



I-Chereng

*Born for Innovative Coils*



# **HBM/HM** condenser

**For large Scale System application**

**大型臥式冷凝器系列**

# HBM/HM condenser

**HBM/HM Series--The best choice condenser for large scale refrigeration system!**

**High Efficiency, Palatial Outward and Maintenance Easy!**

**HBM/HM 系列--大型冷凍系統冷凝器的最佳選擇!**

高效率、宏偉外觀與易於維修！

## Exterior

This series is designed for large scale refrigeration system. All models are for outdoor or roof top installation. With outstanding profile design could be taken as part of building.

## 外觀

此系列機種是專為大型冷凍系統所設計。全機種適合安裝於戶外或屋頂。傑出的外觀設計可與建築物融為一體。

## Interior

Horizontal coil with gravity effect design and inner grooved tubes maximize the performance in minimum space. Equipped with high performance inside fan set provides the best air flow. Patented endplate design provides the best protection to copper tubes, avoids tube damage during transportation and operation. All fins in coils are 8006 aluminum alloy.

## 內在

重力式水平熱交換器設計與內螺紋管得以實現小空間最大能力化。內置式高效能風車提供最佳氣流量。專利端板設計降低因震動導致破管機率，避免運輸或運轉震動損傷。

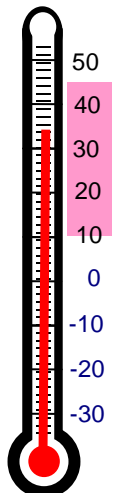
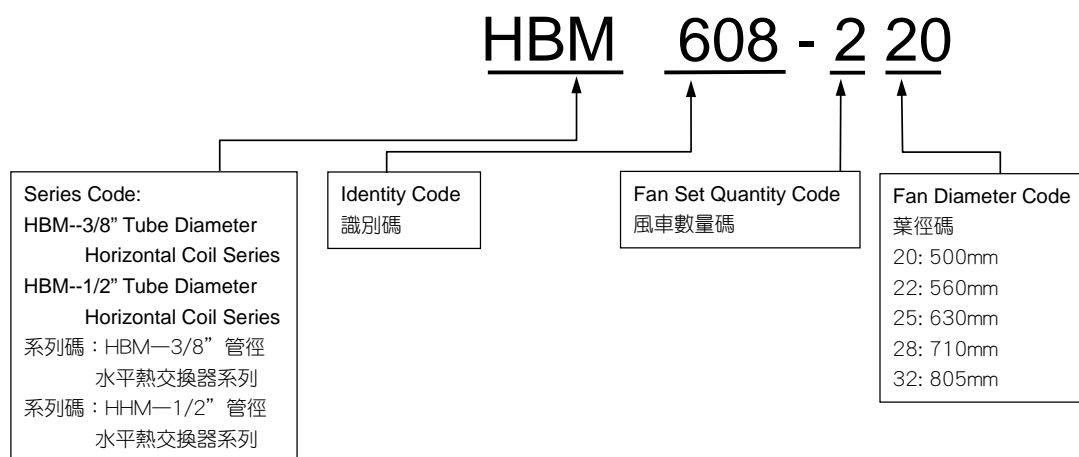
全系列盤管鰭片採用 8006 鋁合金。

## Functional

All units are carefully designed for better cooling efficiency. With optional inverter makes the optimum condensing temperature control and lowers the operating noise during night hours.

## 功能

全系列機種經過詳細設計，發揮最佳的冷凝效果。另有選購變頻器，可進行冷凝溫度控制並降低夜間運轉噪音。



# HBM/HM condenser

50Hz

## HBM Technical Data

Fin Spacing=2.54mm

鰭片間距 =2.54mm

MODEL 型號	Capacity 能力 kW	Heat Transfer Area 傳熱面積 m <sup>2</sup>	Internal Volume 管內容積 L	Fan Set 風車		
	TD=15 °C			Qty. 數量	Dia.葉徑 mm	Airflow 風量 cmh
HBM228-120	13.30	28.4	4.7	1	500	4424
HBM304-120	14.90	37.8	6.2	1	500	4193
HBM456-220	26.60	56.7	9.3	2	500	8849
HBM608-220	29.80	75.7	12.4	2	500	8385
HBM684-320	40.10	85.1	14	3	500	13273
HBM911-320	44.90	113.4	18.3	3	500	12578
HBM913-420	53.20	113.5	18.6	4	500	17697
HBM1217-420	59.50	151.3	24.8	4	500	16770
HBM339-122	20.30	42.1	6.9	1	560	6849
HBM451-122	23.00	56.2	9.2	1	560	6505
HBM677-222	41.30	84	13.3	2	560	13697
HBM903-222	46.10	112.3	18.4	2	560	13009
HBM1016-322	61.00	126.3	20.7	3	560	20546
HBM1353-322	69.20	168.5	27.6	3	560	19514
HBM1355-422	82.10	168.5	27.6	4	560	27395
HBM1806-422	92.30	224.6	36.9	4	560	26019
HBM495-125	29.20	61.6	10.1	1	630	9738
HBM660-125	33.50	82.1	13.5	1	630	9510
HBM990-225	58.80	123	20.2	2	630	19477
HBM1320-225	67.50	163.9	26.3	2	630	19020
HBM1485-325	88.20	184.7	30.3	3	630	29215
HBM1980-325	101.20	246.3	40.4	3	630	28530

# HBM/HM condenser

Fin Spacing=2.54mm

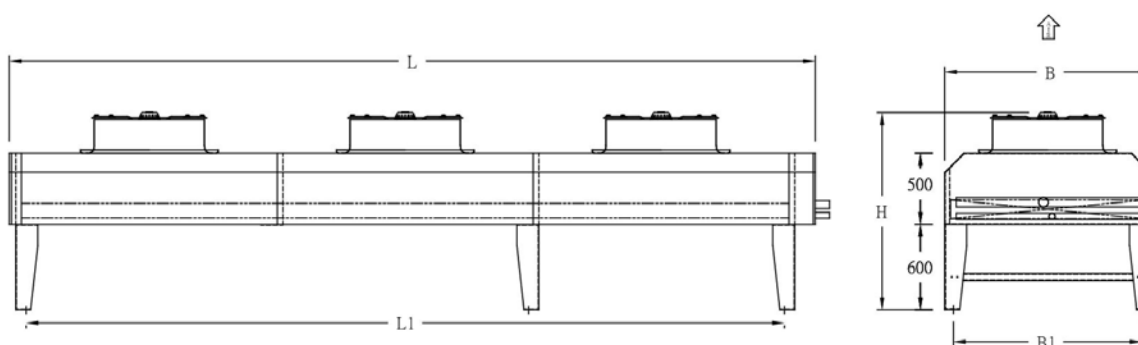
50Hz

## HHM Technical Data 鰭片間距 =2.54mm

MODEL 型號	Capacity 能力 kW	Heat Transfer Area 傳熱面積 m <sup>2</sup>	Internal Volume 管內容積 m <sup>2</sup>	Fan Set 風車		
	TD=15 °C			Qty. 數量	Dia.葉徑 mm	Airflow 風量 cmh
HHM475-125	31.70	95.6	12.4	1	630	9968
HHM429-125	34.90	119.5	15.4	1	630	9734
HHM554-125	37.40	143.4	18.5	1	630	9547
HHM686-225	64.10	191	24.1	2	630	19937
HHM858-225	70.50	238.6	29.7	2	630	19469
HHM1029-225	75.40	286.8	37.1	2	630	19094
HHM1031-325	96.10	286.8	37.1	3	630	29905
HHM1287-325	105.60	358.5	46.3	3	630	29203
HHM1545-325	113.10	430	55.6	3	630	28642
HHM1373-425	128.90	382	49.4	4	630	39874
HHM1716-425	141.80	478	61.8	4	630	38938
HHM2059-425	151.00	573.6	74.1	4	630	38189
HHM475-128	43.70	132.4	17.1	1	710	13608
HHM594-128	47.70	165.17	21.4	1	710	13025
HHM713-128	50.50	198.6	25.7	1	710	12700
HHM950-228	87.50	264.6	34.2	2	710	27216
HHM1188-228	94.70	303.3	41.1	2	710	26050
HHM1426-328	101.30	397.1	51.3	2	710	25402
HHM1426-328	132.50	397.1	51.3	3	710	40824
HHM1782-328	143.60	496.4	64.2	3	710	39074
HHM2139-328	152.00	595.7	77	3	710	38102
HHM634-132	62.20	176.5	22.8	1	805	19786
HHM792-132	67.60	220.6	28.5	1	805	18922
HHM950-132	72.60	264.8	34.2	1	805	18749
HHM1267-232	124.40	353	45.6	2	805	39571
HHM1584-232	135.20	441.3	57	2	805	37843
HHM1901-232	145.30	529.5	68.4	2	805	37498
HHM1901-332	186.90	529.5	68.4	3	805	59357
HHM2376-332	203.50	661.9	85.6	3	805	56765
HHM2851-332	219.00	794.3	102.7	3	805	56246

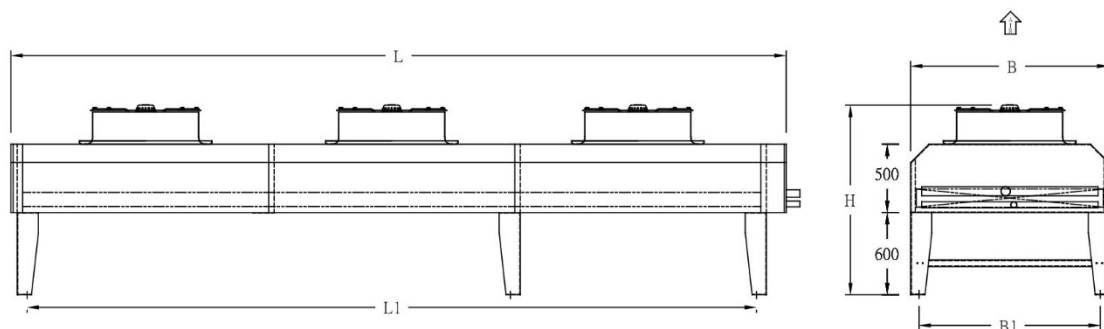
## HBM Dimension

MODEL 型號	Connection 冷媒接管		Dimension 尺寸 mm			Anchor 固定位置 mm	
	In 入	Out 出	L	H	B	L1	B1
HBM228-120	5/8"	5/8"	990	1307	890	655	766
HBM304-120	5/8"	5/8"	990	1307	890	655	766
HBM456-220	3/4"	3/4"	1710	1307	890	1375	766
HBM608-220	3/4"	3/4"	1710	1307	890	1375	766
HBM684-320	7/8"	7/8"	2430	1307	890	2095	766
HBM911-320	7/8"	7/8"	2430	1307	890	2095	766
HBM913-420	1 1/8"	1 1/8"	3150	1307	890	2815	766
HBM1217-420	1 1/8"	1 1/8"	3150	1307	890	2815	766
HBM339-122	3/4"	3/4"	1220	1313	990	885	866
HBM451-122	3/4"	3/4"	1220	1313	990	885	866
HBM677-222	7/8"	7/8"	2170	1313	990	1835	866
HBM903-222	1 1/8"	1 1/8"	2170	1313	990	1835	866
HBM1016-322	1 1/8"	1 1/8"	3120	1313	990	2785	866
HBM1353-322	1 3/8"	1 3/8"	3120	1313	990	2785	866
HBM1355-422	1 3/8"	1 3/8"	4070	1313	990	3735	866
HBM1806-422	1 3/8"	1 3/8"	4070	1313	990	3735	866
HBM495-125	7/8"	7/8"	1520	1265	1095	1185	971
HBM660-125	7/8"	7/8"	1520	1265	1095	1185	971
HBM990-225	1 1/8"	1 1/8"	2770	1265	1095	2435	971
HBM1320-225	1 1/8"	1 1/8"	2770	1265	1095	2435	971
HBM1485-325	1 3/8"	1 3/8"	4020	1265	1095	3685	971
HBM1980-325	1 3/8"	1 3/8"	4020	1265	1095	3685	971



## HHM Dimension

MODEL 型號	Connection 冷媒接管		Dimension 尺寸 mm			Anchor 固定位置 mm	
	In 入	Out 出	L	H	B	L1	B1
HHM475-125	7/8"	7/8"	1570	1265	1075	1235	951
HHM429-125	7/8"	7/8"	1570	1265	1075	1235	951
HHM554-125	7/8"	7/8"	1570	1265	1075	1235	951
HHM686-225	1 1/8"	1 1/8"	2870	1265	1075	2535	951
HHM858-225	1 1/8"	1 1/8"	2870	1265	1075	2535	951
HHM1029-225	1 1/8"	1 1/8"	2870	1265	1075	2535	951
HHM1031-325	1 3/8"	1 3/8"	4170	1265	1075	3835	951
HHM1287-325	1 3/8"	1 3/8"	4170	1265	1075	3835	951
HHM1545-325	1 3/8"	1 3/8"	4170	1265	1075	3835	951
HHM1373-425	1 5/8"	1 5/8"	5470	1265	1075	5135	951
HHM1716-425	1 5/8"	1 5/8"	5470	1265	1075	5135	951
HHM2059-425	1 5/8"	1 5/8"	5470	1265	1075	5135	951
HHM475-128	1 1/8"	1 1/8"	2070	1265	1075	1735	951
HHM594-128	1 1/8"	1 1/8"	2070	1265	1075	1735	951
HHM713-128	1 1/8"	1 1/8"	2070	1265	1075	1735	951
HHM950-228	1 3/8"	1 3/8"	3870	1265	1075	3535	951
HHM1188-228	1 3/8"	1 3/8"	3870	1265	1075	3535	951
HHM1426-328	1 3/8"	1 3/8"	3870	1265	1075	3535	951
HHM1426-328	1 5/8"	1 5/8"	5670	1265	1075	5335	951
HHM1782-328	1 5/8"	1 5/8"	5670	1265	1075	5335	951
HHM2139-328	1 5/8"	1 5/8"	5670	1265	1075	5335	951
HHM634-132	1 3/8"	1 3/8"	2270	1390	1275	1935	1151
HHM792-132	1 3/8"	1 3/8"	2270	1390	1275	1935	1151
HHM950-132	1 3/8"	1 3/8"	2270	1390	1275	1935	1151
HHM1267-232	1 5/8"	1 5/8"	4270	1390	1275	3935	1151
HHM1584-232	1 5/8"	1 5/8"	4270	1390	1275	3935	1151
HHM1901-232	1 5/8"	1 5/8"	4270	1390	1275	3935	1151
HHM1901-332	2 1/8"	2 1/8"	6270	1390	1275	5935	1151
HHM2376-332	2 1/8"	2 1/8"	6270	1390	1275	5935	1151
HHM2851-332	2 1/8"	2 1/8"	6270	1390	1275	5935	1151



## Capacity Selection

### 能力選擇

All the capacity data listed on the catalog is based on R404A and the temperature difference between inlet air temperature of coil and condensing temperature. The condition is listed on Table 1.

For the condition differs from above should be modified by following equation.

$$Q_r = Q_c \times f_1 \times f_2$$

$Q_r$ : Rating capacity of condenser

$Q_c$ : Capacity of condenser listed on catalog

$f_1$ : Correction factor for different temp. difference

$$f_1 = \Delta T / 15$$

$\Delta T$ : temp. difference between inlet air and condensing temp.

$f_2$ : Correction factor for refrigerant on Table 2

If installed above sea level more than 500m, please contact with us.

We also provide the anti corrosion coils (EnergyGuard® technology), if select the EnergyGuard coating, the capacity should time 0.975 correction factor again.

本型錄所有的能力資料是依據使用 R404A 以及表 1 所列的熱交換器進口空氣溫度與冷凝溫度溫度差所計算。

當條件與表 1 所列不同時，請依照下式進行能力修正：

$$Q_r = Q_c \times f_1 \times f_2$$

$Q_r$ : 冷凝器額定能力

$Q_c$ : 冷凝器型錄能力

$f_1$ : 不同溫度差修正係數

$$f_1 = \Delta T / 15$$

$\Delta T$ : 進口空氣溫度與冷凝溫度溫度差

$f_2$ : 表 2 不同冷媒修正係數

如果安裝在海拔高於 500 公尺以上的場所時，請與我們聯繫。

我們也提供防蝕處理的盤管(衛能防蝕技術®)，如果選購衛能防蝕處理，則能力必須要再乘上 0.975。

Table 1 Catalog capacity conditions

表 1 型錄性能條件

Item 項目	Condition 條件
Refrigerant 冷媒	R404A
Temperature Difference 溫度差	15 °C

Table 2 Correction factor  $f$  for different refrigerants

表 2 不同冷媒修正係數  $f_2$  值

Factor 係數	R404A/R507	R134a
$f_2$	1	0.93

## Fan Set Performance

### 風車性能

Our fan set is designed for free outlet not for ducting purpose. If you have requirement for install air duct at the air outlet of condenser, please contact with us for special design.

We also provide optional inverter for condensing temperature control.

我們的風車設計是直接排出熱交換器，所有的表列風車能力是依據出口端無障礙物時所獲得，並不是為安裝風管所設計。如果您要於風車出口安裝風管，請與我們聯絡。

我們亦有選購變頻器，可以進行冷凝溫度控制。

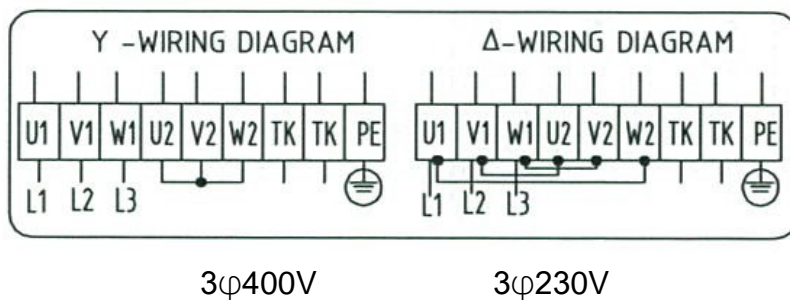
Table 3 Performance table of fan set (for one set)

表 3 風車組性能表(單組)

Hz 頻率	Fan Set Model 風車型號	Fan dia. 葉徑 mm	Input 入力 W	Voltage 電壓 V	Rating Current 額定電流 A
50Hz	6602JK	500	213	3 $\phi$ 230V	1.18
			213	3 $\phi$ 380V	0.71
	6602MB	560	291	3 $\phi$ 230V	1.42
			291	3 $\phi$ 380V	0.86
	6602NF	630	508	3 $\phi$ 230V	2.58
			508	3 $\phi$ 380V	1.56
	6602PK	710	1050	3 $\phi$ 230V	3.63
			1050	3 $\phi$ 380V	2.20
6602RA2	805	1077	3 $\phi$ 230V	5.08	
		1077	3 $\phi$ 380V	3.07	

## Line for Motor in Different Voltage

### 馬達電壓接線圖



TK: Overload Thermal Protector (Inside motor)

PE: Ground

U1, V1, W1: Power Source

TK: 過載溫度保護開關 (位於馬達內部)

PE: 接地線

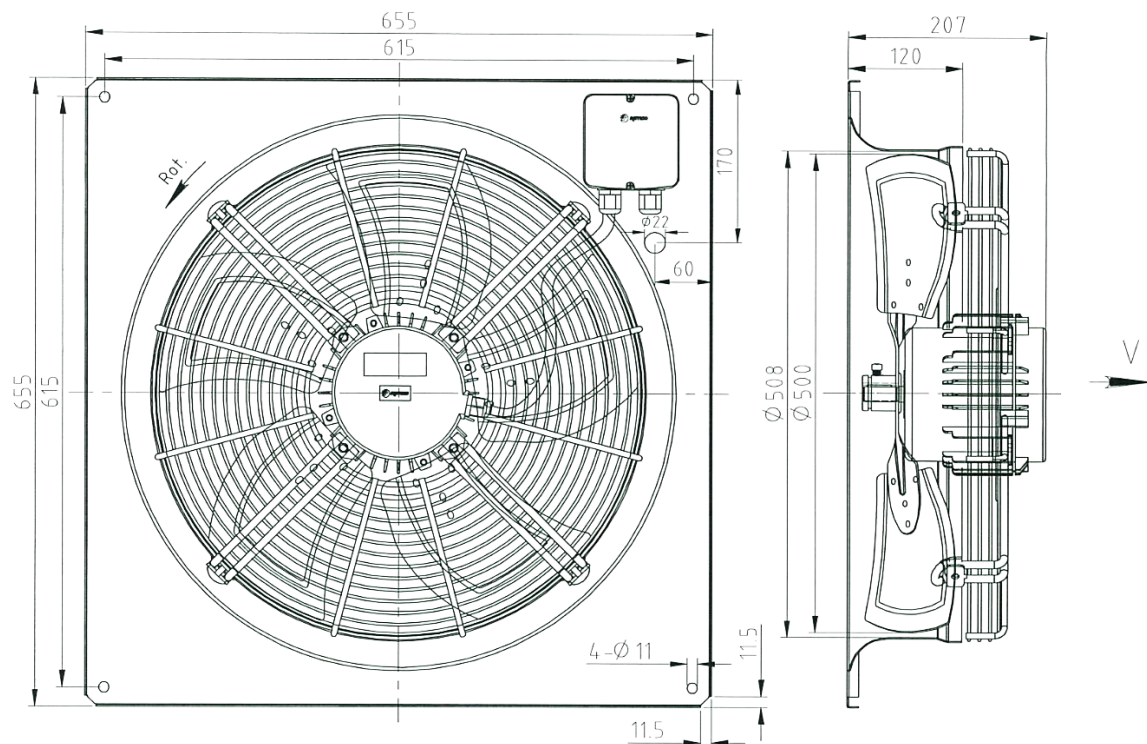
U1, V1, W1: 電源



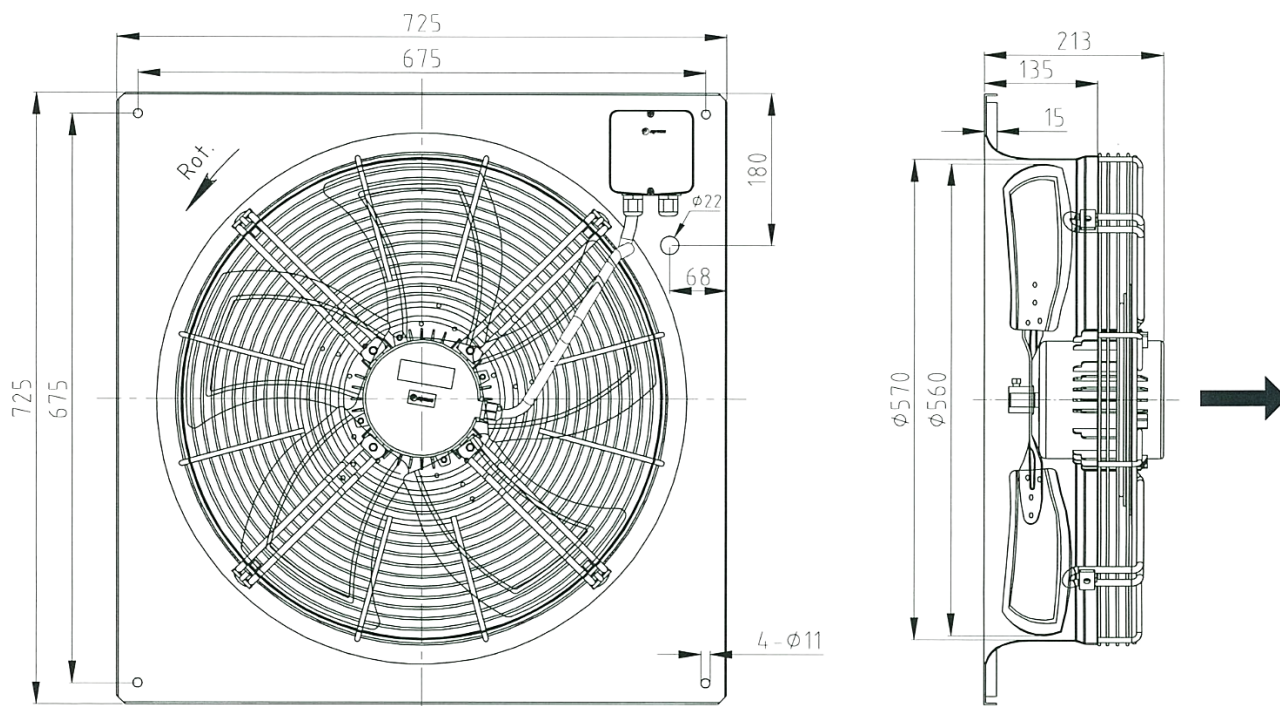
# HBM/HM condenser

## Dimension of Fan set 風車組尺寸

6602JK

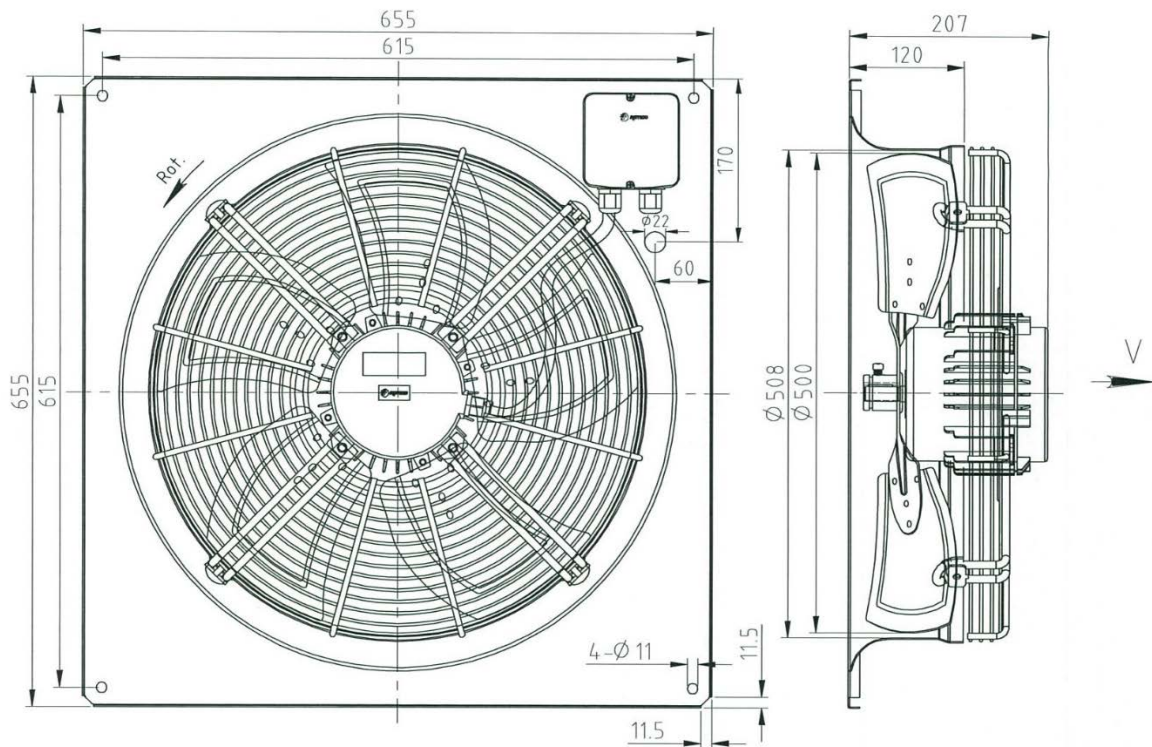


6602MB

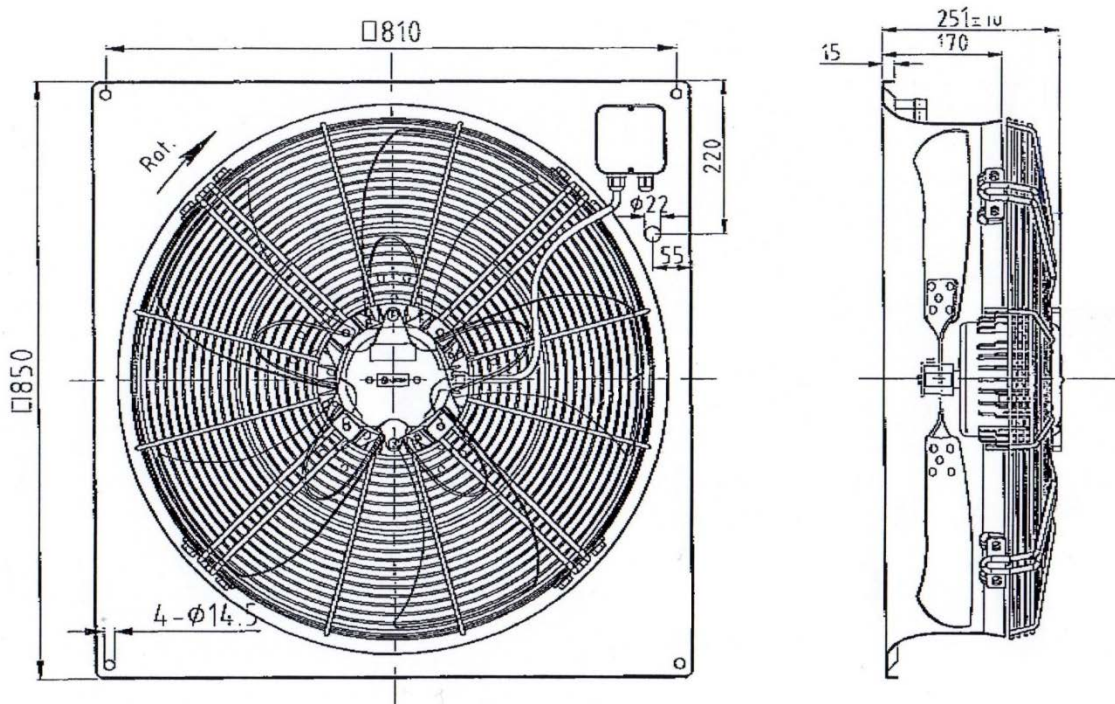


# HBM/HM condenser

6602JK

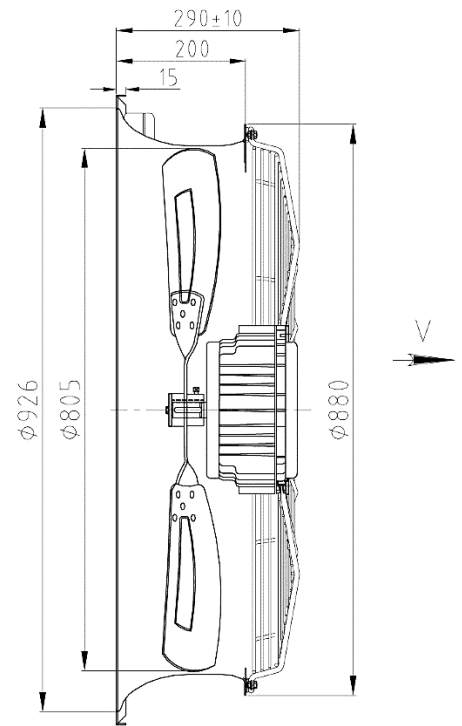
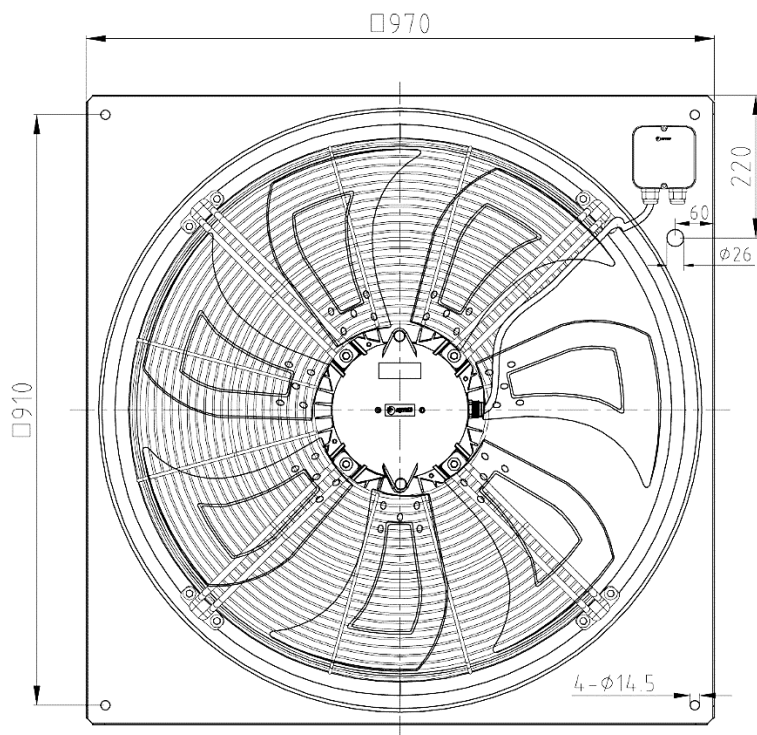


6602PK



# HBM/HM condenser

6602RA2





## Parts Specification of our coil 熱交換器部品規格

Parts 部品	Specification 規格
Fins 鰭片	Aluminum Alloy 8006 鋁合金 8006
Tubes 管	Copper C1220T 3/8"(HBM),1/2"(HMM) 紫銅管 C1220T 3/8"(HBM),1/2"(HMM)
Casing 箱體	Painted Galvanized Steel G3302 SG-CC 烤漆鍍鋅鋼板 G3302 SG-CC Stainless Steel SUS304(Optional) 不銹鋼板 SUS304 (選購)
Fan motor 風車馬達	IP 55
Anti Corrosion(Optional) 鰭片防蝕 (選購)	EnergyGuard® 衛能防蝕技術

Version 2017.0.1 Subject to change without notice! 資料變更恕不另行通知!



**I-Cherng Refrigeration Industrial Co., Ltd.**

一丞冷凍工業股份有限公司

Heat Exchanger Taiwan 熱交換器 台灣製造

No.12 Chu Kuang 1st St., Daliao Dist.,

Kaohsiung City, 83164, Taiwan

台灣高雄市大寮區莒光一街 12 號

Tel:07-7873666 Fax:07-7872999

Website: [www.icherng.com.tw](http://www.icherng.com.tw)

Email: [icherng.com@msa.hinet.net](mailto:icherng.com@msa.hinet.net)



*Heat Exchanger Taiwan*

一丞