HITACHI

# Water-cooled Screw Chiller

## WZPY SERIES

Cooling & Heating



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www.hitachiaircon.com

Address: 3F, Catholic & Ethnic Newspaper Building,
370 Cach Mang Thang 8 Street, Nhieu Loc Ward,
Ho Chi Minh City, Vietnam.

Email: VN-Sales@bosch-hcgroup.com

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# 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:**
**189.2~1818.9kW**
**50~530RT**

**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.

**Current Model**



Cooling Capacity (kW) 805

COP 5.60

**New Model**



Cooling Capacity (kW) 932.5

COP 6.50 16% up

## 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.

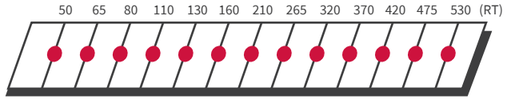
Our new water-cooled chillers adopt G-type semi-hermetic twin-screw compressors that only available to R134a refrigerant .



## WIDE LINE-UP

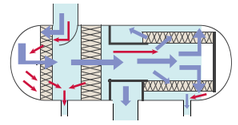
To meet the need of air conditioning systems for large facilities and the demand for higher capacity industrial cooling systems.

RCUF***WZPY



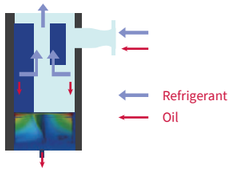

## OIL SEPARATOR

**Current Model**



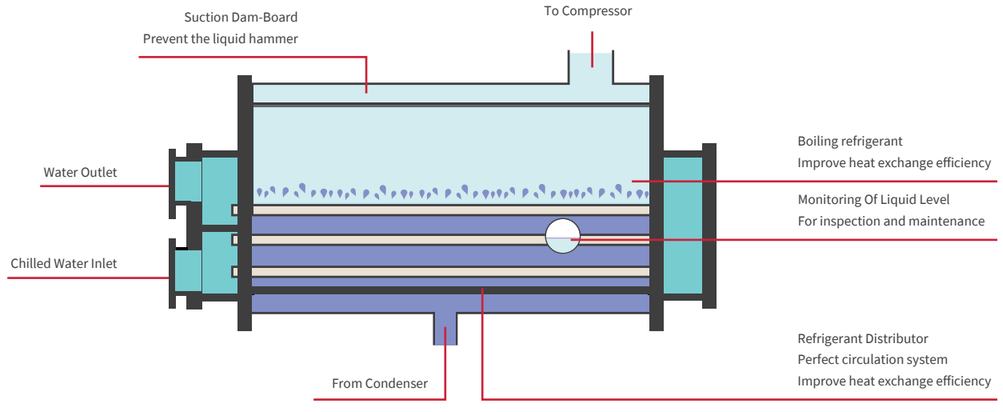
Filter Oil Separator
High Pressure Drop,
More Energy Consumption

**New Model**




Cyclone Oil Separator
Low Pressure Drop,
Less Energy Consumption

## HIGH EFFICIENCY FLOODED TYPE EVAPORATOR

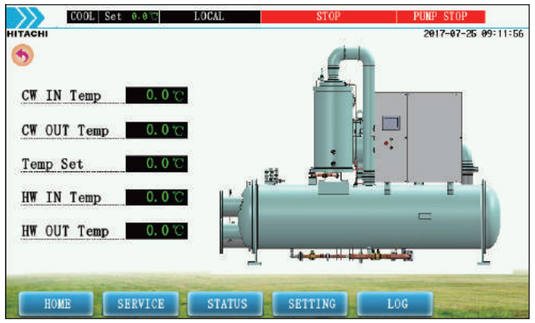


# INTELLIGENT CONTROL

## 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.

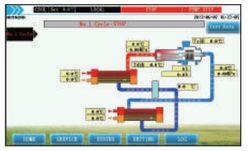
**Main Page**




**Compressor Page**



**Status Page**



**Parameter Setting Page**



**Setting Page**




## 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

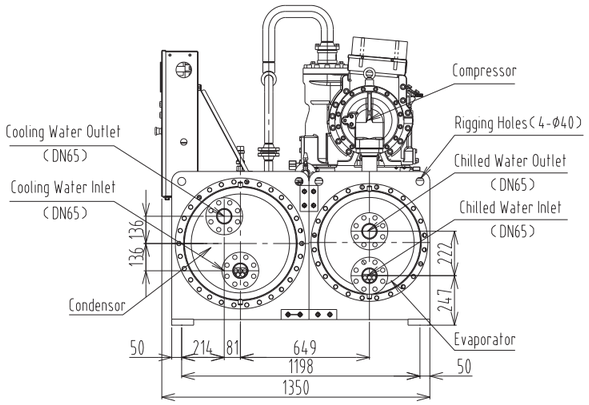
| Model | | | RCUF50WZPY | RCUF65WZPY | RCUF80WZPY | RCUF110WZPY | RCUF130WZPY |
|---|---|---|---|---|---|---|---|
| Power Source | | | Main(A C3φ)380,415V/50Hz,Control(AC1φ)220,240V/50Hz | | | | |
| Nominal cooling capacity | | kW | 189.2 | 236.6 | 296.9 | 380.1 | 475.1 |
| | | USRT | 54 | 67 | 84 | 108 | 135 |
| | | kcal/h | 163,400 | 204,680 | 256,280 | 329,380 | 411,080 |
| Power input | | kW | 31.9 | 39.9 | 50.1 | 64.2 | 80.3 |
| COP | | WW | 5.90 | 5.90 | 5.90 | 5.90 | 5.90 |
| Capacity control | | — | Continuous capacity control | | | | |
| | | % | 25~100 | 25~100 | 25~100 | 25~100 | 25~100 |
| Outer dimensions | Length | mm | 2,200 | 2,200 | 3,950 | 3,950 | 3,950 |
| | Width | mm | 1,350 | 1,350 | 1,350 | 1,350 | 1,350 |
| | Height | mm | 1,600 | 1,600 | 1,600 | 1,600 | 1,600 |
| Net weight | | kg | 1,900 | 2,000 | 3,250 | 3,400 | 3,550 |
| Refrigerant | Type | — | R134a | | | | |
| | Number of circuits | — | 1 | 1 | 2 | 2 | 2 |
| Compressor | Type | — | Semi-Hermetic Screw Type (R134a only) | | | | |
| | Model | GSCCW**Z | 50 | 60 | 40 | 50 | 60 |
| | Quantity | Set | 1 | 1 | 2 | 2 | 2 |
| Condenser | | — | Shell-and-Tube Type | | | | |
| Piping connections for water side heat exchanger | Inlet | — | DN65 | DN65 | DN125 | DN125 | DN125 |
| | Outlet | — | DN65 | DN65 | DN125 | DN125 | DN125 |
| Evaporator | | — | Shell-and-Tube Flooded Type | | | | |
| Piping connections for water side heat exchanger | Inlet | — | DN65 | DN65 | DN125 | DN125 | DN125 |
| | Outlet | — | DN65 | DN65 | DN125 | 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 | 3,950 |
| | Width | mm | 1,350 | 1,350 | 1,350 | 1,350 | 1,350 |
| | Height | mm | 1,640 | 1,640 | 1,640 | 1,640 | 1,640 |
| Packing weight | | kg | 1,902 | 2,002 | 3,254 | 3,404 | 3,554 |

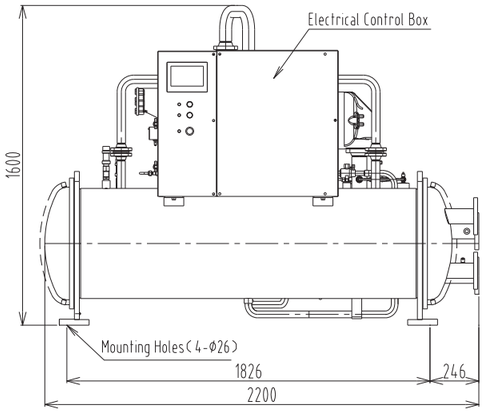
| Model | | | RCUF160WZPY | RCUF210WZPY | RCUF265WZPY | RCUF321WZPY | RCUF371WZPY | RCUF421WZPY | RCUF476WZPY | RCUF531WZPY |
|---|---|---|---|---|---|---|---|---|---|---|
| Power Source | | | Main(A C3φ)380,415V/50Hz,Control(AC1φ)220,240V/50Hz | | | | | | | |
| Nominal cooling capacity | | kW | 559.7 | 746.1 | 932.5 | 1,091.3 | 1,273.2 | 1,455.1 | 1,637.0 | 1,818.9 |
| | | USRT | 159 | 212 | 265 | 318 | 371 | 424 | 477 | 530 |
| | | kcal/h | 480,740 | 640,700 | 800,660 | 960,620 | 1,120,580 | 1,281,400 | 1,441,360 | 1,601,320 |
| Power input | | kW | 86.5 | 115.3 | 144.2 | 176.3 | 206.7 | 235.5 | 265.3 | 293.8 |
| COP | | WW | 6.50 | 6.50 | 6.50 | 6.19 | 6.16 | 6.18 | 6.17 | 6.19 |
| Capacity control | | — | Continuous capacity control | | | | | | | |
| | | % | 25~100 | 25~100 | 25~100 | 25~100 | 25~100 | 25~100 | 25~100 | 25~100 |
| Outer dimensions | Length | mm | 3,373 | 3,373 | 3,373 | 4,693 | 4,693 | 4,693 | 4,693 | 4,693 |
| | Width | mm | 1,715 | 1,715 | 1,715 | 1,766 | 1,766 | 1,766 | 1,766 | 1,766 |
| | Height | mm | 2,311 | 2,311 | 2,311 | 2,318 | 2,318 | 2,318 | 2,318 | 2,318 |
| Net weight | | kg | 3,974 | 4,443 | 4,670 | 6,540 | 6,855 | 7,170 | 7,435 | 7,700 |
| Refrigerant | Type | — | R134a | | | | | | | |
| | Number of circuits | — | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Compressor | Type | — | Semi-Hermetic Screw Type (R134a only) | | | | | | | |
| | Model | GSCCW**Z | 150 | 200 | 250 | 150 | 200+150 | 200 | 250+200 | 250 |
| | Quantity | Set | 1 | 1 | 1 | 2 | 1+1 | 2 | 1+1 | 2 |
| Condenser | | — | Shell-and-Tube Type | | | | | | | |
| Piping connections for water side heat exchanger | Inlet | — | DN150 | DN150 | DN150 | DN200 | DN200 | DN200 | DN200 | DN200 |
| | Outlet | — | DN150 | DN150 | DN150 | DN200 | DN200 | DN200 | DN200 | DN200 |
| Evaporator | | — | Shell-and-Tube Flooded Type | | | | | | | |
| Piping connections for water side heat exchanger | Inlet | — | DN150 | DN150 | DN150 | DN200 | DN200 | DN200 | DN200 | DN200 |
| | Outlet | — | DN150 | DN150 | DN150 | DN200 | DN200 | DN200 | DN200 | 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 | 3,373 | 3,373 | 3,373 | 4,693 | 4,693 | 4,693 | 4,693 | 4,693 |
| | Width | mm | 1,715 | 1,715 | 1,715 | 1,766 | 1,766 | 1,766 | 1,766 | 1,766 |
| | Height | mm | 2,351 | 2,351 | 2,351 | 2,358 | 2,358 | 2,358 | 2,358 | 2,358 |
| Packing weight | | kg | 3,976 | 4,445 | 4,672 | 6,542 | 6,857 | 7,172 | 7,437 | 7,702 |

Notes:
1. The performance is rated according to AHRI condition.
   Evaporator Water outlet temperature/water flow rate: 6.7°C, 0.043 l/s·kW
   Condenser Water inlet temperature/water flow rate: 29.4°C, 0.054 l/s·kW
   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(RCUF160~531WZPY)
3. Power Source:
   Main Power Source (3φ) Control Power Supplies (1φ)
   380V 50Hz 220V 50Hz
   415V 50Hz 240V 50Hz

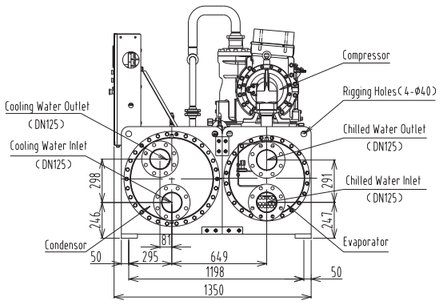
# DIMENSIONS

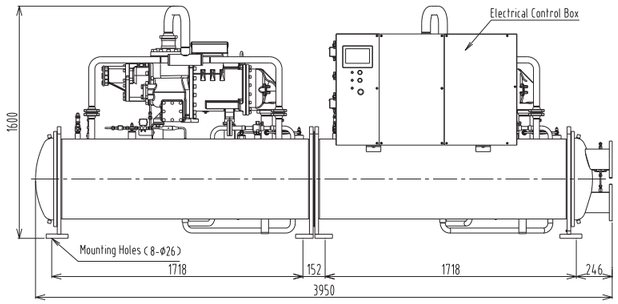
## RCUF50 / 65WZPY



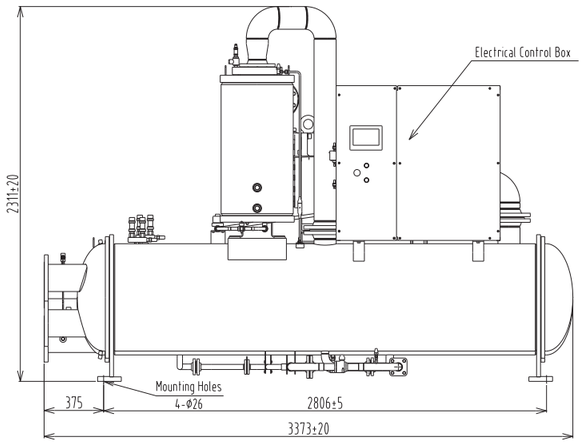



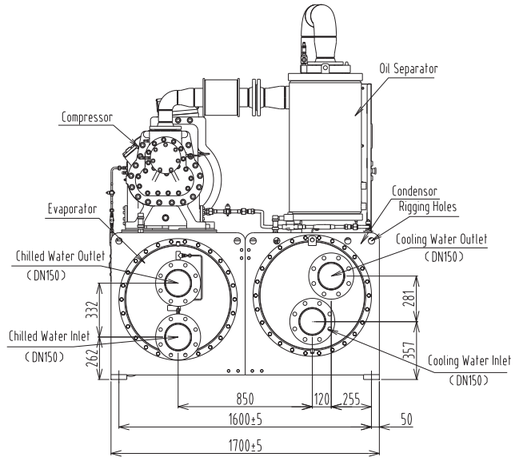

## RCUF80 / 110 / 130WZPY




## RCUF160 / 210 / 265WZPY




## RCUF321 / 371 / 421 / 476 / 531WZPY

