

ERACS2-WQ

INTEGRA unit for 4-pipe systems, water source

0802 - 1502 189,4-363,4 kW



Multi-purpose indoor unit for use in 4-pipe systems for the simultaneous production of chilled and hot water by means of two independent water circuits. These units are able to satisfy the demand for hot and cold water simultaneously through a system that does not require seasonal switching. Each circuit works with a semi-hermetic screw compressor using R134a, and three tube nest heat exchangers, a cold exchanger on the user side shared by both circuits that acts as an evaporator in the production of cold water, a heat exchanger on the user side that works as a condenser in the production of hot water, and a source side exchanger that works as either condenser or evaporator as required by the loads.



Refrigerant

Versions

- Basic

Features

UNIQUE PROPOSAL

Unit designed to satisfy the cold and the hot side requirements simultaneously, for 4-pipe systems without any particular operation mode setting

ENERGY SAVING

Energy saving guaranteed by the advanced operation's logic. The best operation mode is set completely automatically and independently by the unit's controller, in order to minimize the absorbed energy whatever the cooling and/or heating demand might be

WIDE OPERATING RANGE

Supply of hot water in use up to 60°C, offering maximum versatility with respect to different plant engineering solutions

INTEGRATED CONDENSATION'S CONTROL

A 2 way valve is supplied as standard for the condensing pressure control. For all the applications in which a constant waterflow through the condenser is needed, a 3-way valve option is also available under request.

Accessories

- Integral acoustical enclosure (type base or plus)
- Electronic expansion valve
- Several devices for condensation's control
- Set-up for remote connectivity with ModBus/Echelon protocol cards

Control



Electronic control W3000TE

W3000TE controller feature a large format keyboard with wide LCD display in order to ensure an easy access to the machine setup and a complete view of unit's status. The assessment and intervention on the unit is managed through a multi-level menu, with selectable user's language. The led icons immediately show the operating status of various components.

As alternative, the innovative KIPLink user interface allows one to operate on the unit directly from the smartphone or tablet. The regulation operates on both water circuits featuring the step-wise regulation referred to the return water temperature with proportional logic. This allows to satisfy simultaneously the different requests of both cooling and heating, with no need of mode setting. Complete alarm management system is available, with the "black-box" and the alarm history display functions. Optional proprietary devices adjust the resources in systems made of several units. Consumption metering and performance measurement are available and supervision can be easily developed via proprietary devices or the integration in third party systems by means of the most common protocols as ModBus, Bacnet, Bacnet-over-IP, LonWorks.

Compatibility with the remote keyboard (up to 8 units). The programmable timer manages a weekly schedule organised into time bands (up to 10 daily time bands associated with different operating set points) to optimise unit performance by minimising power consumption during periods of inactivity.

Proprietary self-adaptive logic for the defrosting features the monitoring of several operational parameters. This allows to reduce the number and duration of the defrost cycles, with a benefit for the overall energy efficiency.

ERACS2-WQ		0802	1002	1102	1302	1502
Power supply	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE						
COOLING ONLY (GROSS VALUE)						
Cooling capacity	(1) kW	189,4	234,2	268,0	317,9	363,4
Total power input	(1) kW	35,74	44,93	50,61	59,66	68,69
EER	(1) kW/kW	5,305	5,216	5,296	5,325	5,290
COOLING ONLY (EN14511 VALUE)						
Cooling capacity	(1)(2) kW	182,0	224,9	256,9	305,5	348,9
EER	(1)(2) kW/kW	4,600	4,540	4,530	4,610	4,620
HEATING ONLY (GROSS VALUE)						
Total heating capacity	(3) kW	205,4	254,8	291,2	344,1	392,8
Total power input	(3) kW	45,73	56,90	65,83	76,27	86,86
COP	(3) kW/kW	4,495	4,478	4,426	4,510	4,520
HEATING ONLY (EN14511 VALUE)						
Total heating capacity	(2)(3) kW	206,1	255,8	292,6	345,5	394,2
COP	(2)(3) kW/kW	4,320	4,280	4,190	4,290	4,320
COOLING WITH TOTAL HEAT RECOVERY						
Cooling capacity	(4) kW	162,4	201,3	229,3	272,4	311,2
Total power input	(4) kW	45,73	56,90	65,83	76,27	86,86
Recovery heat exchanger capacity	(4) kW	205,4	254,8	291,2	344,1	392,8
TER	kW/kW	8,046	8,014	7,910	8,081	8,101
ENERGY EFFICIENCY						
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)						
Ambient refrigeration						
Prated,c	(12) kW	-	-	-	-	349
SEER	(12)(13)	-	-	-	-	5,15
Performance η_s	(12)(14) %	-	-	-	-	198
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)						
PDesign	(5) kW	249	309	353	418	-
SCOP	(5)(15)	5,59	5,56	5,18	5,45	-
Performance η_s	(5)(16) %	215	214	199	210	-
Seasonal efficiency class	(17)	-	-	-	-	-
PDesign	(6) kW	220	274	315	368	-
SCOP	(6)(15)	4,33	4,46	3,97	4,26	-
Performance η_s	(6)(16) %	165	170	151	162	-
Seasonal efficiency class	(18)	-	-	-	-	-
EXCHANGERS						
HEAT EXCHANGER USER SIDE IN REFRIGERATION						
Water flow	(1) l/s	8,732	10,79	12,33	14,66	16,73
Pressure drop	(1) kPa	25,7	32,5	43,4	37,6	33,9
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION						
Water flow	(1) l/s	10,51	13,02	14,86	17,62	20,13
Pressure drop	(1) kPa	37,2	47,2	62,9	54,3	49,1
HEAT EXCHANGER USER SIDE IN HEATING						
Water flow	(4) l/s	9,913	12,30	14,06	16,61	18,96
Pressure drop	(4) kPa	33,1	42,1	56,3	48,3	43,5
HEAT EXCHANGER SOURCE SIDE IN HEATING						
Water flow	(3) l/s	5,548	6,877	7,835	9,308	10,63
Pressure drop	(3) kPa	10,4	13,2	17,5	15,2	13,7
REFRIGERANT CIRCUIT						
Compressors nr.	N°	2	2	2	2	2
No. Circuits	N°	2	2	2	2	2
Refrigerant charge	kg	40,0	46,0	52,0	58,0	75,0
NOISE LEVEL						
Sound Pressure	(7) dB(A)	62	63	65	65	65
Sound power level in cooling	(8)(9) dB(A)	94	95	97	97	97
Sound power level in heating	(8)(10) dB(A)	94	95	97	97	0
SIZE AND WEIGHT						
A	(11) mm	3680	3680	3680	3680	3680
B	(11) mm	1170	1170	1170	1170	1170
H	(11) mm	1950	1950	1950	1950	1950
Operating weight	(11) kg	2420	2470	2880	3580	3690

Notes

- Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 14°C/30°C.
- Values in compliance with EN14511
- Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 14°C/7°C.
- Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (side) heat exchanger water (in/out) 40°C/45°C.
- Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
- Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
- Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
- Sound power on the basis of measurements made in compliance with ISO 9614.
- Sound power level in cooling, indoors.
- Sound power level in heating, indoors.
- Unit in standard configuration/execution, without optional accessories.
- Parameter calculated according to [REGULATION (EU) N. 2016/2281]
- Seasonal energy efficiency ratio
- Seasonal space cooling energy efficiency
- Seasonal coefficient of performance
- Seasonal space heating energy efficiency
- Energy efficiency class referred to LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]
- Energy efficiency class referred to MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R134a [GWP₁₀₀ 1430] fluorinated greenhouse gases.

Certified data in EUROVENT

UNITS FOR SIMULTANEOUS AND INDEPENDENT PRODUCTION OF HOT AND COLD WATER

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Dimensional drawing

