



● 新鮮的開拓者 ●

接觸式凍結設備

PIONEER OF FRESHNESS

CONTACT FREEZER

開拓冷凍工業股份有限公司
Pointer Refrigeration Engineering Co., Ltd.



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爲了滿足消費者對食品長期保持鮮度的要求，食品經常以凍結塊狀保存。然而傳統的送風式凍結設備，凍結速度慢，費用昂貴，而且會大大降低食品的鮮度和品質。例如蝦，魷魚常因凍結速度緩慢而失去體表的光澤，降低了鮮味及重量。開拓牌接觸式凍結設備將是您解決食品保鮮之棘手問題的最佳選擇。

INTRODUCTION

In order to satisfy the consumer's needs, food must be kept fresh for as long as possible. Today's normal manner of preservation is to place food in a frozen state.

With traditional ventilating equipment, freezing speed is slow, cost is high and food freshness and quality are poor. Shrimp and cuttlefish for example, lose their bright sheen, fresh taste and weight due to slow freezing speed. POINTER Contact Freezing equipment offers you the best choice to overcome this freezing drawback.



由於一般接觸式凍結對於加「水」的凍結物品，因為上部有氣袋的產生，致使上部凍結不良，凍結時間變長，但是如果加水，凍結處理時，因為沒有水的增粘性，將使凍結物容易分散或包冰不全，對於蝦類更容易產生變色及脫水現象，所以一般塊狀蝦凍結法加水的主要目的是為防止變色失重。

然而加水有上述凍結速度慢及因為水凍結時致使本身體積膨脹，將產生內壓往中央擠壓而正中央突起，產品外觀不良等等的缺點。

開拓接觸式凍結機針對於凍結蝦加水凍結法，另開發一種專利的導冷片，對於草蝦的凍結更加快速，產品更加平整美觀，而且脫盤更為容易，其構造原理如下：

Adding water onto the freezing tray improves freezing and prevents the product from discoloration and dehydration. However, this process leads to expansion of the ice surrounding the product which is unsightly. Adding of water also brings air bubbles towards the top of the product, a hindrance to further improving the freezing effect.

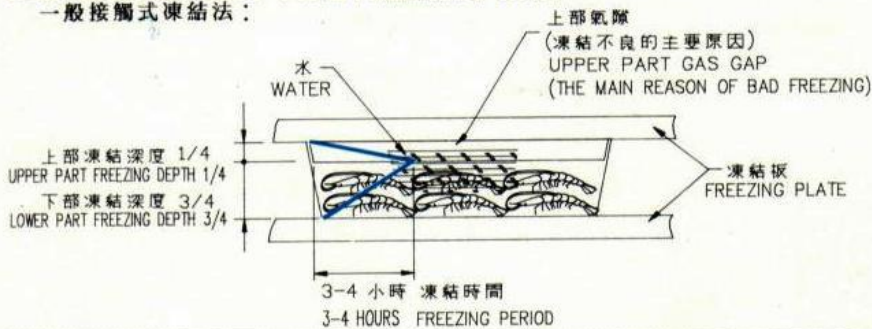
Pointer has designed a patented chilling conductor called SUPERFIN to overcome all freezing obstacles.

Its theory is as follows:

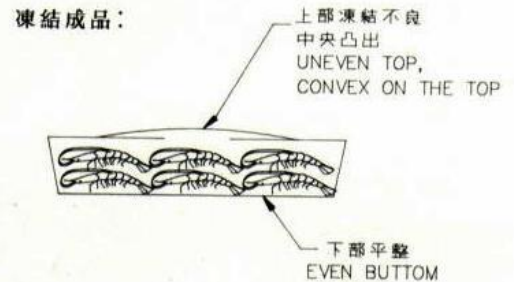
● 一般接觸式凍結法：

GENERAL CONTACT TYPE FREEZING WAY:

一般接觸式凍結法：



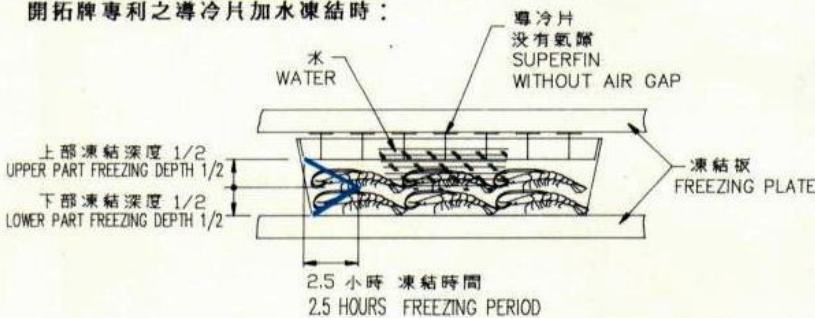
凍結成品： FROZEN PRODUCT:



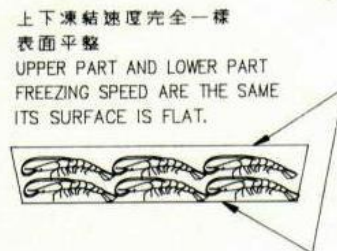
● 開拓牌專利之導冷片加水凍結時：

POINTER PATENTED SUPERFIN WITH WATER:

開拓牌專利之導冷片加水凍結時：



凍結成品： FROZEN PRODUCT:



導冷片之特點

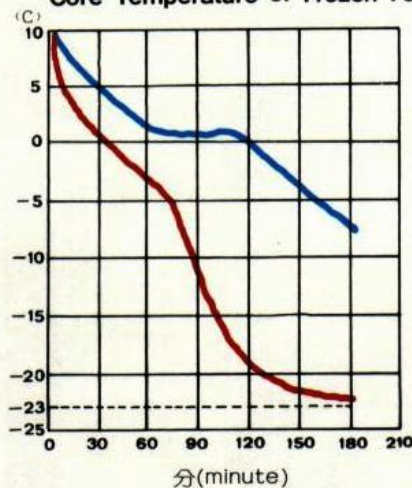
1. 開拓牌接觸式凍結設備，加上專利的急速導冷片（新型第 24141 號）對於塊狀蝦類凍結時間比一般接觸式凍結設備節省三分之一以上。（如圖示）
2. 加裝導冷片後，塊狀凍結物其上下凍結速度完全一致，故無上部氣袋的產生，使產品更加平整美觀。
3. 導冷片之材質為高傳熱鋁合金，傳冷速度相當快，所以脫盤作業時，一接觸到水即將凍結物表面的冰溶解掉，使作業更加快速、便利。
4. 因為凍結速度快，且上下平均，故更能保持產品的新鮮度。
5. 安裝導冷片的作業，非常簡單。

Features of the Conducting Cooling Plate:

1. Pointer Contact Freezer, with patented SUPERFIN saves 1/3 the standard freezing time of an ordinary contact freezer. (see drawing)
2. Freezing speed for all frozen blocks is uniform.
3. The Conducting Cooling Plate is made of Aluminum Alloy, which increases conduction. Cooling transmission is quick. Cleaning is likewise speedy as contact with water melts surface ice quickly and conveniently.
4. Uniform and speedy freezing assure product freshness.
5. Cooling Plate installation is simple.

凍結物中心溫度與凍結時間關係圖

Core Temperature of Frozen Foods vs. Freezing Time:



- 1 — 普通接觸式凍結設備
Ordinary Contact Freezer.
- 2 — 加裝急速導冷片之開拓接觸式凍結設備
Pointer Contact Freezer with SUPERFIN

開拓牌接觸式凍結機之特點：

1. 凍結速度快

使用本公司專利之高效率導冷片，提高凍結速度，可迅速凍結產品，保持產品的新鮮度。

2. 凍結物品質佳

加裝導冷片後，使產品之上下凍結速度一致，因此，外形美觀、整齊。且產品於解凍時，能防止其褪色和不破壞其內部組織。

3. 堅固和耐用

整台凍結機經過精確的設計，嚴格的品質，採用高級的材質，具有壽命長，故障少及低保養成本等特性。

4. 安全性

電氣控制系統採用低電壓AC 24V，在潮濕的工作環境下，可提高操作的安全性。

5. 按裝容易，操作空間小

整體式設計，不佔空間，按裝容易。前後採用對折門設計，凍結品裝卸迅速。



Features of Pointer Contact Freezers

1. Super Fast Freezing

Pointer's patented high efficiency conduction cooling plates speed up the freezing process up to 1/3 the freezing time of ordinary brands. This guarantees your product to be frozen fresh and remain that way.

2. Superior Frozen Products

Pointer's additional conduction cooling plates assure uniform freezing speed for all frozen blocks so that the product retains its fresh appearance. Defrosting will not change the product's color nor alter its basic internal composition.

3. Strength and Durability

Years of design, research, quality control and consistent use of quality materials have gone into producing Pointer freezers. These assure the user of a freezer with longer life, and trouble-free use—a sure formula for better production and more profits.

4. Safety

Pointer's electric control system uses low voltage (AC-24V) and allows safe use in a moist and humid environment.

5. Simple Installation

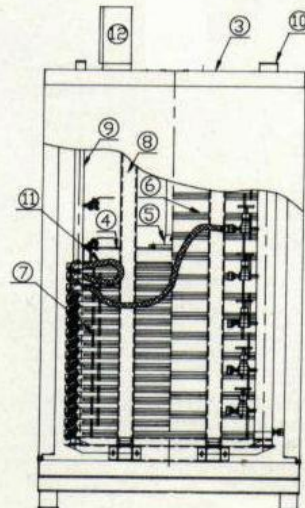
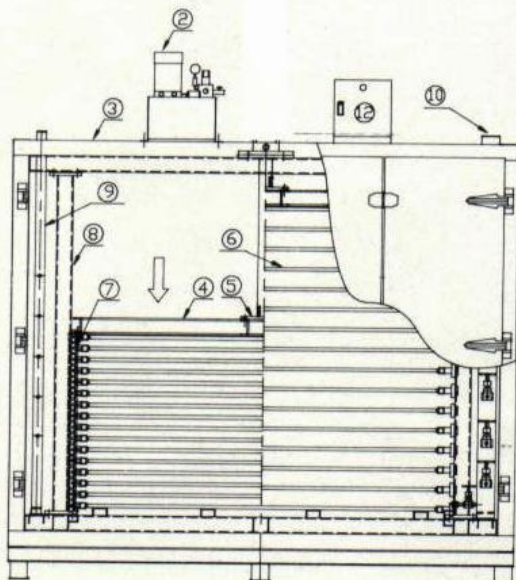
Compact package design occupies little space. Knock-down installation makes use of folding door designs. Fast to assemble and take apart even in a confined space.

適用

蝦、魷魚、魚、肉類及可加壓的蔬菜果實，利用凍結盤之凍結食品，塑膠袋裝、紙箱裝的輸出塊狀凍結食品，和陸上、船用急速冷凍設備。

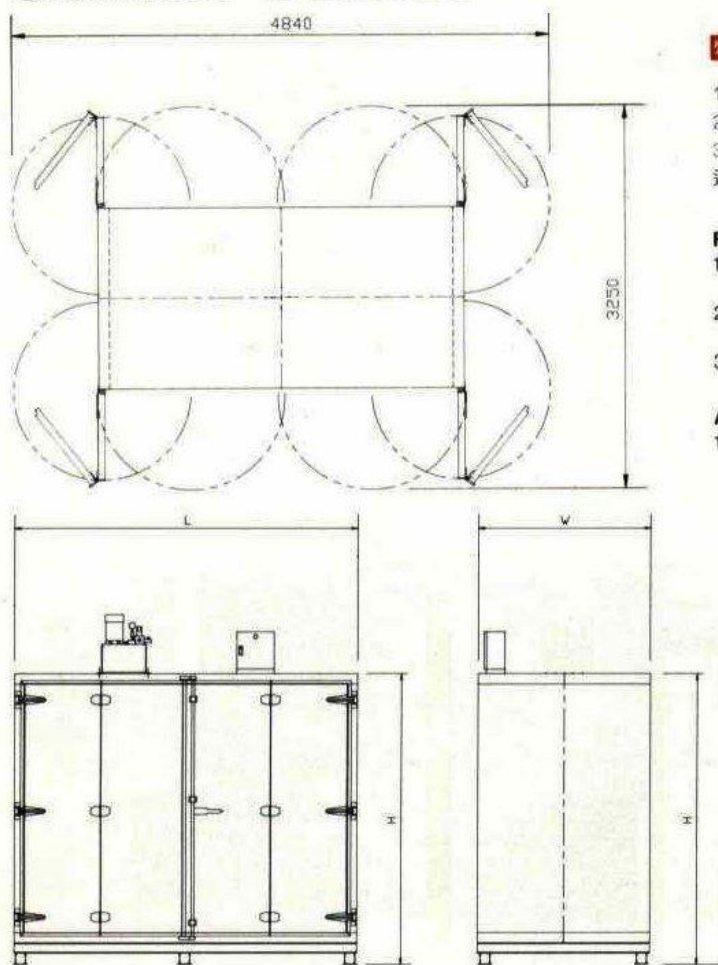
Applications:

1. Shrimp, fish, squid, meat and compressible vegetables.
2. Food frozen in a pan, is packaged into plastic bags or cartons.
3. Pointer Contact Freezers are suitable for any land or marine installation.



- | | |
|--------|-----------------------|
| ① 油壓缸 | ① HYDRAULIC CYLINDER |
| ② 油壓機組 | ② HYDRAULIC UNIT |
| ③ 庫體 | ③ CABINET BODY |
| ④ 壓板 | ④ PRESSING PLATE |
| ⑤ 壓盤 | ⑤ PRESSING TRAY |
| ⑥ 凍結板 | ⑥ FREEZING PLATE |
| ⑦ 調整螺絲 | ⑦ ADJUSTING SCREW |
| ⑧ 導桿 | ⑧ GUIDE ROD |
| ⑨ 冷媒入口 | ⑨ REFRIGERANT INLET |
| ⑩ 冷媒出口 | ⑩ REFRIGERANT OUTLET |
| ⑪ 高壓軟管 | ⑪ STAINLESS H.P. HOSE |
| ⑫ 配電箱 | ⑫ CONTROL PANEL |

接觸式平板機 CONTACT FREEZER



特點

1. 前後採用對折式門，不佔空間，作業方便。
 2. 已備有冷凍系統者，可單獨採購，增加設備容易。
 3. 與冷凝機組分離，運轉音量小，無震動。
- 適用：原已備有冷凍系統者。

Features:

1. This contact freezer has doors on both sides of the unit, saves space, convenient to operate.
2. If you already have a refrigeration system, you need only to purchase this processing unit.
3. Since this processing unit is separate from the condensing unit. It operates with low noise, no vibrations.

Applications:

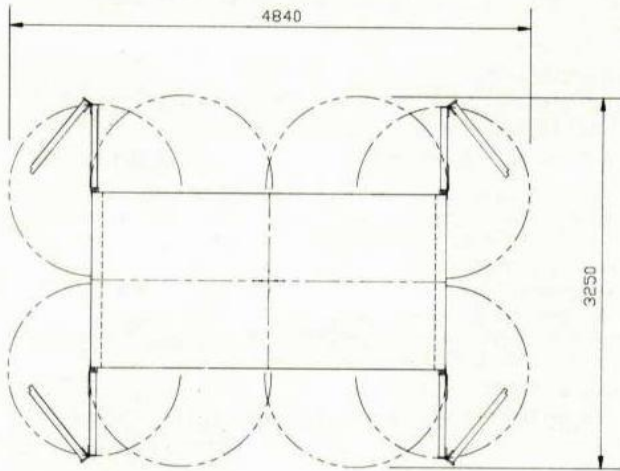
1. For plants with pre-existing refrigeration system.



接觸式平板機 Contact Plate Freezer

型 式	MODEL	CF-800	CF-1000	CF-1500
一回標準凍結能力	FREEZING CAPACITY PER RUN	320 TRAY/RUN	400 TRAY/RUN	600 TRAY/RUN
凍結塊毛重	BLOCK WT. GROSS	800 KG/RUN	1,000 KG/RUN	1,500 KG/RUN
高 度	HEIGHT	1500	1750	2370
長 度	LENGTH	3300mm		
寬 度	WIDTH	1780mm		
重 量	WEIGHT	1,255 KGS	1,660 KGS	2,150 KGS
所需冷凍能力	REFRIGERATING CAPACITY	29,000 KCAL/HR	39,900 KCAL/HR	59,800 KCAL/HR
冷 媒	REFRIGERANT	R22 R507 R717		
蒸發溫度	EVAPORATING TEMP	-40 °C		
凍結段數	NO. OF FREEZING STATIONS	8	10	15
凍結方式	TYPE OF FREEZING	HORIZONTAL		
凍結板數量	NO. OF FREEZING PLATE	9	11	16
凍結板尺寸	DIMENSION OF FREEZING PLATE	2414(L) × 1330(W) × 22(T) mm		
凍結板間距	SPACE BETWEEN FREEZING PLATES	MAX. 105 mm, MIN. 50mm		
凍結板的移動方式	MOVING SYSTEM OF FREEZING PLATE	HYDRAULIC TYPE, 2 HP		
高壓軟管材質	MATERIALS OF HOSE	STAINLESS sus304		
庫體表面材質	SURFACE MATERIAL OF CABINET	PVC-COATED STEEL SHEET		
庫體絕熱材質	INSULATING MATERIAL OF CABINET	RIGID FOAMED PU		
絕熱厚度	INSULATION THICKNESS	111 mm		

整體式接觸式平板機 PACKAGED CONTACT PLATE FREEZER



特點

1. 前後採用對折式門，不佔空間，作業方便。
2. 整體式構造，移動方便。
3. 只需接上冷却水及電源即可使用。

適用：

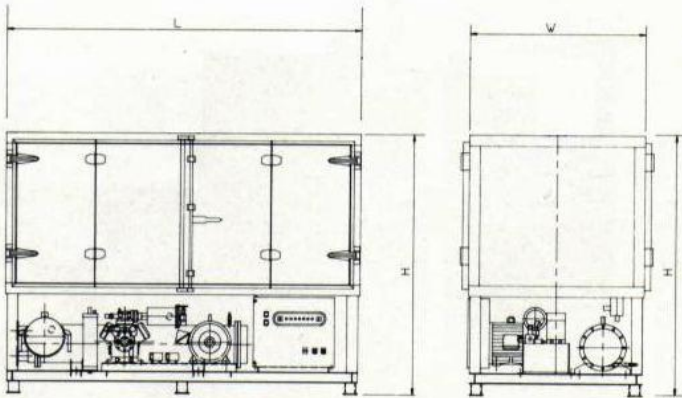
1. 室內空間充足，通風良好及水源充足之地方。

Features:

1. This contact freezer has doors on both sides of the unit.
2. Package construction, provides convenience in moving the unit.
3. Simply connect the unit to electric power source & to cooling water source. You're ready to operate.

Applications:

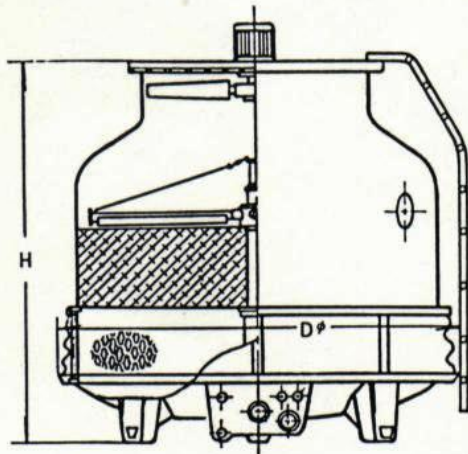
1. For installation in areas that have adequate floor space, good ventilation & ample water supply.



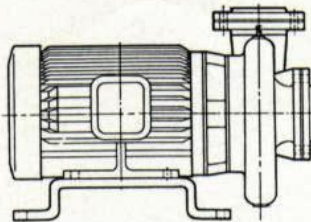
整體式接觸式平板機及冷凝機組 Packaged Contact Plate Freezer With Condensing Unit-Water Cooling Type

型 式	MODEL	PCF-600	PCF-800	PCF-1000
一回標準凍結能力	FREEZING CAPACITY PER RUN	240 TRAY/RUN	320 TRAY/RUN	400 TRAY/RUN
凍結塊毛重	BLOCK WT. GROSS	600 KG/RUN	800 KG/RUN	1,000 KG/RUN
蝦淨重(去頭)	SHRIMP WT. NET (HEADLESS)	432 KG/RUN	576 KG/RUN	720 KG/RUN
蝦淨重(帶頭)	SHRIMP WT. NET (HEAD-ON)	312 KG/RUN	416 KG/RUN	520 KG/RUN
長 度	LENGTH	3,300 mm		
寬 度	WIDTH	1,630 mm		
高 度	HEIGHT	2,176 mm	2,430 mm	2,754 mm
總重量	GROSS WEIGHT	2,800 KGS	3,340 KGS	3,850 KGS
凍結段數	NO. OF FREEZING STATIONS	6	8	10
凍結方式	TYPE OF FREEZING	HORIZONTAL		
凍結板數量	NO. OF FREEZING PLATE	7	9	11
凍結板尺寸	TIMENSION OF FREEZING PLATE	2414 (L) × 1330 (W) × 22 (T) mm		
凍結板間距	SPACE BETWEEN FREEZING PLATES	MAX. 105 mm, MIN. 50 mm		
凍結板的移動方式	MOVING SYSTEM OF FREEZING PLATE	HYDRAULIC TYPE, 2 HP		
庫體表面材質	SURFACE MATERIAL OF CABINET	PVC-COATED STEEL SHEET		
庫體絕熱材質	INSULATING MATERIAL OF CABINET	RIGID FOAMED PU		
絕熱厚度	INSULATION THICKNESS	100 mm		
壓縮機	COMPRESSOR	OPEN TYPE		
馬 達	MOTOR	30 HP	40 HP	50 HP
		220V/3φ /60Hz OR 380V/3φ /50Hz		
冷媒	REFRIGERANT	R-502 DIRECT EXPANSION		
製冷能力	REFRIGERATING CAPACITY	22,000 KCAL/HR	29,000 KCAL/HR	39,900 KCAL/HR
冷凝溫度	CONDENSING TEMPERATURE	+35°C		
蒸發溫度	EVAPORATING TEMPERATURE	-30°C		
冷凝器	CONDENSER	WATER COOLING, HORIZONTAL TYPE		
安全裝置	SAFETY DEVICE	HIGH/LOW PRESSURE SWITCH, OIL PRESSURE SWITH AND OVERLOAD RELAY		

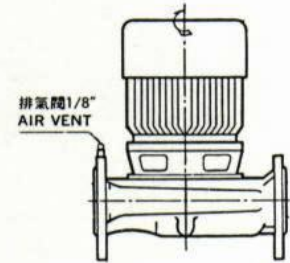
水冷却系統 WATER COOLING SYSTEM



WATER COOLING TOWER



COOLING WATER PUMP
HORIZONTAL TYPE



COOLING WATER PUMP
VERTICAL TYPE

水冷却系統 Water Cooling System

型 式	MODEL	WS-20	WS-30	WS-50
冷却水塔	COOLING TOWER	20 RT	30 RT	50RT
高 度	HEIGHT	1,600 mm	1,735 mm	1,890 mm
直 徑	DIAMETER	1,380 mm	1,580 mm	2,000 mm
運轉時重量	OPERATING WEIGHT	358 KGS	552 KGS	637 KGS
風扇馬達	FAN MOTOR	1/2 HP	1 HP	1½ HP
		220V/3φ /60Hz OR 380V/3φ /50Hz		
水 管	PIPE	50 A	65 A	80 A
水泵揚程	PUMP HEAD	14.4 M	16.7 M	24.1 M
水 量	CAPACITY	220 L/MIN	360 L/MIN	560 L/MIN
水泵馬達	MOTOR RATING	2 HP	3 HP	5 HP
		220V/3φ /60Hz OR 380V3/φ /50Hz		

大盤●小盤和導冷片 PAN, TRAY AND SUPERFIN



專利第24141號 Patent NO. 24141

導冷片	SUPERFIN	260(L)×168(W)×22mm(T)
小盤	TRAY	290(L)×190(W)×70mm(H)
大盤	PAN	580(L)×380(W)×30mm(H)

- *小盤(Tray)標準容量為2.5kg(1.8kg蝦+0.7kg水)。
 - * Standard volume of tray is 2.5 kg (1.8 kg shrimp + 0.7 kg water).
 - * 四個小盤可放入一個大盤中。
 - * Four trays can be put in one pan.
- 註一：大盤和小盤並非標準附件，需另行洽購。
Note 1: Tray and pan are optional.

