



Unit coolers / Air cooled condensers / Dry coolers  
冷风机 / 风冷冷凝器 / 干式冷却器

**ECO™** heat transfer  
coolers





ECO™ heat transfer  
coolers

by  **MODINE**  
Always Innovating. Always Improving.

*For more than 40 years we have been developing and improving our products in response to your most rigorous requirements and needs.*

*With the objective of offering top quality products and service, the Modine CIS has taken up ISO 9001, ISO 14000 control standards and also the standards proposed by the most influential international certification associations.*

*The wealth of experience that we have acquired in many years of continuous, intense work is now at your complete disposal, thanks to a new array of tools for the quick selection of our products that accompany this catalogue,*

- *“Scelte” selection software*
- *our website “[www.modine.com](http://www.modine.com)”*
- *and our “up-to-date product catalogues”*

*You can immediately get answers to many of your queries. For all supplementary information our technical staff is at your complete disposal.*

四十多年来，我们一直根据您的严格要求不断地发展和完善我们的产品。

为了提供优质的产品和服务，我公司通过了ISO9001，ISO14000质量控制体系以及全球最富影响力的国际认证体系认证标准。

您可以完全借助我们连续多年辛勤工作所积累的丰富经验，使用新的工具快速选到该样本对应的本公司产品。

- **“Scelte” 选型软件**
- 我们的网址 **“[www.modine.com](http://www.modine.com)”**
- 我们的 **“最新产品样本”**

您可以快速地找到问题的答案。我们经验丰富的技术人员也将为您提供全面的辅助信息。

## Air cooled condensers 风冷冷凝器

## Gas coolers NH<sub>3</sub> coolers CO<sub>2</sub> coolers Brine & dry coolers

气体冷却器

NH<sub>3</sub>冷风机

CO<sub>2</sub>冷风机

盐水冷风机及干式冷却器

# The products 产品

## General Features

The highly efficient coils are made from special profile aluminium fins and copper tube, designed for use with new generation refrigerants. Specific solutions are also available for environmentally friendly refrigerants. The appropriate geometry is proposed for each specific application. In order to avoid possible damage to the tubes particular attention has been given to the manufacture of the coil end plates. Heat exchangers are supplied clean and tested at a pressure of 30 bars<sup>1)</sup>.

The casing of our different product ranges, designed to allow easy access to internal components, is made from smooth finish aluminum alloy, or pre-painted galvanized steel sheet<sup>2)</sup>, with the following characteristics:

- high corrosion and impact resistance;
- resistant to low temperatures;
- non-toxic;
- does not produce polluting debris;
- completely covered in a protective plastic film.

The standard fan motors<sup>3)</sup> are manufactured according to our specifications and in compliance with the latest safety standards, and when it is possible, are fitted to the unit structure with an anti-vibration system.

The elevated air throw is achieved thanks to a perfect combination of factors, all published data are the result of measurements conducted in the our Technical Lab.

For the unit coolers, equipped with standard electric defrosting, the heat required to melt ice build-up is provided by stainless steel heater elements located in the finned pack and in the inner drip trays. The heaters are strategically positioned to ensure heat distribution even in the most critical areas of the unit. Given the high grade of thermal conductivity of the materials employed the heat diffusion is ensured to the entire unit. The water resulting from defrosting is channelled, thanks to the drip trays, to drain pans specifically designed to enable the water to drain freely.

The electrical parts and casework are connected to an earth terminal.

The fan guards are made from fibreglass charged polyamide or prepainted steel and are manufactured in compliance with strict safety standards.

The standard wiring is carried out in robust junction boxes with access holes equipped with tear-proof cable glands.

All electrical wiring in proximity to other elements are protected from wear and tear, materials are carefully selected in order to offer long-term reliability.

Packing is made either from recyclable cardboard suitably reinforced or completely in wood. The packing for the industrial range of unit coolers and brine coolers<sup>4)</sup> is designed for rapid and trouble-free ceiling installation. This packing allows to save time.

All our products are supplied with a technical manual, a declaration of conformity (inclusive of testing certificate), a PED report and for special models supplementary sheets are issued to complete the technical manual.

1) For brine and dry coolers 16 bars.

2) Pre-painted steel for models TKE, PCV, KCE, VCE and VCC.

3) Fan motors produced by various manufacturers may be used.

4) Models with packaging that has been specifically designed to facilitate ceiling installation: ICE, IDE, FTE, CTE Ø 630 mm, ICN, IDN.

## 综合介绍

高效的盘管由特殊表面形状的铝翅片和铜管制成，设计用于新型的制冷剂。特定的解决方案也同样适用于环保型制冷剂。合适的几何尺寸应用于各种特殊的用途。

为避免可能的管子损坏，盘管端板在制造过程中都得到了特别的关注。换热器保证了清洁度并执行30bar<sup>1)</sup>的压力测试。

不同产品系列都采用了便于内部零件拆卸的外壳，并采用光滑铝合金制成，也可以采用带喷涂的镀锌钢板<sup>2)</sup>，并且：

- 具有很高的耐腐蚀性和抗冲击性；
- 具有很高的耐低温性；
- 无毒性；
- 不产生污染性碎垢；
- 使用塑料保护薄膜完全覆盖。

标准的风机马达<sup>3)</sup>，完全按照我们的设计规范和标准制造，并在安装至设备结构中时采用了防振系统。

较高的空气射程通过各种因素的完美组合来实现，所公布的所有数据都是在专业技术实验室内测量获得的。

在安装有标准电除霜加热管的冷风机中，融霜所需的热量由安装在翅片和内部接水盘上的不锈钢加热管元件提供。加热管特定的安装位置确保了其安全工作。

发热量最大限度地分散到各个部位。具有高效导热性能的材料应用于各个热传导部位。特殊设计的接水盘可使融霜水能够顺利地直接地通过其排出。

电器部件和外壳均带有安全接地装置。

风机网罩是根据严格的安全标准，由聚酯玻璃纤维或涂塑钢丝制成。

标准配线在坚固的接线盒中完成，且接线盒入口处均采用防裂的电缆接头。

其他元件的所有接线都采用防磨损和防裂保护，所有材料均经过慎重选择以保证其长期可靠性。

包装均采用经过加强的可回收纸板或完整的木料。

工业型冷风机和盐水冷风机<sup>4)</sup>的包装在设计时均考虑到能够快速和方便的安装。

我们提供的所有产品都带有技术手册，合格证（包括检验证书）、PED设备报告和特殊规格的补充资料都包含在技术手册中。

1) 盐水和干式冷却器为16bar。

2) TKE, PCV, KCE, VCE及VCC采用彩涂钢板。

3) 使用不同供应商的风机马达。

4) 包装的专门设计易于安装：ICE, IDE, FTE, CTE Ø 630mm, ICN, IDN.

# The products 产品

## Reference Standards

Our products are manufactured in compliance to the following reference standards:

- the internal cleaning verification of the coils is made in accordance to DIN 8964;
- the electric motors are manufactured according to EN 60335-1;
- the fan guards respect EN 294 safety standards;
- the air throw was measured in our Technical Lab according to CECOMAF GT 6-001 (final velocity = 0,25 m/s);
- the ranges conform to the 2006/42/EC machine directive, to 2014/35/EC low voltage directive and to 2014/68/EC (Pressure Equipment Directive).
- modified 2004/108/EC (EMC Electromagnetic Compability).

Some of products have been tested in the "TÜV NORD and TÜ SÜD" testing labs.

The testing facilities certify the capacities, the air throws, the absorbed power, the exchange surfaces and sound levels of the units.

## Warranty

All technical information published in this edition is based on tests considered thorough and reliable, but which do not comprise all possible applications.

The buyer must determine if the unit is suitable for the application for which it is intended and assume full responsibility of its use.

We shall in no event be liable for any loss, direct, indirect or accidental damage resulting from product use, misuse or incorrect installation.

The seller is at buyer's disposal for any helpful information regarding the best handling and use of its products.

All our products are warranted for a period of one year from the invoice date for any manufacturing defects; faulty items shall be returned, carriage paid, to the supplying plant, in order to be inspected and at our unobjectionable judgment, repaired or replaced.

This warranty specifically excludes episodic damage or breakdown due to transportation, handling or tampering by unauthorized personnel, misuse and incorrect installation.



All our products are warranted for 1 years.

CTE 352 A4; CTE 352 E8; CTE 501 E6;  
CTE 501 A8; CTE 501 E4; STE 32 AH3;  
STE 31 BL7; MTE 24 H4; LFE 21 EM5;  
DFE 32 EH3; DFE 32 EL7; ICE 41 B10;  
ICE 41 B06; IDE 41 A04, were tested by TÜV SÜD.

All our units are certified for pressure equipment (PED report).

All our products have the CE mark.

Our standard packing is made from recyclable materials.

## 参考标准

我们的产品根据以下参考标准进行制造:

- 盘管内部清洁指标根据DIN8964;
- 电动机指标根据EN60335-1;
- 风机保护装置根据EN294安全标准;
- 空气射程指标根据CECOMAF GT 6-001在技术实验室内测量(最终速度=0.25m/s)
- 所有产品范围符合2006/42/EC机械指令、2014/35/EC低电压指令和2014/68/EC(压力设备指令)。
- 修订后的2004/108/EC(EMC电磁兼容性)

部分产品在TÜV NORD和TÜV SÜD实验室内测试。

所有测试装置将测量设备的换热量、空气射程、功率、换热面积和噪声级别等。

## 质量保证

此版本中所公布的所有技术数据均来自充分可靠的试验数据,但并不涵盖所有应用。

用户必须考虑产品是否适合自己的用途,并承担所有可能产生的责任。

我们将不对可能发生的产品使用,误用和不正确安装造成的直接或间接损坏负责。

供应商将向客户提供正确处理和使用该产品的相关有用信息。

针对制造缺陷,本公司提供所有产品的质保为自开票之日起一年内的免费维修;缺陷部件将被收回至供应商处,运费免付,以便于我们进行分析、修理和更换。

本质量保证不包括由于运输、人为因素、错误使用和不正确安装所造成的损坏。

所有产品质保一年。

CTE 352 A4; CTE 352 E8; CTE 501 E6; CTE 501 A8;  
CTE 501 E4; STE 32 AH3; STE 31 BL7; MTE 24 H4; LFE  
21 EM5; DFE 32 EH3; DFE 32 EL7; ICE 41 B10;  
ICE 41 B06; IDE 41 A04, 由TÜV SÜD检测。

所有我们的设备均获得压力设备认证(PED报告)。

所有我们的产品都带有CE标记。

我们的标准包装采用可回收材料。

# The products 产品

## Published data

Indicated hereafter are the norms and conditions applied for the calculation of the published capacities.

### Unit coolers for traditional fluids

- Standard: EN 328.
- Nominal capacity: assessed in practical operating ambient, i.e. in wet conditions; R404A refrigerant; air inlet temperature 0 °C; evaporating temperature -8 °C; TD 8 K.
- Standard Capacity: assessed in dry-conditions; test class SC2; R22 refrigerant; air inlet temperature 0 °C; evaporating temperature -8 °C; DT 8 K.

### Air cooled condensers for traditional fluids

- Standard: EN 327
- The stated capacity is assessed based on ambient temperature 25 °C; and condensing temperature 40 °C with R404A.
- Energy Efficiency Class: indicates the declared energy consumption on a scale from A (minimum consumption) to E (maximum consumption). This scale expresses the ratio between declared capacity at TD 15K (kW) and the total power actually absorbed by the motors (kW). Reference directive 92/75/EEC and subsequent implementations by Directive Commission.
- The power actually absorbed is assessed directly from model, whereas the nominal power is the value stated in the motor label.

### NH<sub>3</sub> unit coolers

- Standard: EN 328.
- Nominal capacity: assessed in practical operating ambient, i.e. in wet conditions; NH<sub>3</sub> refrigerant; air inlet temperature 0 °C; evaporating temperature -8 °C; TD 8 K.
- Standard Capacity: assessed in dry-conditions; test class SC2; NH<sub>3</sub> refrigerant; air inlet temperature 0 °C; evaporating temperature -8 °C; TD 8 K.
- The capacities have been calculated considering three recirculations with pump operating from below.

### CO<sub>2</sub> unit coolers

- For the conditions that have been applied refer to the technical data tables' notes, for different conditions use the "Scelte" selection program.

### Liquid coolers

- Standard: EN 1048.
- For Liquid cooler capacities please use "Scelte" Selection software.

### Brine and dry coolers

- For the capacities of brine and dry coolers you are kindly requested to use the "Scelte" selection program.

### CO<sub>2</sub> gas coolers

- For selections, special applications and further information consult our Technical Dept.

In the catalogue the thermal exchange surfaces are divided in inner (referred to the circuiting) and external (parts brushed by air) surfaces.

## 公布的数据

以下为计算公布的换热量所使用的标准和条件。

### 冷风机

- 标准: EN 328
- 名义换热量: 在实际运行环境中测定, 即在湿工况下; R404A制冷剂; 进风温度0°C; 蒸发温度-8°C; TD 8K。
- 标准换热量: 在干燥条件下测定; 测试等级SC2; R22制冷剂; 进风温度0°C; 蒸发温度-8°C; TD 8K。

### 风冷冷凝器

标准: EN 327

- 标准换热量在环境温度为25°C下测定; 制冷剂R404A 冷凝温度为40°C。
- 能效等级: 显示数值A (最小损耗) 和E (最大损耗) 之间的设定能量损耗值。该数值代表TD 15K时的设定换热量 (kW) 与电机实际消耗总功率 (kW) 之间的比值。参考标准92/75/EEC和标准委员会作出的后续补充。
- 实际消耗功率直接根据产品型号测定, 而名义功率为电机铭牌上标定的数值。

### NH<sub>3</sub> 冷风机

- 标准: EN 328
- 名义换热量: 在实际运行环境中测定, 即在湿工况下; NH<sub>3</sub>制冷剂; 进风温度0°C; 蒸发温度-8°C; TD 8K。
- 标准换热量: 在干燥条件下测定; 测试等级SC2; NH<sub>3</sub>制冷剂; 进风温度0°C; 蒸发温度-8°C; TD 8K。
- 换热量的计算已经考虑了循环倍率为3的泵供液。

### CO<sub>2</sub> 冷风机

- 有关应用工况, 请参考技术数据表, 不同的工况请使用 "Scelte" 选型软件。

### 液体冷却器

- 标准: EN 1048。
- 液体冷却器换热量请使用 "Scelte" 选型软件。

### 盐水冷风机及干式冷却器

- 盐水冷风机及干式冷却器的换热量请使用 "Scelte" 选型软件。

### CO<sub>2</sub> 气体冷却器

- 如需选型, 特殊应用及进一步的信息请咨询我们技术部门。

本产品目录中, 将换热器表面分为内表面(管内侧)和外表面(空气侧)。

# Unit coolers

## 冷媒冷风机

# Selection 选型

## Unit coolers

The capacities of the unit cooler were tested in compliance to EN 328 standard according to SC2 testing conditions (Tab. 1).

To select the product in conditions of practical use with R404A, it is necessary to multiply the nominal capacity value by the correction factor stated in Tab. 2.

With other refrigerants multiply the nominal capacity by the respective factor (Tab. 3).

## Selection examples

A) for a GCE model based on required heat load

- Heat load = 3.5 kW
- Air inlet temperature = 2 °C
- TD = 7 K
- Refrigerant = R134a
- Selected model = GCE 351 A6

$$\frac{CT}{F1 \times F2} = \text{Capacity} = \frac{3.5}{0,936 \times 0,91} = 2,37\text{kw} = \text{GCE 351 A6}$$

B) for a CTE model based on different conditions

- Air inlet temperature = -25 °C
- TD = 7 K
- Refrigerant = R22
- Selected model = CTE 501 A8

$$\text{Nominal Capacity} \times F1 \times F2 = 10,7 \times 0,769 \times 0,95 = 7,81\text{kw}$$

in which:

CT = Heat load.

F1 = Correction factor of nominal capacity (Tab. 2).

F2 = Correction factor for refrigerants (Tab. 3).

## 冷媒冷风机

冷媒冷风机的换热量是根据EN 328标准，在SC2条件下测得的（表格1）。

实际使用R404A制冷剂选择合适的产品，必须用表格2中的修正系数加以修正。

使用其他制冷剂时，必须用表格3中的修正系数加以修正。

## 选型举例

A) 根据热负荷选择GCE系列

- 热负荷=3.5kW
- 进风温度= 2 °C
- TD=7 K
- 制冷剂=R134a
- 所选型号=GCE 351 A6

B) 根据不同工况选择CTE系列

- 进风温度= -25 °C
- TD=7 K
- 制冷剂=R22
- 所选型号=CTE 501 A8

其中:

CT = 热负荷

F1 = 名义换热量修正系数（表格2）

F2 = 制冷剂修正系数（表格3）

# Selection 选型

Tab. 1 | STD conditions in compliance to EN 328 standard  
遵循EN 328标准的标准条件

Standard capacity conditions 标准换热条件	Inlet air temperature °C 进风温度	Evaporation temperature °C 蒸发温度	RH %	Wet Conditions factor 湿式工况系数
SC 1	10	0	85	1,35
SC 2	0	-8	85	1,15
SC 3	-18	-25	95	1,05
SC 4	-25	-31	95	1,01

Tab. 2 | F1 - Correction factor of nominal capacity kW (R404A) for different room temperatures and TD  
F1 - 不同室温和TD条件下名义换热kW (R404A) 的修正系数

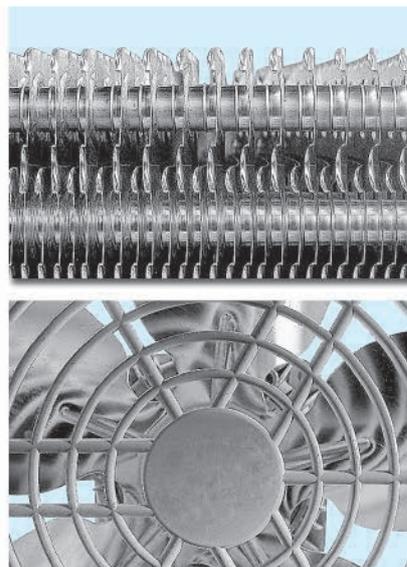
ΔT [K] <sup>1)</sup>																		
10	1,087	1,087	1,099	1,129	1,159	1,190	1,220	1,250	1,293	1,337	1,380	1,424	1,467	1,467	1,467	1,467	1,467	1,467
9	0,978	0,978	0,989	1,016	1,043	1,071	1,098	1,125	1,164	1,203	1,242	1,282	1,321	1,321	1,321	1,321	1,321	1,321
8	0,870	0,870	0,879	0,903	0,928	0,952	0,976	1,000	1,035	1,070	1,104	1,139	1,174	1,174	1,174	1,174	1,174	1,174
7	0,761	0,761	0,769	0,790	0,812	0,833	0,854	0,875	0,905	0,936	0,966	0,997	1,027	1,027	1,027	1,027	1,027	1,027
6	0,652	0,652	0,659	0,678	0,696	0,714	0,732	0,750	0,776	0,802	0,828	0,854	0,880	0,880	0,880	0,880	0,880	0,880
5	0,543	0,543	0,550	0,565	0,580	0,595	0,610	0,625	0,647	0,668	0,690	0,712	0,734	0,734	0,734	0,734	0,734	0,734
4	0,435	0,435	0,440	0,452	0,464	0,476	0,488	0,500	0,517	0,535	0,552	0,570	0,587	0,587	0,587	0,587	0,587	0,587
°C <sup>2)</sup>	-35	-30	-25	-20	-15	-10	-5	0	1	2	3	4	5	6	8	10	12	

Tab. 3 | F2 - correction factor for refrigerants  
F2 - 制冷剂修正系数

T. room (°C)	-35	-30	-25	-20	-15	-10	-5	0	1	2	3	4	5	6	8	10	12
R22	0,95	0,95	0,95	0,95	0,95	0,95	0,95	0,95	0,95	0,95	0,95	0,95	0,95	0,95	0,95	0,95	0,95
R134a	-	-	-	-	0,86	0,88	0,89	0,91	0,91	0,91	0,92	0,92	0,92	0,92	0,93	0,93	0,93
R404A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
R507A	0,97	0,97	0,97	0,97	0,97	0,97	0,97	0,97	0,97	0,97	0,97	0,97	0,97	0,97	0,97	0,97	0,97

1) Temperature difference between evaporator air entering temp. and the refrigerant evaporating temp.  
2) Inlet temperature.

1) 蒸发器进风温度和制冷剂蒸发温度之间的温差。  
2) 进风温度。



The EVS range has been specifically designed for application in reach-in cabinets, display cases and small cold rooms.

In accordance with the room temperature this range is subdivided into two types:

- EVS for higher temperatures ( $\geq -12\text{ }^{\circ}\text{C}$ ), with 3,5/7 mm dual fin spacing and electric defrost;
- EVS/B for lower temperatures ( $\geq -25\text{ }^{\circ}\text{C}$ ), with 4,5/9 mm dual fin spacing and electric defrost.

The entire range is equipped with high efficiency coils made from special profile aluminium fins and inner grooved copper tube, suitable for new generation refrigerants.

The standard fan motors employed have the following features:

- diameter 200 mm, single-phase 230V/1/50-60Hz and fibreglass charged polyamide fan guard;
- IP 42 protection grade;
- class B insulation;
- internal thermal contact protection;
- maximum operating temperature:  $+40\text{ }^{\circ}\text{C}$ .

The optional high efficiency EC fan motors have the following features:

- IP 54 protection grade;
- class F insulation;
- built-in electronic protection;
- maximum operating temperature:  $+50\text{ }^{\circ}\text{C}$ .

The versions with standard electric defrost (ED) are equipped with stainless steel heaters with vulcanised terminals preset for 230V/1/50-60 Hz connection.

The EVS/B models are equipped with internal drip tray and a junction box (IP 54) for the wiring of the fan motors and for possible electric heaters.

On request the models can be equipped with non-standard: coils, defrosting and fan motors.

For special applications and further information consult our Technical Dept.

EVS系列产品特别设计用于后补式橱柜、展示柜和小型冷藏室内的应用。

根据室温，该系列产品分为两种类型：

- 高温EVS系列 ( $\geq -12\text{ }^{\circ}\text{C}$ )，配置间距为3.5/7mm的双翅片和电除霜；
- 低温EVS/B系列 ( $\geq -25\text{ }^{\circ}\text{C}$ )，配置间距为4.5/9mm的双翅片和电除霜。

整个系列产品都带有由特殊型铝翅片和内螺纹铜管制成的高效盘管，适用于新型制冷剂。

标准型风机马达有以下特征：

- 直径200mm，单相230V/1/50-60Hz，聚酰胺玻璃纤维风扇网罩；
- 保护等级：IP42；
- B级绝缘；
- 内部热接触保护；
- 最高工作温度： $+40\text{ }^{\circ}\text{C}$ 。

可选装高效EC风机马达，拥有以下特点：

- 保护等级：IP54；
- F级绝缘；
- 内置电气保护；
- 最高工作温度： $+50\text{ }^{\circ}\text{C}$ 。

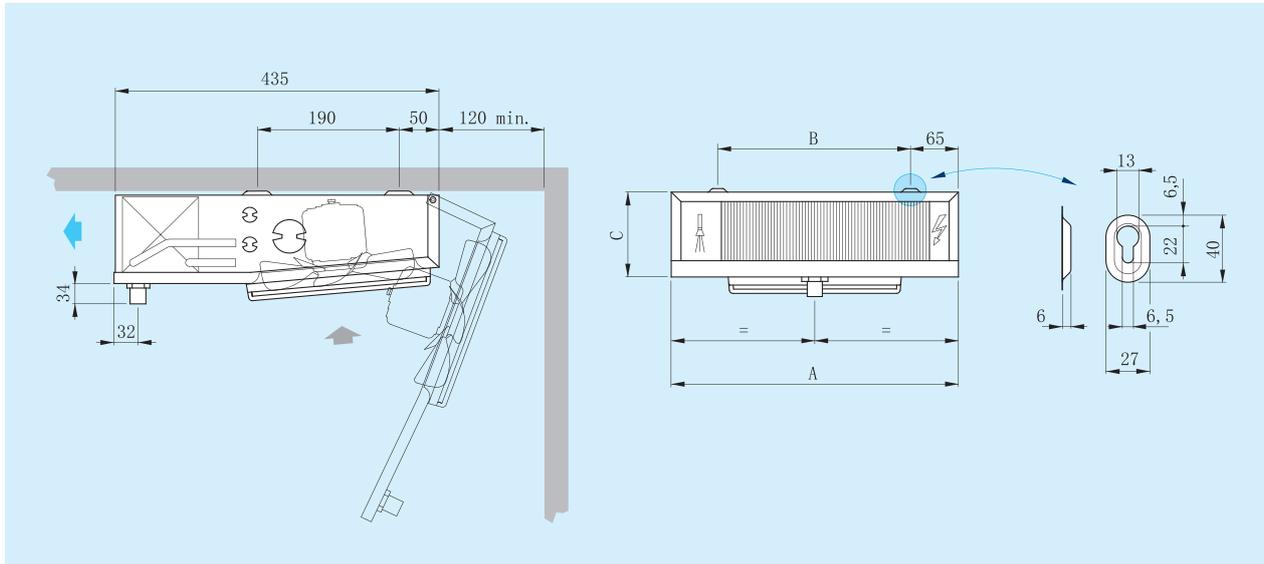
电加热除霜 (ED) 是采用不锈钢电加热管，出厂连接为230V/1/50-60Hz供电。

EVS/B型产品配置内部接水盘和接线盒(IP54)，用于风机和可能的电加热管的接线。

用户可定制非标盘管，加热管和风机马达。

有关特殊应用和更多信息，请联系我们的技术部门。

## Dimensional features - 尺寸数据



Model	EVS	41	61	101	131	201	271	181	291	391	521	
		EVS/B	41/B	61/B	101/B	131/B	201/B	271/B	181/B	291/B	391/B	521/B
Dimensions	mm	A	411	411	611	611	611	861	1111	1111	1111	1461
		B	271	271	471	471	471	721	971	971	971	1321
		C	120	120	120	120	170	170	120	120	170	170

## Technical features - 技术数据

Model	EVS	41	61	101	131	201	271	181	291	391	521
Nominal capacity	kW	0,43	0,53	0,84	1,01	1,46	1,73	1,7	2,06	2,52	3,29
Air flow	m <sup>3</sup> /h	290	260	580	520	565	690	870	780	980	1300
Air throw	m	3	2,5	5	4,5	4	4	4,5	4	4	4
Internal surface	m <sup>2</sup>	0,16	0,32	0,32	0,64	0,96	1,44	0,8	1,12	1,76	2,4
External surface	m <sup>2</sup>	1,6	2,6	2,8	4,1	6,2	9,3	5,3	8,2	12,3	16,6
Model	EVS/B	41/B	61/B	101/B	131/B	201/B	271/B	181/B	291/B	391/B	521/B
Nominal capacity	kW	0,37	0,47	0,72	0,89	1,4	1,7	1,45	1,77	2,46	3,22
Air flow	m <sup>3</sup> /h	310	280	620	560	605	740	930	830	1050	1400
Air throw	m	3	2,5	5	4,5	4,5	4,5	4,5	4	4,5	4,5
Internal surface	m <sup>2</sup>	0,16	0,32	0,32	0,64	0,96	1,44	0,8	1,12	1,76	2,4
External surface	m <sup>2</sup>	1,3	1,9	2,1	3,2	4,8	7,2	4,2	6,3	9,5	12,8

## Common data - 常见数据

Fan motors	n° x Ø mm	1x200	1x200	2x200	2x200	2x200	2x200	3x200	3x200	3x200	4x200
Fan mot. absorp.	A	0,35	0,35	0,7	0,7	0,7	0,7	1,05	1,05	1,05	1,4
Nominal power	W	53	53	106	106	106	106	159	159	159	212
Fan mot. absorp. EC <sup>(1)</sup>	A	0,07	0,07	0,14	0,14	0,14	0,14	0,21	0,21	0,21	0,28
Nominal power EC <sup>(1)</sup>	W	11	11	22	22	22	22	33	33	33	44
Inner volume	dm <sup>3</sup>	0,33	0,48	0,54	0,8	1,2	1,8	1,07	1,61	2,4	3,2
Electric defrost	W	480	480	650	680	680	850	1080	1200	1200	1600
Coil connections	In	10mm	10mm	10mm	1/2SAE	1/2SAE	1/2SAE	1/2SAE	1/2SAE	1/2SAE	1/2SAE
	Out (mm)	10	10	10	10 <sup>(3)</sup>	16	16	16	16	16	16
Drain connect.	Ø (GAS)	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Net weight <sup>(2)</sup>	kg	4,3	4,9	7,1	7,7	10,7	13,8	11,1	12,1	17	23



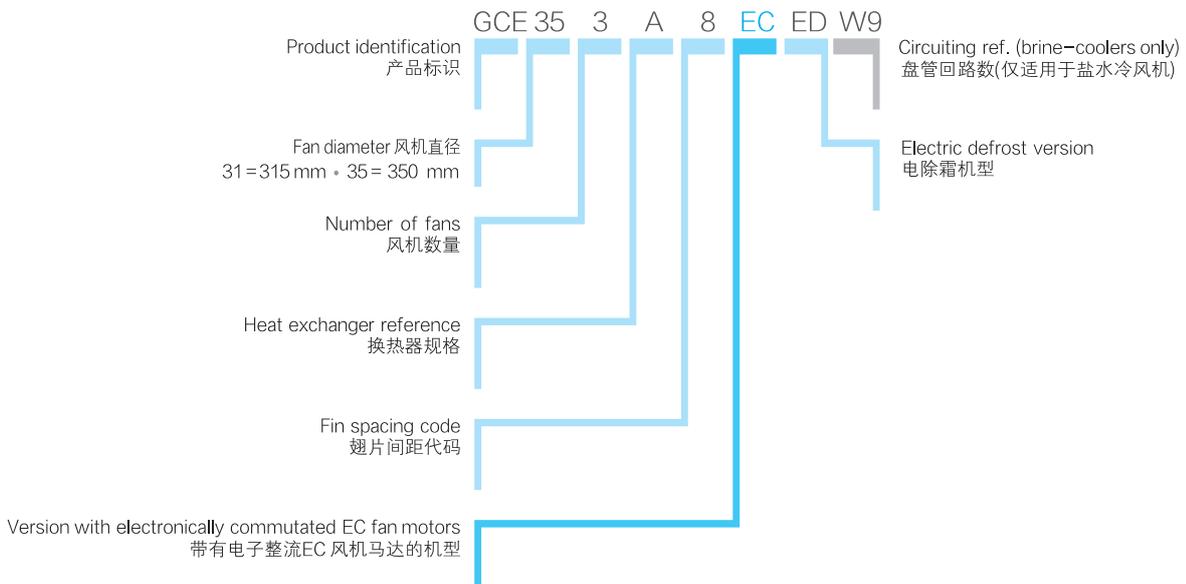
The GCE range of unit coolers is suitable for installation in cold rooms for the preservation of fresh or frozen products. The compact size of the unit allows to make maximum use of the storage space of the cold room in which it is installed.

The entire range is equipped with highly efficient coils made from aluminum fins and inner grooved tube. The new geometry allows a substantial reduction of the inner volume resulting in decreased refrigerant use. The updated coil design responds to the recent guidelines governing the reduction of HFC gases with high greenhouse effect.

GCE系列冷媒冷风机适用于安装在保存新鲜或冷冻产品的冷藏室内。产品紧凑的尺寸结构能充分利用其在冷藏室内的储存空间。

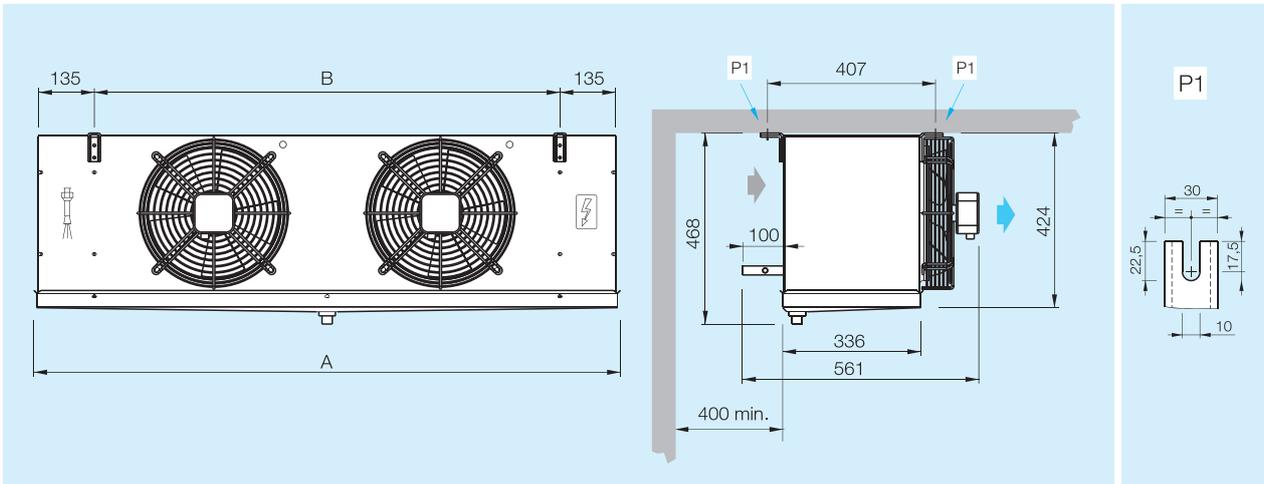
整个系列产品都带有由特殊铝翅片和内螺纹铜管制成的高效盘管。新的片型允许大幅度减少内部容积，从而减少制冷剂的使用。更新后的盘管设计符合最近减少高温室效应的HFC气体的指导方针。

## GCE - Model identification - 型号标识



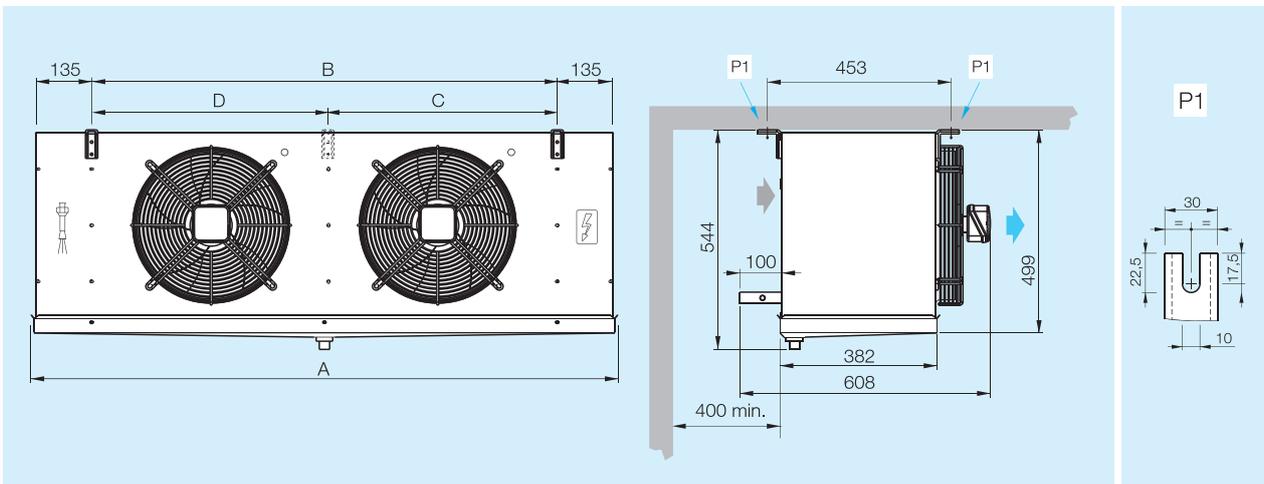
Dimensional features - 尺寸数据

GCE Ø 315 mm



Model / 型号	GCE Ø 315					
Dimensions / 尺寸	mm	A	874	1424	1974	2524
		B	580	1130	1680	2230

GCE Ø 350 mm



Model / 型号	GCE Ø 350						
Dimensions / 尺寸	mm	A	875	1425	1975	2525	3075
		B	580	1130	1680	2230	2780
		C	-	-	-	1115	1665
		D	-	-	-	1115	1115

According to the room temperature the range is divided as follows:

- GCE G4 E4 F4 A4 for high temperatures ( $\geq +1$  °C) with 4 mm fin spacing;
- GCE G6 E6 F6 A6 for medium temperatures ( $\geq -15$  °C) with 6 mm fin spacing, electric defrost version (ED) is recommended;
- GCE G8 E8 F8 A8 for low temperatures ( $\geq -35$  °C) with 8 mm fin spacing, equipped with electric defrost (ED).

The GCE range employs two types of standard fan motors:

- A)  $\varnothing$  315 mm, external rotor single-phase 230V/1/50-60Hz with built-in electric capacitor and epoxy coated steel fan guard.
- B)  $\varnothing$  350 mm, external rotor single-phase 230V/1/50-60Hz with built-in electric capacitor and epoxy coated steel fan guard.

The optional high efficiency EC fan motors have the following features:

- IP 54 protection grade for  $\varnothing$  315 and 350 mm
- class B insulation for  $\varnothing$  315 and 350 mm;
- built-in electronic protection;
- min/max operating temperature  $-25/+60$  °C for  $\varnothing$  315 and 350 mm.

The electric defrost (ED) version sare equipped with stainless steel heaters with vulcanised terminal spreset for 400V/3/50-60Hz connections.

The electric parts and casing are connected to an earth terminal. The wiring of motor sand heaters is carried out in separate IP54 protection grade junction boxes.

On request the model scan be equipped with non-standard: coils, defrosting and fan motors

For the selection of non published conditions use the "Scelte" selection ofware.

For special applications and further information contact our Technical Dept.

根据室温，该系列产品如下进行分类：

- GCE G4 E4 F4 A4用于高温条件 ( $\geq +1$  °C)，翅片间距为4.0mm；
- GCE G8 E8 E6 F6 A6用于中温条件 ( $\geq -15$  °C)，翅片间距为6.0mm，推荐使用电除霜 (ED) 型号；
- GCE G8 E8 F8 A8用于低温条件 ( $\geq -35$  °C)，翅片间距为8.0mm，配有电除霜 (ED)。

GCE系列产品使用两种标准的风机马达：

- A) 直径315mm，外转子单相230V/1/50-60Hz。带内置电容器和环氧涂层金属风机网罩。
- B) 直径350mm，外转子单相230V/1/50-60Hz。带内置电容器和环氧涂层金属风机网罩。

可选高效EC风机马达具备以下特征：

- 保护等级 IP54直径 $\varnothing$ 315及350mm；
- B级绝缘直径 $\varnothing$ 315及350mm；
- 内置电气保护；
- 最低/最高工作温度 $-25/+60$  °C直径 $\varnothing$ 315及350mm。

电加热除霜 (ED) 是采用不锈钢电加热管，出厂连接为400V/3/50-60Hz供电。

电子零件和外壳均连接至接地装置，电机和加热管的接线在独立的IP54级接线盒中执行。

用户可以定制非标的盘管，加热管和风机马达。

特殊应用请使用我们的"Scelte"软件进行选型。

有关特殊应用的更多信息，请联系我们的技术部门。

Technical features

Model		GCE 311 F4	312 F4	313 F4	314F4	351 E4	351A4	352 E4	352 A4	353 F4	353A4	354 F4	354 A4	355 A4
Nom. capacity	kW	3,21	6,33	9,66	12,77	3,92	4,83	7,99	9,92	13,20	15,05	17,20	19,97	24,28
Air flow	m <sup>3</sup> /h	1500	3000	4495	6000	2425	2235	4850	4472	7050	6710	9400	8950	11180
Air throw	m	11	14	16	18	14	13	16	15	18	17	20	19	21
1) Air throw streamers	m	18	22	22	23	20	18	23	22	26	25	29	28	29
Fin spacing	mm	4	4	4	4	4	4	4	4	4	4	4	4	4
Internal surface	m <sup>2</sup>	1,25	2,5	3,75	5	1,19	1,79	2,38	3,58	4,48	5,37	5,97	7,16	8,95
External surface	m <sup>2</sup>	16,5	33	49,5	66	15,25	22,9	30,5	45,8	59,5	68,7	79,2	91,6	114,5
Coil connect.	In tube (mm)	12	12	16	22	12	12	16	16	22	22	22	28	28
	Out tube (mm)	22	28	28	28	22	22	28	28	28	35	35	42	42
2) Net weight	kg	20	34	47,5	61	22	26,5	41	48	58	63	77	83,5	103

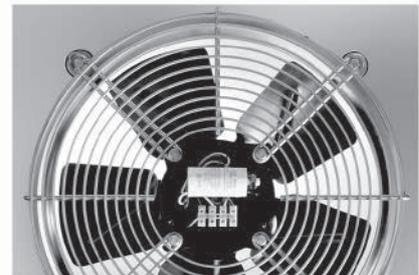
Model		GCE 311 F6	312 F6	313 F6	314F6	351 E6	351A6	352 E6	352 A6	353 F6	353A6	354 F6	354 A6	355 A6
Nom. capacity	kW	2,74	5,47	8,28	10,97	3,26	4,31	6,75	8,85	11,20	13,29	15,10	17,70	21,41
Air flow	m <sup>3</sup> /h	1595	3190	4970	6390	2580	2430	5160	4850	7510	7280	9860	9705	12130
Air throw	m	12	15	17	19	15	14	17	16	19	18	21	20	22
1) Air throw streamers	m	19	23	23	24	21	19	24	23	27	26	30	29	30
Fin spacing	mm	6	6	6	6	6	6	6	6	6	6	6	6	6
Internal surface	m <sup>2</sup>	1,25	2,5	3,75	5	1,19	1,79	2,38	3,58	4,48	5,37	5,97	7,16	8,95
External surface	m <sup>2</sup>	11,3	22,6	33,9	45,2	10,9	15,8	21,7	31,5	40,6	47,3	54,2	63	78,8
Coil connect.	In tube (mm)	12	12	16	16	12	12	16	16	16	22	22	28	28
	Out tube (mm)	22	28	28	28	22	22	28	28	28	35	35	42	42
2) Net weight	kg	19	32,5	45	58,5	21	25,5	39,5	46	55	60,5	74	80,5	97

Model		GCE 311 F8	312 F8	313 F8	314 F8	351 E8	351A8	352 E8	352 A8	353 F8	353A8	354 F8	354 A8	355 A8
Nom. capacity	kW	2,48	4,96	7,44	9,97	2,92	3,88	5,99	7,94	10,10	12,00	13,40	16,12	19,58
Air flow	m <sup>3</sup> /h	1650	3290	4950	6580	2640	2500	5270	5000	7740	7510	10315	10000	12500
Air throw	m	11	14	16	18	14	13	16	15	18	17	20	19	21
1) Air throw streamers	m	-	22	22	23	20	18	23	22	26	25	29	28	29
Fin spacing	mm	8	8	8	8	8	8	8	8	8	8	8	8	4
Internal surface	m <sup>2</sup>	1,25	2,5	3,75	5	1,19	1,79	2,38	3,58	4,48	5,37	5,97	7,16	8,95
External surface	m <sup>2</sup>	8,65	17,3	26	34,6	8,3	12,5	16,6	25	31,2	37,5	41,7	50	62,5
Coil connect.	In tube (mm)	12	12	16	16	12	12	16	16	16	22	22	28	28
	Out tube (mm)	22	28	28	35	22	22	28	28	35	35	42	42	42
2) Net weight	kg	19	32,5	45	58,5	21	25,5	39,5	46	55	60,5	75	81,5	98,5

Common data			Tested by TÜV SÜD	3x315	4x315	1x350	1x350	2x350	2x350	3x350	3x350	4x350	4x350	5x350
Fan motors	n° x Ø mm	1x315	2x315	3x315	4x315	1x350	1x350	2x350	2x350	3x350	3x350	4x350	4x350	5x350
Fan mot. absorp.	A	0,52	1,04	1,56	2,08	0,96	0,96	1,92	1,92	2,88	2,88	3,84	3,84	4,80
Nominal power	W	110	220	330	440	185	185	370	370	555	555	740	740	925
1) Fan mot. absorp. EC	A	-	-	-	-	0,87	0,87	1,74	1,74	2,61	2,61	3,48	3,48	4,35
1) Nominal power EC	W	-	-	-	-	150	150	300	300	450	450	600	600	750
Circuit capacity	dm <sup>3</sup>	1,83	3,66	5,49	7,32	1,76	2,64	3,52	5,28	6,49	7,92	8,64	10,56	13,2
Electric defrost	W	1750	3150	4900	6300	1750	2250	3150	4050	4900	6300	6300	8100	9900
Powerful El. defrost	W	-	-	-	-	2000	2750	3600	4950	5600	7700	7200	9900	12100
Drain connect.	Ø (GAS)	1	1	1	1	1	1	1	1	1	1	1	1	1

- 1) Option.
- 2) The weight refers to models with ED electric defrost.
  - Use thermostatic valve with external pressure equalizer.
  - For brine cooler capacities please use "Scelte" selection software.

- 1) 可选项。
- 2) 重量为带电除霜的ED型。
  - 使用外平衡膨胀阀。
  - 有关盐水冷风机的换热量，请使用 "Scelte" 选型软件。



The CTE range of unit coolers is suitable for installation in cold rooms for the preservation of fresh or frozen products. The compact size of the unit allows to make maximum use of the storage space of the cold room in which it is installed.

The entire range is equipped with high efficiency coils made from special profile aluminium fins and inner-grooved copper tube, suitable for new generation refrigerants.

According to the room temperature the range is divided as follows:

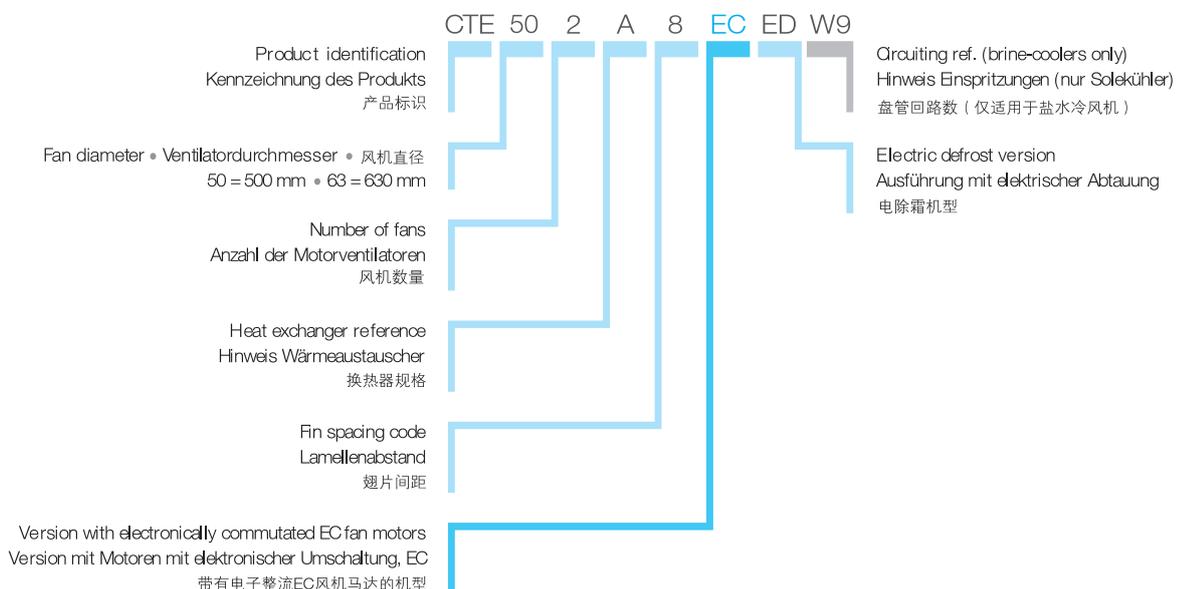
- CTE E4 - A4 for high temperatures ( +2 °C) with 4,0 mm fin spacing;
- CTE M6 - E6 - A6 for medium temperatures ( -15 °C) with 6,0mm fin spacing, electric defrost version (ED) is recommended;
- CTE L8 - E8 - A8 for low temperatures ( -35 °C) with 8,5mm fin spacing, equipped with electric defrost (ED).

CTE系列冷媒冷风机适用于安装在保存新鲜或冷冻产品的冷藏室内。产品紧凑的尺寸结构能充分利用其所在冷藏室内的储存空间。整个系列的产品都带有由特殊型铝翅片和内螺纹铜管制成的高效盘管，适用于新型的制冷剂。

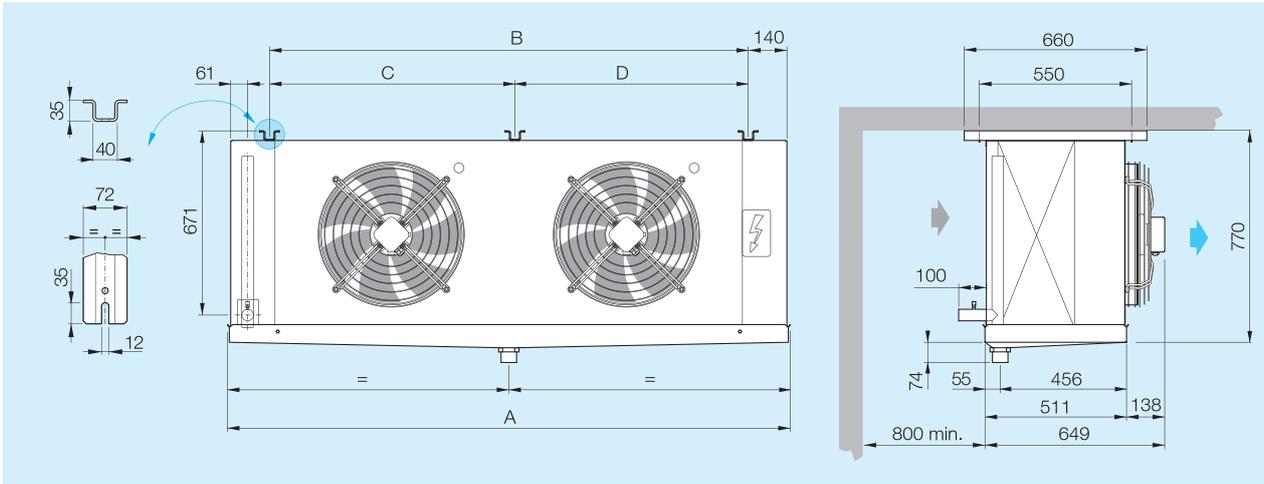
根据室温，该系列产品如下进行分类：

- CTE E4-A4用于高温条件(≥ +2 °C)，翅片间距为4.0mm；
- CTE M6-E6-A6用于中温条件(≥ -15°C)，翅片间距为6.0mm，推荐使用电除霜型号；
- CTE L8-E8-A8用于低温条件(≥ -35 °C)，翅片间距为8.5mm，配有电除霜(ED)。

## CTE Ø 500 / 630 mm - Model identification - Kennzeichnung der Modelle - 型号标识

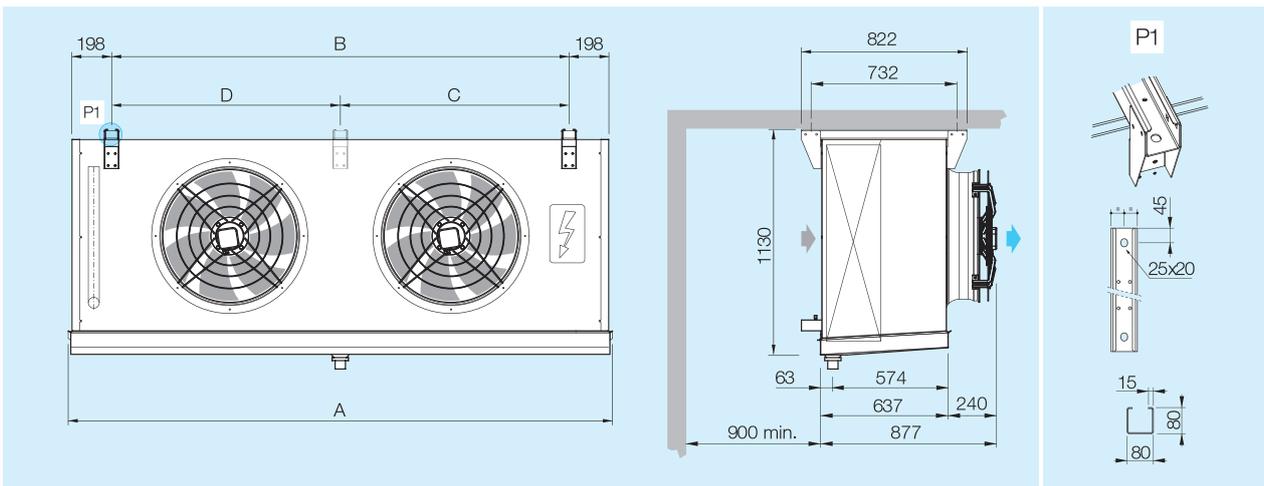


CTE Ø 500 mm



Model	Modell	型号	CTE Ø 500	501E4	502E4	503E4	-	
				501A4	502A4	503A4	504A4	
				501B4	502B4	503B4	504B4	
				501E6	502E6	503E6	-	
				501A6	502A6	503A6	504A6	
				501B6	502B6	503B6	504B6	
				501E8	502E8	503E8	-	
				501A8	502A8	503A8	504A8	
				501B8	502B8	503B8	504B8	
Dimensions	Abmessungen	尺寸	mm	A	1184	2034	2884	3734
				B	880	1730	2580	3430
				C	-	-	-	1730
				D	-	-	-	1700

CTE Ø 630 mm



Model	Modell	型号	CTE Ø 630	631E4	632E4	633E4	634A4	
				631A4	632A4	633A4	634A4	
				631B4	632B4	633B4	634B4	
				631E6	632E6	633E6	634A4	
				631A6	632A6	633A6	634A6	
				631B6	632B6	633B6	634B6	
				631E8	632E8	633E8	634A4	
				631A8	632A8	633A8	634A8	
				631B8	632B8	633B8	634B8	
Dimensions	Abmessungen	尺寸	mm	A	1606	2706	3806	4906
				B	1174	2274	3374	4474
				C	-	-	-	2237
				D	-	-	-	2237

Technical features - Technische Eigenschaften - 技术数据

				Tested by 检测						
Model	Modell	型号	CTE	501E4	501A4	501B4	502E4	502A4	502B4	503E4
Nom. capacity	Nennleistung	名义换热量	kW	10,7	13,5	15,3	22,5	26,7	29,8	32,7
Capacity	Leistung	换热量	kW	8,8	11,2	12,7	18,6	22,1	24,7	27,1
Air flow	Luftmenge	空气流量	m <sup>3</sup> /h	6915	6405	6025	13830	12810	12050	20745
Air throw	Wurfweite	空气射程	m	27	26	25	29	28	27	29
1) Air throw streamers	Wurfweite streamers	空气射程导流罩	m	36	35	35	37	36	35	38
Fin spacing	Lamellenabstand	翅片间距	mm	4	4	4	4	4	4	4
Internal surface	Innenoberfläche	内部面积	m <sup>2</sup>	4,3	6,4	8,6	8,6	12,8	17,1	12,8
External surface	Außenoberfläche	外部面积	m <sup>2</sup>	35	53	71	71	106	142	106
Coil connect.	Batt. Anschlüsse	盘管接口	In tube (mm)	16	16	22	22	22	28	22
			Out tube (mm)	28	28	35	35	35	42	42
2) Net weight	Nettogewicht	净重	kg	61	70	81	106	125	145	151

				Tested by 检测						
Model	Modell	型号	CTE	501E6	501A6	501B6	502E6	502A6	502B6	503E6
Nom. capacity	Nennleistung	名义换热量	kW	9,4	12,4	13,9	18,1	24,5	28,1	28,6
Capacity	Leistung	换热量	kW	7,8	10,3	11,5	15,0	20,3	23,3	23,7
Air flow	Luftmenge	空气流量	m <sup>3</sup> /h	7230	6915	6530	14465	13830	13065	21700
Air throw	Wurfweite	空气射程	m	28	27	26	30	29	28	30
1) Air throw streamers	Wurfweite streamers	空气射程导流罩	m	37	36	35	38	37	36	39
Fin spacing	Lamellenabstand	翅片间距	mm	6	6	6	6	6	6	6
Internal surface	Innenoberfläche	内部面积	m <sup>2</sup>	4,3	6,4	8,6	8,6	12,8	17,1	12,8
External surface	Außenoberfläche	外部面积	m <sup>2</sup>	24	37	49	49	73	98	73
Coil connect.	Batt. Anschlüsse	盘管接口	In tube (mm)	16	16	22	22	22	28	22
			Out tube (mm)	28	28	35	35	35	42	42
2) Net weight	Nettogewicht	净重	kg	61	70	81	106	125	145	151

				Tested by 检测						
Model	Modell	型号	CTE	501E8	501A8	501B8	502E8	502A8	502B8	503E8
Nom. capacity	Nennleistung	名义换热量	kW	8,2	10,7	13,2	16,7	21,1	26,8	24,6
Capacity	Leistung	换热量	kW	6,8	8,8	10,9	13,8	17,4	22,2	20,4
Air flow	Luftmenge	空气流量	m <sup>3</sup> /h	7330	7080	6765	14665	14160	13660	21995
Air throw	Wurfweite	空气射程	m	29	28	27	31	30	29	31
1) Air throw streamers	Wurfweite streamers	空气射程导流罩	m	38	37	36	39	38	37	40
Fin spacing	Lamellenabstand	翅片间距	mm	8,5	8,5	8,5	8,5	8,5	8,5	8,5
Internal surface	Innenoberfläche	内部面积	m <sup>2</sup>	4,3	6,4	8,6	8,6	12,8	17,1	12,8
External surface	Außenoberfläche	外部面积	m <sup>2</sup>	18	27	36	36	54	72	54
Coil connect.	Batt. Anschlüsse	盘管接口	In tube (mm)	16	22	22	22	28	28	28
			Out tube (mm)	35	35	35	35	42	42	42
2) Net weight	Nettogewicht	净重	kg	61	70	81	106	125	145	151

Common data		Gemeinsame Daten		常见数据	
Fan motors	Ventilatormotoren	风机马达	n° x Ømm	1x500	1x500
Fan mot. absorp.	StromaufnahmeMot.	风机马达电流	A	1,8	1,8
Nominal power	Nennleistung	名义功率	W	860	860
Fan mot. absorp. EC	StromaufnahmeMot. EC	风机马达电流 EC	A	1	1
Nominal power EC	Nennleistung EC	名义功率 EC	W	700	700
Circuit capacity	Rohrinhalt	回路容量	dm <sup>3</sup>	7,8	11,7
Electric defrost	Elektrische Abtauerung	电除霜	W	5040	5040
Drain connect.	Tauwasserabfluß	排放接口	O (GAS)	2	2

1) Option.  
2) The weight refers to models with ED electric defrost.  
X Use thermostatic valve with external pressure equalizer.  
• For brine cooler capacities please use "Scelte" selection software.

1) 选项。  
2) 重量为带电除霜的ED型。  
X 使用外平衡膨胀阀。  
• 有关盐水风机的换热量，请使用 "Scelte" 选型软件。

503A4	503B4	504A4	504B4	631E4	631A4	631B4	632E4	632A4	632B4	633E4	633A4	633B4	634E4	634A4	634B4
41,3	46,7	49,5	57,0	23,4	29,1	33,3	45,6	58,7	62,5	69,0	87,9	101,0	96,7	107	126
34,2	38,7	41,0	47,2	19,3	24	27,5	37,7	48,5	51,6	57,0	72,6	83,5	79,9	88,6	104
19220	18075	25630	24105	15080	14265	13660	30160	28530	27320	45240	42795	40980	60320	57060	54640
28	27	29	28	29	28	27	33	32	31	35	34	33	37	36	35
37	36	40	39	67	66	65	71	70	69	74	73	72	75	74	73
4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
19,3	25,6	25,6	34,2	7	11	14	14	21	28	21	33	42	28	44	56
159	212	212	283	66	99	132	132	198	264	198	297	396	264	396	528
28	28	28	28	22	28	28	35	35	35	35	35	2 X 35	2 X 35	35	2 X 35
42	54	54	54	35	42	42	54	54	54	54	54	2 X 54	2 X 54	54	2 X 54
180	209	236	274	110	130	160	210	260	320	310	390	470	410	520	630

503A6	503B6	504A6	504B6	631E6	631A6	631B6	632E6	632A6	632B6	633E6	633A6	633B6	634E6	634A6	634B6
37,7	43,8	46,2	54,3	20	26	30,5	39,2	52,4	61,5	59,2	78,6	92,6	81,0	98,1	117
31,2	36,2	38,3	45,0	16,5	21,5	25,2	32,4	43,3	50,8	48,9	64,9	76,5	66,9	81,0	96,9
20745	19600	27660	26135	15485	15080	14470	30970	30160	28940	46455	45240	43410	61940	60320	57880
29	28	30	29	30	29	28	34	33	32	36	35	34	38	36	35
38	37	41	40	69	68	67	73	72	71	76	75	74	77	76	75
6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
19,3	25,6	25,6	34,2	7	11	14	14	21	28	21	33	42	28	44	56
110	146	146	195	46	69	91	91	137	182	137	206	273	182	274	364
28	28	28	28	22	28	28	35	35	35	35	35	2 X 35	2 X 35	35	2 X 35
42	54	54	54	35	42	42	54	54	54	54	54	2 X 54	2 X 54	54	2 X 54
180	209	236	274	90	110	120	170	210	240	250	310	360	330	410	480

503A8	503B8	504A8	504B8	631E8	631A8	631B8	632E8	632A8	632B8	633E8	633A8	633B8	634E8	634A8	634B8
31,7	39,8	42,8	53,7	16,6	22,8	27,4	33,4	45,6	55,1	50,4	68,5	82,9	67,8	87,2	106
26,2	33,0	35,5	44,5	13,7	18,8	22,6	27,6	37,7	45,5	41,6	56,6	68,5	56,0	72,0	87,8
21240	20485	28320	27315	15780	15485	15080	31560	30970	30160	47340	46455	45240	63120	61940	60320
30	29	31	30	31	30	29	35	34	33	37	36	35	39	37	36
39	38	42	41	70	69	68	74	73	72	77	76	75	78	77	76
8,5	8,5	8,5	8,5	8,5	8,5	8,5	8,5	8,5	8,5	8,5	8,5	8,5	8,5	8,5	8,5
19,3	25,6	25,6	34,2	7	11	14	14	21	28	21	33	42	28	44	56
81	108	108	144	34	51	67	67	101	134	101	152	201	134	202	268
28	28	35	35	28	28	28	35	35	35	35	35	2 X 35	2 X 35	35	2 X 35
42	54	54	54	42	42	42	54	54	54	54	54	2 X 54	2 X 54	54	2 X 54
180	209	236	274	80	90	100	150	170	200	220	260	300	290	340	390

3x500	3x500	4x500	4x500	1x630	1x630	1x630	2x630	2x630	2x630	3x630	3x630	3x630	4x630	4x630	4x630
5,4	5,4	7,2	7,2	3,7	3,7	3,7	7,4	7,4	7,4	11,1	11,1	11,1	14,8	14,8	14,8
2580	2580	3440	3440	1750	1750	1750	3500	3500	3500	5250	5250	5250	7000	7000	7000
3	3	4	4	2,61	2,61	2,61	5,22	5,22	5,22	7,83	7,83	7,83	10,44	10,44	10,44
2100	2100	2800	2800	1720	1720	1720	3440	3440	3440	5160	5160	5160	6880	6880	6880
33,6	44,8	44,6	59,4	14	21	28	28	42	56	42	63	84	56	84	112
15000	15000	19800	19800	5400	8100	10800	11760	17640	23520	17760	26640	35520	23400	35100	46800
2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2



测试型号:  
CTE 501 E6  
CTE 501 A8  
CTE 501 E4

This range employs two types of standard fan motors:

- A) 500 mm diameter, external rotor three-phase 400V/3/50 Hz with epoxy coated steel fan guard.
- B) 630 mm diameter, external rotor three-phase 400V/3/50-60 Hz with epoxy coated steel fan guard.

The standard fan motors employed have the following features:

- IP 54 protection grade for  $\varnothing$  500 and 630 mm;
- class F insulation for  $\varnothing$  500 and 630 mm;
- inner thermal contact protection;
- operating temperature: maximum +40 °C.

The optional high efficiency EC fan motors have the following features:

- IP 54 protection grade for  $\varnothing$  500 and 630 mm
- class B insulation for  $\varnothing$  500 and 630 mm;
- built-in electronic protection;
- min/max operating temperature -25/+60 °C for  $\varnothing$ 500 and 630mm.

The versions with standard electric defrost (ED) are equipped with stainless steel heaters with vulcanised terminals preset for 400V/3/50-60Hz connection.

The electric parts and casework are connected to a ground terminal, the wiring of the motors and heaters is carried out in separate IP 54 protection grade junction boxes.

On request the models can be equipped with non-standard: coils, defrosting and fan motors .

本系列产品使用两种标准的风机马达:

- A ) 直径500mm, 外转子三相400V/3/50Hz, 带环氧涂层金属风机网罩。
- B ) 直径630mm, 外转子三相400V/3/50-60Hz, 带环氧涂层金属风机网罩。

所使用的标准风机马达具备以下特征:

- 保护等级IP54直径 $\varnothing$  500, 630mm;
- F级绝缘直径 $\varnothing$ 500, 630mm;
- 内部热接触保护;
- 工作温度:最高 +40°C。

可选高效EC风机马达具备以下特征:

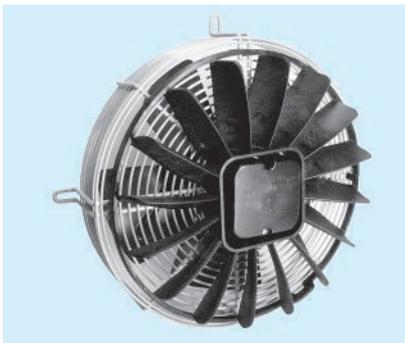
- 保护等级IP54直径 $\varnothing$ 500及630mm;
- B级绝缘直径 $\varnothing$ 500及630mm;
- 内置电气保护;
- 最低/最高工作温度-25/+60°C直径 $\varnothing$  500及630mm。

电加热除霜 ( ED ) 是采用不锈钢电加热管, 出厂连接为400V/3/50-60Hz供电。

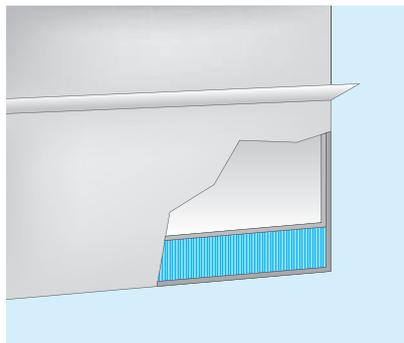
电子零件和外壳均连接至接地装置, 电机和加热管的接线在独立的IP54级接线盒中完成。

用户可以定制非标的盘管, 加热管和风机马达。

## Options and special versions - 可选件和特殊规格



- Streamers
- 整流器



- Drain pan with insulation
- 隔热排水盘



- EC motor (electronically commutated)
- EC电机 (电子整流)



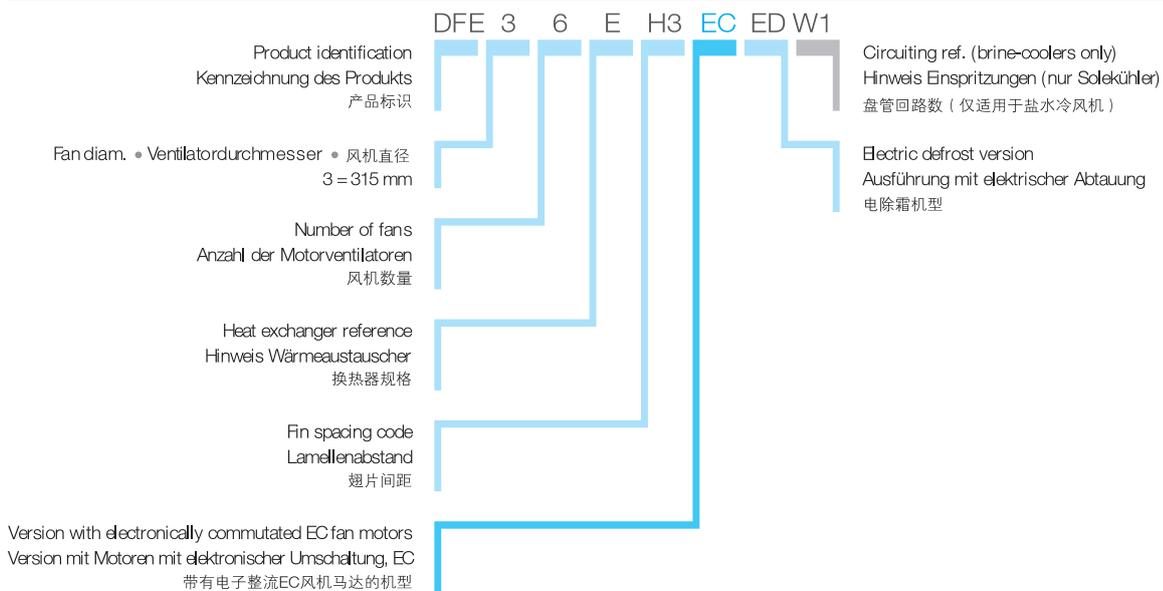
The dual discharge DFE range has been specifically designed for applications in cold rooms with limited height for the preservation of fresh or frozen products.

The models are equipped with dual velocity fan motors allowing to use the same unit for either normal ventilation or reduced ventilation (for low noise operation).

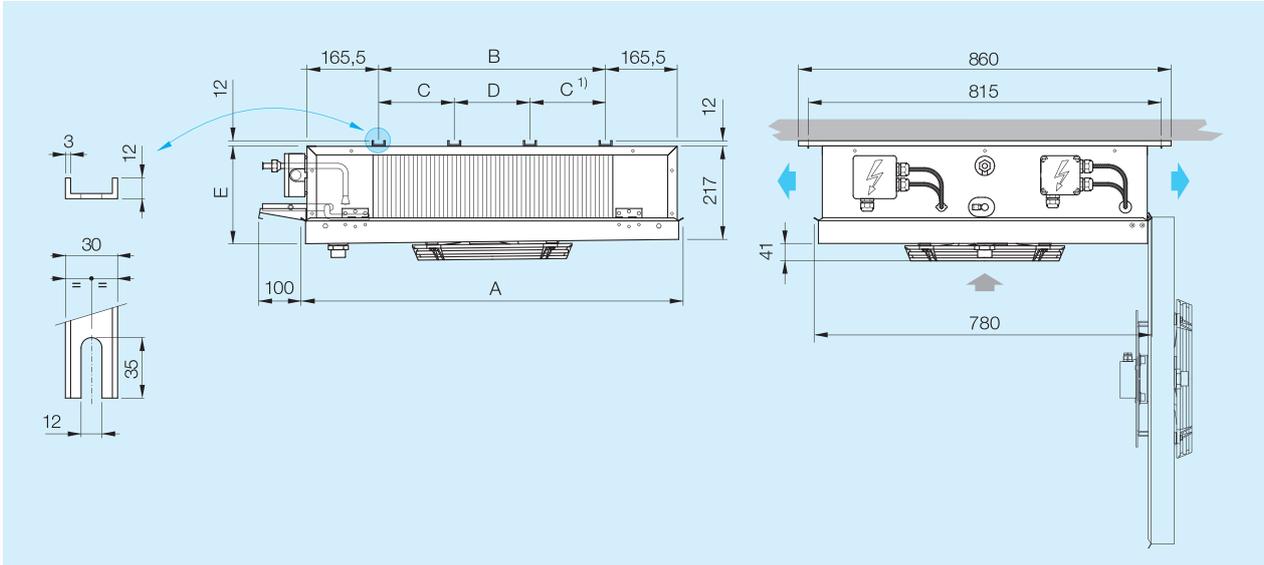
The entire range is equipped with high efficiency coils made from special profile aluminium fins and inner grooved copper tube, suitable for new generation refrigerants.

DFE系列双出风冷媒冷风机特别设计应用于储存新鲜和冷冻产品并限高的冷藏室内。该系列产品配有双速风机马达，允许在常规通风或微弱通风（用于低噪音运行）条件下使用同一个设备。整个系列的产品都带有由特殊型铝翅片和内螺纹铜管制成的高效盘管，适用于新型的制冷剂。

## Model identification - 型号标识



## Dimensional features - 尺寸数据



Model	Modell	型号	DFE	31EH3 31EL7	32EH3 32EL7	33EH3 33EL7	34EH3 34EL7	35EH3 35EL7	36EH3 36EL7	
Dimensions	Abmessungen	尺寸	mm	A	885	1435	1985	2535	3085	3635
				B	524	1074	1624	2174	2724	3274
				C	-	-	812	1087	1087	1087
				D	-	-	-	-	1637	1100
				E	230	235	240	245	250	255

According to the room temperature the range is divided as follows:

- DFE H3 for higher temperatures (  $+2\text{ }^{\circ}\text{C}$ ) with 3,5 mm fin spacing;
- DFE L7 for lower temperatures (  $-25\text{ }^{\circ}\text{C}$ ) with 7,0 mm fin spacing, electric defrost version (ED) is recommended.

The standard dual velocity fan motors employed have the following features:

- diameter 315 mm external rotor single phase 230V/1/50-60Hz with built-in electric capacitor and fibreglass charged polyamide fan guards;
- IP 44 protection grade;
- class F insulation;
- internal thermal contact protection;
- maximum operating temperature:  $+40\text{ }^{\circ}\text{C}$ .

根据室温，该系列产品进行如下划分：

- 高温DFE H3 ( $\geq +2\text{ }^{\circ}\text{C}$ )，配置间距为3.5mm的翅片；
- 低温DFE L7 ( $\geq -25\text{ }^{\circ}\text{C}$ )，配置间距为7.0mm的翅片，推荐电除霜（ED）系列。

所使用的双速风机马达具备以下特征：

- 直径315mm外转子单相230V/1/50-60Hz，带内置电容器和聚酰胺玻璃纤维风机罩壳；
- 保护等级IP44；
- F级绝缘；
- 内部热接触保护；
- 最高工作温度： $+40\text{ }^{\circ}\text{C}$ 。

1 For 5-motor models the C dimension is not foreseen.

1) 针对带有5个电机的型号，未提供C的尺寸数据。

Technical features - 技术数据

DFE H3

				Tested by 检测											
Model	Modell	型号		31EH3		32EH3		33EH3		34EH3		35EH3		36EH3	
Speed	Geschwindigkeit	速度		High	Low	High	Low	High	Low	High	Low	High	Low	High	Low
Nominal capacity	Nennleistung	名义换热量	kW	2,97	2,47	5,52	4,78	8,47	7,13	11,28	9,72	14,3	12,1	16,1	13,9
Capacity	Leistung	换热量	kW	2,45	2,04	4,56	3,95	7,00	5,89	9,32	8,03	11,8	10	13,3	11,5
Air flow	Luftmenge	空气流量	m <sup>3</sup> /h	1450	1100	2900	2200	4350	3300	5800	4400	7250	5500	8700	6600
Air throw	Wurfweite	空气射程	m	2 x 7	2 x 5	2 x 8	2 x 6	2 x 9	2 x 7	2 x 10	2 x 8	2 x 12	2 x 9	2 x 14	2 x 11
Internal surface	Innenoberfläche	内部面积	m <sup>2</sup>	1,4		2,8		4,1		5,5		6,9		8,3	
External surface	Außenoberfläche	外部面积	m <sup>2</sup>	14,3		28,6		42,9		57,2		71,5		85,8	
1) Net weight	Nettogewicht	净重	kg	24		40		52		74		83		103	

DFE L7

				Tested by 检测											
Model	Modell	型号		31EL7		32EL7		33EL7		34EL7		35EL7		36EL7	
Speed	Geschwindigkeit	速度		High	Low	High	Low	High	Low	High	Low	High	Low	High	Low
Nominal capacity	Nennleistung	名义换热量	kW	2,17	1,92	4,19	3,63	6,42	5,48	8,48	7,32	10,3	9,04	12,5	10,8
Capacity	Leistung	换热量	kW	1,79	1,58	3,46	3,00	5,30	4,53	7,00	6,05	8,51	7,47	10,4	8,94
Air flow	Luftmenge	空气流量	m <sup>3</sup> /h	1550	1200	3100	2400	4650	3600	6200	4800	7750	6000	9300	7200
Air throw	Wurfweite	空气射程	m	2 x 8	2 x 6	2 x 9	2 x 7	2 x 10	2 x 8	2 x 11	2 x 9	2 x 13	2 x 10	2 x 15	2 x 12
Internal surface	Innenoberfläche	内部面积	m <sup>2</sup>	1,4		2,8		4,1		5,5		6,9		8,3	
External surface	Außenoberfläche	外部面积	m <sup>2</sup>	7,6		15,2		22,8		30,4		38		45,6	
1) Net weight	Nettogewicht	净重	kg	24		39		50		72		80		99	

Common data Gemeinsame Daten 常见数据

Fan motors	Ventilatormotoren	风机马达	n° x Ømm	1 x 315		2 x 315		3 x 315		4 x 315		5 x 315		6 x 315	
Fan mot. absorp.	Stromaufnahme Mot.	风机马达电流	A	0,5	0,43	1	0,86	1,5	1,29	2	1,72	2,5	2,15	3	2,58
Nominal power	Nennleistung	名义功率	W	110	95	220	190	330	285	440	380	550	475	660	570
2) Fan mot. abs. EC	Stromauf. Mot. EC	风机马达电流 EC	A	0,7	0,53	1,4	1,06	2,1	1,59	2,8	2,12	3,5	2,65	4,2	3,18
2) Nominal power EC	Nennleistung EC	名义功率 EC	W	83	60	166	120	249	180	332	240	415	300	498	360
Circuit capacity	Rohrinhalt	回路容量	dm <sup>3</sup>	3,1		5,9		8,6		11,3		12,6		15	
Electric defrost	Elektrische Abtauung	电除霜	W	1500		3000		4500		6000		7500		8550	
Coil connections	Batterieanschlüsse	盘管接口	In (SAE)	1/2		1/2		1/2		1/2		5/8		5/8	
			Out (mm)	16		22		28		35		35		35	
Drain connection	Tauwasserabfluß	排放接口	O (GAS)	1		1		1		1		1		1	

The versions with standard electric defrost (ED) are equipped with stainless steel heaters with vulcanised terminals preset for 400V/3/50-60Hz connection.

电加热除霜 (ED) 是采用的不锈钢电加热管, 出厂连接为400V/3/50-60Hz供电。

The electric parts and casework are connected to a grounding terminal, the wiring of the motors and heaters is carried out in separate IP 54 protection grade junction boxes.

电子零件和外壳均连接至接地装置, 电机和加热管的接线在独立的IP54级接线盒中执行。

On request the models can be equipped with non-standard coils, defrosting and fan motors (see table at page 80).

用户可以定制非标的盘管, 加热管和风机马达。



测试型号:  
DFE 32 EH3  
DFE 32 EL7

- 1) The weight refers to models with ED electric defrost.
- 2) Option.
- X Use thermostatic valve with external pressure equalizer.
- For brine cooler capacities please use "Scelte" selection software.

- 1) 重量为带电除霜的ED型。
- 2) 选项。
- X 使用外平衡膨胀阀。
- 有关盐水风机的换热量, 请使用 "Scelte" 选型软件。



The dual discharge GDE range has been specifically designed for cold rooms with limited height for the preservation of fresh or frozen products and in food preparation and handling.

GDE系列双出风冷媒冷风机特别设计应用于储存新鲜和冷冻产品以及食品的准备和处理并限高的冷藏室内。

The entire range is equipped with highly efficient coils made from aluminum fins and inner grooved tube. Thanks to a new geometry there is a substantial reduction of the inner volume resulting in a decreased refrigerant use. The updated coil design responds to the recent guidelines governing the reduction of HFC gases with high greenhouse effect.

整个系列的产品都带有由特殊型铝翅片和内螺纹铜管制成的高效盘管。新的片型允许大幅度减少内部容积，从而减少制冷剂的使用。更新后的盘管设计符合最近减少高温室效应HFC气体的指导方针。

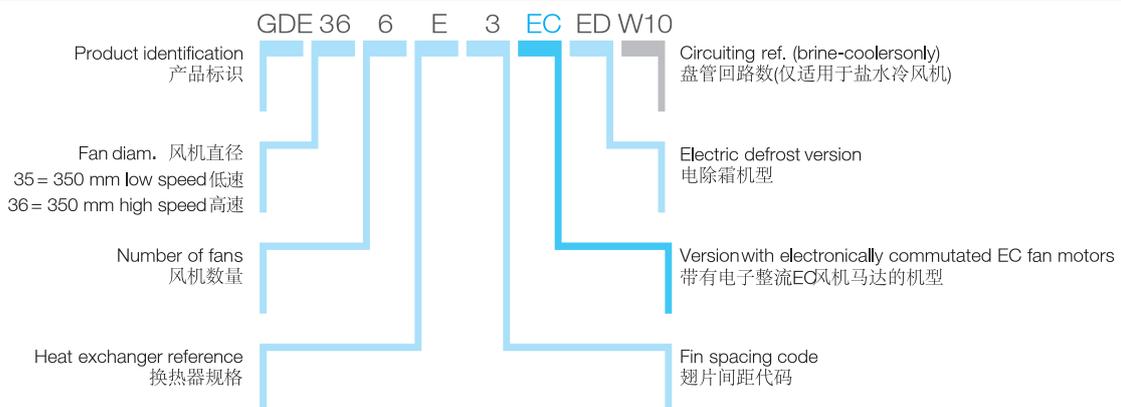
According to the room temperature the range is divided as follows:

- GDE 3 for high temperatures ( $\geq 5^\circ\text{C}$ ) with 3 mm fin spacing, designed for work rooms with no possibility of ice/frost formation on fins;
- GDE 4 for medium temperatures ( $\geq +1^\circ\text{C}$ ) with 4 mm fin spacing;
- GDE 7 for lower temperatures ( $\geq -25^\circ\text{C}$ ) with 7 mm fin spacing, electric defrost version (ED) is recommended.

根据室温，该系列产品进行如下划分：

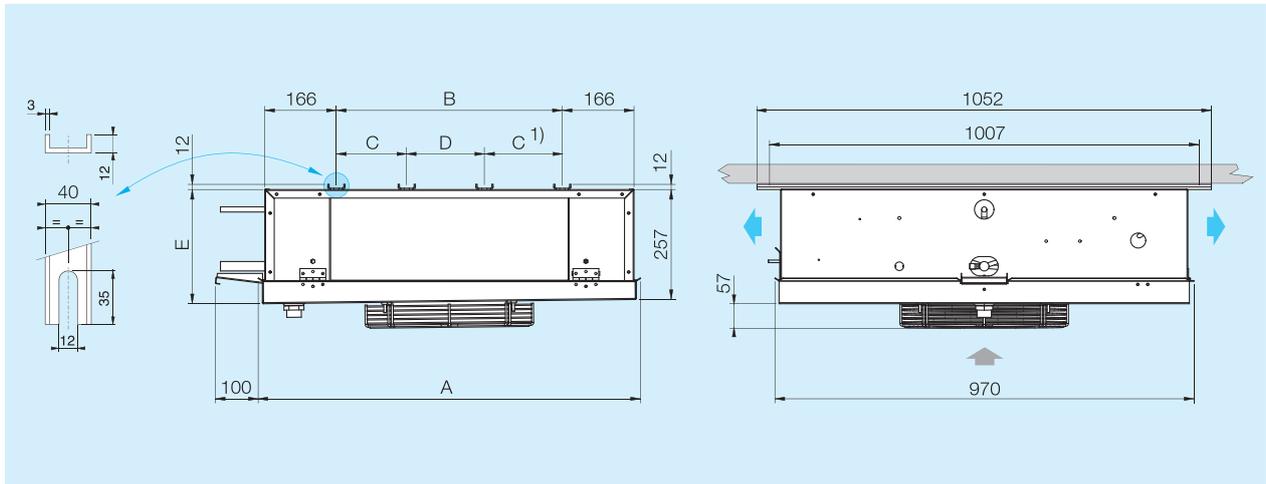
- 高温GDE 3( $\geq +5^\circ\text{C}$ )，配置间距为3.0mm的翅片，为不可能结冰/结霜的工作房间设计；
- 中温GDE 4( $\geq +1^\circ\text{C}$ )，配置间距为4.0mm的翅片；
- 低温GDE 7( $\geq -25^\circ\text{C}$ )，配置间距为7.0mm的翅片，推荐电除霜(ED)系列。

## Model identification - 型号标识



Dimensional features

GDE Ø 350 mm



Model	GD	351E3	361A3	352E3	362A3	353E3	363A3	354E3	364A3	355F3	365F3
		351E4	361A4	352E4	362A4	353E4	363A4	354E4	364A4	355F4	365F4
		351E7	361A7	352E7	362A7	353E7	363A7	354E7	364A7	355F7	365F7
Dimensions	mm	A	885	1435	1985	2535	3085				
		B	523	1073	1623	2173	2723				
		C	-	-	522	1072	1072				
		D	-	-	1102	1102	1652				
		E	270	275	280	285	290				

Model	GD	361A	351E3	362A3	353E4	363A3	354E4	365F3
			361A4	352E3	362A7	364A3	363A7	355F3
			351E4	353E3	352E7	354E3	364A7	365F4
			361A7	362A4	353E7	363A4	354E7	355F4
			351E7	352E4		364A4		365F7
								355F7
Coil connections		IN (mm)	16	12	16	16	22	22
		OUT (mm)	22	22	28	28	35	35
Drain connection		Ø (GAS)	1	1	1	1	1	1

The GDE range employs below types of standard fan motors:

- A) Ø 350 mm external rotor singlephase HIGH SPEED (4 poles) 230V/1/50-60Hz with built-in electric capacitor and epoxy coated steel fan guard;
- B) Ø 350 mm external rotor singlephase LOW SPEED (6 poles) 230V/1/50-60Hz with built-in electric capacitor and epoxy coated steel fan guard;

The standard fan motors employed have the following features:

- IP 44 protection grade;
- class 155 insulation;
- inner thermal contact protection;
- operating temperature: maximum +40 °C.

GDE系列产品使用以下标准的风机马达:

- A) 直径350mm, 外转子单相高速(4极)230V/1/50-60Hz, 带内置电容器和环氧涂层金属风机网罩。
- B) 直径350mm, 外转子单相低速(6极)230V/1/50-60Hz, 带内置电容器和环氧涂层金属风机网罩。

所使用的标准风机马达具备以下特征:

- 保护等级IP44;
- F级绝缘;
- 内部热接触保护;
- 最高工作温度: +40°C。

Technical features

		HIGH Speed					LOW Speed				
Model		361 A3	362 A3	363 A3	364 A3	365 F3	351 E3	352 E3	353 E3	354 E3	355 F3
Speed		HIGH Speed					LOW Speed				
Nominal capacity	kW	6,9	14	20,7	27,1	35,2	4,4	8,8	13,3	17,5	25,5
Air flow	m <sup>3</sup> /h	2050	4100	6150	8200	11000	1400	2800	4200	5600	6800
Air throw	m	2x11	2x12	2x14	2x15	2x16	2x8	2x10	2x11	2x11	2x12
Internal surface	m <sup>2</sup>	1,8	3,6	5,4	7,2	10,3	1,2	2,4	3,6	4,8	10,3
External surface	m <sup>2</sup>	31,3	62,6	93,9	125	125	20,9	41,8	62,7	83,6	125
Coil connections	In (mm)	16	16	22	22	22	12	16	16	22	22
	Out (mm)	22	28	35	35	42	22	28	28	35	42
1) Net weight	kg	36	63	90	117	134	31	54	77	99	130

		HIGH Speed					LOW Speed				
Model		361 A4	362 A4	363 A4	364 A4	365 F4	351 E4	352 E4	353 E4	354 E4	355 F4
Speed		HIGH Speed					LOW Speed				
Nominal capacity	kW	4,6	9,3	14,1	18,4	22,6	2,9	5,8	8,6	11,6	16,4
Air flow	m <sup>3</sup> /h	2230	4460	6690	8920	11750	1480	2960	4440	5920	7100
Air throw	m	2x12	2x13	2x15	2x16	2x17	2x9	2x11	2x12	2x12	2x13
Internal surface	m <sup>2</sup>	1,8	3,6	5,4	7,2	10,3	1,2	2,4	3,6	4,8	10,3
External surface	m <sup>2</sup>	23,8	47,6	71,4	95,2	95	15,9	31,8	47,7	63,6	95
Coil connections	In (mm)	12	16	22	22	22	12	16	16	22	22
	Out (mm)	22	28	35	35	42	22	28	28	35	42
1) Net weight	kg	36	63	90	117	136	31	54	76	99	132

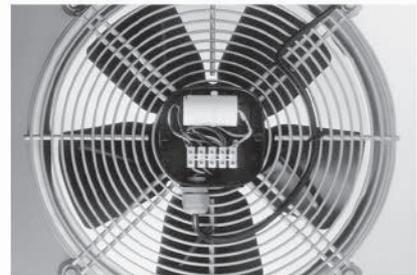
		HIGH Speed					LOW Speed				
Model		361 A7	362 A7	363 A7	364 A7	365 F7	351 E7	352 E7	353 E7	354 E7	355 F7
Speed		HIGH Speed					LOW Speed				
Nominal capacity	kW	3,9	7,8	11,7	15,5	18,7	2,2	4,5	6,8	9,1	13,6
Air flow	m <sup>3</sup> /h	2450	4900	7350	9800	12900	1600	3200	4800	6400	7850
Air throw	m	2x13	2x14	2x16	2x17	2x18	2x10	2x12	2x13	2x13	2x13
Internal surface	m <sup>2</sup>	1,8	3,6	5,4	7,2	10,3	1,2	2,4	3,6	4,8	10,3
External surface	m <sup>2</sup>	14,1	28,2	42,3	56,4	56	9,3	18,6	27,9	37,2	56
Coil connections	In (mm)	12	16	22	22	22	12	16	16	22	22
	Out (mm)	22	28	35	35	42	22	28	28	35	42
1) Net weight	kg	34	59	84	109	129	29	51	72	93	125

Common data

	n° x Ø mm	1 x 350	2 x 350	3 x 350	4 x 350	5 x 350	1 x 350	2 x 350	3 x 350	4 x 350	5 x 350
Fan motors											
Fan mot. absorp.	A	0,8	1,6	2,4	3,2	4	0,37	0,74	1,11	1,2	1,5
Nominal power	W	180	360	540	720	900	75	150	225	300	375
2) Fan mot. abs. EC	A	0,96	1,92	2,88	3,84	4,8	0,3	0,6	0,9	1,2	1,5
2) Nominal power EC	W	113	226	339	452	565	40	80	120	160	200
Circuit capacity	dm <sup>3</sup>	3	6	9	12	20,2	2	4	6	8	20,2
Electric defrost	W	2500	4500	7000	9000	11000	2500	4500	7000	9000	11000
LpA 10 m	dB(A)	43	46	48	49	50	30	33	35	36	37

1) The weight refers to models with ED electric defrost.  
 2) Option.  
 X Use thermostatic valve with external pressure equalizer.  
 • For brine cooler capacities please use "Scelte" selection software.

1) 重量为带电除霜的ED型。  
 2) 可选项。  
 X 使用外平衡膨胀阀。  
 • 有关盐水风机的换热量，请使用“Scelte”选型软件。



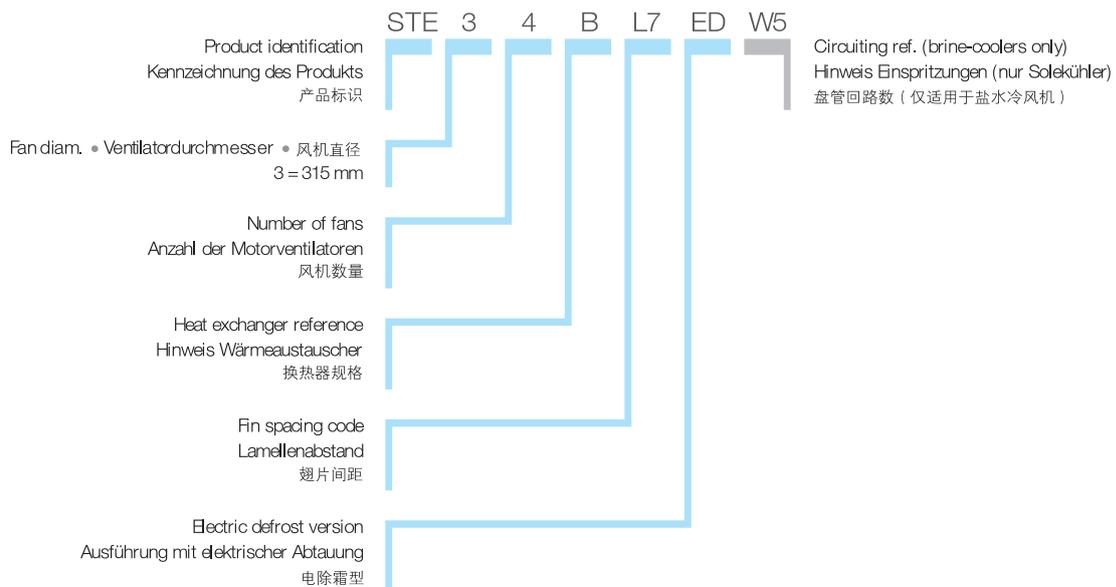
The STE range is specifically designed for applications in cold rooms with limited height for the preservation of fresh or frozen products.

STE系列冷风机特别设计应用于储存新鲜和冷冻产品并有限高的冷藏室内。

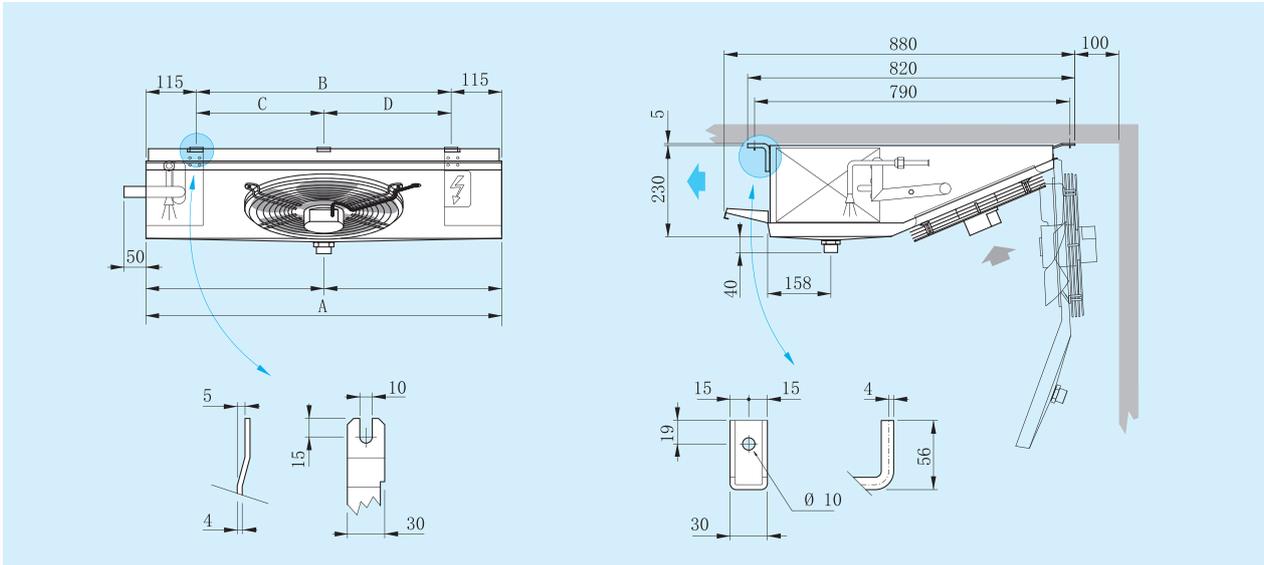
The entire range is equipped with high efficiency coils made from special profile aluminium fins and inner grooved copper tube, suitable for new generation refrigerants.

整个系列的产品都带有由特殊型铝翅片和内螺纹铜管制成的高效盘管，适用于新型的制冷剂。

## Model identification - 型号标识



Dimensional features - 尺寸数据



Model	Modell	型号	STE	31AH3 31BL7	32AH3 32BL7	33AH3 33BL7	34AH3 34BL7	
Dimensions	Abmessungen	尺寸	mm	A	810	1360	1910	2460
				B	580	1130	1680	2230
				C	-	-	565	1115
				D	-	-	1115	1115

According to the room temperature the range is divided as follows:

- STE H3 for higher temperatures ( +2 °C) with 3,5 mm fin spacing;
- STE L7 for lower temperatures ( -25 °C) with 7,0 mm fin spacing, electric defrost version (ED) is recommended.

The standard fan motors employed have the following features:

- 315 mm diameter external rotor single phase 230V/1/50-60 Hz with built-in electric capacitor and epoxy coated steel fan guard;
- IP 44 protection grade;
- class B insulation;
- internal thermal contact protection;
- maximum operating temperature: +40 °C.

The versions with standard electric defrost (ED) are equipped with stainless steel heaters with vulcanised terminals preset for 400V/3/50-60Hz connection.

The electric parts and casework are connected to a grounding terminal, the wiring of the motors and heaters is carried out in separate IP 54 protection grade junction boxes.

On request the models can be equipped with non-standard coils, defrosting and fan motors.

根据室温，该系列产品进行如下划分：

- 高温STE H3(≥ +2 °C)，配置间距为3.5mm的翅片；
- 低温STE L7(≥ -25 °C)，配置间距为7.0mm的翅片，推荐电除霜 (ED) 系列。

所使用的双速风机马达具备以下特征：

- 直径315mm外转子单相230V/1/50-60Hz，带内置电容器和聚酰胺玻璃纤维风机网罩；
- 保护等级IP44；
- B级绝缘；
- 内部热接触保护；
- 最高工作温度：+40 °C。

电加热除霜 (ED) 是采用的不锈钢电加热管，出厂连接为400V/3/50-60Hz供电。

电子零件和外壳均连接至接地装置，电机和加热管的接线在独立的IP54级接线盒中执行。

用户可以定制非标盘管，加热管和风机马达。

Technical features - 技术数据

Model	Modell	型号		Tested by 检测			
				31AH3	32AH3	33AH3	34AH3
Nominal capacity	Nennleistung	名义换热量	kW	2,14	4,33	6,59	8,83
Capacity	Leistung	换热量	kW	1,77	3,57	5,45	7,29
Air flow	Luftmenge	空气流量	m <sup>3</sup> /h	950	1900	2850	3800
Air throw	Wurfweite	空气射程	m	8	9	11	13
Internal surface	Innenoberfläche	内部面积	m <sup>2</sup>	1,0	2,1	3,1	4,1
External surface	Außenoberfläche	外部面积	m <sup>2</sup>	10,7	21,4	32,2	42,9
Circuit capacity	Rohrinhalt	回路容量	dm <sup>3</sup>	2,4	4,1	6,4	8,4
Electric defrost	Elektrische Abtauung	电除霜	W	1200	2250	3300	4350
1) Net weight	Nettogewicht	净重	kg	18,8	31	44	53

Model	Modell	型号		Tested by 检测			
				31BL7	32BL7	33BL7	34BL7
Nominal capacity	Nennleistung	名义换热量	kW	2,22	4,43	6,23	8,88
Capacity	Leistung	换热量	kW	1,84	3,66	5,15	7,34
Air flow	Luftmenge	空气流量	m <sup>3</sup> /h	1100	2200	3300	4400
Air throw	Wurfweite	空气射程	m	9	10	12	14
Internal surface	Innenoberfläche	内部面积	m <sup>2</sup>	1,4	2,8	4,1	5,5
External surface	Außenoberfläche	外部面积	m <sup>2</sup>	7,6	15,2	22,8	30,4
Circuit capacity	Rohrinhalt	回路容量	dm <sup>3</sup>	3,1	5,9	7,7	11,3
Electric defrost	Elektrische Abtauung	电除霜	W	1500	2700	4200	5400
1) Net weight	Nettogewicht	净重	kg	20,5	34,2	48,4	68,8

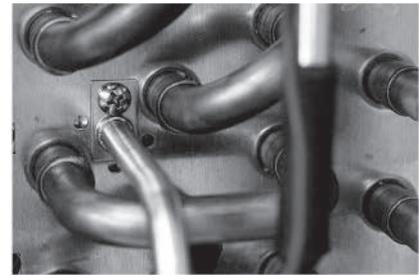
Common data	Gemeinsame Daten	常见数据					
Fan motors	Motoren	风机马达	n° x Ø mm	1 x 315	2 x 315	3 x 315	4 x 315
Fan mot. absorption	Stromaufn. Motoren	风机马达电流	A	0,49	0,97	1,47	1,96
Nominal power	Nennleistung	名义功率	W	106	212	318	424
Coil connections	Batterieanschlüsse	盘管接口	In (SAE)	1/2	1/2	1/2	1/2
			Out (mm)	16	22	28	28
Drain connection	Tauwasserabfluß	排放接口	Ø (GAS)	1	1	1	1



测试型号:  
STE 32 AH3  
STE 31 BL7

1) The weight refers to models with ED electric defrost.  
X Use thermostatic valve with external pressure equalizer.  
• For brine cooler capacities please use "Scelte" selection software.

1) 重量为带电除霜的ED型。  
X 使用外平衡膨胀阀。  
• 有关盐水冷风机的换热量, 请使用 "Scelte" 选型软件。



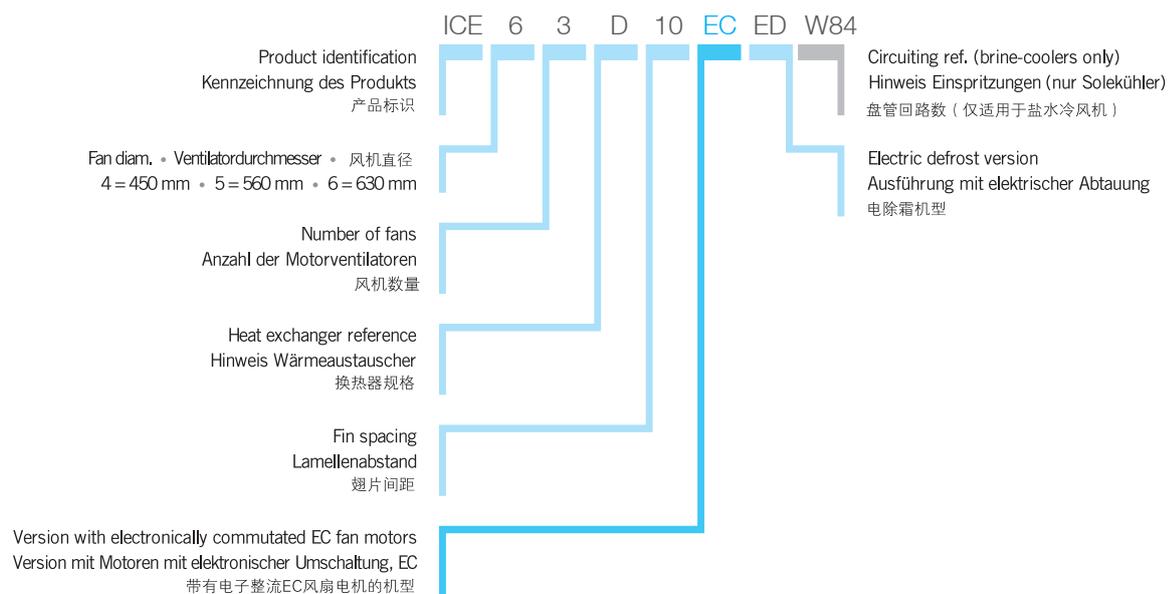
The ICE range has been specifically designed for use in large cold rooms and refrigerated storerooms suitable for the preservation of fresh and frozen products.

ICE系列冷风机特别设计用于大型冷藏室和冷冻储藏间，适用于储存新鲜和冷冻产品。

The entire range is equipped with high efficiency coils made from special profile aluminium fins and inner grooved copper tube, suitable for new generation refrigerants.

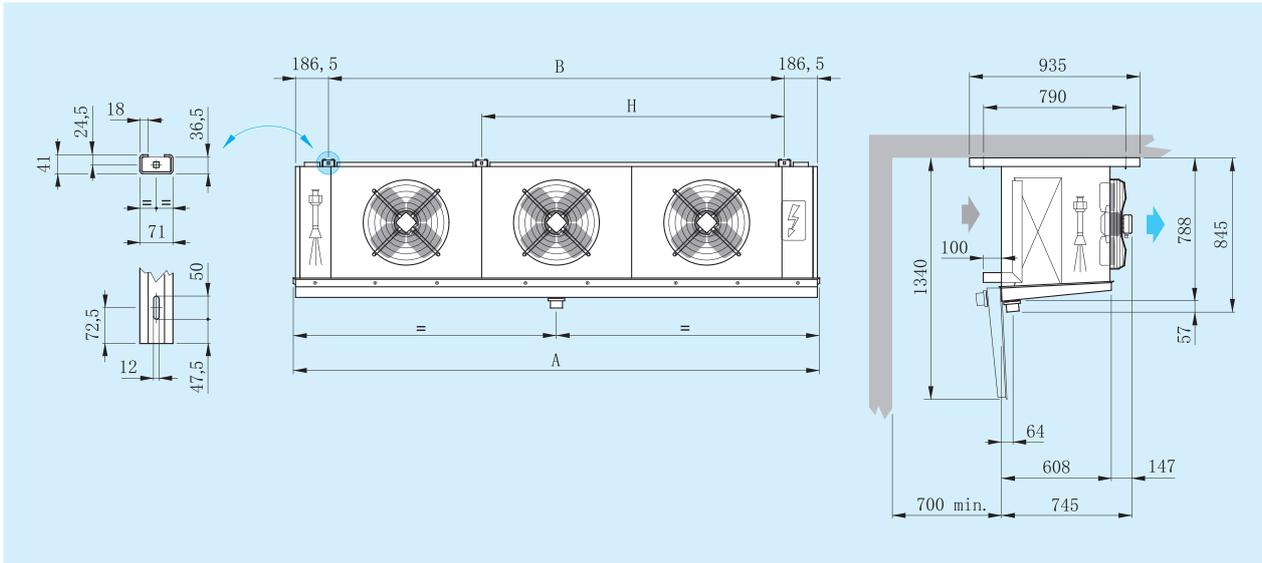
整个系列的产品都带有由特殊型铝翅片和内螺纹铜管制成的高效盘管，适用于新型的制冷剂。

## Model identification - 型号标识



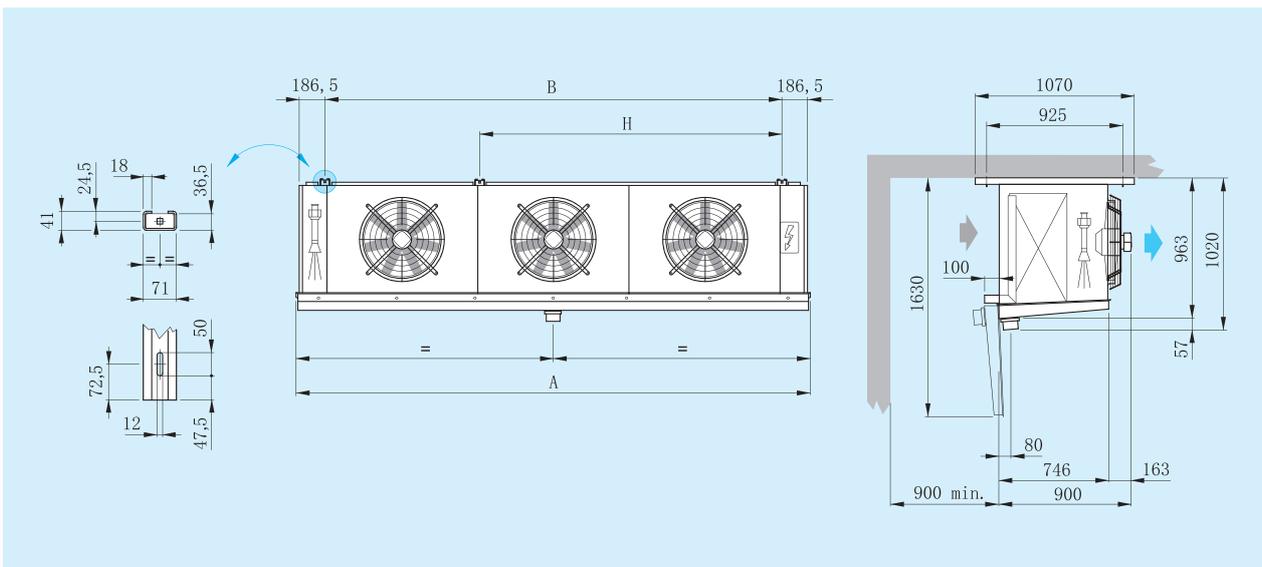
## Dimensional features - 尺寸数据

### ICE Ø 450 mm



Model	Modell	型号	ICE Ø 450 mm	41B06	42x06	43x06	44B06	
				41B08	42x08	43x08	44B08	
				41B10	42x10	43x10	44B10	
				41B12	42x12	43x12	44B12	
Dimensions	Abmessungen	尺寸	mm	A	1300	2150	3000	3850
				B	880	1730	2580	3430
				H	-	-	-	1700

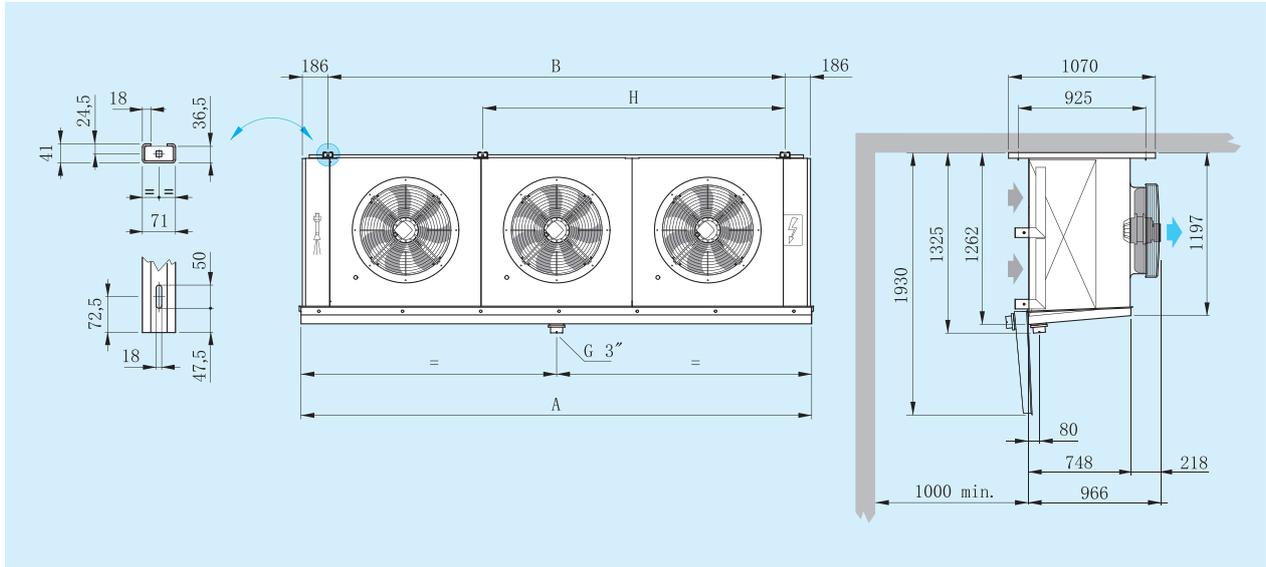
### ICE Ø 560 mm



Model	Modell	型号	ICE Ø 560 mm	51x06	52x06	53x06	54x06	
				51x08	52x08	53x08	54x08	
				51x10	52x10	53x10	54x10	
				51x12	52x12	53x12	54x12	
Dimensions	Abmessungen	尺寸	mm	A	1550	2650	3750	4850
				B	1130	2230	3330	4430
				H	-	-	-	2228

Dimensional features - 尺寸数据

ICE Ø 630 mm



Model	Modell	型号	ICE Ø 630 mm	62x06	63x06	64x06	65x06
				62x08	63x08	64x08	65x08
				62x10	63x10	64x10	65x10
				62x12	63x12	64x12	65x12
Dimensions	Abmessungen	尺寸	mm	A	B	H	
				2650	3750	4850	5950
					2230	3330	4430
							5530
							2228
							3328

In accordance to the room temperature the range is divided as follows:

- ICE 06 for higher and medium temperatures ( -15 °C) with 6,0 mm fin spacing;
- ICE 08 - 10 - 12 for lower temp. ( -35 °C) with 8,0; 10,0 and 12,0mm fin spacing, the electric defrost ED version is recommended;

The standard fan motors employed have the following features:

- 450, 560 and 630 mm diameters, external rotor three-phase 400V/3/50Hz dual speed, with epoxy coated steel fan guard.
- IP 54 protection grade;
- class B insulation (F for Ø 630);
- internal thermal contact protection;
- maximum operating temperature: +40 °C.

The optional high efficiency EC fan motors have the following features:

- IP 54 protection grade;
- class B insulation;
- built-in electronic protection;
- min. operating temperature -25 °C.

The versions with standard electric defrost (ED) are equipped with stainless steel heaters with vulcanised terminal preset for 400V/3/50-60Hz connection.

根据室温，该系列产品进行如下划分：

- 高温和中温ICE06，温度(≥-15 °C)，翅片间距6.0mm；
- 低温ICE08-10-12(≥-35 °C)，翅片间距8.0mm、10.0mm和12.0mm，推荐电除霜（ED）型。

所使用的标准风机马达具备以下特征：

- 直径450、560和630mm，外转子三相400V/3/50Hz，带环氧涂层金属风机网罩；
- 保护等级IP54；
- B级绝缘（直径630为F）；
- 内部热接触保护；
- 最高工作温度：+40 °C。

可选项高效EC风机马达具备以下特征：

- 保护等级IP54；
- B级绝缘；
- 内置电气保护；
- 最低工作温度：-25 °C。

电加热除霜（ED）是采用的不锈钢电加热管，出厂连接为400V/3/50-60Hz供电。

The electric parts and casework are predisposed for grounding, the wiring of the heaters is carried out in separate IP 54 protection grade junction boxes.

On request the models can be equipped with non-standard coils, defrosting and fan motors (see table at page 80).

Select units with non published conditions with the "Scelte" selection program.

For special applications and further information consult our Technical Dept.

电子零件和外壳均连接至接地装置，电机和加热器的接线在独立的IP54级接线盒中执行。

根据需要，这些型号可配备非标准盘管和风机马达。

使用“Scelte”选型软件选择特殊条件下使用的设备。

有关特殊应用的更多信息，请联系我们的技术部门。

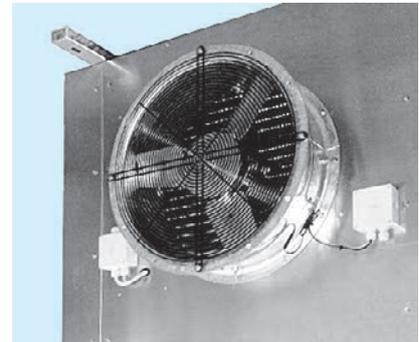
### Options and special versions - 可选件和特殊规格



- Streamers
- 整流器



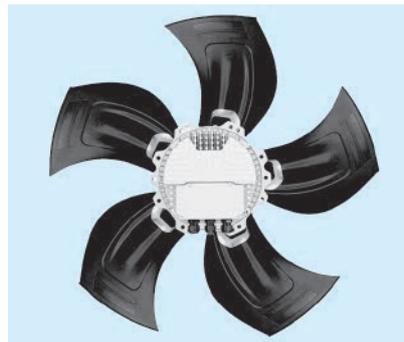
- Fan shrouds with electric defrost
- 带电除霜的风机罩壳



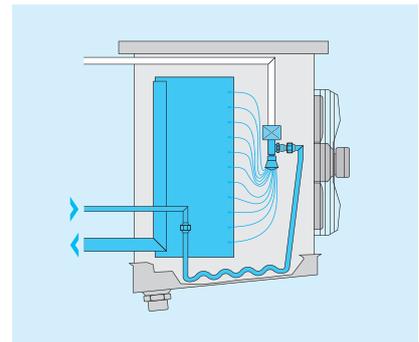
- Model for blast freezer application
- 速冻机专用型



- Ø 710 mm fan motors
- 直径710 mm的风机马达



- Electronically commutated motors (EC)
- 电子整流马达(EC)



- Hot gas defrost
- 热气除霜

## Technical features - 技术数据

ICE 06				Tested by 检测		41B06		42A06		42B06		43A06		43B06	
Model	Modell	型号		High	Low	High	Low	High	Low	High	Low	High	Low	High	Low
Speed	Geschwindigkeit	速度													
Nom. capacity	Nennleistung	名义换热量	kW	10,4	8,87	17,8	15,2	21,1	17,9	26,9	22,9	31,1	26,4		
Capacity	Leistung	换热量	kW	8,62	7,33	14,7	12,5	17,4	14,8	22,3	18,9	25,7	21,8		
Air flow	Luftmenge	空气流量	m <sup>3</sup> /h	4800	3700	10200	7850	9600	7390	15300	11780	14400	11090		
Air throw	Wurfweite	空气射程	m	19	15	23	18	21	16	25	19	23	18		
1) Air throw streamers	Wurfweite streamers	空气射程导流罩	m	32	21	34	25	33	22	36	27	35	26		
Internal surface	Innenoberfläche	内部面积	m <sup>2</sup>	6,8		10,3		13,7		15,4		20,5			
External surface	Außenoberfläche	外部面积	m <sup>2</sup>	43,1		64,7		86,2		97,0		129,4			
2) Net weight	Nettogewicht	净重	kg	70		120		134		169		191			

ICE 08				Tested by 检测		41B08		42A08		42B08		43A08		43B08	
Model	Modell	型号		High	Low	High	Low	High	Low	High	Low	High	Low	High	Low
Speed	Geschwindigkeit	速度													
Nom. capacity	Nennleistung	名义换热量	kW	9,46	8,07	15,8	13,5	19,2	16,3	23,9	20,4	28,3	24,0		
Capacity	Leistung	换热量	kW	7,84	6,67	13,1	11,1	15,8	13,5	19,8	16,8	23,4	19,8		
Air flow	Luftmenge	空气流量	m <sup>3</sup> /h	4900	3780	10270	7930	9800	7560	15400	11900	14700	11340		
Air throw	Wurfweite	空气射程	m	20	15	24	18	22	17	26	20	24	18		
1) Air throw streamers	Wurfweite streamers	空气射程导流罩	m	33	22	35	26	34	23	37	28	36	27		
Internal surface	Innenoberfläche	内部面积	m <sup>2</sup>	6,8		10,3		13,7		15,4		20,5			
External surface	Außenoberfläche	外部面积	m <sup>2</sup>	33,7		50,6		67,4		75,9		101,1			
2) Net weight	Nettogewicht	净重	kg	68		117		130		166		185			

ICE 10				Tested by 检测		41B10		42A10		42B10		43A10		43B10	
Model	Modell	型号		High	Low	High	Low	High	Low	High	Low	High	Low	High	Low
Speed	Geschwindigkeit	速度													
Nom. capacity	Nennleistung	名义换热量	kW	8,74	7,43	14,4	12,2	17,6	15	21,6	18,4	26,3	22,4		
Capacity	Leistung	换热量	kW	7,22	6,14	11,9	10,1	14,5	12,4	17,9	15,2	21,7	18,5		
Air flow	Luftmenge	空气流量	m <sup>3</sup> /h	5000	3850	10350	8000	10000	7700	15450	11900	15000	11550		
Air throw	Wurfweite	空气射程	m	21	16	25	19	23	18	27	21	25	19		
1) Air throw streamers	Wurfweite streamers	空气射程导流罩	m	34	23	36	27	35	24	38	29	37	28		
Internal surface	Innenoberfläche	内部面积	m <sup>2</sup>	6,8		10,3		13,7		15,4		20,5			
External surface	Außenoberfläche	外部面积	m <sup>2</sup>	27,7		41,5		55,4		62,3		83,1			
2) Net weight	Nettogewicht	净重	kg	66		115		126		163		179			

ICE 12				Tested by 检测		41B12		42A12		42B12		43A12		43B12	
Model	Modell	型号		High	Low	High	Low	High	Low	High	Low	High	Low	High	Low
Speed	Geschwindigkeit	速度													
Nom. capacity	Nennleistung	名义换热量	kW	8,04	6,84	13,2	11,2	16,2	13,8	19,9	16,9	24,2	20,6		
Capacity	Leistung	换热量	kW	6,64	5,65	10,9	9,29	13,3	11,4	16,5	14,0	20,0	17,0		
Air flow	Luftmenge	空气流量	m <sup>3</sup> /h	5100	3920	10550	8160	10200	7850	15760	12140	15300	11780		
Air throw	Wurfweite	空气射程	m	22	17	26	20	24	19	28	22	26	20		
1) Air throw streamers	Wurfweite streamers	空气射程导流罩	m	35	24	37	28	36	25	39	30	38	29		
Internal surface	Innenoberfläche	内部面积	m <sup>2</sup>	6,8		10,3		13,7		15,4		20,5			
External surface	Außenoberfläche	外部面积	m <sup>2</sup>	24		36		48		54		72			
2) Net weight	Nettogewicht	净重	kg	64		113		122		160		173			

Common data				Gemeinsame Daten				常见数据					
Fan motors	Motoren	风机马达	n° x Omm	1 x 450		2 x 450		2 x 450		3 x 450		3 x 450	
Fan mot. absorp.	Stromaufn. Mot.	风机马达电流	A	0,81	0,55	1,62	1,1	1,62	1,1	2,43	1,65	2,43	1,65
Nominal power	Nennleistung	名义功率	W	450	340	900	680	900	680	1350	1020	1350	1020
1) Fan mot. absorp. EC	Stromaufn. Mot. EC	风机马达电流 EC	A	2,2	1,4	4,4	2,8	4,4	2,8	6,6	4,2	6,6	4,2
1) Nominal power EC	Nennleistung EC	名义功率 EC	W	345	170	690	340	690	340	1035	510	1035	510
Circuit capacity	Rohrinhalt	回路容量	dm <sup>3</sup>	15		22		28		32		43	
Electric defrost	Elektrische Abtauung	电除霜	W	5040		10200		10200		15000		15000	
Water defrost	Wasserabtauung	水除霜	lh	2400		3600		4800		5400		7200	
Coil connections	Batt. Anschlüsse	盘管接口	In tube (mm)	16		22		22		28		28	
			Out tube (mm)	35		42		42		42		42	
Drain connection	Tauwasserabfluß	排放接口	O (GAS)	2		2		2		2		2	
Defrost connect.	Anschlüsse Abtauung	除霜接口	O (GAS)	1 1/4		1 1/4		1 1/4		1 1/4		1 1/4	

1) Option.  
2) The weight refers to models with ED electric defrost.

1) 选项。  
2) 重量为带电除霜的ED型。



44B06		51A06		51B06		52A06		52B06		52D06		53A06		53B06	
High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low
41,3	35,1	16,9	14	19,9	16,2	33,7	28	39,7	32,5	49	40,2	50,7	42,1	59,6	48,8
34,1	29	14	11,6	16,5	13,5	27,9	23,2	32,8	26,9	40,5	33,2	41,9	34,8	49,2	40,3
19200	14780	9950	8640	9550	6870	19900	17280	19100	13750	17170	12360	29850	25290	28650	20630
25	19	31	21	30	20	35	25	34	24	30	22	37	27	36	26
37	28	43	29	42	28	49	35	48	34	42	31	52	38	50	36
27,3		8,3		11,1		16,6		22,1		33,2		24,9		33,2	
172,5		52,6		70,2		105		139,5		209,3		158		209,3	
243		89		107		170		205		266		240		283	

44B08		51A08		51B08		52A08		52B08		52D08		53A08		53B08	
High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low
37,6	31,9	15,4	13,0	18,1	15,1	30,7	26,0	36,1	30,2	45,6	37,4	46,1	39,2	54,2	45,4
31,0	26,4	12,7	10,8	15,0	12,6	25,4	21,6	29,8	25,0	37,7	30,9	38,1	32,4	44,8	37,5
19200	15120	10400	9020	10050	7200	20800	18040	20100	14400	18000	12970	31200	27060	30150	21600
26	20	32	22	31	21	36	26	35	25	31	22	38	27	37	26
38	29	45	31	43	29	50	36	49	35	43	31	53	38	52	36
27,3		8,3		11,1		16,6		22,1		33,2		24,9		33,2	
134,8		40,8		54,4		81,6		108,8		163,4		122,4		163,2	
235		86		102		165		196		253		234		274	

44B10		51A10		51B10		52A10		52B10		52D10		53A10		53B10	
High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low
36,7	31,2	14,6	12,5	17,2	14,1	29,2	25,1	34,4	28,2	41,5	34	44	37,8	51,8	42,5
30,3	25,8	12,1	10,4	14,2	11,7	24,1	20,7	28,4	23,3	34,3	28,1	36,4	31,3	42,8	35,1
20000	15400	10870	9410	10560	7560	21740	18820	21000	15120	18860	13580	32610	28230	31500	22680
27	21	33	23	32	22	37	27	36	26	32	23	39	28	38	27
39	30	46	32	45	31	52	38	50	36	45	32	55	39	53	38
27,3		8,3		11,1		16,6		22,1		33,2		24,9		33,2	
110,7		33,8		45,1		67,6		89,6		134,4		101		134,4	
228		83		98		160,34		187		240		229		267	

44B12		51A12		51B12		52A12		52B12		52D12		53A12		53B12	
High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low
33,8	28,7	12,8	11,0	15,1	12,4	25,7	22,1	30,3	24,8	38,6	31,6	38,7	33,3	45,6	37,4
27,9	23,7	10,6	9,15	12,5	10,3	21,2	18,2	25,0	20,5	31,9	26,1	32,0	27,5	37,7	30,9
20400	15710	10980	9500	10670	7640	21960	19010	21210	15270	19330	13920	32940	28510	31810	22910
28	22	34	24	33	23	38	28	37	27	33	24	40	29	39	28
40	31	48	34	46	32	53	39	52	38	46	34	56	41	55	39
27,3		8,3		11,1		16,6		22,1		33,2		24,9		33,2	
96		29,1		38,8		58,2		77,6		134,4		87,3		116,4	
220		80		94		155		178		227		224		260	

4 x 450		1 x 560		1 x 560		2 x 560		2 x 560		2 x 560		3 x 560		3 x 560	
High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low
3,24	2,2	1,8	0,95	1,8	0,95	3,6	1,9	3,6	1,9	3,6	1,9	5,4	2,9	5,4	2,9
1800	1360	1000	600	1000	600	2000	1200	2000	1200	2000	1200	3000	1800	3000	1800
8,8	5,6	1,38	0,73	1,38	0,73	2,76	1,46	2,76	1,46	2,76	1,46	4,14	2,19	4,14	2,19
1380	680	872	461	872	461	1744	922	1744	922	1744	922	2616	1383	2616	1383
55		16,6		22,1		32,3		46		66		48,1		66	
19800		6750		6750		16050		16050		19260		24000		24000	
9600		2060		2750		4130		5500		7000		6080		8100	
28		22		22		28		28		35		28		35	
54		42		42		54		54		54		54		54	
2		2		2		3		3		3		3		3	
2 x 1 1/4		1 1/4		1 1/4		1 1/4		1 1/4		1 1/4		1 1/4		1 1/4	

X Use thermostatic valve with external pressure equalizer.  
 • For brine cooler capacities please use "Scelte" selection software.

X 使用外平衡膨胀阀。  
 • 有关盐水冷风机的换热量, 请使用 "Scelte" 选型软件。

## Technical features - 技术数据

## ICE 06

Model	Modell	型号	53D06		54A06		54B06		54D06		62A06		
Speed	Geschwindigkeit	速度	High	Low	High	Low	High	Low	High	Low	High	Low	
Nom. capacity	Nennleistung	名义换热量	kW	74	60,6	67,7	56,2	79,7	65,4	98,5	80,7	54,7	46,8
Capacity	Leistung	换热量	kW	61,1	50,1	56	46,5	65,9	54	81,4	66,7	45,2	38,7
Air flow	Luftmenge	空气流量	m <sup>3</sup> /h	25750	18540	39800	34560	38200	27500	34400	24770	32340	25200
Air throw	Wurfweite	空气射程	m	32	23	39	28	38	27	35	25	53	40
1) Air throw streamers	Wurfweite streamers	空气射程导流罩	m	45	31	55	39	53	38	49	35	74	56
Internal surface	Innenoberfläche	内部面积	m <sup>2</sup>	49,8		33,2		44,2		66,4		23,2	
External surface	Außenoberfläche	外部面积	m <sup>2</sup>	313,9		211		279		418,5		146	
2) Net weight	Nettogewicht	净重	kg	368		328		385		498		263	

## ICE 08

Model	Modell	型号	53D08		54A08		54B08		54D08		62A08		
Speed	Geschwindigkeit	速度	High	Low	High	Low	High	Low	High	Low	High	Low	
Nom. capacity	Nennleistung	名义换热量	kW	68,8	56,4	61,6	52,3	72,5	60,8	91,6	75,1	47,5	41,0
Capacity	Leistung	换热量	kW	56,8	46,6	51,0	43,2	60,0	50,2	75,7	62,0	39,3	33,9
Air flow	Luftmenge	空气流量	m <sup>3</sup> /h	27000	19450	41600	36000	40200	28800	36000	25930	33200	26100
Air throw	Wurfweite	空气射程	m	33	23	40	29	39	28	36	26	53	40
1) Air throw streamers	Wurfweite streamers	空气射程导流罩	m	46	32	56	41	55	39	50	36	74	56
Internal surface	Innenoberfläche	内部面积	m <sup>2</sup>	49,8		33,2		44,2		66,4		23,2	
External surface	Außenoberfläche	外部面积	m <sup>2</sup>	245,1		163,2		217,6		367,7		115	
2) Net weight	Nettogewicht	净重	kg	356		314		366		473		256	

## ICE 10

Model	Modell	型号	53D10		54A10		54B10		54D10		62A10		
Speed	Geschwindigkeit	速度	High	Low	High	Low	High	Low	High	Low	High	Low	
Nom. capacity	Nennleistung	名义换热量	kW	61,3	50,3	58,7	50,5	69	56,6	83,7	68,7	43,8	37,5
Capacity	Leistung	换热量	kW	50,6	41,5	48,5	41,7	57	46,8	69,2	56,7	36,2	31
Air flow	Luftmenge	空气流量	m <sup>3</sup> /h	28290	20370	43480	37640	42000	30240	38000	27360	33780	26550
Air throw	Wurfweite	空气射程	m	34	24	41	30	40	29	37	27	54	41
1) Air throw streamers	Wurfweite streamers	空气射程导流罩	m	48	34	57	42	56	41	52	38	76	57
Internal surface	Innenoberfläche	内部面积	m <sup>2</sup>	49,8		33,2		44,2		66,4		23,2	
External surface	Außenoberfläche	外部面积	m <sup>2</sup>	201,5		135		179,1		268,7		94	
2) Net weight	Nettogewicht	净重	kg	343		301		350		448		250	

## ICE 12

Model	Modell	型号	53D12		54A12		54B12		54D12		62A12		
Speed	Geschwindigkeit	速度	High	Low	High	Low	High	Low	High	Low	High	Low	
Nom. capacity	Nennleistung	名义换热量	kW	57,0	46,8	51,7	44,4	60,7	49,8	77,8	63,9	39,6	33,8
Capacity	Leistung	换热量	kW	47,1	38,6	42,7	36,7	50,2	41,2	64,4	52,7	32,7	27,9
Air flow	Luftmenge	空气流量	m <sup>3</sup> /h	29000	20880	43910	38020	42420	30540	38950	28040	34070	26780
Air throw	Wurfweite	空气射程	m	35	25	42	31	41	30	38	28	55	42
1) Air throw streamers	Wurfweite streamers	空气射程导流罩	m	49	35	59	43	57	42	53	39	77	59
Internal surface	Innenoberfläche	内部面积	m <sup>2</sup>	49,8		33,2		44,2		66,4		23,2	
External surface	Außenoberfläche	外部面积	m <sup>2</sup>	174,6		116,4		155,2		261,9		82	
2) Net weight	Nettogewicht	净重	kg	330		288		334		423		244	

## Common data Gemeinsame Daten 常见数据

Fan motors	Motoren	风机马达	n° x Ømm	3 x 560		4 x 560		4 x 560		4 x 560		2 x 630	
Fan mot. absorp.	Stromaufn. Mot.	风机马达电流	A	5,4	2,9	7,2	3,8	7,2	3,8	7,2	3,8	10	5,8
Nominal power	Nennleistung	名义功率	W	3000	1800	4000	2400	4000	2400	4000	2400	5200	3300
1) Fan mot. absorp. EC	Stromaufn. Mot. EC	风机马达电流 EC	A	4,14	2,19	5,52	2,92	5,52	2,92	5,52	2,92	5,22	2,66
1) Nominal power EC	Nennleistung EC	名义功率 EC	W	2616	1383	3488	1844	3488	1844	3488	1844	3440	1760
Circuit capacity	Rohrinhalt	回路容量	dm <sup>3</sup>	100		63,8		91		135		47	
Electric defrost	Elektrische Abtauung	电除霜	W	28800		32250		32250		38700		17640	
Water defrost	Wasserabtauung	水除霜	lh	10000		8100		10800		14000		5500	
Coil connections	Batt. Anschlüsse	盘管接口	In tube (mm)	35		35		35		2 x 35		28	
			Out tube (mm)	54		54		54		2 x 54		42	
Drain connection	Tauwasserabfluß	排放接口	O (GAS)	3		3		3		3		3	
Defrost connect.	Anschlüsse Abtauung	除霜接口	O (GAS)	1 1/4		2 x 1 1/4		2 x 1 1/4		2 x 1 1/4		1 1/4	

1) Option.

2) The weight refers to models with ED electric defrost.

1) 选项。

2) 重量为带电除霜的ED型。



62B06		62D06		63B06		63D06		64B06		64D06		65C06		65D06	
High	Low														
60,3	52,2	68,4	56,6	90,4	78,2	102	84,9	121	104	137	113	161	134	171	142
49,8	43,1	56,5	46,8	74,7	64,6	84,7	71,7	99,6	86,2	113	93,6	133	111	141	117
30620	24300	29480	22050	45930	36450	44220	33075	61240	48600	58960	44100	76560	57380	73700	55125
52	39	51	39	54	40	52	39	55	41	53	40	56	42	54	41
73	55	71	55	76	56	73	55	77	57	74	56	78	59	76	57
31		46,5		46,5		69,7		61,9		92,9		96,8		116,1	
195		292		292		438		390		584		614		730	
298		378		422		535		572		718		815		900	

62B08		62D08		63B08		63D08		64B08		64D08		65C08		65D08	
High	Low														
55,2	47,3	65,5	54,4	82,8	71,0	98,2	81,7	110	94,6	131	109	150	127	164	136
45,6	39,1	54,1	45	68,4	58,6	81,1	67,5	91,2	78,2	108	90	124	105	135	112
32340	25200	31200	23400	48510	37800	46800	35100	64680	50400	62400	46800	79430	60750	78000	58500
52	39	51	39	54	40	52	39	55	41	53	40	56	42	54	41
73	55	71	55	76	56	73	55	77	57	74	56	78	59	76	57
31		46,5		46,5		69,7		61,9		92,9		96,8		116,1	
153		229		230		344		306		458		477		573	
289		369		434		524		561		704		797		880	

62B10		62D10		63B10		63D10		64B10		64D10		65C10		65D10	
High	Low														
51,7	44,3	63,0	52,6	77,5	66,4	94,6	78,9	103	88,6	126	105	144	122	158	132
42,7	36,6	52,1	43,5	64	54,9	78,1	65,2	85,4	73,2	104	87	119	101	130	109
32920	25880	32060	24300	49380	38820	48090	36450	65840	51760	64120	48600	82290	63000	80150	60750
53	40	52	38	55	41	53	39	56	42	54	40	57	43	55	42
74	56	73	53	77	57	74	55	78	59	76	56	80	60	77	59
31		46,5		46,5		69,7		61,9		92,9		96,8		116,1	
125		187		187		287		250		375		394		468	
280		360		400		516		550		690		780		860	

62B12		62D12		63B12		63D12		64B12		64D12		65C12		65D12	
High	Low														
48,2	40,8	59,8	50,3	72,2	61,2	90,0	75,5	96,3	81,6	120	101	134	114	149	126
39,8	33,7	49,4	41,6	59,7	50,5	74,1	62,4	79,6	67,4	98,8	83,2	111	94,1	123	104
34070	26330	32920	25200	51105	39495	49380	37800	68140	52660	65840	50400	83730	64130	82300	63000
54	41	53	39	56	42	54	40	57	43	55	41	58	44	56	43
76	57	74	55	78	59	76	56	80	60	77	57	81	62	78	60
31		46,5		46,5		69,7		61,9		92,9		96,8		116,1	
109		163		164		245		218		326		340		408	
271		351		416		508		539		676		763		840	

2 x 630		2 x 630		3 x 630		3 x 630		4 x 630		4 x 630		5 x 630		5 x 630	
10	5,8	10	5,8	15	8,7	15	8,7	20	11,6	20	11,6	25	14,5	25	14,5
5200	3300	5200	3300	7800	4950	7800	4950	10400	6600	10400	6600	13000	8250	13000	8250
5,22	2,66	5,22	2,66	7,83	3,99	7,83	3,99	10,44	5,32	10,44	5,32	13,05	6,65	13,05	6,65
3440	1760	3440	1760	5160	2640	5160	2640	6880	3520	6880	3520	8600	4400	8600	4400
63		93		93		136		121		181		188		225	
23520		35280		35520		53280		46800		70200		72450		82800	
6300		7000		8100		10000		10800		14000		12500		17500	
35		35		35		2 x 35		2 x 35		2 x 35		2 x 35		2 x 35	
54		54		54		2 x 54		2 x 54		2 x 54		2 x 54		2 x 54	
3		3		3		3		3		3		3		3	
1 1/4		1 1/4		1 1/4		1 1/4		2 x 1 1/4		2 x 1 1/4		2 x 1 1/4		2 x 1 1/4	

X Use thermostatic valve with external pressure equalizer.  
 • For brine cooler capacities please use "Scelte" selection software.

X 使用外平衡膨胀阀。  
 • 有关盐水冷风机的换热量, 请使用 "Scelte" 选型软件。



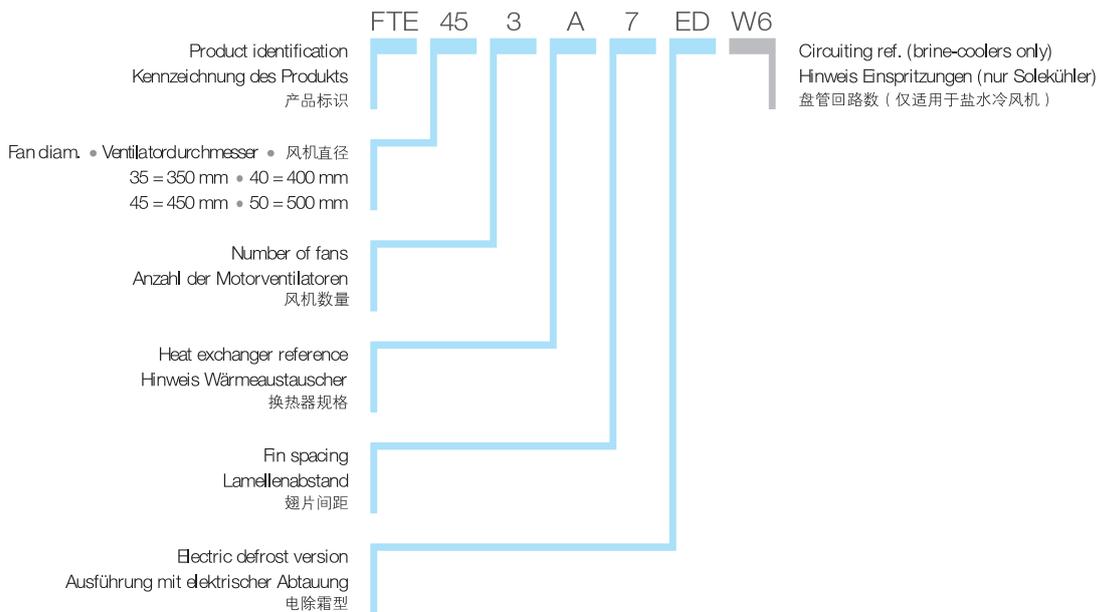
The FTE range has been designed for installations in cold rooms and refrigerated storerooms specifically for the preservation of fruit and vegetables.

FTE系列冷风机特别设计用于储存水果和蔬菜的冷库。

The entire range is equipped with high efficiency coils made from special profile aluminium fins with a large exchange surface and inner grooved copper tube, suitable for most new generation refrigerants.

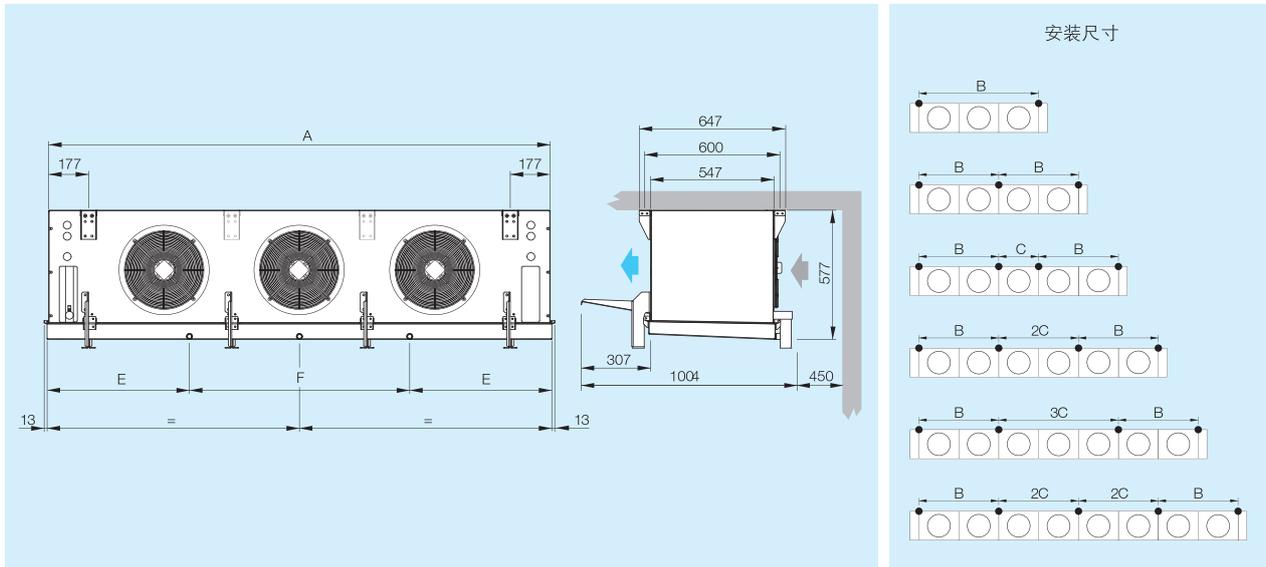
整个系列的产品都带有由特殊型铝翅片和内螺纹铜管制成的高效盘管，适用于新型的制冷剂。

## Model identification - 型号标识



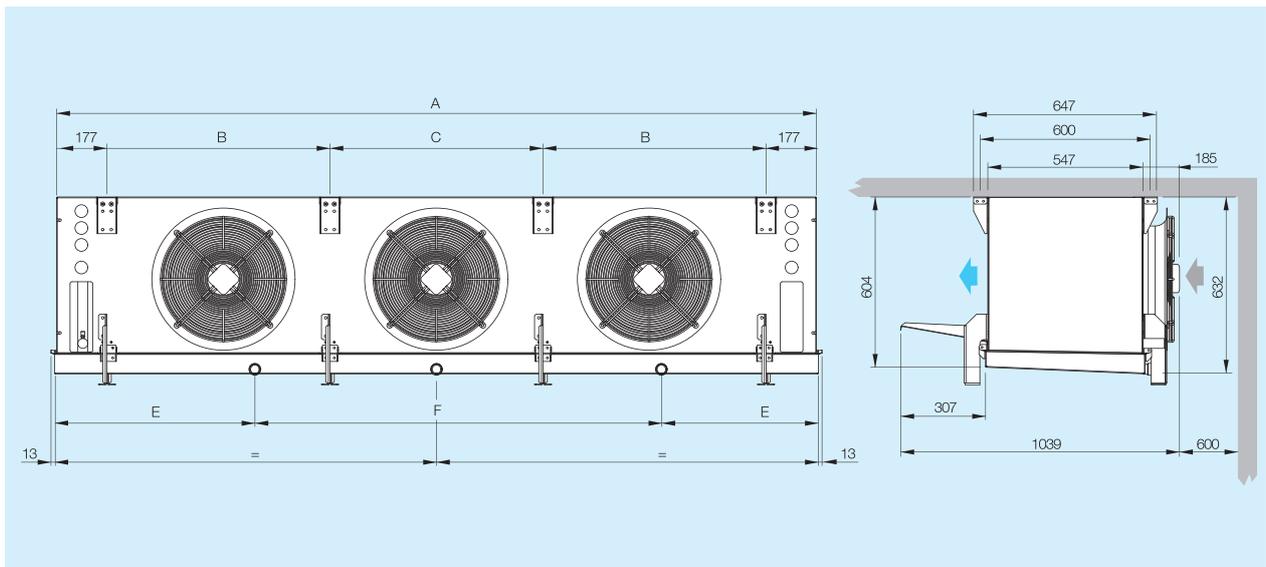
Dimensional features - 尺寸数据

FTE Ø 350 mm



Model	Modell	型号	FTE	353A07	354A07	355A07	356A07	357A07	358A07	
Dimensions	Abmessungen	尺寸	mm	A	2224	2824	3424	4024	4624	5224
				B	1870	1235	1235	1235	1235	1235
				C	-	-	600	1200	1800	1200
				E	1119	1419	848	998	1148	1298
				F	-	-	1728	2028	2328	2628

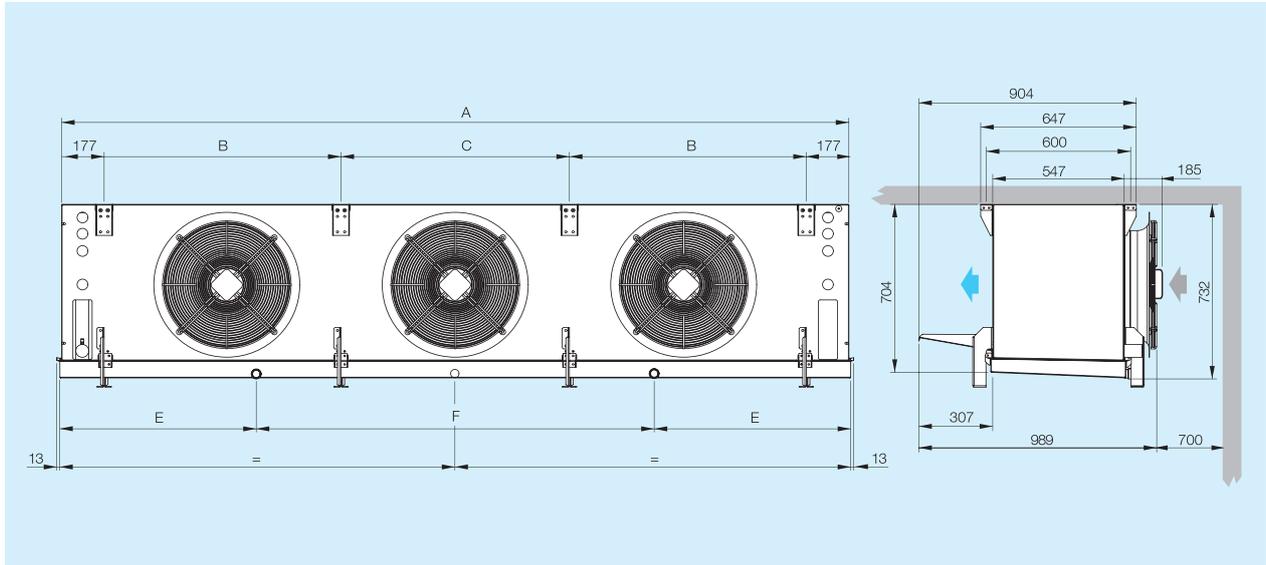
FTE Ø 400 mm



Model	Modell	型号	FTE	403A07	404A07	405A07	406A07	
Dimensions	Abmessungen	尺寸	mm	A	2674	3424	4174	4924
				B	785	785	785	785
				C	750	(2x) 750	(3x) 750	(4x) 750
				E	1344	848	1035	1223
				F	-	1728	2103	2478

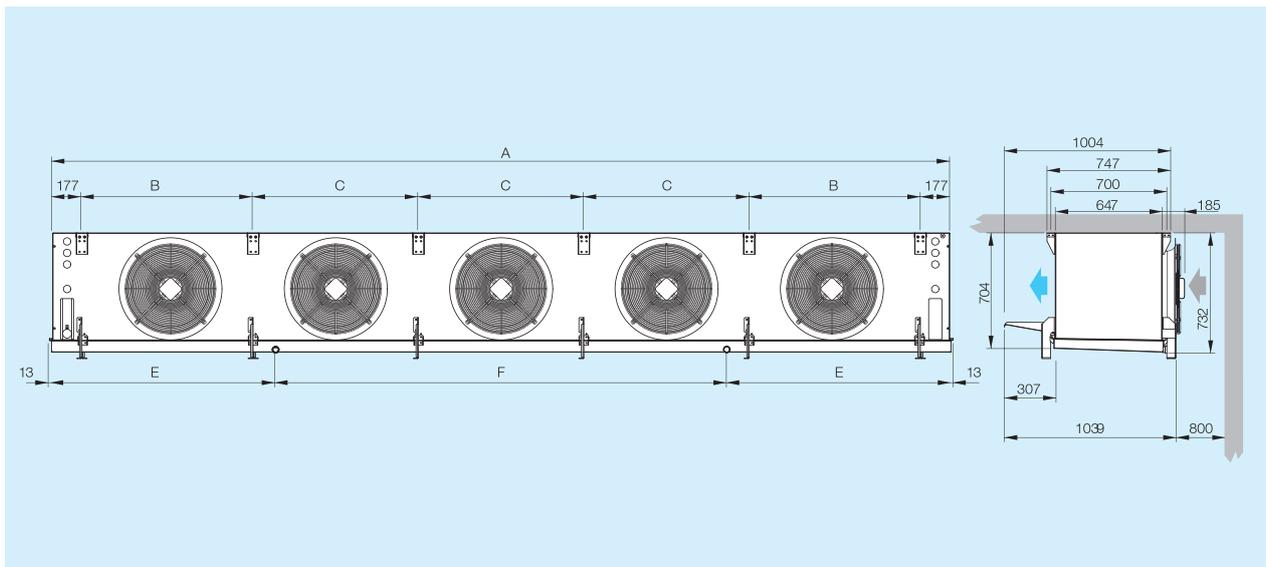
Dimensional features - 尺寸数据

FTE Ø 450 mm



Model	Modell	型号	FTE	453A07	454A07	455A07	456A07	
Dimensions	Abmessungen	尺寸	mm	A	3274	4224	5174	6124
				B	985	(2x) 985	(3x) 985	(4x) 985
				C	950	950	950	950
				E	816	1048	1285	1523
				F	1655	2128	2603	3073

FTE Ø 500 mm



Model	Modell	型号	FTE	505A07	506A07	
Dimensions	Abmessungen	尺寸	mm	A	5424	6424
				B	1035	1035
				C	1000	(4x) 1000
				E	1355	1598
				F	2728	3228

The fin spacing for the entire range is 7mm, while the coils' circuiting has been optimized for the typical conditions used for the preservation of agricultural produce, that is  $\pm 0$  °C and low DT levels compared to the evaporating temperature: conditions that favour a high hygrometric level, which is necessary to guarantee the high quality of the stored products.

The technical and manufacturing specifications are based on the demands of market sector specialists, namely: blow-through fan motors with airflow on the heat exchanger 1); reduced height to optimize the thresholds for loading/unloading and minimal lateral condensation drains.

To facilitate maintenance, a new concept drain pan has been developed with hinges on both sides.

The flush-mounted fixing brackets exclude any possibility of harmful substances building up between the unit and the ceiling.

All models are equipped with baffles to direct the outlet air upward, thereby guaranteeing a greater air throw due to the "Coanda effect", that is the tendency of a fluid (in this case air) to follow the contour of a nearby surface. These baffles also prevent the low temperature air from blowing directly on to the stored produce, and avoid immediate aircirculation in the intake area.

The standard fan motors employed have the following features:

- IP 44 protection grade for  $\varnothing$  350, 400 and 450 mm;
- IP 54 protection grade for  $\varnothing$  500 mm;
- class B insulation for  $\varnothing$  400 and 450 mm
- class F insulation for  $\varnothing$  350 and 500 mm;
- internal thermal contact protection;
- maximum operating temperature: +40 °C.

The versions with standard electrical defrost ED are equipped with stainless steel heaters with vulcanized terminals preset for 400V/3/50-60 Hz connection.

The units are preset for earth connection and the heaters are connected to IP 54 protection grade terminal boxes.

Upon request the models may be supplied with non-standard coils, defrosting systems and fan motors.

For the selection of units operating in conditions that are different to that of the catalogue use the "Scelte" selection program.

For special applications and additional information consult our Technical Dept.

整个系列的翅片间距为7mm，盘管回路设计进行了优化，适用于特殊应用。 $\pm 0$ °C和低温差的条件特别适合用来冷藏农产品，可以有效保持冷库内的空气湿度，这对保证冷藏农产品的品质非常必要。

可根据市场特殊需求调整产品设计与制造。空气可通过风机马达吹向换热器表面，以降低高度、优化加卸载阀值，从而缩短排水管长度。

为便于维护，已开发两端带铰链的新型排水盘。

嵌装的固定托架消除了其它杂物在产品顶部和屋顶之间聚积的可能性。

所有型号都配有导风板，引导出口空气上行，保证在“附壁作用”下空气射程更理想。“附壁作用”是指流体（这里是空气）有沿着物体表面流动的倾向。导流板能防止冷风直接吹在储存产品上，形成回流，在进风区域直接发生空气循环。

所使用的标准风机马达具备以下特征：

- 保护等级IP44直径 $\varnothing$ 350, 400, 450mm;
- 保护等级IP54直径 $\varnothing$ 500mm;
- B级绝缘直径 $\varnothing$ 400, 450mm;
- F级绝缘直径 $\varnothing$ 350, 500mm;
- 内部热接触保护;
- 最高工作温度: +40 °C。

电加热除霜（ED）是采用是不锈钢电加热管，出厂连接为400V/3/50-60Hz供电。

电子零件和外壳均连接至接地装置，加热管的接线在独立的IP54级接线盒中执行。

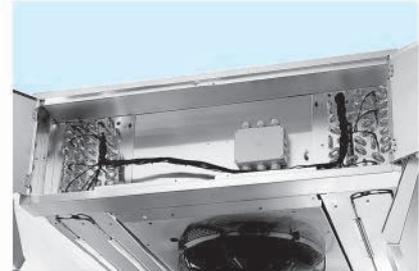
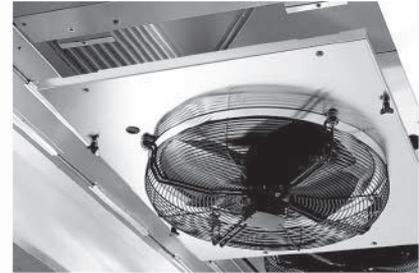
用户可以定制非标的盘管，加热管和风机马达。

使用“Scelte”选型软件选择特殊条件下使用的设备。

有关特殊应用的更多信息，请联系我们的技术部门。

1) The heat generated by the fan motor accumulates in front of the heat exchanger, thereby limiting its dehumidification, at the same evaporating temperature. Compared to air suction models/units, where the fan motor is positioned behind the heat-exchanger, the configuration of this range helps maintain a higher level of relative humidity inside the cold room.

1) 风机马达产生的热量在热交换器的前部聚积，限制了空气湿度，在同等蒸发温度下。与吸气型产品（风扇电机固定在换热器后面）相比，该系列产品的这种结构设计有助于保持冷藏库内较高的相对湿度。



The IDE range of dual discharge unit coolers has been specifically designed for applications in large cold rooms and refrigerated storerooms with limited height, suitable for the preservation of fresh and frozen products.

The entire range is equipped with high efficiency coils made from special profile aluminium fins and inner grooved copper tube, suitable for new generation refrigerants.

In accordance to the room temperature the range is divided as follows:

- IDE-4 for higher temperatures ( +2 °C) with 4,5 mm fin spacing;

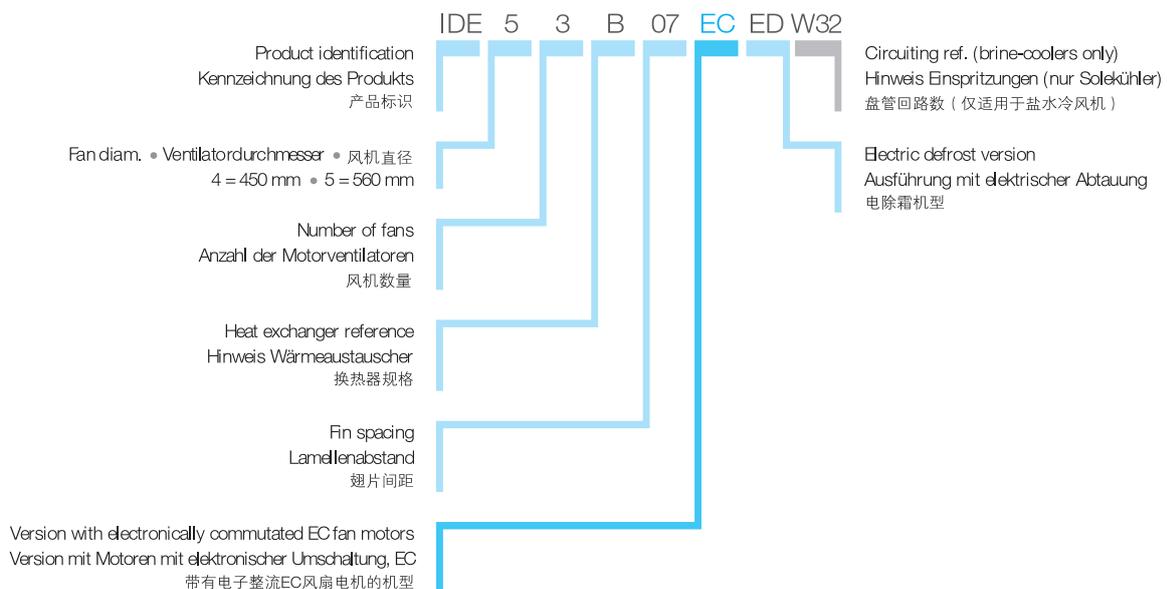
IDE系列双出风冷媒冷风机特别设计用于高度有限的大型冷藏室和冷冻储藏间，适用于储存新鲜和冷冻产品。

整个系列的产品都带有由特殊型铝翅片和内螺纹铜管制成的高效盘管，适用于新型的制冷剂。

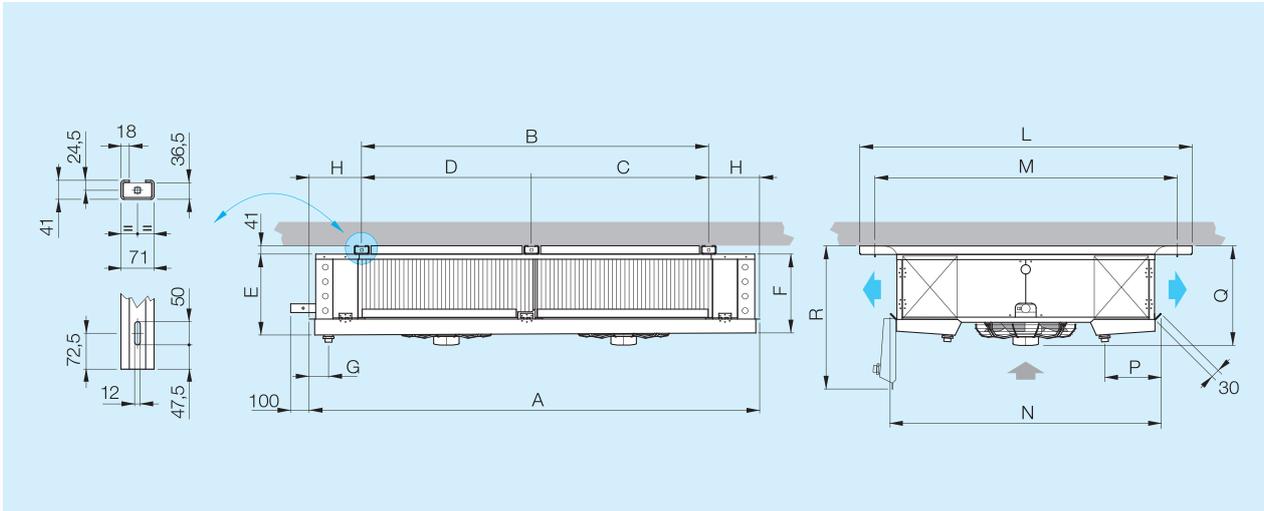
根据室温，该系列产品进行如下划分：

- 高温和中温IDE-4，温度(≥ +2 °C)，翅片间距4.5mm;

## Model identification - 型号标识



Dimensional features - 尺寸数据



Modello	Model	型号	IDE	41x04	42x04	43x04	52x04	53x04	54x04								
				41x07	42x07	43x07	52x07	53x07	54x07								
				41x10	42x10	43x10	52x10	53x10	54x10								
Dimensions	Abmessungen	尺寸	mm	A	B	C	D	E	F	G	H	L	M	N	P	Q	R
				1300	2150	3000	2760	3860	4960								
				814	1664	2514	2164	3264	4364								
				-	-	1700	1100	2 x 1100	3 x 1100								
				-	-	814	1064	1064	1064								
				406	410	415	538	543	550								
				400	400	400	530	530	530								
				85	85	85	90	90	90								
				243	243	243	298	298	298								
				1594	1594	1594	1809	1809	1809								
				1449	1449	1449	1664	1664	1664								
				1290	1290	1290	1505	1505	1505								
				280	280	280	280	280	280								
				490	490	490	680	680	680								
				695	695	695	835	835	835								

- IDE-7 for medium temperatures (  $-25\text{ }^{\circ}\text{C}$ ) with 7,0 mm fin spacing, electric defrost version ED is recommended;
- IDE-10 for lower temperatures (  $-35\text{ }^{\circ}\text{C}$ ) with 10,0 mm fin spacing, electric defrost version ED is recommended.

The standard fan motors employed have the following features:

- 450 and 560 mm diameters, external rotor three-phase 400V/3/50 Hz dual velocity, with epoxy coated steel fan guard;
- IP 54 protection grade;
- class B insulation;
- internal thermal contact protection;
- maximum operating temperature:  $+40\text{ }^{\circ}\text{C}$ .

The optional high efficiency EC fan motors have the following features:

- IP 54 protection grade;
- class B insulation;
- Built-in electronic protection;
- min. operating temperature  $-25\text{ }^{\circ}\text{C}$ .

The versions with standard electric defrost (ED) are equipped with stainless steel heaters with vulcanised terminal preset for 400V/3/50-60 Hz connection.

- 中温IDE-7，温度( $\geq -25\text{ }^{\circ}\text{C}$ )，翅片间距7.0mm，推荐电除霜(ED)型；
- 低温IDE-10，温度( $\geq -35\text{ }^{\circ}\text{C}$ )，翅片间距10.0mm，推荐电除霜(ED)型。

所使用的标准风机马达具备以下特征：

- 直径450和650mm，外转子三相400V/3/50Hz，带环氧涂层金属风机网罩；
- 保护等级IP54；
- B级绝缘；
- 内部热接触保护；
- 最高工作温度： $+40\text{ }^{\circ}\text{C}$ 。

可选项高效EC风机马达具备以下特征：

- 保护等级IP54；
- B级绝缘；
- 内置电气保护；
- 最低工作温度： $-25\text{ }^{\circ}\text{C}$ 。

电加热除霜(ED)是采用的不锈钢电加热管，出厂连接为400V/3/50-60Hz供电。

Technical features - 技术数据

IDE-4			Tested by 检测		41A04		41B04		42A04		42B04		43A04		43B04	
Model	Modell	型号	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low
Speed	Geschwindigkeit	速度	8,27	7,38	9,61	8,33	16,8	14,9	18,5	16,2	25,4	22,5	28,6	24,8		
Nom. capacity	Nennleistung	名义换热量	kW		6,84	6,09	7,94	6,88	13,9	12,3	15,3	13,4	21	18,6	23,6	20,5
Capacity	Leistung	换热量	kW		6,84	6,09	7,94	6,88	13,9	12,3	15,3	13,4	21	18,6	23,6	20,5
Air flow	Luftmenge	空气流量	m <sup>3</sup> /h		4000	3290	3800	3100	8000	6580	7600	6200	12000	9870	11400	9300
Air throw	Wurfweite	空气射程	m		2 x 11	2 x 7	2 x 10	2 x 6	2 x 12	2 x 8	2 x 11	2 x 7	2 x 13	2 x 9	2 x 12	2 x 8
Internal surface	Innenoberfläche	内部面积	m <sup>2</sup>		5,1		6,8		10,3		13,7		15,4		20,5	
External surface	Außenoberfläche	外部面积	m <sup>2</sup>		42		56		84		112		126		168	

IDE-7			41A07		41B07		42A07		42B07		43A07		43B07			
Model	Modell	型号	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low		
Speed	Geschwindigkeit	速度	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low		
Nom. capacity	Nennleistung	名义换热量	kW		7,37	7,10	8,70	7,46	14,9	14,4	16,9	14,6	22,5	21,6	26,1	22,4
Capacity	Leistung	换热量	kW		6,08	5,87	7,19	6,16	12,3	11,9	14	12,1	18,6	17,9	21,6	18,5
Air flow	Luftmenge	空气流量	m <sup>3</sup> /h		4200	3450	4000	3200	8400	6900	8000	6400	12600	10350	12000	9600
Air throw	Wurfweite	空气射程	m		2 x 12	2 x 9	2 x 11	2 x 8	2 x 13	2 x 10	2 x 12	2 x 9	2 x 14	2 x 11	2 x 13	2 x 10
Internal surface	Innenoberfläche	内部面积	m <sup>2</sup>		5,1		6,8		10,3		13,7		15,4		20,5	
External surface	Außenoberfläche	外部面积	m <sup>2</sup>		28		37,5		56,5		75		84,5		113	

IDE-10			41A10		41B10		42A10		42B10		43A10		43B10			
Model	Modell	型号	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low		
Speed	Geschwindigkeit	速度	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low		
Nom. capacity	Nennleistung	名义换热量	kW		6,54	5,73	7,65	6,65	13,2	11,5	15	13,1	19,9	17,3	23	20,1
Capacity	Leistung	换热量	kW		5,40	4,73	6,32	5,50	10,9	9,54	12,4	10,8	16,4	14,3	19	16,6
Air flow	Luftmenge	空气流量	m <sup>3</sup> /h		4450	3600	4100	3350	8900	7200	8200	6700	13350	10800	12300	10050
Air throw	Wurfweite	空气射程	m		2 x 13	2 x 10	2 x 12	2 x 9	2 x 14	2 x 11	2 x 13	2 x 10	2 x 15	2 x 12	2 x 14	2 x 11
Internal surface	Innenoberfläche	内部面积	m <sup>2</sup>		5,1		6,8		10,3		13,7		15,4		20,5	
External surface	Außenoberfläche	外部面积	m <sup>2</sup>		21		27,5		41,5		55,5		62		83	

Common data			Gemeinsame Daten		常见数据											
Circuit capacity	Rohrinhalt	回路容量	dm <sup>3</sup>		11,1		14,8		21,1		26,4		31,2		41,6	
Fan motors	Motoren	风机马达	n° x Omm		1 x 450		1 x 450		2 x 450		2 x 450		3 x 450		3 x 450	
Fan mot. absorp.	Stromaufn. Mot.	风机马达电流	A		0,79	0,53	0,79	0,53	1,58	1,06	1,58	1,06	2,37	1,59	2,37	1,59
Nominal power	Nennleistung	名义功率	W		430	330	430	330	860	660	860	660	1290	990	1290	990
1) Fan mot. absorp. EC	Stromaufn. Mot. EC	风机马达电流 EC	A		2,2	1,4	2,2	1,4	4,4	2,8	4,4	2,8	6,6	4,2	6,6	4,2
1) Nominal power EC	Nennleistung EC	名义功率 EC	W		345	170	345	170	690	340	690	340	1035	1020	1035	1020
Electric defrost	Elektrische Abtauung	电除霜	W		5040		5040		10200		10200		15000		15000	
Coil connections	Batt. Anschlüsse	盘管接口	In (mm)		16		16		22		22		28		28	
			Out (mm)		35		35		42		42		42		42	
Drain connection	Tauwasserabfluß	排放接口	O (GAS)		2 x 1		2 x 1		2 x 1		2 x 1		2 x 1		2 x 1	
2) Net weight	Nettogewicht	净重	kg		80		80		145		145		206		206	

1) Option.  
 2) The weight refers to models with ED electric defrost.  
 X Use thermostatic valve with external pressure equalizer.  
 • For brine cooler capacities please use "Scelte" selection software.

1) 选项。  
 2) 重量为带电除霜的ED型。  
 X 使用外平衡膨胀阀。  
 • 有关盐水冷风机的换热量，请使用 "Scelte" 选型软件。

## Technical features - 技术数据

### IDE-4

Model	Modell	型号	52A04		52B04		53A04		53B04		54A04		54B04		
Speed	Geschwindigkeit	速度	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	
Nom. capacity	Nennleistung	名义换热量	kW	34,7	30,1	36,2	31,5	50,6	44,2	57,7	49,5	69,8	60,5	77	66
Capacity	Leistung	换热量	kW	28,7	24,9	29,9	26	41,8	36,5	47,7	40,9	57,7	50	63,6	54,5
Air flow	Luftmenge	空气流量	m <sup>3</sup> /h	15900	12750	15400	12350	23850	19125	23100	18525	31800	25500	30800	24700
Air throw	Wurfweite	空气射程	m	2 x 15	2 x 11	2 x 14	2 x 10	2 x 16	2 x 12	2 x 15	2 x 11	2 x 17	2 x 13	2 x 16	2 x 12
Internal surface	Innenoberfläche	内部面积	m <sup>2</sup>	19,9		26,5		29,9		39,8		39,8		53,1	
External surface	Außenoberfläche	外部面积	m <sup>2</sup>	163		217,5		244,5		326		326		434,5	

### IDE-7

Model	Modell	型号	52A07		52B07		53A07		53B07		54A07		54B07		
Speed	Geschwindigkeit	速度	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	
Nom. capacity	Nennleistung	名义换热量	kW	30,3	26,5	33,3	28,9	44,5	39,1	52,5	45,2	60,8	53,1	69,6	59,8
Capacity	Leistung	换热量	kW	25	21,9	27,5	23,9	36,8	32,3	43,4	37,3	50,2	43,9	57,5	49,4
Air flow	Luftmenge	空气流量	m <sup>3</sup> /h	16590	13500	16200	13000	24885	20250	24300	19500	33180	27000	32400	26000
Air throw	Wurfweite	空气射程	m	2 x 16	2 x 13	2 x 15	2 x 12	2 x 17	2 x 14	2 x 16	2 x 13	2 x 18	2 x 15	2 x 17	2 x 14
Internal surface	Innenoberfläche	内部面积	m <sup>2</sup>	19,9		26,5		29,9		39,8		39,8		53,1	
External surface	Außenoberfläche	外部面积	m <sup>2</sup>	109,5		146		164		219		219		292	

### IDE-10

Model	Modell	型号	52A10		52B10		53A10		53B10		54A10		54B10		
Speed	Geschwindigkeit	速度	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	
Nom. capacity	Nennleistung	名义换热量	kW	25,6	22,6	29	25,7	37,9	33,6	45,3	39,7	51,4	45,3	59,8	52,4
Capacity	Leistung	换热量	kW	21,2	18,7	24	21,2	31,3	27,7	37,4	32,8	42,5	37,4	49,4	43,3
Air flow	Luftmenge	空气流量	m <sup>3</sup> /h	16650	13800	16050	13300	24975	20700	24075	19950	33300	27600	32100	26600
Air throw	Wurfweite	空气射程	m	2 x 17	2 x 14	2 x 16	2 x 13	2 x 18	2 x 15	2 x 17	2 x 14	2 x 19	2 x 16	2 x 18	2 x 15
Internal surface	Innenoberfläche	内部面积	m <sup>2</sup>	19,9		26,5		29,9		39,8		39,8		53,1	
External surface	Außenoberfläche	外部面积	m <sup>2</sup>	80,5		107,5		121		161		161		215	

### Common data Gemeinsame Daten 常见数据

Circuit capacity	Rohrinhalt	回路容量	dm <sup>3</sup>	40,5		50,7		60		80,2		79,5		97,2	
Fan motors	Motoren	风机马达	n° x Ømm	2 x 560		2 x 560		3 x 560		3 x 560		4 x 560		4 x 560	
Fan mot. absorp.	Stromaufn. Mot.	风机马达电流	A	3,3	2,1	3,3	2,1	4,95	3,15	4,95	3,15	6,6	4,2	6,6	4,2
Nominal power	Nennleistung	名义功率	W	1680	1280	1680	1280	2520	1920	2520	1920	3360	2560	3360	2560
1) Fan mot. absorp. EC	Stromaufn. Mot. EC	风机马达电流 EC	A	1,46	0,64	1,46	0,64	2,19	0,96	2,19	0,96	2,92	1,28	2,92	1,28
1) Nominal power EC	Nennleistung EC	名义功率 EC	W	922	390	922	390	1383	585	1383	585	1844	780	1844	780
Electric defrost	Elektrische Abtauung	电除霜	W	16050		19260		24000		28800		32250		38700	
Coil connections	Batt. Anschlüsse	盘管接口	In (mm)	28		28		35		35		35		35	
			Out (mm)	54		54		54		54		70		70	
Drain connection	Tauwasserabfluß	排放接口	O (GAS)	2 x 2		2 x 2		2 x 2		2 x 2		2 x 2		2 x 2	
2) Net weight	Nettogewicht	净重	kg	250		250		370		370		498		498	



测试型号:  
IDE 41 A04



The SRE range has been developed in order to meet the food refrigeration sector's most demanding requirements in terms of efficiency and effectiveness for all those applications where fast cooling is essential.

The models of this product range are specifically designed for blast chilling and blast freezing rooms, and are the ideal solution for a wide variety of installations (and room dimensions).

The units are floor-mounted, consisting of vertical modules with 2 blow-through horizontal air flow direction fan motors, with a choice of 3 different diameters (500, 560 and 630 mm), equipped with special profile blades which guarantee appropriate air circulation thanks to the high pressure they produce.

The SRE range complies with the highest quality standards and represents an excellent example of the accent our Group's places on: design, development, research of materials and model performance.

For special applications and additional information consult our Technical Dept.

SRE系列产品研发用于满足食品制冷业中最严格的效率和功效要求，在这些应用中速冻非常重要。

该系列的所有产品均特别设计用于速冻间，是适用于广泛安装（和室内尺寸）条件下的理想方案。

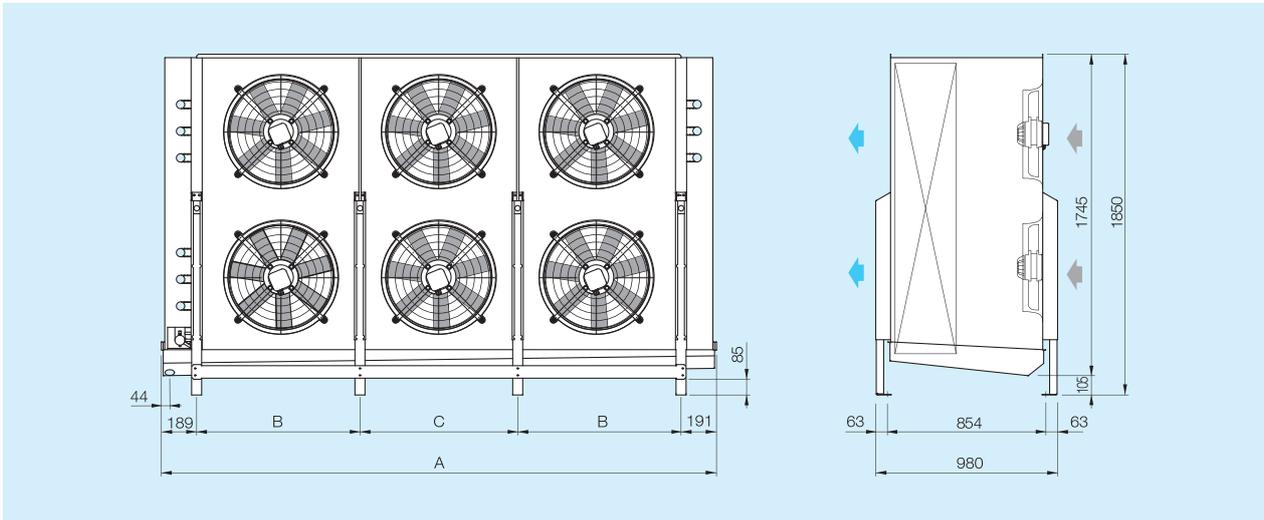
该系列产品为落地式，包含带有2个水平排气风机的垂直模块，可选择三种直径(500, 560和630mm)，产品安装特殊形状的叶片，凭借其产生的高压，从而实现恰当的空气循环。

SRE系列产品遵循最高质量标准并展示了我们公司注重：设计、研发、材料研究和型号功效。

有关特殊应用和更多信息，请咨询我们的技术部门。

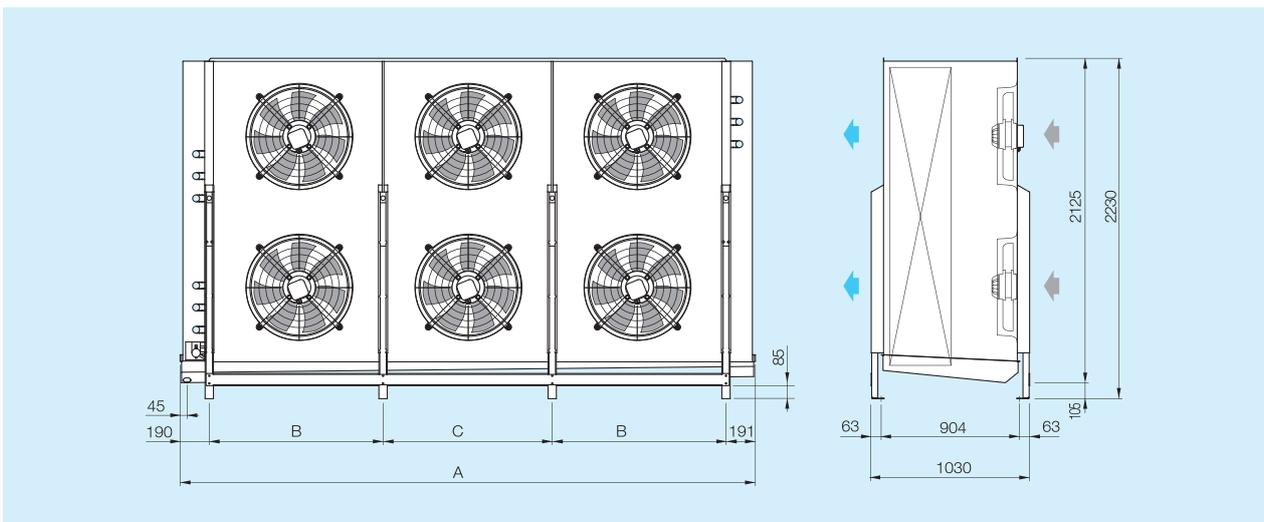
Dimensional features - 尺寸数据

SRE Ø 500 / 560 mm



Model	Modell	型号	24A07 - 25B07	44A07 - 45B07	64A07 - 65B07	84A07 - 85B07	
			24A10 - 24B10	44A10 - 44B10	64A10 - 64B10	84A10 - 84B10	
			24A12 - 24B12	44A12 - 44B12	64A12 - 64B12	84A12 - 84B12	
			25A07 - 25B07 - 25D07	45A07 - 45B07 - 45D07	65A07 - 65B07 - 65D07	85A07 - 85B07 - 85D07	
			25A10 - 25B10 - 25D10	45A10 - 45B10 - 45D10	65A10 - 65B10 - 65D10	85A10 - 85B10 - 85D10	
			25A12 - 25B12 - 25D12	45A12 - 45B12 - 45D12	65A12 - 65B12 - 65D12	85A12 - 85B12 - 85D12	
Dimensions	Abmessungen	尺寸	mm A	1290	2140	2990	3840
			B	910	880	880	880
			C	-	-	850	850

SRE Ø 630 mm



Model	Modell	型号	26A07 - 26B07 - 26D07	46A07 - 46B07 - 46D07	66A07 - 66B07 - 66D07	
			26A10 - 26B10 - 26D10	46A10 - 46B10 - 46D10	66A10 - 66B10 - 66D10	
			26A12 - 26B12 - 26D12	46A12 - 46B12 - 46D12	66A12 - 66B12 - 66D12	
Dimensions	Abmessungen	尺寸	mm A	1540	2640	3740
			B	1160	1130	1130
			C	-	-	1100

## Technical features - 技术数据

## SRE 07

Model	Modell	型号	SRE	24A07	25A07	25B07	26A07	26B07	26D07
Capacity	Leistung	换热量	kW	17,3	19,1	22	28,6	34,3	41,3
Air flow	Luftmenge	空气流量	m <sup>3</sup> /h	14950	17620	16410	25230	25230	23450
Air speed	Luftgeschwindigkeit	空气流速	m/s	3,1	3,66	3,41	3,27	3,27	3,04
Added pressure	Zusatzdruck	压升值	Pa	50	70	70	120	100	100
Internal surface	Innenoberfläche	内部面积	m <sup>2</sup>	13,46	13,46	17,95	21,57	28,76	43,13
External surface	Außenoberfläche	外部面积	m <sup>2</sup>	75	75	99	119	159	239
Fan motors	Ventilatormotoren	风机马达	n° x Ømm	2 x 500	2 x 560	2 x 560	2 x 630	2 x 630	2 x 630
Fan mot. absorp.	Stromaufnahme Mot.	风机电流	A	3,5	4,4	4,4	8	8	8
Nominal power	Nennleistung	名义功率	kW	1,72	2,5	2,5	4,2	4,2	4,2
Circuit capacity	Rohrinhalt	回路容量	dm <sup>3</sup>	27,3	27,3	35,1	42,5	57,5	86,2
Electric defrost	Elek. Abtauung	电除霜	W	10980	11130	13650	16050	17400	21450
Drain connection	Tauwasserabfluß	排放接口	O(GAS)	2	2	2	2	2	2
1) Net weight	Nettogewicht	净重	kg	228	236	265	358	405	490

Model	Modell	型号	SRE	44A07	45A07	45B07	46A07	46B07	46D07
Capacity	Leistung	换热量	kW	34,4	37,8	44,1	56,7	69,1	79,6
Air flow	Luftmenge	空气流量	m <sup>3</sup> /h	29900	35245	32820	50465	50465	46905
Air speed	Luftgeschwindigkeit	空气流速	m/s	3,1	3,66	3,41	3,27	3,27	3,04
Added pressure	Zusatzdruck	压升值	Pa	50	70	70	120	100	100
Internal surface	Innenoberfläche	内部面积	m <sup>2</sup>	26,92	26,92	35,89	43,13	57,51	86,27
External surface	Außenoberfläche	外部面积	m <sup>2</sup>	149	149	199	239	318	478
Fan motors	Ventilatormotoren	风机马达	n° x Ømm	4 x 500	4 x 560	4 x 560	4 x 630	4 x 630	4 x 630
Fan mot. absorp.	Stromaufnahme Mot.	风机电流	A	7	8,8	8,8	16	16	16
Nominal power	Nennleistung	名义功率	kW	3,44	5	5	8,4	8,4	8,4
Circuit capacity	Rohrinhalt	回路容量	dm <sup>3</sup>	52,4	52,4	69,2	84	112	167
Electric defrost	Elek. Abtauung	电除霜	W	22200	22500	27600	34740	37680	46500
Drain connection	Tauwasserabfluß	排放接口	O(GAS)	2	2	2	2	2	2
1) Net weight	Nettogewicht	净重	kg	394	410	464	644	735	901

Model	Modell	型号	SRE	64A07	65A07	65B07	66A07	66B07	66D07
Capacity	Leistung	换热量	kW	52,5	58	64,4	83,2	101	123
Air flow	Luftmenge	空气流量	m <sup>3</sup> /h	44850	52865	49230	75700	75700	70355
Air speed	Luftgeschwindigkeit	空气流速	m/s	3,1	3,66	3,41	3,27	3,27	3,04
Added pressure	Zusatzdruck	压升值	Pa	50	70	70	120	100	100
Internal surface	Innenoberfläche	内部面积	m <sup>2</sup>	40,38	40,38	53,84	64,7	86,27	129,4
External surface	Außenoberfläche	外部面积	m <sup>2</sup>	224	224	298	358	478	716
Fan motors	Ventilatormotoren	风机马达	n° x Ømm	6 x 500	6 x 560	6 x 560	6 x 630	6 x 630	6 x 630
Fan mot. absorp.	Stromaufnahme Mot.	风机电流	A	10,5	13,2	13,2	24	24	24
Nominal power	Nennleistung	名义功率	kW	5,16	7,5	7,5	12,6	12,6	12,6
Circuit capacity	Rohrinhalt	回路容量	dm <sup>3</sup>	78,3	78,3	105	125	166	250
Electric defrost	Elek. Abtauung	电除霜	W	32700	33150	40650	52440	56880	70200
Drain connection	Tauwasserabfluß	排放接口	O(GAS)	2	2	2	2	2	2
1) Net weight	Nettogewicht	净重	kg	566	590	673	929	1063	1331

Model	Modell	型号	SRE	84A07	85A07	85B07
Capacity	Leistung	换热量	kW	66,8	73	86
Air flow	Luftmenge	空气流量	m <sup>3</sup> /h	59800	70490	65645
Air speed	Luftgeschwindigkeit	空气流速	m/s	3,1	3,66	3,41
Added pressure	Zusatzdruck	压升值	Pa	50	70	70
Internal surface	Innenoberfläche	内部面积	m <sup>2</sup>	53,84	53,84	71,79
External surface	Außenoberfläche	外部面积	m <sup>2</sup>	298	298	397
Fan motors	Ventilatormotoren	风机马达	n° x Ømm	8 x 500	8 x 560	8 x 560
Fan mot. absorp.	Stromaufnahme Mot.	风机电流	A	14	17,6	17,6
Nominal power	Nennleistung	名义功率	kW	6,88	10	10
Circuit capacity	Rohrinhalt	回路容量	dm <sup>3</sup>	104	104	139
Electric defrost	Elek. Abtauung	电除霜	W	43200	43800	53700
Drain connection	Tauwasserabfluß	排放接口	O(GAS)	2	2	2
1) Net weight	Nettogewicht	净重	kg	732	764	870

1) The weight refers to models with ED electric defrost.  
X Use thermostatic valve with external pressure equalizer.  
• For brine cooler capacities please use "Scltel" selection software.

1) 重量为带电除霜的ED型。  
X 使用外平衡膨胀阀。  
• 有关盐水冷风机的换热量, 请使用 "Scltel" 选型软件。

## Technical features - 技术数据

## SRE 10

Model	Modell	型号	SRE	24A10	24B10	25A10	25B10	25D10	26A10	26B10	26D10
Capacity	Leistung	换热量	kW	11	13,7	11,8	14,6	19,4	17	21,3	26,3
Air flow	Luftmenge	空气流量	m <sup>3</sup> /h	15250	14950	17620	17015	16410	24340	24340	23450
Air speed	Luftgeschwindigkeit	空气流速	m/s	3,16	3,1	3,66	3,53	3,41	3,15	3,15	3,04
Added pressure	Zusatzdruck	压升值	Pa	50	50	80	80	50	150	120	120
Internal surface	Innenoberfläche	内部面积	m <sup>2</sup>	13,46	17,95	13,46	17,95	26,92	21,57	28,76	43,13
External surface	Außenoberfläche	外部面积	m <sup>2</sup>	55	73	55	73	110	88	117	176
Fan motors	Ventilatormotoren	风机马达	n° x Ømm	2 x 500	2 x 500	2 x 560	2 x 560	2 x 560	2 x 630	2 x 630	2 x 630
Fan mot. absorp.	Stromaufnahme Mot.	风机电流	A	3,5	3,5	4,4	4,4	4,4	8	8	8
Nominal power	Nennleistung	名义功率	kW	1,72	1,72	2,5	2,5	2,5	4,2	4,2	4,2
Circuit capacity	Rohrinhalt	回路容量	dm <sup>3</sup>	27,3	36,4	27,3	36,4	54,5	43,1	56,3	85,1
Electric defrost	Elek. Abtaugung	电除霜	W	10980	13500	11130	13650	19950	16050	17400	21450
Drain connection	Tauwasserabfluß	排放接口	O (GAS)	2	2	2	2	2	2	2	2
1) Net weight	Nettogewicht	净重	kg	214	238	222	246	259	336	374	446

Model	Modell	型号	SRE	44A10	44B10	45A10	45B10	45D10	46A10	46B10	46D10
Capacity	Leistung	换热量	kW	21,1	26,6	22,4	28,3	37,6	34,6	43,5	50,3
Air flow	Luftmenge	空气流量	m <sup>3</sup> /h	30505	29900	35245	34030	32820	48685	48685	46905
Air speed	Luftgeschwindigkeit	空气流速	m/s	3,16	3,1	3,66	3,53	3,41	3,15	3,15	3,04
Added pressure	Zusatzdruck	压升值	Pa	50	50	80	80	50	150	120	120
Internal surface	Innenoberfläche	内部面积	m <sup>2</sup>	26,92	35,89	26,92	35,89	53,84	43,13	57,51	86,27
External surface	Außenoberfläche	外部面积	m <sup>2</sup>	110	146	110	146	219	176	234	351
Fan motors	Ventilatormotoren	风机马达	n° x Ømm	4 x 500	4 x 500	4 x 560	4 x 560	4 x 560	4 x 630	4 x 630	4 x 630
Fan mot. absorp.	Stromaufnahme Mot.	风机电流	A	7	7	8,8	8,8	8,8	16	16	16
Nominal power	Nennleistung	名义功率	kW	3,44	3,44	5	5	5	8,4	8,4	8,4
Circuit capacity	Rohrinhalt	回路容量	dm <sup>3</sup>	52	70,4	52	70,4	106	83,9	111	168
Electric defrost	Elek. Abtaugung	电除霜	W	22200	27300	22500	27600	40350	34740	37680	46500
Drain connection	Tauwasserabfluß	排放接口	O (GAS)	2	2	2	2	2	2	2	2
1) Net weight	Nettogewicht	净重	kg	375	410	391	426	451	600	674	814

Model	Modell	型号	SRE	64A10	64B10	65A10	65B10	65D10	66A10	66B10	66D10
Capacity	Leistung	换热量	kW	30,3	38	32,1	40,3	53,9	52,2	65,8	86,8
Air flow	Luftmenge	空气流量	m <sup>3</sup> /h	45760	44850	52865	51050	49230	73030	73030	70355
Air speed	Luftgeschwindigkeit	空气流速	m/s	3,16	3,1	3,66	3,53	3,41	3,15	3,15	3,04
Added pressure	Zusatzdruck	压升值	Pa	50	50	80	80	50	150	120	120
Internal surface	Innenoberfläche	内部面积	m <sup>2</sup>	40,38	53,84	40,38	53,84	80,76	64,7	86,27	129,4
External surface	Außenoberfläche	外部面积	m <sup>2</sup>	165	219	165	219	329	264	351	527
Fan motors	Ventilatormotoren	风机马达	n° x Ømm	6 x 500	6 x 500	6 x 560	6 x 560	6 x 560	6 x 630	6 x 630	6 x 630
Fan mot. absorp.	Stromaufnahme Mot.	风机电流	A	10,5	10,5	13,2	13,2	13,2	24	24	24
Nominal power	Nennleistung	名义功率	kW	5,16	5,16	7,5	7,5	7,5	12,6	12,6	12,6
Circuit capacity	Rohrinhalt	回路容量	dm <sup>3</sup>	78,3	104	78,3	104	157	125	166	250
Electric defrost	Elek. Abtaugung	电除霜	W	32700	40200	33150	40650	59400	52440	56880	70200
Drain connection	Tauwasserabfluß	排放接口	O (GAS)	2	2	2	2	2	2	2	2
1) Net weight	Nettogewicht	净重	kg	523	592	547	616	664	864	971	1201

Model	Modell	型号	SRE	84A10	84B10	85A10	85B10	85D10
Capacity	Leistung	换热量	kW	43	53,7	45,9	57,3	76,2
Air flow	Luftmenge	空气流量	m <sup>3</sup> /h	61010	59800	70490	68065	65645
Air speed	Luftgeschwindigkeit	空气流速	m/s	3,16	3,1	3,66	3,53	3,41
Added pressure	Zusatzdruck	压升值	Pa	50	50	80	80	50
Internal surface	Innenoberfläche	内部面积	m <sup>2</sup>	53,84	71,79	53,84	71,79	107,68
External surface	Außenoberfläche	外部面积	m <sup>2</sup>	219	293	219	293	439
Fan motors	Ventilatormotoren	风机马达	n° x Ømm	8 x 500	8 x 500	8 x 560	8 x 560	8 x 560
Fan mot. absorp.	Stromaufnahme Mot.	风机电流	A	14	14	17,6	17,6	17,6
Nominal power	Nennleistung	名义功率	kW	6,88	6,88	10	10	10
Circuit capacity	Rohrinhalt	回路容量	dm <sup>3</sup>	104	138	104	138	208
Electric defrost	Elek. Abtaugung	电除霜	W	43200	53100	43800	53700	78450
Drain connection	Tauwasserabfluß	排放接口	O (GAS)	2	2	2	2	2
1) Net weight	Nettogewicht	净重	kg	675	762	707	794	844

1) The weight refers to models with ED electric defrost.

X Use thermostatic valve with external pressure equalizer.

• For brine cooler capacities please use "Sclelte" selection software.

1) 重量为带电除霜的ED型。

X 使用外平衡膨胀阀。

• 有关盐水冷风机的换热量，请使用 "Sclelte" 选型软件。

## Technical features - 技术数据

## SRE 12

Model	Modell	型号	SRE	24A12	24B12	25A12	25B12	25D12	26A12	26B12	26D12
Capacity	Leistung	换热量	kW	10,3	12,8	11,1	13,9	19	15,9	20,3	25,6
Air flow	Luftmenge	空气流量	m <sup>3</sup> /h	15555	14950	18225	17620	17620	24340	25230	24340
Air speed	Luftgeschwindigkeit	空气流速	m/s	3,23	3,1	3,78	3,66	3,66	3,15	3,27	3,15
Added pressure	Zusatzdruck	压升值	Pa	50	50	80	80	50	150	120	120
Internal surface	Innenoberfläche	内部面积	m <sup>2</sup>	13,46	17,95	13,46	17,95	26,92	21,57	28,76	43,13
External surface	Außenoberfläche	外部面积	m <sup>2</sup>	48	64	48	64	96	77	103	155
Fan motors	Ventilatormotoren	风机马达	n° x Ømm	2 x 500	2 x 500	2 x 560	2 x 560	2 x 560	2 x 630	2 x 630	2 x 630
Fan mot. absorp.	Stromaufnahme Mot.	风机电流	A	3,5	3,5	4,4	4,4	4,4	8	8	8
Nominal power	Nennleistung	名义功率	kW	1,72	1,72	2,5	2,5	2,5	4,2	4,2	4,2
Circuit capacity	Rohrinhalt	回路容量	dm <sup>3</sup>	27,3	36,4	27,3	36,4	54,5	43,1	56,3	85,1
Electric defrost	Elek. Abtaugung	电除霜	W	10980	13500	11130	13650	19950	16050	17400	21450
Drain connection	Tauwasserabfluß	排放接口	O(GAS)	2	2	2	2	2	2	2	2
1) Net weight	Nettogewicht	净重	kg	214	238	222	246	259	336	374	446

Model	Modell	型号	SRE	44A12	44B12	45A12	45B12	45D12	46A12	46B12	46D12
Capacity	Leistung	换热量	kW	19,9	24,9	21,4	27	37,1	32,3	41,6	49,1
Air flow	Luftmenge	空气流量	m <sup>3</sup> /h	31110	29900	36455	35245	35245	48685	50465	48685
Air speed	Luftgeschwindigkeit	空气流速	m/s	3,23	3,1	3,78	3,66	3,66	3,15	3,27	3,15
Added pressure	Zusatzdruck	压升值	Pa	50	50	80	80	50	150	120	120
Internal surface	Innenoberfläche	内部面积	m <sup>2</sup>	26,92	35,89	26,92	35,89	53,84	43,13	57,51	86,27
External surface	Außenoberfläche	外部面积	m <sup>2</sup>	96	129	96	129	193	155	206	309
Fan motors	Ventilatormotoren	风机马达	n° x Ømm	4 x 500	4 x 500	4 x 560	4 x 560	4 x 560	4 x 630	4 x 630	4 x 630
Fan mot. absorp.	Stromaufnahme Mot.	风机电流	A	7	7	8,8	8,8	8,8	16	16	16
Nominal power	Nennleistung	名义功率	kW	3,44	3,44	5	5	5	8,4	8,4	8,4
Circuit capacity	Rohrinhalt	回路容量	dm <sup>3</sup>	52	70,4	52	70,4	106	83,9	111	168
Electric defrost	Elek. Abtaugung	电除霜	W	22200	27300	22500	27600	40350	34740	37680	46500
Drain connection	Tauwasserabfluß	排放接口	O(GAS)	2	2	2	2	2	2	2	2
1) Net weight	Nettogewicht	净重	kg	375	410	391	426	451	600	674	814

Model	Modell	型号	SRE	64A12	64B12	65A12	65B12	65D12	66A12	66B12	66D12
Capacity	Leistung	换热量	kW	28,8	35,8	30,8	38,8	53,3	48,6	62,8	83,6
Air flow	Luftmenge	空气流量	m <sup>3</sup> /h	46665	44850	54680	52865	52865	73030	75700	73030
Air speed	Luftgeschwindigkeit	空气流速	m/s	3,23	3,1	3,78	3,66	3,66	3,15	3,27	3,15
Added pressure	Zusatzdruck	压升值	Pa	50	50	80	80	50	150	120	120
Internal surface	Innenoberfläche	内部面积	m <sup>2</sup>	40,38	53,84	40,38	53,84	80,76	64,7	86,27	129,4
External surface	Außenoberfläche	外部面积	m <sup>2</sup>	145	193	145	193	289	232	309	464
Fan motors	Ventilatormotoren	风机马达	n° x Ømm	6 x 500	6 x 500	6 x 560	6 x 560	6 x 560	6 x 630	6 x 630	6 x 630
Fan mot. absorp.	Stromaufnahme Mot.	风机电流	A	10,5	10,5	13,2	13,2	13,2	24	24	24
Nominal power	Nennleistung	名义功率	kW	5,16	5,16	7,5	7,5	7,5	12,6	12,6	12,6
Circuit capacity	Rohrinhalt	回路容量	dm <sup>3</sup>	78,3	104	78,3	104	157	125	166	250
Electric defrost	Elek. Abtaugung	电除霜	W	32700	40200	33150	40650	59400	52440	56880	70200
Drain connection	Tauwasserabfluß	排放接口	O(GAS)	2	2	2	2	2	2	2	2
1) Net weight	Nettogewicht	净重	kg	523	592	547	616	664	864	971	1201

Model	Modell	型号	SRE	84A12	84B12	85A12	85B12	85D12
Capacity	Leistung	换热量	kW	40,5	50,4	43,7	54,7	75
Air flow	Luftmenge	空气流量	m <sup>3</sup> /h	62225	59800	72910	70490	70490
Air speed	Luftgeschwindigkeit	空气流速	m/s	3,23	3,1	3,78	3,66	3,66
Added pressure	Zusatzdruck	压升值	Pa	50	50	80	80	50
Internal surface	Innenoberfläche	内部面积	m <sup>2</sup>	53,84	71,79	53,84	71,79	107,68
External surface	Außenoberfläche	外部面积	m <sup>2</sup>	193	257	193	257	386
Fan motors	Ventilatormotoren	风机马达	n° x Ømm	8 x 500	8 x 500	8 x 560	8 x 560	8 x 560
Fan mot. absorp.	Stromaufnahme Mot.	风机电流	A	14	14	17,6	17,6	17,6
Nominal power	Nennleistung	名义功率	kW	6,88	6,88	10	10	10
Circuit capacity	Rohrinhalt	回路容量	dm <sup>3</sup>	104	138	104	138	208
Electric defrost	Elek. Abtaugung	电除霜	W	43200	53100	43800	53700	78450
Drain connection	Tauwasserabfluß	排放接口	O(GAS)	2	2	2	2	2
1) Net weight	Nettogewicht	净重	kg	675	762	707	794	844

- SRE 07 - Nominal Capacity: assessed in dry conditions; R404A refrigerant; air inlet temperature 0°C; evaporating temperature -7 °C; TD 7 K.
- SRE 10/12 - Nominal Capacity: assessed in dry conditions; R404A refrigerant; air inlet temperature -32 °C; evaporating temperature -38 °C; TD 6 K.

- SRE 07 - 名义换热量在干燥工况下测得; 制冷剂为 R404A; 进风温度 0°C; 蒸发温度 -7 °C; TD 7 K.
- SRE 10/12 - 名义换热量在干燥工况下测得; 制冷剂为 R404A; 进风温度 -32°C; 蒸发温度 -38 °C; TD 6 K.

# Air cooled condensers

风冷冷凝器

# Selection 选型

## Condenser

### Condenser capacity required

The capacity that is required can be obtained with the following formula:

$$Q_{cond} = Q_{evap} \times F_c$$

where:

$Q_{cond}$  = Condenser capacity required.

$Q_{evap}$  = Evaporating capacity at running conditions.

$F_c$  = coefficient resulting from the type of compressor used and based on the operating conditions (Tab. 1 or 2 next page).

### Example

- $Q_{evap} = 82 \text{ kW}$
- $Evap. \text{ temperature} = -20 \text{ }^\circ\text{C}$
- $Condensing \text{ temperature} = 45 \text{ }^\circ\text{C}$
- *Semihermetic compressor*
- $Q_{cond} = 82 \times 1,48 = 121,36 \text{ kW}$

### Capacity calculation

The capacity of the condenser, with conditions that differ from the reference conditions can be obtained with the following formula:

$$Q_{cond} = Q_{condSTD} \times K1 \times K2 \times K3 \times K4 \times K5$$

where:

$Q_{cond}$  = Condenser capacity.

$Q_{condSTD}$  = Condenser capacity in reference conditions (technical features tables).

$K1$  (Tab. 3) = Coefficient referred to TD.

$K2$  (Tab. 4) = Coefficient referred to the refrigerant used.

$K3$  (Tab. 5) = Coefficient referred to air temperature.

$K4$  (Tab. 6) = Coefficient referred to installation altitude.

$K5$  (Tab. 7) = Coefficient referred to fin material.

## 冷凝器

### 冷凝器换热量

冷凝器所需的换热量可以由下列公式求出：

式中：

$Q_{cond}$  = 冷凝器所需的换热量

$Q_{evap}$  = 运行时的蒸发器制冷量

$F_c$  = 常数, 与所采用压缩机的类型相关, 也和运行条件相关(见下一页表1或表2)

### 实例

- $Q_{evap} = 82 \text{ kW}$
- 蒸发温度 =  $-20 \text{ }^\circ\text{C}$
- 冷凝温度 =  $45 \text{ }^\circ\text{C}$
- 半封闭压缩机
- $Q_{cond} = 82 \times 1,48 = 121,36 \text{ kW}$

### 换热量的计算

与参考条件不同的环境条件下，冷凝器的换热量可由下列公式计算。

式中：

$Q_{cond}$  = 冷凝器换热量

$Q_{condSTD}$  = 在标准条件下冷凝器的换热量 (技术参数表)

$K1$  (表 3) = 对TD的修正系数

$K2$  (表 4) = 对所用制冷剂的修正系数。

$K3$  (表 5) = 对空气温度的修正系数。

$K4$  (表 6) = 对产品安装海拔高度的修正系数。

$K5$  (表 7) = 对翅片材质的修正系数。

# Selection 选型

The condenser can be selected starting from the required capacity with the following formula which states the performance at reference conditions:

通过所需的换热量，按照以下公式可以选择冷凝器。本公式适用于标准工况下的性能。

$$Q_{condSTD} = \frac{Q_{cond}}{K1 \times K2 \times K3 \times K4 \times K5} = \frac{Q_{evap} \times f_c}{K1 \times K2 \times K3 \times K4 \times K5}$$

Selection examples

选型实例

## Selection of an KCE model

## KCE系列选型

- Type of compressor =  
= semihermetic
- Refrigerant = R404A
- Cooling capacity of the evaporator =  
= 8000 W
- Evaporating temperature = -30 °C
- Condensing temperature = +40 °C
- Air temperature = +30 °C
- Installation altitude = 600 m
- Maximum sound pressure level at  
5 m = 33 dB (A)
- TD = 40 - 30 = 10 K
- Fc = 1,58
- K1 = 0,67
- K2 = 1,00
- K3 = 0,99
- K4 = 0,96
- K5 = 1,00

- 压缩机类型 = 半封闭式
- 制冷剂 = R404A
- 蒸发器的换热量 = 8000 W
- 蒸发温度 = -30 °C
- 冷凝温度 = +40 °C
- 空气温度 = +30 °C
- 安装海拔 = 600 m
- 5米处最大声压级噪音 = 33 dB (A)

- TD = 40 - 30 = 10 K
- Fc = 1,58
- K1 = 0,67
- K2 = 1,00
- K3 = 0,99
- K4 = 0,96
- K5 = 1,00

$$Q_{condSTD} = \frac{8700 \times 1,58}{0,67 \times 0,96 \times 0,99 \times 0,96 \times 1,00} = 22487 \text{ W}$$

According to the condenser capacity at referred conditions and the sound pressure level at 10 m, from the tables we get model **KCE 61C2 star**. All technical details of the model are stated in the feature charts:

根据冷凝器在标准状态下的换热量和10米处的声压级噪音，我们从表中选取产品 **KCE 61C2** 星形连接。性能图中列出了该款产品的所有技术参数。

- QcondSTD = 20 kW;
- LPA 5 m = 28 + 5 = 33 dB(A).

- QcondSTD = 20 kW;
- LPA 5 m = 28 + 5 = 33 dB(A)

# Selection 选型

Tab. 1 | Coefficient for hermetic and semi-hermetic compressors - Koeffizient für hermetische oder halbhermetische Verdichter  
全封闭式及半封闭式压缩机系数

Evaporating T. Verdampfungstemp.	蒸发温度 °C	-40	-35	-30	-25	-20	-15	-10	-5	0	+5	+10	
Condensing T. Kondensationstemp.	冷凝温度 °C	35	1,68	1,60	1,53	1,47	1,41	1,35	1,31	1,27	1,23	1,19	1,14
fc		40	1,77	1,66	1,58	1,51	1,44	1,39	1,34	1,29	1,25	1,21	1,18
		45	1,88	1,74	1,63	1,55	1,48	1,43	1,38	1,33	1,29	1,24	1,21
		50	2,04	1,86	1,72	1,62	1,54	1,48	1,42	1,37	1,33	1,28	1,24
		55	2,28	2,08	1,90	1,75	1,62	1,53	1,46	1,41	1,37	1,32	1,25

Tab. 2 | Coefficient for open compressors - Koeffizient für offene Verdichter - 开启压缩机系数

Evaporating T. Verdampfungstemp.	蒸发温度 °C	-40	-35	-30	-25	-20	-15	-10	-5	0	+5	+10
Condensing T. Kondensationstemp.	冷凝温度 °C	35	1,46	1,41	1,36	1,32	1,28	1,25	1,21	1,18	1,15	1,10
fc		40	1,51	1,45	1,40	1,36	1,32	1,28	1,24	1,21	1,18	1,13
		45	1,56	1,50	1,45	1,40	1,36	1,32	1,28	1,24	1,21	1,15
		50	1,62	1,56	1,50	1,45	1,40	1,35	1,31	1,28	1,24	1,21
		55	1,68	1,62	1,55	1,50	1,45	1,40	1,35	1,31	1,28	1,24

Tab. 3

Δt (K)	8	9	10	11	12	13	14	15	16	17	18	19	20
K1	0,53	0,60	0,67	0,73	0,80	0,87	0,93	1,00	1,07	1,13	1,20	1,27	1,33
K1 <sup>1)</sup>	0,46	0,54	0,62	0,69	0,77	0,85	0,93	1,00	1,08	1,15	1,23	1,31	1,38

Tab. 4

Refrigerant Kältemittel 制冷剂	R407C	R22	R134a	R404A - R507A
K2	0,87	0,96	0,93	1,00

Tab. 5

Inlet air T. Lufteintrittstem. 进口空气温度	°C	+15	+20	+25	+30	+35	+40 <sup>2)</sup>	+45 <sup>2)</sup>	+50 <sup>2)</sup>
K3		1,03	1,02	1,00	0,99	0,97	0,95	0,94	0,93

Tab. 6

Altitude Seehöhe 海拔高度	m	0	600	800	1000	1200	1400	1600	1800	2000
K4		1,00	0,96	0,94	0,93	0,91	0,90	0,88	0,87	0,85

Tab. 7

Fin material Lamellenmaterial 翅片材质	Cu	Al	Al PV <sup>3)</sup>
K5	1,03	1,00	0,97

1) For R407C and other refrigerants with high glide.

2) Consult our Technical Dpt.

3) Prepainted aluminium.

1) R407C及其它制冷剂。

2) 请垂询我方的技术部门。

3) 预喷涂铝板。

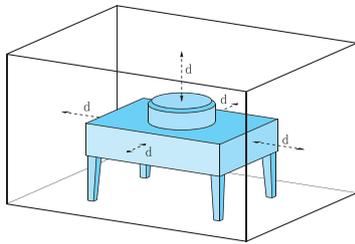
# Selection 选型

## Sound levels

### LwA sound power level

The sound power level for models with one fan motor and the formulas to determine the sound power levels for models with multiple fan motors are stated at the end of each section.

### LpA sound pressure level



The sound pressure level represents the mean value on a parallelepiped surface that surrounds the model in free field with a perfectly reflecting surface, in compliance to EN 13487 standard.

根据EN13487标准，声压级噪音是指在带有完全反射面的自由场中，被测试产品周围的平行六面体各表面噪音的平均值。

The published sound pressure is determined from the sound power with the following formula:

$$L_{pA} = L_{wA} - 10 \log \left( \frac{S_i}{S_0} \right)$$

where:

$S_i$  = parallelepiped surface at distance  $d = 10$  m.

$S_0$  = reference surface ( $1 \text{ m}^2$ ).

The sound pressure level for each model is stated in the corresponding data table.

## 噪声等级

LwA声功率级噪音在每一章后面，附有单风机产品声功率噪音值和多风机产品声功率噪音的计算公式。

### LpA声压级噪音

这里提供的声压级噪音数据是根据声功率噪音数据及下列公式计算得出：

式中：

$S_i$  = 到标准六面体的距离  $d = 10\text{m}$

$S_0$  = 标准面积( $1\text{m}^2$ )

每款产品的声压级噪音值见对应的数据表。



The TKE range has been specifically developed to satisfy a wide range of refrigeration and air conditioning applications.

The entire range is equipped with high efficiency coils made from special profile aluminium fins and inner grooved copper tube, suitable new generation refrigerants. They are supplied charged with dry air at 2 bars and the fin spacing is 2,1 mm for the entire range.

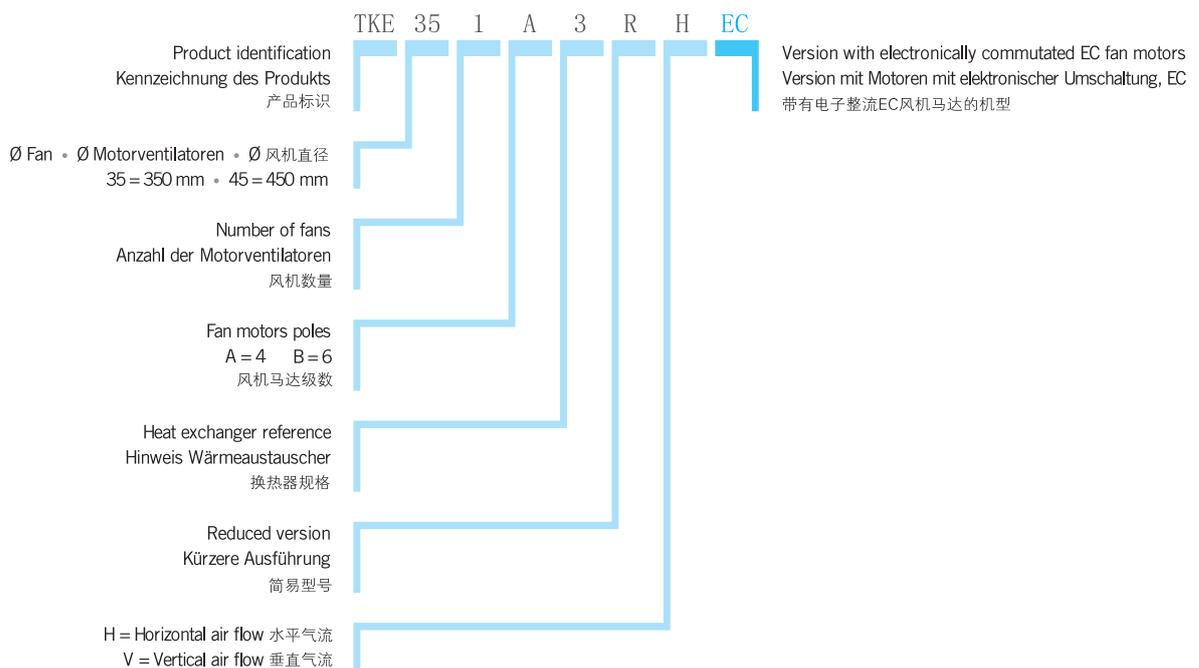
The TKE models can be used indifferently in the horizontal air flow version (H – with standard support brackets) or in the vertical air flow version (V – a kit with required legs is supplied upon request).

TKE系列产品被特别设计用于满足广泛的制冷和空气调节应用。

整个产品系列都使用由特殊形状的铝翅片和内螺纹铜管制成的高效盘管，适用于新型的制冷剂。整个系列的产品供应时管内均充有2bar的干燥空气，翅片间距均为2.1mm。

TKE型号可用于水平气流机型（H-带标准支架）或垂直气流机型（V-可根据客户需求提供安装腿组件）。

## Model identification - 型号标识



The fan motors employed have the following features:

- 350 mm diameter, external rotor single-phase 230V/1/50-60Hz with built-in electric capacitor and epoxy coated steel fan guard;
- 450 mm diameter, external rotor single-phase 230V/1/50-60Hz with built-in electric capacitor and epoxy coated steel fan guard;
- available with 4 or 6 poles;
- IP 44 protection grade;
- class 155 and 130 insulation (4 and 6 poles);
- inner thermal contact protection.

标准型风机马达有以下特点：

- 直径350mm，外转子单相，230V/1/50-60Hz，内置电容器及带环氧涂层的金属风机网罩；
- 直径450mm，外转子单相，230V/1/50-60Hz，内置电容器及带环氧涂层的金属风机网罩；
- 极数为4或6；
- 保护等级：IP44；
- 绝缘等级155和130（对应极数为4和6）；
- 内部热接触保护。

### Sound levels - 噪声级别

The LwA sound power levels in dB (A) and the detailed frequency figures for the different TKE models are stated in Tab. 1.

For a more accurate estimate of the sound pressure levels use the sound power levels considering the directivity and the environment in which the model is installed.

表格1中列举了TKE不同型号的声功率级噪声LwA(单位dB(A))和详细的频率数据。

如需准确估算声压级噪声，需要使用声功率数据并综合考虑产品安装的环境和方向。

Tab. 1 | Sound power levels dB (A) for models with one fan motor  
单风扇冷凝器的声功率级噪声dB (A)

Model	Modelle	型号	LwA	125 Hz	250 Hz	500 Hz	1kHz	2kHz	4kHz	8kHz
TKE 350 A			75	60	65	70	71	67	61	49
TKE 350 B			62	55	56	57	55	51	42	34
TKE 450 A			79	63	69	69	72	74	73	64
TKE 450 B			66	64	56	53	55	56	53	43

The sound power level of models with several fan motors can be calculated with the following formula or by adding the figures of Tab. 3.

多个风机马达的冷凝器声功率级噪声可以通过下列公式和表格3中的数值计算获得。

$$L_w = L_{w1} + 10 \log(n)$$

LW = Sound power level for models with n fan motors.

LW1 = Sound power level for models with 1 fan motor.

n = Number of fan motors.

LW = 多个风机马达的噪声强度。

LW1 = 单个风机马达的噪声强度。

N = 风机马达数。

Tab. 2 | Correction factor for models with more than one fan motor  
多风机马达冷凝器的修正系数

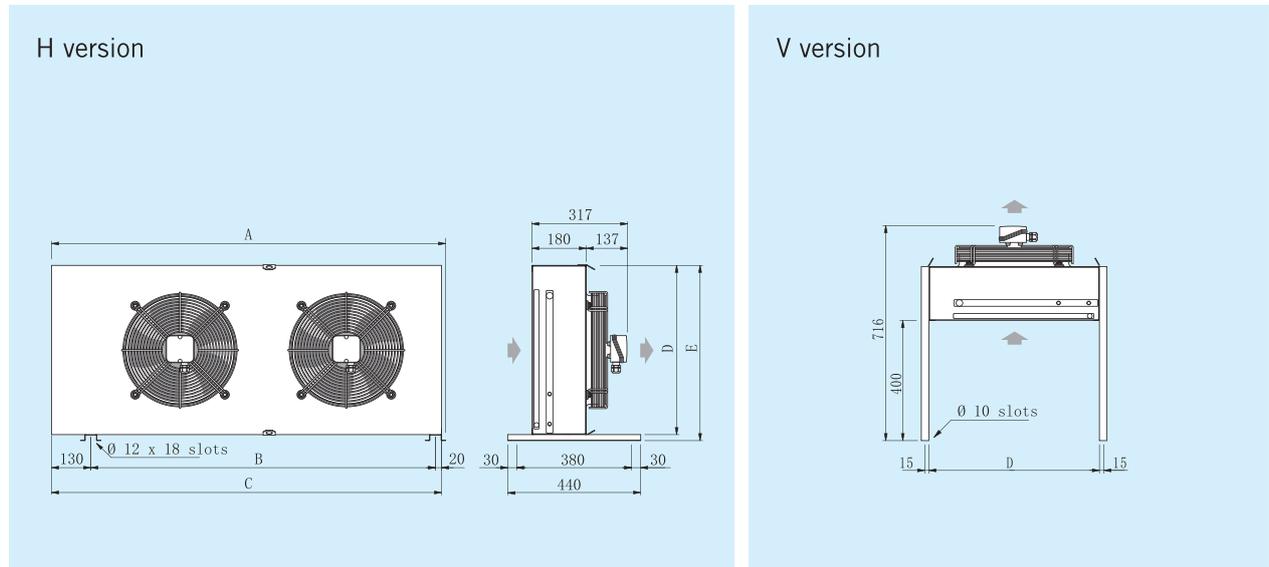
dB (A)	0	+3	+5	+6	+8
n	1	2	3	4	6

Tab. 3 | Sound pressure correction factors based on distance  
不同距离的声功率级修正系数

Distanza	Distance	距离	1	2	3	4	5	10	15	20	40	60	80	120	200
TKE 350			18	13	10	7	6	0	-3	-6	-12	-15	-18	-21	-26
TKE 450			17	12	9	7	6	0	-3	-6	-12	-15	-18	-21	-25

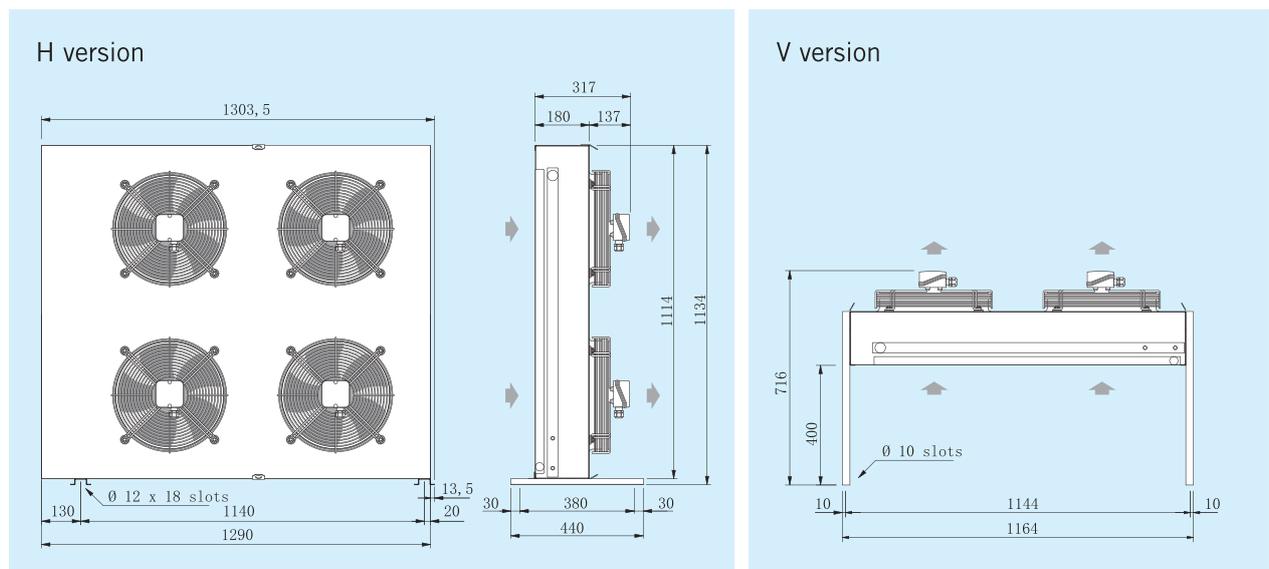
Dimensional features - 尺寸数据

Ø 350 mm; From 1 to 3 fan motors - Von 1 bis 3 Motorventilatoren - 1-3个风机



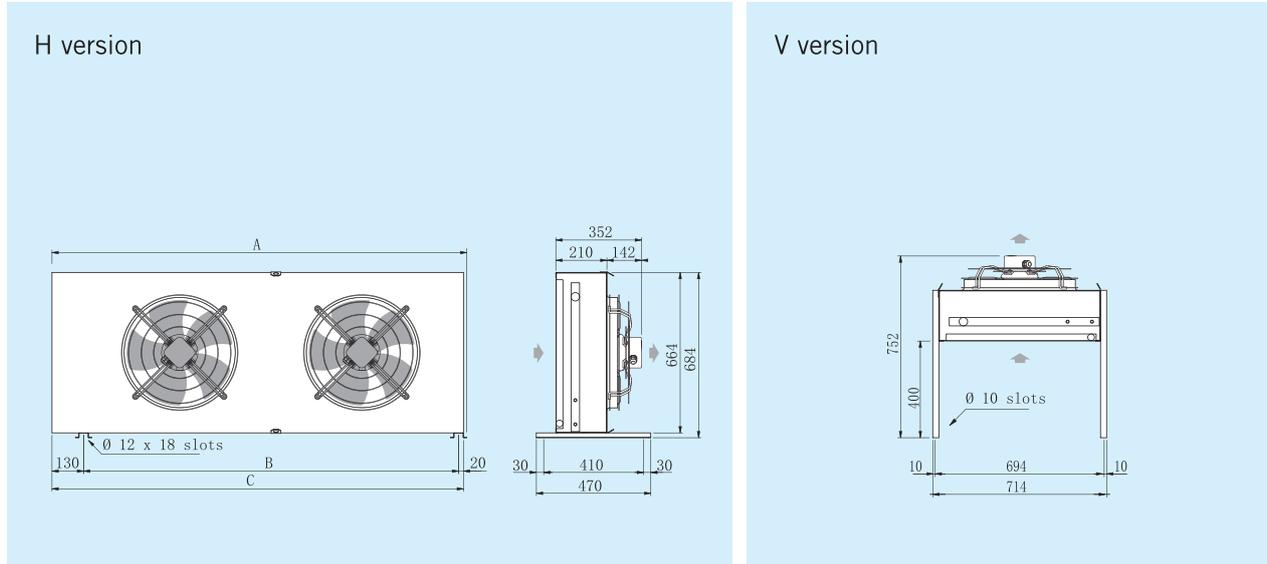
Model	Modell	型号	TKE	351A2R 351B2R	351A3R 351B3R	351A2 351B2	351A3 351B3	351A4 -	352A2 352B2	352A3 352B3	352A4 -	353A2 353B2	353A3 353B3	353A4 -
Fan motors	Motorventilatoren	风机马达												
Dimensions (mm)	Abmessungen	尺寸	A	603		753		1303		1853				
			B	440		590		1140		1690				
			C	590		740		1290		1840				
			D	414		564		564		564				
			E	434		584		584		584				

Ø 350 mm; 4 fan motors - 4 Motorventilatoren - 4个风机



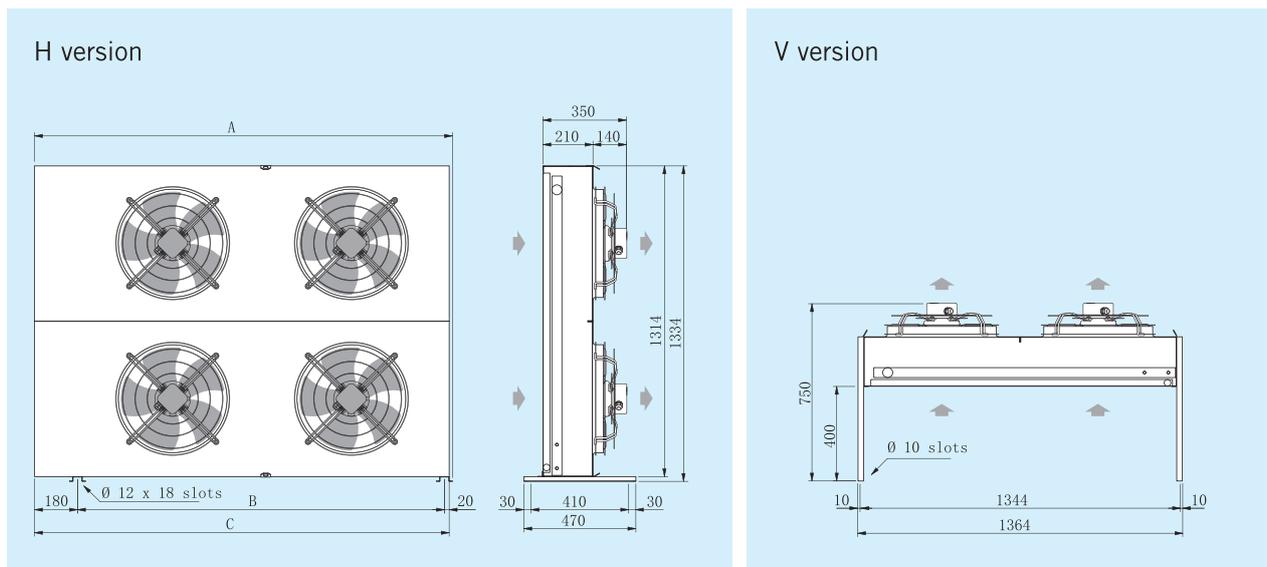
Dimensional features - 尺寸数据

Ø 450 mm; From 1 to 3 fan motors - Von 1 bis 3 Motorventilatoren - 1-3个风机



Model	Modell	型号	TKE	451A2 451B2	451A3 451B3	451A4 451B4	452A2 452B2	452A3 452B3	452A4 452B4	453A2 453B2	453A3 453B3	453A4 453B4
Fan motors	Motorventilatoren	风机马达										
Dimensions (mm)	Abmessungen	尺寸	A	953			1703			2453		
			B	790			1540			2290		
			C	940			1690			2440		

Ø 450 mm; From 4 to 6 fan motors - Von 4 bis 6 Motorventilatoren - 4-6个风机



Model	Modell	型号	TKE	454A2 454B2	454A3 454B3	454A4 454B4	456A2 456B2	456A3 456B3	456A4 456B4
Fan motors	Motorventilatoren	风机马达							
Dimensions (mm)	Abmessungen	尺寸	A	1754			2504		
			B	1540			2290		
			C	1740			2490		



The PCV range of one or two fan motor condensers coupled with a compartment has been specifically designed to satisfy all possible high quality refrigeration applications. The models of this range are equipped with high efficiency "L" shaped coils to increase its compactness.

This range is equipped with coils made of special profile "Air Intake" aluminum fins and inner grooved copper tubes, suitable for new generation refrigerants. They are supplied charged with dry air at a pressure of 2 bars. The fin spacing is 2,1 mm for the entire range.

The models with two fan motors are equipped with two coils which are separated by a dividing panel; they can provide either the same or different performances in order to meet different circuit capacity requirements, i.e. LT (Low Temperature) and NT (High Temperature).

As an option it is possible to remove the dividing panel and use the two identical coils (two-circuit system) to serve a single compression group with a higher capacity.

The casework for the units of this product range is made of pre-painted galvanized metal sheet.

PCV系列由一台或两台风机马达冷凝器组成，采用独立的分割空间设计，特别用于满足高质量制冷应用。该系列的型号配有高效“L”形盘管来增加紧凑度。

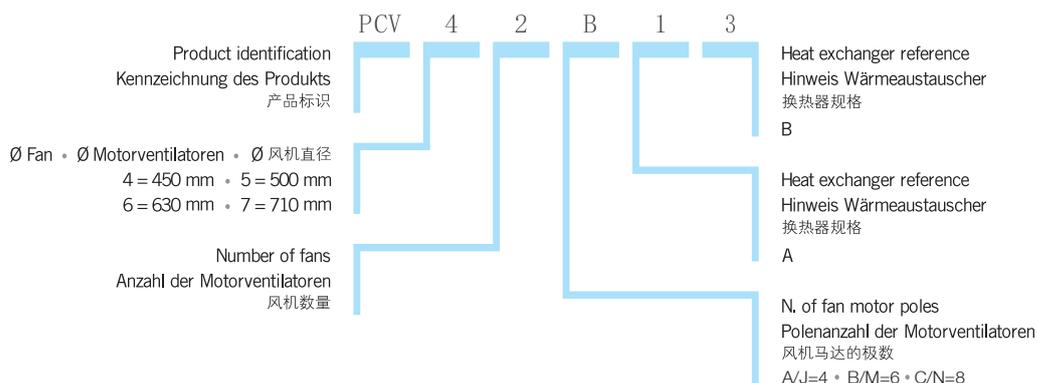
全系列产品均采用了高效盘管。盘管铝翅片采用独特的“开窗”形状，盘管的铜管为内螺纹铜管。全系列产品的翅片间距为2.1mm。该盘管是为新一代制冷剂而开发，产品交付时，充注2bar压力下的干燥空气。

该系列双风机产品，配有两个由分隔板隔开的独立盘管。它们既可以在相同工况下工作，也可以在不同工况下分别工作，用来满足不同的回路容量要求。例如LT（低温条件）、NT（高温条件）。

作为可选项，也可移除分隔板，使用两个相同的盘管（双回路系统），以便服务单个压缩机组，带来更高的换热量。

该产品系列的外壳使用镀锌钢板，喷涂处理。

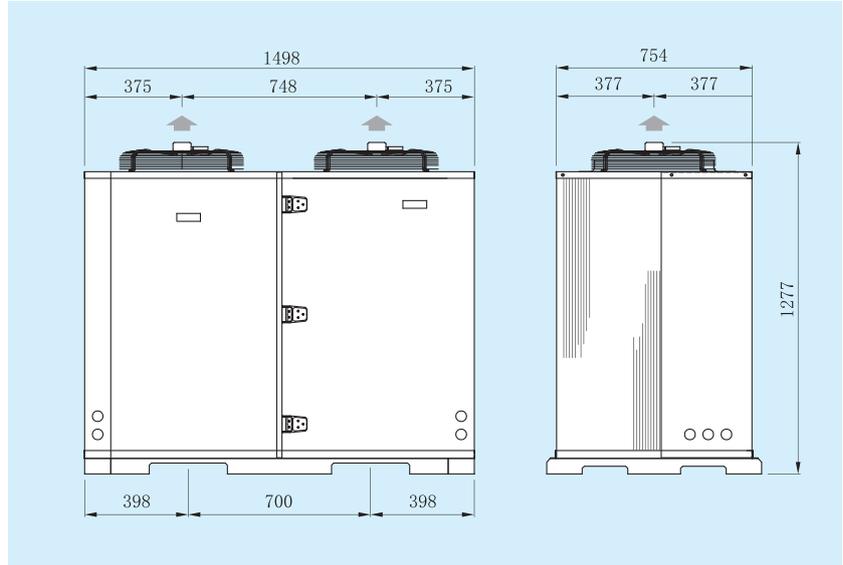
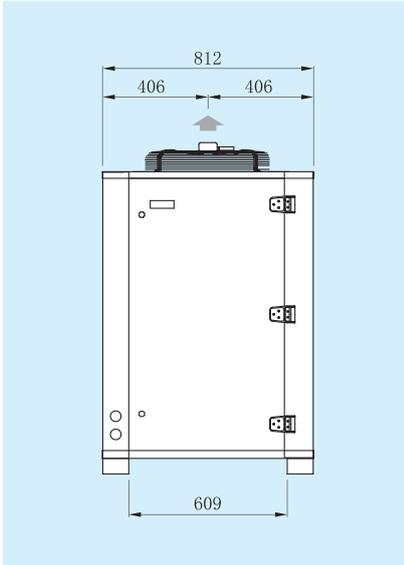
## Model identification - 型号标识



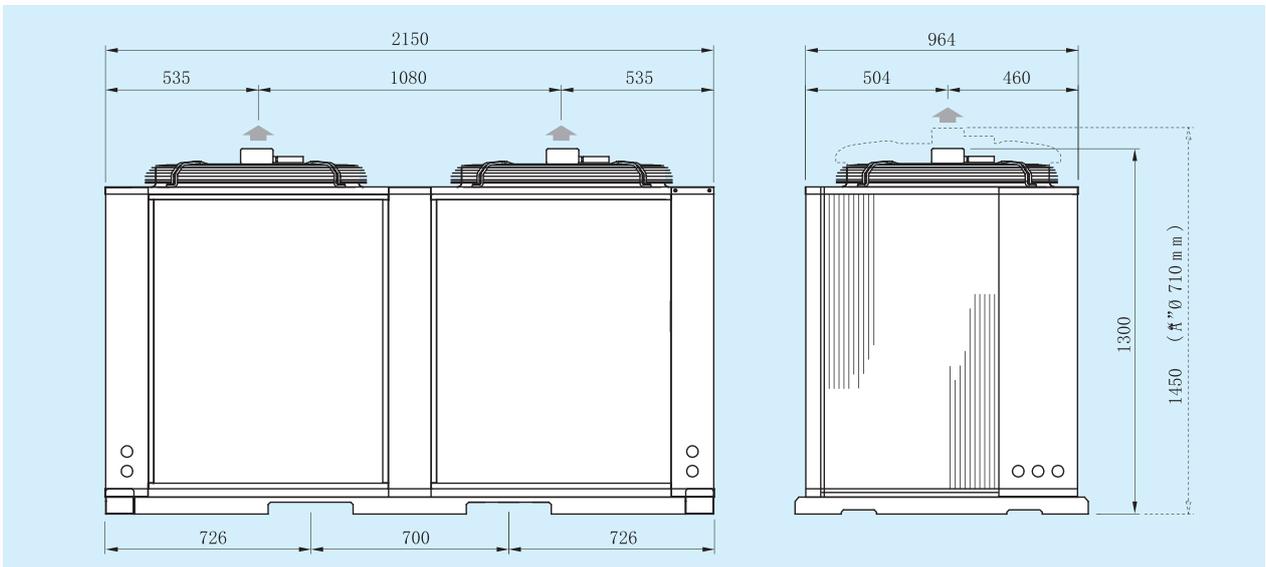
Dimensional features - 尺寸数据

1 x Ø450, Ø500 mm

2 x Ø450, Ø500 mm



Ø630, Ø710 mm





The KCE range has been specifically developed to satisfy a wide variety of applications in air conditioning and commercial/industrial refrigeration sectors.

The entire range is equipped with highly efficient coils made from special "Air intake" profile aluminium fins and inner grooved copper tube, fin spacing is 2,1 mm for the entire range. The coils have been designed for use with new generation refrigerants and are supplied charged with dry air at a pressure of 2 bars.

KCE models with Ø 500 and Ø 630 mm (single row) fan motors are equipped with a geometry coil that uses a reduced quantity of refrigerant, therefore optimizing dimensions and performances.

The particular structure of the side panels and the legs/support brackets, ensures improved sturdiness and stability, but also provides stable support for the coil and reduces shaking during operation with vertical airflow.

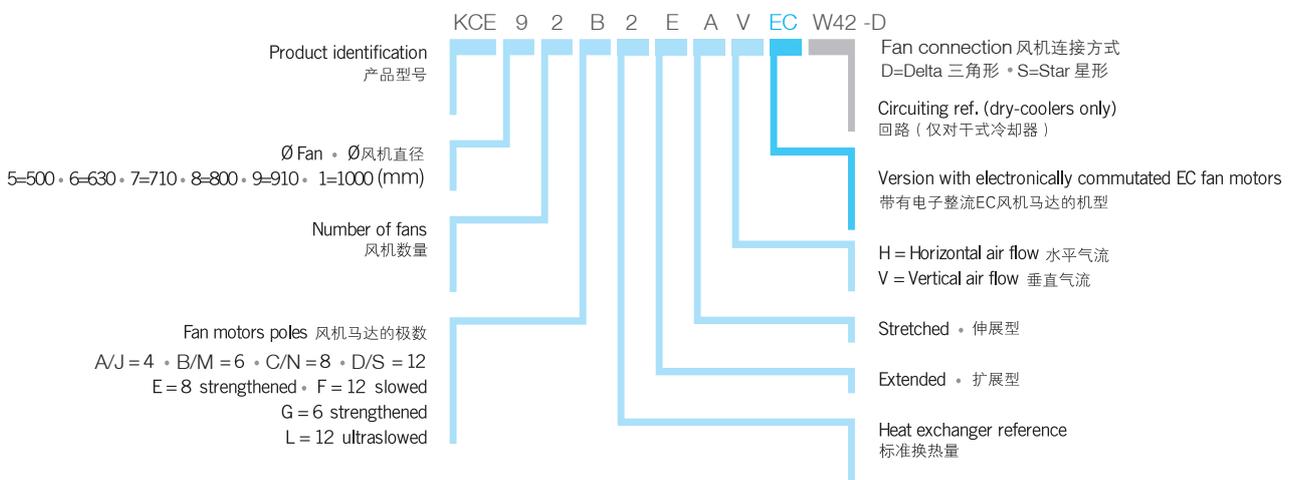
我们针对空调行业与商用、工业制冷产品领域的广泛应用，开发了KCE系列产品。

全系列产品均采用了高效盘管，盘管铝翅片采用独特的“开窗”形状，铜管为内螺纹铜管，翅片间距为2.1mm。该盘管是为新一代制冷剂而开发，产品交付时管内均充有压力为2bar的干燥空气。

风机直径分别为Ø500和Ø630mm（单排）的KCE产品配有新设计的盘管，冷却剂用量可明显减少，使产品尺寸和性能得以优化。

独特的侧板和支架结构使产品更加坚固耐用和稳定，而且能够稳定支撑盘管，减轻立式产品运行时的振动现象。

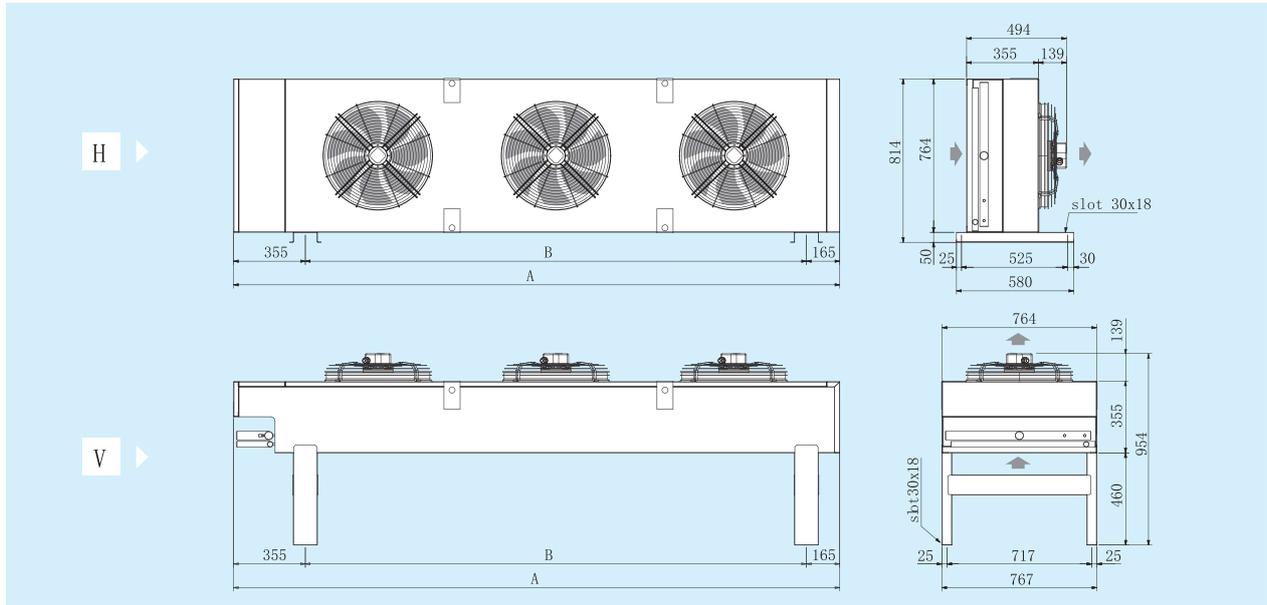
## Model identification - 型号标识



# KCE $\varnothing$ 500 mm (KCE5XXX)

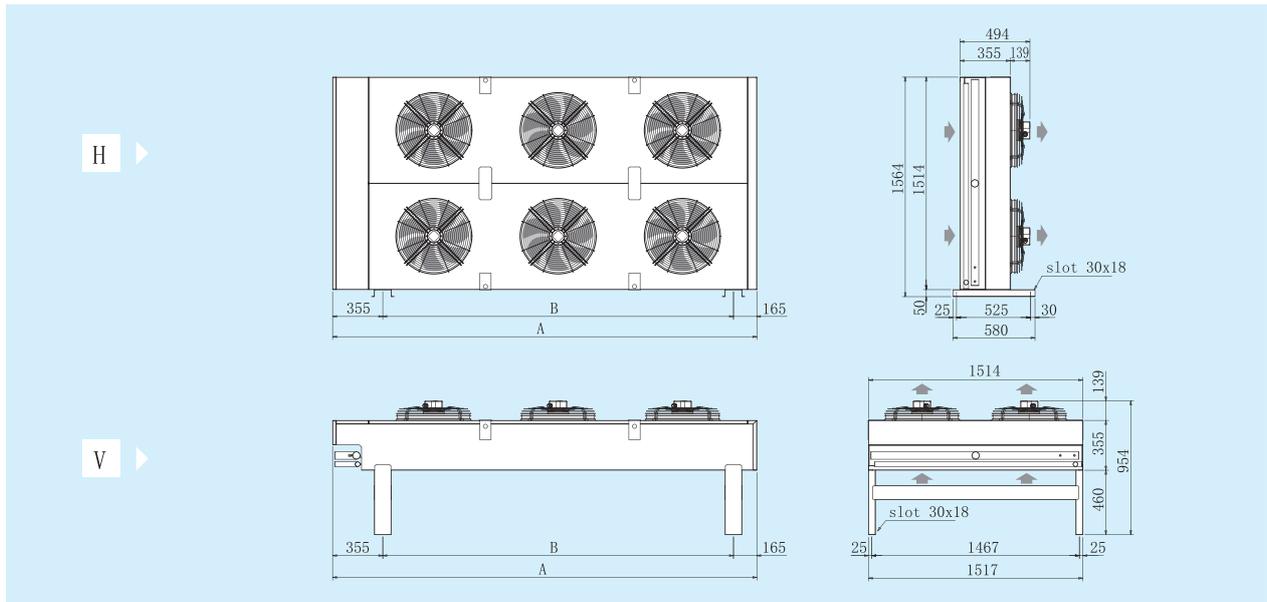
## Dimensional features - 产品尺寸

From 1 to 3 fan motors - Von 1 bis 3 Motorventilatoren - 1-3风机



Fan motors	Motorventilatoren	风机	N.	1	2	3
Model	Modell	型号	KCE	51	52	53
Dimensions	Abmessungen	尺寸	A	1240	2120	3000
			B	720	1600	2480

From 4 to 6 fan motors - Von 4 bis 6 Motorventilatoren - 4-6风机

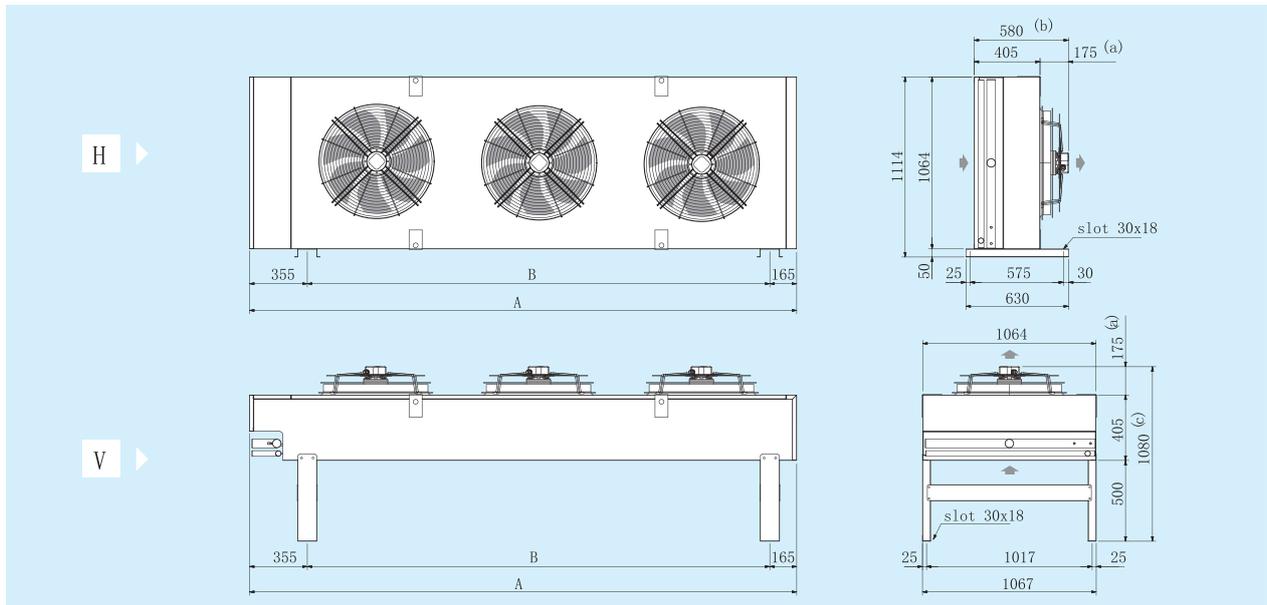


Fan motors	Motorventilatoren	风机	N.	4	6
Model	Modell	型号	KCE	54	56
Dimensions	Abmessungen	尺寸	A	2120	3000
			B	1600	2480

# KCE Ø 500 mm "E" (KCE5XXXE) and Ø 630 mm (KCE6XXX)

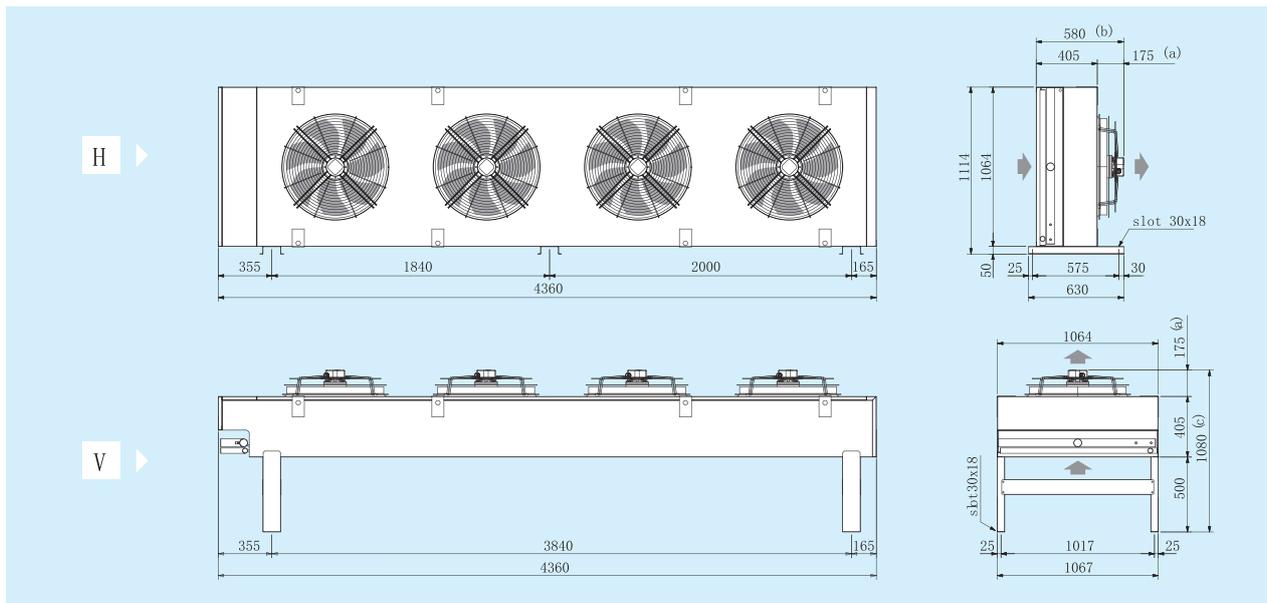
## Dimensional features - 产品尺寸

From 1 to 3 fan motors - Von 1 bis 3 Motorventilatoren einreihig - 1-3风机



Fan motors	Motorventilatoren	风机	N.	1	2	3
Model	Modell	型号	KCE	51e / 61	52e / 62	53e / 63
Dimensions	Abmessungen	尺寸	A	1360	2360	3360
			B	840	1840	2840

4 fan motors - 4 Motorventilatoren - 4 风机

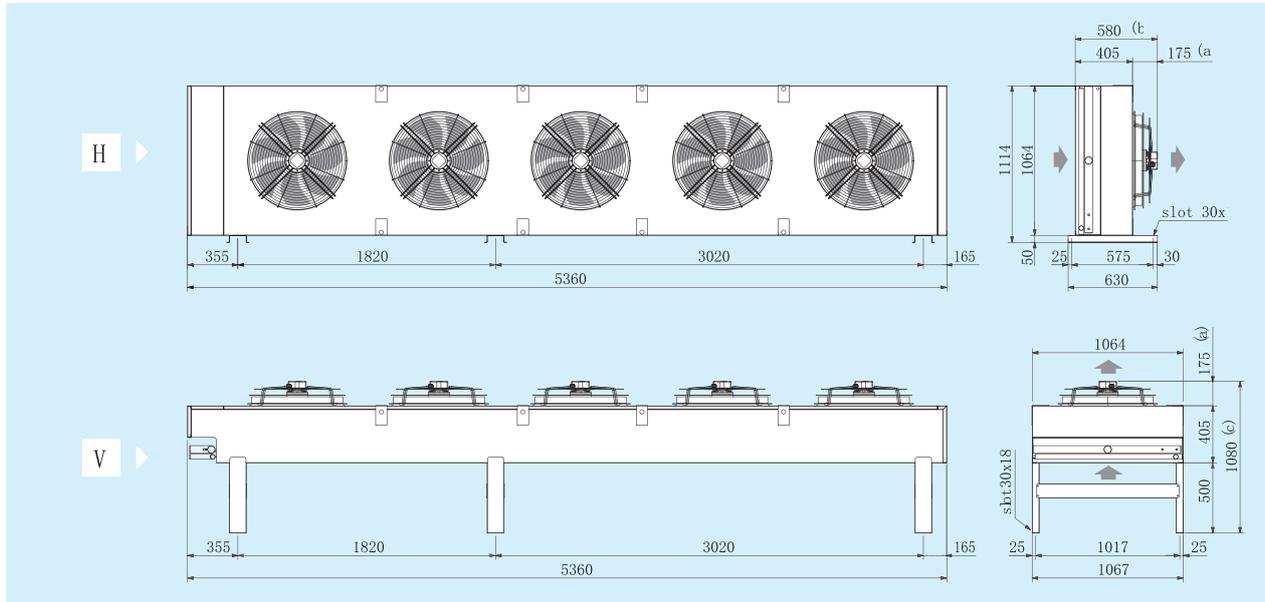


(a) Ø630型 "A" = 220 mm  
 (b) Ø630型 "A" = 625 mm  
 (c) Ø630型 "A" = 1125 mm

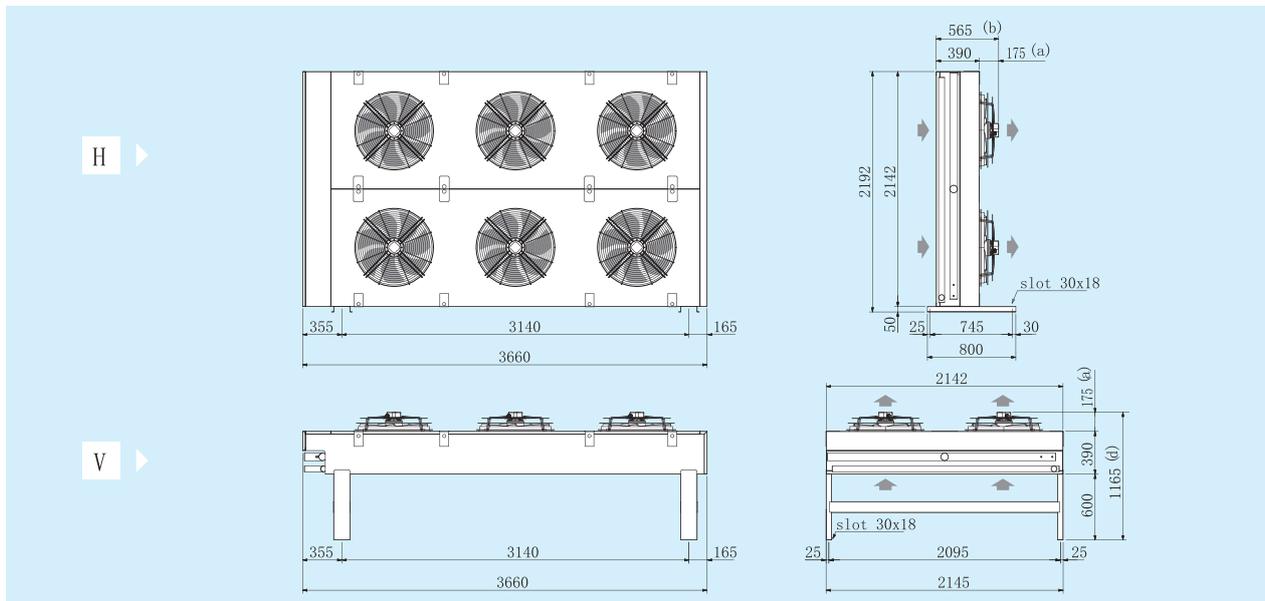
# KCE Ø 500 mm "E" (KCE5XXXE) - Ø 630 mm (KCE6XXX)

## Dimensional features - 产品尺寸

5 fan motors - 5 Motorventilatoren - 5 风机



6 fan motors - 6 Motorventilatoren - 6 风机

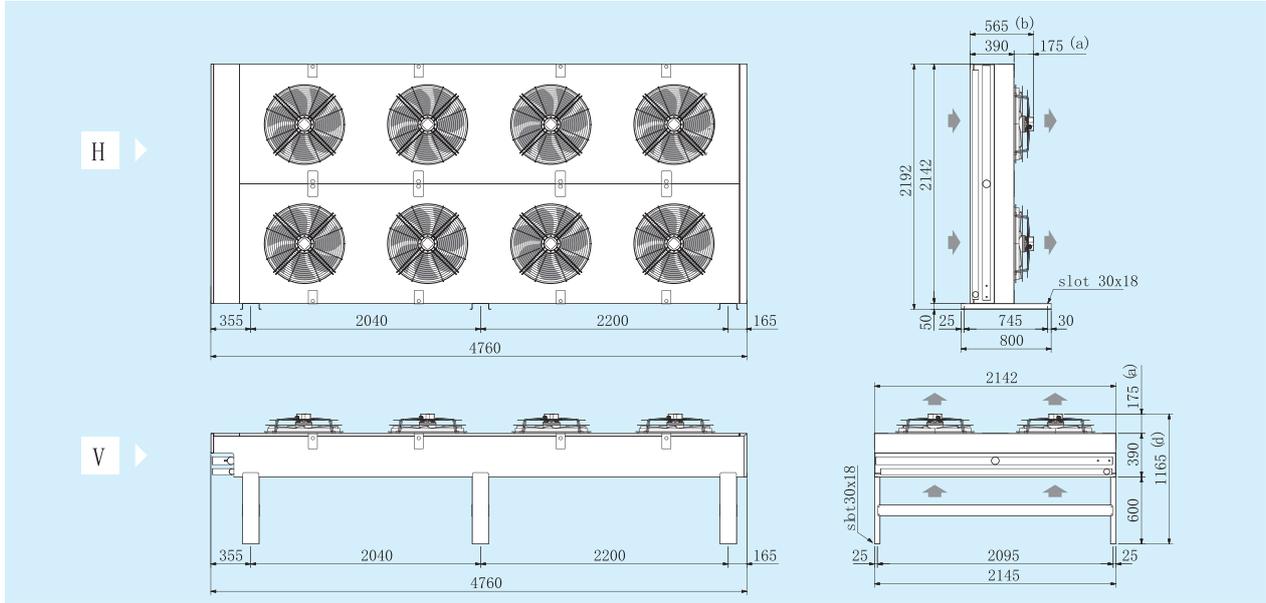


- (a) Ø630型"A"= 220 mm
- (b) Ø630型"A"= 625 mm
- (c) Ø630型"A"= 1125 mm
- (d) Ø630型"A"= 1210 mm

# KCE Ø 500 mm "E" (KCE5XXXE) - Ø 630 mm (KCE6XXX)

## Dimensional features - 产品尺寸

8 fan motors - 8 Motorventilatoren - 8 风机



The axial fan motors employed on the entire range are the most technologically up-to-date on the market. New solutions like the hybrid shaped blades or bionic technology are widely used. These fan motors have a wide range of diameters and rotation speeds.

- Ø 500 mm (poles) 4, 6, 8, 12;
- Ø 630 mm (poles) 4, 6, 8, 12;
- Ø 800 mm (poles) 6, 8, 12, 12 slowed; 12 ultra-slowed;
- Ø 910 mm (poles) 6, 6 strengthen;
- Ø 1000 mm (poles) 6, 12, 12 slowed;
- Three-phase 400V/3/50Hz supply, dual velocity (Delta/Star);
- Die cast aluminium sickle blades or aluminium/techno polymer hybrid version with optimized sickle blades (except for 9.G);
- IP 54 protection grade;
- Thermal insulation class: 155;
- Internal thermal contact protection;
- Epoxy coated steel fan guards.

The optional high efficiency EC fan motors have the following features:

- IP 54 protection grade;
- class B insulation;
- built-in electronic protection;
- speed regulator with 0-10V signal;
- additional speed regulator with MODBUS system;
- Min / max operating temperature -25/60 °C.

The fan motors and the casework are predisposed for grounding.

On request the models can be equipped with non-standard coils and fan motors.

Select units with non-published conditions with the "Scelte" selection program. For special applications and further information consult our Technical Dept.

- (a) Ø630型 "A" = 220 mm
- (b) Ø630型 "A" = 625 mm
- (c) Ø630型 "A" = 1210 mm

KCE全系列产品采用轴流风机，是市面上最先进的技术。混合成型叶片与仿生工艺等新技术广泛应用。该系列风机有多种直径和转速可选。

- Ø 500mm 4, 6, 8, 12极;
- Ø 630mm 4, 6, 8, 12极;
- Ø 800mm 6, 8, 12极, 12极慢速型; 12极超慢速型;
- Ø 910mm 6极, 6极增强型;
- Ø 1000mm 6, 12极, 12极慢速型;
- 三相 400V/3/50Hz, 双速 (三角/星形);
- 压铸铝镰刀形叶片或铝/工程塑料复合型镰刀形叶片 (9.G除外);
- 防护等级: IP54;
- 耐热绝缘等级: 155;
- 内置过热保护;
- 风机防护网罩喷塑处理。

可选装高效EC风机马达，拥有以下特点：

- 保护等级: IP54;
- B级绝缘;
- 内置电气保护;
- 调速器，电压信号范围为0-10V;
- 加装的调速器，带MODBUS;
- 最低/最高工作温度: -25/60 °C。

风机马达和外壳均带有接地装置。

根据需要，这些型号可配用非标准盘管和风机马达。

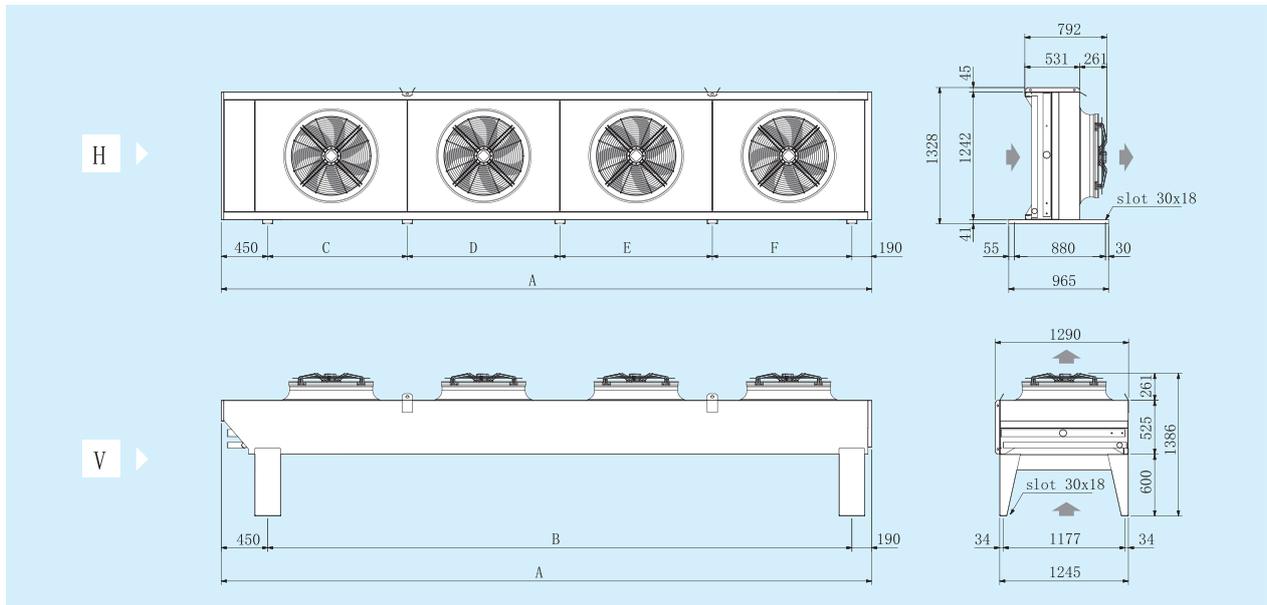
使用“Scelte”选型软件选择特殊条件下使用的设备。

有关特殊应用和更多信息，请联系我们的技术部门。

# KCE $\varnothing$ 800 mm (KCE8XXX)

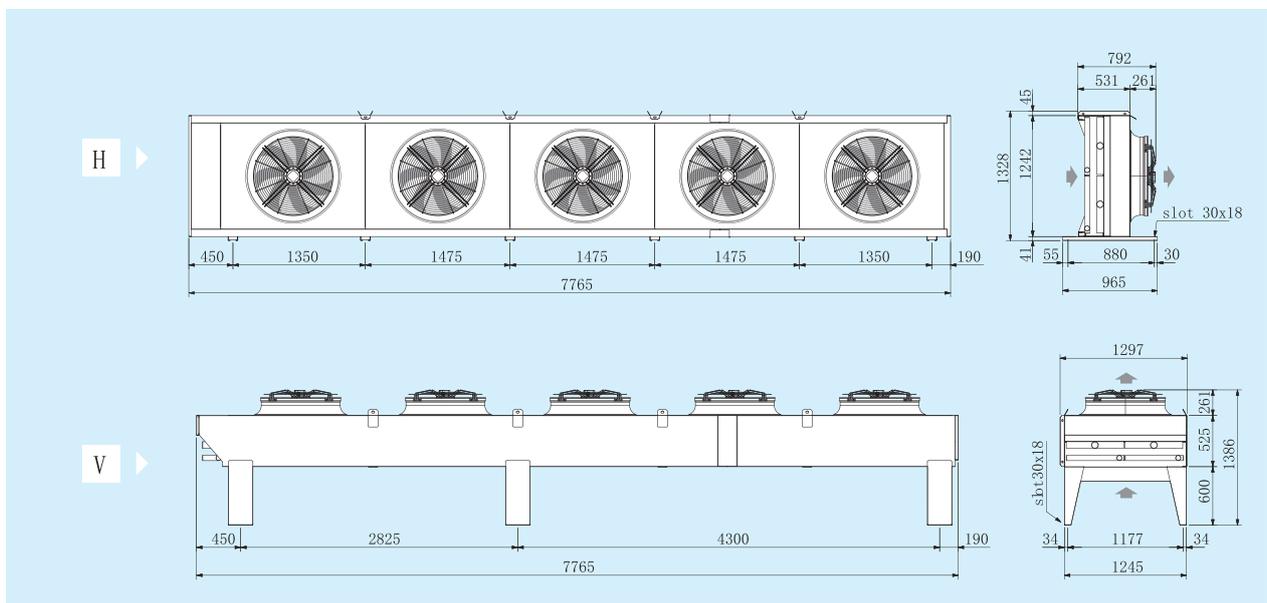
## Dimensional features - 产品尺寸

From 1 to 4 fan motors in line - 1-4 风机单排



Fan motors	Motorventilatoren	风机	N.	1	2	3	4
Model	Modell	型号	KCE	81	82	83	84
Dimensions	Abmessungen	尺寸	A	1865	3340	4815	6290
			B	1225	2700	4175	5650
			C	1225	1350	1350	1350
			D	-	1350	1475	1475
			E	-	-	1350	1475
			F	-	-	-	1350

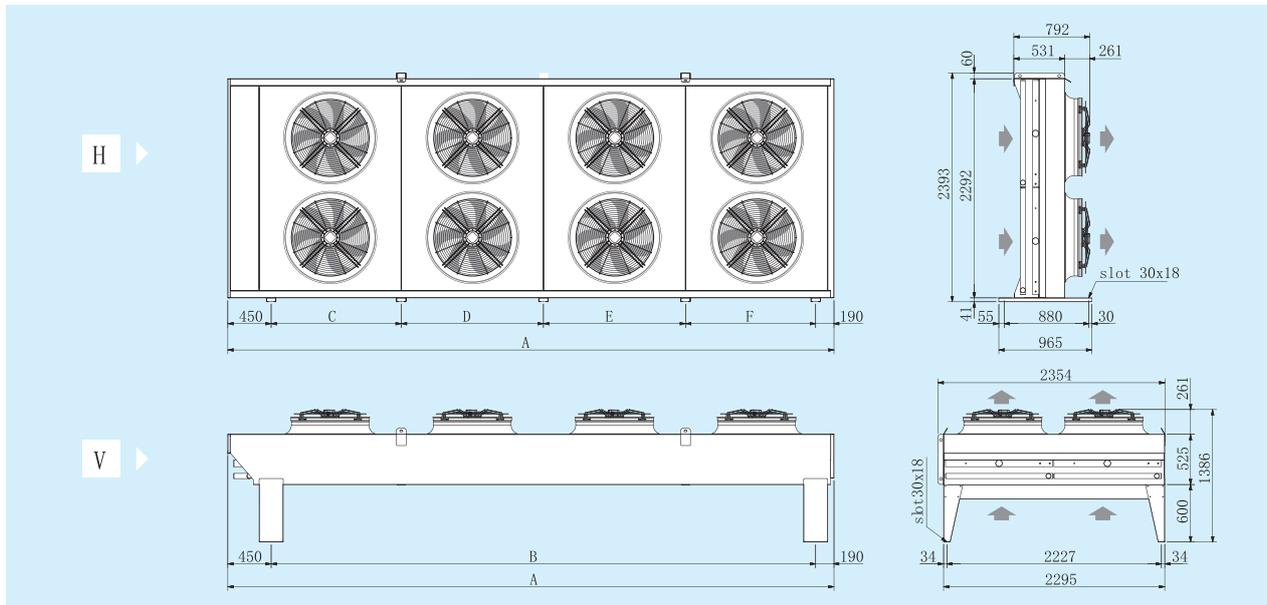
5 fan motors - 5 Motorventilatoren - 5 风机



# KCE Ø 800 mm (KCE8XXX)

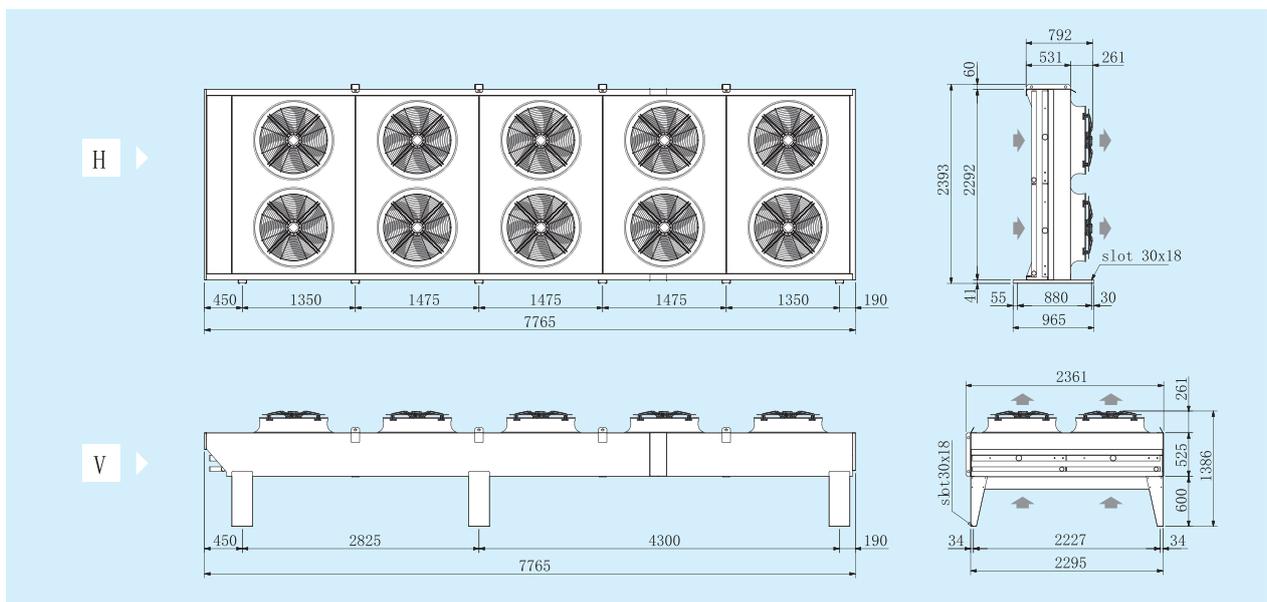
## Dimensional features - 产品尺寸

From 4 to 8 fan motors (double row of fan motors) - 4-8 风机 (双排)



Fan motors	Motorventilatoren	风机	N.	4	6	8
Model	Modell	型号	KCE	84Q	86	88
Dimensions	Abmessungen	尺寸 (mm)	A	3340	4815	6290
			B	2700	4175	5650
			C	1350	1350	1350
			D	1350	1475	1475
			E	-	1350	1475
			F	-	-	1350

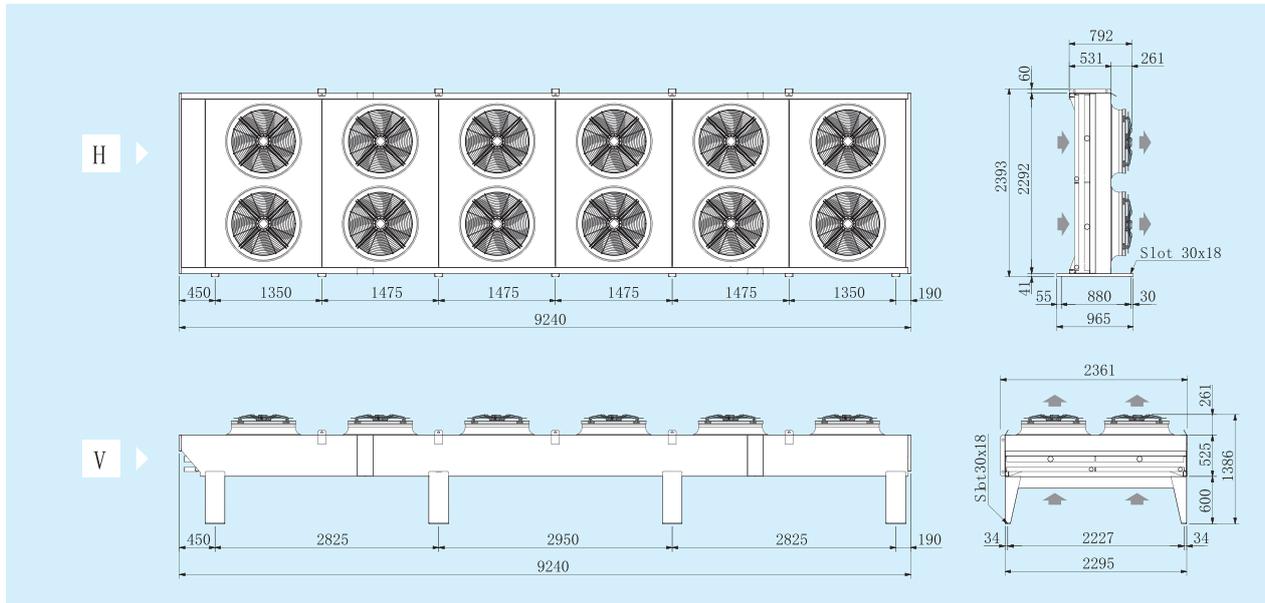
10 fan motors - 10 Motorventilatoren - 10 风机



# KCE Ø 800 mm (KCE8XXX)

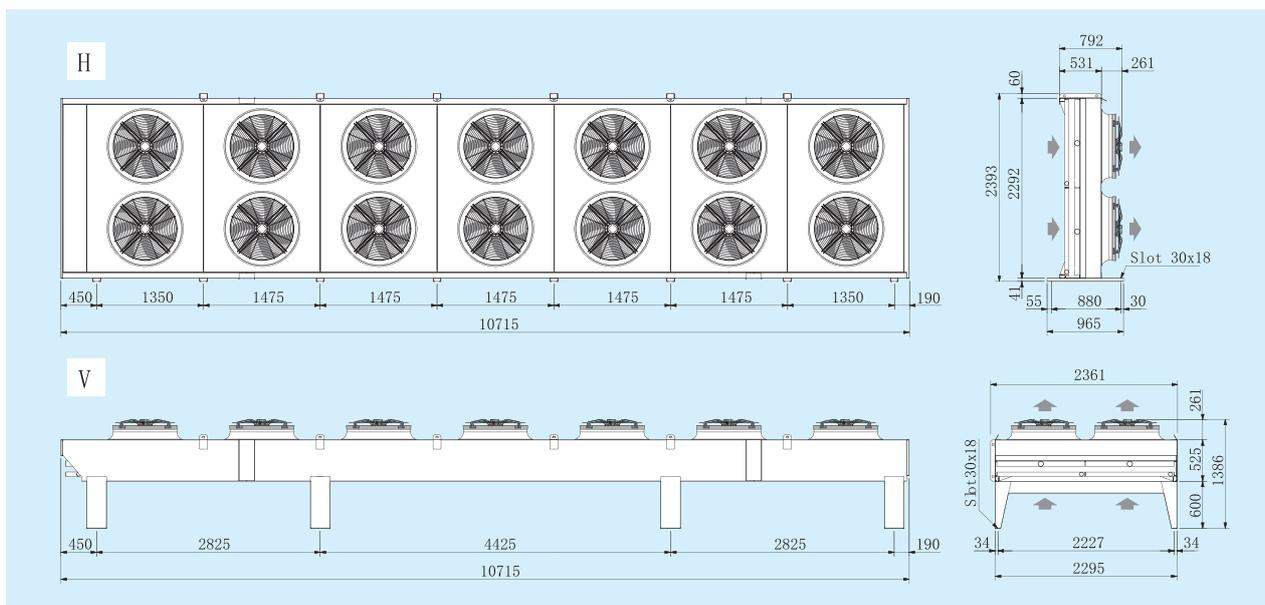
## Dimensional features - 产品尺寸

12 fan motors - 12 Motorventilatoren - 12 风机



## Dimensional features - 产品尺寸

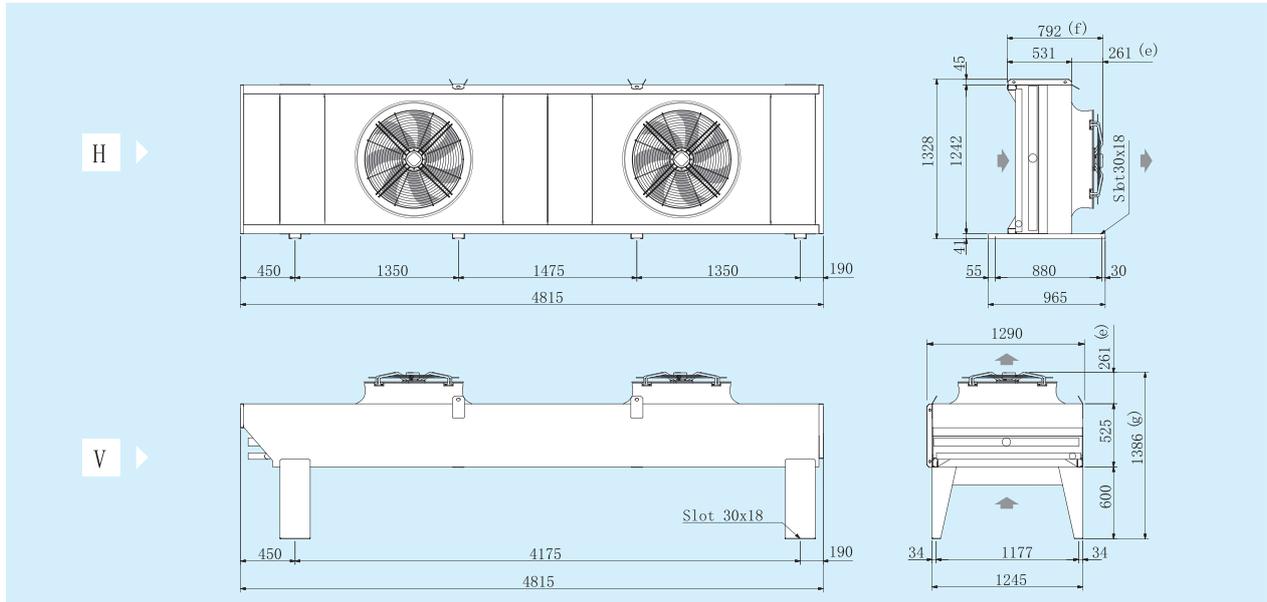
14 fan motors - 14 Motorventilatoren - 14 风机



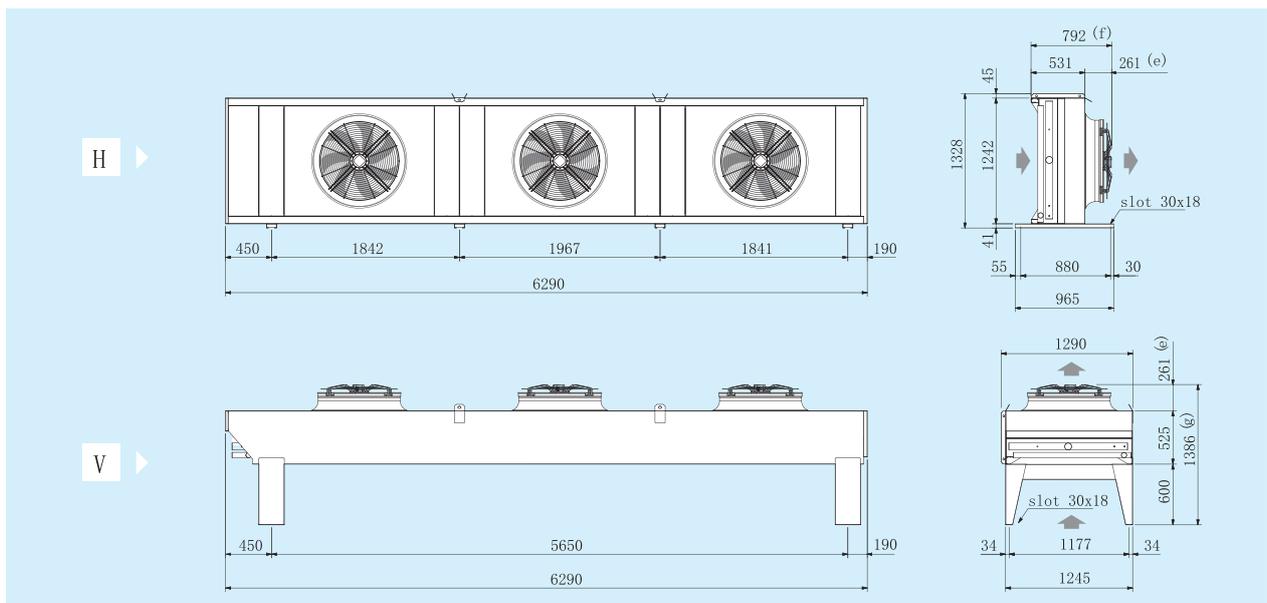
# KCE Ø 800 mm "A" (KCE8XXXA) - Ø 910 mm "A" (KCE9XXXA)

## Dimensional features - 产品尺寸

2 fan motors - 2 Motorventilatoren - 2 风机



3 fan motors - 3 Motorventilatoren - 3 风机

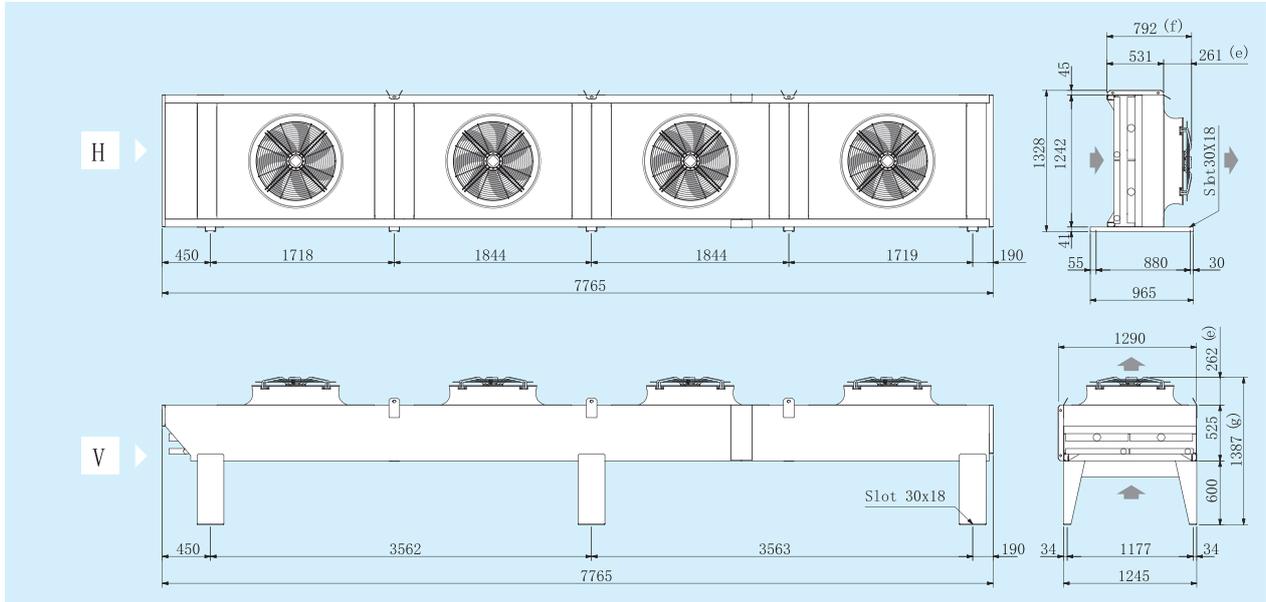


(e) Ø910型 "A" = 386 mm  
 (f) Ø910型 "A" = 917 mm  
 (g) Ø910型 "A" = 1511 mm

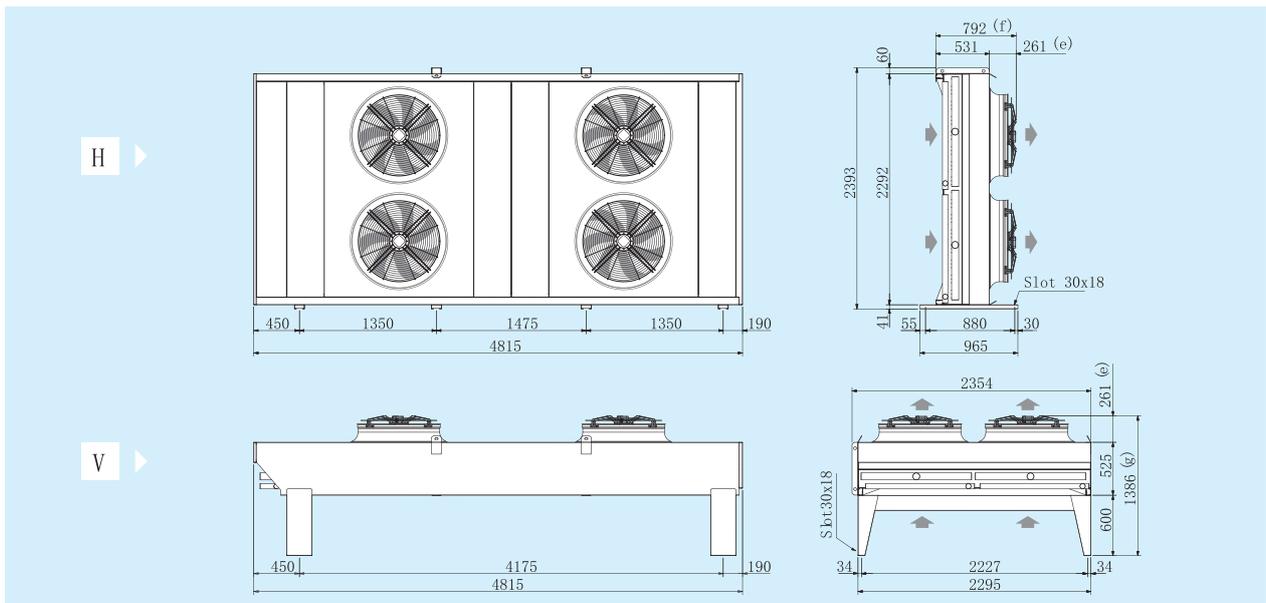
# KCE Ø 800 mm "A" (KCE8XXXA) - Ø 910 mm "A" (KCE9XXXA)

## Dimensional features - 产品尺寸

4 fan motors in line - 4 风机单排



4 fan motors square - 4 风机双排

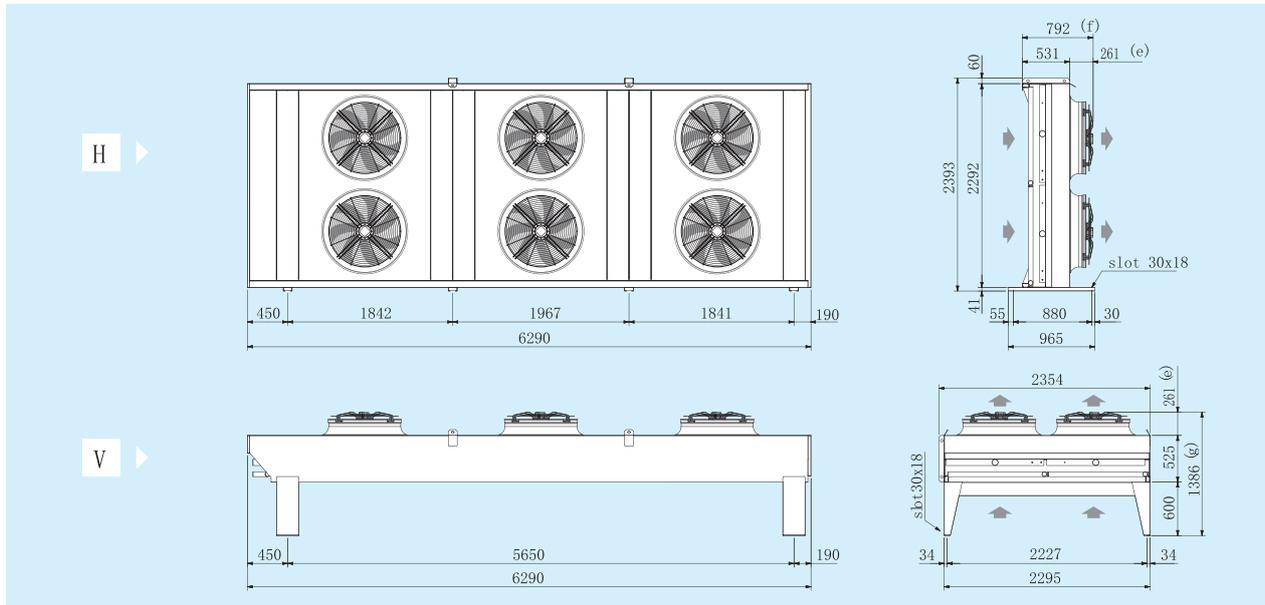


(e) Ø910型"A"= 386 mm  
 (f) Ø910型"A"= 917 mm  
 (g) Ø910型"A"= 1511 mm

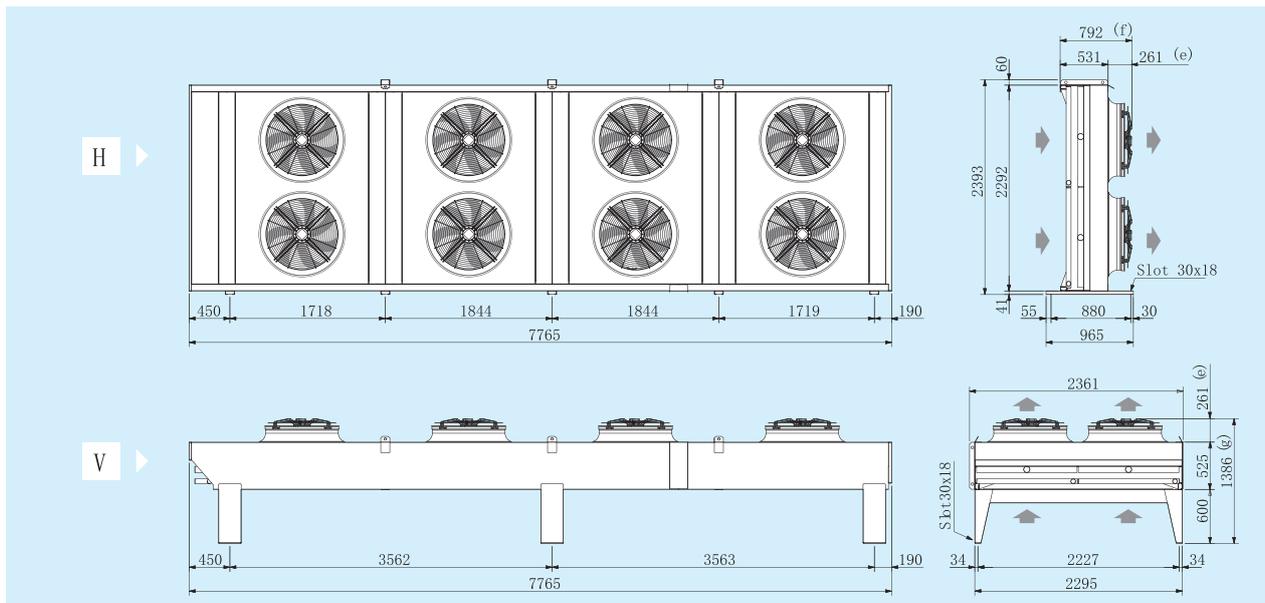
# KCE Ø 800 mm "A" (KCE8XXXA) - Ø 910 mm "A" (KCE9XXXA)

## Dimensional features - 产品尺寸

6 fan motors - 6 Motorventilatoren - 6 风机



8 fan motors - 8 Motorventilatoren - 8 风机

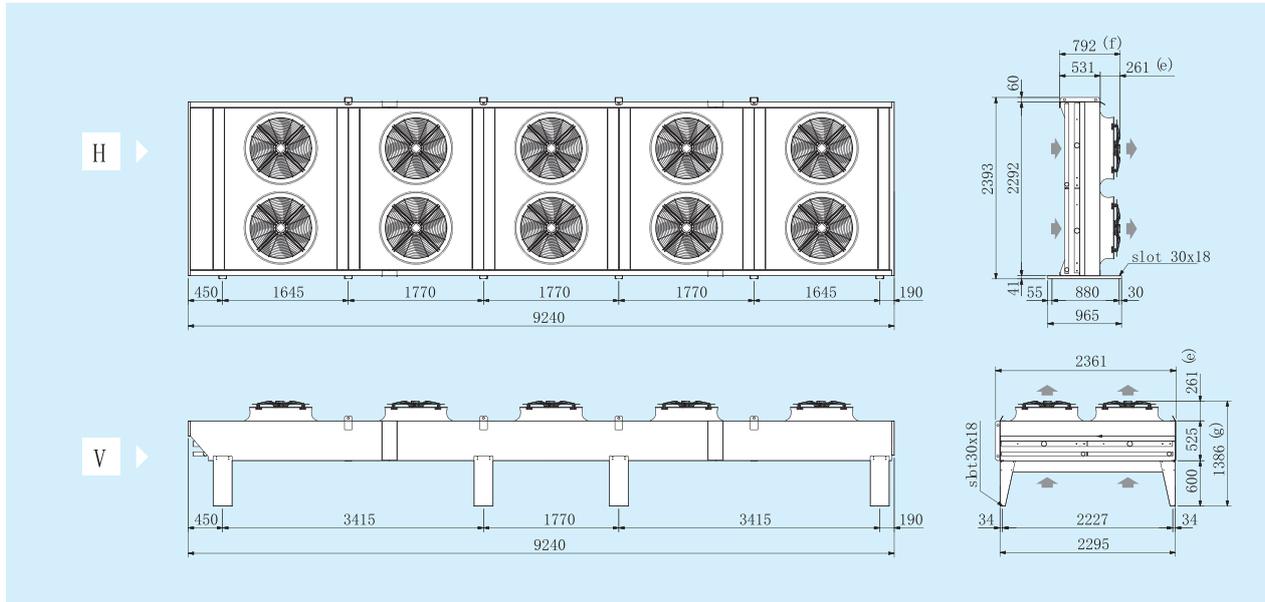


(e) Ø910型"A"= 386 mm  
 (f) Ø910型"A"= 917 mm  
 (g) Ø910型"A"= 1511 mm

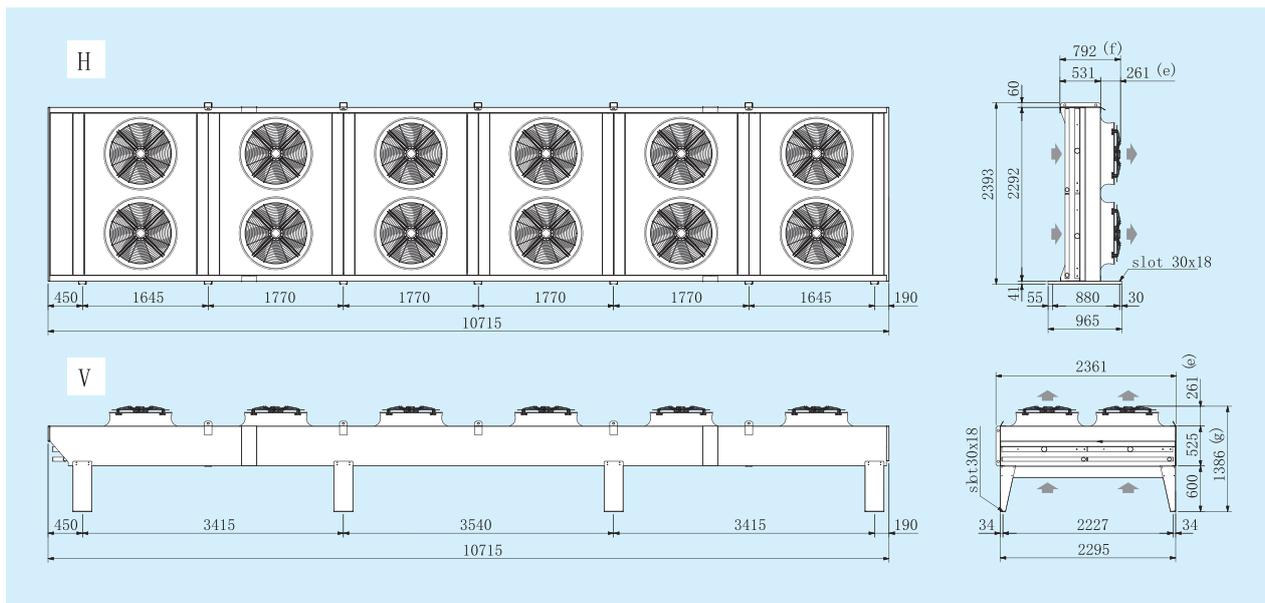
# KCE Ø 800 mm "A" (KCE8XXXA) - Ø 910 mm "A" (KCE9XXXA)

## Dimensional features - 产品尺寸

10 fan motors - 10 Motorventilatoren - 10 风机



8 fan motors - 8 Motorventilatoren - 8 风机

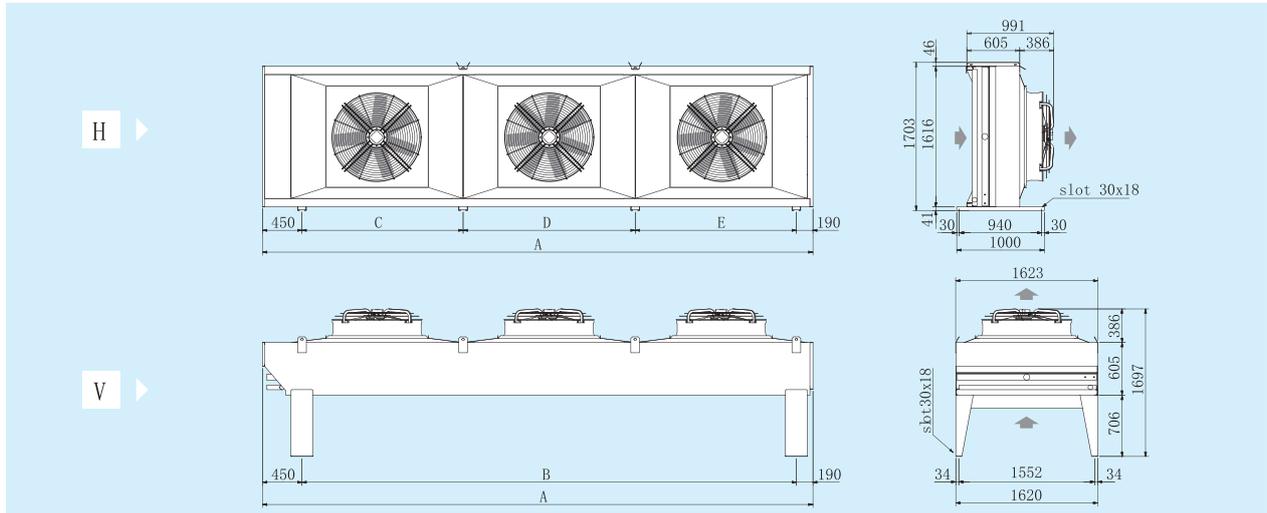


(e) Ø910型"A"= 386 mm  
 (f) Ø910型"A"= 917 mm  
 (g) Ø910型"A"= 1511 mm

**KCE** Ø 910 mm "E" (KCE9XXXE); Ø 910 mm "EA" (KCE9XXxEA);  
 Ø 1000 mm (KCE1XXX); Ø 1000 mm "A" (KCE1XXXA)

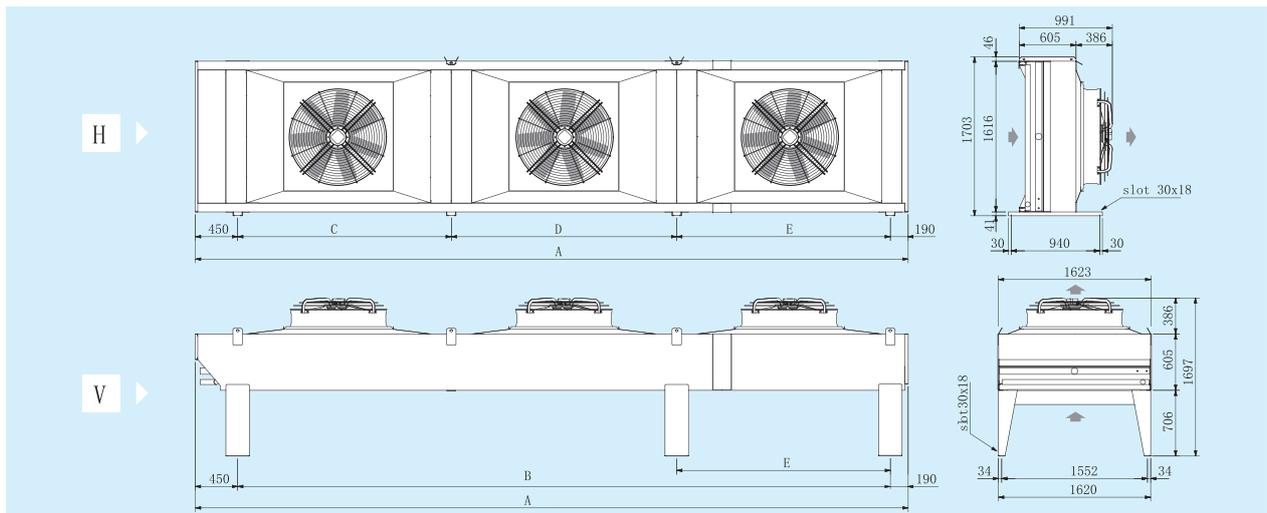
Dimensional features - 产品尺寸

From 1 to 3 fan motors - Von 1 bis 3 Motorventilatoren - 1-3 风机



Fan motors	Motorventilatoren	风机	N.	1	2	3
Model	Modell	型号	KCE	11 / 91E	12 / 92E	13 / 93E
Dimensions	Abmessungen	尺寸 (mm)	A	2355	4320	6285
			B	1715	3680	5645
			C	1715	1840	1840
			D	-	1840	1965
			E	-	-	1840

From 1 to 3 fan motors - Von 1 bis 3 Motorventilatoren - 1-3 风机 (KCE9XXxEA 及 KCE1XXXA)

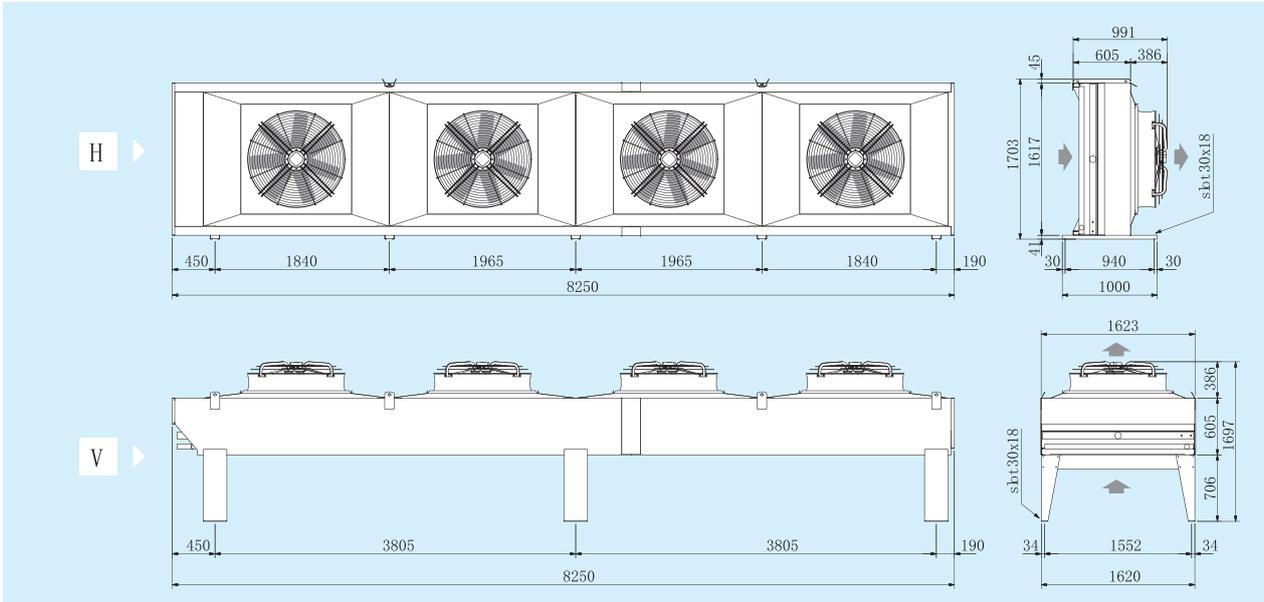


Fan motors	Motorventilatoren	风机	N.	1	2	3
Model	Modell	型号	KCE	11A / 91EA	12A / 92EA	13A / 93EA
Dimensions	Abmessungen	尺寸 (mm)	A	2790	5190	7590
			B	2150	4550	6950
			C	2150	2275	2275
			D	-	2275	2400
			E	-	-	2275

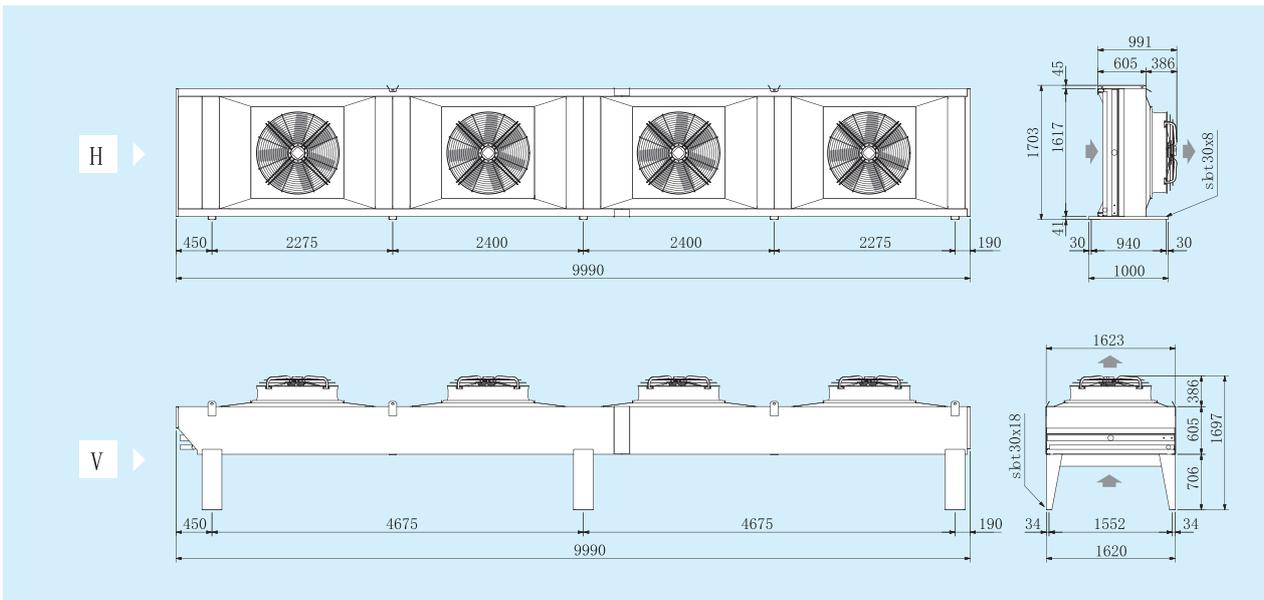
**KCE** Ø 910 mm "E" (KCE9XXXE); Ø 910 mm "EA" (KCE9XXXEA);  
 Ø 1000 mm (KCE1XXX); Ø 1000 mm "A" (KCE1XXXA)

Dimensional features - 产品尺寸

4 fan motors - 4 Motorventilatoren - 4 风机 (KCE9XXXE 及 KCE1XXX)



4 fan motors - 4 Motorventilatoren - 4 风机 (KCE9XXXEA 及 KCE1XXXA)



Sound levels - 噪音值

Nella Tab. 1 sono indicati in dB (A) i livelli di potenza sonora LwA e l'esplosione in frequenza dei modelli KCE con un ventilatore.

LwA声功率级噪音dB(A)及KCE单风机产品的频率数值在表1中列出。

Per una più accurata previsione dei livelli di pressione sonora, utilizzare i livelli di potenza sonora considerando la direttività e l'ambiente di installazione del modello.

如需精确测算声压级噪音，应考虑到声强的方向性以及产品的应用环境。

Tab. 1 | Sound power levels dB (A) for models with one fan motor  
表1 单风机产品的分贝值dB(A)

Fan motor Motorventilatoren 风机	Nr. poles Nr. Polen 级数	Connection Anschluss 接线	LWA	125 Hz	250 Hz	500 Hz	1kHz	2kHz	4kHz	8kHz
Ø 500 mm	A	Δ	82	64	69	74	78	76	70	61
		Y	77	59	66	70	73	70	63	56
	B	Δ	70	54	59	64	66	62	55	49
		Y	66	48	56	60	62	57	50	44
	C	Δ	61	48	54	56	56	50	44	40
		Y	58	46	52	53	52	47	43	42
	D	Δ	59	46	50	53	54	50	43	34
		Y	48	40	41	43	41	39	35	29
Ø 630 mm	A	Δ	85	64	74	76	81	80	76	68
		Y	82	66	72	72	77	76	72	64
	B	Δ	76	59	66	69	72	69	61	55
		Y	69	52	60	62	65	60	53	47
	C	Δ	66	48	58	60	63	57	50	43
		Y	60	45	52	55	56	50	44	42
	D	Δ	56	44	50	51	51	45	40	40
		Y	52	43	44	48	46	40	37	38
Ø 710 mm	A	Δ	87	66	74	80	83	82	76	69
		Y	82	63	72	76	78	75	69	60
	B	Δ	78	60	72	72	73	69	64	59
		Y	71	53	59	66	66	64	55	51
	C	Δ	70	56	58	65	64	63	55	50
		Y	63	51	54	58	58	57	48	44
Ø 800 mm	B	Δ	81	67	74	73	75	75	70	63
		Y	75	58	65	68	69	70	62	57
	E	Δ	72	56	63	65	67	67	60	53
		Y	68	52	60	60	63	61	54	48
	D	Δ	64	47	56	58	59	55	48	45
		Y	61	48	53	56	56	51	47	43
	F	Δ	57	44	49	52	52	47	43	39
		Y	51	42	45	46	45	41	37	35
L	Δ	50	38	42	44	45	42	34	31	
	Y	48	39	42	43	42	38	34	32	
Ø 910 mm	G	Δ	89	72	79	82	84	82	79	73
		Y	83	70	73	76	79	76	73	66
	B	Δ	83	62	70	77	79	77	71	65
		Y	76	56	62	71	73	69	63	58
Ø 1000 mm	B	Δ	88	84	86	85	84	81	73	66
		Y	82	81	82	78	78	72	65	58
	D	Δ	72	58	62	66	67	64	56	47
		Y	64	50	55	58	61	54	46	39
	F	Δ	64	48	59	57	58	54	47	38
		Y	61	55	52	55	55	49	44	40

The sound power level of models with several fan motors can be calculated with the following formula or by adding the figures of table Tab. 3.

有一个以上风机产品的声功率级噪音可以通过以下公式计算，也可以通过表3中的数据获得。

$$LW = LW1 + 10 \text{ Log}(n)$$

LW = Sound power level for models with n fan motor.

LW1 = Sound power level for models with 1 fan motor.

n = Number of fan motors.

LW = 产品有N个风机时的声功率级噪音。

LW1 = 产品有单个风机时的声功率级噪音。

n = 风机的数量。

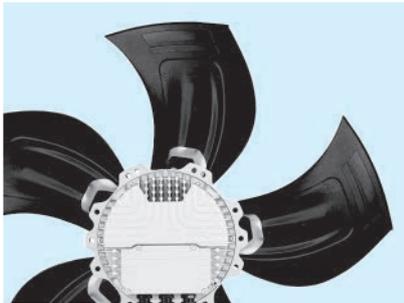
Tab. 2 | Correction factor for models with more than one fan motor  
表2 风机数量大于1时的修正系数

dB (A)	0	+3	+5	+6	+7	+8	+9	+10	+11	+11
n	1	2	3	4	5	6	8	10	12	14

Tab. 3 | Sound pressure correction factors based on distance  
表3 距离对声压级噪音的修正系数

Distance	Entfernung	距离	d (m)	1	2	3	4	5	10	15	20	40	60	80	120	200
Fan Motors	Motoren	风机马达	Ø 500 mm	17	12	9	7	5	0	-3	-6	-11	-15	-17	-21	-25
			Ø 500 mm "E"	16	11	9	7	5	0	-3	-6	-11	-15	-17	-21	-25
			Ø 630 mm	16	11	9	7	5	0	-3	-6	-11	-15	-17	-21	-25
			Ø 710 mm	16	11	9	7	5	0	-3	-6	-11	-15	-17	-21	-25
			Ø 800 mm	15	10	8	6	5	0	-3	-6	-11	-15	-17	-21	-25
			Ø 800 mm "A"	15	10	8	6	5	0	-3	-6	-11	-15	-17	-21	-25
			Ø 910 mm "A"	15	10	8	6	5	0	-3	-6	-11	-15	-17	-21	-25
			Ø 1000 mm	14	10	8	6	5	0	-3	-6	-11	-15	-17	-21	-25
			Ø 910 mm "E"	14	10	8	6	5	0	-3	-6	-11	-15	-17	-21	-25

Options and special versions - 可选产品及特殊产品



- EC motor (electronically commutated)
- EC风机 (电子整流)



- Extended legs "V" version
- V形支架



- Electronic speed regulator
- 电子调速器



- Wiring and switches
- 电缆及开关



- Multiple circuits
- 多回路



- Compressor housing
- 压缩机框架



- Additional "AXi Top" diffuser
- 附加 "AXi Top" 扩散器



- ZA Plus® directional fan shrouds
- "ZA Plus" 定向风机罩



The VCE range has been specifically developed to satisfy all the possible refrigeration and air conditioning applications.

The entire range is equipped with high efficiency coils made from special "Air intake" profile aluminium fins and inner grooved copper tube suitable for new generation refrigerants. They are supplied charged with dry air at 2 bars and 2,1 mm fin spacing for the entire range.

The casework for these models is completely made from prepainted galvanised metal sheet.

The external rotor axial fan motors employed have the following features:

- diameter 800 mm: 6, 8 strengthened poles, 12, 12 slowed and 12 ultraslowed;

VCE系列冷凝器特别研发用于满足所有可能的制冷和空调应用。

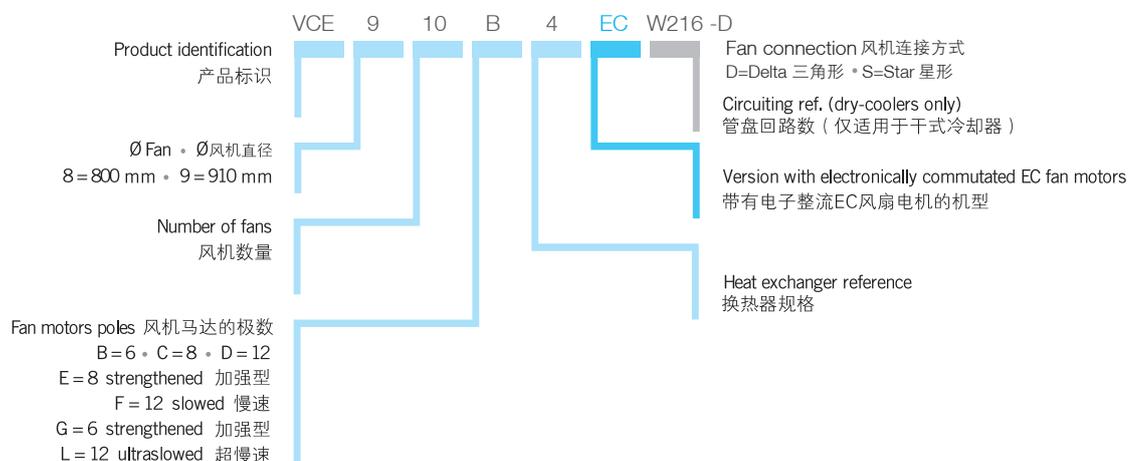
全系列产品均采用了高效盘管，盘管铝翅片采用独特的“开窗”形状，铜管为内螺纹铜管，适用于新型的制冷剂。整个系列的产品供应时管内均充有2bar的干燥空气，翅片间距均为2.1mm。

该类型产品外壳完全使用镀锌钢板，喷涂处理。

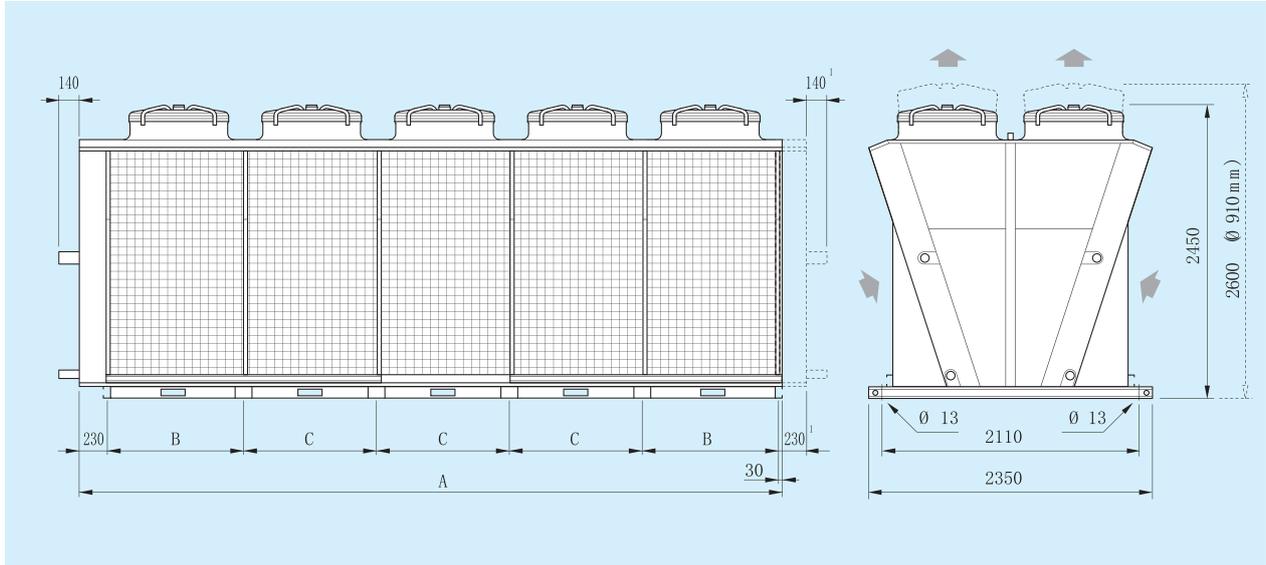
所采用外转子型轴向风机具有以下特点：

- 直径800：6，8极加强型，12极，12极慢速及12极超慢速；

## Model identification - 型号标识



## Dimensional features - 尺寸数据



Model	Modell	型号	VCE	804/904	806/906	808/908	810/910	812/912	814/914	816/916	818/918
Dimensions	Abmessungen	尺寸	A	2520	3620	4720	5820	6920	8020	9120	10220
mm			B	1130	1130	1130	1130	1130	1130	1130	1130
			C	-	1100	1100	1100	1100	1100	1100	1100

- diameter 910 mm; 6 strengthened poles;
- three-phase 400V/3/50 Hz supply, dual velocity;
- Die cast aluminium sickle blade or aluminium/techno polymer hybrid version with optimized sickle blades (except for 9.G);
- IP 54 protection grade;
- class F insulation;
- internal thermal contact protection;
- epoxy coated steel fan guard.

The optional high efficiency EC fan motors have the following features:

- IP 54 protection grade;
- class B insulation;
- built-in electronic protection;
- min / max operating temperature -25/60 °C;
- speed regulator with 0-10V signal;
- additional speed regulator with MODBUS system.

The fan motors and casework are predisposed for grounding.

直径 910：6极加强型；

- 三相400V/3/50Hz电压，双速；
- 压铸铝镰刀状风机叶片或铝/工程塑料复合型镰刀形叶片（9.G除外）；
- 保护等级IP54；
- F级绝缘；
- 内部热接触保护；
- 环氧涂层处理的金属风机网罩。

可选项高效EC风机马达具备以下特征：

- 保护等级 IP54；
- B级绝缘；
- 内置电气保护；
- 最低/最高工作温度范围：-25/60 °C；
- 调速器，信号0-10V；
- 加装带MODBUS系统的调速器风机马达和外壳均带有接地装置。

1) Liquid coolers only.

1) 仅适用于干式冷却器。



The VCC range has been specifically developed to satisfy all possible refrigeration and air conditioning applications, thanks to optimized dimensions for transportation via container, handling operations have been significantly simplified.

The entire range is equipped with high efficiency coils made from special "Air intake" profile aluminium fins and inner grooved copper tube suitable for new generation refrigerants. They are supplied charged with dry air at 2 bars and 2,1 mm fin spacing for the entire range.

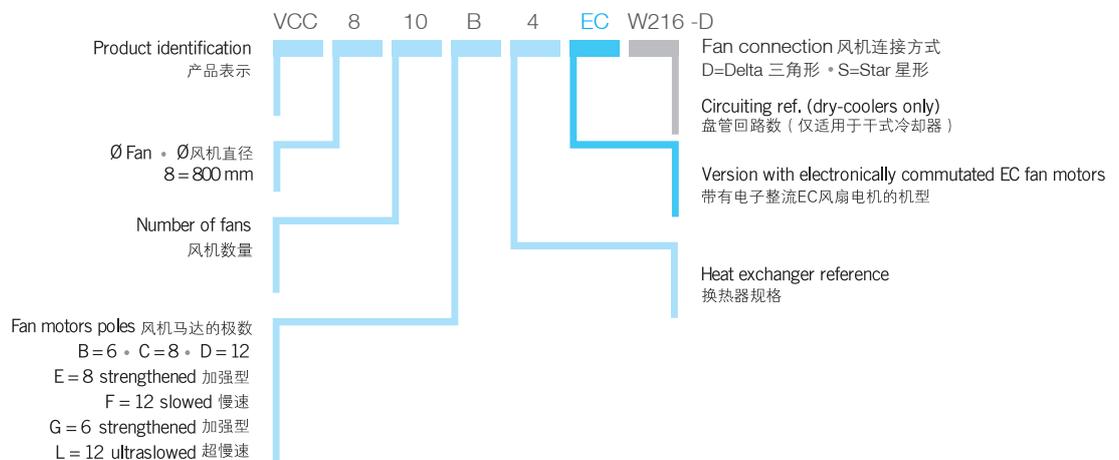
The casework for these models is completely made from prepainted galvanised metal sheet.

VCC系列冷凝器特别研发用于满足所有可能的制冷和空气调节应用，凭借优化的尺寸，集装箱运输、吊运操作显著得到简化。

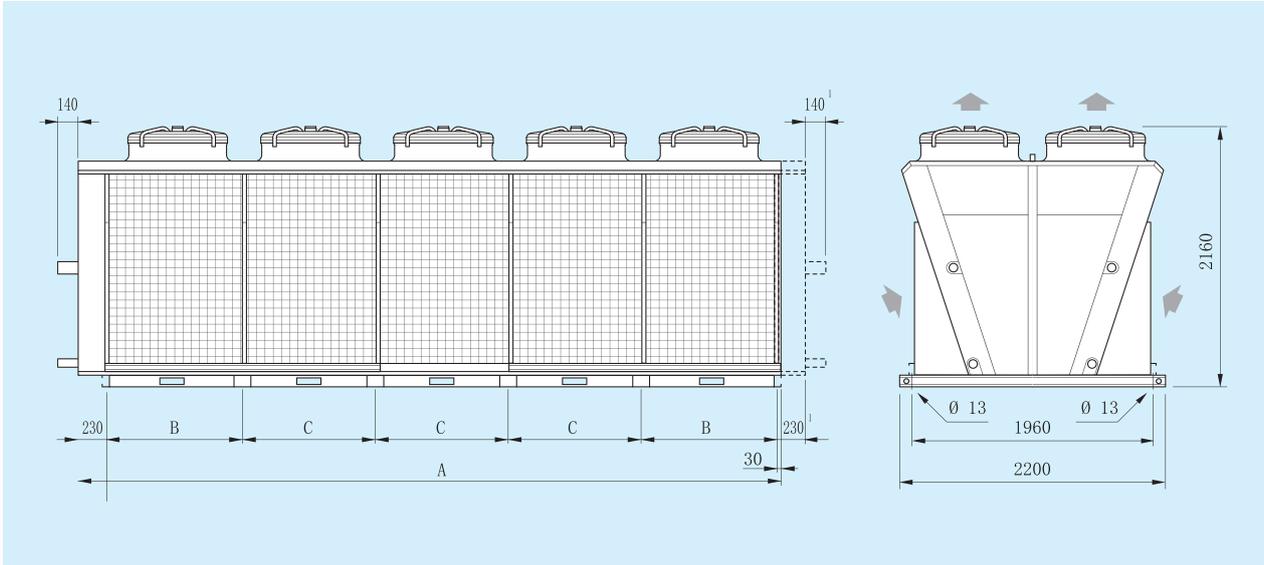
全系列产品均采用了高效盘管，盘管铝翅片采用独特的“开窗”形状，铜管为内螺纹铜管，适用于新型的制冷剂。整个系列的产品供应时管内均充有2bar的干燥空气，翅片间距均为2.1mm。

该类型产品外壳完全使用镀锌钢板，喷涂处理。

## Model identification - 型号标识



Dimensional features - 尺寸数据



Model	Modell	型号	VCC	804	806	808	810	812	814	816	818
Dimensions	Abmessungen	尺寸	A	2520	3620	4720	5820	6920	8020	9120	10220
mm			B	1130	1130	1130	1130	1130	1130	1130	1130
			C	-	1100	1100	1100	1100	1100	1100	1100

The external rotor axial fan motors employed have the following features:

- diameter 800 mm: 6, 8 strengthened poles, 12, 12 slowed and 12 ultraslowed;
- diameter 910 mm: 6 strengthened poles;
- three-phase 400V/3/50 Hz supply, dual velocity;
- Die cast aluminium sickle blades or aluminium/techno polymer hybrid version with optimized sickle blades (except for 9.G);
- IP 54 protection grade;
- class F insulation;
- internal thermal contact protection;
- epoxy coated steel fan guard.

The optional high efficiency EC fan motors have the following features:

- IP 54 protection grade;
- class B insulation;
- built-in electronic protection;
- min / max operating temperature -25/60 °C;
- speed regulator with 0-10V signal;
- additional speed regulator with MODBUS system.

所采用的外转子型风机具有以下特点:

- 直径800: 6、8极加强型和12极; 12极慢速及12极超慢速型;
- 直径910: 6极加强型;
- 三相400V/3/50Hz电压, 双速;
- 压铸铝镰刀形叶片或铝/工程塑料复合型镰刀形叶片(9.G除外);
- 保护等级IP54;
- F级绝缘;
- 内部热接触保护;
- 环氧涂层金属风机网罩。

可选项高效EC风机马达具备以下特征:

- 保护等级 IP54;
- B级绝缘;
- 内置电气保护;
- 最低/最高工作温度范围: -25/60 °C;
- 调速器, 电压信号范围为0-10V;
- 加装带有MODBUS系统的调速器。

1) Liquid coolers only.

1) 仅适用于干式冷却器。

# NH<sub>3</sub>

The R717 (NH<sub>3</sub> - ammonia) is a natural gas widely used in industrial refrigeration installations.

Ammonia systems are widely used in food preservation sectors and refrigeration industry, generally in large industrial facilities.

It is also possible to design and develop mixed indirect systems:

- Brine / Ammonia;
- CO<sub>2</sub> / Ammonia.

Ammonia has an intrinsic toxicity (97/23/CE directive, group 1), but thanks to our manufacturing techniques, the use of trained personnel and appropriate safety systems, it is possible to build safe installations.

The advantages of R717 are:

- excellent thermodynamic properties;
- High efficiency ("refrigerating power" / "electric energy consumption" ratio);
- Reasonable costs;
- No impact from an environmental perspective (GWP = 0, ODP = 0).

For these reasons, our company is pleased to present the market with its range of unit coolers for industrial applications that employ this refrigerant.

R717 (NH<sub>3</sub> - 氨) 是一种广泛用于工业制冷设备的天然工质。

使用氨为制冷剂的设备适用于食品冷藏和制冷行业，一般用于大型工业设施。

氨适合于间接冷却和复叠制冷系统：

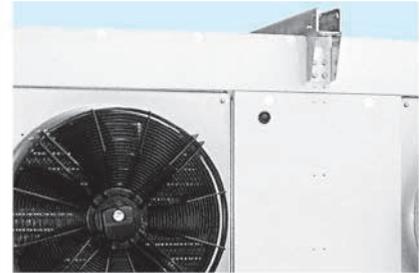
- 盐水 / 氨；
- 二氧化碳 / 氨。

氨具有内在毒性（97/23/CE指令，类别1）。但是通过先进的制造技术、经培训的操作人员以及合理的安全体系，即可制造出安全可靠的设备。

R717的优点：

- 出色的热力学性能；
- 高效的COP（“制冷量” / “消耗功率”）；
- 合理的成本；
- 对环境无污染（GWP = 0，ODP = 0）。

基于以上理由，本公司很荣幸地向市场投放使用此种制冷剂的工业用冷风机。



The ICN series has been specifically designed for use in large cold rooms and refrigerated storerooms used for the preservation of fresh and frozen products.

The entire range is equipped with high efficiency coils made from special profile aluminum fins and AISI304 stainless tube.

Based on room temperature the series is divided as follows:

- ICN 4 for higher temperatures (+2 °C) with 4,0 mm fin spacing;
- ICN 7 for middle, lower temperatures (-25 °C) with 7,0 mm fin spacing, a defrost system version is recommended;
- ICN 10 for lower temperatures (-35 °C) with 10,0 mm fin spacing, a defrost system version is recommended;
- ICN 12 for lower temp. (-40 °C) with 12,0 mm fin spacing, a defrost system version is recommended.

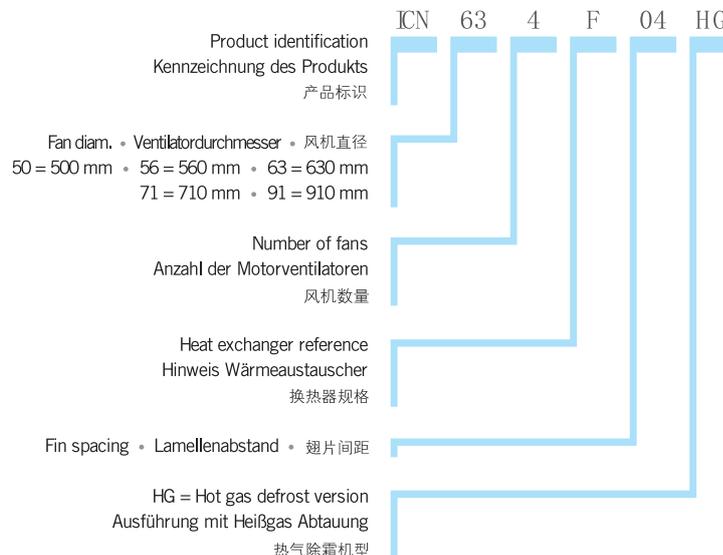
ICN系列适用于大型冷藏室和储藏室，用于保藏新鲜和冷冻产品。

整个系列配有由特殊铝翅片和AISI304不锈钢管制成的高效盘管。

根据室温，该系列产品可按如下分类：

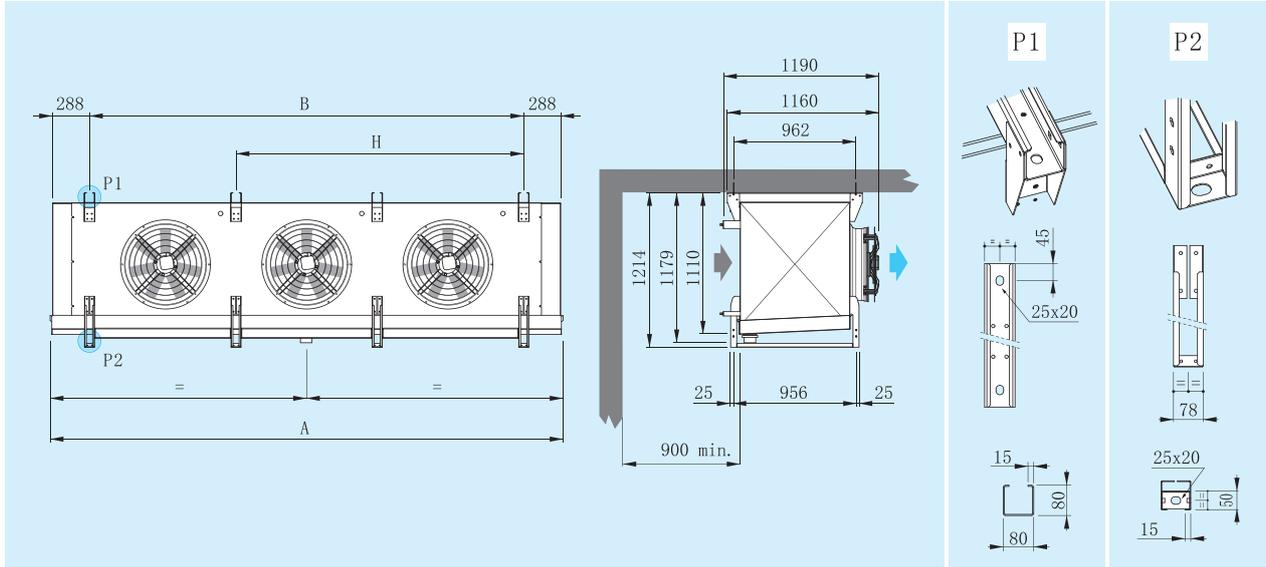
- ICN4用于高温条件 (≥+2 °C)，翅片间距为4.0 mm；
- ICN7用于中低温条件 (≥-25 °C)，翅片间距为7.0 mm，推荐使用除霜系统；
- ICN10用于低温条件 (≥-35 °C)，翅片间距为10.0 mm，推荐使用除霜系统；
- ICN12用于低温条件 (≥-40 °C)，翅片间距为12.0 mm，推荐使用除霜系统。

## Model identification - 型号标识



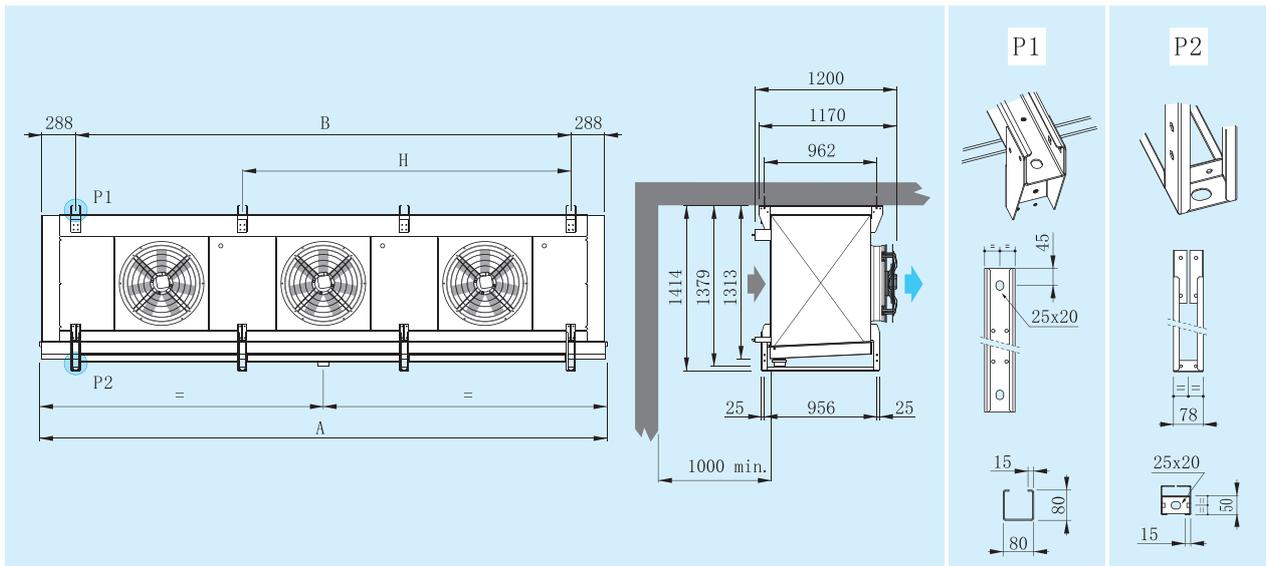
Dimensional features - 尺寸数据

ICN Ø 560 mm

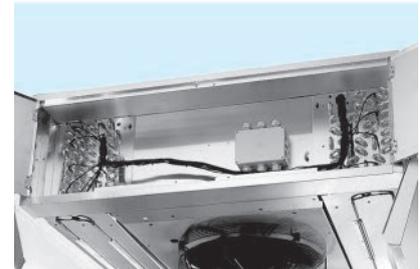
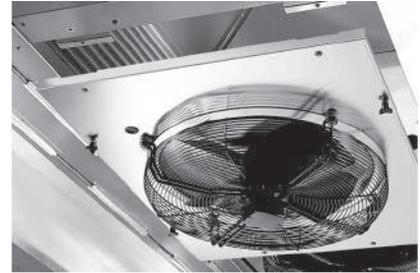


Model	Modell	型号	ICN Ø 560 mm	561	562	563	564	
Dimensions	Abmessungen	尺寸	mm	A	1797	2897	3997	5097
				B	1184	2284	3384	4484
				H	-	1142	2242	2242

ICN Ø 630 mm



Model	Modell	型号	ICN Ø 630 mm	631	632	633	634	
Dimensions	Abmessungen	尺寸	mm	A	2072	3447	4822	6197
				B	1459	2834	4209	5584
				H	-	1417	2792	2792



The IDN range of dual discharge unit coolers has been specifically designed for applications in large cold rooms and refrigerated storerooms with limited height, suitable for the preservation of fresh and frozen products.

The entire range is equipped with high efficiency coils made from special profile aluminium fins and AISI304 stainless steel tube.

Based on room temperature the series is divided as follows:

- IDN 4 for higher temperatures ( +2 °C) with 4.0 mm fin spacing;
- IDN 7 for medium, lower temperatures ( -25 °C) with 7,0 mm fin spacing, a defrost system version is recommended;

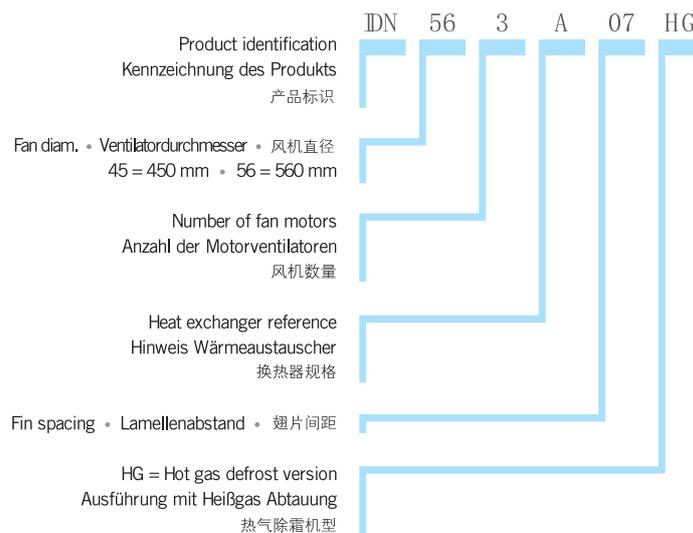
IDN系列双侧出风冷风机特别用于保藏新鲜和冷冻产品的安装高度有限的大型冷藏室和冷冻室。

整个系列配有由特殊铝翅片和AISI304不锈钢管制成的高效盘管。

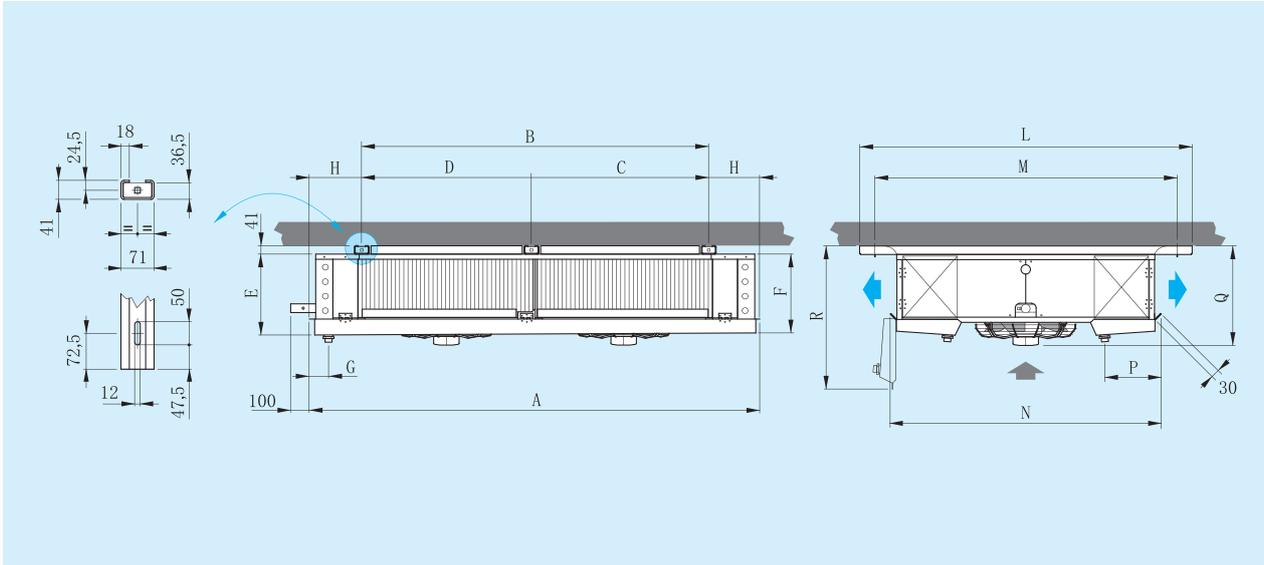
根据室温，该系列产品可按如下分类：

- IDN4用于高温条件 ( ≥+2 °C )，翅片间距为4.0 mm；
- IDN7用于中低温条件 ( ≥-2 °C )，翅片间距为7.0 mm，推荐使用除霜系统；

## Model identification - 型号标识



Dimensional features - 尺寸数据



Model	Modell	型号	IDN	451	452	453	562	563	564	
Dimensions	Abmessungen	尺寸	mm	A	1300	2150	3000	2760	3860	4960
				B	814	1664	2514	2164	3264	4364
				C	-	-	1700	1100	2 x 1100	3 x 1100
				D	-	-	814	1064	1064	1064
				E	406	410	415	538	543	550
				F	400	400	400	530	530	530
				G	85	85	85	90	90	90
				H	243	243	243	298	298	298
				L	1594	1594	1594	1809	1809	1809
				M	1449	1449	1449	1664	1664	1664
				N	1290	1290	1290	1505	1505	1505
				P	280	280	280	280	280	280
				Q	490	490	490	680	680	680
				R	695	695	695	835	835	835

- IDN 10 for lower temperatures (  $-35\text{ }^{\circ}\text{C}$  ) with 10,0 mm fin spacing, a defrost system version is recommended;
- IDN 12 for lower temperatures (  $-40\text{ }^{\circ}\text{C}$  ) with 12,0 mm fin spacing, a defrost system version is recommended.

The standard fan motors employed have the following features:

- 450 and 560 mm diameters, external rotor three-phase 400V/3/50Hz dual velocity, with epoxy coated steel fan guard;
- IP 54 protection grade;
- THCL 155 (class F) insulation;
- internal thermal contact protection;
- operating temperature: maximum  $+40\text{ }^{\circ}\text{C}$ .

- IDN10用于低温条件 (  $\geq -35\text{ }^{\circ}\text{C}$  )，翅片间距为 10.0 mm，推荐使用除霜系统；
- IDN12用于低温条件 (  $\geq -40\text{ }^{\circ}\text{C}$  )，翅片间距为 12.0 mm，推荐使用除霜系统。

所使用的标准风机马达具备以下特点：

- 直径450、560mm，外转子双速电机三相400V/3/50Hz，带环氧涂层金属风机网罩；
- 保护等级IP 54；
- THCL 155 ( F级 ) 绝缘；
- 内部热接触保护；
- 最高工作温度：  $+40\text{ }^{\circ}\text{C}$ 。

# CO<sub>2</sub>

In the near future halogenated refrigerants will be replaced by low environmental impact fluids.

Building an installation today, that employs increasingly expensive old generation refrigerants, implies being directly exposed to rising installation and operational costs.

For this reason we have decided to create a new unit cooler range for installations that use R744 (CO<sub>2</sub> - carbon dioxide) refrigerant.

Advantages:

- First-rate safety features and environmental impact.
- Non-flammable fluid.
- Non-toxic fluid, chemically inert, with no risk of corrosion.
- Degree of contamination nil in case of contact with food stuff.
- No particular precautionary measures required in case of retrofit of installation.
- Greater installation efficiency resulting in reduced dimensions of compressors and coils in comparison to regular installations.

Our unit coolers for applications with R744 refrigerant can be calculated for direct expansion or pump applications.

Thanks to the employment of copper tube with increased wall thickness it is possible to reach operating pressures up to 60 bars for unit coolers and 120 bars for gas coolers.

在不久的将来，卤代烃制冷剂将被环境污染较低的新型制冷剂代替。

如今，就算安装一台使用传统制冷剂的产品，人工费用也越来越高，这意味着安装和工程费用会不断高涨。

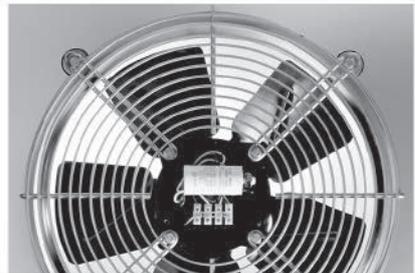
因此，我们决定开发使用R744制冷剂（CO<sub>2</sub>-二氧化碳）的新型冷媒冷风机系列。

优点：

- 一流的安全性，且环境污染低；
- 非可燃制冷剂；
- 无毒性，高化学稳定性，无腐蚀性；
- 接触食品时为零污染；
- 改造安装时无需特别预防措施；
- 与常规安装相比，压缩机和盘管尺寸变小，从而提高了安装效率。

本公司生产的使用R744作为制冷剂的冷风机可用于直膨式或泵供液系统应用。

通过使用更厚管壁的铜管，冷媒冷风机工作压力可高达60bar，而冷凝器可高达120bar。



CDC is our new unit cooler range for installations that use CO<sub>2</sub> refrigerant. Its cubic form suits all types of cold rooms, especially those used for the preservation of fresh and frozen products. The units of this range are particularly compact and this enables to make good use of the cold room space in which they are installed. This new range is equipped with highly efficient coils made from aluminium fins and special copper tubes. The maximum allowable exercise pressure is 60 bars.

CDC为本公司新型冷媒冷风机系列，使用二氧化碳作为制冷剂。其多种型号适用于各类冷藏室，特别适用于保藏新鲜和冷冻产品。该系列的冷风机结构特别紧凑，能充分利用其所在冷藏室内空间。该新型冷风机配有由特殊铝翅片和特殊铜管制成的高效盘管。最大允许压力为60bar。

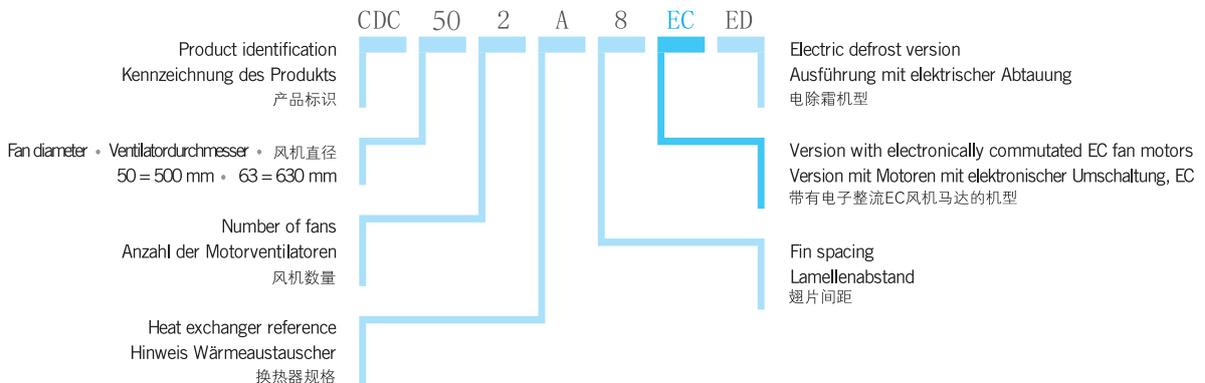
According to the room temperature the range is divided as follows:

- CDC E4 - A4 for high temperatures ( +2 °C), with 4,0 mm fin spacing;
- CDC E6 - A6 for medium temperatures ( -15 °C), with 6,0 mm fin spacing, electric defrost version (ED) is recommended;

根据室温，该系列产品可按如下分类：

- CDC E4 - A4用于高温条件 ( ≥ +2 °C )，翅片间距为4.0mm；
- CDC E6 - A6用于中温条件 ( ≥ -15 °C )，翅片间距为6.0mm，推荐使用电除霜 ( ED ) ；

## Model identification - 型号标识



For Ø 500 mm motors wiring not provided.

对于直径500mm的马达，不提供接线。

- CDC E8 - A8 for low temperatures (  $-35\text{ }^{\circ}\text{C}$  ), with 8,5 mm fin spacing, equipped with electric defrost (ED).

This range employs two types of standard fan motors:

- A) 500 mm diameter, external rotor three-phase 400V/3/50 Hz, with epoxy coated steel fan guard.
- B) 630 mm diameter, external rotor three-phase 400V/3/50-60Hz, with epoxy coated steel fan guard.

The standard fan motors used have the following features:

- IP 54 protection grade for  $\varnothing$  500 and 630 mm;
- class F insulation for  $\varnothing$  500 and 630 mm;
- inner thermal contact protection;
- maximum operating temperature:  $+40\text{ }^{\circ}\text{C}$ .

The standard electric defrost (ED) version are equipped with stainless steel heaters, with vulcanised terminals preset for 400V/3/50-60Hz connection.

The electric parts and casework are connected to an earth terminal. The wiring of motors and heaters is carried out in separate IP 54 protection grade junction boxes.

On request the models can be equipped with non-standard: coils, defrosting and fan motors.

For special applications and further information consult our Technical Dept.

### Options and special versions - 可选件和特殊规格

CDC E8 - A8用于低温条件 ( $\geq -35\text{ }^{\circ}\text{C}$ )，翅片间距为8.5mm，配有电除霜 (ED)。

该系列使用两种标准风机马达：

- A) 直径500mm，外转子三相400V/3/50Hz，带环氧涂层金属风机网罩。
- B) 直径630mm，外转子三相400V/3/50-60Hz，带环氧涂层金属风机网罩。

所使用的标准风机马达具备以下特点：

- 直径500和630mm，保护等级IP54；
- 直径500和630mm，F级绝缘；
- 内部热接触保护；
- 最高工作温度： $+40\text{ }^{\circ}\text{C}$ 。

标准电加热除霜 (ED) 配有不锈钢电加热管，出厂连接为400V/3/50-60Hz。

电子零件和外壳均连接至接地装置，电机和加热管的接线在独立IP 54级接线盒中执行。

用户可以定制非标的盘管、加热管和风机马达。

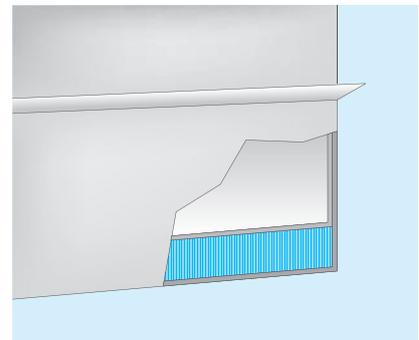
有关特殊应用和更多信息，请联系我们的技术部门。



- Streamers
- 整流器



- Special 60Hz fan motors (for  $\varnothing$ 250mm fans)
- 特殊60Hz风机马达 (用于直径250mm的风机)



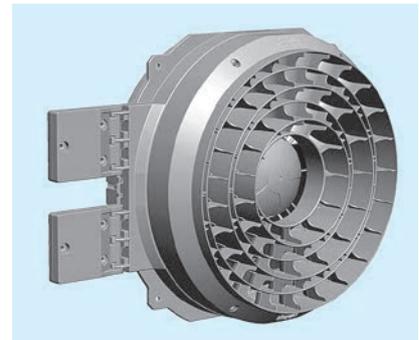
- Drain pan with insulation
- 隔热排水盘



- EC motor (electronically commutated)
- EC电机 (电子整流)



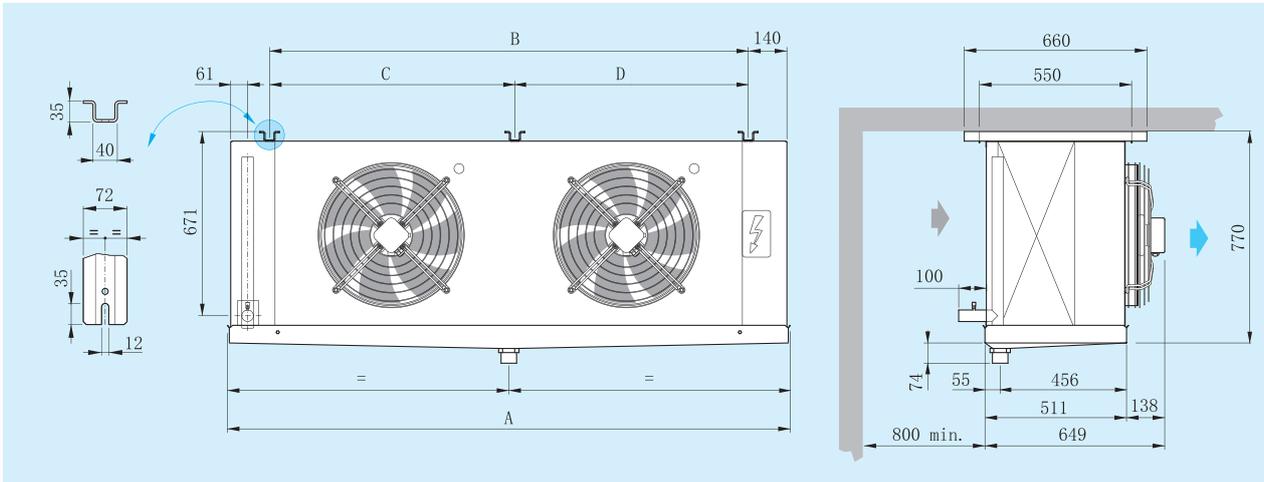
- Electronically commutated (AxiCool) fan motors equipped with hinged access and fan guard (ECG) – only for  $\varnothing$  350 mm fan motors.
- 电子整流 (AxiCool) 风机马达，配有铰链和风机网罩 (ECG) – 仅用于直径350 mm的风机马达。



- Electronically commutated (AxiCool) fan motors equipped with hinged access and fan guard (ECS) – only for  $\varnothing$  350 mm fan motors.
- 电子整流 (AxiCool) 风机马达，配有铰链和风机网罩 (ECS) – 仅用于直径350 mm的风机马达。

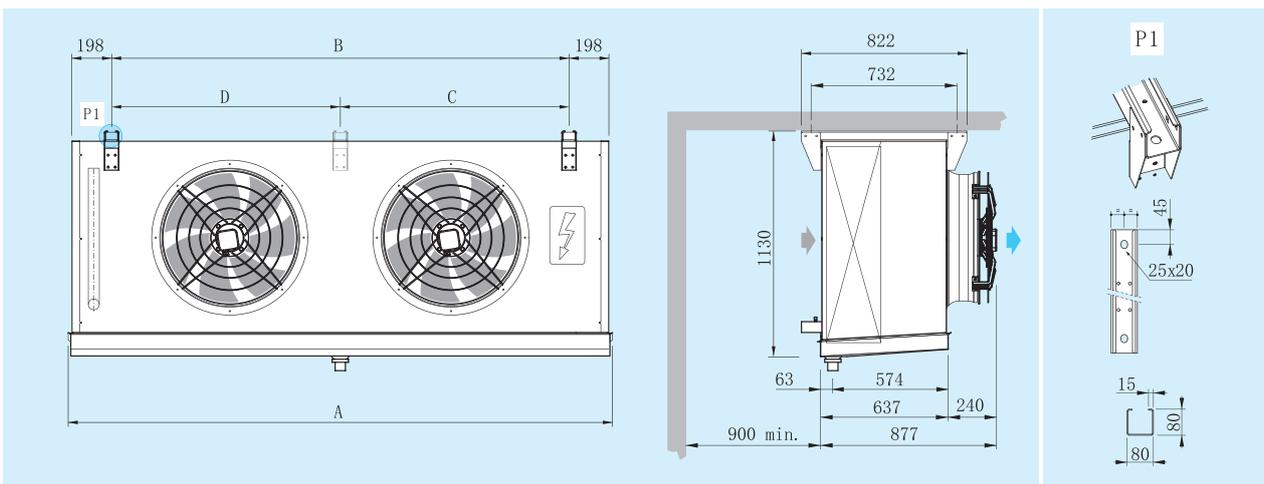
Dimensional features - 尺寸数据

CDC Ø 500 mm



Model	Modell	型号	CDC Ø 500	501E4	501E6	501E8	502E4	502E6	502E8	503E4	503E6	503E8	-	-		
				501A4	501A6	501A8	502A4	502A6	502A8	503A4	503A6	503A8	504A4	504A6	504A8	
				501B4	501B6	501B8	502B4	502B6	502B8	503B4	503B6	503B8	504B4	504B6	504B8	
Dimensions	Abmessungen	尺寸	mm	A	1184			2034			2884			3734		
				B	880			1730			2580			3430		
				C	-			-			-			1730		
				D	-			-			-			1700		

CDC Ø 630 mm



Model	Modell	型号	CDC Ø 500	631E4	631E6	631E8	632E4	632E6	632E8	633E4	633E6	633E8	634E4	634E6	634E8	
				631A4	631A6	631A8	632A4	632A6	632A8	633A4	633A6	633A8	634A4	634A6	634A8	
				631B4	631B6	631B8	632B4	632B6	632B8	633B4	633B6	633B8	634B4	634B6	634B8	
Dimensions	Abmessungen	尺寸	mm	A	1006			2706			3806			4906		
				B	1174			2274			3374			4474		
				C	-			-			-			2237		
				D	-			-			-			2237		

# Brine coolers Dry coolers 盐水冷风机 干式冷却器

The use of installations operating on glycol refrigerants called “Brine” (generally a blend of water and glycol antifreeze solutions) is becoming more and more popular in the AC, commercial and industrial refrigeration markets.

Our company has the possibility to supply both solutions for refrigeration “Brine Coolers” and for the dissipation of heat “Dry Coolers”.

## Brine Coolers

Refer to air units for the preservation of fresh or frozen food stuff in commercial or industrial cold rooms, in which water circulates with a certain percentage of fluid additive (ethylene, propylene glycol etc). This enables operation at temperatures below freezing point and avoids possible corrosion of the copper tubes that make up the circuiting of the heat exchangers. In general the structural features closely follow those of the unit coolers, difference being that the heat exchangers and the headers have been designed and built for pump circulation of the fluid as indicated in the product's specifications.

## Dry Coolers

These are finned-pack heat sinks for outdoor installation that are used in air conditioning, refrigeration or cooling of process liquids (for example “free-cooling” systems, industrial injection mould cooling systems and the cooling of endothermic motors used for energy production). Structurally similar to remote condensers, but with specifically designed heat exchangers, are so called “dry” because air is used as secondary cooling fluid, and not water like in cooling tower systems. In this way it is possible to solve all serious problems caused by incrustations and avoid the proliferation of bacteria.

### Advantages:

- easy installation and maintenance;
- non-flammable fluids, if properly selected non-corrosive;
- elimination of risks due to the leaking of intrinsically toxic fluid into closed environments such as cold rooms.

使用“盐水”乙二醇作为制冷剂（通常是水和乙二醇防冻溶液的混合液）的设备在空调、商业及工业制冷应用中越来越受欢迎。

本公司为您提供制冷型“盐水冷风机”和散热型“干式冷却器”全套解决方案。

## 盐水冷风机

专用于商业或工业冷藏室，冷藏新鲜或冷冻食品的空气冷却器，在此类设备中，循环水中配有一定百分比的液体添加剂（乙二醇、丙二醇等），从而在温度低于冰点时可以继续运行，并能避免换热器铜管发生腐蚀。一般来说，其结构特点与冷媒冷风机相似，不同之处在于其换热器和头管的设计更适合盐水在泵驱动的系统运行。（具体参见产品规格参数）。

## 干式冷却器

该系列为用于户外安装的翅片散热器，广泛用于空调、制冷或工艺液体冷却（例如“自由冷却”系统、工业注模冷却系统和用于能源行业的吸热型电机）。结构上与远置式冷凝器相似，但配有特别设计的换热器，其称之为“干式”是因为使用空气作为介质冷却进行换热，而不是像传统冷却塔那样使用水冷却。如此便可解决由水垢引起的一系列问题，并能避免细菌滋生。

### 优点：

- 便于安装和维护；
- 盐水不易燃，也可以选用非腐蚀性的盐水；
- 有效避免有毒性的盐水溶液泄漏到封闭环境中（冷藏室）。

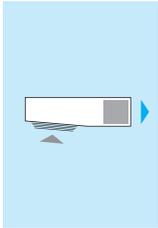
## Brine coolers high efficiency

The following are models that derive from our ranges of high efficiency unit coolers, characterized by compact and highly efficient fin pattern heat exchangers.

## 盐水冷风机 高效

以下是和冷媒冷风机产品相对应的盐水冷风机产品型号。

### Slanted brine coolers - 倾斜式盐水冷风机



EVS-W

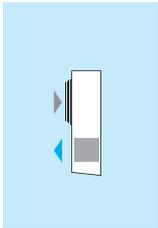


STE-W



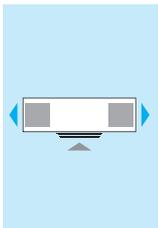
MTE-W

### Wall mounted brine coolers - 挂壁式盐水冷风机



EP-W

### Dual-discharge brine coolers - 双侧出风盐水冷风机



MIC-W

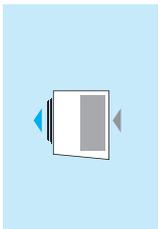


DFE-W



IDE-W

### Cubic brine coolers - 吊顶式盐水冷风机



CTE-W



ICE-W

## Brine coolers ample exchange surface

The following models that derive from our new range of unit coolers, characterized by heat exchanger fin patterns with ample exchange surface and optimized tubes for the reduction of pressure drop on the refrigerant side. These models are particularly suitable in applications for the preservation of fresh produce such as fruit and vegetables where a high level of humidity is required.

## 盐水冷风机 充足的热交换面积

以下盐水冷风机型号源自我们新推出的冷媒冷风机系列，主要特点是换热面积充足的翅片设计和优化的管路设计，以此降低制冷剂侧的压降。该系列特别适合需要高湿度的新鲜食品贮藏。

### Dimensional features - 尺寸数据



FTE-W

The structural and dimensional specifications of the brine coolers refer generally to unit cooler ranges from which they are derived.

For the ICL version refer to the ICNrange.

For correct sizing, capacity verification and/or design features, use our "Scelte" selection software.



New ICL-W

盐水冷风机的结构和尺寸规格请参见冷媒冷风机系列的数据。

对于ICL版，参考ICN系列。

如需正确尺寸、换热量数据和/或设计特点，请使用我们的 "Scelte" 选型软件。

# Dry coolers 干式冷却器

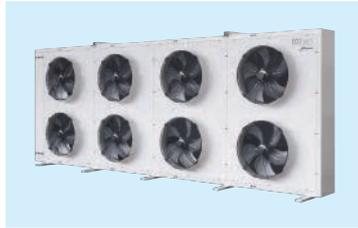
## Dry coolers high efficiency

Following are the models that are derived from our ranges of highly efficiency air cooled condensers, characterized by compact and highly efficient heat exchanger fin patterns.

## 干式冷却器 高效

以下为高效风冷式冷凝器系列的衍生型号，主要特点是结构紧凑，且配备高效的翅片式换热器。

Single coil dry coolers with horizontal (H) or vertical (V) air flow.  
单盘管干式冷却器，配有水平（H）或垂直（V）方向的气流。



KCE-W



KCE-W

V-shaped dry coolers with double heat-exchangers  
V形干式冷却器，配有两个换热器



VCE-W



VCC-W

The structural and dimensional specifications of dry coolers generally refer to the ranges of air cooled condenser from which they are derived.

干式冷却器的结构和尺寸规格请参见风冷式冷凝器系列的数据。

For correct sizing, capacity verification and/or design features, use our "Scelte" selection software.

如需正确尺寸、换热量数据和/或设计特点，请使用我们的"Scelte"选型软件。



Options  
and  
special versions  
可选产品及特殊产品

## Options and special versions 可选产品及特殊产品

### System “Shut Up®” - “Shut Up®” 系统



The “Shut Up®” system is used in industrial cubic unit coolers: it consists of special open textiles ducts that are fastened to air outlet fan shrouds. These “socks”, by their nature, sag when the fans are turned off, folding down on the motor and creating a thermal barrier that significantly reduces both the duration of the defrost cycle and temperature fluctuations in the cold room.

The “Shut Up®” system, during defrosting, prevents the water vapour from diffusing into the cold room, thereby stabilizing the temperature and the relative humidity.

Solutions are available to create this barrier effect also in the air intake area.

Users can obtain the following results:

- reduction of up to 40% of the defrost cycle time, with corresponding energy savings;
- reduced deterioration of food, thanks to the fact that the room temperature is more stable and the hygrometric levels are more uniform;
- Improved quality of preserved goods due to the elimination of frost and ice build-up on the products;
- greater job safety in the storage environment thanks to the reduction of ice formation on the ceilings, walls and floors.

“Shut Up®” 系统用于工业冷风机，由固定于排气口风机网罩的特殊织物管道组成。这些“袜状”管道当风机关闭时收缩下垂并折叠在马达上，在出风口形成隔热层，有效防止除霜热量外溢，减小库内温度波动。

“Shut Up®” 系统在除霜时防止水蒸汽扩散到冷藏室中，因此能使温度与相对湿度保持恒定。

使用该系统还能在进气区域中形成良好的隔热效应。

该系统有以下优点：

- 能减少高达40%的除霜循环时间，达到很好的节能效果；
- 库内温度和湿度更稳定，因此能延长食品保鲜时间；
- 消除产品凝霜和结冰，提升储藏物品质量；
- 降低屋顶、壁面、地面的结冰，使储藏环境更安全。

### Streamers - 整流器



If appropriately placed at the output of the fan motors, the streamers optimize and rectify the air flow and therefore direct it in a more efficient way.

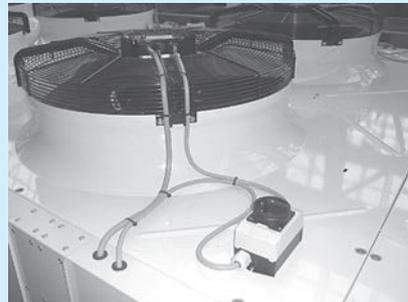
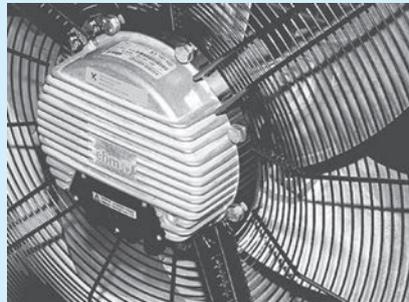
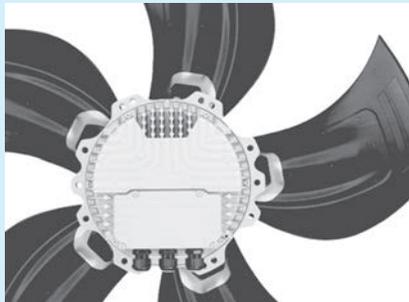
The published air throw value under standard conditions free from obstruction could increase by 40%.

如果正确地安装在风机出风口上，整流器能优化送风，提高效率。

样本上的风量数据基于标准工况，使用整流器时，送风距离可以增加40%。

## Options and special versions 可选产品及特殊产品

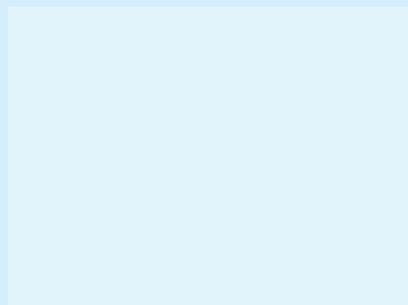
### EC fan motors - EC风机马达



The electronically commutated fan motors offer first-rate efficiency and reduced power consumption, but also a fluid speed range with no added noise.

电子整流风机马达能提供一流的效率并减少电力消耗，而且也不会产生额外的噪音。

### Diffuser "Axitop®" / "ZAPlus®" - "Axitop®" / "ZAPlus®" 散流器



Additional multi-function diffuser for improved performance and noise level.

The particular profile allows significant reductions in noise level and energy consumption (depending on the type of fan motor and the operating conditions).

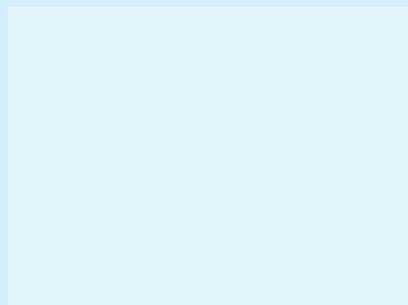
Contact the Technical Department for further clarification and information regarding available fan motor diameters.

加装多功能散流器可改善性能和降低噪音。

特殊的导风设计能显著降低能耗和噪音（取决于风机马达的类型和操作环境）。

关于散流器适用的电机马达规格，请联系技术部门。

### Compressor Housing (KCUB) - 压缩机安装箱 (KCUB)



Compressor housings can be placed in the vicinity of the remote condensers, therefore eliminating the need of a separate compressor room and thanks to reduced connecting pipe work it is possible to also cut down on refrigerant.

压缩机安装箱可放置在靠近远置式冷凝器处，这样就不需要使用单独的压缩机房。由于连接管道相应减少，因此，能节省制冷剂。

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摩丁热能技术（上海）有限公司  
上海市静安区裕通路100号洲际商务中心41楼4101室  
邮编：200070  
电话：86-021-23063787  
传真：86-021-23063777

摩丁热能技术（无锡）有限公司  
江苏省无锡市国家高新区梅村新南中路19号  
邮编：214112  
电话：86-0510-88155511  
传真：86-0510-88153873

摩丁热能技术（中山）有限公司  
广东省中山市黄圃镇鸿发西路78号  
邮编：528429  
电话：86-0760-23210018  
传真：86-0760-23210803

