

Chillventa Specialist Forums 2022
Chillventa Fachforen 2022

**CONNECTING
EXPERTS.**



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CBO
Oilon

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Content

- 120 °C heat pump technology
- Carlfors Bruk reference introduction
- Running data and process parameters
- Awards

Oilon ChillHeat, 120 °C heat pump technology

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- **ChillHeat P-series (High temperature option) heat pumps**
 - **120 °C** water can be produced at full power
 - Refrigerant of the future **GWP 1**
 - Safety class **A1** (non-toxic and non-flammable)





**Enabling decarbonization for
high temperature applications in
energy production and industry**



Carbon neutrality with Oilon industrial ChillHeat high temperature heat pumps

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Carlfors Bruk – The small Scandinavian giant



Carlfors Bruk was founded in 1898 and since 1931 the company has been owned by the Björklund family. After many years as a producer in the metallic pigment sector we have gained valuable experience and solid knowledge that today makes us a well-known supplier of aluminum pigments globally.

We cover all continents in close cooperation with agents and distributors and from our facilities in Huskvarna (situated in between Stockholm and Copenhagen) more than 98% of our sales are exported worldwide.

Carlfors Bruk AB is certified in accordance with ISO 9001 and manufacture aluminum paste and powder in a modern process industry with a continuous 24 hours operation. With a total of 65 employees we are a tight and flexible organization always focusing on prompt service in close contact with our customers.

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Heat recovery and process cooling

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Carlfors Bruk, Sweden



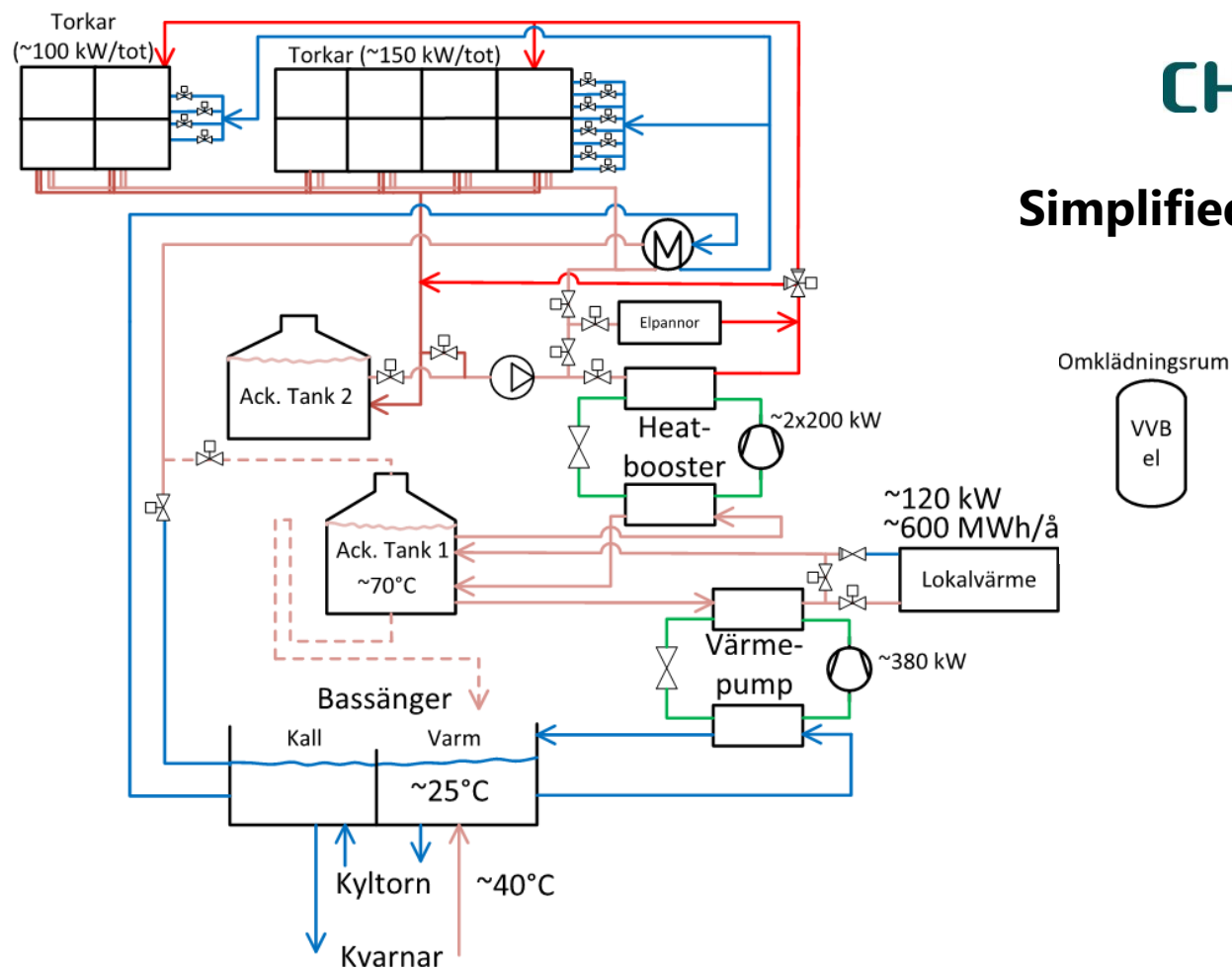
Heat source: Heat recovery and process cooling

Heat sink: space and process heating

- Cooling capacity:
 - **Cooling power 285 kW**
- Heating capacity:
 - **Very hot water (VHW) 0-500 kW**
 - **Warm water (WW) 10-354 kW**
- Water temperatures(cooling/heating): **20 °C/ 110 °C**
- ChillHeat pumps:
 - **S180 SU HC+ VFDx1 R1234ze**
 - **2 x P300 SU HC+ VFDx1 High temp.**

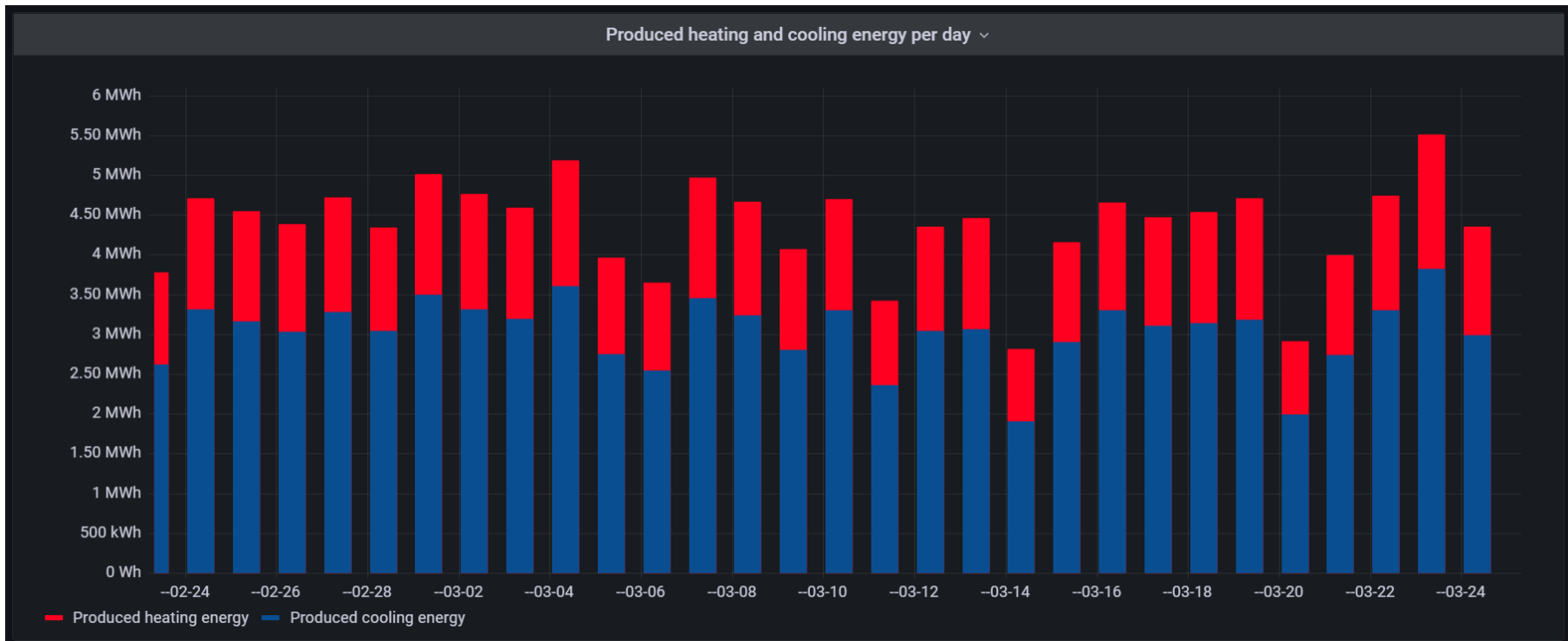


Simplified flow chart



Running data

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Process parameters

Produced heating energy	Produced cooling energy	Consumed electrical energy	Average combined COP
131 MWh	91.2 MWh	42.3 MWh	5.26

- Heating setpoint: 105°C
- Cooling side average: 24,3°C (9-56°C)

Temperatures, heat sink



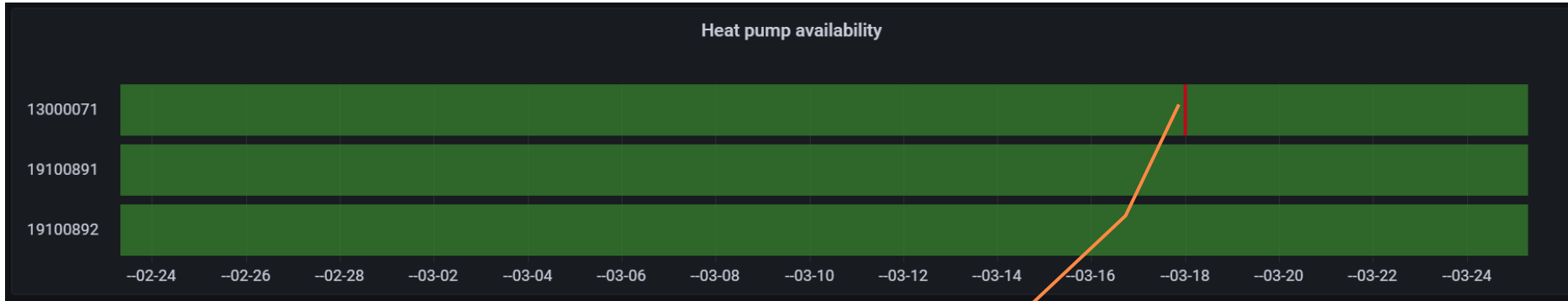
Temperatures, heat source



Availability

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Availability 99,9%



One alarm on low temperature unit. Reason: High evaporator temperature

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AFRY
ÄF PÖYRY



The heat pump system is working really well. The first year the system has saved us ~600 000 SEK, and this year we are expecting the savings to exceed 1 MSEK.

In addition to saving money, the heat pump system is also reducing our carbon emissions

Fredrik Målberg, Carlfors Bruk

The heat pump control system is easy to set up and adjust, and the customer support has been brilliant.

Nicolas Regel, Carlfors Bruk

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It was a positive surprise how fast Oilon could set up a system for these demanding running conditions. After the first meeting we already had a detailed system draft with performance data.

Patrik Renström, AFRY

It is very easy to find a suitable heat pump solution to almost any process or customer need. Even if the heat pumps are serial-made products, it is always possible to find a suitable configuration in Oilon Selection Tool.

We are really impressed how reliable the system at Carlfors has been from day one, even if the system is running at really high temperatures.

The Oilon Global Monitor is also making process optimization and trouble shooting easy. The units are designed for easy maintenance.

Daniel Ankarbranth, Francks Kylindustri

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Continuous product development

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More is yet to come...



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Awards

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Oilon heat pump project for the
**Wyndham Hotels & Resorts Garden
Nortel** in São Paulo



**Prêmio Consciência Ambiental
Immensità 2021** award was created to
recognize and reward projects and actions
by companies and organizations that are
sustainable and take the environment into
account.

Postipuisto, New circular economy
solution in Helsinki

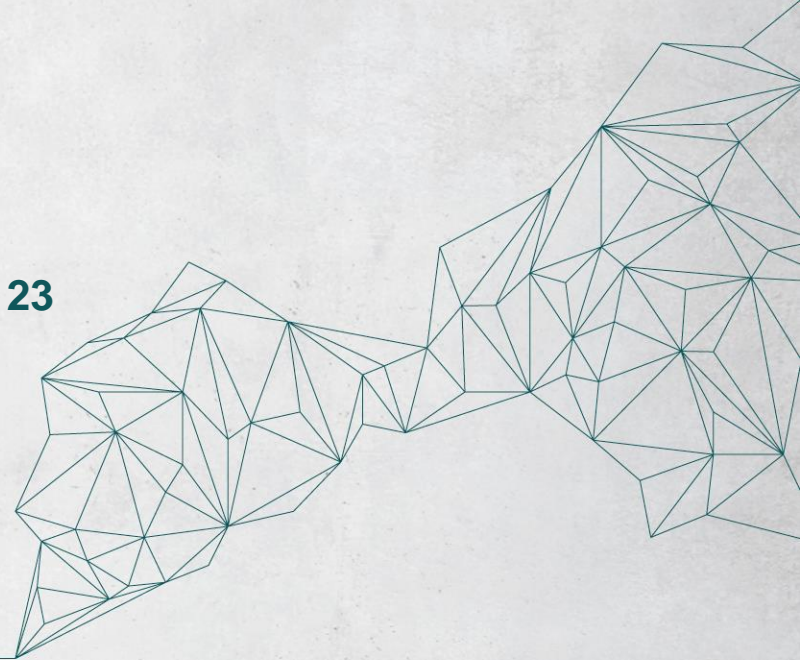


Energy technology company Oilon and
energy company Helen have won the
prestigious **The Heat Pump Award in the
DecarBuilding series** in 2022 with their
mutually developed heat pump solution

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THANK YOU

Come and visit us at stand 4A-123



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