

Marine Water-cooled Packaged Air Conditioner

Description

The water-cooled packaged air conditioner is specially designed for marine application, such as engine control room, workshop, switchboard room, galley etc., which consists of air handling unit, cooling unit, control unit, built on a common framework.

The unit has been factory tested (including pressure test, vacuum test, running test.), and the client can use it after connecting power source and cooling water system.

Features

- Refrigerant: R404A, R407C, R134A, R22 etc.
- Compressor: Hermetic piston type.

- Condenser: Bitzer (Germany), shell and tube type, with high efficiency and good corrosion protection. System valves: Danfoss (Denmark), reliable and durable.
- V-belt driven fan-motor, ensuring low noise level and low vibration
- Synthetic resin powder for steel casing for marine application.
- Cooling or heating temperature is auto setting and displaying on control panel, remote control is optional.
- Control type: classical control.
- 50/60 Hz, 3 phase.



MARINE WATER COOLED PACKAGED AIR CONDITIONING UNIT



Technical data 1 (for R404A or R22)

Type		Vertical deck mount type							
Model	Plenum supply	SCU-P3VR /SCU-P3VF	SCU-P5VR /SCU-P5VF	SCU-P8VR /SCU-P8VF	SCU-P10VR /SCU-P10VF				
	Duct supply	SCU-D3VR /SCU-D3VF	SCU-D5VR /SCU-D5VF	SCU-D8VR /SCU-D8VF	SCU-D10VR /SCU-D10VF				
Main power source (Control)		AC440V x 3P x 60Hz (AC220V x 1P x 60Hz) AC380V x 3P x 50Hz (AC220V x 1P x 50Hz)							
Safety protective device		High pressure, low pressure, over load, lack phase, lack cooling water, over temperature, safety valve							
Normal ref. ton (cooling)		3.0 USRT	5.0 USRT	7.5 USRT	10.0 USRT				
Cooling capacity (water cooled)		10.4 Kw	17.4 Kw	26.1 Kw	34.8 Kw				
		9,000 Kcal/h	15,000 Kcal/h	22,500 Kcal/h	20,000 Kcal/h				
Heating capacity (electric heater)		9 Kw	12 Kw	15 Kw	20 Kw				
		7,759 Kcal/h	10,345 Kcal/h	12,931 Kcal/h	17,241 Kcal/h				
Refrigerant		R-404A (R22)							
Casing & coating		Steel & Synthetic resin powder coating							
Compressor	Type		Hermetic reciprocating compressor						
	Motor power	Fresh water	50Hz	3.7 Kw	5.6 Kw	8.1 Kw	12.1 Kw		
			60Hz	4.0 Kw	6.5 Kw	9.7 Kw	12.7 Kw		
		Sea water	50Hz	3.7 Kw	5.4 Kw	7.7 Kw	10.0 Kw		
			60Hz	3.8 Kw	6.3 Kw	9.5 Kw	9.3 Kw		
Condenser	Type		Horizontal shell & tube type						
	Water flow rate	Fresh water	50Hz	3.0 M3/H	7.0 M3/H	8.0 M3/H	9.0 M3/H		
			60Hz						
		Sea water	50Hz	3.0 M3/H	7.0 M3/H	8.0 M3/H	9.0 M3/H		
			60Hz						
Pressure drop		9 KPa	25 KPa	25 KPa	9 KPa				
Evaporator	Type		Crossed fin and tube type						
	Material	Tube	Copper						
		Fin	Aluminum (without fresh air) / Copper (with fresh air)						
Blower	Type		Double inlet centrifugal blower						
	Air volume	P	R	30 CMM/1800 M3/H	45 CMM/2700 M3/H	65 CMM/3900 M3/H	90 CMM/5400 M3/H		
			F	11 CMM/660 M3/H	15 CMM/900 M3/H	22.5 CMM/1350 M3/H	30 CMM/1800 M3/H		
		D	R	30 CMM/1800 M3/H	45 CMM/2700 M3/H	65 CMM/3900 M3/H	90 CMM/5400 M3/H		
			F	11 CMM/660 M3/H	15 CMM/900 M3/H	22.5 CMM/1350 M3/H	30 CMM/1800 M3/H		
	Static pressure	P		150 Pa					
		D		500 Pa					
	Motor power	P 50Hz/60Hz	R	0.37/0.43 Kw	0.55/0.63 Kw	0.75/0.86 Kw	1.1/1.27 Kw		
F			1.1/1.27 Kw	1.5/1.73 Kw	2.2/2.53 Kw	3.0/3.45 Kw			
D 50Hz/60Hz		R	1.5/1.73 Kw	2.2/2.53 Kw	3.0/3.45 Kw	4.0/4.6 Kw			
		F	1.1/1.27 Kw	1.5/1.73 Kw	2.2/2.53 Kw	3.0/3.45 Kw			
Piping	Condenser inlet		DN25	DN25	DN25	DN50			

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Connection	Condenser outlet	DN25	DN25	DN25	DN50
	Drain	G3/4	G3/4	G3/4	G3/4
Refrigerant control		Thermostatic expansion valve			
Air filter		Nonwoven cotton / synthetic blend media, G4			
Colour		As per maker's standard or client's requirement			
Spare part		V-belt, gaskets of condenser			

Technical data 2 (for R407C)

Type		Vertical deck mount type					
Model	Plenum supply	SCU-P3VR /SCU-P3VF	SCU-P5VR /SCU-P5VF	SCU-P8VR /SCU-P8VF	SCU-P10VR /SCU-P10VF		
	Duct supply	SCU-D3VR /SCU-D3VF	SCU-D5VR /SCU-D5VF	SCU-D8VR /SCU-D8VF	SCU-D10VR /SCU-D10VF		
Main power source (Control)		AC440V x 3P x 60Hz (AC220V x 1P x 60Hz) AC380V x 3P x 50Hz (AC220V x 1P x 50Hz)					
Safety protective device		High pressure, low pressure, over load, lack phase, lack cooling water, over temperature, safety valve					
Normal ref. ton (cooling)		3 USRT	4.5 USRT	7.0 USRT	9.5 USRT		
Cooling capacity (water cooled)		10.4 Kw	15.8 Kw	24.6 Kw	33.3 Kw		
		9,000 Kcal/h	13,600 Kcal/h	21,200 Kcal/h	28,800 Kcal/h		
Heating capacity (electric heater)		9 Kw	12 Kw	15 Kw	20 Kw		
		7,759 Kcal/h	10,345 Kcal/h	12,931 Kcal/h	17,241 Kcal/h		
Refrigerant		R-407C					
Casing & coating		Steel & Synthetic resin powder coating					
Compressor	Type			Hermetic reciprocating compressor			
	Motor power	Fresh water	50Hz	3.2 Kw	4.7 Kw	6.9 Kw	9.9 Kw
			60Hz	3.5 Kw	4.9 Kw	7.2 Kw	11.0 Kw
		Sea water	50Hz	3.1 Kw	4.5 Kw	6.7 Kw	9.7 Kw
			60Hz	3.3 Kw	4.8 Kw	7.0 Kw	10.9 Kw
Condenser	Type			Horizontal shell & tube type			
	Water flow rate	Fresh water	50Hz	8.0 M3/H	10.0 M3/H	16.0 M3/H	20.0 M3/H
			60Hz				
		Sea water	50Hz	30 KPa	35 KPa	25 KPa	25 KPa
			60Hz				
Pressure drop							
Evaporator	Type			Crossed fin and tube type			
	Material	Tube		Copper			
		Fin		Aluminum (without fresh air) / Copper (with fresh air)			
Blower	Type			Double inlet centrifugal blower			
	Air volume	P	R	30 CMM/1800 M3/H	45 CMM/2700 M3/H	65 CMM/3900 M3/H	90 CMM/5400 M3/H
			F	11 CMM/660 M3/H	15 CMM/900 M3/H	22.5 CMM/1350 M3/H	30 CMM/1800 M3/H

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	D	R	30 CMM/1800 M3/H	45 CMM/2700 M3/H	65 CMM/3900 M3/H	90 CMM/5400 M3/H	
		F	11 CMM/660 M3/H	15 CMM/900 M3/H	22.5 CMM/1350 M3/H	30 CMM/1800 M3/H	
	Static pressure	P		150 Pa			
		D		500 Pa			
	Motor power	P 50Hz/60Hz	R	0.37/0.43 Kw	0.55/0.63 Kw	0.75/0.86 Kw	1.1/1.27 Kw
			F	1.1/1.27 Kw	1.5/1.73 Kw	2.2/2.53 Kw	3.0/3.45 Kw
D 50Hz/60Hz		R	1.5/1.73 Kw	2.2/2.53 Kw	3.0/3.45 Kw	4.0/4.6 Kw	
		F	1.1/1.27 Kw	1.5/1.73 Kw	2.2/2.53 Kw	3.0/3.45 Kw	
Piping Connection	Condenser inlet		DN25	DN25	DN50	DN50	
	Condenser outlet		DN25	DN25	DN50	DN50	
	Drain		G3/4	G3/4	G3/4	G3/4	
Refrigerant control			Thermostatic expansion valve				
Air filter			Nonwoven cotton / synthetic blend media, G4				
Colour			As per maker's standard or client's requirement				
Spare part			V-belt, gaskets of condenser				

Note:

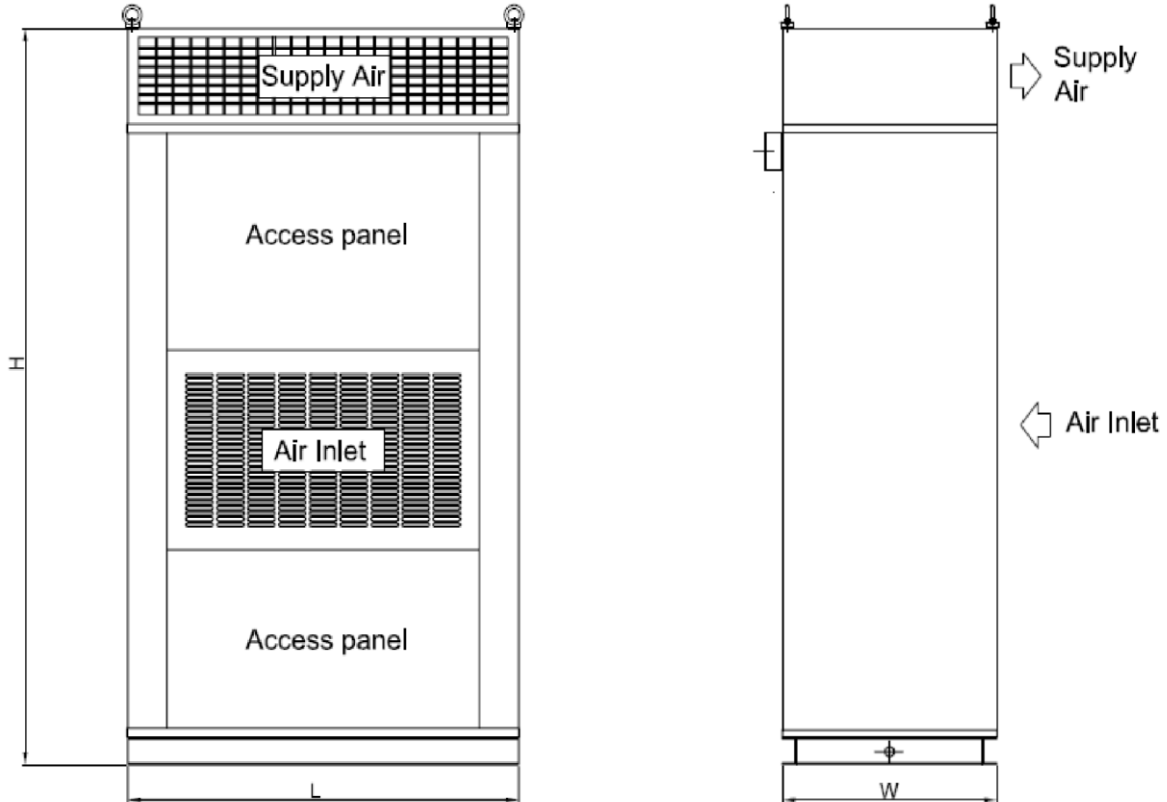
- P: Plenum supply type, D: Duct supply type. R: Duct supply type with return air, F: Duct supply type with 100% fresh air
- Sea water inlet temperature 32°C, fresh water inlet temperature 36°C
- Normal design: evaporating temperature 5°C, condensing temperature 45°C for fresh water cooled type, and condensing temperature 42°C for sea water cooled type
- Other design is available on request (refrigerant, static pressure etc.)

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Principal dimensions 1

For Plenum type



PAC type for Plenum	L mm	W mm	H mm	Weight Approx kg
SCU-P3VR /SCU-P3VF	1000	600	1900	300
SCU-P5VR /SCU-P5VF	1100	650	2000	350
SCU-P8VR /SCU-P8VF	1200	700	2100	400
SCU-P10VR /SCU-P10VF	1400	750	2100	450