



Eurovent 18/2 - 2024

SEPR for Very High Temperature Process Chillers

First Edition

Published on Wednesday, 29 May 2024 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 edition

Preface

In a nutshell

In this recommendation, the Eurovent Product Group 'Liquid Chilling Packages and Heat Pumps' presents the proposal for a dedicated index for Very High Temperature Process Chillers in the context of the revision of the Regulation (EU) 2016/2281.

Authors

This document was published by Eurovent and was prepared in a joint effort by participants of the Product Group 'Liquid Chilling Packages and Heat Pumps' (PG-LCP-HP), 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. (2024). Eurovent 18/2 - 2024 – SEPR for Very High Temperature Process Chillers. Brussels: Eurovent.

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Current situation

Currently, the Regulation (EU) 2016/2281 addresses High Temperature process chillers with inlet/outlet water Temperature at the evaporator 12/7°C with a dedicated efficiency index, called SEPR.

Considering the evolution of the market, today more and more applications request higher temperatures and a wider ΔT and the most common application is 30-20°C (inlet/outlet water Temperature at the evaporator).

The most common application of this category of process chillers is IT Cooling where the normal approach is to apply redundancy of units to prevent failures. This is why the proposal considers a constant part load.

SEPR for VHT chillers

Considering the current market situation and a dedicated survey among the PG-LCP-HP participants, the Eurovent proposal results in the table below:

Table 1: SEPR for VHT process chillers testing points

VHT SEPR Rating Point	Part Load %	Outdoor Temp °C	Evaporator* Inlet/Outlet °C
Nominal	100	35	30/20
A	75	35	*/20
B	75	25	*/20
C	75	15	*/20
D	75	5	*/20

* Variable flow and free cooling are included in this proposal

The other conditions of High Temperature Process chillers apply:

- Same annual frequency profile of external temperatures,
- Efficiency measured at 5, 15, 25 and 35°C external temperature,
- Efficiency linearly interpolated along the external temperature and weighted with the frequency profile.

About Eurovent

Eurovent is the voice of the European HVACR industry, representing over 100 companies directly and more than 1.000 indirectly through our 16 national associations. The majority are small and medium-sized companies that manufacture indoor climate, process cooling, and cold chain technologies across more than 350 manufacturing sites in Europe. They generate a combined annual turnover of more than 30 billion EUR and employ over 150.000 Europeans in good quality tech jobs.

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Eurovent's mission is to bring together HVACR technology providers to collaborate with policymakers and other stakeholders towards conditions that foster fair competition, innovation, and sustainable growth for the European HVACR industry.

Vision

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