



VLE

**Brand new air condensed series
by Galletti with low-GWP
refrigerant**

Road map

- The series: general introduction
- Operating limits
- Configuration options: new advanced features
- Benchmarking: technical performances in comparison
- Available tools and documentation

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The goal

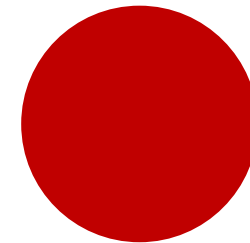
A winning answer to the new standards

- (UE) N. 517/2014 - F-GAS
- 2009/125/CE - ErP

ErP 2021
compliant



R454B



C/H

The refrigerant

The ideal choice for all market players

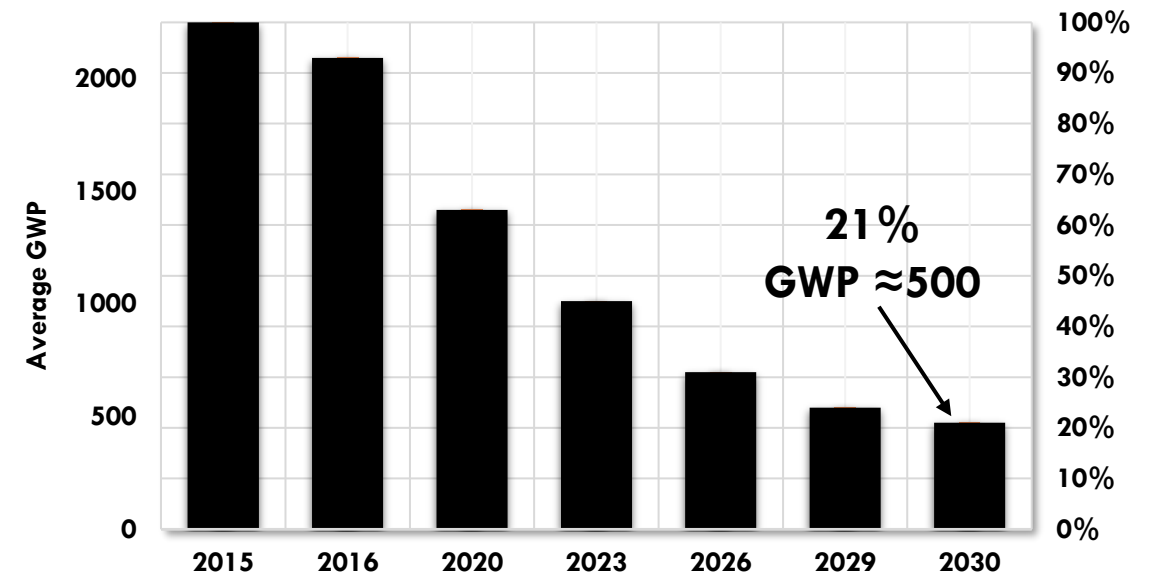
R454B

- ODP = 0
- GWP = **467**, $\frac{1}{4}$ compared to the R410A GWP
- Working pressures similar to R410A
- A2L - **Lower flammable**

Article 9 F-Gas

Refrigerant charge: 50 kg (circa 200 – 240 kW)

- R410A: 105 ton CO₂ - Check frequency: **1/6 month**
- R454B: 23 ton CO₂ - Check frequency: **1/12 month**
- **R454B + leakage sensor** - Check frequency: **1/24 month**



R32 GWP = 675 ✗ **R452B** GWP = 676 ✗ **R454B** GWP = 467 ✓

VLE - The series

General features



- **Microchannel** coil for C version, standard coil for H version
- Configurations with uneven tandem and trio systems for **greater seasonal efficiency**
- Single circuit up to 240 kW
- **ErP 2021**
- **Acoustic insulation options:** compressors sound blanket and low-speed EC fans

The design approach

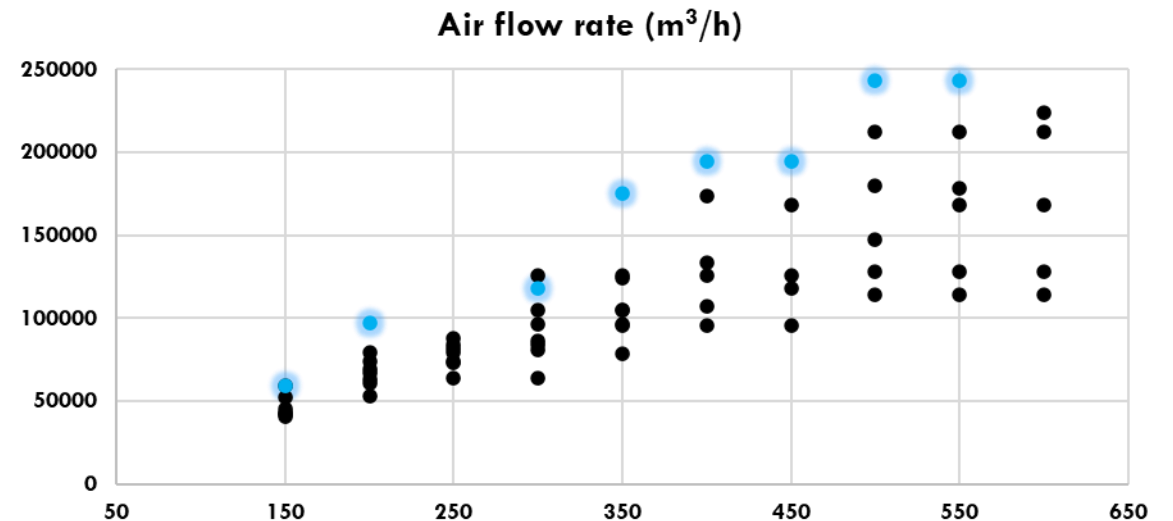
Enhanced air flow: reduction of purchase and management costs

Cooling mode:

- ✓ **Lower condensing pressure**
- ✓ Better performance
- ✓ Reduced footprint

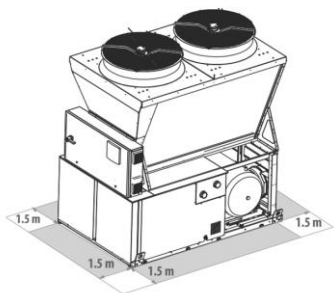
Heating mode:

- ✓ **Higher evaporation temperature**
- ✓ Better performance
- ✓ Reduced footprint
- ✓ Lower DeltaT between air and coil surface
(fewer defrost cycles)

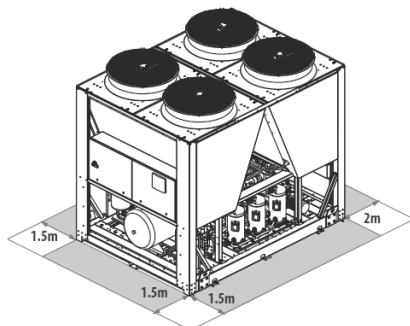


VLE - The series

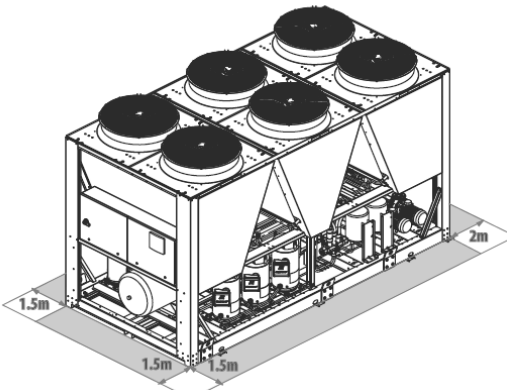
11 models with cooling capacity from 150 to 570 kW



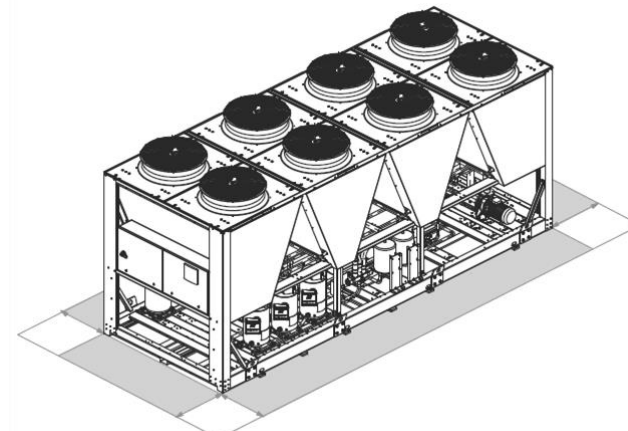
160 kW



200 kW - 313 kW



340 kW - 360 kW



400 kW - 440 kW

New Frame
5V

530 kW - 570 kW

kW/m²

+30% compared with VIPER range

Design choices

State-of-the-art components



New generation plate heat exchangers

- Increased evaporation pressure in cooling mode and improved management of the partial loads necessary for **ErP 2021 compliance**
- **25% volume reduction** compared with previous generation



Compressors with IDV valve in uneven tandem and trio configuration

- Greater efficiency at partial loads thanks to the **intermediate discharge valve**
- Smart management of uneven tandem system. High efficiency tandem solutions **up to 450 kW** available

Design choices

State-of-the-art components



ErP 2020 compliance axial fans

- High aeraulic efficiency
- 910 mm blade with dedicated nozzle
- Partial load fans shutdown management for bi-circuit models (fans absorption decreasing and efficiency increasing at partial load)



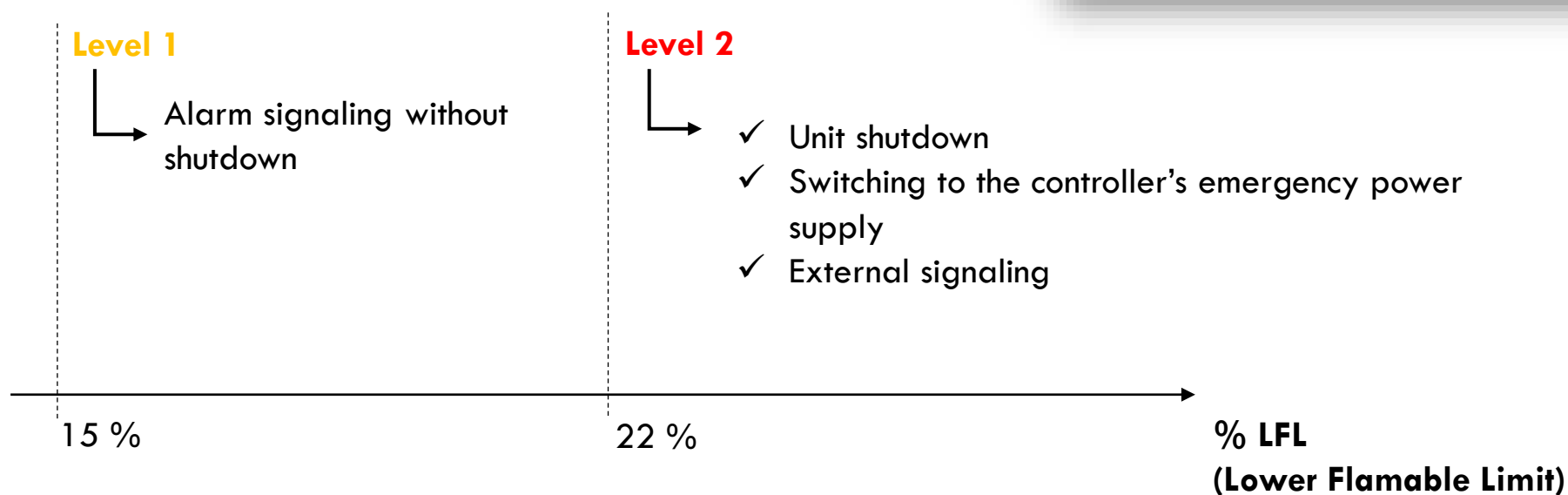
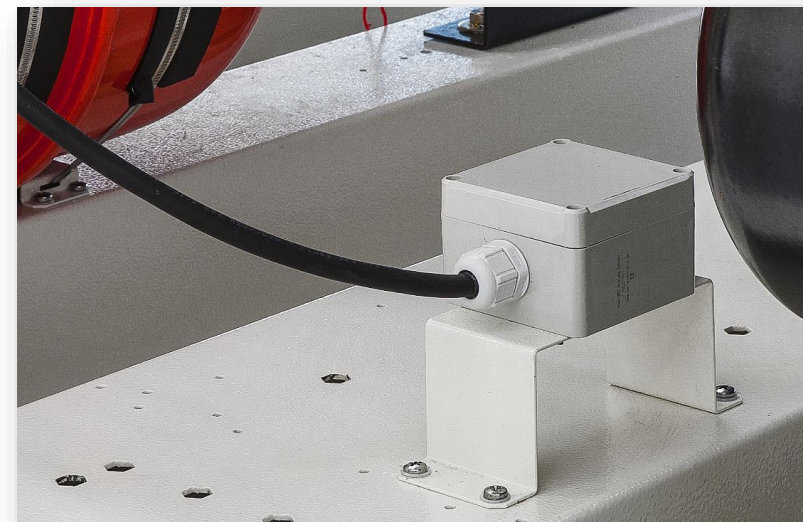
Use of latest generation electronic expansion valve

- High response speed
- High stability of superheating

Design choices

Active intervention procedures for unit safety

- Overpressed ventilated electrical panel
- A leak sensor located in the electrical panel
- A leak sensor located in the refrigeration circuit
- **Double level of alarms intervention**

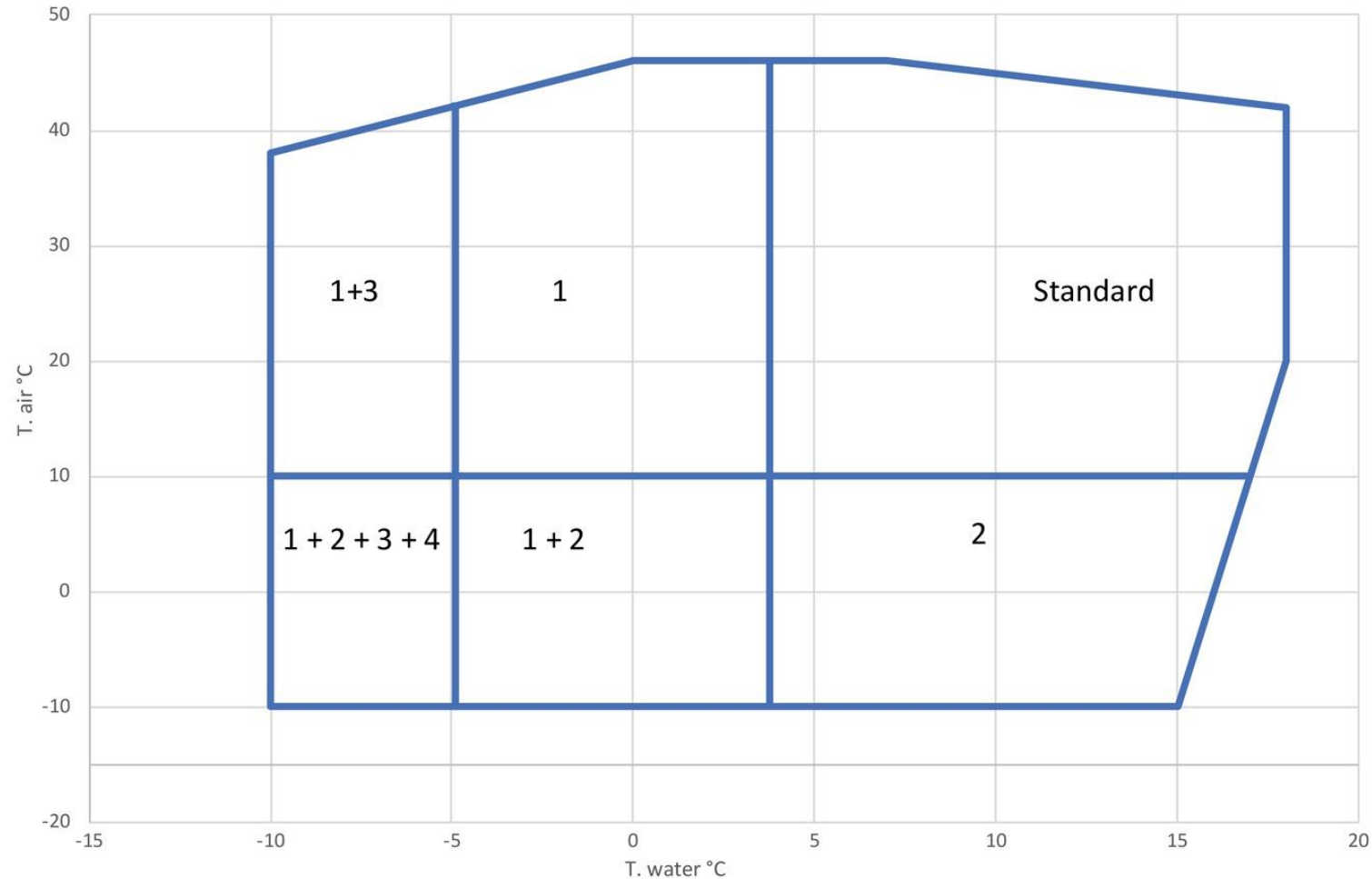


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Operating limits

Cooling mode

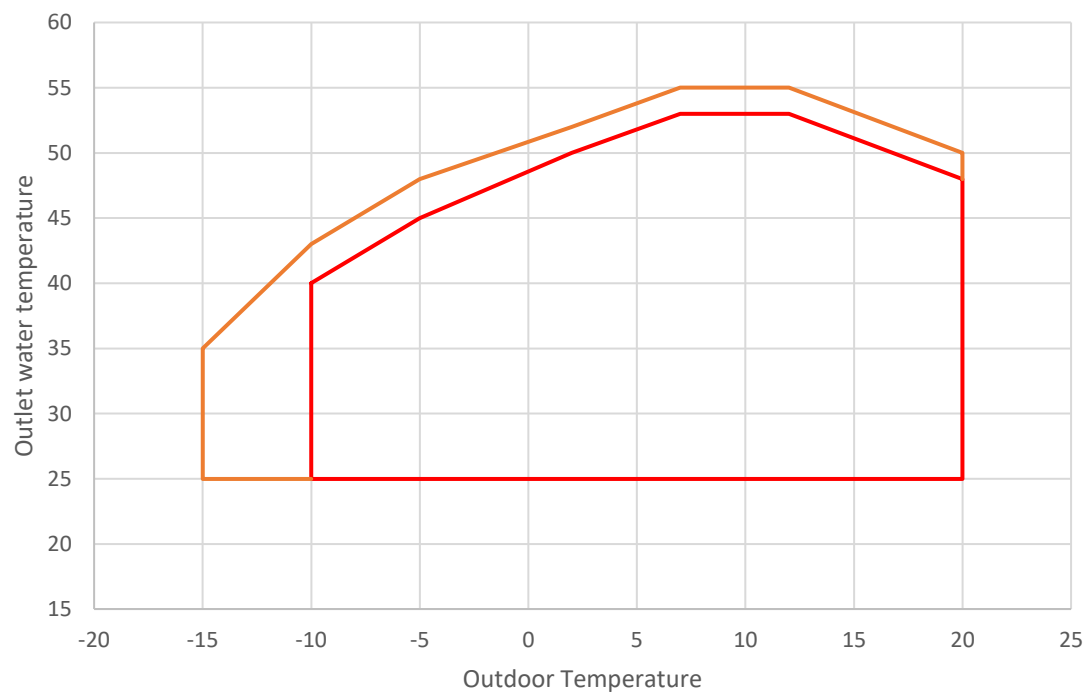


- 1 ⇒ Glycol
- 2 ⇒ BLDC fans
- 3 ⇒ Regulation logic on outlet temp.
- 4 ⇒ Custom parameterization for condensation control

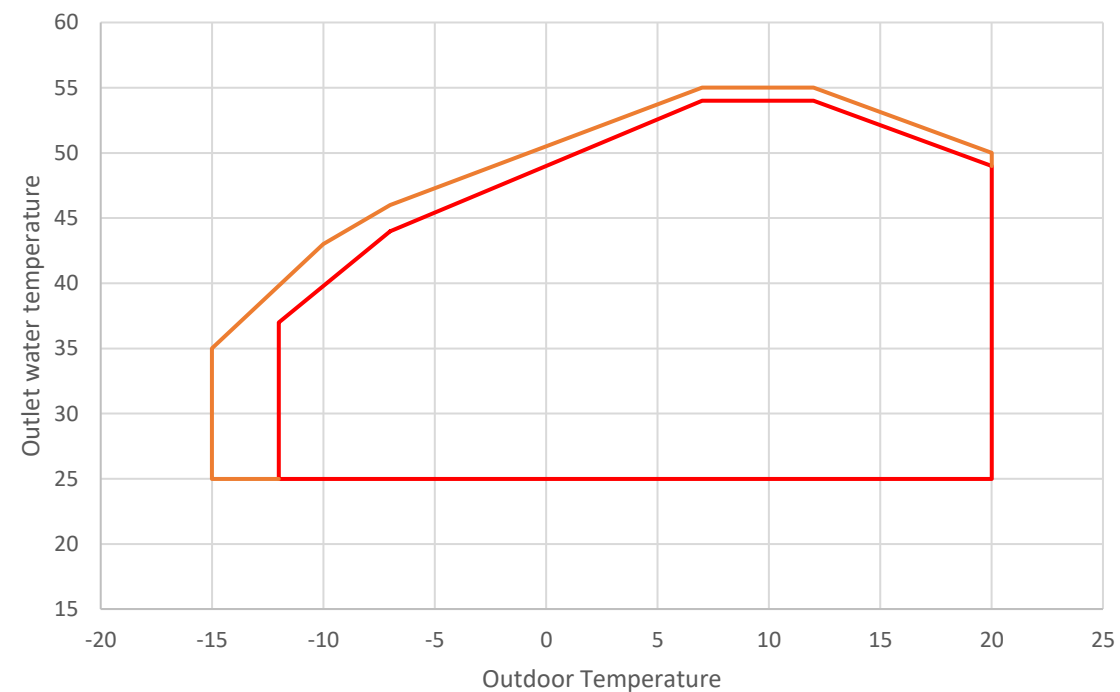
Operating limits

Heating mode

$P < 400 \text{ kW}$



$P > 400 \text{ kW}$



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New options available

- 1 **Expansion valve**
 - A Electronic
- 2 **Water pump and accessories**
 - 0 Not present
 - 1 LP pump + expansion tank
 - 2 Dual LP pump with timed rotation + expansion tank
 - 3 HP pump + expansion tank
 - 4 Dual HP pump with timed rotation + expansion tank
 - 5 LP pump + expansion tank with Viton seal
 - 6 Dual LP pump with timed rotation + expansion tank with Viton seal
 - 7 HP pump + expansion tank with Viton seal
 - 8 Dual HP pump with timed rotation + expansion tank with Viton seal
 - A LP inverter pump + expansion tank
 - B Dual LP inverter pump with timed rotation + expansion tank
 - C HP inverter pump + expansion tank
 - D Dual HP inverter pump with timed rotation + expansion tank
 - E LP inverter pump + expansion tank with Viton seal
 - F Dual LP inverter pump with timed rotation + expansion tank with Viton seal
 - G HP inverter pump + expansion tank with Viton seal
 - H Dual HP inverter pump with timed rotation + expansion tank with Viton seal
- 3 **Inertial buffer tank**
 - 0 Not present
 - S Present (excluding Hydro Smart Flow)
- 4 **Partial heat recovery**
 - 0 Not present
 - D Desuperheater with pump contact
- 5 **Air flow modulation**
 - C Condensation control with fans adjusted by phase cutting regulator
 - E Condensation control with BLDC electronically controlled fans
 - A Condensation control with high-head BLDC electronically controlled fans
- 6 **Antifreeze kit**
 - 0 Not present
 - E Evaporator
 - P Evaporator and water pump

- S Evaporator, water pump and inertial tank
- 7 **Sound insulation and attenuation**
 - 0 Not present
 - 2 Compressor soundproofing housings
 - 4 Low-noise BLDC fans
 - 5 Compressor soundproofing housings + Low-noise BLDC fans
- 8 **Cooling circuit accessories**
 - 0 Not present
 - M Refrigerant pressure gauges
- 9 **Remote control / Serial communication**
 - 0 Not present
 - 2 RS485 Serial board (Modbus/Carel protocol)
 - B BACNET IP/ PCOWEB serial board (requires advanced control)
 - G BACNET IP/ PCOWEB board + MONITORING SOFTWARE (GWeb)
 - S Simplified remote user interface
 - X Remote user interface for advanced command
- 10 **Special coils / protective treatments**
 - 0 Standard
 - I Hydrophilic
 - M Microchannels with epoxy resin + anti-UV treatment
 - R Copper / copper
 - C Cataphoresis
 - P Fins pre-coated with epoxy paint
- 11 **Vibration isolation**
 - 0 Not present
 - G Base rubber vibration dampers
 - M Base spring vibration dampers
- 12 **Compressor options**
 - 0 Not present
 - 1 Compressor cover heating element (CHILLER), coil heating cable (HP)
 - 2 Liquid separator at compressor intake
- 13 **On-board control**
 - 1 Advanced

New options available

A	Metal filter for protecting coils
B	Hydro smart flow (excluding the tank)
C	Pair of Victaulic couplings
D	ON/OFF status of the compressors
E	Remote control for limiting power steps (requires advanced control)
F	Configurable digital alarm card (requires advanced control)
G	Soft starter
H	Power factor correction capacitors
I	Regulating filter kit (solenoid and tap)

L	Double insulation of water circuit
M	0-10V signal for external pump control, equipment side (excluding on-board pump)
N	Tandem/trio compressor shut-off valves
O	Intrusion prevention mesh
P	Regulating pumps kit
Q	Night-time low-noise
R	Enabling 2nd set-point / external alarm signaling via digital input
S	Hot-wire electronic flow switch
T	Mains power analyzer for monitoring and reducing power consumption

New options available

Wide series configurability for customized solutions



Shell and tube heat exchanger for C models with capacities above 200 kW (excludes the tank)



Standard EC fans and high AESP EC fans (up to **50 Pa**)

New options available

Wide series configurability for customized solutions



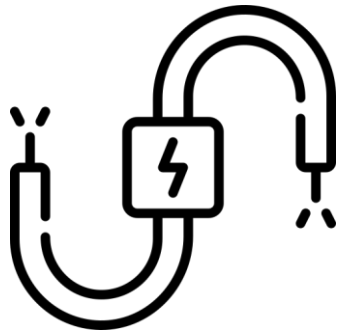
Centrifugal pumps with **Viton** seals suitable for **propylene** and **ethylene** glycol mixtures up to 40% (option)



Electronic flow switch (standard in paddle version)

New options available

Wide series configurability for customized solutions



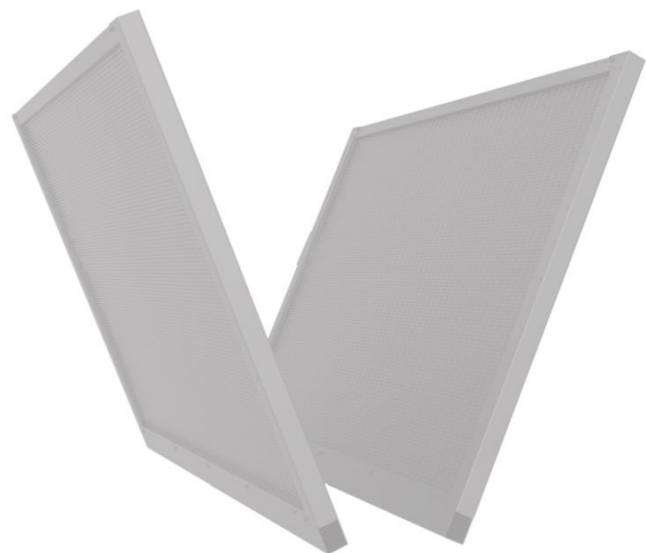
Energy metering kit with possibility of data monitoring via external BMS system



Low temperature option for producing water **down to -10 °C** (includes EC fans, double insulation and liquid separator on the compressor suction side).

New options available

Wide series configurability for customized solutions



Microchannel coil in LLA (Long Life Alloy)



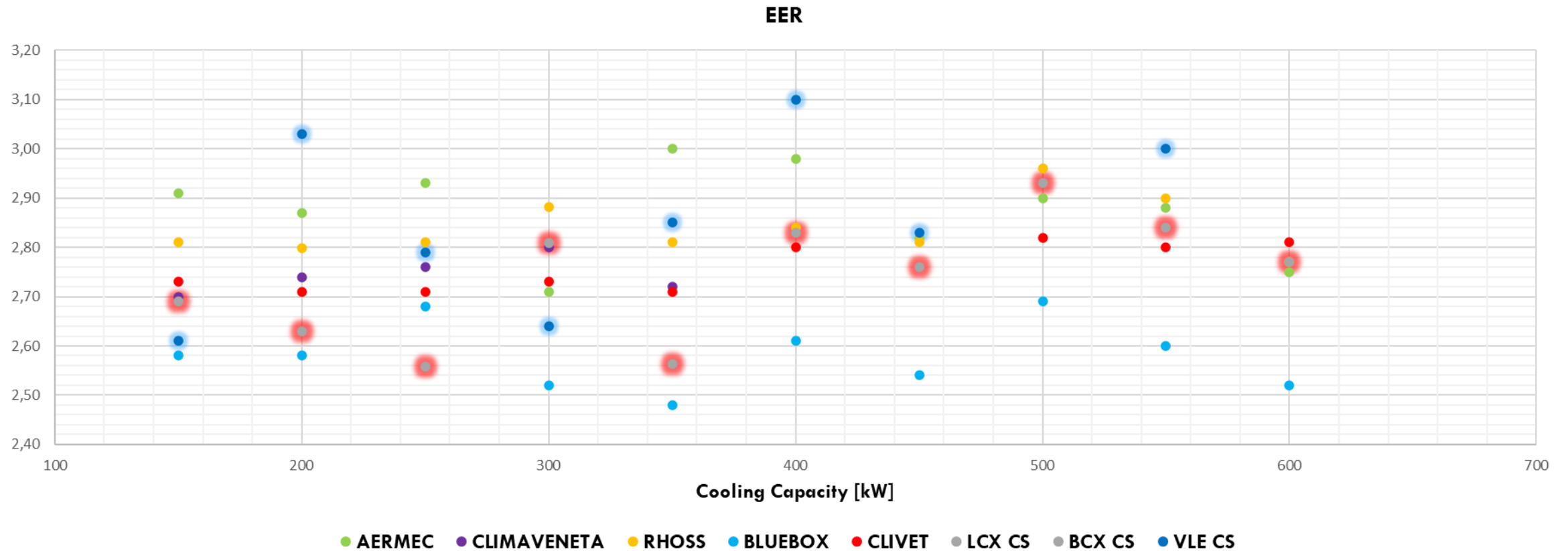
E-coating treatment as available option
3120 h
SWAAT test (ASTM G85-02 A3)

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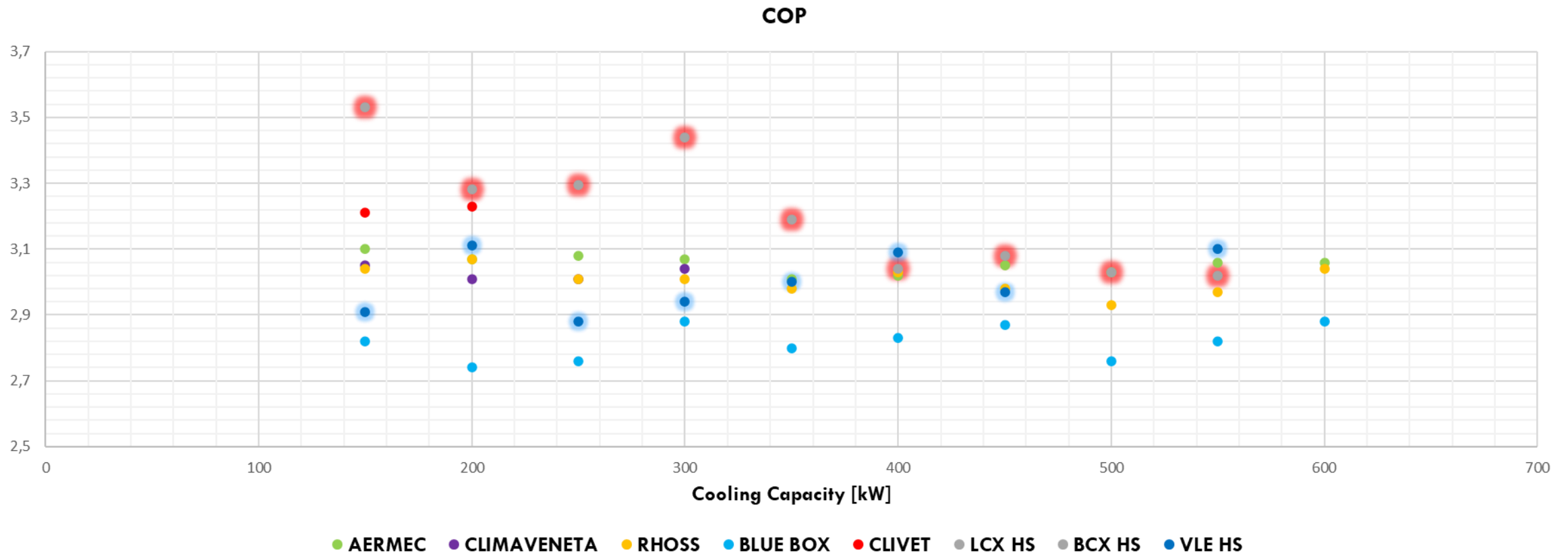
Benchmarking

Technical performances in comparison



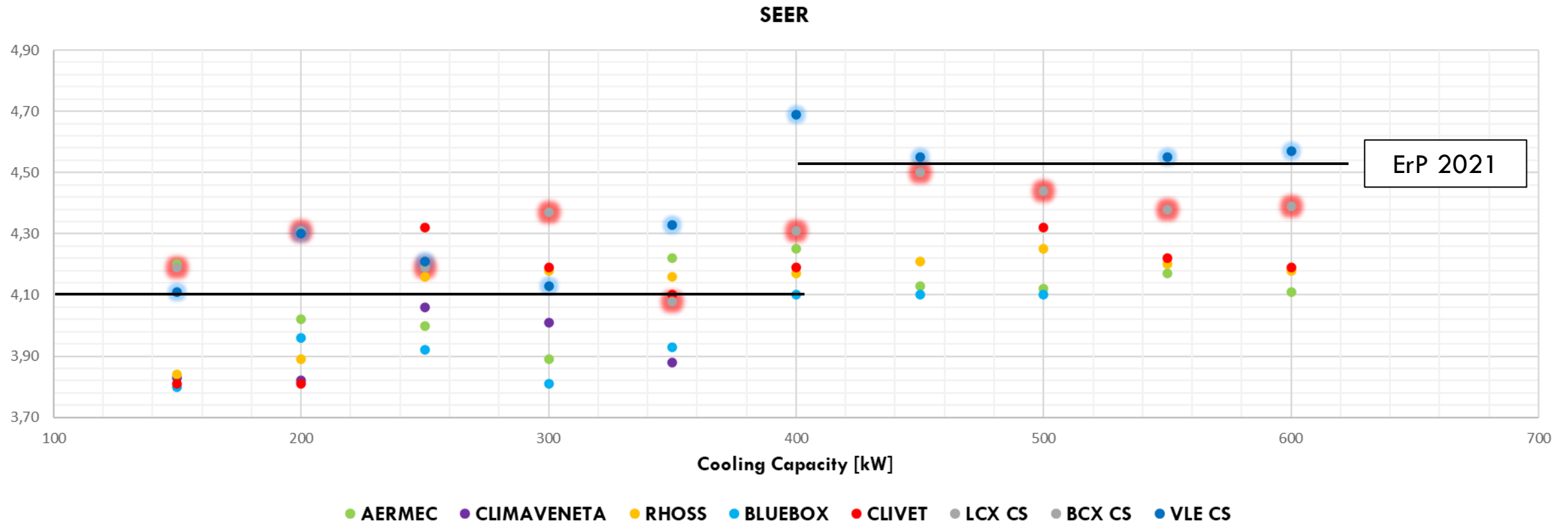
Benchmarking

Technical performances in comparison



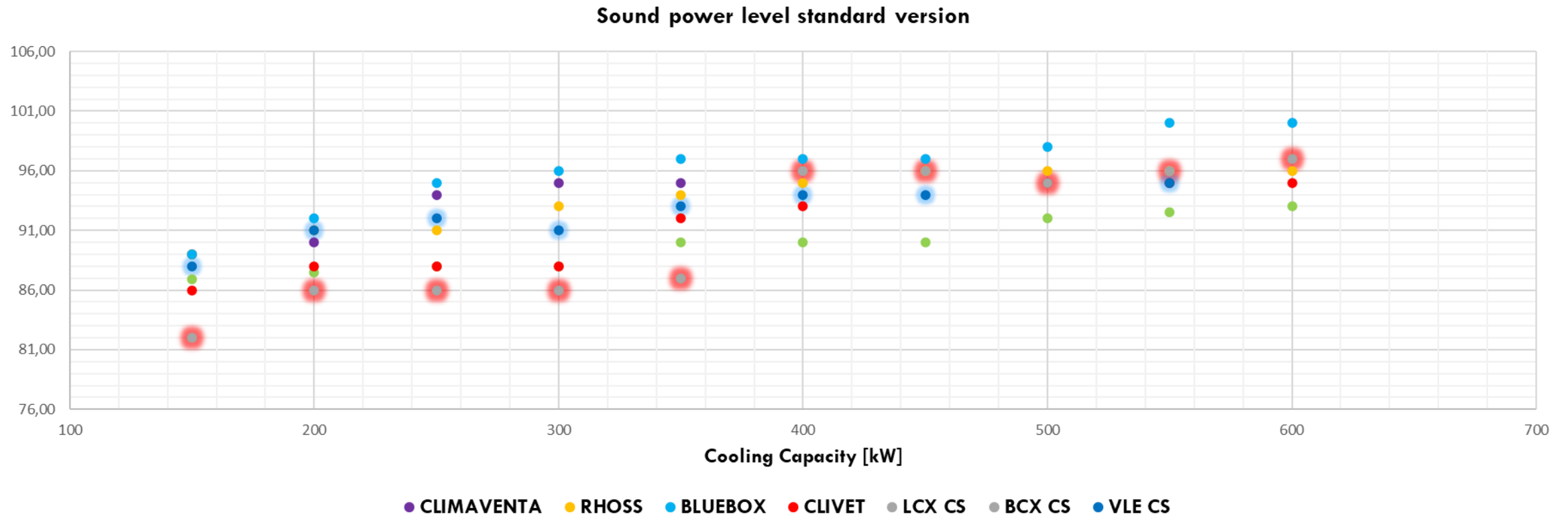
Benchmarking

Technical performances in comparison



Benchmarking

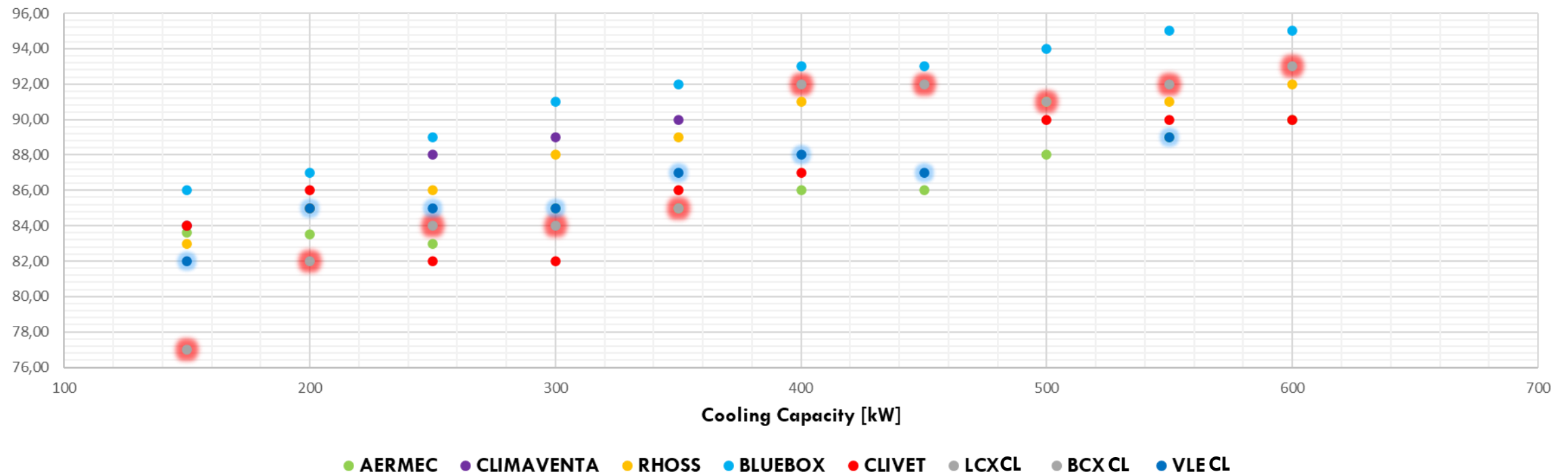
Technical performances in comparison



Benchmarking

Technical performances in comparison

Sound power level low noise version



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Available tools and documentation

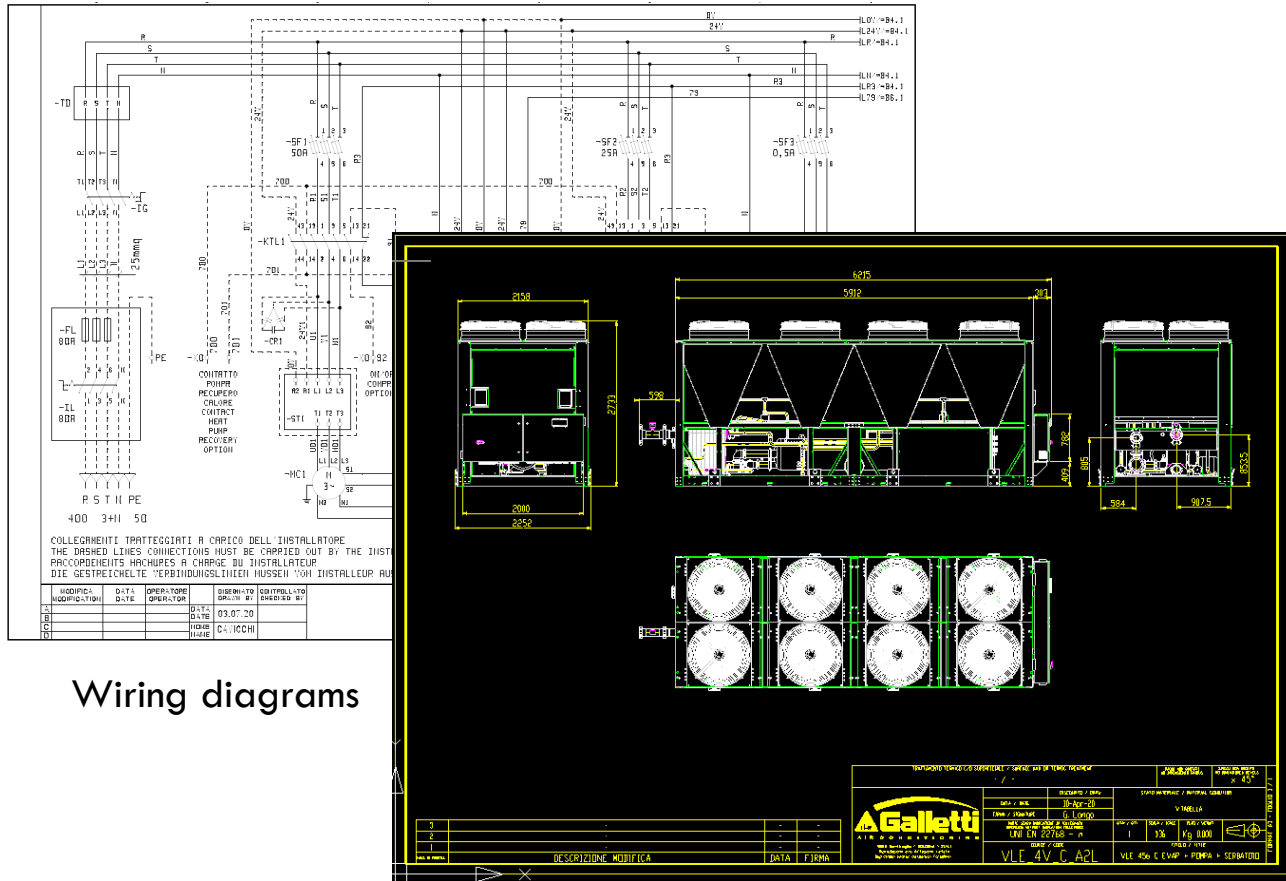


Technical manuals in 5 languages



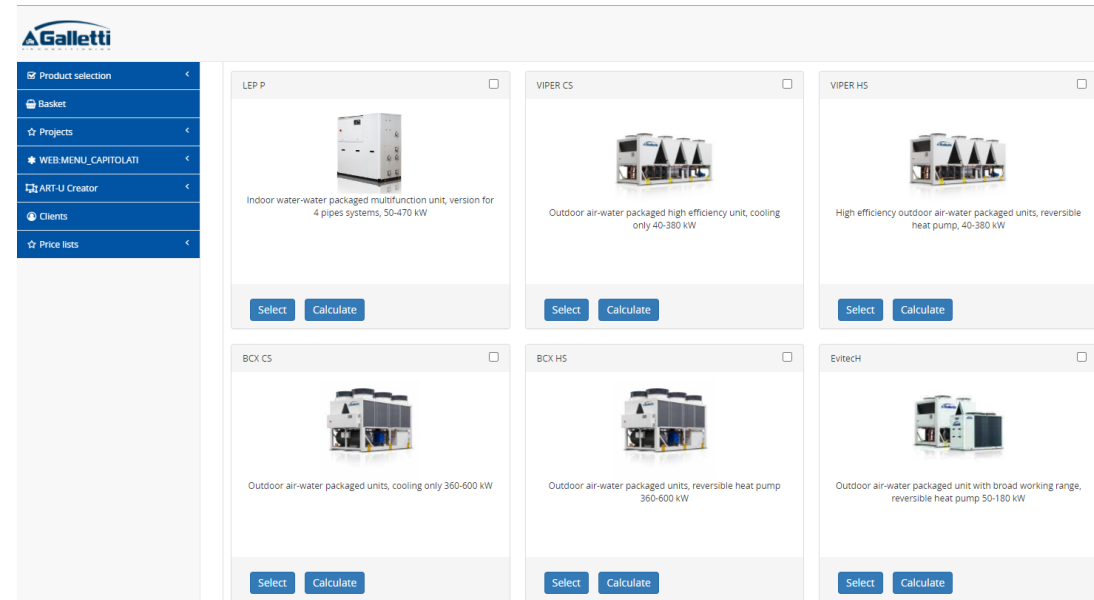
Brochure in Catalogue layout

Available tools and documentation



Wiring diagrams

DWG files



Online configurator with
preliminary list price (commercial
offers printable only with net prices)

Thank you

