newsome
Process Cooling
HVAC & Dehumidification

WLA Precision ErP

Air Cooled Industrial Liquid Chiller

Designed for Process Applications

Food & Beverage | Machine Tools | Plastic & Rubber | Laster | Food & Beverage | Oenology | Printing | Chemical & Pharmaceutical | Biogas

Compact, reliable and versatile industrial liquid chiller

WLA Precision ErP is the next generation range of high efficiency chillers, specifically designed for demanding industrial process cooling applications. WLA Precision ErP was created with a design ethos centred on reliability and energy efficiency, allowing for wider operating limits and unrivalled configurability.

Equipped with features like oversized heat exchangers, standard electronic expansion valves, and new high-efficiency fans, the WLA Precision ErP excels in thermodynamic performance, surpassing the stringent standards set by the 2021 Ecodesign directive. Not only is the WLA Precision ErP an exemplary high-performance chiller, but its eco-friendly design truly sets it apart from others currently in the market.

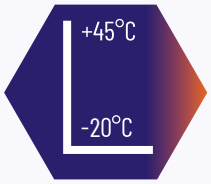
"High thermodynamic performances in compliance with Ecodesign regulations"

Energy Efficiency

Process chillers have to manage high heat loads around the clock, all year long. As such, it's critical that the chiller maintains optimal performance under every operating condition.

All WLA Precision chillers are designed to meet these challenges head-on and they adhere to the standards mandated by ErP2021 - SEPR HT (EU) 2016/2281 - SEPR MT (EU) 2015/1095. This commitment to quality and compliance makes them the perfect solution for all process applications.

Extended Operating Limits



Our dedicated versions and accessories ensure that WLA Precision chillers operate at full capacity under a wide range of temperatures. Whether it's soaring to +45°C in the summer or plummeting to -20°C in winter (in the LT version), rest assured, performance remains uncompromised.

Standard WLA Precision units produce chilled water with a maximum evaporator outlet temperature of up to -20°C. The standard minimum temperature is +5°C, and for the BRINE version, it goes down to -10°C.

New Controller SEC.blue

Our latest programmable microprocessor control, the SEC.blue, is the cornerstone of operational efficiency for all WLA Precision units. It comes with a unique proprietary logic that optimises performance in any available configuration. Moreover, the SECBlue Light allows for remote control of the unit and seamless integration with RS485 ModBus supervisory BMS systems, using specific accessories. With the SECBlue Light, control and monitoring have never been more intuitive or efficient.

New Configurations

We've broadened our technical scope with the new LT version, designed to operate smoothly even at a low ambient temperature of -20°C. The Brine version ensures efficient performance with a low water outlet temperature of Tw-10°C. Our standard configuration caters to pressurised hydraulic circuits, incorporating a shell & tube evaporator specifically designed for industrial applications, housed inside a large storage tank. This design ensures our WLA Precision units will effectively cool process water which may contain small particles, protect against ice formation & result in a low pressure differential across the machine.

WLA Precision Erp Air Cooled Industrial Chiller - Pressurised Circuit

Condenser Fans

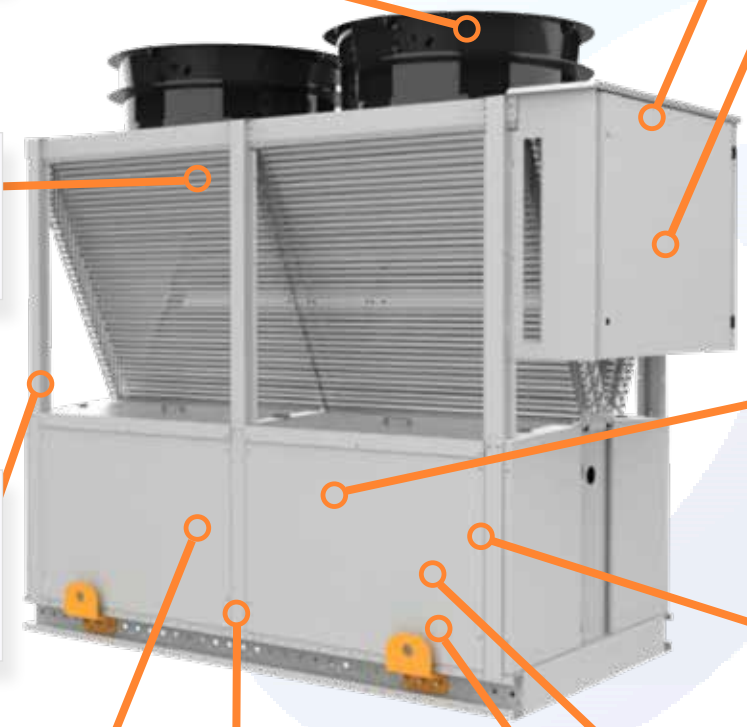
AC axial fans + fan speed control (standard) Brushless EC fans (optional).

Condenser Coils

Cu/Al finned coil condensers utilising Minitube technology resulting in-20% reduction in refrigerant charge.

Robust Construction

Galvanised carbon steel + powder coating. Includes covering panels to protect components installed within the lower part of the machine.



Integral Pumps

Stainless steel construction – standard options P2 (2 bar g) / P3 (3 bar g) / P5 (5 bar g)
Options available for:

- Dual run/standby pumps with auto changeover.
- Larger pumps to satisfy more demanding applications.
- Inverter driven pump/s providing running cost benefits.

Integral Storage Tank

Cylindrical carbon steel tank (pmax = 6barg) housing immersed shell & tube evaporator, thermally insulated.

Tank is equipped with vacuum breaker, bleeder valve & front connections for filling/draining and overflow.

Also included is an expansion vessel with 1 bar g pre charge (sized in accordance with the internal volume of the chiller).

Control Panel

Suitable for external installation
Phase monitor included as standard.

SEC.blue Microprocessor Controller

Includes Ethernet interface & RS485 port, allowing for communication with supervisory systems.

Evaporator

Shell and tube evaporator integrated within the integral storage tank (see details on next slide).

Safety Devices

Automatic hydraulic bypass valve.
Evaporator pressure differential switch.
Pressure gauge (0-10 bar g).

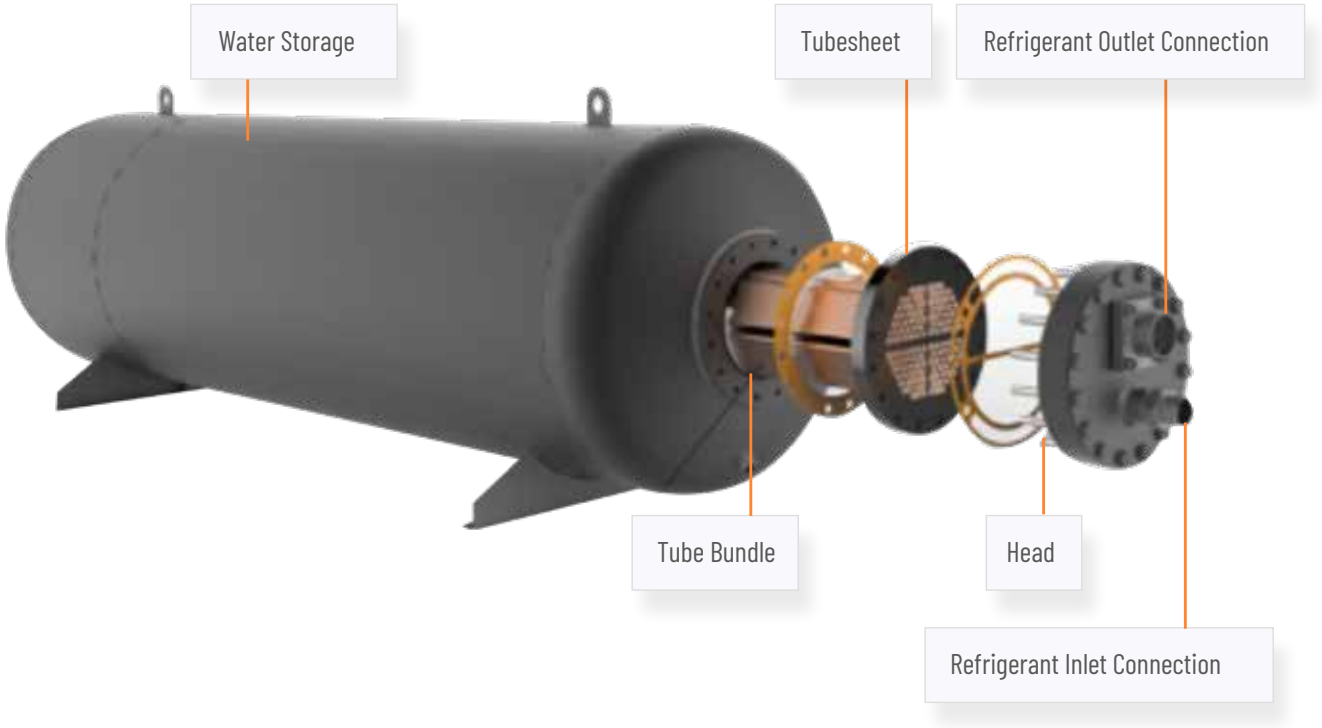
Compressors

Scroll compressors arranged in tandem configuration.

Electronic Expansion Valve

Scroll compressors arranged in tandem configuration.

Evaporator - Process: Shell and Tube Evaporator



Dual pass shell & tubes evaporator designed specifically for industrial process applications.

- Galvanised steel shell with copper tubes
- Carbon steel storage tank (galvanised internally)
- Double layer insulation composed by extruded elastomer with closed cell foam (abrasion and UV proof)
- Ensures liquids containing small particles often encountered within industrial process applications can be circulated with a greatly reduced possibility of blockages
- Presence of a large storage tank provides increased system stability
- Reduced pressure differential across the heat exchanger allows more of the available pump pressure to be utilized at the process
- The configuration results in a very low risk of ice formation

Advanced Technology for Industrial Process Cooling

Designed for 24/7 industrial use: each unit is individually tested at our factory and subjected to a comprehensive functional check. We use top-brand components and include a full suite of safety devices, such as an automatic hydraulic bypass valve, phase monitor, antifreeze sensor, and a differential pressure switch. This rigorous approach ensures the long-term reliability of our units.

Outdoor Installation: All our WLA Precision units are suitable for outdoor installation, thanks to the robust electrical panel constructed in compliance with EN 60204 and the IP44/54 degree of protection. This level of build quality ensures reliable performance even when installed outside.

Structure & Casing: The structure consists of galvanised steel base, uprights and panels made, assembled with stainless steel/galvanised fittings and a powder coat paint finish. Easy access to all major components is available. The base of the chiller is complete with pre-drilled holes for installation of anti-vibration supports, leveling feet, or attachment to the supporting structure.

Refrigeration Circuit: incorporating tandem scroll compressors, shell & tube evaporator, finned coil condenser & electronic expansion valve as standard

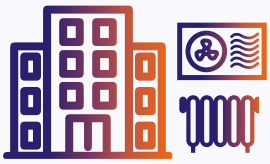
Shell and tube evaporator - pressurized hydraulic circuit: Single-circuit shell and tube heat exchanger equipped with a carbon steel shell and copper tubes. The heat exchanger can be inspected to facilitate cleaning and is immersed inside the integral water storage tank. The tank is thermally insulated with closed-cell neoprene to prevent condensation and reduce heat loss. The heat exchanger is equipped with a differential pressure switch and an antifreeze probe to monitor the flow of water when the unit is in operation, thus preventing the formation of ice inside.

Condenser Coils: Heat exchanger with finned condensing coils, featuring copper tubes and corrugated aluminium fins. The condenser coils are arranged in longitudinal , V-bank' orientation to maximise efficiency. Mini-tube geometry results in an increased surface area, thus allowing a compact footprint and reduction in refrigerant charge. Removable/ washable metal filters can be supplied to protect the heat exchanger when installed in areas where contamination is possible.

Condenser Fans: Standard Axial fans are protected to IP54 & are equipped with AC motors including electronic phase-cut speed control. The LT version for low ambient temperature operation includes EC fans with brushless synchronous motors driven by inverter, with continuous speed variation from 10% to 100%. The EC fans achieve a reduction in power consumption alongside a decrease in noise levels.

Electronic Expansion Valve: equipped with sensors on the refrigerant circuit, enabling optimal operation in any thermal load condition and ensuring maximum efficiency at all times. Ability to precisely control the subcooling and overheating, making it possible to extend the operating range of the chiller and preserve the reliability of the compressor.

Designed for Process Applications



HVAC & Building Services

Commercial buildings, office blocks and commercial premises, heating ventilation and air conditioning.

Drinks & Beverage

Coffee production, carbonation of mineral water and soft drinks, fruit juice production, beer.

Chemical & Pharma

Tank reactor cooling, cosmetics industry, clean rooms, paint production, electroplating.

Food Production

Meat processing, pasta/bread production, chocolate industry, dairy industry.

Leisure Industry

Swimming pools, gym complexes, cinemas and indoor recreational areas.

Medical & Scientific

Hospitals, medical facilities, medical equipment storage, research facilities.

Metal Works

Spindles, CNC machining centres, milling machines, lathes, EDM, presses, welders, induction machines, water jets.

Plastics & Rubber

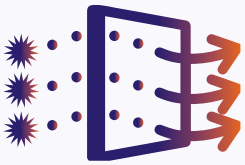
Moulding, extrusion, blow moulding, thermoforming.

Data Centre Cooling

Large data centres, technology infrastructures and sensitive temperature controlled facilities.

Server Rooms

Individual server room cooling and temperature control. Server room humidity control systems.



Clean Rooms

Sterile clean room environment, dust and particle free environments.

Factory Cooling

Manufacturing facilities, storage & warehousing, food storage & temperature control.

Technical Features

Performance Data

Refrigeration Circuit

- Compliance with Ecodesign directive ErP2021 - SEPR HT (UE) 2016/2281 - SEPR MT (UE) 2015/1095
- Hermetic tandem compressors protected by a phase sequence control relay
- Refrigerant: R410A (mod.20-5A)
- Shell & tube evaporator housed within a large integral water storage tank
- New finned coil condensers protected by a metal anti-particulate filter and with minitubes: refrigerant charge content reduced by about 20%
- Electronic expansion valve
- Low noise axial fan with integrated diffuser
- High and low pressure safety valves
- Refrigerant line sight glass with humidity indicator
- High pressure transducer
- Refrigerant filter-dryer with hygroscopic molecular sieves
- HP High pressure switch
- Low pressure switch

Microprocessor Controller

All units are controlled and managed by the SEC.blue controller with full graphic display & panel mounted keypad. The controller offers advanced functions, displays the main operating parameters of the system and optimises performance.

Main Features

- Ethernet port on RJ45 connector, for communication with HTTP, SNMP, Modbus TCP protocols and
- software update.
- RS485m port for communication with Modbus RTU and Sequencing protocols.
- MicroSD slot for storing event history and for software updates.
- Digital input to change the status of the chiller from ON to Stand-By.
- 4÷20mA analogue input for controlling the chiller set-point. Operating limits that can be set via software.
- Digital input for alarm/pre-alarm signals.
- 5 digital outputs for alarms/pre-alarms.

Electrical Panel

- Isolator switch with safety door lock
- Transformer feeding the control circuits and microprocessor circuit boards (230V, 1ph.)
- Automatic circuit breakers on compressors, fans & pumps
- Contactors for the control of the compressors, fans and the pumps
- Volt free contacts for remote stop/start control & remote alarm signal
- Numbered wiring
- Phase sequence relay

Available Options

Hydraulic Circuit:

- Versions with P2/P3/P5 pumps (P3 is standard)
- Versions with dual run/standby pumps with auto-changeover
- Versions with inverter driven pump/s
- Version suitable for use with external pump
- Electronic flow switch
- Electric pre-heater/anti-freeze heater
- 3 way valve for use with external free cooling unit
- Automatic filling kit
- Water filters

Refrigeration Circuit:

- EC condenser fans (low ambient temperature kit)
- Dual high/low pressure relief valves

Electrical/Controls:

- Version suitable for 460/3/60 power supply
- Automatic switch tor a secondary power supply
- Power meter
- Power factor correction capacitors
- 7" Touch screen visual display
- Remote control (duplicate display)
- Remote ambient probe

Others:

- Aluminium condenser filters
- Condenser protection grilles
- Protective coating for condenser coils
- Version suitable for containerisation
- Anti-vibration mounding kit
- Mounting feet

Performance Data

	WLA5A	WLA8A	WLA0B	WLA4B	WLA7B	WLA0C	WLA5C	WLA0D	WLA5D
PERFORMANCE @50HZ									
Cooling Capacity @50Hz (1) [kW]	46.5	57.3	71.6	76.7	84.2	95.3	118.3	126.2	145.0
Total Power Consumption @50Hz (1) [kW]	12.2	16.1	18.4	20.1	23.2	27.1	30.2	33.6	38.4
Water flow rate evaporator @50Hz (1) [1/min]	8.0	9.9	12.3	13.2	14.5	16.4	20.4	21.7	25.0
EER (pump excluded) @50Hz (1)	3.81	3.56	3.89	3.82	3.63	3.52	3.92	3.76	3.78
SEPR HT (3)	5.54	5.07	5.00	5.07	5.01	5.00	5,00	5.03	5.00
Cooling Capacity @50Hz (2) [kW]	36.1	44.2	55.7	59.6	65.6	74.9	74.9	99.1	114.3
Total Power Consumption @50Hz (2) [kW]	12.1	15.7	18.5	20.2	23.1	26.8	26.8	33.6	38.3
Water flow rate evaporator @50Hz (2) [1/min]	6.2	7.6	9.6	10.2	11.3	12.9	12.9	17.0	19.6
EER (pump excluded) @50Hz (2)	2.98	2.82	3.01	2.95	2.84	2.79	2.79	2.95	2.98
ELECTRICAL DATA									
Power Supply Unit [V/Ph/Hz]	400/3/50								
Auxiliary Power Supply [V/Ph/Hz]	24 VAC								
IP Degree of Protection	IP44								
TECHNICAL DATA									
Refrigerant	R410A								
No. of compressors/circuits [#]	2/1								
Number of axial fans [#]	2						3		
Sound pressure level [4]	47.6	47.3	50.3	50.3	51.5	51.8	55.0	56.5	56.5
Diameter of hydraulic connections [Victaulic]	1 - 1/2"						2 - 1/2"		
Length [mm]	2,548	2,548	2,548	2,548	2,548	2,548	3,548	3,548	3,548
Width [mm]	2,048	2,048	2,178	2,178	2,178	2,178	2,178	2,178	2,178
Height [mm]	1,135	1,135	1,135	1,135	1,135	1,135	1,135	1,135	1,135
Weight empty [kg](5)	780	784	840	890	893	910	1,160	1,200	1,209

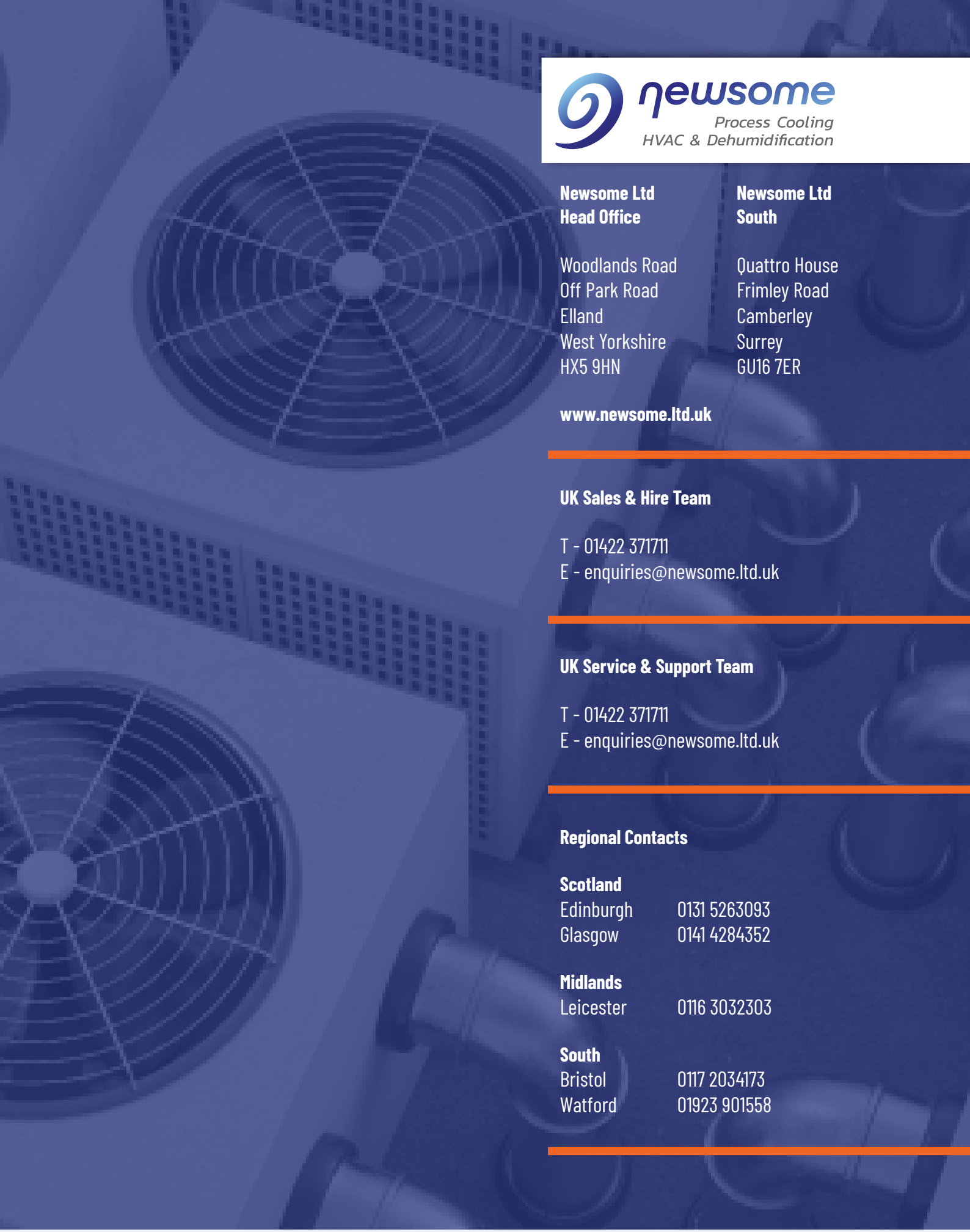
(1) Data referring to inlet/outlet water temperature 20/15°C, ambient temperature 32°C, @50Hz

(2) Data referring to inlet/outlet water temperature 12/7°C, ambient temperature 35°C, @50Hz

(3) Data declared according to the European Regulation (EU) 2016/2281 for high temperature process chillers

(4) Sound pressure at 10m: average value obtained in a free field on a reflecting plane at a distance of 10m from the unit according to EN ISO 9614-2. Values with tolerance ± 2 dB.

(5) Weight of the unit with tank and P3 pump without options/kit. Tolerance +/-10%.



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