



Eurovent 16/2 – 2022

Water Fan Heaters: Interpretation of the Commission Regulation (EU) 2016/2281 and Standard Rating

First Edition

Published on 07 October 2022 by
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Document history

This Eurovent Industry Recommendation / Code of Good Practice supersedes all of its previous editions, which automatically become obsolete with the publication of this document.

Modifications

This Eurovent publication was modified as against previous editions in the following manner:

Modifications as against	Key changes
1 st edition	Present document

Preface

In a nutshell

This Eurovent Recommendation provides a clear definition of water fan heaters and defines the related standard rating conditions.

Authors

This document was published by Eurovent and was prepared in a joint effort by participants of the Product Group 'European Air Curtains' (PG-CUR), which represents a vast majority of all manufacturers of these products active on the EMEA market.

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Suggested citation

Eurovent AISBL / IVZW / INPA. (2022). Eurovent 16/2 - 2022 - Water Fan Heaters: Interpretation of the Commission Regulation (EU) 2016/2281 and Standard Rating Conditions. Brussels: Eurovent.

Important remarks

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Background

The Commission Regulation (EU) 2016/2281 defines the ecodesign requirements for air heating products, cooling products, high temperature process chillers and fan coil units.

The above-mentioned regulation does not clearly include water fan heaters within its scope.

One could consider Water fan heater as belonging to Fan Coil units which are defined at the Regulation art 2.9:

fan coil unit means a device that provides forced circulation of indoor air, for the purpose of one or more of heating, cooling, dehumidification and filtering of indoor air, for the thermal comfort of human beings, but which does not include the source of heating or cooling nor an outdoor side heat exchanger. The device may be equipped with minimal ductwork to guide the intake and exhaust of air, including conditioned air. The product may be designed to be built in or may have an enclosure allowing it be placed in the space to be conditioned. It may include a Joule effect heat generator designed to be used as back-up heater only.

According to the above interpretation, water fan heater should respect the Ecodesign requirements set out at the Regulation point [5] of Annex II.

Definition

Eurovent holds that water fan heaters differ from fan coil unit and can be defined as:

Water fan heaters are to be used in non-residential application (airflow > 1500 m³/h). They provide forced circulation of indoor air, for the purpose of one or more of heating, cooling, dehumidification and filtering of indoor air, but which does not include the source of heating or cooling nor an outdoor side heat exchanger. The device may be equipped with minimal ductwork to guide the intake and exit of air, including conditioned air. The product may be designed to be built in or may have an enclosure allowing it be placed in the space to be conditioned.

Standard Rating Conditions

According to the above-proposed definition of water fan heaters, Eurovent holds that dedicated standard rating conditions have to be introduced.

The standard rating conditions presented in the following result from an assessment of:

- The current Ecodesign requirements applying to other space heaters products
- The current testing methods to heat pumps for space heating (EN 14511)
- The products' state-of-the-art

Nominal heating capacity

- Inlet water temperature 65°C
- Outlet water temperature 55°C
- Air inlet wet bulb temperature 15°C
- Maximum unit airflow

The test measurement must be according to the EN 1397 and the EN 1216.

Nominal sound pressure level – rating conditions

- Maximum unit airflow
- Measured 5m from the unit
- Unit mounted on the wall – one baffle reflecting the sound
- Unit mounted in a room in a 200 m³ space
- Unit mounted in a room with a medium sound absorption coefficient

Measurement according to the standard EN ISO 3744:2011 – Determination of sound power levels and sound energy levels of noise sources using sound pressure – Engineering methods for an essentially free field over a reflecting plane.

Maximum unit airflow

To be determined according to the EN 5801.

About Eurovent

Eurovent is Europe's Industry Association for Indoor Climate (HVAC), Process Cooling, and Food Cold Chain Technologies. Its members from throughout Europe represent more than 1.000 organisations, the majority small and medium-sized manufacturers. Based on objective and verifiable data, these account for a combined annual turnover of more than 30bn EUR, employing around 150.000 people within the association's geographic area. This makes Eurovent one of the largest cross-regional industry committees of its kind. The organisation's activities are based on highly valued democratic decision-making principles, ensuring a level playing field for the entire industry independent from organisation sizes or membership fees.

Our Member Associations

Our Member Associations are major national sector associations from Europe that represent manufacturers in the area of Indoor Climate (HVAC), Process Cooling, Food Cold Chain, and Industrial Ventilation technologies.

The more than 1.000 manufacturers within our network (Eurovent 'Affiliated Manufacturers' and 'Corresponding Members') are represented in Eurovent activities in a democratic and transparent manner.

→ For in-depth information and a list of all our members, visit www.eurovent.eu