newsome
Process Cooling
HVAC & Dehumidification

WRA 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

Since 1989, thousands of WRA units have been installed around the world. We're excited to introduce the WRA ErP - the latest generation of high-efficiency chillers crafted for industrial process cooling. WRA 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 WRA ErP excels in thermodynamic performance, surpassing the stringent standards set by the 2021 Ecodesign directive. Not only is the WRA 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

ErP 2021 Compliant

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 WRA 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

+45°C

-10°C

Our dedicated versions and accessories ensure that WRA 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 WRA units produce chilled water with a maximum evaporator outlet temperature of up to +30°C. The standard minimum temperature is +5°C, and for the BRINE version, it goes down to -10°C.

New Controller SECBlue Light

Control SECBLUE LIGHT

15.0

Our latest programmable microprocessor control, the SECBlue Light, is the cornerstone of operational efficiency for all WRA 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. Additionally, our latest version caters to pressurised hydraulic circuits, further expanding the WRA range's capabilities. These additions enable our WRA units to meet a wide range of application requirements, assuring maximum safety for any production process where the chiller is integrated.

WRA Erp Air Cooled Industrial Chiller - Atmospheric Version

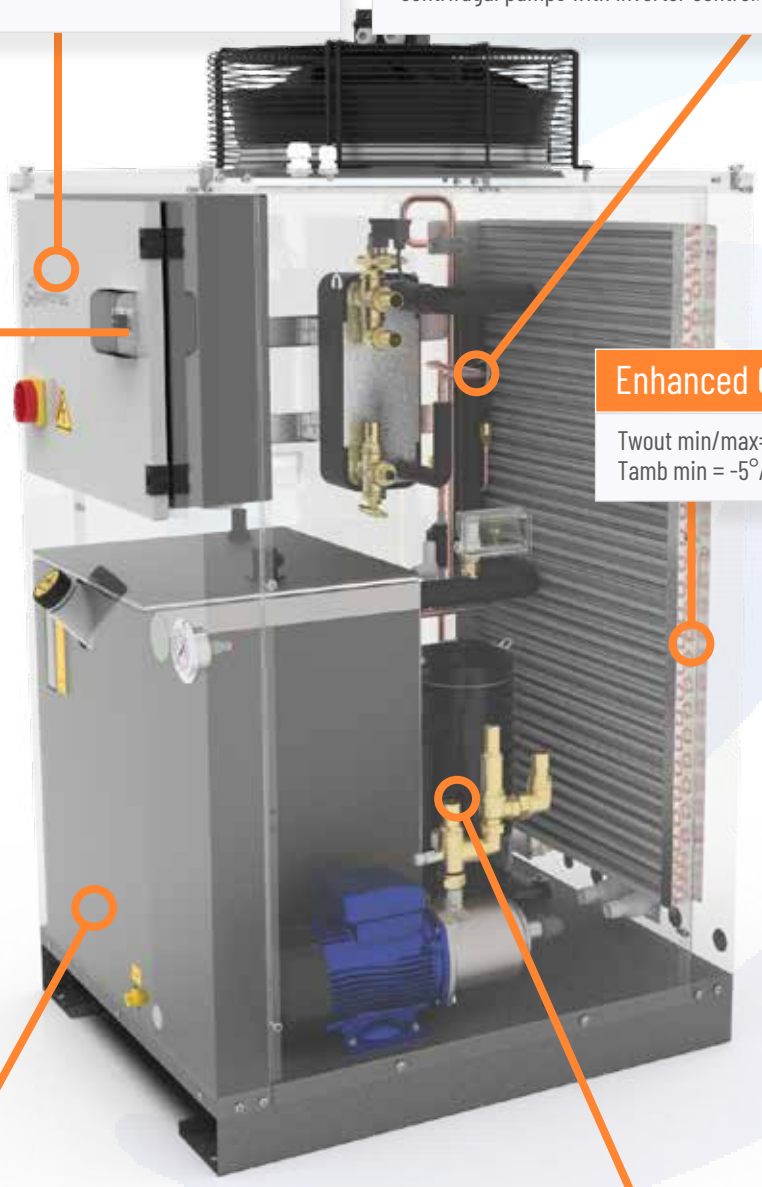
Electrical Panel

Manufactured following EN60204-1, includes a disconnector, numbered electrical cables and a standard phase monitor. Standard 50/60HZ dual frequency power supply. Standard IP54 degree of protection (suitable for outdoor installation)

Atmospheric Hydraulic Circuit

Constructed from non-ferrous material, our units come equipped with an automatic bypass valve. The storage tank, made from HDPE, is thermally insulated and fitted with a level indicator along with front loading and drainage connections. Optional addition - P3/P4/P6/P5 centrifugal pumps with inverter control.

SECBlue light microprocessor Controller



Enhanced Operating Limits

Twout min/max=+5°/+25°C
Tamb min = -5°/+45C

Robust and Self Supporting Structure

Encased in galvanised steel panelling and finished with a powder coating in RAL7035. For ease of maintenance, all panels are removable, providing straightforward access to internal components.

Refrigeration Circuit

Manufactured according to the 2014/68/EU directive, it features a scroll compressor; high-efficiency plate evaporator; finned coil condenser; thermostatic valve/electronic expansion. Operates using refrigerant fluid R134a/R410A.

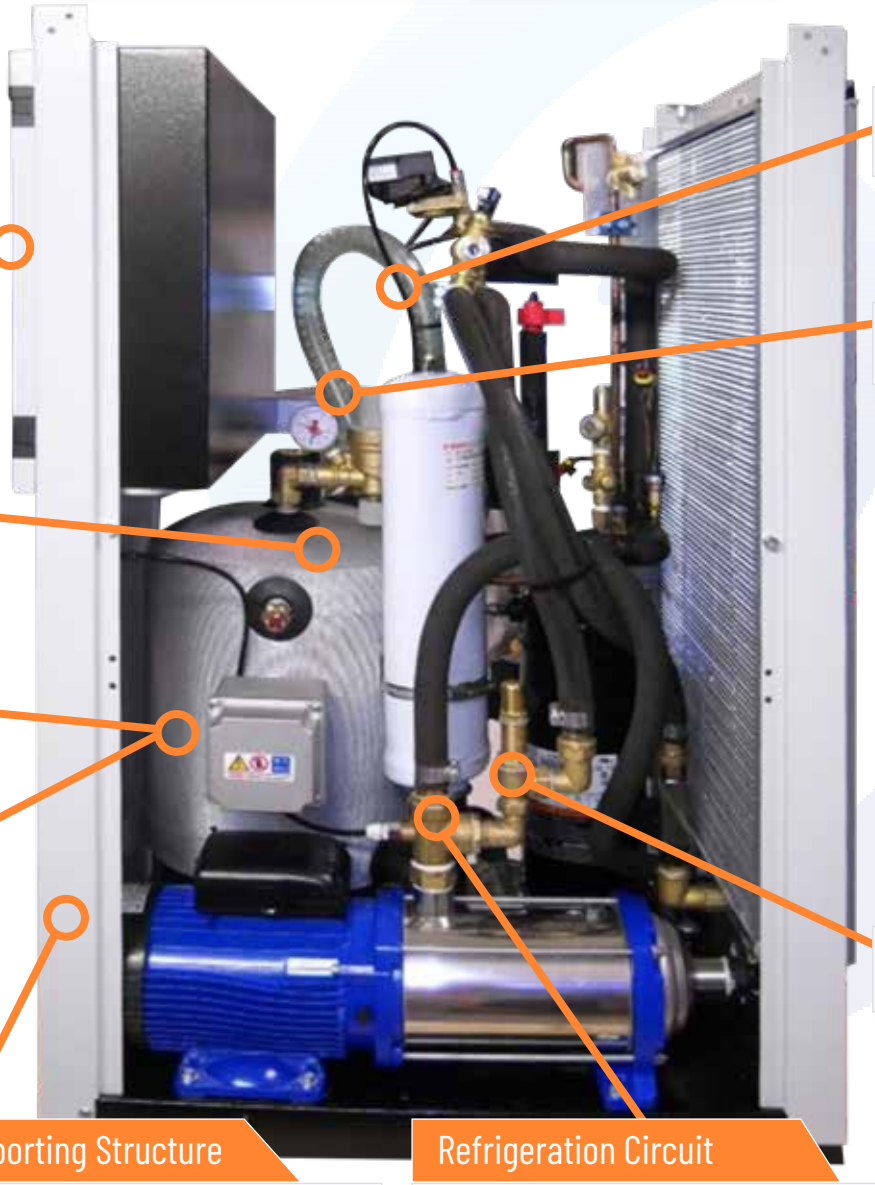
WRA Erp Air Cooled Industrial Chiller - Pressurised Circuit - models 13-90

Pressurised Hydraulic Circuit

The pressurised version is complete with an insulated carbon steel buffer tank, Also included is an expansion vessel with 1 bar g pre charge (sized in accordance with the internal volume of the chiller), pressure relief valve, automatic vent valve, vacuum breaker valve and a fill/drain point. Optional addition - P3/P4/P6/P5 centrifugal pumps with inverter control.

Electrical Panel

Manufactured following EN60204-1, includes a disconnector, numbered electrical cables and a standard phase monitor. Standard 50/60HZ dual frequency power supply. Standard IP54 degree of protection (suitable for outdoor installation)



Expansion vessel with 1 bar g precharge

Automatic filling kit (optional)

Vacuum breaker valve

Cylindrical carbon steel buffer tank (pmax 4.5 bar), thermally insulated.

Preheater + safety vacuum switch (optional)

Automatic hydraulic bypass valve

Robust and Self Supporting Structure

Encased in galvanised steel panelling and finished with a powder coating in RAL7035. For ease of maintenance, all panels are removable, providing straightforward access to internal components.

Refrigeration Circuit

Manufactured according to the 2014/68/EU directive, it features a scroll compressor; high-efficiency plate evaporator; finned coil condenser; thermostatic valve/electronic expansion. Operates using refrigerant fluid R134a/R410A.

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 WRA units are suitable for outdoor installation, thanks to the robust electrical panel constructed in compliance with EN 60204 and the IP54 degree of protection. This level of build quality ensures reliable performance even when installed outside.

Corrosion Protection: the HDPE plastic tank, the hydraulic circuit and the non-ferrous (stainless steel/polymer) pump are corrosion-free, preserving the purity of the process fluid.

New version for pressurised hydraulic circuits: includes a cylindrical carbon steel hydraulic tank (pmax 4.5barg) that's thermally insulated. It's equipped with an expansion vessel, automatic vent valve, safety valve, and a drain valve.

New Version for Process Cooling & Rental (mod. OA-5A): incorporates a new shell and tube evaporator, seamlessly integrated into the cylindrical tank. Thanks to the minimal risk of ice formation and the ability to process liquids that may not be perfectly pure, this model delivers high reliability, making it a robust choice for various applications.

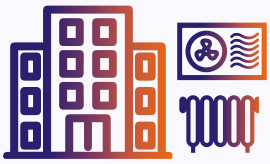
LASERPACK: Our WRA Laser units come equipped with the state-of-the-art LASERPACK regulation system. This cutting-edge system combines a hot gas bypass valve for precise cooling capacity control and microprocessor control with an advanced PI algorithm. Guaranteeing a standard hysteresis of ±0.5K under variable load conditions. For those seeking even greater precision, we offer the LASERPACK ±0.1K version, ensuring that the temperature deviation from the target is limited to a mere hysteresis of ±0.1K.

LASERPACK Double Circuit: With the advanced dual cooling circuit, featuring a three-way modulating valve and a dedicated second pump for the optics hydraulic circuit, this option provides unparalleled control over the operating temperatures of both the laser source and the optics.

Electronic Expansion Valve (mod. 20-5A): 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.

ECOFlow AIR Brushless EC axial fans (option): equipped with advanced Permanent Magnet EC motors that utilize electronic commutation to detect the rotor's position and regulate the supply current. By eliminating the need for mechanical brushes, the internal wear on the fan motor is significantly reduced, ensuring enhanced reliability. Additionally, this brushless design not only increases longevity but also reduces energy consumption by up to 30%.

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

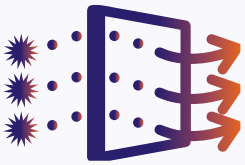
Moulding, extrusion, blow moulding, thermoforming.

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 scroll compressors protected by a phase sequence control relay
- Refrigerant: R134a (mod.13-18) R410A (mod.20-5A)
- New AISI 316 stainless steel brazed plate evaporators, compact size and high efficiency
- New finned coil condensers protected by a metal anti-particulate filter and with minitubes: refrigerant charge content reduced by about 20%
- HP high pressure switch with manual reset
- Thermostatic lamination valve (mod.13-18)
- Electronic expansion valve (mod.20-5A)
- Low noise axial fan with integrated diffuser

Performance Data

Non-ferrous atmospheric hydraulic circuit

- New dust-tight HDPE inertial tank equipped with visual level indicator, front connections for filling/draining, overflow and level switch
- Automatic bronze bypass valve as standard
- High and low pressure safety valve
- Differential pressure switch
- Pressure gauge 0-6 barg

Electrical Panel

- Built in accordance with EN 60204
- IP54 protection degree: suitable for outdoor installation
- Standard Phase monitor
- Potential free contacts: remote ON/OFF; general alarm
- Automatic circuit breakers on electric loads and contactors

Performance Data

Microprocessor Controller

The new SECBlue LIGHT programmable microprocessor control effectively manages and optimises the cooling and hydronic circuits. It intelligently adjusts the compressor ON/OFF based on the desired water temperature while ensuring compliance with the minimum operating time.

Main Features

Tw out and ambient measurement and display

- Antifreeze function to protect the evaporator
- Electronic expansion valve management
- Alarm management: HP; LP; antifreeze; tank level
- Free general alarm contact
- Remote ON/OFF digital input
- LASER function for fine adjustment of process temperature (hysteresis ± 0.5K or ± 0.1K)
- Dynamic set point function

Performance Data

Versions & Options

- Version with HDPE atmospheric tank
- Version with steel tank and hydraulic pressurised circuit (pmax 4,5barg)
- Dual-frequency version 400V/3ph/50Hz -460V/3ph/60Hz
- BRINE version for low T water outlet -10°C
- Version for low ambient T -20°C
- LASER version single hydraulic circuit (hysteresis ± 0,5K or ± 0,1K)
- LASER version with double hydraulic circuit (hysteresis ± 0,5K or ± 0,1K)
- NEW version for PROCESS COOLING & RENTAL (mod. 0A-5A): includes a new shell and tube evaporator integrated in the cylindrical tank.
- Stainless steel pump options: P3 standard; P4; P6;
- P5 centrifugal multistage high-pressure inverter pump ECOFlow WATER
- Flow switch
- Automatic filling for atmospheric / pressurised hydraulic circuits
- Under user installation option - check valve + solenoid valve
- Aluminium or polyurethane air filters
- Multi-pole connector option
- Preheating/antifreeze resistor
- Controller option with RS485 card

Performance Data

Accessories - Kit

- External flow switch
- Aluminium or polyurethane condenser air filter
- Water filters
- Pivoting wheels
- Lifting eyebolts
- Adjustable feet
- Remote control
- RS485 ModBus connection

Performance Data

	WRA13	WRA18	WRA20	WRA25	WRA30	WRA35	WRA50	WRA55	WRA65	WRA80	WRA90	WRA0A	WRA5A
PERFORMANCE @50HZ													
Cooling Capacity @50Hz (1) [kW]	4,7	5.9	7,3	8,7	11,8	13,7	16,7	19,0	24,3	28,7	33,1	39,3	47,5
Total Power Consumption @50Hz (1) [kW]	1,1	1,5	1,9	2,3	2,8	3,3	4,4	4,3	6,2	6,8	7,9	9,1	11,6
Water flow rate evaporator @50Hz (1) [1/min]	13,4	16,8	21,0	24,8	33,8	39,2	47,8	54,5	69,7	82,3	94,9	112,7	136,2
EER (pump excluded) @50Hz (1)	4,2	3,9	3,8	3,7	4,2	4,1	3,7	4,4	3,9	4,3	4,2	4,3	4,1
SEPR HT (3)	5,38	5,42	5,45	5,18	5,52	5,54	5,37	5,56	5,32	5,49	5,,09	5,23	5,13
Cooling Capacity @50Hz (2) [kW]	3,4	4,4	5,6	6,6	9,0	10,3	12,7	14,2	18,3	21,6	25,0	29,6	36,0
Total Power Consumption @50Hz (2) [kW]	1,1	1,5	2,0	2,4	2,9	3,4	4,4	4,5	6,1	6,9	7,9	9,1	11,4
Water flow rate evaporator @50Hz (2) [1/min]	9,7	12,5	16,1	18,9	25,8	29,5	36,3	40,7	52,5	61,9	71,7	84,9	103,2
EER (pump excluded) @50Hz (2)	3,0	2,9	2,9	2,7	3,1	3,0	2,9	3,2	3,0	3,2	3,2	3,3	3,1
ELECTRICAL DATA													
Power Supply Unit [V/Ph/Hz]	400/3/50												
Power Supply Unit [V/Ph/Hz]	400/3/50 - 460/3/60												
Auxiliary Power Supply [V/Ph/Hz]	24 VAC												
IP Degree of Protection	IP54												
TECHNICAL DATA													
Refrigerant	R134a							R410A					
No. of compressors/circuits [#]	1/1												
Number of axial fans [#}	1												
Available head pressure pump P3@50Hz [barg](1)	3,0	2,9	2,8	2,5	3,5	3,3	2,9	3,9	3,7	3,4	3,0	3,6	3,4
Maximum absorbed power pump P3@50Hz [kW]	0,46	0,46	0,46	0,46	0,69	0,69	0,69	1,01	1,01	1,01	1,01	1,7	1,7
Sound pressure level	37,5	37,5	40,4	40,4	46,9	46,9	47,9	60	60	61	69	67	67
Diameter of hydraulic connections [Rp]	3/4"G	3/4"G	3/4"G	3/4"G	1"G	1"G	1"	1"1/4	1"1/4	1"1/4	1"1/4	1"1/2	1"1/2
Tank volume [dm3]	40	40	40	40	98	98	98	180	180	180	180	180	180
Width [mm]	560	560	560	560	740	740	740	900	900	900	900	1140	1140
Depth [mm]	720	720	720	720	930	930	930	1200	1200	1200	1200	2084	2084
Height [mm]	1290	1290	1310	1310	1550	1550	1500	1992	1992	1992	1992	2074	2074
Weight empty [kg](5)	133	140	143	145	201	200	204	320	360	390	390	450	470
Operating weight [kg] (6)	178	185	188	190	311	311	314	-	-	-	-	-	-

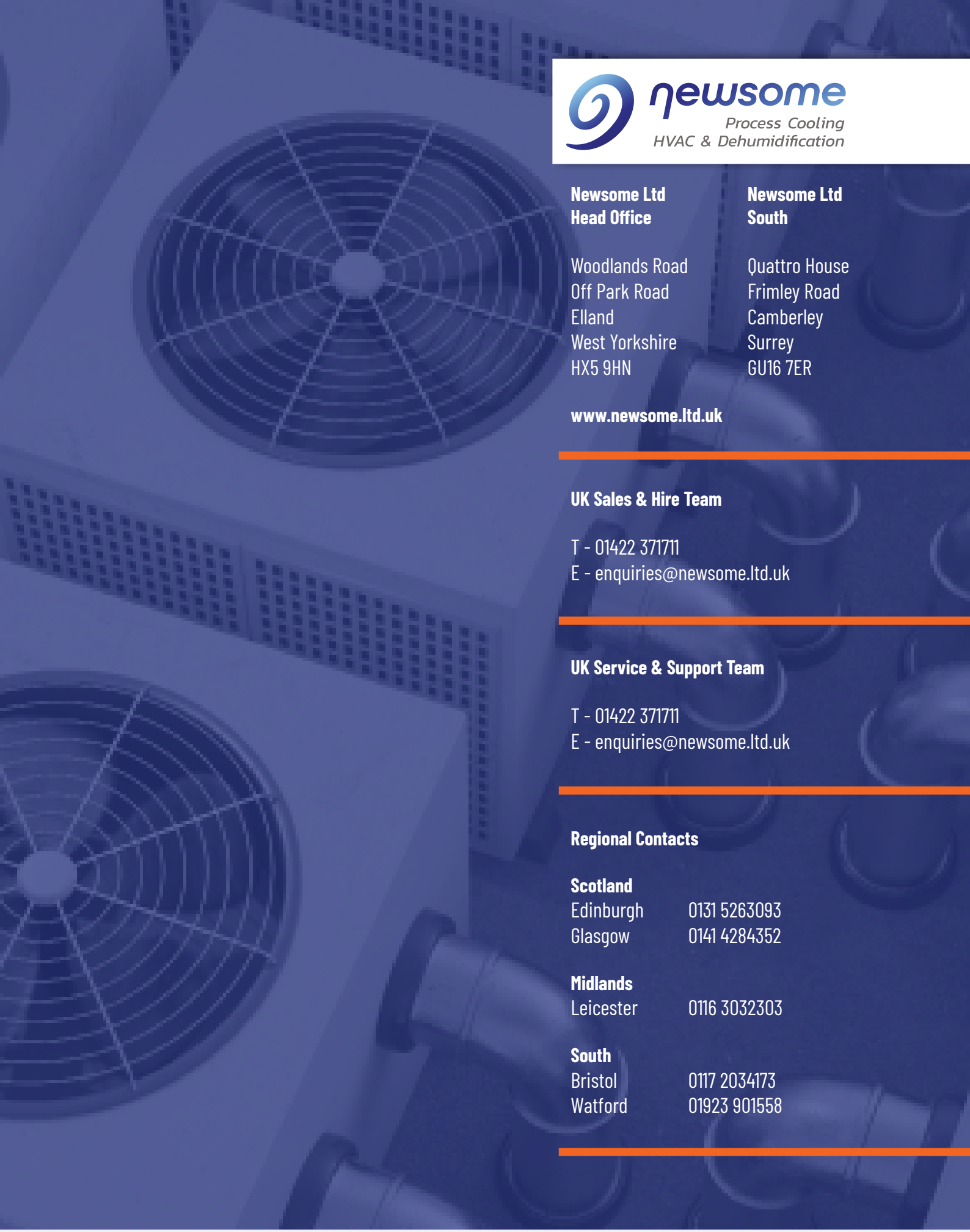
(1) Data referring to inlet/outlet water temperature 20/15°C, ambient temperature 32°C, @50Hz

(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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