

F27HC

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

安装及服务手册
冷库用冷风机

ENGLISH

中文



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

Fig. 1

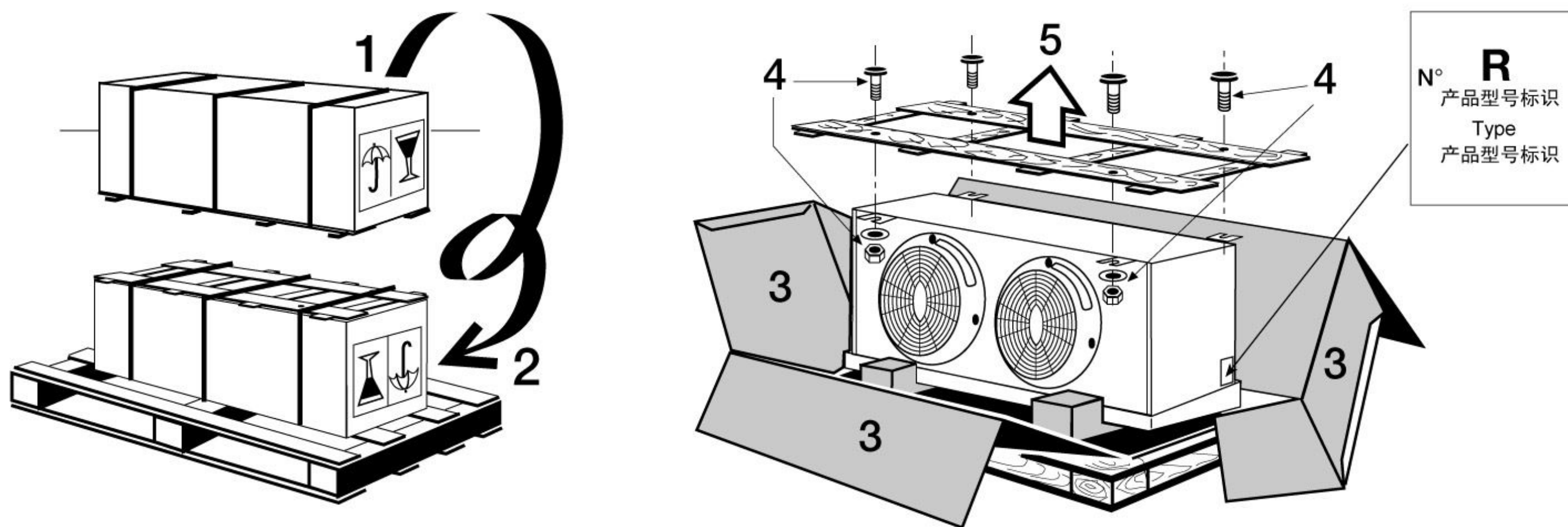
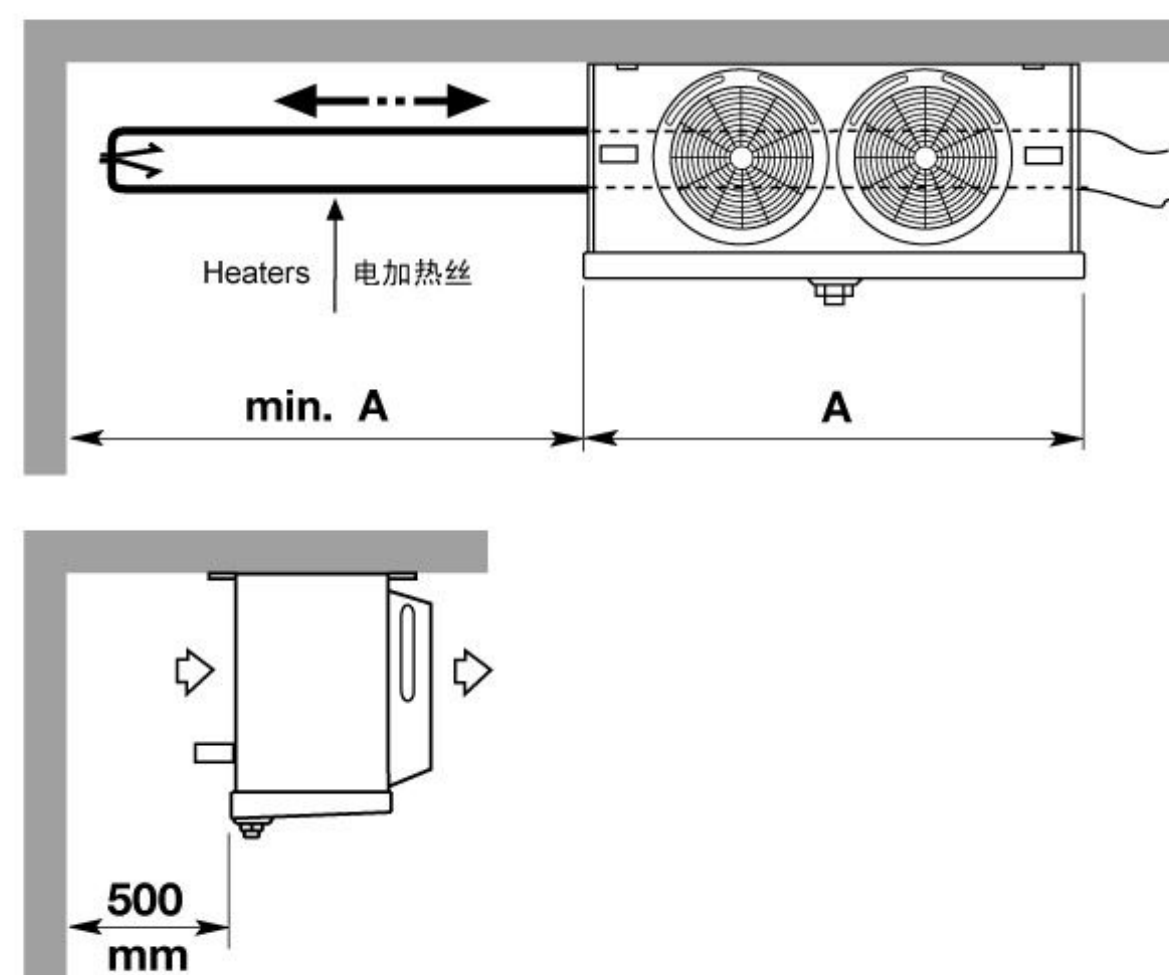
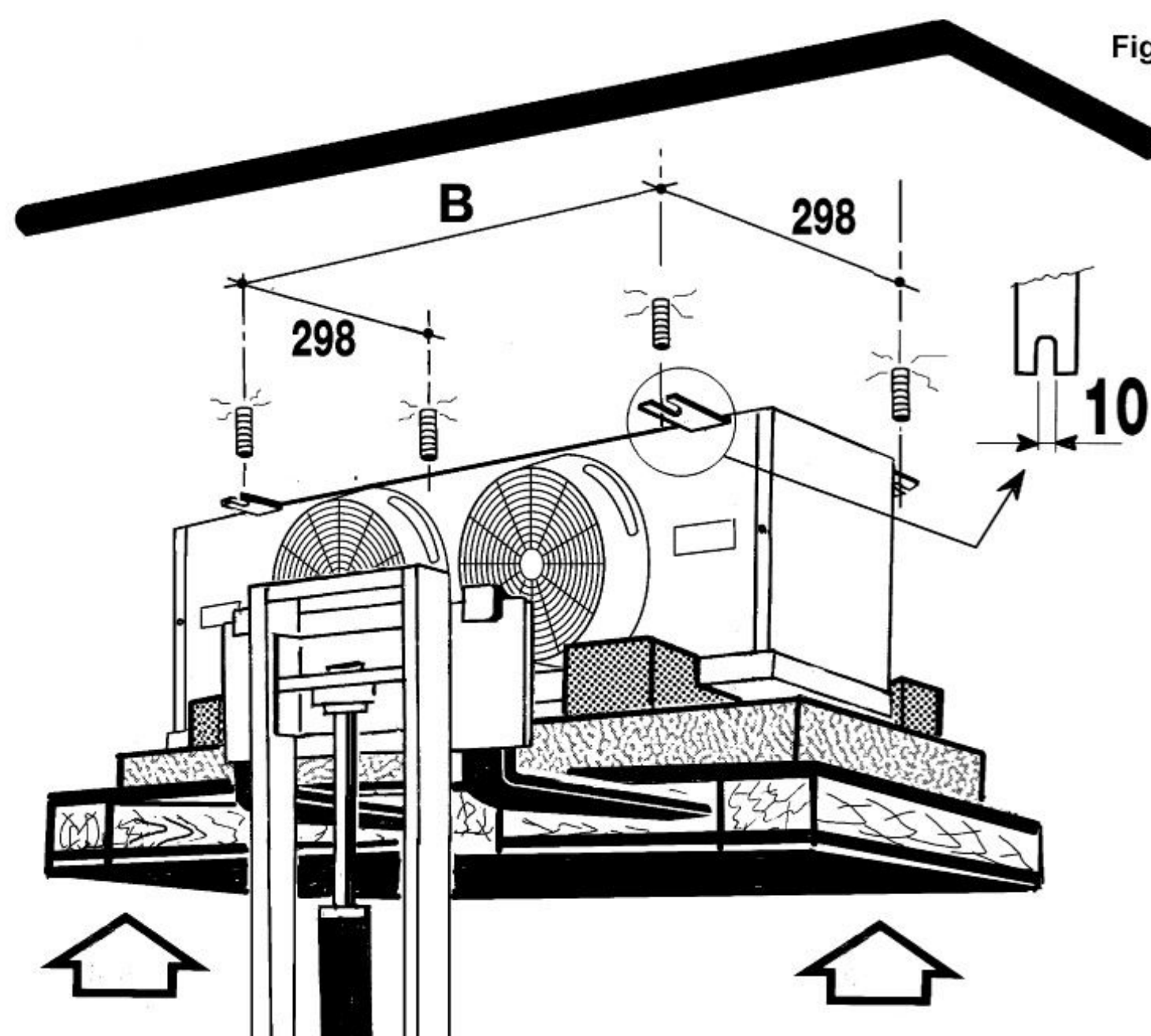
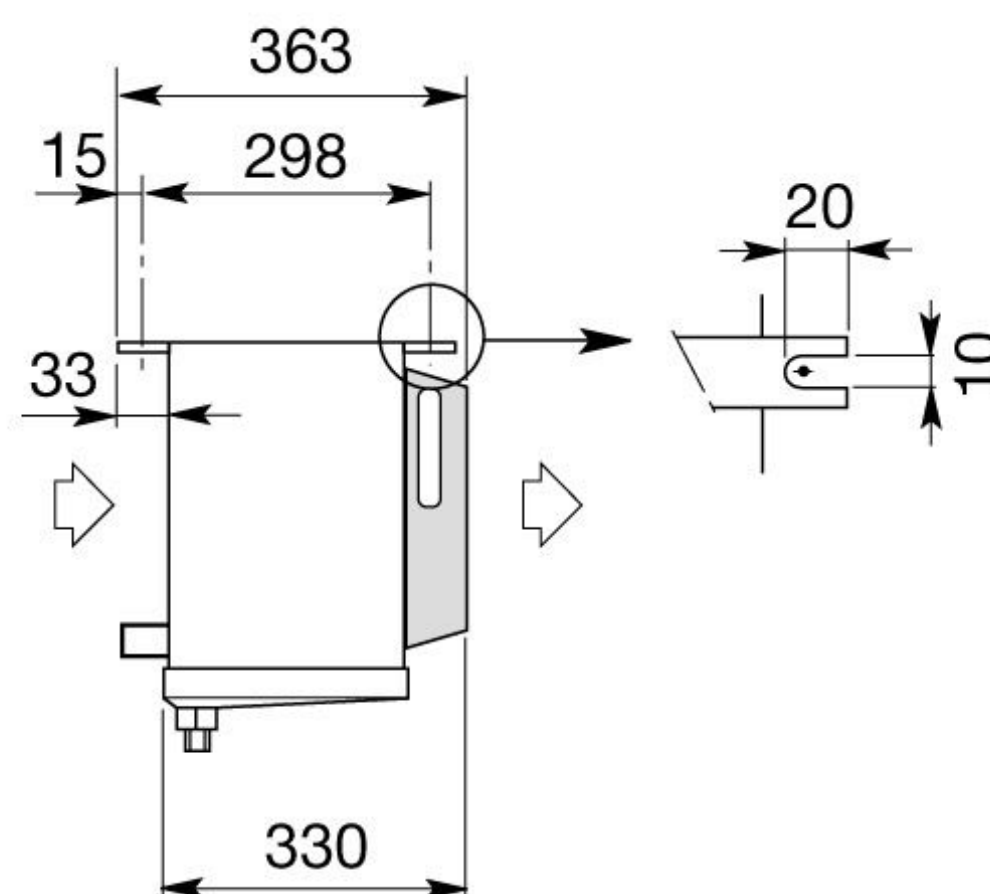
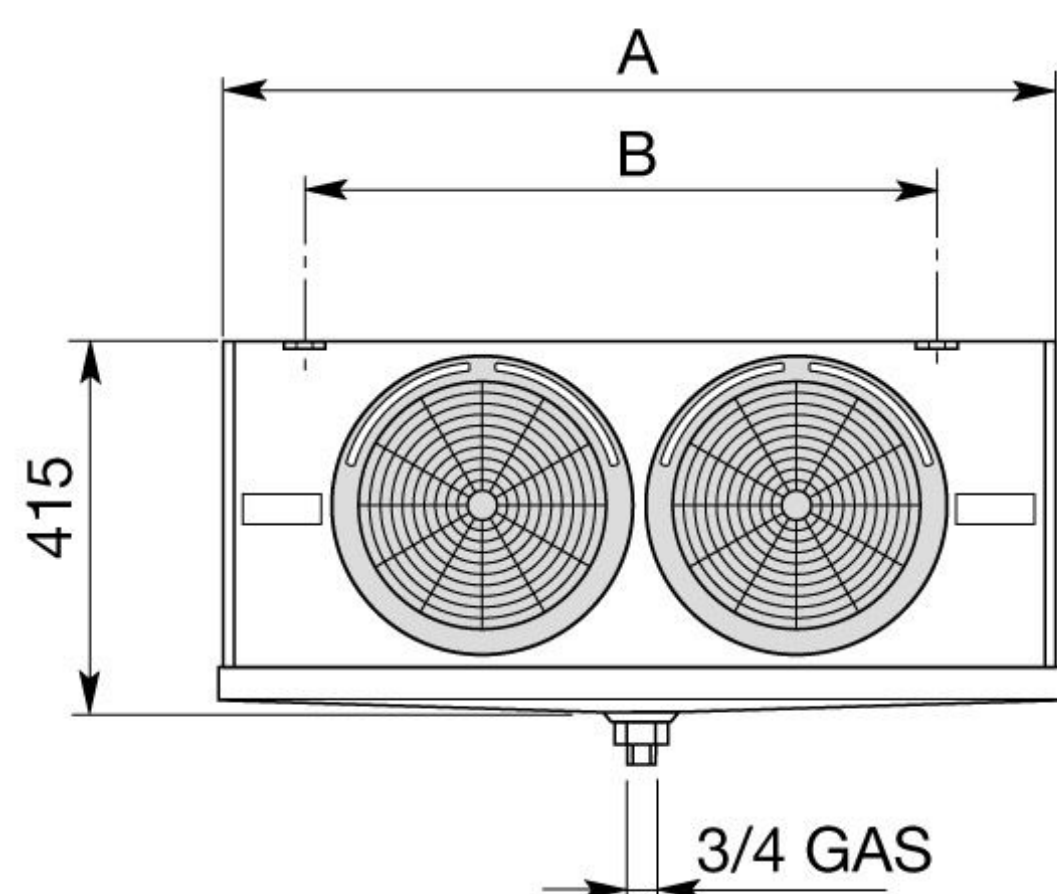


Fig. 2

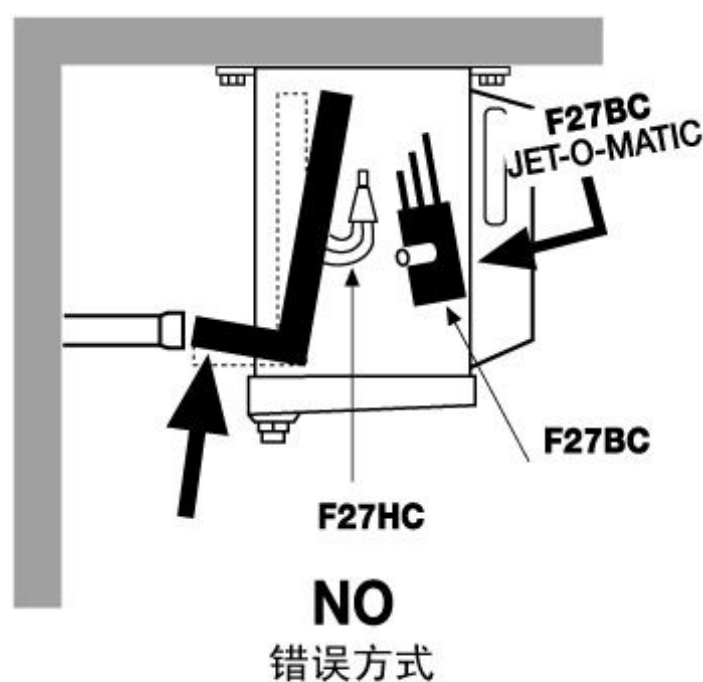


- It's important that the unit cooler is installed so as to leave space to the left of cooler (i.e. facing fans) for heater removal. It is also essential that the cooler is installed level, to avoid drainage problems.
- 蒸发器安装时必须在机组的左侧（面向机组）预留维修电加热管的足够空间，这对蒸发器的水平安装及避免排水问题也很重要。

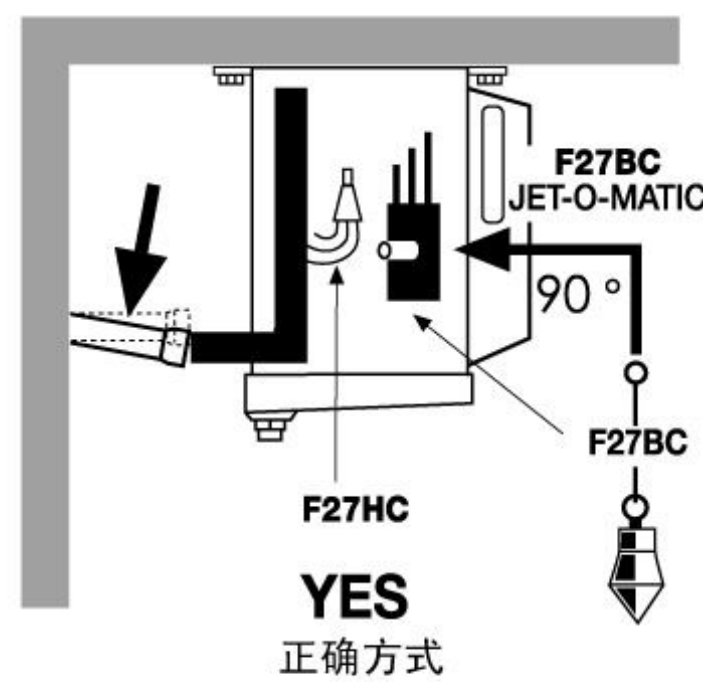
F27HC...		型号	Type	25-4 19-6 16-7	36-4 28-6 23-7	49-4 38-6 31-7	71-4 55-6 46-7	107-4 85-6 70-7	142-4 110-6 92-7
风机 / Fans			N°	1	1	2	2	3	4
尺寸 / Dimensions		A	mm	678	678	1048	1048	1418	1788
		B	mm	412	412	782	782	1152	1522



Before to proceed with the collectors/distributors connections it is mandatory to comply as follows make sure the supply circuit is closed (no pressure).
在连接集气管和分液器之前必须确认供压管路是关闭的(操作部分没有压力)



- Do not adapt headers position to the line
- 请不要参考错误的安装连接件的方式



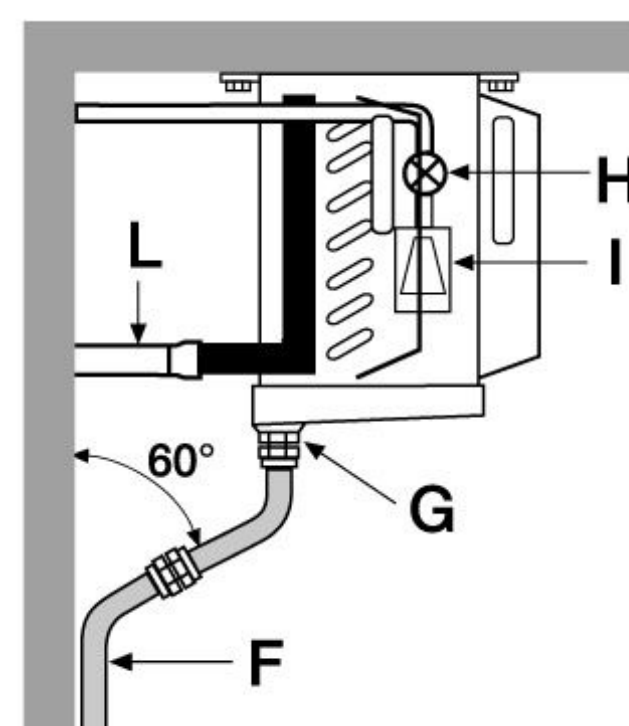
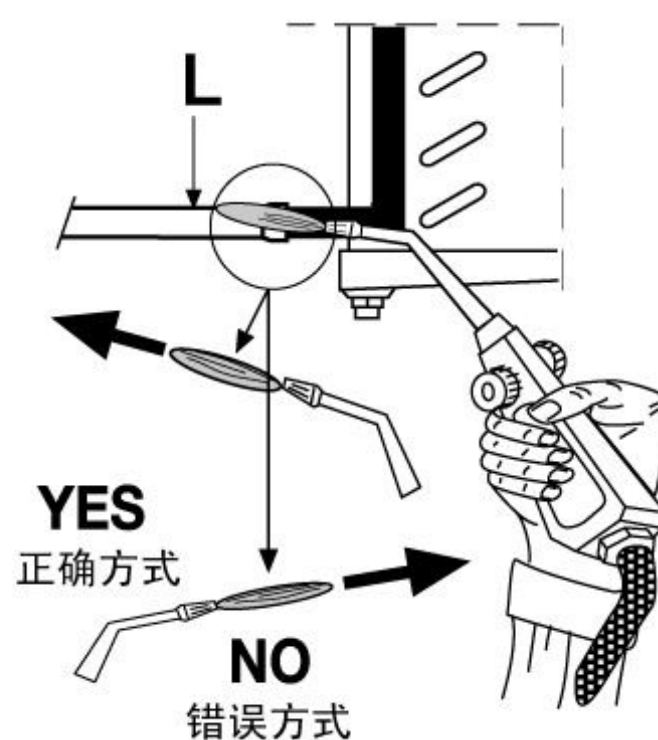
The thermostatic valve (H) to distributor (I) and suction line (L), taking care to not direct gas flame towards cooler during brazing.

They musn't be connected.

- Pressure checks (Te, fig. 5); all units are fitted with a shraider valve on the suction pipe, so that the suction pressure can be measured for correct operation. When all connections and adjustments have been made refit both side panels
- The water drain tubing connection (F) to drain pan tube (G)

焊接节流阀件 (H) 至分液器 (I) 和吸气线路 (L) 的过程中, 注意不要直接将钎焊气体火焰指向冷风机。
系统中有气体焊接将不能完成。

- 一压力测试(查看Fig. 5插图), 在所有吸入管道的部件上都安装有施雷德连接阀件, 当在设备的两端安装和维修时, 工作人员可以通过这个阀件测量得到准确的吸气压力。
- 一排水管道 (F) 按照图示和冷凝水盘 (G) 连接。



电气连接 / CONNECTIONS

Before proceeding with the electrical wiring it is mandatory to comply as follows:

- Make sure the power line circuit is open (disconnected).
- The units have to be connected to the electric supply according to the rules of the local energy supplier and / or according to the current standards in force in that country.
- The installer should mount a single pole terminal in a visible position, between the unit and the electric supply, which should have a minimum 3 mm opening between the terminals, in accordance with current legislation.
- Remove the terminal cover (M) feed the cables through grommets (N) and block them with their respective gland attaching them to the terminals in accordance with the wiring diagrams shown on the cover (M).
- When all connections are made refit the terminal block cover (M).

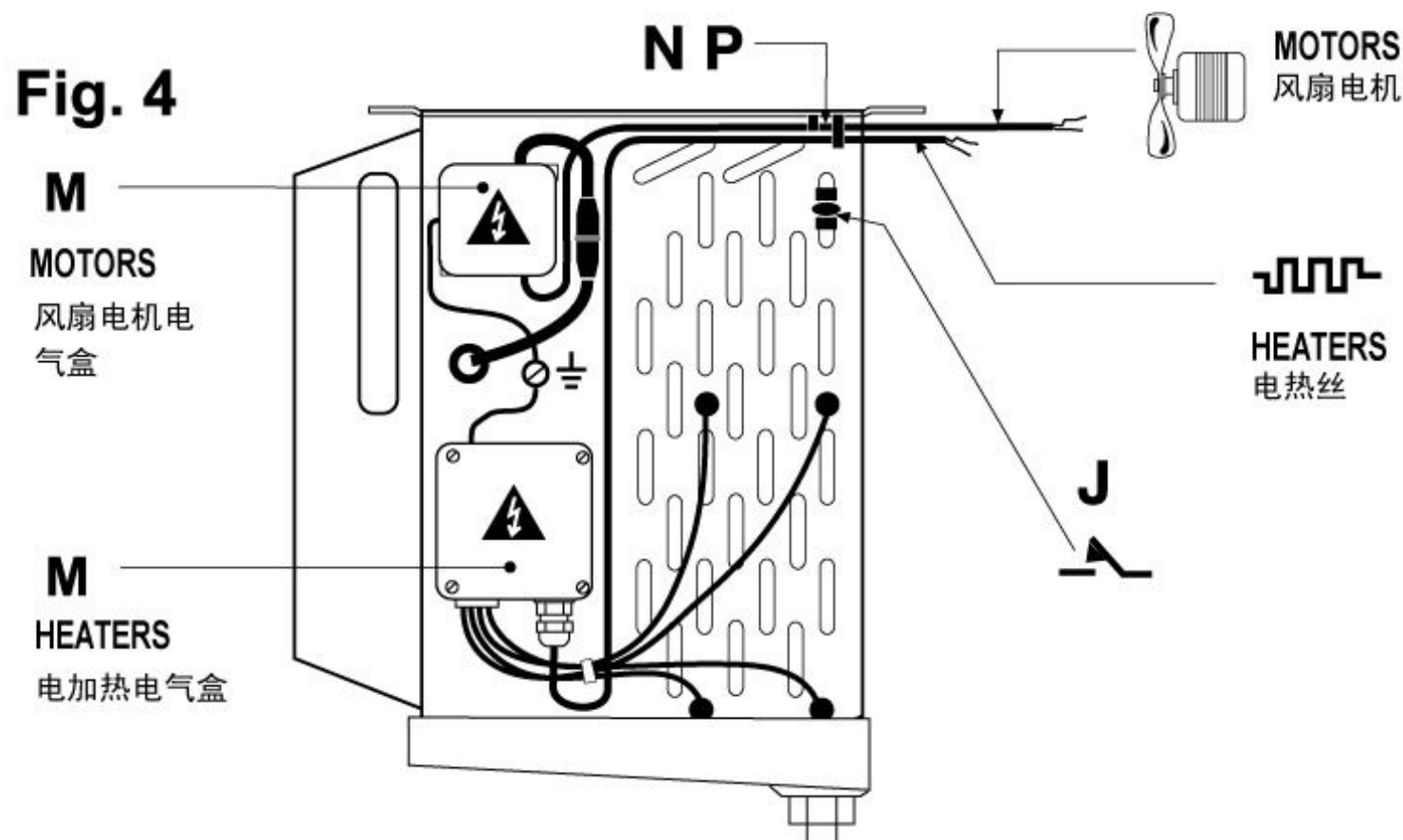
N.B.: For systems using electric/hot gas defrost, a defrost termination thermostat should be used, having a range of 10 deg C to 20 deg C with a sensor attached to the top re-turn bends of the coil block or buried in the top of the coil block fins (J).

操作电气设备前必须参照以下规则

- 确认电源切断(断开状态)
- 操作的部件都必须根据本地能源供应商的规则或者在安装地国家生效的现行标准连接到电源设备。
- 按照现行的法律规定, 安装程序中必须在安装部件和电源之间配置一直单独的控制装置, 并且与安装部件和电源之间的距离不小于3mm.
- 打开电气盒罩 (M), 将通过穿线孔 (N) 的电缆线按照电气盒罩 (M) 上面的所示的电气图连接到终端设备上, 电缆线需要用自带的固定装置固定在穿线孔位置。
- 当电气连接完成后将电气盒罩 (M) 安装到初始位置。

备注:

系统使用电热丝/热气除霜, 必须安装除霜温控装置, 在盘管的顶部回弯处粘贴或者在盘管翅片顶部 (J) 嵌入一个控制温度范围为10℃至20℃的传感器。



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 x (Ts'-Te).

Ts'—冷库房间内温度/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。

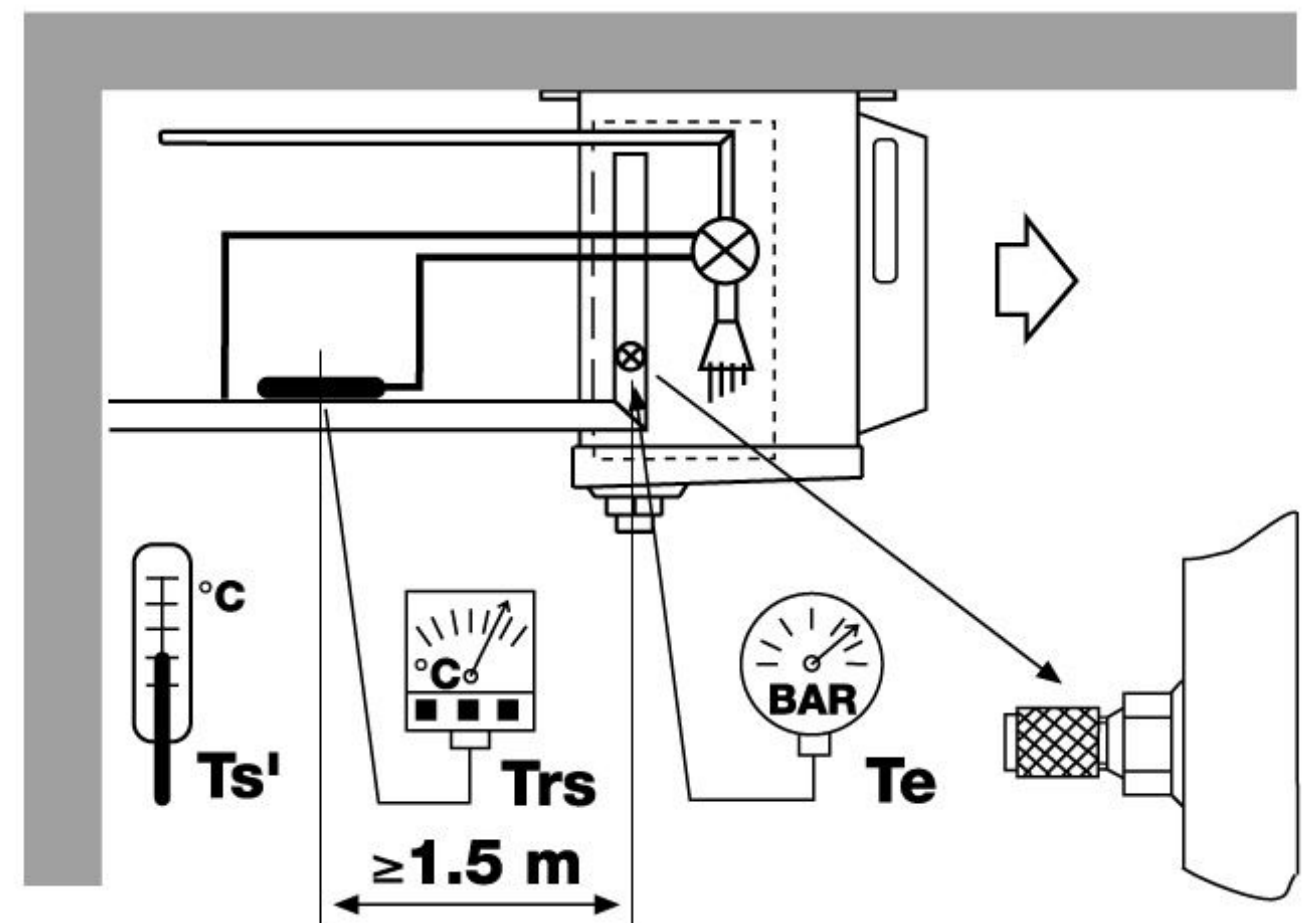
Trs—制冷剂过热温度，靠近控制温度的球阀处。

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 x (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。

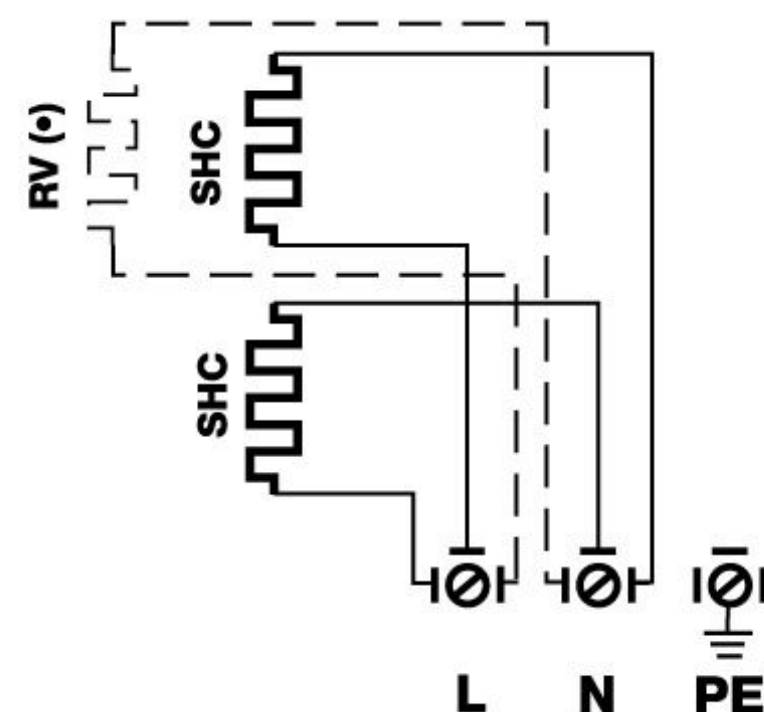
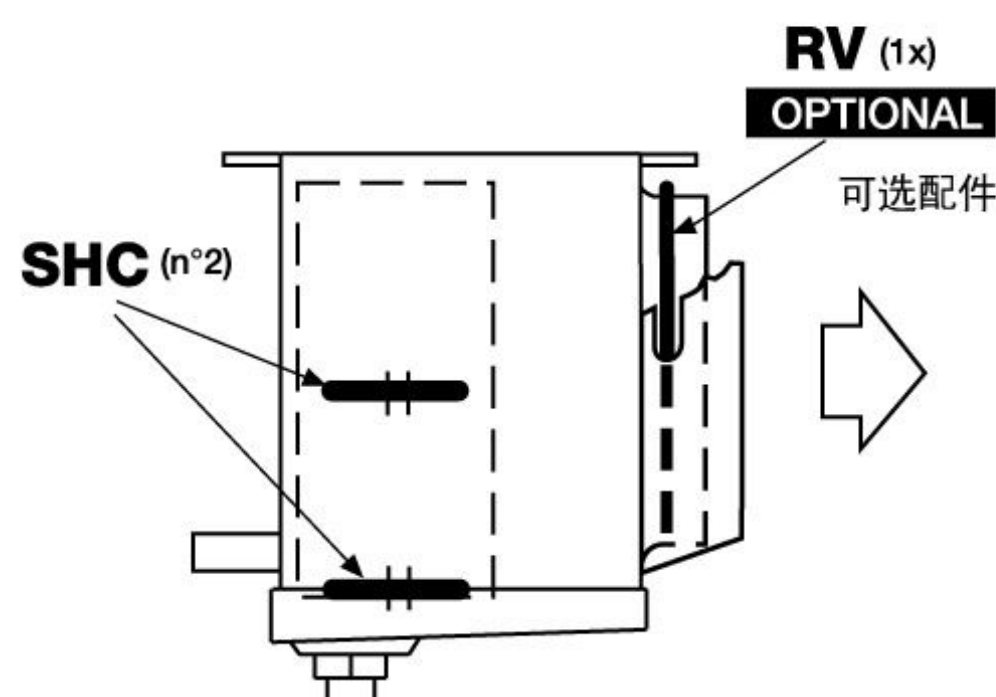
Fig. 5



E

融霜电气 / ELECTRIC DEFROST

F27HC...			Type 型号	25-4 19-6 16-7	36-4 28-6 23-7	49-4 38-6 31-7	71-4 55-6 46-7	107-4 85-6 70-7	142-4 110-6 92-7
Electric heaters 电加热丝	STANDARD 标准配置	Coil 盘管	N°	2	2	2	2	2	2
			Mod. / Type	SHC01	SHC01	SHC02	SHC02	SHC03	SHC04
		(230V) x1 W	610	610	1080	1080	1540	2000	
		...E	TOT. W	1220	1220	2160	2160	3080	4000
	OPTIONAL 可选配置	Shroud 导风罩	N°	1	1	2	2	3	4
			Mod. Type	RV305	RV305	RV305	RV305	RV305	RV305
		(230V) x1 W	130	130	130	130	130	130	
		OPTIONAL	TOT. W	130	130	260	260	390	520
	...E	STANDARD + OPTIONAL	TOT. W	1350	1350	2420	2420	3470	4520



•) Example
示例

接线柱最大
承载电流 / Terminal
X1 = max 40 A

E (*)

(*) 特别型号融霜电气 / (*) HEAVY ELECTRIC DEFROST

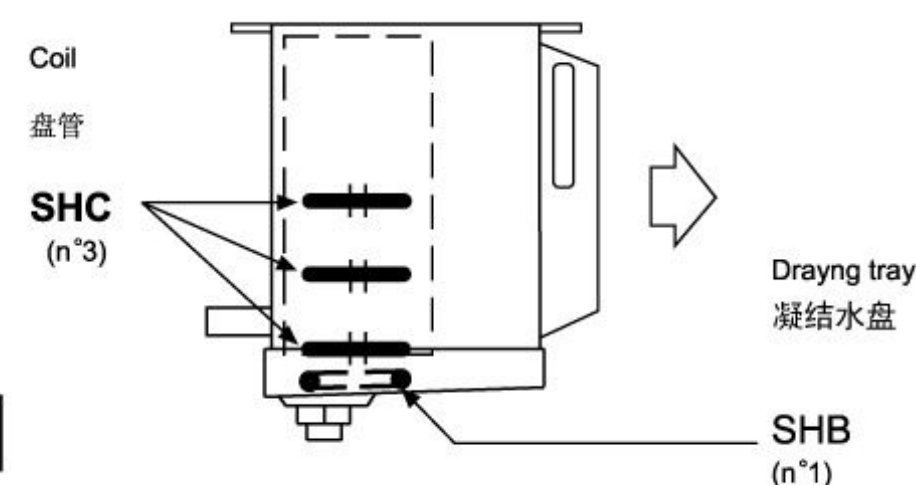
F27HC...E (*)			OPTIONAL	Type 型号	25-4 19-6 16-7	36-4 28-6 23-7	49-4 38-6 31-7	71-4 55-6 46-7	107-4 85-6 70-7	142-4 110-6 92-7
			可选配置							
Electric heaters 电加热丝	OPTIONAL 可选配置	Coil 盘管	N°	3	3	3	3	3	3	
			Mod. Type	SHC01	SHC01	SHC02	SHC02	SHC03	SHC04	
			(230V) x1 W	610	610	1080	1080	1540	2000	
			TOT. W	1830	1830	3240	3240	4620	6000	
	OPTIONAL 可选配置	Drayng tray 凝结水盘	N°	1	1	1	1	1	1	
			Mod. Type	SHB01	SHB01	SHB02	SHB02	SHB03	SHB04	
(230V) W			200	200	350	350	480	650		
E (*)	OPTIONAL		TOT. W	2030	2030	3590	3590	5100	6650	

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

•Make sure the power line circuit is open.

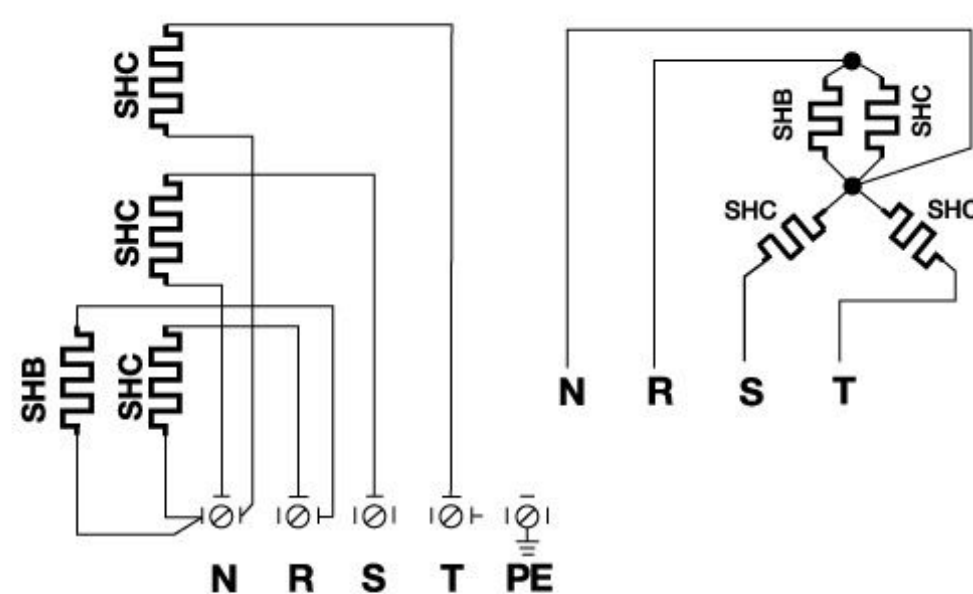
操作电气设备前必须参照以下规则

•确认电源被切断。



...E (*) OPTIONAL

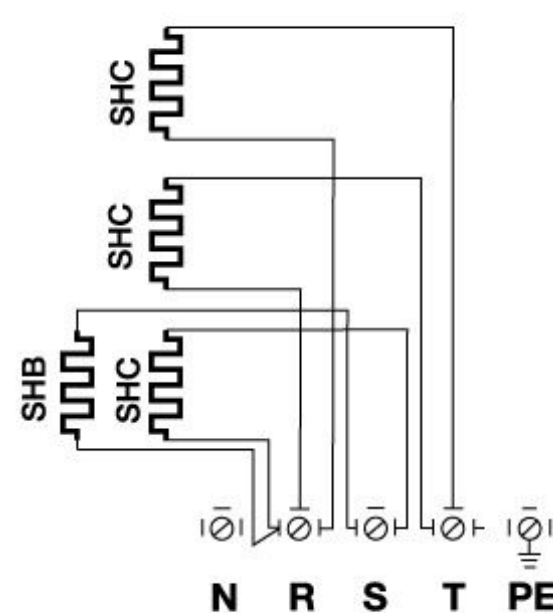
可选连接



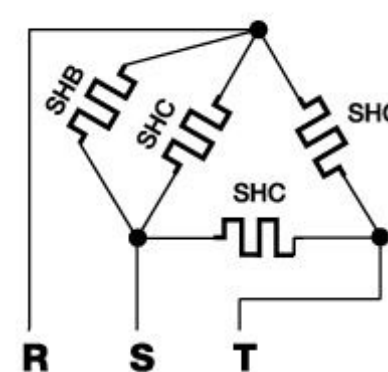
3 ~ 400 V 50-60 Hz

STANDARD

标准连接

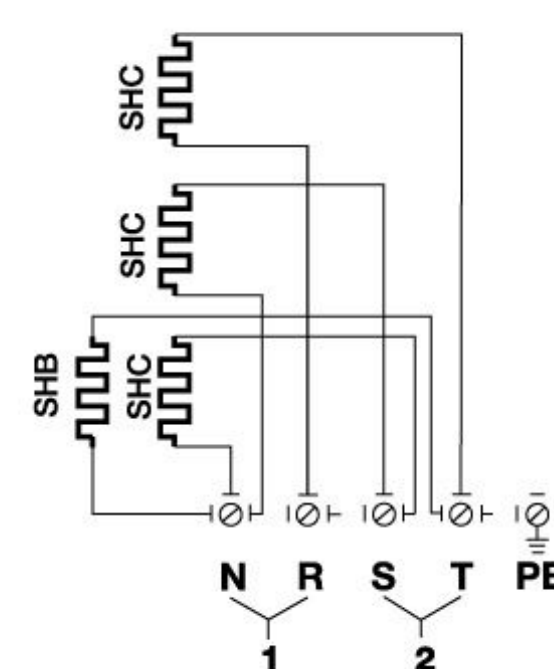


3 ~ 230 V 50-60 Hz



接线柱最大
承载电流 / Terminal

X1 = max 40 A



1 ~ 230 V 50-60 Hz

风扇电机 / FAN MOTORS

F27HC...E (*)		Type 型号	25-4 19-6 16-7	36-4 28-6 23-7	49-4 38-6 31-7	71-4 55-6 46-7	107-4 85-6 70-7	142-4 110-6 92-7
Fans / 风机		N°	1	1	2	2	3	4
电机型号 / Motor Type		W 26/E						1~230 V 50 - 60Hz
风叶型号 / Fan Type		275/25/5 P						1~230 V 50 - 60Hz
Motor power consumption 电机功率	x 1 x 1	1~230V 50 Hz	A	N = 0,60	M = 0,61	S = 1,05	1~230V 50 Hz	
			W	N = 85	M = 85	S = 0,86		
	x 1 x 1	1~230V 60 Hz	A	N = 0,55	M = 0,60	---	1~230V 60 Hz	
			W	N = 86	M = 95	---		

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 follow :

•Make sure the power line circuit is open.

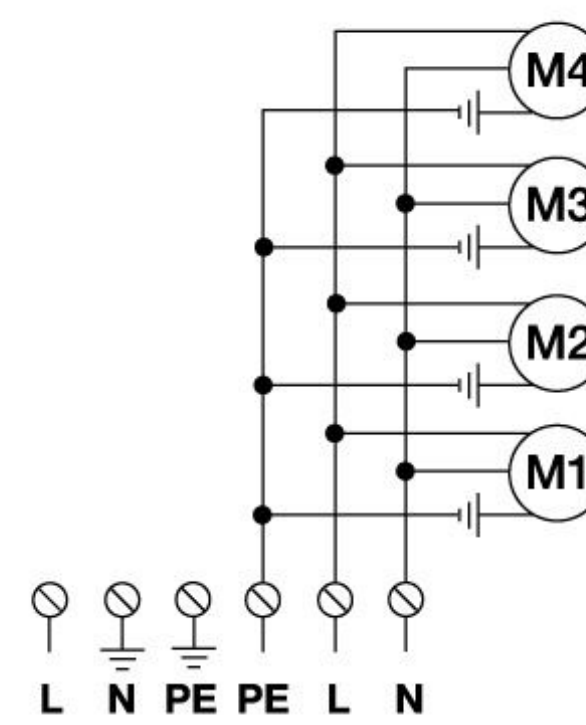
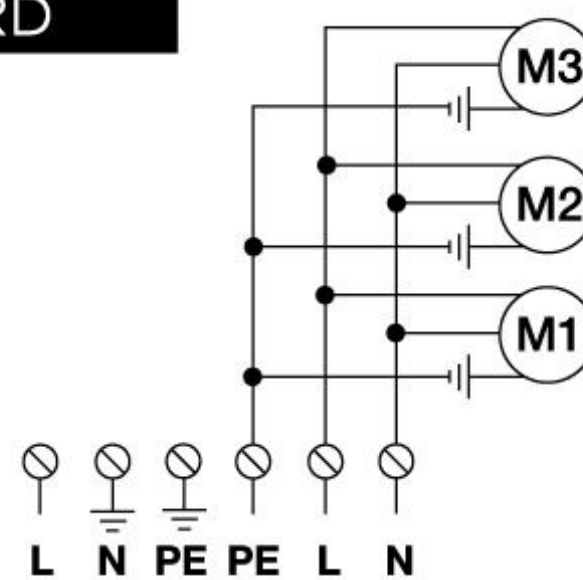
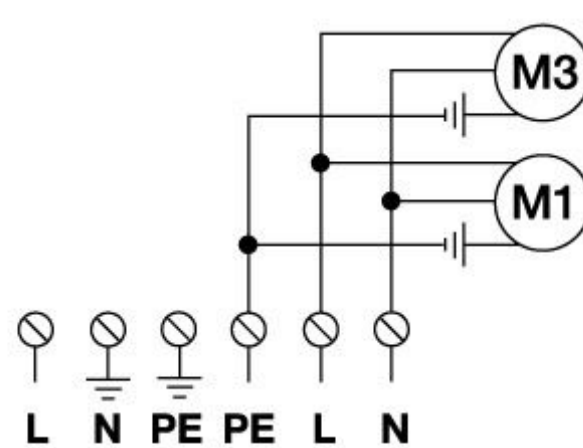
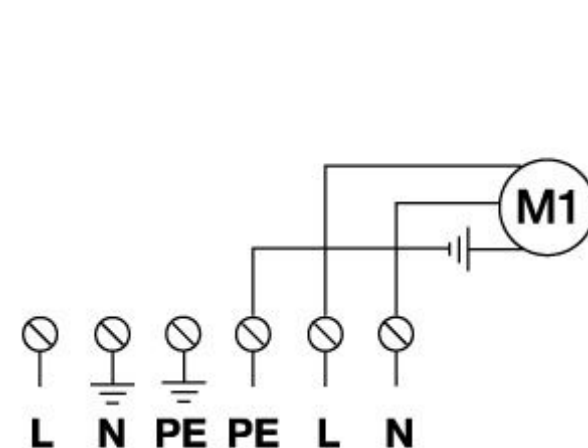
操作电气设备前必须参照以下规则

•确认电源被切断。

1 ~ 230 V 50 - 60 Hz

STANDARD

标准连接



- Before any service operations are performed switch off the electricity supply to the cooler.
- 在任何设备维护前请关闭制冷设备的电源。

电加热管维护 / HEATER REPLACEMENT

Before removing the electric heaters make sure that they are at ambient.

Replacement parts! Please specify the unit cooler and the serial number, which can be read from the serial plate R (Fig. 1).

The specification of electric heater and electric fan motors can be found on the cover M (Fig. 4).

Coil heaters SHC 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.

Replacement of the drain pan heater SHB is achieved by removing heater from fixing Z.

在移动电加热设备时请确认电加热丝已经冷却到环境温度。

更换零部件的产品编号请参照 (Fig. 1) 的产品编号进行。

电加热丝和风扇电机的说明可以参阅电气盒附图 (Fig. 4)。

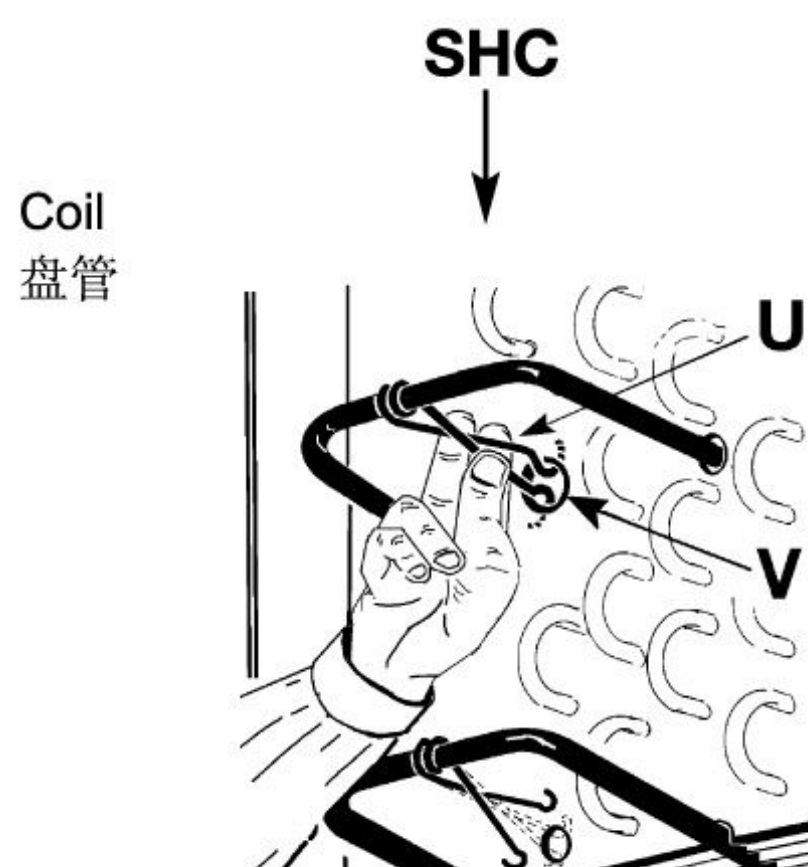
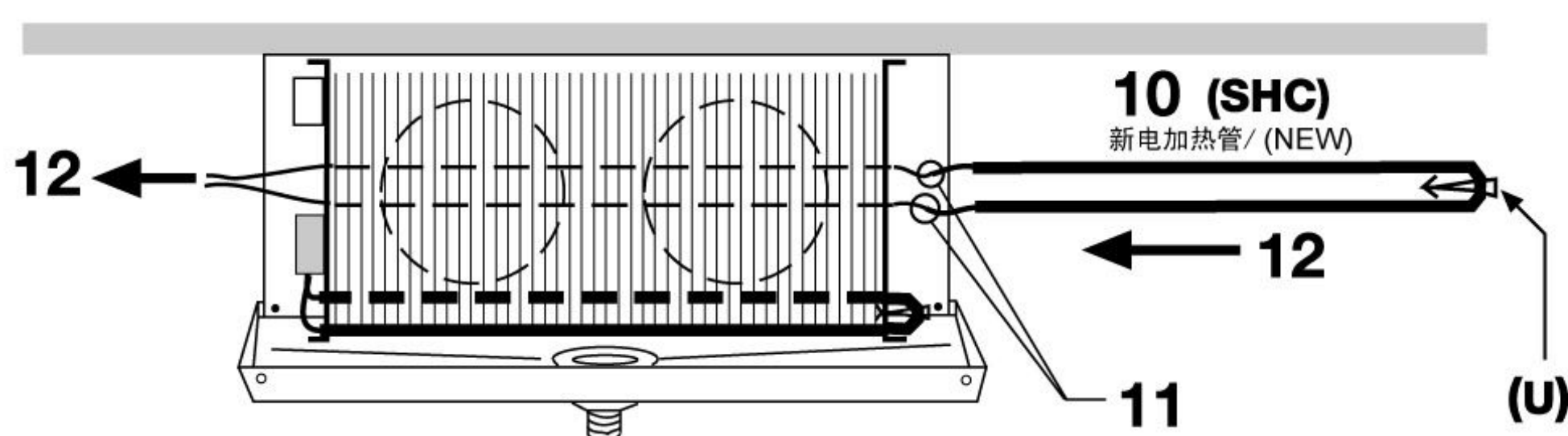
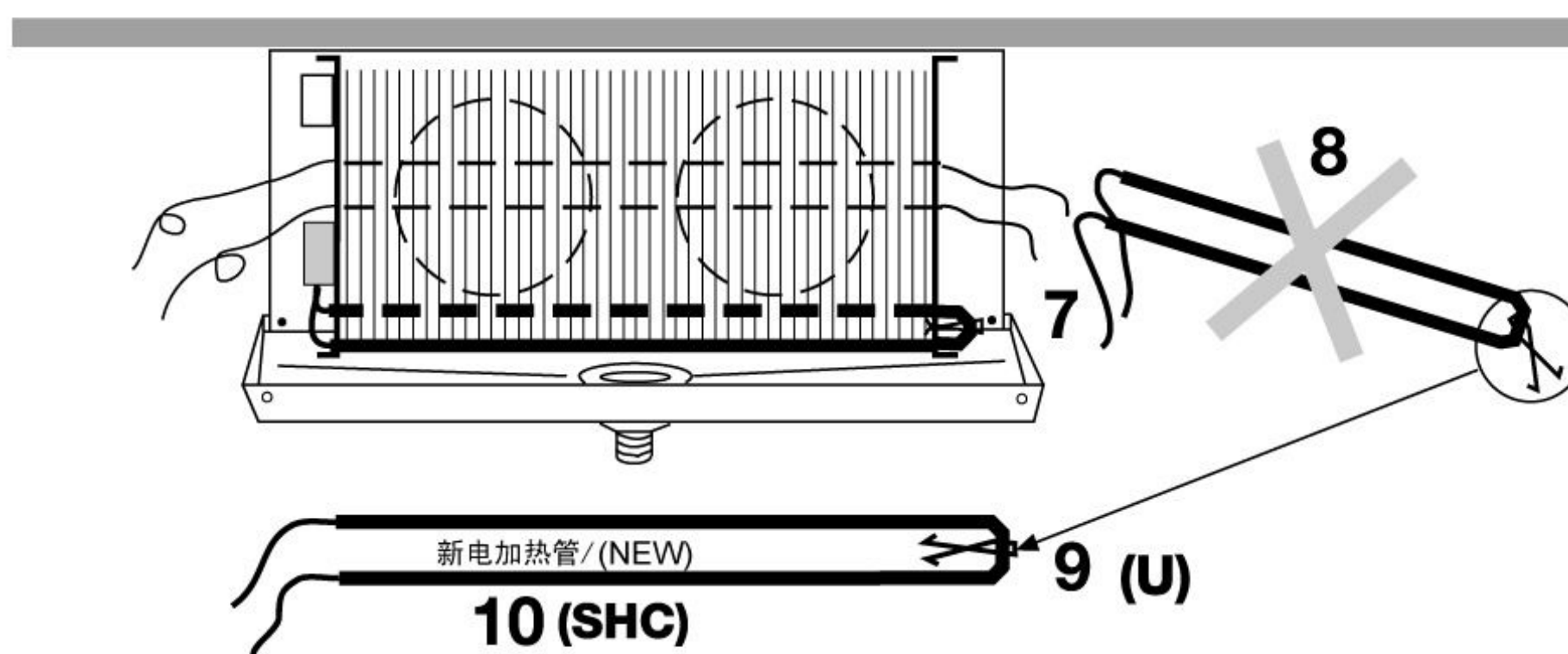
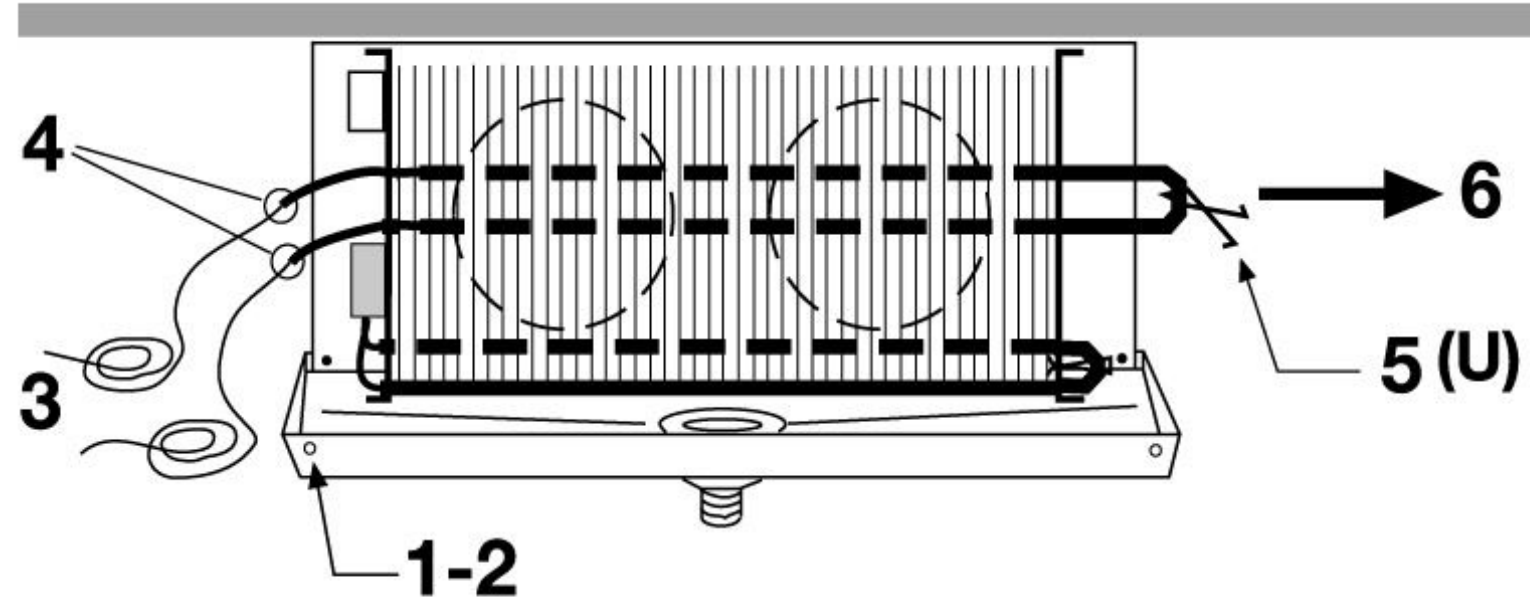
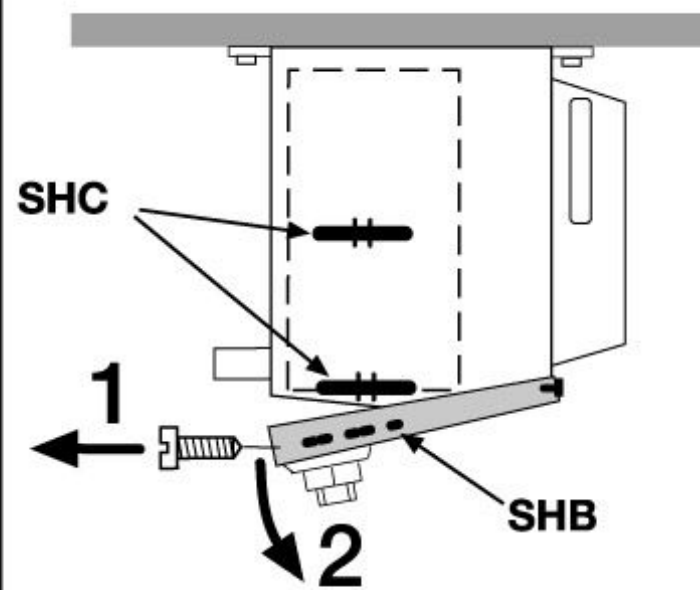
盘管加热丝必须从安装管线中退出。

在拆下旧加热管时，将固定夹 (U) 取下，

安装新的加热管时重新将固定夹安装

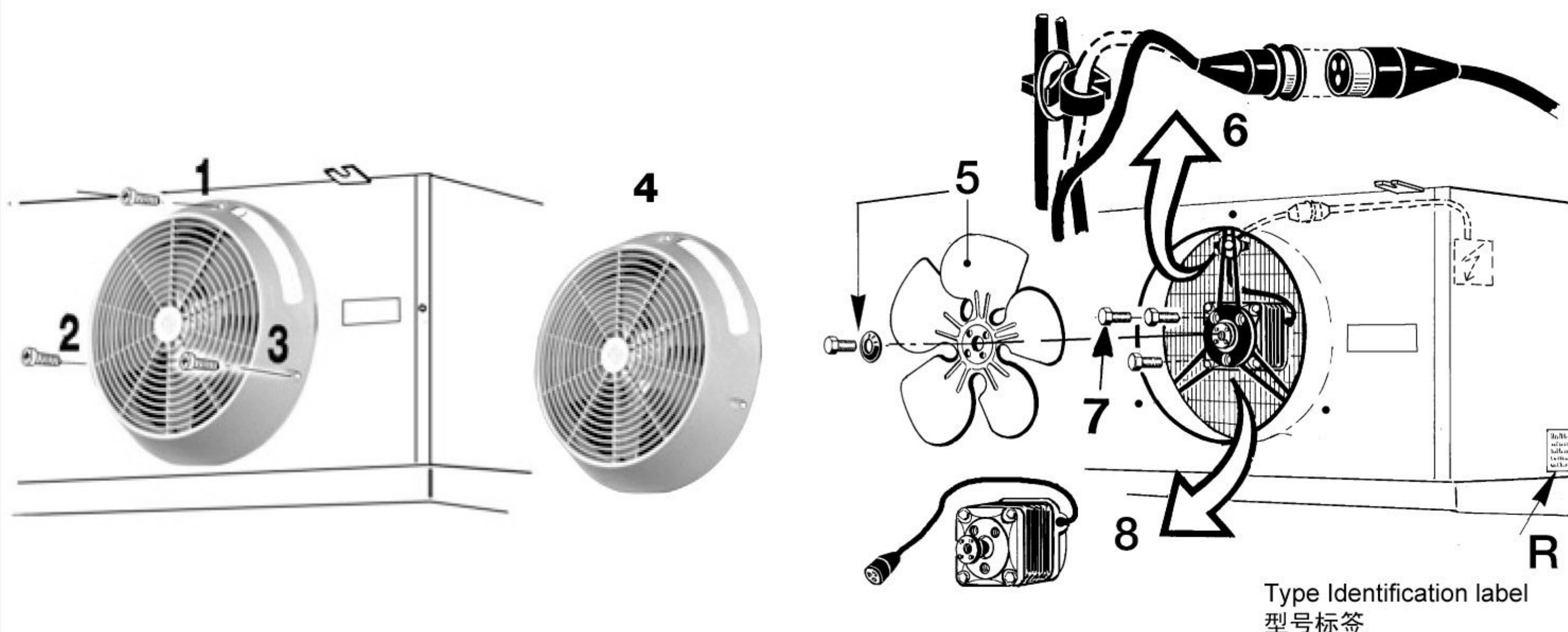
在固定孔 (V) 处，固定加热管，防止其移动。

冷凝水盘的加热管是依靠固定卡 (Z) 固定的，在更换时需要重置。



- Before any service operations are performed switch off the electricity supply to the cooler.
- 在任何设备维护前请关闭制冷设备的电源。

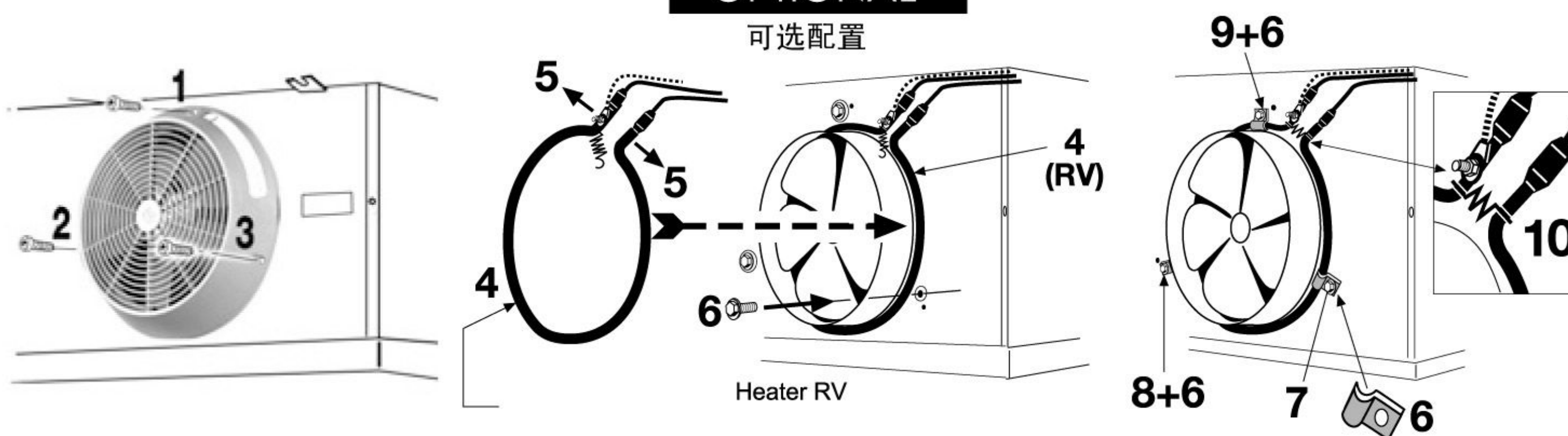
风扇电机维护 / MOTOR SOSTITUTION



INSTRUCTIONS FOR THE HEATER INSTALLATION ON THE FAN SHROUD
导风罩电加热管装配说明

OPTIONAL

可选配置



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 F27HC are EUROVENT certified.

Certified data:

- Capacities (ENV328)
- Air quantities
- Motor power consumption
- External surfaces

F27HC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

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