Compact, reliable and versatile industrial Liquid Chiller

WRA ErP

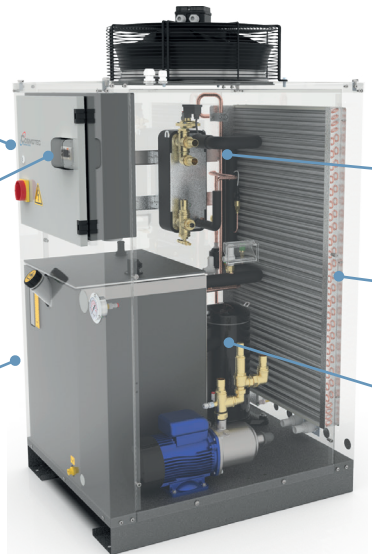
Cooling Capacity 5 - 50kW

The performance of modern industrial processes is closely affected by variations in their operating temperature and can be compromised by dangerous overheating. The new WRA ErP chillers are designed to provide accurate temperature control of the process fluid and reliable operation in a wide range of industrial applications. All WRA chillers comply with the limits required by ErP2021 - SEPR HT (EU) 2016/2281 - SEPR MT (EU) 2015/1095.

ELECTRICAL PANEL manufactured in accordance with EN60204-1, including: disconnector, numbered electrical cables and standard phase monitor. Standard 50/60HZ dual frequency power supply. Standard IP54 degree of protection (suitable for outdoor installation).

SECBlue LIGHT programmable microprocessor controller

ROBUST AND SELF-SUPPORTING STRUCTURE with galvanised steel panelling, powder-coated RAL7035. All panels are removable and allow easy access to internal components for maintenance operations.



ATMOSPHERIC HYDRAULIC CIRCUIT made of non-ferrous material, equipped with automatic bypass valve. The HDPE storage tank is thermally insulated and equipped with level indicator and front loading and drainage connections. Centrifugal pumps P3/P4/P6/P5 inverter (optional)

ENANCHED OPERATIN LIMITS : Twout min/max = +5°/+25°C; Tamb min = -5°/+45C

REFRIGERATION CIRCUITmanufactured according to the 2014/68/EU directive, it features: scroll compressor; high efficiency plate evaporator; finned coil condenser; thermostatic valve/electronic expansion. Refrigerant fluid R134a/R410A.

Technical Features

Refrigeration Circuit

- Compliance with Ecodesign directive ErP2021 - SEPR HT (EU) 2016/2281 - SEPR MT (EU) 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.

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 degree of protection: suitable for outdoor installation
- Standard phase monitor
- Potential free contacts: remote ON/OFF; general alarm
- Automatic circuit breakers on electric loads and contactors

Accessories - Kit

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

Microprocessor Controller

The new programmable microprocessor control SECBlue LIGHT manages and optimises the operation of the cooling and hydronic circuits. It adjusts the compressor ON/OFF according to the required water temperature, respecting its 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

Versions & Options

- Version with HDPE atmospheric tank
- Version with steel tank and hydraulic pressurised circuit (pmax 4,5barg)
- Version without tank and without pump
- 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)
- Stainless steel pump options: P3 standard; P4; P6;
- P5 centrifugal multistage high-pressure inverter pump ECOFlow WATER
- Flow switch
- Under user installation option - check valve + solenoid valve
- Automatic filling for atmospheric / pressurised hydraulic circuits
- Aluminium or polyurethane air filters
- Multi-pole connector option
- Preheating/antifreeze resistor
- Controller option with RS485 card
- External temperature probe 10m long

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Cosmotec Industrial Cooling

Technical 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) [l/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) [l/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	390,0	365,0	340,0	300,0	360,0	335,0
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 [dB(A)] (4)	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	1250	1250
Depth [mm]	720	720	720	720	930	930	930	1200	1200	1200	1200	1250	1250
Height [mm]	1290	1290	1310	1310	1550	1550	1550	1950	1950	1950	1950	2050	2050
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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