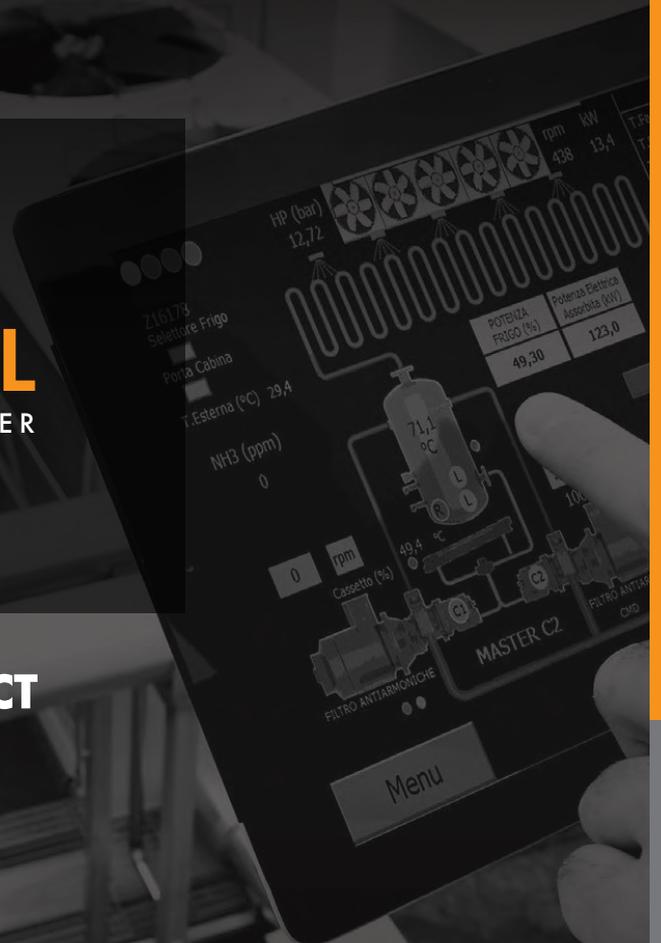




EFFICIENT • RELIABLE • COMPACT



Hallscrew Compressor Technology

For more than 150 years, J & E Hall has pioneered the development and application of refrigeration technologies. Today the company is recognised as a leading manufacturer and after sales provider for refrigeration and air-conditioning products worldwide.



The chillers are designed using the HallScrew single screw open type compressor. Key to its success is its outstanding reliability. Only three basic moving parts are involved; a main rotor which meshes with two diametrically opposed star wheels which results in balanced compression. The compressors are extremely robust and boasts long bearing life over 100,000 hours.

The HallScrew also features a high efficiency capacity control mechanism to regulate the capacity with corresponding reduction in power input. For ease of maintenance, the side casing can be removed to give access to all ports without removing the machine from its installation.

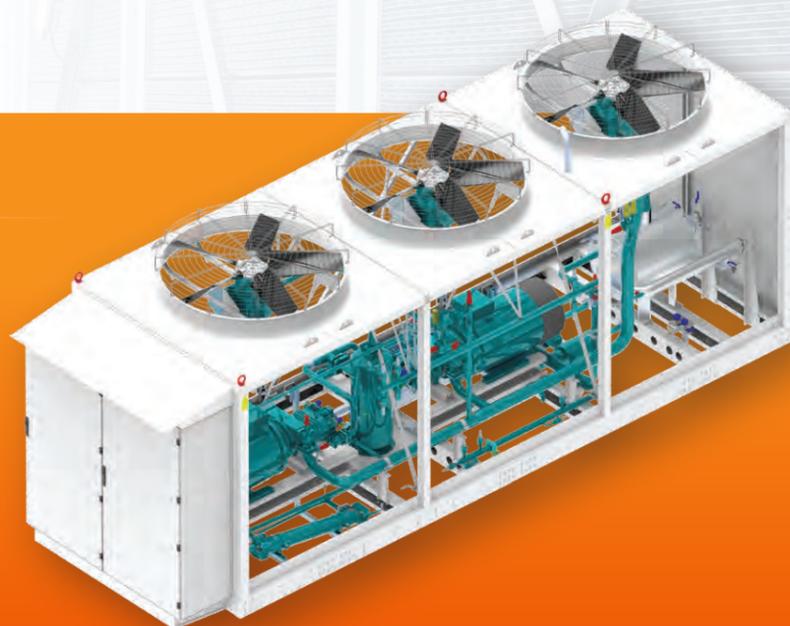


Features

The chillers can use three evaporator models: traditional evaporators, flooded evaporators or brine evaporators producing water around 0.5 °C.

The chillers are compact, modular and easy to transport. They are built and thoroughly tested in the factory before delivery. Chillers are manufactured for various applications, from HVAC to low-temperature process cooling.

All chillers are custom-made for customer specific requirements.



▶ ECO-CONSCIOUS

Natural, environmentally responsible ammonia delivers maximum chiller efficiency. With extensive refrigeration expertise, J & E Hall uses the highest safety standards available to deliver a reliable, low-maintenance system.

▶ SUSTAINABLE

Energy efficient chillers cut energy costs whilst lowering CO₂ emissions.

▶ DURABLE

Free-standing structure in galvanised and painted carbon steel or in stainless steel.

▶ EFFICIENT

Market-leading efficiency is achieved through the use of advanced refrigerants and innovative technologies, delivering up to 30% annual energy savings compared to traditional synthetic chillers.

▶ COMPACT

Ammonia's superior physical properties deliver exceptional efficiency (high COP), enabling more compact chiller designs with enhanced durability.

▶ TESTED

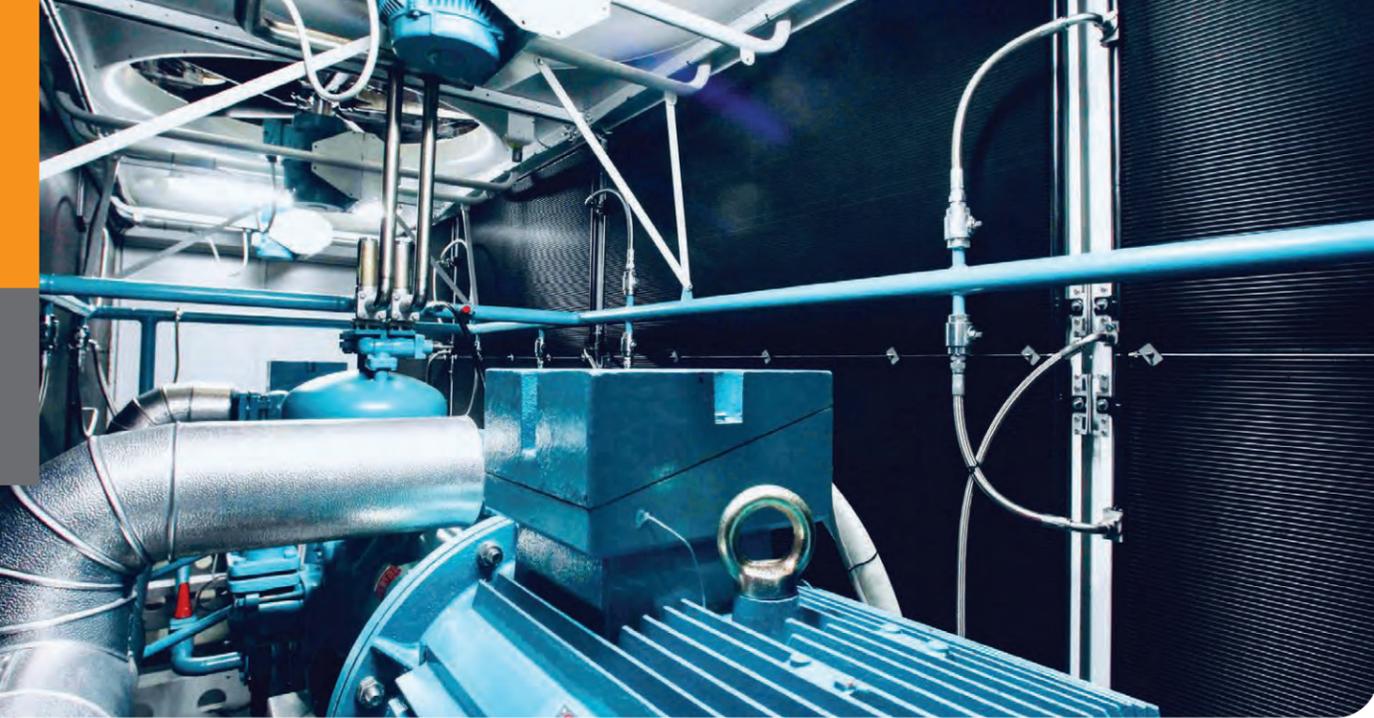
Factory testing guarantees the customer's certified energy performance.

▶ MONITORING

Our inbuilt remote monitoring system allows online analysis to monitor and adjust the chiller's operation where necessary.

▶ CUSTOMISATION

We can modify any part as needed based on customer requirements, and all chillers can be designed based on different countries' regulations and certifications.



Sizes and Weights

Advantages

▶ MICROCHANNEL CONDENSERS

State-of-the-art aluminium microchannel technology maximizes heat exchange whilst minimising ammonia usage. Each condenser can be isolated individually.

▶ 160CM DIAMETER FANS

Large-diameter fans ensure efficient ventilation with low energy consumption, 2.1 kWe per 100 kW of heat, whilst maintaining quiet operation.

▶ LOW NOISE EMISSIONS

Axial fans with airfoil blades significantly reduce noise emissions.

▶ LOW AMMONIA CHARGE

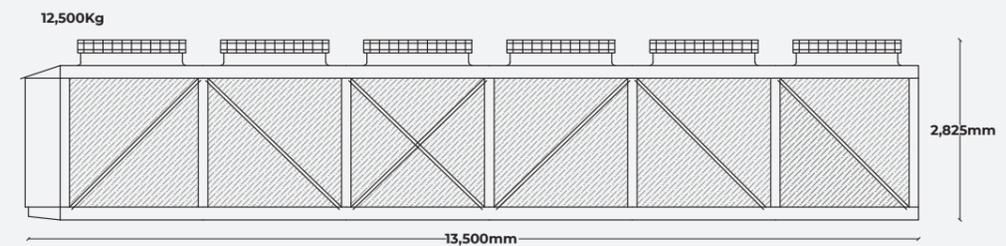
The compact design of the aluminium microchannel condensers significantly reduces the system's ammonia requirements.

▶ LESS MAINTENANCE

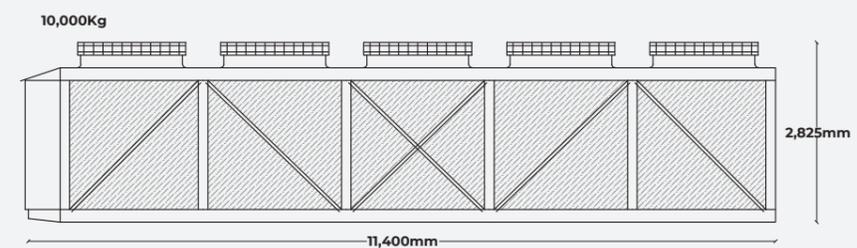
Every condensing coil can be replaced easily without compromising the machine's operation, allowing maintenance on individual panels.

▶ SIMPLE INSTALLATION

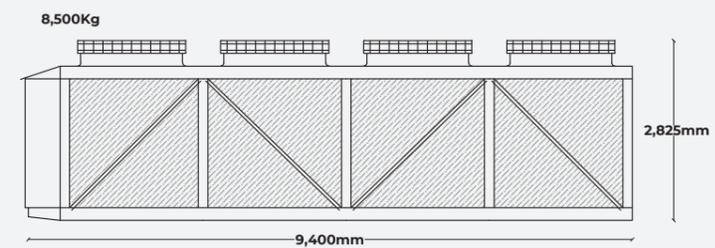
Designed for any flat-surface installation, the chiller is easy to lift, transport, and install.



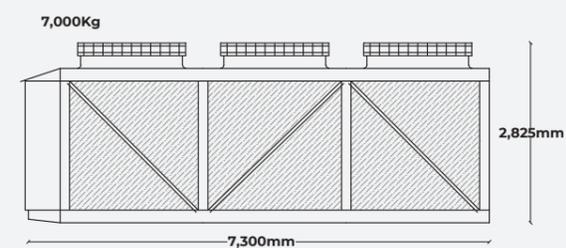
AQUACHILL 6



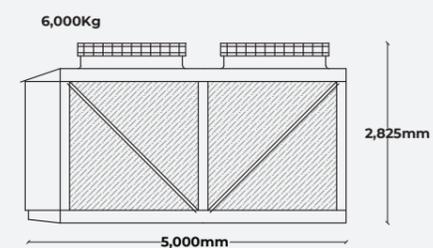
AQUACHILL 5



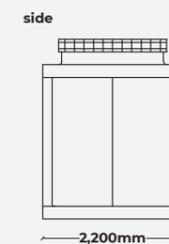
AQUACHILL 4



AQUACHILL 3



AQUACHILL 2



Specifications

	water +7° / +12°C				water/glycol -10° / -5°C				pumped ammonia -35°C			
	cooling power (RT)	ESEER	compressor n.	ammonia charge (Kg)	cooling power (kW)	ESEER	compressor n.	ammonia charge (Kg)	cooling power (kW)	ESEER	compressor n.	ammonia charge (Kg)
AQUACHILL 2	310	4.10	1	16	280	2.58	1	34	130	1.52	1	22
AQUACHILL 3	470	4.39	2	24	400	2.60	2	40	160	1.81	2	24
AQUACHILL 4	630	4.49	2	34	560	2.93	2	44	310	1.83	2	44
AQUACHILL 5	800	4.46	2	44	680	2.83	2	52	430	1.76	2	80
AQUACHILL 6	950	4.97	2	52	830	2.96	2	62	550	1.80	2	108

Remote Monitoring

ALWAYS BY YOUR SIDE

All our chillers and systems come with advanced remote supervision and monitoring. This service allows our engineers to oversee every parameter of your chiller in real time, providing remote adjustments and expert support whenever needed.

Our intuitive interface is designed with our customers in mind, making system management effortless. All operational data is securely recorded and stored on our servers, building a comprehensive knowledge base of your installation, environment, and usage patterns. This insight enables continuous optimisation, improving both performance and efficiency over time.

There are three service levels available:

1 TELE-SUPPORT

We connect to the chillers online and provide telephone consultation with an analysis of its operations.

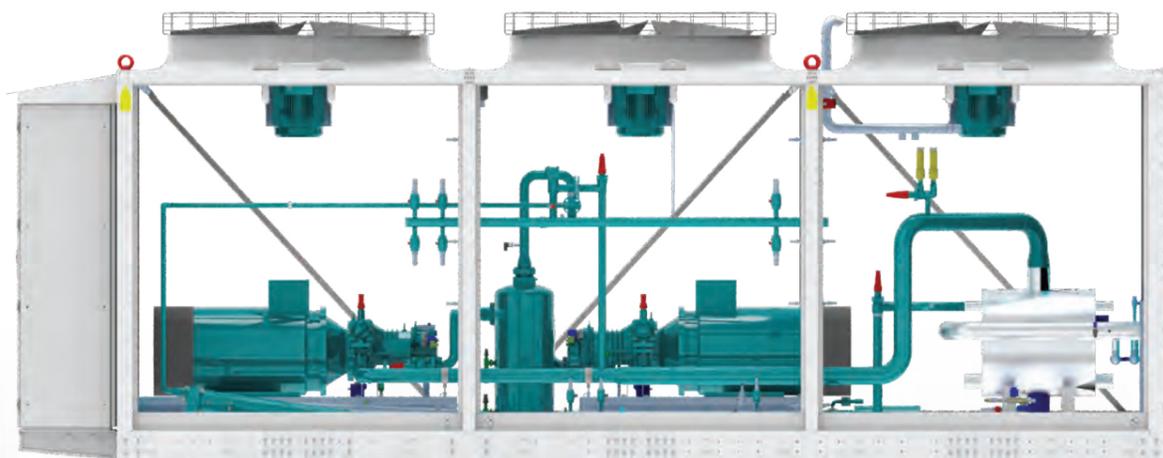
2 TELE-INSPECTION

We perform an online analysis and adjust the chiller's operation.

3 TELE-PRESENCE

We make any adjustments necessary based on the historical data recorded and optimize the chiller's operation, adapting it perfectly to the plant where it was installed.

Our remote monitoring service is also available for all of our equipment and systems.



AQUACHILL 3

Case Studies

CHARLEROI AIRPORT +7°C/+12°C

The Charleroi Airport is Belgium's second busiest airport. In 2008, it opened a new terminal designed to accommodate more than 5,000,000 passengers. For this facility expansion, they needed a chiller able to provide air-conditioning for a new control tower and adjacent terminal.

REQUIREMENTS

The airport authorities required a quiet and reliable chiller using natural refrigerants. They wanted to improve their energy efficiency and reduce the airport running costs.

SOLUTION

The chiller was ideal for their needs: direct expansion operation, Thermowave evaporator with reliable compressors with 700 kW of cooling capacity.

ADVANTAGES

Thanks to the telemetry system, which allows remote control of the chiller's operation in real-time, the customer knows they can count on 24-hour support. The chiller was designed and built with a 60Kg ammonia charge.



MERCK -15°C/-40°C

Merck & Co., Inc. is one of the largest pharmaceutical companies in the world, generally ranking in the global top five by revenue. The company develops medicines, vaccines, biological therapies and animal health products.

REQUIREMENTS

The MSD plant in Rome previously relied on four synthetic refrigerant chillers, operating at various setpoints from the HVAC application down to the cooling process. The site planned to replace them all with new cutting-edge ammonia ones.

SOLUTION

The solution was demanding, as the units had to comply with all the Merck standards and certifications; the outcome was beyond impressive. The team designed three standalone units, replacing the site refrigeration system entirely.

ADVANTAGES

The Merck team paid back the new units in less than two years, benefiting from significant energy savings and product durability. The telemetry remote control helps Merck in the day-to-day operations, supporting the maintenance engineers at every step of the way.



DELANCHY GROUP -5°C

Delanchy is one of the largest family-owned logistic refrigerated transport companies in France, employing more than 3500 people in 50 different locations. Refrigerating equipment accounts for more than 60 % of all the company's energy costs. The rising electricity costs have resulted in a switch to more sustainable and energy-efficient chillers.

REQUIREMENTS

Four low-charge air-cooled ammonia chillers able to operate at peak summer conditions and cool glycol down to -5°C were required. The customer requested that the existing massive refrigeration rooms be removed and replaced with brand new standalone units installed outside the facility.

SOLUTION

The installed chillers are operating in parallel with the existing refrigeration system and taking over the site's refrigeration demand while the old plant is being dismantled.

ADVANTAGES

The high efficiency and reliability are the main advantages of the site. Delanchy is now saving not only in operating costs but also in footprint. The new chillers did allow the site to use the freed-up space for new storage and with this increasing the business added value.



NOVARTIS INDUSTRIES +7°C/+12°C

Novartis AG is a Swiss multinational pharmaceutical corporation based in Basel, Switzerland, consistently ranked in the global top five. The engineering team was looking for a cutting edge ammonia chiller that would be able to cool down the secondary refrigerant at various temperatures and set points based on their manufacturing process demand.

REQUIREMENTS

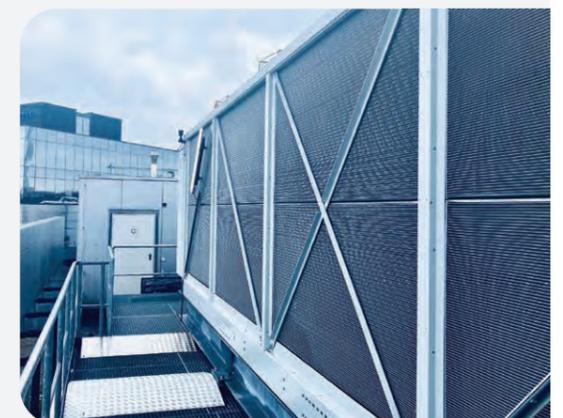
The selection criteria was based on efficiency, reliability, operating costs analysis and capex.

SOLUTION

The designed chiller can work under different operating conditions, from HVAC to process cooling at -15°C. The reliability of the chiller is essential as Novartis plays a significant role in developing new drugs for different pathological treatments.

ADVANTAGES

The chiller performs with a high energy efficiency even with high ambient temperatures. The maintenance is scheduled automatically via the remote maintenance module, helping Novartis to reduce its downtime.



Case Studies

UNILEVER +0.5°C/+2°C

Established over 100 years ago, Unilever is one of the world's largest consumer goods companies. Present in more than 190 countries worldwide, they are among the best advocates of energy efficiency, sustainability, and employee wellbeing.

REQUIREMENTS

The Manila, Selecta Ice Cream plant desperately needed a reliable ammonia chiller. The requirements were for the Magnum® processing line. The chiller needed to operate at part load conditions, whilst guaranteeing high efficiency.

SOLUTION

The installed solution provides the Manila site with reliable cooling in extreme weather conditions. The cooling demand was significant; therefore, a has been designed to operate with two compressors and a complete heat recovery system that can provide the site with sanitary hot water.

ADVANTAGES

The main advantages are the quality and reliability of the chiller, control of the entire production process and easy maintenance.



HOVIS +7°C/+12°C

The Hovis Forest Gate Bakery in East London is one of the biggest bakeries in the UK, baking more than 3 million loaves of bread a week. They needed a brand-new chiller to replace the existing inefficient synthetic refrigerant ones.

REQUIREMENTS

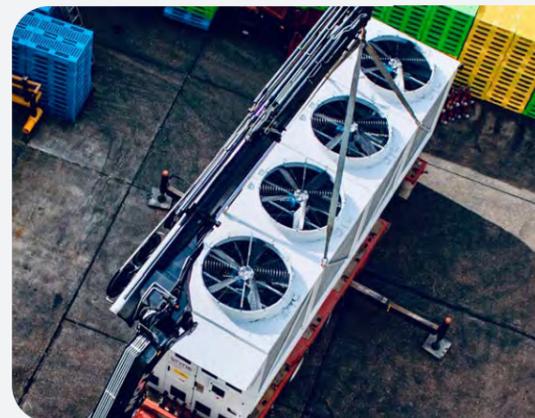
The senior management team were looking for a long-term solution, running on natural refrigerant with a reduced refrigerant charge, as they are operating in a residential area. The site runs seven days a week, 365 days a year, so the unit's reliability was essential.

SOLUTION

Our chiller was the ideal for their needs: combined flooded Vahterus evaporator with two compressors, 650 kW of cooling capacity. We constantly monitor the chiller operation remotely and guarantee the customer maximum energy efficiency for the application. The chiller investment was paid back in 2 years, with significant savings in operating costs compared to the previously installed chiller.

ADVANTAGES

The chiller performs at ambient temperatures up to +42°C, with an ESEER of 6.5. Thanks to the telemetry system, which allows remote control of the chiller's operation in real-time, Hovis is guaranteed an optimal operation with zero breakdowns on all the processing lines.



VOLTAS INDUSTRIES +7°C/+12°C

The Charleroi Airport is Belgium's second busiest airport. In 2008, it opened a new terminal designed to accommodate more than 5,000,000 passengers. For this facility expansion, they needed a chiller able to provide air-conditioning for a new control tower and adjacent terminal.

REQUIREMENTS

Voltas were looking for chillers that were able to condition their buildings with low maintenance and reduced operating costs. The ammonia charge was critical in this application as ammonia was never used before in such an application.

SOLUTION

The engineering team designed and manufactured four identical chillers that could cool down 1000 kW of air at +6°C, feeding the building air handling units. The units are running with less than 60 Kg of ammonia each, providing the residential complex with maximum safety and reliability.

ADVANTAGES

The chillers perform at extreme ambient temperatures without any use of adiabatic cooling. This was one of the first projects in South Africa where ammonia was chosen instead of synthetic refrigerants. they can count on 24-hour support. The chiller was designed and built with a 132 lbs ammonia charge.



Certifications

Our chillers are approved by





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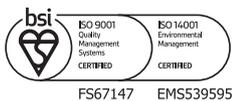
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