



EVVS

PROCESS WATER CHILLERS



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EVVS – Multiscroll chiller for industrial process cooling

EVVS, our custom-designed chiller that meets the cooling needs of industrial processes and offers a unique solution thanks to the choice of a more environmentally friendly gas and unparalleled performance. The future of refrigeration starts with Eurochiller: cutting-edge and sustainable chillers.



EXCEPTIONAL ENERGY EFFICIENCY

EVVS ensures efficient cooling for industrial operations while minimizing energy consumption, thanks to its high Seasonal Energy Performance Ratio (SEPR). This reduces operational costs and supports environmental sustainability without compromising performance.



ADVANCED MULTISCROLL TECHNOLOGY

At the heart of EVVS there is an advanced multiscroll compression system designed for stable and reliable performance. This technology increases efficiency, reduces vibrations, and extends the lifespan and reliability of the chiller.



WIDE RANGE OF COOLING CAPACITIES

EVVS is available in a wide range of cooling capacities to meet various industrial needs, from 260 kW up to 420 kW (@15/25°C) and can handle even the most demanding thermal loads.



ECO-FRIENDLY REFRIGERANT

We prioritize environmental sustainability and offer the option to equip your EVVS with R454B refrigerant, a low global warming potential solution. This low-impact refrigerant helps to reduce greenhouse gas emissions, promoting a greener future.



VERSATILITY AND CONFIGURATION

EVVS is designed for high versatility, allowing for different configurations based on specific cooling requirements.



RELIABILITY

Thanks to its robust design, EVVS provides reliable and continuous performance, ensuring stable operation even under the most demanding conditions

Segments and applications of EVVS

The EVVS range is a versatile solution that perfectly adapts to a wide variety of segments and applications in the industrial sector, ensuring high performance and reliability in various cooling scenarios. EVVS is designed to successfully address industrial processes that require significant cooling capacity, from large-scale cooling applications to managing temperature in complex industrial environments.



PLASTIC OR METAL PROCESSING

In the plastic and metal processing industry, precise cooling is essential to achieve high-quality results. EVVS offers powerful and stable cooling capacity, allowing optimal temperature control during the molding process. This reduces cycle times and optimizes production, ensuring high-quality outcomes.



BEVERAGE PRODUCTION

In the beverage industry, temperature plays a critical role in producing high-quality beer and wine. EVVS provides accurate cooling during fermentation and the final cooling process, helping maintain ideal temperature levels to achieve excellent products.



ROLL AND PROCESS TANK COOLING

In industrial processes involving rollers, process tanks, and other equipment, effective cooling is essential to maintain optimal operating conditions. EVVS provides the necessary cooling power to handle the high temperatures generated by these machines, ensuring stable and reliable operation.



HIGH SEASONAL ENERGY PERFORMANCE RATIO (SEPR)

EVVS stands out for its impressive SEPR, which represents the ratio between the cooling energy delivered and the electrical energy consumed over the entire seasonal operation. Thanks to cutting-edge components, advanced thermodynamic cycle optimization, and highly efficient fan control, this chiller enables significant energy savings.



EFFICIENCY THANKS TO OPTIMIZED FAN CONTROL

Fans play a crucial role in energy consumption. EVVS incorporates a sophisticated fan control system designed to ensure that the chiller operates at peak efficiency based on the thermal load. This intelligent logic optimizes fan speed and operation according to cooling needs, minimizing energy waste and ensuring precise and controlled cooling.



EFFICIENCY DURING HEAT LOAD CHANGES

In industrial processes, heat loads can vary over time. EVVS is designed to dynamically adapt to these fluctuations by automatically adjusting the operation of compressors and fans to maintain optimal efficiency even under partial load conditions. This results in more stable operation, reduced energy consumption, and extended chiller lifespan.



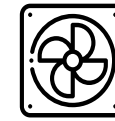
ECO-FRIENDLY AND SUSTAINABLE

With a high SEPR, EVVS's remarkable energy efficiency not only reduces costs for users but also contributes to environmental sustainability. By minimizing energy consumption and greenhouse gas emissions, EVVS represents an environmentally conscious and responsible choice, enabling companies to achieve their social and environmental responsibility goals.

PROCESS WATER CHILLERS



Benefits and features



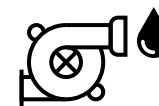
FANS

Fans come equipped with a grille, high-quality blades, and a high-efficiency brushless EC motor. Additionally, the night mode allows a significant reduction in noise during nighttime hours.



IQ21 + ICONS CONTROLLER

The range of features of this machine can be intuitively controlled thanks to algorithms that enable efficient management. Additionally, the machine can be continuously monitored through Icons connectivity. Regarding safety, the machine is equipped with a set of safety options that includes a phase sequence relay, providing maximum protection against malfunction risks. Furthermore, the series features protection that allows it to withstand various weather conditions.



HYDRAULIC CONNECTIONS

The installation of this machine is straightforward thanks to the grooved connections available in the standard version. Additionally, you can choose from a wide range of flanges available as accessories to meet all requirements (ASME, UNI).



PUMPS

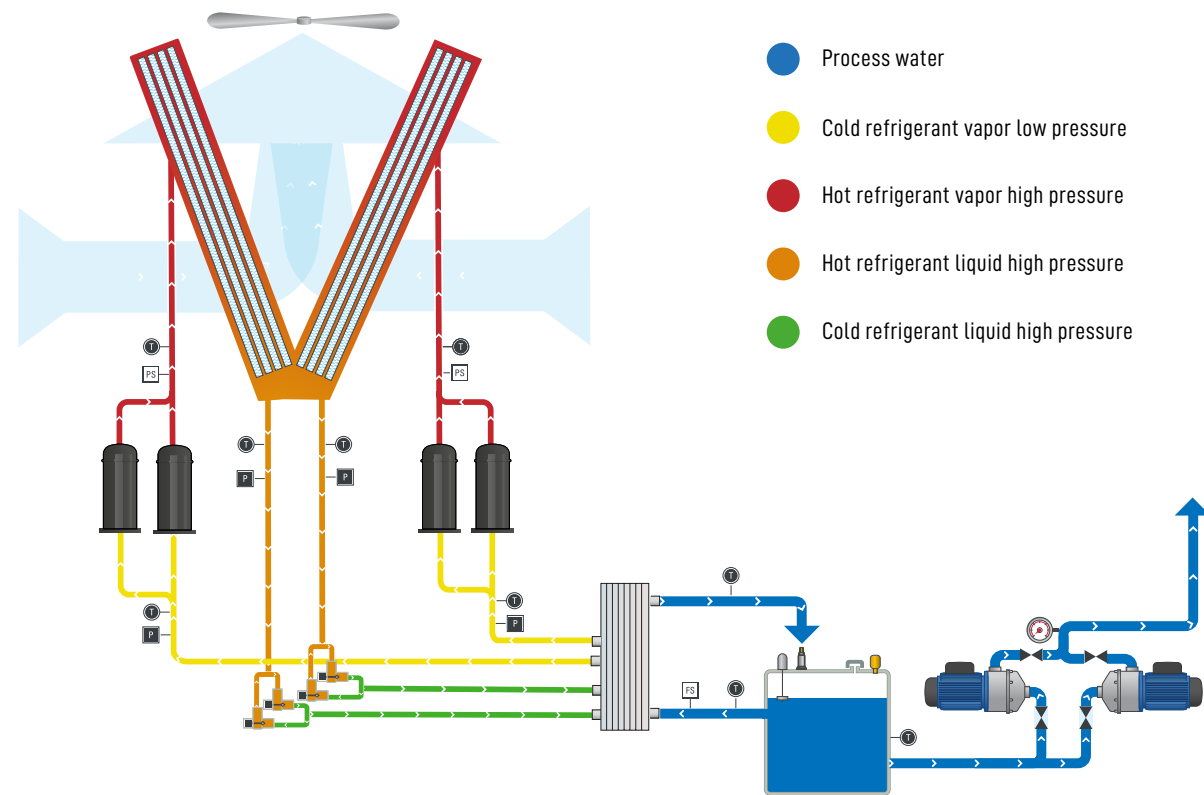
The machine offers a wide range of configurations with different pressure ranges to meet various hydraulic circuits. Additionally, all versions include a standby mode, which allows for reduced work interruptions. Pump body and impellers are made of stainless steel to ensure greater durability and resistance. Furthermore, the pump motors are IE3 class.



EVAPORATOR 2 AVAILABLE VERSIONS

The evaporator is available in 2 different versions: brazed stainless steel plates for closed circuit applications with good water quality, or tube bundle for open circuit applications with industrial water.

EVVS' air flow diagram



AIR FLOW

Microchannel condensers allow air to pass through them, thus reducing the pressure and temperature of the refrigerant. Additionally, variable-speed axial fans located at the top of the unit create an airflow that fully reveals their efficiency, especially during partial loads.

REFRIGERANT FLOW

The refrigeration cycle is a reverse thermodynamic cycle performed by a machine capable of transferring heat from a low-temperature environment to a higher-temperature one. The refrigerant fluid, kept at low pressure, evaporates near the cold source: as it evaporates, it absorbs vaporization heat from the cold source, further cooling it. The refrigerant gas is then compressed at a higher pressure using mechanical (electrical) energy. The high-pressure, high-temperature refrigerant gas is condensed near the hot source: during condensation, it releases heat to the hot source. The high-pressure liquid refrigerant is then returned to the low pressure it had initially. The low pressure facilitates its evaporation even at low temperatures, such as that of the cold source. The cycle repeats from the beginning.

WATER FLOW

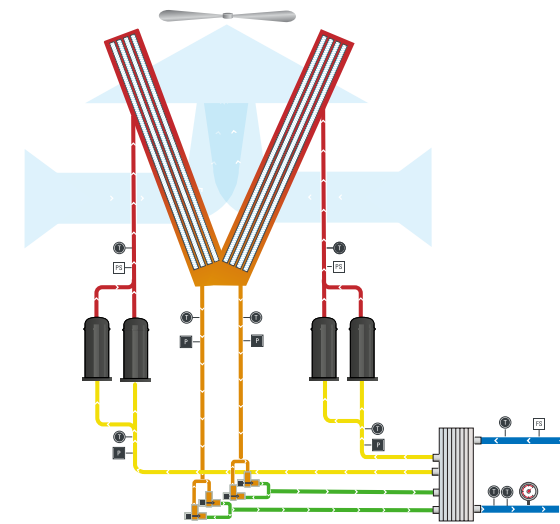
The incoming hot water flow passes through the evaporator, where the low-pressure refrigerant flow will reduce the water temperature by collecting heat and evaporating the refrigerant. Subsequently, after passing through the evaporator, the water flow converges into a tank equipped with a series of safety devices. Finally, the chilled water flows toward a pump group consisting of one or two pumps with different outlet pressure versions, delivering the chilled water to the application.

PROCESS WATER CHILLERS



Hydraulic connection solutions for EVVS

Plate evaporator



Shell & Tube

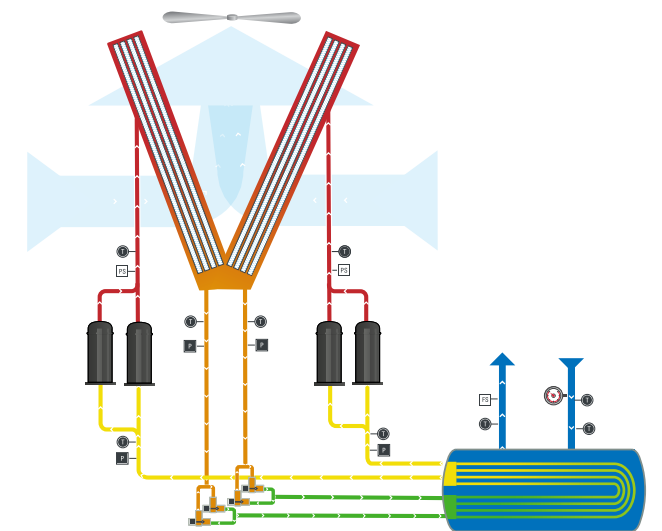
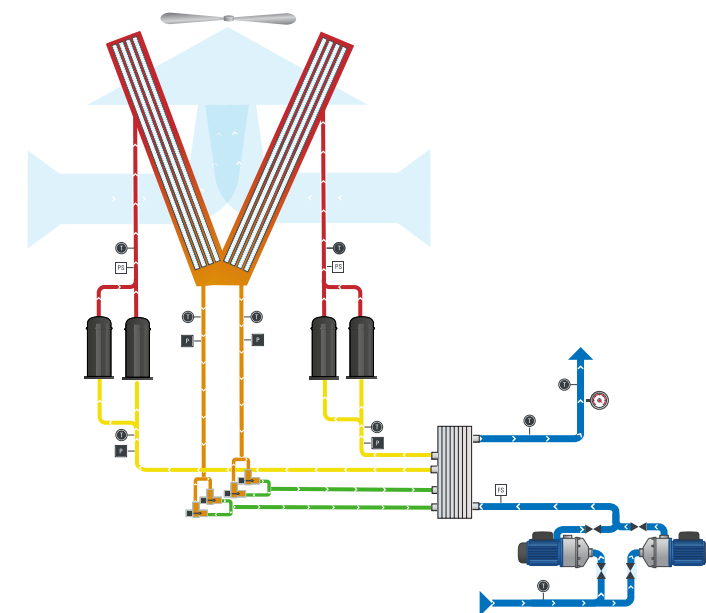


Plate evaporator with stand-by pump



Hydraulic connection solutions for EVVS

Shell & Tube with stand by pump

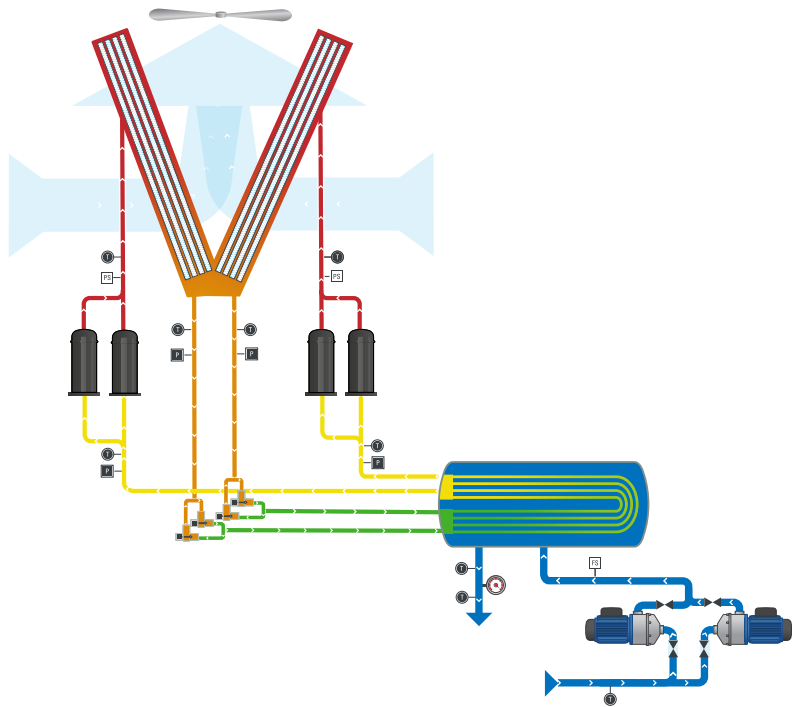
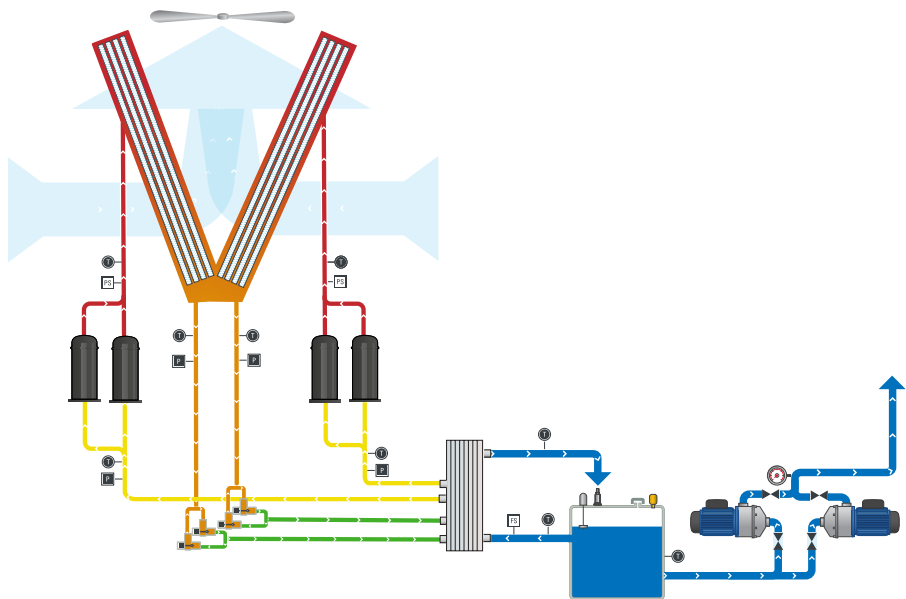


Plate evaporator, tank and stand-by pump



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Configurability for your industrial needs

EVVS offers a high level of configurability with a wide range of options, allowing you to create a chiller that aligns perfectly with the specific requirements of your industry.

EVAPORATOR OPTIONS: PLATE-TO-PLATE OR TUBE BUNDLE

Choose between a plate evaporator for compactness and efficiency or a tube bundle evaporator for robustness and versatility, ensuring that the chiller's cooling system is tailored to your process needs.

CONFIGURABLE INTEGRATED HYDRAULIC PART: SINGLE OR DUAL PUMP

Customize the hydraulic part of your chiller to meet your requirements. Select from a standby configuration with either a single or dual pump, offering a wide range of flow rates and pressures. Additionally, you can decide whether you want an integrated tank or not. This way, your chiller's hydraulic system will be perfectly adapted to your process conditions.

MONITORING AND CONTROL

Optimal control and monitoring of your EVVS chiller are ensured by the intelligence included in the package, featuring IQ21 and Icons technology.

ENERGY CONSUMPTION METER

Monitor your refrigerator's energy consumption and optimize energy efficiency with the energy consumption meter option. This function helps you track your refrigerator's energy usage and identify areas where you can improve energy efficiency.

THREE WATER OUTLET TEMPERATURE RANGES: MT, HT, XHT

Select from three different water outlet temperature ranges: Medium Temperature (MT), High Temperature (HT), and Extra High Temperature (XHT). This flexibility allows you to precisely match the chiller's performance to your process cooling requirements.

ALUMINUM INLET AIR FILTERS

Enhance the longevity and reliability of your refrigerator by choosing aluminum inlet air filters that keep the condenser coils clean. This way, you'll maximize your refrigerator's performance and reduce maintenance needs.

DOUBLE SAFETY VALVE

Add an additional layer of safety to your chiller with the double safety valve. This feature provides redundancy and protection during maintenance activities, ensuring that your chiller is always safe and reliable.

EPOXY COATED CAPACITOR COIL (OPTION)

Protect the condenser coils from corrosion and extend their lifespan with epoxy coating. This solution is ideal for demanding and challenging environments.

TWO REFRIGERANT OPTIONS: R410A OR R454B

Customize your chiller's refrigerant to meet your environmental and regulatory needs. Choose between the standard R410A refrigerant or the low-GWP R454B refrigerant, reducing your carbon footprint and supporting sustainability initiatives.

COMPRESSOR NOISEREDUCTION COVERAGE

To reduce the noise generated by compressors in environments requiring low noise levels, select the option of a compressor noise reduction coverage. This feature is designed to effectively reduce the noise generated by compressors, ensuring a quieter work environment.

ANTIVIBRATION KIT

Minimize vibrations and noise from your chiller with the antivibration kit option. This function ensures stable and quiet operation of your chiller.

IQ21

Maximize your chiller's performance across various conditions with the specially designed IQ21 unit controller. The integrated set of safety options, such as the phase sequence relay, provides maximum protection and reduces the risk of malfunction. Our solutions offer key benefits, including increased energy efficiency, reduced energy consumption, and minimized maintenance times. Additionally, they alleviate stress for both you and the entire system.



R454B Refrigerant Option

R454B – THE GREEN REFRIGERANT OPTION.

The EVVS chiller is an innovative cooling solution designed to deliver superior performance with reduced environmental impact. At the heart of this innovation lies the R454B refrigerant, an eco-conscious choice that promotes a transition toward more sustainable and environmentally friendly solutions.

LOW GLOBAL WARMING POTENTIAL (GWP)

R454B has a significantly lower GWP compared to traditional R410A, substantially reducing the environmental impact of the cooling system. GWP (Global Warming Potential) is an index that measures a gas's ability to trap heat in the atmosphere relative to CO2. A lower GWP indicates that the gas has a smaller environmental impact than other gases with higher GWP values.

EUROCHILLER: YOUR RELIABLE PARTNER FOR SUSTAINABLE SOLUTIONS.

At Eurochiller, we are committed to supporting our customers throughout the transition to sustainable solutions. We provide guidance, training, and continuous assistance to ensure safe and efficient use of our refrigerators. Make the right choice for a sustainable future. Choose the EVVS chiller with R454B refrigerant and join us in our commitment to a cleaner and safer environment.

ENERGY EFFICIENCY

R454B is highly energy-efficient, resulting in reduced energy consumption and operational costs due to its excellent thermal properties. Additionally, it offers improved efficiency at partial loads, minimizing overheating issues and ensuring stable and reliable operation. The R454B version is designed with proven technological components that help control maintenance costs.

Plate+Pump+Tank_50Hz			260	310	350	380	420
COOLING SECTION	Cooling capacity (1)	kW	275	324	348	400	434
		kCal/h	236.552	278.649	299.340	343.708	373.317
	Cooling capacity (2)	kW	186	222	241	268	295
		kCal/h	159.874	191.092	207.260	230.652	254.044
	SEPR *		5,95	6,01	5,84	5,80	5,74
REFRIGERANT SECTION	Refrigerant	Type	R454B	R454B	R454B	R454B	R454B
	Compressors	Qt.	3/2	3/3	2/2	2/2	2/2
	Circuits	Qt.	2	2	2	2	2
HYDRAULIC SECTION	Standard pump	m3/h (3)	47,3	55,8	59,9	68,8	74,7
		bar (3)	3,8	3,3	3,0	4,0	3,8
		kW (3)	9,2	9,2	9,2	15,0	15,0
	Hydraulic connections	Ø	Grooved - 4" / 4"	Grooved - 4" / 4"	Grooved - 4" / 4"	Grooved - 4" / 4"	Grooved - 4" / 4"
	Tank **	l	700	700	700	700	700
CONDENSER SECTION	Fans	nr	3	4	4	4	4
		kW (each)	3,3	3,3	3,3	3,3	3,3
		m3/h(each)	28000	28000	28000	28000	28000
ELECTRIC SECTION	Absorbed power	kW (1)	107,5	129,2	139,9	160,1	176,5
	Voltage	V/Ph/Hz (4)	400V±10% / 3Ph+PE / 50Hz	400V ±10% / 3Ph+PE / 50Hz	400V±10% / 3Ph+PE / 50Hz	400V±10% / 3Ph+PE / 50Hz	400V±10% / 3Ph+PE / 50Hz
GENERAL DATA	Max. air temperature	°C	46	46	46	46	46
SIZE AND WEIGHT	Sizes	mm	A	3500	3500	3500	3500
			B	2230	2230	2230	2230
			C	2520	2520	2520	2520
	Net weight	kg	1798	2073	2079	2233	2331
	Full load weight	kg	1872	2146	2152	2306	2404

Plate+Pump+Tank_60Hz			260	310	380	420
COOLING SECTION	Cooling capacity (1)	kW	263	314	380	408
		kCal/h	226.438	270.040	327.144	350.880
	Cooling capacity (2)	kW	188	228	274	294
		kCal/h	161.250	195.650	235.726	252.668
	SEPR *		6,50	6,30	6,30	5,80
REFRIGERANT SECTION	Refrigerant	Type	R454B	R454B	R454B	R454B
	Compressors	Qt.	2/2	3/3	2/2	2/2
	Circuits	Qt.	2	2	2	2
HYDRAULIC SECTION	Standard pump	m3/h (3)	32,2	55,8	68,8	74,7
		bar (3)	3,8	3,3	4,0	3,8
		kW (3)	9,2	9,2	15,0	15,0
	Hydraulic connections	Ø	Grooved - 4" / 4"	Grooved - 4" / 4"	Grooved - 4" / 4"	Grooved - 4" / 4"
	Tank **	l	700	700	700	700
CONDENSER SECTION	Fans	nr	4	4	4	4
		kW (each)	3,3	3,3	3,3	3,3
		m3/h(each)	28000	28000	28000	28000
ELECTRIC SECTION	Absorbed power	kW (1)	107,5	129,2	160,1	176,5
	Voltage	V/Ph/Hz (4)	460V±10% / 3Ph+PE / 60Hz	460V±10% / 3Ph+PE / 60Hz	460V ±10% / 3Ph+PE / 60Hz	460V ±10% / 3Ph+PE / 60Hz
GENERAL DATA		Max. air temperature	°C	46	46	46
SIZE AND WEIGHT	Sizes	mm	A	3500	3500	3500
			B	2230	2230	2230
			C	2520	2520	2520
	Net weight	kg	1798	2073	2233	2331
	Full load weight	kg	1872+]	2146	2306	2404

1. Reference Conditions: Ambient air at 25°C, Evaporator inlet at 20°C / outlet at 15°C, 0% Glycol. Data refers to air-cooled versions. Water-cooled versions are available upon request.

2. Nominal Operating Conditions: External air temperature at 35°C and water temperature IN/OUT of the evaporator at 12/7°C; 0% Glycol.

3. Special Pumps Available Upon Request.

4. Different Voltages Quoted Upon Request.

* Reference Conditions: Ambient air at 35°C, High-Temperature Evaporator (HT) inlet at 12°C / outlet at 7°C, 0% Glycol. Technical data refers to versions with Gas R454B and plate evaporators.

** The tank is available only for the version with plate evaporators.

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