

AIR HANDLING UNIT



TRUST AIR CONDITIONING EQUIPMENT CO.
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توجه:

شرکت تراست حق تغییر مشخصات دستگاه ها را در جهت بهبود و ارتقای کیفیت برای خود محفوظ می دارد.

1. Installation

■ Unit Placement

If the unit needs to be placed outside before installing, please keep the unit out of dust, rain, snow and away from animals, and maintain the surface protection package not damaged. Don't expose the unit under strong sunshine in summer, otherwise the insulation panel may be deformed. If the unit needs to be installed outside, please indicate while ordering, because the unit cannot be staked if the complete units have been packed.

■ Unit Installation

1. Check carefully before installing. Please contact your dealer for repairing or changing if the following problems are observed.

- a. The surface are seriously deformed or damaged;
- b. Components inside the unit are broken;
- c. Fan and motor are loose.

2. The unit should be installed by professionals who know about the local regulations. Make sure to install the unit carefully and avoid any damage.

3. For the sake of safety, the supporter for ceiling mount units must be strong enough to afford the unit's weight and vibration while operating. Keep the unit and drain pan at the horizontal to avoid condensing water overflow. Installing the rubber spring or shock absorber to reduce vibration noise while installing. For the horizontal and vertical units, the unit should be placed on a firm and flat place. The suggested foundation height is 150mm, and the length and width are determined by the unit dimension. Water drain channel should be installed around the foundation.

4. Around the unit, especially at the side of the door (panel) and outside connected water pipe, 700~800mm length should be reserved for service and maintenance and 600mm for taking out the filter. For piping installation, enough space is also needed to be reserved.

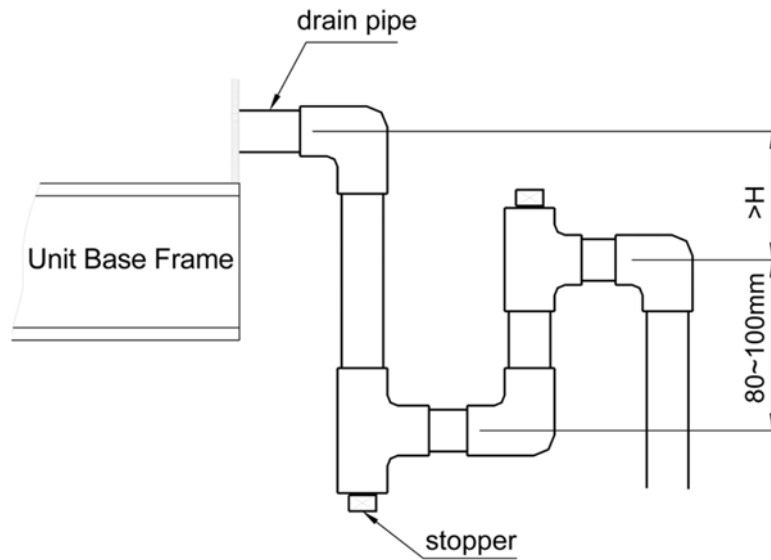
5. The water discharge and air discharge valves are set on the heat exchanger. Open the air discharge valve while filling the water. Close the valve after the air is completely discharge. Discharge the water inside the heat exchanger for long time stoppage.

6. The units should be installed at proper positions according to different conditions.

■ Water System Installation

1. Clean the water pipes before installation and install the filter at the water inlet of water pump.

2. The condensing water pipes are at the bottom of unit. Set water discharge elbow according to the static pressure to ensure the water discharging and avoid strange smell from entering the unit. (Refer to the following map.)



$$H = \text{Eternal Static Pressure}(\text{mmH}_2\text{O}) + 20\text{mm}$$

3. Use plies to connecting the water entering and leaving pipes with even strength. The strength should exceeds 250.8N·m(21kgf·m)to avoid cracking the heat exchanger and causing water leakage. The water supply and return pipes must be equipped with valve outside the unit (except the drain pipes) to cut off the water flow while adjusting the flow volume and check and repair. The unit outside must be well insulated.
4. For the heat exchanger using cool and hot water as the media, the water entering pipes are at the bottom and the water leaving pipes are at the top. For the heat exchanger using steam as media, the steam entering pipes are at the top and water leaving pipes are at the bottom. Connecting the pipes should refer to the labels on the unit.
5. All the water pipes must be sealed and water leakage is not allowed.
6. The unit should not afford the weight of water entering and leaving pipes.
7. The refrigerant media water temperature should not be lower than 5°C for standard units. Hot water temperature should not be higher than 80°C and the suggested temperature is 60°C.

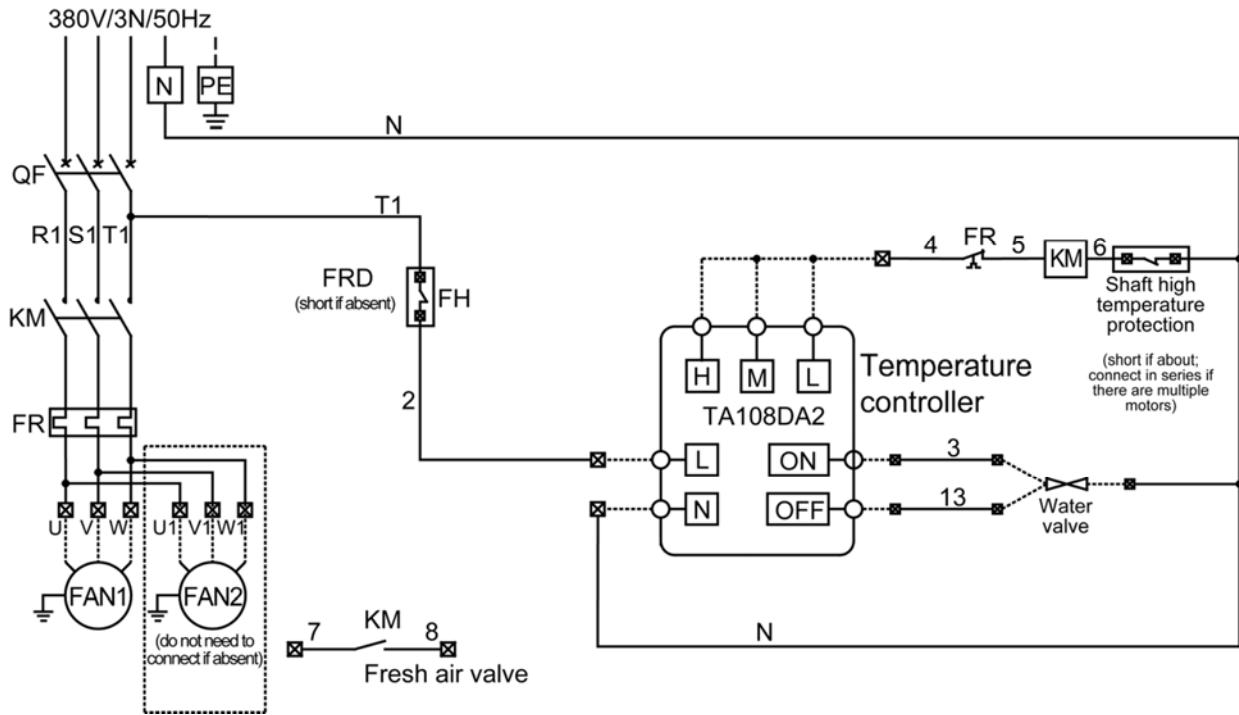
■ Air System Installation

1. For fresh air unit, fresh air damper is suggested to install for adjusting the fresh air volume, which should be adjusted to avoid freezing the coil by large volume in winter.
2. The air ducts must be sealed to avoid air leakage.
3. The air ducts should be connected with unit by soft connector. The unit should not afford the weight of air ducts or other additional objects.

■ Electrical Installation

1. Electrical Diagrams

Wirings of standard unit are shown in the diagrams below, for reference.



Check if the power supply meets the unit requirement and voltage exceed $\pm 10\%$ of rated voltage. The unit use the power supply with 3 phase and 380V/3N~/50Hz.

2. The motor should use the power supply with protection device. The unit must be grounded and checked whether the electrical wires is in good condition and meet the safety requirements.

3. When the motor power is lower than 11kW, direct start terminals are provided. When the motor power is higher than 11kW, the triangle start terminals are provided. The overload protector, short circuit and overheat protector should be installed.

2. Test Run

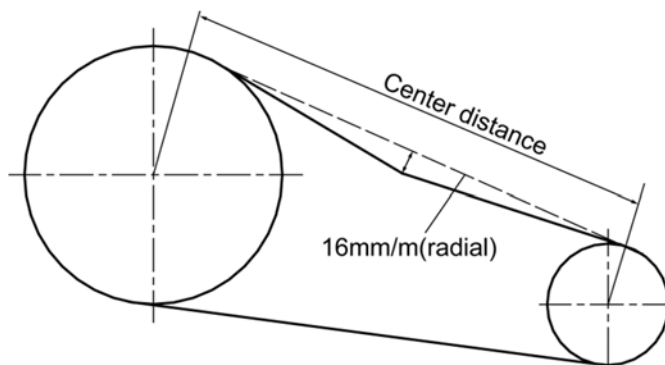
1. Open the air discharge valve before operation. After the air inside the coil and pipes are discharged, close the air discharge valve.
2. Check whether the temporary vibration absorbers were installed and take them off if they were.
3. Before starting the fan, rotate the fan by hand to see if any abnormal noise exists. While starting the fan, check whether its rotation direction is correct. If the direction is wrong, stop the fan and adjust the power supply phase.
4. Check if the electricity exceeds the rated one to avoid overload and burning the motor.
5. For stoppage in winter, close the fresh air damper first and then discharge the water in the coil clearly or open the hot water circulation to protect the heat exchanger from being frozen.
6. The unit should be taken care of by professionals. Check the Unit operation status regularly during operation, and solve problems immediately.

3. Daily Maintenance

Caution: The service and maintenance must be done when the unit is stopped!

Check the unit operation regularly. Regular and efficient maintenance will improve the unit reliability and increase its lifespan.

1. During the halt of the unit, fill the heat exchanger with water to avoid rust. When the ambient temperature is under 0°C in winter, the water inside the pipes need to be discharged to avoid freezing. (The water discharge valve is set at the bottom of water entering pipes.)
2. To ensure the high efficiency of heat exchanger, the air filter should be washed once a month. If the air environment is bad, the filter needs to be washed once a week.
3. The heat exchanger should be washed regularly. Clean the water build up after 2~3 years. If it is permitted, use soft water.
4. The drain pan and elbow should be cleaned once a year.
5. Check the soft connector of air duct regularly. If any air leakage exists, make it up immediately.
6. Adjust the tightness of belt regularly. Proper belt tightness is important for the unit lifespan. If the belt is too tight, the belt and bearing may be overloaded, which will reduce their lifespan. If the belt is too loose, the belt may slide and produce friction, which will also reduce its lifespan. There are two methods of judging the degree of tightness: one is to use the measure tools. According to the central distance and belt model to determine the degree of tightness. If the measure tool is not provided, adjust the belt until screaming sound has ceased. After adjusting the belt, check if the belts are on one line before operating the fan. New belts may be stretched at the beginning of running. Check the belt tightness after operating for several days.
7. Diagram of belt tightness and relative center distance.



Belt Section Area	Power of pushing the belt down for 16mm/m(refer to diagram)		
	Tightness (Dia. of small belt) mm	N	kgf
SPZ	56-95	13-20	1.3-2.0
	100-140	20-25	2.0-2.5
SPA	80-132	25-35	2.5-3.6
	140-200	35-45	3.6-4.6
SPB	112-224	45-65	4.6-6.6
	236-315	65-85	6.6-8.7
SPC	224-335	85-115	8.7-11.7
	375-560	115-150	11.7-15.3



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