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A Group Company of

Midea

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CLIVET®

Commercial Air Conditioners 2020

Air Cooled Chillers

Air cooled screw chiller
Large capacity air cooled scroll chiller

Always ready for the Future

Clivet. Change things

40
agencies in Italy

630
employees in Italy and abroad

75
countries we export to

50.000 m²
of plants in Feltre, Belluno - Italy

6
branches: Great Britain, Germany, Spain, Russia, UAE, India

2015
Clivet Live is born

140
service centres

2016
A Group Company of Midea

FORTUNE GLOBAL 500
Midea Group #323 in 2018

35.794 $M
Midea turnover

For 30 years we have been offering solutions to ensure sustainable comfort and the well-being of people and the environment

In 30 years of working on the design, manufacturing and distribution of air conditioning and handling systems, combining high efficiency with minimal environmental impact, Clivet has developed solutions to ensure sustainable comfort and the well-being of people and the environment.
Designing and developing year-round air conditioning solutions with innovative technologies are part of Clivet's DNA, which means the company has always been ready for the future.

Our values in the residential, commercial and industrial sectors

Increasing comfort, saving energy and providing customers with the best value for the entire life cycle of the system: these are the values that inspire our systems for the residential, services and industrial sectors.

Introduction

Clivet air cooled screw chiller is designed to meet current and future requirements in terms of reliability, energy efficiency and intelligent control. We use the best technologies available today: twin-rotor screw compressor is ideally matched with the EXV, evaporator and condenser are optimally configured for superior heat transfer and unit efficiency. It is ideal for schools, hospitals, shopping malls, office buildings as well as factories and manufacturing plants.

Higher living standards means more people want solutions for cooling in summer and heating in winter. Air cooled heat pump unit is an excellent choice for meeting these requirements. However, due to technology bottlenecks, the heating effect in winter is limited by ambient temperature. Meanwhile, frequent shutdowns make users uncomfortable when switching between heating and cooling because of defrosting.

Clivet large capacity air cooled scroll chiller uses clean energy to produce heat instead of traditional coal-fired boilers. The wider range of ambient temperature, strong heating effect at low temperatures in winter, intelligent defrosting, and small outlet water temperature fluctuations heat cold areas for greater comfort. The green R410A refrigerant and low operating noise minimize environmental impact. The product features a modular design for seamless connections and reduced installation space, bringing more benefits to customers.

Product lineup

Series \ Capacity (kW)		330	380	400	440	500	535	600	720	760	900	1000	1200	1420
Air cooled screw chiller 	380V-3Ph-50Hz (T1)		■			■		■	■		■	■	■	■
	460V-3Ph-60Hz (T1)		■			■		■	■		■	■	■	■
	380V-3Ph-50Hz (T3)		■			■		■		■	■	■	■	■
	380V-3Ph-60Hz (T3)		■			■		■		■	■	■	■	
Large capacity air cooled scroll chiller 	380V-3Ph-50Hz (Heat pump & Cooling only)	■			■									
	460V-3Ph-60Hz (Cooling only)			■			■							

T1: normal condition; T3: tropical condition

Index

Air cooled screw chiller

Features

Environmental responsibility

- A more efficient chiller means less power consumption, which reduces greenhouse gas (CO_2) emissions.
- R134a friendly refrigerant has zero ozone-depletion potential.
- High efficiency, world class, sustainable and reliable performance.

Lowest total cost of ownership

- Reliability, low risk of uncomfortable downtime.
- The best parts, Bitzer compressor, Danfoss EXV and Shneider electric.

- World-class testing facilities ensure performance and reliability.
- Each unit was extensively tested to verify its operational reliability and to ensure a smooth startup.
- Serviceability, low maintenance costs.

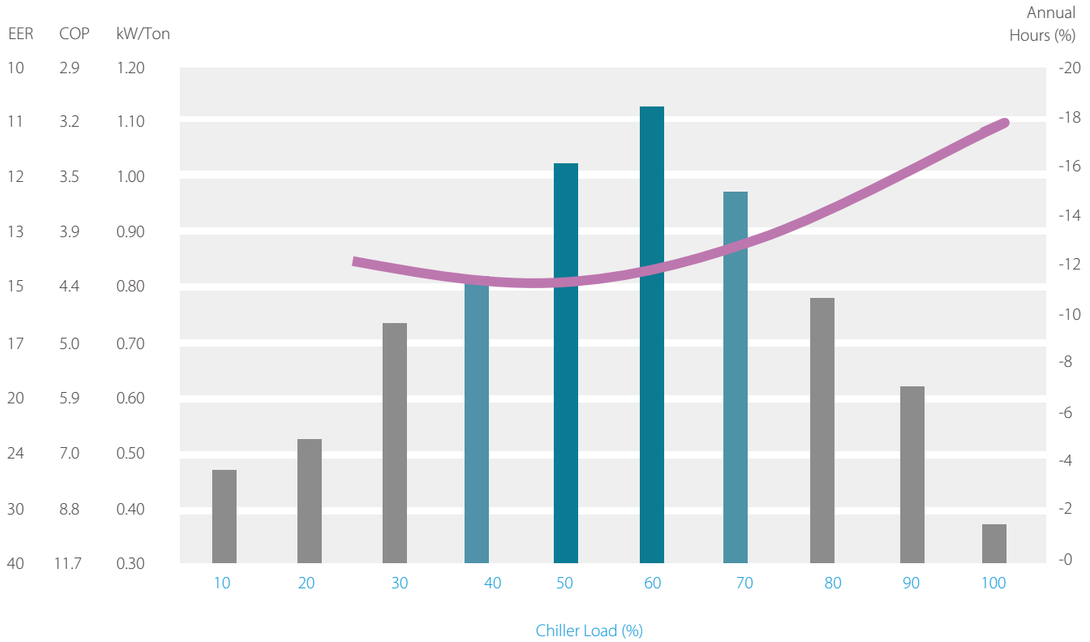
Silent operation

- Larger dimension impellers reduce speed leading to less noise.
- The lower ambient temperature, the lower fan air flow, then reduce noise.
- Intelligent control logic balances the performance and working fan numbers to control noise and power consumption.
- Super low-noise model is optional.

Operating cost savings

Better IPLV:

- Following the AHRI 550/590 calculation, 99% of operating hours are not at full load.
- The COP was optimized for 50% ~ 75% part load conditions.
- Larger ΔT of cooler reduces HVAC system running cost.



Design flexibility

- Modular design concept, max. 8 units can be combined to meet different capacity requirements. Possible to increase capacity in the future expansion.
- Standard module for flexible stock and fast delivery.
- Low initial investment and maintenance cost.

Easy and fast installation

- Compact size and module design save transportation, lifting and installation cost.
- The unit can be placed in service after being connected to power supply and water supply during field installation.

User-friendly touch screen

- 7 inch true color touch screen, easy operation.
- Operation status display.
- Weekly operation scheduling.
- Power-down memory function.
- Safety protection.

Specifications (T1)

380V-3Ph-50Hz

WDAT-CN***		110.1	140.1	170.1	200.1	260.2	280.2	340.2	400.2
Cooling capacity	kW	376.0	496.0	594.0	720.0	902.0	996.0	1203	1419
Power input	kW	124.0	159.0	187.0	234.0	285.0	318.0	381.0	466.0
COP	kW/kW	3.03	3.11	3.17	3.07	3.16	3.13	3.15	3.04
IPLV	kW/kW	4.09	4.20	4.29	4.17	4.27	4.25	4.29	4.15
Semi-hermetic screw compressor									
Circuit A	Quantity	1	1	1	1	1	1	1	1
Circuit B	Quantity	--	--	--	--	1	1	1	1
Oil recharge	Type	BSE170	BSE170	BSE170	BSE170	BSE170	BSE170	BSE170	BSE170
Circuit A	L	30	30	30	30	30	30	30	32
Circuit B	L	--	--	--	--	30	30	30	32
Refrigerant	Type	R134a	R134a	R134a	R134a	R134a	R134a	R134a	R134a
Circuit A	kg	76	90	105	140	76	90	105	140
Circuit B	kg	--	--	--	--	90	90	105	140
Control type		EXV	EXV	EXV	EXV	EXV	EXV	EXV	EXV
Evaporator	Type	Shell and tube heat exchanger (DX)							
Water content	L	222	308	340	520	620	600	770	910
Water flow	m^3/h	65.40	86.00	103.2	123.8	154.8	172.0	206.4	244.2
Pressure drop	kPa	39.0	54.0	56.0	58.0	74.0	75.0	71.0	69.0
Max. working pressure (water side)	MPa	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Pipe connection type		Victaulic							
Water inlet/outlet pipe dim.	mm	125	125	125	150	150	150	200	200
Condenser	Type	Fin-coil	Fin-coil	Fin-coil	Fin-coil	Fin-coil	Fin-coil	Fin-coil	Fin-coil
Fan	Quantity	6	8	10	10	14	16	16	20
Total air flow	m^3/h	23000×6	23000×8	23000×10	23000×10	23000×14	23000×16	23000×16	23000×20
Fan speed	rpm	940	940	940	940	940	940	940	940
Unit length	mm	3810	4865	5800	5800	8800	9640	9640	11700
Unit width	mm	2280	2280	2280	2280	2280	2280	2280	2280
Unit height	mm	2400	2400	2400	2400	2400	2400	2400	2400
Shipping weight	kg	3920	4420	5160	5750	8050	8410	9210	10730
Running weight	kg	4140	4730	5500	6270	8670	9010	9980	11640

Note:
1. Nominal cooling capacities are based on the following conditions: Chilled water inlet/outlet temp: 12℃/7℃; Outdoor temp (DB/WB): 35℃/24℃; Evaporator fouling factor=0.0176 m^2·℃/kW.
2. IPLV calculations according to standard performances (in accordance with AHRI 550/590).
3. The applicable ambient temperature range is 15℃ ~ 43℃.
4. As a result of the continuous improvement of the product, the above parameters may be changed, please refer to the product nameplate and in-kind.

Specifications (T1)

460V-3Ph-60Hz

WDAT-CN***		110.1	140.1	170.1	200.1	260.2	280.2	340.2	400.2
Cooling capacity	kW	376.0	496.0	602.0	720.0	902.0	996.0	1203	1419
Power input	kW	124.0	159.0	194.0	234.0	285.0	318.0	381.0	466.0
COP	kW/kW	3.03	3.11	3.10	3.07	3.16	3.13	3.15	3.04
IPLV	kW/kW	4.09	4.20	4.19	4.17	4.27	4.25	4.29	4.15
Semi-hermetic screw compressor									
Circuit A	Quantity	1	1	1	1	1	1	1	1
Circuit B	Quantity	--	--	--	--	1	1	1	1
Oil recharge	Type	BSE170	BSE170	BSE170	BSE170	BSE170	BSE170	BSE170	BSE170
Circuit A	L	30	30	30	30	30	30	30	30
Circuit B	L	--	--	--	--	30	30	30	30
Refrigerant	Type	R134a	R134a	R134a	R134a	R134a	R134a	R134a	R134a
Circuit A	kg	76	90	105	140	76	90	140	140
Circuit B	kg	--	--	--	--	90	90	140	140
Control type		EXV	EXV	EXV	EXV	EXV	EXV	EXV	EXV
Evaporator	Type	Shell and tube heat exchanger (DX)							
Water content	L	222	308	340	520	620	600	770	910
Water flow	m^3/h	65.40	86.00	103.5	123.8	154.8	172.0	206.4	244.2
Pressure drop	kPa	39.0	54.0	56.0	58.0	74.0	75.0	69.0	69.0
Max. working pressure (water side)	MPa	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Pipe connection type		Victaulic							
Water inlet/outlet pipe dim.	mm	125	125	125	150	150	150	200	200
Condenser	Type	Fin-coil	Fin-coil	Fin-coil	Fin-coil	Fin-coil	Fin-coil	Fin-coil	Fin-coil
Fan	Quantity	6	8	10	10	14	16	16	20
Total air flow	m^3/h	23000×6	23000×8	23000×10	23000×10	23000×14	23000×16	23000×16	23000×20
Fan speed	rpm	865	865	865	865	865	865	865	865
Unit length	mm	3810	4865	5800	5800	8800	9640	9640	11700
Unit width	mm	2280	2280	2280	2280	2280	2280	2280	2280
Unit height	mm	2400	2400	2400	2400	2400	2400	2400	2400
Shipping weight	kg	3900	4360	5140	5650	7970	8290	9170	10530
Running weight	kg	4120	4670	5480	6170	8590	8890	9940	11440

Note:
1. Nominal cooling capacities are based on the following conditions: Chilled water inlet/outlet temp: 12℃/7℃; Outdoor temp (DB/WB): 35℃/24℃; Evaporator fouling factor=0.0176 m^2·℃/kW.
2. IPLV calculations according to standard performances (in accordance with AHRI 550/590).
3. The applicable ambient temperature range is 15℃ ~ 43℃.
4. As a result of the continuous improvement of the product, the above parameters may be changed, please refer to the product nameplate and in-kind.

Specifications (T3)

380V-3Ph-50Hz

WDAT-CN***(T3)		110.1	140.1	170.1	200.2	260.2	280.2	340.2	400.2
Cooling capacity	kW	379.0	500.0	597.0	758.0	908.0	1000	1210	1419
Power input	kW	121.0	155.0	185.7	242.0	279.0	310.0	372.0	466.0
COP	kW/kW	3.13	3.22	3.21	3.13	3.25	3.22	3.25	3.04
IPLV	kW/kW	4.15	4.25	4.31	4.20	4.31	4.30	4.34	4.15
Semi-hermetic screw compressor									
Circuit A	Quantity	1	1	1	1	1	1	1	1
Circuit B	Quantity	--	--	--	1	1	1	1	1
Oil recharge	Type	BSE170	BSE170	BSE170	BSE170	BSE170	BSE170	BSE170	BSE170
Circuit A	L	30	30	30	30	30	30	30	32
Circuit B	L	--	--	--	30	30	30	30	32
Refrigerant	Type	R134a	R134a	R134a	R134a	R134a	R134a	R134a	R134a
Circuit A	kg	82	98	115	82	82	98	115	140
Circuit B	kg	--	--	--	82	98	98	115	140
Control type		EXV	EXV	EXV	EXV	EXV	EXV	EXV	EXV
Evaporator	Type	Shell and tube heat exchanger (DX)							
Water content	L	222	308	340	550	620	600	770	910
Water flow	m^3/h	65.18	86.00	102.6	130.3	156.1	172.0	208.0	244.2
Pressure drop	kPa	39.0	54.0	56.0	75.0	74.0	75.0	71.0	69.0
Max. working pressure (water side)	MPa	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Pipe connection type		Victaulic							
Water inlet/outlet pipe dim.	mm	125	125	125	150	150	150	200	200
Condenser	Type	Fin-coil	Fin-coil	Fin-coil	Fin-coil	Fin-coil	Fin-coil	Fin-coil	Fin-coil
Fan	Quantity	6	8	10	12	14	16	20	20
Total air flow	m^3/h	23000×6	23000×8	23000×10	23000×12	23000×14	23000×16	23000×20	23000×20
Fan speed	rpm	940	940	940	940	940	940	940	940
Unit length	mm	3810	4865	5800	7720	8800	9640	11700	11700
Unit width	mm	2280	2280	2280	2280	2280	2280	2280	2280
Unit height	mm	2400	2400	2400	2400	2400	2400	2400	2400
Shipping weight	kg	4040	4580	5360	6850	8330	8730	9410	10730
Running weight	kg	4260	4890	5700	7300	8950	9330	10180	11640

Note:
1. Nominal cooling capacities are based on the following conditions: Chilled water inlet/outlet temp: 12℃/7℃; Outdoor temp (DB/WB): 35℃/24℃; Evaporator fouling factor=0.0176 m^2·℃/kW.
2. IPLV calculations according to standard performances (in accordance with AHRI 550/590).
3. The applicable ambient temperature range is 15℃ ~ 52℃.
4. As a result of the continuous improvement of the product, the above parameters may be changed, please refer to the product nameplate and in-kind.

Specifications (T3)

380V-3Ph-60Hz

WDAT-CN***(T3)		110.1	140.1	170.1	200.2	260.2	280.2	340.2
Cooling capacity	kW	379.0	500.0	607.0	758.0	908.0	1000	1210
Power input	kW	121.0	155.0	189.0	242.0	279.0	310.0	372.0
COP	kW/kW	3.13	3.22	3.21	3.13	3.25	3.22	3.25
IPLV	kW/kW	4.15	4.25	4.29	4.20	4.31	4.30	4.34
Semi-hermetic screw compressor								
Circuit A	Quantity	1	1	1	1	1	1	1
Circuit B	Quantity	--	--	--	1	1	1	1
Oil recharge	Type	BSE170	BSE170	BSE170	BSE170	BSE170	BSE170	BSE170
Circuit A	L	30	30	30	30	30	30	30
Circuit B	L	--	--	--	30	30	30	30
Refrigerant	Type	R134a	R134a	R134a	R134a	R134a	R134a	R134a
Circuit A	kg	82	98	115	82	82	98	115
Circuit B	kg	--	--	--	82	98	98	115
Control type		EXV	EXV	EXV	EXV	EXV	EXV	EXV
Evaporator	Type	Shell and tube heat exchanger (DX)						
Water content	L	222	308	340	550	620	600	770
Water flow	m^3/h	65.18	86.00	104.4	130.3	156.1	172.0	208.0
Pressure drop	kPa	39.0	54.0	57.0	75.0	74.0	75.0	71.0
Max. working pressure (water side)	MPa	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Pipe connection type		Victaulic						
Water inlet/outlet pipe dim.	mm	125	125	125	150	150	150	200
Condenser	Type	Fin-coil	Fin-coil	Fin-coil	Fin-coil	Fin-coil	Fin-coil	Fin-coil
Fan	Quantity	6	8	10	12	14	16	20
Total air flow	m^3/h	23000×6	23000×8	23000×10	23000×12	23000×14	23000×16	23000×20
Fan speed	rpm	865	865	865	865	865	865	865
Unit length	mm	3810	4865	5800	7720	8800	9640	11700
Unit width	mm	2280	2280	2280	2280	2280	2280	2280
Unit height	mm	2400	2400	2400	2400	2400	2400	2400
Shipping weight	kg	4020	4520	5340	6810	8250	8610	9370
Running weight	kg	4240	4830	5680	7260	8870	9210	10140

Note:
1. Nominal cooling capacities are based on the following conditions: Chilled water inlet/outlet temp: 12℃/7℃; Outdoor temp (DB/WB): 35℃/24℃; Evaporator fouling factor=0.0176 m^2·℃/kW.
2. IPLV calculations according to standard performances (in accordance with AHRI 550/590).
3. The applicable ambient temperature range is 15℃ ~ 52℃.
4. As a result of the continuous improvement of the product, the above parameters may be changed, please refer to the product nameplate and in-kind.

Electrical data

380V-3Ph-50Hz (T1)

WDAT-CN***		110.1	140.1	170.1	200.1	260.2	280.2	340.2	400.2
Power supply		380V-3Ph-50Hz							
Voltage range	V	342~418							
Max. running current	A	299.8	384.4	430.1	546.7	684.3	768.6	840.4	1094
Max. power consumption	kW	124.0	159.0	187.0	234.0	285.0	318.0	381.0	466.0
Rated current	A	221.1	282.5	332.5	415.4	505.5	564.7	678.4	827.6
Compressor A									
Locked rotor Amps.	A	615.0	845.0	845.0	965.0	615.0	845.0	845.0	965.0
Max. allowed current	A	389.0	473.0	473.0	574.0	389.0	473.0	473.0	574.0
Rated current	A	191.7	243.3	283.5	366.4	193.5	243.3	300.0	364.6
Rated power	kW	109.6	139.8	163.0	210.0	110.6	139.8	171.3	209.0
Compressor B									
Locked rotor Amps.	A	--	--	--	--	845.0	845.0	845.0	965.0
Max. allowed current	A	--	--	--	--	450.0	450.0	450.0	574.0
Rated current	A	--	--	--	--	243.3	243.0	300.0	365.0
Rated power	kW	--	--	--	--	140.8	139.8	171.3	209.0
Fan									
Full load Amps. (each)	A	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
Power input (each)	kW	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
Total input	kW	14.4	19.2	24	24	33.6	38.4	38.4	48.0
Crankcase heater									
Voltage	V	220	220	220	220	220	220	220	220
Total input	kW	0.3	0.3	0.3	0.3	0.6	0.6	0.6	0.6
Total Amps.	A	1.36	1.36	1.36	1.36	2.72	2.72	2.72	2.72

Note:
1. The customer can specify the exact nominal power supply to be available on site so that the correct electrical components can be selected.
2. Main power must be supplied from a single-field supplied and mounted fused circuit breaker.
3. The compressor crankcase heaters must be energized for several hours before starting the unit.
4. All field wiring must comply with local standards.
5. Neutral line requires 380V-3Ph-50Hz (5 wires) power supply.
6. Rated load Amps values are for nominal conditions.
7. A ±10% voltage variation from the nominal value is allowed for a short time only.

Electrical data

460V-3Ph-60Hz (T1)

WDAT-CN***		110.1	140.1	170.1	200.1	260.2	280.2	340.2	400.2
Power supply		460V-3Ph-60Hz							
Voltage range	V	414~506							
Max. running current	A	249.0	330.0	376.0	416.0	579.0	660.0	734.0	832.0
Max. power consumption	kW	124.0	159.0	194.0	234.0	285.0	318.0	381.0	466.0
Rated current	A	177.0	238.0	286.0	340.0	417.8	476.0	557.7	677.2
Compressor A									
Locked rotor Amps.	A	465.0	650.0	805.0	805.0	465.0	650.0	805.0	805.0
Max. allowed current	A	330.0	420.0	450.0	450.0	330.0	420.0	450.0	450.0
Rated current	A	150.0	202.0	241.0	295.0	151.4	202.0	242.8	293.6
Rated power	kW	109.6	139.8	170.0	210.0	110.6	139.8	171.3	209.0
Compressor B									
Locked rotor Amps.	A	--	--	--	--	650.0	650.0	805.0	805.0
Max. allowed current	A	--	--	--	--	420.0	420.0	450.0	450.0
Rated current	A	--	--	--	--	203.4	202.0	242.8	293.6
Rated power	kW	--	--	--	--	140.8	139.8	171.3	209.0
Fan									
Full load Amps. (each)	A	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Power input (each)	kW	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
Total input	kW	14.4	19.2	24.0	24.0	33.6	38.4	38.4	48.0
Crankcase heater									
Voltage	V	220	220	220	220	220	220	220	220
Total input	kW	0.3	0.3	0.3	0.3	0.6	0.6	0.6	0.6
Total Amps.	A	1.36	1.36	1.36	1.36	2.72	2.72	2.72	2.72

Note:
1. The customer can specify the exact nominal power supply to be available on site so that the correct electrical components can be selected.
2. Main power must be supplied from a single-field supplied and mounted fused circuit breaker.
3. The compressor crankcase heaters must be energized for several hours before starting the unit.
4. All field wiring must comply with local standards.
5. Neutral line requires 380V-3Ph-50Hz (5 wires) power supply.
6. Rated load Amps values are for nominal conditions.
7. A ±10% voltage variation from the nominal value is allowed for a short time only.

Electrical data

380V-3Ph-50Hz (T3)

WDAT-CN***(T3)		110.1	140.1	170.1	200.2	260.2	280.2	340.2	400.2
Power supply		380V-3Ph-50Hz							
Voltage range	V	342~418							
Max. running current	A	299.8	384.4	430.1	599.2	684.0	768.6	860.3	1094
Max. power consumption	kW	121.0	155.0	186.0	242.0	279.0	310.0	372.0	466.0
Rated current	A	216.4	278.2	332.0	432.8	499.6	556.4	664.0	827.6
Compressor A									
Locked rotor Amps.	A	615.0	845.0	845.0	615.0	615.0	845.0	845.0	965.0
Max. allowed current	A	389.0	473.0	473.0	389.0	389.0	473.0	473.0	574.0
Rated current	A	187.0	239.0	283.0	187.0	190.0	239.0	283.0	364.6
Rated power	kW	106.6	135.8	162.0	106.6	108.2	135.8	162.0	209.0
Compressor B									
Locked rotor Amps.	A	--	--	--	615.0	845.0	845.0	845.0	965.0
Max. allowed current	A	--	--	--	389.0	473.0	473.0	473.0	574.0
Rated current	A	--	--	--	187.0	241.0	239.0	283.0	365.0
Rated power	kW	--	--	--	106.6	137.2	135.8	162.0	209.0
Fan									
Full load Amps. (each)	A	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
Power input (each)	kW	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
Total input	kW	14.4	19.2	24	28.8	33.6	38.4	48.0	48.0
Crankcase heater									
Voltage	V	220	220	220	220	220	220	220	220
Total input	kW	0.3	0.3	0.3	0.6	0.6	0.6	0.6	0.6
Total Amps.	A	1.36	1.36	1.36	2.72	2.72	2.72	2.72	2.72

Note:
1. The customer can specify the exact nominal power supply to be available on site so that the correct electrical components can be selected.
2. Main power must be supplied from a single-field supplied and mounted fused circuit breaker.
3. The compressor crankcase heaters must be energized for several hours before starting the unit.
4. All field wiring must comply with local standards.
5. Neutral line requires 380V-3Ph-50Hz (5 wires) power supply.
6. Rated load Amps values are for nominal conditions.
7. A ±10% voltage variation from the nominal value is allowed for a short time only.

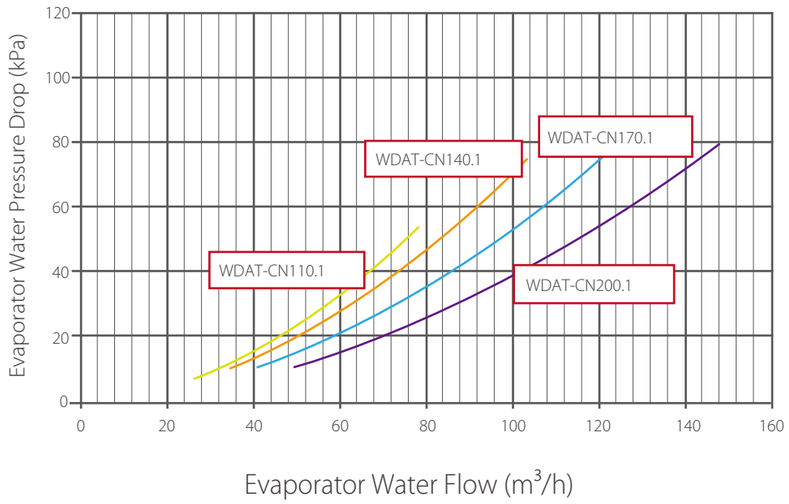
Electrical data

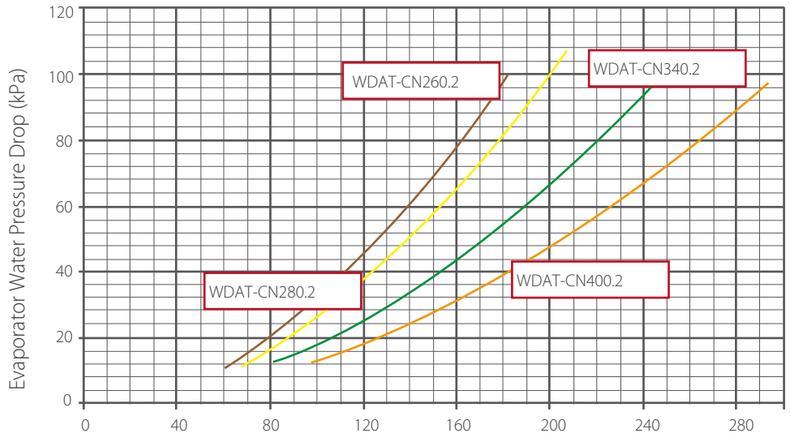
380V-3Ph-60Hz (T3)

WDAT-CN***(T3)		110.1	140.1	170.1	200.2	260.2	280.2	340.2
Power supply		380V-3Ph-60Hz						
Voltage range	V	342~418						
Max. running current	A	287.6	378.8	466.0	575.2	665.8	757.2	932.0
Max. power consumption	kW	121.0	155.0	189.0	242.0	279.0	310.0	372.0
Rated current	A	209.0	275.8	334.4	418.0	488.8	551.8	658.0
Compressor A								
Locked rotor Amps.	A	631.0	934.0	1019.0	631.0	631.0	934.0	1019
Max. allowed current	A	418.0	508.4	570.0	418.0	418.0	508.4	570.0
Rated current	A	178.4	235.0	284.6	178.4	180.1	235.1	278.0
Rated power	kW	106.6	135.8	165.0	106.6	108.2	135.8	162.0
Compressor B								
Locked rotor Amps.	A	--	--	--	631.0	934.0	934.0	1019
Max. allowed current	A	--	--	--	418.0	508.4	508.4	570.0
Rated current	A	--	--	--	178.4	237.3	235.1	278.0
Rated power	kW	--	--	--	106.6	137.2	135.8	162.0
Fan								
Full load Amps. (each)	A	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Power input (each)	kW	2.4	2.4	2.4	2.4	2.4	2.4	2.4
Total input	kW	14.4	19.2	24	28.8	33.6	38.4	48
Crankcase heater								
Voltage	V	220	220	220	220	220	220	220
Total input	kW	0.3	0.3	0.3	0.6	0.6	0.6	0.6
Total Amps.	A	1.36	1.36	1.36	2.72	2.72	2.72	2.72

Note:
1. The customer can specify the exact nominal power supply to be available on site so that the correct electrical components can be selected.
2. Main power must be supplied from a single-field supplied and mounted fused circuit breaker.
3. The compressor crankcase heaters must be energized for several hours before starting the unit.
4. All field wiring must comply with local standards.
5. Neutral line requires 380V-3Ph-50Hz (5 wires) power supply.
6. Rated load Amps values are for nominal conditions.
7. A ±10% voltage variation from the nominal value is allowed for a short time only.

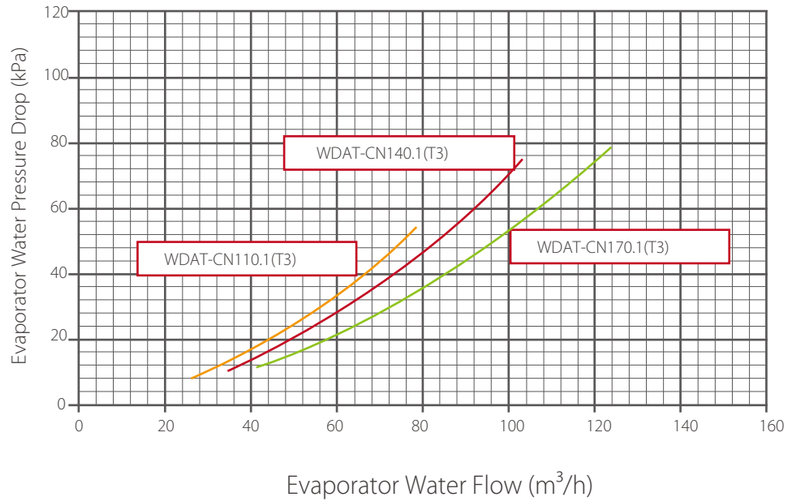
Water pressure drop (T1)

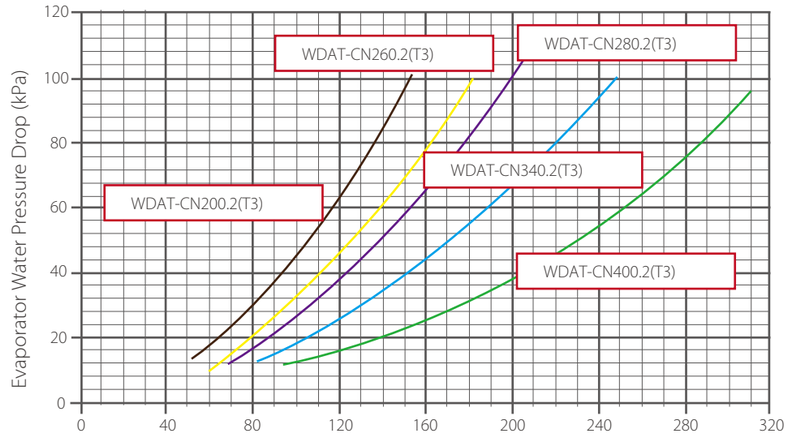




Unit Model	Min. Flow Rate		Max. Flow Rate	
	m³/h	GPM	m³/h	GPM
WDAT-CN110.1	53	233	79	348
WDAT-CN140.1	69	304	104	458
WDAT-CN170.1	83	365	124	546
WDAT-CN200.1	99	436	149	656
WDAT-CN260.2	124	546	186	819
WDAT-CN280.2	138	608	207	912
WDAT-CN340.2	165	727	248	1092
WDAT-CN400.2	196	863	293	1290

Water pressure drop (T3)



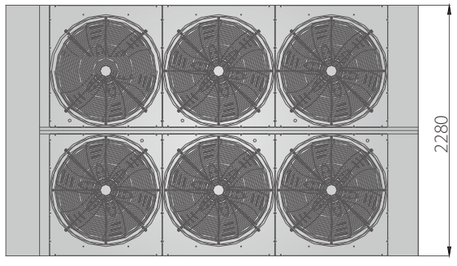


Unit Model	Min. Flow Rate		Max. Flow Rate	
	m³/h	GPM	m³/h	GPM
WDAT-CN110.1(T3)	53	233	79	348
WDAT-CN140.1(T3)	69	304	104	458
WDAT-CN170.1(T3)	83	365	124	546
WDAT-CN200.2(T3)	105	462	157	691
WDAT-CN260.2(T3)	124	546	186	819
WDAT-CN280.2(T3)	138	608	207	912
WDAT-CN340.2(T3)	165	727	248	1092
WDAT-CN400.2(T3)	196	863	293	1290

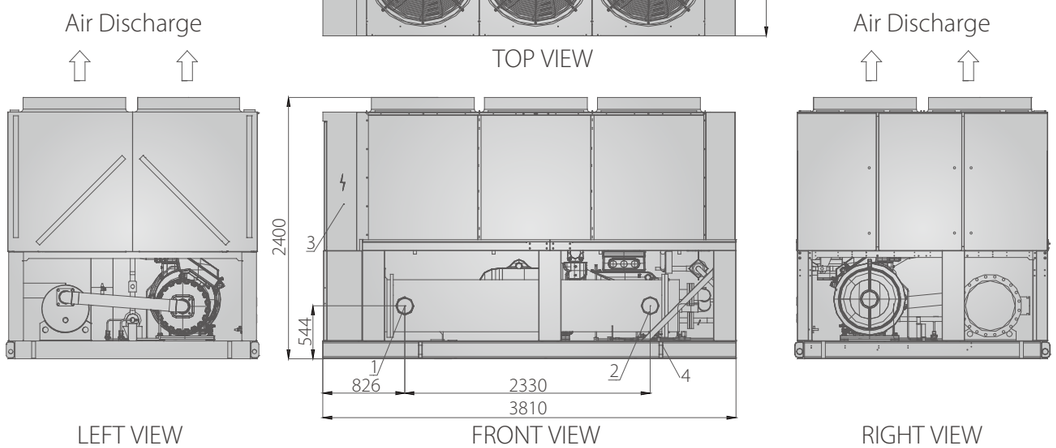
Dimension (T1)

WDAT-CN110.1

①CHILLED WATER OUTLET
②CHILLED WATER INLET
③ELECTRICAL CONTROL BOX
④LIFTING POINTS



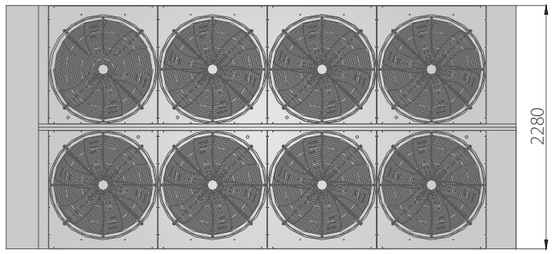
TOP VIEW



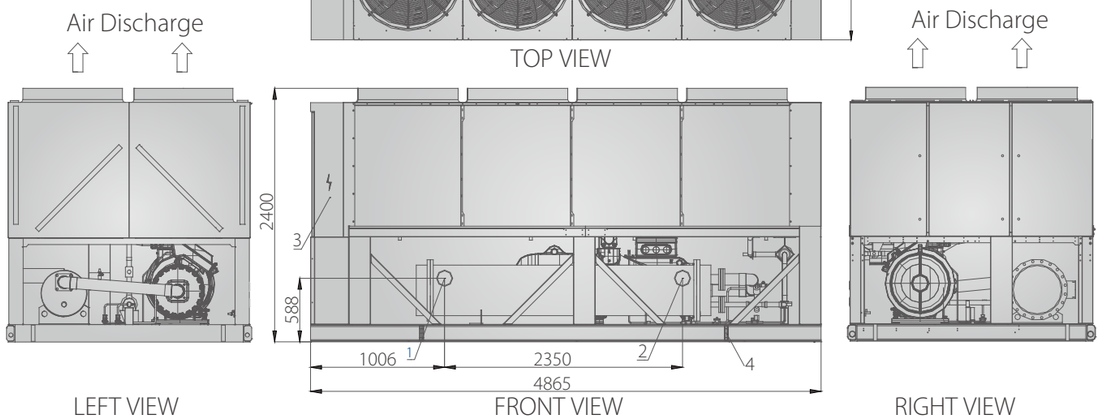
LEFT VIEW FRONT VIEW RIGHT VIEW

WDAT-CN140.1

①CHILLED WATER OUTLET
②CHILLED WATER INLET
③ELECTRICAL CONTROL BOX
④LIFTING POINTS



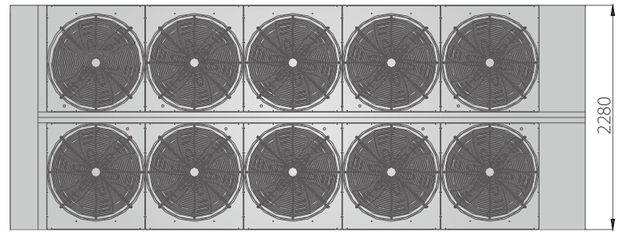
TOP VIEW



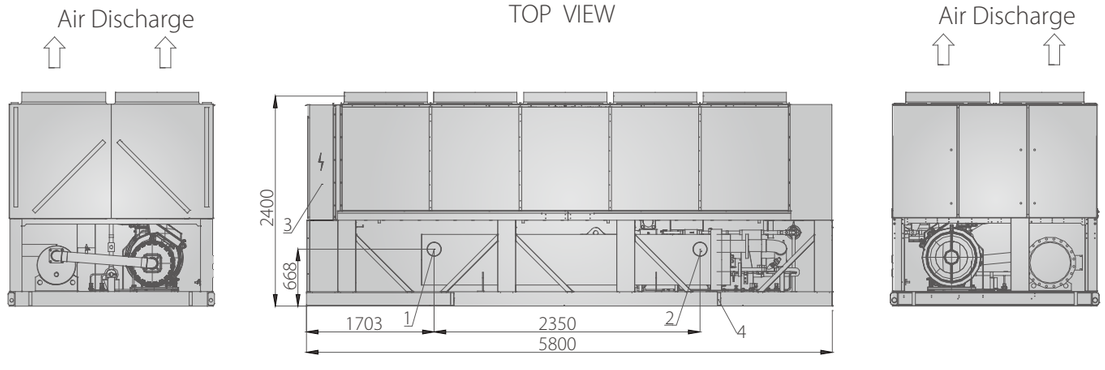
LEFT VIEW FRONT VIEW RIGHT VIEW

WDAT-CN170.1

①CHILLED WATER OUTLET
②CHILLED WATER INLET
③ELECTRICAL CONTROL BOX
④LIFTING POINTS



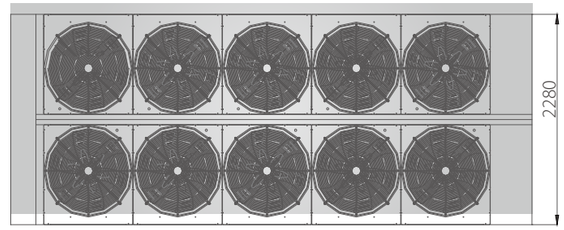
TOP VIEW



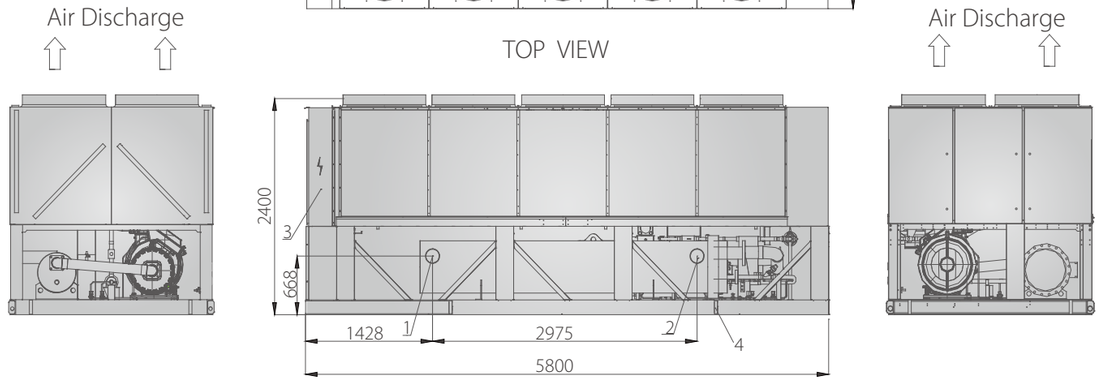
LEFT VIEW FRONT VIEW RIGHT VIEW

WDAT-CN200.1

①CHILLED WATER OUTLET
②CHILLED WATER INLET
③ELECTRICAL CONTROL BOX
④LIFTING POINTS



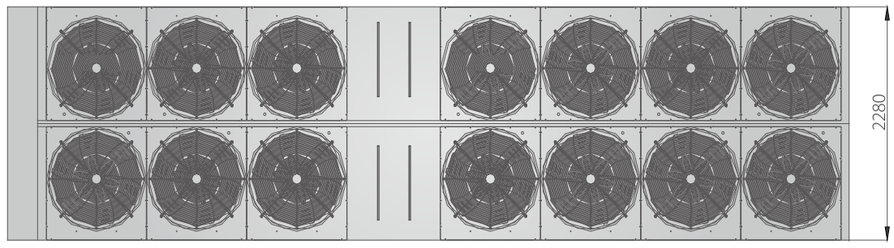
TOP VIEW



LEFT VIEW FRONT VIEW RIGHT VIEW

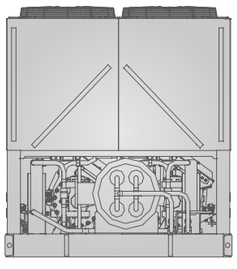
① CHILLED WATER INLET
② CHILLED WATER OUTLET
③ ELECTRICAL CONTROL BOX
④ LIFTING POINTS

WDAT-CN260.2

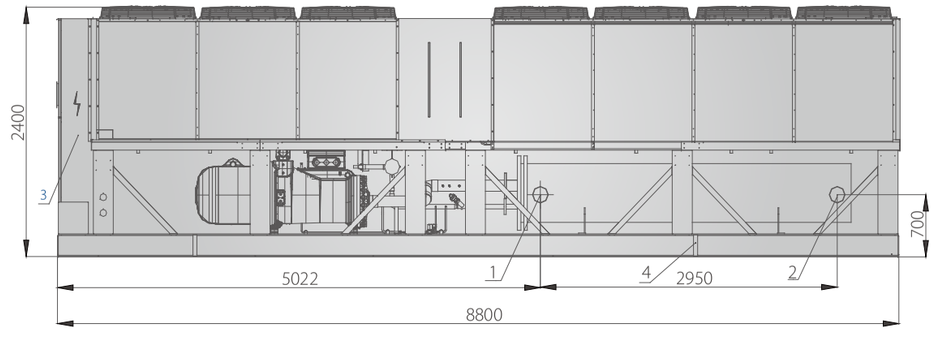


TOP VIEW

Air Discharge

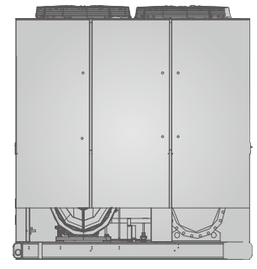


LEFT VIEW



FRONT VIEW

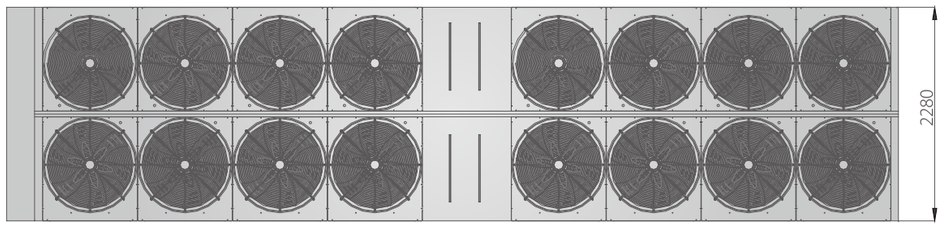
Air Discharge



RIGHT VIEW

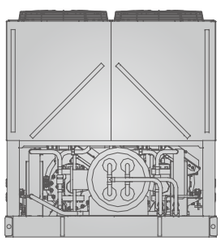
① CHILLED WATER INLET
② CHILLED WATER OUTLET
③ ELECTRICAL CONTROL BOX
④ LIFTING POINTS

WDAT-CN280.2

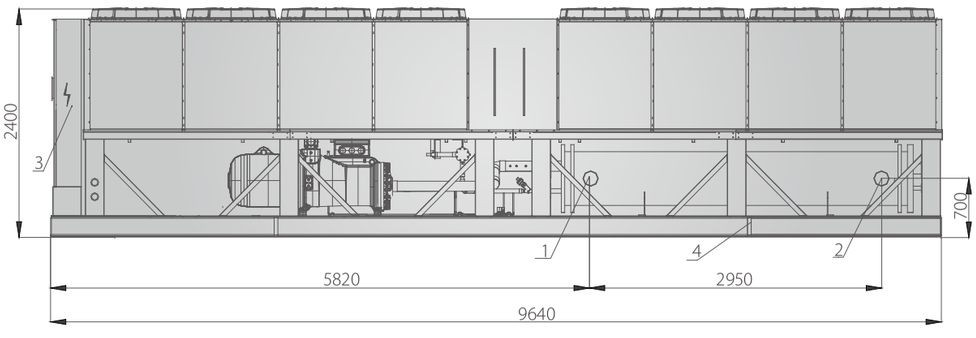


TOP VIEW

Air Discharge

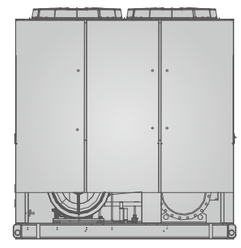


LEFT VIEW



FRONT VIEW

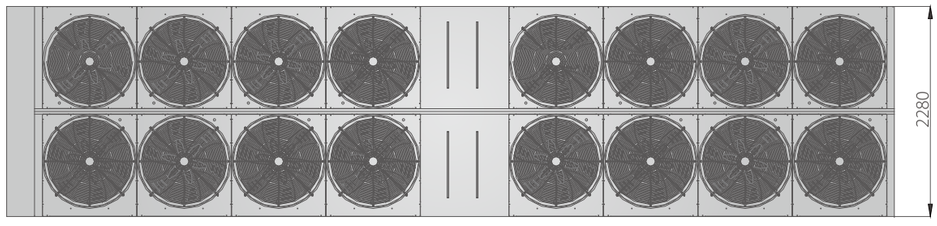
Air Discharge



RIGHT VIEW

① CHILLED WATER INLET
② CHILLED WATER OUTLET
③ ELECTRICAL CONTROL BOX
④ LIFTING POINTS

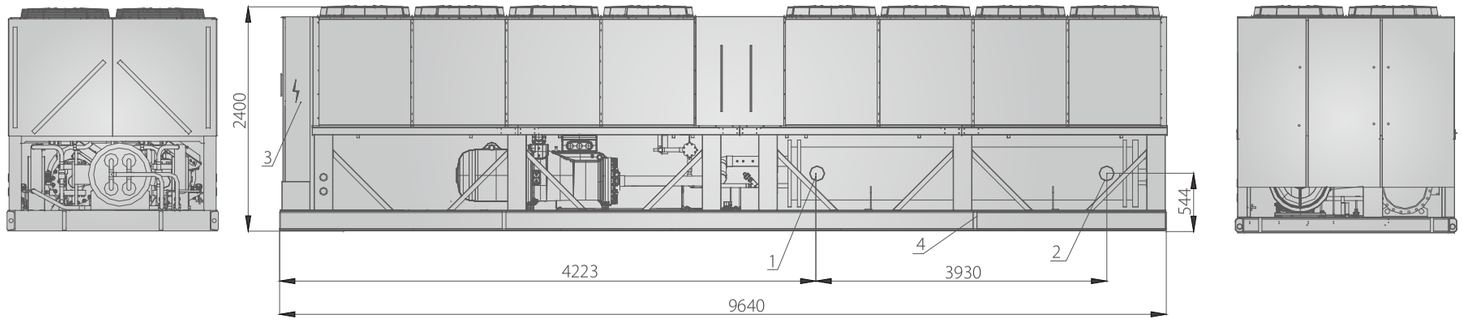
WDAT-CN280.2



Air Discharge

TOP VIEW

Air Discharge



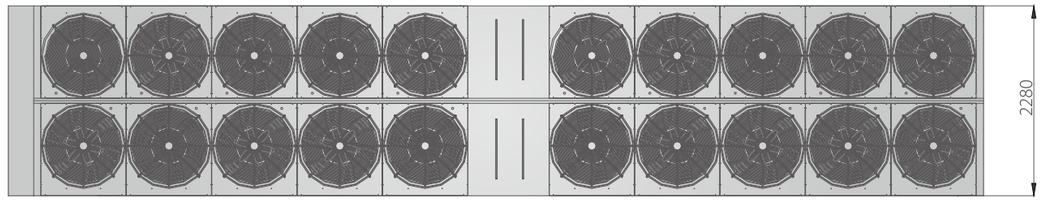
LEFT VIEW

FRONT VIEW

RIGHT VIEW

① CHILLED WATER INLET
② CHILLED WATER OUTLET
③ ELECTRICAL CONTROL BOX
④ LIFTING POINTS

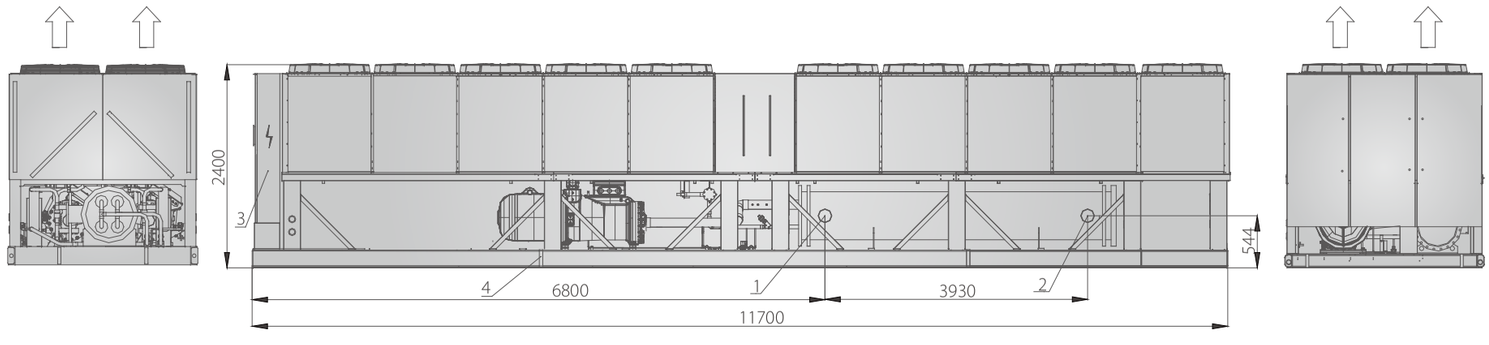
WDAT-CN400.2



Air Discharge

TOP VIEW

Air Discharge



LEFT VIEW

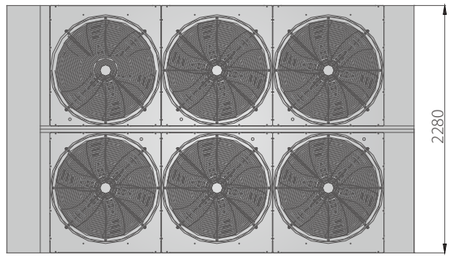
FRONT VIEW

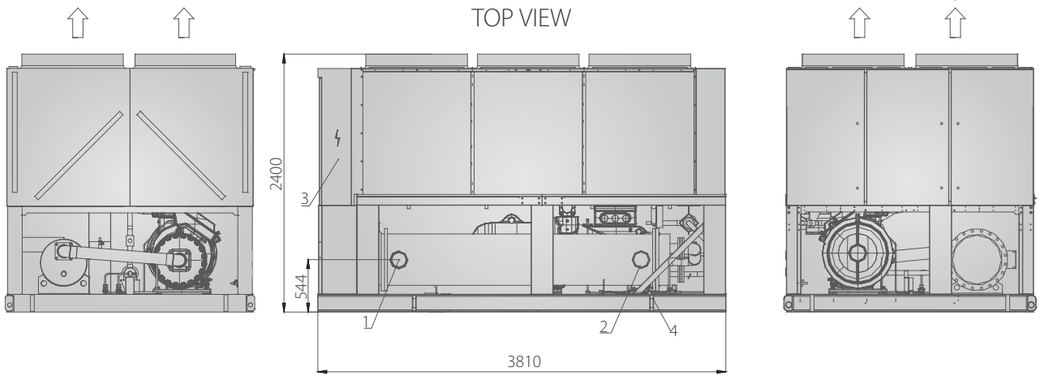
RIGHT VIEW

Dimension (T3)

WDAT-CN110.1(T3)

① CHILLED WATER OUTLET
② CHILLED WATER INLET
③ ELECTRICAL CONTROL BOX
④ LIFTING POINTS

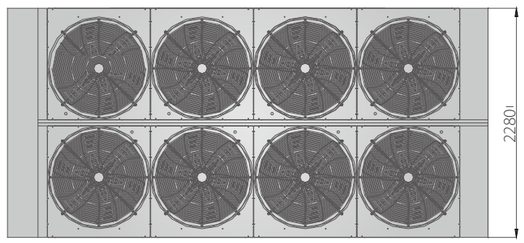


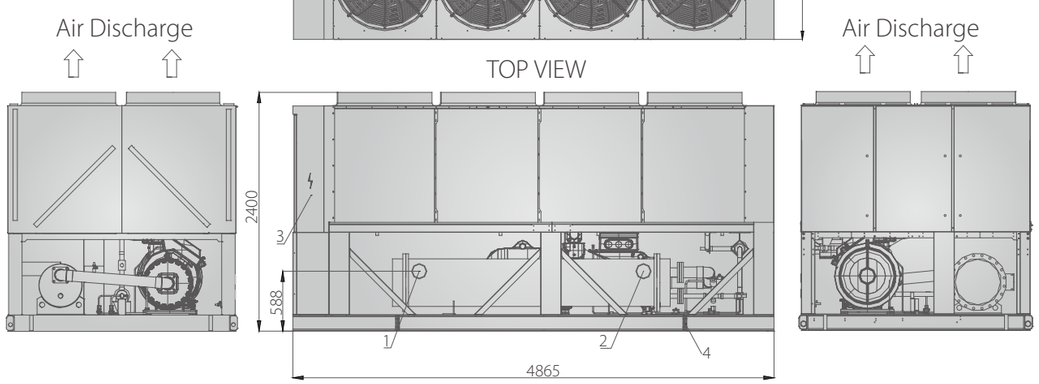


LEFT VIEW FRONT VIEW RIGHT VIEW

WDAT-CN140.1(T3)

① CHILLED WATER OUTLET
② CHILLED WATER INLET
③ ELECTRICAL CONTROL BOX
④ LIFTING POINTS

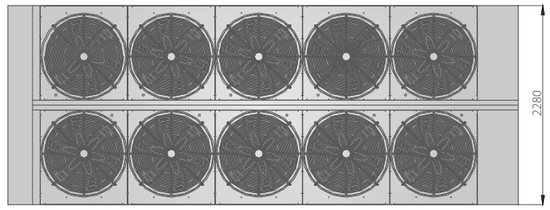


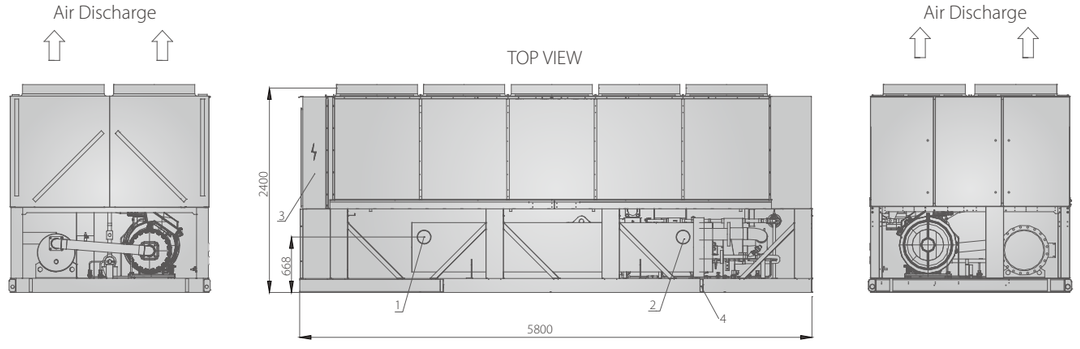


LEFT VIEW FRONT VIEW RIGHT VIEW

WDAT-CN170.1(T3)

① CHILLED WATER OUTLET
② CHILLED WATER INLET
③ ELECTRICAL CONTROL BOX
④ LIFTING POINTS

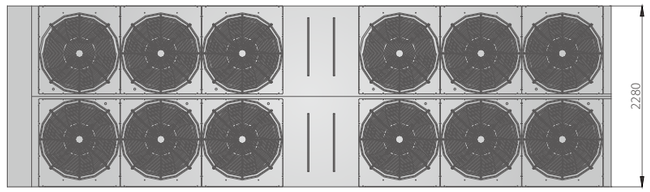


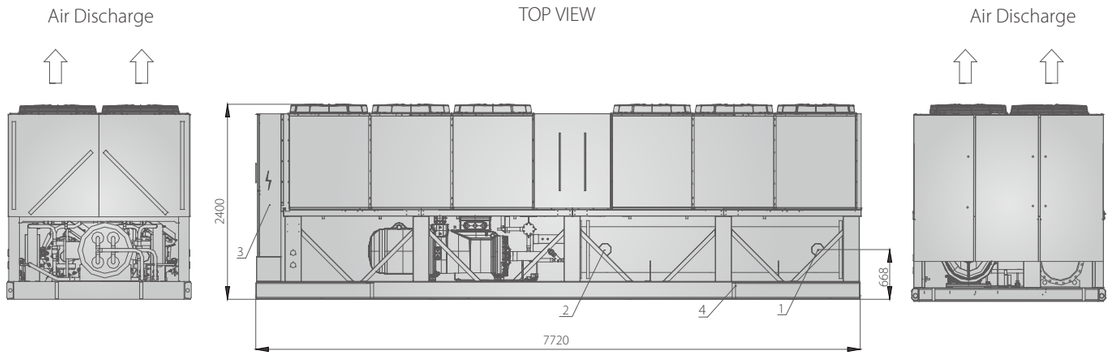


LEFT VIEW FRONT VIEW RIGHT VIEW

WDAT-CN200.2(T3)

① CHILLED WATER OUTLET
② CHILLED WATER INLET
③ ELECTRICAL CONTROL BOX
④ LIFTING POINTS

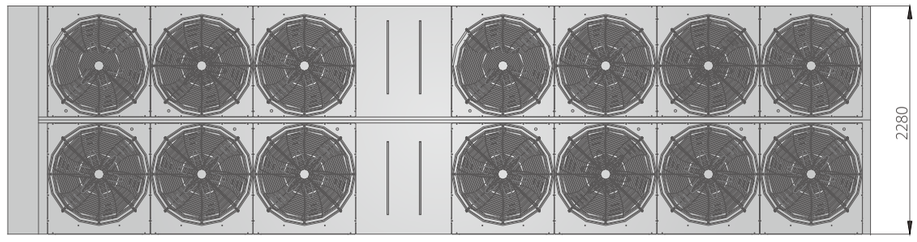




LEFT VIEW FRONT VIEW RIGHT VIEW

WDAT-CN260.2(T3)

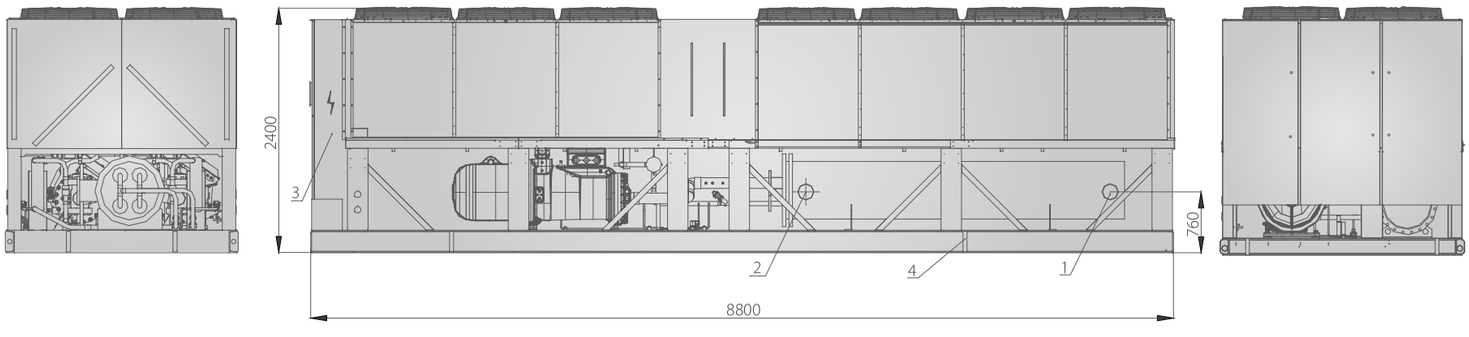
① CHILLED WATER OUTLET
② CHILLED WATER INLET
③ ELECTRICAL CONTROL BOX
④ LIFTING POINTS



Air Discharge

TOP VIEW

Air Discharge



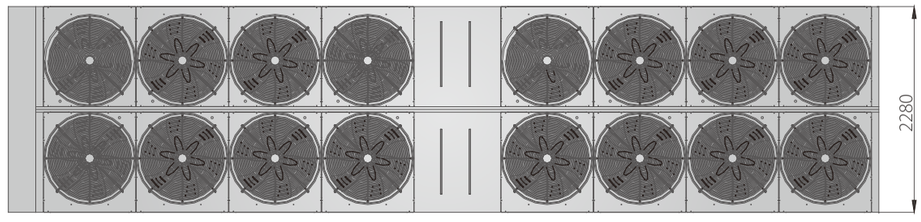
LEFT VIEW

FRONT VIEW

RIGHT VIEW

WDAT-CN280.2(T3)

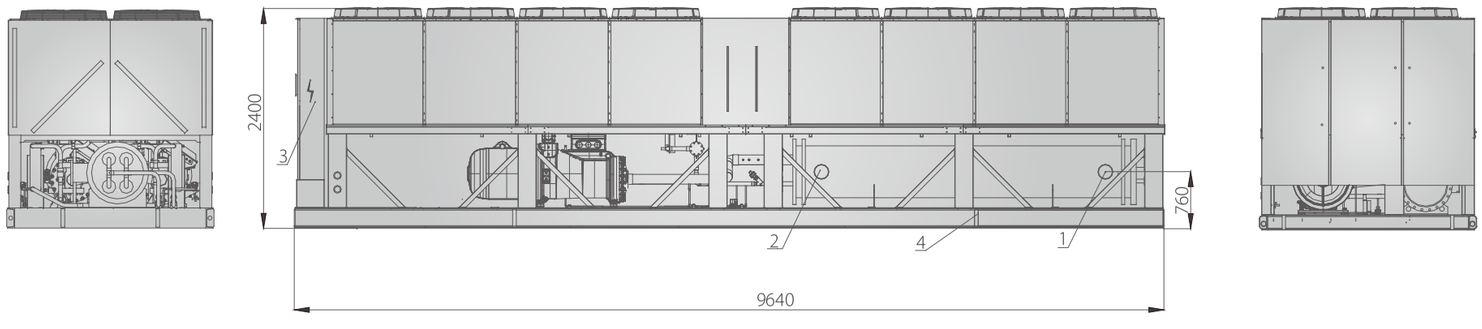
① CHILLED WATER OUTLET
② CHILLED WATER INLET
③ ELECTRICAL CONTROL BOX
④ LIFTING POINTS



TOP VIEW

Air Discharge

Air Discharge



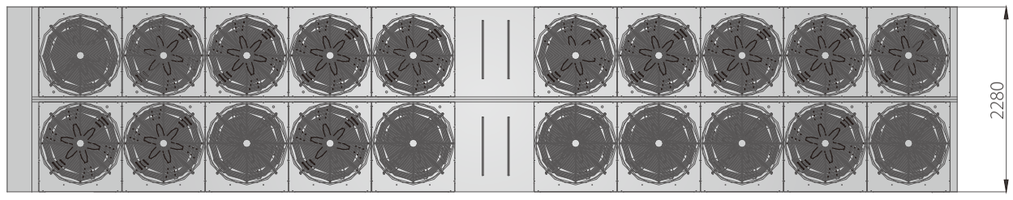
LEFT VIEW

FRONT VIEW

RIGHT VIEW

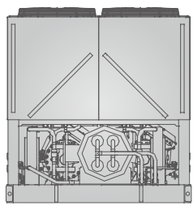
① CHILLED WATER OUTLET
② CHILLED WATER INLET
③ ELECTRICAL CONTROL BOX
④ LIFTING POINTS

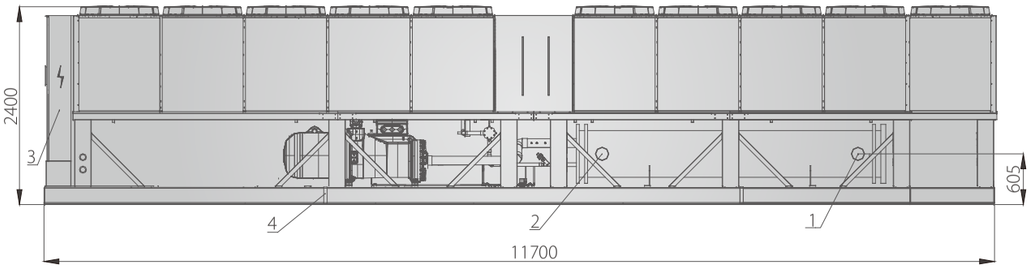
WDAT-CN340.2(T3)



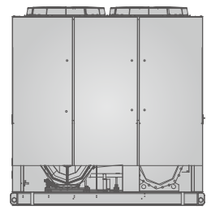
TOP VIEW

Air Discharge





Air Discharge



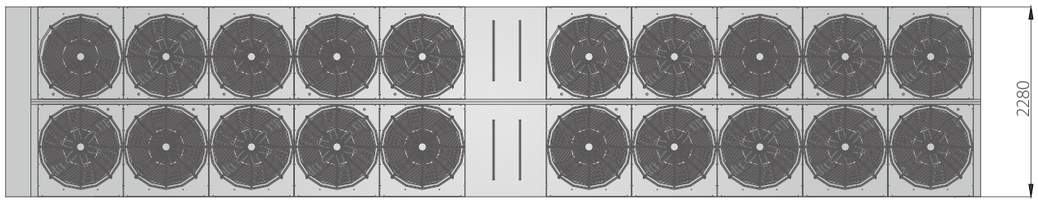
LEFT VIEW

FRONT VIEW

RIGHT VIEW

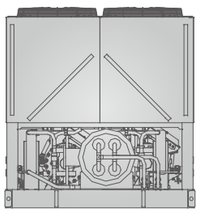
① CHILLED WATER INLET
② CHILLED WATER OUTLET
③ ELECTRICAL CONTROL BOX
④ LIFTING POINTS

WDAT-CN400.2(T3)

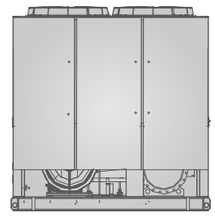


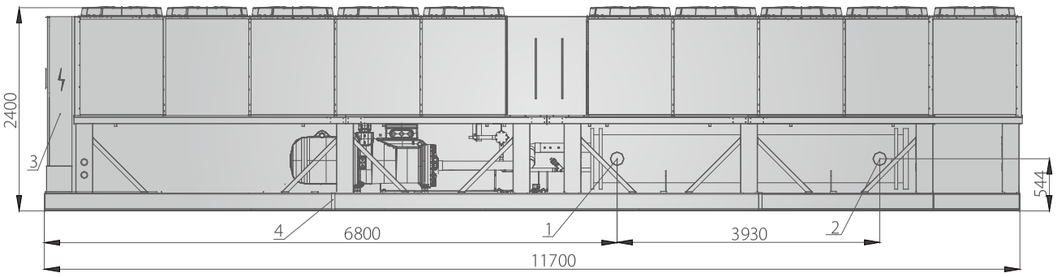
TOP VIEW

Air Discharge



Air Discharge





LEFT VIEW

FRONT VIEW

RIGHT VIEW

Options

Items	Standard	Options
Power supply	380V-3Ph-50Hz	50Hz: 400V, 415V
		60Hz: 380V, 460V
Water side pressure	1.0MPa	1.6MPa, 2.0MPa
Anti-corrosion treatment	×	√
Capacity control	4-step (25% starting up, 50%，75%, 100%)	Stepless
Control system	MIC	PLC
Communication	Modbus-RTU (RS485 port)	BACnet IP, BACnet MS/TP (RJ-45 port)
Water pipe connection	Victaulic	Flange
Spring vibration isolator	×	√
Water flow switch	×	√
Insulation	20mm	40mm
Quiet kits	×	Ultra quiet fans, compressor noise reduction box
Heat recovery	×	20%
Low ambient temperature cooling	×	-20°C
Low water outlet temperature	×	-6.7°C(with ethylene glycol or propylene glycol)
High water outlet temperature	×	15~20°C
Vessel code	GB	ASME
Remote control panel	×	√
Clivet CPC	×	√
Clivet Smart Cloud platform	×	√
QuickView	×	√

Note: For other options, please contact with our engineers.

Installation

Rigging instructions

All rigging should be attached the holes provided in base rails, as shown below.

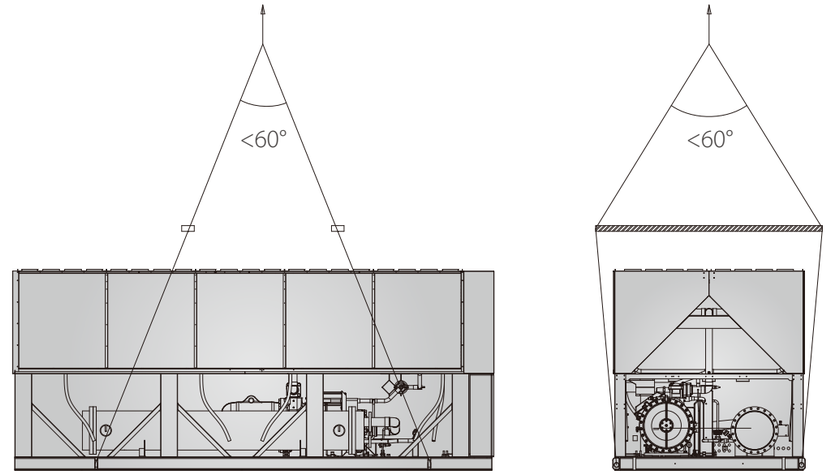
The center of gravity is not the center of the unit. Ensure the center of gravity aligns with the main lifting point before lifting.

Use a spreader bar when rigging to prevent the slings from damaging the unit.

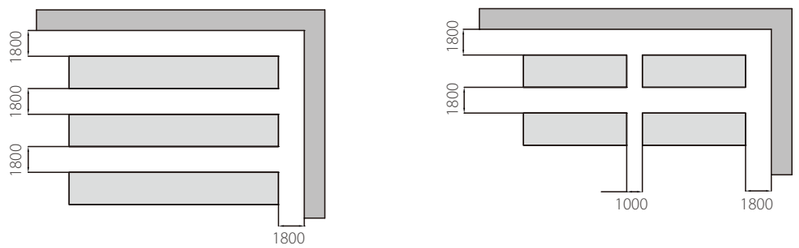
Caution:

All panels should be in place when rigging. Care must be taken to avoid damage to the coils during handing.

Insert packing material between coils and slings if necessary.

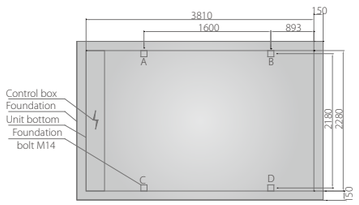


Installation clearance

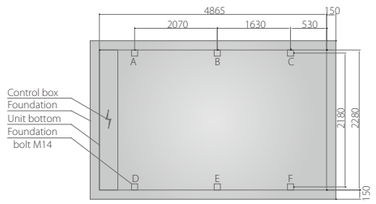


Mounting location (T1)

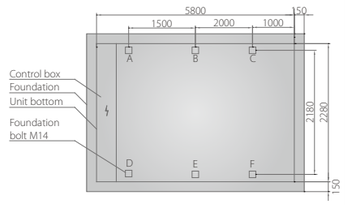
WDAT-CN110.1



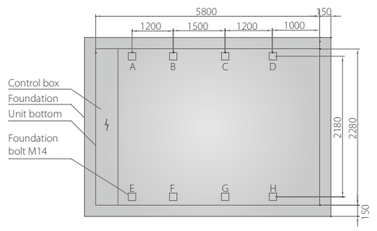
WDAT-CN140.1



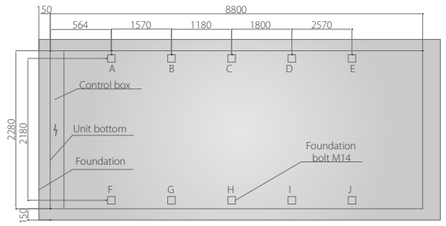
WDAT-CN170.1



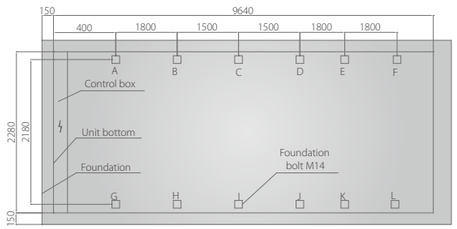
WDAT-CN200.1



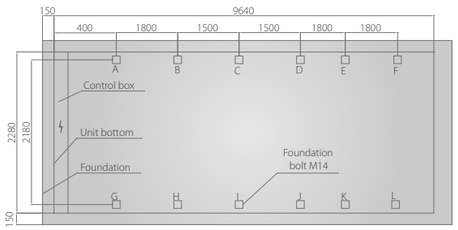
WDAT-CN260.2



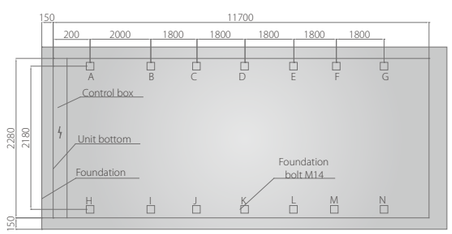
WDAT-CN280.2



WDAT-CN340.2



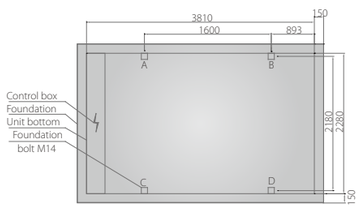
WDAT-CN400.2



Note: All dimensions are in mm.

Mounting location (T3)

WDAT-CN110.1(T3)



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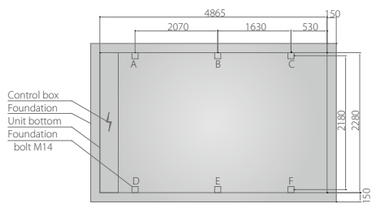
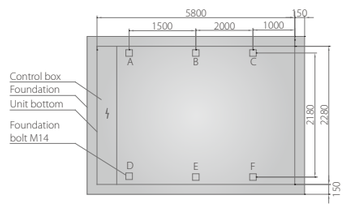


WDAT-CN170.1(T3)



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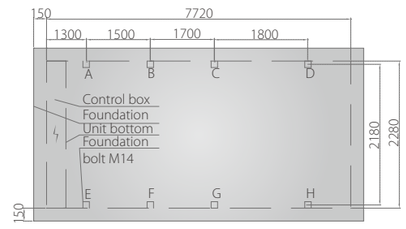

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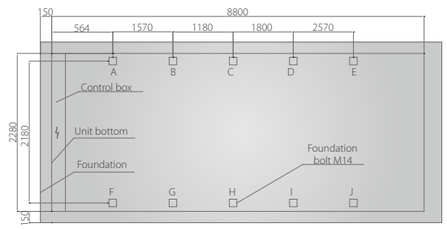
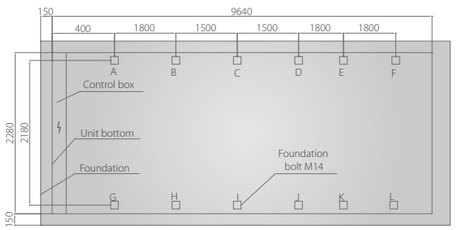


WDAT-CN280.2(T3)



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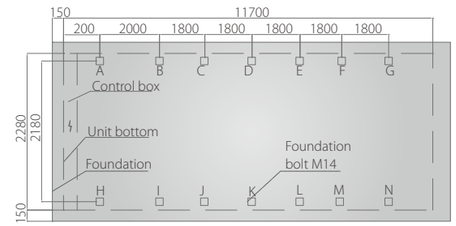
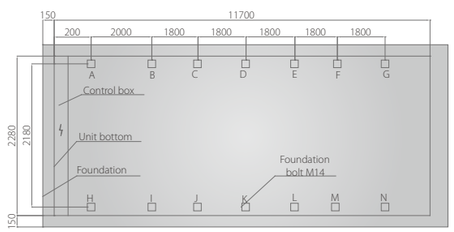


WDAT-CN400.2(T3)

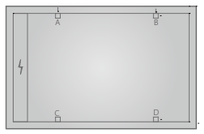


Note: All dimensions are in mm.

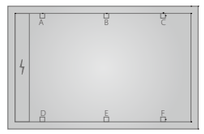
Load distribution (T1)

Unit: kg

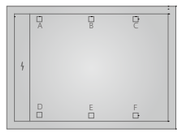
Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N
WDAT-CN110.1	1026	1044	1026	1044	-	-	-	-	-	-	-	-	-	-
WDAT-CN140.1	648	870	847	648	870	847	-	-	-	-	-	-	-	-
WDAT-CN170.1	845	964	941	845	964	941	-	-	-	-	-	-	-	-
WDAT-CN200.1	717	795	825	798	717	795	825	798	-	-	-	-	-	-
WDAT-CN260.2	844	974	977	777	763	844	974	977	777	763	-	-	-	-
WDAT-CN280.2	681	872	877	692	691	692	681	872	877	692	691	692	-	-
WDAT-CN340.2	794	922	915	789	787	783	794	922	915	789	787	783	-	-
WDAT-CN400.2	768	899	928	910	774	772	772	768	899	928	910	774	772	772



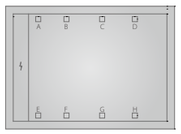
WDAT-CN110.1



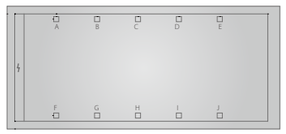
WDAT-CN140.1



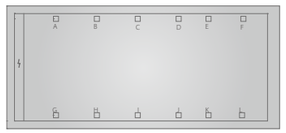
WDAT-CN170.1



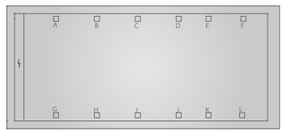
WDAT-CN200.1



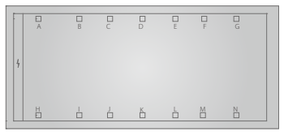
WDAT-CN260.2



WDAT-CN280.2



WDAT-CN340.2



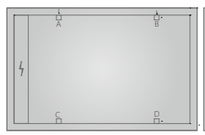
WDAT-CN400.2

Note: The spring isolator is optional. You can order from Clivet or prepare by yourself. Normally, we select the spring isolator based on the chiller load of every point divided by 70% (this value varies depending on the manufacturer of the isolator). You can select suitable ones according to the chiller load of every point.

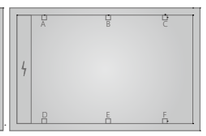
Load distribution (T3)

Unit: kg

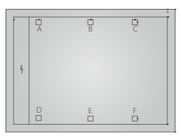
Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N
WDAT-CN110.1(T3)	1055	1075	1055	1075	-	-	-	-	-	-	-	-	-	-
WDAT-CN140.1(T3)	715	895	835	715	895	835	-	-	-	-	-	-	-	-
WDAT-CN170.1(T3)	920	970	960	920	970	960	-	-	-	-	-	-	-	-
WDAT-CN200.2(T3)	930	920	905	895	930	920	905	895	-	-	-	-	-	-
WDAT-CN260.2(T3)	895	970	975	825	810	895	970	975	825	810	-	-	-	-
WDAT-CN280.2(T3)	730	860	875	738	734	728	730	860	875	738	734	728	-	-
WDAT-CN340.2(T3)	690	770	785	775	695	690	685	690	770	785	775	695	690	685
WDAT-CN400.2(T3)	768	899	928	910	774	772	772	768	899	928	910	774	772	772



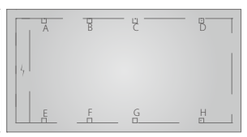
WDAT-CN110.1(T3)



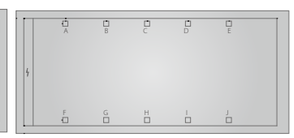
WDAT-CN140.1(T3)



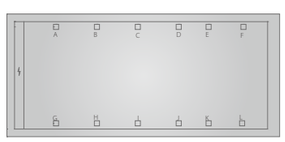
WDAT-CN170.1(T3)



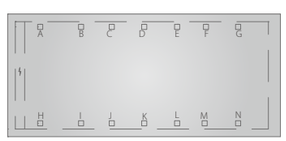
WDAT-CN200.2(T3)



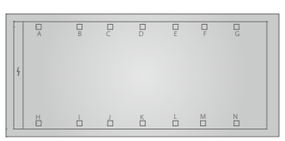
WDAT-CN260.2(T3)



WDAT-CN280.2(T3)



WDAT-CN340.2(T3)

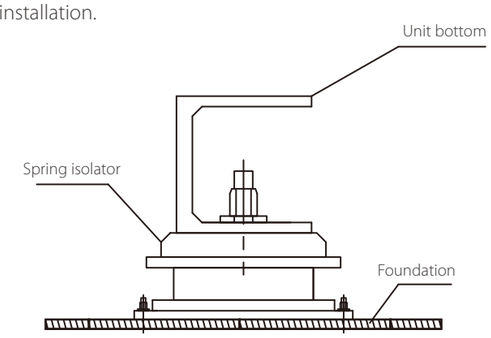


WDAT-CN400.2(T3)

Note: The spring isolator is optional. You can order from Clivet or prepare by yourself. Normally, we select the spring isolator based on the chiller load of every point divided by 70% (this value varies depending on the manufacturer of the isolator). You can select suitable ones according to the chiller load of every point.

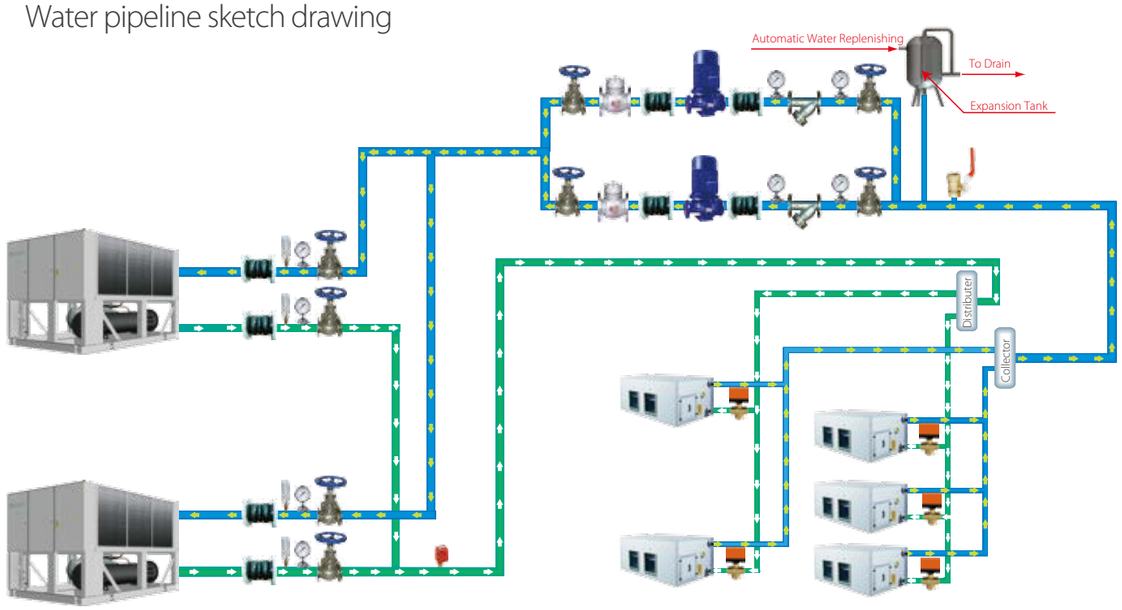
Installation requirements

1. Carefully consider the base preparation and structure during installation, particularly on a rooftop, to avoid noise and vibration. It is advisable to consult the building designer before installation.
2. A drainage ditch should surround the base to ensure dewatering occurs.
3. A spring isolator must be placed between the base frame and foundation to avoid vibration and unnecessary noise, and ensure the unit remains horizontal during installation.



Typical piping system

Water pipeline sketch drawing

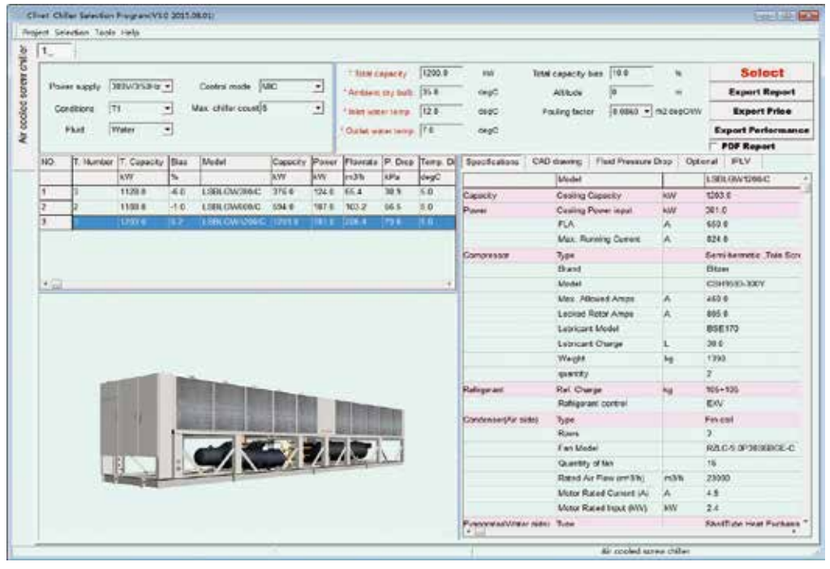


The table below describes the symbols.

Symbol	Symbol Explanation	Symbol	Symbol Explanation
	Stop Valve		Y-shaped Fiter
	Pressure Gauge		Temperature Gauge
	Water Flow Switch		Water Pump
	3-Way Valve		One-way Valve
	Flexible Joint		Air Vent Valve

Selection software

Professional software makes the product selection process much easier and more efficient than conventional manual selection. A simple operating interface and smart logic greatly improves selection efficiency. The user simply needs to provide basic parameters such as cooling capacity, fouling factor, and power supply. The program will then display all suitable models for easy selection. If you have any questions please feel free to contact us.



Large capacity air cooled scroll chiller

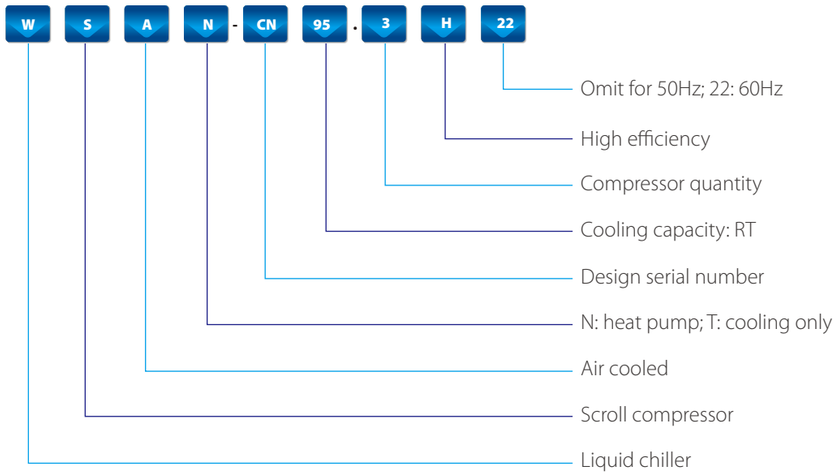
Overview

Clivet large capacity air cooled scroll chiller adopts a modular design. Two basic modules and max. 8 units can be combined. The unit can be widely used in various buildings, including hotels, hospitals, schools, factories, and office buildings, etc.

Core advantages

- Heat Pump/ Cooling Only
- Environmental Friendly
- Quiet Operation
- Flexible Installation
- Wide Operation Range
- Intelligent Control

Nomenclature



Operating range

Operating condition	Cooling	Heating
Ambient temperature	0~48°C	-15~35°C
Water outlet temperature	5~15°C	20~50°C

Unit structure

V type heat exchanger

V type heat exchanger, uniform airflow distribution and fully exchange heat.

Fan and motor

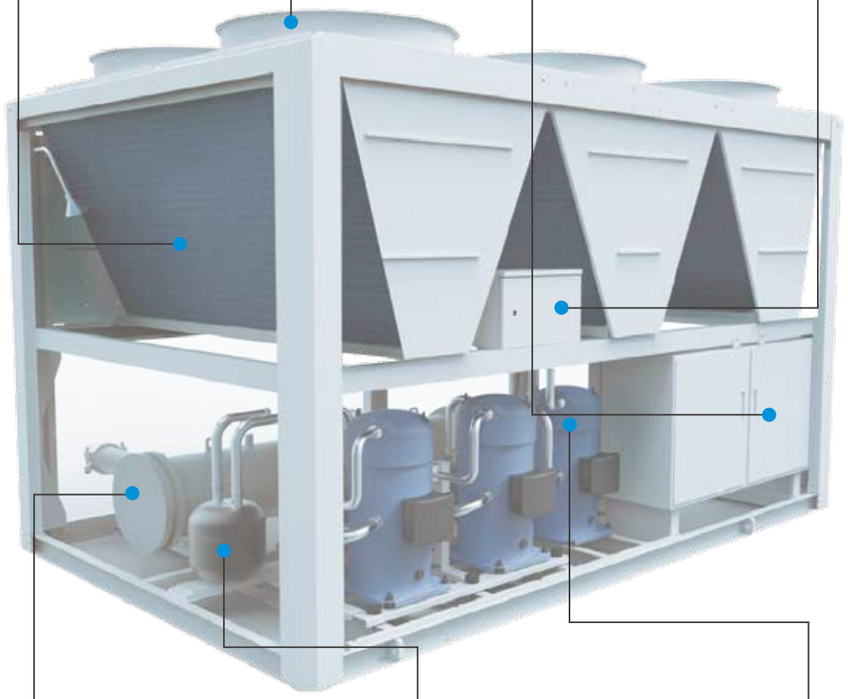
Large air flow, optimized blade design makes quiet operation. The fan motor is large torque and high efficiency design.

Electric control box

Leading brand components are adopted to ensure quality. The electric control box is designed on the front side to make installation fast and maintenance convenient.

Touch screen

The large 7-inch colorful touch screen makes man-machine interaction user friendly.



Water side heat exchanger

The newly design of spiral baffle shell and tube evaporator improves 10% heat exchanging efficiency.

Oil separator

Oil separator ensures pure oil and good lubrication condition.

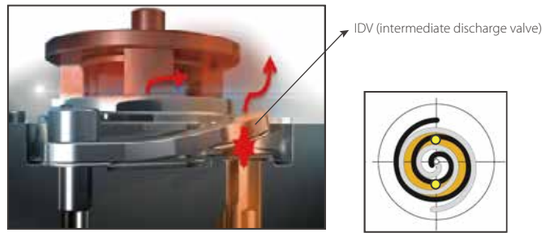
Danfoss large capacity compressor

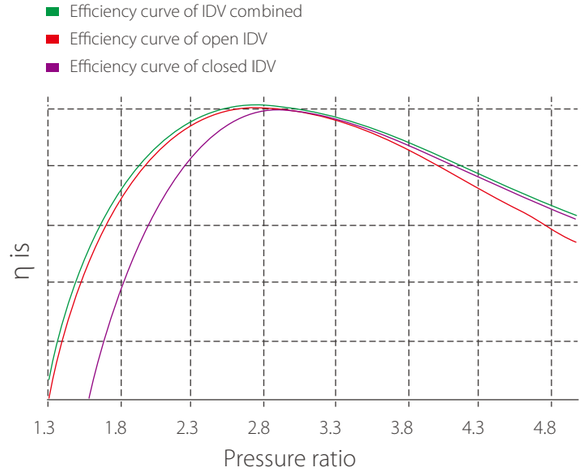
Higher efficiency and longer life span.

Features

Energy saving

❖ The compressor adopts an intermediate discharge valve design. The system can operate efficiently under full pressure ratio to achieve high operating efficiency.

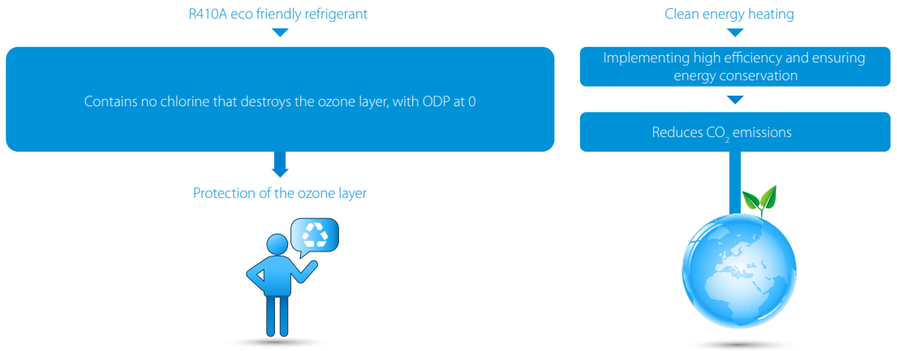




Eco friendly

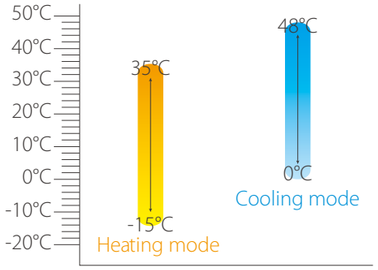
❖ R410A eco friendly refrigerant to achieve higher cooling efficiency. R410A does not contain chlorine that destroys the ozone layer, and its Ozone Depletion Potential (ODP) value is 0, fully protecting the environment.

❖ Helpful to obtain green building, LEED and other building certification.



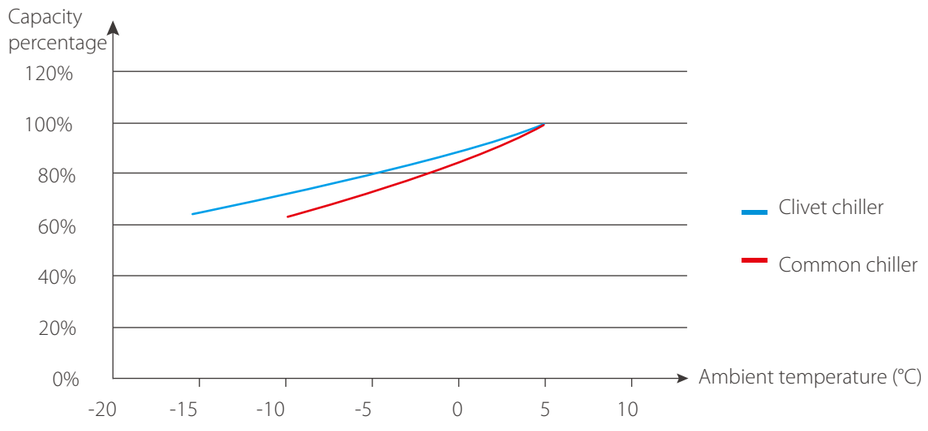
Wide range operation

❖ Cooling mode: 0°C to 48°C. Heating mode: -15°C to 35°C.



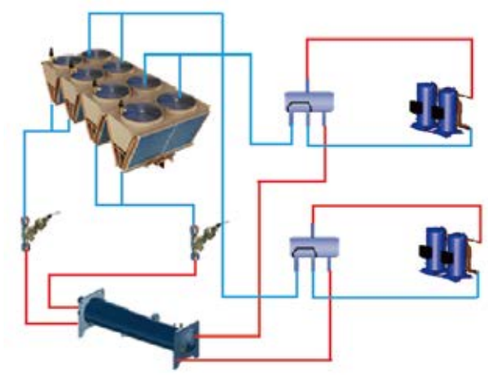
Comfortable heating

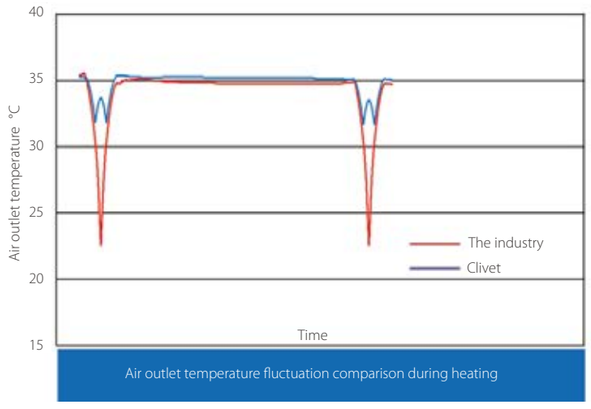
❖ Powerful low-temperature heating performance and advanced pressure ratio control technology ensures efficient and stable heating operation in low temperature environment.
❖ The heating attenuation at -15°C is less than 35%.
❖ Intelligent defrosting avoids wasting energy when there is no need for defrosting.



Segment defrosting

❖ Multi-segment defrosting, air outlet temperature fluctuation is small during defrosting and enhancing the comfort of end users.





Air outlet temperature fluctuation comparison during heating

Quiet operation

❖ High efficiency and low noise fan design.
❖ The fan impeller is optimized with professional flow field software to ensure good aerodynamics and a larger air flow with less noise, improving the heat exchange on the air side.
❖ The noise reduction box for the compressor runs the whole unit at 5 to 10dB(A) quieter, totally about 68~76dB(A).

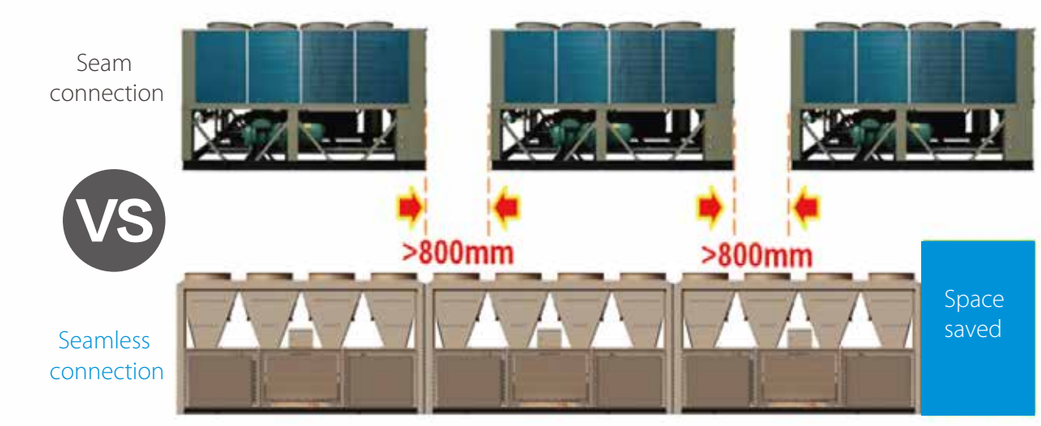
Low noise fan

Low noise compressor

Noise reduction box for compressor (standard for 60Hz and optional for 50Hz unit)

Seamless connection

❖ Modular design concept, free combination to meet different capacity requirements. Possible to increase capacity in the future expansion.
❖ The "V" module design allows lateral ventilation and heat exchange. Multiple modules can be seamlessly connected to reduce the installation area.



Specifications

380V-3Ph-50Hz, Heat pump

Model			Unit	WSAN-CN95.3H	WSAN-CN125.4H	WSAN-CN190.6H	WSAN-CN220.7H	WSAN-CN250.8H
Nominal parameter	Cooling capacity		kW	330.0	440.0	660.0	770.0	880.0
	Cooling power input		kW	106.0	141.0	212.0	247.0	282.0
	Cooling COP		W/W	3.113	3.120	3.113	3.117	3.120
	IPLV		W/W	4.131	4.141	4.131	4.135	4.141
	Heating capacity		kW	350.0	465.0	700.0	815.0	930.0
	Heating power input		kW	109.0	145.0	218.0	254.0	290.0
	Heating COP		W/W	3.211	3.206	3.211	3.208	3.206
	Partial heat recovery*		kW	99.0	132.0	198.0	231.0	264.0
Compressor	Type		/	Hermetic scroll compressor				
	Quantity	System 1	/	2	2	2	2	2
		System 2	/	1	2	1	1	2
		System 3	/	-	-	2	2	2
		System 4	/	-	-	1	2	2
Energy regulation mode			/	Adaptive energy regulation				
Refrigerant	Type		/	R410A				
	Charge amount	System 1	kg	47	47	47	47	47
		System 2	kg	23	47	23	23	47
		System 3	kg	-	-	47	47	47
		System 4	kg	-	-	23	47	47
Power supply			/	380V-3Ph-50Hz				
Rated current			A	189.0	250.9	189.0/189.0	189.0/250.9	250.9/250.9
Start current			A	589.0	673.0	589.0/589.0	589.0/673.0	673.0/673.0
Max. operating current			A	258.0	344.0	234.8/234.8	234.8/316.2	316.2/316.2
Air side heat exchanger	Type		/	High efficiency internal thread pipe + hydrophilic aluminum fin				
	No. of fan		/	6	8	12	14	16
	Air flow rate		m^3/h	20000×6	20000×8	20000×12	20000×14	20000×16
	Motor power input		kW	2.000×6	2.000×8	2.000×12	2.000×14	2.000×16
Water side heat exchanger	Type		/	Shell and tube				
	Water flow rate		m^3/h	56.76	75.68	113.5	132.4	151.4
	Pressure drop		kPa	47.0	63.0	47.0	63.0	63.0
	Water pipe connection		mm	DN125	DN125	DN125/DN125	DN125/DN125	DN125/DN125
	Max. working pressure		kPa	1000	1000	1000	1000	1000
Built-in hydraulic module (optional)			/	Water pump, filter, safety valve, expansion tank, water pressure gauge, etc				
Pump type			/	Single-stage piping centrifugal pump				
No. of pump			/	1	1	-	-	-
Pump power input (standard lift)			kW	4	5.5	-	-	-
Pump power input (high lift)			kW	7.5	11	-	-	-
Pump power input (ultra high lift)			kW	11	15	-	-	-
External water head (standard lift/nominal flow)			kPa	123	104	-	-	-
External water head (high lift/nominal flow)			kPa	228	231	-	-	-
External water head (ultra high lift/nominal flow)			kPa	345	310	-	-	-
Expansion tank capacity			L	80	80	-	-	-
Max. water side pressure (with built-in hydraulic module)			kPa	1000	1000	-	-	-
Inlet and outlet pipe (with built-in hydraulic module)			mm	DN125	DN125	-	-	-
Partial heat recovery heat exchanger (optional)*	Type		/	Plate heat exchanger				
	Water flow		m^3/h	5.7	7.5	5.7/5.7	5.7/7.5	7.5/7.5
	Water side pressure drop		kPa	10.7	11.5	10.7/10.7	10.7/11.5	11.5/11.5
	Connecting pipe diameter		mm	DN50	DN50	DN50/DN50	DN50/DN50	DN50/DN50
Unit dimension	Length		mm	3530	4700	7060	8230	9400
	Width		mm	2300	2300	2300	2300	2300
	Height		mm	2500	2500	2500	2500	2500
Unit weight (without built-in hydraulic module)			kg	3100	3870	6200	6970	7740
Operating weight (without built-in hydraulic module)			kg	3200	4020	6400	7220	8040
Operating weight (with built-in hydraulic module)			kg	3450	4310	-	-	-

Note:

1. Cooling: chilled water outlet temperature 7°C, water flow=cooling capacity×0.172m^3/(h•kW), outdoor ambient temperature 35°C DB; Heating: hot water outlet temperature 45°C, water flow=water flow under cooling mode, outdoor ambient temperature is 7°C DB/6°C WB; Partial heat recovery: hot water inlet/outlet temperature=40°C/45°C, chilled water outlet temperature 7°C, water flow=cooling capacity×0.172m^3/(h•kW), outdoor ambient temperature 35°C DB.
2. IPLV calculations according to standard performances (in accordance with AHRI 550/590).
3. The operating weight with built-in hydraulic module is based on standard lift pump.
4. As a result of the continuous improvement of the product, the above parameters may be changed, please refer to the product nameplate and in-kind.

380V-3Ph-50Hz, Cooling only

Model			Unit	WSAT-CN95.3H	WSAT-CN125.4H	WSAT-CN190.6H	WSAT-CN220.7H	WSAT-CN250.8H
Nominal parameter	Cooling capacity		kW	330.0	440.0	660.0	770.0	880.0
	Cooling power input		kW	106.0	141.0	212.0	247.0	282.0
	Cooling COP		W/W	3.113	3.120	3.113	3.117	3.120
	IPLV		W/W	4.131	4.141	4.131	4.135	4.141
	Partial heat recovery*		kW	99.0	132.0	198.0	231.0	264.0
Compressor	Type		/	Hermetic scroll compressor				
	Quantity	System 1	/	2	2	2	2	2
		System 2	/	1	2	1	1	2
		System 3	/	-	-	2	2	2
		System 4	/	-	-	1	2	2
Energy regulation mode			/	Adaptive energy regulation				
Refrigerant	Type		/	R410A				
	Charge amount	System 1	kg	47	47	47	47	47
		System 2	kg	23	47	23	23	47
		System 3	kg	-	-	47	47	47
		System 4	kg	-	-	23	47	47
Power supply			/	380V-3Ph-50Hz				
Rated current			A	189.0	250.9	189.0/189.0	189.0/250.9	250.9/250.9
Start current			A	589.0	673.0	589.0/589.0	589.0/673.0	673.0/673.0
Max. operating current			A	258.0	344.0	234.8/234.8	234.8/316.2	316.2/316.2
Air side heat exchanger	Type		/	High efficiency internal thread pipe + hydrophilic aluminum fin				
	No. of fan		/	6	8	12	14	16
	Air flow rate		m^3/h	20000×6	20000×8	20000×12	20000×14	20000×16
	Motor power input		kW	2.000×6	2.000×8	2.000×12	2.000×14	2.000×16
Water side heat exchanger	Type		/	Shell and tube				
	Water flow rate		m^3/h	56.76	75.68	113.5	132.4	151.4
	Pressure drop		kPa	47.0	63.0	47.0	63.0	63.0
	Water pipe connection		mm	DN125	DN125	DN125/DN125	DN125/DN125	DN125/DN125
	Max. working pressure		kPa	1000	1000	1000	1000	1000
Built-in hydraulic module (optional)			/	Water pump, filter, safety valve, expansion tank, water pressure gauge, etc				
Pump type			/	Single-stage piping centrifugal pump				
No. of pump			/	1	1	-	-	-
Pump power input (standard lift)			kW	4	5.5	-	-	-
Pump power input (high lift)			kW	7.5	11	-	-	-
Pump power input (ultra high lift)			kW	11	15	-	-	-
External water head (standard lift/nominal flow)			kPa	123	104	-	-	-
External water head (high lift/nominal flow)			kPa	228	231	-	-	-
External water head (ultra high lift/nominal flow)			kPa	345	310	-	-	-
Expansion tank capacity			L	80	80	-	-	-
Max. water side pressure (with built-in hydraulic module)			kPa	1000	1000	-	-	-
Inlet and outlet pipe (with built-in hydraulic module)			mm	DN125	DN125	-	-	-
Partial heat recovery heat exchanger (optional)*	Type		/	Plate heat exchanger				
	Water flow		m^3/h	5.7	7.5	5.7/5.7	5.7/7.5	7.5/7.5
	Water side pressure drop		kPa	10.7	11.5	10.7/10.7	10.7/11.5	11.5/11.5
	Connecting pipe diameter		mm	DN50	DN50	DN50/DN50	DN50/DN50	DN50/DN50
Unit dimension	Length		mm	3530	4700	7060	8230	9400
	Width		mm	2300	2300	2300	2300	2300
	Height		mm	2500	2500	2500	2500	2500
Unit weight (without built-in hydraulic module)			kg	3050	3800	6100	6850	7600
Operating weight (without built-in hydraulic module)			kg	3150	3950	6300	7100	7900
Operating weight (with built-in hydraulic module)			kg	3400	4240	-	-	-

Note:

1. Cooling: chilled water outlet temperature 7°C, water flow=cooling capacity×0.172m^3/(h•kW), outdoor ambient temperature 35°C DB; Partial heat recovery: hot water inlet/outlet temperature=40°C/45°C, chilled water outlet temperature 7°C, water flow=cooling capacity×0.172m^3/(h•kW), outdoor ambient temperature 35°C DB.
2. IPLV calculations according to standard performances (in accordance with AHRI 550/590).
3. The operating weight with built-in hydraulic module is based on standard lift pump.
4. As a result of the continuous improvement of the product, the above parameters may be changed, please refer to the product nameplate and in-kind.

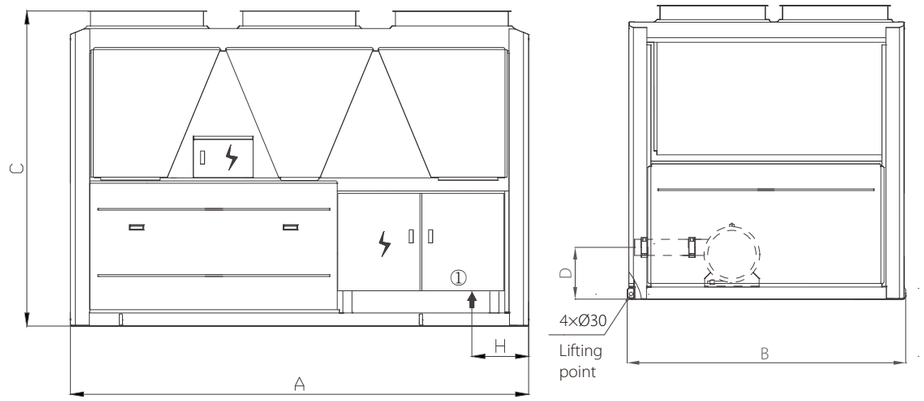
460V-3Ph-60Hz, Cooling only

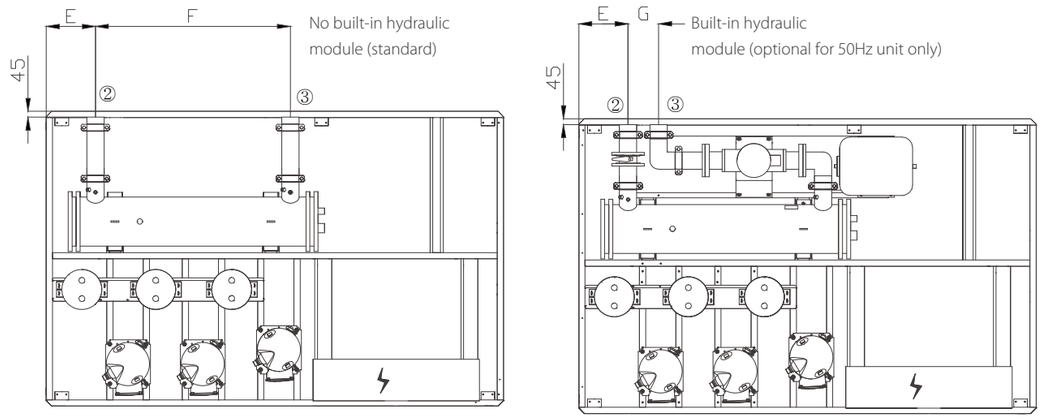
Model			Unit	WSAT-CN115.3H22	WSAT-CN150.4H22	WSAT-CN230.6H22	WSAT-CN265.7H22	WSAT-CN300.8H22
Nominal parameter	Cooling capacity		kW	400.0	535.0	800.0	935.0	1070.0
	Cooling power input		kW	134.0	179.0	268.0	313.0	358.0
	Cooling COP		kW/kW	2.985	2.988	2.985	2.987	2.988
	IPLV		kW/kW	4.008	4.018	4.008	4.012	4.018
	Partial heat recovery*		kW	112.0	150.0	224.0	262.0	300.0
Compressor	Type		/	Hermetic scroll compressor				
	Quantity	System 1	/	2	2	2	2	2
		System 2	/	1	2	1	1	2
		System 3	/	-	-	2	2	2
		System 4	/	-	-	1	2	2
Energy regulation mode			/	Adaptive energy regulation				
Refrigerant	Type		/	R410A				
	Charge amount	System 1	kg	47	47	47	47	47
		System 2	kg	23	47	23	23	47
		System 3	kg	-	-	47	47	47
		System 4	kg	-	-	23	47	47
Power supply			/	460V-3Ph-60Hz				
Rated current			A	198.0	265.0	198.0/198.0	198.0/265.0	265.0/265.0
Start current			A	589.0	673.0	589.0/589.0	589.0/673.0	673.0/673.0
Max. operating current			A	258.0	336.0	258.0/258.0	258.0/336.0	336.0/336.0
Air side heat exchanger	Type		/	High efficiency internal thread pipe + hydrophilic aluminum fin				
	No. of fan		/	6	8	12	14	16
	Air flow rate		m^3/h	21500×6	21500×8	21500×12	21500×14	21500×16
	Motor power input		kW	2.4×6	2.4×8	2.4×12	2.4×14	2.4×16
Water side heat exchanger	Type		/	Shell and tube				
	Water flow rate		m^3/h	68.8	92.02	137.6	160.8	184.0
	Pressure drop		kPa	64.0	65.0	64.0	65.0	65.0
	Water pipe connection		mm	DN125	DN125	DN125+DN125	DN125+DN125	DN125+DN125
	Max. working pressure		kPa	1000	1000	1000	1000	1000
Partial heat recovery heat exchanger (optional)*	Type		/	Plate heat exchanger				
	Water flow		m^3/h	6.500	8.600	6.500+6.500	6.500+8.600	8.600+8.600
	Water side pressure drop		kPa	13.9	15.1	13.9+13.9	13.9+15.1	15.1+15.1
	Connecting pipe diameter		mm	DN50	DN50	DN50+DN50	DN50+DN50	DN50+DN50
Unit dimension	Length		mm	3530	4700	7060	8230	9400
	Width		mm	2300	2300	2300	2300	2300
	Height		mm	2500	2500	2500	2500	2500
Unit weight			kg	3150	3900	6300	7050	7800
Operating weight			kg	3300	4100	6600	7400	8200

Note:
1. Cooling: chilled water outlet temperature 7°C, water flow=cooling capacity×0.172m3/(h•kW), outdoor ambient temperature 35°C DB; Partial heat recovery: hot water inlet/outlet temperature=40°C/45°C, chilled water outlet temperature 7°C, water flow=cooling capacity×0.172m3/(h•kW), outdoor ambient temperature 35°C DB.
2. IPLV calculations according to standard performances (in accordance with AHRI 550/590).
3. As a result of the continuous improvement of the product, the above parameters may be changed, please refer to the product nameplate and in-kind.

Dimension and base diagram

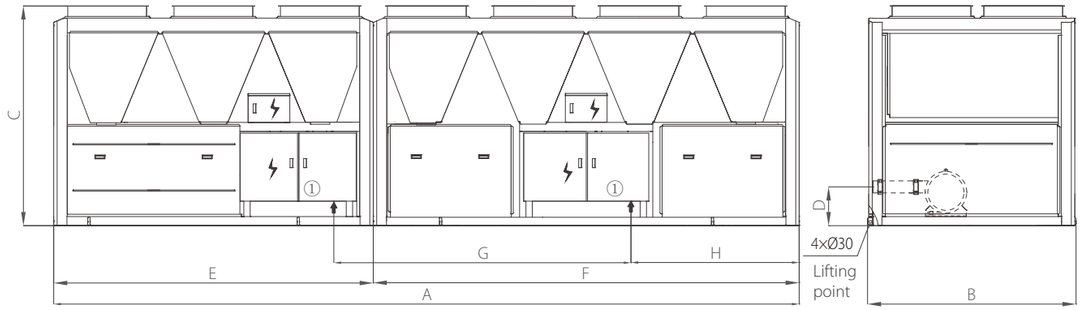
Dimension

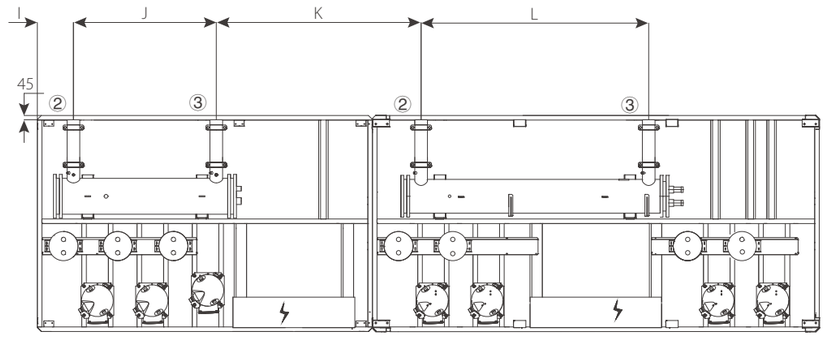




Note:
① Power incoming line ② Chilled water outlet Victaulic connection ③ Chilled water inlet Victaulic connection

Model	Dimension (unit: mm)							
--	A	B	C	D	E	F	G	H
WSAN-CN95.3H WSAT-CN95.3H WSAT-CN115.3H22	3530	2300	2500	430	380	1500	235	365
WSAN-CN125.4H WSAT-CN125.4H WSAT-CN150.4H22	4700	2300	2500	430	515	2390	825	1825





Note:

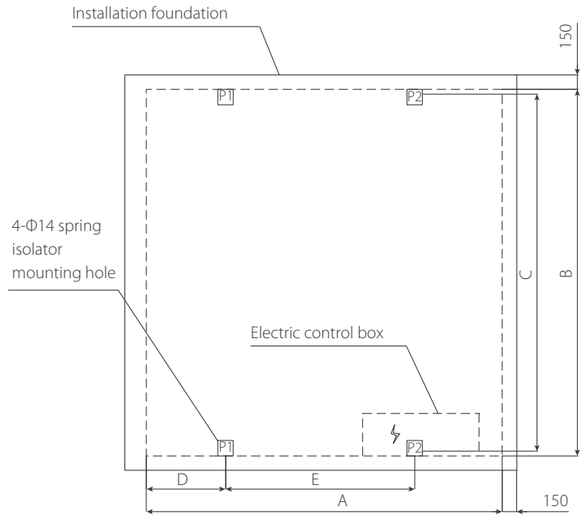
① Power incoming line

② Chilled water outlet
Victaulic connection

③ Chilled water inlet
Victaulic connection

Model	Dimension (unit: mm)											
--	A	B	C	D	E	F	G	H	I	J	K	L
WSAN-CN190.6H WSAT-CN190.6H WSAT-CN230.6H22	7060	2300	2500	430	3530	3530	3530	365	380	1500	2030	1500
WSAN-CN220.7H WSAT-CN220.7H WSAT-CN265.7H22	8230	2300	2500	430	3530	4700	3240	1825	380	1500	2165	2390
WSAN-CN250.8H WSAT-CN250.8H WSAT-CN300.8H22	9400	2300	2500	430	4700	4700	4700	1825	515	2390	2310	2390

Base diagram

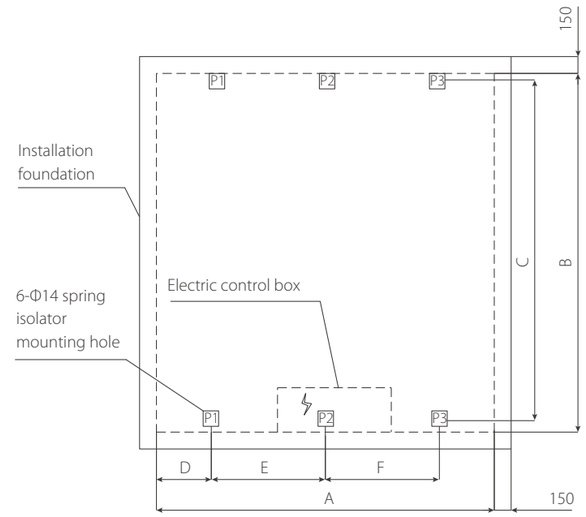


Model	Base dimension (unit: mm)				
--	A	B	C	D	E
WSAN-CN95.3H WSAT-CN95.3H WSAT-CN115.3H22	3530	2300	2220	644	2200

Model	Spring isolator at all points	
--	P1	P2
WSAN-CN95.3H WSAT-CN95.3H WSAT-CN115.3H22	MHD-1050	MHD-1050

Note:

1. The spring isolator is optional.
2. The value in the spring isolator model indicates the bearable weight (unit: kg). For example, "1050" in "MHD-1050" indicates 1,050kg.

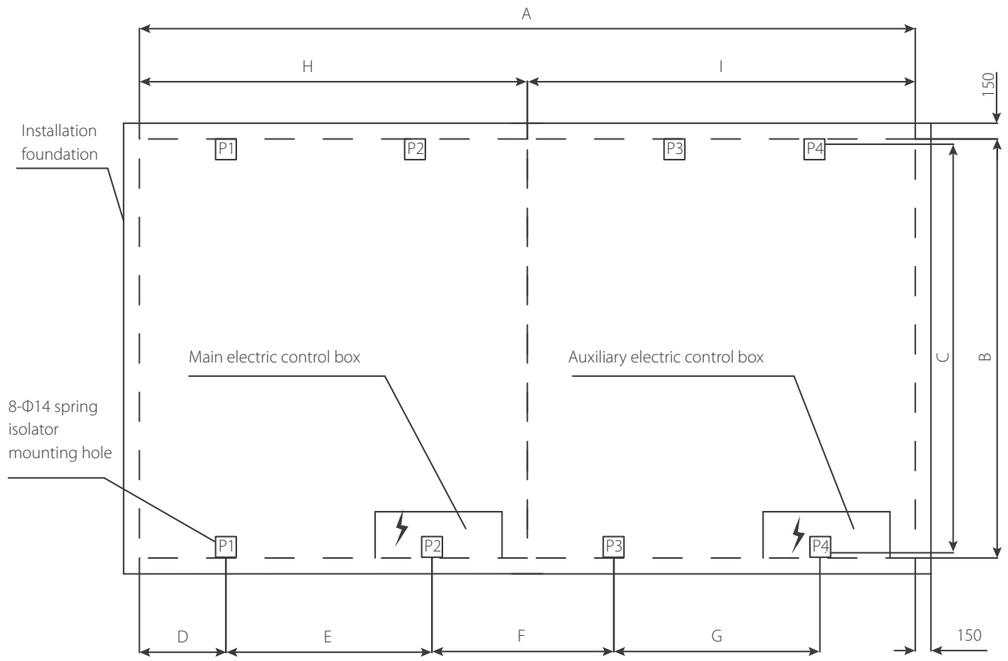


Model	Base dimension (unit: mm)					
--	A	B	C	D	E	F
WSAN-CN125.4H WSAT-CN125.4H WSAT-CN150.4H22	4700	2300	2220	844	1412	1600

Unit model	Spring isolator at all points		
--	P1	P2	P3
WSAN-CN125.4H WSAT-CN125.4H WSAT-CN150.4H22	MHD-850	MHD-850	MHD-850

Note:

1. The spring isolator is optional.
2. The value in the spring isolator model indicates the bearable weight (unit: kg). For example, "850" in "MHD-850" indicates 850kg.

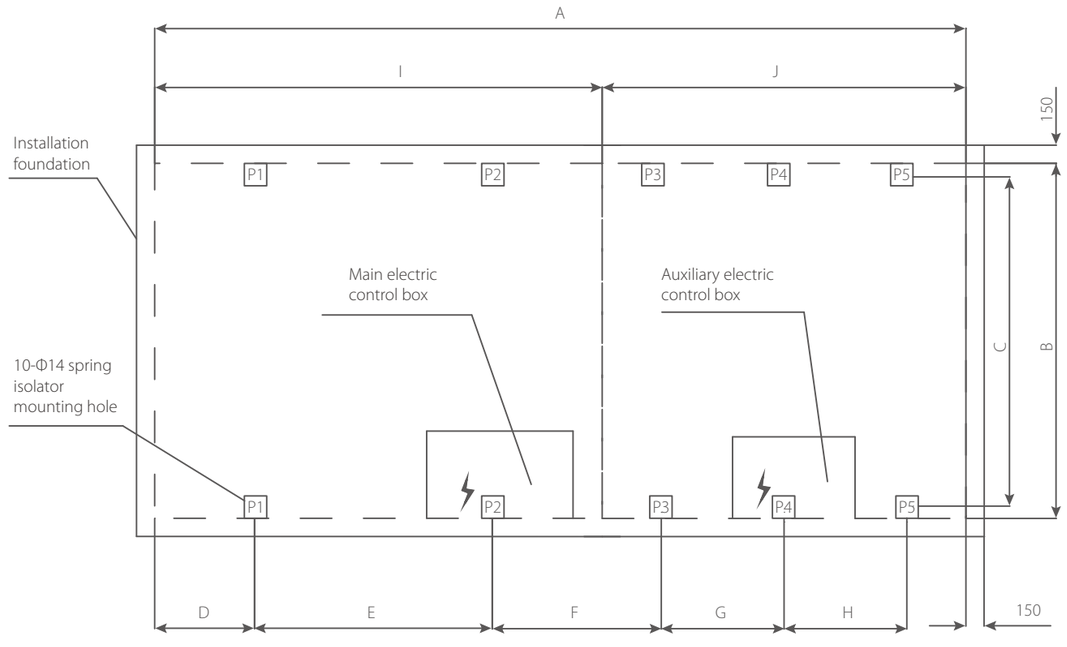


Model	Base dimension (unit: mm)								
--	A	B	C	D	E	F	G	H	I
WSAN-CN190.6H WSAT-CN190.6H WSAT-CN230.6H22	7060	2300	2220	644	2200	1330	2200	3530	3530

Model	Spring isolator at all points			
--	P1	P2	P3	P4
WSAN-CN190.6H WSAT-CN190.6H WSAT-CN230.6H22	MHD-1050	MHD-1050	MHD-1050	MHD-1050

Note:

1. The spring isolator is optional.
2. The value in the spring isolator model indicates the bearable weight (unit: kg). For example, "1050" in "MHD-1050" indicates 1,050kg.

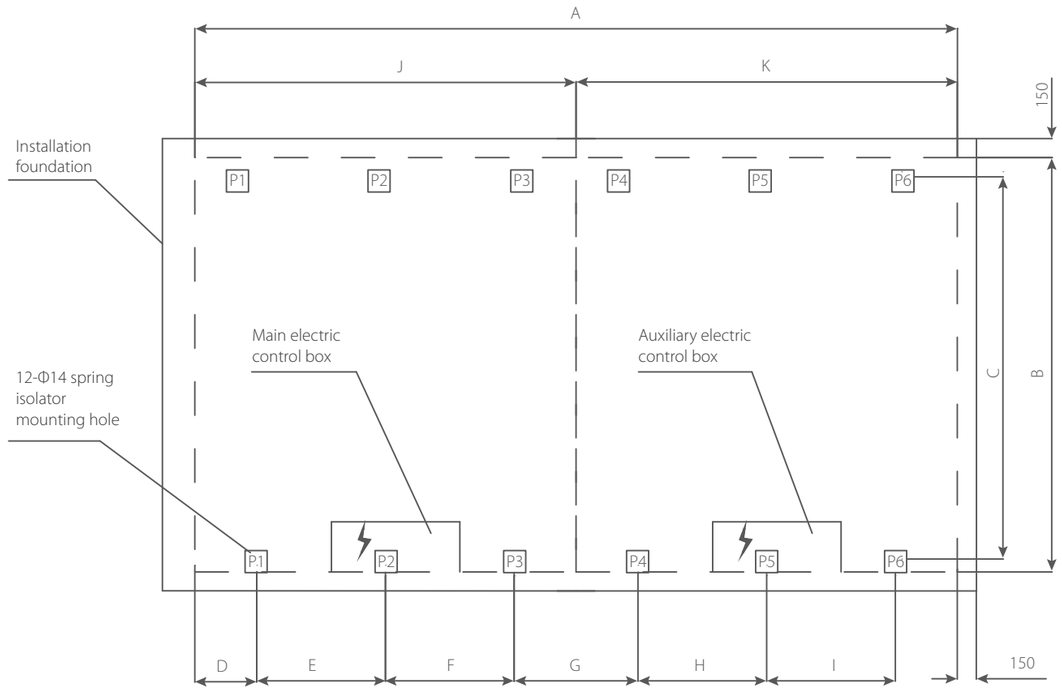


Model	Base dimension (unit: mm)									
--	A	B	C	D	E	F	G	H	I	J
WSAN-CN220.7H WSAT-CN220.7H WSAT-CN265.7H22	8230	2300	2220	644	2200	1530	1412	1600	3530	4700

Model	Spring isolator at all points				
--	P1	P2	P3	P4	P5
WSAN-CN220.7H WSAT-CN220.7H WSAT-CN265.7H22	MHD-1050	MHD-1050	MHD-850	MHD-850	MHD-850

Note:

1. The spring isolator is optional.
2. The value in the spring isolator model indicates the bearable weight (unit: kg). For example, "1050" in "MHD-1050" indicates 1,050kg.



Model	Base dimension (unit: mm)										
--	A	B	C	D	E	F	G	H	I	J	K
WSAN-CN250.8H WSAT-CN250.8H WSAT-CN300.8H22	9400	2300	2220	844	1412	1600	1688	1412	1600	4700	4700

Model	Spring isolator at all points					
--	P1	P2	P3	P4	P5	P6
WSAN-CN250.8H WSAT-CN250.8H WSAT-CN300.8H22	MHD-850	MHD-850	MHD-850	MHD-850	MHD-850	MHD-850

Note:

1. The spring isolator is optional.
2. The value in the spring isolator model indicates the bearable weight (unit: kg). For example, "850" in "MHD-850" indicates 850kg.

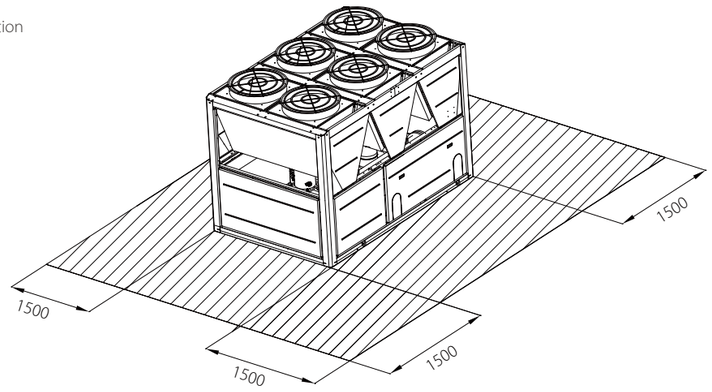
Options

Items	Standard	Options
Power supply	380V-3Ph-50Hz	50Hz: 400V, 415V (Cooling only and Heat pump) 60Hz: 460V (Cooling only)
Water side pressure	1.0MPa	1.6MPa, 2.0MPa
Anti-corrosion treatment	×	√
Communication	Modbus-RTU (RS485 port)	BACnet IP, BACnet MS/TP (RJ-45 port)
Water pipe connection	Victaulic	Flange
Spring isolator	×	√
Water flow switch	×	√
Insulation	20mm	40mm
Quiet kits	Compressor noise reduction box and ultra quiet fans (60Hz)	Compressor noise reduction box and ultra quiet fans (50Hz)
Built-in hydraulic module	×	√ (50Hz)
Heat recovery	×	30% (50Hz), 25~28% (60Hz)
Low ambient temperature cooling	×	-20℃
Low water outlet temperature	×	-6.7℃(with ethylene glycol or propylene glycol)
High water outlet temperature	×	15~20℃
Remote control panel	×	√
Clivet CPC	×	√
Clivet Smart Cloud platform	×	√
QuickView	×	√

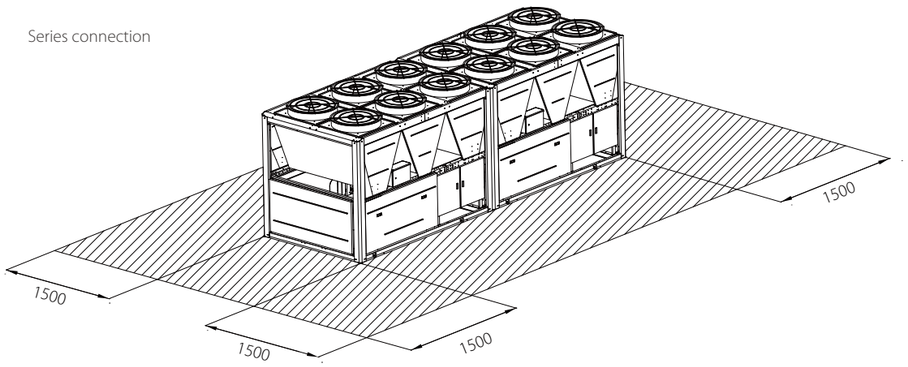
Note: For other options, please contact with our engineers.

Installation and maintenance

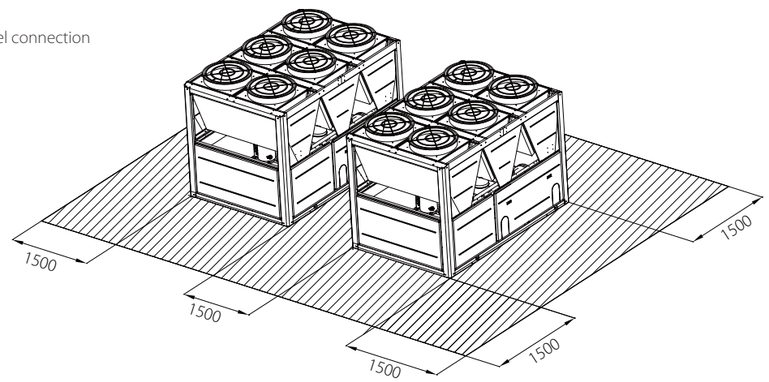
Single installation



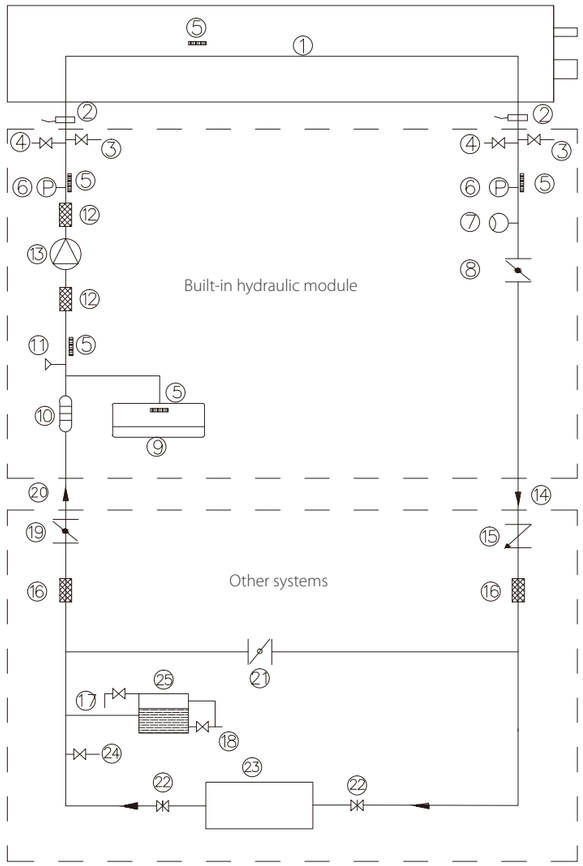
Series connection



Parallel connection



Built-in hydraulic module



Built-in hydraulic module
Component

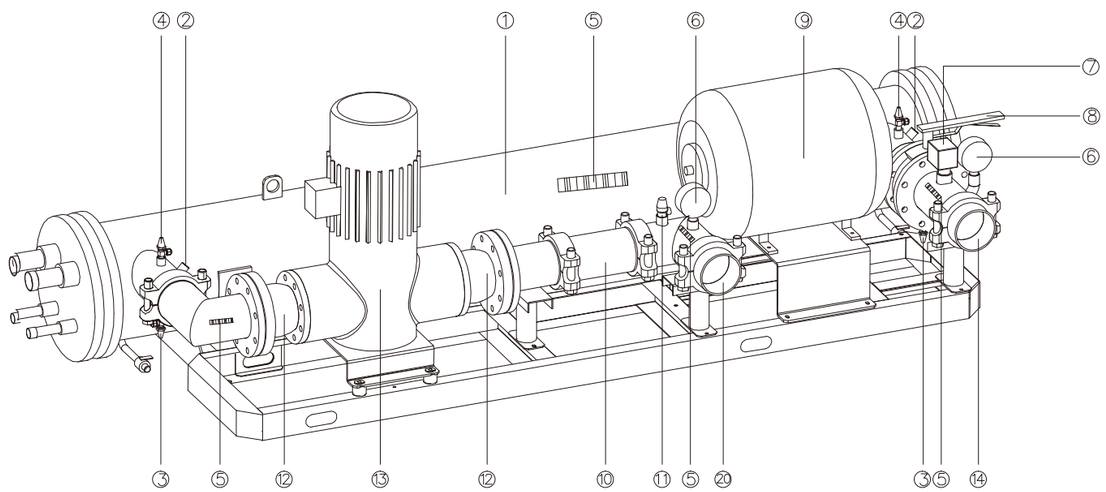
1. Shell-and-tube heat exchanger
2. Water temperature sensor
3. Drain valve
4. Air discharge valve
5. Antifreeze electric heater
6. Water pressure gauge
7. Electronic flow switch
8. Butterfly valve
9. Expansion tank
10. Filter (Victaulic fixing)
11. Safety valve
12. Rubber soft joint
13. Water pump

Flow direction

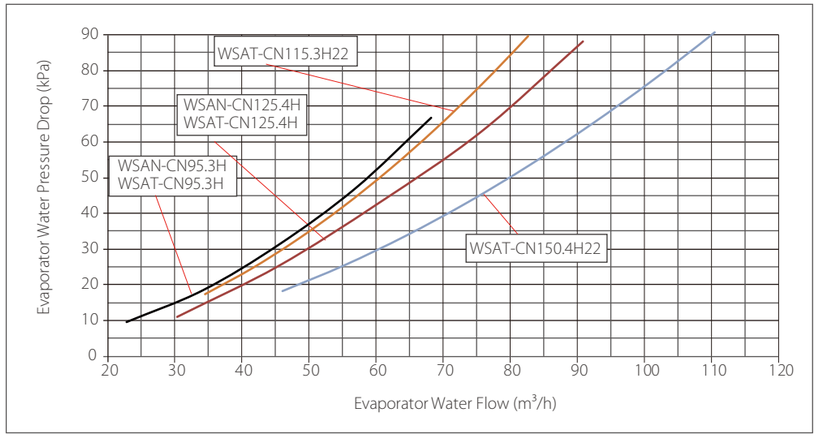
14. Water outlet of hydraulic module
20. Water inlet of hydraulic module

Other system components
(Installed by customer)

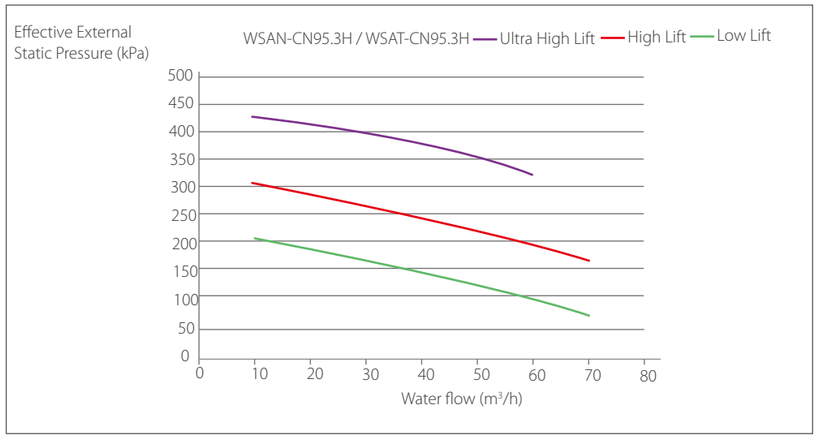
15. Check valve
16. Rubber soft joint
17. Water replenishing valve
18. Drain valve
19. Butterfly valve
21. Bypass valve
22. Stop valve
23. Air conditioning terminal
24. Air discharge valve
25. Expansion tank

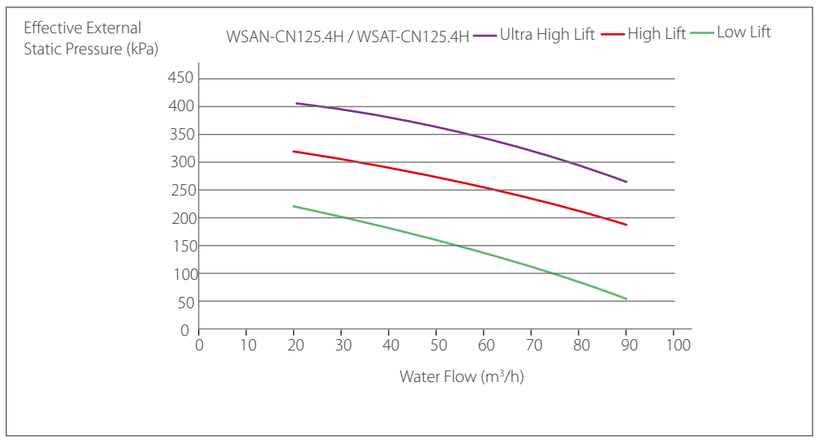


Water pressure drop



Effective external pump lift





Operating and Control System

The perfect operating and control system of large capacity air cooled scroll chiller provides user friendly interfaces for fast/convenient operations and advanced control, allowing one or multi chiller to run stably.

Interface display

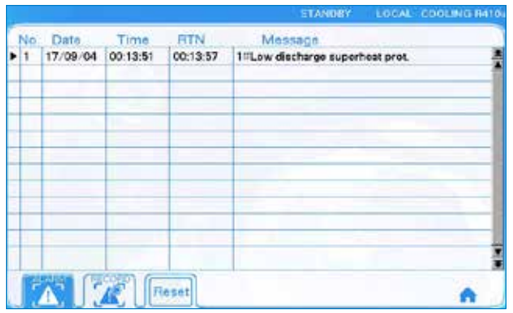
- 7 inch true color touch screen display interface.
- Visually displays operating parameters, including operating status, pressure, temperature, input status, and output status.
- Real-time failure displays and historical failure data queries.

Complete control functions

- Local control and remote control.
- Implements the following control functions: Independent setting of water outlet temperature, intelligent load control, joint control of multiple units, intelligent defrosting, and intelligent low temperature control.

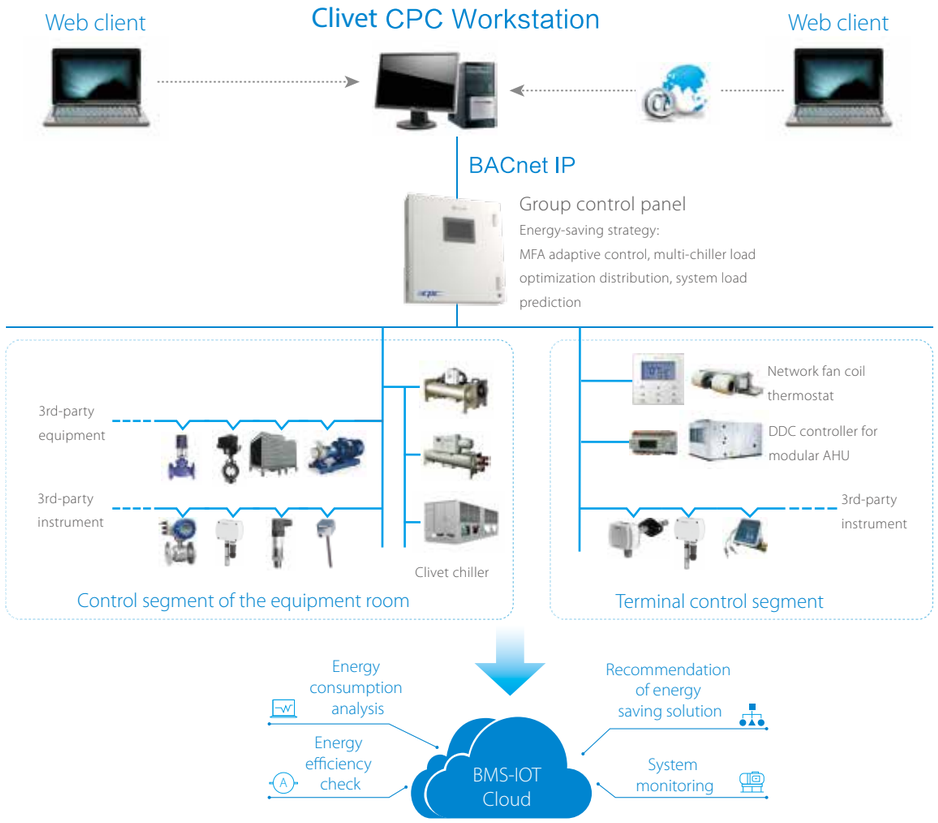
Safety protection

- High pressure, low pressure, overload, discharge temperature, water flow, pressure ratio, and discharge superheat protection.



Clivet CPC

Clivet CPC is a group control system for commercial air conditioning that includes air conditioners, water pumps, cooling towers, terminals and related ancillary equipment (including valves, sensors etc.) as the underlying control objects. Based on a powerful control logic program and communication network, it establishes a 3-layer control framework that integrates the equipment, control and management layers. Clivet CPC contains a unique operation module from Clivet that is designed to save energy, so in addition to automated stable operations for the various devices, this product also improves and optimizes user management capabilities, reduces labour costs, boosts operational efficiency, and lowers the overall energy consumption for commercial air conditioning.



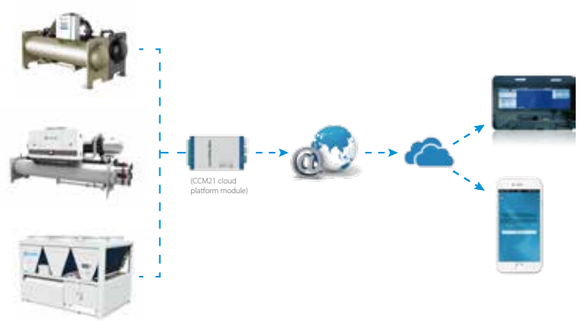
Main functions:

- Unattended equipment room
- Stable and reliable control system, protecting the customer's investment
- One-click system startup and shutdown
- System operation schedule setting
- System energy consumption monitoring
- Equipment maintenance reminders
- Provides ample control logic for HVAC system equipment rooms in various forms
- Balanced operation of devices in polling mode reduces the device failure rate
- Multiple practical control modes
- System energy-saving optimization control
- Automatic switching to a standby device if a device fails
- Uniform control of terminal air system devices

Clivet Smart Cloud platform

Clivet SmartCloud

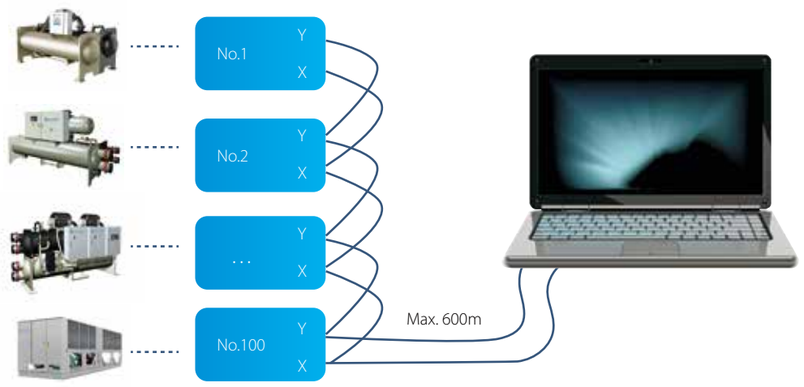
Clivet has built a flawless internet-based remote monitoring system, which provides customers with outstanding cloud service via advanced cloud service technologies and the internet. Customers can connect Clivet air conditioner to the global remote monitoring system through Clivet's IMU smart data acquisition terminal, so that professionals can help the customer to implement remote fault diagnosis and analysis, and receive early warning alarms for failures, ensuring the equipment's optimal operation. Customers authorized by Clivet can use a Web browser to view the real-time monitoring data of the air conditioning system.



1. "Clivet Smart Cloud" remote Internet monitoring service
2. Cloud data storage
3. Working condition data analysis
4. Quick fault diagnosis
5. Viewing monitoring data through the Web browser

QuickView

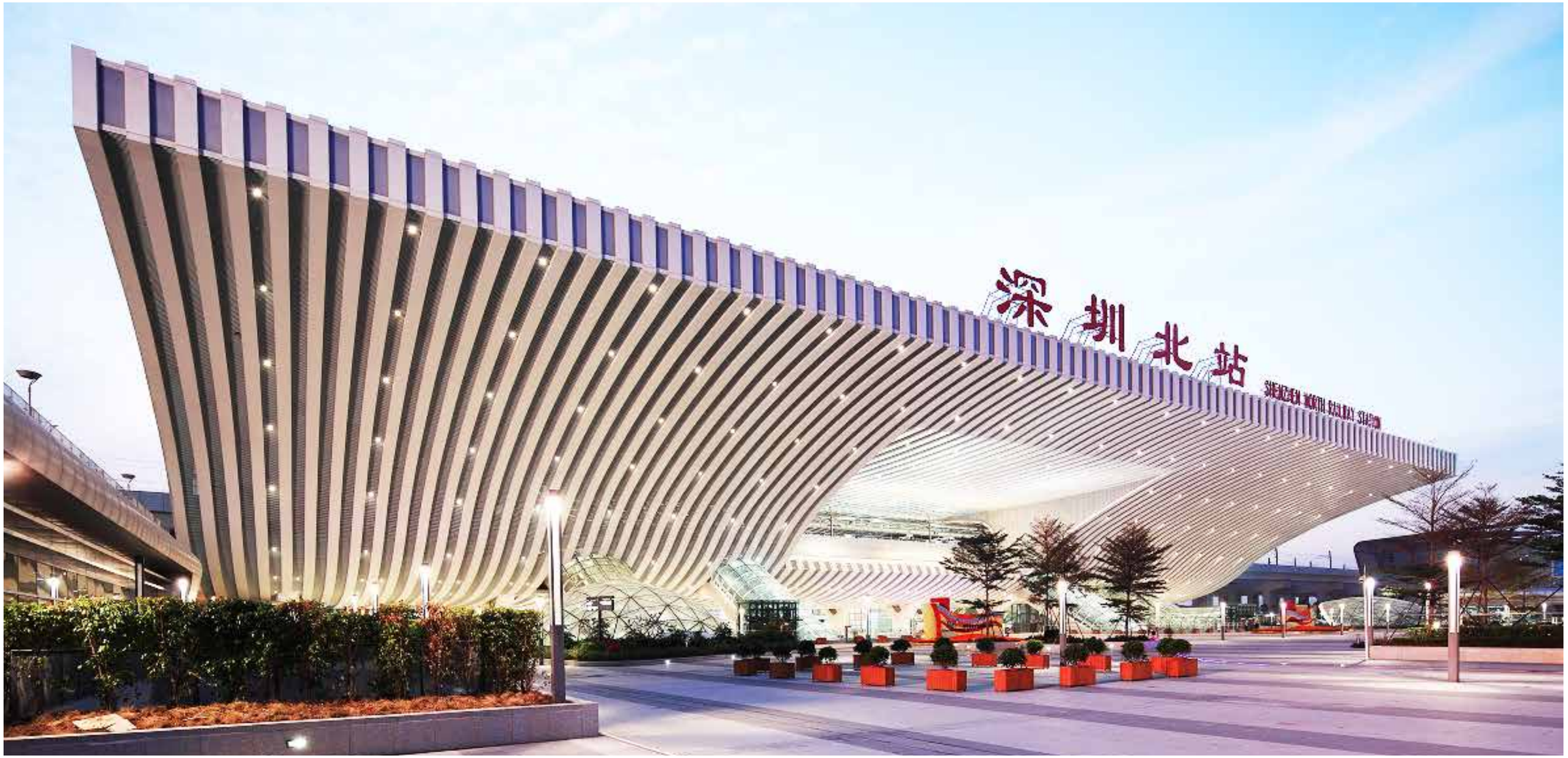
Clivet's QuickView smart software control system is a type of smart software specially developed by Clivet. It features high real-time efficiency, stability, reliability, a high degree of visualization, and strong scalability. It can implement a wide variety of scenarios, such as real-time data monitoring of units, unit equipment management, remote control, curve display, data storage, alarm query, fault diagnosis, uploading data to the cloud, and external data analysis, greatly improving the unit's operation management efficiency and reducing the human input and operation and maintenance costs.



Reference projects

Mozambique Capital Airport

Country:	Mozambique
City:	Maputo
Total Capacity:	4,000 RT
Outdoor Unit:	Air cooled screw chiller & DC Inverter VRF
Indoor Unit:	FCU & AHU
Completion Year:	2012



Shenzhen North Railway Station	
Country:	China
City:	Shenzhen
Total Capacity:	2,842 RT
Outdoor Unit:	Air cooled screw chiller & DC Inverter VRF
Indoor Unit:	MAHU & AHU & FCU
Completion Year:	2012

Sheraton Bandara Resort Hotel (Five Star)

Country:	Indonesia
City:	Jakarta
Total Capacity:	1,050 RT
Outdoor Unit:	Air cooled screw chiller
Indoor Unit:	FCU
Completion Year:	2011

Rize Hospital (400 Beds)

Country:	Turkey
City:	Rize
Total Capacity:	340 RT
Outdoor Unit:	Air cooled screw chiller
Indoor Unit:	FCU & Fresh Air Processing
Completion Year:	2010

Hub Power Station

Country:	Pakistan
City:	Balochistan
Outdoor Units:	Tropical air cooled screw chiller
Total Capacity:	1,024 RT

Renaissance Hotel (Five Star)

Country:	Thailand
City:	Pattaya
Total Capacity:	512 RT
Outdoor Units:	Air cooled screw chiller
Indoor Units:	AHU
Completion Year:	2017

Energy Station of Hubin New District, Suqian

Country:	China
City:	Suqian
Outdoor Units:	Air cooled scroll chiller
Total Capacity:	1,375 RT

Guiyang International Trade Mart

Country:	China
City:	Guiyang
Outdoor Units:	Air cooled scroll chiller
Total Capacity:	1,820 RT

Shijiazhuang Fifteenth High School

Country:	China
City:	Shijiazhuang
Outdoor Units:	Air cooled scroll chiller
Total Capacity:	2,125 RT