

Johnson Controls - Hitachi Air Conditioning

Manufactured by:

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Distributed by:

AZ(P)Y1 SERIES

AIR COOLED SCREW TYPE-WATER CHILLERS

R134a



Quality Management System Certification ISO9001



Environment al Management System Certification ISO14001



Occupational Health And Safety Management System Certification OHSAS18001



Optimize Your Solution with Hitachi Air Cooled Chiller

Incorporating proprietary cutting edge technology, Hitachi's Air 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.



**Air Conditioning
at Office Buildings**



**Process Cooling
at Factory**

R134a

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:
158~1602kW
45~456RT



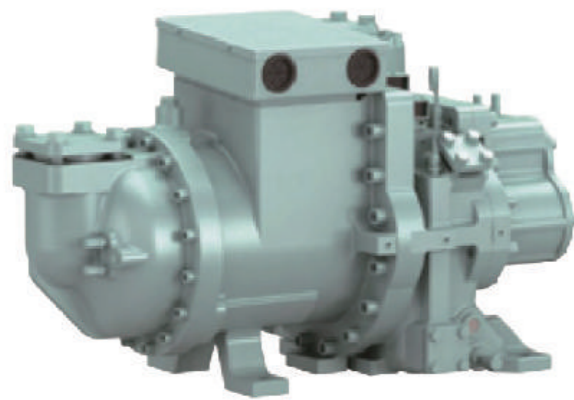
Adopting Hitachi R134a Screw Compressor

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.

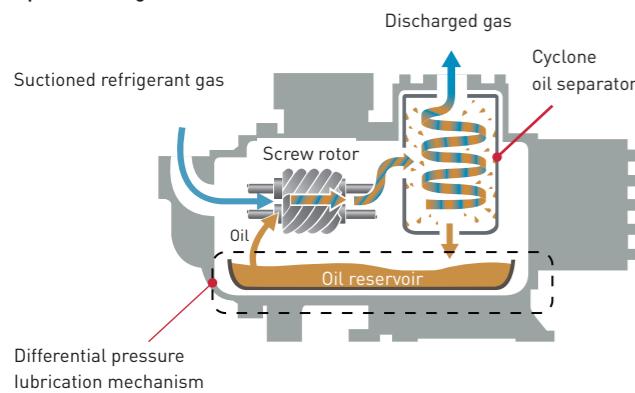
Our new air-cooled chillers adopt G-type semi-hermetic twin-screw compressors that only available to R134a refrigerant.

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

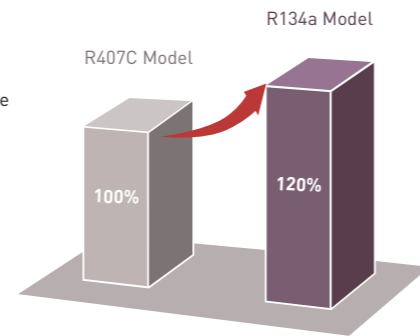


Better performance and energy saving

Hitachi's new air-cooled chiller (AZ(P)Y1 Series) adopts more efficient semi-hermetic twin-screw compressor and better shell-and-tube dry type evaporator brings you significant energy saving experience under stable and durable operation.

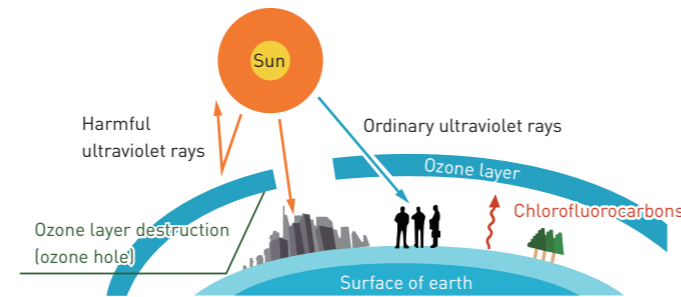
COP Comparison

100RT Chillers for example



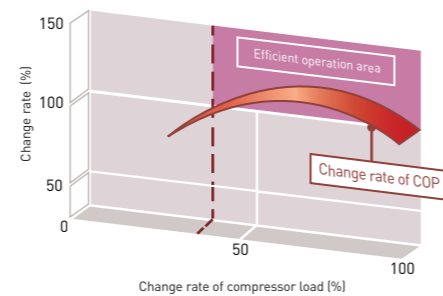
HFC134a, 0 ODP(Ozone depletion potential) refrigerant, adopted

Chlorofluorocarbons(CFCs) in stratosphere are exposed to ultraviolet rays which decomposes them, and generates chlorine atoms. It is considered that chlorine atoms combine oxygen atoms destroying the ozone. Chlorine atoms, HFC134a does not destroy ozone in atmosphere.



Accurate chiller control

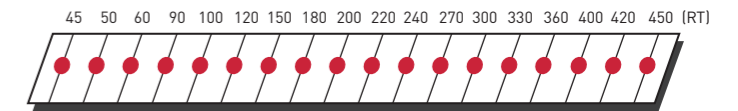
Intermediate efficiency improved



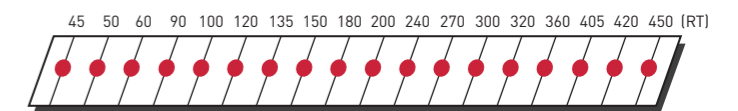
Wide Line-up

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

RCUF-AZY1



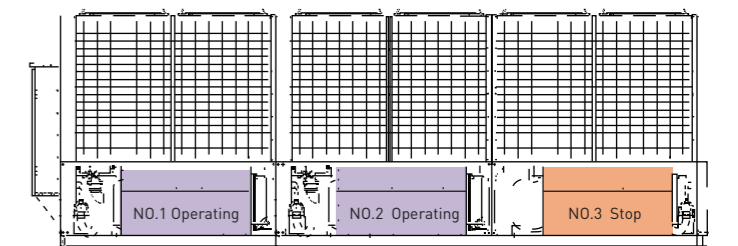
RCUF-AZPY1



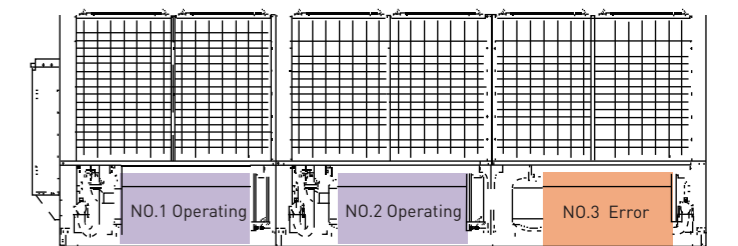
Multiple Compressors control

Hitachi air 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 1464 RT. Each module can be transported individually which enhance mobility and convenience of installation.

Besides refrigerant system of each module can operate, which makes maintenance easier. If unexpected trouble occurs in one module, the remaining modules will operate as backup.



When maintenance/sevice



When unit failure

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

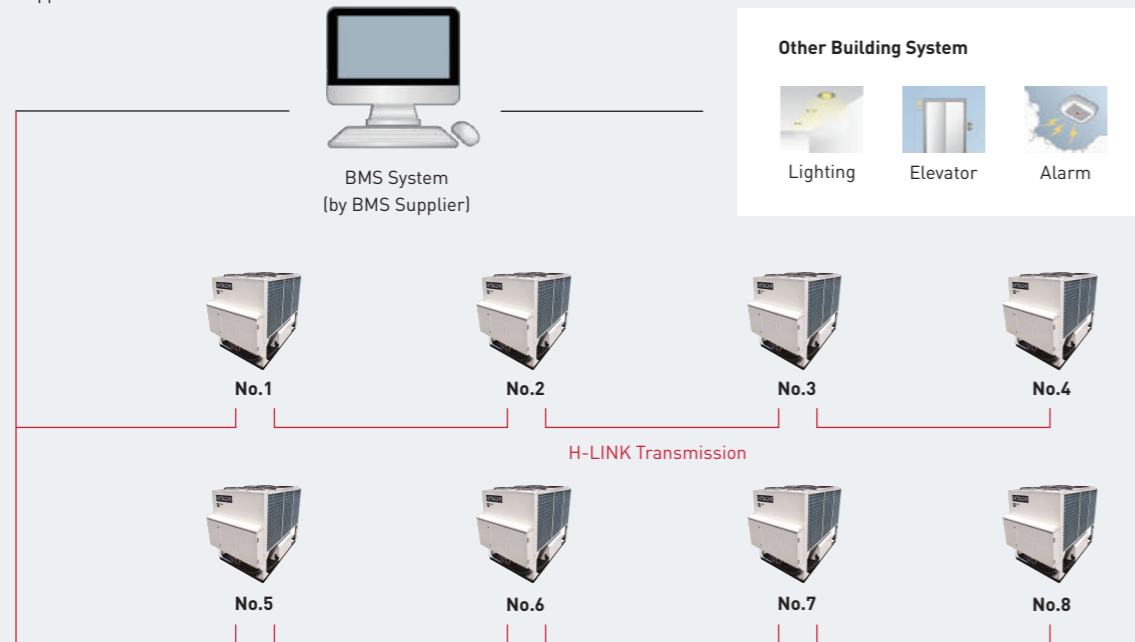


Setting Page



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 1464 RT.

Specification/Parameter

AZY1 series

Model		RCUF45AZY1	RCUF50AZY1	RCUF60AZY1	RCUF90AZY1	RCUF100AZY1	RCUF120AZY1
Power Source		Main (AC3φ) 380,415V/50Hz, Control (AC1φ) 220,240V/50Hz					
Nominal cooling capacity	kW	158	175	215	316	351	440
	USRT	45	50	61	90	100	125
	kcal/h	135,880	150,500	184,900	271,760	301,860	378,400
Power input	kW	49.7	55.0	67.6	99.4	110.4	138.4
Capacity control	—	Continuous capacity control					
	%	100-25.0					
Outer dimensions	Length	mm			2,390		4,490
	Width	mm			2,060		2,060
	Height	mm			2,120		2,160
Net weight	kg	1,550	1,600	1,710	2,900	3,000	3,220
	Type	R134a (charged)					
Refrigerant	Flow control	Electronic expansive valve					
	Number of circuits	—			1		2
Compressor	Type	Semi-Hermetic Screw Type(R134a only)					
	Model	ASCCW50ZG	ASCCW50ZG	ASCCW60ZG	ASCCW50ZG	ASCCW50ZG	ASCCW60ZG
	Quantity	Set			1		2
Condenser	—	Cross fin type					
	Condenser fan	Direct drive propeller fan					
	Power Input	KW		1.1		1.1	
Fan motor	Quantity	—		4		8	
	—	Shell-and-Tube type					
Piping connections for water side heat exchanger	Inlet	—			DN80		DN125
	Outlet	—			DN80		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 and Pressure Relief Valve.					
Shipping Dimensions	Length	mm			2,410		4,510
	Width	mm			2,080		2,080
	Height	mm			2,150		2,190
Shipping weight	kg	1,590	1,640	1,750	2,940	3,040	3,260

Model		RCUF150AZY1	RCUF180AZY1	RCUF200AZY1	RCUF220AZY1	RCUF240AZY1	RCUF270AZY1
Power Source		Main (AC3φ) 380,415V/50Hz, Control (AC1φ) 220,240V/50Hz					
Nominal cooling capacity	kW	530	645	702	791	880	970
	USRT	151	183	200	225	250	276
	kcal/h	455,800	554,700	603,720	680,260	756,800	834,200
Power input	kW	166.7	202.8	220.8	248.8	276.8	305.1
Capacity control	—	Continuous capacity control					
	%	100-25.0					
Outer dimensions	Length	mm			6,590		11,180
	Width	mm			2,060		2,060
	Height	mm			2,200		2,200
Net weight	kg	4,650	4,880	3,000×2	3,220+3,000	3,220×2	4,650+3,220
	Type	R134a (charged)					
Refrigerant	Flow control	Electronic expansive valve					
	Number of circuits	—		4		4	
Compressor	Type	Semi-Hermetic Screw Type(R134a only)					
	Model	ASCCW50ZG	ASCCW60ZG	ASCCW50ZG	ASCCW50ZG / ASCCW60ZG	ASCCW60ZG	ASCCW50ZG / ASCCW60ZG
	Quantity	Set	3	3	4	4	5
Condenser	—	Cross fin type					
	Condenser fan	Direct drive propeller fan					
	Power Input	KW		1.1		1.1	
Fan motor	Quantity	—		12		16	
	—	Shell-and-Tube type					
Piping connections for water side heat exchanger	Inlet	—			DN125		DN125
	Outlet	—			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 and Pressure Relief Valve.					
Shipping Dimensions	Length	mm			6,610		6,610+4,510
	Width	mm			2,080		2,080
	Height	mm			2,230		2,230
Shipping weight	kg	4,690	4,920	3,040×2	3,260+3,040	3,260×2	4,690+3,260

Specification/Parameter

AZY1 series

Model		RCUF300AZY1	RCUF330AZY1	RCUF360AZY1	RCUF400AZY1	RCUF420AZY1	RCUF450AZY1
Power Source		Main (AC3φ) 380,415V/50Hz, Control (AC1φ) 220,240V/50Hz					
Nominal cooling capacity	kW	1,060	1,175	1,290	1,411	1,500	1,590
	USRT	301	334	367	401	426	452
	kcal/h	911,600	1,010,500	1,109,400	1,213,460	1,290,000	1,367,400
Power input	kW	333.4	369.5	405.6	443.8	471.8	500.1
Capacity control	—	Continuous capacity control					
	%	100-25,0					
Outer dimensions	Length	13,280		18,670		20,770	
	Width	2,060		2,060		2,060	
	Height	2,200		2,200		2,200	
Net weight	kg	4,650×2	4,880+4,650	4,880×2	4,650×2+3,000	4,650×2+3,220	4,650×3
Refrigerant	Type	R134a [charged]					
	Flow control	Electronic expansive valve					
	Number of circuits	6	6	6	8	8	9
Compressor	Type	Semi-Hermetic Screw Type(R134a only)					
	Model	ASCCW50ZG	ASCCW50ZG / ASCCW60ZG	ASCCW60ZG	ASCCW50ZG	ASCCW50ZG / ASCCW60ZG	ASCCW50ZG
	Quantity	Set	3/3	6	8	6/2	9
Condenser	—	Cross fin type					
	Condenser fan	Direct drive propeller fan					
Fan motor	Power Input	1.1	1.1	1.1	1.1	1.1	1.1
	Quantity	24	24	24	32	32	36
Evaporator	—	Shell-and-Tube type					
Piping connections for water side heat exchanger	Inlet	DN125					
	Outlet	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 and Pressure Relief Valve.					
Shipping Dimensions	Length	6,610×2		6,610×2+4,510		6,610×3	
	Width	2,080		2,080		2,080	
	Height	2,230		2,230		2,230	
Shipping weight	kg	4,690×2	4,920+4,690	4,920×2	4,690×2+3,040	4,690×2+3,260	4,690×3

Notes:

- The nominal cooling capacities are based on GB/T 18430.1-2015[*1]
Chilled Water Outlet Temperature /Nominal water flow: 7 °C / 0.172 m³ / [h•kW]
Condenser Air Inlet Temperature:35 °C [DB]
- The units greater than 200AZY1 including 200AZY1 consist of two or three modules and are separately shipped.
- The common chilled water piping [Filed-Supplied] between each water cooler shall be directly connected at site.
- Water Flow
1) RCUF200,240,300,360,450AZY1
It is necessary to control the common water flow volume to each cooler.
2) RCUF220,270,330,400,420AZY1
Because the chilled water flow rate is different between No.1 No.2 and No.3 units,it is necessary to control the water flow volume of each unit with adjusting valves [Filed-Supplied].
- It is required to connect electrical control wires between No.1, No.2 and No.3 units for the unit greater than 200AZY1 including 200AZY1.

Working Range

Item	Standard
Chilled Water Outlet Temperature	5-15 °C
Condenser Air Inlet Temperature[DB]	5-43 °C

AZPY1 series

Model		RCUF45AZPY1	RCUF50AZPY1	RCUF60AZPY1	RCUF90AZPY1	RCUF100AZPY1	RCUF120AZPY1	
Power Source		Main (AC3φ) 380,415V/50Hz, Control (AC1φ) 220,240V/50Hz						
Nominal cooling capacity	kW	160	178	215	320	356	430	
	USRT	45	51	61	91	101	122	
	kcal/h	137,600	153,080	184,900	275,200	306,160	369,800	
Power input	kW	47.3	52.7	63.6	94.7	105.3	127.2	
Capacity control	—	Continuous capacity control						
	%	100-25,0						
Outer dimensions	Length	2,390		3,300		4,490		
	Width	2,060		2,060		2,060		
	Height	2,120		2,120		2,160		
Net weight	kg	1,600	1,700	2,000	2,950	3,150	3,750	
Refrigerant	Type	R134a [charged]						
	Flow control	Electronic expansive valve						
	Number of circuits	1			2			
Compressor	Type	Semi-Hermetic Screw Type(R134a only)						
	Model	ASCCW50ZG	ASCCW50ZG	ASCCW60ZG	ASCCW50ZG	ASCCW50ZG	ASCCW60ZG	
	Quantity	Set			2			
Condenser	—	Cross fin type						
	Condenser fan	Direct drive propeller fan						
Fan motor	Power Input	1.1	1.1	1.1	1.1	1.1	1.1	
	Quantity	4	4	6	8	8	12	
Evaporator	—	Shell-and-Tube type						
Piping connections for water side heat exchanger	Inlet	DN80				DN125		
	Outlet	DN80				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 and Pressure Relief Valve.						
Shipping Dimensions	Length	2,410		3,320		4,510		
	Width	2,080		2,080		2,080		
	Height	2,150		2,150		2,190		
Shipping weight	kg	1,640	1,740	2,040	2,990	3,190	3,790	

Model		RCUF135AZPY1	RCUF150AZPY1	RCUF180AZPY1	RCUF200AZPY1	RCUF240AZPY1	RCUF270AZPY1
Power Source		Main (AC3φ) 380,415V/50Hz, Control (AC1φ) 220,240V/50Hz					
Nominal cooling capacity	kW	480	534	640	712	860	960
	USRT	136	152	182	202	245	273
	kcal/h	412,800	459,240	550,400	612,320	739,600	825,600
Power input	kW	142.0	158.0	189.4	210.6	254.4	284.0
Capacity control	—	Continuous capacity control					
	%	100-25,0					
Outer dimensions	Length	6,590		9,080		12,720	
	Width	2,060		2,060		2,060	
	Height	2,200		2,160		2,200	
Net weight	kg	4,500	4,700	2,950×2	3,150×2	3,750×2	4,500×2
Refrigerant	Type	R134a [charged]					
	Flow control	Electronic expansive valve					
	Number of circuits	3	3	4	4	4	6
Compressor	Type	Semi-Hermetic Screw Type(R134a only)					
	Model	ASCCW50ZG	ASCCW50ZG	ASCCW50ZG	ASCCW50ZG	ASCCW60ZG	ASCCW50ZG
	Quantity	Set	3	3	4	4	4
Condenser	—	Cross fin type					
	Condenser fan	Direct drive propeller fan					
Fan motor	Power Input	1.1	1.1	1.1	1.1	1.1	1.1
	Quantity	12	12	16	16	24	24
Evaporator	—	Shell-and-Tube type					
Piping connections for water side heat exchanger	Inlet	DN125					
	Outlet	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 and Pressure Relief Valve.					
Shipping Dimensions	Length	6,610		4,510×2		6,330×2	
	Width	2,080		2,080		2,080	
	Height	2,230		2,190		2,230	
Shipping weight	kg	4,540	4,740	2,990×2	3,190×2	3,790×2	4,540×2

Specification/Parameter

AZPY1 series

Model		RCUF300AZPY1	RCUF320AZPY1	RCUF360AZPY1	RCUF405AZPY1	RCUF420AZPY1	RCUF450AZPY1	
Power Source		Main (AC3φ) 380,415V/50Hz, Control (AC1φ) 220,240V/50Hz						
Nominal cooling capacity	kW	1,068	1,142	1,290	1,440	1,494	1,602	
	USRT	304	325	367	409	425	456	
	kcal/h	918,480	982,120	1,109,400	1,238,400	1,284,840	1,377,720	
Power input	kW	316.0	337.8	381.6	426.0	442.0	474.0	
Capacity control	—	Continuous capacity control						
	%	100-25,0						
Outer dimensions	Length	mm	13,280	16,290	19,930	20,770		
	Width	mm	2,060	2,060	2,060	2,060		
	Height	mm	2,200	2,200	2,200	2,200		
Net weight	kg	4,700×2	3,150×2+3,750	3,750×3	4,500×3	4,700+4,500×2	4,700×3	
Refrigerant	Type	—	R134a (charged)					
	Flow control	—	Electronic expansive valve					
	Number of circuits	—	6	6	6	9	9	9
Compressor	Type	—	Semi-Hermetic Screw Type(R134a only)					
	Model	—	ASCCW50ZG	ASCCW50ZG / ASCCW60ZG	ASCCW60ZG	ASCCW50ZG	ASCCW50ZG	ASCCW50ZG
	Quantity	Set	6	4/2	6	9	9	9
Condenser	—	Cross fin type						
Fan motor	Condenser fan	—	Direct drive propeller fan					
	Power Input	KW	1.1	1.1	1.1	1.1	1.1	1.1
	Quantity	—	24	28	36	36	36	36
Evaporator	—	Shell-and-Tube type						
Piping connections for water side heat exchanger	Inlet	—	DN125					
	Outlet	—	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 and Pressure Relief Valve.						
Shipping Dimensions	Length	mm	6,610×2	4,510×2+6,330	6,330×3	6,610×3		
	Width	mm	2,080	2,080	2,080	2,080		
	Height	mm	2,230	2,230	2,230	2,230		
Shipping weight	kg	4,740×2	3,190×2+3,790	3,790×3	4,540×3	4,740+4,540×2	4,740×3	

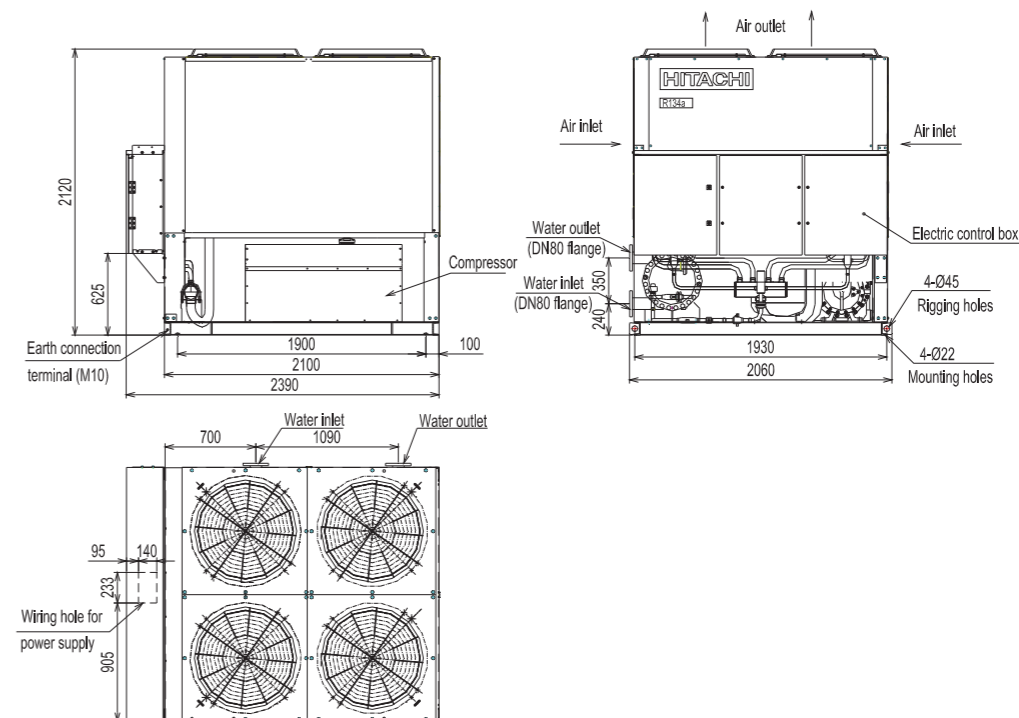
Notes:
 1.The nominal cooling capacities are based on GB/T 18430.1-2015[*1]
 Chilled Water Outlet Temperature /Nominal water flow: 7 °C / 0.172 m³ / [h·kW]
 Condenser Air Inlet Temperature:35 °C [DB]
 2.The units greater than 180AZPY1 including 180AZPY1 consist of two or three modules and are separately shipped.
 3.The common chilled water piping (Filed-Supplied) between each water cooler shall be directly connected at site.
 4.Water Flow
 1) RCUF180,200,240,270,300,360,405,450AZPY1
 It is necessary to control the common water flow volume to each cooler.
 2) RCUF320,420AZPY1
 Because the chilled water flow rate is different between No.1 No.2 and No.3 units,it is necessary to control the water flow volume of each unit with adjusting valves (Filed-Supplied).
 5.It is required to connect electrical control wires between No.1, No.2 and No.3 units for the unit greater than 180AZPY1 including 180AZPY1.

Working Range

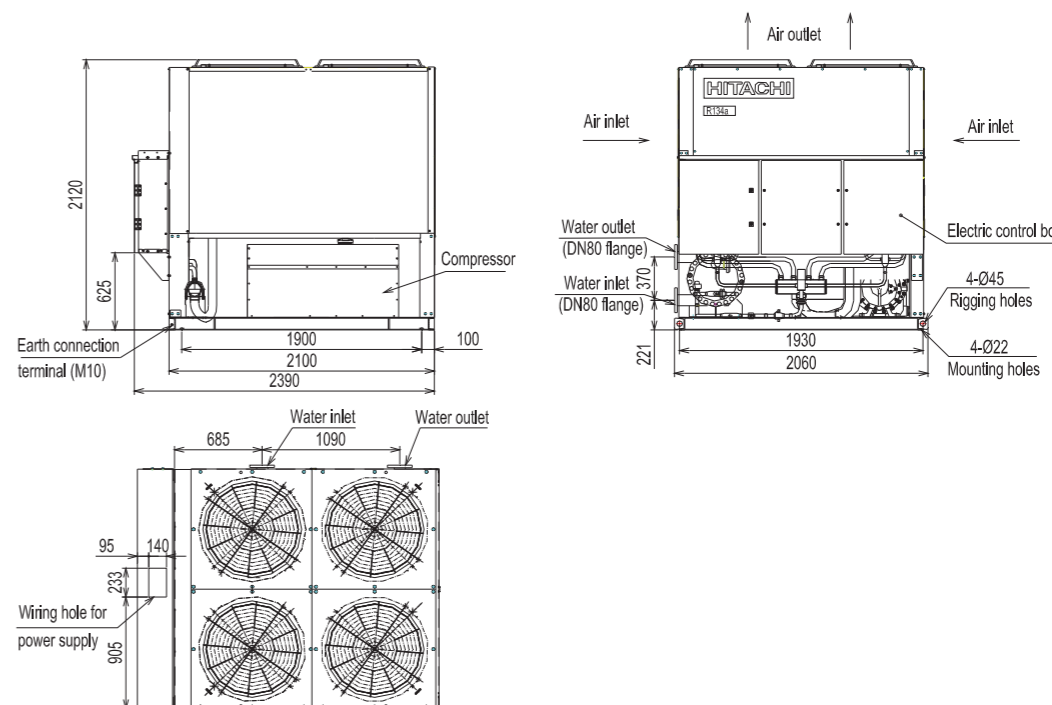
Item	Standard
Chilled Water Outlet Temperature	5-15 °C
Condenser Air Inlet Temperature(DB)	5-43 °C

Dimensional Data

RCUF45AZY1 / RCUF50AZY1

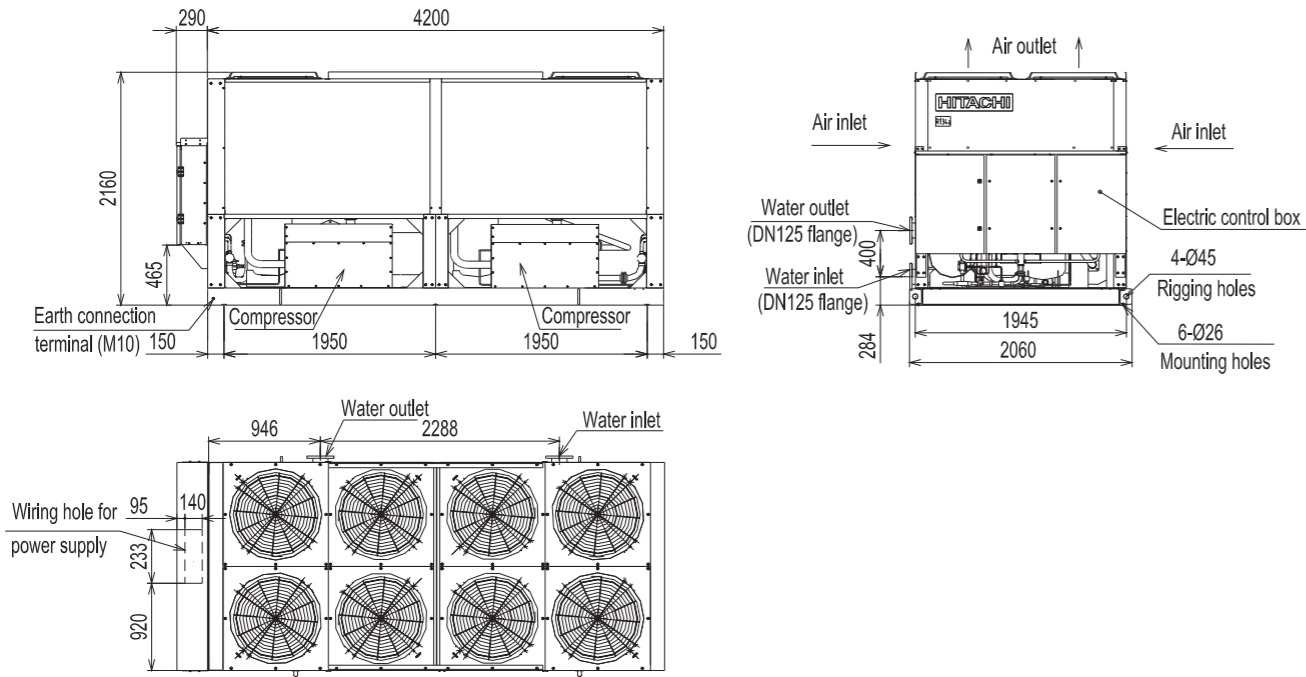


RCUF45AZPY1 / RCUF50AZPY1 / RCUF60AZY1

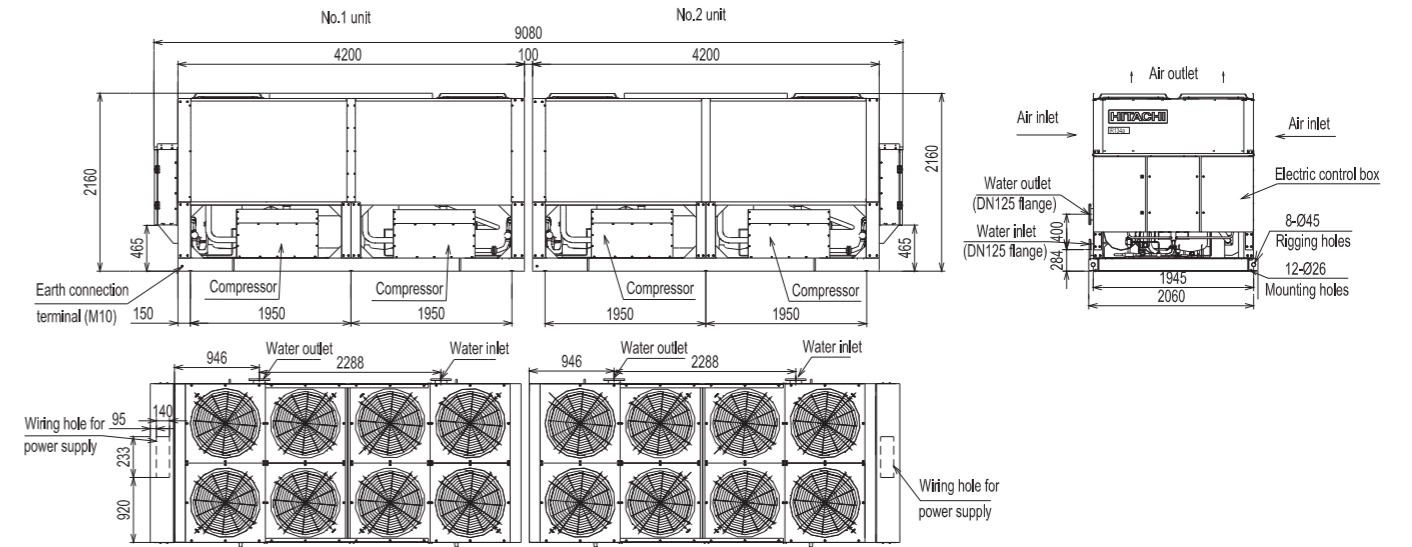


Dimensional Data

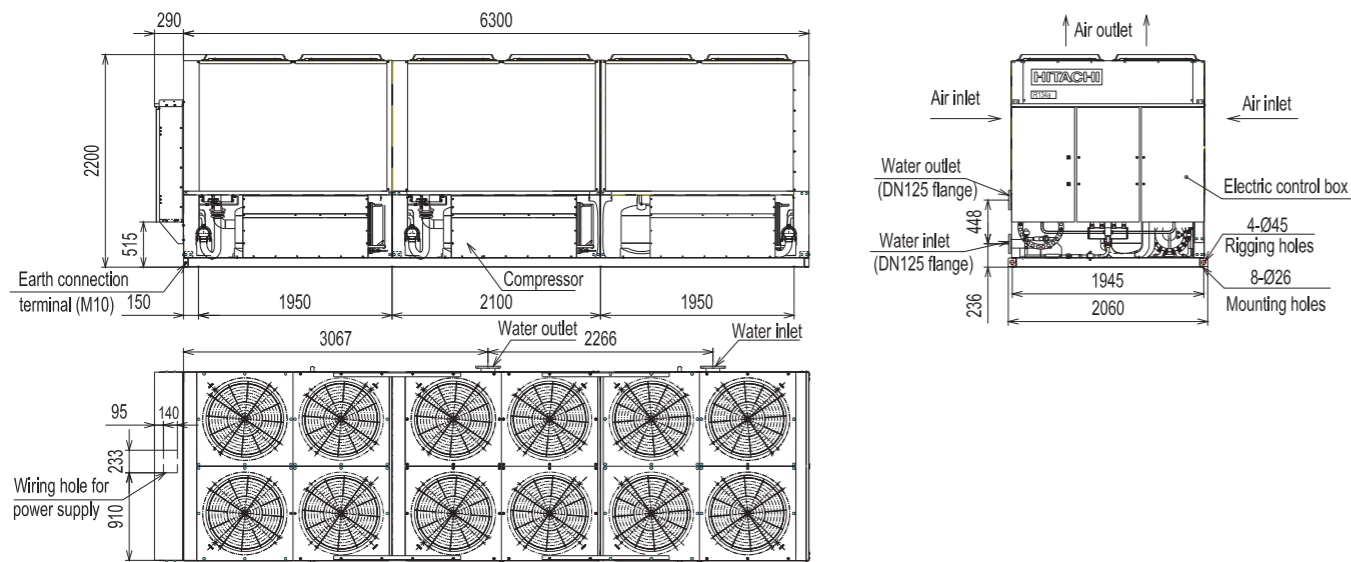
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 RCUF90AZPY1 / RCUF100AZPY1



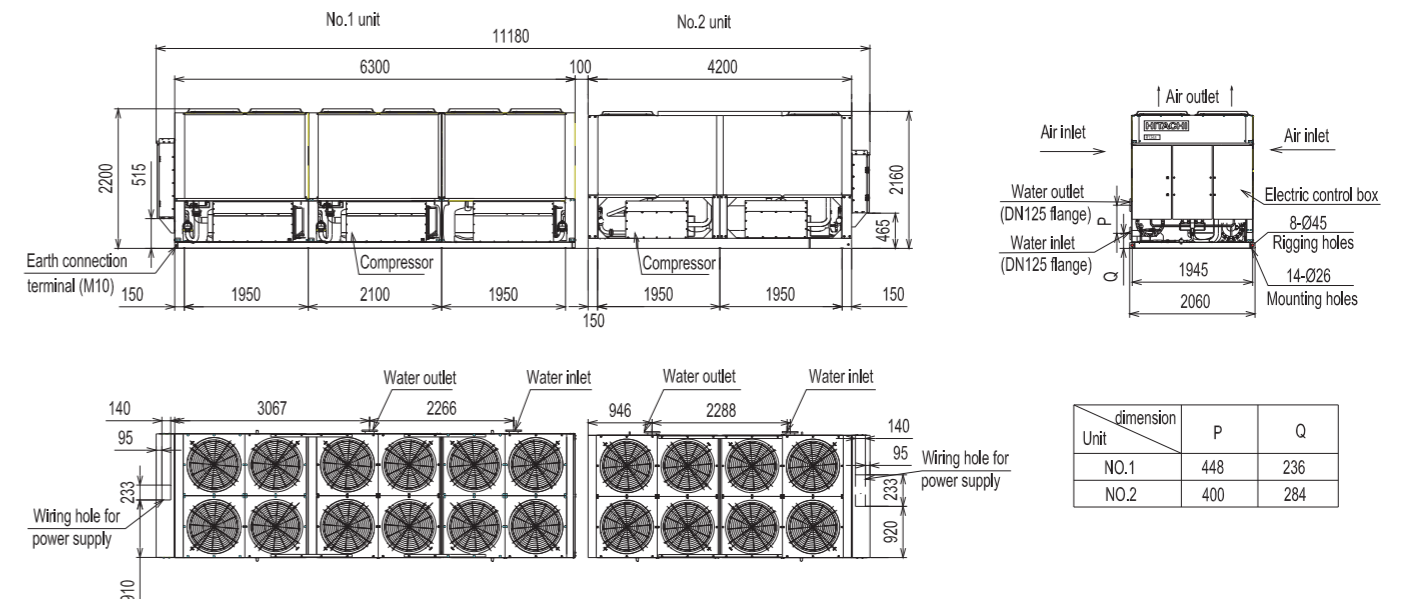
RCUF200AZY1 / RCUF220AZY1 / RCUF240AZY1
 RCUF180AZPY1 / RCUF200AZPY1



RCUF150AZY1 / RCUF180AZY1 / RCUF135AZPY1 / RCUF150AZPY1

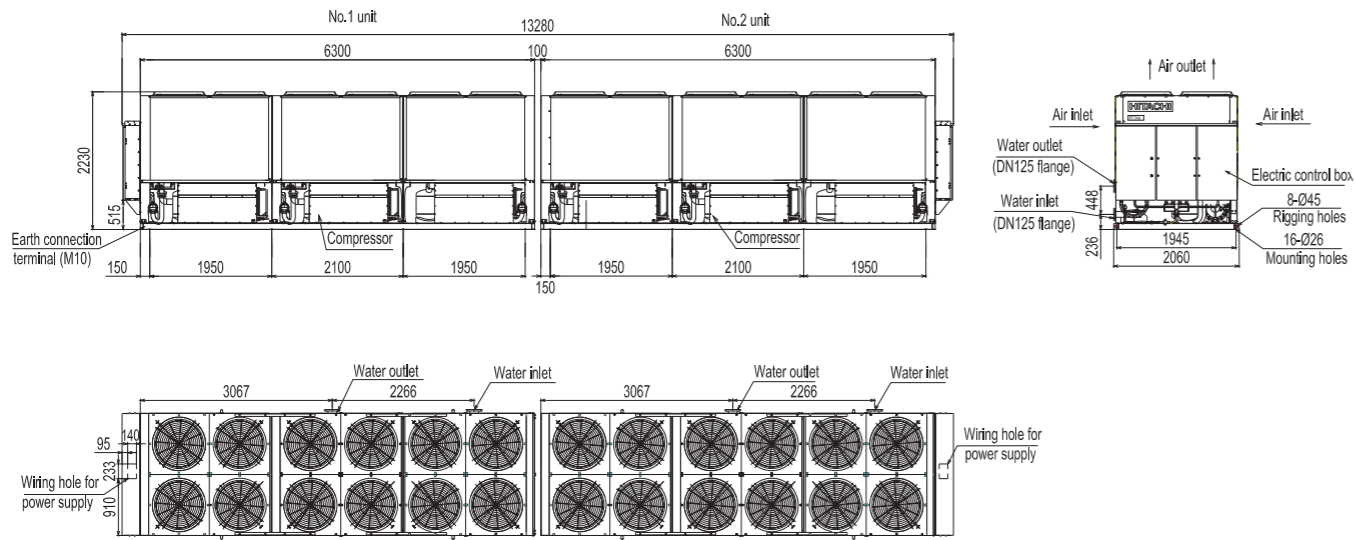


RCUF270AZY1

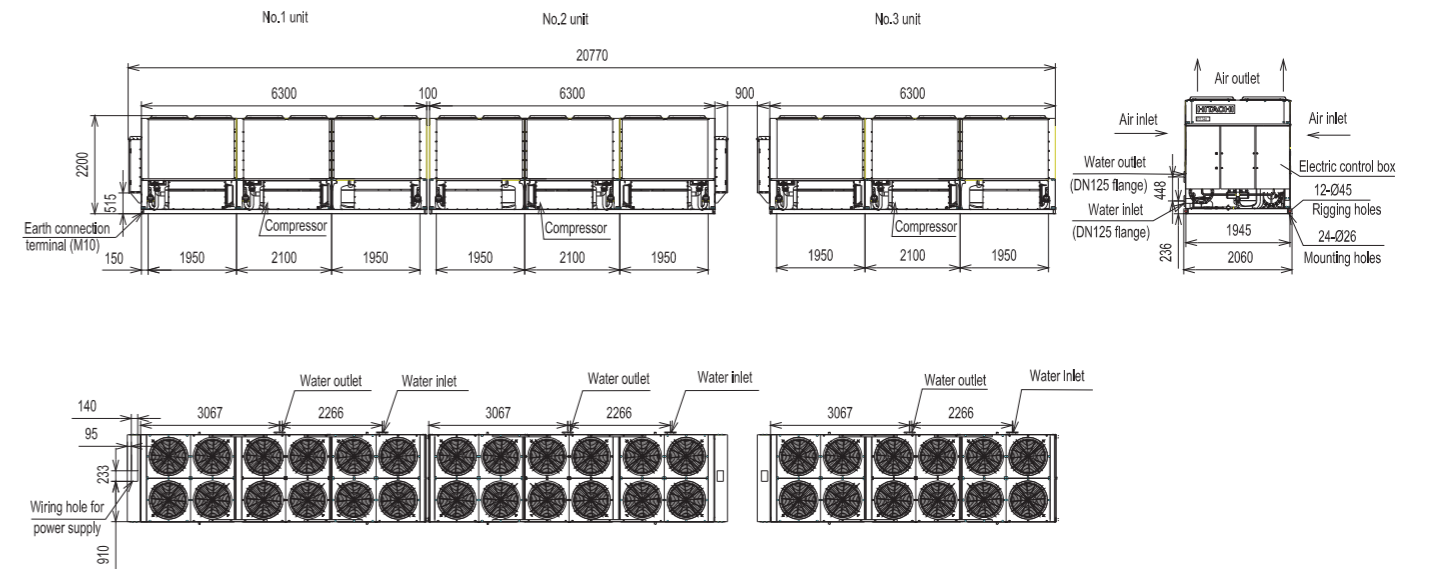


Dimensional Data

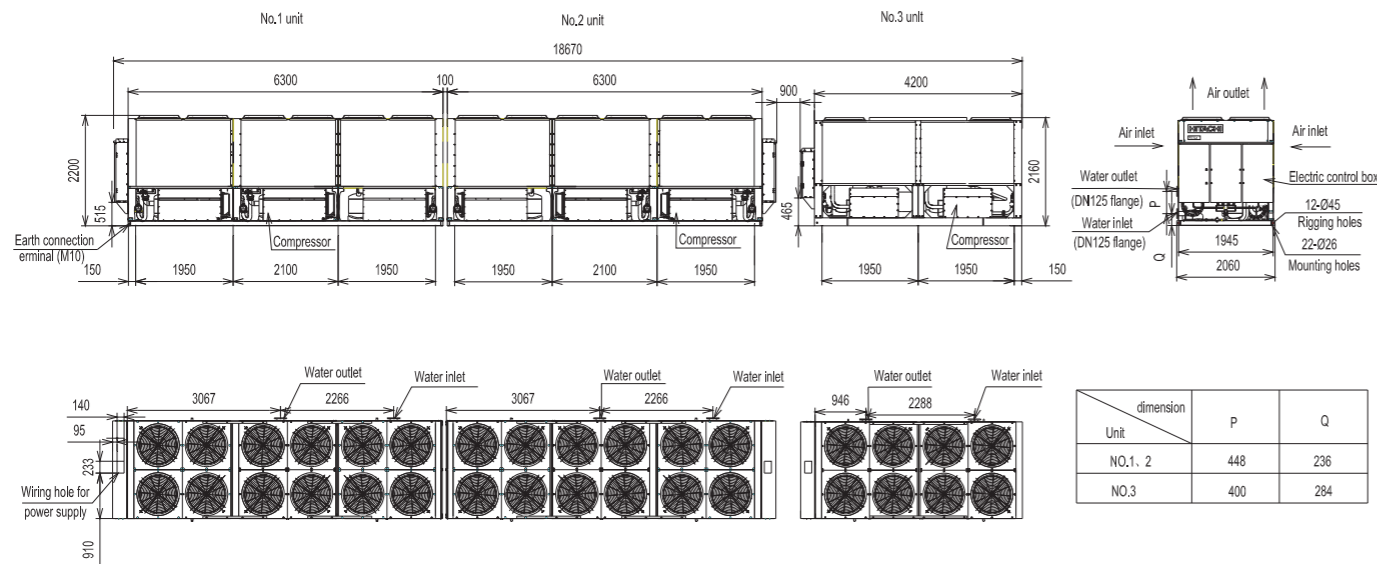
RCUF300AZY1 / RCUF330AZY1 / RCUF360AZY1
RCUF270AZPY1 / RCUF300AZPY1



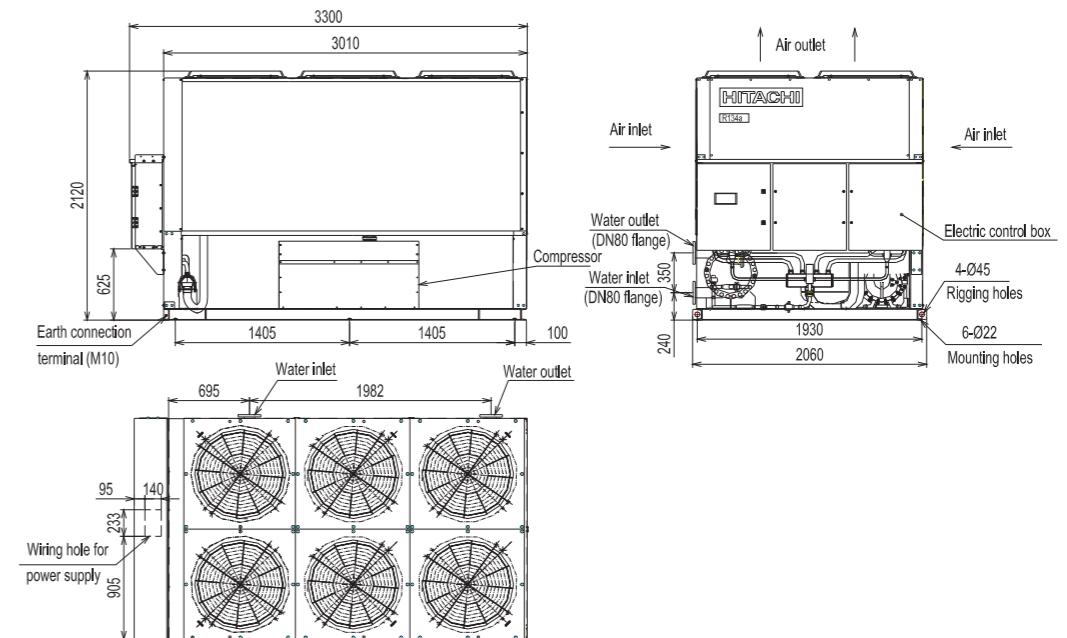
RCUF450AZY1 / RCUF405AZPY1 / RCUF420AZPY1 / RCUF450AZPY1



RCUF400AZY1 / RCUF420AZY1

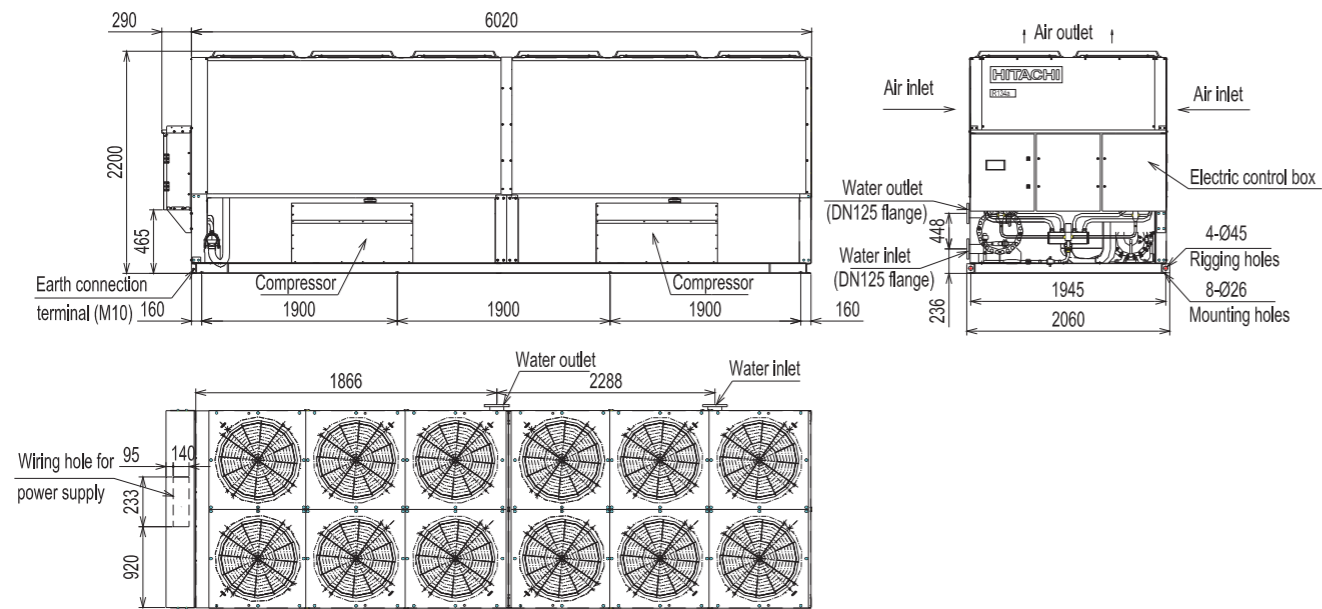


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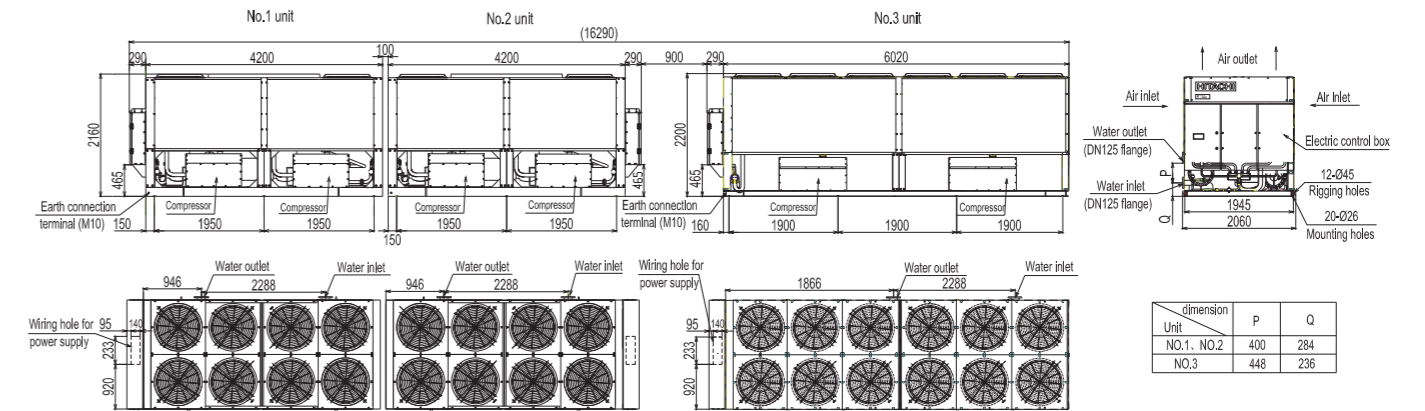


Dimensional Data

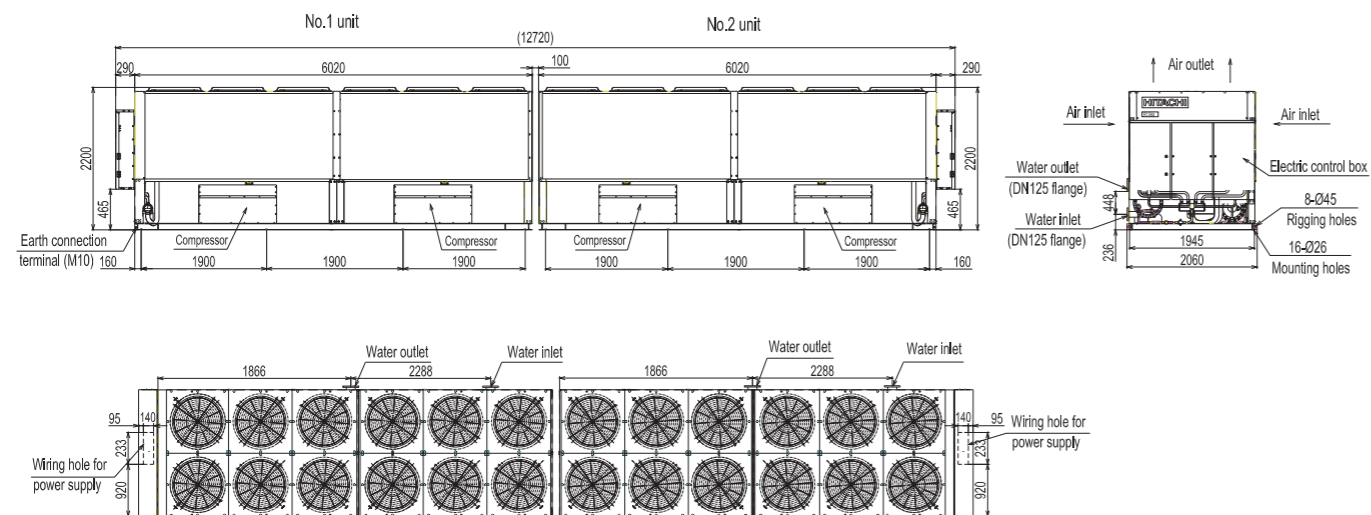
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RCUF320AZPY1



RCUF240AZPY1



RCUF360AZPY1

