.000 x 1.280	800.0
WP26 WHS 500	12.0	4.6	15.8	5.9	11.0	3.6	1.800 x 1.000 x 1.280	800.0
	Optional with passive-cooling				Optional with active-cooling			

Technical data of the air-to-water heat pump at a glance:

- Nominal heat output (A7/W35): 10.6 kW to 17.4 kW (depending on model and version)
- Refrigerant: R-454C (Opteon™ XL20)
- Direct condensation without charge pump in the buffer
- Compressor technology: Scroll
- Buffer volume: 500 and 800 litres
- Mixer heating circuit for heating oven and heat storage tank
- Water heating circuit 20 litre/minute
- Comfort remote control
- Connection shut-off set
- Security Fittings panel
- Cost-effective passive cooling possible
- Control with smartphone app

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This heat pump product line is certified for use with the R-454C refrigerant, complies with current European directives and meets all safety requirements, including the harmonized UNI EN 378 standard. In addition, the environmental compatibility of the products has been improved.

Heat pump network Tyrol (NetworkHeat Pump Tyrol)

As further proof of the deep and comprehensive commitment to the development of sustainable solutions, Olymp is an official partner of the Tyrolean Heat Pump Network. With the initiators TIWAG, the State of Tyrol, the Tyrolean Chamber of Commerce and Energie Tirol, the Tyrolean Heat Pump Network is building on four strong partners on the way to energy autonomy in Tyrol. Tyrol wants to be energy self-sufficient by 2050: With the cooperation of the network, Olymp is making a contribution to the "Tyrol 2050 energy self-sufficient" initiative and thus to a future in Tyrol that is free of fossil fuels and worth living in. The primary goal of the Tyrolean Heat Pump Network is to help environmentally friendly heat pump technology gain a greater market presence in Tyrol and to provide comprehensive information about the advantages of this emission-free form of heating.

NETZWERK WÄRMEPUMPE TIROL

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The performance today demands, the future tomorrow deserves.

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