

HITACHI

Air Conditioning

R134a

Water-Cooled Chillers

Process Cooling



Water Cooled Chillers

Nominal capacity range:

173 kW to 668 kW

49.2 RT to 190.0 RT



The Hitachi Water Cooled Chiller is the perfect answer to user needs.

Incorporating proprietary cutting edge technology, Hitachi's Water Cooled Chiller combines high efficiency with high performance. 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.

Air Conditioning at Office Buildings



Process Cooling at Factory



R134a

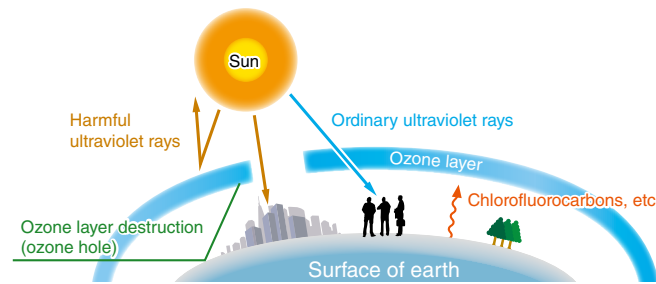
- Environmentally friendly HFC134a refrigerant
- R134a G-type twin-screw compressor
- High efficiency shell-and-tube dry type evaporator
- User-friendly touch panel type liquid crystal screen display

Nominal capacity range:
173 kW to 668 kW
49.2 RT to 190.0 RT



Use of HFC134a refrigerant has an ozone depletion potential of zero

Chlorofluorocarbons (CFCs) in the stratosphere are exposed to ultraviolet rays which decompose them, and generate chlorine atoms. It is thought that the chlorine atoms combine with oxygen atoms in ozone to destroy the ozone. Because HFC134a has no chlorine atoms, it does not destroy the ozone in the atmosphere.



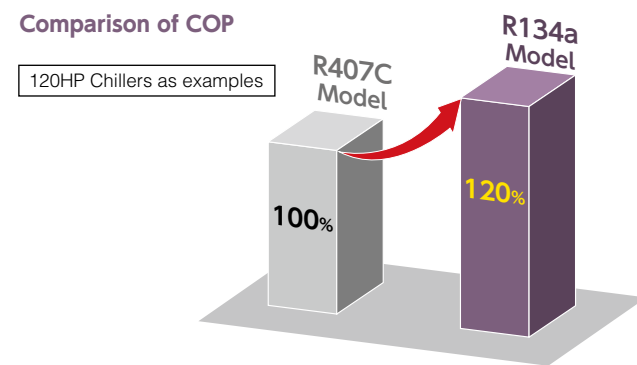
Shell & tube dry type evaporator

Our new chillers use a shell-and-tube dry type evaporator. Their low refrigerant charge reduces its environmental impact compared with flooded type.



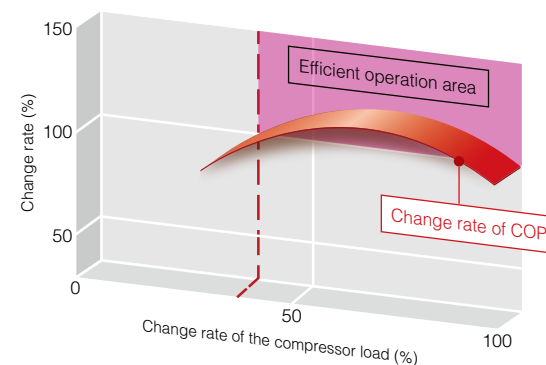
High performance and energy saving

The high heat exchanger effectiveness provided by the high operating efficiency of the semi-closed twin-screw compressor combined with a high performance shell-and-tube dry type evaporator result in unprecedented energy savings.



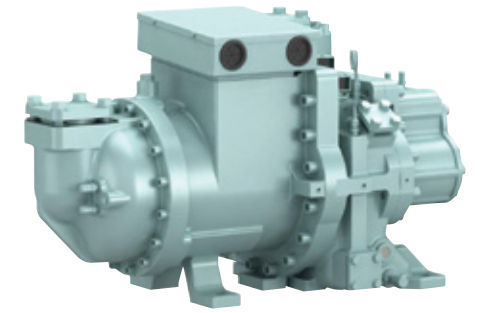
Accurate chiller control

Improved intermediate efficiency



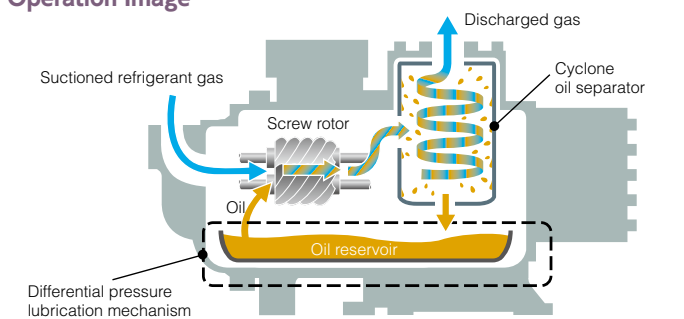
Adopting Hitachi R134a Screw Compressor

Since 1972 when we started manufacturing them, we have delivered more than 170,000 Hitachi twin-screw compressors to countries around the world where they continue to meet essential air conditioning needs. Our new water-cooled chillers are G-type semi-hermetic twin-screw compressors that run only on the R134a refrigerant. Powerful cooling capacity, low vibrations and low noise coupled with a simple compressor configuration have greatly enhanced reliability.



The cyclone oil separator they employ has been designed with extensive use of computer simulation. Thanks to these efforts, oil separation efficiency is greatly increased.

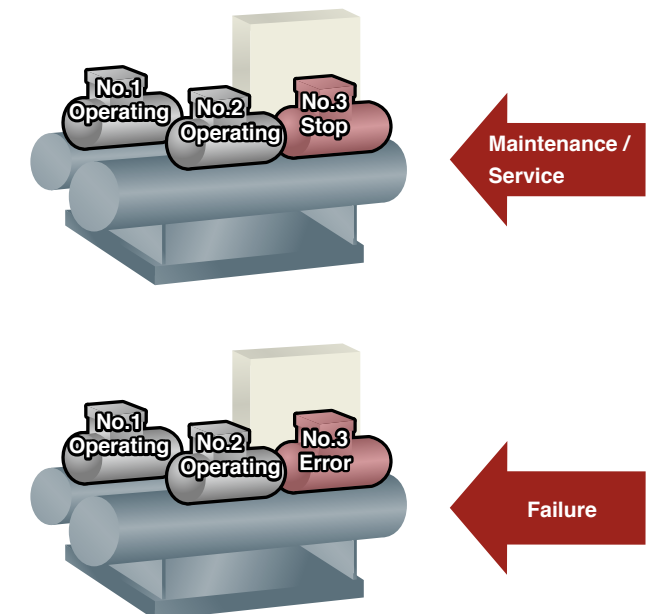
Operation Image



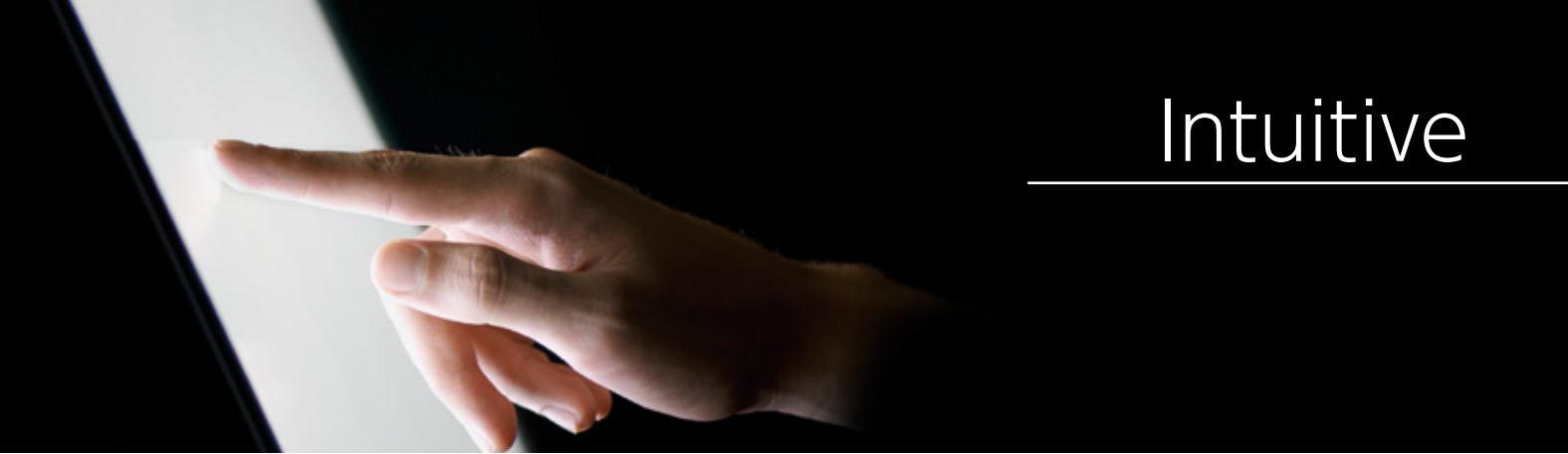
Multiple Compressors control

Hitachi water chiller units feature a modular. 8 units with the same model can be connected via H-LINK transmission, so as to realize the maximum capacity of 1,520RT. So each module can be packed and transported individually for more convenient local installation and displacement.

Further, the refrigerant system of each module can be operated independently, which makes maintenance easier. If unexpected trouble occurs in one module, the remaining modules are operated as a backup.



Intuitive



Easy-to-view, user-friendly touch panel type liquid crystal screen display

The display makes it easy to view the current operating state and simplify the setting procedure.
 Various parameters can be confirmed at a glance.
 Regardless of operating state, the interface keyboard allows you to set a variety of operation modes.
 A warning log function makes it possible to recall the ten most recent warning events.
 The user interface is provided in both English and Chinese.

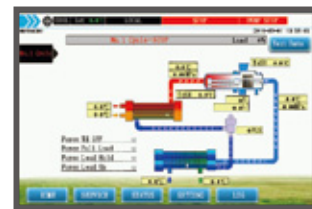


Main Screen

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Compressor Screen



Status Screen



Parameter setting Screen

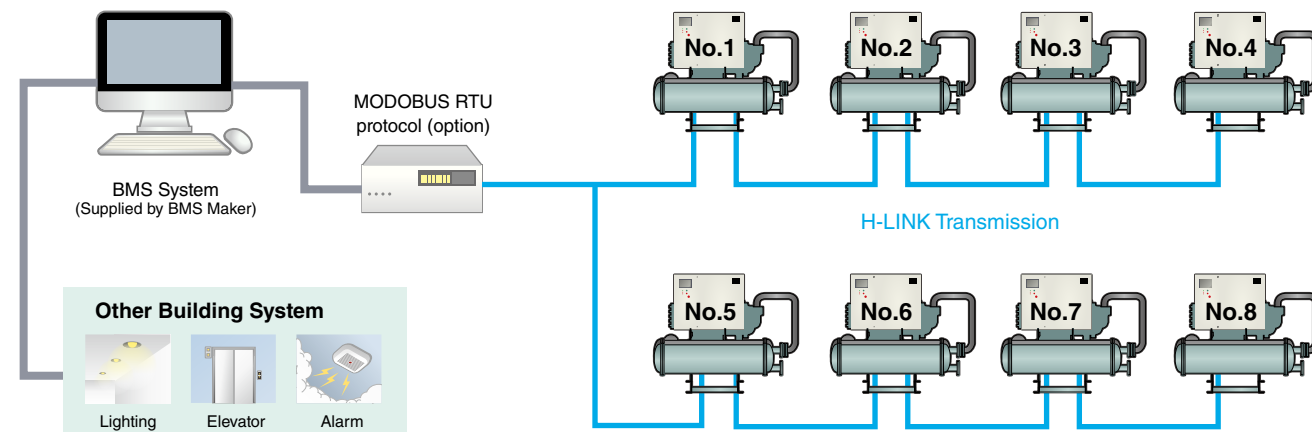


Setting Screen

Building Management System (BMS)

A BMS-connecting interface can be supplied.

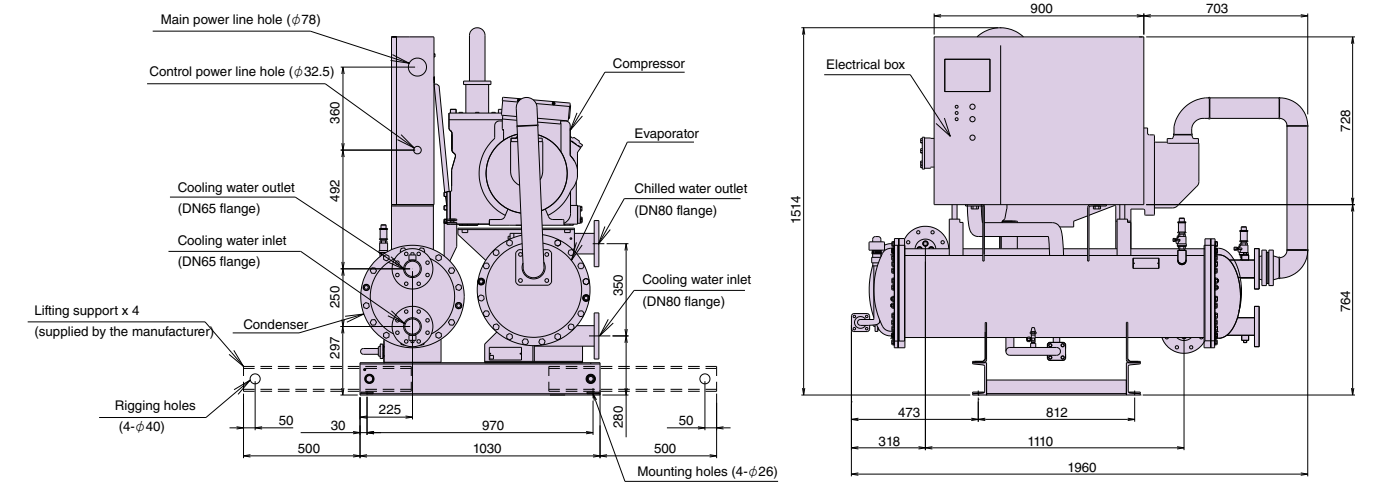
Through H-LINK transmission, at most of 8 chillers of the same model can be connected to realize a maximum volume of 1520RT.



Dimensional Data

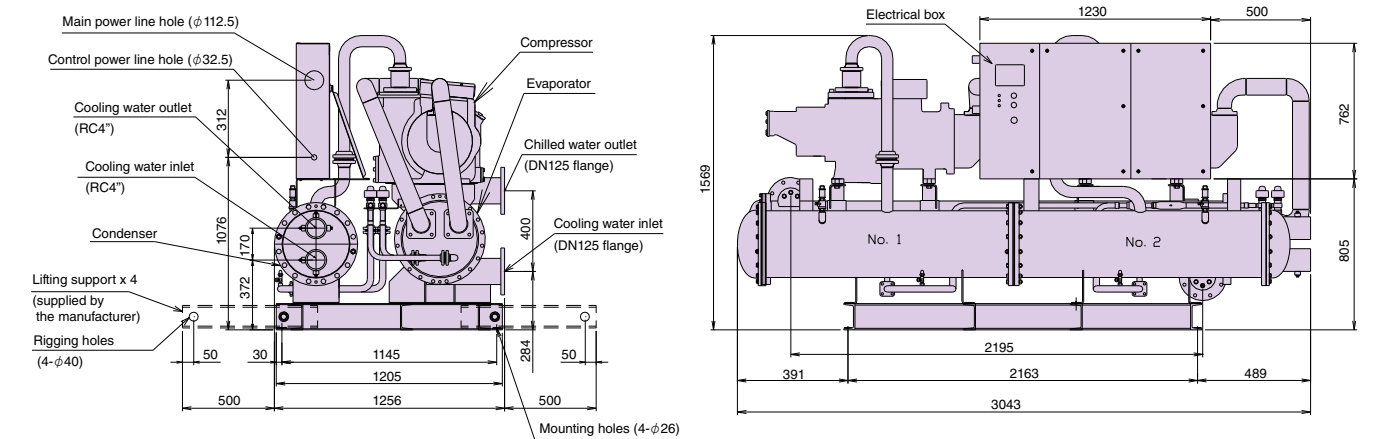
RCU50/60WHZ-X

(unit: mm)



RCU80/100/125WHZ-X

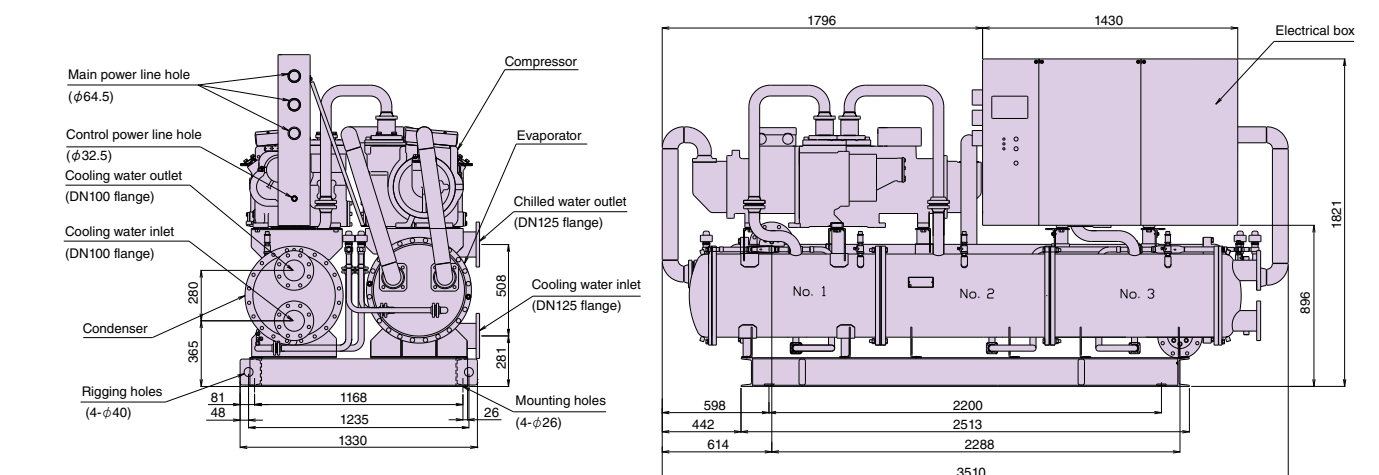
(unit: mm)



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RCU150/190WHZ-X

(unit: mm)



General Data

Model		RCU 50WHYZ-X	RCU 60WHYZ-X	RCU 80WHYZ-X	RCU 100WHYZ-X	RCU 125WHYZ-X	RCU 150WHYZ-X	RCU 190WHYZ-X
Cooling Capacity Range	kW	173	216	280	358	443	528	668
	RT	49.2	61.4	79.6	101.8	126.0	150.2	190.0
Cooling Capacity Control	-	Continuous Capacity Control						
	%	100~25, 0		100~25, (12.5)*, 0			100~25,(16.7)*, (8.3)*, 0	
Refrigerant	Refrigerant	R134a (charged)						
	Flow Control	Electronic expansive valve						
	Circuit Qty.	1		2			3	
Compressor	Type	Semi-Hermetic Screw Compressor						
	Qty.	1		2			3	
Condenser		Shell & Tube Type						
Evaporator		Shell & Tube Type, Dry Expansion Type						
Safety Device		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 and Pressure Relief Valve						
Condenser Piping Connection	Inlet	DN65		Rc4"			DN100	
	Outlet	DN65		Rc4"			DN100	
Evaporator Piping Connection	Inlet	DN80		DN125			DN125	
	Outlet	DN80		DN125			DN125	
Outer Dimensions	Length	1,960		3,043			3,510	
	Width	1,030		1,227			1,330	
	Height	1,514		1,569			1,821	
Shipping Dimensions	Length	2,110		3,160			3,660	
	Width	1,270		1,380			1,470	
	Height	1,760		1,820			2,140	
Net Weight	kg	1,140	1,200	2,120	2,280	2,410	3,500	3,750
Packed Weight	kg	1,270	1,330	2,290	2,450	2,580	3,720	3,970

- Cooling capacity is based on GB/T18430.1:
 Condenser chilling water inlet /Nominal water flow: 30°C / 0.215 m³ / (h·kW)
 Evaporator chilled water outlet /Nominal water flow: 7°C / 0.172 m³ / (h·kW)
- Power supply chosen
 Main power (3φ) 380V 50Hz/415V 50Hz
 Operating power supply (1φ) 220V 50Hz/240V 50Hz
- Capacity control data in () marked with * can be realized with a switch.
- Working range
 Cooling water outlet temperature 22°C-40°C
 Chilled water outlet temperature 5°C-20°C

- Design, testing and acceptance of the equipment is based on GB/T18430.1-2007
 Vapor Compression Cycle Water Chilling (heat pump) Unit Part I: Industrial or Commercial Water Chilling (Heat Pump) Unit or That With Similar Uses.
- Unit noise is tested according to the provisions in JB/T4330 Noise Measurement of Cooling and Air Conditioning Equipment within a half-space on a reflection plane. Measuring points are arranged at 1.0m in front of the unit center and 1.5m, from the ground.

* During practical installation, due to the reflector around, noise of the unit is greater than the nominal value generally.

Johnson Controls-Hitachi Air Conditioning

<http://www.jci-hitachi.com>

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