

F45HC F50HC

Installation and maintenance instruction for
"UNIT COOLERS FOR COLD ROOMS".

安装及服务手册
冷库用冷风机



标准 – 产品符合欧盟针对机械设备的**2006/42/CE**生产技术指令并保持更新。

• **PED 97/23/CE**

• 电磁兼容符合**2004/108/CE**生产技术指令并保持更新。

• **低压标准** – 请参考**2006/95/CE**生产技术指令。

我们从来不允许在产品组装及测试完成之前宣布该产品或其部分已符合欧盟机械指令。

注意事项：不注意意外伤害警告可能导致人身伤害和机器设备损坏。

A) 搬运，安装和维修注意事项：

- 1 – 岗位操作人员必须拥有相关操作资格(起重机，叉车电梯等)。
- 2 – 使用劳动防护。
- 3 – 悬挂物下方禁止停留。

B) 操作电气线路注意事项

- 1 – 操作人员必须拥有相关岗位操作资格。
- 2 – 确认电气线路电源已经切断。
- 3 – 确认主要电源的开关已经切断，并且已经做好防护装置。

C) 操作集气管/分液器的压力配件注意事项：

- 1 – 操作人员必须拥有相关岗位操作资格。
- 2 – 确认供压管路是关闭的(没有压力)
- 3 – 当进行焊接作业时，确保火焰不直接对向机器设备(如果则需要做一些保护装置)

D) 产品质地：LUVE

塑料原料：聚乙烯、ABS、合成(橡胶)。

有色金属原料：铁、不锈钢、铜、铝(可能处理)。

制冷剂液体：按照设备有关指示充注。

E) 操作前揭下包裹在涂漆的金属零件表面的透明保护膜。

STANDARDS - The products are provided for incorporation in machines as defined in the EC Machine Directive 2006/42/CE and subsequent modifications.

• **PED 97/23/CE**

• Directive **2004/108/CE** and subsequent modifications. Electromagnetic compatibility.

• **Low tension** - Reference Directive **2006/95/CE**

However it is forbidden to operate our equipment in advance before the machine incorporating the products or making part thereof has been declared conforming to the EC Machine Directive.

PRECAUTIONS: Accident warning concerning possible personal injury or equipment damage due to inattention to the instructions.

A) For moving, installing and maintenance operations it is obligatory to:

- 1 - Employ authorized personnel only for using moving equipment (cranes, forklift elevators, etc.).
- 2 - Wear work gloves.
- 3 - Never stop below a suspended load.

B) Before proceeding with the electrical wiring it is obligatory to:

- 1 - Employ only authorized personnel
- 2 - Make sure the power line circuit is open
- 3 - Make sure the main switch on the general power panel is open and padlocked in this position.

C) Before proceeding with the collector/distributor connections it is obligatory to:

- 1 - Employ only authorized personnel
- 2 - Make sure the supply circuit is closed (no pressure).
- 3 - When performing welding operations, make sure the flame is not aimed toward the equipment (insert a shield if required).

D) DISPOSAL: LU-VE products are made of:

Plastic materials: polyethylene, ABS, rubber.

Ferrous materials: iron, stainless steel, copper, aluminium (possibly treated).

Refrigerant liquids: follow the instructions relevant to the equipment installation.

E) Remove the transparent protection film from painted metal parts.

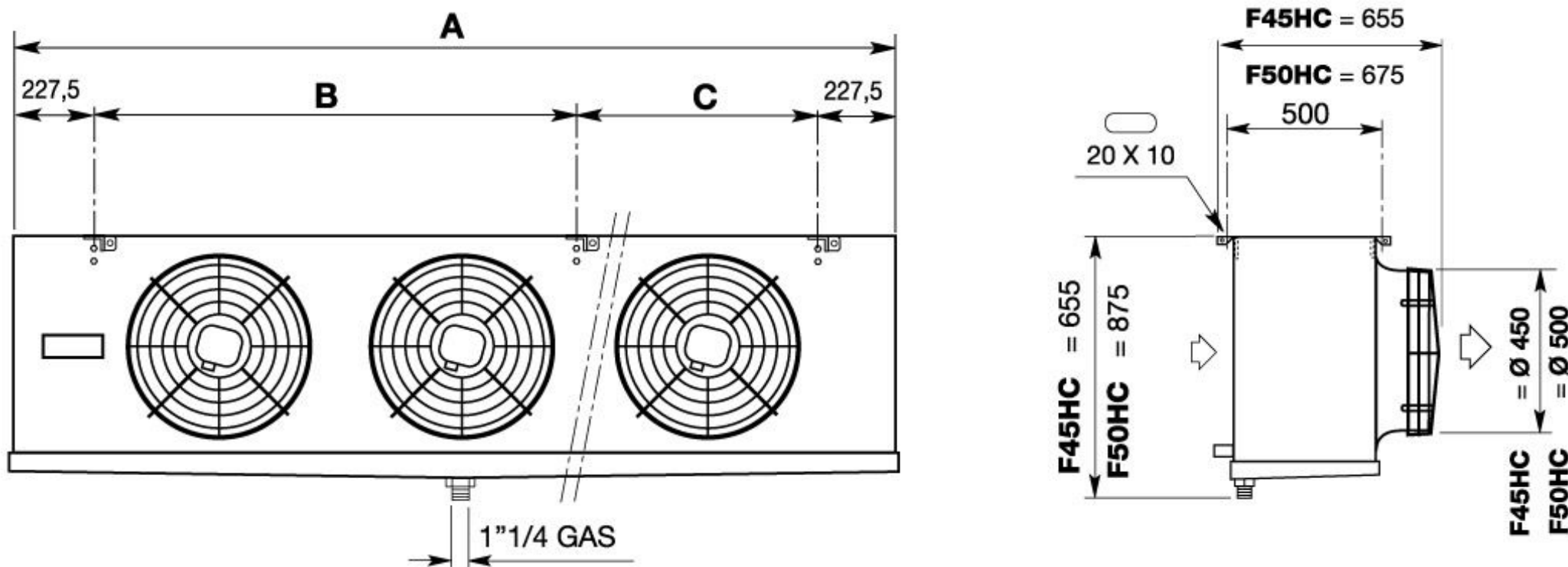


许可证编号：苏 XK06-015-00926

Look forward

Think LU-VE

F45HC - F50HC										
Type 型号	F45HC		1100-4	1102-4	1106-4	1108-4	1112-4	1114-4	1118-4	1120-4
			1200-6	1202-6	1206-6	1208-6	1212-6	1214-6	1218-6	1220-6
			1300-7	1302-7	1306-7	1308-7	1312-7	1314-7	1318-7	1320-7
			1400-10	1402-10	1406-10	1408-10	1412-10	1414-10	1418-10	1420-10
Type 型号	F50HC		1600-4	1602-4	1606-4	1608-4	1612-4	1614-4	1618-4	1620-4
			1700-6	1702-6	1706-6	1708-6	1712-6	1714-6	1718-6	1720-6
			1800-7	1802-7	1806-7	1808-7	1812-7	1814-7	1818-7	1820-7
			1900-10	1902-10	1906-10	1908-10	1912-10	1914-10	1918-10	1920-10
Fans 风机	F45HC ø 450 F50HC ø 500	mm x n°	1	1	2	2	3	3	4	4
Dimensions 产品尺寸	A	mm	1285	1285	2085	2085	2885	2885	3685	3685
	B	mm	830	830	1630	1630	2430	2430	1600	1600
	C	mm	---	---	---	---	---	---	1630	1630



管道连接 / CONNECTIONS

Before to proceed with the collectors/distributors connections it is mandatory to comply as follows:

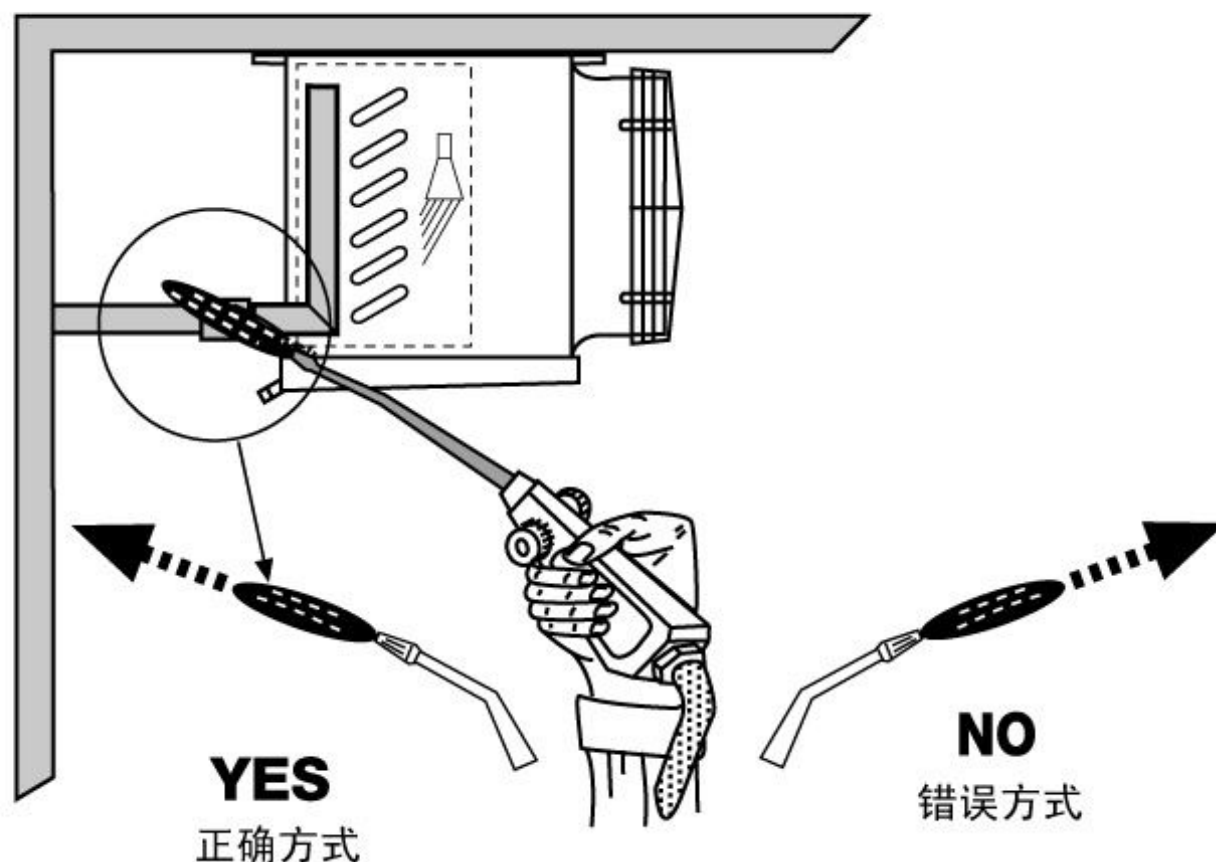
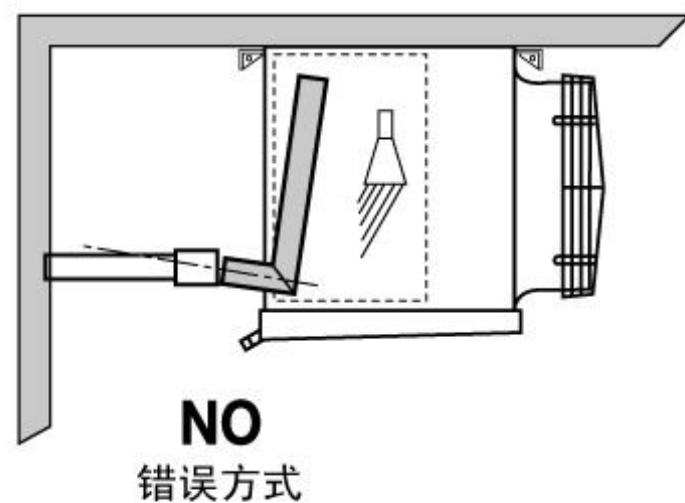
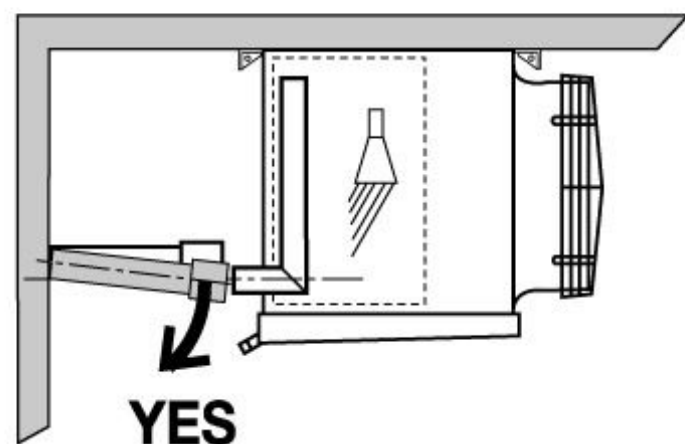
Make sure the supply circuit is closed (no pressure).

When performing welding operations, make sure the flame nozzle is not aimed toward the equipment (insert a shield of required).

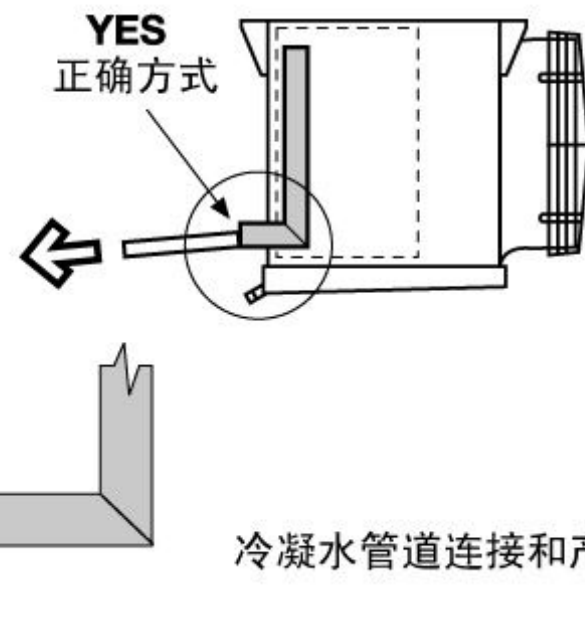
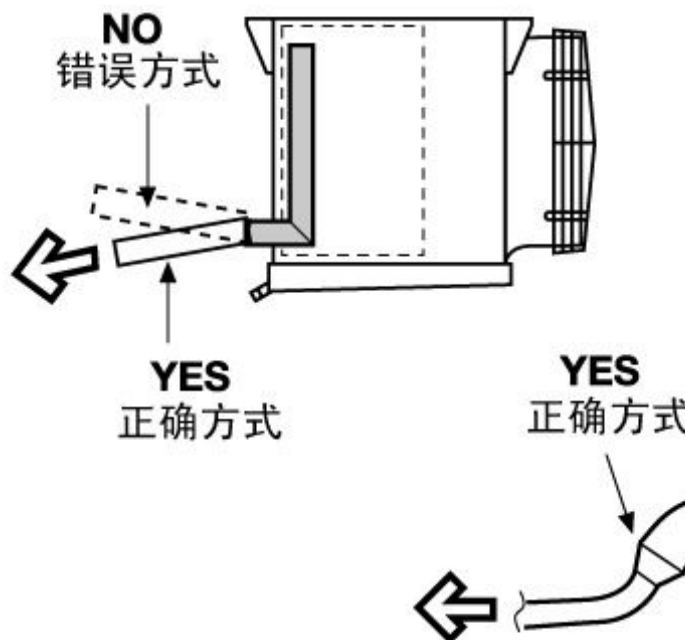
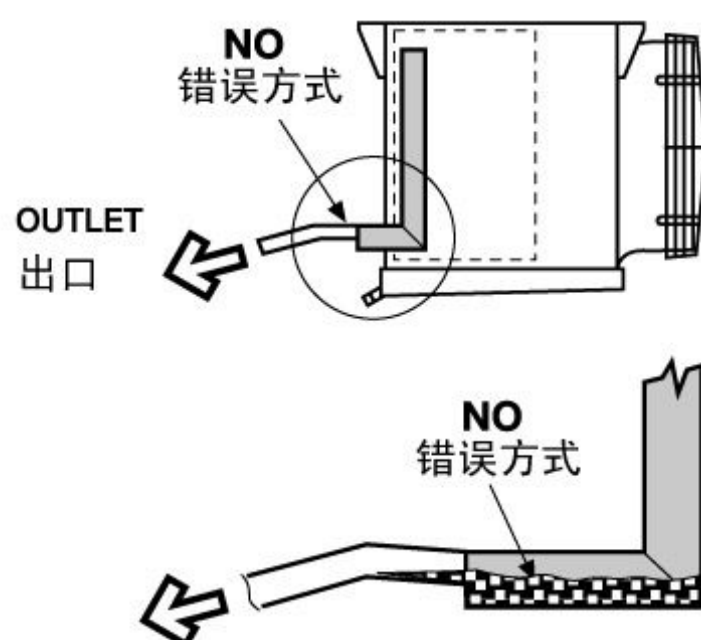
操作集气管和分液器之前必须准照以下规则:

确认供压管路是关闭的（系统中没有压力）当进行焊接作业时，确保火焰不直接对向机器设备（如果则需要做一些保护装置）。

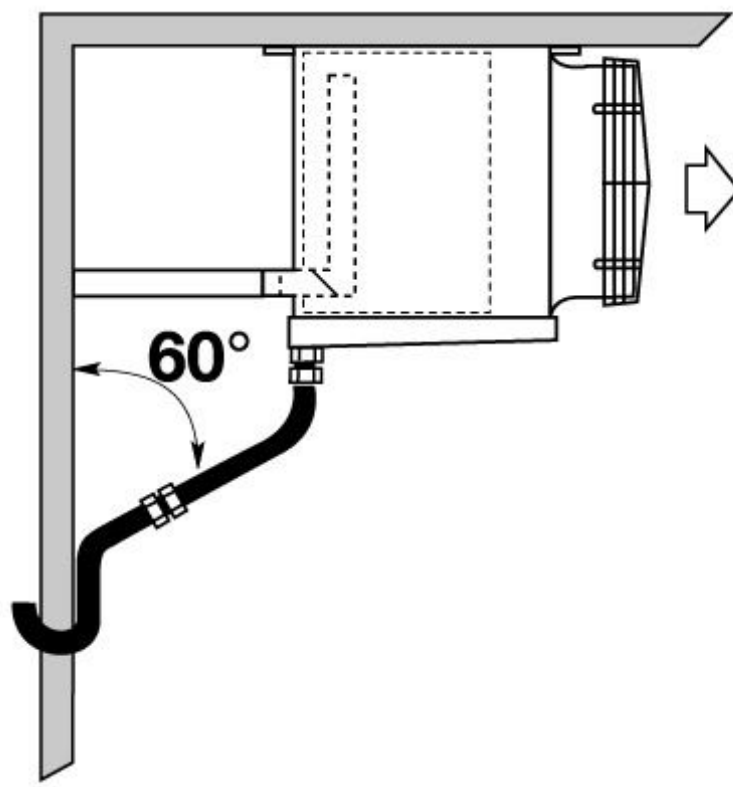
Do not adapt headers position to the line.
请不要参考错误的安装接头的方式



F45HC ...G
F50HC ...G



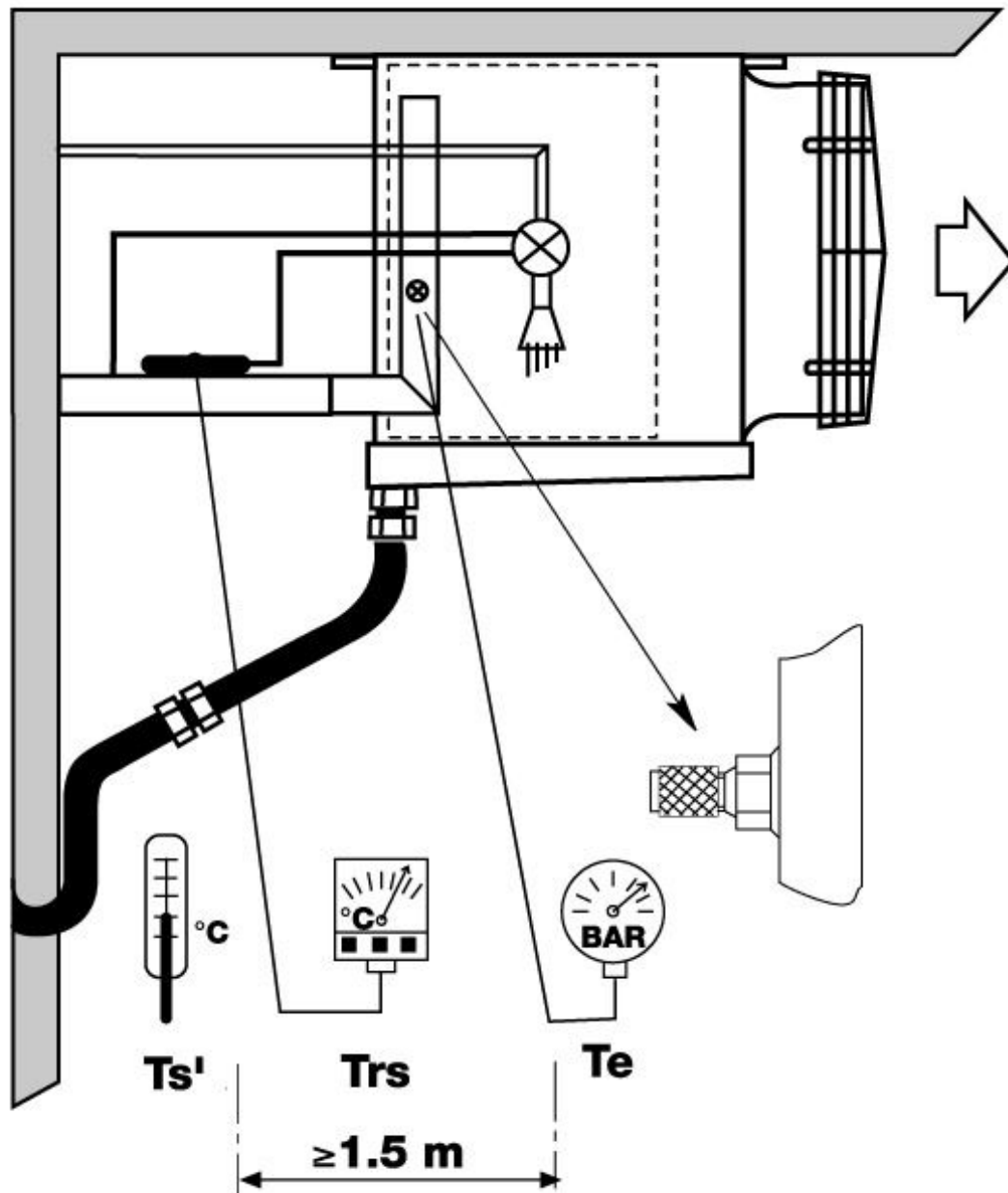
冷凝水管道连接和产品部分装置



WATER DRAIN TUBING CONNECTION: fit a 60° elbow, to the drain tray.

冷凝水管道连接：管道与墙壁夹角小于60°。

产品检查 / COOLER CAPACITY CHECKS



Ts' - Cold room air inlet temperature to the unit.

Te - Evaporating temperature, relating to the refrigerant pressure on the unit cooler outlet.

Trs - Refrigerant superheat temperature, on suction line near thermostatic valve bulb.

N.B. - For optimum unit cooler performance the superheat ($Trs - Te$) should not be higher than $0,7 \times (Ts' - Te)$.

Ts'—冷库房室内温度/冷风机进风口温度。

Te—蒸发温度，与冷风机出口制冷剂压力有关。

Trs—制冷剂过热温度，靠近控制温度的球阀处。

The thermostatic valve fitted must be correctly sized for the installation conditions and adjusted for correct system operation.

N.B. Keep the superheat as low as possible to obtain maximum unit cooler performance.

备注：过热度 ($Trs - Te$) 高于 $0,7 \times (Ts' - Te)$ 时,会影响冷风机性能,所以尽可能的降低过热度以提高冷风机性能。

风 扇 电 机 / FAN MOTORS									
Type 型号	F45HC	1100-4 1200-6 1300-7 1400-10	1102-4 1202-6 1302-7 1402-10	1106-4 1206-6 1306-7 1406-10	1108-4 1208-6 1308-7 1408-10	1112-4 1212-6 1312-7 1412-10	1114-4 1214-6 1314-7 1414-10	1118-4 1218-6 1318-7 1418-10	1120-4 1220-6 1320-7 1420-10
Fans 风机	Ø 450 x n°	1	1	2	2	3	3	4	4
Type / 型号		A4E450-BG-09-51 (1~230 V 50 Hz / 1~230 V 60 Hz)							
Motorleistung x 1 电机功率 x 1	1~230 V 50 Hz	N = 520 W N = 2,5 A		M = 560 W M = 2,7 A	 S = 5,6 A			
	1~230 V 60 Hz	N = 625 W N = 3,5 A		M = 635 W M = 3,55 A	 S = 4,2 A			

风扇电机电气 / MOTORS CONNECTION

Before to proceed with electrical wirings it is mandatory to comply as fallow :

•Make sure the power line circuit is open.

操作电气设备前必须遵照以下规则

•确认电源被切断

1 ~ 230 V 50-60 Hz

STANDARD

标准配置

风扇电机 / FAN MOTORS									
Type 型号	F50HC	1600-4 1700-6 1800-7 1900-10	1602-4 1702-6 1802-7 1902-10	1606-4 1706-6 1806-7 1906-10	1608-4 1708-6 1808-7 1908-10	1612-4 1712-6 1812-7 1912-10	1614-4 1714-6 1814-7 1914-10	1618-4 1718-6 1818-7 1918-10	1620-4 1720-6 1820-7 1920-10
Fans 风机	Ø 500 x n°	1	1	2	2	3	3	4	4
Type / 型号		FE 050-VDA-41.2 (*)							(3~400 V 50 Hz / 3~400 V 60 Hz)
Connection 电气连接		△				Y			
Motorleistung x 1 电机功率 x 1	3~400 V 50 Hz	I	N = 780 W N = 1,7 A		M = 860 W M = 1,8 A		N = 610 W N = 1,1 A		M = 690 W M = 1,2 A
		IA	N = 8,2 A		---		N = 2,5 A		---
Connection 电气连接		△				Y			
Motorleistung x 1 电机功率 x 1	3~400 V 60 Hz	I	N = 1250 W N = 1,95 A		M = 1250 W M = 2,2 A		N = 720 W N = 1,05 A		M = 720 W M = 1,1 A
		IA	N = 9,4 A		---		N = 2,4 A		---

(*)

Overload protected motors T K/ 电机具有过载保护功能

IA = Starting current / 启动电流

N = 无结霜运行电流

Clean coil

M = 结霜运行电流

Frosted coil

S = 启动电流

Starting current

风扇电机电气 / MOTORS CONNECTION

Before to proceed with electrical wirings it is mandatory to comply as fallow make sure the power line circuit is open.

在操作电气连接前请确认电气线路的电源处于断开状态。

High speed - connection △

高转速连接方式

Low speed - connection Y

低转速连接方式

TK TK W2 U1 U2 V1 V2 W1

L1 L2 L3 PE

3 ~ 400 V 50 Hz

TK TK W2 U1 U2 V1 V2 W1

L1 L2 L3 PE

3 ~ 400 V 50 Hz

6

F45HC...E

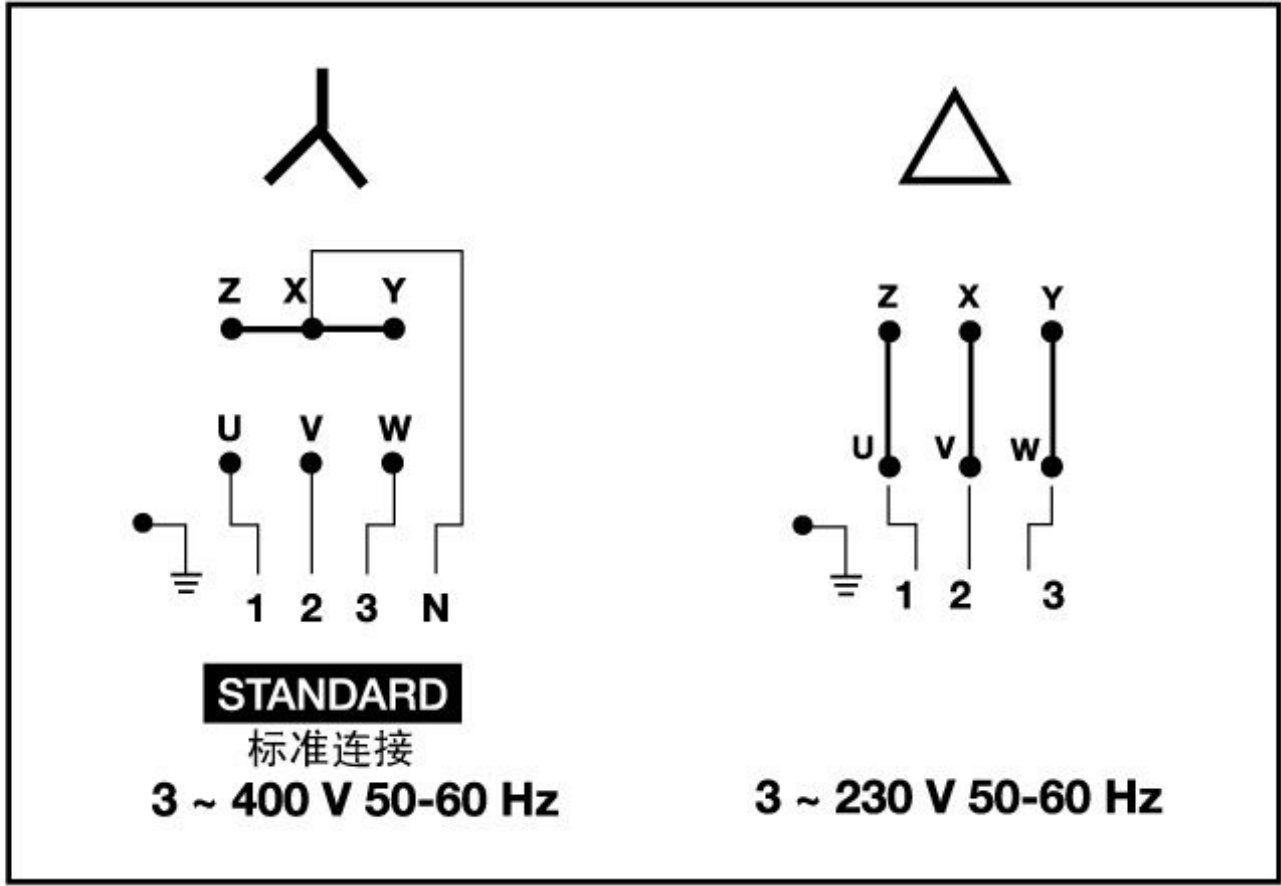
F45HC...E		1100-4 1200-6 1300-7 1400-10	1102-4 1202-6 1302-7 1402-10	1106-4 1206-6 1306-7 1406-10	1108-4 1208-6 1308-7 1408-10	1112-4 1212-6 1312-7 1412-10	1114-4 1214-6 1314-7 1414-10	1118-4 1218-6 1318-7 1418-10	1120-4 1220-6 1320-7 1420-10
Fans 风机	N°	1	1	2	2	3	3	4	4
盘管电加热管 / Electric heaters COIL									
(1)	N°	3	3	3	3	3	3	3	3
	Type / 型号	RCL8	RCL8	RCL16	RCL16	RCL24	RCL24	RCL32	RCL32
	230 V (W x 1)	850	850	1585	1585	2300	2300	3020	3020
	Tot. W	2550	2550	4755	4755	6900	6900	9060	9060
(2)	N°		2	---	2	---	2	---	2
	Type / 型号	---	FCL8	---	FCL16	---	FCL24	---	FCL32
	230 V (W x 1)	---	850	---	1585	---	2300	---	3020
	Tot. W	---	1700	---	3170	---	4600	---	6040
集水盘电加热管 / Electric heaters DRAIN TRAY									
(3)	N°	1	1	1	1	1	1	1	1
	Type / 型号	FCL8	FCL8	FCL16	FCL16	FCL24	FCL24	FCL32	FCL32
	230 V W	850	850	1585	1585	2300	2300	3020	3020
	(1 + 2 + 3) TOT. W	3400	5100	6340	9510	9200	13800	12080	18120

电气布线 / CONNECTION WIRING

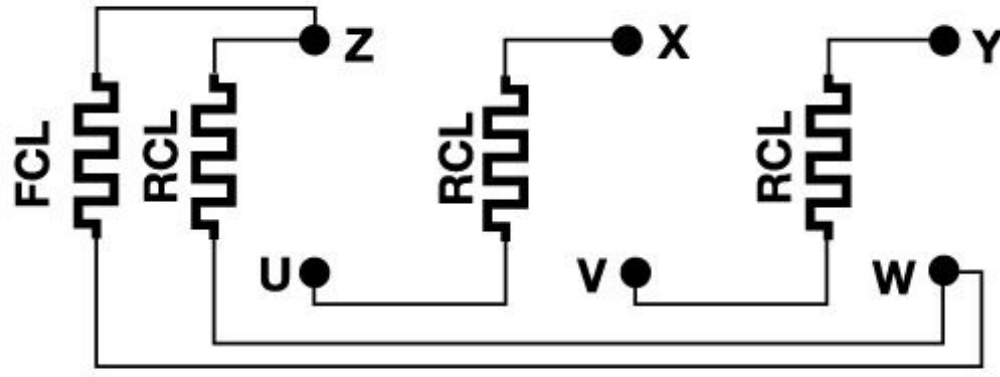
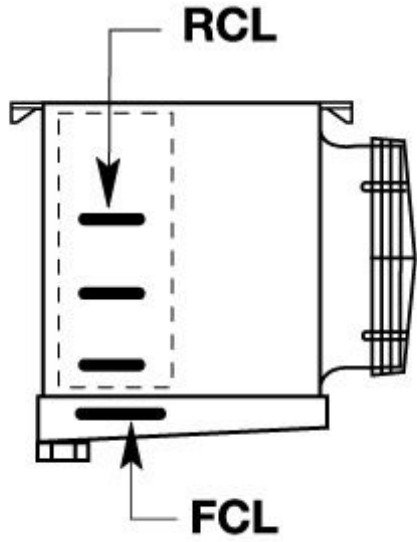


Before to proceed with electrical wirings it is mandatory to comply as fallow make sure the power line circuit is open.

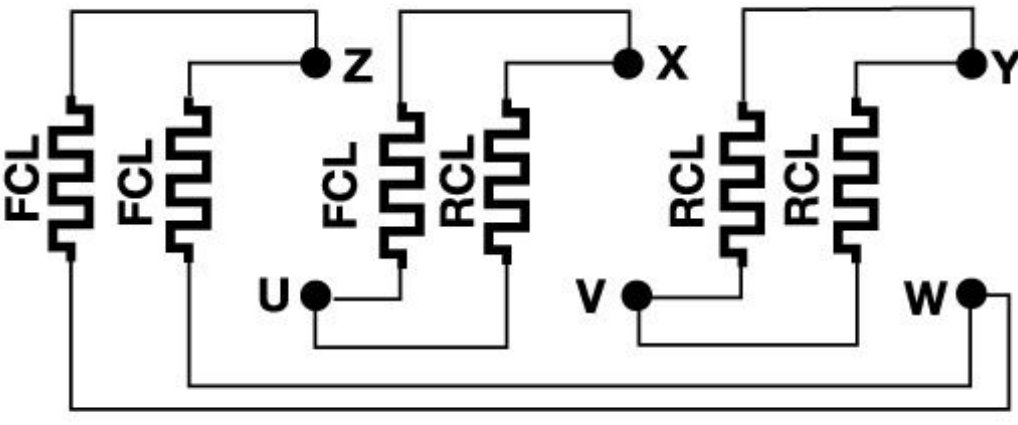
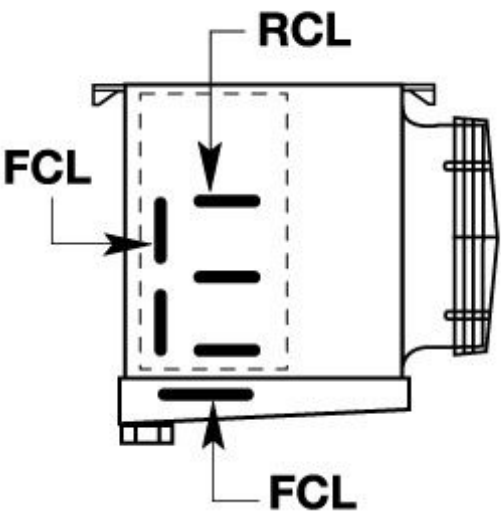
在操作电气连接前请确认电气线路的电源处于断开状态。



Code 3/0/1



Code 3/2/1



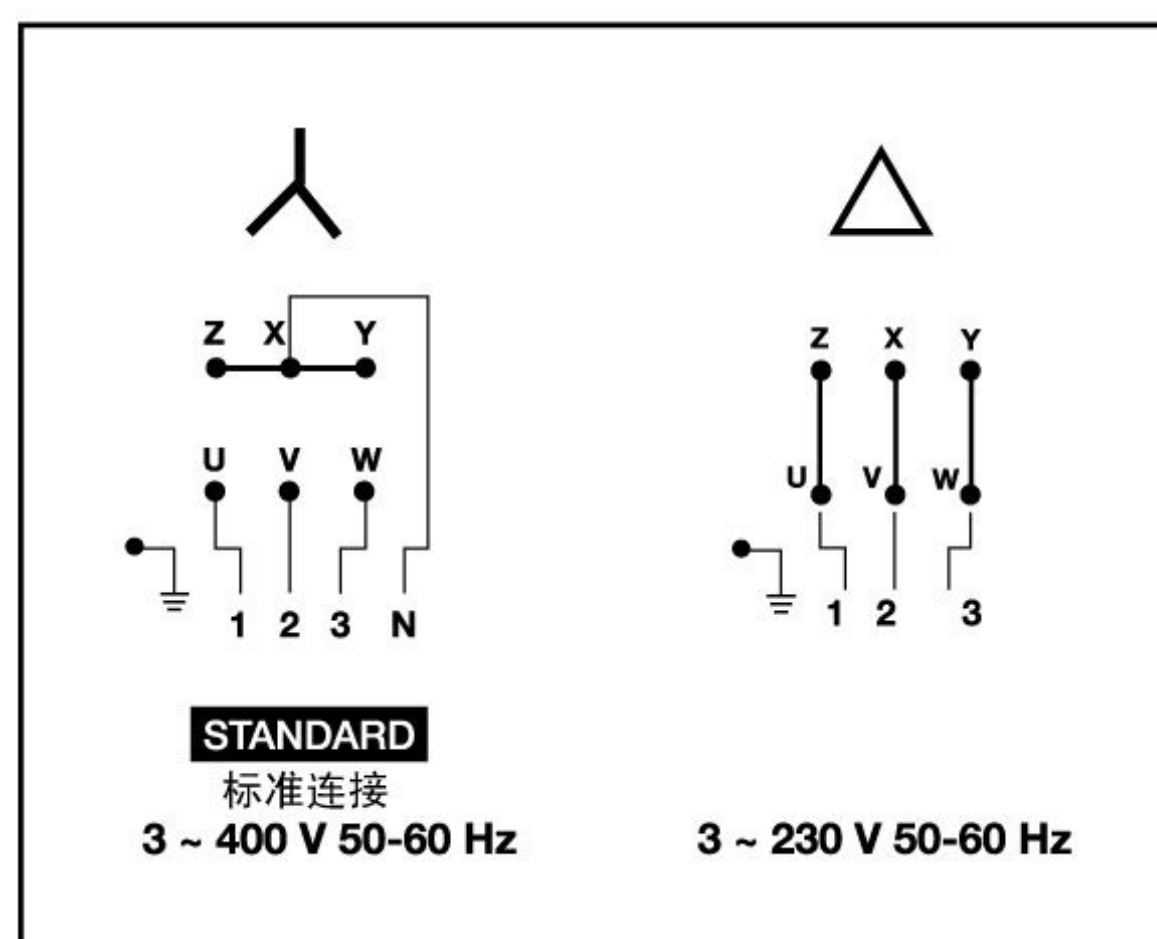
F50HC...E

F50HC...E		1600-4 1700-6 1800-7 1900-10	1602-4 1702-6 1802-7 1902-10	1606-4 1706-6 1806-7 1906-10	1608-4 1708-6 1808-7 1908-10	1612-4 1712-6 1812-7 1912-10	1614-4 1714-6 1814-7 1914-10	1618-4 1718-6 1818-7 1918-10	1620-4 1720-6 1820-7 1920-10
Fans 风机	N°	1	1	2	2	3	3	4	4
盘管电加热管 / Electric heaters COIL									
(1)	N°	4	4	4	4	4	4	4	4
	Type / 型号	RCL8	RCL8	RCL16	RCL16	RCL24	RCL24	RCL32	RCL32
	230 V (W x 1)	850	850	1585	1585	2300	2300	3020	3020
	Tot. W	3400	3400	6340	6340	9200	9200	12080	12080
(2)	N°		2	---	2	---	2	---	2
	Type / 型号	---	FCL8	---	FCL16	---	FCL24	---	FCL32
	230 V (W x 1)	---	850	---	1585	---	2300	---	3020
	Tot. W	---	1700	---	3170	---	4600	---	6040
冷凝水盘电加热管 / Electric heaters DRAIN TRAY									
(3)	N°	1	1	1	1	1	1	1	1
	Type / 型号	FCL8	FCL8	FCL16	FCL16	FCL24	FCL24	FCL32	FCL32
	230 V W	850	850	1585	1585	2300	2300	3020	3020
	(1 + 2 + 3) TOT. W	4250	5950	7925	11095	11500	16100	15100	21140
电气布线 / CONNECTION WIRING									
Code		4/0/1	4/2/1	4/0/1	4/2/1	4/0/1	4/2/1	4/0/1	4/2/1

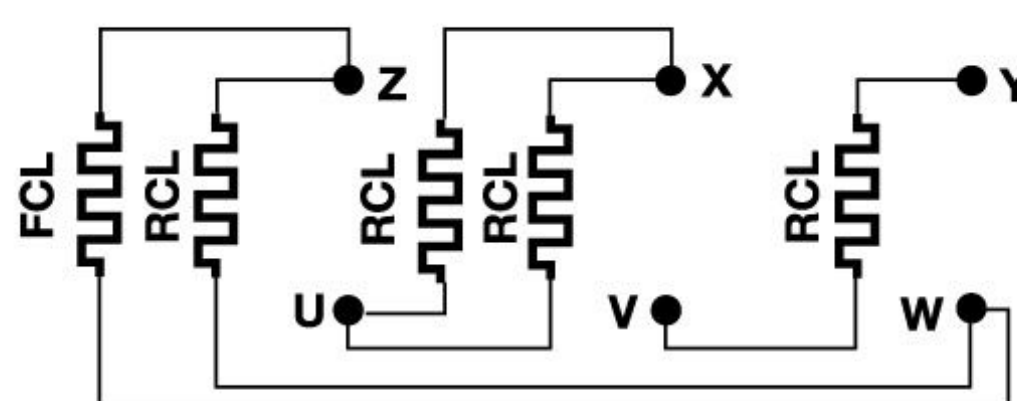
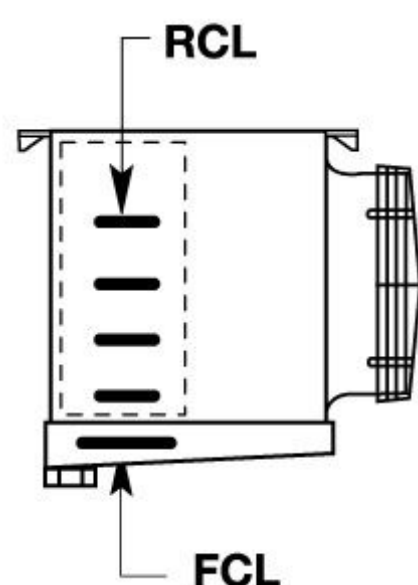


Before to proceed with electrical wirings it is mandatory to comply as fallow make sure the power line circuit is open.

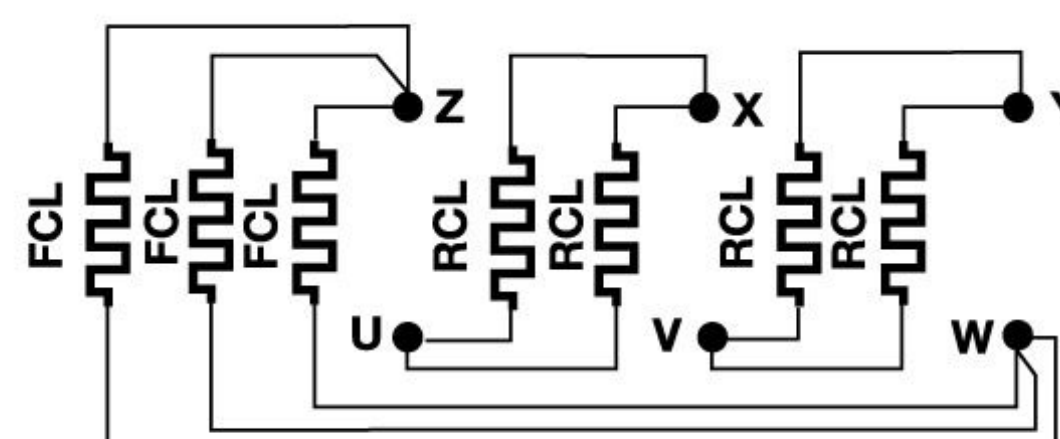
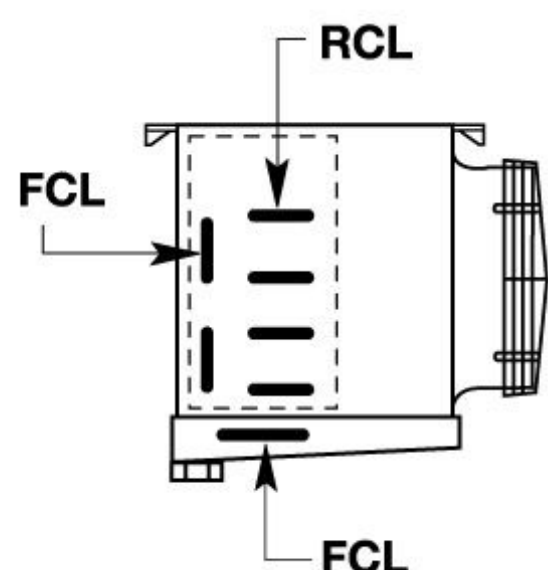
在操作电气连接前请确认电气线路的电源处于断开状态。



Code 4/0/1



Code 4/2/1



Before any service operations are performed switch off the electricity supply to the cooler.

Coil heaters RCL-FCL must be withdrawn from the tubed holes.

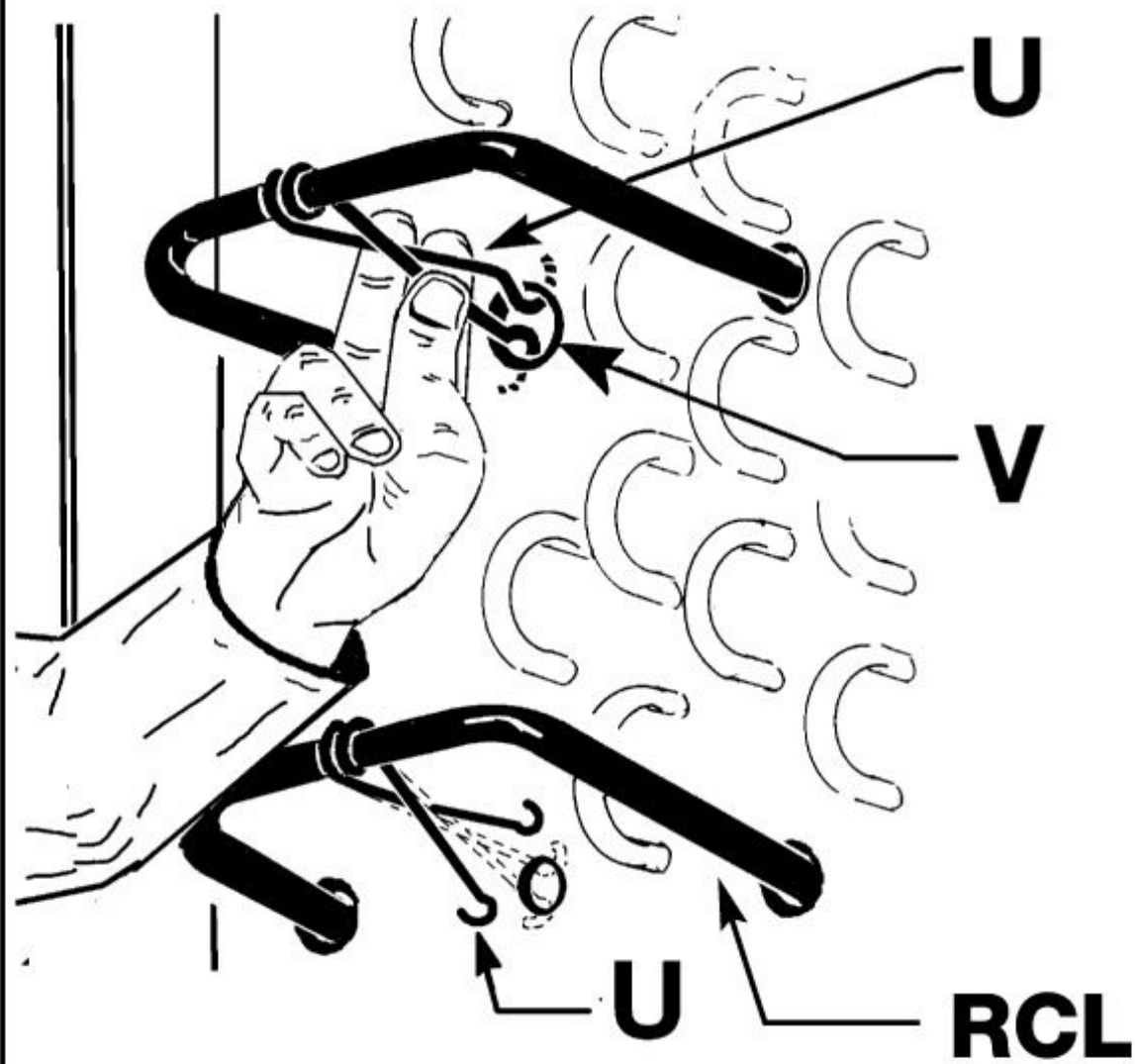
The fixing clip (U) must be removed and reassembled on the new electric heater in the correct position (V) to avoid movement.



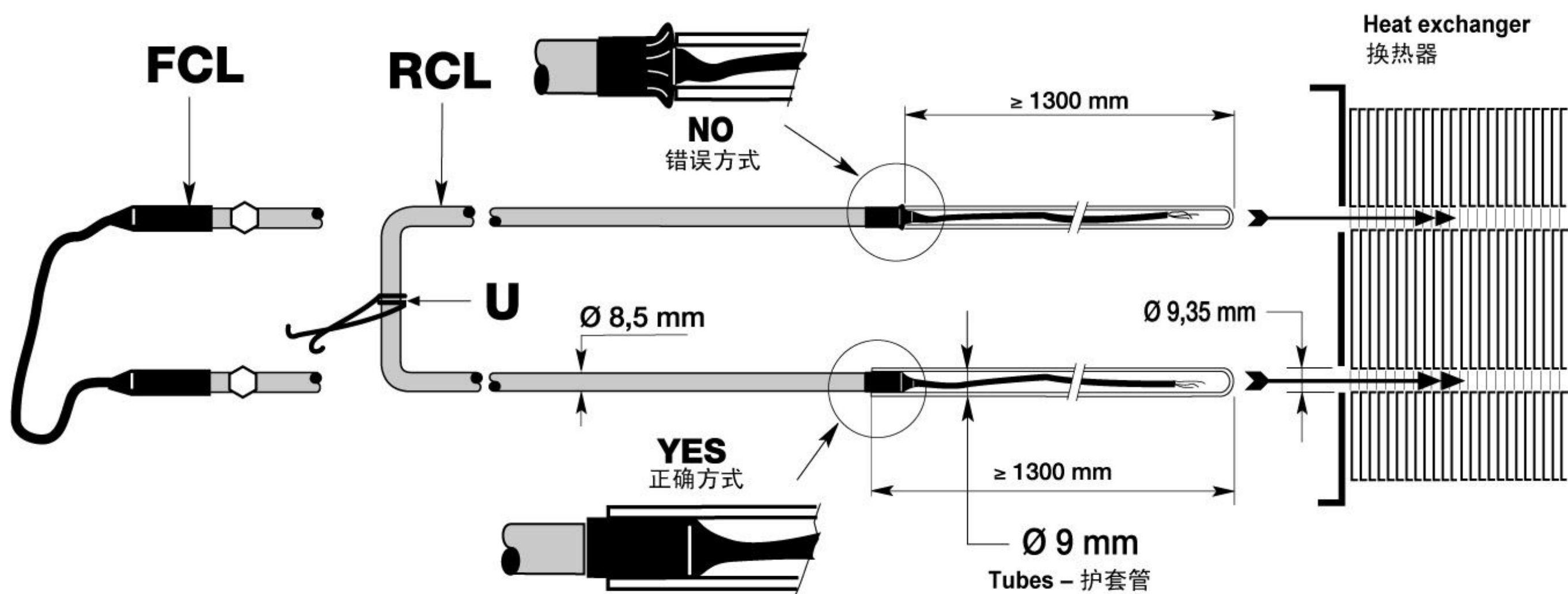
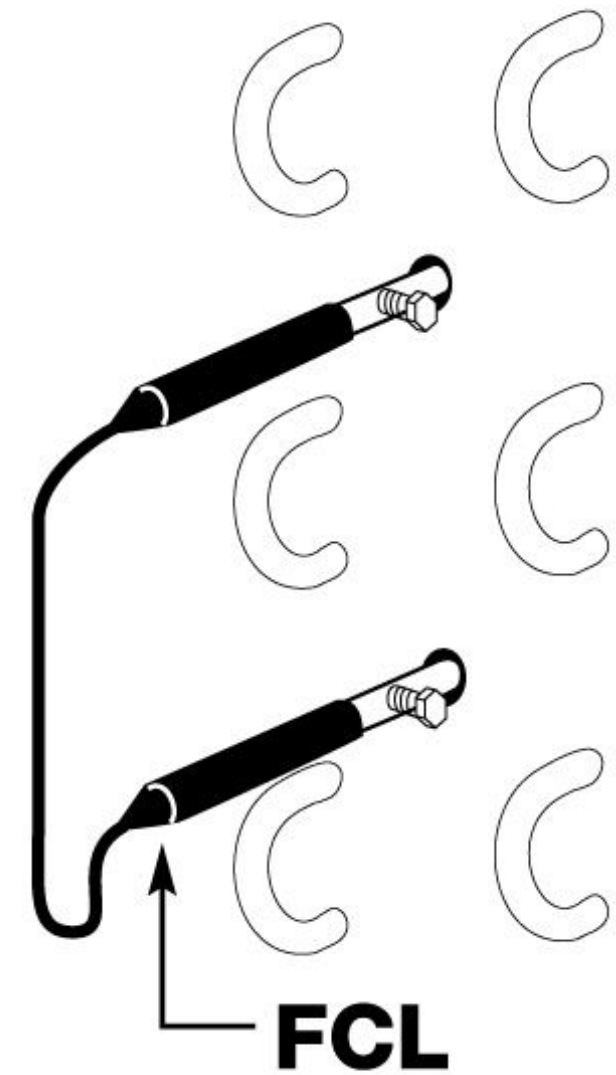
在操作电气连接前请确认制冷设备的电源处于断开状态。

首先将盘管电加热管RCL-FCL从安装的孔位中取出。

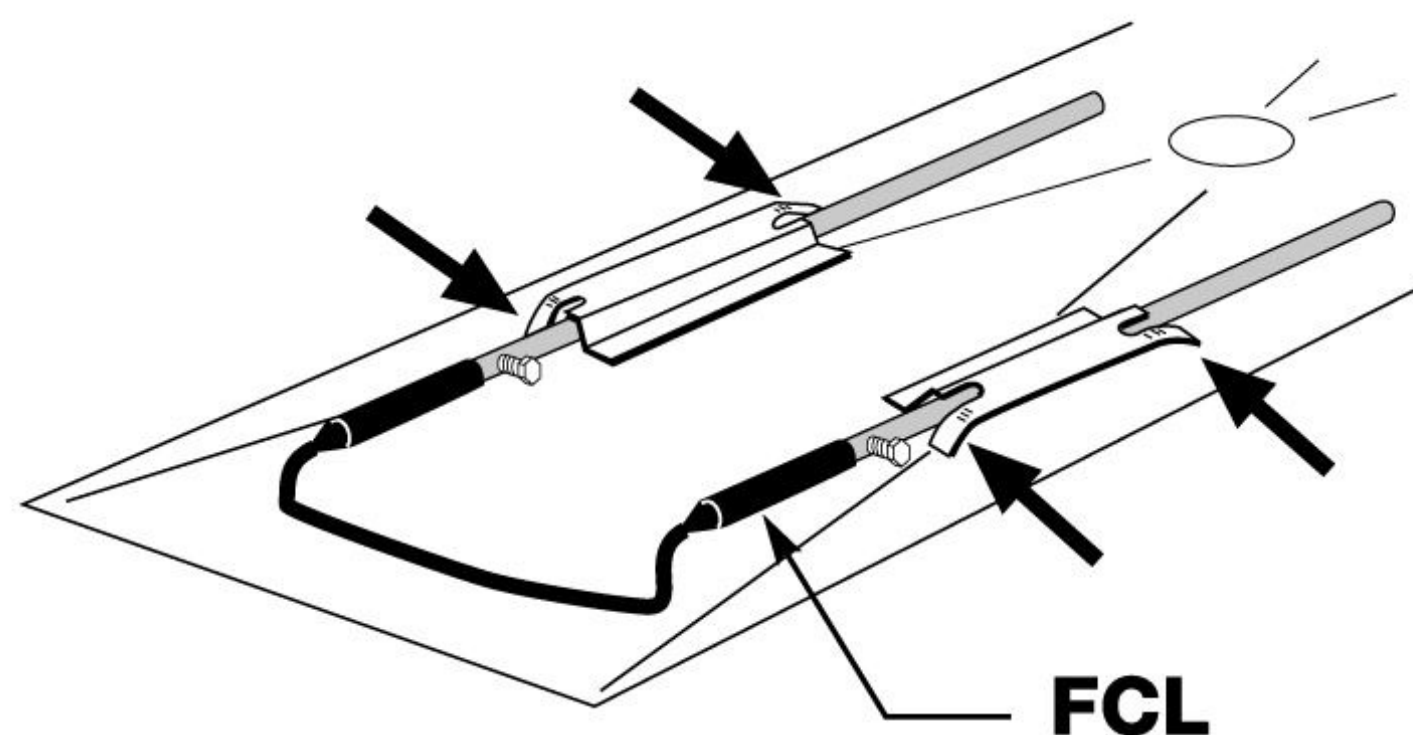
将固定夹 (U) 取下，安装在新的位置 (V) 以固定新的加热管。



COIL substitution electric heaters
盘管电加热管更换



Electric heaters (DRAIN TRAY)
电加热管 (冷凝水盘)



F45HC...G - F50HC...G

F45HC...G	1100-4	1102-4	1106-4	1108-4	1112-4	1114-4	1118-4	1120-4
	1200-6	1202-6	1206-6	1208-6	1212-6	1214-6	1218-6	1220-6
	1300-7	1302-7	1306-7	1308-7	1312-7	1314-7	1318-7	1320-7
	1400-10	1402-10	1406-10	1408-10	1412-10	1414-10	1418-10	1420-10
F50HC...G	1600-4	1602-4	1606-4	1608-4	1612-4	1614-4	1618-4	1620-4
	1700-6	1702-6	1706-6	1708-6	1712-6	1714-6	1718-6	1720-6
	1800-7	1802-7	1806-7	1808-7	1812-7	1814-7	1818-7	1820-7
	1900-10	1902-10	1906-10	1908-10	1912-10	1914-10	1918-10	1920-10
风机 / Fans N°	1	1	2	2	3	3	4	4
冷凝水盘电热管 / Electric heaters DRAIN TRAY								
N°	1	1	1	1	1	1	1	1
Mod. / Type	FCL8	FCL8	FCL16	FCL16	FCL24	FCL24	FCL32	FCL32
230 V W	850	850	1585	1585	2300	2300	3020	3020

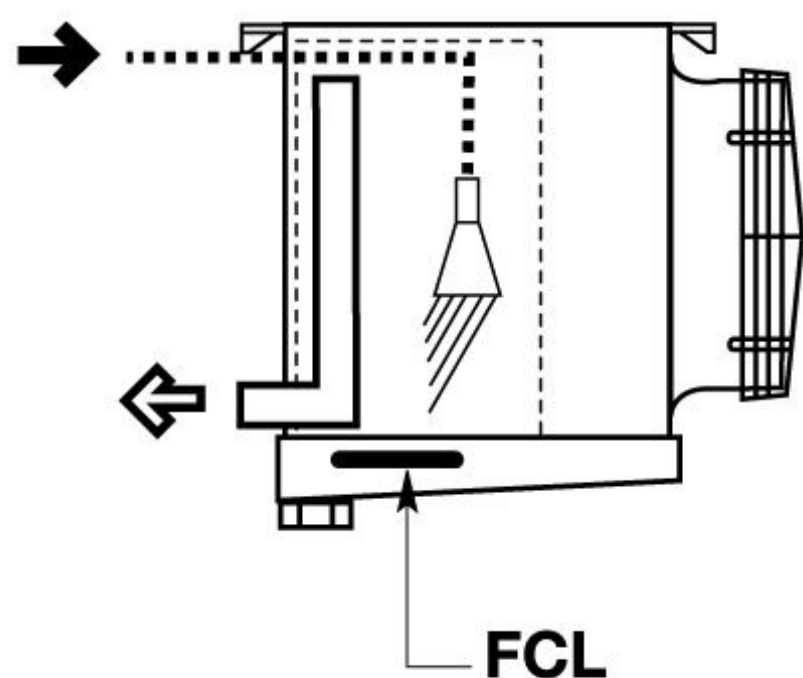


Before to proceed with electrical wirings it is mandatory to comply as fallow make sure the power line circuit is open.

在操作电气连接前请确认电气线路的电源处于断开状态。

STANDARD

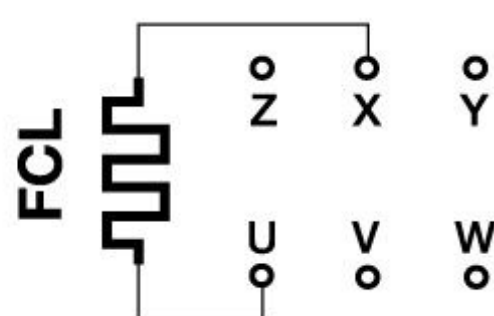
标准配置



FCL

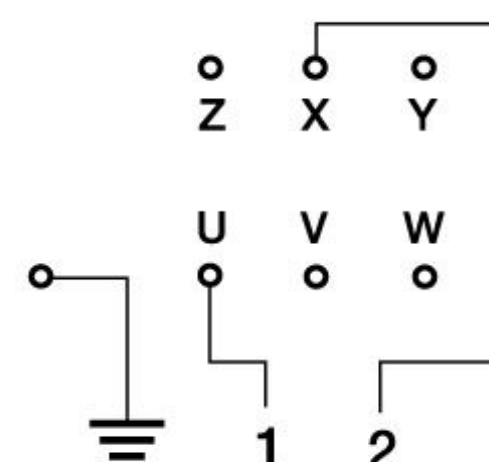
电加热管
HEATERS CONNECTION

电加热管电气连接
HEATERS CONNECTION



STANDARD

标准连接



[illegible]



All technical characteristics are stated in the products catalogues. 有关的详细技术参数说明请参考产品目录。



All rangers F45HC-F50HC are EUROVENT certified.
Certified data:
• Capacities (ENV328)
• Air quantities
• Motor power consumption
• External surfaces

F45HC-F50HC产品均通过EUROVENTRET认证
认证及执行标准 GB/T 25129- 2010/JB/ T 7659.3-1995
• Capacities (ENV328)
• Air quantities
• Motor power consumption
• External surfaces

Branches:

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LU-VE CONTARDO PACIFIC PTY.LTD.
3074 Australia
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