Pure heat near you – smart and effortless

Gebwell commercial heat pumps – made in Finland

MADE IN FINLAND

GEBWELL

PURE HEAT

GEBWELL
PURE HEAT

Warm regards from Leppävirta

We are known for our environmentally-friendly heating and cooling solutions – we make pure heat in Northern Savonia.

Our base and our roots are in Leppävirta, where we have our headquarters and more than 20,000 m2 of production facilities.

Towards a cleaner future

As Finns, we understand the importance of heating. It drives our desire for progress. A desire to continuously create cleaner and smarter solutions for heating and cooling homes and properties. We believe utilizing and using clean heat is an attitude, an act of goodwill for the climate. We aim to pioneer the energy sector on the road towards a cleaner future.

We're surrounded by more possibilities than ever before. The energy industry is in a turning point as people are increasingly interested in the wellbeing of the planet and the ways anyone of us can contribute to a better tomorrow.

Wide range – own collection and design

Plenty to choose from

We manufacture devices for utilising environmentally-friendly heating methods, district heating and ground source heat, as well as the exhaust air from buildings. Our product range includes district heating substations, ground source heat pumps and energy accumulators. We also manufacture and sell Pivaset fire extinguishing products.

In-house design department

We have invested in our own design department and laboratory. In-house design ensures a high standard of product quality in development and testing. We are continuously developing with the aim of ensuring that our devices are reliable and easy to install and use. The fruits of our product development include the new real estate heat pumps presented in this brochure.

One of the largest in Finland

Our devices provide reliable heating for increasing numbers of public buildings, industrial properties and housing companies. Our real-estate-class district heating substations and heat pumps are among the most popular in Finland.

We are continuously educating

We provide our customers and partners with free training on how to install and maintain our heat pumps. Our expert technical support team is also available for professionals to consult.

Ground source heat – clean and renewable energy

Ground source heat is energy that the soil has captured from the sun and geothermal energy from within the Earth – energy that can be harnessed by ground source heating pump technology to heat buildings and domestic water. This environmentally friendly local heat is available to everyone – all that is needed is the equipment to make use of it.

A ground source heating system includes devices for recovering and distributing thermal energy. A ground source heat pump is at the heart of a ground source heat system.

Ground source heat is extracted by a brine circuit, which can be embedded in the surface soil or a body of water or sunk into an energy well drilled into the rock. Ground source heat is clean, renewable energy that does not consume natural resources when it is transmitted and does not need any transportation equipment.

Ground source heat does not cause carbon dioxide or particle emissions that accelerate global warming, so it is an ecological form of heating.

Waste heat to reuse with a heat pump

In addition to conventional ground source heat, heat pumps can exploit heat that otherwise goes unused: waste heat, such as the heat in the exhaust air, industrial processes and agricultural sludge.

When a ventilation machine extracts air from inside a block of flats, it also removes a significant amount of heat energy that has already been paid for. Exhaust air heat recovery means recovering this thermal energy and reusing it to heat the building.

The exhaust air fan is replaced with a heat recovery unit where the heat exchanger collects the heat from the exhaust air and transfers it to the heat collecting liquid on the other side of the exchanger.

The heated heat collection liquid is conveyed to the heat pump in the building's technical room via a pipe installed in the building or on its exterior wall. The heat recovered from the exhaust air is utilised with a heat pump for heating domestic hot water or the water in the heat distribution network.

A heat recovery system is worth planning well. The planning service can be obtained either separately from a HVAC design office or as part of the site's general job. Gebwell supports design when it comes to rating and choosing the heat pump, the heat substation and the heat recovery units.

Support throughout the device's lifecycle

It is important to us that your project is a success and your customer is satisfied with their choice. The experts in our sales and after-sales department are at your disposal throughout the system's lifecycle.

We will support you in dimensioning and help you choose a device, and we can advise you on installation, commissioning and system monitoring. Our technical support team can help in matters related to maintenance, and our spare parts sales service makes it effortless to order spare parts.

A Gebwell Smart Partner Hub agreement will enable you to monitor the systems you install in real time and adjust the settings as necessary.

Support for dimensioning

The experts from our sales team will assist you in the dimensioning phase of your heating/cooling system project. Our experts have years of experience in dimensioning heat pump systems.

Specifying a suitable system

We will provide advice to help you find the optimum equipment configuration for your project's heating and cooling needs. Our design team will produce a PI graph for you to append to your quote. We can provide model representations of our devices so you can see how much space they require and decide on the ideal location.

Dimensioning tool

We offer a dimensioning tool to enable you to dimension the site and generate energy and savings calculations for the configuration you offer. We recommend commissioning a separate heat well design for sites with more than ten energy wells.

Technical support for your maintenance needs

Our technical support team is at your disposal if your system needs maintenance. Our technical experts have years of experience in maintenance and technical issues related to heat pump systems.

Spare parts service

Our spare parts sales service provides spare parts for heat pumps, district heating substations and accumulators. Our spare parts sales service will be happy to answer any questions you may have concerning spare parts, requests for quotes, and orders.

Gebwell Smart Hub

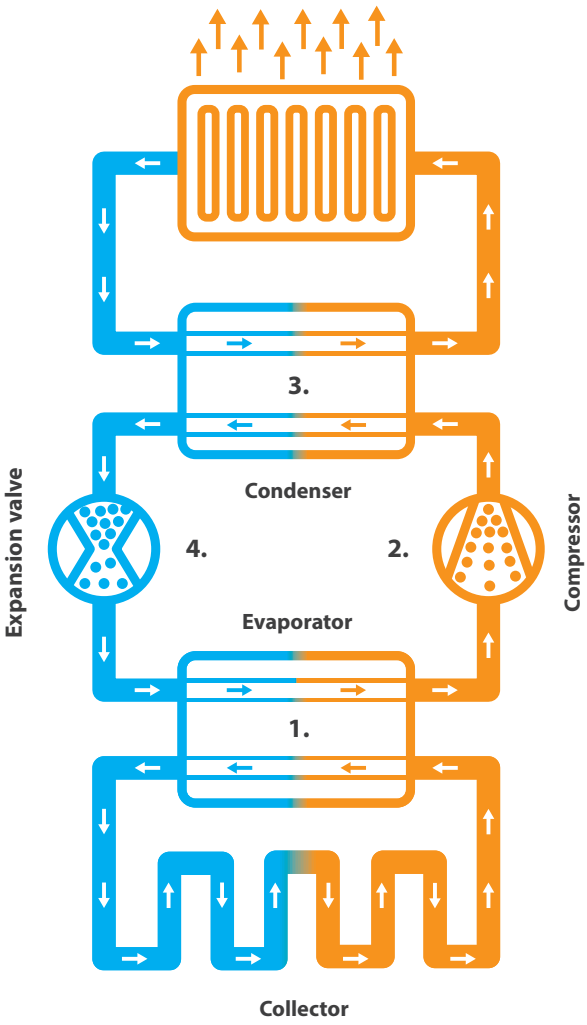
The browser-based Gebwell Smart Hub provides real-time monitoring of the fleet of devices you have installed in a cost-effective way without any on-site visits. The hub also allows you to adjust settings, silence alarms, monitor system trends and identify any necessary maintenance.

Operating principle of a heat pump

The operating principle of a heat pump is the same as that of a refrigerator – a refrigerator transfers heat to the surrounding room space, while a heat pump transfers heat from a source such as the soil or exhaust air into the building's heating system and hot domestic water.

A ground source heat pump has two heat exchangers: an evaporator (1.), condenser (3.), compressor (2.), expansion valve (4.) and refrigerant. Heat pump technology is based on changes in the state of the refrigerant. The brine circulating in the brine circuit enters the evaporator, which is one of the two heat exchangers in the ground source heat pump, where it comes into contact with the ice-cold refrigerant, causing the refrigerant to vaporise. The vapour is pumped into the compressor, which squeezes it under high pressure, heating the gas. The heated gas is routed to the condenser, which is the other heat exchanger in the ground source heat pump. In the condenser, the circulating water is heated, causing the refrigerant to cool into a mixture of liquid and gas, releasing heat for the building's heating system to use and for heating domestic water. The refrigerant is directed to the expansion valve, where its pressure decreases, and it becomes fully liquid again. The process begins again in the evaporator when the refrigerant comes into contact with the warmer brine again.

A water-circulating heat distribution system enables the thermal energy produced by a heat pump to be distributed to the rooms in a building by radiators, underfloor heating or air heating. Domestic hot water is heated in an accumulator and piped into the building's domestic water system.



Cooling with a heat pump

A heat pump is the only heating system that is able to output heat and cold at the same time, thereby ensuring that the indoor air is at the right temperature. Heat pumps can be used to cool buildings as well as heat them. Ground source cooling uses brine circulating in a bored heat well as the energy source for cooling buildings.

In addition to a heat well, ground source cooling systems require only a circulator pump to generate the cooling energy and a convector fan and/or cooling radiator in the ventilation machine to distribute cooling from the ground into the indoor air. This is also known as passive and free cooling. Using ground source cooling reduces the payback time of a ground source heat system even further, especially on large sites.

Active cooling

Sometimes, so much cooling is required that passive cooling alone is not enough. In such cases, a heat pump can be used for active cooling. Active cooling generates cooling energy using the compressor in the heat pump, just like heating. However, in this case, the heating circuit and collector are switched around using a change-over valve. Active cooling requires devices to have advanced smart features – Gebwell's heat pumps for real estate have features that enable active cooling.

Active cooling requires compressors to generate cooling for the cooling network. The heat that arises at the same time can be exploited for purposes such as heating domestic water or heating humid areas. The remaining heat is stored in energy wells. The hotter the energy wells are during the heating season, the higher the efficiency of the ground source heat pump.

Heating and cooling at the same time

A heat recovery system is worth planning well. Even in the winter months, it may be necessary to heat and cool at the same time. For example, server rooms need cooling while the rest of the building needs heating. In these cases, some of the cooling output can be used to generate a suitable amount of cooling energy.

	T3 Inverter
HVAC number	5362643
Heating output (0°/35° and 0°/55°), kW	9.5–26.5 and 9.1–25.0
Cooling output (0°/35° and 0°/55°), kW	7.6–21.0 and 6.3–17.0
Input power (0°/35° and 0°/55°), kW	2.1–6.0 and 3.0–8.1
COP (0°/35° and 0°/55°)	4.7 and 3.2
SCOP (0°/35° and 0°/55°, EN 14825)	4.9 and 4.2
Refrigerant, kg	2.1
CO_2 equivalence, tonnes CO_2 kg	4.385
Sound power level, dB (A)	37.56
External dimensions (length x width x height), mm	790 x 640 x 970
Weight, kg	206.5
** Output details in accordance with EN 14511*	

T3 Inverter heat pump

Gebwell T3 Inverter is an inverter heat pump that is linked to the Gebwell Smart cloud service and designed for heating large villas, terraced houses, small apartment buildings and small and medium-sized warehouses and industrial buildings. The cloud service enables remote control via the Gebwell Smart Control Hub.

The inverter-controlled compressor on the T3 Inverter heat pump adapts the power output to current energy demand according to the time of year. Thanks to a stepless inverter control system, the T3 Inverter heat pump always produces exactly the right level of heating required by the network and therefore also optimises heating costs.

Gebwell T3 Inverter can be connected to the property's surveillance system using an optional Modbus RTU card. Compared to a mechanical valve, an electronic expansion valve adapts better to inverter-control, optimising the efficiency of the heat pump.

The compressor unit is fully insulated, which makes the T3 Inverter extremely quiet. The T3 Inverter's cooling module only holds 2.1 kg of R410A, which makes it exempt from annual refrigerant inspections.

New controller, IoT features

- Power class 9–27 kW
- Continuous adjustment (modulation by 1%)

Temperature levels

- Maximum supply water temperature: +58...+63 °C
- Recommended temperatures in the collector: −5...+20 °C

Refrigerant R410A, filling 2.1 kg

- No annual refrigerant inspections

Built-in source and charge pumps

Operating current of the protective device 3 x 32 A

	G-Eco Core 40
HVAC number	5362643
Heating output (0°/35° and 0°/55°), kW	9.6 – 39.0 and 9.3 – 36.1
Cooling output (0°/35° and 0°/55°), kW	7.5 – 29.7 and 6.0 – 23.2
Input power (0°/35° and 0°/55°), kW	3 – 10.9 and 4.2 – 14.9
Maximum input power, kW	20
Maximum operating current, A	37
COP (0°/35° and 0°/55°, 70 hz)	3.8 and 2.5
SCOP (0°/35° and 0°/55°, EN 14825)	3.9 and 3.2
Refrigerant, kg	1.8
CO2 equivalence, tonnes CO2 kg	0.000036
Sound power level (ISO 3741:2010), Lw(A), dB	57 – 67
External dimensions (length x width x height), mm	850 x 690 x 1850
Weight, kg	350

** Output details in accordance with EN 14511*

NEW!

G-Eco® Core 40 heat pump

Gebwell G-Eco Core is a powerful IoT inverter heat pump that uses the eco-friendly R290 refrigerant. R290, also known as propane, is a hydrocarbon that has a minimal impact on global warming compared to traditional hydrofluorocarbon (HFC) refrigerants. R290 refrigerant has a GWP of only 0.02 and an ODP of 0.

Gebwell G-Eco Core is capable of adjusting to the building's energy needs year round thanks to its inverter-controlled compressor. Continuously variable inverter control ensures that the heat output matches the network's requirements exactly without over or underheating, minimising your heating bills.

G-Eco Core is connected to the manufacturer's Gebwell Smart cloud service, allowing the heat pump to be controlled remotely through the browser-based Hub.

New controller, IoT features

- Power class 10 – 39 kW

Temperature levels

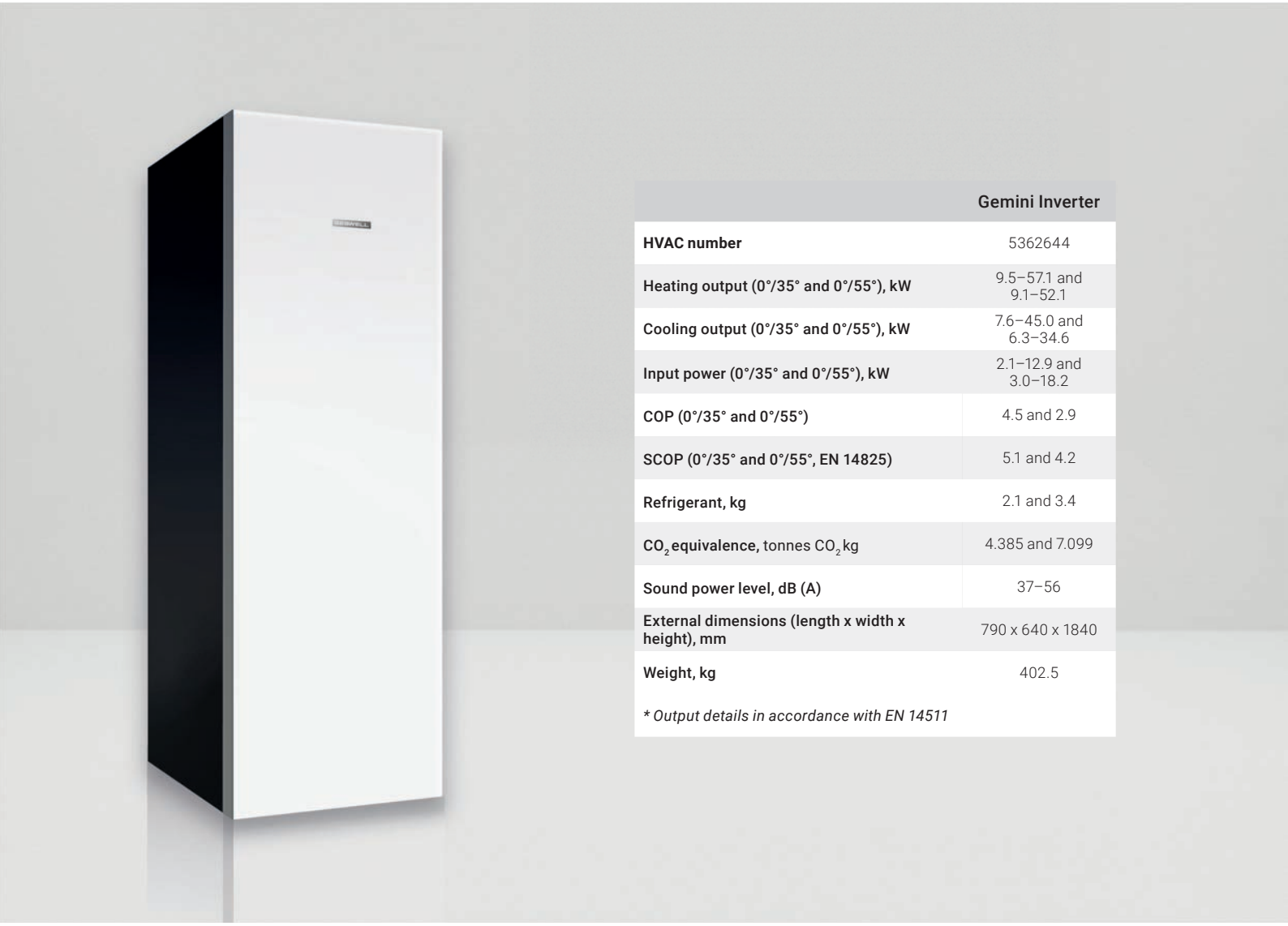
- Maximum supply water temperature: +75 °C
- Recommended temperatures in the collector: −5...+20 °C (+30 °C)*

Refrigerant R290, filling 1.8 kg

Built-in source and charge pumps

Operating current of the protective device 3 x 40 A

** temporary exceedance allowed*



	Gemini Inverter
HVAC number	5362644
Heating output (0°/35° and 0°/55°), kW	9.5–57.1 and 9.1–52.1
Cooling output (0°/35° and 0°/55°), kW	7.6–45.0 and 6.3–34.6
Input power (0°/35° and 0°/55°), kW	2.1–12.9 and 3.0–18.2
COP (0°/35° and 0°/55°)	4.5 and 2.9
SCOP (0°/35° and 0°/55°, EN 14825)	5.1 and 4.2
Refrigerant, kg	2.1 and 3.4
CO_2 equivalence, tonnes CO_2 kg	4.385 and 7.099
Sound power level, dB (A)	37–56
External dimensions (length x width x height), mm	790 x 640 x 1840
Weight, kg	402.5
** Output details in accordance with EN 14511*	

Gemini Inverter heat pump

Equipped with two compressors, Gemini Inverter is a high annual efficiency heating solution for apartment buildings, warehouses and industrial buildings.

Gemini Inverter combines an inverter-controlled compressor and an on/off compressor, which makes it possible to provide both heating and domestic hot water simultaneously.

Gemini Inverter heat pumps are linked to the manufacturer's cloud service. The cloud service enables the remote monitoring and control of the heat pump via the browser-based Gebwell Smart Control Hub.

Gemini Inverter can be linked to building automation and control systems using an optional Modbus RTU card. Gemini heat pumps are designed to be used in combination with custom-built Gebwell G-Energy accumulators.

New controller, IoT features

Power class 9–57 kW

- Two compressor units, one inverter and one constant speed

Temperature levels

- Maximum supply water temperature: +58...+65 °C
- Recommended temperatures in the collector: −5...+20 °C

Refrigerant R410A

- Refrigerant fillings 2.1 kg + 3.4 kg

Operating current of the protective device 3 x 63 A

	Taurus 80 EVIC	Taurus 110 EVIC
HVAC number	5322021	5322020
Heating output (0°/35° and 0°/55°), kW	71.4 and 74.3	93.6 and 97.8
Cooling output (0°/35° and 0°/55°), kW	56.4 and 50.0	74.1 and 65.2
Input power (0°/35° and 0°/55°), kW	16.1 and 25.5	20.9 and 32.6
COP (0°/35° and 0°/55°)	4.4 and 2.9	4.5 and 3.0
SCOP (0°/35° and 0°/55°, EN 14825)	5.2 and 4.4	5.2 and 4.5
Refrigerant, kg	10.4	10.4
CO_2 equivalence, tonnes CO_2 kg	21.715	21.715
Sound power level, dB (A)	52–58	52–58
External dimensions (length x width x height), mm	1150 x 760 x 1550	1150 x 760 x 1550
Weight, kg	680	680
** Output details in accordance with EN 14511*		

Taurus EVIC heat pump

Gebwell Taurus EVIC is a tandem heat pump with two EVI compressors and an IoT controller for heating large properties. Taurus EVIC heat pump comes in two capacities Taurus 80 EVIC and Taurus 110 EVIC.

Thanks to the EVI compressors, the output power of the heat pump is high even at high condensation temperatures. The compressor economizer recovers excess heat from the fluid line, which is then used to vaporise the refrigerant into the compressor's low pressure block. Taking advantage of the high evaporation temperature of the high temperature provides better efficiency. Economizer's performance improves at higher condensing temperatures.

Taurus EVIC heat pump is also equipped with a de-superheater exchanger.

Taurus EVIC heat pump is linked to manufacturer's Gebwell Smart cloud, which enables the remote control of the deivice via a browser-based Gebwell Smart Hub. The IoT controller allows the system's field data to be stored in a cloud service and used in system development.

The Taurus EVIC is smaller in size compared to its predecessor, the EVI heat pump, making it easier to handle. With the doors removed, the heat pump's width is 700 mm, allowing it to pass through narrower doorways. The EVIC is also shorter than its predecessor, which facilitates installation as the connections are located lower than in the previous model.

New controller, IoT features

Two power classes: 74 and 95 kW

Two power levels

- Taurus 80 EVIC: 37 and 74 kW (0/50)
- Taurus 110 EVIC: 49 and 98 kW (0/50)

Tandem with two EVI compressors

- High heating output even at high condensation temperatures

Temperature levels

- Max supply water temperature 0/+65 °C from the condenser
- Recommended temperatures in the collector: –5...+20 °C

Equipped with a de-superheater

Refrigerant R410A, filling 10.4 kg

Operating current of the protective device 3 x 80 A

	Taurus Inverter Pro
HVAC number	5362646
Heating output (0°/35° and 0°/55°), kW	40.1–94.9 and 30.6–82.3
Cooling output (0°/35° and 0°/55°), kW	31–71.4 and 20.6–55.1
Input power (0°/35° and 0°/55°), kW	8.9–24.7 and 11.6–28.5
COP (0°/35° and 0°/55°)	4.2 and 2.7
SCOP (0°/35° and 0°/55°, EN 14825)	5.1 and 4.3
Refrigerant, kg	23
CO_2 equivalence, tonnes CO_2 kg	14.51
Sound power level, dB (A)	50–54
External dimensions (length x width x height), mm	1300 x 700 x 1860
Weight, kg	876
** Output details in accordance with EN 14511*	

Taurus Inverter Pro heat pump

Gebwell Taurus Inverter Pro is an inverter-controlled heat pump for heating large properties.

The Taurus Inverter Pro heat pump has a power class of 40–100 kW with continuous adjustment and modulation by 1%. The electronic expansion valve of the heat pump adapts to power changes of the inverter compressor, optimising the efficiency of the heat pump.

Taurus Inverter Pro has a piston compressor, which is typically serviced instead of replacement. The costs compared to replacement are lower.

Taurus Inverter Pro is linked to the manufacturer's Gebwell Smart cloud service. Among other things, this makes it possible to control the heat pump via a browser-based control hub.

New controller, IoT features

- Power range 40–100 kW (25–70 Hz) (0/50)
- Continuous adjustment (modulation by 1%)

Piston compressor

Temperature levels

- Max supply water temperature 0 / ~75...80 °C
- Recommended temperatures in the collector: −5...+25 °C

Refrigerant R513A, filling 24 kg

- GWP value for refrigerant 631

Operating current of the protective device 3 x 80 A

Performance 50 Hz (preliminary values)

- COP 0/55 – 3.0 Heating output 68 kW
- COP 0/65 – 2.6 Heating output 61 kW

	G-Eco Pro 120
HVAC number	5322044
Heating output (0°/35° and 0°/55°), kW	52.8 – 119.0 and 50.7 - 108.0
Cooling output (0°/35° and 0°/55°), kW	38.0 – 88.0 and 31.5 – 71.0
Input power (0°/35° and 0°/55°), kW	13.8 – 29.9 and 17.5 – 39.5
Maximum input power, kW	40.1
Maximum operating current, A	71.5
COP (0°/35° and 0°/55°)	4.2 and 3.1
SCOP (0°/35° and 0°/55°, EN 14825)	4.3 and 3.4
Refrigerant, kg	4.7
CO2 equivalence, tonnes CO2 kg	0.000094
Sound power level (ISO 3741:2010), Lw(A), dB	65 – 70
External dimensions (length x width x height), mm	1270 x 770 x 1750
Weight, kg	800

** Output details in accordance with EN 14511*

NEW!

G-Eco® Pro 120 heat pump

Gebwell G-Eco Pro is an inverter-controlled heat pump for buildings that uses the eco-friendly and natural R290 refrigerant. R290 refrigerant, also known as propane, has a GWP of only 0.02 and an ODP of 0.

The inverter-controlled G-Eco Pro is capable of adjusting to the building's energy needs year-round. The compressor's continuously variable inverter control ensures the unit's output matches the network's requirements exactly without over or underheating, minimising your heating bills.

When connected to the manufacturer's Gebwell Smart cloud service, the G-Eco Pro heat pump can be controlled remotely through the browser-based Hub. Your maintenance company can view the status of the heating system and adjust heating settings remotely through the Hub.

The G-Eco Pro heat pump is designed specifically for propane, and its compressor unit is completely isolated.

New controller, IoT features

Power range 53–119 kW

Temperature levels

- Max supply water temperature 0 / +63 °C
- Recommended temperatures in the collector: –5...+20 °C (+30 °C)*

Refrigerant R290, filling 4.7 kg

Operating current of the protective device 3 x 80 A

** temporary exceedance allowed*

Gebwell Smart – purely smarter heating

Gebwell Smart brings property heating into the digital era – comfort, simplicity and substantial energy savings. Gebwell heat pumps connected to the Gebwell Smart cloud service offer a smart, energy-efficient solution for every property.

Constantly developing Gebwell Smart heat pumps

Every Gebwell Smart heat pump is linked to the Gebwell Smart cloud service at the factory. The IoT heat pump communicates with the cloud service over the entire warranty period and even after the warranty has expired, for as long as the remote access service is in force.

The cloud service uses the Internet of Things (IoT), and the service platform has first-rate information security. The data that the devices send to the cloud service is stored and used for the smart control of heat pumps, as well as for the continuous development of the device. A number of new features are currently in the pipeline to increase the user-friendliness of Gebwell Smart heat pumps and cut costs.

The Gebwell Smart heating system comes complete with data connections that only need to be set up before use. Gebwell Smart heat pumps include internet access, which means that the housing company does not need to acquire a separate internet connection for system control. Data communication fees for the Internet connection for the first two years for free.

Gebwell Smart Hub – showing the real-time status of the heating system 24/7

Gebwell Smart heat pumps are connected to the Gebwell Smart Hub by a cloud service. Maintenance companies can monitor heating systems and adjust the system settings remotely, thereby saving the cost of making a site visit.

The Gebwell Smart Hub also makes it possible to check any faults without visiting the site. The failure or maintenance needs of certain components can be identified even before an actual fault. The Smart Hub enables proactive maintenance by means such as monitoring the pressure of the network.

The Smart Hub administrator can manage user rights to the hub via the administration panel. The Smart Hub stores and displays measurement data from sites. The Smart Hub also allows adjustments to be made to the sites in areas such as the heating curve, domestic hot water temperature, the settings for the valves in the district heating substation (PID), the circulator pump settings, and the functions of electric immersion heaters.

From the Gebwell Smart Hub, you can remotely adjust, among other things

- General settings of the heat pump
- Heating and cooling settings
- Domestic hot water settings
- Auxiliary heat source settings

The price of Gebwell Smart heat pumps includes

- Data communication fees for the Internet connection for two years
- Browser-based Gebwell Smart Hub service for two years

Heat pumps for real estate – Technical specifications

		T3 Inverter	G-Eco Core 40	Gemini Inverter
HVAC number		5362643	5322039	5362644
Heating output (0°/35° and 0°/55°)[1]	kW	9.5 – 26.5 and 9.1 – 25.0	9.6 – 39.0 and 9.3 – 36.1	9.5 – 57.1 and 9.1 – 52.1
Cooling output (0°/35° and 0°/55°)[1]	kW	7.6 – 21.0 and 6.3 – 17.0	7.5 – 29.7 and 6.0 – 23.2	7.6 – 45.0 and 6.3 – 34.6
Electrical power (0°/35° and 0°/55°)[1]	kW	2.1 – 6.0 and 3.0 – 8.1	3 – 10.9 and 4.2 – 14.9	2.1 – 12.9 and 3.0 – 18.2
COP (0°/35° and 0°/55°)[1]		4.7 and 3.2	3.8 and 2.5[2]	4.5 and 2.9
SCOP (0°/35° and 0°/55°, EN 14825)		4.9 and 4.2	3.9 and 3.2	5.1 and 4.2
The system's energy efficiency class, intermediate climate, underfloor heating		A+++	A+++	A+++
Charge circuit flow		0.4	0.5 – 1.9[3]	1.6
Heat collecting liquid		Denatured ethanol 25–30% by weight	Denatured ethanol 25-30 p-%	Denatured ethanol 25–30% by weight
Collector flow	l/s	0.45–1.25	0.7 – 2.4[4]	2.68
Maximum permitted external pressure loss at nominal flow rate	kPa	125	100	115
Maximum operating pressure of the heating system / brine circuit (network pressure must be taken into account)	bar	6 / 6	10 / 10	6 / 6
Maximum output temperature of heating water	°C	58–63 / 51–56	+75	58–65 / 51–56
Operating temperature, collector	°C	–5...+20	-5...+20 (+30)[5]	–5...+20
Number of compressors		1	1	2
Compressor type		Twin rotary (frequency-controlled)	Scroll (frequency-controlled)	1 Scroll and 1 twin rotary
Soft starter		inverter	inverter	yes (Scroll), inverter (twin rotary)
Built-in charge pump		yes (frequency converter)	yes (frequency converter)	yes
Built-in brine circuit pump		yes (frequency converter)	yes (frequency converter)	no (Scroll), yes (twin rotary)
Electrical connection		400 VAC, 3L+N+PE, 50 Hz	400 VAC, 3L+N+PE, 50 Hz	400 VAC, 3L+N+PE, 50 Hz
Operating current of the protective device	A	3 x 32	3 x 40	3 x 63
Contains fluorinated greenhouse gases		yes	no	yes
Hermetically sealed		yes	yes	yes
Refrigerant		R410A	R290	R410A
GWP (Global Warming Potential)		2088	0.02	2088
Refrigerant charge	kg	2.1	1.8	2.1 and 3.4
CO_2 equivalence	tonnes CO_2 kg	4.385	0.000036	4.385 and 7.099
Sound power level	dB (A)	37.56	57 – 67[6]	37 – 56
External dimensions (length x width x height)	mm	790 x 640 x 970	850 x 690 x 1850	790 x 640 x 1840
Weight	kg	206.5	350	402.5
Heat supply circuit connections		35 mm	G1 1/2" it[7]	35 mm
Brine circuit connections		35 mm	G1 1/2" it	35 mm
Ventilation		-	80 mm	-

[1] Output details (in accordance with EN 14511) [2] 70 hz [3] 0/35, 30-110 hz, delta T 5 [4] 0/35, 30-110 hz, delta T 3
[5] temporary exceedance allowed [6] ISO 3741:2010 Lw(A) [7] it = internal thread

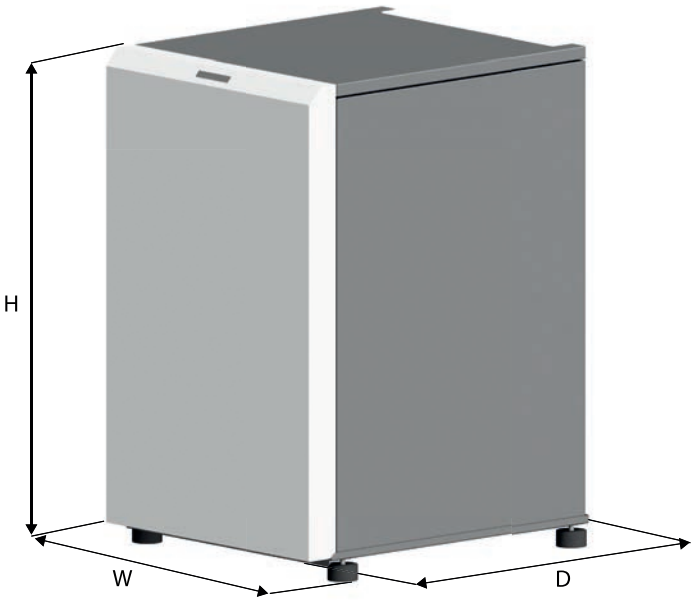
Heat pumps for real estate – Technical specifications

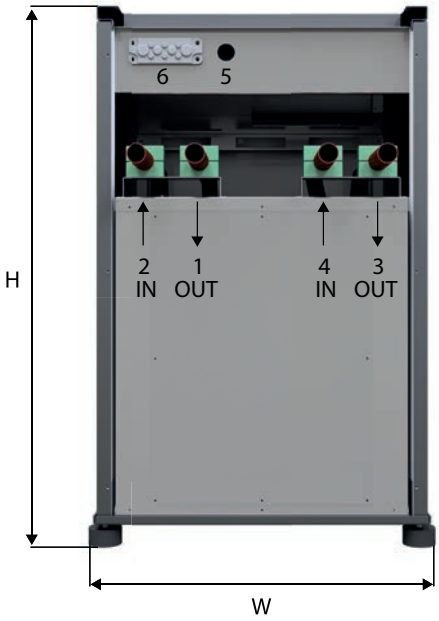
		Taurus 80 EVIC	Taurus 110 EVIC	Taurus Inverter Pro	G-Eco Pro 120
HVAC number		5322021	5322020	5362646	5322044
Heating output (0°/35° and 0°/55°)[1]	kW	71.4 and 74.3	93.6 and 97.8	40.1–94.9 and 30.6–82.3	52.8 – 119.0 and 50.7 - 108.0
Cooling output (0°/35° and 0°/55°)[1]	kW	56.4 and 50.0	74.1 and 65.2	31.5–71.4 and 20.6–55.1	38.0 – 88.0 and 31.5 – 71.0
Electrical power (0°/35° and 0°/55°)[1]	kW	16.1 and 25.5	20.9 and 32.6	8.9–24.7 and 11.6–28.5	13.8 – 29.9 and 17.5 – 39.5
COP (0°/35° and 0°/55°)[1]		4.4 and 2.9	4.5 and 3.0	4.2 and 2.9	4.2 and 3.1[2]
SCOP (0°/35° and 0°/55°, EN 14825)		5.2 and 4.4	5.2 and 4.5	5.1 and 4.3	4.3 and 3.4
The system's energy efficiency class, intermediate climate, underfloor heating					A+++
Charge circuit flow		2.4	3.2	3.2	2.5 – 5.8[3]
Heat collecting liquid		Denatured ethanol 25–30% by weight	Denatured ethanol 25–30% by weight	Denatured ethanol 25–30% by weight	Denatured ethanol 25–30% by weight
Collector flow	l/s	3.4	4.4	1.7–5.6	3.1 – 7.2[4]
Maximum permitted external pressure loss at nominal flow rate	kPa	130	120	140	150
Maximum operating pressure of the heating system / brine circuit (network pressure must be taken into account)	bar	6 / 6	6 / 6	6 / 6	10 / 10
Maximum output temperature of heating water	°C	0/+65	0/+65	0 / ~75–80	0 / +63
Operating temperature, collector	°C	–5...+20	–5...+20	–5...+25	-5...+20 (+30)[5]
Number of compressor		2	2	1	1
Number of compressors		Scroll (EVI)	Scroll (EVI)	Piston	Piston
Soft starter		yes	yes	inverter	inverter
Built-in charge pump		yes (frequency converter)	yes (frequency converter)	yes	no
Built-in brine circuit pump		yes (frequency converter)	yes (frequency converter)	yes	no
Electrical connection		400 VAC, 3L+N+PE, 50 Hz	400 VAC, 3L+N+PE, 50 Hz	400 VAC, 3L+N+PE, 50 Hz	400 VAC. 3L+N+PE. 50 Hz
Operating current of the protective device	A	3 x 80	3 x 80	3 x 80	3 x 80
Contains fluorinated greenhouse gases		yes	yes	yes	no
Hermetically sealed		yes	yes	yes	yes[6]
Refrigerant		R410A	R410A	R513A	R290
GWP (Global Warming Potential)		2088	2088	631	0.02
Refrigerant charge	kg	10.4	10.4	23	4.7
CO_2 equivalence	tonnes CO_2 kg	21.715	20.462	14.51	0.000094
Sound power level	dB (A)	52–58	52–58	50–54	65 – 70
External dimensions (length x width x height)	mm	1150 x 760 x 1550	1150 x 760 x 1550	1300 x 700 x 1860	1270 x 770 x 1750
Weight	kg	720	720	876	800
Heat supply circuit connections		G2" it[6]	G2" it	G2" et[7]	G2 1/2" it
Brine circuit connections		G2 ½ it	G2 ½ it	G2" et	G2 1/2" it
Superheating connections		G1 it	G1 it	-	-
Ventilation	mm				100 mm
Venting discharge	mm			Cu ½"	Cu 35 mm

[1] Output details (in accordance with EN 14511) [2] 50 hz [3] 0/35, 30-110 hz, delta T 5 [4] 0/35, 30-110 hz, delta T 3 [5] temporary exceedance allowed

[6] ISO 3741_2010 Lw(A) [7] it = internal thread [8] et = external thread

T3 Inverter - Dimensions

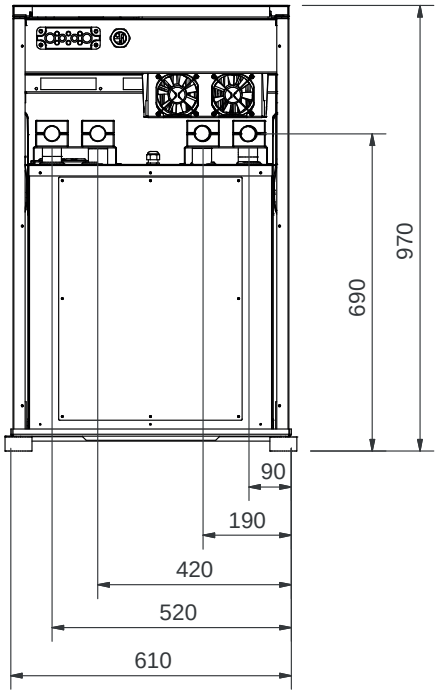


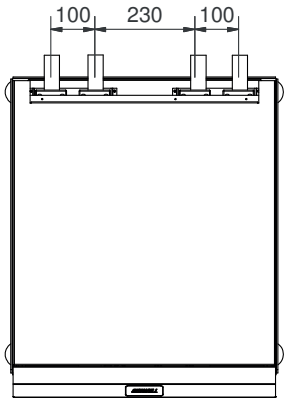


	Dimensions
D	790 mm
W	640 mm
H	970 mm

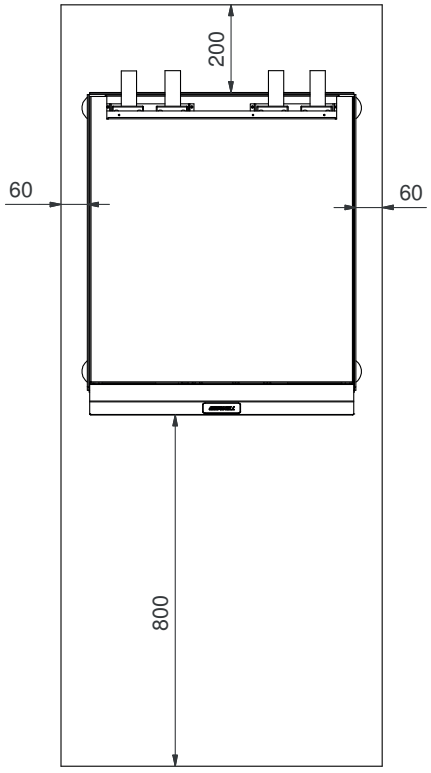
	Connections	Size
1	Collector supply/out	35 mm
2	Collector return/in	35 mm
3	Heating supply/out	35 mm
4	Heating return/in	35 mm
5	Lead-through, power supply	-
6	Multiple flange lead-through – sensors, control and data transfer cables	-

Installation dimensions – T3 Inverter

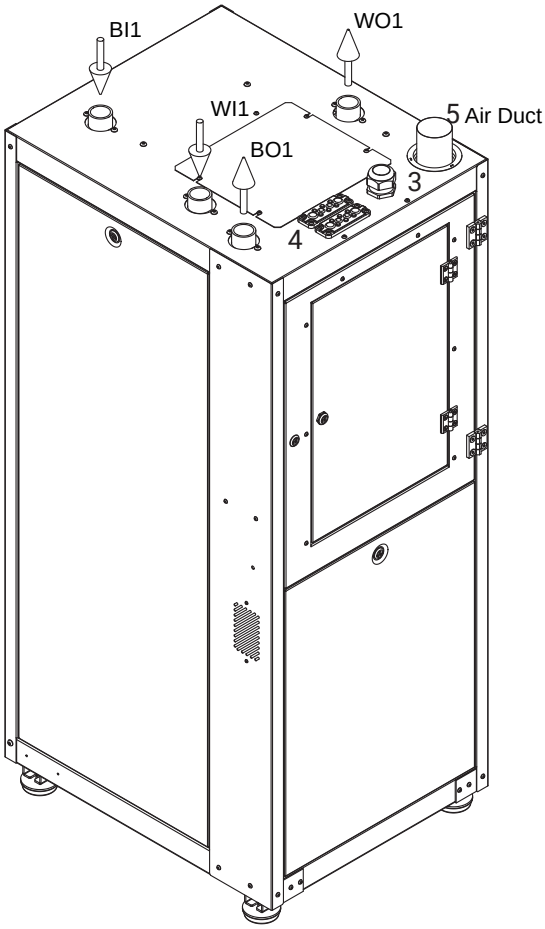




Required service area – T3 Inverter



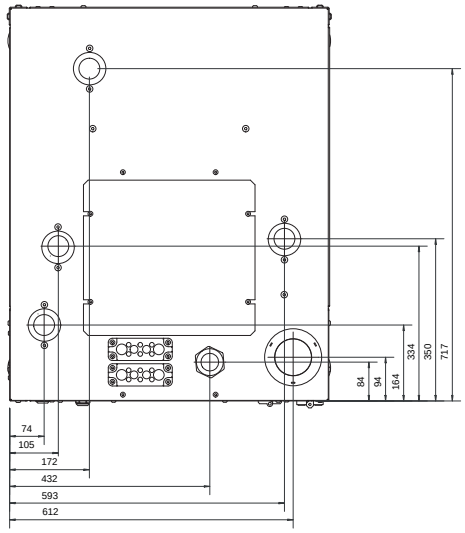
G-Eco Core 40 – Dimensions

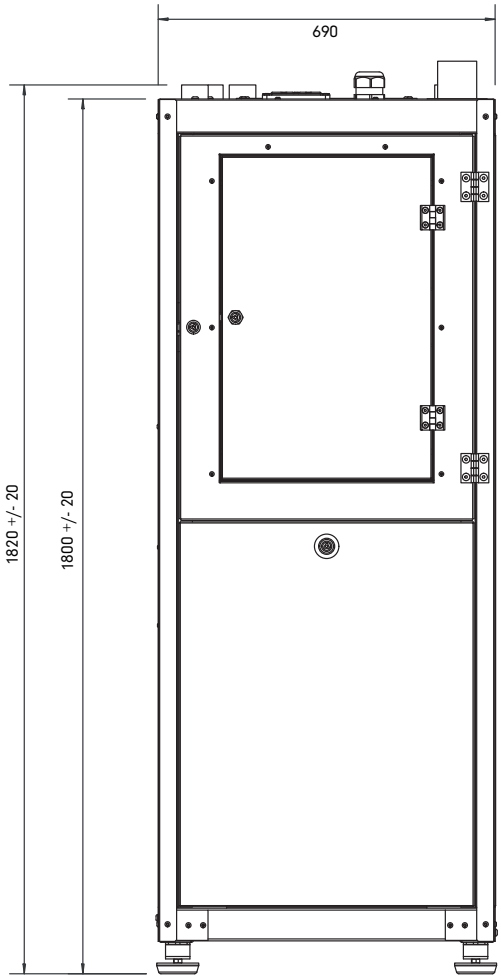


	Dimensions
D	790 mm
W	690 mm
H	1850 mm

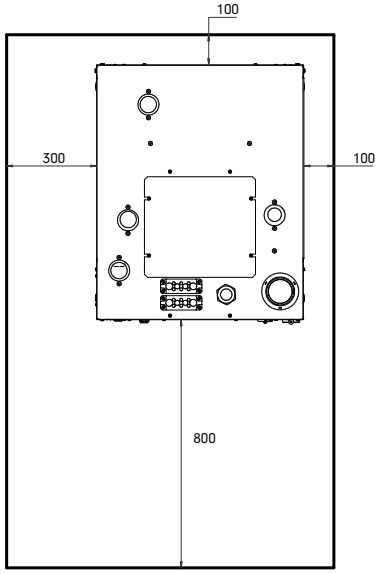
	Connections	Size
BO1	Collector supply/out	G1 1/2" it
BI2	Collector return/in	G1 1/2" it
WO1	Heating supply/out	G1 1/2" it
WI2	Heating return/in	G1 1/2" it
3	Lead-through, power supply	-
4	Multiple flange lead-through – sensors, control and data transfer cables	-
5	Ventilation	80 mm

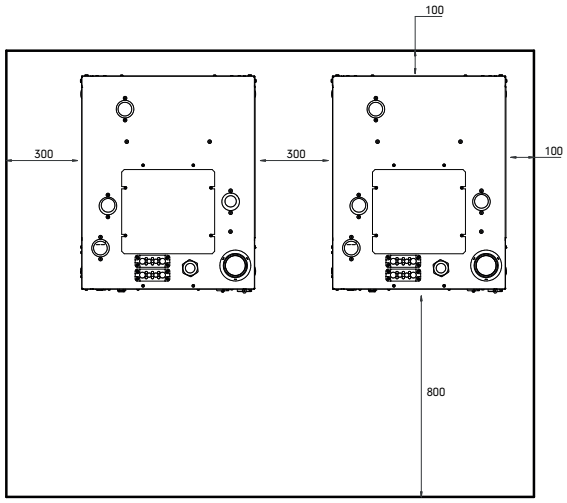
G-Eco Core 40 – Installation dimensions



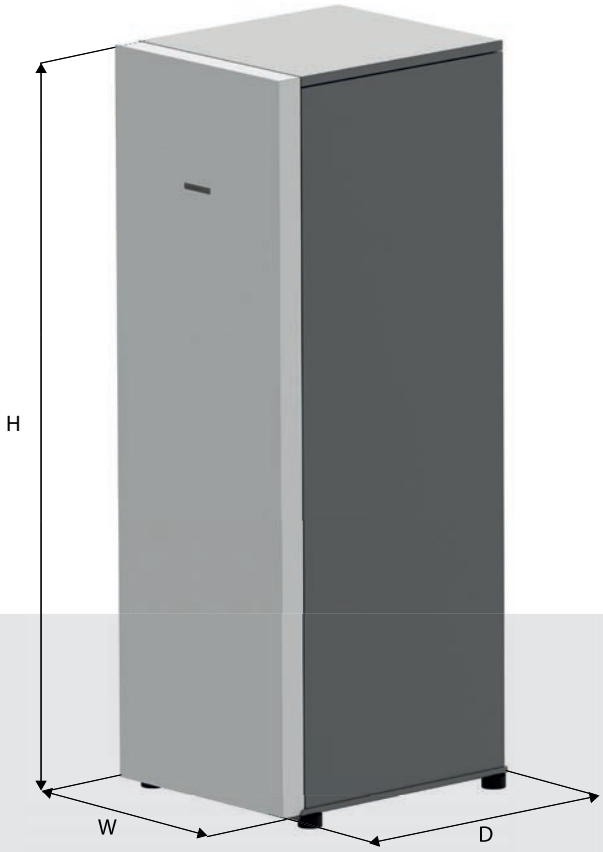


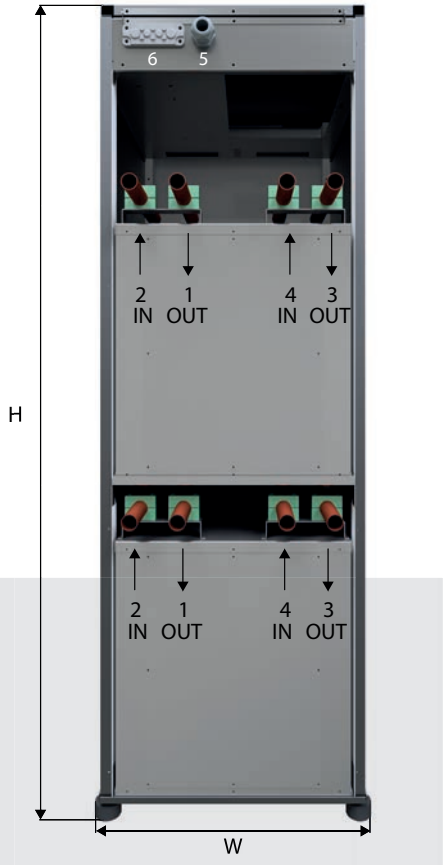
Required service area





Gemini Inverter – Dimensions

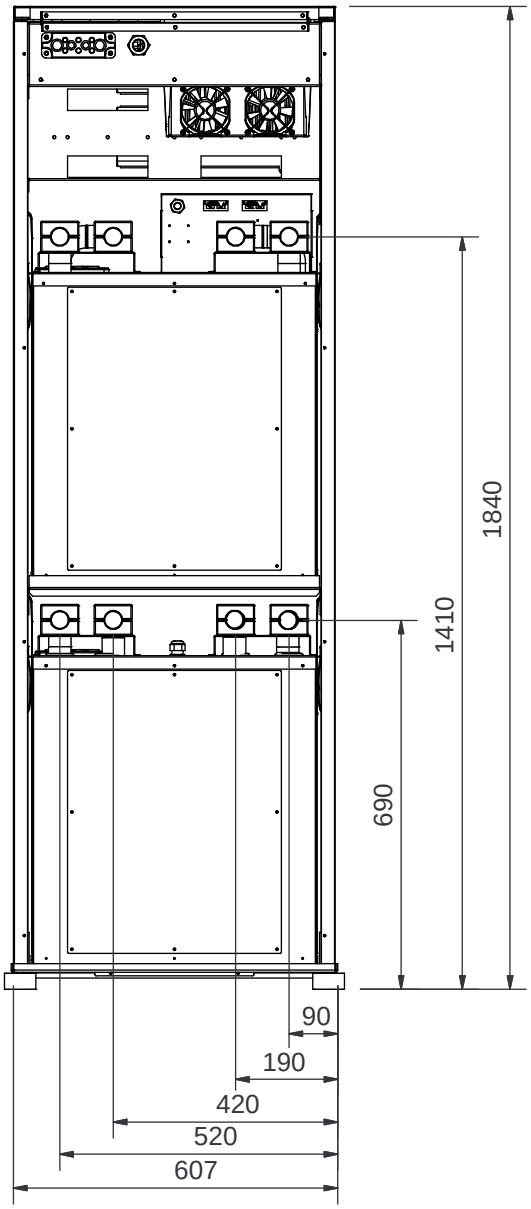


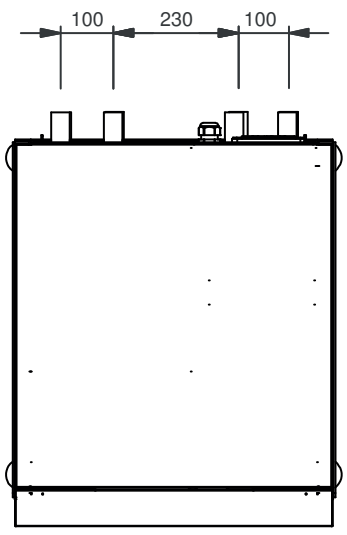


	Dimensions
D	790 mm
W	640 mm
H	1840 mm

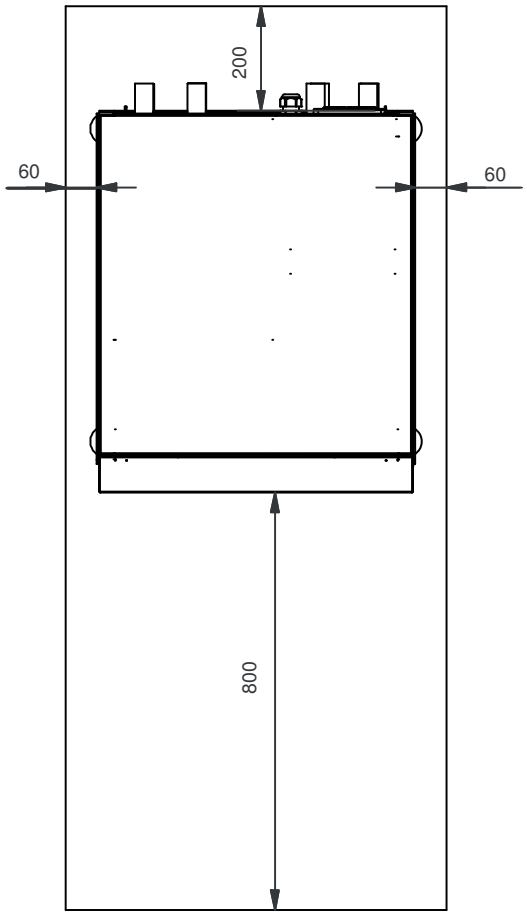
	Connections	Size
1	Collector supply/out	35 mm
2	Collector return/in	35 mm
3	Heating supply/out	35 mm
4	Heating return/in	35 mm
5	Lead-through, power supply	-
6	Multiple flange lead-through – sensors, control and data transfer cables	-

Gemini Inverter – Installation dimensions

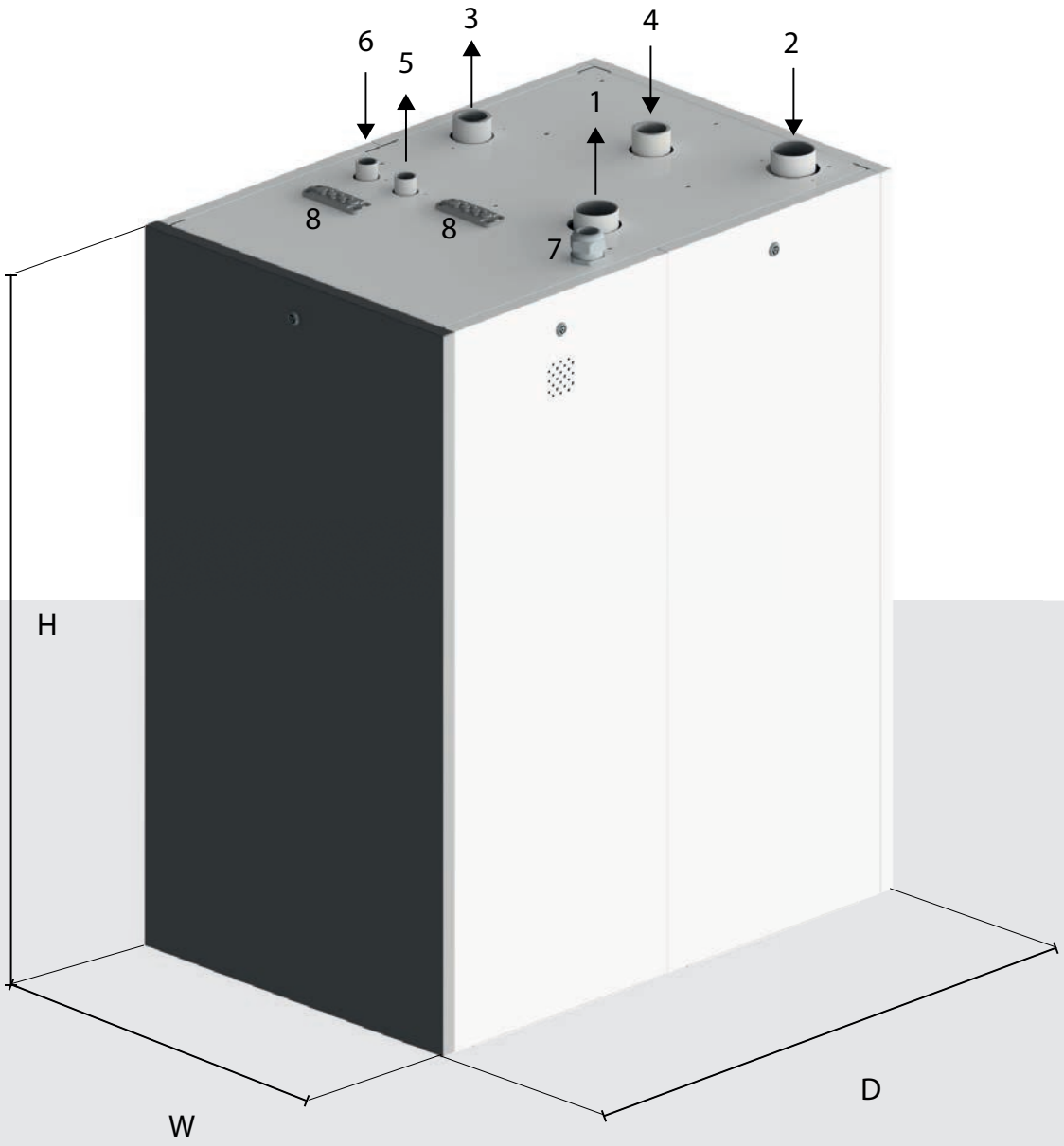




Required service area



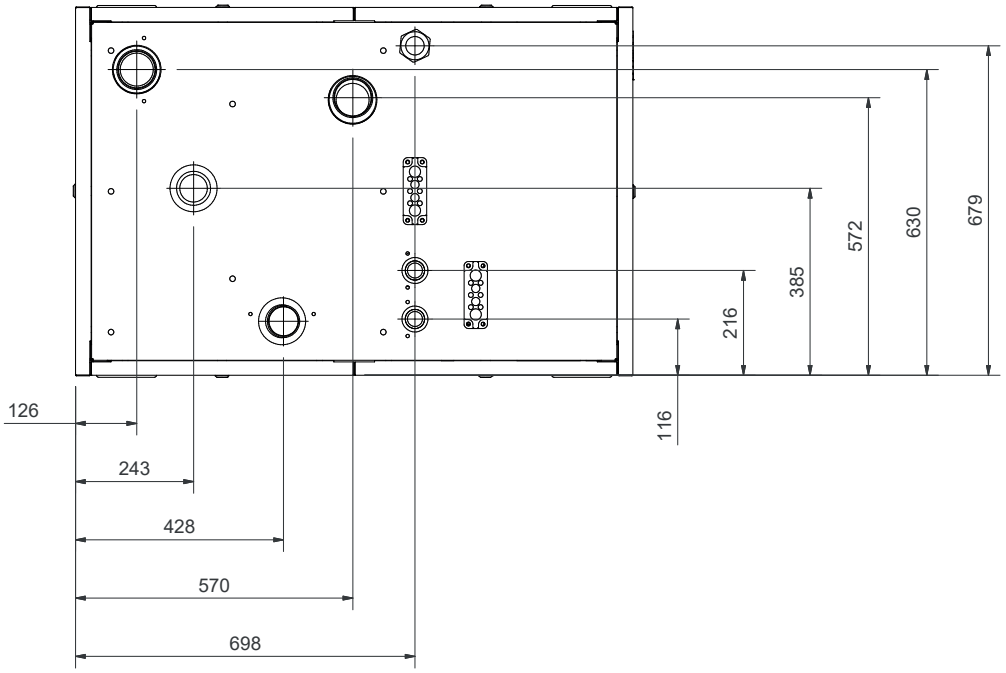
Taurus EVIC – Dimensions



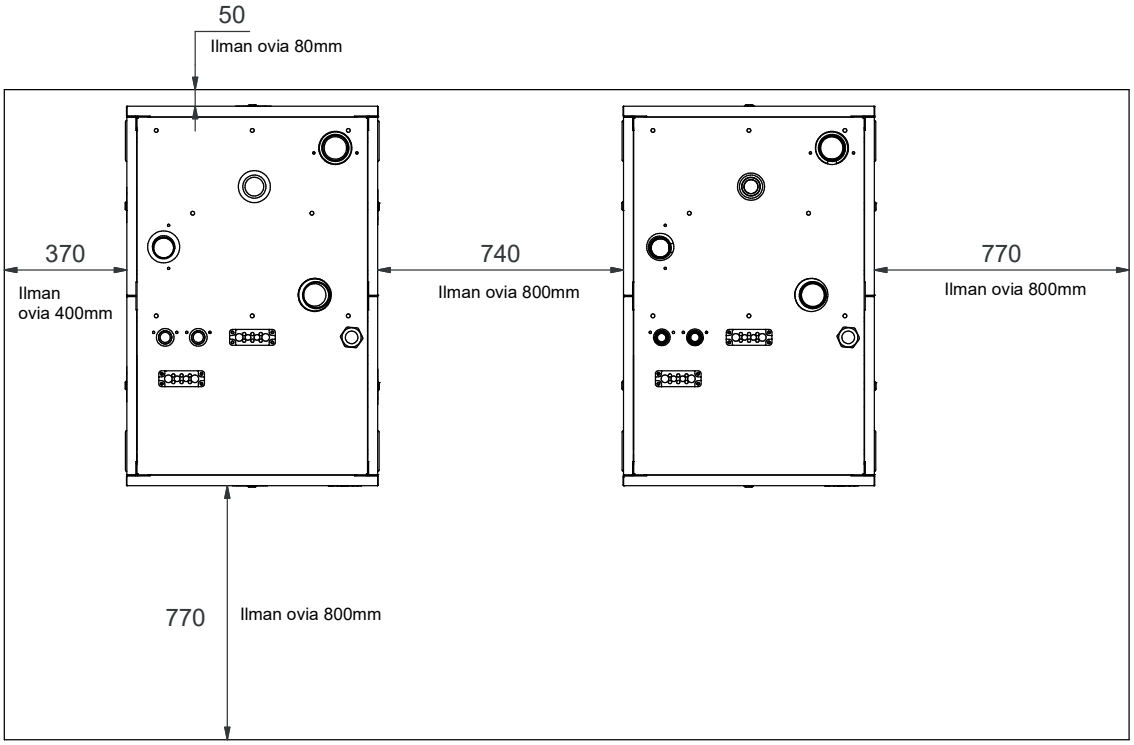
	Dimensions
D	1150 mm
W	760 mm*
H	1550 mm
	** 700 mm with doors detached*

	Connections	Size
1	Collector supply/out	G2 ½" it
2	Collector return/in	G2 ½" it
3	Heating supply/out	G2" it
4	Heating return/in	G2" it
5	Superheating supply/out	G1" it
6	Superheating return/in	G1" it
7	Lead-through, power supply	-
8	Multiple flange lead-through – sensors, control and data transfer cables	-

Taurus EVIC – Installation dimensions



Required service area

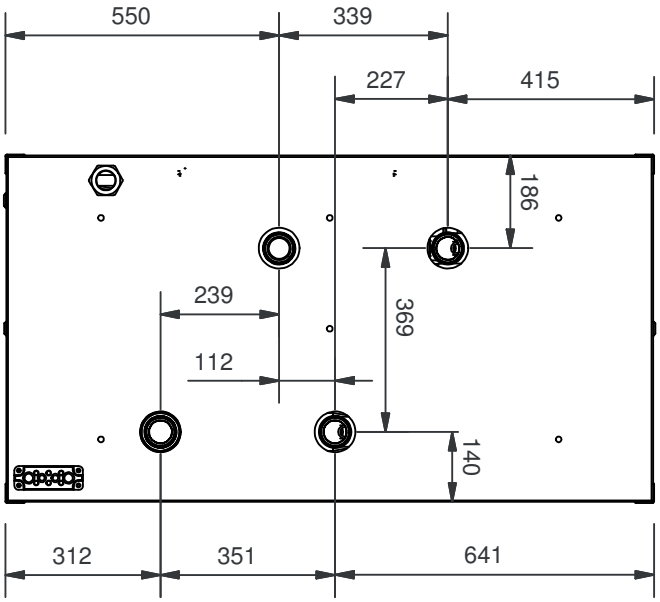


Taurus Inverter Pro – Dimensions

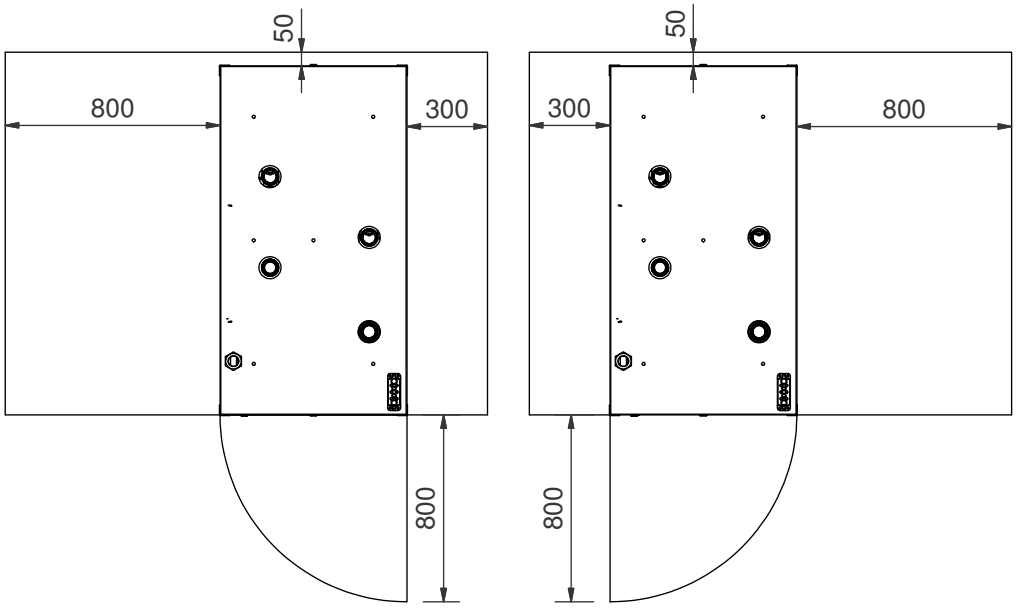
	Dimensions
D	1304 mm
W	700 mm
H	1860 mm

	Connections	Size
1	Collector supply/out	G2″ et
2	Collector return/in	G2″ et
3	Heating supply/out	G2″ et
4	Heating return/in	G2″ et
5	Lead-through, power supply	-
6	Multiple flange lead-through – sensors, control and data transfer cables	-
7	Venting discharge	Cu ½″

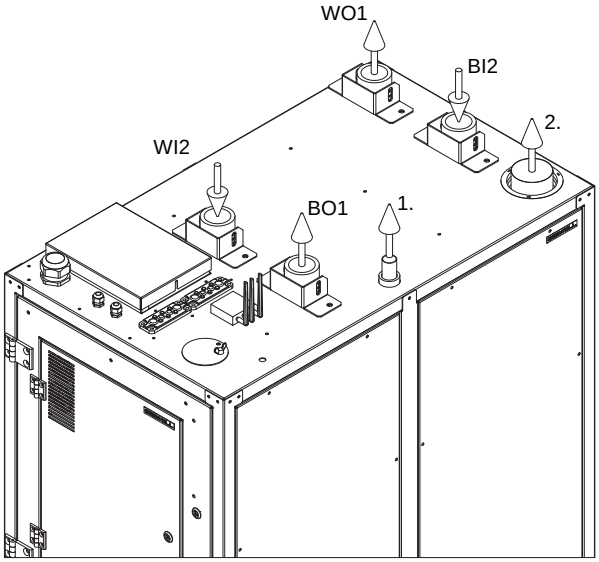
Taurus Inverter Pro — Installation dimensions



Required service area

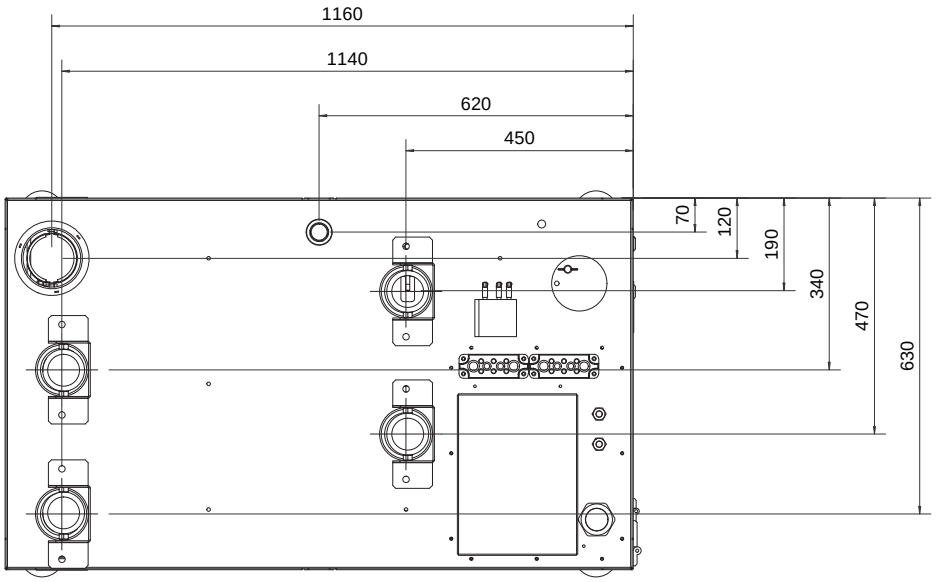


G-Eco® Pro – Dimensions

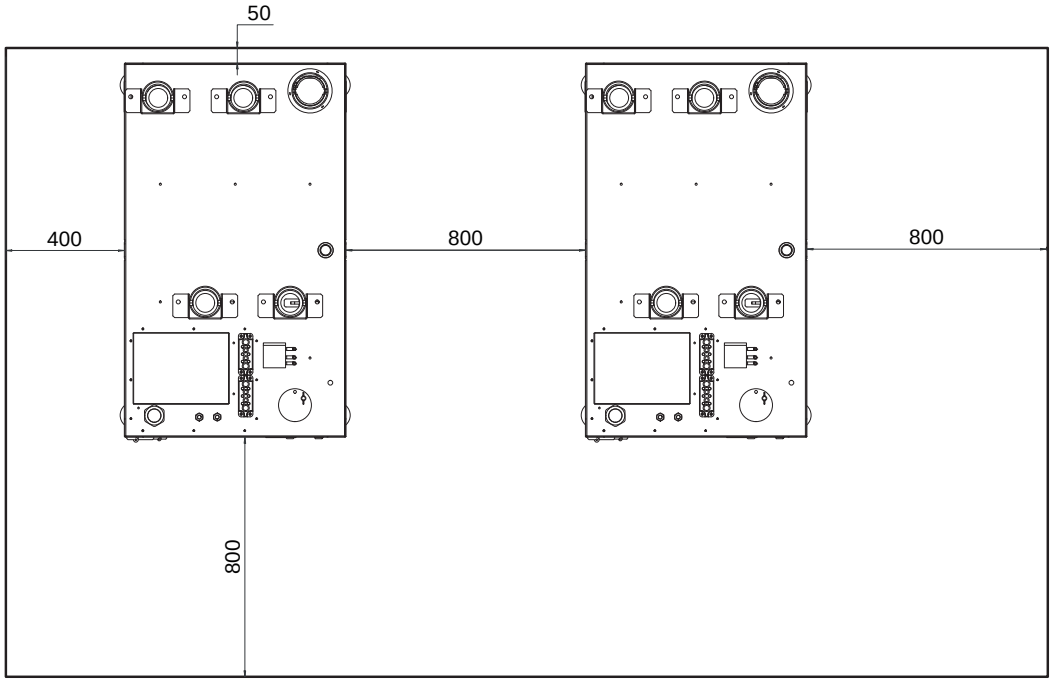


	Dimensions		Connections	Size
D	1270 mm	BO1	Collector supply/out	G2 1/2" it
W	770 mm	BI2	Collector return/in	G2 1/2" it
H	1750 mm	WO1	Heating supply/out	G2 1/2" it
		WI2	Heating return/in	G2 1/2" it
		1	Venting discharge	Cu 35 mm
		2	Ventilation	100 mm

G-Eco Pro – Installation dimensions



Required service area



Accessories for heat pumps

Gebwell Oy's product portfolio includes various types of accumulators to supplement the heat pump system, ranging from buffer tanks to special accumulators that can be customised as needed.

G-Energy buffer tanks

G-Energy buffer tanks can be used to increase the water capacity of a heating system. A higher water capacity ensures a steady and sufficient flow and improves the operation and efficiency of the heat pump. A higher water capacity also extends the duty cycles of the compressor, as well as its service life.

- Available as 501-, 750- and 1000-litre models, with DN50 and DN65 connections and in 3 or 6 bar pressure classes.
- The accumulator tank is made out of steel primed and pressure tested.
- The insulation is made out of die-cast closed-cell urethane.
- As standard, the insulation is made out of detachable segments, which are easy to detach and reattach.
- The outer surface of the insulation segments is made out of painted steel plate with a protective coating.
- At the bottom of the accumulator tank there is a steel base to ease hauling. The steel base has two parts, the lower section can be removed before installation. When lowered, the height of the 501-litre accumulator is 90 mm, the 750-litre accumulator 130 mm and the 1000-litre accumulator 150 mm lower compared to the standard.

G-Energy 300 buffer tank

- Module-sized 275-litre buffer tank.
- Buffer tanks even out the starting intervals of heating equipment and so improve the equipment's durability. For example, a buffer tank can reduce the number of times a heat pump's compressors need to be started.
- The accumulator tank is made out of stainless steel, and the surface plate is a powder coated steel plate.
- The insulation used in the accumulator consists of 100-mm thick die-cast CFC-free polyurethane. The die-cast polyurethane also acts as the accumulator's frame, making it sturdy.
- The levelling feet on the base make installation easy.
- The SV model has two electric immersion heater connections that can accommodate a 10-kW electric immersion heater at maximum. Electric immersion heaters are ordered separately.

G-Energy SV buffer tank

G-Energy SV buffer tanks feature connections for electric immersion heaters.

- The 501-litre models are equipped with three connections for electric immersion heaters, the 750-litre models with three or six connections, and the 1000-litre models come with three, six or eight electric immersion heater connections.
- According to need, the accumulator is equipped with electric immersion heaters to ensure sufficient heating and domestic hot water.
- Equipping the accumulator with electric immersion heaters enables, for instance, a wood-heated house to be heated with electricity during a holiday trip. Electric immersion heaters are ordered separately.

G-Energy PW buffer tank

G-Energy PW buffer tanks are suitable for domestic water preheating and heating system buffer tanks.

- In properties with a heat pump, the preheating of domestic water enables the domestic hot water to be heated more energy efficiently and improves the sufficiency of domestic hot water.
- Two flanges for domestic hot water preheating coils. The 501-litre buffer tanks are equipped with three connections for electric immersion heaters, and the 1000-litre models come with three or six electric immersion heater connections. Coils and electric immersion heaters are ordered separately.

G-Energy Cooling buffer tank

G-Energy Cooling is a buffer tank developed for cooling systems.

- Can be used as a buffer tank for, e.g., water coolers and other mechanical cooling systems. Buffer tanks even out the conditions between the start-up times of cooling equipment and reduce the number of times compressors need to be started.
- Available as 501-, 1000- and 2000-litre models and in 3 and 6 bar pressure classes.
- The tank is made out of steel, primed and pressure tested.
- 19-mm cellular rubber insulation
- At the bottom of the accumulator tank there is a steel base to ease hauling. The steel base has two parts, the lower section can be removed before installation. When lowered, the height of the 501-litre accumulator is 90 mm, the 750-litre accumulator 130 mm and the 1000-litre accumulator 150 mm lower compared to the standard.

G-Energy Coil buffer tank

Equipped with coils, G-Energy Coil is suitable for heating domestic hot water together with a heat pump.

- Available as 501-, 750- and 1000-litre models and in 3 and 6 bar pressure classes.
- Depending on the size, the accumulator includes one to four 25-metre-long coils. The 501-litre model is equipped with one or two coils. The 750- and 1000-litre models are equipped with one to four coils.
- The 501- and 1000-litre models are equipped with two connections for electric immersion heaters and the 750-litre model is equipped with three connections. Electric immersion heaters are ordered separately.
- Also available as a low-height model. The low-height model is 2,000 mm tall with the insulation in place, and 1,980 mm with the insulation detached.
- At the bottom of the accumulator tank there is a steel base to ease hauling. The steel base has two parts, the lower section can be removed before installation. When lowered, the height of the 501-litre accumulator is 90 mm, the 750-litre accumulator 130 mm and the 1000-litre accumulator 150 mm lower compared to the standard.

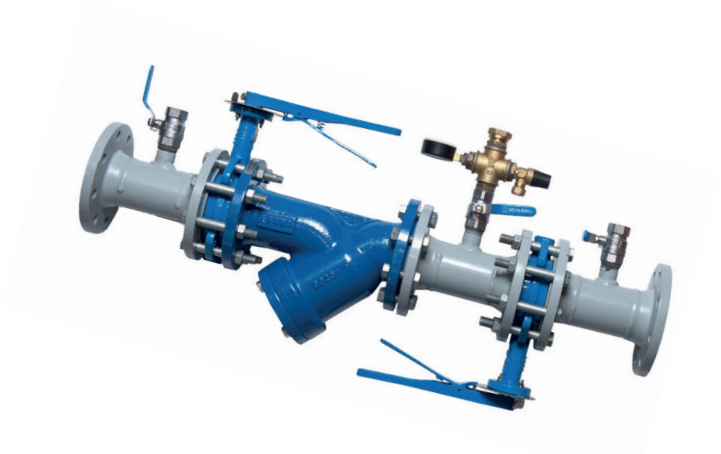
G-Energy Custom accumulator tank

- A special accumulator designed for installations not suitable for our standard models.
- Equipped with flexible features, the special model is fully customisable. The customer can select the capacity, material, pressure class and insulation material of the accumulator.
- The size of connections and the number and place of connections and sensor pockets can also be customized.
- The special accumulator is available either with or without a bulkhead.

Collector valve group

Valve group makes the filling and the venting of collector easy. In addition, the dirt filter removes the possible dirt particles in the liquid circulation.

Valve group is meant as accessory for all Gebwell heat pumps.



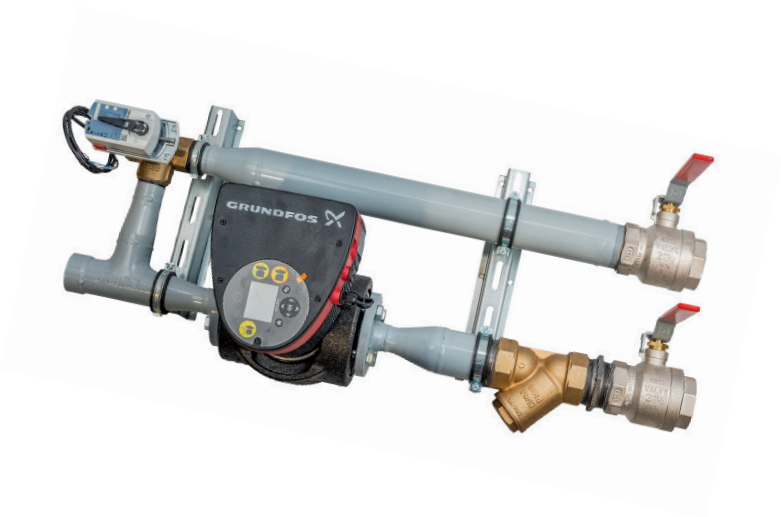
Heating control group

With heating control group the adjusting of heating network is easy

Connecting the heating control group to the heating network is easy and effortless. By connecting another control group to heat pump, you can heat damp spaces all-year round regardless of other spaces' heating needs.

Heating control group is meant as accessory for all Gebwell heat pumps.

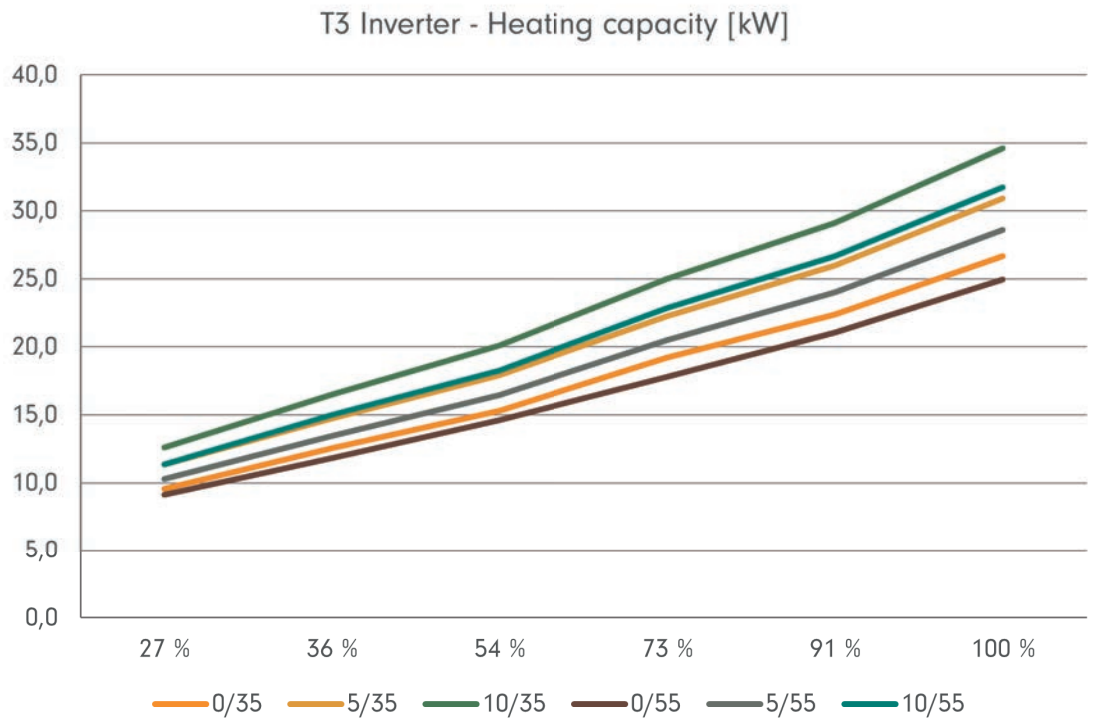
Control group includes heating pump, shut-off valve, control valve with actuator, dirt filter, needed sensors, electric cables, hangers and wall mounting rails.

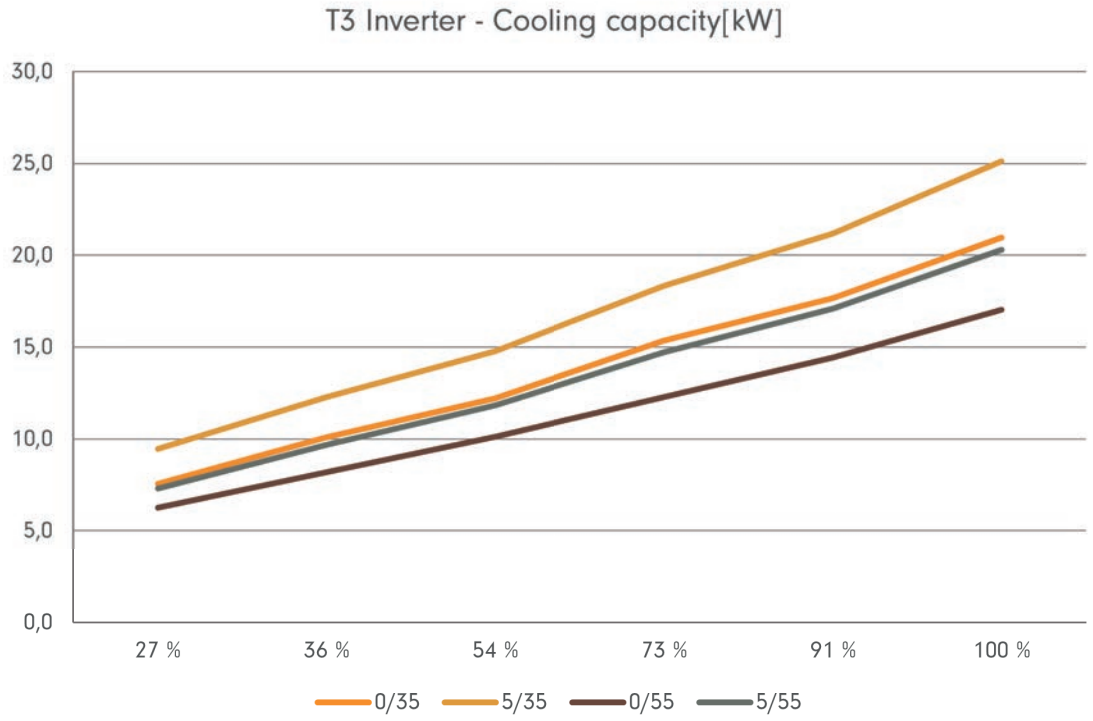


T3 Inverter

— performance graphs

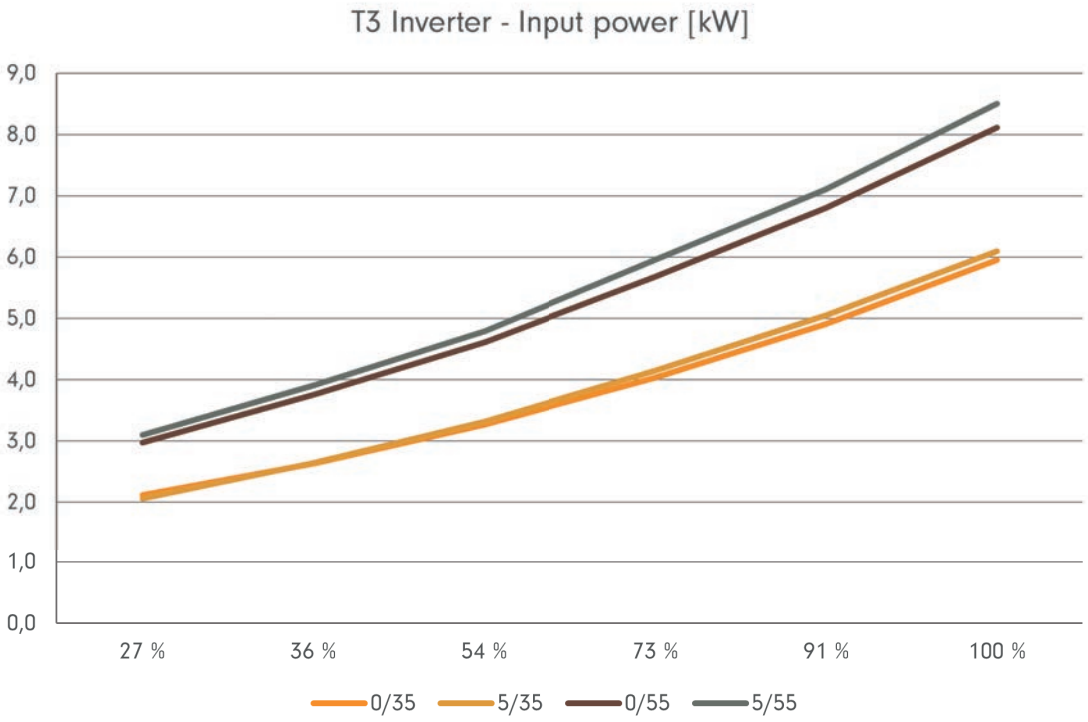
The following presents the performance of the T3 Inverter heat pump at various operating points. In the power graphs, the vertical axis represents the power values, and the horizontal axis shows the inverter's rotation speed, expressed as a percentage.

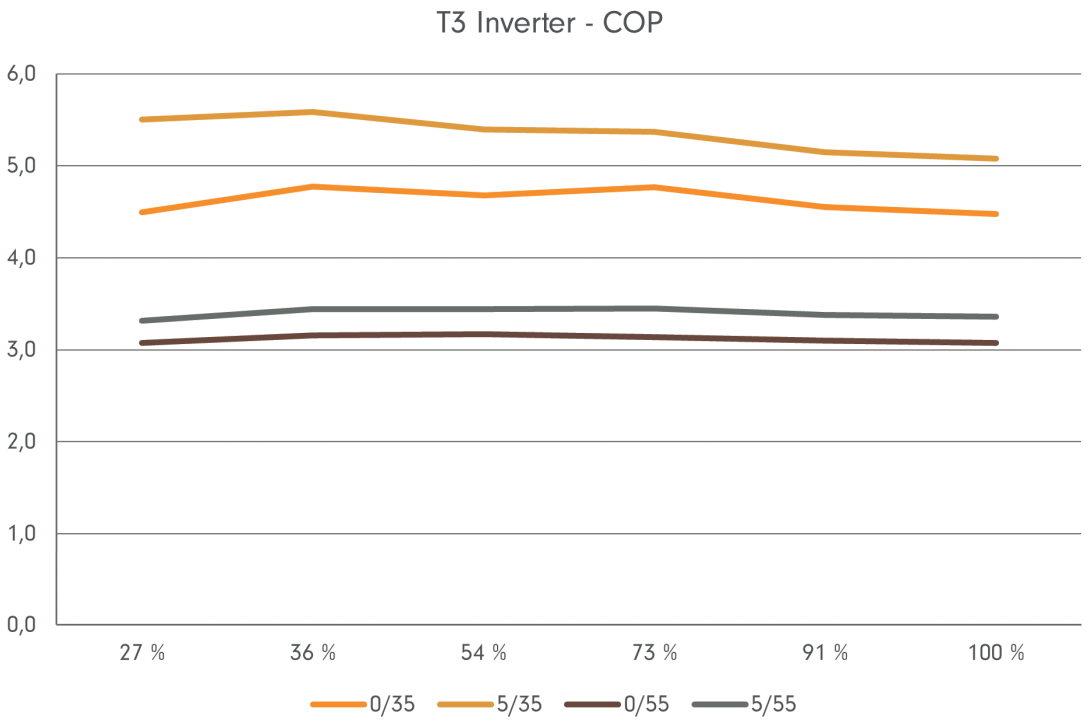




T3 Inverter – performance graphs

The following presents the Input power and COP of the T3 Inverter heat pump at various operating points. The graphs show information such as the heat pump's COP value outside the typical 0/35 or 0/55 points. In the power and COP graphs, the vertical axis represents the power/COP values, and the horizontal axis shows the inverter's rotation speed, expressed as a percentage.

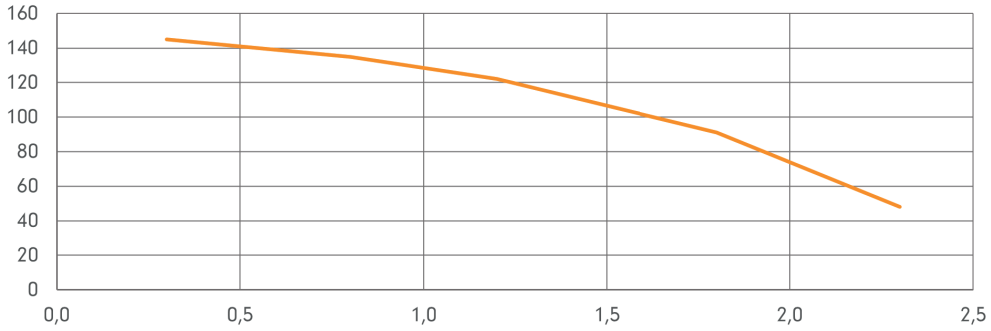




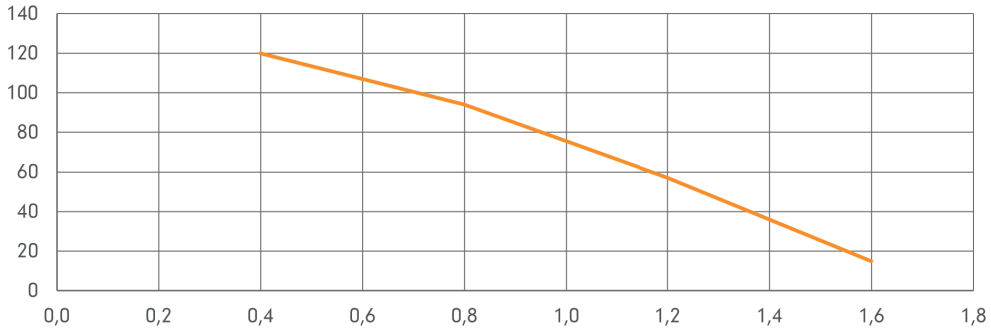
T3 Inverter – performance graphs

The following presents the flow rate of the T3 Inverter heat pump's brine and charge circuit, as well as the maximum pressure loss at various temperatures of the brine and charge circuit. The maximum pressure loss are shown on the vertical axis and the corresponding flow rates are shown on the horizontal axis. The graphs at the bottom show the flow rates on the vertical axis and the inverter's rotation speed expressed as a percentage on the horizontal axis.

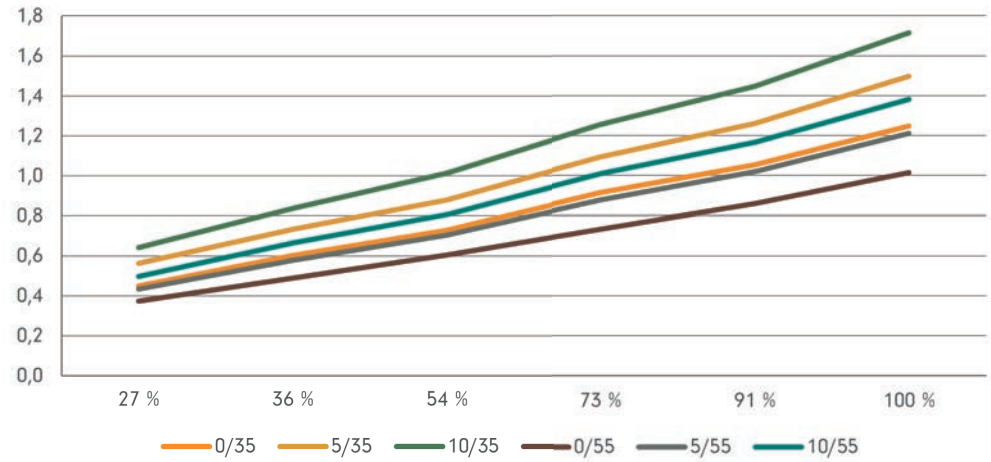
T3 Inverter - Maximum external pressure loss, Brine [kPa - l/s]



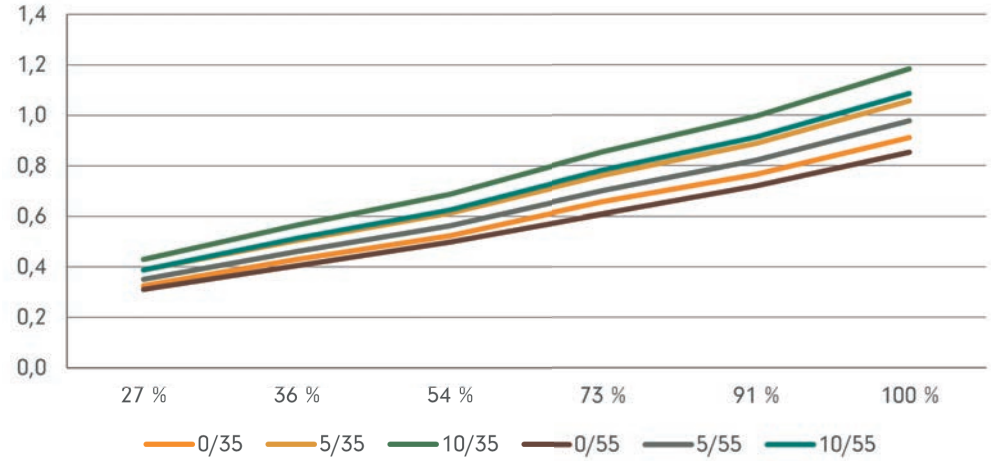
T3 Inverter - Maximum external pressure loss, Charge [kPa - l/s]



T3 Inverter - Brine flow dT4 [l/s]

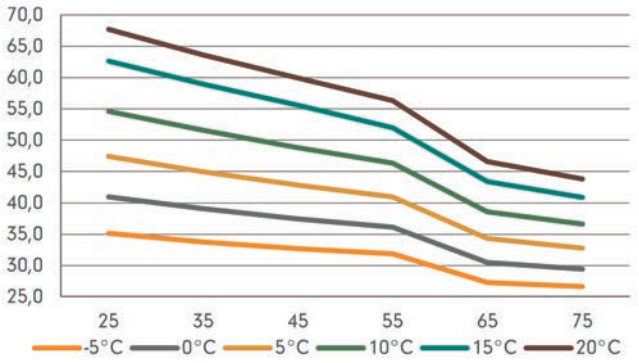


T3 Inverter - Charge flow dT7 [l/s]

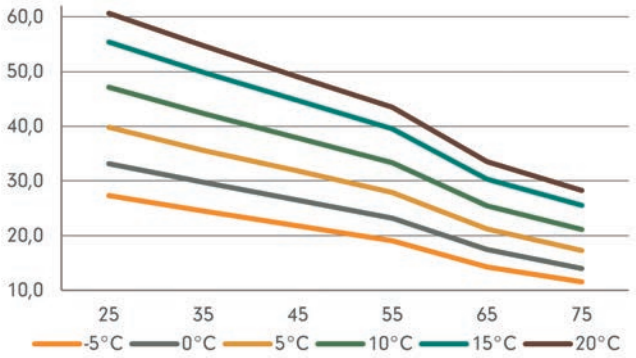


G-Eco Core 40 performance graphs The following presents the performance of the G-Eco Core 40 heat pump at various operating points. The graphs show information such as the heat pump's COP value outside the typical 0/35 or 0/55 points. In the power and COP graphs, the vertical axis represents the power/COP values, and the horizontal axis shows the temperature of the output water. On the flow graphs The vertical axis shows the flow rates, and the horizontal axis shows the temperatures of the output water.

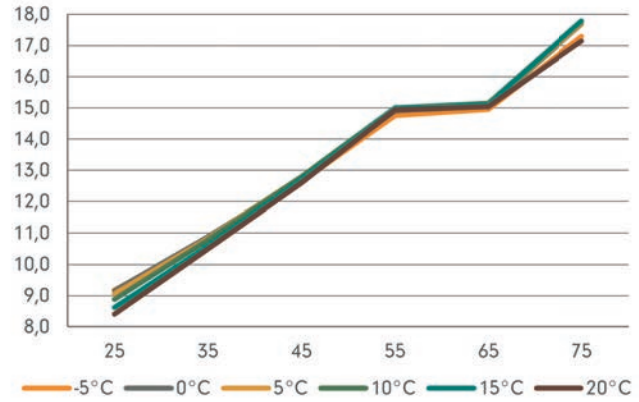
Heating capacity [kW]



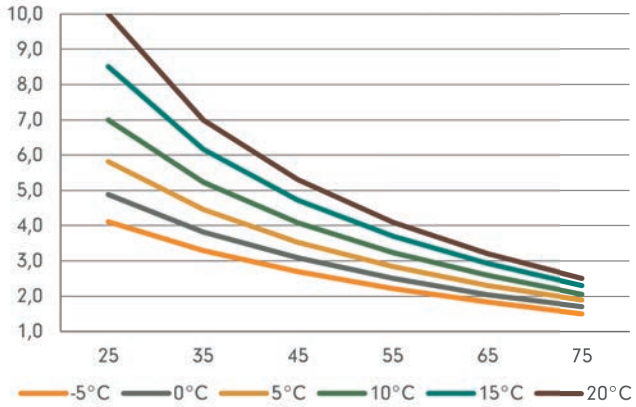
Cooling capacity [kW]



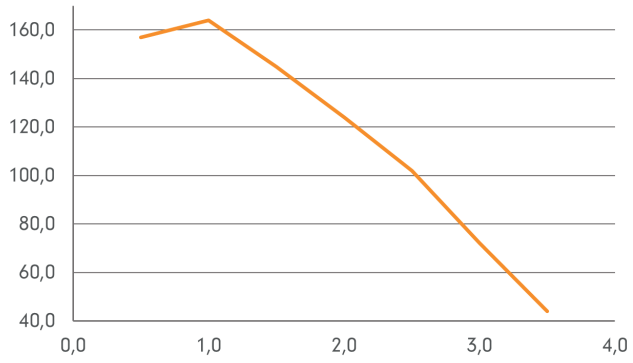
Input power [kW]



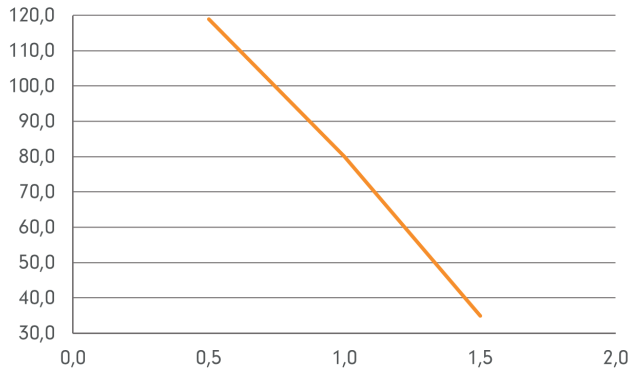
COP, 70 Hz



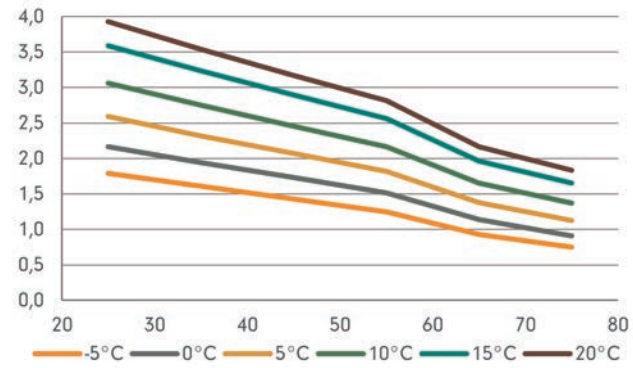
Max external pressure loss, Brine [kPa - l/s]



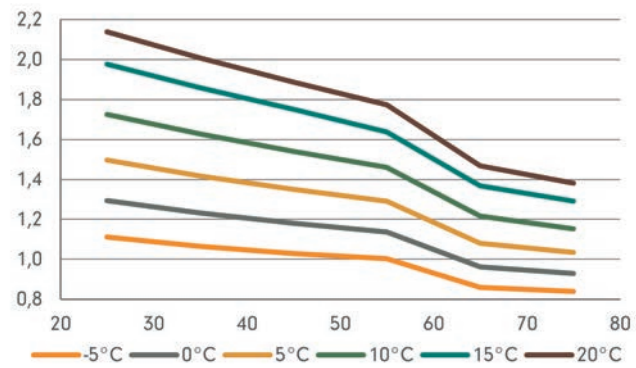
Max external pressure loss, Charge [kPa - l/s]



Brine flow dT4 [l/s]



Charge flow dT8 [l/s]



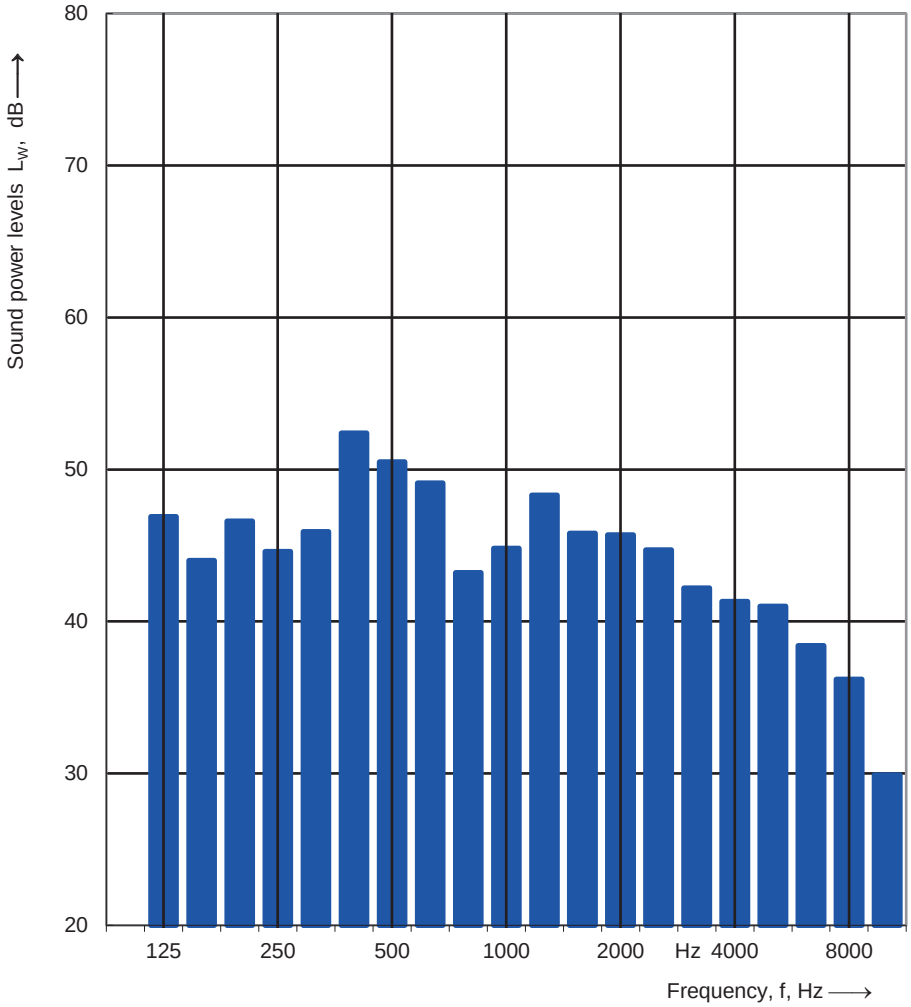
Sound power levels according to ISO 3741:2010

Precision methods for reverberation test rooms - Comparison method

Client:	Gebwell Ltd.	Date of test:	19.12.2024
Object:	G-Eco Core 40		
Mounting conditions:	Reverberation room		
Operating conditions:	B0W35, compressor speed 30 hz (1800 rpm).		

Static pressure:	101,3	kPa
Air temperature:	23,0	°C
Relative air humidity:	50,0	%
Test room volume:	183,6	m³
Area, S, of test room:	197,7	m²

Frequency f [Hz]	L_W 1/3 octave [dB]
100	
125	46,9
160	44,0
200	46,6
250	44,6
315	45,9
400	52,4
500	50,5
630	49,1
800	43,2
1000	44,8
1250	48,3
1600	45,8
2000	45,7
2500	44,7
3150	42,2
4000	41,3
5000	41,0
6300	38,4
8000	36,2
10000	29,9



Sound power level L_W(A): 57 dB

Name of test institute: Gebwell Ltd.

No. of test report:

Date: 19.12.2024 Signature: A-V P

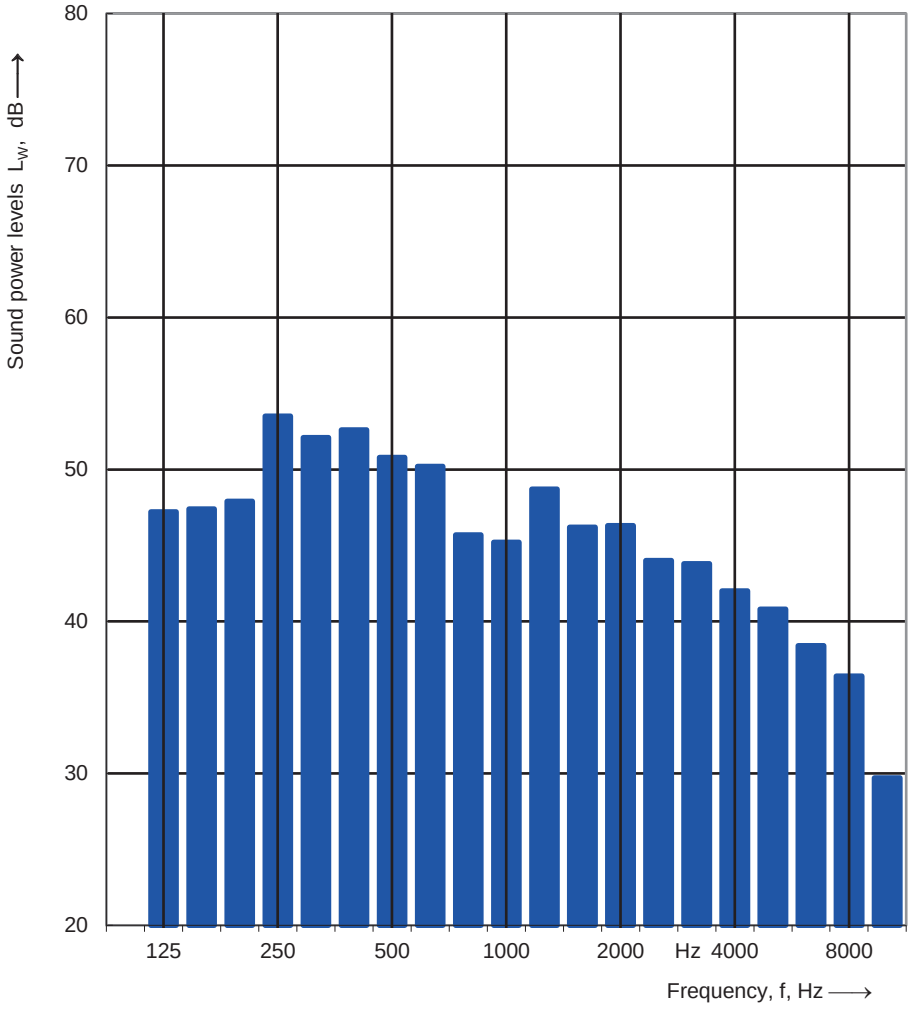
Sound power levels according to ISO 3741:2010

Precision methods for reverberation test rooms - Comparison method

Client:	Gebwell Ltd.	Date of test:	19.12.2024
Object:	G-Eco Core 40		
Mounting conditions:	Reverberation room		
Operating conditions:	B0W35, compressor speed 50 hz (3000 rpm).		

Static pressure:	101,3	kPa
Air temperature:	23,0	°C
Relative air humidity:	50,0	%
Test room volume:	183,6	m³
Area, S, of test room:	197,7	m²

Frequency f [Hz]	L_W 1/3 octave [dB]
100	
125	47,2
160	47,4
200	47,9
250	53,5
315	52,1
400	52,6
500	50,8
630	50,2
800	45,7
1000	45,2
1250	48,7
1600	46,2
2000	46,3
2500	44,0
3150	43,8
4000	42,0
5000	40,8
6300	38,4
8000	36,4
10000	29,7



Sound power level L_W(A): 58 dB

Name of test institute: Gebwell Ltd.

No. of test report:

Date: 19.12.2024 Signature: A-V P

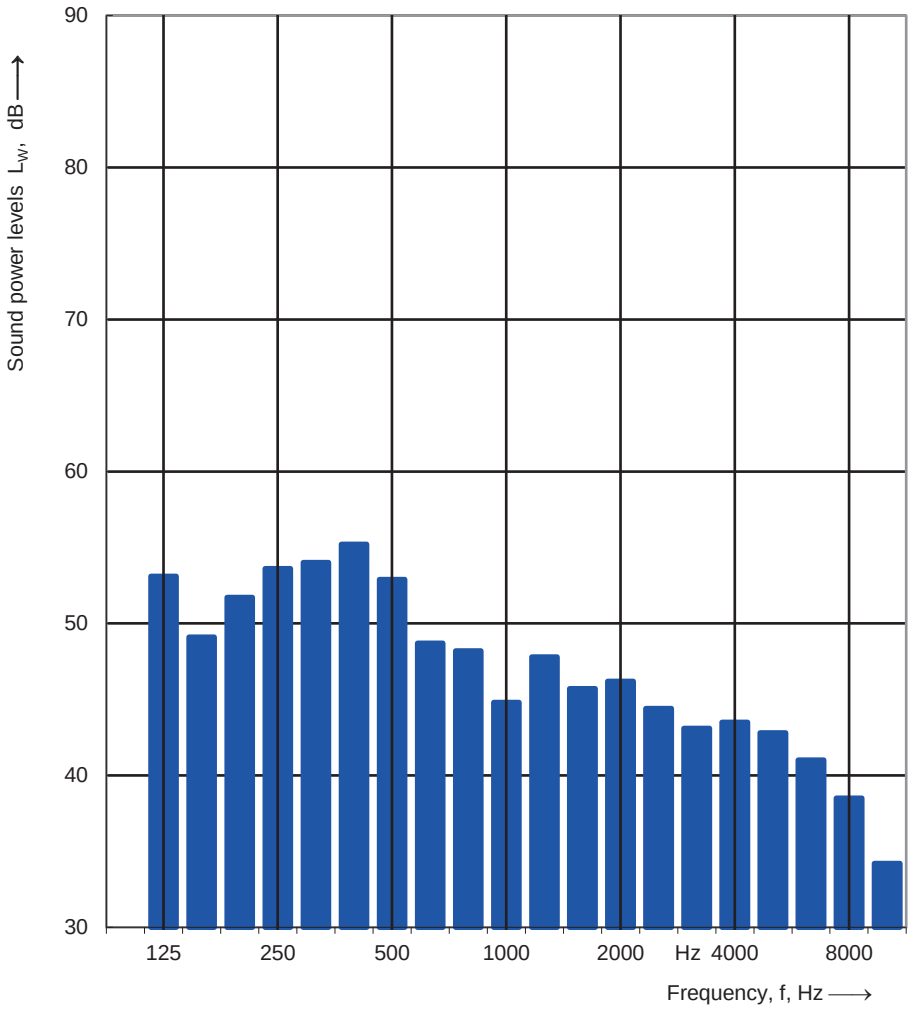
Sound power levels according to ISO 3741:2010

Precision methods for reverberation test rooms - Comparison method

Client:	Gebwell Ltd.	Date of test:	18.12.2024
Object:	G-Eco Core 40		
Mounting conditions:	Reverberation room		
Operating conditions:	B0W35, compressor speed 70 hz (4200 rpm).		

Static pressure:	101,3	kPa
Air temperature:	23,0	°C
Relative air humidity:	50,0	%
Test room volume:	183,6	m³
Area, S, of test room:	197,7	m²

Frequency f [Hz]	L_W 1/3 octave [dB]
100	
125	53,1
160	49,1
200	51,7
250	53,6
315	54,0
400	55,2
500	52,9
630	48,7
800	48,2
1000	44,8
1250	47,8
1600	45,7
2000	46,2
2500	44,4
3150	43,1
4000	43,5
5000	42,8
6300	41,0
8000	38,5
10000	34,2



Sound power level L_W(A): 59 dB

Name of test institute: Gebwell Ltd.

No. of test report:

Date: 18.12.2024 Signature: A-V P

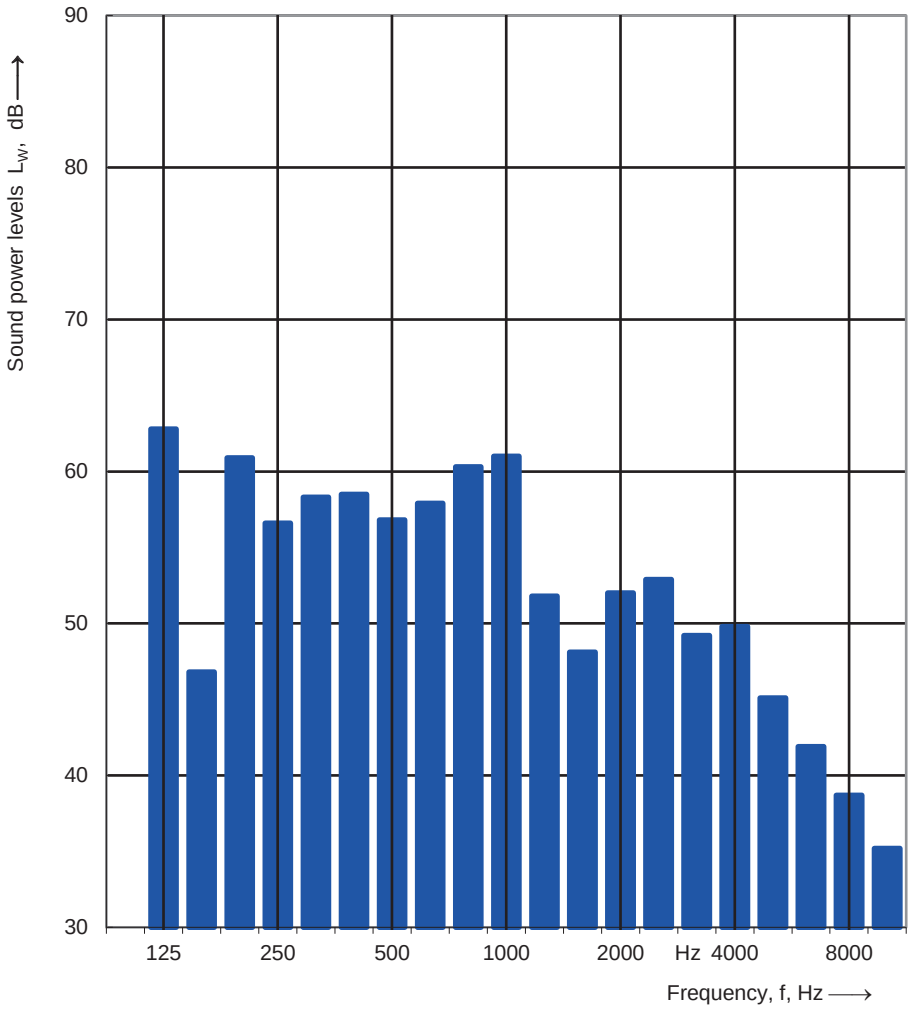
Sound power levels according to ISO 3741:2010

Precision methods for reverberation test rooms - Comparison method

Client:	Gebwell Ltd.	Date of test:	18.12.2024
Object:	G-Eco Core 40		
Mounting conditions:	Reverberation room		
Operating conditions:	B0W35, compressor speed 110 hz (6600 rpm).		

Static pressure:	101,3	kPa
Air temperature:	23,0	°C
Relative air humidity:	50,0	%
Test room volume:	183,6	m³
Area, S, of test room:	197,7	m²

Frequency f [Hz]	L_W 1/3 octave [dB]
100	
125	62,8
160	46,8
200	60,9
250	56,6
315	58,3
400	58,5
500	56,8
630	57,9
800	60,3
1000	61,0
1250	51,8
1600	48,1
2000	52,0
2500	52,9
3150	49,2
4000	49,8
5000	45,1
6300	41,9
8000	38,7
10000	35,2



Sound power level L_W(A): 66 dB

Name of test institute: Gebwell Ltd.

No. of test report:

Date: 18.12.2024 Signature: A-V P

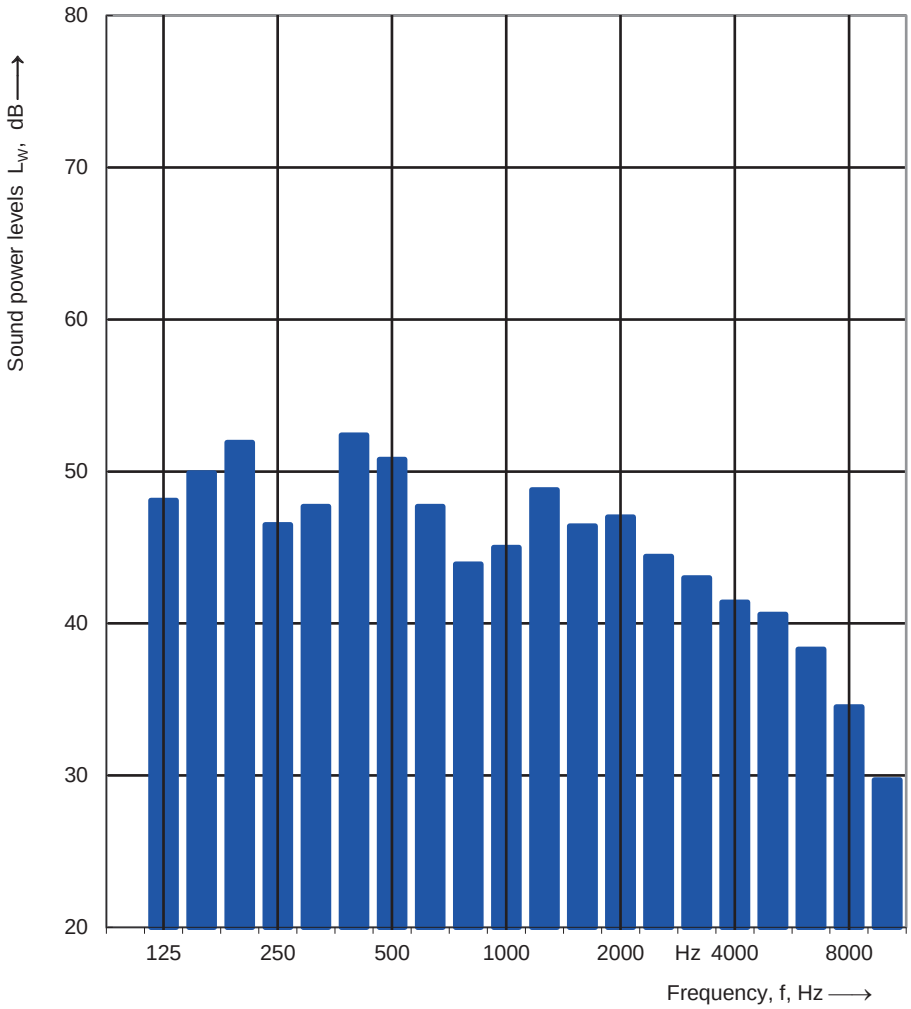
Sound power levels according to ISO 3741:2010

Precision methods for reverberation test rooms - Comparison method

Client:	Gebwell Ltd.	Date of test:	19.12.2024
Object:	G-Eco Core 40		
Mounting conditions:	Reverberation room		
Operating conditions:	B0W55, compressor speed 30 hz (1800 rpm).		

Static pressure:	101,3	kPa
Air temperature:	23,0	°C
Relative air humidity:	50,0	%
Test room volume:	183,6	m³
Area, S, of test room:	197,7	m²

Frequency f [Hz]	L_W 1/3 octave [dB]
100	
125	48,1
160	49,9
200	51,9
250	46,5
315	47,7
400	52,4
500	50,8
630	47,7
800	43,9
1000	45,0
1250	48,8
1600	46,4
2000	47,0
2500	44,4
3150	43,0
4000	41,4
5000	40,6
6300	38,3
8000	34,5
10000	29,7



Sound power level L_W(A): 57 dB

Name of test institute: Gebwell Ltd.

No. of test report:

Date: 19.12.2024 Signature: A-V P

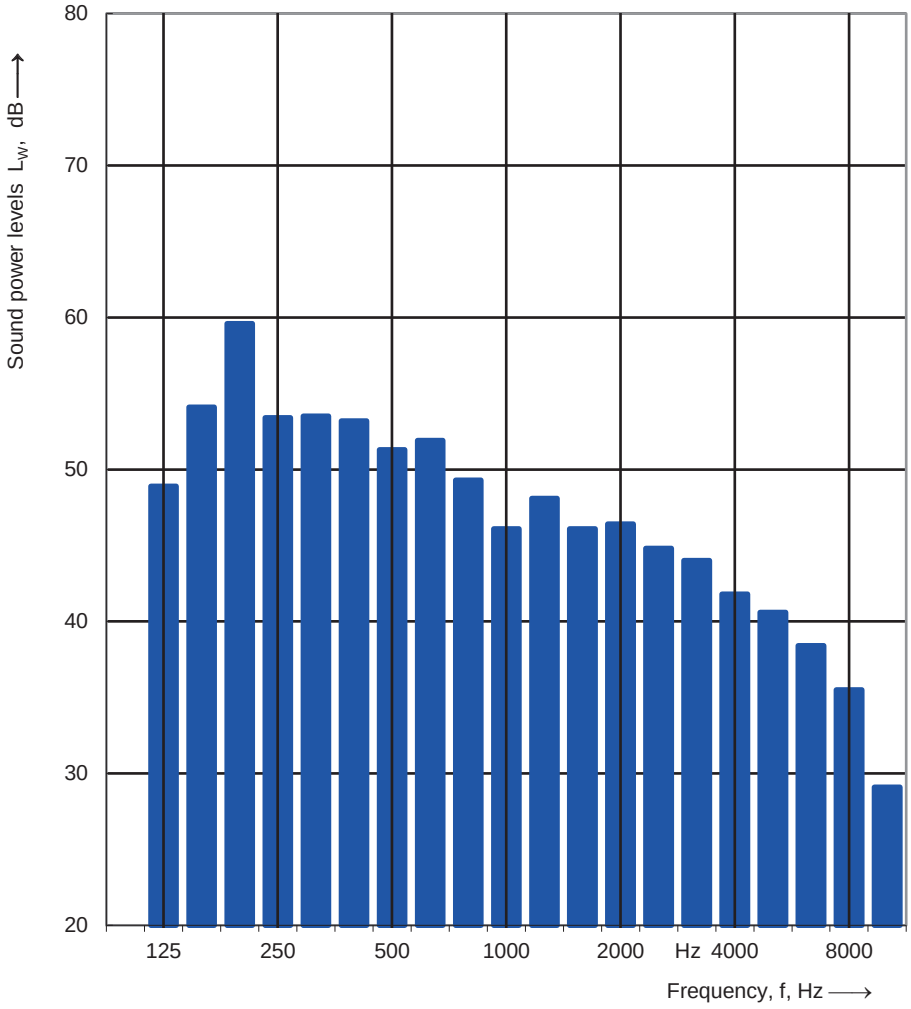
Sound power levels according to ISO 3741:2010

Precision methods for reverberation test rooms - Comparison method

Client:	Gebwell Ltd.	Date of test:	19.12.2024
Object:	G-Eco Core 40		
Mounting conditions:	Reverberation room		
Operating conditions:	B0W55, compressor speed 50 hz (3000 rpm).		

Static pressure:	101,3	kPa
Air temperature:	23,0	°C
Relative air humidity:	50,0	%
Test room volume:	183,6	m³
Area, S, of test room:	197,7	m²

Frequency f [Hz]	L_W 1/3 octave [dB]
100	
125	48,9
160	54,1
200	59,6
250	53,4
315	53,5
400	53,2
500	51,3
630	51,9
800	49,3
1000	46,1
1250	48,1
1600	46,1
2000	46,4
2500	44,8
3150	44,0
4000	41,8
5000	40,6
6300	38,4
8000	35,5
10000	29,1



Sound power level L_W(A): 59 dB

Name of test institute: Gebwell Ltd.

No. of test report:

Date: 19.12.2024 Signature: A-V P

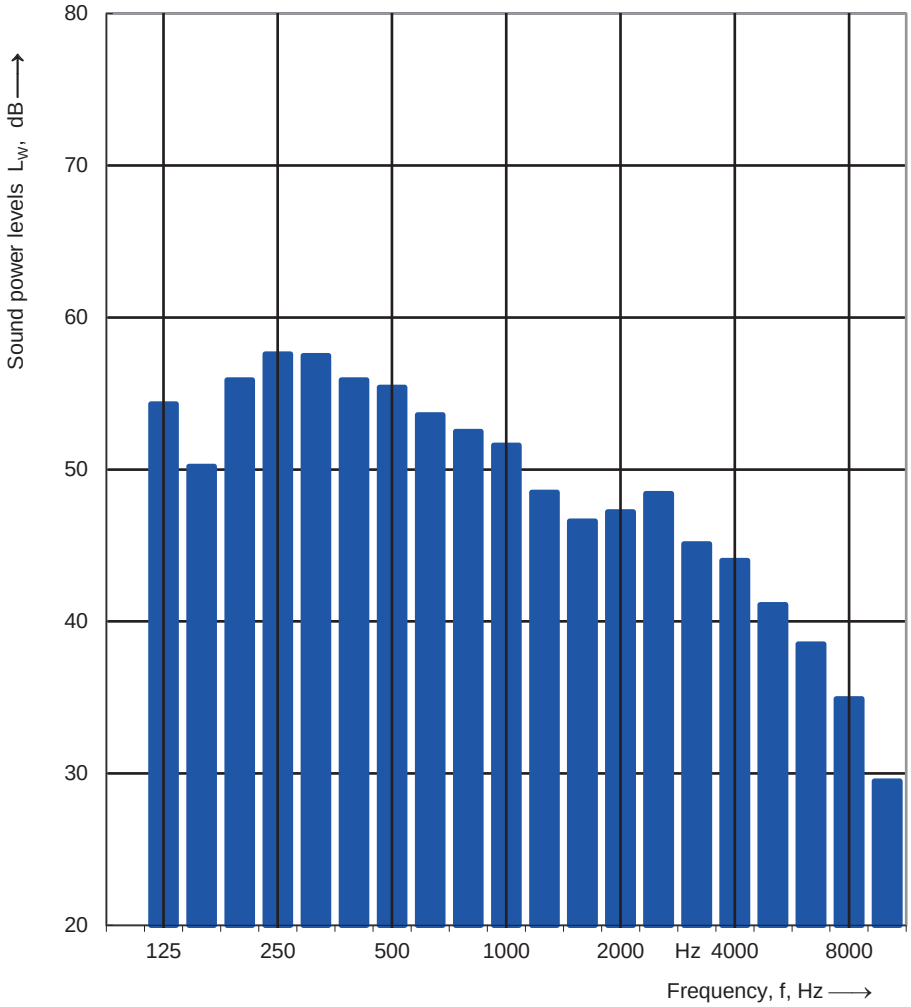
Sound power levels according to ISO 3741:2010

Precision methods for reverberation test rooms - Comparison method

Client:	Gebwell Ltd.	Date of test:	19.12.2024
Object:	G-Eco Core 40		
Mounting conditions:	Reverberation room		
Operating conditions:	B0W55, compressor speed 70 hz (4200 rpm).		

Static pressure:	101,3	kPa
Air temperature:	23,0	°C
Relative air humidity:	50,0	%
Test room volume:	183,6	m³
Area, S, of test room:	197,7	m²

Frequency f [Hz]	L_W 1/3 octave [dB]
100	
125	54,3
160	50,2
200	55,9
250	57,6
315	57,5
400	55,9
500	55,4
630	53,6
800	52,5
1000	51,6
1250	48,5
1600	46,6
2000	47,2
2500	48,4
3150	45,1
4000	44,0
5000	41,1
6300	38,5
8000	34,9
10000	29,5



Sound power level L_W(A): 61 dB

Name of test institute: Gebwell Ltd.

No. of test report:

Date: 19.12.2024 Signature: A-V P

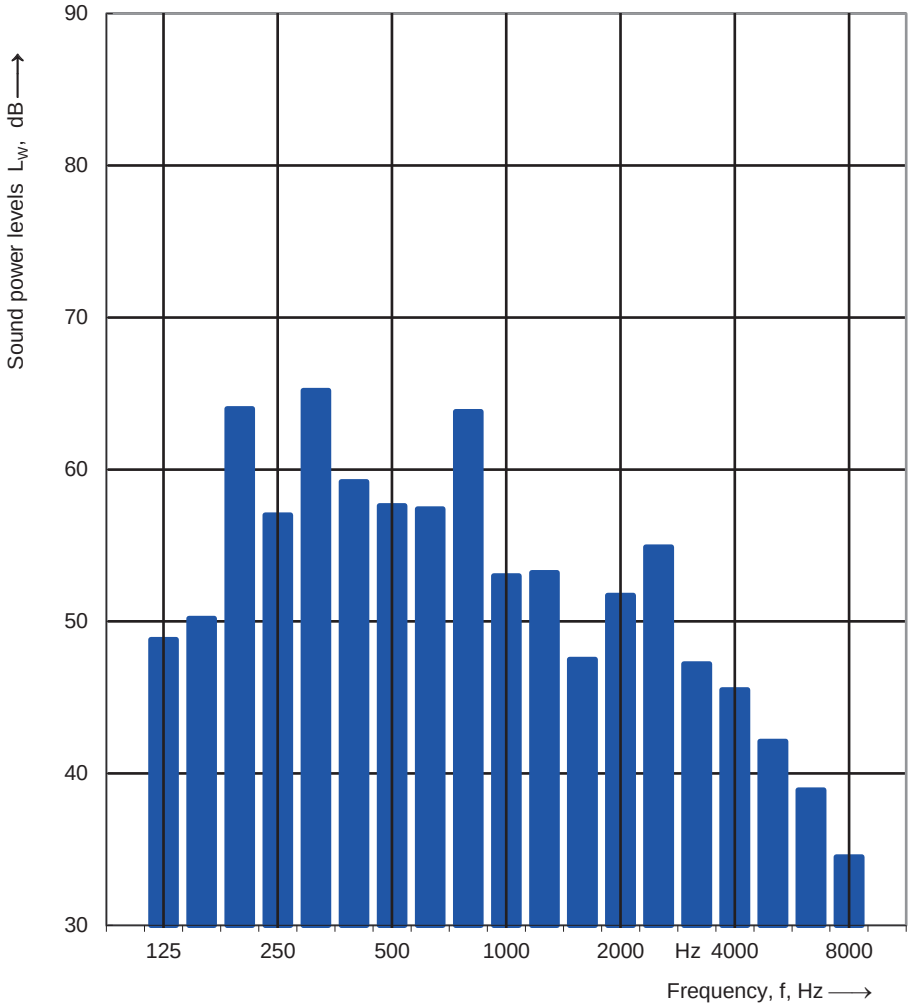
Sound power levels according to ISO 3741:2010

Precision methods for reverberation test rooms - Comparison method

Client:	Gebwell Ltd.	Date of test:	19.12.2024
Object:	G-Eco Core 40		
Mounting conditions:	Reverberation room		
Operating conditions:	B0W55, compressor speed 97 hz (5820 rpm).		

Static pressure:	101,3	kPa
Air temperature:	23,0	°C
Relative air humidity:	50,0	%
Test room volume:	183,6	m³
Area, S, of test room:	197,7	m²

Frequency f [Hz]	L_W 1/3 octave [dB]
100	
125	48,8
160	50,2
200	64,0
250	57,0
315	65,2
400	59,2
500	57,6
630	57,4
800	63,8
1000	53,0
1250	53,2
1600	47,5
2000	51,7
2500	54,9
3150	47,2
4000	45,5
5000	42,1
6300	38,9
8000	34,5
10000	30,0



Sound power level L_W(A): 67 dB

Name of test institute: Gebwell Ltd.

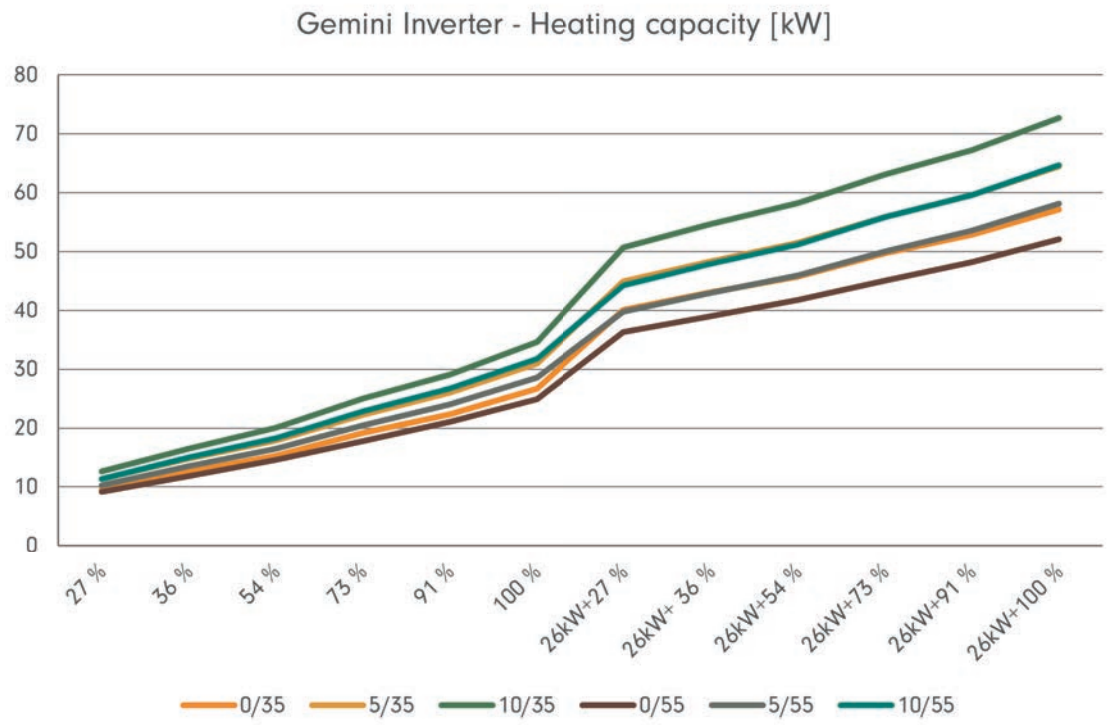
No. of test report:

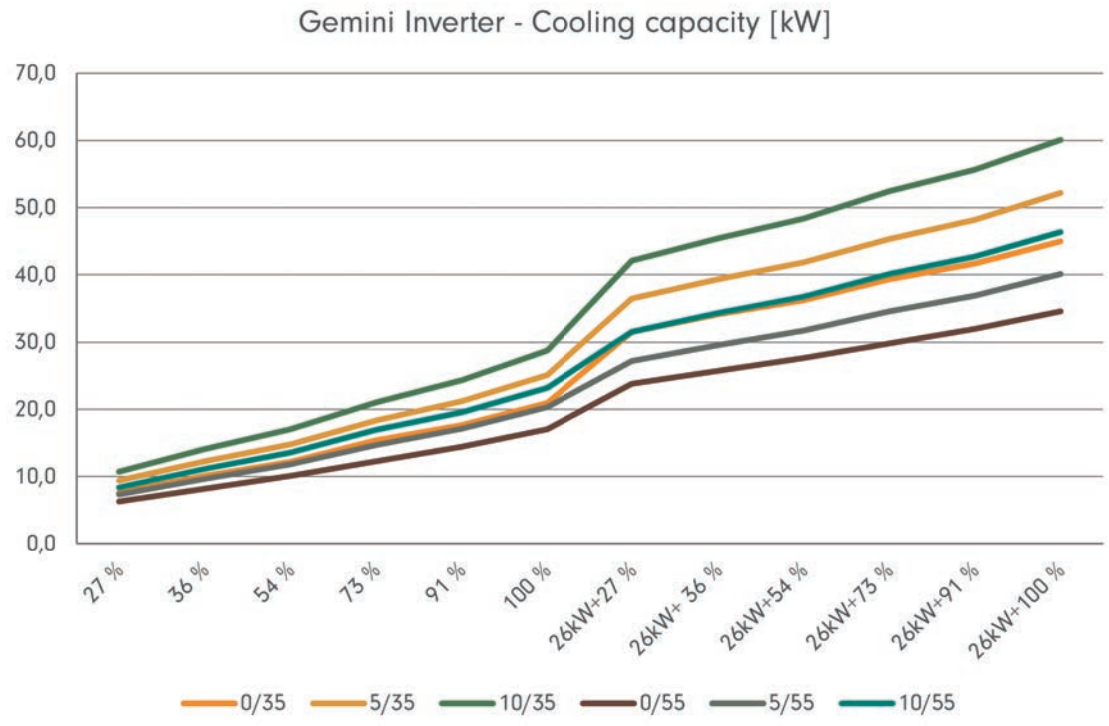
Date: 19.12.2024 Signature: A-V P

Gemini Inverter

— performance graphs

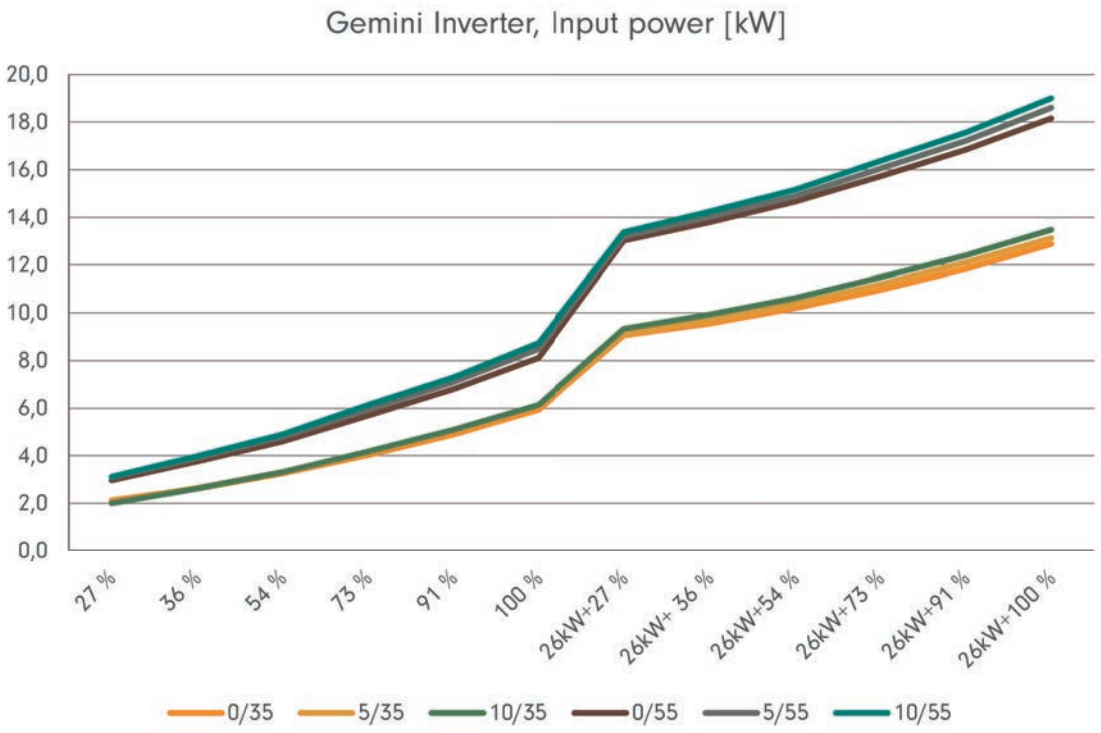
The following presents the performance of the Gemini Inverter heat pump at various operating points. In the graphs, the vertical axis represents the power values, and the horizontal axis shows the inverter's rotation speed, expressed as a percentage.

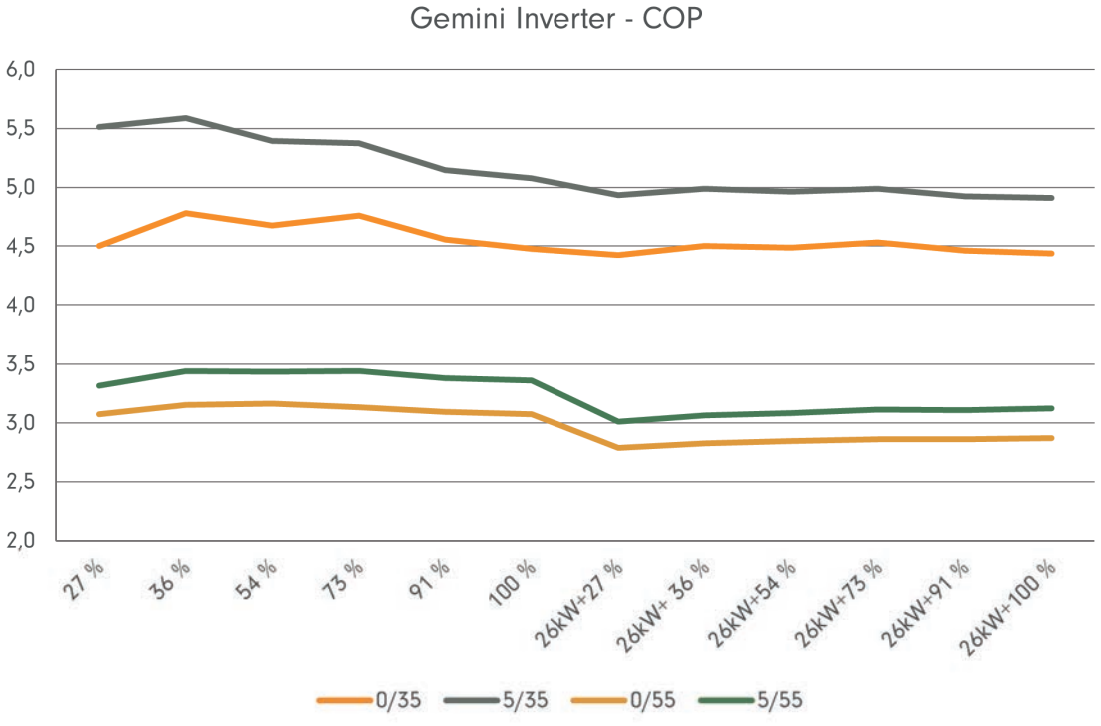




Gemini Inverter – performance graphs

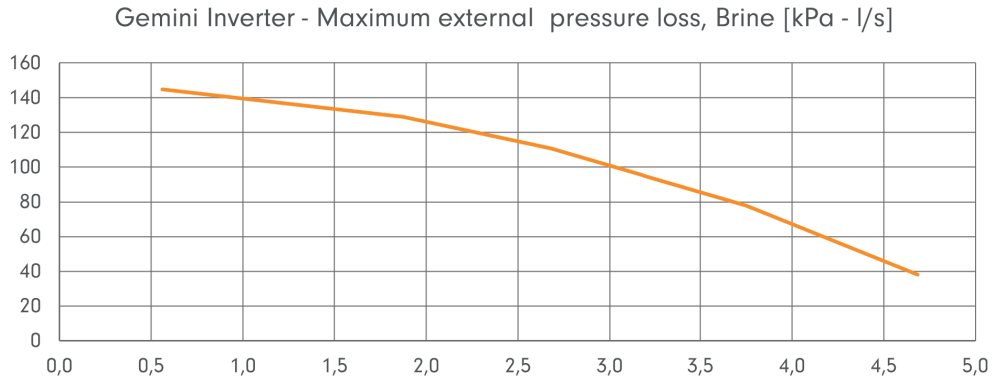
The following presents the Input power and COP of the Gemini Inverter heat pump at various operating points. The graphs show information such as the heat pump's COP value outside the typical 0/35 or 0/55 points. In the power and COP graphs, the vertical axis represents the power/ COP values, and the horizontal axis shows the inverter's rotation speed, expressed as a percentage.

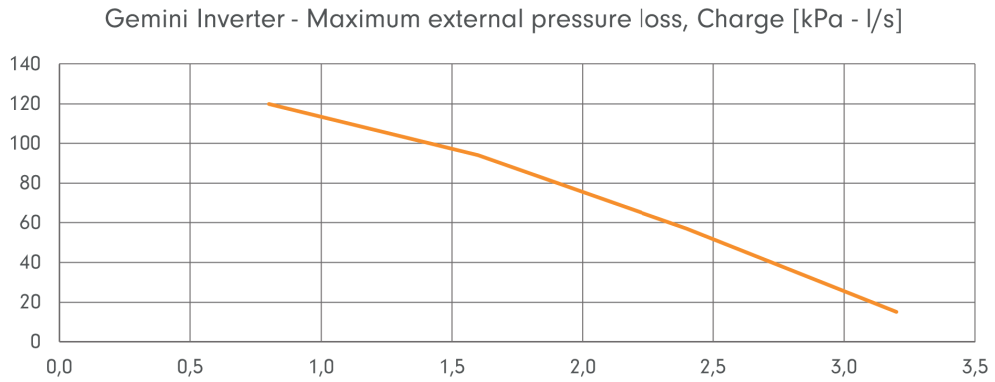


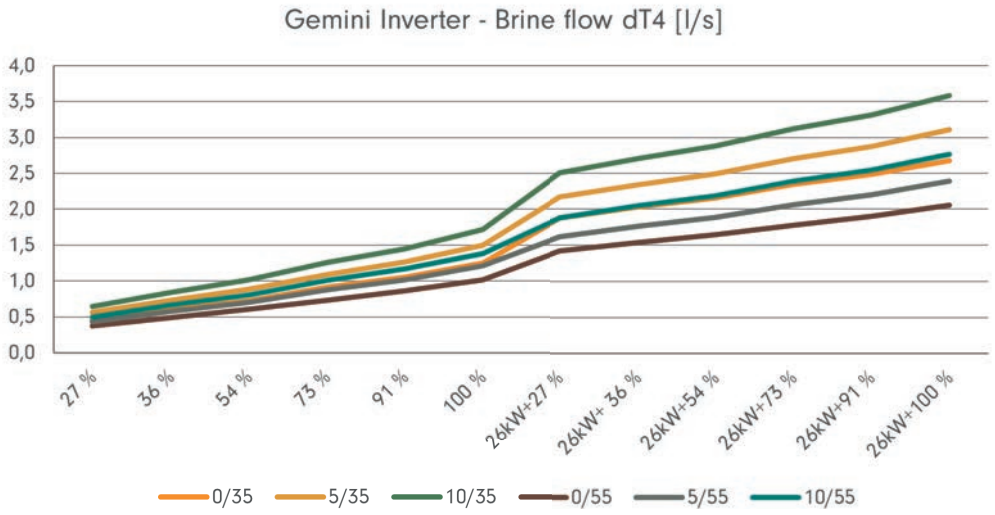


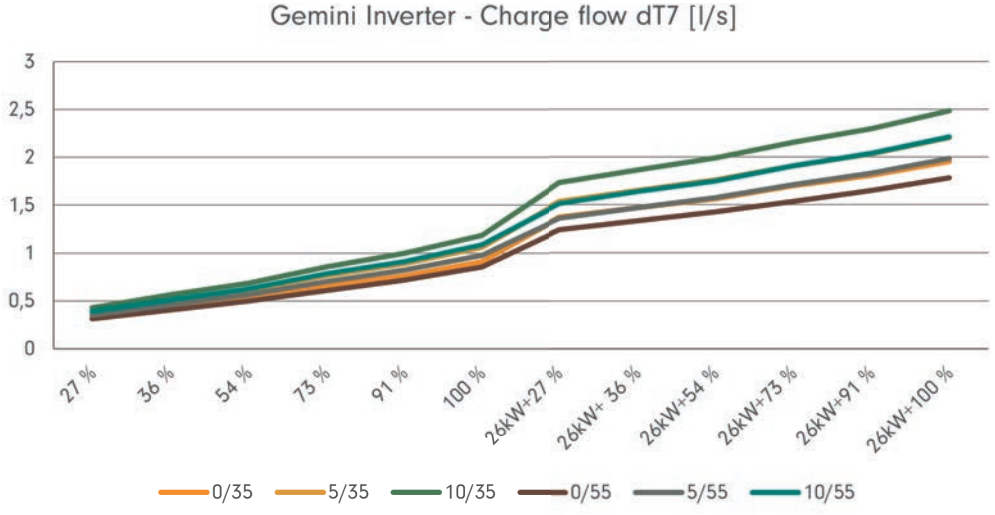
Gemini Inverter – performance graphs

The following presents the flow rate of the Gemini Inverter heat pump's brine and charge circuit, as well as the maximum pressure loss at various temperatures of the brine and charge circuit. The maximum pressure loss are shown on the vertical axis and the corresponding flow rates are shown on the horizontal axis. The graphs at the bottom show the flow rates on the vertical axis and the inverter's rotation speed expressed as a percentage on the horizontal axis.







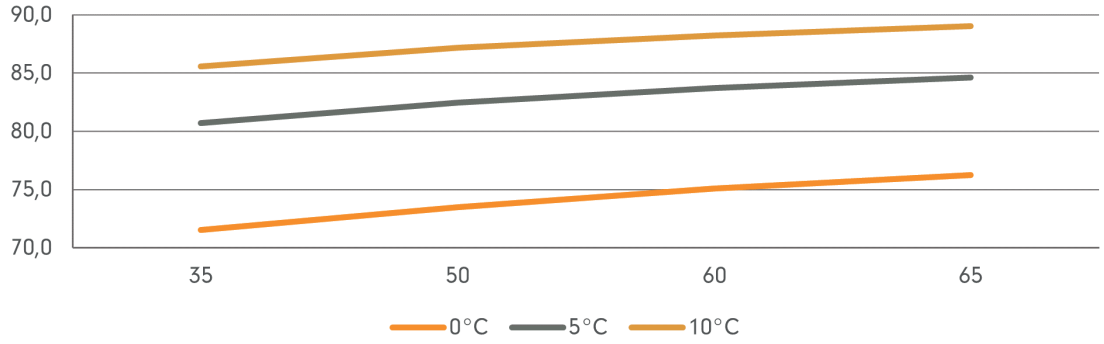


Taurus 80 EVIC

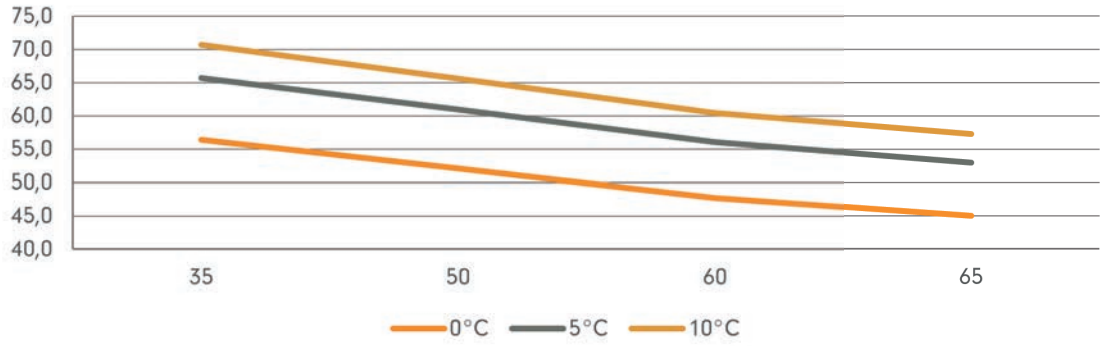
— performance graphs

The following presents the performance of the Taurus 80 EVIC heat pump at various operating points. The graphs show information such as the heat pump's COP value outside the typical 0/35 or 0/55 points. In the power and COP graphs, the vertical axis represents the power/ COP values, and the horizontal axis shows the temperature of the output water.

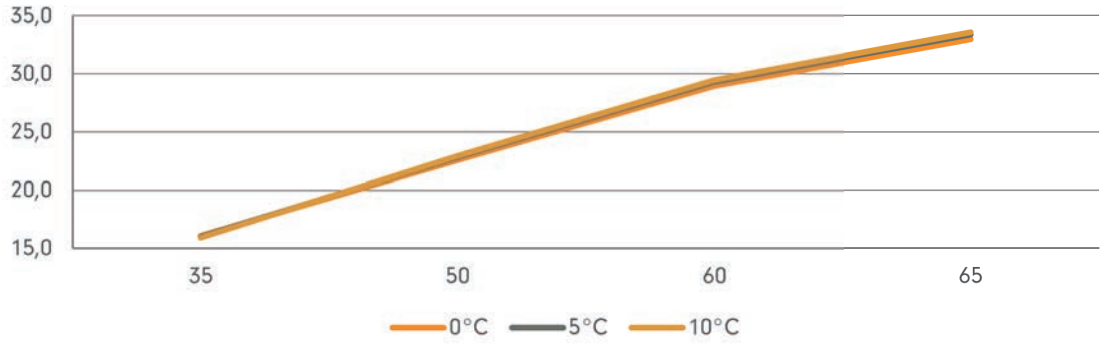
Taurus 80 EVIC – heating capacity [kW]



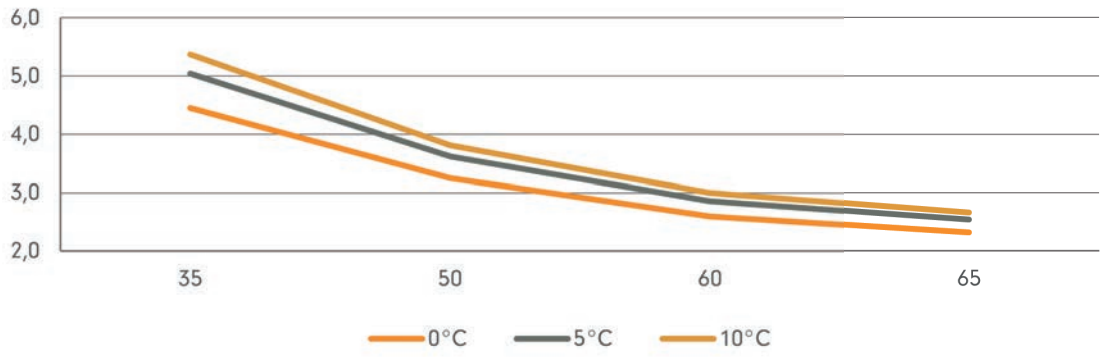
Taurus 80 EVIC – cooling capacity [kW]



Taurus 80 EVIC – input power [kW]



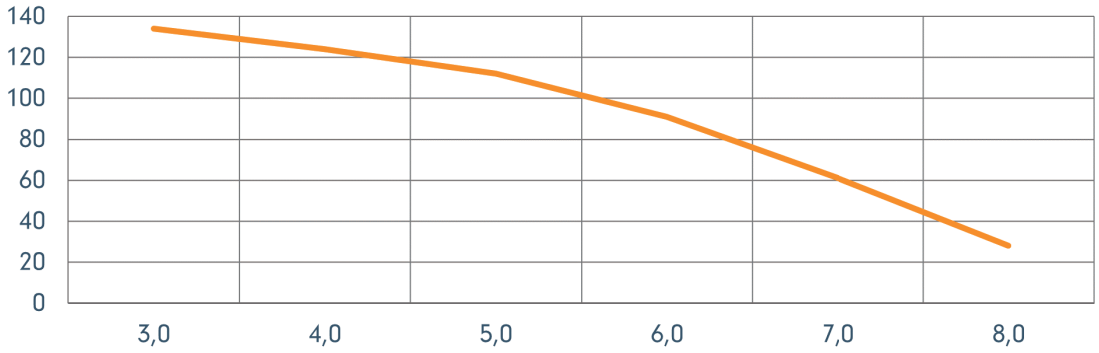
Taurus 80 EVIC – COP



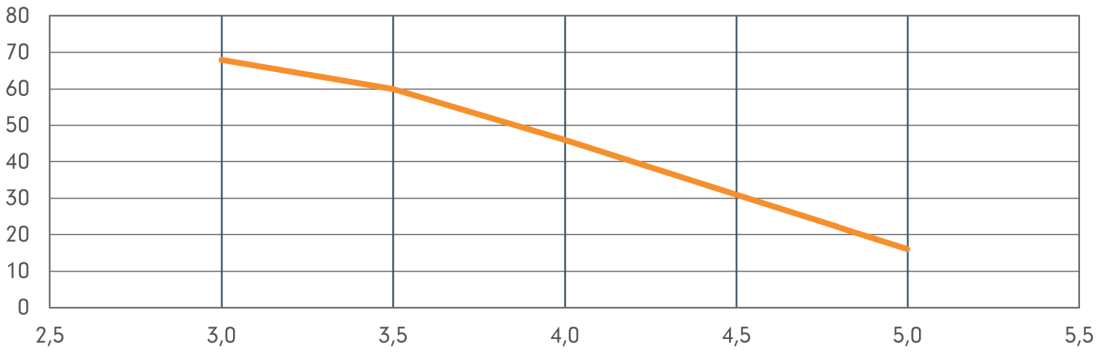
Taurus 80 EVIC – performance graphs

The following presents the maximum external pressure loss of the Taurus 80 EVIC heat pump's brine and charge circuit at various flow rates. The maximum pressure loss are shown on the vertical axis and the corresponding flow rates are shown on the horizontal axis. The graphs at the bottom show the flow rates of the brine and charge circuit under different conditions. The vertical axis shows the flow rates, and the horizontal axis shows the temperatures of the output water.

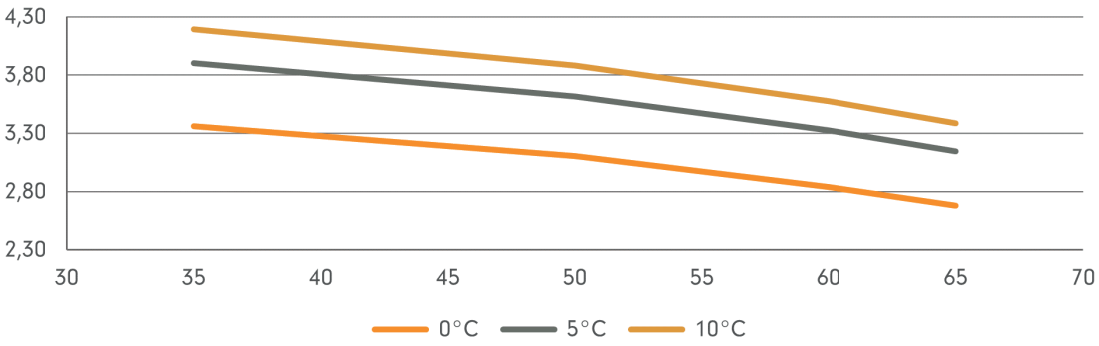
Taurus 80 EVIC – maximum external pressure loss, brine[kPa - l/s]



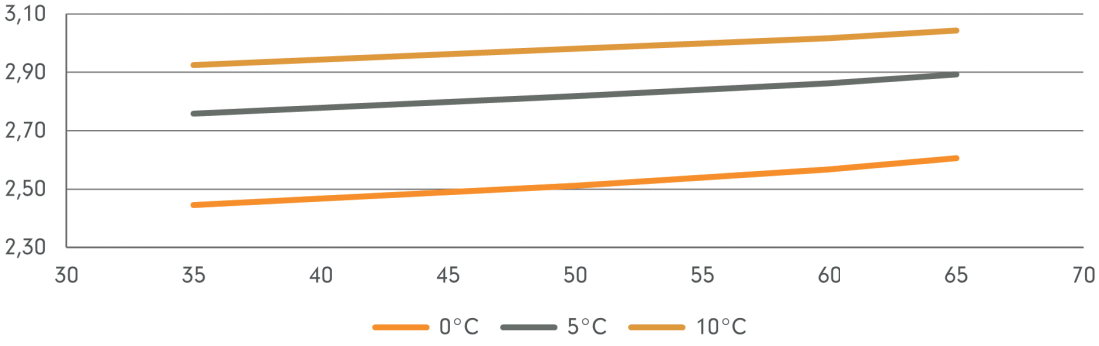
Taurus 80 EVIC – maximum external pressure loss, charge [kPa - l/s]



Taurus 80 EVIC – brine flow dT4 [l/s]



Taurus 80 EVIC – charge flow dT7 [l/s]

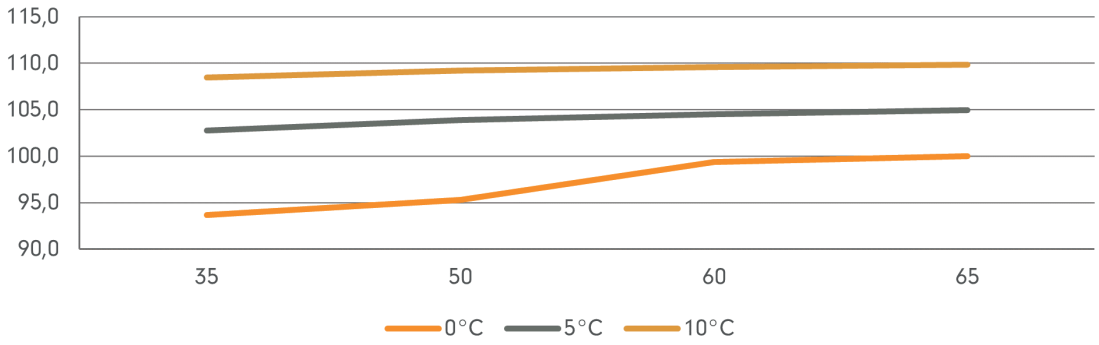


Taurus 110 EVIC

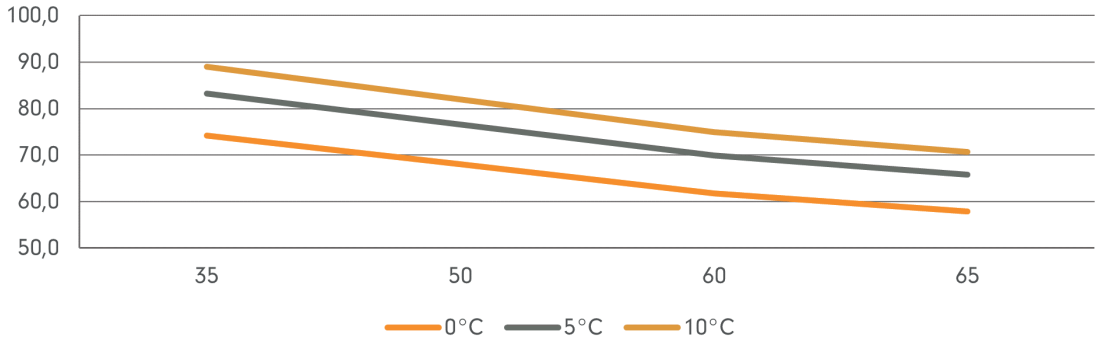
— performance graphs

The following presents the performance of the Taurus 110 EVIC heat pump at various operating points. The graphs show information such as the heat pump's COP value outside the typical 0/35 or 0/55 points. In the power and COP graphs, the vertical axis represents the power/ COP values, and the horizontal axis shows the temperature of the output water.

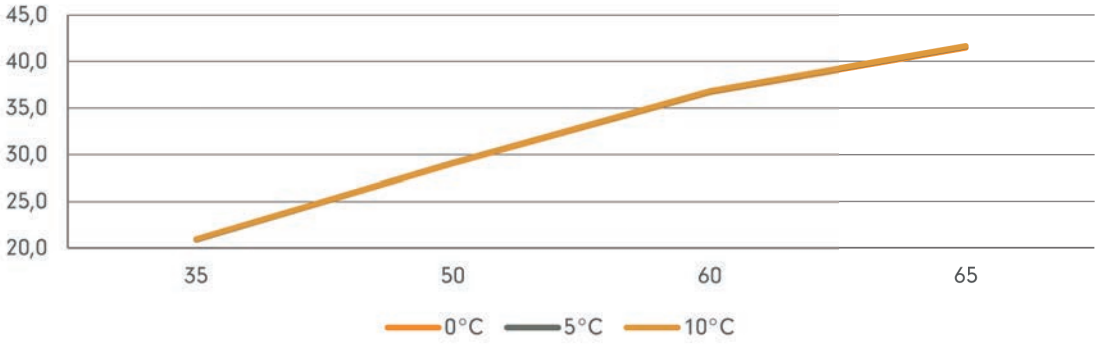
Taurus 110 EVIC – heating capacity[kW]



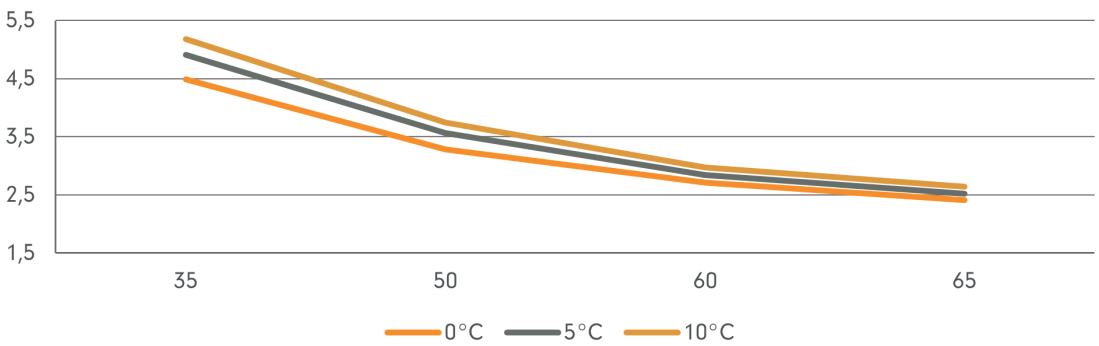
Taurus 110 EVIC – cooling capacity [kW]



Taurus 110 EVIC – input power [kW]



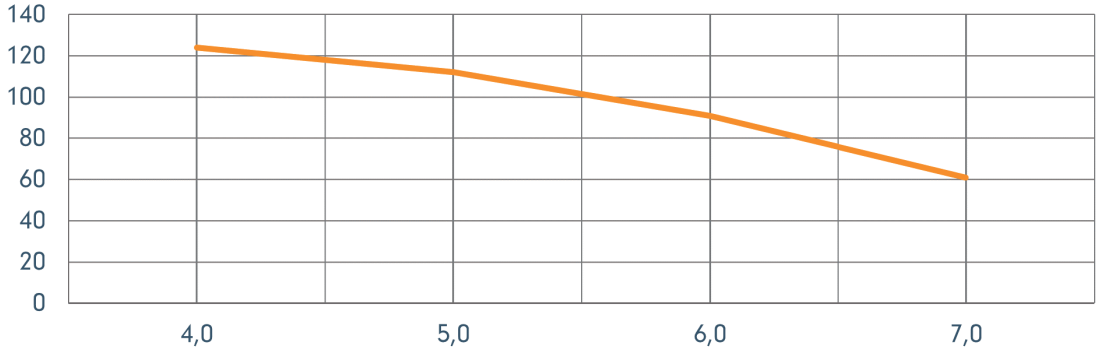
Taurus 110 EVIC – COP



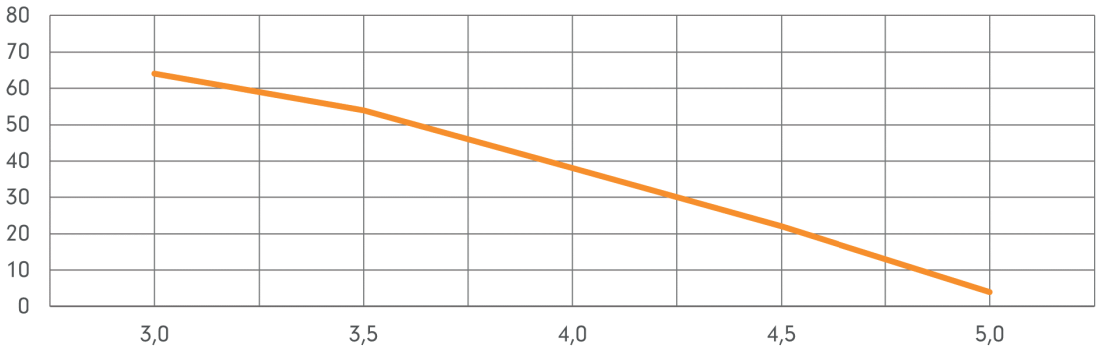
Taurus 110 EVIC – performance graphs

The following presents the maximum external pressure loss of the Taurus 110 EVIC heat pump's brine and charge circuit at various flow rates. The maximum pressure loss are shown on the vertical axis and the corresponding flow rates are shown on the horizontal axis. The graphs at the bottom show the flow rates of the brine and charge circuit under different conditions. The vertical axis shows the flow rates, and the horizontal axis shows the temperatures of the output water.

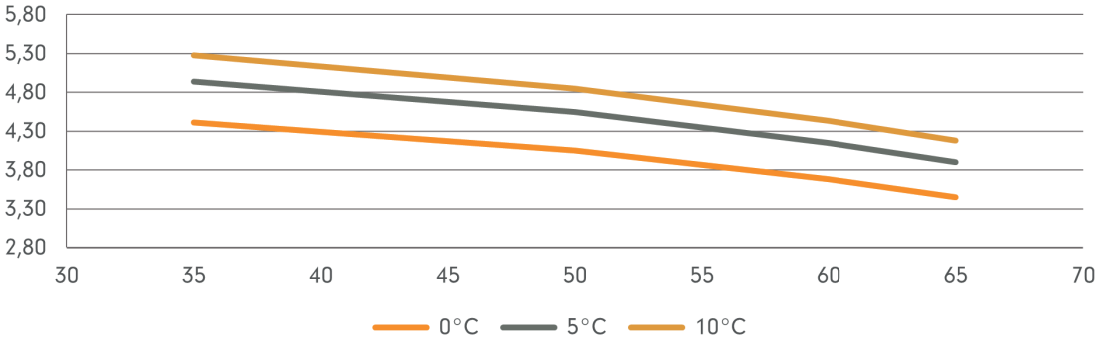
Taurus 110 EVIC – maximum external pressure loss, brine [kPa - l/s]



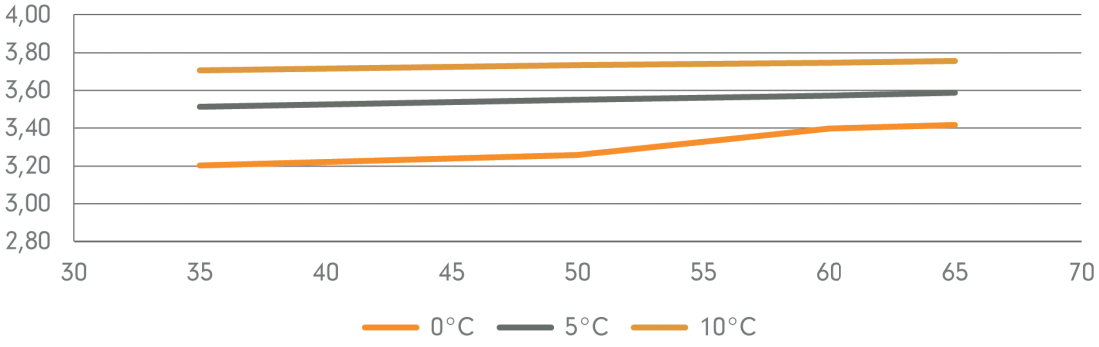
Taurus 110 EVIC – maximum external pressure loss, charge [kPa - l/s]



Taurus 110 EVIC – brine flow dT4 [l/s]



Taurus 110 EVIC – charge flow dT7 [l/s]



Sound power levels according to ISO 3741:2010

Precision methods for reverberation test rooms - Comparison method

Client:
Object:

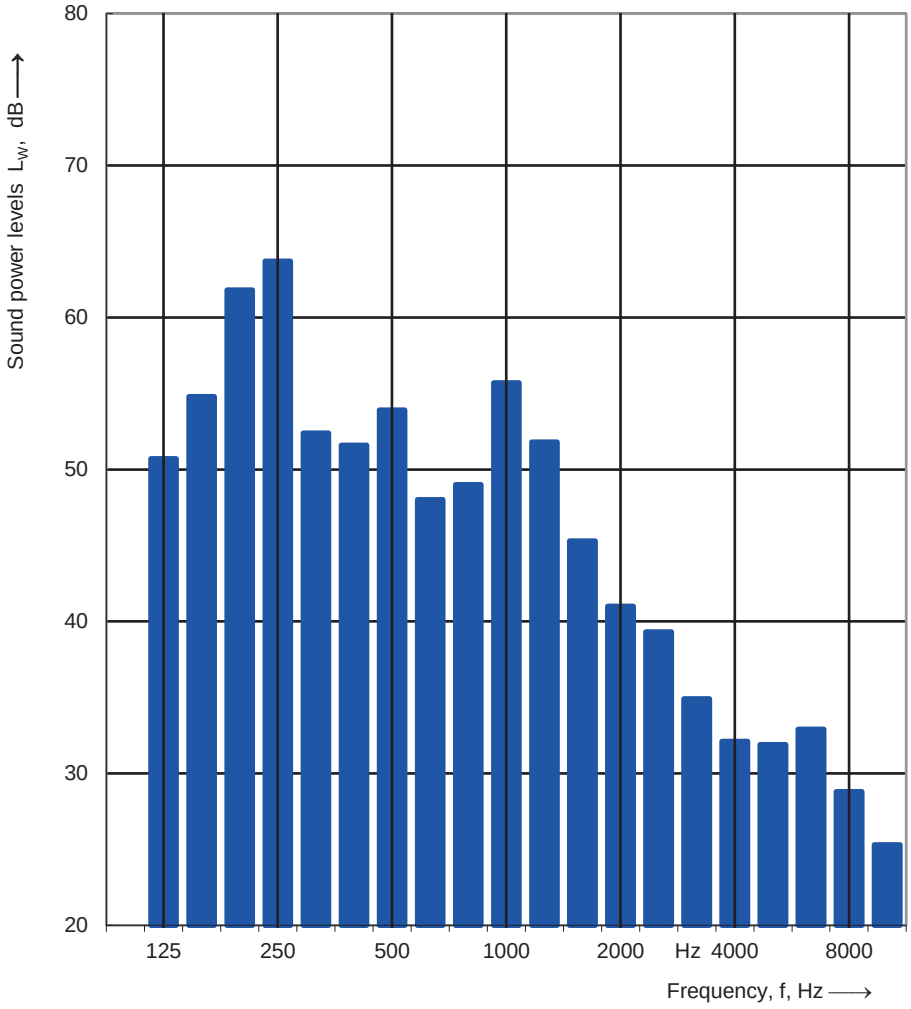
Date of test: 11.9.2024

Mounting conditions: Swep siirtimet

Operating conditions: Olosuhde 0/55, teho 100%

Static pressure:	101,3	kPa
Air temperature:	23,0	°C
Relative air humidity:	50,0	%
Test room volume:	183,6	m³
Area, S, of test room:	197,7	m²

Frequency f [Hz]	L_W 1/3 octave [dB]
100	
125	50,7
160	54,8
200	61,8
250	63,7
315	52,4
400	51,6
500	53,9
630	48,0
800	49,0
1000	55,7
1250	51,8
1600	45,3
2000	41,0
2500	39,3
3150	34,9
4000	32,1
5000	31,9
6300	32,9
8000	28,8
10000	25,3



Sound power level L_W(A): 62 dB

Name of test institute:
No. of test report:

Date: 11.9.2024 Signature:

Sound power levels according to ISO 3741:2010

Precision methods for reverberation test rooms - Comparison method

Client:
Object:

Date of test: 11.9.2024

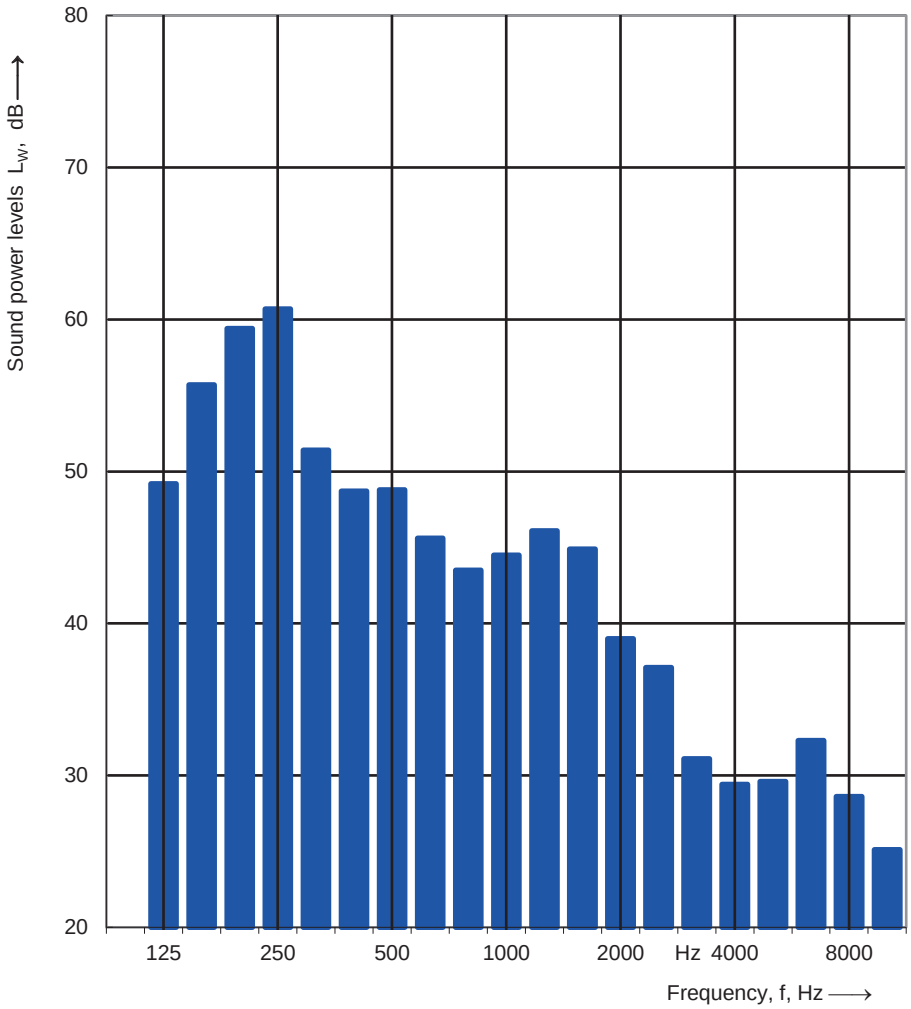
Mounting conditions: Swep siirtimet

Operating conditions: Olosuhde 0/35, teho 100%

Static pressure:	101,3	kPa
Air temperature:	23,0	°C
Relative air humidity:	50,0	%
Test room volume:	183,6	m³
Area, S, of test room:	197,7	m²

Frequency f [Hz]	L_W 1/3 octave [dB]
100	
125	49,2 [1]
160	55,7 [1]
200	59,4
250	60,7
315	51,4
400	48,7
500	48,8
630	45,6
800	43,5
1000	44,5
1250	46,1
1600	44,9
2000	39,0
2500	37,1
3150	31,1
4000	29,4
5000	29,6
6300	32,3
8000	28,6
10000	25,1

[1] Too high



Sound power level L_W(A): 57 dB

Name of test institute:
No. of test report:

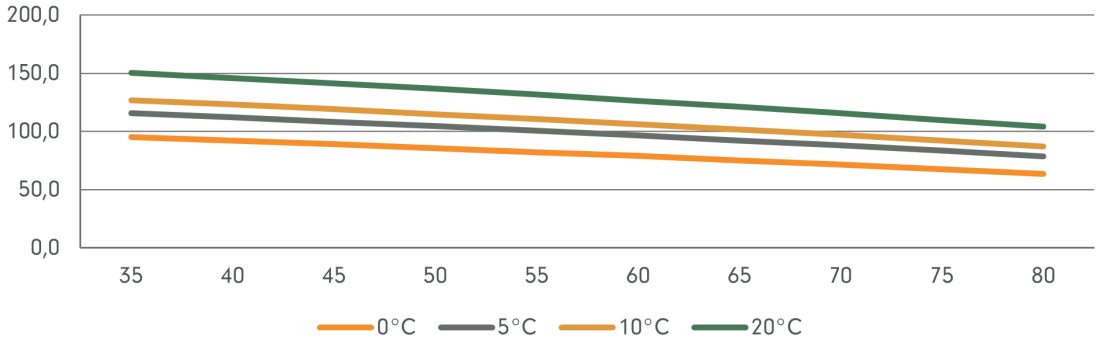
Date: 11.9.2024 Signature:

Taurus Inverter Pro

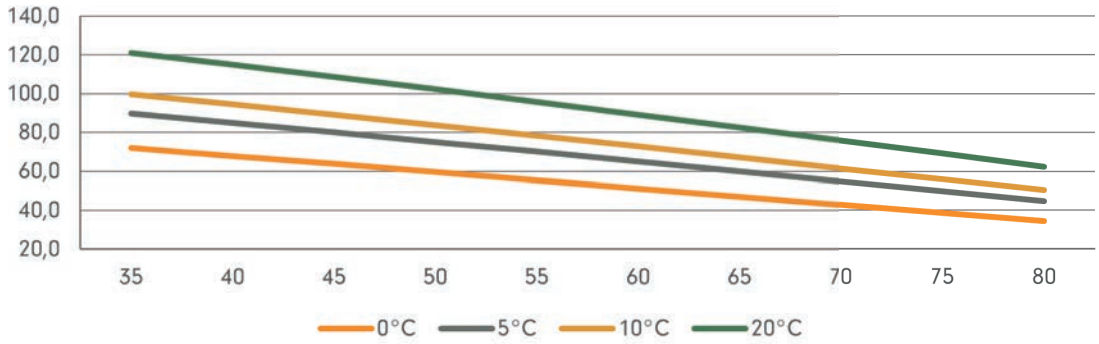
— performance grapsh

The following presents the performance of the Taurus 110 EVIC heat pump at various operating points. The graphs show information such as the heat pump's COP value outside the typical 0/35 or 0/55 points. In the power and COP graphs, the vertical axis represents the power/ COP values, and the horizontal axis shows the temperature of the output water.

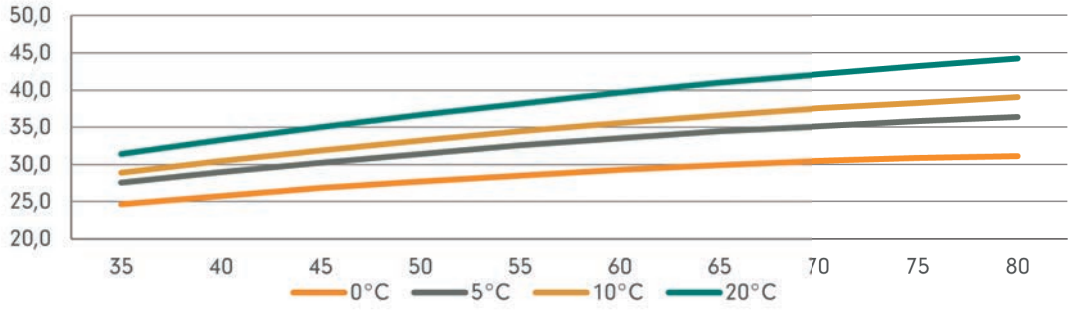
Taurus Inverter Pro – Heating capacity [kW]



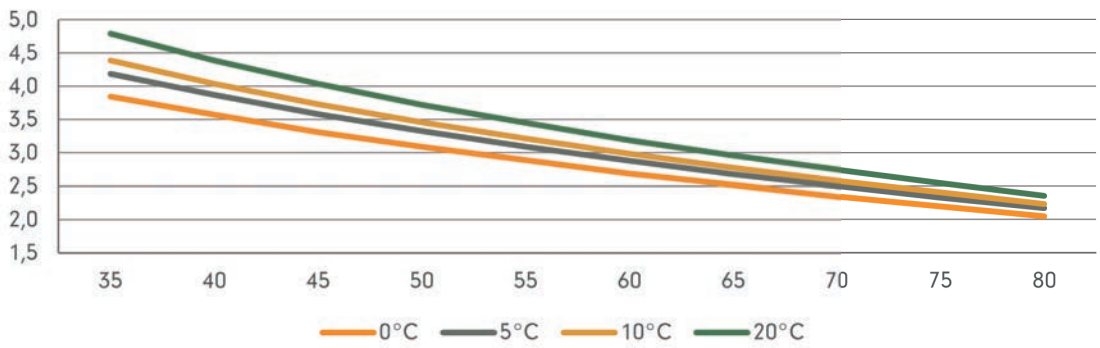
Taurus Inverter Pro – Cooling Capacity [kW]



Taurus Inverter Pro – Input Power [kW]



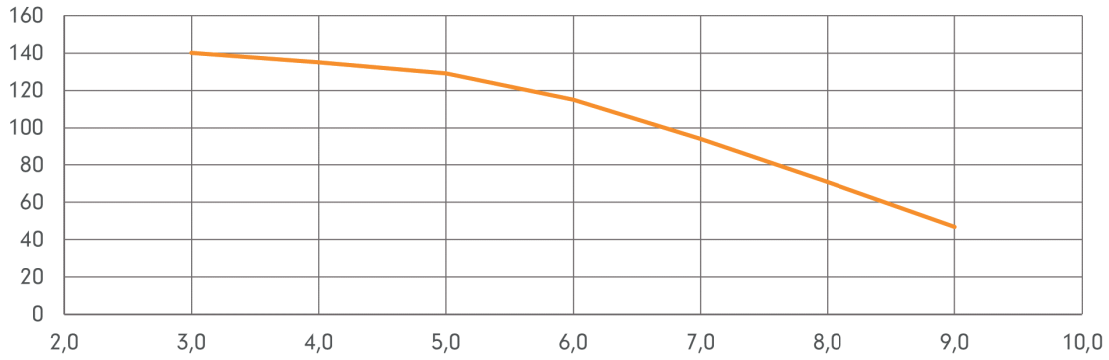
Taurus Inverter Pro – COP



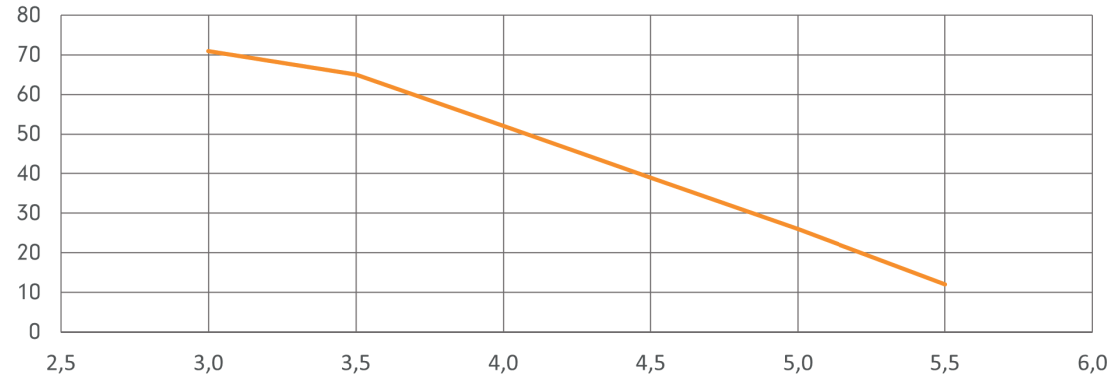
Taurus Inverter Pro – performance graphs

The following presents the flow rate of the Taurus Inverter Pro heat pump's brine and charge circuit, as well as the maximum pressure loss at various temperatures of the collector and charge circuit. The maximum pressure loss are shown on the vertical axis and the corresponding flow rates are shown on the horizontal axis. The graphs at the bottom show the flow rates of the brine and charge circuit under different conditions. The vertical axis shows the flow rates, and the horizontal axis shows the temperatures of the output water

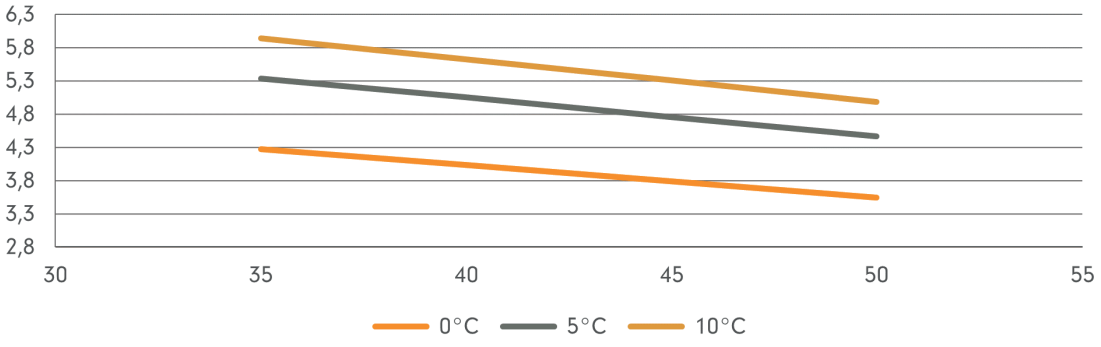
Taurus Inverter Pro – Maximum external pressure loss, brine [kPa - l/s]



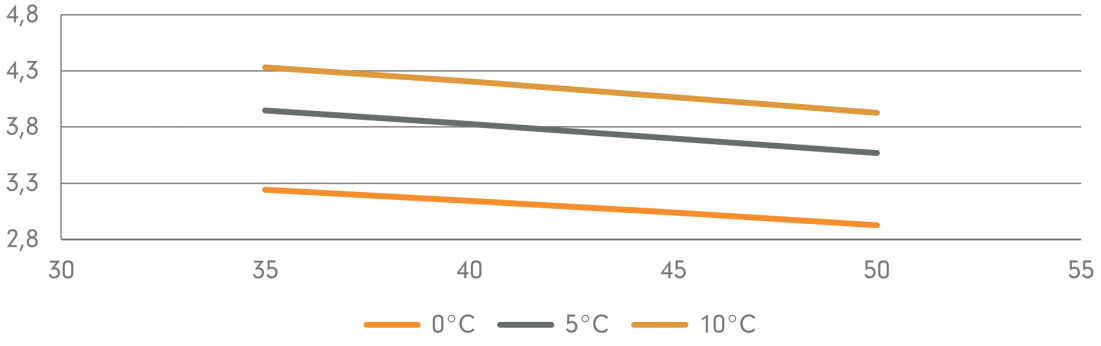
Taurus Inverter Pro – Maximum external pressure loss, charge [kPa - l/s]



Taurus Inverter Pro – Brine flow dT4 [l/s]

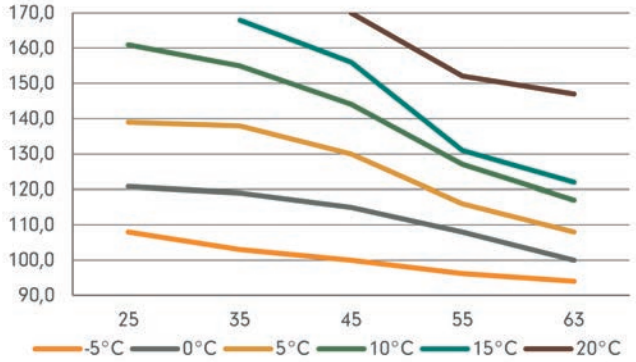


Taurus Inverter Pro – Charge flow dT7 [l/s]

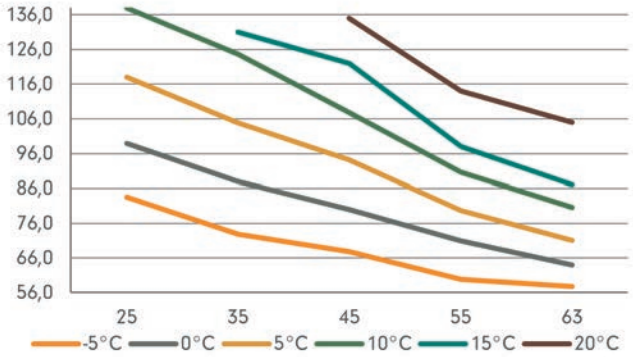


G-Eco Pro 120 performance graphs The following presents the performance of the G-Eco Pro 120 heat pump at various operating points. The graphs show information such as the heat pump's COP value outside the typical 0/35 or 0/55 points. In the power and COP graphs, the vertical axis represents the power/COP values, and the horizontal axis shows the temperature of the output water. The maximum pressure loss are shown on the vertical axis and the corresponding flow rates are shown on the horizontal axis. The graphs at the bottom show the flow rates of the collector and charge circuit under different conditions. The vertical axis shows the flow rates, and the horizontal axis shows the temperatures of the output water.

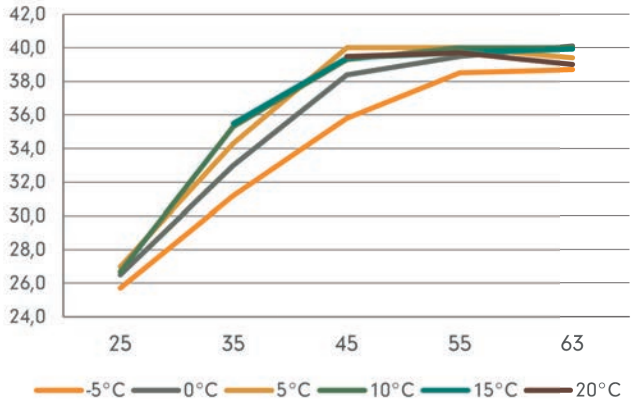
Heating capacity[kW]



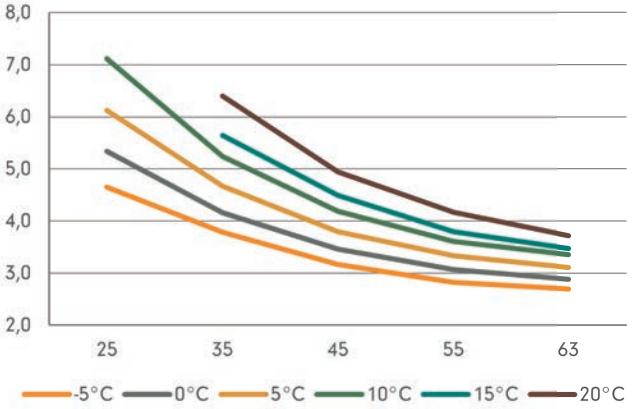
Cooling capacity [kW]



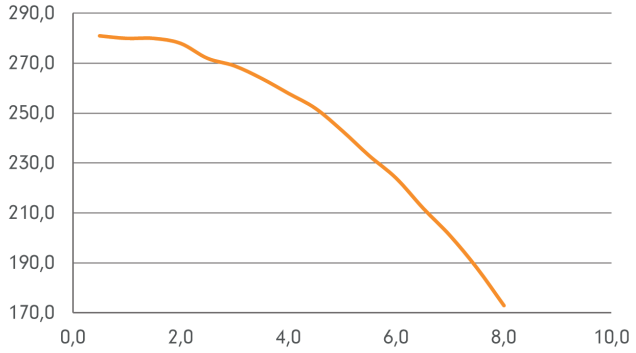
Input power [kW]



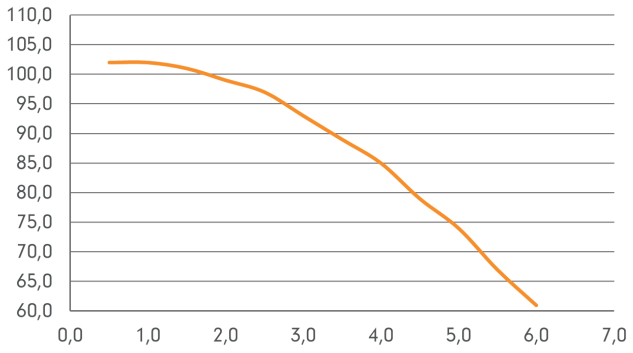
COP, 50 Hz



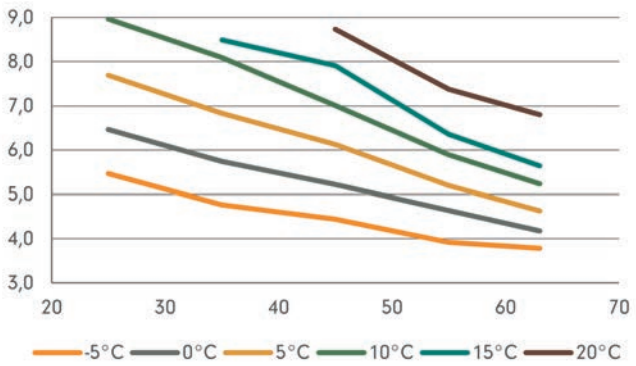
Max external pressure loss, Brine [kPa - l/s]



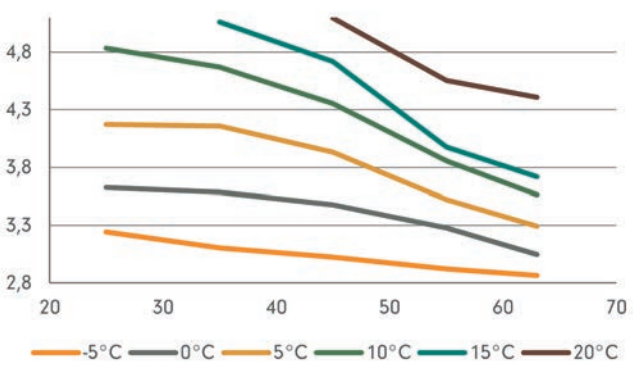
Max external pressure loss, Charge [kPa - l/s]



Brine flow dT4 [l/s]



Charge flow dT8 [l/s]



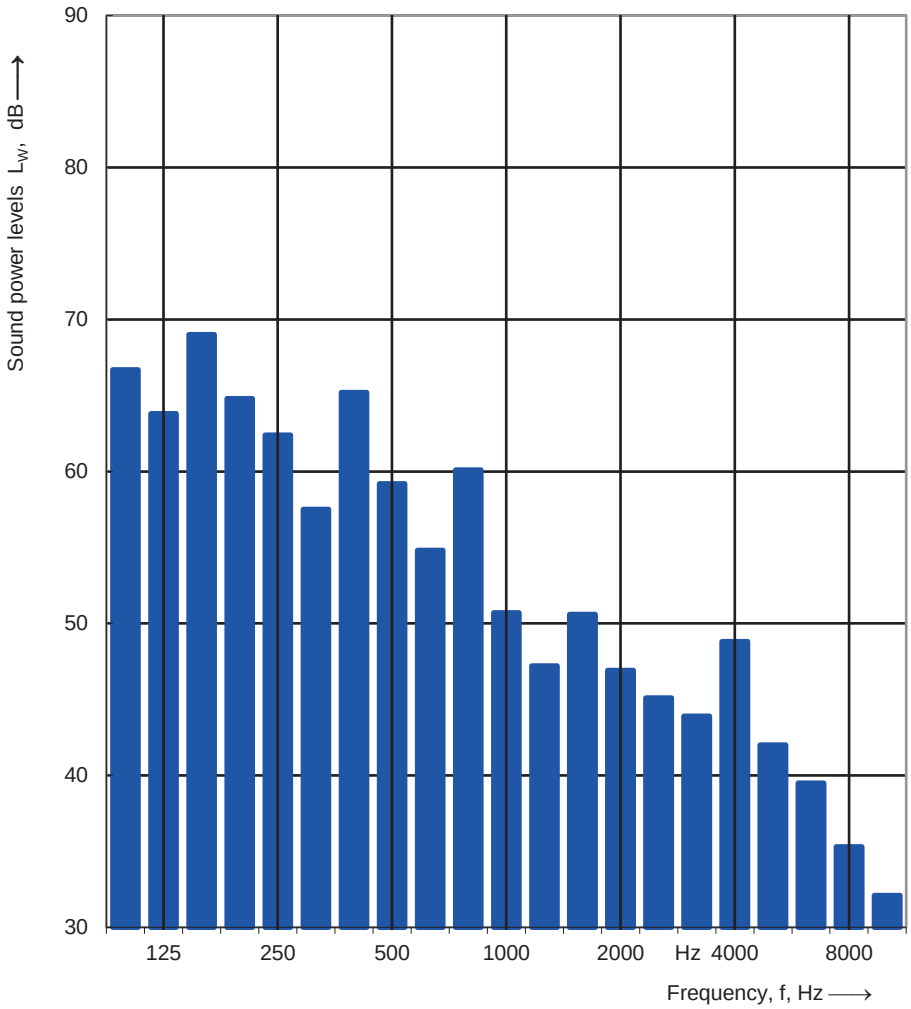
Sound power levels according to ISO 3741:2010

Precision methods for reverberation test rooms - Comparison method

Client:	Gebwell Ltd.	Date of test:	7.8.2024
Object:	G-Eco Pro 120		
Mounting conditions:	Reverberation room		
Operating conditions:	B0W35, compressor speed 30 Hz.		

Static pressure:	100,2	kPa
Air temperature:	23,0	°C
Relative air humidity:	50,0	%
Test room volume:	183,7	m³
Area, S, of test room:	197,8	m²

Frequency f [Hz]	L_W 1/3 octave [dB]
100	66,7
125	63,8
160	69,0
200	64,8
250	62,4
315	57,5
400	65,2
500	59,2
630	54,8
800	60,1
1000	50,7
1250	47,2
1600	50,6
2000	46,9
2500	45,1
3150	43,9
4000	48,8
5000	42,0
6300	39,5
8000	35,3
10000	32,1



Sound power level L_W(A): 66 dB

Name of test institute: Gebwell Ltd.

No. of test report:

Date: 7.8.2024 Signature: A-V P

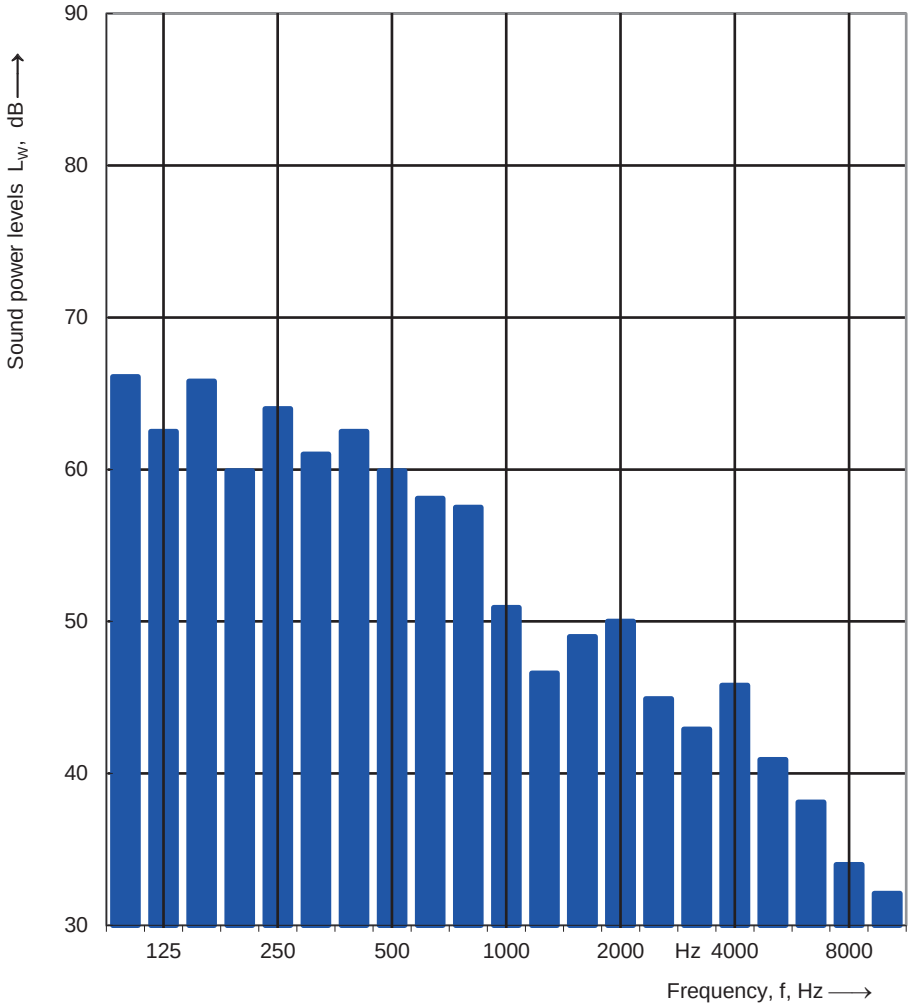
Sound power levels according to ISO 3741:2010

Precision methods for reverberation test rooms - Comparison method

Client:	Gebwell Ltd.	Date of test:	7.8.2024
Object:	G-Eco Pro 120		
Mounting conditions:	Reverberation room		
Operating conditions:	B0W35, compressor speed 50 Hz.		

Static pressure:	100,2	kPa
Air temperature:	23,0	°C
Relative air humidity:	50,0	%
Test room volume:	183,7	m³
Area, S, of test room:	197,8	m²

Frequency f [Hz]	L_W 1/3 octave [dB]
100	66,1
125	62,5
160	65,8
200	59,9
250	64,0
315	61,0
400	62,5
500	59,9
630	58,1
800	57,5
1000	50,9
1250	46,6
1600	49,0
2000	50,0
2500	44,9
3150	42,9
4000	45,8
5000	40,9
6300	38,1
8000	34,0
10000	32,1



Sound power level L_W(A): 65 dB

Name of test institute: Gebwell Ltd.

No. of test report:

Date: 7.8.2024 Signature: A-V P

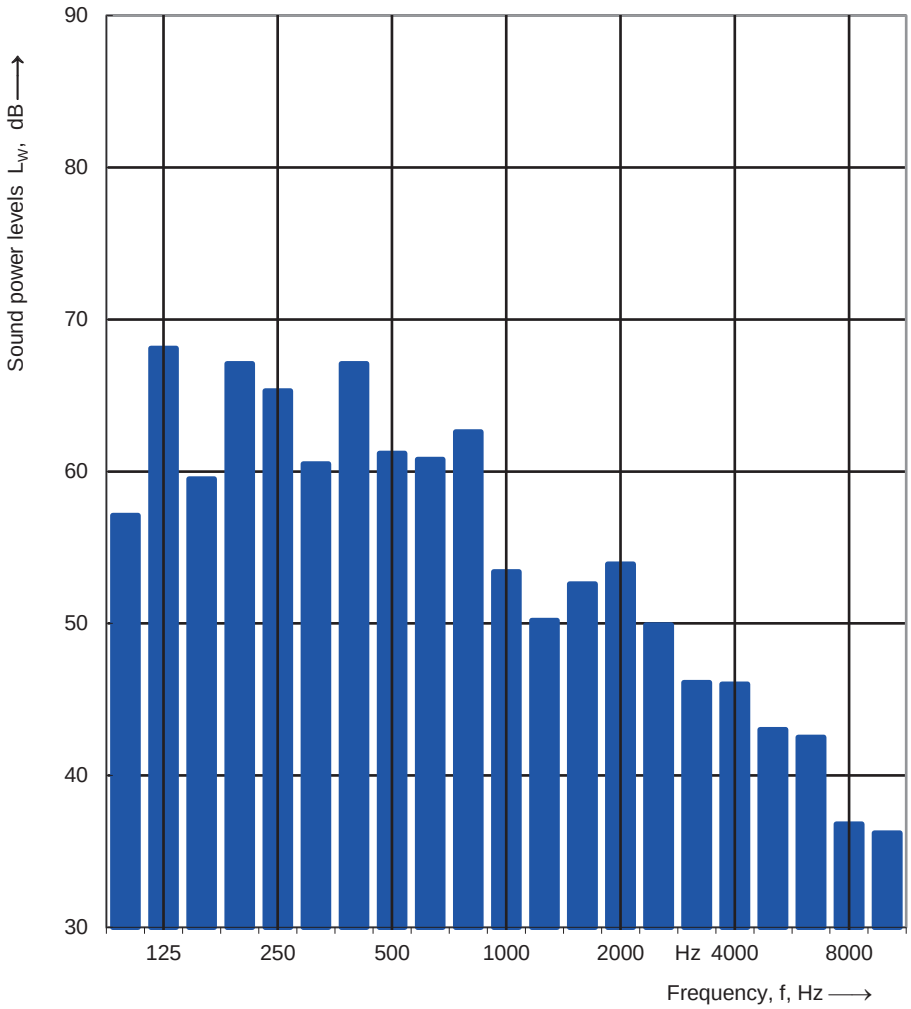
Sound power levels according to ISO 3741:2010

Precision methods for reverberation test rooms - Comparison method

Client:	Gebwell Ltd.	Date of test:	6.8.2024
Object:	G-Eco Pro 120		
Mounting conditions:	Reverberation room		
Operating conditions:	B0W35, compressor speed 70 Hz.		

Static pressure:	100,2	kPa
Air temperature:	23,0	°C
Relative air humidity:	50,0	%
Test room volume:	183,7	m³
Area, S, of test room:	197,8	m²

Frequency f [Hz]	L_W 1/3 octave [dB]
100	57,1
125	68,1
160	59,5
200	67,1
250	65,3
315	60,5
400	67,1
500	61,2
630	60,8
800	62,6
1000	53,4
1250	50,2
1600	52,6
2000	53,9
2500	49,9
3150	46,1
4000	46,0
5000	43,0
6300	42,5
8000	36,8
10000	36,2



Sound power level L_W(A): 69 dB

Name of test institute: Gebwell Ltd.

No. of test report:

Date: 6.8.2024 Signature: A-V P

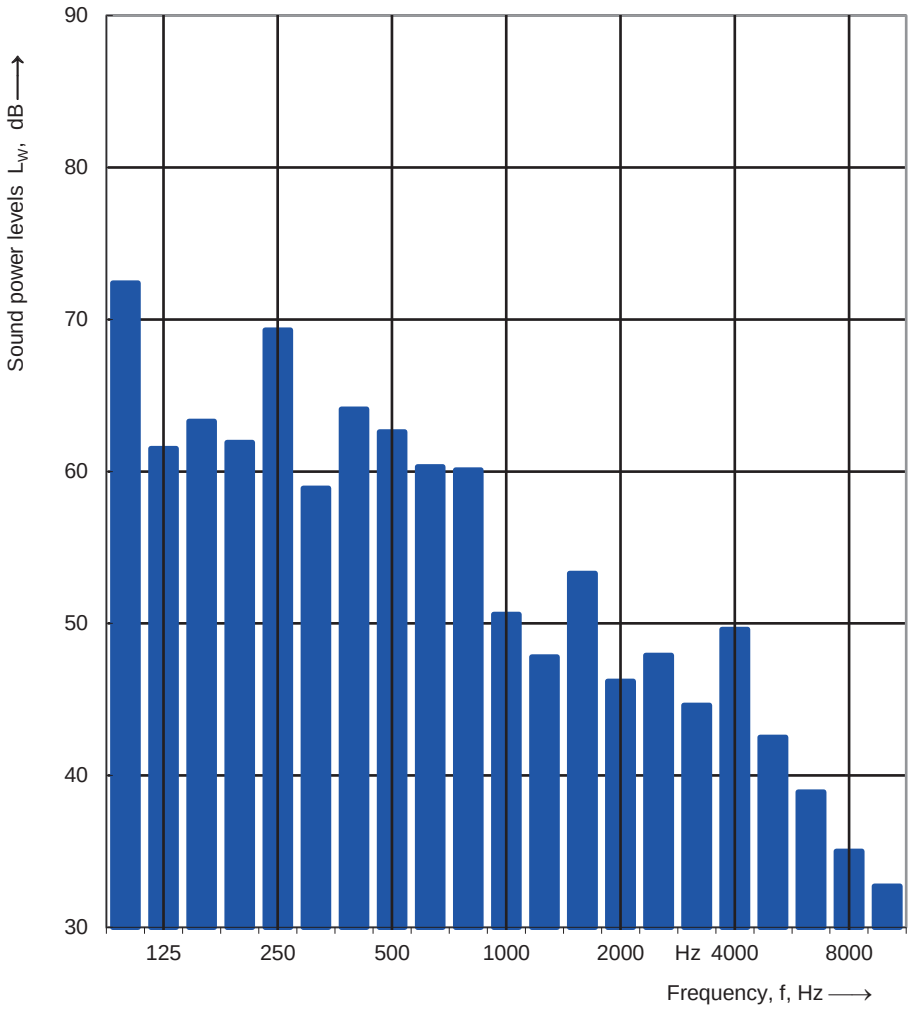
Sound power levels according to ISO 3741:2010

Precision methods for reverberation test rooms - Comparison method

Client:	Gebwell Ltd.	Date of test:	7.8.2024
Object:	G-Eco Pro 120		
Mounting conditions:	Reverberation room		
Operating conditions:	B0W55, compressor speed 30 Hz.		

Static pressure:	100,2	kPa
Air temperature:	23,0	°C
Relative air humidity:	50,0	%
Test room volume:	183,7	m³
Area, S, of test room:	197,8	m²

Frequency f [Hz]	L_W 1/3 octave [dB]
100	72,4
125	61,5
160	63,3
200	61,9
250	69,3
315	58,9
400	64,1
500	62,6
630	60,3
800	60,1
1000	50,6
1250	47,8
1600	53,3
2000	46,2
2500	47,9
3150	44,6
4000	49,6
5000	42,5
6300	38,9
8000	35,0
10000	32,7



Sound power level L_W(A): 68 dB

Name of test institute: Gebwell Ltd.

No. of test report:

Date: 7.8.2024 Signature: A-V P

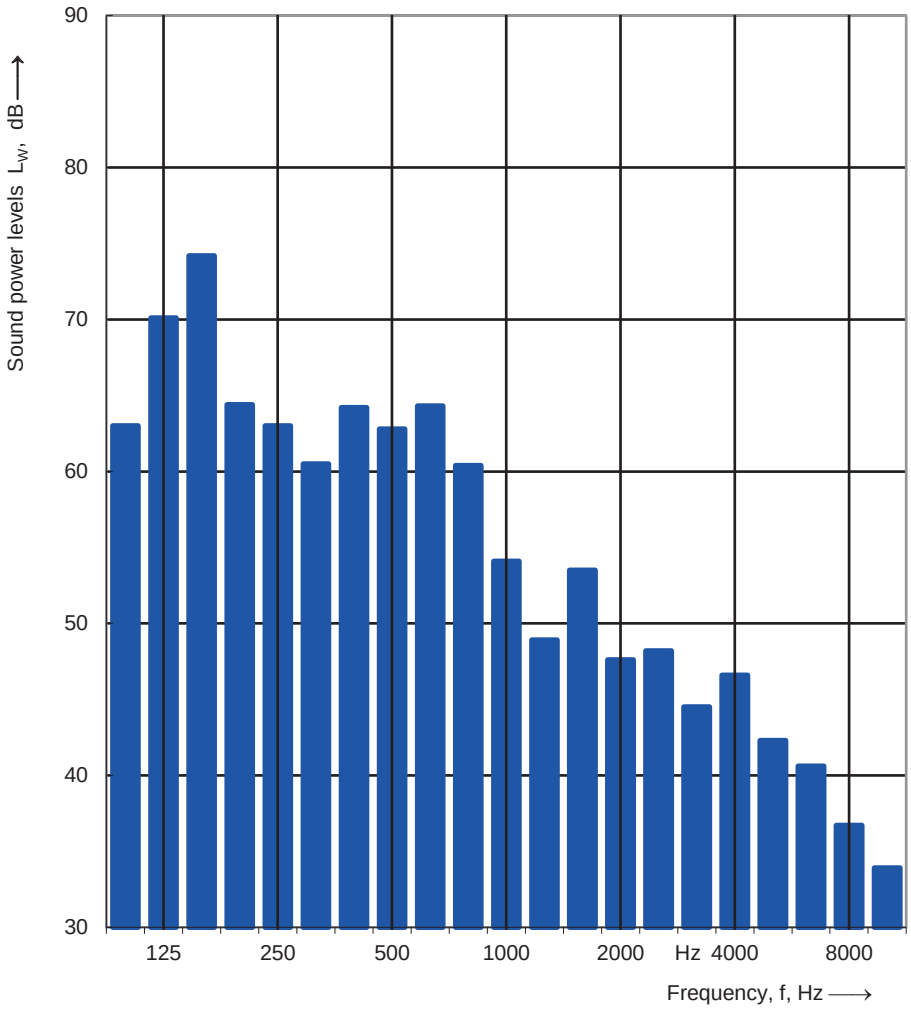
Sound power levels according to ISO 3741:2010

Precision methods for reverberation test rooms - Comparison method

Client:	Gebwell Ltd.	Date of test:	7.8.2024
Object:	G-Eco Pro 120		
Mounting conditions:	Reverberation room		
Operating conditions:	B0W55, compressor speed 50 Hz.		

Static pressure:	100,2	kPa
Air temperature:	23,0	°C
Relative air humidity:	50,0	%
Test room volume:	183,7	m³
Area, S, of test room:	197,8	m²

Frequency f [Hz]	L_W 1/3 octave [dB]
100	63,0
125	70,1
160	74,2
200	64,4
250	63,0
315	60,5
400	64,2
500	62,8
630	64,3
800	60,4
1000	54,1
1250	48,9
1600	53,5
2000	47,6
2500	48,2
3150	44,5
4000	46,6
5000	42,3
6300	40,6
8000	36,7
10000	33,9



Sound power level L_W(A): 69 dB

Name of test institute: Gebwell Ltd.

No. of test report:

Date: 7.8.2024 Signature: A-V P

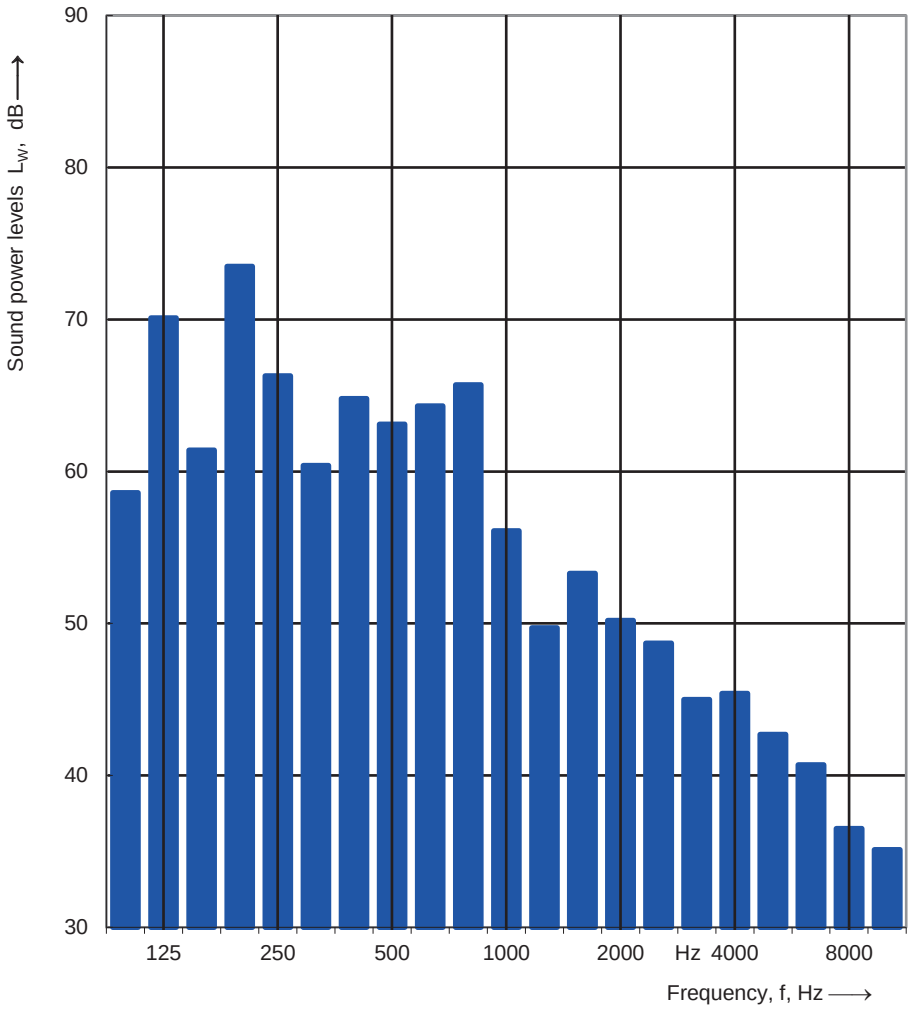
Sound power levels according to ISO 3741:2010

Precision methods for reverberation test rooms - Comparison method

Client:	Gebwell Ltd.	Date of test:	7.8.2024
Object:	G-Eco Pro 120		
Mounting conditions:	Reverberation room		
Operating conditions:	B0W55, compressor speed 67 Hz.		

Static pressure:	100,2	kPa
Air temperature:	23,0	°C
Relative air humidity:	50,0	%
Test room volume:	183,7	m³
Area, S, of test room:	197,8	m²

Frequency f [Hz]	L_W 1/3 octave [dB]
100	58,6
125	70,1
160	61,4
200	73,5
250	66,3
315	60,4
400	64,8
500	63,1
630	64,3
800	65,7
1000	56,1
1250	49,7
1600	53,3
2000	50,2
2500	48,7
3150	45,0
4000	45,4
5000	42,7
6300	40,7
8000	36,5
10000	35,1



Sound power level L_W(A): 70 dB

Name of test institute: Gebwell Ltd.

No. of test report:

Date: 7.8.2024 Signature: A-V P

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Gebwell Ltd. and its partners won the most important recognition in the European heat pump industry: the Next Generation Heat Pump award!

sulpu The Finnish Heat Pump Association