

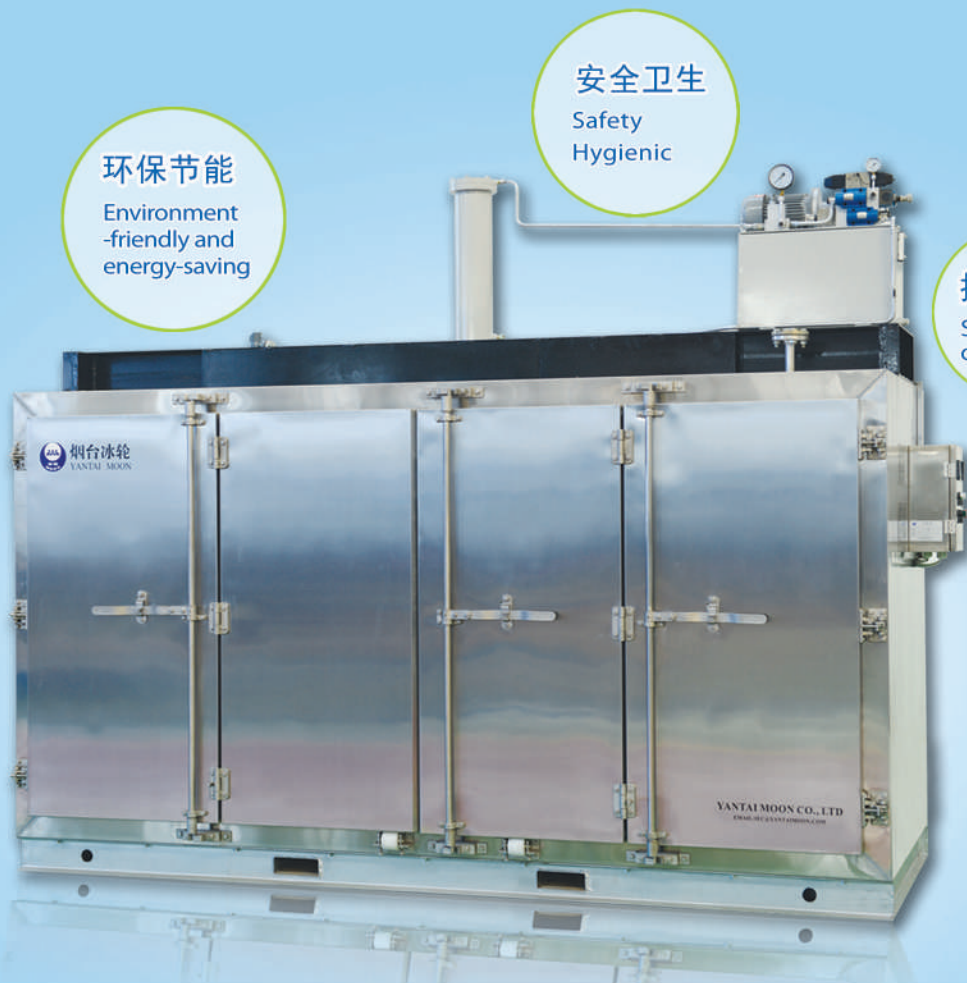
# 平板速冻机

Contact Freezer

环保节能  
Environment  
-friendly and  
energy-saving

安全卫生  
Safety  
Hygienic

操作简单  
Simple  
operation





烟台冰轮集团创建于1956年，是以工商业制冷成套设备、中央空调、精密铸件、密封材料、电站设备、换热设备等为主导产业的跨行业，国际化经营的大型集团企业。

烟台冰轮股份有限公司（股票代码000811）是冰轮集团的核心企业，以制冷空调设备、气体压缩设备的研发、制造，制冷空调应用系统集成、制冷空调节能服务、工程成套服务为主业，是中国民族制冷空调行业的领军企业。

烟台冰轮拥有国家认定的企业技术中心，建有国内最先进的制冷性能实验室，掌握了以螺杆压缩机技术为代表的具有国际先进水平的核心技术，拥有发明专利28项，实用新型专利35项。是中国唯一拥有半封闭螺杆压缩机制造资质的企业，也是世界上唯一能够同时生产开启式、半封闭式和全封闭式螺杆压缩机的企业。烟台冰轮的活塞式压缩机1988年获得中国制冷产品最高质量奖—国家质量银质奖章，开启式螺杆压缩机的“理论技术及产品研发”2006年荣获中国制冷行业最高科技奖—国家科技进步二等奖。

烟台冰轮生产的8个系列，500多种制冷空调产品覆盖了食品冷冻冷藏、化工工艺制冷（冷却）、人工智能环境等领域。凭借先进的技术、可靠的品质和良好的服务为中国和全球超过65个国家的用户提供了“节能、环保、安全”的使用体验，帮助客户实现业务的成长。烟台冰轮全资子公司——具有综合甲级资质的鲁商冰轮建筑设计有限公司，可为用户提供专业的工程项目整体规划及系统综合设计服务。

烟台冰轮在中国各地拥有35个营销服务机构，在全球21个国家设有22个海外营销服务机构，在越南设有海外工厂，构建了比较完善的营销服务网络，可快速响应用户从技术咨询、项目规划、系统设计、设备采购、工程施工，到技术培训、维护保养、系统改造升级等全过程的服务需求，承诺为用户提供产品全生命周期的服务保障。





Yantai Moon Group was founded in 1956, which is a cross-industry and international operations of large enterprise groups with industrial and commercial refrigeration equipment, central air-conditioning systems, precision castings, sealing materials, power plant equipment, heat transfer equipment as its leading industries.

Yantai Moon Co., Ltd. (stock code of 000811) is the core business unit of Moon Group, with research and development and manufacturing of refrigeration conditioning equipment and gas compression equipment, integration of refrigeration air-conditioning application systems, refrigeration air-conditioning energy-saving services, engineering service packages as its main business, and it is an industry leader of China refrigeration conditioning industry.

Yantai Moon Group has a state-certified enterprise technology center, and build the most advanced refrigeration performance lab in China. The company mastered the international advanced core technology with the screw compressor technology as its representative, and hold 28 invention patents and 35 utility model patents. It is the only enterprise with manufacturing qualification of semi-hermetic screw compressor in China, and also is the world's only enterprise who can produce open-type, semi-hermetic type and hermetic type screw compressors. The reciprocating compressor manufactured by Yantai Moon Group achieved the highest quality award in China refrigeration products - National Quality Silver Medal in 1988 and the "theory and product research and development" of open-type screw compressor achieved the highest technology award in China Refrigeration

industry - Second-class National Science and Technology Progress Prize in 2006.

8 series, over 500 kinds of refrigeration & air-conditioning products from Yantai Moon Group have covered the food refrigeration, chemical process refrigeration (cooling), artificial intelligence environment and other fields. With advanced technology, reliable quality and good service, it has provided the user experiences of "energy-saving, environmental protection, safety" for customers in China and more than 65 countries around the world, and assisted customers to achieve the business growth. The wholly-owned subsidiary of Yantai Moon Group - Lushang Binglun Architectural Design Co., Ltd. with Class A integration qualification can provide customers with the professional overall project planning and system design services.

Yantai Moon Group owns 35 marketing services agencies in China and 22 overseas marketing services agencies in 21 countries, and has set up an overseas factory in Vietnam. It has built a comprehensive marketing and service network, which can make quick response to customers for the technical advisory, project planning, system design, equipment procurement, project construction, technical training, maintenance and repair, system upgrading and other services. The company is committed to provide customers with service support within the whole product life cycle.



## 冻结原理

### Freezing principle

平板速冻机的冻结为接触式快速冻结。接触式快速冻结是利用金属的导热率比空气表面传热系数大数十倍的特性，将食品水平或竖直放置在平板蒸发器（金属冷冻板）的一侧，通过金属板将冷量快速地传导给食品，故而实现食品的快速冻结。

- ◎ 传热效率高、冻结速度快、冻结时间短、冻品品质高，干耗低。
- ◎ 由于设备内不需要配置风机，能耗低。
- ◎ 设备体积小、占地面积小。
- ◎ 设备整体出厂，为客户节约建设成本。

The freezing mode of contact freezers is quick contact freezing. The principle of quick contact freezing: depending upon the characteristic that the heat conductivity of metal is dozens of times larger than the heat transfer coefficient of air surface, food is horizontally or vertically placed at one side of plate evaporator (the metallic freezing plate) and cold quantity is quickly transferred to food via the metallic plate, thus realizing quick freezing of food.

- ◎ High heat transfer efficiency, high freezing speed, short freezing time, high freezing quality, and low weight loss
- ◎ Low energy consumption because of no need for fans in the equipment
- ◎ Small equipment volume and small floor area
- ◎ Equipment delivery as a whole so as to save the customer' s construction cost

## 产品特点

### Product features

#### 高效

- ◎ 冷冻板为专业设计的平板蒸发器，保证了制冷剂均匀、通畅的流动，使得平板表面温度均匀一致，传热效率高。
- ◎ 冷冻板为铝合金平板，利用美国 MILLER 公司的焊接技术和设备制作而成，确保焊接质量，整板平整、变形小。整体阳极氧化处理，表面形成一层均匀致密的氧化膜，耐腐蚀、导热均匀、冻结效果好。
- ◎ 供液、回气流程通道采用单板供液、回气，流程短，流动阻力小。
- ◎ 供液、回气汇总管路为不锈钢材料，保证食品安全、卫生的要求。

#### High efficiency

- ◎ The freezing plate is a professionally designed plate evaporator, ensuring uniform and smooth flowing of refrigerant, making the surface temperature of the plate uniform and consistent and realizing high heat transfer efficiency.
- ◎ The freezing plate is an aluminum alloy plate, which is manufactured using the welding technology and equipment of American MILLER Company to ensure welding quality, plate leveling and small deformation. The integral plate is treated for anodic oxidation and a layer of uniform and compact oxide film is formed on the plate surface, so that the plate is resistant to corrosion, transfers heat uniformly and has good freezing effect.
- ◎ The liquid feed and air return flow uses a single plate for liquid feed and air return, thereby realizing short flow and small flow resistance.
- ◎ The liquid feed and air return manifold uses stainless steel materials to ensure the requirements of food safety and sanitation are satisfied.



## 可靠

- ◎ 框架及叉臂均采用热浸锌或不锈钢型材制作,耐腐蚀能力强。
- ◎ 与冷冻板连接的供液、回气管均采用不锈钢金属波纹管,在低温环境下起伏自如,可长时间频繁使用,可靠性高。
- ◎ 专业设计的液压系统具有多种保护装置,能够确保设备长时间稳定运行。油泵为高精度叶片泵,其结构紧凑,运行平稳,噪声低,压力流量脉动小,使用寿命长。油缸为不锈钢油缸,进口油封,保证液压系统运行的可靠性。

## Reliable

- ◎ Both the framework and the yoke are made of hot-dip galvanized materials or stainless steel sections and thus have strong corrosion resistance.
- ◎ The liquid feed and air return pipes connected with the freezing plate all use stainless steel corrugated pipes, which fluctuate freely in low temperature environment, can be used frequently for long and have high reliability.
- ◎ The professionally designed hydraulic system has multiple protective devices and thus can ensure long-term stable operation of the equipment. The oil pump is a high precision vane pump, which is characterized by compact structure, stable operation, low noise, small pressure flow pulsation and long service life. The cylinder is a stainless steel cylinder and oil seal is imported to ensure reliable operation of the hydraulic system.



## 兼容

- ◎ 冷冻板标准设计使用的制冷剂为 R717 和 R22,可根据客户实际要求使用 R404A、R744 或其他载冷剂。
- ◎ 冷冻板宽度设计更多的考虑操作人员方便的装货、卸货。

## Compatible

- ◎ The refrigerants used in the standard design of the freezing plate include R717 and R22; R404A and R744 or other coolants can be used according to the customer's actual requirements.
- ◎ The width design of the freezing plate considers convenient loading and unloading by operating personnel all the more.

## MPF系列平板速冻机

### MPF series contact freezers



MPF 系列平板速冻机为间断式进出货的双面接触式冻结，食品放置于多层冷冻板之间，冷冻板在液压装置带动下运动，拉开时进行进出货操作，压紧时进行食品冻结。

The freezing mode of MPF series contact freezer is double-sided contact freezing with intermittent loading and unloading; food is placed between multiple layers of freezing plates; driven by the hydraulic device, freezing plates move; when freezing plates are pulled apart, food is loaded and unloaded; when freezing plates are held down, food is frozen.

## 产品特点

### Product features

- ◎ 设备内不需要配置风机, 能耗低。
- ◎ 设备自带保温库体, 整体出厂, 现场施工成本为零。
- ◎ Low energy consumption because of no need for fans in the equipment
- ◎ The equipment is self-provided with an insulating casing and delivered as a whole, so the site construction cost is zero

## MPF系列平板速冻机性能参数表

### Table of performance parameters of MPF series contact freezers

型号 Model	MPF960		MPF1200	
外形尺寸 Outline dimension L*W*H(mm)	3350*1680*2700	3150*1680*2700	3350*1680*3050	3150*1680*3050
冷冻板尺寸 Freezing plate size (mm)	1660*1261			
冷冻板有效层数 Effective layers of freezing plates	8		10	
有效层间距 Effective spacing of layers (mm)	55~105			
进 / 出货心部温度 Inlet & outlet cargo core temperatures (°C)	+20/-18			
制冷剂 Refrigerant	R717	R22	R717	R22
制冷剂工况 Refrigerant working conditions (°C)	±35			
供液接口 Liquid feed interface (mm)	φ 38	11/8in	φ 45	11/8in
回气接口 Air return interface (mm)	φ 76	φ 76	φ 89	φ 76
耗冷量 Cooling consumption (kW)	26		33	
公称冻结能力(kg/次) Nominal freezing capacity (kg/shift)	960		1200	
装机功率 Installed power (kW)	1.5			
重量 Weight (t)	3.1	3.0	3.4	3.2



## MPF系列平板速冻机性能参数表

Table of performance parameters of MPF series contact freezers

型号 Model	MPF1500		MPF1800	
外形尺寸 Outline dimension L*W*H(mm)	3750*1680*3050	3550*1680*3050	3750*1680*3300	3550*1680*3300
冷冻板尺寸 Freezing plate size (mm)	2060*1261			
冷冻板有效层数 Effective layers of freezing plates	10		12	
有效层间距 Effective spacing of layers (mm)	55~105			
进 / 出货心部温度 Inlet & outlet cargo core temperatures (°C)	+20/-18			
制冷剂 Refrigerant	R717	R22	R717	R22
制冷剂工况 Refrigerant working conditions (°C)	±35			
供液接口 Liquid feed interface (mm)	φ 45	13/8in	φ 45	15/8in
回气接口 Air return interface (mm)	φ 89	φ 76	φ 89	φ 89
耗冷量 Cooling consumption (kW)	41		49	
公称冻结能力(kg/次) Nominal freezing capacity (kg/shift)	1500		1800	
装机功率 Installed power (kW)	1.5			
重量 Weight (t)	3.7	3.6	4.0	3.8

注：冻结能力按带鱼盘计，规格600\*400\*80mm，15kg/盘。

Note: The freezing capacity as per the specification of the hairtail tray, i.e. 600\*400\*80mm, 15kg/tray.



## MPF系列平板速冻机规格(订货代号)表

Table of specifications (order code) of MPF series contact freezers

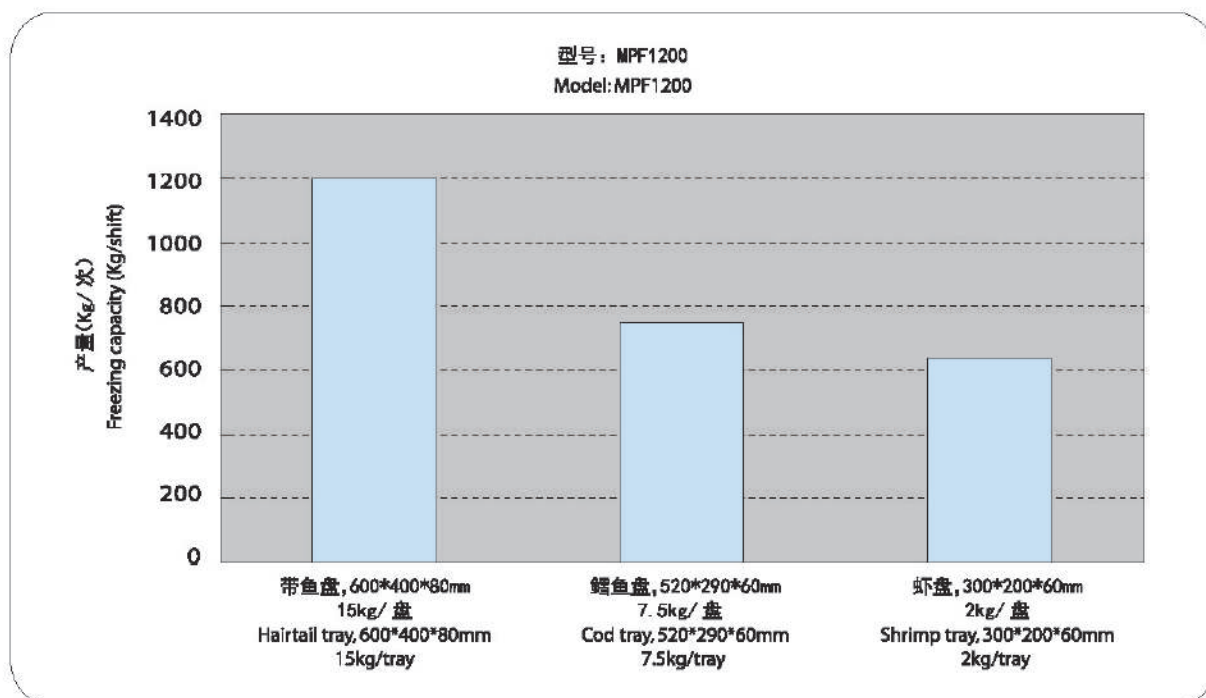
型号 Model	MPF960		MPF1200		MPF1500		MPF1800	
制冷剂 Refrigerant	R717	R22	R717	R22	R717	R22	R717	R22
整机 Complete machine	01852102 0000	01852402 0000	01852101 0000	01852401 0000	01852201 0000	01852601 0000	01852202 0000	01852602 0000
箱体 Casing	020609 0000	02060901 0000	020609 0002	020609 0004	020609 0005	020609 0003	020609 0006	020609 0007
下底座 Lower base	070705020002				070705020005			
控制柜 Control cabinet	017308010000							
冷冻板 Freezing plate	07070701 0000	07070702 0000	07070701 0000	07070702 0000	07070701 0001	07070702 0003	07070701 0001	07070702 0003

注：为了您的订单得到及时迅速的处理，请在订货时务必提供设备的“订货代号”

Note: In order to promptly treat your order, please be sure to provide the "order code" of your ordered equipment

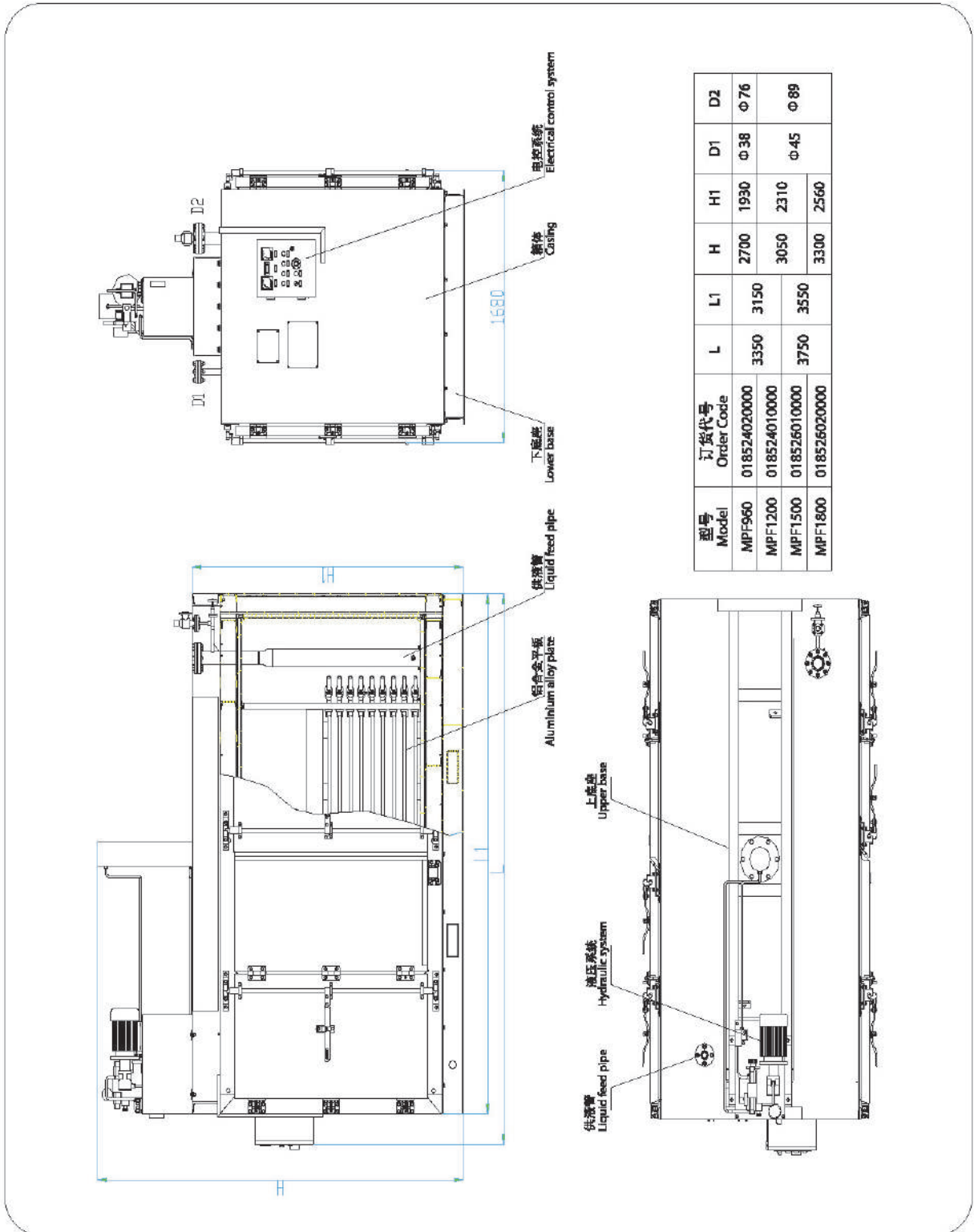
说明：同一型号产品，针对不同食品冻结能力是不同的。以 MPF1200 为例，产量可参考下图：

Note: The freezing capacity of the same model products for different foods is different. Taking MPF1200 as an example, its freezing capacity can be shown in the following figure:



# MPF (R717) 系列平板速冻机外形图

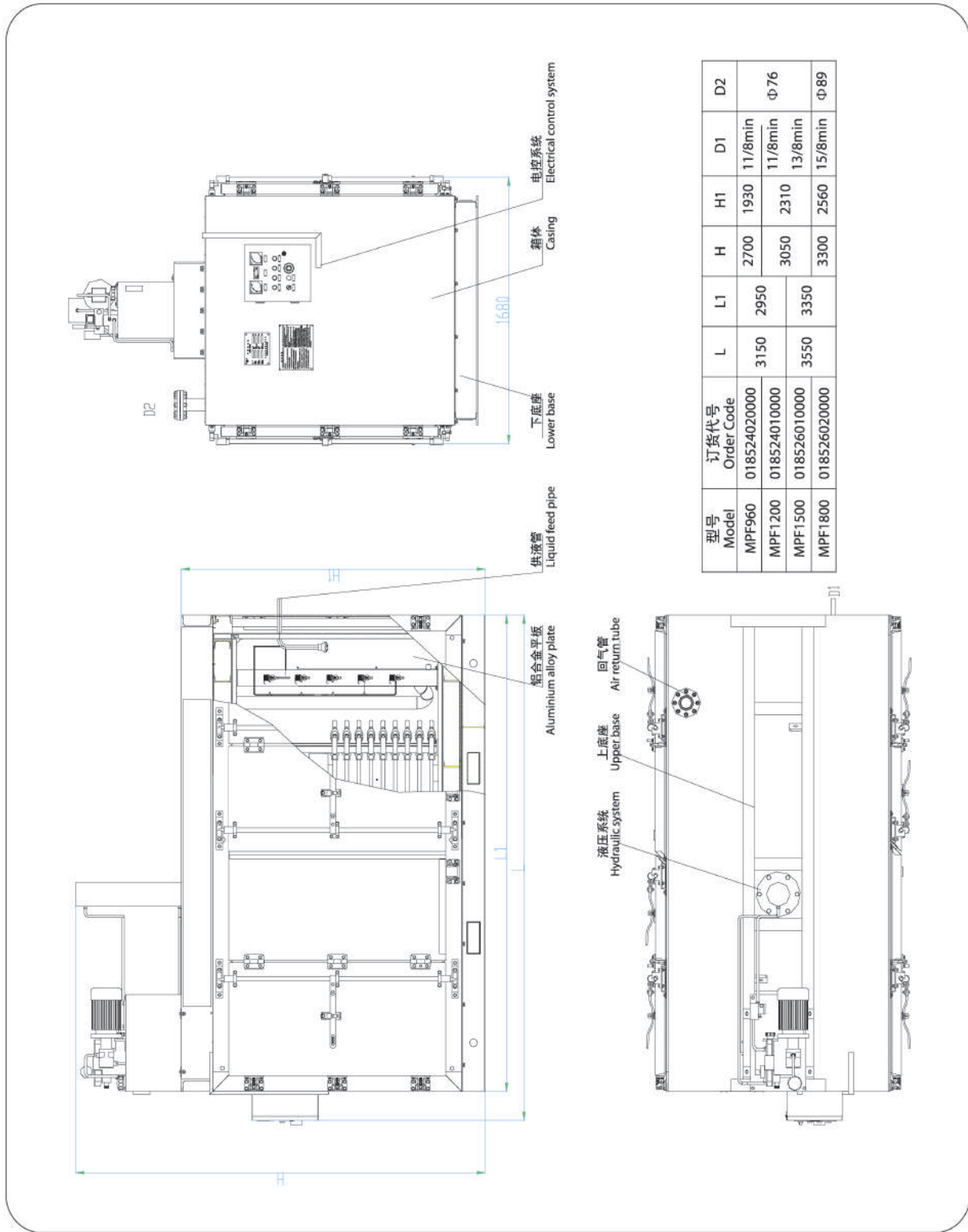
## Outline drawing of MPF(R717) series contact freezers



型号 Model	订货代号 Order Code	L	L1	H	H1	D1	D2
MPF960	018524020000	3350	3150	2700	1930	Φ38	Φ76
MPF1200	018524010000	3350	3150	3050	2310	Φ45	Φ89
MPF1500	018526010000	3750	3550	3300	2560		
MPF1800	018526020000						

# MPF (R22) 系列平板速冻机外形图

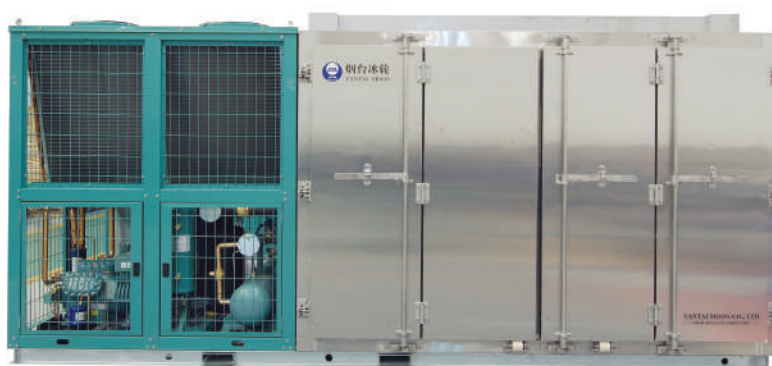
## Outline drawing of MPF(R22) series contact freezers



型号 Model	订货代号 Order Code	L	L1	H	H1	D1	D2
MPF960	018524020000	3150	2950	2700	1930	11/8min	Φ76
MPF1200	018524010000	3550	3350	3050	2310	11/8min 13/8min	
MPF1500	018526010000			3300	2560	15/8min	Φ89
MPF1800	018526020000						

## MPF-(F)Z系列平板速冻机

### MPF-(F)Z series contact freezers



MPF-(F)Z 系列平板速冻机是由 MPF 系列平板速冻机及其配套制冷压缩冷凝机组组成,并统一安装在公共底座上,构成完整的自配冷源速冻系统。

根据冷凝器形式不同,分为风冷式平板速冻机和水冷式平板速冻机两种。

MPF-(F)Z series contact freezer consists of MPF series contact freezer and its matching refrigerating compressor condensing unit, all of which are installed collectively on the public base and form an integral instant freezing system self-provided with refrigeration sources.

According to different condenser forms, there are two sorts of contact freezers such as air-cooled contact freezers and water-cooled contact freezers.

## 产品特点

### Product features

- ◎ 整机一体化设计,结构紧凑,安装、操作便捷。
- ◎ 风冷式平板速冻机只需连接电源,水冷式平板速冻机只需连接电源和水源,即可投入使用。
- ◎ Integrated design of the complete machine, compact structure, convenient and quick installation and operation.
- ◎ The air-cooled contact freezer can be put into use after being connected with power source only; the water-cooled contact freezer can be put into use after being connected with power source and water source only.

## MPF-Z系列平板速冻机性能参数表

### Table of performance parameters of MPF-Z series contact freezers

型号 Model	MPF1210Z		MPF1430Z		MPF1694Z
外形尺寸 Outline dimension L*W*H(mm)	4350*1940*3050	4350*1940*3050	4350*1940*3300	4350*1940*3300	4600*2160*3050
冷冻板尺寸 Freezing plate size (mm)	1418*1770				1732*1970
冷冻板有效层数 Effective layers of freezing plates	11		13		11
有效层间距 Effective spacing of layers (mm)	55~105				
进 / 出货心部温度 Inlet & outlet cargo core temperatures (°C)	+20/-18				
制冷剂 Refrigerant	R22	R404A	R22	R404A	R22
制冷剂工况 Refrigerant working conditions (°C)	±35				
冷凝器形式 Condenser form	水冷				
冷却水流量 Cooling water flow rate m³/h	17.5		21		31
进出水口径 Diameter of water inlet and outlet pipe (mm)	DN50				DN65
公称冻结能力(kg/次) Nominal freezing capacity (kg/shift)	1210		1430		1694
装机功率 Installed power (kW)	50	66	65	80	95
重量 Weight (t)	4.1	4.1	4.5	4.5	5.2

注: 冻结能力按照马哈鱼托盘规格计, 鱼盘规格 800\*250\*60mm, 11kg/ 盘。

Note: The freezing capacity is designed as per the specification of the salmon tray, i.e. 800\*250\*60mm, 11kg/tray.

## MPF-Z系列平板速冻机规格(订货代号)表

### Table of specifications (order code) of MPF-Z series contact freezers

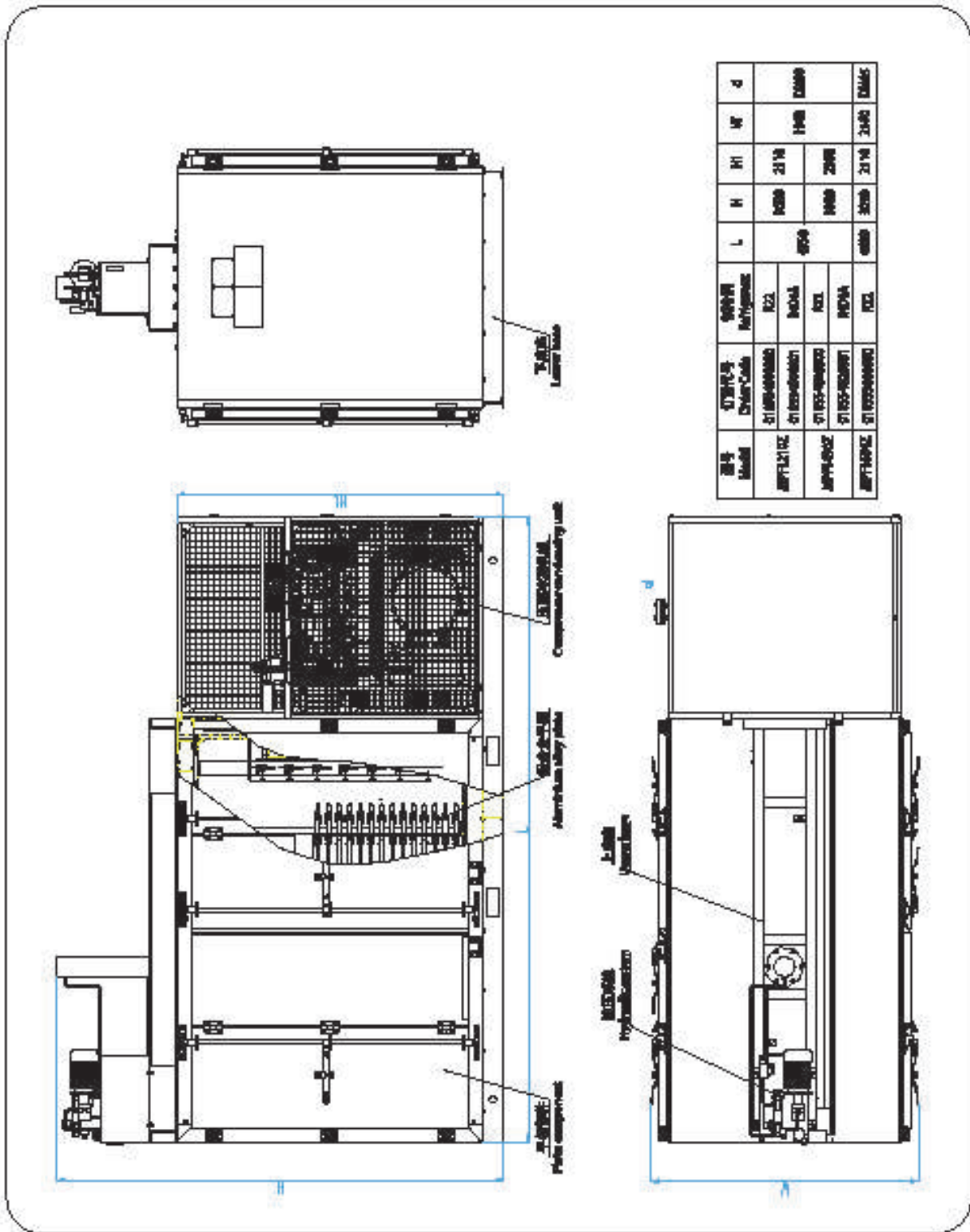
型号 Model	MPF1210Z		MPF1430Z		MPF1694Z
制冷剂 Refrigerant	R22	R404A	R22	R404A	R22
整机 Complete machine	018554010000	018554010001	018554020000	018554020001	018555010000
平板部件 Plate component	020610010004	020610010008	020610010002	020610010006	020610010009
下底座 Lower base	020605020001				
冷凝机组 Condensing unit	014523040000	014523040001	014523050000	014523050001	014523060000
冷冻板 Freezing plate	070707020001				
	070707020002				

注：为了您的订单得到及时迅速的处理，请您在订货时务必提供设备的“订货代号”

Note: In order to promptly treat your order, please be sure to provide the "order code" of your ordered equipment

# MPF-Z系列平板速冻机外形图

## Outline drawing of MPF-Z series contact freezers



型号 Model	订货号 Order Code	制冷剂 Refrigerant	L	H	H1	H2	d
MPF1210Z	01100-000000	R22	600	1020	2170	1100	2000
MPF1602Z	01100-000000	R22	600	1020	2170	1100	2000
MPF1602Z	01100-000000	R22	600	1020	2170	1100	2000
MPF1602Z	01100-000000	R22	600	1020	2170	1100	2000



## MPF-FZ系列平板速冻机性能参数表

Table of performance parameters of MPF-FZ series contact freezers

型号 Model	MPF1210FZ		MPF1430FZ	
外形尺寸 Outline dimension L*W*H(mm)	4620*1940*3050	5320*1940*3050	4750*1940*3300	5320*1940*3000
冷冻板尺寸 Freezing plate size (mm)	1412*1770			
冷冻板有效层数 Effective layers of freezing plates	11		13	
有效层间距 Effective spacing of layers (mm)	55-105			
进/出产品中心温度 Inlet & outlet cargo core temperature (℃)	+25/-18			
制冷剂 Refrigerant	R22	R404A	R22	R404A
制冷剂工况 Refrigerant working conditions (℃)	±3			
冷凝器形式 Condenser form	风冷 Air-cooled			
公称冻结能力(kg/次) Nominal freezing capacity (kg/shift)	1210		1430	
装机功率 Installed power (kW)	30	43	70	82
重量 Weight (t)	3.9	3.9	4.5	4.5

注：冻结能力按欧洲马哈托盘规格设计，托盘规格 800\*250\*60mm, 11kg/ 盘。

Note: The freezing capacity is designed as per the specification of the salmon tray, Lx. 800\*250\*60mm, 11kg/tray.



## MPF-FZ系列平板速冻机规格(订货代号)表

Table of specifications (order code) of MPF-FZ series contact freezers

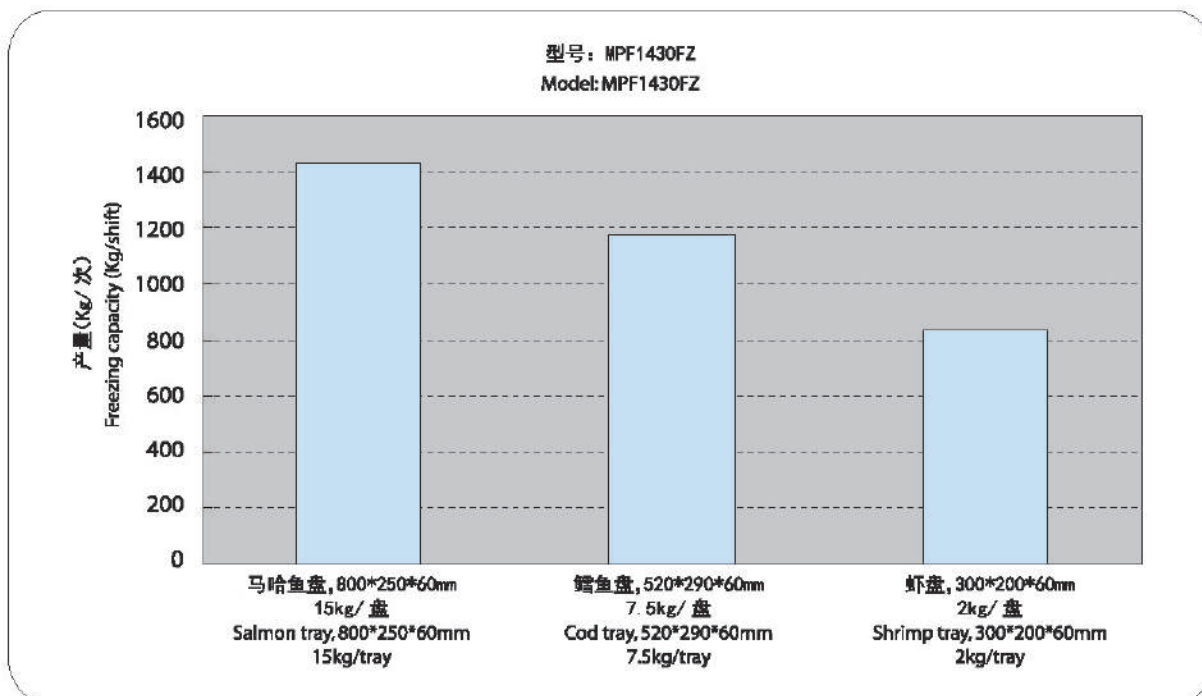
型号 Model	MPF1210FZ		MPF1430FZ	
制冷剂 Refrigerant	R22	R404A	R22	R404A
整机 Complete machine	018551010000	018551010001	018551020001	018551020002
平板部件 Plate component	020610010003	020610010007	020610010000	020610010005
下底座 Lower base	020605020002		020605020000	
冷凝机组 Condensing unit	014523010000	014523010001	014523020000	014523020001
冷冻板 Freezing plate	070707020001			

注：为了您的订单得到及时迅速的处理，请您在订货时务必提供设备的“订货代号”

Note: In order to promptly treat your order, please be sure to provide the "order code" of your ordered equipment

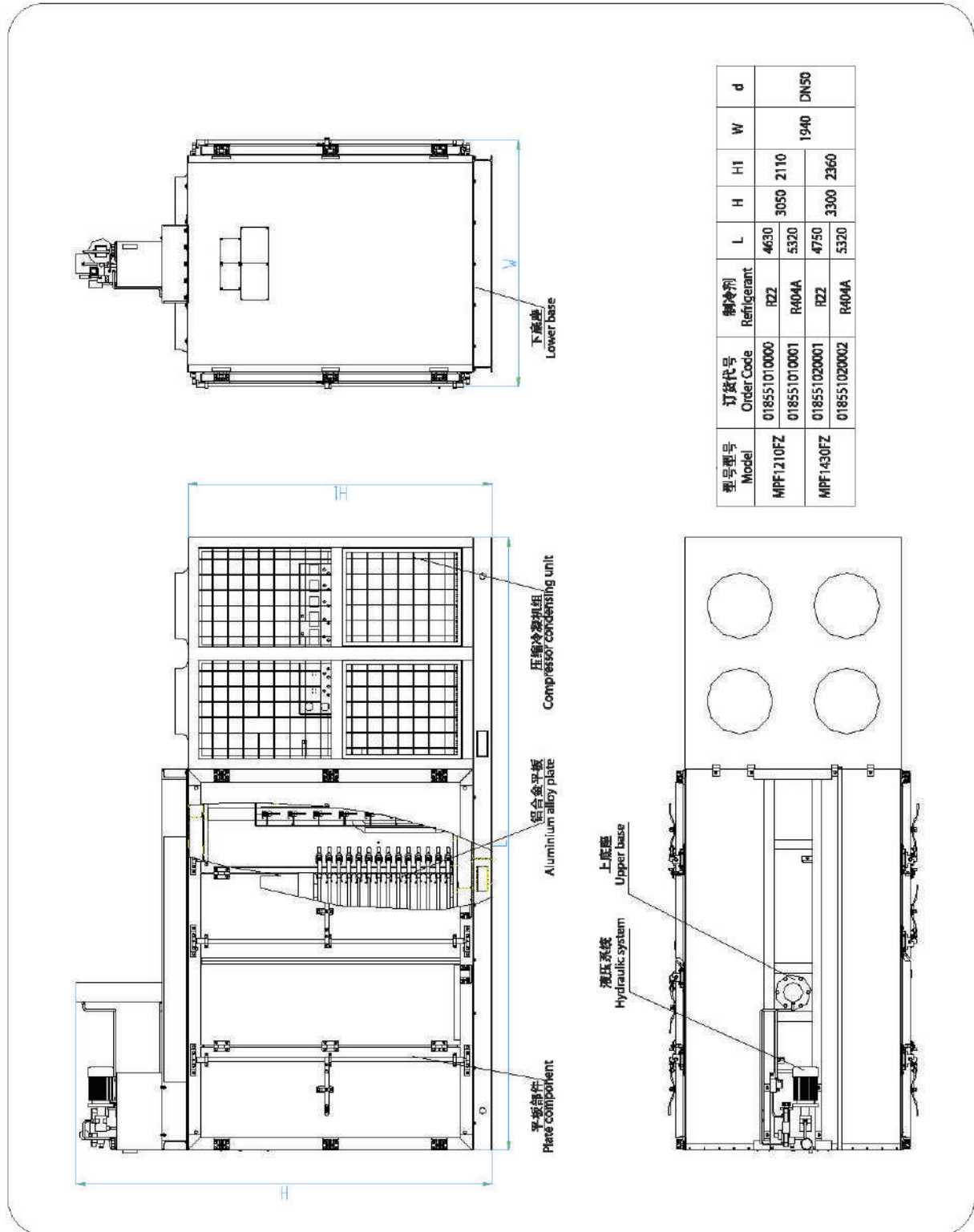
说明：同一型号产品，针对不同食品冻结能力是不同的，以 MPF1430FZ 为例，产量可参考下图：

Note: The freezing capacity of the same model products for different foods is different. Taking MPF1430FZ as an example, its freezing capacity can be shown in the following figure:



# MPF-FZ系列平板速冻机外形图

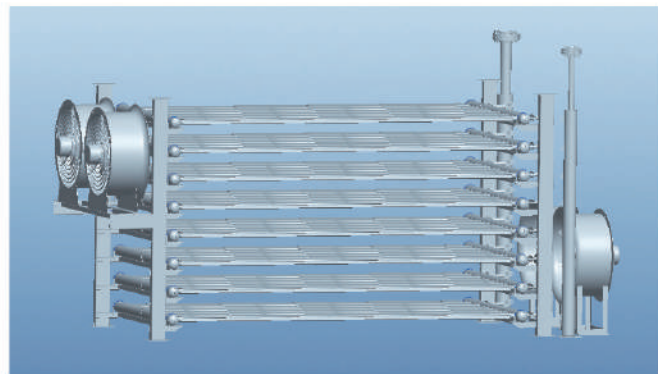
## Outline drawing of MPF-FZ series contact freezers



型号/型号 Model	订货代号 Order Code	制冷剂 Refrigerant	L	H	H1	W	d
MPF1210FZ	018551010000	R22	4630	3050	2110	1940	DN50
	018551010001	R404A	5320				
MPF1430FZ	018551020001	R22	4750	3300	2360		
	018551020002	R404A	5320				



## MSP系列平板速冻机 MSP series contact freezers



MSP 系列平板速冻机的冻结形式为单面接触式冻结，食品底面与金属板直接接触，通过金属板将冷量直接传导给食品，同时，食品其它表面由风机产生的冷风进行对流换热。

The freezing mode of MSP series contact freezers is single-sided contact freezing; food directly contacts metal plates, cold quantity is transferred via metal plates to food, and meanwhile, heat convection of other surfaces of food is performed via the cold air generated by fans.

## 产品特点

### Product features

- ◎ 同时利用两种换热方式,换热速度快、效果好。
  - ◎ 设备应用方式灵活,既可配库体作为小型冷冻库使用,又可独立作为速冻装置使用。
  - ◎ 整体采用防锈材料,保证食品安全、卫生的要求。
  - ◎ 高效率的风机运行噪音低,平稳可靠,使用寿命长;电机防护等级 IP55,在低温状态下能够保证长期稳定运行。
- ◎ Use both heat exchanging modes, high heat exchange rate, and good heat exchange effect.
  - ◎ The application mode of the equipment is flexible. The equipment can be used as both a small cold store and a quick freezing equipment independently.
  - ◎ The integral equipment uses antirust materials to ensure the requirements of food safety and sanitation are satisfied.
  - ◎ The high efficiency fan is characterized by low noise, stable and reliable operation and long service life; the protection level of the motor is IP55, which can ensure long-term stable operation at low temperature.

## MSP系列平板速冻机性能参数表

### Table of performance parameters of MSP series contact freezers

型号 Model	MSP1200	MSP1500	MSP2400	MSP3000
外形尺寸 Outline dimension L*W*H(mm)	3450*1650*1920	3450*1650*2280	5450*1650*1920	5450*1650*2280
冷冻板尺寸 Freezing plate size (mm)	2060*1236		4060*1236	
冷冻板有效层数 Effective layers of freezing plates	8	10	8	10
占地尺寸 Floor space L0*W0*H0(mm)	3900*2100*2210	3900*2100*2570	5900*2100*2210	5900*2100*2570
进/出货心部温度 Inlet & outlet cargo core temperatures (°C)	+20/-18			
制冷剂 Refrigerant	R22/NH3			
制冷剂工况 Refrigerant working conditions (°C)	±35			
供液接口 Liquid feed interface (mm)	φ 38		φ 45	
回气接口 Air return interface (mm)	φ 76		φ 89	
耗冷量 Cooling consumption (kW)	33	42	66	83
公称冻结能力(kg/次) Nominal freezing capacity (kg/shift)	1200	1500	2400	3000

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型号 Model	MSP1200	MSP1500	MSP2400	MSP3000
装机功率 Installed power (kW)	1.5	2.2	2.2	3
重量 Weight (t)	1	1.2	2	2.4

注：冻结能力按照带鱼盘计，规格600\*400\*80mm，15kg/盘。

耗冷量按工质工况 ±35℃ 出货时间 4 小时计，客户如需减少冻结时间，可适当增大冷量。

Note: The freezing capacity as per the specification of the hairtail tray, i.e. 600\*400\*80mm, 15kg/tray.

The cooling consumption is calculated as per the working conditions ±35℃ and the cargo discharging time 4 hours; if the customer needs to reduce freezing time, the cold quantity can be increased properly.

## MSP系列平板速冻机规格(订货代号)表

### Table of specifications (order code) of MSP series contact freezers

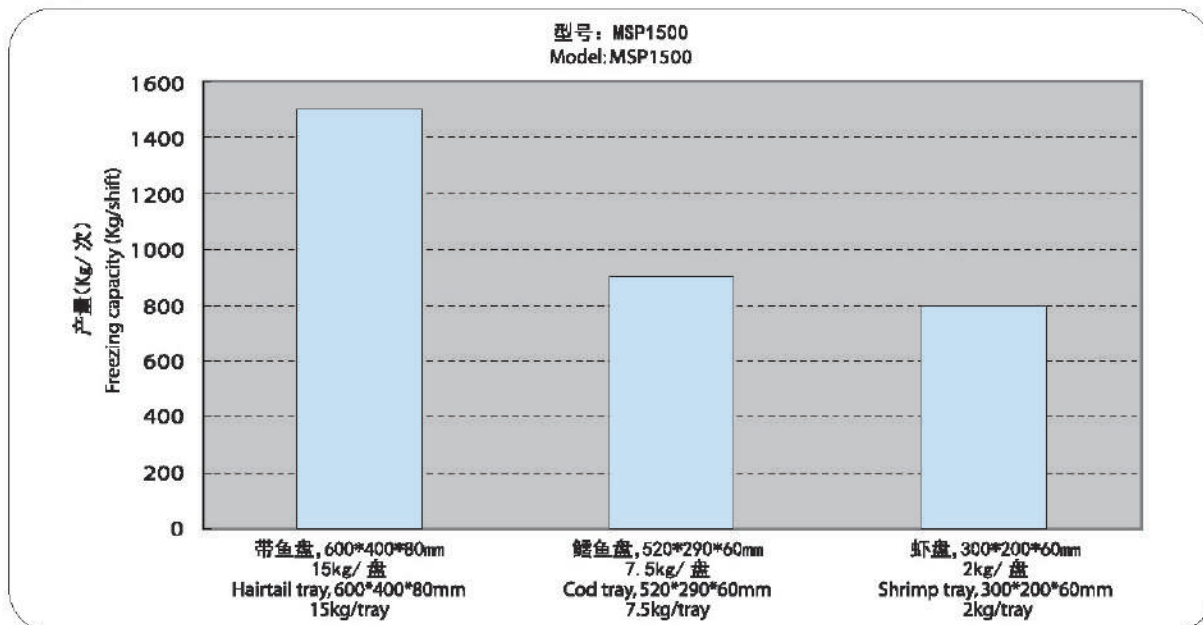
型号 Model	MSP1200		MSP1500		MSP2400		MSP3000	
制冷剂 Refrigerant	R717	R22	R717	R22	R717	R22	R717	R22
订货代号 Order code	01850101 0000	01850101 0001	01850102 0000	01850102 0001	01850103 0000	01850103 0001	01850100 0000	01850100 0001

注：为了您的订单得到及时迅速的处理，请您在订货时务必提供设备的“订货代号”

Note: In order to promptly treat your order, please be sure to provide the "order code" of your ordered equipment

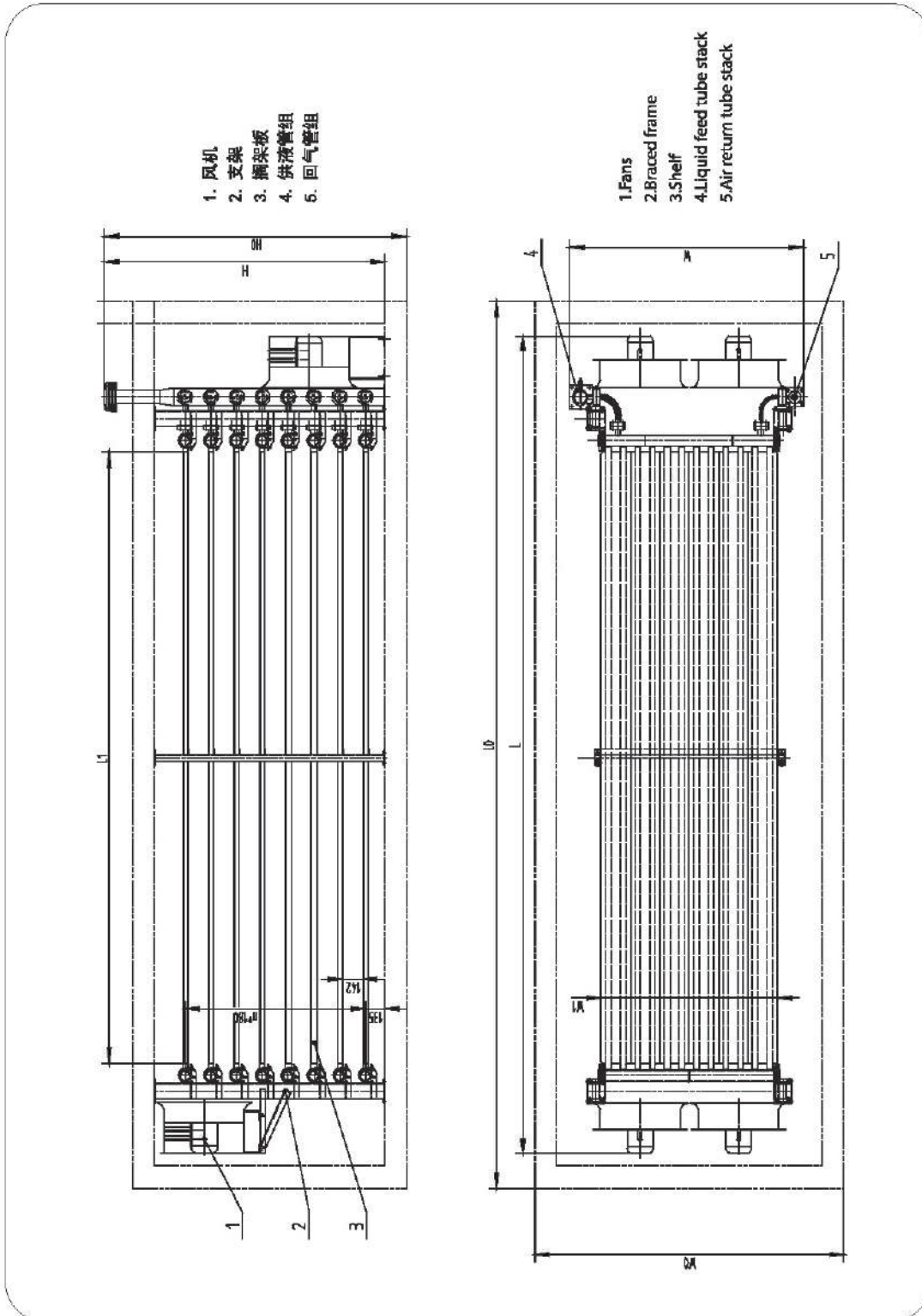
说明：同一型号产品，针对不同食品冻结能力是不同的，以 MSP1500 为例，产量可参考下图：

Note: The freezing capacity of the same model products for different foods is different. Taking MSP1500 as an example, its freezing capacity can be shown in the following figure:



## MSP系列平板速冻机外形图

## Outline drawing of MSP series contact freezers



注：占地尺寸是搁架带库体时的参考尺寸，本系列产品不带库体，如有需要请注明。

Note: The floor size is the reference size when the shelf is provided with the casing; this series of products have no casing; if there is a need for the casing, please specify.

## 特别提示

### Special reminding

#### ◎ 冻结能力

冻结能力与食品的形状、大小、含水量和物化性质有关。

#### ◎ 制冷工质

制冷工质可以采用氨、氟或其他制冷剂和载冷剂。标准产品为氨和 R22 两种，如有特殊需求请在订单上写明。

#### ◎ 使用环境

本系列产品在加工车间温度低于 20°C 情况下运转效果最佳。

#### ◎ Freezing capacity

The freezing capacity is related to the shape, size, water content and physical and chemical properties of food.

#### ◎ Refrigerant

The refrigerant can use ammonia, freon or other refrigerants and coolants. There are two sorts of standard products such as ammonia and R22; if there are special requirements, please clearly write them on the order form.

#### ◎ Application environment

The running effect of this series of products is the best when the temperature of the workshop is lower than 20°C.

## 安装要求

### Installation requirements

#### ◎ 位置

安装位置由用户指定，但应满足以下要求：

- 1、设备应有足够的安装和维护空间；
- 2、应尽量靠近包装间与冷藏库；
- 3、应尽量靠近制冷系统设备间，以 50 米以内为宜。当超过 50 米时，回气管径应适当增大

#### ◎ 地面

- a) 地面应保证平整、坚固，且承重能力不小于设备的运行重量；
- b) 地面设计应能便于清洗及融霜水的排出；
- c) 地面倾斜度不应大于 1:50，否则会造成设备安装困难；
- d) 设备安装在楼板上时，必须核算楼板结构的承重能力，能满足设备的运行重量，并采取减振措施。

#### ◎ Location

The location shall be defined by the customer, but should meet the following requirements:

1. Sufficient space for equipment installation and maintenance;
2. As close as possible to the packing room and cold store;
3. As close as possible to the refrigeration equipment room. The distance within 50m is suitable. The diameter of the air-return tube should be increased properly if the distance exceeds 50m.

#### ◎ Ground

- a) The ground should be neat and solid, with a bearing capacity not less than the operating weight of the equipment;
- b) The ground design should be convenient for discharging the cleaning and defrosting water;
- c) The ground gradient should be in no event bigger than 1:50, otherwise, it will result in difficulty in equipment installation;
- d) When the equipment is installed on floor slabs, the bearing capacity of the floor slab structure must be checked and calculated and can meet the requirements of the equipment's operating weight, and vibration damping measures shall be taken.

## 非标准产品的定制

### Custom-tailored non-standard products

◎ 上述表格中平板速冻机为标准产品，如客户有特殊需求，可根据其要求进行非标定制。

◎ The contact freezers listed in the above-mentioned sheets are the standard products. The non-standard products can be custom-made as defined if there is any special requirement from the customer.



## 食品速冻系列产品

### Freezers

烟台冰轮股份有限公司生产的食品速冻设备包括隧道式速冻装置、螺旋式速冻装置、流态化速冻装置、平板速冻机、板式搁架冻结器等五大类产品，广泛应用于水产、肉类、水果、蔬菜以及调理食品的深加工。

Yantai Moon freezers include tunnel freezer, spiral freezer, fluidized freezer, plate freezer and shelf plate freezer, 5 categories in total, which are widely adopted in industries for aquatic produce, meat, fruits, vegetables and prepared foods processing.



板式搁架冻结器  
shelf plate freezer



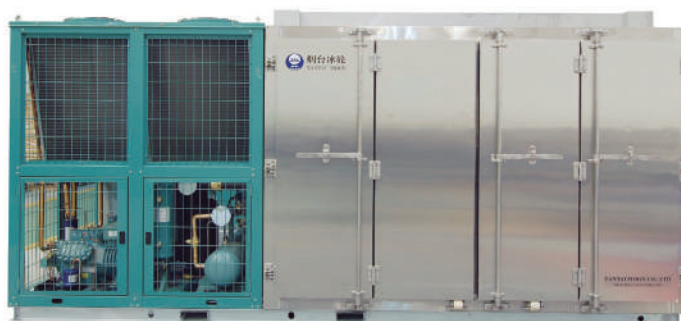
隧道式速冻装置  
Tunnel freezer



流态化速冻装置  
Fluidized freezer



螺旋式速冻装置  
Spiral freezer



平板速冻机  
Contact freezer

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