

HITACHI



air



INVERTER FLOODED
WATER CHILLER



ENVIRONMENTALLY FRIENDLY REFRIGERANT SAVES ENERGY WHILE PROTECTING NATURE

Hitachi Inverter Flooded Water Chillers use environmentally friendly refrigerant R134a in place of traditional Chlorofluorocarbons (CFCs). R134a is a highly stable, low-toxicity, and non-flammable refrigerant without chlorine so it does not pose harm to the environment.

ESPECIALLY DESIGNED OUTSTANDING FEATURES



- Touchscreen interface displays operation status of the main machine (voltage, current, temperature, and pressure) in real time, providing flexibility and convenience of use.
- The RS485 communication interface can be used as a central control to facilitate central management.
- The Programmable Logical Controller (PLC) is used for precise logical control, maintaining a highly efficient, safe and stable operation of the main machine. The conditions of operation can be completely recorded, facilitating management by a system manager.
- Through a current measuring device, operation current can be restricted, so it saves energy and improves safety.
- The machine can be set to turn on/off automatically on a weekly basis, which further improves system management.

SELF-DIAGNOSE & INTELLIGENT OPERATION INSPECTION 0 ~ 60HZ

- It is equipped with voltage, current, temperature and pressure protective functions.
- Timely adjustment of the main machine's operation conditions prevent failures.
- In the rare event of a failure, the machine immediately displays and records the cause for easy facilitation of service and inspection.

ADVANCED SCREW COMPRESSOR

Hitachi Inverter Flooded Water Chillers use screw compressors imported from Germany. The motor and the rotor of a screw compressor use rotary motion for compression, whereas a reciprocating compressor needs to convert rotary motion to linear motion. This feature makes screw compressors simple in structure, hence they do not require unnecessary motions.

ENERGY-EFFICIENT COOLING ADVANTAGE

The IPLV of Hitachi Inverter Flooded Water Chiller is 7.94. The inverter can adjust compressor speed depending on varying load demands, so it becomes more energy-efficient even under low loading conditions. Therefore, you get more savings on your electricity bill.

FULL LOADING COP PERFORMANCE

The full loading COP of Hitachi Inverter Flooded Water Chiller is 5.23. Thus, it saves energy as it reduces power consumption even during long-term operation.

ADAPTABLE HIGH-PERFORMANCE INVERTER, FREQUENCY CONTROL 20 ~ 60HZ

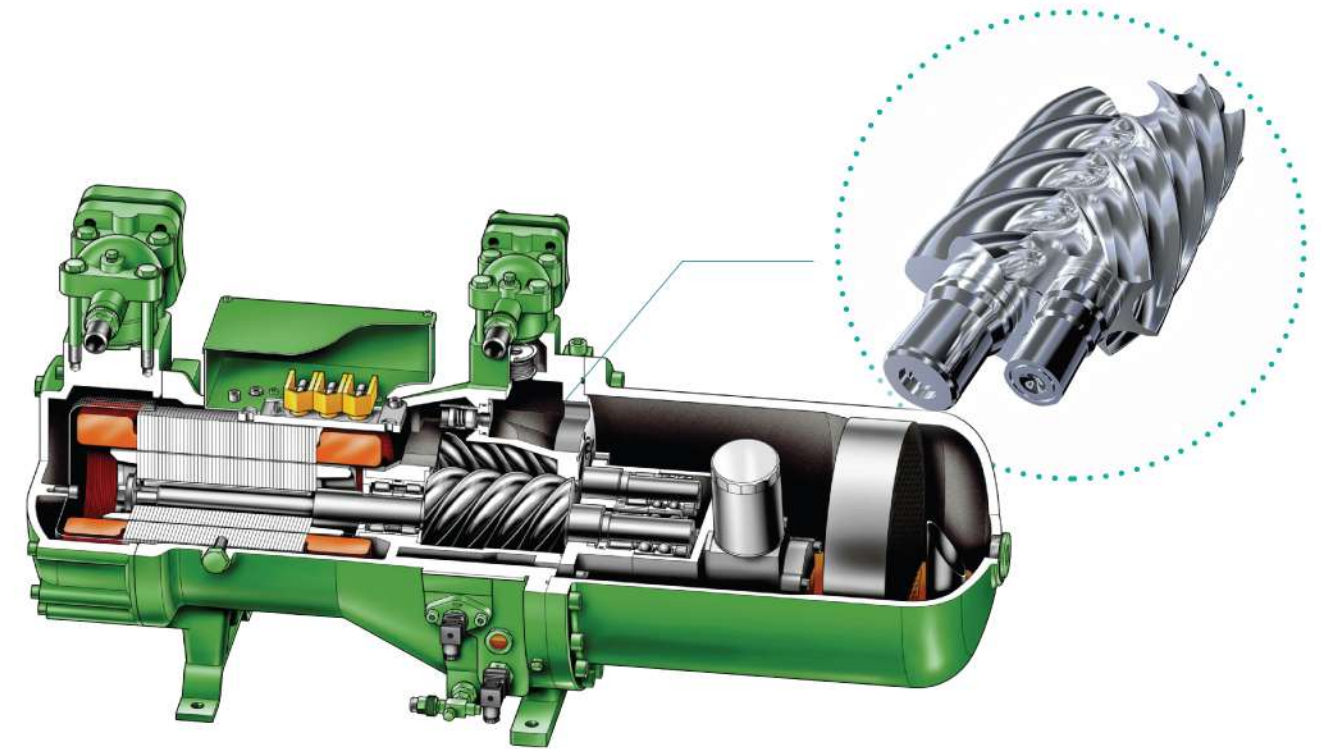
- Excellent motor drive function
- Environmental adaptability
- Safety - The inverter used comes with overload, overvoltage, overcurrent, overheat, stall prevention and other protective features to ensure the safety of the body's operating environment.
- Long-life design - The unit has long-life parts that include cooling fan, capacitors, relays, and IGBT to extend the life of the inverter.



HIGH EFFICIENCY SHELL & TUBE TYPE

The strategically designed tubes greatly increase the unit's efficiency. It uses inverter control and compressor speed changes to accurately trace the loading changes. When used in conjunction with the water outlet temperature control technology, the chiller water outlet temperature becomes more stable. Overall, these features work in harmony to ensure long-lasting cooling comfort characterized by precise temperatures suitable for specific preferences and needs.

Why Does a SEMI-HERMETIC SCREW Work Better?



- Because the motor is encased in the compressor, the machine works quietly.
- It automatically cools the air it takes in, which further increases efficiency, so it does not require frequent maintenance service.
- No oil pumps needed. Lubricant oil is fed into the machine using the difference between the high and low pressure regions of the compressor.
- Reliable operation is guaranteed because the device uses state-of-the-art components such as pump and motors, couplers for transmission and oil-pressure regulating valves.
- It has a shaft seal device that prevents leakages.
- The high-efficiency filter in the compressor, which is less adhesive, effectively reduces oil loss while filtering it.
- It is built with an advanced PTC temperature protector that protects motor coil and discharge temperatures. Furthermore, this component comprehensively monitors phase failure and reverse.
- It has an opto-electronical oil level switch that regulates the amount of oil in the compressor to ensure its continuous function.

Ideal for:



Factories



Universities/Malls



Warehouses

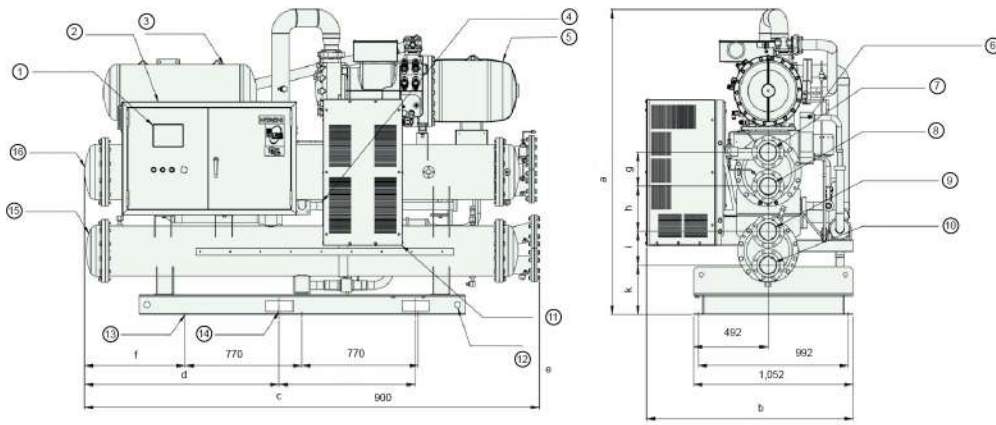


Offices



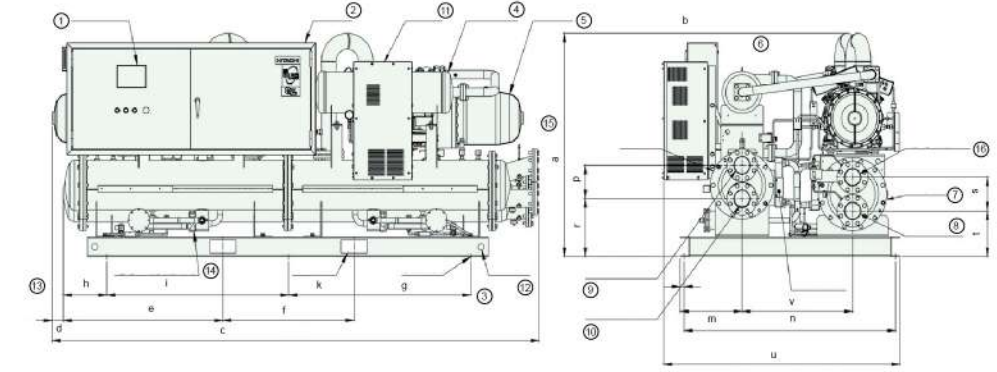
Supermarkets

RCU-F801WVS • RCU-F1001WVS



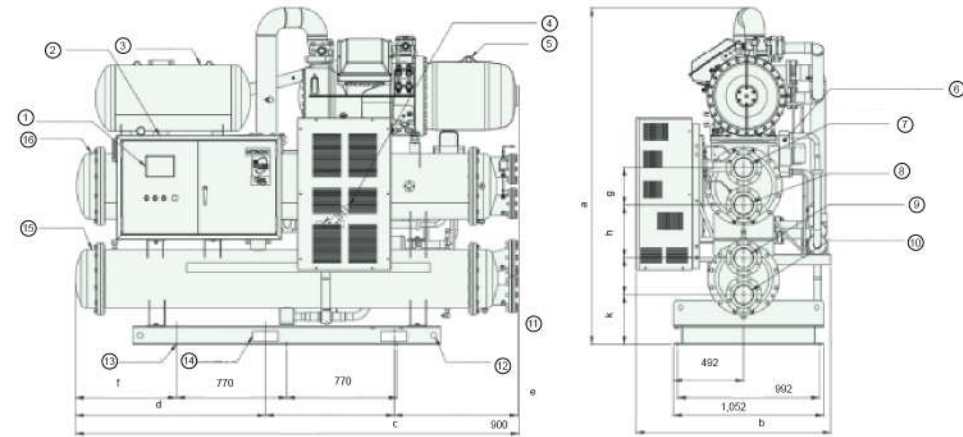
Mark	Name
1	Human Machine Interface
2	Electric Box
3	Oil Separator
4	Electronic Expansion Valve
5	Compressor
6	Plate Heat Exchanger
7	Chiller Water Outlet
8	Chiller Water Inlet
9	Cooling Water Outlet
10	Cooling Water Inlet
11	Inverter (Optional)
12	Hanging Hole
13	Installation Hole
14	Forklift Hole
15	Condenser
16	Chiller

RCU-F1001WVD • RCU-F1201WVD



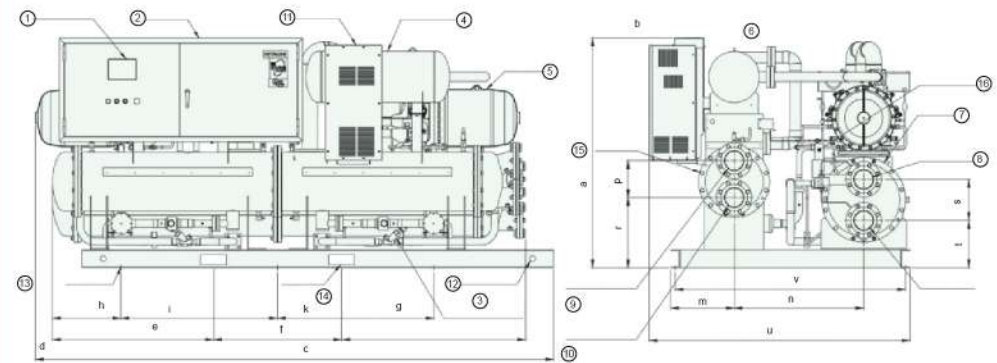
Mark	Name
1	Human Machine Interface
2	Electric Box
3	Oil Separator
4	Electronic Expansion Valve
5	Compressor
6	Plate heat Exchanger
7	Chiller Water Outlet
8	Chiller Water Inlet
9	Cooling Water Outlet
10	Cooling Water Inlet
11	Inverter (Optional)
12	Hanging Hole
13	Installation Hole
14	Transportation Hole
15	Condenser
16	Chiller

RCU-F1201WVS



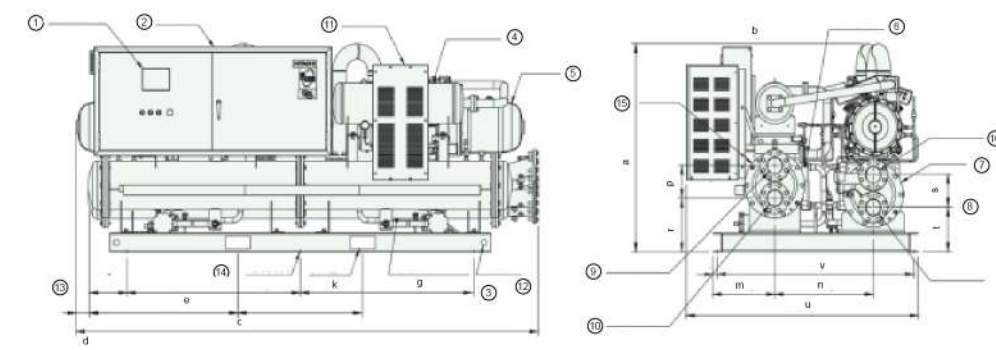
Mark	Name
1	Human Machine Interface
2	Electric Box
3	Oil Separator
4	Electronic Expansion Valve
5	Compressor
6	Plate Heat Exchanger
7	Chiller Water Outlet
8	Chiller Water Inlet
9	Cooling Water Outlet
10	Cooling Water Inlet
11	Inverter (Optional)
12	Hanging Hole
13	Installation Hole
14	Forklift Hole
15	Condenser
16	Chiller

RCU-F1501WVD



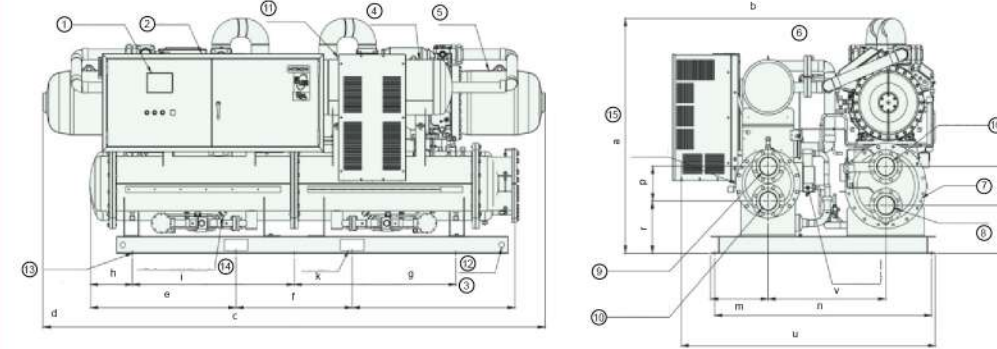
Mark	Name
1	Human Machine Interface
2	Electric Box
3	Oil Separator
4	Electronic Expansion Valve
5	Compressor
6	Plate heat Exchanger
7	Chiller Water Outlet
8	Chiller Water Inlet
9	Cooling Water Outlet
10	Cooling Water Inlet
11	Inverter (Optional)
12	Hanging Hole
13	Installation Hole
14	Transportation Hole
15	Condenser
16	Chiller

RCU-F801WVD



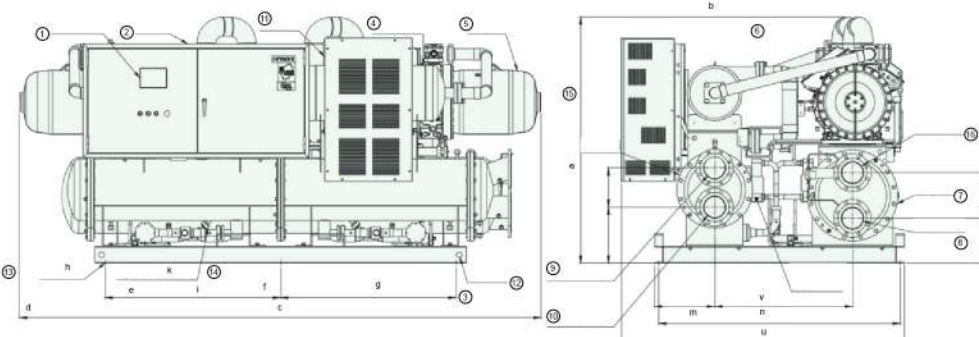
Mark	Name
1	Human Machine Interface
2	Electric Box
3	Oil Separator
4	Electronic Expansion Valve
5	Compressor
6	Plate heat Exchanger
7	Chiller Water Outlet
8	Chiller Water Inlet
9	Cooling Water Outlet
10	Cooling Water Inlet
11	Inverter (Optional)
12	Hanging Hole
13	Installation Hole
14	Transportation Hole
15	Condenser
16	Chiller

RCU-F1801WVD • RCU-F2001WVD



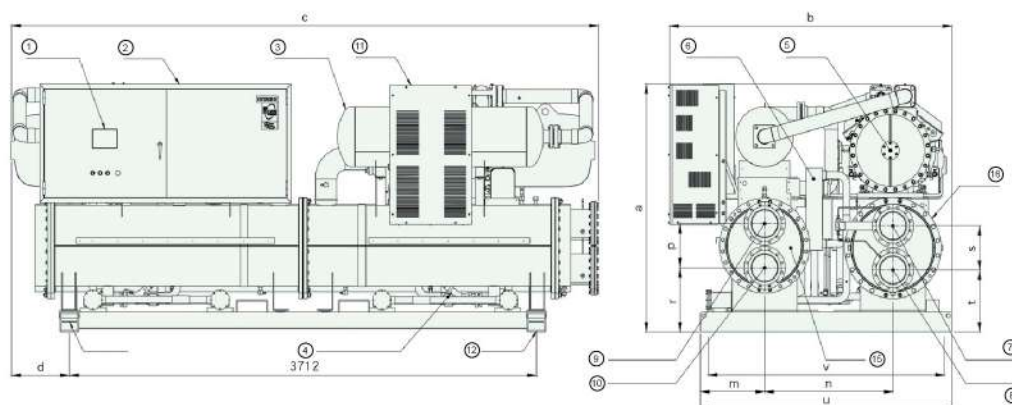
Mark	Name
1	Human Machine Interface
2	Electric Box
3	Oil Separator
4	Electronic Expansion Valve
5	Compressor
6	Plate heat Exchanger
7	Chiller Water Outlet
8	Chiller Water Inlet
9	Cooling Water Outlet
10	Cooling Water Inlet
11	Inverter (Optional)
12	Hanging Hole
13	Installation Hole
14	Transportation Hole
15	Condenser
16	Chiller

RCU-F2401WVD



Mark	Name
1	Human Machine Interface
2	Electric Box
3	Oil Separator
4	Electronic Expansion Valve
5	Compressor
6	Plate heat Exchanger
7	Chiller Water Outlet
8	Chiller Water Inlet
9	Cooling Water Outlet
10	Cooling Water Inlet
11	Inverter (Optional)
12	Hanging Hole
13	Installation Hole
14	Transportation Hole
15	Condenser
16	Chiller

RCU-F3001WVD • RCU-F3601WVD • RCU-F4001WVD • RCU-F4801WVD



Mark	Name
1	Human Machine Interface
2	Electric Box
3	Oil Separator
4	Electronic Expansion Valve
5	Compressor
6	Plate heat Exchanger
7	Chiller Water Outlet
8	Chiller Water Inlet
9	Cooling Water Outlet
10	Cooling Water Inlet
11	Inverter (Optional)
12	Hanging Hole
15	Condenser
16	Chiller

GENERAL UNIT DATA

MODEL		RCU-F801WVS	RCU-F1001WVS	RCU-F1201WVS	RCU-F801WVD	RCU-F1001WVD	RCU-F1201WVD	RCU-F1501WVD		
Capacity	kW	281.3	351.6	440.0	295.0	351.6	422.0	545.0		
COP	kW/kW	5.15	5.23	5.15	5.00	5.02	5.20	5.01		
IPLV		7.71	7.94	7.39	6.70	6.70	7.11	6.70		
Width	mm	2,985	3,098	3,101	3,333	3,352	3,370	3,641		
Dimension	Depth	220V	mm	1,372	1,370	-	1,675	1,714	1,865	2,020
		380V	mm							
		440V	mm	1,238	1,284	1,365	1,675	1,662	1,783	1,831
		480V	mm							
Height	mm	1,942	2,222	2,337	1,372	1,433	1,527	1,596		
	Type	Semi-hermetic Screw								
Compressor	Quantity	1			2					
	Crankcase Heater	W	200	300	200x2					
Condensor Type	Shell and Tube									
Chiller Type	Shell and Tube (Flooded)									
Expansion Valve Control	Electronic Expansion Valve									
Refrigerant	Type	R134a								
	Quantity	kg	80	100	120	40x2	54x2	80x2		
Oil	Type	BSE 170L								
	Quantity	L	15	22	19	10x2	15x2			
Starting Method	VFD Direct Start				VFD Direct Start + Partial Winding Start					
Absorber	Vibration Damper for Compressor									
Protection Device	High Pressure Switch/ Low Pressure Switch/ Reverse Phase Protection Relay/ Anti-Freeze Switch/ Overload Protect/ Discharge Temperature Protector/ Fuses for Control Circuit/ Relief Valve/ Oil level Protector									
Operation Device	Monitoring Device	Human Machine Interface/ Programmable Logic Controller (PLC)								
	Monitoring Item	Voltage/Current/Temperature/Pressure/Expansion Valve Position/Current Limit Setting/ Setting Running Day/Inspection and Replacement Interval Reminder								
	Pilot Lamp	Green-Normal/ Red-Abnormal/ White-Power Supply								
Chiller	Connections	I.D 116mm (4") with Flange		I.D 142mm (5") with Flange	I.D 116mm (4") with Flange		I.D 142mm (5") with Flange			
	Standard Flow	m ³ /h	48.0	60.0	75.0	50.3	60.0	72.0	93.0	
	Pressure Drop	mAq	5.7	5.3	4.4	6.8	4.5	3.8	4.7	
Condenser	Connections	I.D 116mm (4") with Flange		I.D 142mm (5") with Flange	I.D 116mm (4") with Flange		I.D 142mm (5") with Flange			
	Standard Flow	m ³ /h	60.0	75.0	93.9	62.9	75.0	90.0	116.3	
	Pressure Drop	mAq	4.8	5.1	4.8	4.4	4.8	4.8	4.4	
Power Supply		AC 3 Ø 60Hz, 220V/380V/440V/460V			AC 3 Ø 60Hz, 380V/440V/460V		AC 3 Ø 60Hz, 220V/380V/440V/460V			
Power Input	kW	54.6	67.2	85.4	59.0	70.0	81.0	108.7		
Electrical Data	Running Current	220V	A	153	188	-	168	198	228	307
		380V	A	89	109	138	97	114	134	178
		440V	A	77	94	120	84	98	116	154
		460V	A	74	90	115	80	94	111	147
	Starting Current	220V	A	155	210	-	590	740	722	1,060
		380V	A	140	140	188	380	400	475	620
		440V	A	111	121	161	342	345	400	529
		460V	A	106	116	154	327	330	392	512
Net Weight	kg	220V		1,943	2,563	-	2,296	2,471	3,092	3,758
		380V								
		440V		1,908	2,580	2,806	2,313	2,465	3,093	3,723
		460V								
Operation Weight	kg	220V		2,053	2,703	-	2,406	2,631	3,282	3,968
		380V								
		440V		2,018	2,720	2,966	2,423	2,625	3,283	3,933
		460V								
Inverter (Optional)		220V				v-40				
		380V	v-80	v-100	v-150	v-50	v-50	v-60	v-80	
		440V								
		460V								

- Notes: 1. The above data is based on the inverter V - 100 (Optional)
 2. Cooling capacities and electrical properties are based on CNS12575 (water chilling packages using the vapor compression cycle)
 3. IPLV is based on AHRI 51/59
 4. Fouling factor : 0.000044m²C/W
 5. Operating range : Chilled Water Outlet Maximum 15°C/Minimum 5°C ; Cooling Water Outlet Maximum 38°C/Minimum 21°C
 6. The values of chiller and condenser pipe diameter in parentheses are imperial unit.

True
to Your Comfort ♥

GENERAL UNIT DATA

MODEL				RCU-F80WVD	RCU-F200WVD	RCU-F340WVD	RCU-F300WVD	RCU-F360WVD	RCU-F400WVD	RCU-F480WVD
Capacity		kW		665.0	719.0	906.0	1,054.8	1,265.8	1,406.4	1,687.8
COP		kW/kW		5.00	5.33	5.14	5.30	5.24	5.04	5.14
IPLV		-		7.60	7.60	6.94	6.90	7.33	7.06	7.20
Width		mm		3,885	3,885	3,863	4,630	4,635	4,644	4,854
Dimension	Depth	220V	mm	2,035	2,035	-	-	-	-	-
		380V	mm							
		440V	mm	1,958	1,958	2,097	2,220	2,240	2,246	2,530
		480V	mm							
	Height	mm	1,752	1,752	1,808	1,840	1,875	1,875	2,036	
Compressor	Type	Semi-hermetic Screw								
	Quantity	2								
	Crankcase Heater	W	300x2							
Condenser Type	Shell and Tube									
Chiller Type	Shell and Tube (Flooded)									
Expansion Valve Control	Electronic Expansion Valve									
Refrigerant	Type	R134a								
	Quantity	kg	81x2	112x2	145x2	200x2	190x2	240x2		
Oil	Type	BSE 170L								
	Quantity	L	22x2	19x2		30x2		35x2		
Starting Method	VFD Direct Start + Partial Winding Start					VFD Direct Start + Y-ΔStart				
Absorber	Vibration Damper for Compressor									
Protection Device	High Pressure Switch/ Low Pressure Switch/ Reverse Phase Protection Relay/ Anti-Freeze Switch/ Overload Protect/ Discharge Temperature Protector/ Fuses for Control Circuit/ Relief Valve/ Oil level Protector									
Operation Device	Monitoring Device	Human Machine Interface/ Programmable Logic Controller (PLC)								
	Monitoring Item	Voltage/Current/Temperature/Pressure/Expansion Valve Position/Current Limit Setting/ Setting Running Day/Inspection and Replacement Interval Reminder								
	Pilot Lamp	Green-Normal/ Red-Abnormal/ White-Power Supply								
	Currency Frequency	Hz	30-60 + 60(non-inverter)							
Chiller	Connections	I.D 142mm (5") with Flange			I.D 167mm (6") with Flange		I.D 218mm (8") with Flange			
	Standard Flow	m ³ /h	113.5	122.6	154.6	180.0	216.0	240.0	288.0	
	Pressure Drop	m.Aq	6.6	7.4	6.6	9.6	7.7	9.5	6.9	
Condenser	Connections	I.D 142mm (5") with Flange			I.D 167mm (6") with Flange		I.D 218mm (8") with Flange			I.D 269mm (10") with Flange
	Standard Flow	m ³ /h	141.9	153.4	193.3	225.0	270.0	300.0	360.0	
	Pressure Drop	m.Aq	6.0	6.4	7.1	7.2	7.1	7.8	7.3	
Power Supply	AC 3 Ø 60Hz, 220V/380V/440V/460V					AC 3 Ø 60Hz, 380V/440V/460V				
Power Input	kW		133.0	134.9	176.2	199.0	241.7	278.8	328.3	
Electrical Data	Running Current	220V	A	371	377	-	-	-	-	-
		380V	A	215	218	285	329	391	451	531
		440V	A	186	188	246	284	338	390	459
		480V	A	178	180	235	271	323	373	439
	Starting Current	220V	A	1,047	1,047	-	-	-	-	-
		380V	A	695	720	900	1,065	1,056	1,154	1,311
		440V	A	584	600	748	920	912	997	1,132
		480V	A	560	575	715	880	872	953	1,083
Net Weight	220V	kg	4,308	4,398	-	-	-	-	-	
	380V		4,273	4,363	4,516	7,256	8,159	8,255	9,025	
	440V									
	480V									
Operation Weight	220V	kg	4,518	4,598	-	-	-	-	-	
	380V		4,483	4,563	4,746	7,926	8,999	9,095	9,855	
	440V									
	480V									
Inverter (Optional)	220V	-	v-100	v-100	v-150	v-150	v-180	v-200	v-240	
	380V									
	440V									
	480V									

- Notes: 1. The above data is based on the inverter V - 100 (Optional)
 2. Cooling capacities and electrical properties are based on CNS12575 (water chilling packages using the vapor compression cycle)
 3. IPLV is based on AHRI 551/591
 4. Fouling factor : 0.000044m²°C/W
 5. Operating range : Chilled Water Outlet Maximum 15°C/Minimum 5°C ; Cooling Water Outlet Maximum 38°C/Minimum 21°C
 6. The values of chiller and condenser pipe diameter in parentheses are imperial unit.

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