

## SPECIFICATIONS

SET WITH AXIAL FAN OUTDOOR UNIT


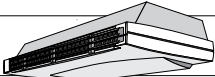
SOUND LEVEL			WING 2,8TFK WING 2TB	WING 3TFK	WING 3TB	WING 4TFK WING 4TB	WING 5TFK WING 5TB
Sound pressure level (Lp)	Indoor unit (1)	dBA	41/46 (*)	41/46 (*)	41/46 (*)	43/48 (*)	43/48 (*)
	Outdoor unit (2)	dBA	52	55	53	56	56

(1) Sound level measured to a distance of 2m from the unit, normal absorption, room size according to unit capacity.

(2) Sound level measured to a distance of 5 m, free space.

(\*) High speed / Low speed

## ELECTRICAL DATA

		WING 2,8TFK WING 2TB	WING 3TFK	WING 3TB	WING 4TFK WING 4TB	WING 5TFK	WING 5TB
Voltage	V/f (50 Hz)	230V / 1 Ph		230V-400V / 3 Ph			
Nominal total input power cooling capacity	Kw	3,06	3,85	3,70	4,70	5,60	5,90
Nominal total input power heat pump	Kw	2,60	----	3,00	3,90	---	5,00
Rated current	A	14,87	19,3	18,3			
		13,4/8,0		12,8/7,7	18,3/9,1	20,4/10,2	21,5/11,3
Current max.	A	17,9	24,4	23,4			
		17,3/10,7		16,5/10,2	21,3/12,1	23,1/11,9	24,4/13,2
Starting current max.	A	91	90	90			
		78 / 39		78 / 39	106 / 53	124 / 62	124 / 62
OUTDOOR UNIT		KJF 2,8K KJB 2,8	KJF 3K	KJB 3	KJF 4K KJB 4	KJF 5K	KJB 5
Voltage	V/f (50 Hz)	230V / 1 Ph		230V-400V / 3 Ph			
Nominal total input power cooling capacity	Kw	2,88	3,67	3,52	4,45	5,35	5,65
Nominal total input power heat pump	Kw	2,42	---	2,82	3,65	----	4,75
Rated current	A	14,05	18,48	17,48			
		13,2/7,1		12,0/6,9	17,2/8,0	19,2/9,0	20,4/10,2
Current max.	A	17,12	23,58	22,60			
		16,4/9,8		15,7/9,4	20,2/11,0	22,1/10,9	23,3/12,1
Starting current max.	A	91	90	90			
		78 / 39		78 / 39	106 / 53	124 / 62	124 / 62
INDOOR UNIT		LTX 3	LTX 3	LTX 3	LTX 5	LTX 5	LTX 5
Voltage	V/f (50 Hz)	230V / 1 Ph					
Nominal total input power cooling capacity	Kw	0,18	0,18	0,18	0,25	0,25	0,25
Nominal total input power heat pump	Kw	0,18	---	0,18	0,25	---	0,25
Rated current	A	0,82	0,82	0,82	1,14	1,14	1,14
Starting current max.	A	2,46	2,46	2,46	3,42	3,42	3,42

## SPECIFICATIONS


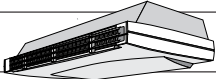
### SET WITH CENTRIFUGAL FAN OUTDOOR UNIT

SOUND LEVEL			WING 2,8CFK WING 2CB	WING 3CFK WING 3CB	WING 4CFK WING 4CB	WING 5CFK WING 5CB
Sound pressure (Lp) level	Indoor unit (1)	dBA	41/46 (*)	41/46 (*)	43/48 (*)	43/48 (*)
	Outdoor unit (2)	dBA	57	58	60	62

(1) Sound level measured to a distance of 2m from the unit, normal absorption, duct size and installation according to unit capacity.

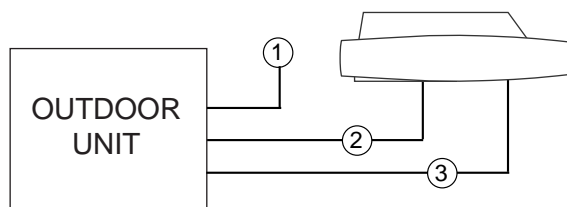
(2) Sound level measured to a distance of 5 m, normal absorption, duct size and installation according to unit capacity.

(\*) High speed / Low speed

ELECTRICAL DATA			WING 2,8CFK WING 2CB	WING 3CFK WING 3CB	WING 4CFK WING 4CB	WING 5CFK WING 5CB
Voltage	V/f (50 Hz)		230V / 1 Ph		230V-400V / 3 Ph	
Nominal total input power cooling capacity	Kw		3,07	3,86	5,17	7,00
Nominal total input power heat pump	Kw		2,77	3,40	4,33	6,40
Rated current	A		14,92	18,3		
					11,7/5,4	16,6/10,0
Current max.	A		19,82	23,4		
					16,5/10,2	21,9/12,7
Starting current max.	A		91	90		
					78 / 39	106 / 53
OUTDOOR UNIT			KCF 2,8K KCB 2,8S	KCF 3K KCB 3S	KCF 4K KCB 4S	KCF 5K KCB 5S
Voltage	V/f (50 Hz)		230V / 1 Ph		230V-400V / 3 Ph	
Nominal total input power cooling capacity	Kw		2,89	3,68	4,92	6,75
Nominal total input power heat pump	Kw		2,59	3,22	4,08	6,15
Rated current	A		14,10	17,77		
					10,8/4,5	15,5/8,9
Current max.	A		19,00	22,65		
					15,7/9,4	20,8/11,60
Starting current max.	A		91	90		
					78 / 39	106 / 53
INDOOR UNIT			LTX 3	LTX 3	LTX 5	LTX 5
Voltage	V/f (50 Hz)		230V / 1 Ph			
Nominal total input power cooling capacity	Kw		0,18	0,18	0,25	0,25
Nominal total input power heat pump	Kw		0,18	0,18	0,25	0,25
Rated current	A		0,82	0,82	1,14	1,14
Starting current max.	A		2,46	2,46	3,42	3,42

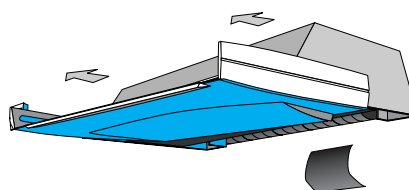
## ELECTRICAL CONNECTIONS

### MODELS 2,8-3-4-5



### ELECTRIC WIRING DIAGRAM

For electrical connection refer to wiring diagram in the unit



- ① Power supply
- ② Connection indoor unit with outdoor unit
- ③ Sensor connection

- 1° Remove the front details at the corners and unit cover panel.
- 2° Remove the filters  
See picture

MODEL	VOLTAGE	NUMBER OF WIRES X SECTION				
		COOLING ONLY		HEAT PUMP		
		①	②	①	②	③
2.8	230 V / 1Ph	3x4mm <sup>2</sup>	4x1,5mm <sup>2</sup>	3x4mm <sup>2</sup>	6x1,5mm <sup>2</sup>	2x1,5mm <sup>2</sup>
	400 V / 3Ph	5x2,5mm <sup>2</sup>	4x1,5mm <sup>2</sup>	5x2,5mm <sup>2</sup>	6x1,5mm <sup>2</sup>	2x1,5mm <sup>2</sup>
3	230 V / 1Ph	3x4mm <sup>2</sup>	4x1,5mm <sup>2</sup>	3x4mm <sup>2</sup>	6x1,5mm <sup>2</sup>	2x1,5mm <sup>2</sup>
	230 V / 3Ph	4x4mm <sup>2</sup>	4x1,5mm <sup>2</sup>	4x4mm <sup>2</sup>	6x1,5mm <sup>2</sup>	2x1,5mm <sup>2</sup>
	400 V / 3Ph	5x2,5mm <sup>2</sup>	4x1,5mm <sup>2</sup>	5x2,5mm <sup>2</sup>	6x1,5mm <sup>2</sup>	2x1,5mm <sup>2</sup>
4	230 V / 3Ph	4x4mm <sup>2</sup>	4x1,5mm <sup>2</sup>	4x4mm <sup>2</sup>	6x1,5mm <sup>2</sup>	2x1,5mm <sup>2</sup>
	400 V / 3Ph	5x2,5mm <sup>2</sup>	4x1,5mm <sup>2</sup>	5x2,5mm <sup>2</sup>	6x1,5mm <sup>2</sup>	2x1,5mm <sup>2</sup>
5	230 V / 3Ph	4x6mm <sup>2</sup>	4x1,5mm <sup>2</sup>	4x6mm <sup>2</sup>	6x1,5mm <sup>2</sup>	2x1,5mm <sup>2</sup>
	400 V / 3Ph	5x4mm <sup>2</sup>	4x1,5mm <sup>2</sup>	5x4mm <sup>2</sup>	6x1,5mm <sup>2</sup>	2x1,5mm <sup>2</sup>

**NOTE:** The sections has been calculated to a distance no superior o 50m and a low supply of 10V

## ELECTRICAL CONNECTIONS AND SYSTEM CONFIGURATION

### IMPORTANT

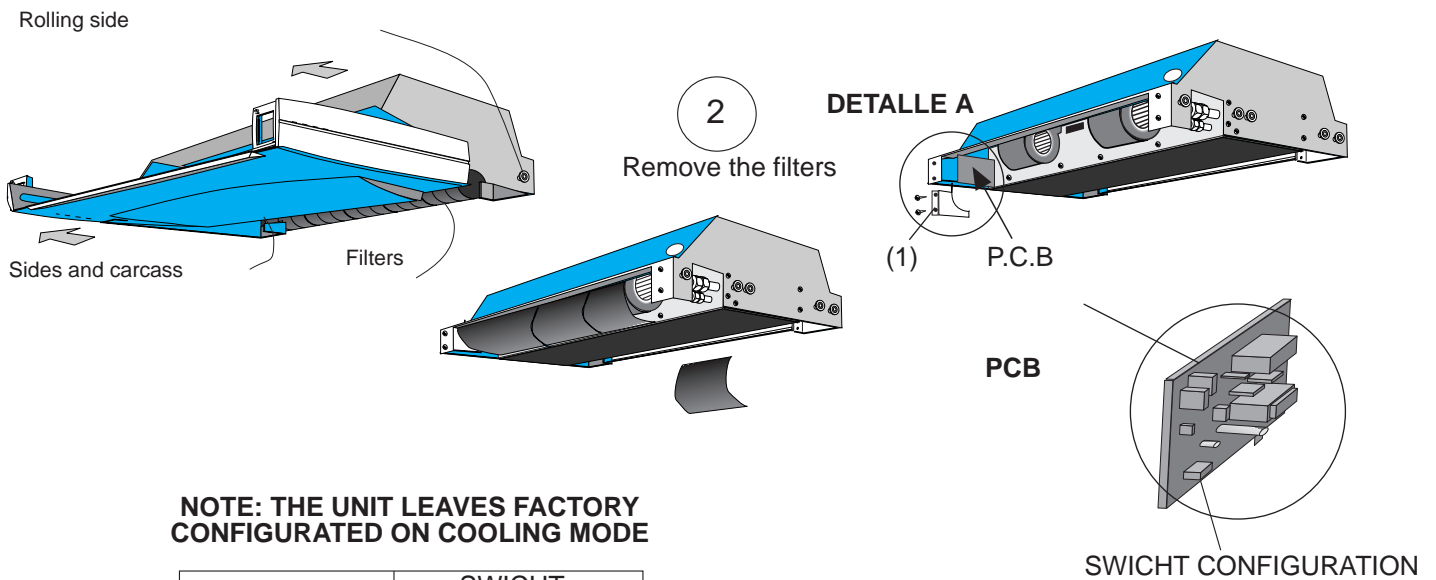
**Prior of making the electrical connections, set the switch for heat pump unit or for cooling only unit.**

This unit is valid for operating as a cold only or heat pump application. The unit should be configured prior to making the electrical connections, by setting the configuration switch as follows:

1

Remove the front details at the corners and unit cover panel.

3

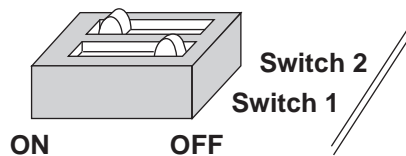


**NOTE: THE UNIT LEAVES FACTORY CONFIGURED ON COOLING MODE**

MODEL	SWICHT CONFIGURATION	
	1	2
COOLING ONLY (*)	OFF	ON
HEAT PUMP	ON	ON

(\*) Configuration from factory.

SWICHT CONFIGURATION



### NOTE:

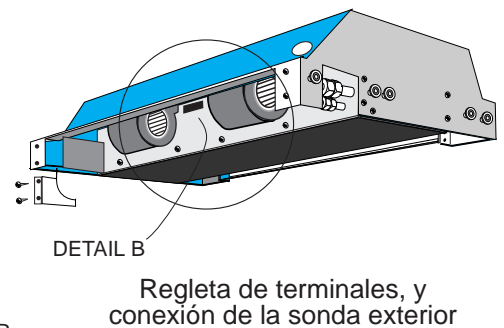
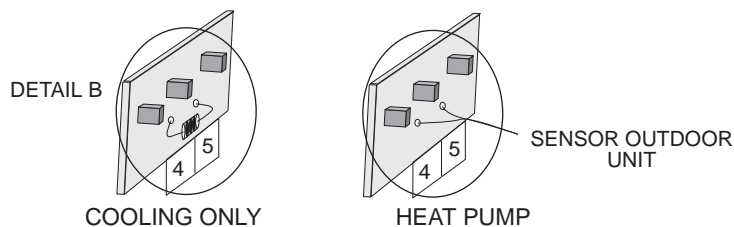
If errors are made during the configuration of the system, switch off the main power supply, set configuration switch in the correct position and then switch the power on.

### CONNECTIONS OF OUTDOOR UNITS

**-FOR HEAT PUMP UNITS**, remove the resistor form the terminal plate and connect the sensor outdoor unit

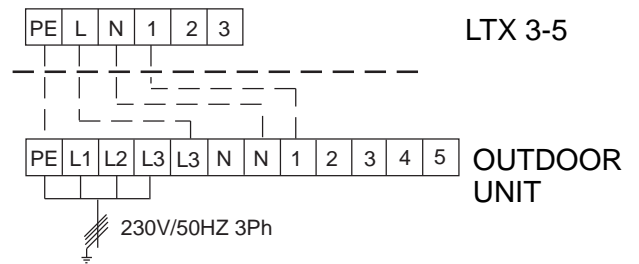
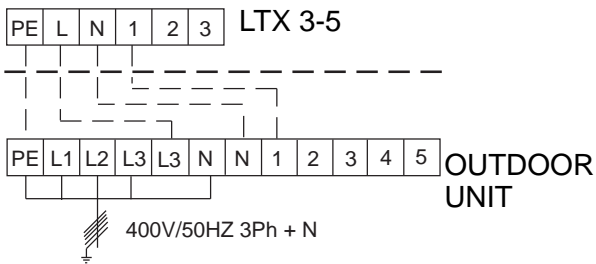
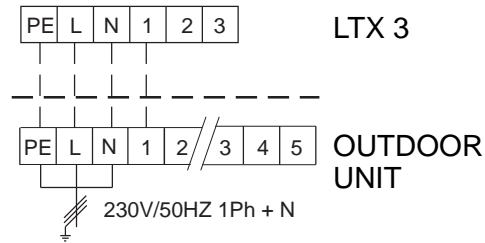
**-FOR COOLING ONLY UNITS**, keep connected the resistor.

**DON'T TOUCH.**



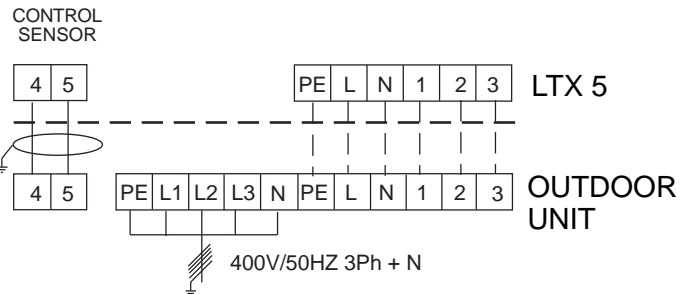
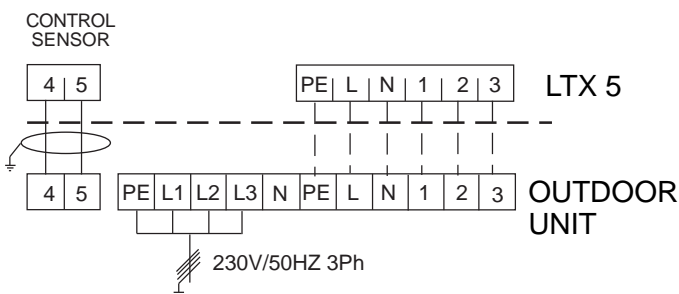
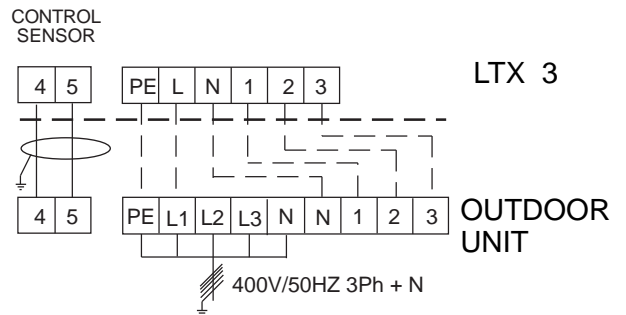
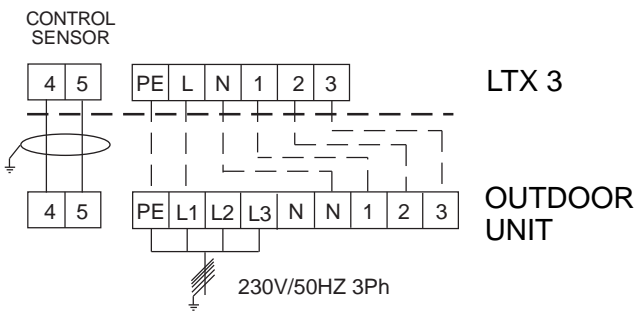
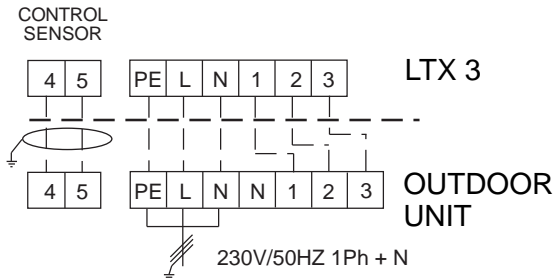
# ELECTRICAL CONNECTIONS

## COOLING ONLY



## HEAT PUMP

Wire overwhelm



## OUTDOOR UNIT MOTOR-FAN CHARACTERISTICS

OUTDOOR UNIT WITH CENTRIFUGAL FAN



KCF2,8K / KCB 2,8S

KCF 3K / KCB 3S

		STATIC PRESSUERE AVIALABLE <b>Pa.</b>				STATIC PRESSUERE AVIALABLE <b>Pa.</b>			
		110	75	40	0	100	70	54	0
AIR FLOW	<b>m<sup>3</sup>/h</b>	1500	1700	2500	2900	1500	1650	2500	2900

KCF 4K / KCB 4S

KCF 5K / KCB 5S

		STATIC PRESSUERE AVIALABLE <b>Pa.</b>				STATIC PRESSUERE AVIALABLE <b>Pa.</b>			
		110	80	50	0	150	110	50	0
AIR FLOW	<b>m<sup>3</sup>/h</b>	2800	3100	3400	3800	4250	4650	5050	5400

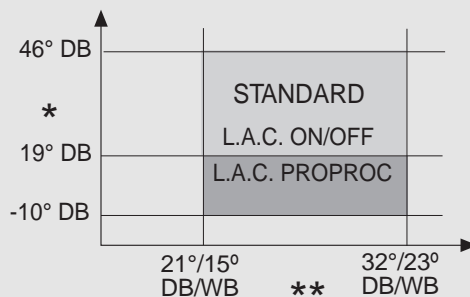
 AIR FLOW

## OPERATING LIMITS

### OPERATING LIMITS COOLING ONLY UNITS

\* Supply air temperature into the outdoor unit °C

\*\* Supply air temperature into the indoor unit °C



DB.- Dry Bulb  
WB.- Wet Bulb

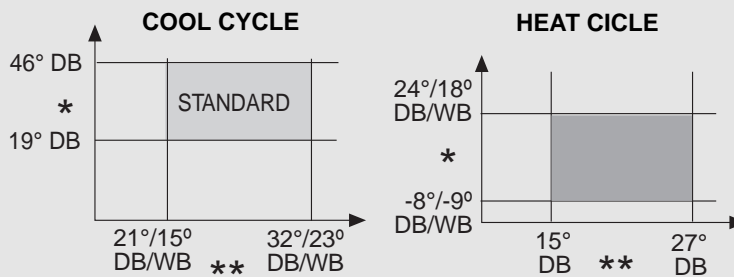
THE ON/OFF LOW AMBIENT CONTROL IS STANDARD  
THE PROPORTIONAL LOW AMBIENT CONTROL IS OPTIONAL

### OPERATING LIMITS HEAT PUMP UNITS

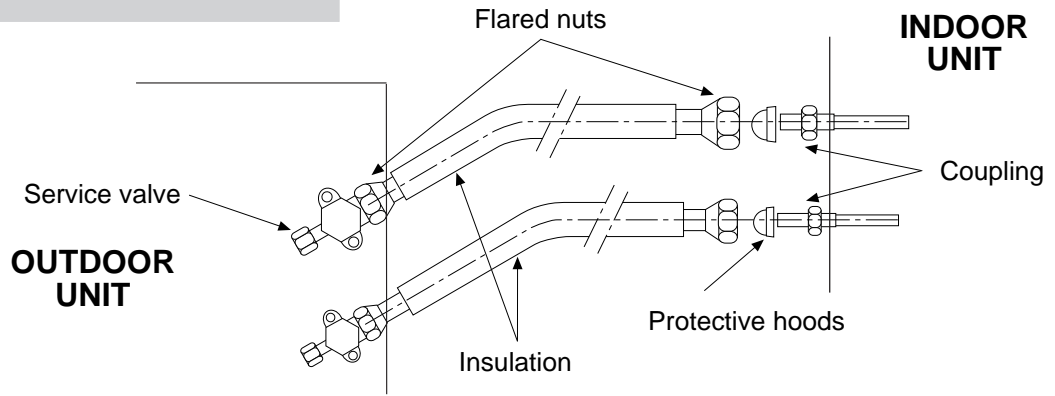
\* Supply air temperature into the outdoor unit °C

\*\* Supply air temperature into the indoor unit °C

DB.- Dry Bulb  
WB.- Wet Bulb



# REFRIGERANT CONNECTIONS



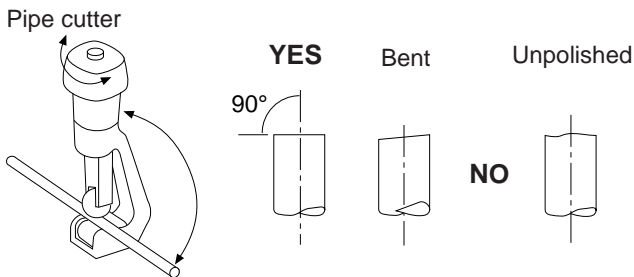
## REFRIGERANT CONNECTION FOR UNITS WITH COUPLINGS AND SERVICE VALVES

**NOTE: THE REFRIGERANT LINES GAS AND LIQUID, MUST BE INSULATED**

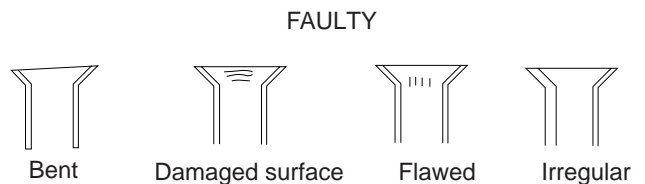
**Make the refrigerant connections between the outdoor and indoor unit, as follows:**

- With the valves closed on outdoor unit, unscrew the flare nuts, removing all the protective hoods.
- Unscrew the flare nuts and the coupling on indoor unit, removing the protecting hoods.
- Introduce the flare nuts in the corresponding union tubes, previously isolated.
- Make the thread union of the tubes in valves and coupling using the keys, as shown in the picture.
- To do vacuum, first close the valves on outdoor unit, second connect the plug of the vacuum pump to the suction valves service port 1/4", do vacuum to get an absolute pressure of 0.5 mm Hg. This way the vacuum will be created in indoor unit and union pipes.
- Remove the plugs and open the valves of outdoor unit.
- Verify leakage in couplings.
- Insulate pipes and service ports.

### CUT THE PIPE PROPERLY

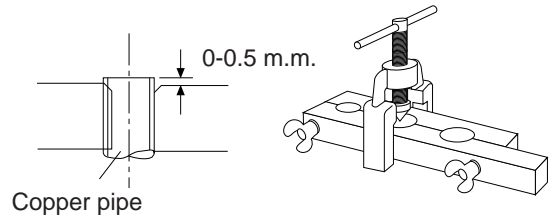
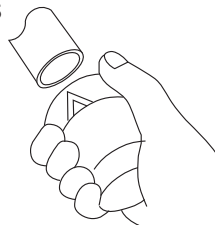


### MAKE A CORRECT FLARE



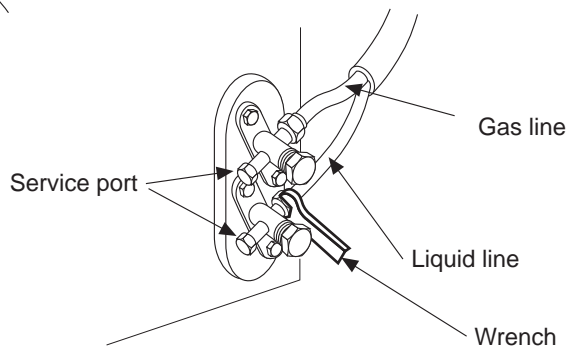
AVOID FROM METALIC DUST ENTERING INTO THE PIPE

CLEAN THE BURRS



**TIGHTENING TORQUE**  
Apply the tightening torque shown in the table.  
Insufficient tightening torque could cause refrigerant leak,  
excessive tightening torque will damage pipe flare.

PIPE DIAMETER	TIGHTENING TORQUE
3/8"	31-35 Nm
1/2"	50-55 Nm
3/4"	65-70 Nm



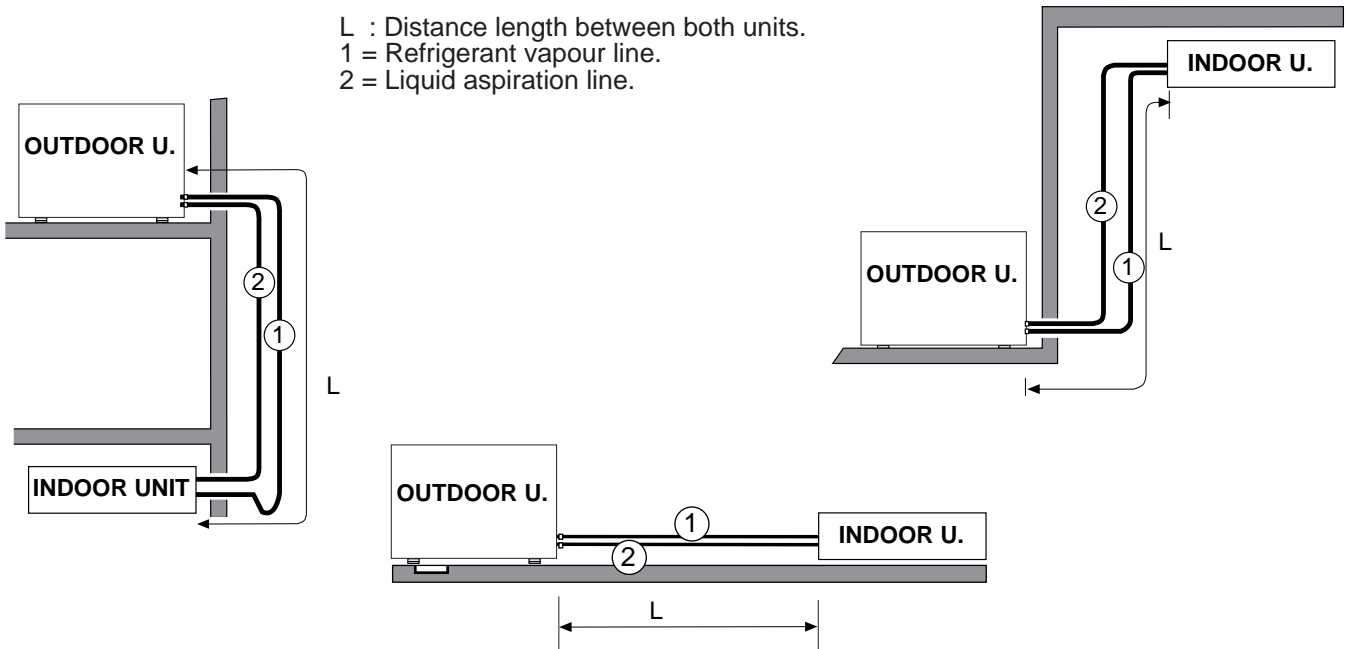


## REFRIGERANT CONNECTIONS

### DISTANCES BETWEEN UNITS

To locate the outdoor and the indoor units, refer to the following information.

L : Distance length between both units.  
 1 = Refrigerant vapour line.  
 2 = Liquid aspiration line.



MODEL		2,8	3	4	5
Tube size	Liquid	3/8"	3/8"	3/8"(1)	1/2"
	Vapour	5/8"(1)	3/4"	3/4"	3/4"
Refrigerant lines sizes	Máx.Vertical	15	15	15	15
Refrigerant lines sizes L	Total vertical + Horizontal	20	25	20	20
Max. number of bends		8	12	8	8

If the height length is greater than 5 meters, a siphon suction must be installed on the suction line every 5 meters to ensure that oil return to the compressor.

(1) Use the coupling fittings included in indoor unit for refrigerant connection with outdoor unit..

**NOTE: THE REFRIGERANT LINES GAS AND LIQUID, MUST BE INSULATED**

For other positions and longer lengths, consult the Lennox Technical Support Department for application assistance.

The following data will be obtained from that estimation:  
 Pipe dimensions, Siphon suction, Insulation, Refrigerant charge

## REFRIGERANT CONNECTIONS

### REFRIGERANT CHARGE

OUTDOOR UNITS TYPE KJF-K/ KJB



MODEL		2,8	3	4	5
COOLING ONLY	(gr.) (*)	1.650	2.500	2.600	2.600
	(gr.) (**)	5	5	5	5
	(gr.) (***)	30	30	30	55
HEAT PUMP	(gr.) (*)	1.775	2.500	2.800	3.500
	(gr.) (**)	5	5	5	5
	(gr.) (***)	45	45	45	105

OUTDOOR UNITS TIPO KCF-K/ KCB



MODEL		2,8	3	4	5
COOLING ONLY	(gr.) (*)	2.255	2.350	3.070	4.950
	(gr.) (**)	5	0	5	5
	(gr.) (***)	30	30	30	55
HEAT PUMP	(gr.) (*)	2.425	2.525	3.400	5.300
	(gr.) (**)	5	0/5	5	5/0
	(gr.) (***)	45	45	45	105

(\*) Refrigerant charge R-22 precharge from factory on the outdoor unit.

(\*\*) Meter of installation line where outdoor unit is precharged+charge also to the group

(\*\*\*) If line is different to meters indicated on table put more or less charge of refrigerant per meter indicated.

#### EXAMPLE:

If you need to install a group WING 5CFK, with distance of line between indoor and outdoor unit of 6 meter. The refrigerant charge R-407C needed in the installation is:

$$\begin{aligned}
 \text{Charge precharge on outdoor unit} &= 5300 \\
 \text{Charge per line } 55\text{gr/m} \times (6-5)\text{m} &= 55 \\
 \text{Total charge of the installation} &= \underline{5355} \text{ gr}
 \end{aligned}$$