

Additional refrigerant charge

When pipe length exceeds 5m, please add refrigerant according to the table below:

◇ **Specification of connection pipe for indoor unit and outdoor unit**

Cooling Capacity(Btu/h)		12000	18000	24000	36000	48000	60000
Connection Pipe (mm)	Liquid Pipe	Φ6.35		Φ9.52		Φ9.52	
	Gas Pipe	Φ12.7		Φ15.88		Φ19.05	
Max. Length		15	20	30	30	50	
Max. Height (m)		10	15	15	20	30	
Max. Bend Qty		3	4	6	10	10	
Extra R410a per meter when the pipe length is more than 5 meter (kg)		0.03	0.03	0.05	0.05	0.07	

Others

Users to install the air conditioner at site shall ensure that the oil can return to the unit smoothly.

- ◇ Horizontal pipes should incline toward the outdoor unit using a 20:1 slope.
- ◇ If there is a height difference between the indoor and outdoor unit, oil loops should be installed in the interconnecting gas (large) pipe;

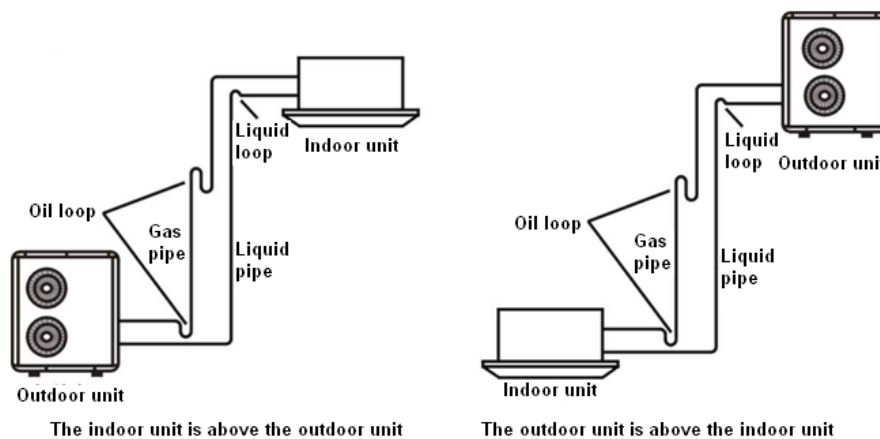
When the vertical pipe height difference is less than 5 meters, an oil loop should be installed at the bottom of the gas (large) pipe;

When the vertical pipe height difference is more than 5 meters, then for every 5 meters an oil loop must be installed at the bottom of the gas (large) pipe, and a short loop (liquid ring) should be installed at the exit of the indoor unit liquid (small) pipe;

When the connecting gas pipe vertical height difference is less than 5 meters but the constant rise distance is too long, an oil loop should be installed in the gas (large) pipe every 10 meters.

◇ When the outdoor and indoor units are at the same elevation, the oil deposit bend and liquid ring donot need to be installed, if the horizontal connecting pipe length is less than 10 meters.

When the horizontal connecting pipe length is more than 10 metres, install an oil loop in the gas (large) pipe every 10 metres.



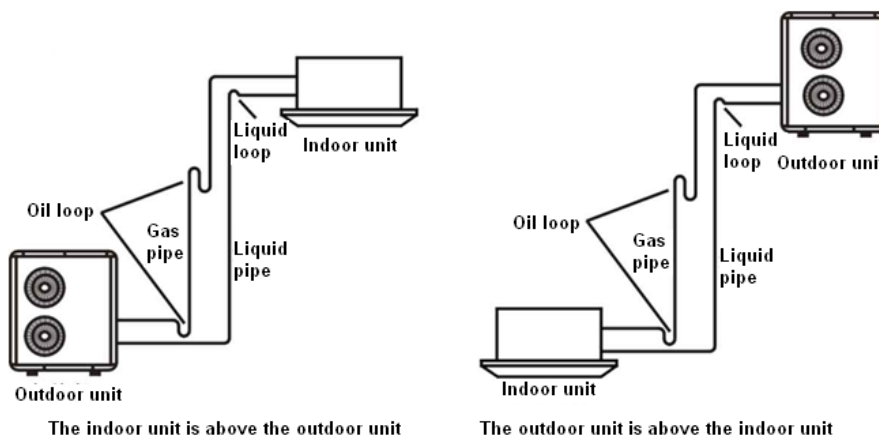
gas (large) pipe;

When the vertical pipe height difference is more than 5 meters, then for every 5 meters an oil loop must be installed at the bottom of the gas (large) pipe, and a short loop (liquid ring) should be installed at the exit of the indoor unit liquid (small) pipe;

When the connecting gas pipe vertical height difference is less than 5 meters but the constant rise distance is too long, an oil loop should be installed in the gas (large) pipe every 10 meters.

◇When the outdoor and indoor units are at the same elevation, the oil deposit bend and liquid ring do not need to be installed, if the horizontal connecting pipe length is less than 10 meters.

When the horizontal connecting pipe length is more than 10 metres, install an oil loop in the gas (large) pipe every 10 metres.



Note:

This chart is for explanation purposes. An actual installation will differ from this according to the site conditions. When making an oil trap the radius of the bend should be between 1.5 and 2 times the pipe diameter.

7.3. Electrical connection

7.3.1 Electrical connection precaution

Warning	Installation of electric items must be carried out by qualified, professional technicians. An isolated circuitry should be fixed with whole-pole disconnection devices, which is with at least 3mm gap of touch point. . Power supply and indoor to outdoor connection should use special cable. Providing the necessity of installation or replacement, the professional technician of service store appointed by manufacturer must be required, while self-operation by users is prohibited.
	In case of any electric shock accident, the creepage protection devices /power supply on-off and breaker must be required with power supply.
	The specification of fuse for single phase control board is F5AL 250V, while for 3 phase control board, both indoor and outdoor unit, it is F3.15AL 250V.
	Machine must be earthed surely. If not, it'll be probably caused creepage.
	Equivalent 227IEC53(RVV) type of power cord of GB5023 or the excelled must be required. The cords should be fixed properly against broken, while ends/joints of cords is under outside force. Improper connection or fixation will cause disaster like fire....etc. Equivalent 245IEC57(YZW) type of power cord of GB5023 or the excelled must be used as connection line of indoor and outdoor.