



Technical Manual

CXAU Air-Cooled Modular Chiller / Heat Pump

R410A

CXAU065/130



May 2023

CXAU-PRC002A-EN

TRANE
TECHNOLOGIES

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Model Number

<u>C</u>	<u>X</u>	<u>A</u>	<u>U</u>	<u>1</u>	<u>3</u>	<u>0</u>	<u>5</u>	<u>B</u>	<u>V</u>	<u>S</u>	<u>A</u>	<u>E</u>	<u>N</u>	<u>N</u>	<u>N</u>
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Digit 1	C = Chiller
Digit 2	X = Heat Pump
Digit 3	A = Air-source
Digit 4	U = Modular
Digit 5,6,7	Nominal Cooling Capacity/Heating Capacity 065 = 65 kW 130 = 130 kW
Digit 8	Unit Voltage 5 = 380V/50Hz/3Ph 6 = 380V/60Hz/3Ph 7 = 460V/60Hz/3Ph
Digit 9	Refrigerant B = R410A
Digit 10	Application V = VFD unit
Digit 11	Efficiency S = Super-efficiency
Digit 12	Design Sequence A = Factory Assigned
Digit 13	Interface N = Chinese E = English
Digit 14	Option N = None
Digit 15	Controller N = Without controller 1 = With Controller, 380V 2 = With Controller, 460V
Digit 16	Option (reserved) N = None

Rated Operating Performance Table

	Model		CXAU065	CXAU130	CXAU065	CXAU130
Power	Power Supply	V/P/Hz	380/3N~/50, 380/3N~/60		460/3N~/60	
Cooling	Rated Capacity	kW	64.5	129	64.5	129
	Input Power	kW	21.3	41.9	21.3	41.9
	Current	A	40	82	33	68
Heating	Rated Capacity	kW	70	145	70	145
	Input Power	kW	19.7	38.5	19.7	38.5
	Current	A	41	79	34	65
Max Operation	Max Power	kW	31	56	31	56
	Max Current	A	65	115	55	96
Refrigerant	Type	-	R410A			
	Qty of Circuits	-	1	2	1	2
	Charge Amount	kg	13.5	15.3x2	13.5	15.3x2
Compressor	Type	-	EVI VFD Compressor			
	Qty		1	2	1	2
Water Side	Heat Exchanger Type	-	High Efficiency Brazed Plate Heat Exchanger			
	Rated Water Flow	m3/h	9.7	19.4	9.7	19.4
	Pressure Drop	kPa	42	33	42	33
	Pressure Drop (with standard filter)	kPa	54	38	54	38
	Water Pipe Connection	inch	Rc 2	Rc 2-1/2	Rc 2	Rc 2-1/2
Air Side	Fan Type	-	VFD Fan			
	Qty of Fan	pcs	2			
	Air Flow	m3/h	12500×2	23500×2	12500×2	23500×2
	Fan Power	kW	0.75×2	1.8×2	0.75×2	1.8×2
	Heat Exchanger Type	-	High Efficiency Round Tube Plate Fin Heat Exchanger			
Unit	Cooling COP	kW/kW	3.03	3.08	3.03	3.08
	Heating COP	kW/kW	3.55	3.77	3.55	3.77
	IPLV	-	6.18	6.03	6.18	6.03
	Sound	dB(A)	71	71	71	71
	Shipping Weight	kg	395	890	395	890
	Operation Weight	kg	400	900	400	900
Dimension	Length	mm	1790	2200	1790	2200
	Width	mm	840	1150	840	1150
	Height	mm	1690	2450	1690	2450

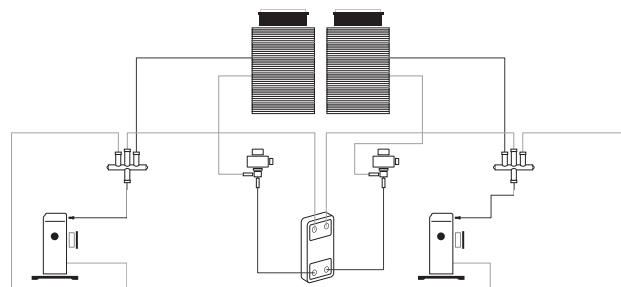
Note:

1. Cooling Condition: Enter/leaving water temperature: 54/44 °F, Ambient Temperature: 95 °F in accordance with AHRI standard 550/590.
2. Heating Condition: Leaving water temperature: 113 °F, rated cooling water flow rate, Ambient dry/wet-bulb temperature : 44.6/42.8 °F.
3. Trane keeps the right to improve product and product data and reserves the right to change design and specifications without notice.

Product Features

Dual circuit design

The advantage of the dual-circuit design is that when the unit is running at part-load and only one circuit need to be run, the heat exchanger on the air side and the water side can still be used in entirety, which greatly improves the performance at part-load. The dual-circuit design is an energy-saving solution that effectively improves the IPLV and reduces energy consumption.



Schematic diagram of 130kw dual-circuit design

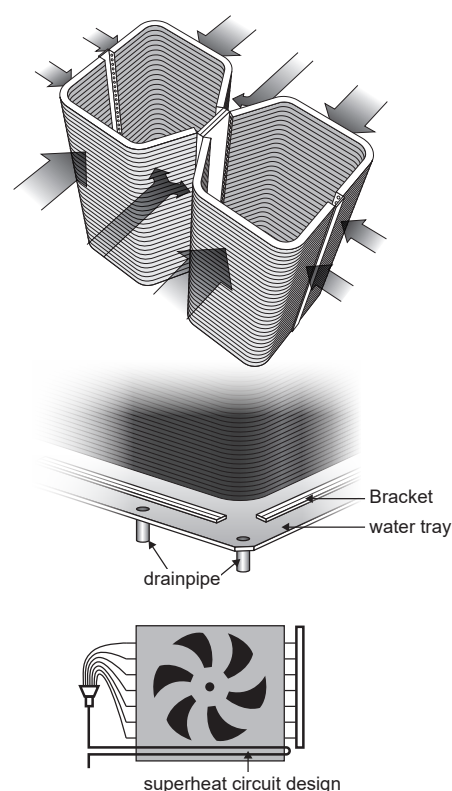
U-shaped fin coil

The CXAU series features a new U-shaped fin coil. For example, the 130kw module has 8 sides of air intake, the outer side and the inner side are designed with heat exchange surfaces, so that the air intake area with the same footprint is larger, and the unit is more compact and efficient.

Separate air duct design. The fans of each air duct can be controlled individually, which means that the unit can defrost on one side while the other side continues to operate in heating mode, which is more energy efficient.

The bottom of the heat exchanger of the 130kw module is designed with a bracket to hold up the entire heat exchanger coil. The defrosted water does not accumulate at the bottom of the coil and causes secondary freezing, but flows away smoothly through the hole. The heat exchanger of the 130kw module has a whole water tray at the bottom and 8 drainpipes around the perimeter. On the one hand, the defrost water is collected by the water tray and does not get to the important parts below, and on the other hand, it ensures rapid drainage to avoid re-freezing.

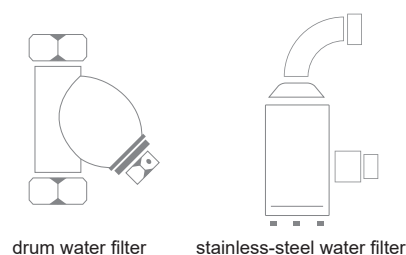
To ensure defrost, the bottom of the coil is designed with a superheat circuit to ensure that the bottom is always hot, and the defrost water will not remain frozen in the bottom coil.



Pre-water filter as standard

To ensure the entering water quality of the unit, CXAU is equipped with a pre-water filter as standard. Among them, the 65kw module uses a patented drum filter instead of the ordinary Y-filter. Drum water filter has a Trane design patent, large flow channel, low resistance, large dirt holding capacity, and low cleaning cycle compared to ordinary filters.

The 130kw module adopts a stainless-steel water filter. The stainless-steel material is stable, and more resistant to corrosion, and the dirt-holding capability is greatly increased than ordinary Y-type water filters.



drum water filter

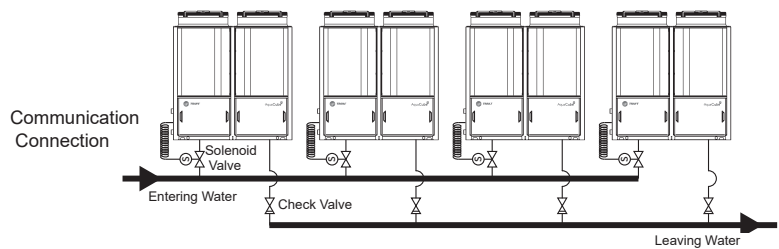
stainless-steel water filter

Remote switch mode control

The main control board of the unit has been preset with contacts for remote start/stop and cooling/heating modes. If necessary, the start/stop and cooling/heating mode switching of the unit can be remotely controlled through the switching signal, which is convenient for on-site management.

Built-in variable water flow control

CXAU module has built-in logic to support water system variable flow control. The control board of the unit has the contact of the two-way valve. When the unit is stopped, a signal is sent to close the two-way valve, and it is started again when the unit is turned on. In this way, there is no water flowing through the unit when it is turned off, and water is only needed to flow through when it is turned on. The VFD pump can adjust the water flow according to the actual number of units in operation, to achieve the energy-saving operation of the pump.



Schematic Diagram of Variable Water Flow System

Online variable water temperature adjustment

CXAU supports online variable water temperature adjustment. According to actual needs, management personnel can change the set temperature when the unit is running without stopping. Theoretically, the system can save about 3% for a 1°C rise in evaporating temperature or a 1°C drop in condensing temperature, so management personnel can change the water temperature setpoint during low load periods to achieve energy-saving operation.

Ultra-low temperature laboratory verification

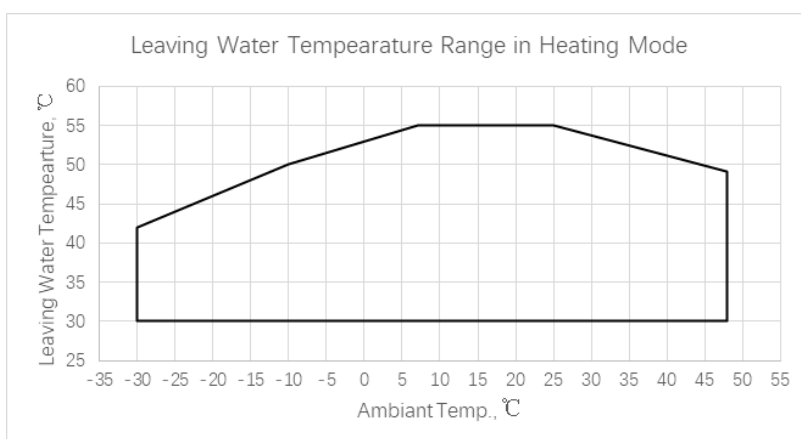
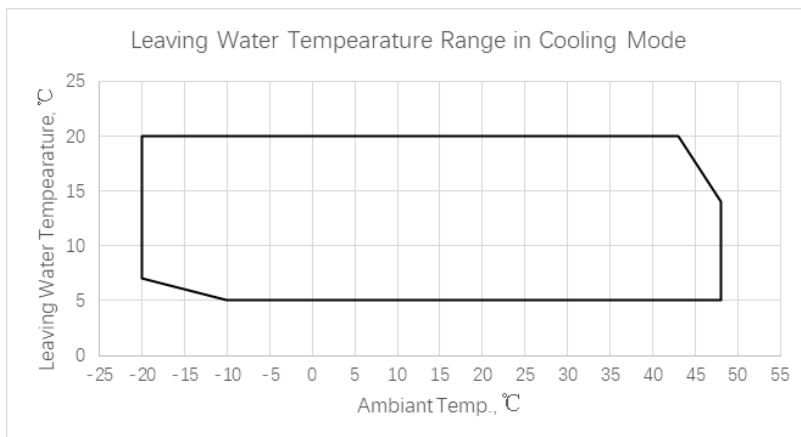
To ensure that all module functions developed by Trane can meet the challenges of various extreme environments, Trane Taicang has an ultra-low temperature laboratory certified by national GMPI, and the lowest ambient temperature can be as low as -35°C. The laboratory can initiate various extreme weather such as snow, fog, and freezing.

Professional noise laboratory

Trane Taicang has CNAS-certified noise laboratories and professional equipment such as frequency sweepers. It not only tests the noise level but also analyzes the sound quality of each frequency band to ensure that the unit meets human comfort under various working conditions.

Operation Map

CXAU065/130-VS



Scope of unit application

Description	Range
Power supply voltage	Rating value $\pm 10\%$
frequency	Rating value $\pm 2\%$
Relative humidity	<90%
Ambient temperature for controller	-10~60°C

Note:

In some special applications, the reliability of the unit can be challenged, so be sure to consult Trane in advance to avoid abnormal failures:

1. The elevation of the project site is higher than 2,000 meters above sea level. The air at high altitudes is thin, the heat exchange efficiency of the unit is greatly decreased, and the reliability of some electrical components will be reduced correspondingly.
2. Coastal areas with high salt and high humidity. High salt and high humidity are easy to corrode the coil, and anti-corrosion coils may be required. Please consult in advance.

Varying Condition Performance Table

Cooling Mode

CXAU065		Outdoor Ambient Temperature (°C)														
		-20			-15			-10			-5			0		
LWT (°C)	Q (kW)	P (kW)	COP	Q (kW)	P (kW)	COP	Q (kW)	P (kW)	COP	Q (kW)	P (kW)	COP	Q (kW)	P (kW)	COP	
5	-	-	-	-	-	-	71.28	13.84	5.15	71.16	13.98	5.09	70.96	14.14	5.02	
7	75.95	13.56	5.60	75.69	13.74	5.51	75.43	13.91	5.42	75.23	14.06	5.35	75.03	14.20	5.28	
10	83.21	13.65	6.10	82.69	13.81	5.99	82.18	13.97	5.88	81.66	14.13	5.78	81.14	14.30	5.68	
12	88.12	13.67	6.45	87.40	13.84	6.31	86.67	14.01	6.18	85.94	14.19	6.06	85.21	14.36	5.93	
15	95.50	13.70	6.97	94.45	13.89	6.80	93.41	14.08	6.64	92.37	14.26	6.48	91.32	14.45	6.32	
20	107.78	13.75	7.84	106.21	13.96	7.61	104.64	14.18	7.38	103.07	14.40	7.16	101.50	14.61	6.95	

CXAU065	Outdoor Ambient Temperature (°C)														
	5			10			15			20			25		
	LWT (°C)	Q (kW)	P (kW)	COP	Q (kW)	P (kW)	COP	Q (kW)	P (kW)	COP	Q (kW)	P (kW)	COP	Q (kW)	P (kW)
5	70.97	14.27	4.97	70.97	14.41	4.93	70.98	14.54	4.88	70.99	14.68	4.84	67.68	16.61	4.08
7	74.83	14.35	5.22	74.63	14.49	5.15	74.42	14.64	5.08	74.22	14.79	5.02	70.98	16.71	4.25
10	80.62	14.46	5.58	80.10	14.62	5.48	79.59	14.78	5.38	79.07	14.95	5.29	75.93	16.86	4.50
12	84.48	14.53	5.81	83.76	14.71	5.70	83.03	14.88	5.58	82.30	15.05	5.47	79.23	16.96	4.67
15	90.28	14.64	6.16	89.24	14.83	6.02	88.19	15.02	5.87	87.15	15.21	5.73	84.17	17.12	4.92
20	99.94	14.83	6.74	98.37	15.05	6.54	96.80	15.26	6.34	95.23	15.48	6.15	92.42	17.37	5.32

CXAU065	Outdoor Ambient Temperature (°C)														
	30			35			40			43			48		
LWT (°C)	Q (kW)	P (kW)	COP	Q (kW)	P (kW)	COP	Q (kW)	P (kW)	COP	Q (kW)	P (kW)	COP	Q (kW)	P (kW)	COP
5	64.38	18.54	3.47	61.07	20.47	2.98	57.76	22.40	2.58	55.78	23.56	2.37	41.98	16.95	2.48
7	67.74	18.63	3.64	64.50	21.30	3.03	61.26	22.48	2.72	59.32	23.64	2.51	44.86	17.11	2.62
10	72.79	18.78	3.88	69.65	20.70	3.37	66.51	22.61	2.94	64.62	23.76	2.72	49.18	17.18	2.86
12	76.15	18.88	4.03	73.08	20.79	3.52	70.00	22.70	3.08	68.16	23.84	2.86	52.07	17.67	2.95
15	81.20	19.02	4.27	78.22	20.92	3.74	73.16	22.32	3.28	73.47	23.97	3.07	-	-	-
20	89.61	19.26	4.65	86.80	21.15	4.10	83.99	23.04	3.65	82.31	24.17	3.41	-	-	-

Heating Mode

CXAU065		Outdoor Ambient Temperature (°C)														
		-30			-25			-20			-15			-10		
LWT (°C)	Q (kW)	P (kW)	COP	Q (kW)	P (kW)	COP	Q (kW)	P (kW)	COP	Q (kW)	P (kW)	COP	Q (kW)	P (kW)	COP	
30	21.48	10.25	2.10	27.44	12.34	2.22	37.35	14.23	2.62	41.06	14.28	2.87	47.89	14.38	3.33	
35	22.27	11.33	1.97	28.46	13.02	2.19	37.01	15.73	2.35	42.29	16.04	2.64	47.55	16.10	2.95	
40	23.07	11.93	1.93	29.47	14.69	2.01	37.75	18.63	2.03	42.91	17.35	2.47	46.83	17.71	2.64	
45	-	-	-	-	-	-	37.45	19.45	1.93	42.82	18.23	2.35	47.16	18.28	2.58	
50	-	-	-	-	-	-	-	-	-	42.24	19.08	2.21	48.74	19.70	2.47	
55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

CXAU065	Outdoor Ambient Temperature (°C)														
	-5			0			7			10			15		
LWT (°C)	Q (kW)	P (kW)	COP	Q (kW)	P (kW)	COP	Q (kW)	P (kW)	COP	Q (kW)	P (kW)	COP	Q (kW)	P (kW)	COP
30	56.19	14.57	3.86	61.57	14.69	4.19	73.96	15.12	4.89	76.74	15.05	5.10	81.38	14.94	5.45
35	56.68	16.12	3.52	61.02	16.16	3.78	73.50	16.23	4.53	76.13	16.78	4.54	80.90	16.73	4.83
40	55.81	17.82	3.13	61.74	17.91	3.45	71.75	18.14	3.96	75.52	18.50	4.08	80.42	18.53	4.34
45	55.07	18.67	2.95	60.41	19.10	3.16	70.00	19.70	3.55	74.90	20.23	3.70	79.94	20.33	3.93
50	55.24	20.41	2.71	61.75	20.60	3.00	68.25	21.75	3.14	74.29	21.95	3.38	79.46	22.13	3.59
55	-	-	-	-	-	-	66.74	23.43	2.85	73.68	23.68	3.11	78.98	23.92	3.30

CXAU065	Outdoor Ambient Temperature (°C)														
	20			25			30			35			40		
	LWT (°C)	Q (kW)	P (kW)	COP	Q (kW)	P (kW)	COP	Q (kW)	P (kW)	COP	Q (kW)	P (kW)	COP	Q (kW)	P (kW)
30	86.01	14.82	5.80	90.65	14.71	6.16	91.45	14.37	6.36	92.25	14.04	6.57	93.05	13.70	6.79
35	85.67	16.69	5.13	90.43	16.65	5.43	90.87	16.27	5.59	91.31	15.88	5.75	91.75	15.50	5.92
40	85.32	18.56	4.60	90.22	18.59	4.85	90.29	18.16	4.97	90.36	17.73	5.10	90.44	17.29	5.23
45	84.97	20.43	4.16	90.01	20.53	4.38	89.71	20.05	4.47	89.42	19.57	4.57	89.13	19.09	4.67
50	84.63	22.30	3.79	89.79	22.47	4.00	89.14	21.94	4.06	88.48	21.42	4.13	87.82	20.89	4.20
55	84.28	24.17	3.49	89.58	24.41	3.67	-	-	-	-	-	-	-	-	-

CXAU065	Outdoor Ambient Temperature (°C)					
	45			48		
	LWT (°C)	Q (kW)	P (kW)	COP	Q (kW)	P (kW)
30	93.86	13.36	7.02	94.34	13.16	7.17
35	92.18	15.11	6.10	92.44	14.88	6.21
40	90.51	16.86	5.37	90.55	16.60	5.45
45	88.84	18.61	4.77	88.66	18.32	4.84
50	87.16	20.36	4.28	86.77	20.04	4.33
55	-	-	-	-	-	-

Varying Condition Performance Table

Cooling Mode

CXAU130		Outdoor Ambient Temperature (°C)														
		-20			-15			-10			-5			0		
LWT (°C)	Q (kW)	P (kW)	COP	Q (kW)	P (kW)	COP	Q (kW)	P (kW)	COP	Q (kW)	P (kW)	COP	Q (kW)	P (kW)	COP	
5	-	-	-	-	-	-	142.56	27.26	5.23	142.32	27.53	5.17	141.91	27.85	5.10	
7	151.89	26.70	5.69	151.39	27.07	5.59	150.87	27.40	5.51	150.47	27.69	5.43	150.06	27.97	5.36	
10	166.42	26.88	6.19	165.39	27.20	6.08	164.35	27.52	5.97	163.32	27.84	5.87	162.28	28.16	5.76	
12	176.25	26.92	6.55	174.79	27.26	6.41	173.34	27.60	6.28	171.88	27.94	6.15	170.43	28.29	6.03	
15	190.99	26.98	7.08	188.91	27.35	6.91	186.82	27.73	6.74	184.73	28.10	6.57	182.64	28.47	6.41	
20	215.56	27.08	7.96	212.42	27.50	7.72	209.29	27.93	7.49	206.15	28.36	7.27	203.01	28.78	7.05	

CXAU130	Outdoor Ambient Temperature (°C)														
	5			10			15			20			25		
	LWT (°C)	Q (kW)	P (kW)	COP	Q (kW)	P (kW)	COP	Q (kW)	P (kW)	COP	Q (kW)	P (kW)	COP	Q (kW)	P (kW)
5	141.93	28.12	5.05	141.95	28.38	5.00	141.96	28.65	4.96	141.98	28.91	4.91	135.36	32.72	4.14
7	149.66	28.26	5.30	149.25	28.55	5.23	148.85	28.84	5.16	148.44	29.12	5.10	141.96	32.92	4.31
10	161.24	28.48	5.66	160.21	28.80	5.56	159.17	29.12	5.47	158.14	29.44	5.37	151.86	33.22	4.57
12	168.97	28.63	5.90	167.51	28.97	5.78	166.06	29.31	5.67	164.60	29.65	5.55	158.45	33.42	4.74
15	180.56	28.85	6.26	178.47	29.22	6.11	176.38	29.59	5.96	174.30	29.97	5.82	168.35	33.72	4.99
20	199.87	29.21	6.84	196.73	29.64	6.64	193.60	30.07	6.44	190.46	30.49	6.25	184.84	34.22	5.40

CXAU130		Outdoor Ambient Temperature (°C)														
		30			35			40			43			48		
LWT (°C)	Q (kW)	P (kW)	COP	Q (kW)	P (kW)	COP	Q (kW)	P (kW)	COP	Q (kW)	P (kW)	COP	Q (kW)	P (kW)	COP	
5	128.75	36.52	3.53	122.14	40.32	3.03	115.52	44.12	2.62	111.56	46.40	2.40	83.95	33.39	2.51	
7	135.48	36.71	3.69	129.00	41.88	3.08	122.52	44.29	2.77	118.63	46.56	2.55	89.72	33.70	2.66	
10	145.58	36.99	3.94	139.29	40.77	3.42	133.01	44.54	2.99	129.24	46.81	2.76	98.37	33.85	2.91	
12	152.30	37.18	4.10	146.16	40.95	3.57	140.01	44.71	3.13	136.32	46.97	2.90	104.14	34.80	2.99	
15	162.40	37.46	4.33	156.45	41.21	3.80	146.32	43.98	3.33	146.93	47.21	3.11	-	-	-	
20	179.22	37.94	4.72	173.61	41.66	4.17	167.99	45.38	3.70	164.62	47.62	3.46	-	-	-	

Heating Mode

CXAU130		Outdoor Ambient Temperature (°C)														
		-30			-25			-20			-15			-10		
LWT (°C)	Q (kW)	P (kW)	COP	Q (kW)	P (kW)	COP	Q (kW)	P (kW)	COP	Q (kW)	P (kW)	COP	Q (kW)	P (kW)	COP	
30	44.48	20.01	2.22	56.84	24.09	2.36	77.36	27.80	2.78	85.05	27.89	3.05	99.20	28.09	3.53	
35	46.13	22.12	2.09	58.95	25.42	2.32	76.67	30.71	2.50	87.59	31.33	2.80	98.50	31.43	3.13	
40	47.78	23.30	2.05	61.05	28.68	2.13	76.12	33.85	2.25	88.88	33.88	2.62	97.00	34.58	2.81	
45	-	-	-	-	-	-	75.50	36.02	2.10	88.70	35.60	2.49	97.68	35.70	2.74	
50	-	-	-	-	-	-	-	-	-	87.50	37.25	2.35	100.97	38.46	2.63	
55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

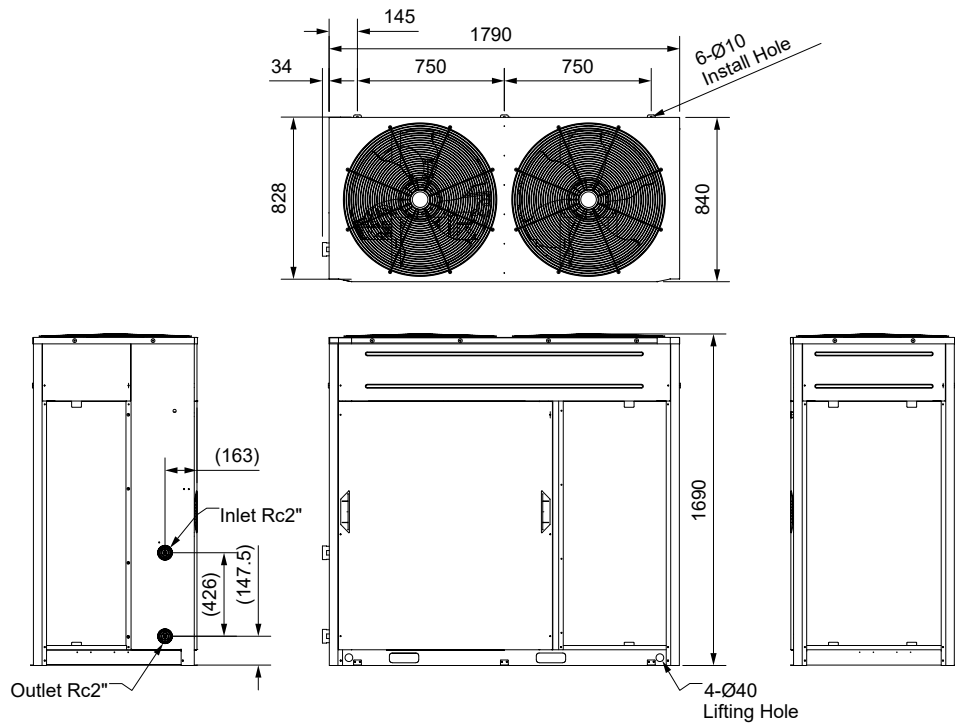
CXAU130		Outdoor Ambient Temperature (°C)														
		-5			0			7			10			15		
LWT (°C)	Q (kW)	P (kW)	COP	Q (kW)	P (kW)	COP	Q (kW)	P (kW)	COP	Q (kW)	P (kW)	COP	Q (kW)	P (kW)	COP	
30	116.40	28.46	4.09	127.55	28.69	4.45	153.20	29.52	5.19	158.96	29.39	5.41	168.56	29.17	5.78	
35	117.40	31.47	3.73	126.40	31.56	4.01	152.26	31.69	4.80	157.69	32.76	4.81	167.57	32.68	5.13	
40	115.60	34.80	3.32	127.88	34.98	3.66	148.63	35.42	4.20	156.42	36.13	4.33	166.58	36.19	4.60	
45	114.07	36.46	3.13	125.13	37.30	3.35	145.00	38.47	3.77	155.16	39.50	3.93	165.59	39.70	4.17	
50	114.43	39.86	2.87	127.90	40.22	3.18	141.37	42.48	3.33	153.89	42.87	3.59	164.59	43.21	3.81	
55	-	-	-	-	-	-	138.24	45.75	3.02	152.62	46.24	3.30	163.60	46.72	3.50	

CXAU130		Outdoor Ambient Temperature (°C)														
		20			25			30			35			40		
LWT (°C)	Q (kW)	P (kW)	COP	Q (kW)	P (kW)	COP	Q (kW)	P (kW)	COP	Q (kW)	P (kW)	COP	Q (kW)	P (kW)	COP	
30	178.17	28.95	6.15	187.77	28.73	6.54	189.43	28.07	6.75	191.09	27.41	6.97	192.75	26.75	7.20	
35	177.45	32.60	5.44	187.33	32.52	5.76	188.23	31.77	5.93	189.14	31.01	6.10	190.04	30.26	6.28	
40	176.73	36.25	4.88	186.89	36.31	5.15	187.04	35.46	5.27	187.18	34.62	5.41	187.33	33.77	5.55	
45	176.02	39.90	4.41	186.44	40.10	4.65	185.84	39.16	4.75	185.23	38.22	4.85	184.62	37.28	4.95	
50	175.30	43.55	4.03	186.00	43.88	4.24	184.64	42.85	4.31	183.28	41.82	4.38	181.91	40.79	4.46	
55	174.58	47.20	3.70	185.56	47.67	3.89	-	-	-	-	-	-	-	-	-	

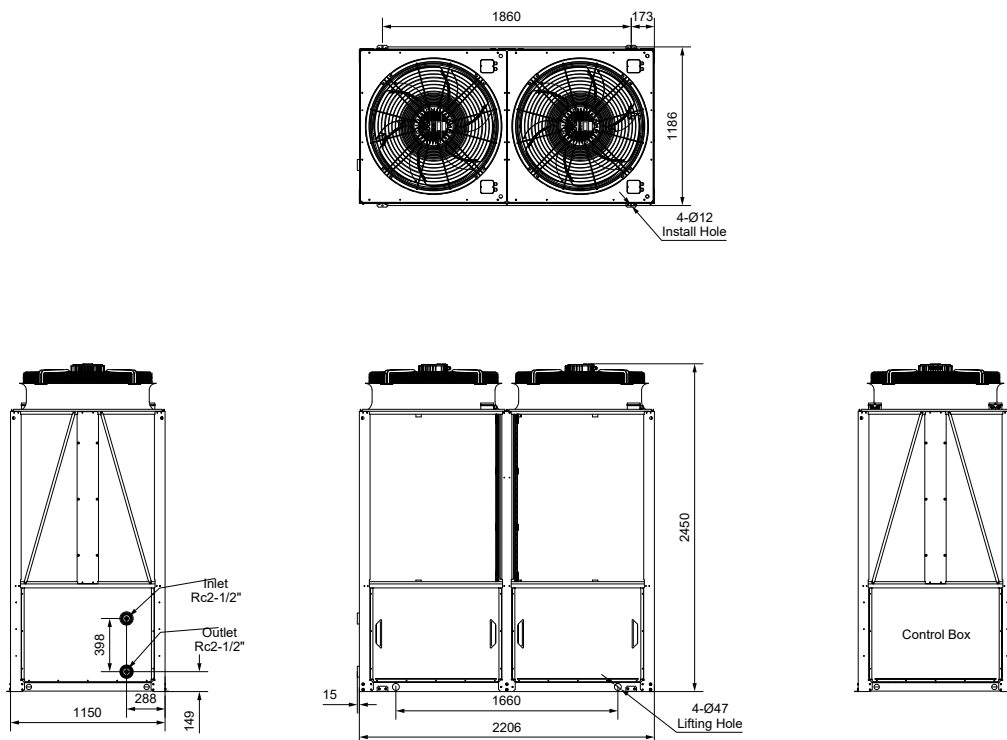
CXAU130	Outdoor Ambient Temperature (°C)					
	45			48		
	LWT (°C)	Q (kW)	P (kW)	COP	Q (kW)	P (kW)
30	194.42	26.10	7.45	195.41	25.70	7.60
35	190.95	29.51	6.47	191.49	29.06	6.59
40	187.48	32.93	5.69	187.57	32.42	5.79
45	184.02	36.34	5.06	183.65	35.78	5.13
50	180.55	39.76	4.54	179.73	39.14	4.59
55	-	-	-	-	-	-

Unit Dimension

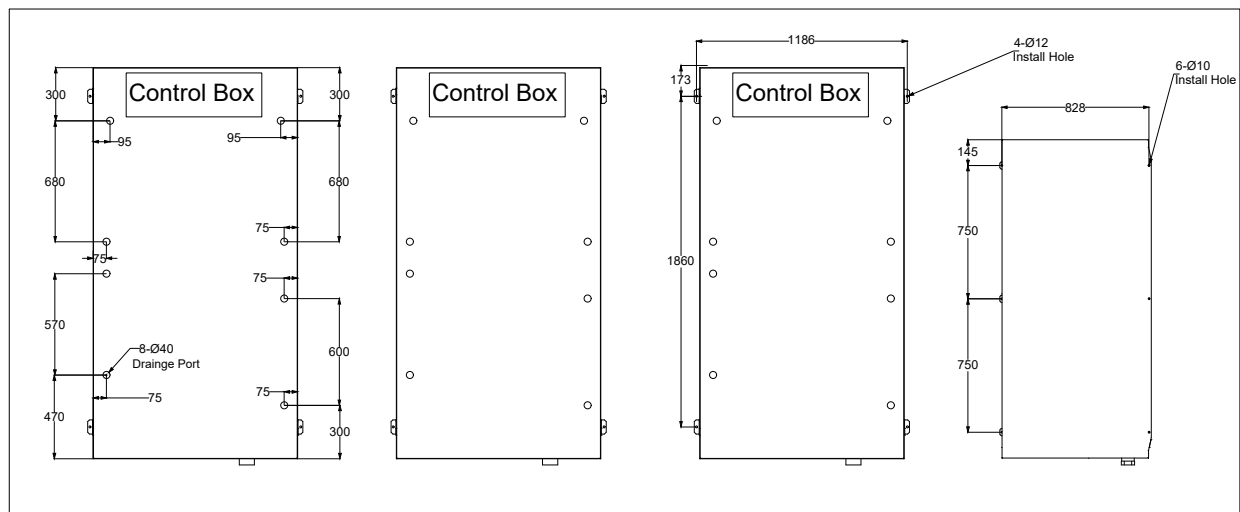
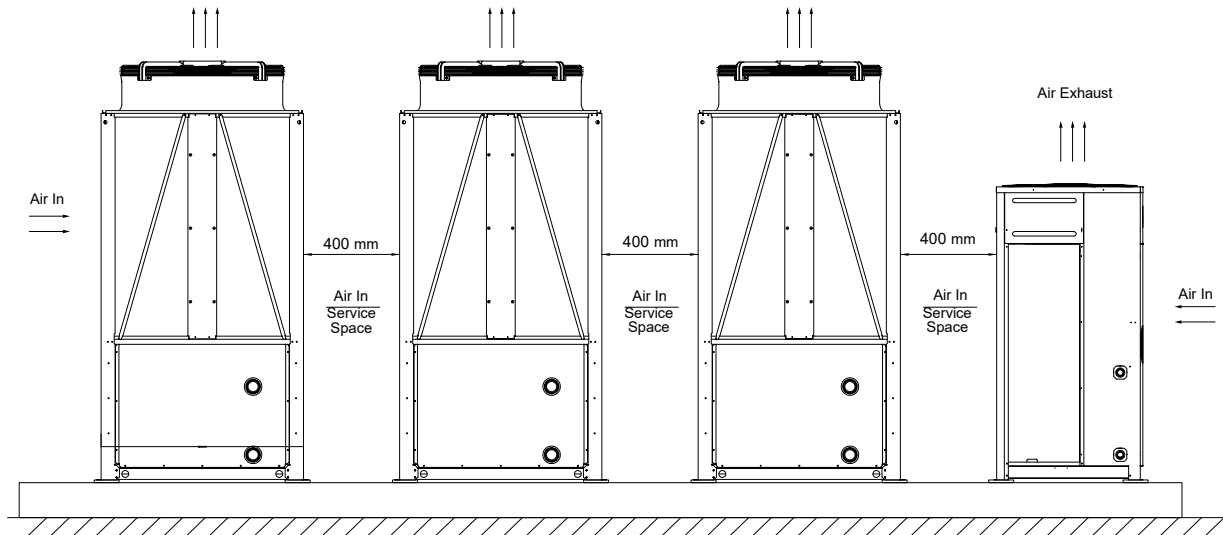
CXAU065-VS



CXAU130-VS



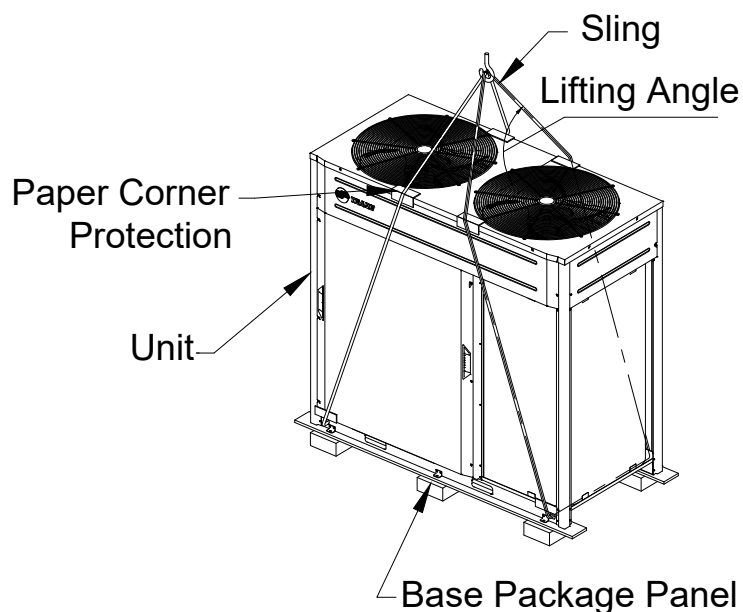
Unit Installation Clearance Diagram



Note:

1. Enough maintenance clearance need to be reserved around the unit.
2. The exhaust air at the top of the unit should not be obstructed.
3. The unit should be located outdoors, and the inlet air volume should meet the air volume parameters in the technical parameter table in this manual.
4. The inlet air temperature should be within the allowable range.
5. The support height of the unit recommended not lower than 200mm.

Unit Lifting Diagram



Inspection before lifting:

1. Check whether the appearance and fixing parts of the unit are intact.
2. Check whether the unit and the packaging base plate are well fixed.

Recommendation: Remove the package base plate when lifting to avoid unit falling.

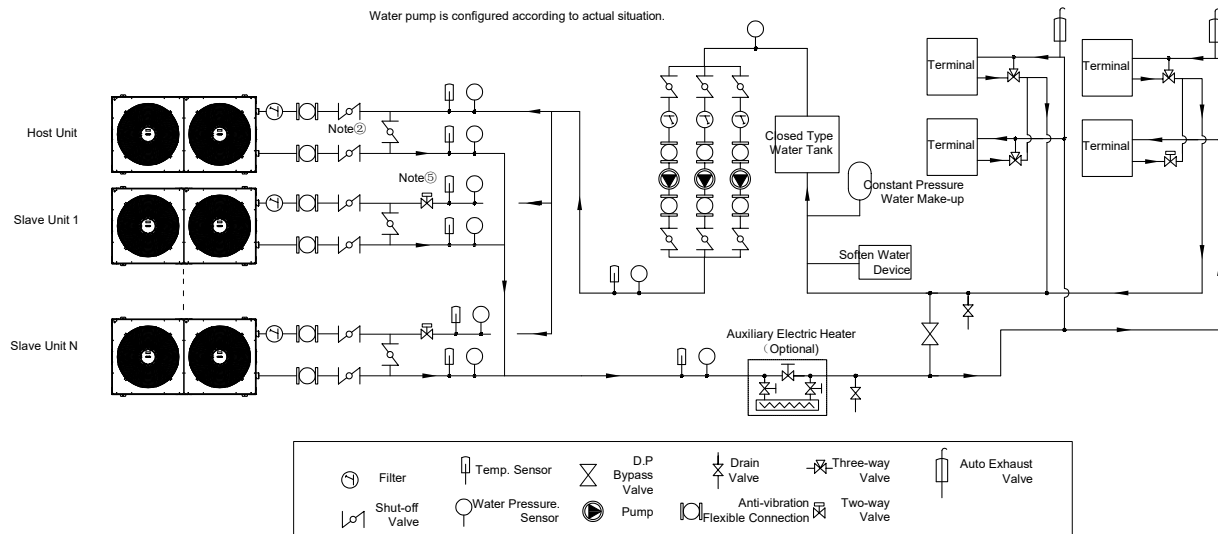
When lifting:

1. Personnel with lifting qualifications is required.
2. Thread 2 lifting slings into the hoisting hole at the bottom of the unit.
 - At least 5mm thick paper corner protection between the rope and the unit panel is required.
 - The length of the sling is suitable, and the rope lifting angle larger than 60°.

WARNING

Before lifting, special attention should be paid to ensure that the outdoor unit lifts evenly. Special attention should be paid when weight distribution of the unit is not even, and the center of gravity is inclined on the compressor side. Pre-lifting should be made to observe whether the sling is tight and whether there's possibility the unit will tilts when lifting. Rise slowly and evenly when lifting to prevent the unit from tipping and protect the safety of surrounding personnel!

System Connection Diagram



Technical Notes:

When multiple units are connected, reversed return water system should be applied to ensure the uniformity of the water flow of the unit.

- When multiple units are connected, reversed return water system should be applied to ensure the uniformity of the water flow of the unit
- when cleaning the water system, it is necessary to shut off all the shut-off valves at entering and leaving the unit, and open the bypass valve to avoid impurities in the water system from entering the unit and affecting the life of the unit.
- The default control of the unit is entering water temperature control, in-build flow switch exists in most models.
- For those unit with a three-way valve or two-way valve installed on terminals, the water flow through the operating unit should meet the requirement of the unit at any running time.
- For variable water flow system, two-way valve should be installed at entering port the unit and connected to the PCB board of the corresponding unit, refer to the electrical diagram interface of the unit. The two-way valve is not requested for constant water flow system.
- The flow speed of the water of the unit should not be too large, otherwise the friction resistance is too large. The general friction resistance range is 100~300Pa/m, and the optimal range is 150~200Pa/m. Piping size is recommended according to the following speed.

Dia	25	32	40	50	70	80	100	125	150	200	250	300	350	>400
Speed (m/s)	<0.5	0.5-0.6	0.5-0.7	0.5-0.9	0.6-1	0.7-1.2	0.8-1.4	0.9-1.6	1.0-1.8	1.2-2.1	1.4-2.3	1.6-2.4	1.8-2.6	1.9-2.8

- The water capacity of the unit should meet the minimum water capacity, refer to the following table. Minimum capacity of the water storage tank = minimum water capacity of the unit - water pipeline capacity - water capacity of the airside terminals. When only single unit is running, the minimum effective water capacity should be multiplied by the coefficient: rated water flow / actual water flow.

Unit	Return Temp. Setting (°C)	Minimum Water Volume (L)
CXAU130	15	480
	14	545
	13	630
	12	740
	11	740*
	10	740*

Unit	Return Temp. Setting (°C)	Minimum Water Volume (L)
CXAU065	15	680
	14	820
	13	1020
	12	1360
	11	1360*
	10	1360*

* When the setting value of return water temperature is lower than the default value, the antifreeze protection temperature

Electrical Parameter Table

Model	CXAU065 5BVS	CXAU130 5BVS	CXAU065 6BVS	CXAU130 6BVS	CXAU065 7BVS	CXAU130 7BVS
Power Supply (V/Hz/PH)	380/50/3	380/50/3	380/60/3	380/60/3	460/60/3	460/60/3
1A compressor maximum current MOC(A)	47	47	47	47	39	39
2A compressor maximum current MOC(A)	-	47	-	47	-	39
Fan1 motor rated current FLA(A)	4.5	3.5	4.5	3.5	3.8	3
Fan2 motor rated current FLA(A)	4.5	3.5	4.5	3.5	3.8	3
Unit maximum operating current MOC(A).	65	115	65	115	55	96
Recommended minimum fuse size REC(A)	91	161	91	161	77	135
Recommended circuit breaker minimum In(A)	82	144	82	144	99	120
Minimum size of copper core power wiring (AWG)	4	1	4	1	6	2

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