

CO₂螺杆制冷压缩机组 CO₂ Screw Refrigeration Compressor Unit



Technical features

- The brand new screw rotor profile design (bilateral asymmetric full-arc envelope profile) with band sealing and no need to use sealing ribs to make up for work clearance.
- The air intake and discharge ports are treated for irregular bellows mechanical noise reduction, thus remarkably reducing noise.
- More complete spectra and more extensive scope of application.
- The oil circulation system uses an unique combination mode of forced oil feeding and differential pressure oil feeding to keep the optimized cycle oil of compressor. The COP value of the compressor is 5% higher than the oil-free pump type.
- Oil and gas separator with patented technology, high-efficiency heat exchange tubes, dedicated oil pump.



LG Automatic Series Microcomputer control more convenient and more flexible

- The standard configuration includes three sorts of control modes such as manual control, semi-automatic control and automatic control.
- Alarming data recorded and stored by PLC monitors interface
- Automatic stepless capacity control, automatic startup/shutdown
- Convenient communication
- Free switching between remote and local operating modes and between manual and automatic operating modes



Main specifications and parameters of CO2 Screw Refrigeration Compressor Unit

Item		Unit	LG12RZ	LG16RZ	LG20RZ	LG25RZ	LG32R	
Refrigerant			R744					
Theoretical displacement of compressor		m³/h	152	303	604	803	1676	
Energy regulating range			15 ~ 100					
Nominal working conditions		℃	-40/-12					
Refrigerating effect of the unit		kW	240	476	958	1273	2560	
Rated power of motor		kW	90	185	315	400	800	
Oil pump motor power		kW	2.2	2.2	3	4	7.5	
Electrical system			3N 50HZ 380V		3N 50HZ 10kV			
Rated rotation speed		r/min	2960					
Refrigerator oil	Charging volume	kg	~ 120	~ 190	~ 300	~ 390	~750	
Diameter of suction pipe		mm	DN65	DN100	DN125	DN150	DN200	
Diameter of exhaust pipe		mm	DN50	DN65	DN100	DN125	DN150	
Oil Cooler	Water cooling	Type		Shell-tube				
		Diameter of water inlet and exhaust pipe	mm	DN32	DN50	DN65	DN80	DN100
		Volume of cooling water	m³/h	4	8	16	20	40
		Water-side design pressure	Mpa	0.6				
		Scaling factor of cooling water	m²·k/kW	0.086				
		Water path resistance	Mpa	≤0.1				
		Water quality standard		GB50050 Code for Design of Industrial Recirculating Cooling Water Treatment				
	Refrigerant	Diameter of liquid inlet pipe	mm	DN25	DN32	DN40	DN50	DN65
		Diameter of air discharge pipe	mm	DN40	DN50	DN65	DN80	DN100
Exterior dimension (L* W* H)		mm	2675*920*1765	3050*1150*2070	3250*1350*2340	3560*1500*2550	7986*2748*3645	
Unit weight		Kg	~ 2200	~ 3000	~ 4000	~ 6000	~16000	

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LG 系列单机双级螺杆制冷压缩机组

LG Series Compound Two-stage Screw Refrigeration Compressor Units



Technical features

■ Both the high pressure stage and the low pressure stage of LG2016MS, LG2520MS and LG3225LS compressors are provided with a capacity control device, which can thus ensure that compressor units always run highly effectively and economically under various low temperature working conditions.



■ Reliable and durable imported mechanical seal

■ High precision suction and oil filter elements



■ Three-stage oil separation systems, high-efficiency molecular sieves, separation efficiency 3~5ppm

■ The oil cooling system can use thermal siphon cooling mode or water cooling mode.

■ Adoption of high-efficiency national patent rotor profiles with proprietary intellectual property rights

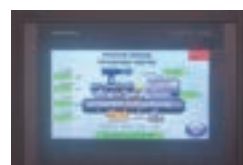
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■ Alarming data recorded and stored by PLC monitors interface

■ Automatic stepless capacity control, automatic startup/shutdown

■ Convenient communication

■ Free switching between remote and local operating modes and between manual and automatic operating modes



Main specifications and parameters of LG Series Compound Two-stage Screw Refrigeration Compressor Units

Item		Unit	LG1612MMZ(Y)	LG2016MSZ(Y)	LG2520MSZ(Y)	LG3225LSZ(Y)
Compressor	Model		LG1612MM	LG2016MS	LG2520MS	LG3225LS
	Theoretical displacement of low pressure stage	m³/h	598	1120	2289	5182
	Theoretical displacement of high pressure stage	m³/h	213	385	806	1825
	Energy range		15 ~ 100%			
Nominal working conditions		℃	+40/-35			
Cooling capacity under nominal working conditions		kW	139.1/154.3	270.4/298.8	561.6/621.6	1262.7/1404.7
Rated power of the main motor		kW	110	185	355	800
Electrical system			3N 50HZ 380V		3N 50HZ 10kV	
Rated speed		r/min	2960			
Main motor rotation direction			Clockwise(Looking from motor shaft side)			
Refrigerant	Varieties		R717 / R22 / R507			
	Standard		GB536 Liquid Anhydrous Ammonia / GB7373			
Diameter of suction pipe		mm	DN125	DN150	DN200	DN350
Diameter of exhaust pipe		mm	DN65	DN80	DN100	DN150
Diameter of the liquid inlet/outlet of intermediate cooler		mm	DN50	DN65	DN80	DN125
Diameter of safety valve		mm	DN25	DN25	DN32*2	DN50*2
Item		Unit	LG1612MMZ(Y)	LG2016MSZ(Y)	LG2520MSZ(Y)	LG3225LSZ(Y)
Water-cooled oil cooler	Type		Shell-tube			
	Diameter of water	mm	DN40	DN65	DN65	DN100
	Volume of cooling water	m³/h	~ 20	~ 25	~ 45	~ 75
	Water-side design pressure	MPa	0.6			
	Fouling factor of cooling water	m².k/kW	0.086			
	Resistance on water path	Mpa	≤0.1			
	Water quality standard		GB50050 Design Code on Industrial Circulation Cooling Water Processing			
Refrigerant-cooled and oil-cooled cooler	Type		Shell-tube			
	Diameter of liquid inlet pipe	mm	DN32	DN40	DN50	DN65
	Diameter of air discharge pipe	mm	DN50	DN65	DN80	DN125
Oil pump	Model		ZH125P4	ZH220P4	ZZB300P8	ZZB600P4
	Motor power	kW	2.2	4	5.5	7.5
Dimensions	(L * W * H)	mm	3094 x 1384 x 2030	3456 x1651 x 2226	5068 x 2374 x 3145	8890 x 2842 x 3895
Unit weight		kg	~ 3300	~ 4500	~ 11000	~ 22285
Operating weight		kg	~ 3450	~ 4900	~ 12000	~ 23300

Note: 1. The main motor of the unit is equipped according to the nominal working conditions; based on this configuration, the unit can be put into operation with full load at the vaporization temperature lower than -25°C.
 2. Due to the difference in the operating conditions of the unit, the power and protection level of the main motor may be different somewhat, the appearance and foundation dimensions will also vary with the variation of the main motor, and they are not listed in the table one by one.

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LG系列双级撬块螺杆制冷压缩机组 LG Series Skid-mounted Screw Compressor Unit



Technical features

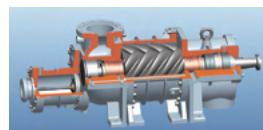
■ Both the high pressure stage and the low pressure stage of the skid-mounted two-stage screw refrigeration compressor unit are provided with a capacity control device, which can thus ensure that the unit always runs highly effectively and economically under various low temperature working conditions.

■ Staged starting of high and low pressure stage compressors, low starting current;

■ Three-stage oil separation systems, high-efficiency molecular sieves, separation efficiency 3~5ppm

■ High precision suction and oil filter elements to ensure normal working of compressors

■ The oil cooling system can use thermal siphon cooling mode or water cooling mode.



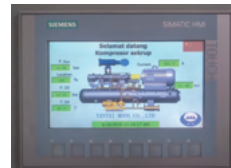
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Main specifications and parameters of LG Series Skid-mounted Screw Compressor Unit

Item			Model	LG20L16M	LG25M16M	LG25L20S
Refrigerant				R717	R717	R717
Compressor	Low pressure stage	Model		LG20L	LG25M	LG25L
		Theoretical displacement	m³/h	1486	2289	2840
		Capacity control range		15%~100%		
	High pressure stage	Model		LG16M	LG16M	LG20S
		Theoretical displacement	m³/h	598	598	806
		Capacity control range		15%~100%		
Nominal condition			°C	-45	-45	-45
Refrigeration capacity at nominal condition			KW	217.4	429	551
Motor power	High pressure stage		KW	132	200	220
	Low pressure stage			132	132	185
Power supply				3P 380V 50Hz		
Lubricant	Charge		kg	~ 470	~ 550	~ 550
Diameter of suction pipe			mm	DN200	DN200	DN250
Diameter of exhaust pipe			mm	DN80	DN80	DN100
Diameter of economizer liquid inlet/outlet pipe			mm	DN65	DN65	DN80
Liquid-cooled oil cooler	Diameter of liquid inlet pipe		mm	DN40	DN50	DN50
	Diameter of gas outlet pipe		mm	DN65	DN80	DN80
	Motor model			2ZH125A(F)	ZHB125P4	ZHB125P4
	Motor power		KW	2.2	2.2	2.2
Unit outline dimension		Length	mm	5732	6254	6644
		Width	mm	1594	1940	1940
		Height	mm	2541	2964	2997
Unit weight			kg	~ 8000	~ 11000	~ 12000

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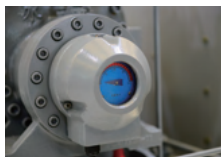
LG系列螺杆制冷压缩机组

LG Series Screw Refrigeration Compressor Units



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Main specifications and parameters of LG Series Screw Refrigeration Compressor Units

Item			Unit	LG12M Series	LG16M Series	LG20M Series	LG25M Series
Refrigerant	Varieties			R717 / R22 / R507			
	Standard			GB536 Liquid Anhydrous Ammonia / GB7373			
Compressor	Theoretical displacement		m³/h	285	598	1120	2289
	Energy range			15 ~ 100%			
Refrigeration capacity	High temperature working conditions		kW	316	692	1339	2731
	Medium temperature working conditions		kW	175	384	743	1518
	Low temperature working conditions	With economizer	kW	62	138	269	557
		Without economizer	kW	52	115	225	466
Rated power of motor	High temperature working conditions		kW	65	132	250	500
	Medium temperature working conditions		kW	65	132	250	500
	Low temperature working conditions		kW	55	110	200	400
Rated speed			r/min	2960			
Lubrication oil	charging volume		kg	~ 150(~ 110)	~ 200(~ 160)	~ 370	~ 760
Diameter of suction pipe			mm	DN80	DN125	DN150	DN200
Diameter of exhaust pipe			mm	DN65	DN80	DN100	DN150
Oil Cooler	Type			Shell-tube			
	Water cooling	Diameter of water pipe	mm	DN32	DN40	DN65	DN65
		Volume of cooling water	m³/h	~ 10	~ 15	~ 25	~ 25
		Water-side design pressure	Mpa	0.4			
		Fouling factor of cooling water	m².k/kW	0.086			
		Resistance on water path	Mpa	≤0.1			
		Water quality standard		GB50050 Design Code on Industrial Circulation Cooling Water Processing			
	Refrigerant	Diameter of liquid inlet pipe	mm	DN25	DN32	DN40	DN50
		Diameter of air discharge pipe	mm	DN40	DN50	DN65	DN80
Oil pump	Model			ZHB80P6	ZHB125P4	ZHB125P4 & ZHB150P6*	ZHB220P4
	Motor Power		kW	1.5	2.2	2.2 & 3*	4
Dimensions (L * W * H)		With economizer	mm	2614X1365X1778	3057X1464X2030	3177X1638X2251	4601x2136x3149
		Without economizer		2614X1273X1778	3057X1362X2030	3177X1567X2251	4601x2136x3149
Unit weight			kg	~ 2000	~ 2750	~ 4660	11000 ~ 12000
Operating weight of the unit			kg	~ 2200	~ 3050	~ 5140	13000 ~ 14000

Note: 1. The above mentioned models are basic. In order to meet different refrigeration requirements, we also developed compressors such as LG16S, LG20S, LG20L, LG25S, and LG25L. For detailed parameters, please consult Moon.

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LNZ系列蒸发式冷凝器

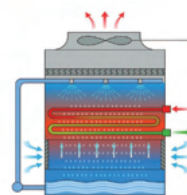
LNZ Series Evaporative Condenser



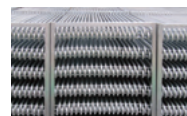
Product features

■ Heat exchange tube

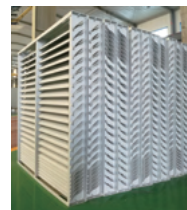
Moon's patent product "iso-drop type heat exchange tube" is used with the following advantages: Good aerodynamic characteristics. The resistance during flowing over iso-drop type tubes is obviously less than that during drilling over elliptical tubes and especially round tubes. Iso-drop type heat exchange tubes have good encapsulation property, high heat exchange efficiency and no dry point in the lower part. Small volume in tubes, small refrigerant charging quantity



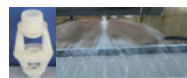
■ Heat exchange tubes are formed at a time using an imported production line. The whole heat exchange tube has no attachment welds. Before and after assembling, two pressure tests are performed. After hot dip galvanizing, the third pressure test is conducted to ensure the strength and airtightness of the coil unit.



■ PVC sine wave type shutters are used and they have advantages such as anticorrosion, resistance to ageing and ultraviolet rays, small wind resistance and small weight.



■ Large diameter three-layer nozzles are characterized by more uniform water distribution, difficult blockage, small resistance and saving of water pump power. Threaded connection, convenient repair.



R717 heat extraction coefficient table

Condensing temperature °C	Wet-bulb temperature °C																					
	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
28	1.17	1.13	1.08	1.03	0.97	0.92	0.86	0.8	0.74	0.68	0.6	0.54	0.47	0.4								
30	1.36	1.31	1.25	1.21	1.16	1.11	1.05	1	0.93	0.86	0.8	0.73	0.66	0.58	0.51	0.44						
32	1.55	1.51	1.45	1.4	1.35	1.29	1.22	1.16	1.11	1.05	0.99	0.91	0.85	0.76	0.71	0.62						
34	1.71	1.66	1.61	1.56	1.51	1.45	1.4	1.34	1.28	1.22	1.16	1.09	1.01	0.95	0.88	0.8	0.72	0.64				
35	1.82	1.76	1.71	1.66	1.6	1.55	1.49	1.44	1.38	1.32	1.25	1.2	1.14	1.06	1	0.92	0.85	0.78	0.71	0.61	0.54	
36	1.88	1.84	1.79	1.74	1.69	1.64	1.59	1.53	1.46	1.41	1.35	1.29	1.22	1.15	1.09	1.01	0.94	0.85	0.76	0.69	0.62	
38	2.06	2.02	1.98	1.94	1.89	1.84	1.79	1.74	1.68	1.62	1.56	1.51	1.45	1.38	1.31	1.24	1.16	1.08	1	0.91	0.83	
40	2.24	2.2	2.16	2.13	2.09	2.05	2	1.94	1.88	1.82	1.76	1.71	1.63	1.56	1.51	1.42	1.36	1.28	1.2	1.11	1.01	
42	2.45	2.41	2.37	2.33	2.28	2.23	2.18	2.13	2.07	2.01	1.95	1.91	1.84	1.77	1.71	1.63	1.55	1.47	1.4	1.31	1.24	

Table of performance parameters

Product model	Heat extraction quantity under the designed operating condition kW	Axial flow fan				Weight kg			Circulating water pump				Make-up water quantity: m³/h
		Power kW	A	Number	Total air rate 10³m³/h	Transportation	Running	The heaviest part	Power kW	A	Number	Water quantity m³/h	
LNZ240	240	0.75	2.6	2	2.4	2055	2784	1449	1.1	2.7	1	40	0.20~0.73
LNZ350	350	1.5	4.4	2	3.5	2327	3177	1651	1.5	3.5	1	50	0.30~1.06
LNZ480	480	3	9	1	4.8	3491	4619	2535	1.5	3.5	1	75	0.39~1.37
LNZ600	600	4	12.5	1	6.0	3885	4934	2874	1.5	3.5	1	75	0.52~1.83
LNZ800	800	2.2	6.7	2	8	5017	6198	3522	2.2	4.9	1	100	0.64~2.29
LNZ900	900	3	9	2	9	5874	7052	4133	4	8.7	1	120	0.77~2.74
LNZ1000	1000	3	9.6	2	10	6277	7865	4394	4	8.7	1	160	0.86~3.05
LNZ1200	1200	4	12.5	2	12	6690	8518	4933	4	8.7	1	160	1.02~3.65
LNZ1400	1400	11	36.2	1	14	7388	9044	5400	5.5	11.6	1	195	1.16~4.20
LNZ1600	1600	5.5	16.7	2	16	8958	10911	6793	5.5	11.6	1	195	1.27~4.56
LNZ1800	1800	5.5	18.5	2	18	10098	12306	7595	7.5	15.5	1	260	1.54~5.48
LNZ2000	2000	7.5	24.7	2	20	11205	13658	8347	7.5	15.5	1	260	1.70~6.08
LNZ2400	2400	7.5	24.7	2	24	13168	15677	10077	11	22.4	1	310	2.02~7.33
LNZ2800	2800	11	36.2	2	28	14597	17341	11279	15	29.2	1	360	2.36~8.55
LNZ3200	3200	15	36.7	2	32	16668	19765	13088	15	29.2	1	366	2.68~9.75

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MJN系列隧道式（网带）速冻装置 MJN Series Tunnel (Mesh Belt) Quick Freezer



Product features

■ Freezing time reduction by 30%

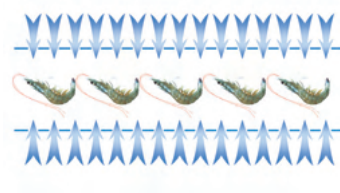
■ Floor area reduction by 40%

■ Wind field optimization

Full-balance wind field layout: the high pressure area is completely enwrapped around the conveyor belt, both the two sides of the freezer body are return air area, and the two ends are fitted with a buffering area to thoroughly eliminate freezer body cold leakage.

The unique two-way jet air supply structure causes food surface to be completely exposed to cold and has high freezing efficiency.

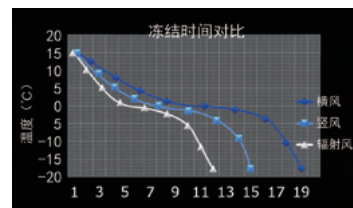
A special customized centrifugal fan is used to supply air, has high efficiency and realizes freezing at ultra-high wind speed.



■ Freezing mode optimization

High pressure cold air is injected onto food surface via the uniformly full-distributed jet holes above and below the conveyor belt at extremely high speed and then is quickly diffused, so that foods are completely bathed in cold air and quick freezing is realized.

The spacing between jet holes is small, and heat transfer speed is quick and uniform. Compared with traditional quick freezers, the equipment freezes foods more uniformly, shortens freezing time by over 30%, and reduces drying loss by 50%.



Structural features

● New surge bin structure

● Modular design

● Extremely small floor area

● Extremely easily cleaned

● High evaporation efficiency

● High transmission efficiency

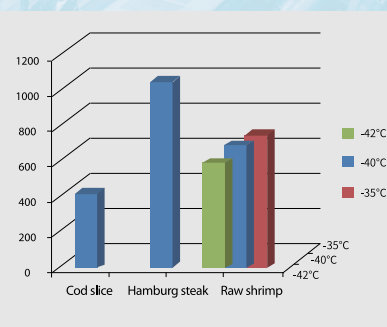
Performance Parameters

Product model	Nominal freezing capacity (kg/h)	Effective width of mesh belt (mm)	Cargo-through height (mm)	Inlet & outlet material core temperature (°C)	Freezing temperature (°C)	Cold consumption under nominal working conditions (kW)	Installed power (kW)	Net weight (t)	Operating weight (t)
MJN550	550	1750	50~90	+15/-18	-40	110	29	7.5	8.5
MJN750	750					145	40	10	11.3
MJN1000	1000					190	56	12.5	14.2
MJN420	420	1150	50~90	+15/-18	-40	90	24	6	7.3
MJN650	650					135	39	9	10.7

Freezing capacity comparison

■ The freezing capacity of the quick freezers of the same model is different when they are used to freeze different foods in different application environments. Taking MJN750 as an example, refer to the following table for the freezing capacity for different foods at different storage temperatures:

Food name	Food specification (kg/h)	Unit weight of food (g)	Freezing temperature (°C)	Freezing capacity (kg/h)
Raw shrimp	90*16*13	~15	-35	660
			-40	750
			-42	790
Cod slice	90*80*23	110~130	-40	410
Hamburg steak	Φ 100*9	60	-40	1100



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Moon Group(Formerly Yantai Moon Group) was founded in 1956, which is a cross-industry and international operations of large enterprise groups with refrigeration solutions, central air conditioning, eco-friendly heating solutions, sealing technology, precision casting and energy & chemical equipment as its leading industries.

Moon Environment Technology 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.

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 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 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 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.

Moon Group owns 35 marketing services agencies in China and 20 overseas marketing services agencies in 19 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.

PRODUCT



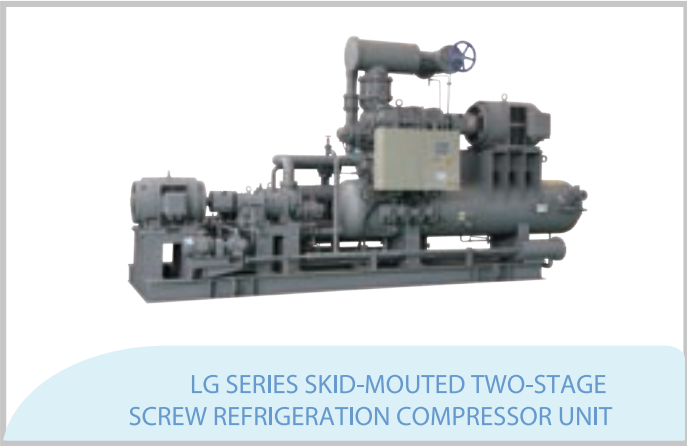
AIST CO₂ CASCADE MODULE



LG SERIES COMPOUND TWO-STAGE
SCREW REFRIGERATION COMPRESSOR UNIT



LG SERIES SCREW
REFRIGERATION COMPRESSOR UNIT



LG SERIES SKID-MOUNTED TWO-STAGE
SCREW REFRIGERATION COMPRESSOR UNIT

PRODUCT



TUNNEL FREEZER



CONTACT FREEZER



FLAKE ICE MACHINE



AIR COOLER



EVAPORATIVE CONDENSER



SPIRAL FREEZER



冰轮环境
MOON-TECH

专注气温控制, 专业集成服务

We are professional in temperature control and integrated services.

PROJECT



WEIHAI HAIDU 60000T LOGISTICS
COLD STORAGE PROJECT



SHANDONG FENGXIANG 10000
CHICKENS/HOUR PROCESSING PROJECT



TAIWAN EAGLE 10000T LOGISTICS
COLD STORAGE PROJECT



MALAYSIA 10000 CHICKENS/HOUR
PROCESSING PROJECT



THAILAND ICE CREAM PROJECT



INDONESIA AICE
ICE CREAM PROJECT



INDONESIA 100T/D SHRIMP
PROCESSING PROJECT



PERU 100T/D SQUID
PROCESSING PROJECT



ECUADOR 3T/H SHRIMP
BRINE-FREEZING PROJECT



EGYPT 6000 CHICKENS/HOUR
PROCESSING PROJECT



UNITED NATIONS LOGISTICS COLD
STORAGE PROJECT IN CONGO KINSHASA



UZBEKISTAN 15000T LOGISTICS
COLD STORAGE PROJECT

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智慧·绿能·生态
INTELLIGENT GREEN ENERGY ECOLOGY

智慧驱动 冷热互联
Smart Climate Control Solutions



冰轮环境技术股份有限公司
MOON ENVIRONMENT TECHNOLOGY CO., LTD.

制冷辅助设备 Refrigeration Auxiliary Equipment



Vertical condenser

LNL25~LNL450

Applicable refrigerant R717(ammonia)

Heat exchanging area 25m²~450m²

Design pressure 2.0Mpa



Flooded evaporator

ZFM30~ZFM800

Applicable refrigerant R717(ammonia)

Heat exchanging area 30m²~800m²

Nominal heat exchanging capacity 75KW~2000KW

Shell side design pressure 1.4Mpa

Tube side design pressure 0.6Mpa



Intercooler

ZQ I 2~ZQ I 24

ZQ II 2.5~ZQ II 6

Applicable refrigerant R717(ammonia)

Heat exchanging area 2m²~24m²

Design pressure 1.6Mpa



Horizontal condenser

LNW15~LNW1000

Applicable refrigerant R717(ammonia)

Heat exchanging area 15m²~1000m²

Shell side design pressure 2.0Mpa

Tube side design pressure 0.6Mpa



Vertical evaporator

ZFL30~ZFL600

Applicable refrigerant R717(ammonia)

Heat exchanging area 30m²~600m²

Nominal heat exchanging capacity 90KW~1580KW

Design pressure 1.6Mpa



Ammonia economizer

JJM2.5~JJM80

Applicable refrigerant R717(ammonia)

Heat exchanging area 2.5m²~80m²

Shell side design pressure 1.4Mpa

Tube side design pressure 2.0Mpa



Evaporative condenser

LNZ240~LNZ12800

Applicable refrigerant R717/R22

Nominal heat of rejection 240KW~12800KW

Design pressure 2.0Mpa



Siphon evaporator

ZFH30~ZFH420

Applicable refrigerant R717(ammonia)

Heat exchanging area 30m²~420m²

Nominal heat exchanging capacity 160KW~2225KW

Shell side design pressure 1.4Mpa

Tube side design pressure 0.6Mpa



Oil separator

Efficient oil separator YFL500G~YFL1600G

Flushing oil separator YFL325XD~YFL1000XD

Stuffing oil separator YFL400TL~YFL1000TL

Applicable refrigerant R717(ammonia)

Design pressure 1.4Mpa

制冷辅助设备 Refrigeration Auxiliary Equipment



Vertical gas liquid separator

QFL400 ~ QFL2000

Applicable refrigerant R717(ammonia)

Vessel diameter 400~2000mm

Design pressure 1.4Mpa



Siphon tank

HG0.5 ~ HG3.5

Applicable refrigerant R717(ammonia)

Volume 0.5m³~3.5m³

Design pressure 2.0Mpa



Liquid receiver with pump unit

Ammonia liquid receiver with pump unit

ZWB1.5 ~ ZWB15

Freon liquid receiver with pump unit

ZWF1.5~ZWF15

Applicable refrigerant R717/R22

Volume 1.5m³~15m³

Design pressure 1.4Mpa



Liquid receiver

ZY0.5 ~ ZY40

Applicable refrigerant R717(ammonia)

Volume 0.5m³~40m³

Design pressure 2.0Mpa



Liquid trap

ZY0.5 ~ ZY5

Applicable refrigerant R717(ammonia)

Volume 0.5m³~5m³

Design pressure 2.0Mpa



Low pressure circulation tank

Vertical low pressure circulation tank

DXL1.2 ~ DXL10

Horizontal low pressure circulation tank

DXW1 ~ DXW40

Applicable refrigerant R717(ammonia)

Volume 1.2m³~40m³

Design pressure 1.4Mpa

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YMC1-064B-2019

平板速冻机

Contact Freezer



Product features

■ 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.

■ 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.

■ 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 customers actual requirements.

The width design of the freezing plate considers convenient loading and unloading by operating personnel all the more.

MPF series contact freezers

■ 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.

Table of Performance Parameters of MPF Series Contact Freezers

Model	MPF960	MPF1200	MPF1500	MPF1800
Outline dimension L*W*H(mm)	3350*1680*2700 3150*1680*2700	3350*1680*3050 3150*1680*3050	3750*1680*3050 3550*1680*3050	3750*1680*3300 3550*1680*3300
Freezing plate size (mm)	1660*1261		2060*1261	
Effective layers of freezing plates	8	10	10	12
Inlet & outlet cargo core temperatures (°C)	+20/-18			
Nominal freezing capacity (kg/shift)	960	1200	1500	1800
Installed power (kW)	1.5			

MPF-(F)Z series contact freezers

■ 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.

Table of Performance Parameters of MPF-Z Series Contact Freezers

Model	MPF1210Z	MPF1430Z	MPF1694Z	MPF1210FZ	MPF1430FZ
Outline dimension L*W*H(mm)	4350*1940*3050 4350*1940*3050	4350*1940*3300 4350*1940*3300	4600*2160*3050	4630*1940*3050 5320*1940*3050	4750*1940*3300 4750*1940*3300
Freezing plate size (mm)	1418*1770		1732*1970	1418*1770	
Effective layers of freezing plates	11	13	11	11	13
Inlet & outlet cargo core temperatures (°C)	+20/-18			+20/-18	
Nominal freezing capacity (kg/shift)	1210	1430	1694	1210	1430
Installed power (kW)	50 66	65 80	95	50/68	70/82

MSP series contact freezers

■ 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.

Table of Performance Parameters of MSP Series Contact Freezers

Model	MSP1200	MSP1500	MSP2400	MSP3000
Outline dimension L*W*H(mm)	3450*1650*1920	3450*1650*2280	5450*1650*1920	5450*1650*2280
Freezing plate size (mm)	2060*1236		4060*1236	
Effective layers of freezing plates	8	10	8	10
Inlet & outlet cargo core temperatures (°C)	+20/-18			
Nominal freezing capacity (kg/shift)	1200	1500	2400	3000
Installed power (kW)	1.5	2.2	2.2	3

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流态化速冻装置 Fluidized Freezer



Two- stage fluidized quick freezer

■ The fluidized freezer consists of insulation structure, mesh belt, transmission system, vibration device, air distribution system, evaporator, feed inlet, discharge port and electric control system.

■ MVD series two- stage fluidized freezer: foods are frozen in two stages; quick freezing of surface layer is performed in the first stage; i.e. surface layer is quickly cooled to freezing point temperature, so that food particles are not mutually bonded under the action of the mechanical vibration device; then foods enter the second section via the intermediate guide plate for deep freezing, so that the core temperature of the particles of frozen foods reaches -18°C .

Product features

- High efficiency, energy saving, safety
- The reasonable and uniform air distribution mode realizes “full fluidization” of foods and reaches individual quick freezing effect with high efficiency.
- The totally enclosed insulation structure minimizes loss of refrigeration capacity and realizes remarkable energy saving effect.
- The thoroughly clean freezing environment meets the requirements of international food sanitation and safety as well as HACCP certification.

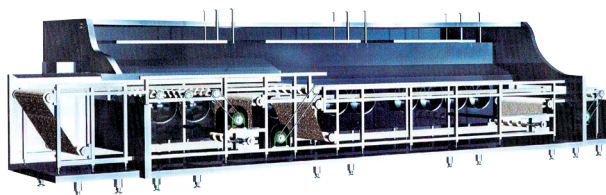
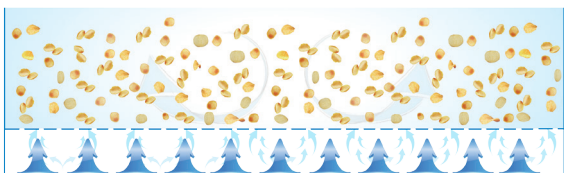


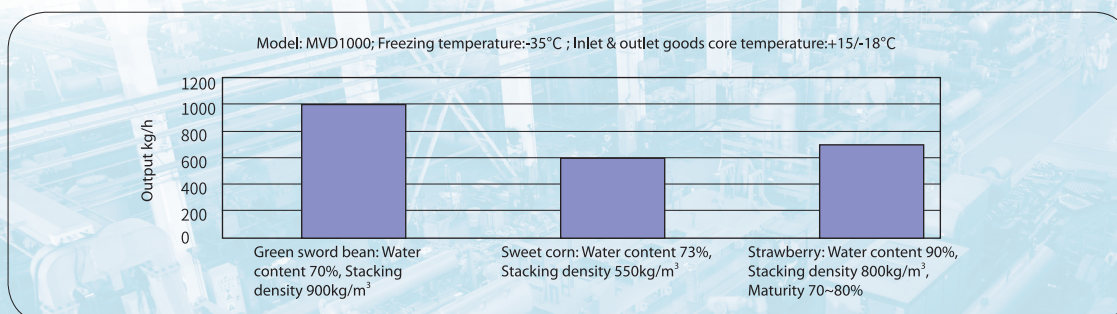
Table of performance parameters of MVD series fluidized freezers

Product model	MVD1000	MVD1500	MVD2000	MVD2500	MVD3000
Nominal freezing capacity (kg/h)	1000	1500	2000	2500	3000
Effective width of mesh belt (mm)	1150				
feed inlet height (mm)	100				
Inlet & outlet material goods core temperature (°C)	+15/-18				
frozen temperature (°C)	-35				
Defrosting water quantity (m ³ /time)	16	22	30	36	43
Cold consumption under nominal working conditions (kW)	150	220	290	360	430
Installed capacity (kW)	28	40	52	58	71
Net weight(t)	6	8	9.5	10	12
Operating weight (t)	6.6	8.8	10.5	11	13.2

Note: The nominal freezing capacity is designed as per green sword beans, with the water content of 70% and the material distribution density of 900kg/m³;

Freezing capacity comparison

■ The freezing capacity of the products of the same model is different for different foods or in different application environments. Taking MVD-1000 as an example, refer to the following figure for the output of certain frozen products at -35 °C freezing temperature:



Structural parameters

Product model	Total length L		Total width W		Total height H		Storage body length L1		Feeding height H1		Discharging height H2	
MVD1000	7890	7940	4500	4550	3200	3250	5820	5870	1800	1825	1100	1125
MVD1500	10800	10850					8730	8780				
MVD2000	12740	12790					10670	10720				
MVD2500	15650	15700					13580	13630				
MVD3000	18330	18380					16490	16540				

Note: the data in red fonts in the table denote the outside dimensions of the products manufactured by Yantai Moon Vietnam Production Base.

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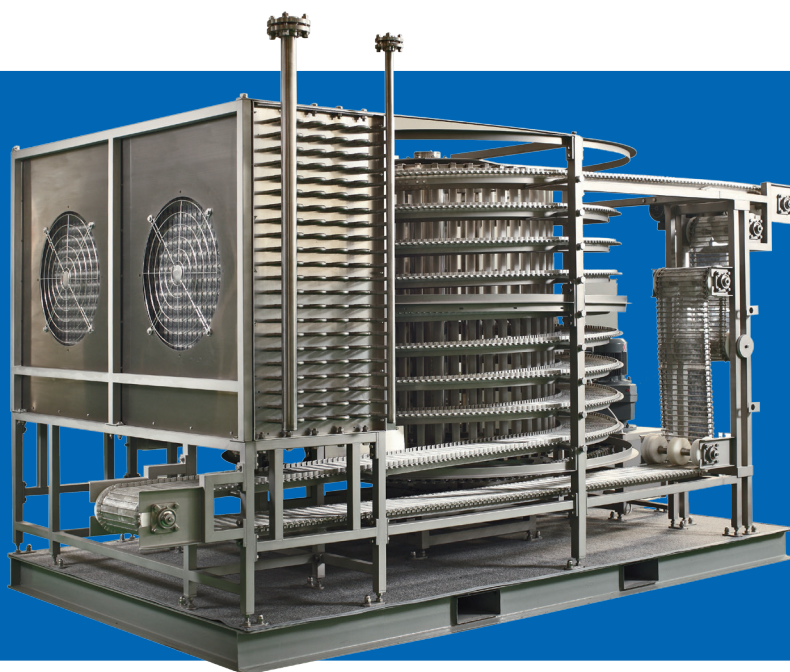
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螺旋速冻装置 Spiral Freezer



Product features

■ Excellent product quality

The products can provide uniform and high-efficiency closed circulating airflow needed to freeze high quality products. The uniquely designed air distribution mode forms independent freezing areas, and high efficiency airflows through mesh belts cause higher food freezing speed, larger production and lower weight loss, thereby realizing higher quality of frozen products.

■ High cleanliness and sanitation

High-strength stainless steel mesh belts and specially designed supporting structures are adopted, thus eliminating sanitation dead angles, making cleaning work easy and convenient and cleaning thorough and reaching the requirements of international food safety HACCP certification.

■ Considerable economic benefits

The design idea of the products is to maximize production and MTBF while minimizing your operation and maintenance cost, reducing the floor area of freezing areas as well as water consumption and power consumption and realizing the best economic benefits.

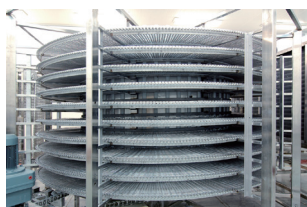
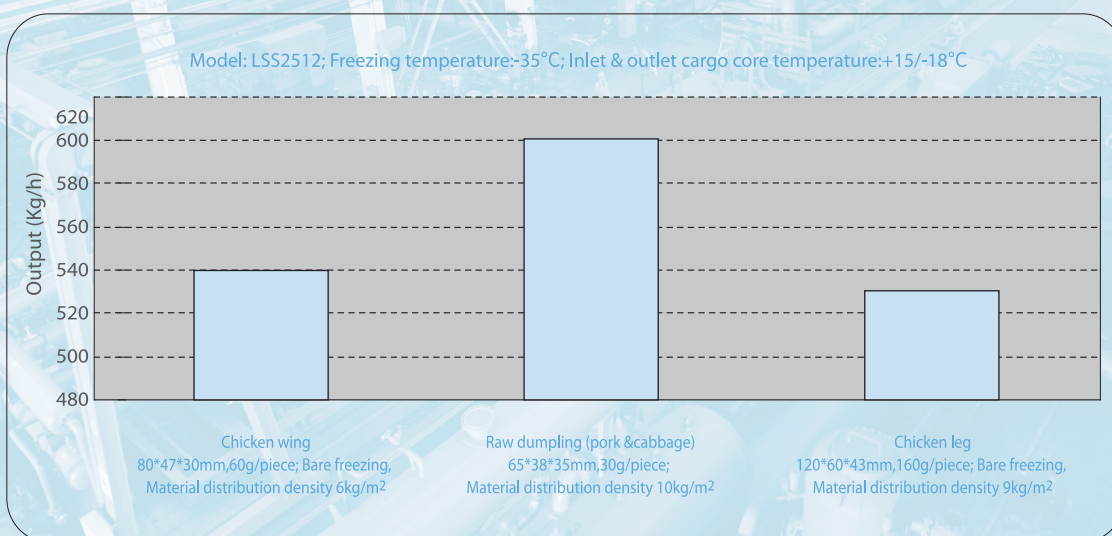


Table of performance parameters of LSS(D) series spiral freezers

Model	LSS2512	LSS3014	LSS3514	LSD2012	LSD2016	LSD2512	LSD2518	LSD3014	LSD3018
Nominal freezing capacity (kg/h)	500	800	1000	750	1000	1000	1500	1500	1500
Effective width of wire belt (mm)	580	680	780	480	480	580	580	680	680
Cargo-through height(mm)	90			90			90		
Inlet&outlet cargo core temperatures	+50/-18			+50/-18			+50/-18		
Freezing temperature(°C)	-35			-35			-35		
Defroting water quantity(m³/ time)	9	14.4	18	13.5	18	18	27	27	36
Cold consumption under nominal working conditions(KW)	90	145	180	140	180	180	240	240	320
Installed capacity(KW)	17.7	23.3	26.5	23.89	33.89	33.2	45.49	57	60
Net weight(T)	11	14	18	16	19	19	28	27	37
Operating weight(T)	12	15.5	20	17.5	21	21	31	30	40

Freezing capacity comparison

■ The freezing capacity of the products of the same model is different for different foods or in different application environments. Taking LSS2512 as an example, refer to the following figure for the output of part frozen products at -35°C freezing temperature:



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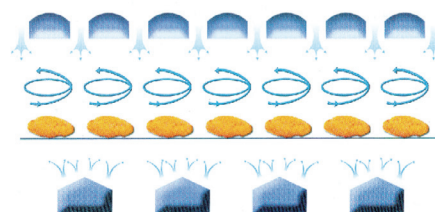
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隧道式速冻装置 Tunnel Freezer



“Two-way thermal fluctuation” air distribution system

■ The high-efficiency tunnel quick freezer has an air distribution system with “two-way thermal fluctuation” effect, so that high-speed uniform cold air currents are sprayed onto upper and lower surfaces of food in “pulsing mode”, and food surfaces are under the alternate action of vertical wind with vortex wind, thereby realizing quick and continuous heating between cold air currents and food surfaces and between food surfaces and food centers, effectively increasing food freezing speed and greatly improving food freezing quality.



Structure form

■ The tunnel freezer consists of feed inlet, insulation structure, discharge gate, conveyor belts, transmission system, evaporator, fan and electric control system. In terms of the number of conveyor belts, the tunnel freezer includes multiple forms such as single plate belt, single mesh belt, dual plate belt, dual mesh belt, etc. In the dual plate belt quick freezer or the dual mesh belt quick freezer, an insulation structure is separated by insulation boards into two relatively independent quick freezing spaces, which are fitted with two sets of completely independent transmission systems and air distribution systems. This greatly shortens the length of the processing workshop on the premise of meeting the customer's requirements for processing techniques and quality.



Performance parameters of MTS series tunnel (plate belt) freezers

Product model	MTS250	MTS500	MTS600	MTS750	MTS800	*MTS800	*MTS1000	*MTS1200	*MTS1500
Nominal freezing capacity (kg/h)	250	500	600	750	800	800	1000	1200	1500
Cold consumption under nominal working conditions (kW)	45	80	90	110	120	130	150	180	220

Performance parameters of MES series high-efficiency tunnel (plate belt) freezers

Product model	MES500	MES750
Nominal freezing capacity (kg/h)	500	750
Cold consumption under nominal working conditions (kW)	100	145

Performance parameters of MTN series tunnel (mesh belt) freezers

Product model	MTN 250 -1220	MTN 500 -1220	MTN 500 -1530	MTN 750 -1530	MTN 1000 -1530	MTN 500 -2030	MTN 750 -2030	MTN 1000 -2030	MTN 1500 -2030	MTN 2000 -2030	MTN 500 -2200	MTN 750 -2200	MTN 1000 -2200	MTN 1200 -2200	MTN 1500 -2200
Nominal freezing capacity (kg/h)	250	500	500	750	1000	500	750	1000	1500	2000	500	750	1000	1200	1500
Cold consumption under nominal working conditions (kW)	45	80	80	110	160	80	110	150	220	300	80	110	150	180	220

Product model	MTN 1500 -2200	MTN 2000 -2200	MTN 750 -2650	MTN 1000 -2650	MTN 1200 -2650	MTN 1500 -2650	MTN 1000 -3030	MTN 1200 -3030	MTN 1500 -3030	MTN 2000 -3030	MTN 1200 -3200	MTN 1500 -3200	MTN 2000 -3200	MTN 2500 -3200
Nominal freezing capacity (kg/h)	1500	2000	750	1000	1200	1500	1000	1200	1500	2000	1200	1500	2000	2500
Cold consumption under nominal working conditions (kW)	230	300	110	155	180	220	160	180	220	300	180	220	300	380

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