

ERACS

Higher efficiency air-cooled screw heat pump

ELITE™ Series



Cooling Capacity: 489-1341 kW (140-382 Tons)

Heating Capacity: 512-1363 kW (145-388 Tons)



 **CLIMAVENETA**

High Efficiency Air-cooled Heat Pump

Unit Classification

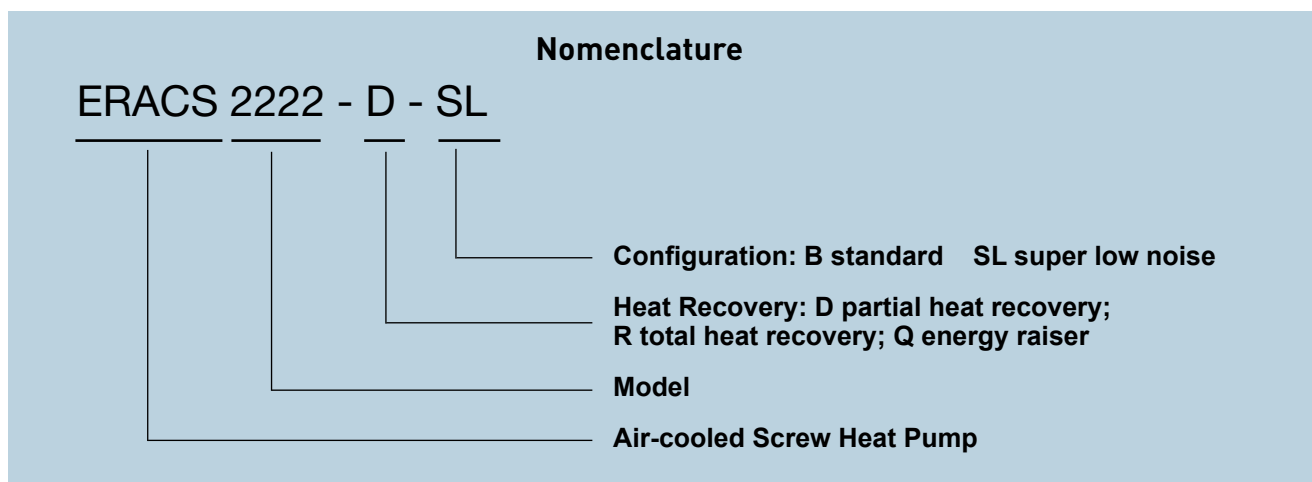
The latest CLIMAVENETA "ERACS" series high efficiency screw heat pump is totally imported from Italy and its energy efficiency can fully reach Class A of European standard and Energy Saving Certificate of Chinese national code.

For all units of air-cooled heat pump, the 4-way valve is equipped to reverse the circulation direction of refrigerant that can offer chilled water or hot water to users.

Because the unit is air source heat pump and using the reverse cycle, the cooling tower, cooled water pump and cooled water system can be deleted that the investment and operation charge of cooled system can be reduced. And the unit can be installed on the building roof or outside, no need extra room. So the ERACS units suit for all commercial and industry application and can fulfill the air-conditioning and heating request all year round.

The unit adopts Intelligent defrost programme to ensure safe operation and stable heating in winter.

The environment friendly refrigerant HFC134a is used for better running efficiency and the temperature tolerance in summer and hot water temperature in winter are both higher.



ERACS2222-D-B

means high efficiency screw heat pump unit using R134a with partial heat recovery function and unit model is 2222.

Suggested Workplace

B	Standard unit	suitable for normal place
SL	Super low noise unit	suitable for the place where have strict noise requirement

Operation Range

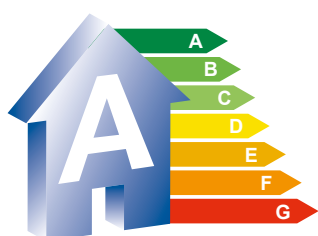
	Water outlet Temp. (during running) °C		Air inlet Temp. °C	
	Min Temp.	Max Temp.	Min Temp.	Max Temp.
Cooling				
Tube and shell type heat exchanger (Evaporator)	5°C	15°C	-	-
Fin type heat exchanger (Condenser)	-	-	-10°C	46°C
Heating				
Tube and shell type heat exchanger (Evaporator)	26°C	55°C(60°C as optional)	-	-
Fin type heat exchanger (Condenser)	-	-	-10°C	20°C

Unit Features



Energy Saving and Environment Friendly

All units of ERACS series can reach Class A according to European energy efficiency standard and Chinese energy saving standard.



Heating in Super Low Temp.

Super heat exchanger with injecting cooling and intelligent defrost technology to make sure heating even in -10°C . So the balance between reliability and COP of heating in super low temp. is perfectly achieved.



Innovative Intelligent Defrost Function (CLIMAVENETA Patent)

The reverse cycle type intelligent defrost function introduce the self-adjust technology which can automatically modify and regulate the judgement and data for next defrosting according to the change of ambient air temperature, humidity and defrost time as well as the difficult level of last defrosting. So the defrost no longer need manual adjusting and it can be fit for all kinds of weather condition.

Much precise, reliable and energy saving from traditional defrosting method.



Screw Type Compressor

- Semi-hermetic screw compressor specially designed for HFC134a with higher compression efficiency under full load as well as part load;
- Precisely manufactured twin-screw rotor with aircraft-grade bear featuring in high reliability, low noise, low vibration and stable running;
- The motor drive the bear directly with least moving component and wearing part that cause no energy loss and higher mechanical efficiency;
- Automatically adjust power output according to load by microprocessor. The slide valve is fixed for stepless control and increase part load performance.



High Efficiency Air-cooled Heat Pump

Unit Features

Electric Expansion Valve

- EEV for precise control to meet load change.

Green Technology

- Environment friendly HFC134a;
- Optimize the refrigerant system to reduce energy consumption and CO₂ emission.



High Performance Fan

High efficiency exterior rotor fan from German brand with variable speed controller. It can change fan speed automatically (DVV design) to reduce energy consumption and fan noise.

Dedicated Economizer

The dedicated economizer is equipped for all units to increase heat exchange and supercooling. Finally enhance working performance and efficiency.



Super Low Noise

All compressors of ERACS series are equipped inside the sound proof housing. And the compressor is installed on the spring isolator. The rubber pad is also fixed between compressor and frame to prevent vibration and noise. The fan is exclusive designed with aircraft grade blades and aluminum-cast exterior motor as well as the air deflector cylinder to eliminate air side noise.

According to different noise request in different application, the super low noise unit also can be installed. The noise of super low noise unit (SL) is 8-10 dB(A) lower than standard unit (B).



Build-in pump and hydraulic kit

The build-in water pump (available in different head) or hydraulic kit can be selected for the unit. The hydraulic kit includes all necessary kits such as strainer, pump, safety valve, pressure gauge, pressure difference switch, stop valve and pump control system.

Customer can simplify the installation on site, save installation area and increase auto-control level by selecting build-in kits.

Reliable Operation

The unit is designed, manufactured, tested according to international and local standard AHRI, EN, UNI, JIS, GB/T18430.1 for reliable performance. And the electrical system is also strictly designed and produced comply with standard IEC60204-1/GB5226.1. The unit is controlled by the dedicated microprocessor control system. In order to protect operation safety, the high/low pressure switch, over/under voltage, phase failure, phase reverse, over load, winding over heat, gas exhaust temperature, water flow switch and oil heater are all equipped.

For the evaporator, the heater is attached to the evaporator exterior to prevent freezing.

Heat Recovery-Hot water free!

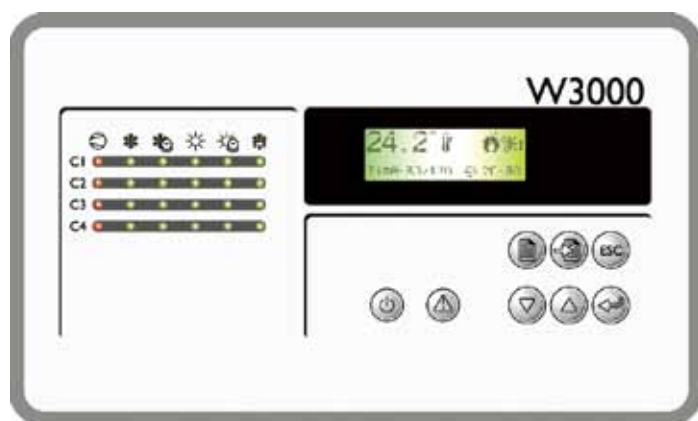
The heat of condensation usually will be exhaust to the environment during air-cooled heat pump working in cooling. And also the unit can not transfer all the heat during heating. So CLIMAVENETA introduce the heat recovery technology which can recovery the condensation heat during cooling and extra heat during heating to produce free hot water. This technology will help users to save obvious operation cost.

Optional Function

- Available optional function: low temperature refrigeration, ice storage, fin protection, salt spray protection of fins, remote keyboard, power factor regulation.

Latest Control System

All unit are equipped with latest control system, friendly human-computer interface for excellent control performance, better extended function, regulation ability and compatibility.



Friendly Interface

- New generation regulation system with human-computer interface, better extended utility, supervision and compatibility.
 - Panel screen on the unit, easy operation, better protection Microprocessor regulation fulfill human-free running.
 - W3000 with LCD display, multi-language & multilevel menu for data display & set-point regulation .
- According to CLIMAVENETA tradition, another display of compressor' working data is adopted for easy supervision.

Unit Control and Operation Regulation

- Dedicated W3000 microprocessor is inserted with CLIMAVENETA control algorithm to make sure energy saving and reliability.
- FIFO compressor running time balance function extends unit' working life;
- Auto compressor power input control following with load change from 10-100% for energy saving;
- Environment adaptation by data regulation and setting;
- Modulating measurement is used for temperature pressure protection. It can increase reliability and predict fault occurs.
- Expansion kit for remote control and group control.

Network Communication and BMS Control

- Available in BMS control, such as CLIMAVENETA or De'longhi control system, as well as ModBus, LonWorks, BacNet, Siemens and Trend BMS control system.

Fault Predict, Alarm and Diagnose

- Microprocessor have complete fault predict, alarm, record and self diagnose function assuring operation protection & working state.
- "Black Box" record 400 faults and 200 data before each fault, which diagnose & remove fault quickly
- We also can find potential fault and take preventive action before it occur by CLIMAVENETA remote service program



High Efficiency Air-cooled Heat Pump

Remote Group Controller

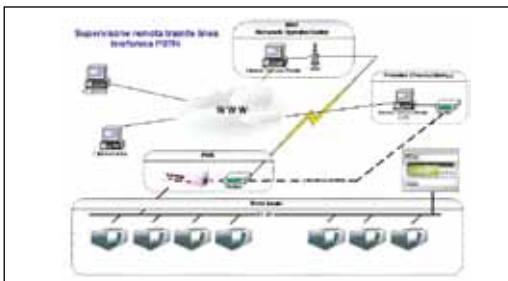


Manager 3000

- Touch screen for easy operation
- Group control & administration
- Centralized ON/OFF control
- Pump control
- Available in ModBus, LonWorks, Bacnet protocol to BMS system

Sequencer

- LCD display
- Group control & administration
- Centralized ON/OFF control
- Pump control
- Available in ModBus, LonWorks, Bacnet protocol to BMS system



FWS Internet Server

The CLIMAVENETA FWS Internet Server also is optional for microprocessor to supervise unit operation, set parameters and regulate unit running by LAN or Internet.

Microprocessor Control Features

Microprocessor	W3000	Microprocessor	W3000
Remote on/off with external volt-free contact	✓	Manual control	✓
Multi-language Menu	✓	Public communication protocol	OPT
Phase sequence relay	✓	Metasys Johnson communication protocol	OPT
Cumulative fault alarm	✓	ModBus communication protocol	OPT
Alarms Code function	✓	BACNET communication protocol	OPT
"BLACK BOX" function for alarm events	✓	LonWorks communication protocol	OPT
Self-test when power on	✓	Siemens communication protocol	OPT
Real time programming of daily/weekly program	Par.	Pump control	OPT
Evaporator inlet/outlet water temp. display	✓	Backup pump control	OPT
Compressor/unit failure display	✓	Water temp. set-point regulation from external signal(4-20mA)	OPT
General unit alarms display	✓	Remote electric relay control	OPT
Entering water temp. ratio control	✓	Local/remote monitor(FWS)	OPT
Start/stop operation timer	Par.	Remote secondary temp. control	OPT
Double set-point timer	Par.	Set-point regulation from external signal(0-10V)	OPT
"PUMP-DOWN" when stopped	✓	Compressor run-timer, time balance & FIFO	✓
Energy limit function	OPT	Compressor start scheduling	✓

✓ standard function OPT Available on request Par. Available from modifying parameter

General Technical Data

B		Standard Version									
Model		2022	2222	2422	2622	2722	3222	3622	4222	4822	5422
ERACS	Cooling capacity (1) kW	510.1	558.2	596.9	650.5	745.4	891.2	1031.1	1155.2	1290.2	1340.9
	Power input (1) kW	139.2	150.0	161.7	178.5	203.7	243.7	273.5	309.5	346.1	397.0
	Evaporator water flow rate (1) m ³ /h	87.8	96.1	102.8	112.0	128.3	153.4	177.5	198.9	222.1	230.8
	Evaporator water pressure drop (1) kPa	38.6	42.5	48.6	32.6	41.2	46.6	42.2	53.4	46.9	50.6
	Heating capacity (2) kW	521.9	577.3	614.0	654.6	757.6	892.9	1024.3	1166.7	1294.3	1363.0
	Power input (2) kW	132.7	146.0	157.5	164.8	194.6	229.2	263.0	293.8	328.1	370.0
	Hot water flow rate (2) m ³ /h	90.7	100.3	106.7	113.8	131.7	155.2	178.0	202.7	224.9	236.9
	Hot water pressure drop (2) kPa	41.1	46.3	52.4	33.6	43.3	47.7	42.5	55.5	48.1	53.3
ERACS-D	Cooling capacity (1) kW	529.2	579.1	619.3	674.9	773.4	924.6	1069.7	1198.6	1338.6	1391.2
	Power input (1) kW	134.3	144.7	156.1	172.3	196.1	235.2	264.0	298.6	334.0	383.1
	Evaporator water flow rate (1) m ³ /h	91.0	99.6	106.5	116.1	133.0	159.0	184.0	206.1	230.2	239.2
	Evaporator water pressure drop (1) kPa	41.5	45.6	52.2	35.0	44.3	50.1	45.3	57.3	50.4	54.4
	Partial heat recovery (1)(3) kW	124.3	133.9	144.4	159.4	192.2	217.6	244.2	276.2	308.9	354.4
	Partial heat recovery water flow rate (1)(3) m ³ /h	21.6	23.3	25.1	27.7	33.4	37.8	42.4	48.0	53.7	61.6
	Partial heat recovery water pressure drop (1)(3) kPa	34.9	40.5	47.1	26.8	39.1	34.4	24.8	31.8	30.8	40.6
Microprocessor		W3000									
Compressors											
Number of compressors		2	2	2	2	2	2	2	2	2	2
Number of circuit		2	2	2	2	2	2	2	2	2	2
Capacity regulating		10 ~ 100%									
Fans											
Number of fans			10	12	12	12	14	16	20	24	24
Air flow rate	Cooling m ³ /s	50.6	65.6	61.0	61.0	72.5	82.9	101.2	127.2	122.0	122.0
	Heating m ³ /s	38.1	50.6	46.0	46.0	54.9	62.8	76.1	97.0	92.1	92.1
Fan power	Cooling kW	2	2	2	2	2	2	2	2	2	2
	Heating kW	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Refrigerant charge											
Refrigerant R134a		kg	171	191	198	209	249	282	321	321	387
Oil		kg	44	44	44	44	38	70	70	70	70
Dimension											
Length		mm	4900	5800	5800	5800	7000	7900	10000	11800	11800
Width		mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
Height		mm	2430	2430	2430	2430	2430	2430	2430	2430	2430
Operating weight		kg	6050	6630	6710	6950	7480	9620	10650	11260	11870

- (1) Chilled water (in/out) 12/7°C
Ambient temperature 35°C
- (2) Condenser water (in/out) 40/45°C
Ambient temperature 7°C
Relative humidity 87%
- (3) Partial heat recovery water (in/out) 40/45°C

Note: The partial heat recovery parameter during heating is same as the partial heat recovery parameter during cooling.

High Efficiency Air-cooled Heat Pump

General Technical Data

SL

Supper Low Noise Version

Model			2022	2222	2422	2622	2722	3222	3622	4222	4822	
ERACS	Cooling capacity	(1)	kW	489.2	541.6	576.8	620.0	720.1	865.4	993.4	1114.4	1242.5
	Power input	(1)	kW	151.6	163.2	176.8	192.3	222.2	266.0	295.6	335.3	376.5
	Evaporator water flow rate	(1)	m³/h	84.2	93.2	99.3	106.7	124.0	147.4	171.0	191.8	213.9
	Evaporator water pressure drop	(1)	kPa	35.5	40.0	45.4	29.6	38.4	43.0	39.2	49.7	43.5
	Heating capacity	(2)	kW	511.7	571.0	606.4	641.7	748.5	881.7	1010.9	1153.6	1277.6
	Power input	(2)	kW	130.8	145.5	156.9	159.5	193.9	228.3	261.9	292.7	326.7
	Hot water flow rate	(2)	m³/h	88.9	99.2	105.4	111.5	130.1	153.2	175.7	200.5	222.0
	Hot water pressure drop	(2)	kPa	39.5	45.3	51.1	32.3	42.3	46.5	41.4	54.3	46.8
ERACS-D	Cooling capacity	(1)	kW	507.5	561.9	598.4	643.3	747.1	888.5	1030.7	1156.1	1289.1
	Power input	(1)	kW	146.3	157.5	170.6	185.5	214.5	256.7	285.3	323.6	363.4
	Evaporator water flow rate	(1)	m³/h	87.3	96.6	102.9	110.6	128.5	152.8	177.2	198.8	221.7
	Evaporator water pressure drop	(1)	kPa	38.1	43.0	48.8	31.8	41.2	46.2	42.1	53.4	46.7
	Partial heat recovery	(1)(3)	kW	135.3	145.6	157.8	171.6	198.4	237.4	263.9	299.3	336.1
	Partial heat recovery water flow rate	(1)(3)	m³/h	23.5	25.3	27.4	29.8	34.5	41.3	45.9	52.0	58.4
	Partial heat recovery water pressure drop	(1)(3)	kPa	41.4	47.9	56.2	31.1	41.6	41.0	29.0	37.3	36.5
Microprocessor			W3000									
Compressors												
Number of compressors			2	2	2	2	2	2	2	2	2	
Number of circuit			2	2	2	2	2	2	2	2	2	
Capacity regulating			10 ~ 100%									
Fans												
Number of fans				10	12	12	12	14	16	20	24	24
Air flow rate			m³/s	35.1	46.6	42.4	42.4	50.7	58.0	70.2	89.8	84.9
Fan power			kW	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Refrigerant charge												
Refrigerant R134a			kg	171	191	198	209	249	282	321	321	387
Oil			kg	44	44	44	44	38	70	70	70	70
Dimension												
Length			mm	4900	5800	5800	5800	7000	7900	10000	11800	11800
Width			mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
Height			mm	2430	2430	2430	2430	2430	2430	2430	2430	2430
Operating weight			kg	6190	6680	6770	7010	7650	9820	10890	11510	11950

- (1) Chilled water (in/out) 12/7°C
 Ambient temperature 35°C
 (2) Condenser water (in/out) 40/45°C
 Ambient temperature 7°C
 Relative humidity 87%
 (3) Partial heat recovery water (in/out) 40/45°C

Note: The partial heat recovery parameter during heating is same as the partial heat recovery parameter during cooling.

ERACS Coefficient Table of Cooling Condition (Cooling Capacity and Power input)

		Chilled water outlet temperature (°C)															
		5		6		7		8		9		10		11		12	
		Pf	PaC	Pf	PaC	Pf	PaC	Pf	PaC	Pf	PaC	Pf	PaC	Pf	PaC	Pf	PaC
Ambient temperature (°C)	20	1.031	0.718	1.065	0.726	1.099	0.735	1.133	0.745	1.168	0.754	1.202	0.763	1.237	0.773	1.272	0.781
	22	1.022	0.747	1.066	0.756	1.090	0.766	1.124	0.776	1.158	0.786	1.192	0.796	1.226	0.806	1.261	0.815
	24	1.013	0.777	1.046	0.788	1.080	0.799	1.112	0.809	1.147	0.819	1.181	0.829	1.215	0.839	1.248	0.849
	26	1.002	0.809	1.035	0.821	1.068	0.832	1.101	0.842	1.134	0.854	1.168	0.864	1.201	0.875	1.235	0.885
	28	0.989	0.846	1.022	0.856	1.055	0.868	1.087	0.880	1.120	0.880	1.153	0.901	1.186	0.911	1.219	0.922
	30	0.977	0.879	1.009	0.894	1.041	0.903	1.073	0.916	1.105	0.927	1.138	0.938	1.170	0.950	1.203	0.960
	32	0.962	0.919	0.994	0.929	1.025	0.941	1.057	0.953	1.089	0.965	1.121	0.977	1.152	0.989	1.184	1.000
	34	0.947	0.956	0.978	0.967	1.009	0.980	1.040	0.993	1.071	1.005	1.102	1.018	1.133	1.029	1.165	1.042
	35	0.939	0.9733	0.969	0.9662	1.000	1.000	1.031	1.013	1.062	1.0259	1.092	1.0388	1.123	1.0506	1.154	1.062
	36	0.930	0.996	0.961	1.007	0.991	1.022	1.021	1.034	1.052	1.047	1.082	1.059	1.112	1.070	1.143	1.084
	38	0.913	1.037	0.943	1.049	0.972	1.062	1.002	1.077	1.031	1.089	1.061	1.102	1.091	1.115	1.121	1.128
	40	0.894	1.081	0.923	1.092	0.952	1.105	0.981	1.121	1.010	1.133	1.038	1.147	1.088	1.160	1.096	1.173
	42	0.874	1.121	0.902	1.136	0.931	1.150	0.959	1.165	0.987	1.179	1.015	1.192	1.043	1.206	1.071	1.219
	44	0.859	1.166	0.881	1.183	0.908	1.196	0.918	1.212	0.887	1.074	0.941	1.086	0.942	1.098	0.971	1.110
	46	0.751	1.060	0.778	1.073	0.804	1.086	0.831	1.099	0.858	1.112	0.885	1.123	0.912	1.136	0.939	1.148

Note: 1. Standard condition: chilled water 7/12°C, ambient air 35°C; 100% cooling load and power input.
2. For other condition (anti-standard condition), please use the rated data (under standard condition) multiply the corresponding coefficient to calculate cooling capacity and power input (Pf: cooling capacity coefficient; P.a.c: power input coefficient).
3. For more details, please contact the company.

High Efficiency Air-cooled Heat Pump

ERACS Coefficient Table of Heating Condition (Heating Capacity and Power input)

Chilled water outlet temperature (°C)																											
35		36		38		40		42		44		45		46		48		50		52		54		55			
Pt	PaC	Pt	PaC	Pt	PaC	Pt	PaC	Pt	PaC	Pt	PaC	Pt	PaC	Pt	PaC	Pt	PaC	Pt	PaC	Pt	PaC	Pt	PaC	Pt	PaC		
-10	0.683	0.738	0.682	0.753	0.680	0.783	0.678	0.813	0.677	0.846	0.676	0.880	0.675	0.897	0.674	0.916	0.673	0.953	0.672	0.992							
-8	0.709	0.745	0.708	0.760	0.707	0.791	0.706	0.821	0.705	0.854	0.704	0.889	0.703	0.907	0.702	0.925	0.701	0.963	0.700	1.003	1.004						
-6	0.739	0.753	0.738	0.768	0.737	0.798	0.736	0.829	0.735	0.863	0.734	0.900	0.733	0.917	0.732	0.936	0.731	0.975	0.731	1.015	1.057	0.729	1.100				
-5	0.755	0.757	0.754	0.772	0.753	0.802	0.752	0.834	0.751	0.868	0.750	0.905	0.749	0.922	0.748	0.941	0.747	0.980	0.747	1.021	1.063	0.745	1.107	0.744	1.129		
-4	0.772	0.760	0.771	0.776	0.770	0.806	0.769	0.839	0.768	0.873	0.767	0.909	0.766	0.928	0.765	0.947	0.764	0.986	0.764	1.027	1.070	0.762	1.114	0.761	1.136		
-2	0.808	0.768	0.807	0.783	0.806	0.817	0.805	0.848	0.804	0.884	0.803	0.920	0.802	0.940	0.801	0.959	0.800	0.999	0.800	1.040	1.083	0.798	1.128	0.797	1.151		
0	0.848	0.779	0.847	0.795	0.846	0.825	0.845	0.859	0.844	0.885	0.842	0.932	0.841	0.952	0.840	0.971	0.839	1.012	0.839	1.054	1.097	0.837	1.143	0.836	1.166		
2	0.889	0.787	0.888	0.802	0.887	0.837	0.886	0.871	0.885	0.907	0.884	0.945	0.883	0.965	0.882	0.984	0.881	1.025	0.881	1.068	1.112	0.879	1.158	0.878	1.181		
4	0.934	0.798	0.933	0.814	0.932	0.848	0.931	0.882	0.930	0.920	0.929	0.958	0.928	0.978	0.927	0.998	0.926	1.040	0.925	1.083	1.128	0.923	1.174	0.922	1.197		
5	0.957	0.802	0.956	0.821	0.955	0.852	0.954	0.890	0.953	0.927	0.952	0.966	0.951	0.985	0.950	1.006	0.949	1.048	0.949	1.090	1.135	0.946	1.182	0.945	1.206		
6	0.981	0.810	0.980	0.825	0.979	0.859	0.978	0.879	0.978	0.933	0.977	0.973	0.976	0.992	0.975	1.013	0.974	1.055	0.973	1.098	1.144	0.970	1.190	0.969	1.214		
7	1.006	0.815	1.005	0.832	1.004	0.867	1.003	0.903	1.002	0.940	1.001	0.980	1.000	1.000	0.999	1.021	0.998	1.063	0.997	1.106	1.152	0.994	1.199	0.993	1.223		
8	1.031	0.821	1.030	0.838	1.029	0.875	1.028	0.909	1.028	0.947	1.027	0.987	1.026	1.007	1.025	1.028	1.024	1.071	1.023	1.115	1.160	1.018	1.207	1.017	1.232		
10	1.087	0.833	1.086	0.852	1.085	0.886	1.084	0.924	1.083	0.962	1.081	1.002	1.080	1.023	1.079	1.044	1.078	1.087	1.075	1.132	1.178	1.070	1.225	1.068	1.249		
12	1.146	0.848	1.145	0.867	1.144	0.901	1.143	0.939	1.141	0.977	1.139	1.018	1.138	1.039	1.136	1.060	1.134	1.104	1.131	1.149	1.195	1.124	1.243	1.122	1.268		
14	1.209	0.863	1.208	0.878	1.206	0.916	1.205	0.954	1.202	0.992	1.199	1.035	1.198	1.056	1.196	1.077	1.193	1.122	1.189	1.167	1.185	1.214	1.180	1.262	1.177	1.287	
15	1.242	0.871	1.241	0.886	1.239	0.924	1.237	0.962	1.234	1.002	1.231	1.044	1.229	1.065	1.227	1.086	1.224	1.130	1.219	1.176	1.223	1.209	1.272	1.206	1.297		
16	1.275	0.878	1.274	0.894	1.272	0.932	1.261	0.970	1.267	1.011	1.263	1.052	1.261	1.074	1.259	1.095	1.255	1.140	1.250	1.186	1.245	1.233	1.239	1.236	1.306		
18	1.347	0.894	1.346	0.913	1.343	0.951	1.339	0.989	1.335	1.029	1.330	1.071	1.328	1.092	1.325	1.114	1.320	1.159	1.314	1.205	1.307	1.252	1.300	1.302	1.297	1.327	

Note: 1. Standard condition: chilled water 40/45°C , ambient air 7°C , RH=87% , 100% heating load and power input.
2. For other condition (anti-standard condition), please use the rated data (under standard condition) multiply the corresponding coefficient to calculate heating capacity and power input (Pt: heating capacity coefficient; Pa.c: power input coefficient).
3. For more details, please contact the company.

ERACS Electrical Data

Power Input					380/400V-3-50Hz				
Voltage tolerance					< ±10%				
Voltage unbalance					< 3%				
Maximum Values									
Model	Compressor(single)				Fan		Total unit		
	n	F.L.I. (kW)	F.L.A. (A)	L.R.A. (A)	F.L.I. (kW)	F.L.A. (A)	F.L.I. (kW)	F.L.A. (A)	S.A. (A)
2022	2	85.4	137	246	20	38	190.8	312	377
2222	2	85.4/100.7	137/164.6	246/300	24	45.6	210	347	439
2422	2	100.7	164.6	300	24	45.6	225	375	449
2622	2	111.6	183.5	360	24	45.6	247	413	534
2722	2	127.3	208	404	28	53.2	283	469	589
3222	2	145.3	235	436	32	60.8	323	531	658
3622	2	170.7	272	465	40	76	381	620	706
4222	2	191.1	310	586	48	91.2	430	711	891
4822	2	217	351	650	48	91.2	482	793	957
5422	2	240	388	719	48	91.2	528	867	1163

Note: All the values are referred to the maximum working condition.

Safety values need to be considered when cabling the unit for power supply and line-protections.

F.L.I Power input

F.L.A Current absorption

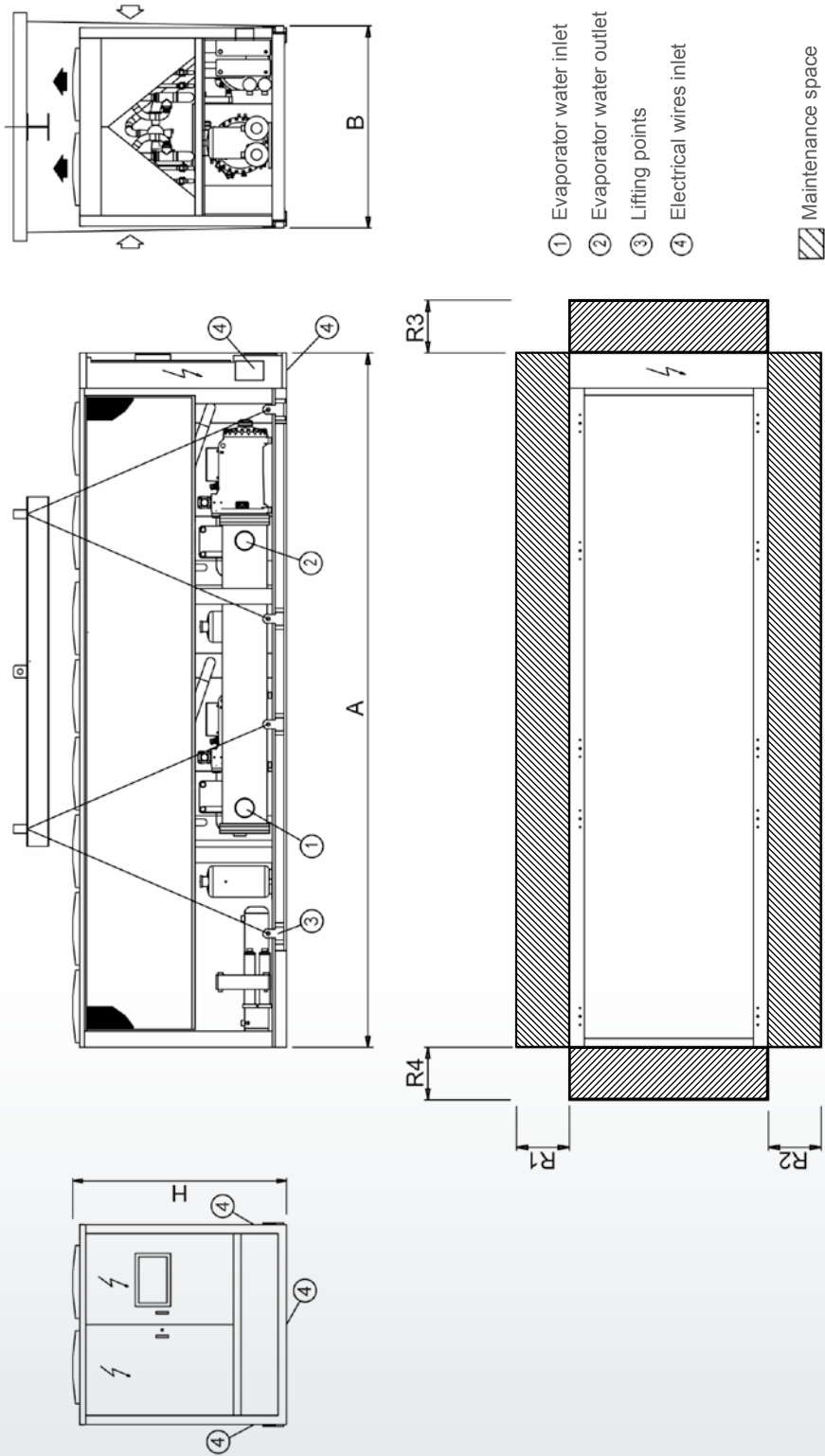
L.R.A Locked rotor current for single compressor

S.A Starting current

Description: screw compressor is star-delta starter.

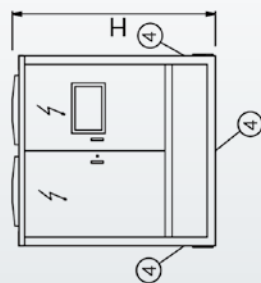
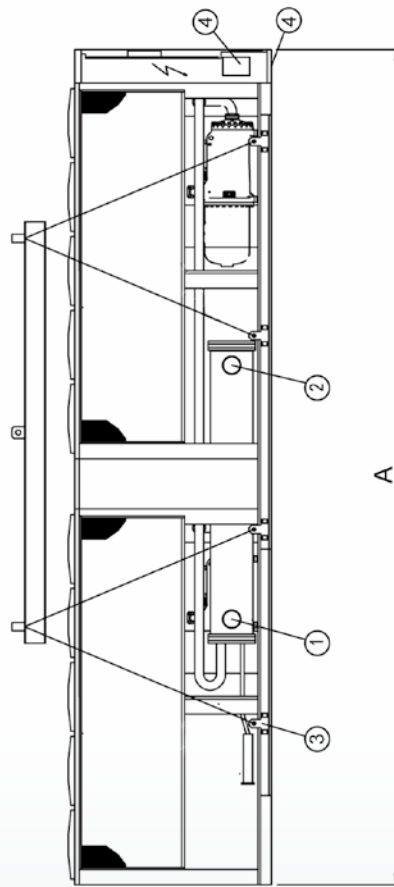
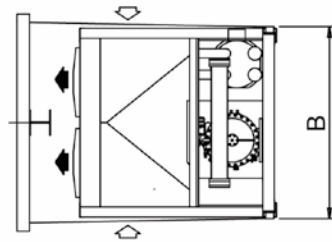
High Efficiency Air-cooled Heat Pump

ERACS 2022-3222

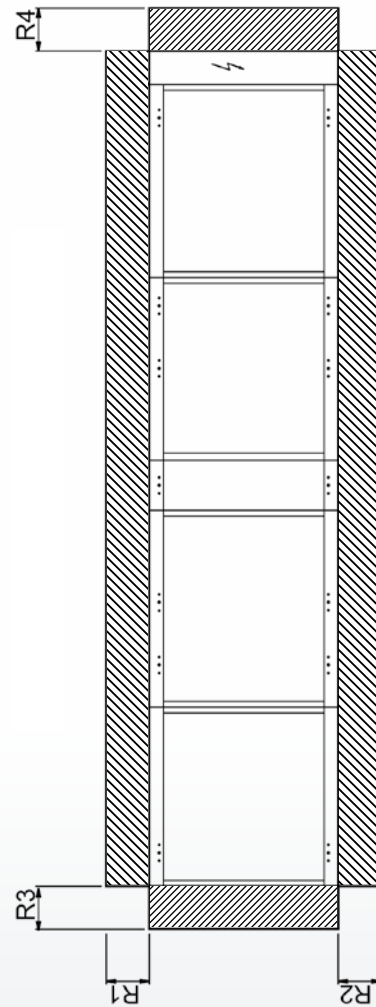


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ERACS



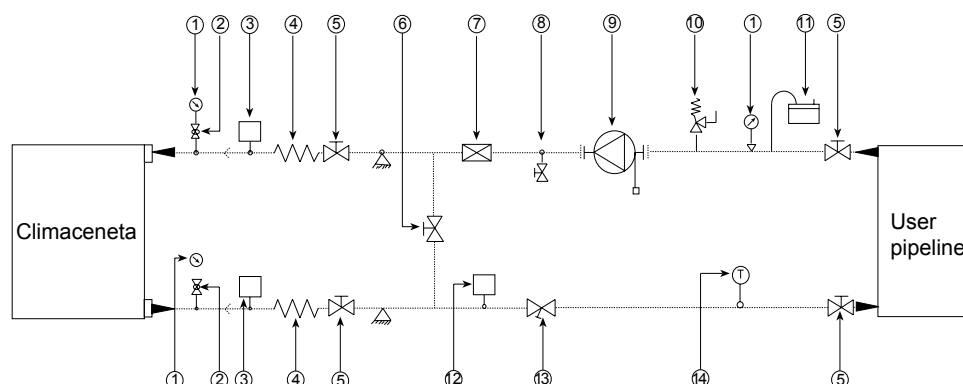
- ① Evaporator water inlet
- ② Evaporator water outlet
- ③ Lifting points
- ④ Electrical wires inlet



High Efficiency Air-cooled Heat Pump

Model	Dimensions					Maintenance space				Evaporator pipe connection	
	A [mm]	B [mm]	H [mm]	Operating weight [kg]	R1 [mm]	R2 [mm]	R3 [mm]	R4 [mm]	Type	IN/OUT	Ø
ERACS 2022-B	4900	2260	2430	6050	2000	2000	1800	1500	Victaulic		6"
ERACS 2222-B	5800	2260	2430	6630	2000	2000	1800	1500	Victaulic		6"
ERACS 2422-B	5800	2260	2430	6710	2000	2000	1800	1500	Victaulic		6"
ERACS 2622-B	5800	2260	2430	6950	2000	2000	1800	1500	Victaulic		8"
ERACS 2722-B	7000	2260	2430	7480	2000	2000	1800	1500	Victaulic		8"
ERACS 3222-B	7900	2260	2430	9620	2000	2000	1800	1500	Victaulic		8"
ERACS 2022-SL	4900	2260	2430	6190	2000	2000	1800	1500	Victaulic		6"
ERACS 2222-SL	5800	2260	2430	6680	2000	2000	1800	1500	Victaulic		6"
ERACS 2422-SL	5800	2260	2430	6770	2000	2000	1800	1500	Victaulic		6"
ERACS 2622-SL	5800	2260	2430	7010	2000	2000	1800	1500	Victaulic		8"
ERACS 2722-SL	7000	2260	2430	7650	2000	2000	1800	1500	Victaulic		8"
ERACS 3222-SL	7900	2260	2430	9820	2000	2000	1800	1500	Victaulic		8"
ERACS 3622-B	10000	2260	2430	10650	2000	2000	1800	1500	Victaulic		8"
ERACS 4222-B	11800	2260	2430	11260	2000	2000	1800	1500	Victaulic		8"
ERACS 4822-B	11800	2260	2430	11690	2000	2000	1800	1500	Victaulic		8"
ERACS 5422-B	11800	2260	2430	11870	2000	2000	1800	1500	Victaulic		8"
ERACS 3622-SL	10000	2260	2430	10890	2000	2000	1800	1500	Victaulic		8"
ERACS 4222-SL	11800	2260	2430	11510	2000	2000	1800	1500	Victaulic		8"
ERACS 4822-SL	11800	2260	2430	11950	2000	2000	1800	1500	Victaulic		8"

Climaveneta Water Circulation Schematic Diagram



1. Pressure gauge of water side
2. Shut off valve
3. Automatic air-exhaust valve
4. Flexible connection
5. Stop valve
6. Bypass pipeline
7. Filter

8. Draining valve
9. Circulation pump
10. Safety draining valve
11. Expansion tank
12. Target flow switch
13. Check valve
14. Thermometer indicator gauge

Precautions:

1. The air-exhaust valve should be fixed at the highest point of chilled water pipeline.
2. Unit evaporator import and export must be equipped with rubber flexible connection, as well as the chilled water pipe of water-cooled units.
3. A flow switch should be installed on the horizontal pipeline of both cooling water side and chilled water side, and the flow switch should connect to the control system of the unit.
4. A bypass with gate valves is recommended to enable the pipes to be washed through without having to disconnect the unit. When the system water quality corresponds with the requirement after enough wash and cleaning, the unit could be connected to the water circuit. But in order to prevent any damage, water MUST NOT enter the unit BEFORE our service engineer arriving at the site.
5. Y-Strainer Must be installed in front of the evaporator inlet pipe (60 holes or more), to ensure that the evaporator circulating water must not contain any impurities such as metal materials, welding slag, steel wire.
6. In order to ensure the unit heat exchanger not be corrosive due to water quality. The water shall not contain corrosive ions such as chloride ions, ammonium ions, sulfur ions according to the chemical characteristics of the copper. If the unit is used in the hard water areas, an extra qualified water softening devices should be installed on the water system to make sure the bicarbonate content comply with national standards.
7. For outdoor installed units, the outdoor pipes should install draining valve. In winter when unit is not in use, it can drain all water inside the unit, to avoid freezing pipes or unit.
8. Evaporator inlet and outlet pipe should be equipped with shut off valve.



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