

冷风机

Evaporators



MJN系列水冲霜(非标定制)



MJD商用型双出风冷风机

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。

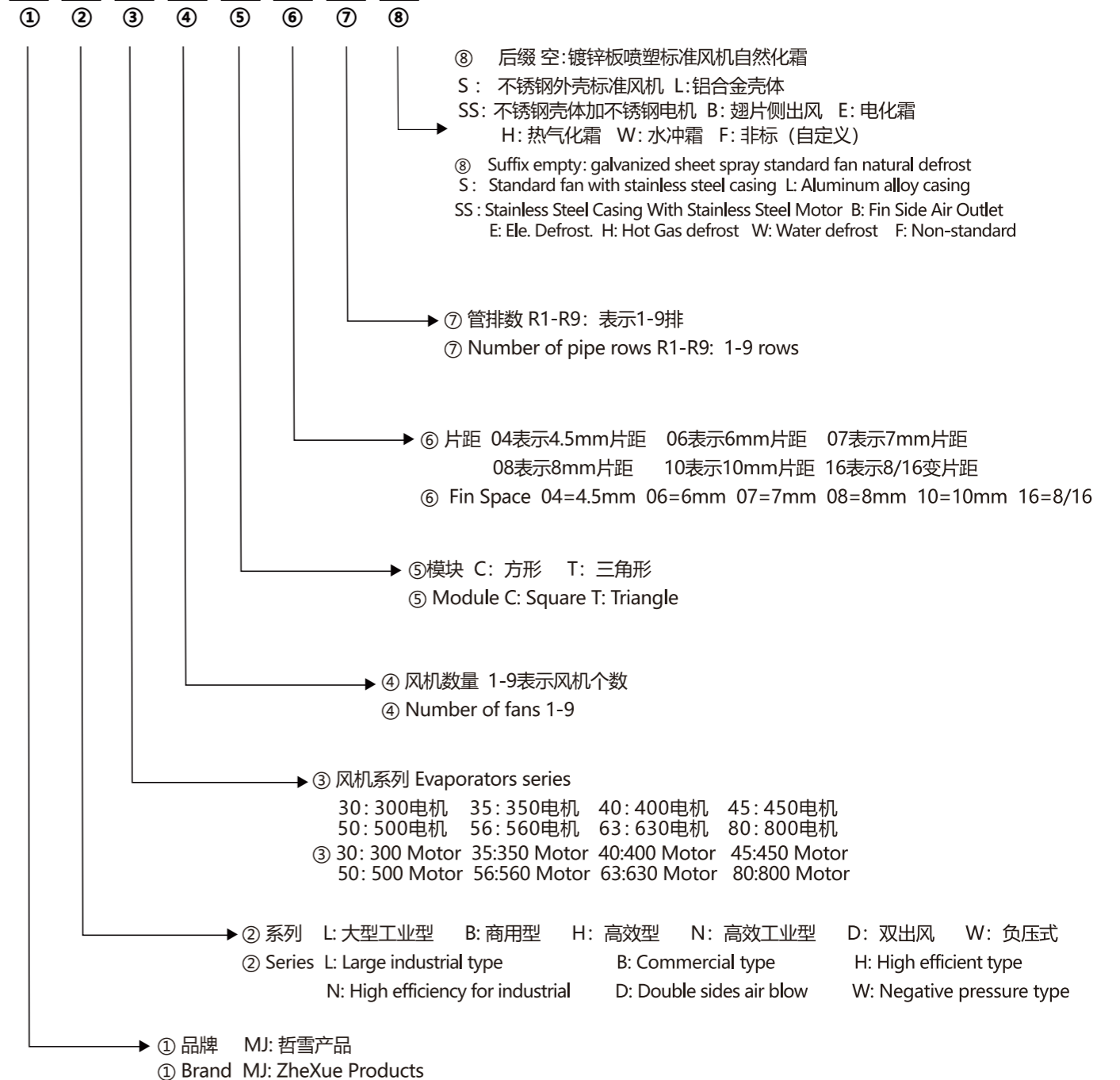
Products Feature

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. Using15.88mm 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 , using15.88mm 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



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R-404A, 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 $\text{DT1}=10\text{K}$

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

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

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

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

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x修正系数x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, $t_o = 0^\circ\text{C}$, $\text{DT1}=10\text{K}$														
	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

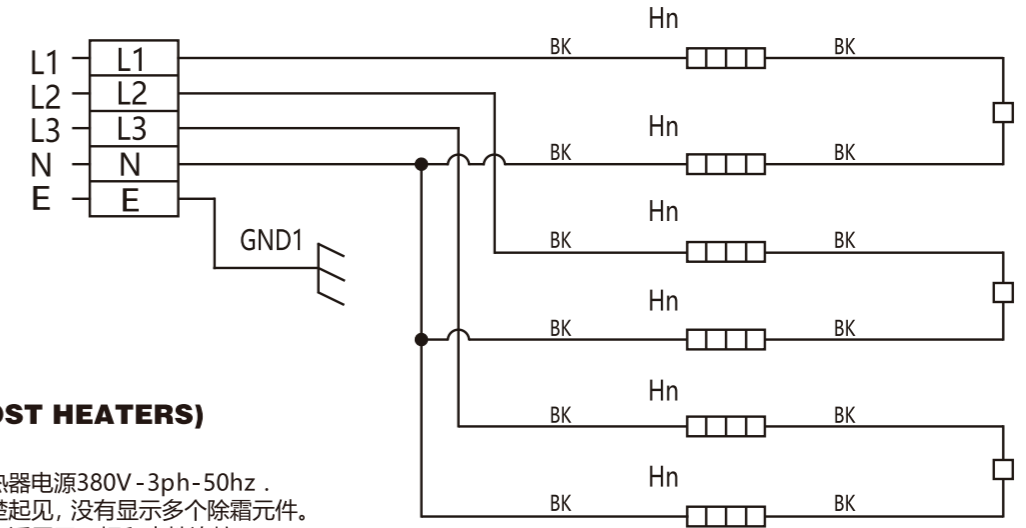
DT1	参考名义制冷量SC2工况							
	SC2工况, $t_o = -8^\circ\text{C}$, $\text{DT1}=8\text{K}$							
	蒸发温度 (t_e)							
K	-5	-6	-7	-8	-9	-10	-11	-12
6	0.716	0.711	0.700	0.689	0.679	0.670	0.661	0.654
7	0.873	0.865	0.857	0.843	0.829	0.816	0.805	0.794
8	1.034	1.022	1.011	1.000	0.982	0.966	0.951	0.936
9	1.197	1.181	1.167	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, $t_o = -25^\circ\text{C}$, $\text{DT1}=7\text{K}$							
	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, $t_o = -32^\circ\text{C}$, $\text{DT1}=6\text{K}$							
	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

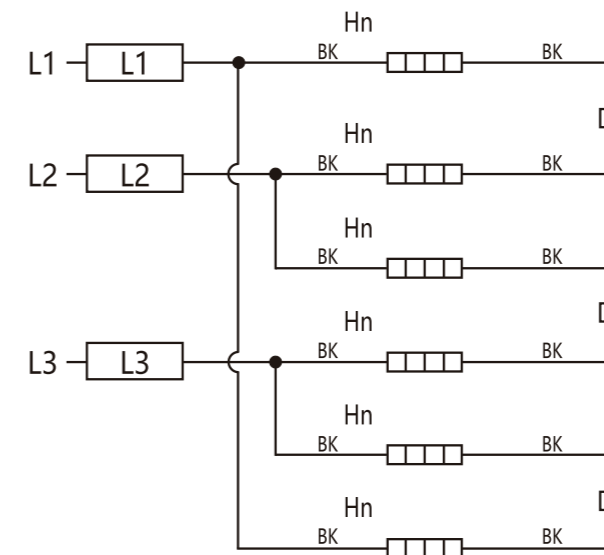
表二: 不同制冷剂之间的转换系数						
制冷剂	R404A	R22	R407C	R410A	R507C	R23
直膨	1.000	0.927	0.980	0.995	0.961	1.017
泵供液	1.005	0.999	1.027	1.066	0.999	1.099



(DEFROST HEATERS) NOTE:

1. 除霜加热器电源380V-3ph-50hz .
 2. 为了清楚起见, 没有显示多个除霜元件.
 3. 警告: 仅适用于三相和中性连接.
1. Defrost Heater Supply 380V-3Ph- 50Hz.
2. For clarity multiple defrost elements are not shown.
3. Warning: only suitable for 3-phase and neutral connection.

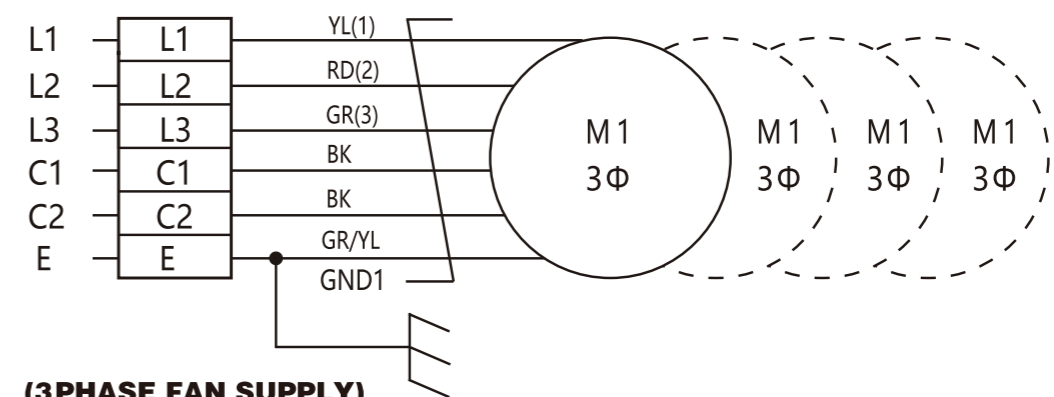
450及以下系列采用Y形除霜接线 Y-type defrosting wiring for the motors ≤ 450mm



500及以上系列采用三角形除霜接线 Triangle-type defrosting wiring for the motor ≥ 500mm

(DEFROST DELTA) NOTE:

1. 除霜加热器电源380V-3ph-50hz .
 2. 为了清楚起见, 没有显示多个除霜元件.
1. Defrost Heater Supply 380V-3ph-50hz .
2. For clarity multiple defrost heaters not shown.



(3PHASE FAN SUPPLY) NOTE:

- 风扇电源 380V-3Ph- 50Hz.
Fan Supply 380V-3Ph- 50Hz.

风机接线 (需添加热保护)

Fan motor wiring(have to connect heater protector)

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。

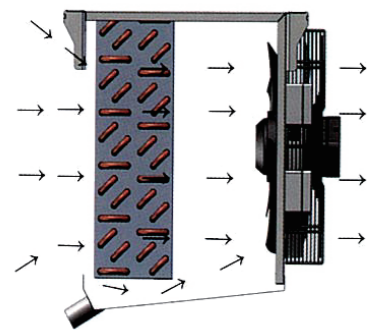
电机内置热保护作为电机防护装置。我们保留使用不同制造商生产的风机的权利, 因此电机技术参数会有所不同。功率和电流会随温度和风压的变化而变化。请察看相关风机/电机标牌的相应数据。

声压级

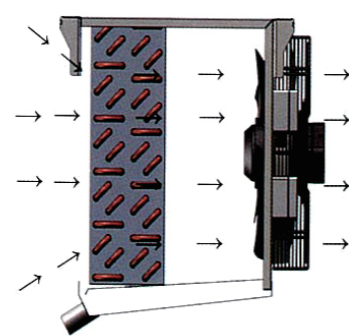
噪音测试标准依据EN13487

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

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.

制冷量

样本标出制冷量符合EN328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 satisfied with the standard EN328. 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 with 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)

MJB30系列商用型冷风机

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: 31.75x27.5 V型波纹片
翅片间距: C04=4mm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 MJB ... -E
- 盘管和水盘热气融霜 MJB/L ...-H

MJB30 Commercial Type 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: 31.75x27.5 V corrugated segment
Fin spacing: C04=4mm, C07=7mm

DEFROSTING
(optional against additional price)
- electrical defrosting acc.VDE0720 in coil and Water tray
ele. defrost MJB ...-E
- hot gas defrost MJB/L ...-H

MJB35系列商用型冷风机

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: 31.75x27.5 V型波纹片
翅片间距: C04=4mm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 MJB ... -E
- 盘管和水盘热气融霜 MJB/L ...-H

MJB35 Commercial Type 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: 31.75x27.5 V corrugated segment
Fin spacing: C04=4mm, C07=7mm

DEFROSTING
(optional against additional price)
- electrical defrosting acc.VDE0720 in coil and Water tray
ele. defrost MJB ...-E
- hot gas defrost MJB/L ...-H

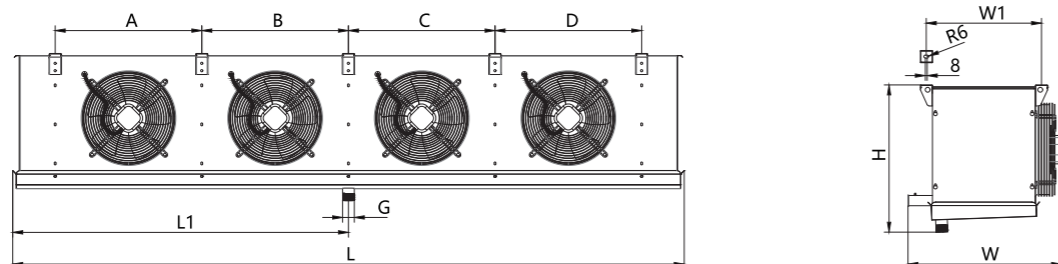
MJB30系列
MJB30Fseries

Φ300mm-4P R404A								
C04=4mm翅片间距 Fin spacing								
型号 model	MJB301C04R4-E	MJB301C04R6-E	MJB302C04R4-E	MJB302C04R6-E	MJB303C04R4-E	MJB303C04R6-E	MJB304C04R6-E	
制冷量(KW)	SC1(Δt=10K)	4.42	5.38	8.78	10.68	13.36	16.19	21.52
Cooling capacity	SC2(Δt=8K)	2.97	3.67	5.88	7.27	8.90	11.00	14.72
	SC3(Δt=7K)	2.14	2.67	4.35	5.36	6.70	7.99	10.59
换热面积(m²) heat exchange area		12.30	18.40	23.90	35.80	36.20	54.40	72.67
管容(dm³) tube volume		1.68	2.30	2.90	4.40	4.70	7.20	9.00
风量(m³/h) air flow rate		1700	1600	3500	3100	5300	4700	6400
电机总功率(W) total fan power		120	120	240	240	360	360	480
电机总电流(A) total fan current		0.39	0.39	0.78	0.78	1.17	1.17	1.56
射程(m) air flow		10	10	10	10	11	11	11
化霜总功率(W) defrost power		1350	2250	2250	3750	4050	6750	11250
接口管径(进/出Φmm) pipe dia		12/16	12/19	12/22	12/28	12/28	16/28	22/35
重量(kg) weight		30	33	55	60	75	83	110

Φ300mm-7P R404A								
C07=7mm翅片间距 Fin spacing								
型号 model	MJB301C07R4-E	MJB301C07R6-E	MJB302C07R4-E	MJB302C07R6-E	MJB303C07R4-E	MJB303C07R6-E	MJB304C07R6-E	
制冷量(KW)	SC1(Δt=10K)	3.41	4.38	6.68	8.67	10.75	13.30	17.67
Cooling capacity	SC2(Δt=8K)	2.29	2.94	4.45	5.81	6.67	9.00	11.98
	SC3(Δt=7K)	1.65	2.16	3.29	4.30	4.99	6.51	8.64
SC4(Δt=6K)	1.37	1.78	2.73	3.55	4.10	5.44	7.24	
换热面积(m²) heat exchange area		7.38	10.90	14.26	21.40	21.68	32.58	43.35
管容(dm³) tube volume		1.68	2.30	2.90	4.40	4.70	7.20	9.00
风量(m³/h) air flow rate		1800	1700	3700	3400	5600	5200	6900
电机总功率(W) total fan power		120	120	240	240	360	360	480
电机总电流(A) total fan current		0.39	0.39	0.78	0.78	1.17	1.17	1.56
射程(m) air flow		10	10	10	10	11	11	11
化霜总功率(W) defrost power		1350	2250	2250	3750	4050	6750	11250
接口管径(进/出Φmm) pipe dia		12/16	12/19	12/22	12/28	12/28	16/28	22/35
重量(kg) weight		28	30	55	60	73	79	103

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	MJB301C	970	485	560	495	630				403	G 1.5"
2	MJB302C	1540	770	560	495	600	600			403	G 1.5"
3	MJB303C	2140	1070	560	495	600	600	600		403	G 1.5"
4	MJB304C	2740	1370	560	495	600	600	600	600	403	G 1.5"



MJB35系列
MJB35Fseries

Φ350mm-4P R404A									
C04=4mm翅片间距 Fin spacing									
型号 model	MJB351C04R4-E	MJB351C04R6-E	MJB352C04R4-E	MJB352C04R6-E	MJB353C04R4-E	MJB353C04R6-E	MJB354C04R4-E	MJB354C04R6-E	
制冷量(KW)	SC1(Δt=10K)	7.07	8.75	14.14	17.38	21.47	26.30	28.20	35.02
Cooling capacity	SC2(Δt=8K)	4.73	5.95	9.44	11.64	14.26	17.94	19.04	23.88
	SC3(Δt=7K)	3.49	4.30	7.06	7.52	10.87	13.00	13.75	17.28
换热面积(m²) heat exchange area		16.40	24.60	32.12	48.10	48.60	72.70	65.00	97.10
管容(dm³) tube volume		2.30	3.30	4.40	6.50	6.70	9.80	9.00	12.60
风量(m³/h) air flow rate		3300	2900	6500	5900	9900	8800	13200	11800
电机总功率(W) total fan power		190	190	380	380	570	570	760	760
电机总电流(A) total fan current		0.40	0.40	0.80	0.80	1.20	1.20	1.60	1.60
射程(m) air flow		13	13	13	13	14	14	14	14
化霜总功率(W) defrost power		1350	2250	2250	3750	4050	6750	6750	11250
接口管径(进/出Φmm) pipe dia		12/19	12/22	12/28	16/35	16/35	16/35	16/35	22/42
重量(kg) weight		33	35	55	60	77	85	93	112

Φ350mm-7P R404A									
C07=7mm翅片间距 Fin spacing									
型号 model	MJB351C07R4-E	MJB351C07R6-E	MJB352C07R4-E	MJB352C07R6-E	MJB353C07R4-E	MJB353C07R6-E	MJB354C07R4-E	MJB354C07R6-E	
制冷量(KW)	SC1(Δt=10K)	5.38	7.11	10.70	13.70	16.07	21.40	21.72	28.47
Cooling capacity	SC2(Δt=8K)	3.59	4.81	7.13	9.10	10.64	14.46	14.59	19.25
	SC3(Δt=7K)	2.56	3.49	5.32	6.85	8.08	10.51	10.58	13.96
SC4(Δt=6K)	2.20	2.90	4.43	5.63	6.68	8.73	8.70	11.58	
换热面积(m²) heat exchange area		9.80	14.70	19.20	28.80	29.20	43.50	39.00	58.00
管容(dm³) tube volume		2.3	3.3	4.4	6.5	6.7	9.8	9	12.6
风量(m³/h) air flow rate		3500	3200	7000	6400	10500	9700	14000	12900
电机总功率(W) total fan power		190	190	380	380	570	570	760	760
电机总电流(A) total fan current		0.40	0.40	0.80	0.80	1.20	1.20	1.60	1.60
射程(m) air flow		12	12	12	12	14	12	14	14
化霜总功率(W) defrost power		1350	2250	2250	3750	4050	6750	6750	11250
接口管径(进/出Φmm) pipe dia		12/19	12/22	12/28	16/35	16/35	16/35	16/35	22/42
重量(kg) weight		30	33	53	57	74	80	90	106

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	MJB351C	980	490	635	605	630				470	G 1.5"
2	MJB352C	1550	775	635	605	600	600			470	G 1.5"
3	MJB353C	2150	1075	635	605	600	600	600		470	G 1.5"
4	MJB354C	2750	1375	635	605	600	600	600	600	470	G 1.5"

