

冷风机

Evaporators



MJN系列水冲霜(非标定制)



MJX商用斜出风冷风机

哲雪系列产品之一冷风机适用于各种大中小型储存保鲜、冷冻产品的冷库、食品加工和物流中心，紧凑可靠的设计使得客户可以最大程度地利用存储的空间，采用低噪音外转子电机，降低了工作区的噪音，提高了舒适度，涵盖了从1.0KW到210KW的制冷量；适用于R134a·R404A·R507A·R407C·R22各类制冷剂。

ZheXuebrand evaporator is suitable for any kinds of cold storage for the food ,vegetables,food processing workshop and logistics center. The compact design of our evaporators save much space for our clients, we also choose the external fan motor with lower noise to build a comfortable environment. ZHEXUE evaporators' cooling capacity range is from 1.0kw to 210kw, they are used for Freon such as R134A,R22,R404A,R507C and R407C.

产品特点 Product feature

- 1、产品采用欧洲前沿技术设计，使产品性能更科学、更优越。
- 2、冷风机外壳板采用静电喷涂镀锌钢板或不锈钢板，符合卫生标准。
- 3、内部钣金及端板串板采用高强度防腐铝合金板，浮动盘管设计，杜绝了铜管损伤。
- 4、使用15.88mm光管、9.52mm、12.7mm内螺纹铜管以及特殊的管间距及热交换表面技术，提高能效比。
- 5、翅片冲压设备采用科学模具，15.88mm光管、9.52mm、12.7mm提高换热面积的同时减少了风阻。
- 6、装配高拉伸式导风圈可增加风机的效率和射程（风机直径500mm以上系列）。
- 7、翅片组底部装有挡风接水板，杜绝进风从接水盘内通过，使更多的风穿过翅片组，获得更大的换热量。
- 8、所有型号冷风机均装配进口品牌的外转子轴流风机。
- 9、科学优化的分路设计和针对不同工况独立选型的分液器，提高换热器在不同应用工况中的换热效率。
- 10、所有冷风机均装有压力表接口，可以实现压力检测和调校蒸发器性能。
- 11、装配进口品牌不锈钢电加热管，使蒸发器获得快速高效的融霜效果。
- 12、冷风机整体设计紧凑，结构安全可靠，节省空间，制冷剂用量明显减少。
- 13、中大型号冷风机带支撑腿，便于运输和现场吊装。

Products Feature

- 1、Designed by the advanced European technology , make the products more efficiency.
- 2、The external casing is s/s or galvanized steel sheet with electrostatic spraying technology, comply with hygiene standards.
- 3、The inner casing is anti corrosive aluminium sheet and the floating coil design can prevent pipe broke.
- 4、Using 15.88mm copper pipe , 9.52mm and 12.7mm inner thread copper pipe, special length between pipes and advanced technology of heat exchange surface make our evaporator more efficiency.
- 5、Fins stamping equipment adopts scientific mold , using 15.88mm pipes , 9.52mm and 12.7mm inner thread pipes, it reduce the wind resistance.
- 6、Equipped with the extended wind guide, it can improve the motors efficiency and raise the air flow (motors more than 500mm).
- 7、We have windshield at the bottom of the fan coils, it can prevent the air through the water tray, then more wind will through out the fan coils to improve the heat exchange efficiency.
- 8、All evaporators are equipped with the international brand external fan motors.
- 9、Optimized pipe rows and lines design and different liquid distributor can improve the heat exchange efficiency based on the different condition.
- 10、All evaporators are equipped with the connection of pressure gauge.
- 11、All evaporators are equipped with best brand s/s ele. Heaters to defrost quickly.
- 12、The compact design saves much Freon.
- 13、Middle and big size evaporator are equipped with the installation frame, it is easy to transport and install.

换热器产品命名规则

Model Description

MJ	L	50	3	C	06	R6	-F
①	②	③	④	⑤	⑥	⑦	⑧

⑧ 后缀 空:镀锌板喷塑标准风机自然化霜
S: 不锈钢外壳标准风机 L: 铝合金壳体
SS: 不锈钢壳体加不锈钢电机 B: 翅片侧出风 E: 电化霜
H: 热气化霜 W: 水冲霜 F: 非标 (自定义)
⑧ Suffix empty: galvanized sheet spray standard fan natural defrost
S: Standard fan with stainless steel casing L: Aluminum alloy casing
SS: Stainless Steel Casing With Stainless Steel Motor B: Fin Side Air Outlet
E: Ele. Defrost. H: Hot Gas defrost W: Water defrost F: Non-standard

⑦ 管排数 R1-R9: 表示1-9排
⑦ Number of pipe rows R1-R9: 1-9 rows

⑥ 片距 04表示4.5mm片距 06表示6mm片距 07表示7mm片距
08表示8mm片距 10表示10mm片距 16表示8/16变片距
⑥ Fin Space 04=4.5mm 06=6mm 07=7mm 08=8mm 10=10mm 16=8/16

⑤ 模块 C: 方形 T: 三角形
⑤ Module C: Square T: Triangle

④ 风机数量 1-9表示风机个数
④ Number of fans 1-9

③ 风机系列 Evaporators series
30: 300电机 35: 350电机 40: 400电机 45: 450电机
50: 500电机 56: 560电机 63: 630电机 80: 800电机
③ 30: 300 Motor 35:350 Motor 40:400 Motor 45:450 Motor
50: 500 Motor 56:560 Motor 63:630 Motor 80:800 Motor

② 系列 L: 大型工业型 B: 商用型 H: 高效型 N: 高效工业型 D: 双出风 X: 斜出风 W: 负压式 Q: 落地式
② Series L: Large industrial type B: Commercial type H: High efficient type N: High efficiency for industrial
D: Double sides air blow X: Inclined blow evaporator W: Negative pressure type Q: Floor-mounted type

① 品牌 MJ: 哲雪产品
① Brand MJ: ZheXue Products

注: 低温冷风机标配电除霜
Note: Ele. Defrost is standard for low temp. Evaporators

修正系数

Correction Factors

修正系数DT1:

Correction Factors DT1

样本中的制冷量=回风温度-蒸发温度，是基于制冷剂为R404A，直接膨胀DT1和85%的RH工况下的参数。

DT1是工作室冷风机回风温度和蒸发温度的差值。蒸发温度是指冷风机出口端制冷剂饱和气体温度。

DT1 is the difference between the return air temperature and the evaporation temperature of the air cooler. Evaporation temperature refers to the temperature of the refrigerant saturated gas at the outlet of the cooling fan.

名义制冷量: (SC1) $t_o = 0^{\circ}\text{C}$ and DT1=10K

(SC2) $t_o = -8^{\circ}\text{C}$ and DT1=8K

(SC3) $t_o = -25^{\circ}\text{C}$ and DT1=7K

(SC4) $t_o = -31^{\circ}\text{C}$ and DT1=6K

(SC5) $t_o = -35^{\circ}\text{C}$ and DT1=6K

修正系数是根据回风温度和温差的变化而变化的，请参照下表查找相应的修正系数，选型前实际的制冷量必须乘以下表中对应的修正系数，得到的名义制冷量才能在后附的选型表中选型，其他工况下请联系厂家提供选型。

The correction coefficient changes according to the change of the return air temp. and temp. difference. Please refer to the following table to find the corresponding correction coefficient. The actual cooling capacity before selection must multiply by the corresponding correction coefficient in the table below. The resulting nominal cooling capacity can only be selected in the attached type selection table. other working conditions, please contact the manufacturer for the type selection.

Q实际制冷量=Q名义制冷量×修正系数×制冷剂系数

Q actual cooling capacity = Q nominal cooling capacity x correction factor x refrigerant factor

修正系数参考值 Correction coefficient reference value

DT1	参考名义制冷量SC1工况														
	SC1工况, $t_o = 0^{\circ}\text{C}$, DT1=10K														
	蒸发温度 (t_e)														
K	10	9	8	7	6	5	4	3	2	1	0	-1	-2	-3	-4
6	0.541	0.539	0.537	0.535	0.533	0.531	0.529	0.526	0.518	0.510	0.490	0.509	0.502	0.490	0.455
7	0.687	0.682	0.677	0.672	0.668	0.663	0.658	0.653	0.644	0.633	0.613	0.625	0.618	0.599	0.564
8	0.838	0.830	0.822	0.814	0.807	0.799	0.791	0.784	0.773	0.759	0.740	0.745	0.737	0.711	0.677
9	0.993	0.982	0.97	0.96	0.948	0.938	0.927	0.917	0.904	0.887	0.869	0.865	0.854	0.824	0.791
10	1.152	1.137	1.122	1.107	1.093	1.079	1.065	1.052	1.037	1.018	1.000	0.985	0.951	0.939	0.908
11	1.312	1.293	1.275	1.257	1.239	1.222	1.205	1.188	1.172	1.15	1.149	1.13	1.073	1.054	1.026
12	1.475	1.453	1.431	1.409	1.387	1.367	1.346	1.326	1.306	1.282	1.276	1.256	1.198	1.170	1.146

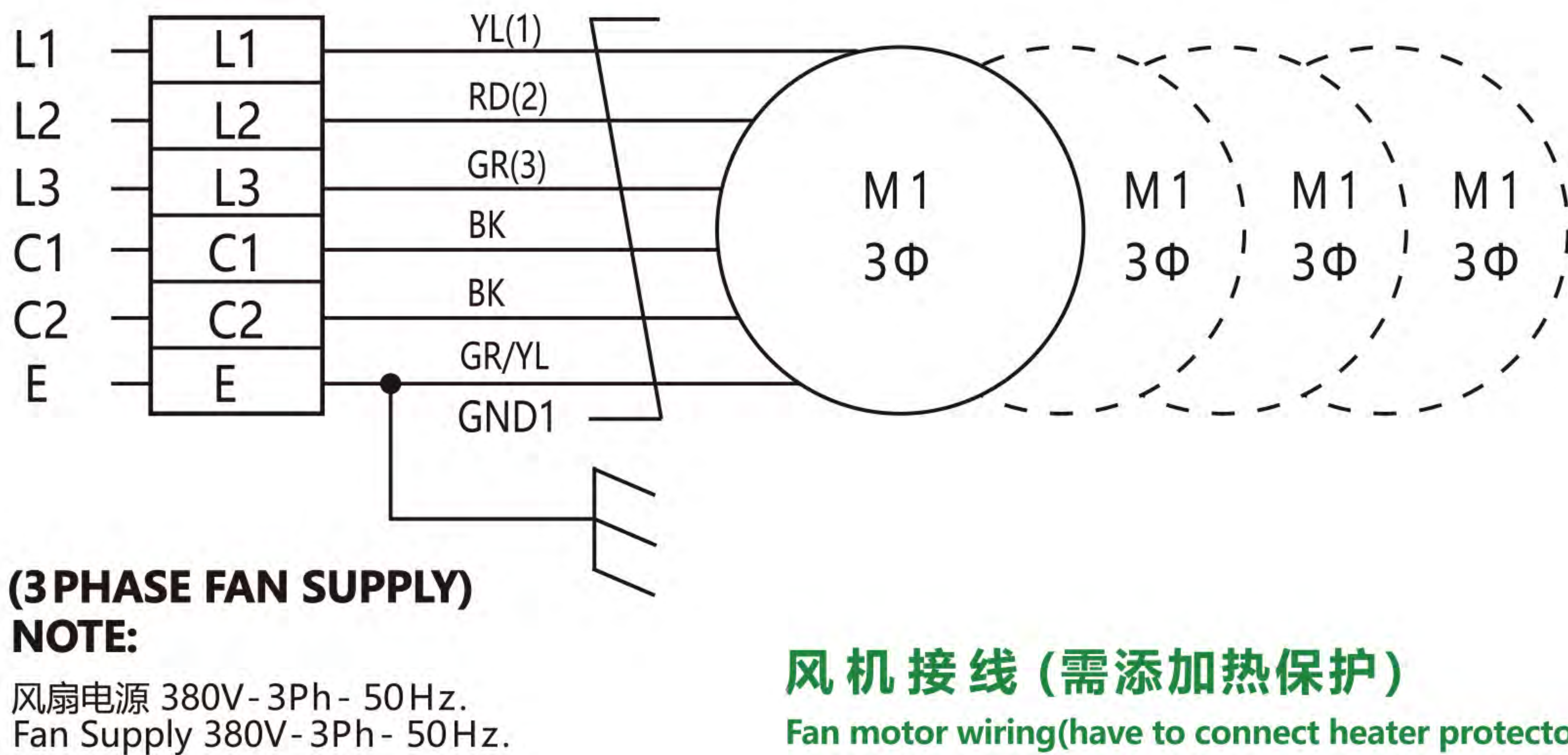
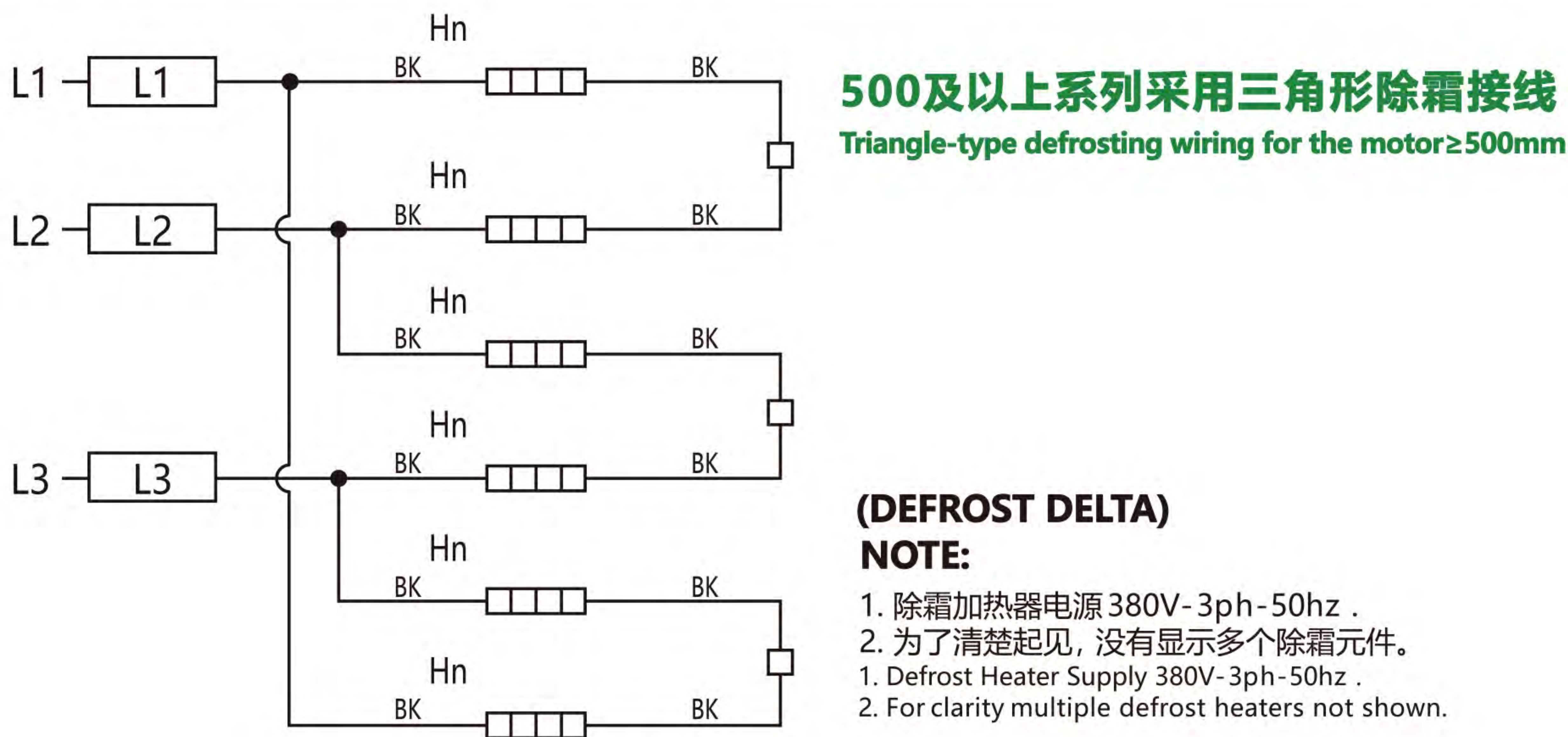
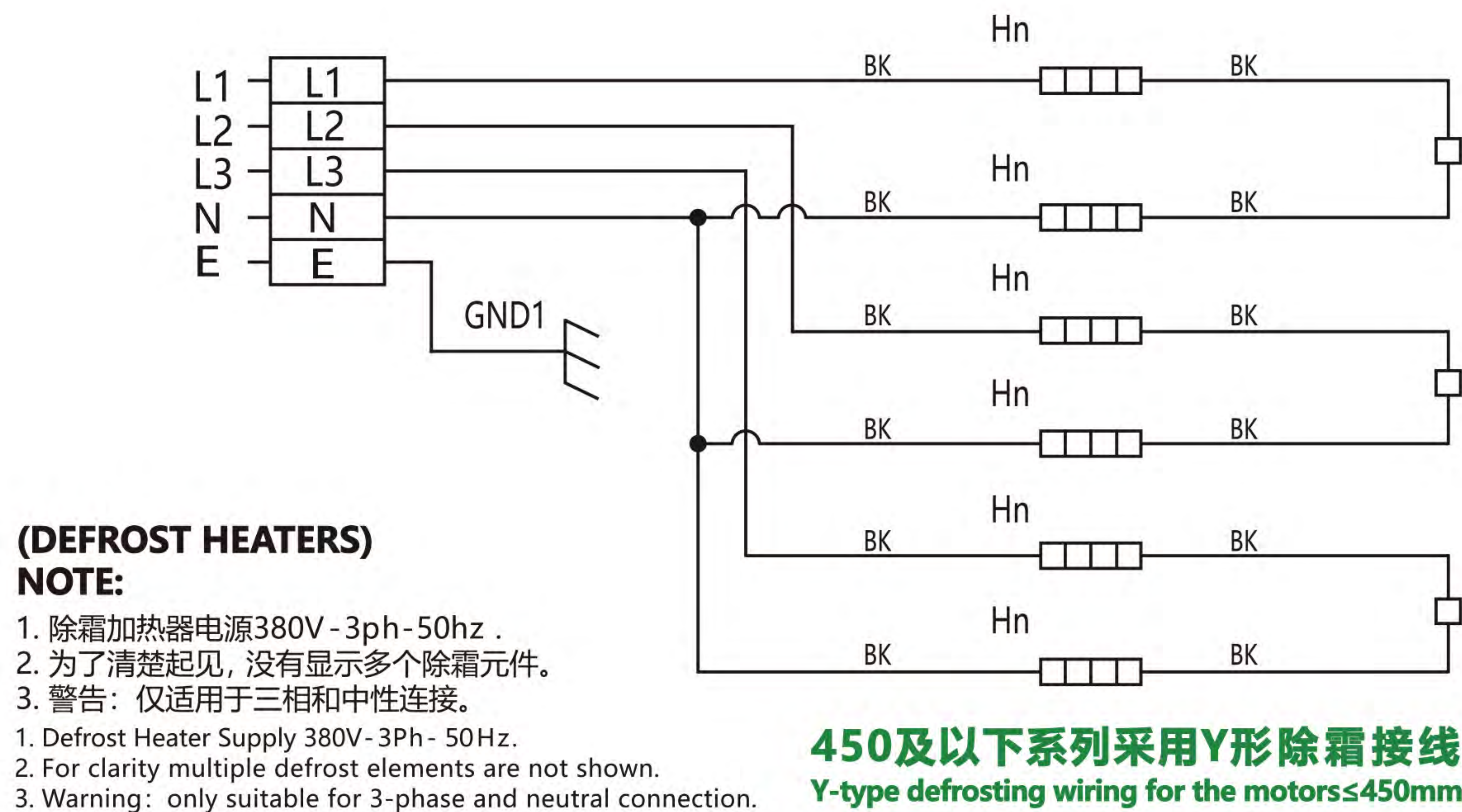
DT1	参考名义制冷量SC2工况							
	SC2工况, $t_o = -8^{\circ}\text{C}$, DT1=8K							
	蒸发温度 (t_e)							
K	-5	-6	-7	-8	-9	-10	-11	-12
6	0.716	0.711	0.700	0.689	0.679	0.670	0.661	0.654
7	0.873	0.865	0.857	0.843	0.829	0.816	0.805	0.794
8	1.034	1.022	1.011	1.000	0.982	0.966	0.951	0.936
9	1.197	1.181	1.167	1.152	1.137	1.118	1.098	1.081
10	1.361	1.343	1.324	1.306	1.288	1.270	1.248	1.226
11	1.527	1.505	1.482	1.46	1.439	1.418	1.398	1.372
12	1.694	1.668	1.642	1.615	1.591	1.566	1.542	1.519

DT1	参考名义制冷量SC3工况							
	SC3工况, $t_o = -25^{\circ}\text{C}$, DT1=7K							
	蒸发温度 (t_e)							
K	-20	-21	-22	-23	-24	-25	-26	-27
6	0.836	0.840	0.840	0.840	0.839	0.839	0.838	0.837
7	1.006	1.005	1.004	1.003	1.000	1.000	0.997	0.994
8	1.157	1.155	1.153	1.151	1.148	1.145	1.142	1.138
9	1.322	1.306	1.301	1.297	1.293	1.289	1.284	1.279
10	1.494	1.474	1.454	1.441	1.437	1.430	1.424	1.418
11	1.667	1.643	1.619	1.597	1.577	1.57	1.563	1.554
12	1.840	1.812	1.784	1.759	1.734	1.710	1.698	1.688

DT1	参考名义制冷量SC4工况							
	SC4工况, $t_o = -31^{\circ}\text{C}$, DT1=6K							
	蒸发温度 (t_e)							
K	-28	-29	-30	-31	-32	-33	-34	-35
6	1.007	1.005	1.002	1.000	0.996	0.992	0.987	0.982
7	1.195	1.190	1.186	1.180	1.174	1.167	1.160	1.154
8	1.365	1.359	1.352	1.345	1.336	1.327	1.317	1.306
9	1.533	1.525	1.516	1.506	1.495	1.483	1.471	1.457
10	1.698	1.688	1.676	1.664	1.651	1.637	1.622	1.604

表一：不同工况之间的转换系数					
工况	SC1	SC2	SC3	SC4	SC5
直膨	1.481	1.000	0.769	0.638	0.603
泵供液	1.403	1.005	0.758	0.616	0.600

表二：不同制冷剂之间的转换系数						
制冷剂	R404A	R22	R407C	R410A	R507C	R23
直膨	1.000	0.927	0.980	0.995	0.961	1.017
泵供液	1.005	0.999	1.027	1.066	0.999	1.099



外壳

镀锌板，外表面静电喷涂，颜色RAL9010

水盘

镀锌钢板，带静电喷涂层，颜色RAL9010
水盘可拆，方便检查维护

风机

低噪音，易于维护风机电机，防护等级IP54，绝缘等级F级，依据DIN 40050，标准电机可适用于-40°C到+45°C。也可根据客户需求提供用于其它温度的电机。标准电机为双转速电机，参数表里标出的功率和射程都是高速运转时数据（三角形接法）。标准风机为水平出风，吸风式，根据客户需求也可标出其他形式。

电机内置热保护作为电机防护装置。我们保留使用不同制造商生产的风机的权利，因此电机技术参数会有所不同。功率和电流会随温度和风压的变化而变化。请察看相关风机/电机标牌的相应数据。

声压级

噪音测试标准依据EN13487

CASING

Galvanised sheet, powder coated RAL 9010

DRIP TRAY

Galvanised sheet, powder coated RAL 9010
The drip tray can be removed for facilitate inspection and maintenance

FANS

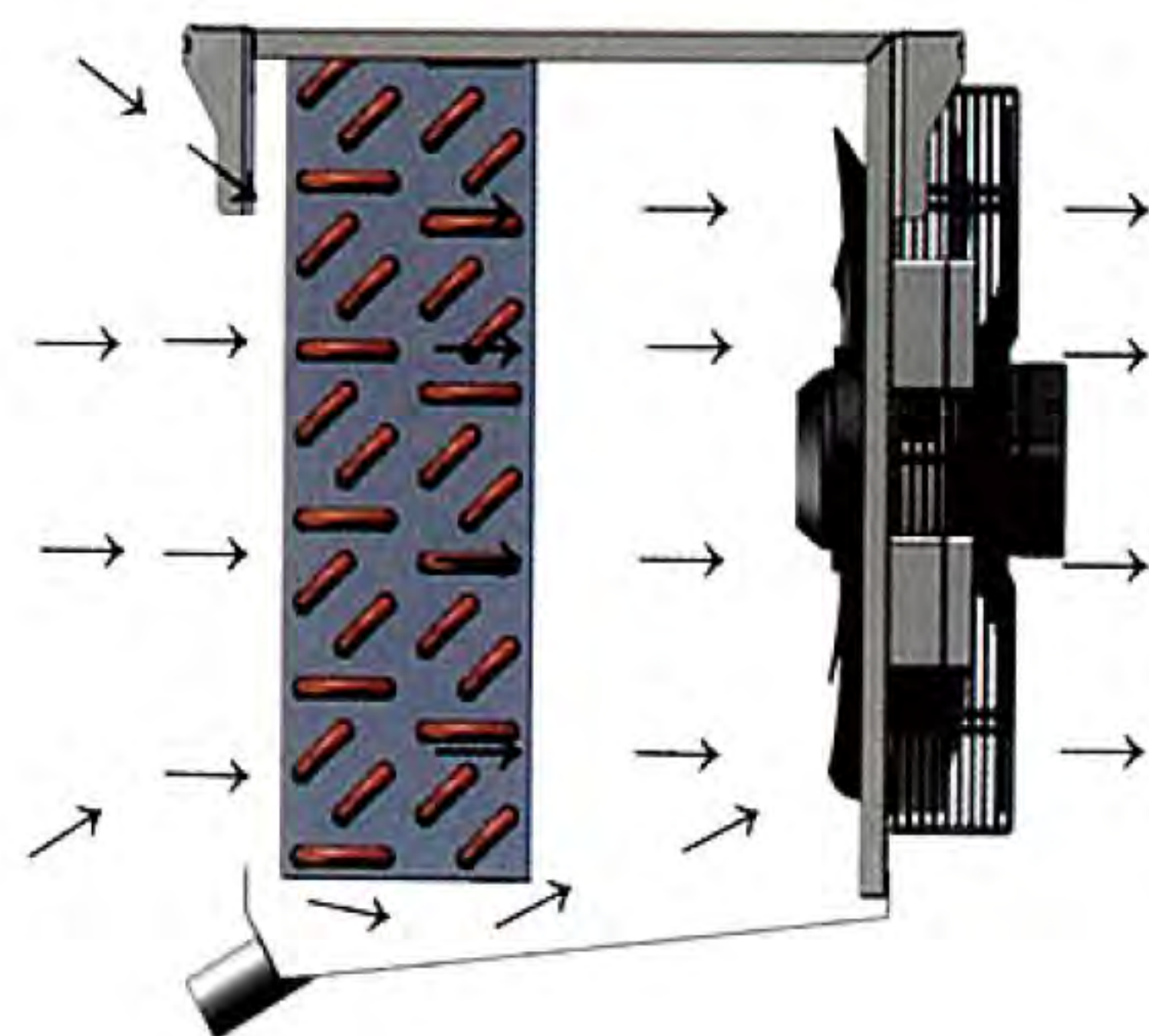
Low noise, maintenance free fan motors, with protection class F and IP 54, compliant to DIN 40050. Standard motors are suitable for temperatures from -40°C to +45°C, however motors with other temperature requirements are available on request. Standard motors are 2 speed and capacities and air flow shown in tables are at high speed (delta wired), standard air discharge is horizontal, draw through, yet other arrangements are possible.

The integral thermal contact (thermistors) must be used as motor protection. We reserve the right to use different fan manufacturers and technical motor data may vary. Power consumption may also vary at different operating temperatures and due to external pressure drop. For corresponding electrical data please refer to fan / motor labels on units.

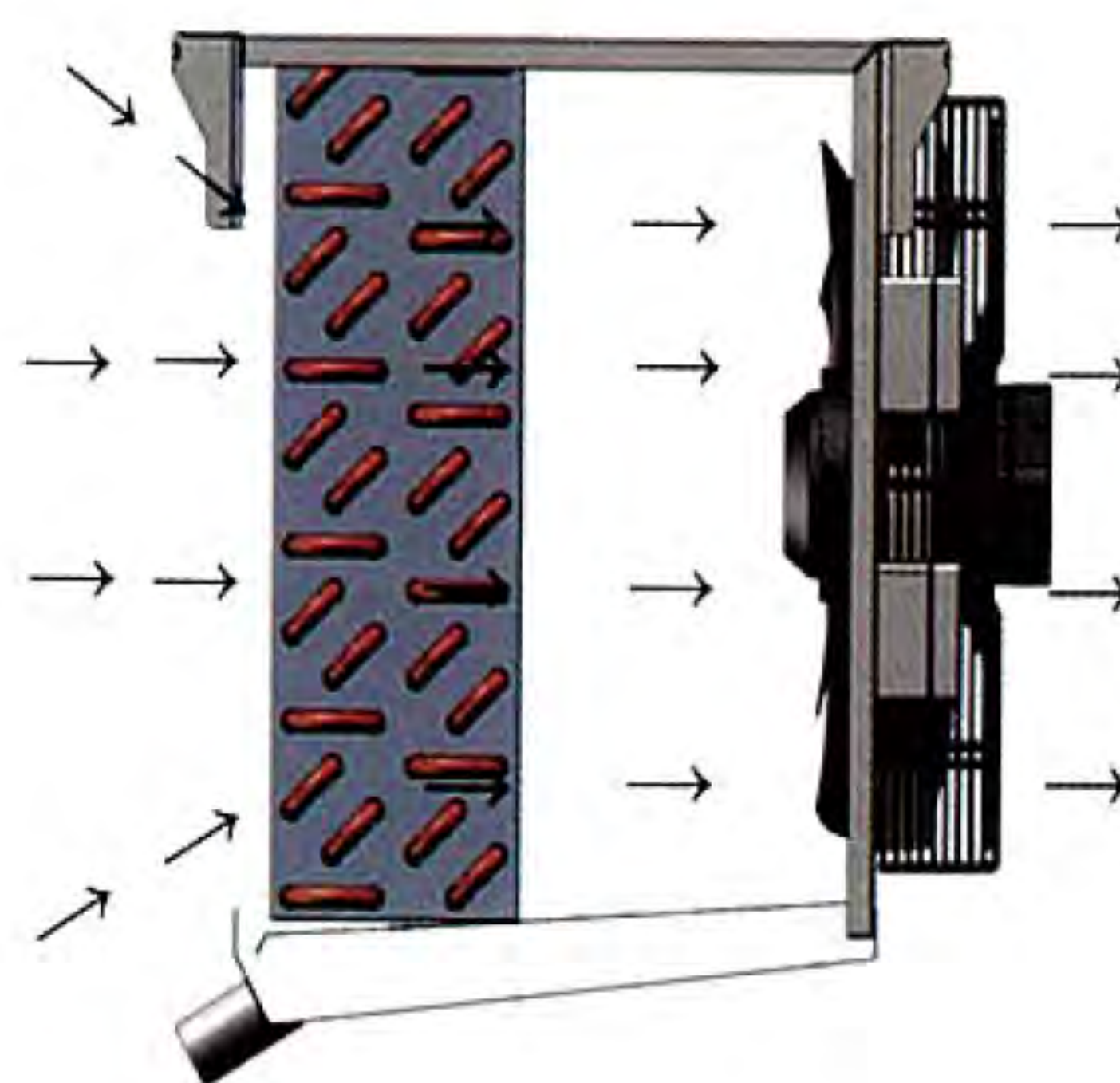
SOUND PRESSURE LEVEL

Noise pressure levels shown in tables are calculated in accordance with EN13487.

翅片组底部装有挡风内接水盘，杜绝风从接水盘内通过，使更多的风穿过翅片组，获得更大的换热量。
We have windshield at the bottom of the fan coils, it can prevent the air through the water tray, then more wind will through out the fan coils to improve the heat exchange efficiency.



无挡风板 w/o windshield



有挡风板 with windshield

制冷量

样本标出制冷量符合ENV328标准，DT1 是空气进口温度和蒸发温度之差。

工况为0/-8°C时标出制冷量基于80%空气相对湿度。

工况为-18/-25°C时标出制冷量基于95%空气相对湿度。

如果是其他工况请使用我们的修正系数表或者与我们公司或代理商联系。

包装

所提供产品的包装方式就是现场可直接进行安装的状态。水盘单独包装，发货时放在产品顶部或旁边。

备注

产品出厂提供安装吊耳适合于吊顶安装。

如果是低温条件下运行我们推荐风扇带电加热管环（库温低于-10°C）。

如果运行温度低于-40°C使用时，请与我们直接联系，因为在此工况下需要特殊材料和风机。

所有的电器元件都符合VDE标准。根据需求可提供多种管厚度、翅片厚度和材质。

备件和特殊结构

- 保温水盘-墙上安装支架
- 用于地面安装支腿-增加风机射程（安装导风罩）
- 不锈钢外壳
- 热气融霜用单向阀
- 热气除霜盘管连接
- 用于热气的止回阀
- 根据需求可提供60Hz风机
- 带喷涂翅片
- 可提供风扇加热环
- 风道接管
- 额外静压强力风机
- 部分电机可用230V，取决于直径
- 增加射程系统（ESS）

COOLING CAPACITY

Cooling capacity on this catalogue is satisfy with the standard ENV328. DT1 means the temp. Difference between air in temperature and evaporation temperature.

Under 0/8°C working condition, the capacity is calculated on 80% RH.

Under -18/25°C working condition, the capacity is calculated on 95%RH.

Under other conditions , please refer our correction factor or contact us.

PACKING

Units are supplied packed in installation position. Drip tray is packed separately and delivered on top or side of the unit.

REMARKS

Units are supplied with support brackets suitable for ceiling mounting.

For units operating at low temperatures fan peripheral heaters are recommended.

For units operating below -40°C please contact our office. Special materials and fans may be required for such operating conditions. All electrical components are in accordance to VDE conditions.

Alternative tube and fin thickness and materials are available on request.

ACCESSORIES AND SPECIAL EXECUTIONS

- Insulated tray
- Wall support
- Feet for floor mounting
- Increased air throw (streamer equipped unit)
- Air throw unit
- Casing made of stainless steel
- Non return valve
- Hot gas interconnecting tubing
- Check valve for hot gas
- 60 hz fans available on request
- Coated fins
- Fan peripheral heaters
- Connection for air distribution sock
- Reinforced fans with external static pressure
- Limited 230 v fans depending diameter
- Cabero efficiency stream system (ess)

MJX35系列斜出风冷风机

盘管

铜管材质：Φ9.52（Φ3/8”）内螺纹管
翅片材质：光铝箔，防腐铝箔（亲水铝箔）
盘管片型：31.75*27.5 正弦波纹片
翅片间距：C04=4.5mm片距，C07=7mm片距

化霜

(可选择但额外收费)

- 盘管电融霜符合VDE0720标准和水盘电融霜 MJX ... -E
- 盘管和水盘热气融霜 MJX ...-H

MJX35 Series Inclined Outlet Evaporator

COIL

Copper tube material: Φ9.52 ”(Φ3/8”)Internal thread tube design
fin material: Light aluminum foil, Anti-corrosion aluminum foil (hydrophilic aluminum foil)
Disk segment: 31.75*27.5 Sinusoidal corrugated plate
Fin spacing: C04=4.5mm ,C07=7mm

DEFROSTING

(optional against additional price)

- electrical defrosting acc.VDE0720 in coil and Water tray ele. defrost MJX ... -E
- hot gas defrost MJX ...-H

MJX35系列
MJX35Fseries

Φ350mm-4P										R404A
C04=4.5mm翅片间距 Fin spacing										
型号 model		MJX351T04R3-E	MJX351T04R4-E	MJX351T04R6-E	MJX352T04R3-E	MJX352T04R4-E	MJX352T04R6-E	MJX353T04R4-E	MJX353T04R6-E	MJX354T04R6-E
制冷量(kW) Cooling capacity	SC1(Δt=10K)	3.62	4.32	5.40	7.37	8.58	11.07	13.50	16.89	22.47
	SC2(Δt=8K)	2.40	2.87	3.69	4.89	5.69	7.34	8.95	11.20	14.90
	SC3(Δt=7K)	1.58	2.25	2.81	3.83	4.46	5.75	7.01	8.77	11.67
换热面积(m²)heat exchange area		6.90	9.20	13.80	14.20	18.40	27.60	28.80	41.40	55.30
管容(dm³) tube volume		1.06	1.36	2.12	2.12	2.73	4.25	4.13	6.45	8.52
风量(m³/h) air flow rate		2470	2340	2060	4945	4530	3943	6790	5910	7870
电机总功率(kW)total fan power		0.19/0.2*	0.19/0.2*	0.19/0.2*	0.38/0.4*	0.38/0.4*	0.38/0.4*	0.57/0.6*	0.57/0.6*	0.76/0.8*
电机总电流(A) total fan current		0.43/0.46*	0.43/0.46*	0.43/0.46*	0.86/0.92*	0.86/0.92*	0.86/0.92*	1.29/1.38*	1.29/1.38*	1.72/1.84*
射程(m) air flow		8	7	6	9	8	7	10	9	10
化霜总功率(kW)defrost power		0.9	1.35	1.35	1.5	2.25	2.25	4.05	4.05	6.75
接口管径(进/出Φmm)pipe dia		12/16	12/19	12/22	12/22	12/22	12/22	16/28	16/28	16/35
噪音(dBA)(3米) noise(dBA)(3m)		51	52	53	52	53	54	54	55	56
重量(kg) weight		35	39	46	42	49	55	57	66	84

Φ350mm-7P										R404A
C07=7mm翅片间距 Fin spacing										
型号 model		MJX351T07R3-E	MJX351T07R4-E	MJX351T07R6-E	MJX352T07R3-E	MJX352T07R4-E	MJX352T07R6-E	MJX353T07R4-E	MJX353T07R6-E	MJX354T07R6-E
制冷量(KW) Cooling capacity	SC1(Δt=10K)	2.87	3.43	4.55	5.67	6.84	9.13	10.86	14.15	18.65
	SC2(Δt=8K)	1.91	2.28	3.06	3.77	4.55	6.07	7.22	9.41	12.40
	SC3(Δt=7K)	1.45	1.78	2.34	2.94	3.55	4.73	5.63	7.34	9.67
	SC4(Δt=6K)	1.20	1.46	1.94	2.41	2.91	3.88	4.62	6.02	7.94
换热面积(m²)heat exchange area		4.60	6.14	9.25	9.45	12.30	18.50	19.46	27.60	37.00
管容(dm³) tube volume		1.06	1.36	2.12	2.12	2.73	4.25	4.13	6.45	8.52
风量(m³/h) air flow rate		2640	2450	2150	5280	4890	4310	7320	6450	8610
电机总功率(kW)total fan power		0.19/0.2*	0.19/0.2*	0.19/0.2*	0.38/0.4*	0.38/0.4*	0.38/0.4*	0.57/0.6*	0.57/0.6*	0.76/0.8*
电机总电流(A) total fan current		0.43/0.46*	0.43/0.46*	0.43/0.46*	0.86/0.92*	0.86/0.92*	0.86/0.92*	1.29/1.38*	1.29/1.38*	1.72/1.84*
射程(m) air flow		9	8	7	10	9	8	11	10	11
化霜总功率(kW)defrost power		0.9	1.35	1.35	1.5	2.25	2.25	4.05	4.05	6.75
接口管径(进/出Φmm)pipe dia		12/16	12/19	12/22	12/22	12/22	12/22	16/28	16/28	16/35
噪音(dBA)(3米) noise(dBA)(3m)		51	52	53	52	53	54	54	55	56
重量(kg) weight		33	36	44	40	47	52	54	63	81

整机外形尺寸表 overall size											
No.	型号 Model	L(mm)	L1(mm)	W(mm)	H(mm)	A(mm)	B(mm)	C(mm)	D(mm)	W1(mm)	G(mm)
1	MJX351	1170	585	890	415	630				785	G 1.5"
2	MJX352	1740	870	890	415	600	600			785	G 1.5"
3	MJX353	2340	1170	890	415	600	600	600		785	G 1.5"
4	MJX354	2940	1470	890	415	600	600	600	600	785	G 1.5"

