

1. Technical Specifications:



CORAL LIFE PVT LTD
 G. KIYAVAAGE,
 SHABNAM MAGU,
 MALE CITY
 REP. OF MALDIVES
INFO@CORALLIFE.MV
 +960 7754524

Table 1. Description of proposed RSW systems

Detail Proposed	Minimum requirement	Proposed
Inlet Water Temperature	Approximately +28 °C	The inlet temperature is about 28 degrees. The seawater can be cooled to 0-2 degrees within 3 hours.
Water Outlet Temperature	0°C or +2 °C	0°C or +2 °C
Compressor Type	Semi Hermetic piston	Semi Hermetic piston
Condenser Type	Seawater Cooling	Seawater Cooling
Evaporator Type	Shell and Tube or Titanium Plate	Shell and Tube
Condenser - Evaporator Pump Type	Self priming Stainless Steel Pump (AISI316)	S5316 self-priming water pump
Noise (3 meters)	≤ ~78 dBA	≤ ~78 dBA
Evaporation Temperature	2C / -10C °C	Nominal working condition: unit evaporation temperature -5°C, condensation temperature 37°C;
Energy	380V/50Hz/3Ph	3P-50Hz-380V
Refrigerant	R507 or any other suitable refrigerant approved for import into the Maldives	R507
Temperature monitoring	The system should indicate water inlet and water outlet temperature	The unit adopts 380V, three-phase, four-wire, 50Hz direct grounding AC system with voltage variation range of ±5%. The power cables inside the unit are arranged according to the national safety standards; The main electrical components should use the French Schneider, the United States and other international famous brands, the computer control system of the unit according to the load changes, automatically load or unload the cooling capacity of the unit output, so that the cooling capacity and the actual cooling load accurately match. Make the working compressor always maintain the highest efficiency state, high efficiency and energy saving; Compressor opening interval is set to reduce the impact of simultaneous starting on the electrical system; The control system uses a full Chinese display controller, can realize remote control, with user level password and factory level password double protection function, more security, the unit's operating parameters can be input or modified through the display.
Data logger	The system should include temperature data logger to measure water in temperature in chilling tanks or bilge	Measure the water temperature of the cooling tank or bilge and keep a record of the temperature for two weeks, which can be extracted digitally





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refrigerating fluid	type	R507
		10.5KG
expansion valve	type	External balanced thermal expansion valve
evaporator	type	High efficiency shell and tube type
	chilled water	10.8m ³ /h
	No.	1
	material	PE + plastic pipe and titanium tube
	pipe diameter	DN50
	medium	seawater
Safety protection device	High and low pressure protection, anti-ice protection (double), safety valve, overload protection, under phase, reverse phase, under voltage, over voltage, water protection, etc	
boundary dimension (mm)	(L. W. H)	1900*1000*1500 estimated
total weight	kg	760

Vendor registration for Supply, Delivery and Installation of Refrigerated Sea Water (RSW)





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Nominal working condition: unit evaporation temperature -5°C , condensation temperature 37°C ;

2、

Cooling capacity, input power and cooling water are all the parameters under nominal working conditions

3、

Considering the transition condition of operation, it is recommended to increase the cooling water flow by more than 10%

4、

Outlet temperature control range is 0 degrees to 30 degrees arbitrary adjustment, control accuracy ± 1 ;





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- 5、
Power system: 3P-380V-50Hz. Allow voltage fluctuation $\pm 10\%$; Allow the same voltage difference $\pm 2\%$;
- 6、
If the product is updated, the size changes without prior notice;
- 7、
The inlet temperature is about 28 degrees. The seawater can be cooled to 0-2 degrees within 3 hours. The production capacity is 5000 liters.

B. Water - cooled chiller spare parts list

main part	brand	origin
condenser	xingfeng	China
evaporator	xingfeng	China
compressor	Bitzer	
cocontactor	Schneider	France
refrigerant	Dupont	USA
expansion valve	Danfoss	Denmark
dry filter	Emerson	USA
data logger	Hongrun	China

c. Main parts description

1. Unit structure

The base is 304 stainless steel profile welding form, the outer frame is formed steel, the electric control box is made of 316 stainless steel

2. compressor

Adopt semi-closed piston compressor, low carbon, energy saving and environmental protection; Good performance, low noise, trouble-free operation can reach more than 100000 hours;

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3. expansion valve

The expansion valve adopts Danfoss external balanced thermal expansion valve, which can automatically adjust the refrigerant flow according to the change of the system load to achieve the automatic balance of the system operation; Other main refrigeration system components such as filter dryer, solenoid valve, pressure gauge, etc., all adopt international famous brands.

4. condenser

Horizontal shell and tube condenser is adopted, which has high heat transfer efficiency and stable heat transfer performance. The refrigerant in the condenser flows in the heat transfer tube, and the cooling water flows outside the heat transfer tube. At the same time, the heat transfer tube is a straight pipe type, and the condenser can be cleaned by removing the cover on both sides of the condenser, and the maintenance is convenient.

5. evaporator

The evaporator adopts shell and tube type, the outer surface is smooth, the cooling effect is good, the evaporator cylinder body is insulated with 25mm thick PE insulation board, no condensation, less cold loss, the operation of the latest CAD design technology, CNC production and processing, compact structure, stable performance





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6. electronic control system

The unit adopts 380V, three-phase, four-wire, 50Hz direct grounding AC system with voltage variation range of $\pm 5\%$. The power cables inside the unit are arranged according to the national safety standards; The main electrical components should use the French Schneider, the United States and other international famous brands, the computer control system of the unit according to the load changes, automatically load or unload the cooling capacity of the unit output, so that the cooling capacity and the actual cooling load accurately match. Make the working compressor always maintain the highest efficiency state, high efficiency and energy saving; Compressor opening interval is set to reduce the impact of simultaneous starting on the electrical system; The control system uses a full Chinese display controller, can realize remote control, with user level password and factory level password double protection function, more security, the unit's operating parameters can be input or modified through the display.

7. data logger

Measure the water temperature of the cooling tank or bilge and keep a record of the temperature for two weeks, which can be extracted digitally

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2. Link to Brochure: https://tradegov-my.sharepoint.com/:b:/g/personal/ihsaan_abdul_trade_gov_mv/Eao-m01le6tEncBQzq-2cB8BrbSLy83WE5uV5J8n2_QRBA?e=aFWtMU