

Water-cooled Screw Chiller

WZPY SERIES

Cooling & Heating

Johnson Controls - Hitachi Air Conditioning

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WZPY-C-2008-2



OVERVIEW

OPTIMIZE YOUR SOLUTION WITH HITACHI WATER COOLED CHILLER

Incorporating proprietary cutting edge technology, Hitachi's Water Cooled Chiller combines high efficiency performance and stable operation. New model chiller lineup featuring a G-type semi-hermetic twin-screw compressor using the environmentally-friendly R134a refrigerant.

In addition to low noise, low vibration, high efficiency and high performance, the new models come with a user-friendly touch panel type liquid crystal screen display that allows you to check operation status at a glance and has a full range of control functions. As the perfect answer to user needs, Hitachi's chillers are designed to cover a broad range of applications from air conditioning of buildings to cooling of factories.



MAIN FEATURES

- 0 ozone depletion potential (ODP) HFC134a refrigerant
- R134a G-type twin-screw compressor
- High efficiency shell-and-tube flooded evaporator
- User-friendly touch LCD Panel

Nominal capacity range:
189~1815kW
53~516RT

**Air Conditioning
at Office Buildings**



**Process Cooling
at Factory**



BETTER PERFORMANCE AND ENERGY SAVING

Hitachi's new water-cooled chiller(WZPY Series) adopts more efficient semi-hermetic twin-screw compressor and better shell-and tube flooded evaporator brings you significant energy saving experience under stable and durable operation.

ADOPTING HITACHI R134a SCREW COMPRESSOR

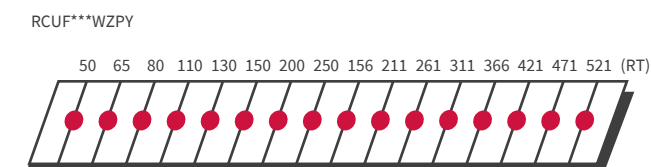
Since 1972 when we started manufacturing them, we have delivered more than 200,000 Hitachi twin-screw compressors to countries around the world where they continue to meet essential air conditioning needs.

Our new water-cooled chillers adopt G-type semi-hermetic twin-screw compressors that only available to R134a refrigerant .



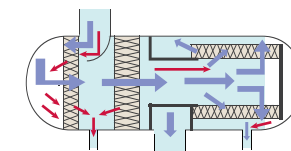
WIDE LINE-UP

To meet the need of air conditioning systems for large facilities and the demand for higher capacity industrial cooling systems.



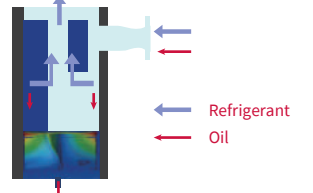
OIL SEPARATOR

Current Model



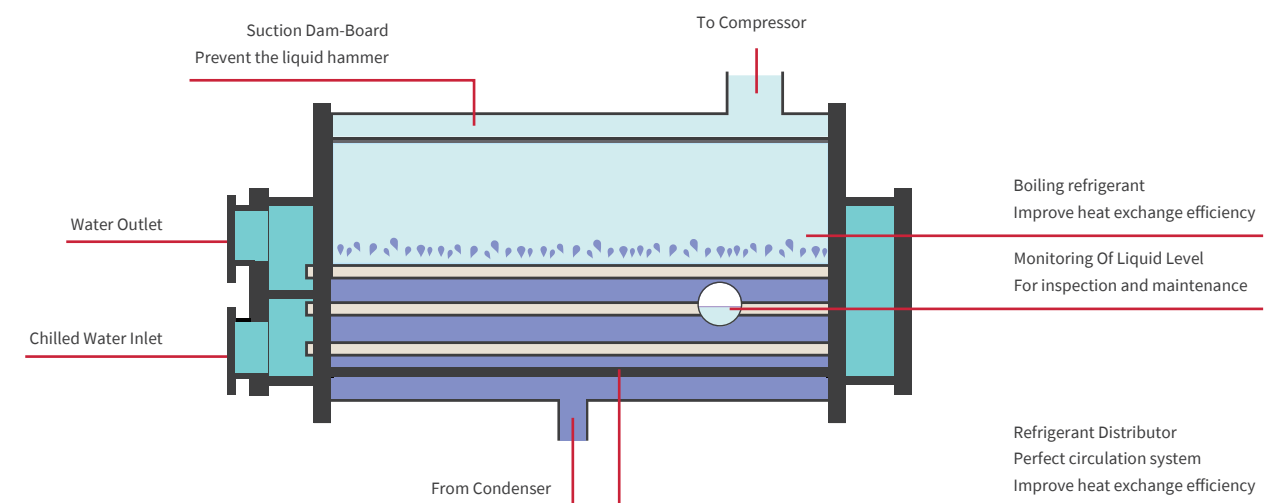
Filter Oil Separator
High Pressure Drop,
More Energy Consumption

New Model



Cyclone Oil Separator
Low Pressure Drop,
Less Energy Consumption

HIGH EFFICIENCY FLOODED TYPE EVAPORATOR



INTELLIGENT CONTROL

CLEAR USER-FRIENDLY LCD TOUCH CONSOLE

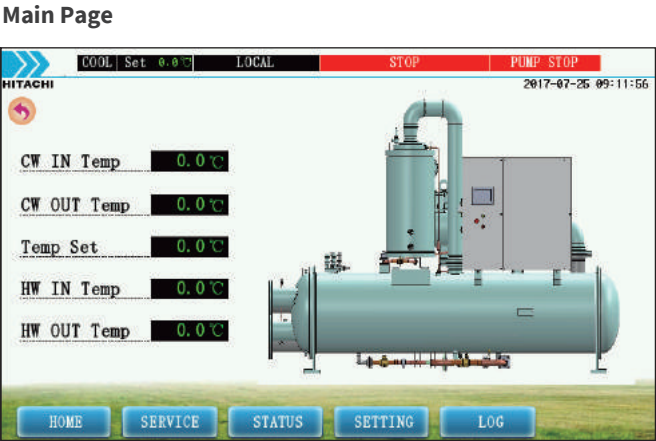
The display makes it easy to view the current operating status and simplify the setting procedure.

Various parameters can be confirmed at a glance.

Regardless of operating status,the console allows you to set a variety of operation modes.

A warning log function makes it possible to recall the latest 10 recent warning events.

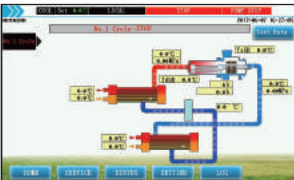
The user interface is provided in both English and Chinese.



Compressor Page



Status Page



Parameter Setting Page

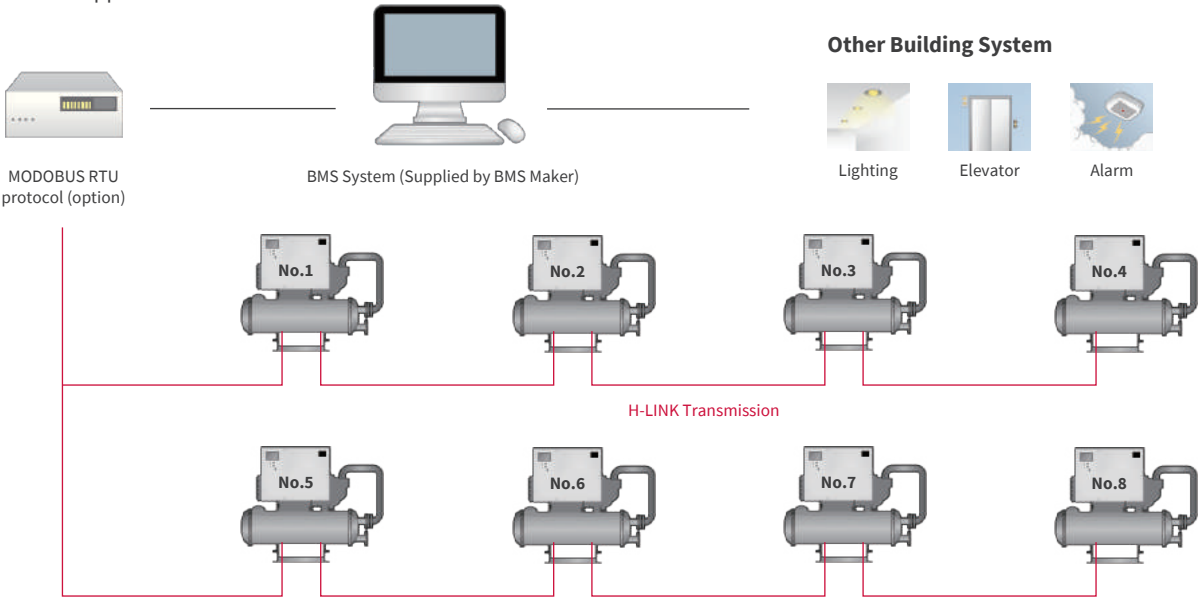


Setting Page

Item	Setting	Unit
ON/OFF Set	0.0	°C
R. Zone Reset	0.0	°C
Stop T. Reset	0.0	°C
L. Upd. Reset	0.0	°C
Load Up 1 Time	0	s
Load Up 2 Time	0	s
Interval	0	s

BUILDING MANAGEMENT SYSTEM (BMS)

A BMS-connecting interface can be supplied



Through H-LINK transmission, at most of 8 chillers of the same model can be connected to cascade a maximum volume of 4240RT.

SPECIFICATIONS

Model		RCUF50WZPY	RCUF65WZPY	RCUF80WZPY	RCUF110WZPY	RCUF130WZPY
Power Source		Main (AC3φ) 380,415V/50Hz, Control (AC1φ) 220,240V/50Hz				
Nominal Cooling Capacity	kW	189.2	236.6	296.9	380.1	475.1
	RT	53.8	67.3	84.4	108.1	135.1
Input Power	kW	31.9	39.9	50.1	64.2	80.3
COP	—	5.93	5.93	5.93	5.92	5.92
Compressor	Model	GSCCW**Z	50	60	40	50
	Quantity	Set	1	1	2	2
Number of Circuit	—	1	1	2	2	2
	Flow Rate	m ³ /h	29.6	37.0	46.4	59.4
Chilled Water	Pressure drop	kPa	61	62	48	48
Cooling Water	Flow Rate	m ³ /h	36.6	45.7	57.4	73.5
	Pressure drop	kPa	31	32	28	27
Continuous Capacity Control	%	—	—	25~100	—	—
Refrigerant	—	—	—	R134a	—	—
Evaporator	Type	—	—	Shell-and-Tube Flooded Type		
	Number Of Pass	—	—	2	—	—
Adapter Tube	—	DN65	DN65	DN125	DN125	DN125
	Type	—	—	Shell-and-Tube Type		
Condenser	Number Of Pass	—	—	2	—	—
	Adapter Tube	—	DN65	DN65	DN125	DN125
Safety devices	—	Three-Phase Over current Relay, High-Pressure Switch, High and Low-Pressure Control, Oil Heater, Internal Thermostat for Compressor Motor, Freeze Protection Control, Reverse Phase Protection Control, Discharge Gas Overheat Protection, Compressor frequent ON/OFF control, Pressure Relief Valve,Overcurrent Relay and Water Pressure Difference Switch.				
Packing Dimensions	Length	mm	2,200	2,200	3,950	3,950
	Width	mm	1,350	1,350	1,350	1,350
	Height	mm	1,600	1,600	1,600	1,600
Shipping Weight	kg	1,902	2,002	3,252	3,402	3,552

Model			RCUF150WZPY	RCUF200WZPY	RCUF250WZPY	RCUF156WZPY	RCUF211WZPY	RCUF261WZPY
Power Source			Main (AC3φ) 380,415V/50Hz, Control (AC1φ) 220,240V/50Hz					
Nominal Cooling Capacity		kW	549.1	732.2	915.2	544.5	726.0	907.6
		RT	156.2	208.2	260.3	154.9	206.5	258.1
Input Power		kW	86.7	115.6	144.5	92.2	123.4	154
COP		—	6.33	6.33	6.33	5.91	5.88	5.89
Compressor	Model		GSCCW**Z	150	200	150	200	250
	Quantity	Set	1	1	1	1	1	1
Number of Circuit		—	1	1	1	1	1	1
Chilled Water	Flow Rate	m³/h	85.8	114.5	143.1	85.1	113.5	141.9
	Pressure drop	kPa	25	26	28	24	26	28
Cooling Water	Flow Rate	m³/h	105.1	140.2	175.2	105.3	140.5	175.5
	Pressure drop	kPa	27	29	30	62	64	65
Continuous Capacity Control		%	—	—	25~100	—	—	—
Refrigerant		—	—	—	R134a	—	—	—
Evaporator	Type	—	—	—	Shell-and-Tube Flooded Type			
	Number Of Pass	—	—	—	2	—	—	
Adapter Tube	—	—	—	—	DN150	DN150	DN150	
	Type	—	—	—	Shell-and-Tube Type			
Condenser	Number Of Pass	—	—	—	2	—	—	
	Adapter Tube	—	—	—	DN150	DN150	DN150	
Safety devices	—	Three-Phase Over current Relay, High-Pressure Switch, High and Low-Pressure Control, Oil Heater, Internal Thermostat for Compressor Motor, Freeze Protection Control, Reverse Phase Protection Control, Discharge Gas Overheat Protection, Compressor frequent ON/OFF control, Pressure Relief Valve,Overcurrent Relay and Water Pressure Difference Switch.						
Packing Dimensions	Length	mm	3,373	3,373	3,373	3,280	3,280	3,280
	Width	mm	1,715	1,715	1,715	1,700	1,700	1,700
	Height	mm	2,311	2,311	2,311	2,258	2,258	2,258
Shipping Weight	kg		3,976	4,445	4,672	3,816	4,236	4,408

- Notes:
- Performance data are rated in accordance with AHRI Standard 550/590
Evaporator Water inlet/outlet temperature: 12.2°C/6.7°C
Condenser Water inlet / outlet temperature: 29.4°C/34.6°C
The fouling factor of evaporator is 0.018m²·°C/kW, the fouling factor of condenser is 0.044m²·°C/kW.
 - Working Range:
Condenser Water outlet temperature : 22°C ~ 40°C
Evaporator Water outlet temperature : 5°C ~ 20°C(RCUF50~130WZPY) 4°C ~ 15°C(RCUF150~521WZPY)
 - Power Source:
Main Power Source (3φ) Control Power Supplies (1φ)
380V 50Hz 220V 50Hz
415V 50Hz 240V 50Hz

SPECIFICATIONS

Model			RCUF311WZPY	RCUF366WZPY	RCUF421WZPY	RCUF471WZPY	RCUF521WZPY
Power Source			Main (AC3φ) 380,415V/50Hz, Control (AC1φ) 220,240V/50Hz				
Nominal Cooling Capacity	kW	1,089.1	1,270.6	1,452.1	1,633.6	1,815.1	
	RT	309.8	361.4	413	464.6	516.3	
Input Power	kW	181.4	209.2	238.3	268.5	297.5	
COP	—	6.00	6.07	6.09	6.08	6.10	
Compressor	Model	GSCCW**Z 150	200+150	200	250+200	250	
	Quantity	Set 2	1+1	2	1+1	2	
Number of Circuit	—	1	1	1	1	1	
Chilled Water	Flow Rate	m³/h 170.3	198.6	227	255.4	283.8	
	Pressure drop	kPa 54	56	58	59	61	
Cooling Water	Flow Rate	m³/h 210.1	244.7	279.5	314.5	349.3	
	Pressure drop	kPa 59	61	62	64	65	
Continuous Capacity Control	%	25~100					
Refrigerant	—	R134a					
Evaporator	Type	Shell-and-Tube Flooded Type					
	Number Of Pass	2					
	Adapter Tube	DN200					
Condenser	Type	Shell-and-Tube Type					
	Number Of Pass	2					
	Adapter Tube	DN200					
Safety devices	—	Three-Phase Over current Relay, High-Pressure Switch, High and Low-Pressure Control, Oil Heater, Internal Thermostat for Compressor Motor, Freeze Protection Control, Reverse Phase Protection Control, Discharge Gas Overheat Protection, Compressor frequent ON/OFF control, Pressure Relief Valve,Overcurrent Relay and Water Pressure Difference Switch.					
Packing Dimensions	Length	mm	4,693				
	Width	mm	1,766				
	Height	mm	2,318				
Shipping Weight	kg	6,542	6,857	7,172	7,437	7,702	

Notes:

1. Performance data are rated in accordance with AHRI Standard 550/590
Evaporator Water inlet/outlet temperature: 12.2°C/6.7°C
Condenser Water inlet / outlet temperature: 29.4°C/34.6°C
The fouling factor of evaporator is 0.018m²·°C/kW, the fouling factor of condenser is 0.044m²·°C/kW.

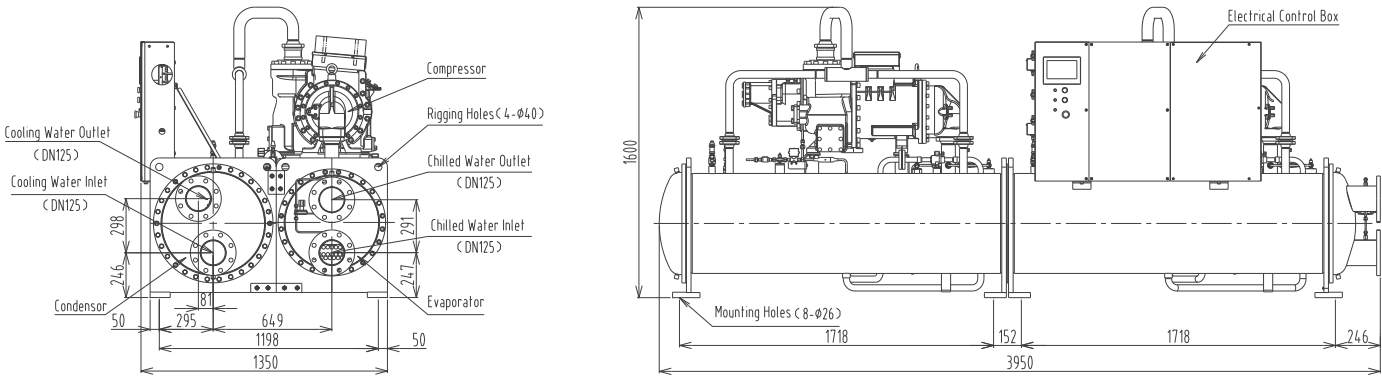
2. Working Range:

Condenser Water outlet temperature : 22°C ~ 40°C
Evaporator Water outlet temperature : 5°C ~ 20°C (RCUF50~130WZPY)
4°C ~ 15°C (RCUF150~521WZPY)

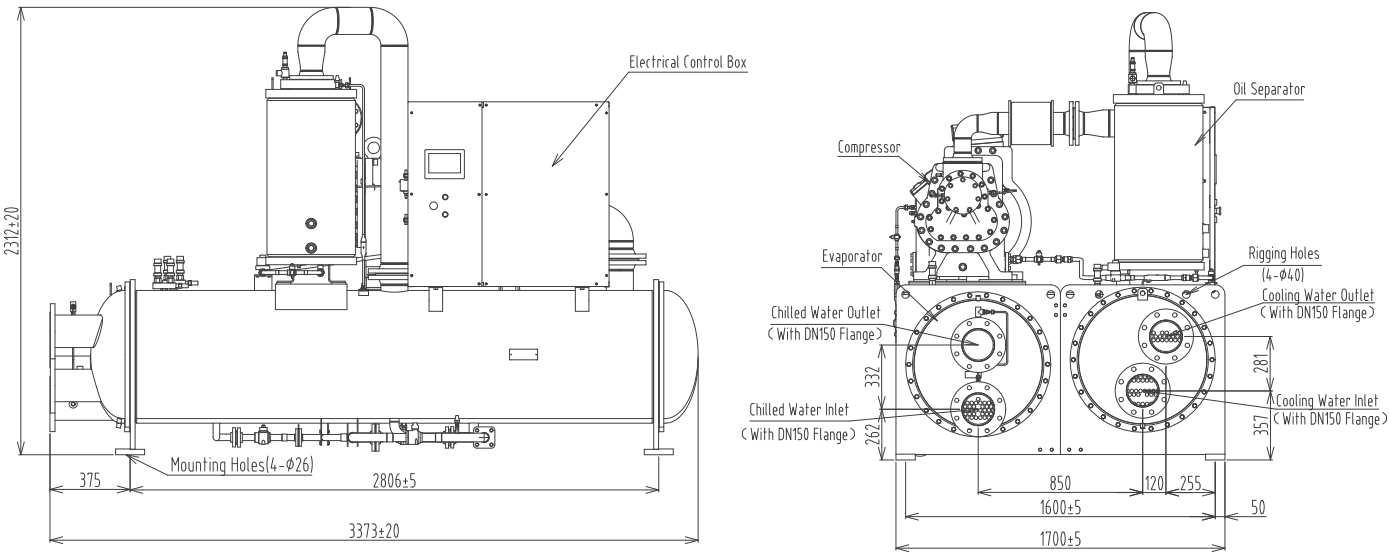
3. Power Source:

Main Power Source (3φ) Control Power Supplies (1φ)
380V 50Hz 220V 50Hz
415V 50Hz 240V 50Hz

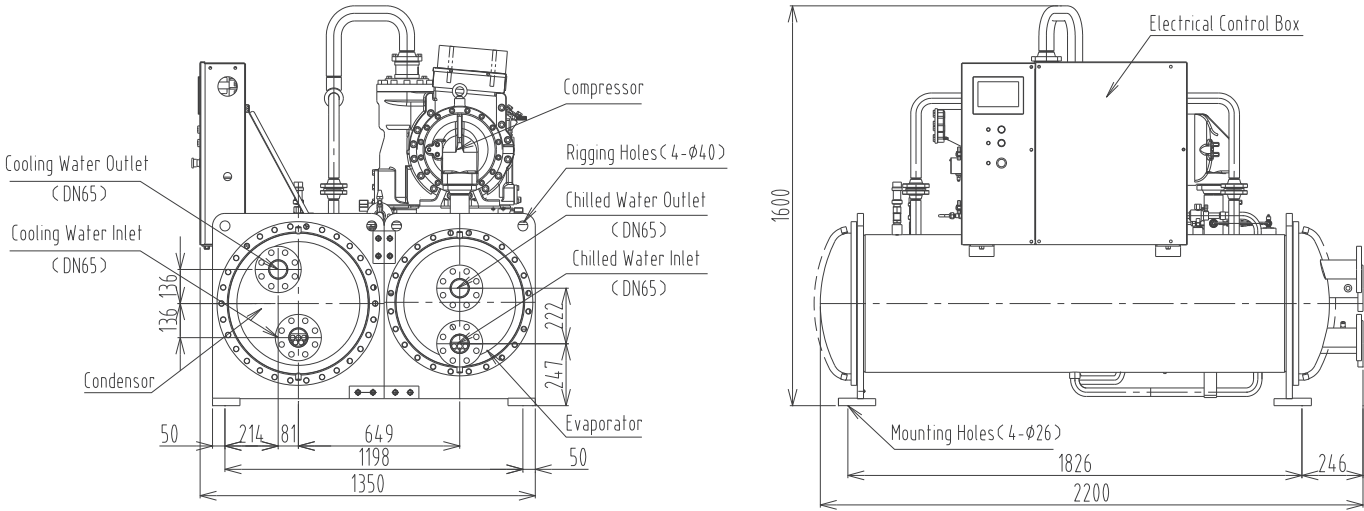
RCUF80 / 110 / 130WZPY



RCUF150 / 200 / 250WZPY

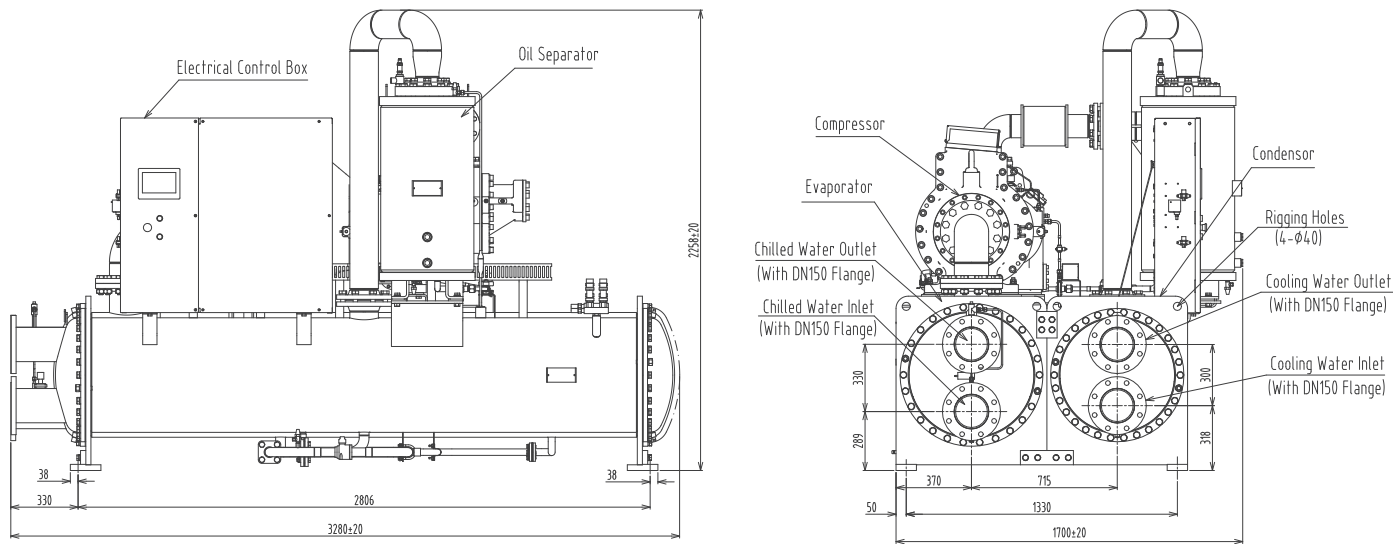


RCUF50 / 65WZPY



DIMENSIONS

RCUF156 / 211 / 261WZPY



RCUF311 / 366 / 421 / 471 / 521WZPY

