# Come Home to Better Comfort

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HITACHI

# FLOODED WATER CHILLER

Ker ITA II -





# ENVIRONMENTALLY FRIENDLY REFRIGERANT SAVES ENERGY

Hitachi Flooded Water Chillers use environment friendly refrigerant R134a in place of traditional Chlorofluorocarbons (CFCs). R134a is a highly stable, low-toxicity, and non-flammable refrigerant without chlorine. In using it, we help preserve the environment.

# ENERGY SAVING HIGH EFFICIENCY



The entire line of Hitachi Flooded Water Chillers all have COP values greater than 5. This allows the machine to operate for long periods while saving energy. Hitachi Flooded Water Chillers are the smart and economical choice.

# EASY-TO-USE CONTROL & CONVENIENT TO MANAGE





- Touchscreen interface displays the 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, which saves energy and improves safety.
- The machine can be set to turn on/off weekly, which further increases the efficiency of system management.

### SELF-DIAGNOSE & INTELLIGENT **OPERATION INSPECTION**

- Equipped with voltage, current, temperature and pressure protective functions.
- Timely adjustment of operation conditions of the main machine, preventing failures.
- During failure, immediately display and record cause of failure to facilitate service and inspection.

#### HIGH PERFORMANCE SCREW COMPRESSOR

These advanced screw compressors, which are imported from Germany, are built to perform efficiently at high speed and use rotary motion for compression. Simple in structure yet exceptionally functional, they do not use unnecessary motions, hence they reduce noise and vibration.

# HIGH EFFICIENCY SHELL & TUBE TYPE

The sophisticated design of the shell and tube further increases the machine's efficiency.

# CONTINUOUS CAPACITY CONTROL

The Continuous Capacity Control function allows users to automatically adjust the operation (25-100%) according to load by precisely controlling the machine's water output temperature.

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# Why Does a **SEMI-HERMETIC SCREW**

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- 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 discharges 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.





# RCU-F1001WSS

# RCU-F801WSD





RCU-F801WSS

CUT

CUT

RCU-F1201WSS

FOLD

FOLD

# RCU-F1001WSD

CUT

CUT



# RCU-F1501WSD

FOLD

FOLD



# RCU-F1201WSD





# RCU-F1801WSD / RCU-F2001WSD



# RCU-F2402WSD

CUT

CUT

# RCU-F3601WSD

FOLD

FOLD





# RCU-F3001WSD



#### RCU-F4001WSD



# RCU-F4801WSD

CUT

CUT



# GENERAL UNIT DATA

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	Mo	odel	RCU-	RCU-	RCU-	RCU-	RCU-	RCU-	RCU-	RCU-	RCU-	RCU-	RCU-	RCU-	RCU-	RCU-	
Item		$\leq$	F801WSS	F1001WSS	F1201WSS	F801WSD	F1001WSD	F1201WSD	F1501WSD	F1801WSD	F2001WSD	F2402WSD	F3001WSD	F3601WSD	F4001WSD	F4801WSD	
Cooling Capacity		kcal/h	241,920	302,400	362,880	253,700	302,400	362,880	468,720	571,900	618,340	779,160	907,200	1,088,640	1,209,600	1,451,520	
		kW	281.3	351.6	422.0	295.0	351.6	422.0	545.0	665.0	719.0	906.0	1,054.8	1,265.8	1,406.4	1,687.8	
СОР		W/W	5.18	5.49	5.13	5.18	5.20	5.20	5.01	5.20	5.20	5.30	5.20	5.40	5.20	5.30	
Dimension	Width	mm	2,985	3,098	3,101	3,333	3,334	3,370	3,439	3,885	3,885	3,863	4,630	4,635	4,644	4,854	
	Depth	mm	1,052	1,137	1,137	1,480	1,513	1,610	1,680	1,763	1,763	1,877	2,000	2,000	2,000	2,230	
	Height	mm	1,942	2,222	2,337	1,372	1,433	1,527	1,596	1,752	1,752	1,808	1,800	1,875	1,875	2,036	
Compressor	Туре	-	Semi-hermetic Screw														
	Quantity	-	1	1	1	2	2	2	2	2	2	2	2	2	2	2	
	Crankcase Heater	W	200	300	300	200 x 2	200 x 2	200 x 2	200 x 2	300 x 2	300 x 2	300 x 2	300 x 2	300 x 2	300 x 2	300 x 2	
Condenser Type		-	Shell and Tube														
Chiller Type		-	Shell and Tube (Flooded)														
Expansion Valve Control		-	Electronic Expansion Valve														
Refrigerant	Туре	-	RI34a														
	Quantity	kg	70	90	120	40 x 2	40 x 2	54 x 2	80 x 2	81 x 2	81 x 2	112 X 2	145 x 2	200 x 2	190 x 2	240 x 2	
Oil	Туре	-		BSE170L													
	Quantity	l	15	22	19	10 x 2	10 x 2	15 x 2	15 x 2	22 x 2	22 x 2	19 X 2	30 x 2	30 x 2	30 x 2	35 x 2	
Starting Method -		-					Part W	/inding						Y	$\sim$		
Absorber –		-						Vibrat	ion Dampe	er for Com	pressor						
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 Protection													
Operation Device	Monitoring Devices	-		Human Machine Interface/Programmable Logic Controller(PLC)													
	Monitoring items	_	Voltage/Current/Temperature/Pressure/Expansion Valve Position/Liquid Refrigerant Level/Current Limit Setting/														
						Se	tting Runr	iing Day/In	spection a	nd Replace	ement Inter	rval Remino	der				
	Pilot Lamp	-		Green – Normal / Red – Abnormal / White – Power Supply													
	Capacity Control	%		0, 25-100 0, 12.5-100													
Chiller	Connections	-	l.D.φ116 (With F	ômm(4*) Flange)	l.D.φ 142mm(5") (With Flange)	l.D.φ116 (With F	I.D.φ116mm(4") (With Flange) (With Flange)					l.D.φ 167mm(6") (With Elange)	") I.D.ø218mm(8") (With Flange)				
	Standard Flow	m <sup>3</sup> /h	48	60	72	50.3	60	72	93	113.5	122.6	154.6	180	216	240	288	
	Pressure Drop	mAq	5.7	5.3	4.4	6.8	4.5	3.8	5.8	6.6	7.4	6.6	9.6	7.7	9.5	6.9	
Condenser	Connections	_	I.D.φ116 (With F	I.D.φ116mm(4") (With Flange)		I.D.φ116mm(4") (With Flange)			l.D.φ116 (With F	mm(4") lange)		I.D.φ 167mm(6") (With Flange)	I.D.φ218mm(8*) (With Flange)		I.D.φ 269mm(10") (With Flange)		
	Standard Flow	m <sup>3</sup> /h	60.0	75.0	90.0	62.9	75.0	90.0	116.3	141.9	153.4	193.3	225.0	270.0	300.0	360.0	
	Pressure Drop	mAq	4.8	5.1	4.0	4.4	4.8	4.8	5.1	6.0	6.4	7.1	7.2	7.1	7.8	7.3	
Power Supply		-	АС, 3ф 220V	AC, 3φ, 60Hz, AC, 3φ, 220V / 380V 60Hz, 280V		AC, 3φ, 60Hz, 220V / 380V						AC, 3φ, 60Hz, 380V					
Electrical Data	Power Input	kW	54.3	64	82.2	56.9	67.6	81	108.7	127.9	138.3	170.9	202.8	235	270.5	318.5	
	Running 220V		158	187	—	170	211	245	335	381	412	—	—	-	—	—	
	<sup>Current</sup> 380V		92	108	142	105	122	142	185	221	239	316	354	400	472	563	
	Starting Current 380V	A	732	885	—	600	625	750	1025	1110	1170	—	—	-	—	—	
			513	534	742	410	455	470	644	730	740	910	1,040	1,100	1,210	1,380	
Net Weight		kg	1,850	2,470	2,730	2,250	2,410	3,030	3,660	4,210	4,300	4.440	7,180	8,060	8,120	8,890	
Gross Weight		kg	1,960	2,610	2,890	2,360	2,570	3,220	3,870	4,420	4,500	4,670	7,850	8,900	8,960	9,720	
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Note: 1. Cooling capacities and electrical properties are based on CNS12575 (water chilling packages using the vapor compression cycle).

2. Fouling factor : 0.000044m<sup>2</sup>  $^{\circ}\text{C}/\text{W}$   $^{\circ}$ 

customers.

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3. Operating range : Chiller Water Outlet Maximum 15°C/Minimum 5°C : Cooling Water Outlet >21°C , Inlet <38°C

4. The values of chiller and condenser pipe diameter in parentheses are imperia units.

5. Specifications in this data are subject to change without prior notice, in order that HITACHI may bring the latest innovations to our