TRANE

Product Catalog

Packaged Rooftop Air Conditioners
Voyager™ Commercial with ReliaTel™ Controls

CTKD/ H 275-600
Cooling Capacity 80-180kW
CWKD/ H 275-600
Heating Capacity 72-180kW
50Hz Version

January 2011

RT-PRC029-EN

Features and Benefits

System Features

- Simple design and easy installation of air system which is composed two essential sections - packaged outdoor unit as well as indoor supply and return air ducts.
- The refrigerant pipes are mounted inside the unit, required small amount of refrigerant charges in favor of environmental protection.
- Low capacity loss throughout thermal exchanges of refrigerant-to-water and then water-to-air with integrated unit achieves higher energy efficiency than traditional air conditioning system.
- Auxiliary equipments such as water pumps, cooling tower and indoor air terminal devices are not required and thus to lower equipment cost as well as quick coupling system.
- Proper placement of the rooftop unit at outdoors can reduce transmitted sound levels to the building.
- Positioning units in the roof of building eliminates the need to build a mechanical room.
- Service and maintenance at outdoor without interrupting indoor activities.
- Combined air conditioning and fresh air system into a packaged unit; thereby providing superior indoor air quality.
- Flexible installation, especially in system retrofits by using the existing air ducts.

Flexible Applications

- Available options with vertical configuration and horizontal configuration for unit airflow design.
- U-shaped airflow allows for improved static capabilities. The need for high static motor conversion is minimized and saves the time normally spent changing to high static oversized motors.
- Removable side panels for easy and unobstructed service and maintenance and ergonomic design for parts replacement.
- Equipped with Trane's ReliaTel™ Microprocessor-based controller, which has comprehensively functions and friendly interface during the system connection.
- Pilot run mode offers more effective testing and commissioning in the field.

Reliable Quality

- Coil leakage testing.
- Overall runs unit testing.
- Rain tests for unit with waterproof.
- Corrosion proofs by salt spray testing.
- Rigging and lifting tests.
- Vibration test.
- Run testing fan and belt pulley assembly.

Programmable Thermostat

- Set and display the status of unit operation.
- Set and display the temperatures and time.
- Clogged filter service indication
- Programmable schedule.
- Visible LCD.
- Fan modes switching.
- Applicable to cooling only and heat pump units.

Features and Benefits

ReliaTel™ Controls

- Prevents the unit from short cycling, considerably improving compressor life.
- Ensures that the compressor will run for a specific amount of time which allows oil to return for better lubrication, enhancing the reliability of the commercial compressor.
- Occupied-Unoccupied switching.
- ReliaTel™ softens electrical "spikes" by staging on fans, compressors and heaters.
- Intelligent Anticipation is a standard ReliaTel™ feature. It functions continuously as ReliaTel™ and programmable thermostat(s) work together in harmony to provide much tighter comfort control than conventional electro-mechanical thermostats.
- ReliaTel™ reduces the number of components required to operate the unit, thereby reducing possibilities for component failure.
- ReliaTel™ features expanded diagnostic capabilities when utilized with Trane Integrated Comfort™ Systems.
- Optional TCI Module offers an interface controls with a Trane Tracer Summit™ in outstanding interoperability benefits.
- Optional programmable thermostat has central control panel lights which indicate the mode the unit is in and possible diagnostic information (dirty filters for example).

High Efficient Scroll Compressor

- Compared with the same capacity of reciprocating compressor, scroll compressor has 30% less moving parts and resulting in less friction loss to improve reliability and performance.
  Smooth compression cycle implies that the scroll compressor

imposes very little stress on the motor resulting in greater reliability. Low torque variation reduces noise and vibration.

- The fixed and orbiting scrolls are made of high strength cast iron which results in less thermal distortion and minimal leakage. In addition, better part isolation has resulted in reduced compressor sound levels and eliminated debris.
- The patented motor cap directs suction gas over the motor resulting in cooler motor temperatures for longer life and better efficiency.
- Proven design through testing and research to ensure quality and unit performance.

Thermal Exchangers

- The coil frost protection ensures that the unit runs at low ambient temperature.
- Some models applied a passive parallel manifolded piping scheme. When the unit begins stage back at part load it still has the full area and circuitry of its evaporator and condenser coils available to transfer heat. In simple terms this means superior part-load efficiencies (IPLV) and lower unit operating costs.

Conversionless Units

- The dedicated design units (either downflow or horizontal) require no panel removal or alternation time to convert in the field — a major cost savings during installation.

Indoor Fan

- Forward-curved fans with inlet guide vanes pre-rotate the air in the direction of the fan wheel, decreasing static pressure and horsepower, essentially unloading the fan wheel.
- The unloading characteristics of a forward-curved fan with inlet guide vanes result in superior part load performance.

Power Exhaust

- Provides exhaust of the return air when using an economizer to maintain proper building pressurization.
- Provides exhaust of the return air to maintain proper building pressurization by proportionally controlling the exhaust air to the economizer dampers.
- Provides waterproof through the unit with downward configuration.

Economizer

- Power exhaust is linked to the economizer dampers with differential enthalpy control for the purpose of space pressure equalization.
- Determine the fresh air quantity by CO2 sensor.
- Fresh air quantity is controllable through outside air dampers.
- Provides waterproof through the unit with downward configuration.

Refrigerant

- R22 or R407c.

Hinged Control Panel

- The hinged design provides easy service for control panel.

Model Number Description

C	W	K	D	6	0	0	A	D	E	A	2	A	3	N	E	X	X	X	F
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

H	X	2	K	X	X	R	V	X	1	X	X	X	X	X	X	X	X	X	X
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

1 **Origin**
C = China

2 & 3 **Unit model**
TK = Cooling Only
WK = Heat Pump

4 **Unit Airflow Design**
D = Downward Configuration
H = Horizontal Configuration

5,6 & 7 **Nominal Cooling Capacity**
275 – 27.5 Tons
300 – 30 Tons
350 – 35 Tons
400 – 40 Tons
500 – 50 Tons
600 – 60 Tons

8 **Development Sequence**
A

9 **Power Supply**
D = 380V/ 3P/ 50Hz

10 **Electric Heater**
0 = None
A = 25kW (for 275 only)
B = 37.5kW (for 300 only)
C = 50kW (for 350 only)
D = 62.5kW (for 400 only)
E = 75kW (for 500 & 600)

11 **Design Sequence**
A

12 **Exhaust Fan**
0=None
1 = Automatic Barometric Relief (Available w/ Economizer only)
2 = Forced Exhaust Fan (Available w/ Economizer only)

13 **Filter**
A = Washable Filter (Standard)
D = Throw-away Filer

14 **Supply Fan Motor, Rated kW**
1 = 5.5kW
2 = 7.5kW
3 = 11kW
4 = 15kW

15 **Supply Air Fan Drive Selection, RPM**
A = 510RPM (CAB A–5.5kW)
C = 580RPM (CAB A–5.5kW)
D = 645RPM (CAB A-5–5kW/7.5kW)
E = 720RPM (CAB A–5.5kW/7.5kW)
G = 770RPM (CAB A–5.5kW/7.5kW)
H = 865RPM (CAB A–11kW/15kW)
K = 730RPM (CAB A–11kW)
L = 785RPM (CAB A–11kW)
M = 510RPM (CAB D–5.5kW/7.5kW)
N = 580RPM (CAB D–7.5kW)
P = 585RPM (CAB D–11kW)
Q = 655RPM (CAB D–11kW/15kW)
R = 730RPM (CAB D–11kW/15kW)
S = 785RPM (CAB D–15kW)

16 **Manual Fresh Air Hood**
A = None
B = Manual Damper (0-25%)
E = Economizer (0-100% Differential Enthalpy Control)

17 **X = Default**

18 **X = Default**

19 **X = Default**

20 **Fan Failure Switch and Clogged Filter Detector**
X = None
F = Fan Failure Alarm and Clogged Filter Alarm
N = Clogged Filter Alarm

21 **Panel Hinge**
H = With

22 **Coil Protection Guard**
X = None
A = Access Guard

23 **Refrigerant**
2 = R22
7 = R407c

24 **Circuit Breaker**
X = None
K = With

25 **X = Default**

26 **Remote Interface Module**
X = None(Available w/ Programmable Thermostat Only)
O = TCI Module(Trane ICS Communication Interface)

27 **Thermostat**
R = Programmable Thermostat (Standard)
X = None (w/ Remote Interface Module only)

28 **Remote Room Sensor**
X = None
U = Remote Indoor Sensor
V = Remote Duct Sensor

29 **X = Default**

30 **CO2 Sensor**
X = None
1 = With (Available w/ Economizer Only)

31 **X = Default**

32 **X = Default**

33 **X = Default**

34 **X = Default**

35 **Language**
E = English
X = Simplified Chinese

36 **X = Default**

37 **X = Default**

38 **X = Default**

39 **X = Default**

40 **X = Default**

Model Description of Roof Curb

S/N	Part No.	Description
1	C12702130001	For models 275/ 300/ 350 and 400, with factory assembly
2	C12702131001	For models 275/ 300/ 350 and 400, with ship loose and require of field assembly
3	C12702132001	For models 500 and 600, with factory assembly
4	C12702133001	For models 500 and 600, with ship loose and require of field assembly

Technical Data

General Data

Model	CTK(Cooling Only)/CWK(Heat Pump)			275	300	350	400	500	600
System	Cooling Capacity		kW	80/72	95/88	104/99	131/127	155/147	180/180
	Power Input	R22	kW	26.4/26	33.5/32	38.5/37.5	49.5/48.5	58.6/55.6	68.7/68.7
		R407c	kW	26.7/26.3	34/32.5	38.5/38.3	50.7/49.7	59.8/56.7	70.4/70.4
	Heating Capacity		kW	-/74	-/90	-/102	-/130	-/150	-/180
	Power Input	R22	kW	-/25.0	-/31	-/37	-/48	-/53.5	-/67
		R407c	kW	-/25.3	-/31.5	-/37.7	-/49.2	-/54.6	-/68.7
	Electric Heater Power Input		kW	12.5+12.5	12.5+25	25+25	25+37.5	37.5+37.5	37.5+37.5
	Power Supply		V/ ¢ /Hz	380-3-50					
Compressor	Type			Hermetic Scroll					
	Quantity			2					
Supply Fan	Nominal Airflow		m^3/h	13600	15300	17000	20400	24600	29500
	Normal External Static Pressure		Pa	150	150	250	250	250	250
	Max. External Static pressure		Pa	600	600	600	600	600	600
	Type			Forward–curved Centrifugal Fan					
	Driving mode			Belt drive					
Refrigerant	Type			R22 or R407C					
Dimension	LxWxH		mm	4580x2368x1821				5217x2368x1988	
Weight	Net Weight		kg	1617/1711	1633/1734	1672/1775	1790/1891	2007/2272	2086/2362

1. Cooling condition: outdoor ambient temperature DB35℃, entering air temperature DB27℃, WB19℃;
2. Heating condiiton: outdoor ambient temperature DB7℃, WB6℃, entering air temperature DB20℃;
3. Unit capacities are stated as with cooling only CTK) and heating (CWK) respectively for each model.
4. Net weight is excluded options.

Performance Data for CTK

CTKD/H275 Cooling Performance

Airflow m^3/h	Return Air Temperature (Dry Bulb/Wet Bulb)℃	Outdoor Ambient Dry Bulb Temperature				
		25℃	30℃	35℃	40℃	45℃
		Cooling Capacity kW				
10880	24/16	74.9	72.4	69.7	66.7	63.5
	27/19	82.2	79.6	76.7	73.5	70.1
	30/22	90.0	87.2	84.1	80.8	77.1
12240	24/16	76.9	74.2	71.4	68.4	65.1
	27/19	84.3	81.5	78.5	75.3	71.7
	30/22	92.3	89.5	86.2	82.7	78.4
13600	24/16	78.4	75.8	72.9	69.8	66.4
	27/19	86.0	83.1	80.0	76.6	73.0
	30/22	94.2	91.0	87.7	83.9	79.6
14960	24/16	79.7	77.0	74.1	70.9	67.4
	27/19	87.3	84.4	81.2	77.8	73.8
	30/22	95.7	92.2	89.1	85.4	80.9
16320	24/16	80.8	78.1	75.1	71.8	68.3
	27/19	88.5	85.5	82.3	78.8	75.0
	30/22	96.7	93.8	90.1	86.3	82.3
17680	24/16	81.7	78.9	75.8	72.5	69.0
	27/19	89.4	86.3	83.0	79.5	75.3
	30/22	97.7	94.4	90.9	87.1	83.0

CTKD/H300 Cooling Performance

Airflow m^3/h	Return Air Temperature (Dry Bulb/Wet Bulb)℃	Outdoor Ambient Dry Bulb Temperature				
		25℃	30℃	35℃	40℃	45℃
		Cooling Capacity kW				
12240	24/16	89.8	86.7	83.3	79.3	75.8
	27/19	98.2	94.8	91.3	87.3	83.2
	30/22	107.2	103.6	99.7	95.5	90.3
13770	24/16	92.0	88.7	85.2	81.5	77.5
	27/19	100.7	97.2	93.4	89.3	85.0
	30/22	109.9	106.1	102.0	97.6	92.9
15300	24/16	93.8	90.4	86.8	83.0	78.9
	27/19	102.7	99.0	95.0	90.8	86.3
	30/22	112.0	108.1	103.8	99.3	93.6
16830	24/16	95.3	91.8	88.1	84.2	79.7
	27/19	104.2	100.4	96.3	92.0	87.5
	30/22	113.7	108.9	105.2	99.7	95.3
18360	24/16	96.5	92.9	89.1	85.1	80.8
	27/19	105.3	101.4	97.3	93.0	88.3
	30/22	114.9	110.8	105.4	101.4	95.9
19890	24/16	97.4	93.8	89.9	85.8	81.5
	27/19	106.3	102.3	98.1	93.6	88.5
	30/22	115.8	111.8	107.0	101.7	97.0

Technical Data

CTKD/H350 Cooling Performance

Airflow m³/h	Return Air Temperature (Dry Bulb/Wet Bulb)℃	Outdoor Ambient Dry Bulb Temperature				
		25℃	30℃	35℃	40℃	45℃
		Cooling Capacity kW				
13600	24/16	98.2	94.8	91.1	87.2	82.9
	27/19	107.2	103.5	99.6	95.4	90.9
	30/22	116.8	112.8	108.6	104.1	99.2
15300	24/16	100.6	97.1	93.1	89.1	84.8
	27/19	109.8	106.0	101.9	97.5	92.7
	30/22	119.5	115.4	111.0	106.3	101.3
17000	24/16	102.5	99.0	95.1	90.9	86.5
	27/19	112.0	108.0	104	99.2	94.4
	30/22	121.8	117.6	113.0	108.1	102.9
18700	24/16	104.4	100.7	96.8	92.5	88.1
	27/19	113.8	109.7	105.4	100.8	95.9
	30/22	123.7	119.4	114.7	109.6	104.3
20400	24/16	106.1	102.3	98.3	94.1	89.6
	27/19	155.5	111.2	106.8	102.2	97.2
	30/22	125.4	120.9	116.0	111.0	105.6
22100	24/16	107.6	103.8	99.8	95.4	90.5
	27/19	116.8	112.6	108.1	103.4	98.5
	30/22	126.8	122.1	117.3	112.2	106.8

CTKD/H400 Cooling Performance

Airflow m³/h	Return Air Temperature (Dry Bulb/Wet Bulb)℃	Outdoor Ambient Dry Bulb Temperature				
		25℃	30℃	35℃	40℃	45℃
		Cooling Capacity kW				
16320	24/16	125.2	120.8	116.0	110.9	105.6
	27/19	136.8	132.0	127.0	121.5	115.8
	30/22	149.3	144.1	138.6	132.7	126.5
18360	24/16	127.7	123.0	118.1	112.8	107.1
	27/19	139.5	134.5	129.2	123.6	117.6
	30/22	152.2	146.7	141.0	134.9	128.5
20400	24/16	129.4	124.6	119.5	113.9	108.3
	27/19	141.4	136.3	131.0	124.9	118.3
	30/22	154.2	148.1	142.7	136.3	129.8
22440	24/16	130.5	125.6	120.2	114.7	109.0
	27/19	142.6	137.4	131.7	125.7	119.3
	30/22	155.6	149.8	143.7	137.3	130.4
24480	24/16	131.3	126.2	120.8	115.2	109.4
	27/19	143.4	137.9	132.1	125.9	119.5
	30/22	156.4	150.5	144.3	137.6	130.7
26520	24/16	131.2	126.2	120.9	115.3	109.4
	27/19	143.6	138.0	132.0	125.8	119.5
	30/22	156.7	150.7	144.3	137.4	130.4

CTKD/H500 Cooling Performance

Airflow m³/h	Return Air Temperature (Dry Bulb/Wet Bulb)℃	Outdoor Ambient Dry Bulb Temperature				
		25℃	30℃	35℃	40℃	45℃
		Cooling Capacity kW				
19680	24/16	149.6	144.0	137.9	131.4	128.4
	27/19	163.9	157.7	151.2	144.3	136.9
	30/22	178.8	172.2	165.2	161.8	149.8
22140	24/16	152.3	146.4	140.1	133.5	128.4
	27/19	166.7	160.3	153.5	146.3	138.7
	30/22	181.7	174.9	167.5	161.8	151.6
24600	24/16	154.2	148.1	141.7	134.8	128.4
	27/19	168.5	162.0	155.0	147.6	139.6
	30/22	183.7	176.6	167.1	161.8	152.7
27060	24/16	155.4	149.2	142.6	135.7	128.4
	27/19	169.7	163.0	155.9	148.4	140.4
	30/22	184.9	177.6	169.9	161.8	153.2
29520	24/16	156.0	149.7	142.9	136.0	128.4
	27/19	170.3	163.5	156.2	148.6	140.5
	30/22	185.4	178.0	170.2	161.8	153.2
31980	24/16	156.2	149.8	143.0	135.9	128.4
	27/19	170.3	163.4	156.0	148.3	140.1
	30/22	185.4	177.9	170.0	161.8	152.6

CTKD/H600 Cooling Performance

Airflow m³/h	Return Air Temperature (Dry Bulb/Wet Bulb)℃	Outdoor Ambient Dry Bulb Temperature				
		25℃	30℃	35℃	40℃	45℃
		Cooling Capacity kW				
23598	24/16	175.7	168.9	161.8	154.2	146.3
	27/19	192.4	185.0	177.2	169.1	160.5
	30/22	209.9	201.9	193.5	184.6	175.3
26550	24/16	177.9	171.0	163.6	155.8	147.7
	27/19	194.7	187.1	179.1	170.7	161.9
	30/22	212.3	204.1	195.5	186.2	176.8
29500	24/16	179.2	172.1	164.5	156.6	148.2
	27/19	196.0	188.2	180.0	171.4	162.2
	30/22	213.6	205.2	196.4	186.9	177.2
32450	24/16	179.7	172.4	164.7	156.7	148.0
	27/19	196.4	188.4	180.1	171.2	162.1
	30/22	214.1	205.5	196.3	186.6	176.8
35399	24/16	179.3	172.0	164.2	156.0	147.4
	27/19	195.9	187.8	179.3	170.4	161.1
	30/22	213.6	204.8	195.5	185.5	175.7
38349	24/16	178.2	170.7	162.7	154.5	146.1
	27/19	194.7	186.5	177.8	168.8	159.3
	30/22	212.3	203.4	194.0	184.2	173.9

Technical Data

Performance Data for CWK - Cooling

CWKD/H275 Cooling Performance

Airflow m³/h	Return Air Temperature (Dry Bulb/Wet Bulb)℃	Outdoor Ambient Dry Bulb Temperature				
		25℃	30℃	35℃	40℃	45℃
		Cooling Capacity kW				
10880	24/16	68.0	65.6	63.0	60.3	57.4
	27/19	74.4	71.9	69.2	66.3	63.2
	30/22	81.4	78.7	75.7	72.6	69.2
12240	24/16	69.6	67.1	64.5	61.7	58.8
	27/19	76.3	73.6	70.7	67.7	64.5
	30/22	83.4	80.4	77.5	74.3	70.1
13600	24/16	71.0	68.4	65.7	62.9	59.9
	27/19	77.7	74.9	72.0	68.9	65.6
	30/22	85.3	82.3	79.1	75.7	72.2
14960	24/16	72.1	69.5	66.7	63.8	60.8
	27/19	79.0	76.0	73.0	69.9	66.5
	30/22	86.6	83.5	80.1	76.6	72.7
16320	24/16	73.0	70.4	67.6	64.6	61.4
	27/19	79.6	76.9	73.8	70.6	67.2
	30/22	87.6	84.3	81.0	77.1	73.4
17680	24/16	73.8	71.1	68.2	65.2	62.0
	27/19	80.5	77.6	74.5	71.2	67.7
	30/22	87.8	84.8	81.2	77.7	73.9

CWKD/H300 Cooling Performance

Airflow m³/h	Return Air Temperature (Dry Bulb/Wet Bulb)℃	Outdoor Ambient Dry Bulb Temperature				
		25℃	30℃	35℃	40℃	45℃
		Cooling Capacity kW				
12240	24/16	83.1	80.3	77.3	74.1	70.3
	27/19	90.8	87.9	84.6	81.2	77.4
	30/22	99.1	95.9	92.4	88.7	84.1
13770	24/16	85.1	82.2	79.0	75.7	72.1
	27/19	93.0	89.9	86.5	82.9	79.0
	30/22	101.5	98.0	94.4	90.5	85.8
15300	24/16	86.6	83.7	80.5	77.1	73.4
	27/19	94.7	91.5	88.0	84.2	80.2
	30/22	103.3	99.7	95.9	91.1	88.1
16830	24/16	88.0	84.9	81.6	78.1	74.4
	27/19	96.1	92.6	89.1	85.3	81.2
	30/22	104.6	101.5	96.8	92.1	87.8
18360	24/16	89.0	85.8	82.5	78.7	75.1
	27/19	97.2	93.6	90.0	86.1	81.9
	30/22	106.4	102.5	98.4	93.7	88.6
19890	24/16	89.8	86.6	83.2	79.5	75.6
	27/19	97.9	94.4	90.6	86.6	82.4
	30/22	107.2	102.8	98.7	94.3	89.1

CWKD/H350 Cooling Performance

Airflow m³/h	Return Air Temperature (Dry Bulb/Wet Bulb)℃	Outdoor Ambient Dry Bulb Temperature				
		25℃	30℃	35℃	40℃	45℃
		Cooling Capacity kW				
13600	24/16	94.6	91.4	88.0	84.1	80.1
	27/19	103.4	100.0	96.3	92.3	87.9
	30/22	112.7	109.0	105.0	100.7	96.0
15300	24/16	96.4	93.0	89.4	85.6	81.5
	27/19	105.3	101.8	97.9	93.8	89.2
	30/22	114.8	110.9	106.7	102.2	97.3
17000	24/16	97.6	94.2	90.6	86.7	82.5
	27/19	106.8	103.1	99.0	84.7	90.1
	30/22	116.3	112.3	108.0	103.3	98.2
18700	24/16	98.6	95.2	91.5	87.5	83.2
	27/19	107.7	103.9	99.9	95.5	90.8
	30/22	117.4	113.2	108.6	104.0	98.8
20400	24/16	99.3	95.8	92.1	88.1	83.7
	27/19	108.3	104.5	100.4	95.9	91.1
	30/22	118.1	113.9	109.2	104.4	99.1
22100	24/16	99.8	96.3	92.5	88.2	83.6
	27/19	108.6	104.7	100.6	96.0	91.3
	30/22	118.2	114.0	109.4	104.5	99.2

CWKD/H400 Cooling Performance

Airflow m³/h	Return Air Temperature (Dry Bulb/Wet Bulb)℃	Outdoor Ambient Dry Bulb Temperature				
		25℃	30℃	35℃	40℃	45℃
		Cooling Capacity kW				
16320	24/16	121.9	117.5	112.9	107.8	102.4
	27/19	133.3	128.7	123.7	118.3	112.5
	30/22	145.4	140.4	135.0	129.3	123.1
18360	24/16	124.1	119.7	114.7	109.5	103.8
	27/19	135.7	130.9	125.7	120.1	114.1
	30/22	147.9	142.8	137.1	131.2	124.6
20400	24/16	125.7	120.9	116.0	110.5	104.8
	27/19	137.4	132.4	127.0	121.2	114.9
	30/22	149.7	144.3	138.5	132.4	125.8
22440	24/16	126.5	121.7	116.5	111.1	105.4
	27/19	138.4	133.2	127.7	121.6	115.4
	30/22	150.9	145.3	139.4	133.1	126.3
24480	24/16	126.9	122.0	116.9	111.4	105.5
	27/19	139.2	133.5	127.8	121.8	115.5
	30/22	151.3	145.7	139.6	133.0	126.2
26520	24/16	126.9	122.0	116.8	111.3	105.4
	27/19	138.7	133.5	127.6	121.6	115.2
	30/22	151.4	145.6	139.5	132.7	125.8

Technical Data

CWKD/H500 Cooling Performance

Airflow m³/h	Return Air Temperature (Dry Bulb/Wet Bulb)℃	Outdoor Ambient Dry Bulb Temperature				
		25℃	30℃	35℃	40℃	45℃
		Cooling Capacity kW				
19680	24/16	140.1	134.2	128.0	121.6	114.9
	27/19	153.7	147.4	140.7	133.8	126.7
	30/22	168.1	161.3	154.2	146.9	139.2
22140	24/16	143.6	137.6	131.1	124.5	117.6
	27/19	157.3	150.8	143.9	136.8	129.4
	30/22	171.9	164.9	157.6	149.9	142.0
24600	24/16	146.6	140.4	133.8	127.1	120.0
	27/19	160.3	153.6	147.0	139.3	131.8
	30/22	175.0	167.8	160.3	152.5	144.4
27060	24/16	149.3	142.9	136.2	129.4	122.1
	27/19	163.0	156.1	149.0	141.6	133.9
	30/22	177.7	170.4	162.7	154.7	146.4
29520	24/16	151.6	145.2	138.4	131.2	123.9
	27/19	165.4	158.4	151.1	143.5	135.7
	30/22	180.1	172.6	164.8	156.6	148.2
31980	24/16	153.8	147.3	140.3	132.8	125.7
	27/19	167.5	160.4	153.0	145.3	137.4
	30/22	182.2	174.5	166.6	158.3	149.9

CWKD/H600 Cooling Performance

Airflow m³/h	Return Air Temperature (Dry Bulb/Wet Bulb)℃	Outdoor Ambient Dry Bulb Temperature				
		25℃	30℃	35℃	40℃	45℃
		Cooling Capacity kW				
23598	24/16	171.9	165.2	157.8	149.6	140.6
	27/19	188.3	181.2	173.3	164.5	154.9
	30/22	205.9	198.2	189.5	180.4	170.2
26550	24/16	176.1	169.2	161.5	153.1	143.9
	27/19	192.6	185.2	177.0	168.1	158.3
	30/22	210.6	202.4	193.7	184.1	173.6
29500	24/16	179.7	172.6	164.8	156.3	146.9
	27/19	196.3	188.7	180.0	171.2	161.2
	30/22	214.3	206.1	197.0	187.2	176.5
32450	24/16	182.9	175.7	167.8	159.1	149.6
	27/19	199.6	191.8	183.8	173.9	163.7
	30/22	217.5	209.1	199.9	189.9	179.0
35399	24/16	185.9	178.5	170.5	161.7	151.7
	27/19	202.5	194.5	185.8	176.4	166.0
	30/22	220.5	211.8	202.4	192.3	181.3
38349	24/16	188.5	181.2	172.9	163.5	153.5
	27/19	205.1	197.0	188.2	178.6	167.9
	30/22	223.0	214.3	204.8	194.5	183.3

Performance Data for CWK - Heating

CWKD/H275 Heating Performance

Airflow m3/h	Outdoor Ambient Temperature (Dry Bulb/Wet Bulb)℃	Indoor Return Air Dry Bulb Temperature			
		16℃	18℃	20℃	24℃
		Heating Capacity kW			
10880	-8/-9	47.4	46.9	46.6	46.1
	-3/-4	55.9	55.4	55.2	54.7
	3/1	65.0	64.6	64.3	63.6
	7/6	73.6	73.1	72.8	72.1
	11/8	79.2	78.6	78.2	77.5
12240	-8/-9	47.6	47.3	46.9	46.4
	-3/-4	56.3	55.9	55.6	55.0
	3/1	65.5	65.0	64.8	64.1
	7/6	74.3	73.7	73.4	72.7
	11/8	80.0	79.3	78.9	78.1
13600	-8/-9	48.2	47.8	47.4	46.8
	-3/-4	56.7	56.3	56.1	55.4
	3/1	66.0	65.5	65.3	64.6
	7/6	74.9	74.3	74.0	73.2
	11/8	80.6	80.0	79.6	78.8
14960	-8/-9	48.7	48.2	48.0	47.3
	-3/-4	57.2	56.8	56.5	55.9
	3/1	66.5	66.0	65.7	65.1
	7/6	75.6	74.9	74.6	73.9
	11/8	81.3	80.7	80.3	79.4
16320	-8/-9	49.2	48.7	48.5	47.8
	-3/-4	57.7	57.2	57.0	56.4
	3/1	67.1	66.6	66.3	65.7
	7/6	76.2	75.6	75.2	74.4
	11/8	81.9	81.3	81.0	80.1
17680	-8/-9	49.7	49.2	48.8	48.3
	-3/-4	58.3	57.9	57.5	56.9
	3/1	67.7	67.1	66.8	66.2
	7/6	76.8	76.2	75.8	75.0
	11/8	82.6	82.0	81.6	80.7

CWKD/H300 Heating Performance

Airflow m3/h	Outdoor Ambient Temperature (Dry Bulb/Wet Bulb)℃	Indoor Return Air Dry Bulb Temperature			
		16℃	18℃	20℃	24℃
		Heating Capacity kW			
12240	-8/-9	58.1	57.7	57.3	56.8
	-3/-4	38.2	67.8	67.6	67.2
	3/1	79.0	78.7	78.4	78.0
	7/6	89.3	88.9	88.7	88.1
	11/8	95.8	95.3	95.0	94.5
13770	-8/-9	58.8	58.2	57.9	57.3
	-3/-4	68.7	68.3	68.1	67.6
	3/1	79.5	79.2	79.0	78.5
	7/6	90.0	89.6	89.3	88.7
	11/8	96.5	96.1	95.8	95.1
15300	-8/-9	59.3	58.7	58.5	57.8
	-3/-4	69.3	68.9	68.6	68.1
	3/1	80.1	79.7	79.6	79.0
	7/6	90.7	90.2	90.0	89.4
	11/8	97.3	96.8	96.5	95.8
16830	-8/-9	60.0	59.4	59.1	58.4
	-3/-4	69.9	69.4	69.2	68.7
	3/1	80.8	80.4	80.1	79.6
	7/6	91.5	90.9	90.6	90.0
	11/8	98.1	97.5	97.2	96.5
18360	-8/-9	60.8	60.1	59.7	59.1
	-3/-4	70.7	70.1	69.8	69.3
	3/1	81.5	81.1	80.8	80.3
	7/6	92.2	91.7	91.4	90.8
	11/8	98.9	98.3	98.0	97.4
19890	-8/-9	61.5	60.9	60.5	59.9
	-3/-4	71.5	70.9	70.7	70.0
	3/1	82.4	81.8	81.5	81.0
	7/6	93.1	92.6	92.2	91.6
	11/8	99.8	99.2	98.9	98.2

Technical Data

CWKD/H350 Heating Performance

Airflow m3/h	Outdoor Ambient Temperature (Dry Bulb/Wet Bulb)℃	Indoor Return Air Dry Bulb Temperature			
		16℃	18℃	20℃	24℃
		Heating Capacity kW			
13600	-8/-9	65.7	65.2	64.9	64.4
	-3/-4	76.8	76.5	76.2	75.9
	3/1	88.9	88.6	88.4	88.1
	7/6	100.9	100.4	100.2	99.7
	11/8	108.4	108.0	107.7	107.1
15300	-8/-9	66.3	65.9	65.7	65.1
	-3/-4	77.6	77.2	76.9	76.5
	3/1	89.8	89.4	89.2	88.7
	7/6	101.8	101.3	101.0	100.5
	11/8	109.4	108.9	108.6	107.9
17000	-8/-9	67.4	66.8	66.4	65.8
	-3/-4	78.4	78.1	77.8	77.4
	3/1	90.7	90.2	90.0	89.6
	7/6	102.8	102.3	102.0	101.4
	11/8	110.4	109.8	109.5	109.0
18700	-8/-9	68.4	67.6	67.4	66.7
	-3/-4	79.4	78.9	78.7	78.2
	3/1	91.6	91.2	90.9	90.5
	7/6	103.9	103.3	103.0	102.4
	11/8	111.5	110.9	110.6	110.0
20400	-8/-9	69.5	68.8	68.5	67.8
	-3/-4	80.5	80.0	79.7	79.2
	3/1	92.8	92.3	92.0	91.5
	7/6	105.1	104.5	104.1	103.5
	11/8	112.7	112.1	111.7	111.1
22100	-8/-9	70.7	70.0	69.7	68.9
	-3/-4	81.8	81.2	80.9	80.3
	3/1	94.0	93.5	93.1	92.6
	7/6	106.4	105.7	105.4	104.7
	11/8	114.0	113.4	113.0	112.3

CWKD/H400 Heating Performance

Airflow m3/h	Outdoor Ambient Temperature (Dry Bulb/Wet Bulb)℃	Indoor Return Air Dry Bulb Temperature			
		16℃	18℃	20℃	24℃
		Heating Capacity kW			
16320	-8/-9	86.6	86.1	85.9	85.3
	-3/-4	100.0	99.5	99.1	98.7
	3/1	114.5	114.1	113.5	113.2
	7/6	128.0	127.5	127.1	126.5
	11/8	137.9	137.2	136.1	136.1
18360	-8/-9	87.9	87.3	86.9	86.3
	-3/-4	101.2	100.7	100.2	99.7
	3/1	116.0	115.3	114.7	114.5
	7/6	129.5	128.8	128.4	127.8
	11/8	139.5	138.8	137.6	137.5
20400	-8/-9	89.2	88.7	88.1	87.7
	-3/-4	102.7	102.2	101.4	101.0
	3/1	117.5	116.9	116.1	115.7
	7/6	131.1	130.4	130.0	129.2
	11/8	141.4	140.5	139.2	139.2
22440	-8/-9	90.9	90.3	89.5	88.9
	-3/-4	104.1	103.7	103.0	102.7
	3/1	119.2	118.6	117.9	117.3
	7/6	132.8	132.1	131.7	31.1
	11/8	143.4	142.4	140.9	140.9
24480	-8/-9	92.4	92.2	91.2	90.7
	-3/-4	106.2	105.6	105.0	104.2
	3/1	121.1	120.4	119.4	119.0
	7/6	134.8	134.0	133.6	132.6
	11/8	145.2	144.5	142.9	142.9
26520	-8/-9	94.4	94.2	93.4	92.6
	-3/-4	108.2	107.9	106.7	106.2
	3/1	123.2	122.6	121.5	121.0
	7/6	137.0	136.1	135.7	134.6
	11/8	147.7	146.8	145.1	145.0

CWKD/H500 Heating Performance

Airflow m3/h	Outdoor Ambient Temperature (Dry Bulb/Wet Bulb)℃	Indoor Return Air Dry Bulb Temperature			
		16℃	18℃	20℃	24℃
		Heating Capacity kW			
19680	-8/-9	95.4	95.0	95.2	95.1
	-3/-4	112.5	112.2	112.1	112.0
	3/1	131.7	131.0	130.5	130.0
	7/6	150.3	149.5	149.1	148.5
	11/8	162.4	161.4	160.5	160.2
22141	-8/-9	95.6	95.1	95.1	94.9
	-3/-4	112.9	112.3	112.2	111.9
	3/1	132.2	131.3	130.8	130.5
	7/6	151.1	150.1	149.5	148.7
	11/8	163.5	162.2	161.2	160.5
24600	-8/-9	96.0	95.1	95.1	94.8
	-3/-4	113.2	112.4	112.2	111.7
	3/1	132.7	131.7	131.0	130.5
	7/6	151.9	150.6	150.0	149.0
	11/8	164.3	163.1	161.8	161.0
27060	-8/-9	95.9	95.2	95.2	94.7
	-3/-4	113.5	112.7	112.3	111.8
	3/1	133.2	132.1	131.3	130.7
	7/6	152.6	151.2	150.6	149.3
	11/8	165.1	163.7	162.5	161.4
29520	-8/-9	96.0	95.4	95.3	94.7
	-3/-4	113.6	112.9	112.4	111.8
	3/1	133.6	132.4	131.6	130.9
	7/6	153.3	151.8	151.0	149.6
	11/8	165.8	164.3	163.1	161.8
31981	-8/-9	96.1	95.5	95.3	94.7
	-3/-4	113.8	113.0	112.6	111.9
	3/1	133.9	132.8	132.0	131.0
	7/6	153.8	152.2	151.5	149.9
	11/8	166.4	164.8	163.6	162.3

CWKD/H600 Heating Performance

Airflow m3/h	Outdoor Ambient Temperature (Dry Bulb/Wet Bulb)℃	Indoor Return Air Dry Bulb Temperature			
		16℃	18℃	20℃	24℃
		Heating Capacity kW			
23598	-8/-9	113.8	112.6	112.1	110.3
	-3/-4	134.8	133.9	133.2	132.0
	3/1	157.9	157.0	155.7	155.0
	7/6	180.1	179.0	178.2	176.6
	11/8	194.7	193.5	191.6	191.1
26550	-8/-9	114.0	113.0	112.5	111.0
	-3/-4	135.3	134.4	133.2	132.5
	3/1	158.6	157.6	156.2	155.6
	7/6	180.9	179.8	179.1	177.3
	11/8	195.7	194.5	192.6	192.1
29500	-8/-9	114.2	113.5	112.8	111.3
	-3/-4	135.8	134.8	133.9	133.0
	3/1	159.0	158.1	156.7	156.2
	7/6	181.5	180.5	180.0	178.2
	11/8	196.6	195.3	193.4	192.9
32450	-8/-9	114.4	113.8	113.1	111.6
	-3/-4	136.1	135.0	134.2	133.0
	3/1	159.4	158.5	157.2	156.5
	7/6	182.2	181.0	180.3	178.8
	11/8	197.2	196.0	194.1	193.6
35399	-8/-9	114.6	113.8	113.2	111.8
	-3/-4	136.3	135.3	134.4	133.5
	3/1	159.7	158.8	157.4	156.8
	7/6	182.6	181.4	180.8	179.2
	11/8	197.7	196.6	194.6	194.1
38349	-8/-9	114.7	113.9	113.4	112.1
	-3/-4	136.9	135.7	134.6	133.8
	3/1	159.9	159.1	157.7	157.1
	7/6	182.9	181.8	181.1	179.6
	11/8	198.2	197.0	195.1	194.6

Technical Data

Supply Fan Performance

External Static Pressure (Pa)	50		100		150		200		250		300		350		400		450		500		550		600	
Model/ Supply Fan Airflow (m3/h)	Fan Rotation Speed (RPM)	Motor Power (kW)	Fan Rotation Speed (RPM)	Motor Power (kW)	Fan Rotation Speed (RPM)	Motor Power (kW)	Fan Rotation Speed (RPM)	Motor Power (kW)	Fan Rotation Speed (RPM)	Motor Power (kW)	Fan Rotation Speed (RPM)	Motor Power (kW)	Fan Rotation Speed (RPM)	Motor Power (kW)	Fan Rotation Speed (RPM)	Motor Power (kW)	Fan Rotation Speed (RPM)	Motor Power (kW)	Fan Rotation Speed (RPM)	Motor Power (kW)	Fan Rotation Speed (RPM)	Motor Power (kW)	Fan Rotation Speed (RPM)	Motor Power (kW)
#275																								
10880	-	-	-	-	492	1.7	539	2.0	583	2.4	624	2.8	663	3.2	699	3.6	733	4.0	765	4.4	796	4.8	825	5.2
12240	-	-	-	-	512	2.1	556	2.4	598	2.8	637	3.2	675	3.7	711	4.1	745	4.5	778	5.0	809	5.4	838	5.9
13600	-	-	490	2.1	532	2.5	573	2.9	612	3.3	650	3.7	687	4.2	722	4.6	756	5.1	788	5.6	819	6.1	849	6.6
14960	-	-	514	2.6	552	3.0	590	3.4	627	3.8	663	4.2	698	4.7	732	5.2	765	5.7	797	6.2	827	6.7	857	7.2
16320	490	3.1	526	3.0	562	3.4	597	3.8	632	4.2	666	4.7	700	5.1	733	5.6	765	6.2	796	6.7	826	7.2	855	7.8
17680	513	3.1	547	3.5	580	3.9	613	4.3	646	4.8	678	5.2	710	5.7	741	6.2	771	6.8	802	7.3	831	7.9	860	8.4
#300																								
12240	-	-	-	-	512	2.1	556	2.4	598	2.8	637	3.2	675	3.7	711	4.1	745	4.5	778	5.0	809	5.4	838	5.9
13770	-	-	-	-	515	2.4	556	2.7	596	3.1	634	3.6	671	4.0	707	4.5	741	4.9	774	5.4	806	5.9	836	6.4
15300	-	-	518	2.7	555	3.1	593	3.5	629	3.9	665	4.3	699	4.8	733	5.3	766	5.8	797	6.3	828	6.9	857	7.4
16830	502	2.8	538	3.2	573	3.6	607	4.0	641	4.5	674	4.9	707	5.4	739	5.9	771	6.4	801	7.0	831	7.5	860	8.1
18360	526	3.4	559	3.8	592	4.2	623	4.7	655	5.1	686	5.6	717	6.1	747	6.6	777	7.1	807	7.7	836	8.3	864	8.8
19890	551	4.1	582	4.5	612	5.0	642	5.4	671	5.9	700	6.4	729	6.9	758	7.4	786	7.9	814	8.5	842	9.1	869	9.7
#350																								
13600	-	-	501	2.2	543	2.6	583	3.0	622	3.4	660	3.8	696	4.3	731	4.7	764	5.2	796	5.7	827	6.2	856	6.7
15300	491	2.4	529	2.8	567	3.2	604	3.6	640	4.0	675	4.5	710	5.0	743	5.5	775	6.0	807	6.5	837	7.0	866	7.6
17000	517	3.0	552	3.4	586	3.8	620	4.2	654	4.7	687	5.2	719	5.7	751	6.2	782	6.7	812	7.2	842	7.8	870	8.4
18700	544	3.7	576	4.1	607	4.5	639	5.0	670	5.4	700	5.9	730	6.4	760	7.0	790	7.5	819	8.1	847	8.6	875	9.2
20400	570	4.5	600	4.9	529	5.4	658	5.8	687	6.3	715	6.8	744	7.3	772	7.9	799	8.4	827	9.0	854	9.6	880	10.2
22100	596	5.4	624	5.9	652	6.3	679	6.8	706	7.3	732	7.8	759	8.3	785	8.9	811	9.4	837	10.0	862	10.6	888	11.2
#400																								
16320	508	2.8	544	3.2	580	3.6	615	4.0	649	4.4	683	4.9	716	5.4	749	5.9	780	6.4	811	7.0	841	7.5	870	8.1
18360	539	3.6	572	4.0	604	4.4	635	4.8	667	5.3	698	5.8	729	6.3	759	6.8	789	7.3	818	7.9	846	8.5	874	9.1
20400	570	4.5	600	4.9	629	5.4	658	5.8	687	6.3	715	6.8	744	7.3	772	7.9	799	8.4	827	9.0	854	9.6	880	10.2
22440	601	5.6	629	6.0	656	6.5	683	7.0	709	7.5	735	8.0	761	8.5	787	9.0	813	9.6	839	10.2	864	10.8	889	11.4
24480	635	6.9	661	7.4	686	7.8	711	8.3	735	8.9	760	9.4	784	9.9	808	10.5	832	11.1	-	-	-	-	-	-
26520	666	8.3	690	8.8	713	9.3	737	9.8	760	10.4	783	10.9	805	11.5	-	-	-	-	-	-	-	-	-	-
#500																								
19680			492	4.0	523	4.5	553	5.0	583	5.6	612	6.1	640	6.7	668	7.3	695	7.8	721	8.4	746	9.0	771	9.6
22140	488	4.5	517	5.0	545	5.6	573	6.1	600	6.7	627	7.3	654	7.9	679	8.5	705	9.1	730	9.8	754	10.4	778	11.1
24600	515	5.6	542	6.2	568	6.8	594	7.4	619	8.0	644	8.6	669	9.2	693	9.9	717	10.5	740	11.2	763	11.9	786	12.6
27060	545	7.0	570	7.6	595	8.2	619	8.8	642	9.5	665	10.1	688	10.8	711	11.5	733	12.2	755	12.9	777	13.6	798	14.4
29520	575	8.6	598	9.2	621	9.8	643	10.5	665	11.2	687	11.9	709	12.6	730	13.3	751	14.0	772	14.8	-	-	-	-
31980	602	10.2	624	10.9	645	11.6	667	12.3	687	13.0	708	13.7	728	14.5	-	-	-	-	-	-	-	-	-	-
#600																								
23600	506	5.2	534	5.7	561	6.3	588	6.9	614	7.5	639	8.1	665	8.7	689	9.3	714	10.0	738	10.7	761	11.3	784	12.0
26550	538	6.7	563	7.3	588	7.9	613	8.5	637	9.1	660	9.8	683	10.4	706	11.1	729	11.8	751	12.5	773	13.2	795	14.0
29500	572	8.5	596	9.1	619	9.8	641	10.4	663	11.1	685	11.8	707	12.5	728	13.2	749	13.9	770	14.7	-	-	-	-
32450	606	10.6	628	11.2	649	11.9	670	12.6	691	13.3	711	14.1	731	14.8	-	-	-	-	-	-	-	-	-	-
35400	640	13.0	660	13.7	680	14.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

1. Supply fan performance table includes both pressure drop of evaporator coil and initial resistance of filter. For total static pressure determination, system external static must be added on top of those pressure drops generated by optional components. E.g. economizer, filter and electric heater etc.
2. The pressure drops should not be exceeded 600Pa positively from supply air fan to identified space.
   Performance data for default supply air fan: ☐5.5 kW Motor ☐7.5 kW Motor ☐11kW Motor ☐15kW Motor

Technical Data

Supply Air Fan Drive Selections

	5.5kW		7.5kW		11kW		15kW	
	Drive Type	Rotation Speed RPM	Drive Type	Rotation Speed RPM	Drive Type	Rotation Speed RPM	Drive Type	Rotation Speed RPM
#275-300	A	510						
	C	580						
	D	645						
	E	720	E	720				
	G	770	G	770				
					H	865		
#350-400	A	510						
	C	580						
	D	645	D	645				
	E	720	E	720	K	730		
			G	770	L	785		
					H	865	H	865
#500-600	M	510	M	510				
			N	580	P	585		
					Q	655	Q	655
					R	730	R	730
							S	785

Component Static Pressure Drops

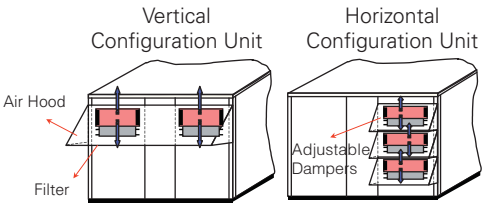
Model	Airflow(m^3/h)	50mmEU4 Filter (Standard)	Economizer	Electric Heater
275	10880	35	8	12
	12240	39	9	14
	13600	43	11	17
	14960	48	13	20
	16320	52	14	24
	17680	56	16	27
300	12240	39	9	14
	13770	44	11	18
	15300	49	13	21
	16830	54	15	25
	18360	58	17	29
	19890	63	19	33
350	13600	43	11	17
	15300	49	13	21
	17000	54	15	25
	18700	60	18	30
	20400	65	20	35
	22100	70	22	40
400	16320	49	16	26
	18360	55	19	32
	20400	61	22	39
	22440	67	25	45
	24480	73	28	52
	26520	80	31	60
500	19680	59	21	36
	22140	66	24	44
	24600	74	28	53
	27060	81	31	62
	29520	89	35	72
	31980	96	39	82
600	23600	71	26	49
	26550	80	31	60
	29500	89	35	72
	32450	97	40	84
	35400	106	45	98
	38350	115	50	112

1. When the pressure drops exceed in return air duct, static pressure drops of optional components must be added to external static pressure to enter supply fan performance table.

Applications for Options

	Options	Functions	Operation	Features	Non-compatibility items
Fresh Air	Manual Damper	Introduce outdoor fresh air in a fixed proportion; The maximal airflow of fresh air is 25% of the unit nominal airflow.	Manual operation and dampers angle adjustment.	Factory installed with simple, low cost and reliable solutions.	Economizer and CO_2 sensor
	Economizer (Automatic)	Introduce outdoor fresh air; The airflow range of fresh air is 0-50% of the unit nominal airflow and can be adjusted through control module or remote signal; Free cooling for transitional period; More energy saving for operation.	Provide free cooling by controlling differential enthalpy between outdoor and return air; Adjustable airflow in ranges of between customer's setpoint and 100% unit nominal airflow; Algorithm is set priority of free cooling over mechanical cooling; Fresh air damper will be closed under "unoccupied" mode.	Wide range of fresh airflow adjustment; Easy commissioning and lower operating cost.	Manual Damper
	Automatic Barometric Relief	Reduce indoor static pressure through automatically exhaust air; The air exhausting is 25% of the unit nominal airflow.	Automatically open the dampers in case that the indoor static pressure is exceeded 12-25Pa positive.	Low cost, quiet and simple operation against negative pressure.	Manual Damper and Forced Exhaust Fan
	Forced Exhaust Fan	Start up when the fresh air is exceeded in order to balance the indoor static pressure; The air exhausting is around 50% of the unit nominal airflow.	Include the barometric relief dampers; The exhaust fan will start up when reaching the set point.	Supplementary air according to actual demand on the field.	Manual Damper and Automatic Barometric relief
	CO_2 Sensor	Referring the set point of indoor CO_2 concentration; Being the evidence of adjusting volume of fresh air.	Control the volume of indoor fresh air throughout the duct type CO_2 sensor	Real-time and accurately control; Avoid excessive fresh air and saving energy.	Manual Damper
Control	TCI Module	Connect the rooftop unit to Trane ICS building control system.	Connect via ModBus interface; Adopt Trane Com3/4 communication protocol.		
	Remote Duct Sensor	Detect the return air temperature.	Transmit the temperature signal to THP03 controller.		Remote Indoor Sensor
	Remote Indoor Sensor	Detect the indoor temperature.	Transmit the temperature signal to THP03 controller.		Remote Duct Sensor
Auxiliary Heating	Electric Heater	Dehumidification for cooling only unit; Defrost function for Heat pump unit.	Two stages heating; Dual temperature cut-out.	Comfortable, energy saving and safe.	Hot water coil
Filter	Throw-away Filter	Improves air purification.	Disposal	Non-repeat usage.	Washable Filter
	Clogged Filter Alarm	Prompt the user to clean or replace the filter.	Detect the pressure drops across filter; The alarm signal will be displayed on the programmable thermostat.	Less frequently inspection; Replace the filter if necessary.	
Safe Protection	Circuit Breaker	Manually switch off the unit power supply.	Fusible unit.	Maintenance and start up safety.	
	Fan Failure Alarm	Detect the status of fan operation.	Set values on fan static pressure.	Unit protection.	
Roof Curb	Factory Roof Curb	Size fitted unit base; Seal up joints in waterproof of surrounding unit; Simplify connections of ductwork	For unit with horizontal placement, either factory mounted or field assembly.	For supply air with vertical ductwork only.	
Miscellaneous	High/ Low Static Pressure Fan	Provide options of supply air static pressure and airflow.	Matrix selections of fan motor and belt pulley.	Satisfy demand of various static pressure and airflow.	
	Coil Protection Guard	Prevent the condenser coil from being damaged during transportation and installation.	Access guard		

Options



Manual Damper

Duct Type CO_2 Sensor

Fan Failure Alarm

Vertical Configuration of Economizer

Horizontal Configuration of Economizer

TCI3-R Module

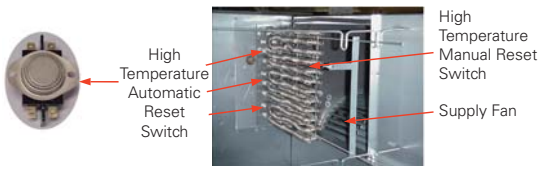
Circuit Breaker

Automatic Barometric Relief

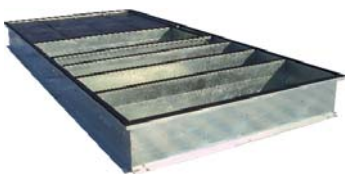
Remote Duct Sensor

Clogged Filter Alarm

Forced Exhaust Fan



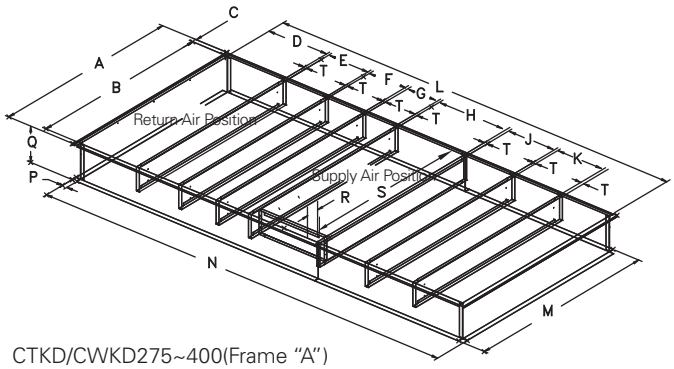
Electric Heater



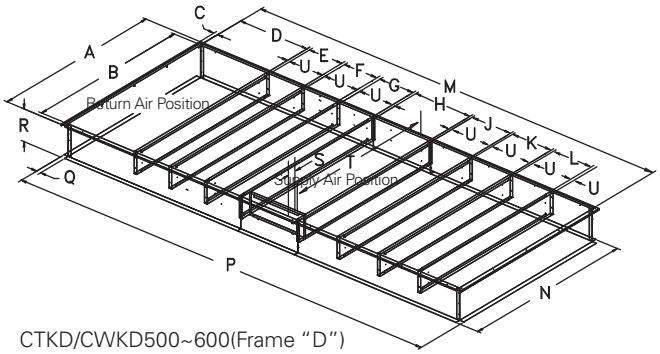
Roof Curb

Curb Dimensions, Cable Connections and Electrical Data

Curb Dimensions



CTKD/CWKD275~400(Frame "A")



CTKD/CWKD500~600(Frame "D")

mm

Unit	A	B	C	D	E	F	G	H	J
CTKD/CWKD 275-400	2045	1951	47	623.5	437.5	384.5	326	731	505.5

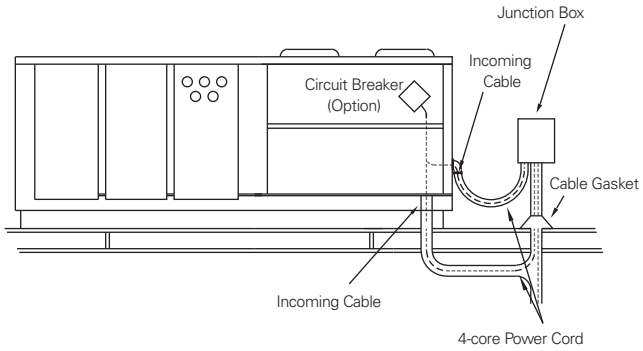
Unit	K	L	M	N	P	Q	R	S	T
CTKD/CWKD 275-400	498.5	4260	2052.5	4362	51	357	102	1814	33.5

mm

Unit	A	B	C	D	E	F	G	H	J	K
CTKD/CWKD 500-600	2045	1951	47	815.5	398.5	405.5	398	722	467.5	466.5

Unit	L	M	N	P	Q	R	S	T	U
CTKD/CWKD 500-600	467	4885	2053	4987	51	357	103.5	1814	33.5

Sketch for Power Connection

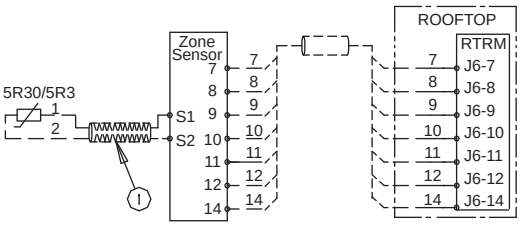


Electrical Data

Unit	Model	Unit		Compressor		Supply Fan Motor	Condenser Fan Motors
		RLA(1)	LRA(1)	RLA	LRA	FLA(2)	FLA(2)
CTKD/H	275	68	203	15.6/24.2	120/175	12	2.1*3
	300	77	203	24.2/24.2	175/175	12	2.1*3
	350	86	212	24.2/24.2	175/175	12	2.1*3
	400	111	269	35.7/35.7	230/230	16	2.1*4
	500	138	309	49.3/49.3	270/270	22	2.1*4
	600	142	359	51.4/51.4	320/320	31	2.1*4
CWKD/H	275	68	203	15.6/24.2	120/175	12	2.1*3
	300	77	203	24.2/24.2	175/175	12	2.1*3
	350	86	212	24.2/24.2	175/175	12	2.1*3
	400	111	269	35.7/35.7	230/230	16	2.1*4
	500	138	309	49.3/49.3	270/270	22	2.1*4
	600	147	364	51.4/51.4	320/320	31	2.1*4

(1) Without electric heater.
(2) All fan motors are operated under nominal airflow and nominal static pressure.
(3) All customer wiring and devices must be installed in accordance with local and national electrical codes.

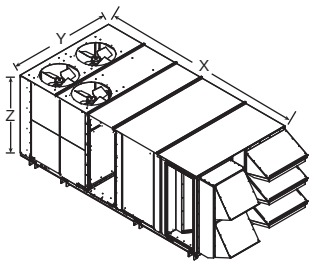
Wiring Diagram for Programmable Thermostat

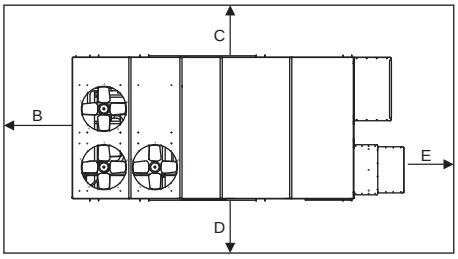


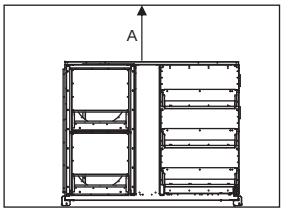
- 11, 12 and 14 with ex-factory connection.
- 7, 8, 9 and 10 with customer wiring for status display
- S1 and S2 for remote sensor with twisted-pair shielded cable connection①

Recommended Dimension and Length for Control Cables	
Dimension (mm²)	Max. Length (m)
0.5	76
0.75	115
1.5	185
2	300

Weights





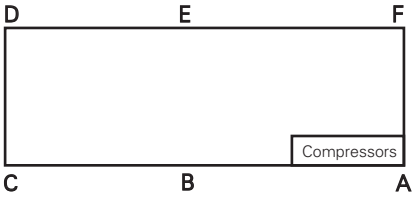


Unit	Model	Dimensions (mm)			Shipping Weight (kg)	Operating Weight (kg)	Installation Clearance (mm)				
		X	Y	Z			A	B	C	D	E
CTKD/H	275	4580	2368	1821	1717	1617	1900	2440	1220	1220	1830
	300	4580	2368	1821	1733	1633	1900	2440	1220	1220	1830
	350	4580	2368	1821	1772	1672	1900	2440	1220	1220	1830
	400	4580	2368	1821	1809	1790	1900	2440	1220	1220	1830
	500	5217	2368	1988	2247	2007	1900	2440	1220	1220	1830
	600	5217	2368	1988	2226	2086	1900	2440	1220	1220	1830
CWKD/H	275	4580	2368	1821	1811	1711	1900	2440	1220	1220	1830
	300	4580	2368	1821	1834	1734	1900	2440	1220	1220	1830
	350	4580	2368	1821	1875	1775	1900	2440	1220	1220	1830
	400	4580	2368	1821	1991	1891	1900	2440	1220	1220	1830
	500	5217	2368	1988	2412	2272	1900	2440	1220	1220	1830
	600	5217	2368	1988	2502	2362	1900	2440	1220	1220	1830

(1) Above data are excluded accessories or options.
(2) 3 condensing fans for models 275 to 350 and 4 condensing fans for models 400 to 600.

Point Load Distributions

Unit Type	A	B	C	D	E	F
	%	%	%	%	%	%
275	23%	23%	13%	14%	13%	14%
300	23%	23%	13%	14%	13%	14%
350	23%	23%	13%	14%	13%	14%
400	23%	23%	13%	14%	13%	14%
500	23%	23%	13%	14%	13%	14%
600	23%	23%	13%	14%	13%	14%



Net Weight of Options

(kg)

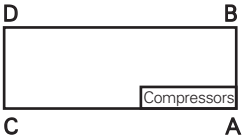
Unit	Model	Roof Curb	Automatic barometric relief (D/H)	Forced exhaust fan (D/H)	Supply fan motor	0-25% manual damper	Economizer (D/H)	Electric heater
CTKD /H CWKD/ H	275	225	50/65	74/90	54	23	117/128	100
	300	225	50/65	74/90	54	23	117/128	100
	350	225	50/65	74/90	54	23	117/128	100
	400	225	50/65	74/90	56	23	117/128	140
	500	260	50/65	74/90	56	23	131/135	140
	600	260	50/65	74/90	56	23	131/135	140

(1)No heating device for standard units.
(2)Fan for standard airflow and lower static pressure.

Recommended Slope for Water Drainage

Provides appropriate gradient for drainage of condensate water and rain water out of the unit foundation without water overflows. (mm)

Model	End distance from the highest points C & D to the lowest points A & B	Latitude distance from the highest points D & B to the lowest points C & A
275,300,350,400	89	41
500,600	101	41



Discharge Areas of Supply Air and Return Air

Horizontal Configuration Units (mm)

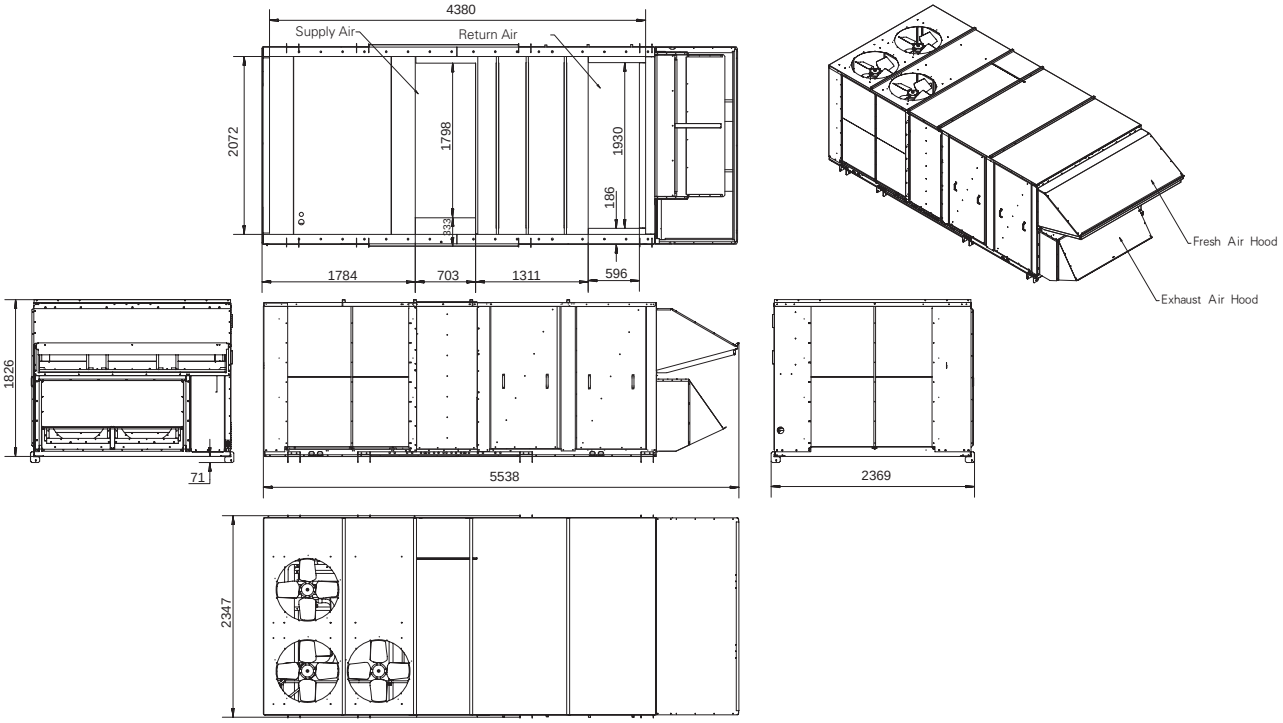
Unit	Supply Air (Outlet)	Return Air (Inlet)
CTKH/ CWKH275 - 400	645x1554	664x1554
CTKH/ CWKH500 - 600	637x1772	856x1772

Vertical Configuration Units (mm)

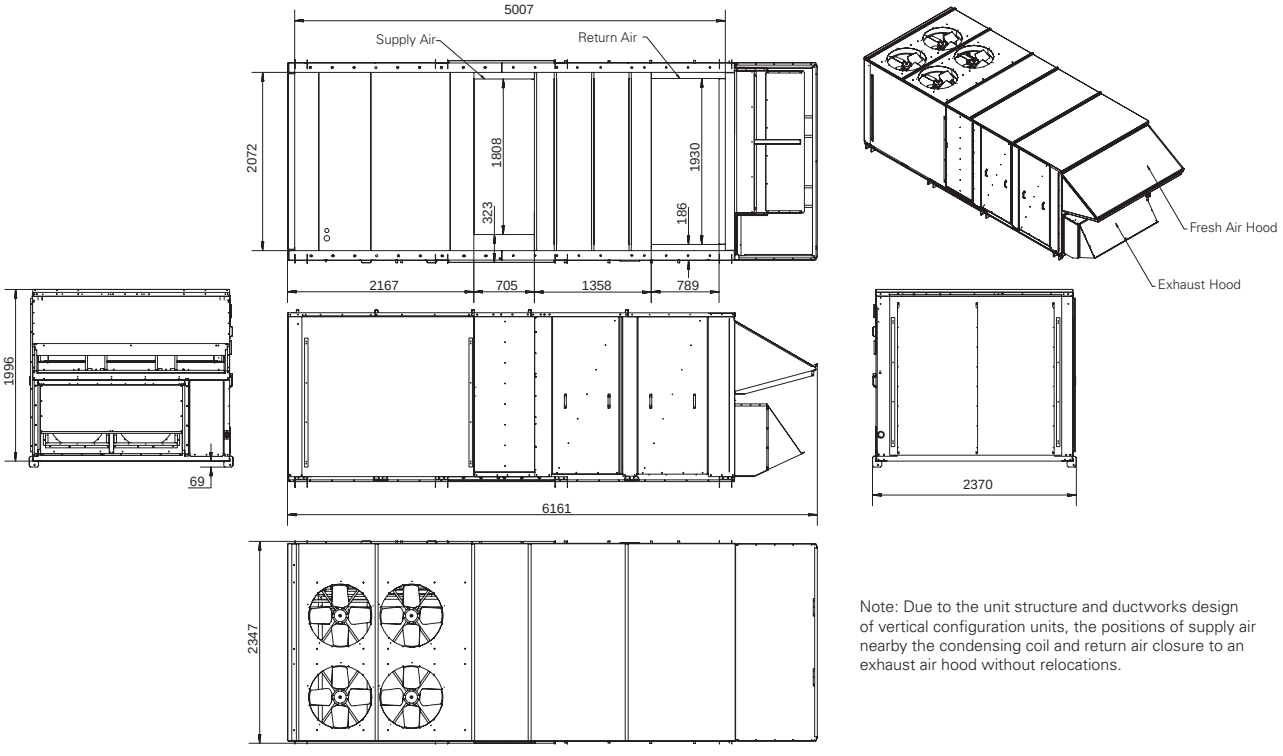
Unit	Supply Air (Outlet)	Return Air (Inlet)
CTKH/ CWKH275 - 400	703x1798	596x1930
CTKH/ CWKH500 - 600	705x1808	789x1930

Unit Dimensions

Vertical Configurations of Supply Air and Return Air for Models 275 to 400



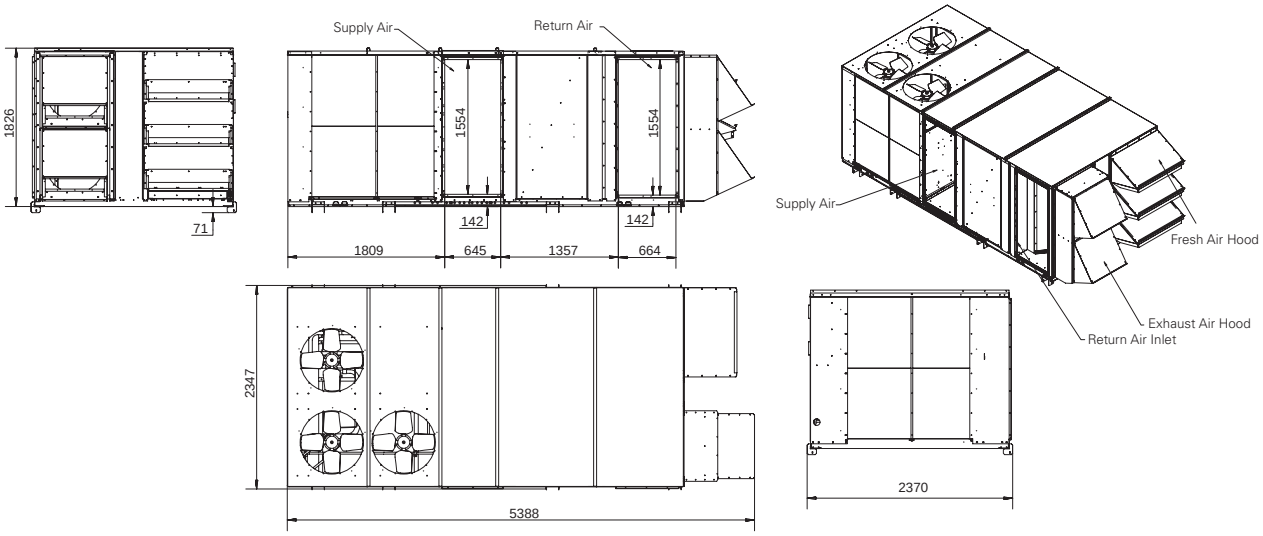
Vertical Configurations of Supply Air and Return Air for Models 500 and 600



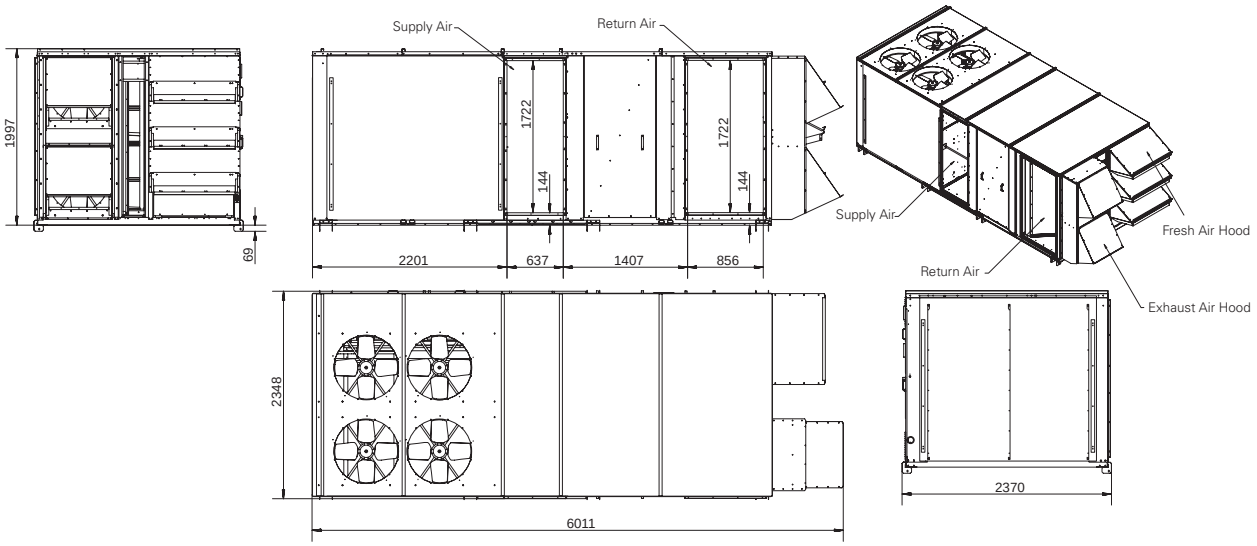
Note: Due to the unit structure and ductworks design of vertical configuration units, the positions of supply air nearby the condensing coil and return air closure to an exhaust air hood without relocations.

Unit Dimensions

Horizontal Configurations of Supply Air and Return Air for Models 275 to 400



Horizontal Configurations of Supply Air and Return Air for Models 500 and 600



Note: Due to the unit structure and ductworks design of horizontal configuration units, the positions of supply air nearby the condensing coil and return air closure to an exhaust air hood along to the same side without changes.

Installation Considerations

Vertical Ductwork Configurations

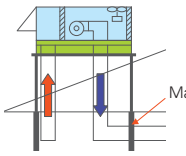
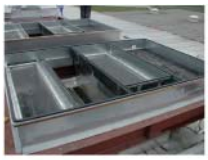
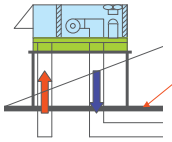
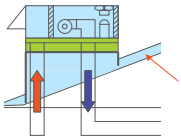
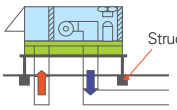
Use the factory provided roof curb in benefits of stable operation, noise reduction and water resistance.

The installation steps and examples are as follows:

1) Set the unit foundation onto structural beams of building roof

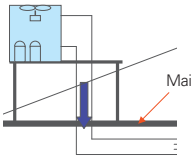
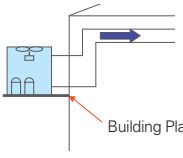
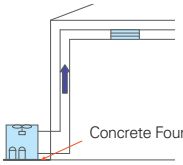
2) Install the curb onto the unit foundation

3) Ductwork connections to the curb

Construction of Unit Foundation	Installation Diagram	Installation Example
Extend the support members from main pillars to stand the unit foundation over the slope of building roof.		
Build the support members onto the main steel beams to stand unit foundation over the slope of building roof.		
Build the support members onto the purlines to stand unit foundation over the slope of building roof.		
Build the support members onto structural beams of building to stand unit foundation over the roof slab.		

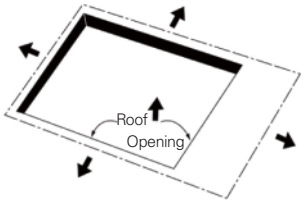
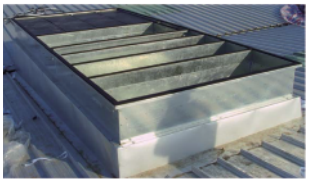
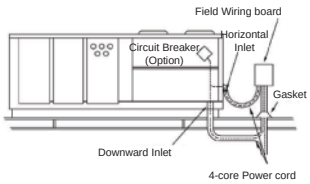
Horizontal Ductwork Configurations

Install rooftop horizontally onto the unit foundation. Appropriate waterproof shall be applied for ductworks passing through the building roof and walls. The installation steps and examples are as follows:

Build the support members onto the main steel beams to stand unit foundation over the slope of building roof.		
Allocating units along and over the building platform.		
Positioning unit onto the concrete foundation.		

Installation Considerations

The following recommendations are illustrated to avoid water leakage and electrical safety concerns during the rooftop installations.

Attentions for the Rooftop unit installations		
Opening for ductworks	Construction opening according to the dimensions of supply air duct and return air duct.	 Note: the drawing shown the rooftop dimension in dash lines and opening for ductworks in solid lines.
Least of 1:100 gradient for the unit foundation	Least of 1:100 gradient for drainage of rain water, water droplets from condensation and defrost out of the unit foundation. Considering desire slope closure to the compressors location.	
Roof curb installation and waterproof	Factory is provided roof curb option associates with unit assembly or ship loose components to address specific requirement. Placing the curb onto the unit foundation through spot welding or screws and then seal up around with appropriate materials owing to function the waterproof before installing the rooftop unit.	
Power cable connections	Incoming cable should be connected either up through the unit base or side in respective to ductworks with vertical configuration or horizontal configuration. Also need to be considered waterproof and well arrangement during installation.	
Lightning Protection	If the rooftop unit is to be installed exceeds the highest point of the building roof, then the lightning arrester shall be placed around the unit.	

Trane optimizes the performance of homes and buildings around the world. A business of Ingersoll Rand, the leader in creating and sustaining safe, comfortable and energy efficient environments, Trane offers a broad portfolio of advanced controls and HVAC systems, comprehensive building services, and parts.
For more information, visit www.Trane.com.

Trane has a policy of continuous product and product data improvement and reserves the right to change design and specifications without notice.

RT-PRC029-EN January 10, 2011

Produced on post-consumer recycled paper, using
environmentally friendly print practices that reduce waste