Carrier

Cold Storage

Refrigeration Total Solution

In 1902, Dr. Willis Carrier invented the first modern air conditioning system in the world, making him one of the 100 most influential people of the 20th century (*TIME* magazine).

Carrier Company

Carrier is a world leader in heating, air-conditioning and refrigeration solutions.

Haier Carrier

Haier Carrier Refrigeration Equipment Co., Ltd. (Qingdao) was a joint venture established by Haier Group and US Carrier in 2001. After more than ten years of development, it has become a world-class facility. Its products include supermarket display cabinets (more than 1,000 specifications), compressor units (scroll, piston and screw), and heat exchangers (air-cooled condenser and air cooler). It can provide customers with whole sets of freezing and refrigerating solutions. Relying on the support of Carrier's R&D centers in Mainz, Germany and Shanghai, China, the company now has a nationally recognized laboratory, and the products and system technologies of Haier Carrier are leading in the world. The company is committed to providing advanced energy-saving systems, including carbon dioxide systems, for customers in the Asia Pacific region.

In the past ten years, relying on abundant resources of the parent company, Haier Carrier has become a world-class facility that owns the ISO9001 certification and the ACE certification of United Technologies (Carrier's parent). With strong R&D strength, we are able to provide world-class freezing and refrigerating integrated solutions such as D2D hot gas defrosting (national patent), Ground Water (GSHP technology dedicated for freezing and refrigerating purposes), HybridCO2OL (carbon dioxide cascade refrigeration technology), and CO2OLtec (carbon dioxide transcritical refrigeration technology).

Carrier new intelligent production base

Carrier is committed to innovative revolution and intelligent manufacturing. Since December 18, 2018, Carrier's new intelligent production base was relocated to No. 3734, Tuanjie Road, Huangdao District, Qingdao.

The area of the new factory has been greatly expanded, and more newly upgraded production lines have been equipped, which has increased the production capacity by about 45%; the laboratories have been comprehensively upgraded, and the number has doubled. The laboratory has a complete set of experimental verification system and equipment. Currently, there are three double-station commercial display cabinet laboratories, which adopt domestic or international advanced equipment; product parameters meet or exceed national standards to protect food safety; a 24-hour multi-functional testing laboratory for air-cooled, water-cooled condensing units, as well as air coolers and condensers, can be used for timely detection to ensure energy-saving and reliable products, responsible for the end user.

Integrated System Method

D2D

Refrigeration Circuit, Gas-Liquid Separator and Heating And Cooling System

Our Patents

Refrigeration Display Case

Carrier has obtained nearly 100 patents for its core technologies in the field of commercial refrigeration. These patents are applied in Europe, the US, China and other countries and regions in the world, making Haier Carrier ahead in the industry in terms of depth and width.

Ter with Air Curtain

Shelf with Card Channel

Frame and Refrigerating Apparatus

Even Cleaning a Condenser

Design Application - a New Cabinet with Front Total Transparent and Sliding Glass /Filed

a New Glass Door Freezer with Bottom Sliding Baskets/Granted

Bactericidal Surface Protection

Pct/Ep2005/001785 Refrigeration Circuit

Oil Balancing Control for Compressors Working in Parallel

Refrigerated Case

Oil Compensation in a Refrigeration Circuit

Oil Accumulation in CO_2 Refrigeration Ejector Cycles

Compressor Oil Distribution Device in Systems with Different Crankcase Pressure

REDUCE YOUR CARBON FOOTPRINT AND ENERGY COSTS. NATURALLY.

Let's Work Together!

Certificate of Honor and Qualification Certificates

CHINASHOP Golden Wings

CHINASHOP Golden Wings
Practical Fresh Food 3rd Prize

CHINASHOP Golden Wings
Effective Stop-loss in Supply Chain 2nd Place

CHINASHOP Golden Wings
2018 Most Market-potential Products Of the Year

CHINASHOP Golden Wings
SLECTED CASE

CHINASHOP Golden Wings
SLECTED CASE

DNV Business Assurance
Management System Certificate

Environmental Management System Certificate

Utility Model Patent Certificate

National Industrial Product Production License

China Refrigeration 2021 Innovative Products

2017-2018 Golden Cold Chain Award - in China's Cold Chain Industry
Top Ten Refrigeration and Thermal Insulation Equipment Suppliers

The Best Partner Award
Lawson East China 1000 Stores Achievement Award

2021 China Cold Chain Logistics Innovation Case

GCCA Credit Certification

The Road of Innovation

In Haier Carrier, innovation is our philosophy all the time.

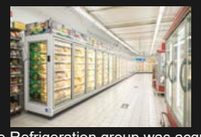
2001

The company was established

2003

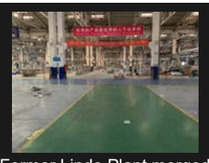
It started its export business

2004



Linde Refrigeration group was acquired by Carrier Corp
It started to cooperate with MNC chains

2008



Former Linde Plant merged with Carrier

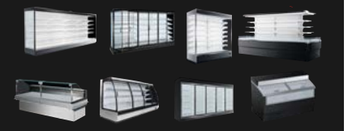
2012

The first store with CO_2 pumping system opened

2014

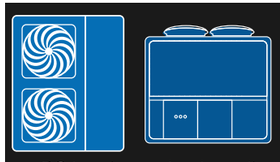
EEL Energy Efficiency Certification

GCCA Credit Certification



New supermarket & C-store products were launched

2015



DC-inverter condensing unit
1.5-46HP

2016

First batch of stores with Cascade CO_2 opened

Localized CO_2 units product line went into operation

2018

New factory in China went into operation

2019

Full series of air-cooling/water-cooling MT/LT DC inverter units

Frost-free DC inverter series

Total solution for the whole life cycle of the cold chain

2021

Carrier's Smart Cloud Service platform was officially launched

2022

The National Speed Skating Oval adopted the transcritical CO_2 ice making technology for the first time in Olympic history

GCCA Credit Certification

Carrier is
the First One Certified
by Commercial Refrigeration Enterprise

- The scope of certification covers cabinets and condensing units, ensuring the right temperature, food safety, and the advantage of energy efficiency.
- Certificated by Hefei General Machinery Product Certification Co., Ltd., a certification authority in the refrigeration industry.
- Cabinet remote type and plug-in open type.

“Forerunner” Certificate


企业标准“领跑者”证书
ENTERPRISE STANDARD FORERUNNER

Certificate No.: ESF2020-000C346408006601
Issued by: Hua Shang International Engineering Co., Ltd
Issue Date: December 19, 2020

Carrier won
the 2020 Enterprise Standard “Forerunner” Certificate

- The Enterprise Standard “Forerunner” System encourages enterprises to formulate enterprise standards higher than national, industry, and local standards by the government. Professional standardization organizations will compare and evaluate the published standards of enterprises. This system will improve the standard level as well as the product and service quality.
- The “Forerunner” series of evaluation standards cover nearly 200 industries with more than 160 institutions participating across the country.
- Carrier’s enterprise standard of “High-efficiency Commercial Refrigerated Display Case” is higher than the national standard and was awarded the Forerunner Certificate. We offer high-quality and excellent products for our business partners.

Outstanding staffs for superior services

- All service engineers of Carrier are refrigeration experts
- To improve the technical capacity of each engineer, we have developed well-targeted training and development plans for each engineer
- Carrier China Training Center enables every service engineer to quickly and comprehensively master the latest refrigeration servicing techniques

24/7 Call Center

- 24/7 repair call hotline
- Professionally trained customer service representatives at your services
- Advanced call-center system and database management system
- Whole-process tracking the operation of the equipment to ensure failure detection and timely repair
- All-round services, including sales, complaint handling and maintenance
- Call back to listen to what the customer has to say
- Evaluating service management to provide managers with services and product quality data

Remote control

- The software monitors the equipment in your stores and sends the information to Carrier Monitoring Center
- The information is analyzed by the engineers at the monitoring center
- If necessary, the engineers at the monitoring center will inform the related service technicians to check on site
- Carrier solves the equipment failures in the stores before the customers are aware of them

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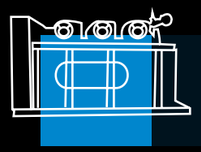
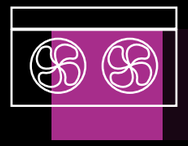


Mechanical Systems



Heat Exchanger

Features of Condensing Units

Energy Saving Solutions

Saturn Series

MT/LT Screw Parallel Racks

Customer Values

- 120 models, more flexible choices under corresponding cooling capacity
- Optimized structural parameters, compared with existing screw units for modular design
- Use the Carrier Carlyle stepless slide valve to regulate the compressor, saving energy by ~ 10% - 20%
- Siemens PLC controller, 10-inch graphical operation interface with friendly HMI, which is more versatile
- Suitable for various conventional refrigerants R22/R404A/R448A
- More customized and flexible option configuration
- New platform frame structure is convenient for maintenance

Design Features

- The total cooling capacity of the unit is 50~600HP, and refrigerants R404A, R22 and R448A are suitable
- Carlyle screw compressor, six low temperature and four medium temperature units, consisting of 1-4 compressor units. The unit has 1-4 heads, and the capacity adjustment range is:
  - Single head unit: 25 -100%
  - Two head units: 12.5% - 100%
  - Three head units: 8.3% - 100%
  - Four head units: 6.3% - 100%
- Plate economizer design
- Integrated skid (frame) design with compact structure
- Fully automatic control system for remote monitoring
- High-grade suppliers selected to ensure quality

	Compressor			Number of compressors and total HP			
Item	Model Shorthand	Model Full-written	HP	1	2	3	4
LT	06T S1R	06T SR137	50	50	100	150	200
	06T S2R	06T SR155	60	60	120	180	240
	06T S3R	06T SR186	75	75	150	225	300
	06T T1R	06T TR266	100	100	200	300	400
	06T T2R	06T TR301	125	125	250	375	500
	06T T3R	06T TR356	150	150	300	450	600
MT	06T S1M	06T SM137	60	60	120	180	240
	06T S2M	06T SM155	75	75	150	225	300
	06T T1M	06T TM266*	125	125	250	375	500
	06T T2M	06T TM301	150	150	300	450	600

* All comparisons are based on the product performances of last generation.

Application Scenarios

MT Screw Racks
Refrigerant: R404A/R22/R507A
Cooling capacity: 103~1050kW (R22)
112~1140kW (R404A/R507A)
Evaporation temperature: -15°C~+5°C
Storage temperature range: -10°C~+15°C

LT Screw Racks
Refrigerant: R404A/R22/R507A
Cooling capacity: 58~662kW (R22)
62~666kW (R404A/R507A)
Evaporation temperature: -45°C~-15°C
Storage temperature range: -40°C~-5°C

* The cooling capacity range is based on: evaporation temperature: medium temperature -10 °C, low temperature -30 °C; condensation temperature: 40 °C; supercooling / superheating: 0/10K

High Temperature Storage

Storage temperature: 0°C~10°C
Storage capacity: 1000~3500 t
Goods storage:
Vegetables, fruits, etc.

Medium Temperature Storage

Storage temperature: -20°C~0°C
Storage capacity: 2000~8000 t
Goods storage:
Meat, fish, etc.

Low Temperature Storage

Storage temperature: -40°C~-20°C
Storage capacity: 2000~8000 t
Goods storage:
Seafood, meat, ice cream, etc.

Single Quick Freezing Line

Freezing temperature: -28°C~-32°C
Quick freezing line capacity:
0.5 t/h ~ 2 t/h
Goods storage:
Seafood, frozen food, etc.

Product Standard Configuration Options

Standard configuration of LT racks:

- Compressor
- Economizer
- Integrated vertical reservoir
- Oil cooler
- Siemens PLC controller
- Oil cooling system
- Compressor suction valve, detachable suction filter
- Detachable removable oil filter
- Exhaust/return/liquid supply stop valve
- Oil separator

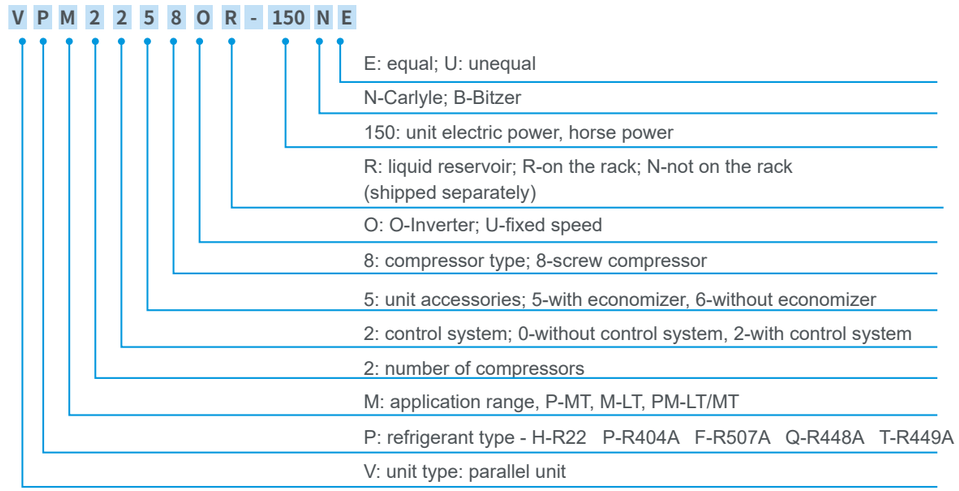
Standard configuration of MT racks:

- Compressor
- Integrated vertical reservoir
- Oil cooler
- Siemens PLC controller
- Compressor suction valve, detachable suction filter
- Detachable removable oil filter
- Exhaust/return/liquid supply stop valve
- Oil separator
- Detachable liquid supply drying filter

Product Standard Configuration Options

- Horizontal reservoirs, external reservoirs or increased reservoir volume
- Oil heating tape
- Split horizontal reservoir
- Barrel pump liquid supply
- Evaporative cooling control
- Inverter
- Multi-branch liquid supply/return assembly (including stop valve)
- Discharge air constant pressure valve (northern region)
- Oil cooling option: water cooling, air cooling, siphon cooling
- MT racks option
- Optional economizer for MT racks
- Optional oil distribution cooling for MT racks
- Shell and tube condenser

Naming Rule of Screw Units



LT Screw Parallel Racks Technical Parameters (R507A - with Economizer)

SDT=35°C					SST(°C)											
Item	Rack Model	HP	Compressor		-45		-40		-35		-30		-25		-20	
			Quantity	Model	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
1	VFM1258UR-50NE	50	1	06TSR137	33.4	35.3	43.8	36.8	55.8	38.5	69.3	40.2	83.9	42.1	99.9	44.1
2	VFM1258UR-60NE	60	1	06TSR155	37.9	36.9	48.9	38.7	61.6	40.5	75.8	42.6	91.3	44.8	108.2	47.1
3	VFM1258UR-75NE	75	1	06TSR186	46.9	40.9	58.5	43.3	72.0	45.8	87.2	48.5	103.9	51.3	122.0	54.3
4	VFM1258UR-100NE	100	1	06TTR266	68.9	67.2	88.2	69.7	111.0	72.4	137.3	75.2	166.9	78.1	199.8	81.0
5	VFM1258UR-125NE	125	1	06TTR301	82.6	72.5	104.7	75.9	130.5	79.5	159.7	83.4	192.0	87.5	227.1	91.8
6	VFM1258UR-150NE	150	1	06TTR356	97.5	78.5	121.3	82.7	149.4	87.4	181.6	92.6	218.0	98.4	258.4	104.5
7	VFM2258UR-100NE	100	2	06TSR137	66.8	70.6	87.7	73.6	111.7	76.9	138.5	80.5	167.8	84.2	199.7	88.3
8	VFM2258UR-120NE	120	2	06TSR155	75.8	73.9	97.8	77.3	123.1	81.1	151.5	85.1	182.6	89.5	216.3	94.3
9	VFM2258UR-150NE	150	2	06TSR186	93.8	81.8	117.0	86.5	144.0	91.6	174.4	96.9	207.8	102.6	244.0	108.5
10	VFM2258UR-200NE	200	2	06TTR266	137.8	134.4	176.5	139.4	222.0	144.8	274.5	150.4	333.7	156.2	399.6	162.1
11	VFM2258UR-250NE	250	2	06TTR301	165.1	145.0	209.4	151.8	261.0	159.1	319.4	166.8	384.0	174.9	454.2	183.5
12	VFM2258UR-300NE	300	2	06TTR356	195.0	157.0	242.5	165.3	298.8	174.7	363.3	185.3	436.0	196.7	516.7	209.0
13	VFM3258UR-150NE	150	3	06TSR137	100.2	105.9	131.5	110.4	167.5	115.4	207.8	120.7	251.7	126.4	299.6	132.4
14	VFM3258UR-180NE	180	3	06TSR155	113.7	110.8	146.6	116.0	184.7	121.6	227.3	127.7	274.0	134.3	324.5	141.4
15	VFM3258UR-225NE	225	3	06TSR186	140.7	122.6	175.6	129.8	216.0	137.4	261.5	145.4	311.7	153.9	366.0	162.8
16	VFM3258UR-300NE	300	3	06TTR266	206.8	201.5	264.7	209.1	333.0	217.2	411.8	225.5	500.6	234.2	599.4	243.1
17	VFM3258UR-375NE	375	3	06TTR301	247.7	217.5	314.1	227.6	391.5	238.6	479.1	250.1	575.9	262.4	681.3	275.3
18	VFM3258UR-450NE	450	3	06TTR356	292.6	235.5	363.8	248.0	448.2	262.1	544.9	277.9	654.0	295.1	775.1	313.4
19	VFM4258UR-200NE	200	4	06TSR137	133.6	141.2	175.4	147.2	223.3	153.8	277.0	160.9	335.6	168.5	399.5	176.5
20	VFM4258UR-240NE	240	4	06TSR155	151.6	147.7	195.5	154.6	246.2	162.1	303.0	170.2	365.3	179.1	432.6	188.5
21	VFM4258UR-300NE	300	4	06TSR186	187.6	163.5	234.1	173.0	288.0	183.2	348.7	193.9	415.6	205.2	488.0	217.0
22	VFM4258UR-400NE	400	4	06TTR266	275.7	268.7	352.9	278.8	444.0	289.6	549.0	300.7	667.4	312.3	799.2	324.2
23	VFM4258UR-500NE	500	4	06TTR301	330.2	290.0	418.8	303.5	522.0	318.1	638.8	333.5	767.9	349.8	908.4	367.0
24	VFM4258UR-600NE	600	4	06TTR356	390.1	314.0	485.0	330.6	597.6	349.4	726.6	370.5	872.0	393.5	1033.5	417.9

SDT=40°C					SST(°C)											
Item	Rack Model	HP	Compressor		-45		-40		-35		-30		-25		-20	
			Quantity	Model	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
1	VFM1258UR-50NE	50	1	06TSR137	29.8	39.1	39.8	40.7	51.3	42.4	64.3	44.3	78.4	46.2	94.0	48.3
2	VFM1258UR-60NE	60	1	06TSR155	34.3	40.8	45.0	42.6	57.3	44.5	71.0	46.7	86.1	48.9	102.4	51.4
3	VFM1258UR-75NE	75	1	06TSR186	43.6	45.0	54.8	47.5	67.8	50.2	82.5	53.0	98.6	56.0	116.1	59.1
4	VFM1258UR-100NE	100	1	06TTR266	62.8	74.7	81.3	77.4	103.3	80.1	128.4	83.0	156.8	86.0	188.3	89.1
5	VFM1258UR-125NE	125	1	06TTR301	76.6	79.8	98.1	83.4	123.3	87.2	151.6	91.3	183.0	95.5	217.1	100.1
6	VFM1258UR-150NE	150	1	06TTR356	91.7	86.4	114.5	90.7	141.5	95.5	172.5	101.0	207.3	106.9	245.9	113.3
7	VFM2258UR-100NE	100	2	06TSR137	59.6	78.1	79.6	81.3	102.6	84.8	128.6	88.5	156.8	92.5	188.0	96.7
8	VFM2258UR-120NE	120	2	06TSR155	68.7	81.6	89.9	85.2	114.5	89.1	142.0	93.3	172.2	97.9	204.9	102.8
9	VFM2258UR-150NE	150	2	06TSR186	87.1	90.0	109.5	95.0	135.6	100.3	164.9	106.0	197.2	111.9	232.1	118.2
10	VFM2258UR-200NE	200	2	06TTR266	125.6	149.5	162.7	154.7	206.5	160.3	256.8	166.1	313.6	172.1	376.7	178.2
11	VFM2258UR-250NE	250	2	06TTR301	153.1	159.6	196.3	166.7	246.5	174.3	303.2	182.5	366.0	191.1	434.1	200.1
12	VFM2258UR-300NE	300	2	06TTR356	183.3	172.7	229.0	181.3	283.0	191.1	345.0	201.9	414.6	213.8	491.7	226.5
13	VFM3258UR-150NE	150	3	06TSR137	89.4	117.2	119.3	122.0	154.0	127.3	193.0	132.8	235.3	138.7	282.1	145.0
14	VFM3258UR-180NE	180	3	06TSR155	103.0	122.4	134.9	127.8	171.8	133.6	213.1	140.0	258.4	146.8	307.3	154.1
15	VFM3258UR-225NE	225	3	06TSR186	130.7	134.9	164.3	142.5	203.3	150.5	247.4	158.9	295.8	167.9	348.2	177.2
16	VFM3258UR-300NE	300	3	06TTR266	188.3	224.2	244.0	232.1	309.8	240.4	385.3	249.1	470.4	258.1	565.0	267.4
17	VFM3258UR-375NE	375	3	06TTR301	229.7	239.4	294.4	250.1	369.8	261.5	454.9	273.8	549.0	286.6	651.2	300.2
18	VFM3258UR-450NE	450	3	06TTR356	275.0	259.1	343.5	272.0	424.4	286.6	517.5	302.9	621.9	320.7	737.6	339.8
19	VFM4258UR-200NE	200	4	06TSR137	119.2	156.2	159.1	162.7	205.3	169.7	257.3	177.0	313.7	185.0	376.1	193.4
20	VFM4258UR-240NE	240	4	06TSR155	137.3	163.2	179.9	170.4	229.0	178.1	284.1	186.6	344.5	195.8	409.8	205.5
21	VFM4258UR-300NE	300	4	06TSR186	174.2	179.9	219.0	190.0	271.1	200.6	329.8	211.9	394.4	223.8	464.2	236.3
22	VFM4258UR-400NE	400	4	06TTR266	251.1	299.0	325.4	309.5	413.0	320.6	513.7	332.2	627.2	344.2	753.3	356.5
23	VFM4258UR-500NE	500	4	06TTR301	306.2	319.2	392.5	333.5	493.0	348.7	606.5	365.0	732.0	382.2	868.2	400.3
24	VFM4258UR-600NE	600	4	06TTR356	366.6	345.5	458.0	362.6	565.9	382.2	690.0	403.8	829.2	427.6	983.4	453.1

SDT=45°C					SST(°C)											
Item	Rack Model	HP	Compressor		-45		-40		-35		-30		-25		-20	
			Quantity	Model	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
1	VFM1258UR-50NE	50	1	06TSR137	25.3	43.3	35.0	45.0	46.1	46.8	58.7	48.8	72.3	50.9	87.4	53.1
2	VFM1258UR-60NE	60	1	06TSR155	30.0	45.2	40.3	47.1	52.2	49.1	65.5	51.3	80.2	53.7	96.0	56.3
3	VFM1258UR-75NE	75	1	06TSR186	39.7	49.5	50.5	52.2	63.1	55.0	77.2	58.0	92.7	61.1	109.5	64.4
4	VFM1258UR-100NE	100	1	06TTR266	56.1	83.2	73.9	86.0	94.9	88.8	119.0	91.8	146.1	95.0	176.1	98.2
5	VFM1258UR-125NE	125	1	06TTR301	69.8	87.9	90.8	91.7	115.2	95.7	142.7	100.0	173.2	104.5	206.2	109.2
6	VFM1258UR-150NE	150	1	06TTR356	85.2	95.2	107.1	99.6	132.9	104.7	162.5	110.3	195.7	116.5	232.5	123.1
7	VFM2258UR-100NE	100	2	06TSR137	50.7	86.7	69.9	90.0	92.2	93.7	117.3	97.5	144.6	101.7	174.8	106.2
8	VFM2258UR-120NE	120	2	06TSR155	60.1	90.5	80.6	94.2	104.4	98.2	131.1	102.6	160.3	107.4	191.9	112.5
9	VFM2258UR-150NE	150	2	06TSR186	79.5	99.0	101.0	104.4	126.1	110.0	154.4	116.0	185.5	122.3	219.1	128.8
10	VFM2258UR-200NE	200	2	06TTR266	112.1	166.5	147.7	171.9	189.8	177.7	238.0	183.7	292.1	189.9	352.2	196.4
11	VFM2258UR-250NE	250	2	06TTR301	139.7	175.8	181.6	183.3	230.4	191.4	285.5	199.9	346.4	208.9	412.4	218.5
12	VFM2258UR-300NE	300	2	06TTR356	170.4	190.4	214.1	199.3	265.8	209.4	325.1	220.6	391.4	232.9	465.0	246.1
13	VFM3258UR-150NE	150	3	06TSR137	76.0	130.0	104.9	135.0	138.3	140.5	176.0	146.3	217.0	152.6	262.2	159.3
14	VFM3258UR-180NE	180	3	06TSR155	90.1	135.7	120.9	141.2	156.6	147.3	196.6	154.0	240.5	161.1	287.9	168.8
15	VFM3258UR-225NE	225	3	06TSR186	119.2	148.6	151.5	156.5	189.2	165.0	231.6	173.9	278.2	183.4	328.6	193.3
16	VFM3258UR-300NE	300	3	06TTR266	168.2	249.7	221.6	257.9	284.6	266.5	356.9	275.5	438.2	284.9	528.3	294.5
17	VFM3258UR-375NE	375	3	06TTR301	209.5	263.7	272.4	275.0	345.5	287.1	428.2	299.9	519.5	313.4	618.6	327.7
18	VFM3258UR-450NE	450	3	06TTR356	255.5	285.6	321.2	298.9	398.7	314.1	487.6	330.9	587.1	349.4	697.4	369.2
19	VFM4258UR-200NE	200	4	06TSR137	101.3	173.3	139.8	180.0	184.4	187.3	234.6	195.1	289.3	203.4	349.6	212.4
20	VFM4258UR-240NE	240	4	06TSR155	120.1	181.0	161.2	188.3	208.8	196.4	262.1	205.3	320.7	214.8	383.8	225.0
21	VFM4258UR-300NE	300	4	06TSR186	158.9	198.1	202.0	208.7	252.2	220.0	308.8	231.9	371.0	244.5	438.2	257.7
22	VFM4258UR-400NE	400	4	06TTR266	224.3	332.9	295.5	343.8	379.5	355.3	475.9	367.3	584.2	379.8	704.4	392.7
23	VFM4258UR-500NE	500	4	06TTR301	279.3	351.6	363.2	366.6	460.7	382.8	571.0	399.8	692.7	417.9	824.8	437.0
24	VFM4258UR-600NE	600	4	06TTR356	340.7	380.8	428.3	398.6	531.6	418.8	650.1	441.2	782.8	465.8	929.9	492.2

MT Screw Parallel Racks Technical Parameters (R507A - with Economizer)

SDT=35°C				SST(°C)									
Item	Rack Model	HP	Compressor		-15		-10		-5		0		5	
			Quantity	Model	Q	P	Q	P	Q	P	Q	P	Q	P
1	VFP1268UR-60NE	60	1	06TSM137	129.8	45.4	153.3	46.9	179.6	48.3	208.6	49.5	240.2	50.4
2	VFP1268UR-75NE	75	1	06TSM155	142.0	50.2	166.8	52.2	194.3	54.1	224.5	55.8	257.4	57.1
3	VFP1268UR-125NE	125	1	06TTM266	280.2	87.3	327.9	90.5	381.2	93.7	440.3	96.5	504.9	98.4
4	VFP1268UR-150NE	150	1	06TTM301	309.1	97.1	360.1	101.5	416.9	105.7	479.5	109.6	547.8	112.0
5	VFP2268UR-120NE	120	2	06TSM137	259.6	90.9	306.7	93.8	359.2	96.6	417.1	99.0	480.4	100.7
6	VFP2268UR-150NE	150	2	06TSM155	284.0	100.3	333.5	104.3	388.6	108.2	449.0	111.7	514.7	114.2
7	VFP2268UR-250NE	250	2	06TTM266	560.4	174.5	655.8	181.1	762.5	187.4	880.5	193.0	1009.8	196.9
8	VFP2268UR-300NE	300	2	06TTM301	618.2	194.1	720.3	202.9	833.9	211.5	959.0	219.3	1095.6	224.0
9	VFP3268UR-180NE	180	3	06TSM137	389.4	136.3	460.0	140.7	538.8	144.9	625.7	148.5	720.6	151.1
10	VFP3268UR-225NE	225	3	06TSM155	426.0	150.5	500.3	156.5	583.0	162.2	673.6	167.5	772.1	171.3
11	VFP3268UR-375NE	375	3	06TTM266	840.6	261.8	983.6	271.6	1143.7	281.1	1320.8	289.6	1514.7	295.3
12	VFP3268UR-450NE	450	3	06TTM301	927.3	291.2	1080.4	304.4	1250.8	317.2	1438.5	328.9	1643.4	336.0
13	VFP4268UR-240NE	240	4	06TSM137	519.2	181.7	613.4	187.6	718.4	193.2	834.3	198.0	960.8	201.4
14	VFP4268UR-300NE	300	4	06TSM155	568.0	200.6	667.1	208.6	777.3	216.3	898.1	223.4	1029.4	228.4
15	VFP4268UR-500NE	500	4	06TTM266	1120.8	349.0	1311.5	362.2	1524.9	374.8	1761.0	386.1	2019.6	393.7
16	VFP4268UR-600NE	600	4	06TTM301	1236.4	388.2	1440.5	405.8	1667.8	423.0	1918.0	438.6	2191.2	448.0

SDT=40°C				SST(°C)									
Item	Rack Model	HP	Compressor		-15		-10		-5		0		5	
			Quantity	Model	Q	P	Q	P	Q	P	Q	P	Q	P
1	VFP1268UR-60NE	60	1	06TSM137	122.6	49.7	145.1	51.4	170.3	53.0	198.1	54.4	228.3	55.7
2	VFP1268UR-75NE	75	1	06TSM155	134.3	54.5	157.9	56.8	184.2	59.0	213.1	61.0	244.4	62.8
3	VFP1268UR-125NE	125	1	06TTM266	265.5	95.0	311.3	98.7	362.4	102.2	418.9	105.6	480.8	108.4
4	VFP1268UR-150NE	150	1	06TTM301	293.3	105.1	342.2	109.9	396.7	114.7	456.6	119.2	521.8	123.1
5	VFP2268UR-120NE	120	2	06TSR137	245.1	99.5	290.2	102.8	340.6	106.0	396.1	108.9	456.7	111.3
6	VFP2268UR-150NE	150	2	06TSR155	268.5	109.1	315.8	113.5	368.4	117.9	426.2	122.0	488.8	125.5
7	VFP2268UR-250NE	250	2	06TSR186	531.0	190.0	622.5	197.3	724.9	204.4	837.9	211.1	961.7	216.9
8	VFP2268UR-300NE	300	2	06TTR266	586.6	210.2	684.4	219.9	793.5	229.3	913.2	238.4	1043.6	246.2
9	VFP3268UR-180NE	180	3	06TSR137	367.7	149.2	435.3	154.2	510.9	159.0	594.2	163.3	685.0	167.0
10	VFP3268UR-225NE	225	3	06TSR155	402.8	163.6	473.7	170.3	552.7	176.9	639.2	182.9	733.3	188.3
11	VFP3268UR-375NE	375	3	06TSR186	796.5	284.9	933.8	296.0	1087.3	306.6	1256.8	316.7	1442.5	325.3
12	VFP3268UR-450NE	450	3	06TTR266	879.9	315.3	1026.6	329.8	1190.2	344.0	1369.8	357.6	1565.3	369.3
13	VFP4268UR-240NE	240	4	06TSR137	490.3	198.9	580.4	205.6	681.2	212.0	792.2	217.8	913.4	222.6
14	VFP4268UR-300NE	300	4	06TSR155	537.0	218.1	631.6	227.1	736.9	235.8	852.3	243.9	977.7	251.0
15	VFP4268UR-500NE	500	4	06TSR186	1062.0	379.9	1245.0	394.6	1449.7	408.8	1675.8	422.3	1923.4	433.7
16	VFP4268UR-600NE	600	4	06TTR266	1173.2	420.4	1368.8	439.8	1587.0	458.7	1826.4	476.8	2087.1	492.4

SDT=45°C				SST(°C)									
Item	Rack Model	HP	Compressor		-15		-10		-5		0		5	
			Quantity	Model	Q	P	Q	P	Q	P	Q	P	Q	P
1	VFP1268UR-60NE	60	1	06TSM137	114.4	54.7	136.0	56.5	160.1	58.3	186.6	60.0	215.4	61.5
2	VFP1268UR-75NE	75	1	06TSM155	125.4	59.7	147.9	62.2	173.0	64.5	200.4	66.8	230.2	68.9
3	VFP1268UR-125NE	125	1	06TTM266	248.9	103.8	292.6	107.8	341.5	111.7	395.4	115.5	454.2	119.1
4	VFP1268UR-150NE	150	1	06TTM301	275.1	114.4	321.9	119.6	373.9	124.8	431.0	129.9	493.0	134.6
5	VFP2268UR-120NE	120	2	06TSM137	228.8	109.4	271.9	113.1	320.1	116.6	373.2	119.9	430.8	122.9
6	VFP2268UR-150NE	150	2	06TSM155	250.8	119.4	295.9	124.3	346.0	129.1	400.9	133.7	460.4	137.9
7	VFP2268UR-250NE	250	2	06TTM266	497.7	207.5	585.2	215.5	683.0	223.4	790.7	231.0	908.5	238.1
8	VFP2268UR-300NE	300	2	06TTM301	550.2	228.8	643.8	239.2	747.9	249.6	861.9	259.7	985.9	269.1
9	VFP3268UR-180NE	180	3	06TSM137	343.2	164.1	407.9	169.6	480.2	174.9	559.8	179.9	646.3	184.4
10	VFP3268UR-225NE	225	3	06TSM155	376.1	179.1	443.8	186.5	519.0	193.6	601.3	200.5	690.6	206.8
11	VFP3268UR-375NE	375	3	06TTM266	746.6	311.3	877.7	323.3	1024.4	335.1	1186.1	346.5	1362.7	357.2
12	VFP3268UR-450NE	450	3	06TTM301	825.3	343.2	965.6	358.8	1121.8	374.3	1292.9	389.6	1478.9	403.7
13	VFP4268UR-240NE	240	4	06TSM137	457.6	218.8	543.9	226.1	640.2	233.2	746.4	239.8	861.7	245.9
14	VFP4268UR-300NE	300	4	06TSM155	501.5	238.8	591.7	248.6	692.0	258.2	801.8	267.4	920.8	275.7
15	VFP4268UR-500NE	500	4	06TTM266	995.4	415.0	1170.3	431.0	1365.9	446.8	1581.5	462.0	1816.9	476.2
16	VFP4268UR-600NE	600	4	06TTM301	1100.4	457.6	1287.5	478.4	1495.8	499.1	1723.8	519.4	1971.8	538.2

LT Screw Parallel Racks Technical Parameters (R404A - with Economizer)

SDT=35°C					SST(°C)											
Item	Rack Model	HP	Compressor		-45		-40		-35		-30		-25		-20	
			Quantity	Model	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
1	VPM1258UR-50NE	50	1	06TSR137	31.9	33.7	42.0	35.2	53.6	36.8	66.8	38.5	81.2	40.3	96.8	42.2
2	VPM1258UR-60NE	60	1	06TSR155	35.8	35.4	46.5	37.0	58.9	38.8	72.8	40.8	88.1	43.0	104.6	45.3
3	VPM1258UR-75NE	75	1	06TSR186	44.5	39.3	55.8	41.6	69.0	44.1	83.9	46.7	100.4	49.5	118.3	52.4
4	VPM1258UR-100NE	100	1	06TTR266	65.5	64.7	84.2	67.2	106.5	69.9	132.2	72.6	161.2	75.4	193.5	78.3
5	VPM1258UR-125NE	125	1	06TTR301	78.2	69.8	99.8	73.1	125.0	76.7	153.5	80.4	185.2	84.4	219.7	88.6
6	VPM1258UR-150NE	150	1	06TTR356	92.7	75.5	115.9	79.6	143.4	84.2	175.1	89.3	210.8	94.9	250.6	100.8
7	VPM2258UR-100NE	100	2	06TSR137	63.7	67.4	84.0	70.4	107.3	73.6	133.5	76.9	162.4	80.5	193.5	84.3
8	VPM2258UR-120NE	120	2	06TSR155	71.7	70.7	93.0	74.0	117.7	77.6	145.5	81.6	176.1	85.9	209.2	90.6
9	VPM2258UR-150NE	150	2	06TSR186	88.9	78.6	111.6	83.3	138.0	88.2	167.9	93.4	200.8	99.0	236.6	104.7
10	VPM2258UR-200NE	200	2	06TTR266	131.0	129.5	168.4	134.5	213.0	139.7	264.3	145.2	322.4	150.8	387.1	156.6
11	VPM2258UR-250NE	250	2	06TTR301	156.5	139.6	199.5	146.2	249.9	153.3	307.0	160.8	370.4	168.8	439.4	177.2
12	VPM2258UR-300NE	300	2	06TTR356	185.4	151.1	231.7	159.2	286.8	168.4	350.2	178.6	421.6	189.8	501.1	201.6
13	VPM3258UR-150NE	150	3	06TSR137	95.6	101.2	126.0	105.6	160.9	110.3	200.3	115.4	243.6	120.8	290.3	126.5
14	VPM3258UR-180NE	180	3	06TSR155	107.5	106.1	139.5	111.0	176.6	116.4	218.3	122.3	264.2	128.9	313.8	135.9
15	VPM3258UR-225NE	225	3	06TSR186	133.4	118.0	167.4	124.9	207.0	132.3	251.8	140.1	301.2	148.4	354.9	157.1
16	VPM3258UR-300NE	300	3	06TTR266	196.4	194.2	252.6	201.7	319.4	209.6	396.5	217.8	483.5	226.2	580.6	234.9
17	VPM3258UR-375NE	375	3	06TTR301	234.7	209.4	299.3	219.4	374.9	230.0	460.6	241.3	555.6	253.2	659.1	265.8
18	VPM3258UR-450NE	450	3	06TTR356	278.1	226.6	347.6	238.7	430.2	252.5	525.3	267.9	632.4	284.7	751.7	302.5
19	VPM4258UR-200NE	200	4	06TSR137	127.4	134.9	168.0	140.8	214.5	147.1	267.0	153.8	324.8	161.0	387.1	168.7
20	VPM4258UR-240NE	240	4	06TSR155	143.4	141.4	186.0	148.0	235.5	155.2	291.1	163.1	352.2	171.8	418.4	181.2
21	VPM4258UR-300NE	300	4	06TSR186	177.8	157.3	223.2	166.5	276.0	176.4	335.8	186.8	401.6	197.9	473.2	209.5
22	VPM4258UR-400NE	400	4	06TTR266	261.9	258.9	336.8	268.9	425.9	279.4	528.6	290.4	644.7	301.6	774.2	313.2
23	VPM4258UR-500NE	500	4	06TTR301	312.9	279.2	399.0	292.5	499.8	306.6	614.1	321.7	740.8	337.6	878.8	354.4
24	VPM4258UR-600NE	600	4	06TTR356	370.8	302.1	463.4	318.3	573.6	336.7	700.4	357.2	843.2	379.6	1002.2	403.3

SDT=40°C					SST(°C)											
Item	Rack Model	HP	Compressor		-45		-40		-35		-30		-25		-20	
			Quantity	Model	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
1	VPM1258UR-50NE	50	1	06TSR137	28.5	37.3	38.2	38.9	49.5	40.5	62.1	42.3	76.1	44.2	91.2	46.2
2	VPM1258UR-60NE	60	1	06TSR155	32.5	39.0	42.9	40.7	54.8	42.6	68.3	44.7	83.1	46.9	99.2	49.4
3	VPM1258UR-75NE	75	1	06TSR186	41.3	43.3	52.3	45.7	65.1	48.3	79.5	51.1	95.4	54.0	112.7	57.0
4	VPM1258UR-100NE	100	1	06TTR266	59.7	72.1	77.8	74.7	99.2	77.4	123.9	80.2	151.7	83.4	182.8	86.2
5	VPM1258UR-125NE	125	1	06TTR301	72.6	76.9	93.6	80.3	118.1	84.1	145.9	88.0	176.8	92.2	210.4	96.6
6	VPM1258UR-150NE	150	1	06TTR356	87.2	83.1	109.5	87.3	136.0	92.1	166.5	97.4	200.9	103.1	238.9	109.3
7	VPM2258UR-100NE	100	2	06TSR137	57.0	74.6	76.4	77.8	98.9	81.1	124.2	84.6	152.2	88.4	182.4	92.5
8	VPM2258UR-120NE	120	2	06TSR155	65.0	78.0	85.7	81.4	109.6	85.2	136.6	89.4	166.3	93.8	198.4	98.7
9	VPM2258UR-150NE	150	2	06TSR186	82.6	86.5	104.5	91.4	130.1	96.6	159.0	102.1	190.8	108.0	225.4	114.1
10	VPM2258UR-200NE	200	2	06TTR266	119.4	144.1	155.6	149.3	198.4	154.7	247.8	160.4	303.5	166.9	365.5	172.3
11	VPM2258UR-250NE	250	2	06TTR301	145.2	153.7	187.2	160.7	236.2	168.1	291.8	176.1	353.6	184.4	420.7	193.2
12	VPM2258UR-300NE	300	2	06TTR356	174.4	166.3	219.1	174.6	272.1	184.1	333.0	194.7	401.7	206.3	477.8	218.7
13	VPM3258UR-150NE	150	3	06TSR137	85.5	112.0	114.6	116.6	148.4	121.6	186.4	127.0	228.3	132.6	273.7	138.7
14	VPM3258UR-180NE	180	3	06TSR155	97.6	117.1	128.6	122.2	164.5	127.8	204.9	134.0	249.4	140.8	297.6	148.1
15	VPM3258UR-225NE	225	3	06TSR186	123.9	129.8	156.8	137.1	195.2	144.9	238.4	153.2	286.3	161.9	338.1	171.1
16	VPM3258UR-300NE	300	3	06TTR266	179.2	216.2	233.4	224.0	297.6	232.1	371.6	240.6	455.2	250.3	548.3	258.5
17	VPM3258UR-375NE	375	3	06TTR301	217.8	230.6	280.8	241.0	354.4	252.2	437.7	264.1	530.4	276.6	631.1	289.8
18	VPM3258UR-450NE	450	3	06TTR356	261.7	249.4	328.6	261.9	408.1	276.2	499.5	292.1	602.6	309.4	716.7	328.0
19	VPM4258UR-200NE	200	4	06TSR137	114.0	149.3	152.8	155.5	197.8	162.2	248.5	169.3	304.4	176.8	364.9	184.9
20	VPM4258UR-240NE	240	4	06TSR155	130.1	156.1	171.4	162.9	219.3	170.4	273.2	178.7	332.6	187.7	396.8	197.4
21	VPM4258UR-300NE	300	4	06TSR186	165.2	173.1	209.1	182.8	260.2	193.2	317.9	204.2	381.7	215.9	450.8	228.1
22	VPM4258UR-400NE	400	4	06TTR266	238.9	288.3	311.2	298.6	396.8	309.5	495.5	320.8	607.0	333.8	731.0	344.6
23	VPM4258UR-500NE	500	4	06TTR301	290.4	307.4	374.4	321.3	472.5	336.3	583.6	352.2	707.2	368.8	841.4	386.4
24	VPM4258UR-600NE	600	4	06TTR356	348.9	332.5	438.2	349.2	544.1	368.3	666.0	389.4	803.4	412.5	955.6	437.4

SDT=45°C				SST(°C)											
Item	Rack Model	HP	Compressor		-45		-40		-35		-30		-25		-20	
			Quantity	Model	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
1	VPM1258UR-50NE	50	1	06TSR137	24.4	41.5	33.7	43.1	44.6	44.9	56.8	46.8	70.3	48.8	85.0	50.9
2	VPM1258UR-60NE	60	1	06TSR155	28.5	43.4	38.5	45.1	50.0	47.1	63.1	49.2	77.5	51.6	93.1	54.1
3	VPM1258UR-75NE	75	1	06TSR186	37.7	47.7	48.3	50.2	60.6	53.0	74.5	55.9	89.9	59.0	106.6	62.2
4	VPM1258UR-100NE	100	1	06TTR266	53.4	80.3	70.8	83.0	91.4	85.8	115.1	88.7	141.7	91.8	171.3	94.9
5	VPM1258UR-125NE	125	1	06TTR301	66.3	84.7	86.7	88.3	110.5	92.3	137.6	96.4	167.5	100.9	200.1	105.5
6	VPM1258UR-150NE	150	1	06TTR356	81.2	91.6	102.6	96.0	128.1	100.9	157.3	106.4	190.1	112.4	226.5	118.8
7	VPM2258UR-100NE	100	2	06TSR137	48.9	83.1	67.5	86.3	89.1	89.8	113.6	93.5	140.6	97.5	169.9	101.8
8	VPM2258UR-120NE	120	2	06TSR155	56.9	86.7	76.9	90.2	100.1	94.2	126.2	98.5	155.0	103.2	186.1	108.2
9	VPM2258UR-150NE	150	2	06TSR186	75.4	95.3	96.5	100.4	121.2	105.9	149.0	111.8	179.8	117.9	213.1	124.4
10	VPM2258UR-200NE	200	2	06TTR266	106.8	160.6	141.6	166.0	182.7	171.6	230.1	177.5	283.5	183.6	342.7	189.9
11	VPM2258UR-250NE	250	2	06TTR301	132.6	169.3	173.3	176.7	221.1	184.6	275.2	192.9	335.1	201.7	400.2	211.0
12	VPM2258UR-300NE	300	2	06TTR356	162.3	183.3	205.2	191.9	256.1	201.8	314.6	212.7	380.2	224.7	452.9	237.6
13	VPM3258UR-150NE	150	3	06TSR137	73.3	124.6	101.2	129.4	133.7	134.6	170.4	140.3	210.9	146.3	254.9	152.7
14	VPM3258UR-180NE	180	3	06TSR155	85.4	130.1	115.4	135.3	150.1	141.2	189.4	147.7	232.5	154.7	279.2	162.3
15	VPM3258UR-225NE	225	3	06TSR186	113.1	143.0	144.8	150.7	181.7	158.9	223.6	167.7	269.7	176.9	319.7	186.5
16	VPM3258UR-300NE	300	3	06TTR266	160.3	240.9	212.3	248.9	274.1	257.4	345.2	266.2	425.2	275.3	514.0	284.8
17	VPM3258UR-375NE	375	3	06TTR301	198.8	254.0	260.0	265.0	331.6	276.8	412.8	289.3	502.6	302.6	600.3	316.5
18	VPM3258UR-450NE	450	3	06TTR356	243.5	274.9	307.9	287.9	384.2	302.6	471.8	319.1	570.3	337.1	679.4	356.4
19	VPM4258UR-200NE	200	4	06TSR137	97.7	166.2	134.9	172.6	178.2	179.5	227.2	187.0	281.2	195.0	339.8	203.6
20	VPM4258UR-240NE	240	4	06TSR155	113.9	173.4	153.9	180.4	200.2	188.3	252.5	196.9	310.0	206.3	372.2	216.4
21	VPM4258UR-300NE	300	4	06TSR186	150.8	190.6	193.0	200.9	242.3	211.9	298.1	223.6	359.6	235.8	426.3	248.7
22	VPM4258UR-400NE	400	4	06TTR266	213.7	321.2	283.1	331.9	365.4	343.2	460.2	354.9	566.9	367.1	685.4	379.8
23	VPM4258UR-500NE	500	4	06TTR301	265.1	338.6	346.7	353.4	442.1	369.1	550.4	385.7	670.2	403.4	800.4	422.0
24	VPM4258UR-600NE	600	4	06TTR356	324.7	366.5	410.5	383.9	512.3	403.5	629.1	425.4	760.4	449.4	905.8	475.2

MT Screw Parallel Racks Technical Parameters (R404A - with Economizer)

SDT=35°C				SST(°C)									
Item	Rack Model	HP	Compressor		-15		-10		-5		0		5	
			Quantity	Model	Q	P	Q	P	Q	P	Q	P	Q	P
1	VPP1268UR-60NE	60	1	06TSM137	122.9	43.7	146.8	45.2	173.8	46.8	203.7	48.2	236.4	49.5
2	VPP1268UR-75NE	75	1	06TSM155	136.8	48.5	163.7	50.4	193.8	52.2	227.2	53.8	263.7	55.0
3	VPP1268UR-125NE	125	1	06TTM266	265.0	84.3	313.3	87.8	367.8	91.4	428.4	94.7	494.9	97.7
4	VPP1268UR-150NE	150	1	06TTM301	298.2	93.8	353.3	98.2	415.2	102.5	483.9	105.9	559.2	106.7
7	VPP2268UR-120NE	120	2	06TSM137	245.7	87.3	293.6	90.5	347.6	93.5	407.4	96.4	472.8	99.0
8	VPP2268UR-150NE	150	2	06TSM155	273.6	97.0	327.4	100.9	387.7	104.5	454.5	107.6	527.4	109.9
9	VPP2268UR-250NE	250	2	06TTM266	530.0	168.5	626.6	175.6	735.7	182.7	856.7	189.5	989.7	195.3
10	VPP2268UR-300NE	300	2	06TTM301	596.4	187.5	706.6	196.5	830.5	204.9	967.8	211.8	1118.4	213.4
13	VPP3268UR-180NE	180	3	06TSM137	368.6	131.0	440.4	135.7	521.3	140.3	611.0	144.6	709.2	148.4
14	VPP3268UR-225NE	225	3	06TSM155	410.5	145.5	491.0	151.3	581.5	156.7	681.7	161.5	791.2	164.9
15	VPP3268UR-375NE	375	3	06TTM266	795.1	252.8	940.0	263.5	1103.5	274.1	1285.1	284.2	1484.6	293.0
16	VPP3268UR-450NE	450	3	06TTM301	894.6	281.3	1059.9	294.7	1245.7	307.4	1451.8	317.7	1677.6	320.0
19	VPP4268UR-240NE	240	4	06TSM137	491.4	174.6	587.2	180.9	695.1	187.0	814.7	192.8	945.6	197.9
20	VPP4268UR-300NE	300	4	06TSM155	547.3	194.0	654.7	201.7	775.3	209.0	908.9	215.3	1054.9	219.8
21	VPP4268UR-500NE	500	4	06TTM266	1060.1	337.0	1253.3	351.3	1471.4	365.4	1713.4	379.0	1979.4	390.7
22	VPP4268UR-600NE	600	4	06TTM301	1192.8	375.0	1413.2	392.9	1660.9	409.8	1935.7	423.6	2236.8	426.7

SDT=40°C				SST(°C)									
Item	Rack Model	HP	Compressor		-15		-10		-5		0		5	
			Quantity	Model	Q	P	Q	P	Q	P	Q	P	Q	P
1	VPP1268UR-60NE	60	1	06TSM137	118.0	48.0	139.7	49.7	164.5	51.4	192.1	52.9	222.3	54.4
2	VPP1268UR-75NE	75	1	06TSM155	129.9	52.8	153.9	55.0	181.1	57.1	211.5	59.0	244.9	60.6
3	VPP1268UR-125NE	125	1	06TTM266	255.6	92.0	299.5	95.7	349.4	99.5	405.0	103.2	466.4	106.7
4	VPP1268UR-150NE	150	1	06TTM301	284.1	101.6	333.7	106.4	390.0	111.1	452.7	115.5	521.7	119.2
7	VPP2268UR-120NE	120	2	06TSM137	236.0	96.1	279.5	99.5	329.0	102.7	384.1	105.9	444.7	108.8
8	VPP2268UR-150NE	150	2	06TSM155	259.7	105.6	307.8	109.9	362.3	114.1	423.0	118.0	489.7	121.2
9	VPP2268UR-250NE	250	2	06TTM266	511.2	183.9	599.0	191.4	698.7	199.0	810.0	206.4	932.9	213.3
10	VPP2268UR-300NE	300	2	06TTM301	568.2	203.2	667.4	212.7	780.0	222.1	905.5	231.0	1043.5	238.3
13	VPP3268UR-180NE	180	3	06TSM137	354.1	144.1	419.2	149.2	493.5	154.1	576.2	158.8	667.0	163.2
14	VPP3268UR-225NE	225	3	06TSM155	389.6	158.3	461.6	164.9	543.4	171.2	634.5	176.9	734.6	181.9
15	VPP3268UR-375NE	375	3	06TTM266	766.7	275.9	898.5	287.2	1048.1	298.5	1215.0	309.6	1399.3	320.0
16	VPP3268UR-450NE	450	3	06TTM301	852.3	304.7	1001.1	319.1	1170.0	333.2	1358.2	346.5	1565.2	357.5
19	VPP4268UR-240NE	240	4	06TSM137	472.1	192.2	559.0	199.0	658.0	205.5	768.2	211.8	889.3	217.6
20	VPP4268UR-300NE	300	4	06TSM155	519.4	211.1	615.5	219.9	724.5	228.2	846.0	235.9	979.5	242.5
21	VPP4268UR-500NE	500	4	06TTM266	1022.3	367.8	1198.0	382.9	1397.4	398.0	1620.0	412.8	1865.7	426.6
22	VPP4268UR-600NE	600	4	06TTM301	1136.4	406.3	1334.8	425.5	1560.0	444.2	1811.0	462.0	2087.0	476.6

SDT=45°C				SST(°C)									
Item	Rack Model	HP	Compressor		-15		-10		-5		0		5	
			Quantity	Model	Q	P	Q	P	Q	P	Q	P	Q	P
1	VPP1268UR-60NE	60	1	06TSM137	112.7	52.9	132.3	54.7	154.8	56.5	180.0	58.2	207.9	59.8
2	VPP1268UR-75NE	75	1	06TSM155	122.9	57.7	144.1	60.1	168.5	62.5	195.9	64.7	226.2	66.7
3	VPP1268UR-125NE	125	1	06TTM266	245.1	100.5	284.6	104.5	329.8	108.5	380.7	112.4	437.1	116.2
4	VPP1268UR-150NE	150	1	06TTM301	269.7	110.6	313.8	115.6	364.5	120.7	421.4	125.6	484.3	130.2
7	VPP2268UR-120NE	120	2	06TSM137	225.5	105.8	264.6	109.4	309.6	112.9	360.0	116.4	415.8	119.5
8	VPP2268UR-150NE	150	2	06TSM155	245.8	115.4	288.2	120.3	337.0	125.0	391.8	129.4	452.4	133.3
9	VPP2268UR-250NE	250	2	06TTM266	490.2	201.0	569.2	208.9	659.7	216.9	761.4	224.9	874.2	232.5
10	VPP2268UR-300NE	300	2	06TTM301	539.3	221.2	627.7	231.3	729.0	241.3	842.8	251.1	968.5	260.3
13	VPP3268UR-180NE	180	3	06TSM137	338.2	158.7	396.8	164.1	464.3	169.4	540.0	174.6	623.6	179.3
14	VPP3268UR-225NE	225	3	06TSM155	368.7	173.1	432.3	180.4	505.4	187.4	587.6	194.0	678.6	200.0
15	VPP3268UR-375NE	375	3	06TTM266	735.3	301.4	853.8	313.4	989.5	325.4	1142.2	337.3	1311.3	348.7
16	VPP3268UR-450NE	450	3	06TTM301	809.0	331.8	941.5	346.9	1093.5	362.0	1264.2	376.7	1452.8	390.5
19	VPP4268UR-240NE	240	4	06TSM137	451.0	211.6	529.1	218.8	619.1	225.9	720.0	232.8	831.5	239.1
20	VPP4268UR-300NE	300	4	06TSM155	491.6	230.8	576.4	240.6	673.9	249.9	783.5	258.7	904.8	266.6
21	VPP4268UR-500NE	500	4	06TTM266	980.4	401.9	1138.4	417.8	1319.4	433.9	1522.9	449.7	1748.4	464.9
22	VPP4268UR-600NE	600	4	06TTM301	1078.6	442.4	1255.4	462.5	1458.0	482.6	1685.6	502.2	1937.0	520.6

LT Screw Parallel Racks Technical Parameters (R507A - without Economizer)

SDT=35°C					SST(°C)											
Item	Rack Model	HP	Compressor		-45		-40		-35		-30		-25		-20	
			Quantity	Model	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
1	VFM1268UR-50NE	50	1	06TSR137	19.5	31.5	26.8	32.7	36.0	33.9	47.2	35.3	60.6	36.7	76.3	38.2
2	VFM1268UR-60NE	60	1	06TSR155	22.9	33.4	31.2	34.8	41.6	36.4	54.0	38.2	68.8	40.1	86.1	42.1
3	VFM1268UR-75NE	75	1	06TSR186	29.5	37.2	39.1	39.1	51.1	41.5	65.4	44.1	82.3	47.2	102.0	50.5
4	VFM1268UR-100NE	100	1	06TTR266	43.1	61.4	58.1	63.5	76.9	65.6	99.6	67.9	126.6	70.2	158.1	72.6
5	VFM1268UR-125NE	125	1	06TTR301	50.1	65.4	67.1	68.2	88.4	71.3	114.1	74.7	144.5	78.5	180.1	82.6
6	VFM1268UR-150NE	150	1	06TTR356	63.0	71.1	83.0	74.7	107.8	79.0	137.9	84.0	173.5	89.9	215.0	96.5
7	VFM2268UR-100NE	100	2	06TSR137	39.0	62.9	53.6	65.3	72.0	67.8	94.5	70.5	121.2	73.4	152.6	76.4
8	VFM2268UR-120NE	120	2	06TSR155	45.8	66.8	62.4	69.6	83.1	72.8	108.0	76.3	137.6	80.1	172.1	84.3
9	VFM2268UR-150NE	150	2	06TSR186	59.0	74.3	78.3	78.3	102.1	82.9	130.8	88.3	164.7	94.3	204.1	101.0
10	VFM2268UR-200NE	200	2	06TTR266	86.2	122.9	116.1	127.0	153.7	131.3	199.2	135.7	253.2	140.4	316.2	145.3
11	VFM2268UR-250NE	250	2	06TTR301	100.1	130.9	134.2	136.4	176.7	142.6	228.2	149.4	289.1	157.0	360.1	165.2
12	VFM2268UR-300NE	300	2	06TTR356	126.1	142.3	166.0	149.3	215.7	157.9	275.7	168.1	346.9	179.8	429.9	193.1
13	VFM3268UR-150NE	150	3	06TSR137	58.5	94.4	80.5	98.0	108.1	101.8	141.7	105.8	181.8	110.1	228.9	114.6
14	VFM3268UR-180NE	180	3	06TSR155	68.7	100.1	93.7	104.4	124.7	109.2	162.1	114.5	206.4	120.2	258.2	126.4
15	VFM3268UR-225NE	225	3	06TSR186	88.4	111.5	117.4	117.4	153.2	124.4	196.2	132.4	247.0	141.5	306.1	151.6
16	VFM3268UR-300NE	300	3	06TTR266	129.3	184.3	174.2	190.4	230.6	196.9	298.8	203.6	379.8	210.6	474.3	217.9
17	VFM3268UR-375NE	375	3	06TTR301	150.2	196.3	201.3	204.6	265.1	213.9	342.2	224.2	433.6	235.5	540.2	247.8
18	VFM3268UR-450NE	450	3	06TTR356	189.1	213.4	249.1	224.0	323.5	236.9	413.6	252.1	520.4	269.7	644.9	289.6
19	VFM4268UR-200NE	200	4	06TSR137	78.0	125.9	107.3	130.6	144.1	135.7	188.9	141.1	242.4	146.8	305.2	152.8
20	VFM4268UR-240NE	240	4	06TSR155	91.6	133.5	124.9	139.2	166.2	145.6	216.1	152.6	275.2	160.3	344.2	168.6
21	VFM4268UR-300NE	300	4	06TSR186	117.9	148.6	156.6	156.5	204.2	165.8	261.6	176.6	329.4	188.6	408.1	202.1
22	VFM4268UR-400NE	400	4	06TTR266	172.4	245.7	232.3	253.9	307.4	262.5	398.4	271.4	506.4	280.8	632.4	290.5
23	VFM4268UR-500NE	500	4	06TTR301	200.2	261.8	268.4	272.8	353.5	285.2	456.3	298.9	578.2	314.0	720.2	330.4
24	VFM4268UR-600NE	600	4	06TTR356	252.2	284.5	332.1	298.6	431.4	315.8	551.5	336.1	693.8	359.6	859.8	386.1

SDT=40°C					SST(°C)											
Item	Rack Model	HP	Compressor		-45		-40		-35		-30		-25		-20	
			Quantity	Model	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
1	VFM1268UR-50NE	50	1	06TSR137	16.2	34.7	22.8	36.0	31.2	37.3	41.4	38.7	53.7	40.2	68.1	41.7
2	VFM1268UR-60NE	60	1	06TSR155	19.3	36.7	26.9	38.2	36.4	39.8	47.9	41.6	61.5	43.5	77.5	45.7
3	VFM1268UR-75NE	75	1	06TSR186	25.7	40.7	34.5	42.7	45.4	45.1	58.6	47.8	74.3	50.8	92.5	54.2
4	VFM1268UR-100NE	100	1	06TTR266	36.9	69.0	50.7	71.0	67.9	73.0	88.9	75.2	113.9	77.4	143.1	79.8
5	VFM1268UR-125NE	125	1	06TTR301	43.4	72.1	59.1	74.9	78.6	77.9	102.3	81.3	130.5	85.1	163.5	89.2
6	VFM1268UR-150NE	150	1	06TTR356	55.6	78.4	73.9	81.8	96.8	86.0	124.6	91.0	157.7	96.7	196.4	103.2
7	VFM2268UR-100NE	100	2	06TSR137	32.4	69.5	45.6	72.0	62.3	74.6	82.8	77.4	107.4	80.3	136.3	83.4
8	VFM2268UR-120NE	120	2	06TSR155	38.6	73.4	53.8	76.3	72.7	79.6	95.7	83.2	123.0	87.1	155.0	91.3
9	VFM2268UR-150NE	150	2	06TSR186	51.3	81.4	69.0	85.5	90.8	90.2	117.2	95.6	148.6	101.7	185.1	108.4
10	VFM2268UR-200NE	200	2	06TTR266	73.8	138.0	101.4	141.9	135.8	146.0	177.8	150.3	227.7	154.8	286.2	159.5
11	VFM2268UR-250NE	250	2	06TTR301	86.9	144.2	118.2	149.7	157.2	155.9	204.6	162.7	261.0	170.2	327.0	178.4
12	VFM2268UR-300NE	300	2	06TTR356	111.1	156.7	147.8	163.6	193.7	172.0	249.3	181.9	315.4	193.4	392.7	206.5
13	VFM3268UR-150NE	150	3	06TSR137	48.7	104.2	68.5	107.9	93.5	111.9	124.3	116.1	161.1	120.5	204.4	125.2
14	VFM3268UR-180NE	180	3	06TSR155	58.0	110.1	80.7	114.5	109.1	119.4	143.6	124.8	184.6	130.6	232.5	137.0
15	VFM3268UR-225NE	225	3	06TSR186	77.0	122.2	103.5	128.2	136.2	135.2	175.9	143.3	222.8	152.5	277.6	162.7
16	VFM3268UR-300NE	300	3	06TTR266	110.7	207.0	152.1	212.9	203.8	219.0	266.7	225.5	341.6	232.2	429.3	239.3
17	VFM3268UR-375NE	375	3	06TTR301	130.3	216.4	177.2	224.6	235.8	233.8	307.0	244.0	391.5	255.3	490.5	267.6
18	VFM3268UR-450NE	450	3	06TTR356	166.7	235.1	221.8	245.3	290.5	257.9	373.9	272.9	473.1	290.1	589.1	309.7
19	VFM4268UR-200NE	200	4	06TSR137	64.9	139.0	91.3	143.9	124.7	149.2	165.7	154.8	214.8	160.6	272.5	166.9
20	VFM4268UR-240NE	240	4	06TSR155	77.3	146.8	107.6	152.7	145.5	159.2	191.4	166.4	246.1	174.2	310.0	182.6
21	VFM4268UR-300NE	300	4	06TSR186	102.7	162.9	138.0	170.9	181.6	180.3	234.5	191.1	297.1	203.3	370.2	216.9
22	VFM4268UR-400NE	400	4	06TTR266	147.6	276.0	202.8	283.8	271.7	292.0	355.6	300.6	455.5	309.6	572.4	319.0
23	VFM4268UR-500NE	500	4	06TTR301	173.8	288.5	236.3	299.4	314.4	311.7	409.3	325.4	522.0	340.4	654.0	356.8
24	VFM4268UR-600NE	600	4	06TTR356	222.2	313.5	295.7	327.1	387.3	343.9	498.6	363.8	630.8	386.8	785.4	413.0

SDT=45°C					SST(°C)											
Item	Rack Model	HP	Compressor		-45		-40		-35		-30		-25		-20	
			Quantity	Model	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
1	VFM1268UR-50NE	50	1	06TSR137	13.0	38.3	18.9	39.6	26.3	41.0	35.6	42.4	46.7	43.9	59.9	45.5
2	VFM1268UR-60NE	60	1	06TSR155	15.8	40.3	22.6	41.9	31.3	43.5	41.6	45.4	54.1	47.3	68.8	49.5
3	VFM1268UR-75NE	75	1	06TSR186	21.8	44.7	29.8	46.7	39.7	49.1	51.7	51.8	66.0	54.9	82.8	58.3
4	VFM1268UR-100NE	100	1	06TTR266	30.8	77.7	43.3	79.5	58.9	81.5	78.1	83.6	100.9	85.7	127.8	88.0
5	VFM1268UR-125NE	125	1	06TTR301	36.9	79.5	51.0	82.2	68.7	85.3	90.4	88.7	116.2	92.4	146.6	96.5
6	VFM1268UR-150NE	150	1	06TTR356	47.9	86.5	64.6	89.8	85.6	93.9	111.0	98.8	141.5	104.4	177.2	110.9
7	VFM2268UR-100NE	100	2	06TSR137	26.0	76.7	37.7	79.2	52.7	81.9	71.2	84.8	93.4	87.9	119.8	91.1
8	VFM2268UR-120NE	120	2	06TSR155	31.5	80.7	45.2	83.7	62.5	87.0	83.2	90.7	108.2	94.7	137.6	99.0
9	VFM2268UR-150NE	150	2	06TSR186	43.6	89.3	59.5	93.4	79.3	98.1	103.4	103.6	132.1	109.7	165.6	116.5
10	VFM2268UR-200NE	200	2	06TTR266	61.7	155.3	86.5	159.1	117.8	163.0	156.1	167.1	201.9	171.4	255.7	176.0
11	VFM2268UR-250NE	250	2	06TTR301	73.8	159.0	102.0	164.5	137.5	170.6	180.8	177.4	232.5	184.8	293.2	193.0
12	VFM2268UR-300NE	300	2	06TTR356	95.9	173.1	129.3	179.7	171.1	187.9	222.1	197.6	282.9	208.9	354.3	221.7
13	VFM3268UR-150NE	150	3	06TSR137	38.9	115.0	56.6	118.8	79.0	122.9	106.7	127.2	140.2	131.8	179.7	136.6
14	VFM3268UR-180NE	180	3	06TSR155	47.3	121.0	67.7	125.6	93.8	130.6	124.8	136.1	162.3	142.0	206.4	148.5
15	VFM3268UR-225NE	225	3	06TSR186	65.4	134.0	89.3	140.0	119.0	147.2	155.1	155.4	198.1	164.6	248.4	174.8
16	VFM3268UR-300NE	300	3	06TTR266	92.5	233.0	129.8	238.6	176.7	244.5	234.2	250.7	302.8	257.2	383.5	263.9
17	VFM3268UR-375NE	375	3	06TTR301	110.7	238.6	153.1	246.7	206.2	255.9	271.2	266.0	348.7	277.3	439.7	289.5
18	VFM3268UR-450NE	450	3	06TTR356	143.8	259.6	193.9	269.5	256.7	281.8	333.1	296.4	424.4	313.3	531.5	332.6
19	VFM4268UR-200NE	200	4	06TSR137	51.9	153.3	75.4	158.4	105.3	163.9	142.3	169.6	186.9	175.7	239.6	182.1
20	VFM4268UR-240NE	240	4	06TSR155	63.0	161.4	90.3	167.4	125.0	174.1	166.4	181.4	216.4	189.4	275.2	198.0
21	VFM4268UR-300NE	300	4	06TSR186	87.2	178.6	119.0	186.7	158.6	196.2	206.8	207.2	264.1	219.4	331.2	233.1
22	VFM4268UR-400NE	400	4	06TTR266	123.3	310.7	173.1	318.2	235.6	326.0	312.2	334.2	403.7	342.9	511.3	351.9
23	VFM4268UR-500NE	500	4	06TTR301	147.6	318.1	204.1	328.9	275.0	341.2	361.6	354.7	464.9	369.7	586.3	386.0
24	VFM4268UR-600NE	600	4	06TTR356	191.8	346.1	258.5	359.4	342.2	375.7	444.2	395.2	565.8	417.8	708.6	443.4

MT Screw Parallel Racks Technical Parameters (R507A - without Economizer)

SDT=35°C					SST(°C)											
Item	Rack Model	HP	Compressor		-20		-15		-10		-5		0		5	
			Quantity	Model	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
1	VFP1268UR-60NE	60	1	06TSM137	84.3	38.8	104.9	40.4	129.3	42.3	157.7	44.4	190.4	46.7	227.5	49.2
2	VFP1268UR-75NE	75	1	06TSM155	95.8	43.0	118.8	45.4	145.7	48.2	176.9	51.2	212.6	54.6	253.0	58.3
3	VFP1268UR-125NE	125	1	06TTM266	187.4	74.5	230.9	78.2	282.0	82.5	340.9	87.5	408.2	93.1	484.3	99.3
4	VFP1268UR-150NE	150	1	06TTM301	212.9	82.9	261.7	88.1	318.7	94.2	384.4	101.1	459.2	108.9	543.7	117.5
5	VFP2268UR-120NE	120	2	06TSR137	168.6	77.5	209.8	80.9	258.6	84.7	315.4	88.8	380.7	93.4	454.9	98.4
6	VFP2268UR-150NE	150	2	06TSR155	191.6	86.0	237.6	90.8	291.5	96.3	353.9	102.4	425.2	109.1	506.0	116.5
7	VFP2268UR-250NE	250	2	06TSR186	374.8	148.9	461.9	156.3	563.9	165.0	681.8	174.9	816.4	186.1	968.6	198.6
8	VFP2268UR-300NE	300	2	06TTR266	425.9	165.9	523.4	176.2	637.4	188.3	768.7	202.1	918.3	217.7	1087.3	235.0
9	VFP3268UR-180NE	180	3	06TSR137	252.9	116.3	314.8	121.3	388.0	127.0	473.2	133.3	571.1	140.2	682.4	147.7
10	VFP3268UR-225NE	225	3	06TSR155	287.5	129.0	356.3	136.3	437.2	144.5	530.8	153.6	637.8	163.7	759.0	174.8
11	VFP3268UR-375NE	375	3	06TSR186	562.2	223.4	692.8	234.5	845.9	247.5	1022.7	262.4	1224.6	279.2	1453.0	297.9
12	VFP3268UR-450NE	450	3	06TTR266	638.8	248.8	785.1	264.3	956.1	282.5	1153.1	303.2	1377.5	326.6	1631.0	352.6
13	VFP4268UR-240NE	240	4	06TSR137	337.2	155.0	419.7	161.8	517.3	169.3	630.9	177.7	761.4	186.9	909.8	196.9
14	VFP4268UR-300NE	300	4	06TSR155	383.3	172.0	475.1	181.7	583.0	192.6	707.7	204.8	850.4	218.2	1012.0	233.0
15	VFP4268UR-500NE	500	4	06TSR186	749.6	297.9	923.8	312.7	1127.8	330.0	1363.6	349.8	1632.8	372.2	1937.3	397.2
16	VFP4268UR-600NE	600	4	06TTR266	851.7	331.7	1046.8	352.4	1274.8	376.6	1537.4	404.3	1836.7	435.4	2174.6	470.1

SDT=40°C				SST(°C)											
Item	Rack Model	HP	Compressor	-20		-15		-10		-5		0		5	
			Quantity	Model	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
1	VFP1268UR-60NE	60	1	06TSM137	75.6	42.1	94.7	43.7	117.3	45.5	143.7	47.5	174.1	49.8	208.8	52.2
2	VFP1268UR-75NE	75	1	06TSM155	86.2	46.4	107.4	48.7	132.4	51.3	161.5	54.3	194.8	57.5	232.5	61.1
3	VFP1268UR-125NE	125	1	06TTM266	168.9	80.3	209.5	83.8	257.1	87.9	312.2	92.6	375.3	98.0	446.8	104.0
4	VFP1268UR-150NE	150	1	06TTM301	192.2	88.9	237.7	93.8	290.9	99.5	352.3	106.1	422.5	113.7	501.8	122.0
5	VFP2268UR-120NE	120	2	06TSR137	151.2	84.2	189.3	87.4	234.6	91.0	287.4	95.1	348.3	99.5	417.6	104.4
6	VFP2268UR-150NE	150	2	06TSR155	172.3	92.7	214.8	97.3	264.9	102.6	322.9	108.5	389.5	115.1	465.0	122.3
7	VFP2268UR-250NE	250	2	06TSR186	337.9	160.6	419.0	167.6	514.2	175.8	624.5	185.3	750.6	196.0	893.6	208.0
8	VFP2268UR-300NE	300	2	06TTR266	384.4	177.7	475.3	187.5	581.7	199.0	704.6	212.3	844.9	227.3	1003.7	244.0
9	VFP3268UR-180NE	180	3	06TSR137	226.7	126.2	284.0	131.1	351.9	136.6	431.1	142.6	522.4	149.3	626.5	156.6
10	VFP3268UR-225NE	225	3	06TSR155	258.5	139.1	322.2	146.0	397.3	153.9	484.4	162.8	584.3	172.6	697.6	183.4
11	VFP3268UR-375NE	375	3	06TSR186	506.8	241.0	628.4	251.4	771.3	263.7	936.7	277.9	1126.0	294.0	1340.3	312.0
12	VFP3268UR-450NE	450	3	06TTR266	576.6	266.6	713.0	281.3	872.6	298.6	1056.9	318.4	1267.4	341.0	1505.5	366.1
13	VFP4268UR-240NE	240	4	06TSR137	302.3	168.3	378.6	174.8	469.2	182.1	574.8	190.2	696.6	199.1	835.3	208.8
14	VFP4268UR-300NE	300	4	06TSR155	344.6	185.4	429.6	194.7	529.7	205.2	645.9	217.0	779.0	230.1	930.1	244.5
15	VFP4268UR-500NE	500	4	06TSR186	675.7	321.3	837.9	335.2	1028.4	351.6	1249.0	370.6	1501.3	392.0	1787.1	416.0
16	VFP4268UR-600NE	600	4	06TTR266	768.8	355.4	950.6	375.0	1163.5	398.1	1409.2	424.6	1689.9	454.7	2007.3	488.1

SDT=45°C				SST(°C)											
Item	Rack Model	HP	Compressor	-20		-15		-10		-5		0		5	
			Quantity	Model	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
1	VFP1268UR-60NE	60	1	06TSM137	66.6	46.0	84.1	47.5	104.9	49.3	129.3	51.2	157.5	53.4	189.7	55.8
2	VFP1268UR-75NE	75	1	06TSM155	76.2	50.3	95.7	52.5	118.7	55.1	145.5	57.9	176.3	61.1	211.4	64.6
3	VFP1268UR-125NE	125	1	06TTM266	149.7	87.4	187.2	90.6	231.2	94.5	282.4	99.0	341.1	104.2	407.7	109.9
4	VFP1268UR-150NE	150	1	06TTM301	170.6	96.0	212.6	100.6	261.8	106.1	318.9	112.4	384.2	119.6	458.2	127.7
5	VFP2268UR-120NE	120	2	06TSR137	133.2	92.0	168.2	95.1	209.8	98.6	258.6	102.5	315.0	106.8	379.3	111.5
6	VFP2268UR-150NE	150	2	06TSR155	152.3	100.6	191.3	105.0	237.4	110.1	291.0	115.8	352.6	122.2	422.7	129.2
7	VFP2268UR-250NE	250	2	06TSR186	299.5	174.7	374.3	181.2	462.5	189.0	564.8	198.0	682.1	208.3	815.4	219.8
8	VFP2268UR-300NE	300	2	06TTR266	341.2	192.0	425.1	201.2	523.7	212.2	637.8	224.9	768.3	239.3	916.3	255.4
9	VFP3268UR-180NE	180	3	06TSR137	199.8	138.0	252.3	142.6	314.8	147.9	387.9	153.7	472.4	160.2	569.0	167.3
10	VFP3268UR-225NE	225	3	06TSR155	228.5	150.9	287.0	157.6	356.0	165.2	436.5	173.8	529.0	183.3	634.1	193.8
11	VFP3268UR-375NE	375	3	06TSR186	449.2	262.1	561.5	271.9	693.7	283.5	847.2	297.0	1023.2	312.5	1223.1	329.8
12	VFP3268UR-450NE	450	3	06TTR266	511.8	288.0	637.7	301.8	785.5	318.3	956.6	337.3	1152.5	358.9	1374.5	383.2
13	VFP4268UR-240NE	240	4	06TSR137	266.4	184.0	336.4	190.2	419.7	197.2	517.2	205.0	629.9	213.6	758.6	223.1
14	VFP4268UR-300NE	300	4	06TSR155	304.7	201.2	382.6	210.1	474.7	220.2	582.0	231.7	705.3	244.4	845.5	258.4
15	VFP4268UR-500NE	500	4	06TSR186	599.0	349.4	748.6	362.5	925.0	378.0	1129.6	396.0	1364.3	416.6	1630.8	439.7
16	VFP4268UR-600NE	600	4	06TTR266	682.4	384.0	850.3	402.4	1047.3	424.4	1275.5	449.7	1536.7	478.6	1832.6	510.9

LT Screw Parallel Racks Technical Parameters (R404A - without Economizer)

SDT=35°C						SST(°C)											
Item	Rack Model	HP	Compressor		-45		-40		-35		-30		-25		-20	
			Quantity	Model	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
1	VPM1268UR-50NE	50	1	06TSR137	18.7	30.5	25.8	31.7	34.8	32.9	45.8	34.2	59.0	35.6	74.3	37.1
2	VPM1268UR-60NE	60	1	06TSR155	22.0	32.3	30.1	33.7	40.2	35.2	52.5	36.9	67.0	38.8	83.9	40.8
3	VPM1268UR-75NE	75	1	06TSR186	28.3	35.9	37.8	37.8	49.4	40.1	63.5	42.7	80.2	45.7	99.6	49.0
4	VPM1268UR-100NE	100	1	06TTR266	41.3	59.5	56.0	61.5	74.3	63.6	96.6	65.8	123.1	68.1	154.1	70.5
5	VPM1268UR-125NE	125	1	06TTR301	48.0	63.4	64.7	66.1	85.5	69.1	110.7	72.4	140.6	76.1	175.5	80.1
6	VPM1268UR-150NE	150	1	06TTR356	60.6	68.8	80.1	72.2	104.4	76.4	133.9	81.4	168.8	87.1	209.6	93.5
7	VPM2268UR-100NE	100	2	06TSR137	37.4	61.0	51.7	63.3	69.7	65.8	91.7	68.4	117.9	71.2	148.7	74.2
8	VPM2268UR-120NE	120	2	06TSR155	44.0	64.6	60.3	67.3	80.5	70.4	104.9	73.9	134.0	77.6	167.8	81.7
9	VPM2268UR-150NE	150	2	06TSR186	56.6	71.8	75.5	75.7	98.9	80.2	127.1	85.4	160.4	91.3	199.1	97.9
10	VPM2268UR-200NE	200	2	06TTR266	82.5	119.0	112.0	123.0	148.7	127.2	193.3	131.6	246.3	136.2	308.1	141.0
11	VPM2268UR-250NE	250	2	06TTR301	96.0	126.7	129.4	132.1	171.0	138.1	221.4	144.9	281.2	152.2	351.0	160.3
12	VPM2268UR-300NE	300	2	06TTR356	121.2	137.5	160.2	144.4	208.8	152.8	267.8	162.7	337.7	174.1	419.3	187.1
13	VPM3268UR-150NE	150	3	06TSR137	56.1	91.5	77.5	95.0	104.5	98.7	137.5	102.6	176.9	106.8	223.0	111.3
14	VPM3268UR-180NE	180	3	06TSR155	66.0	96.8	90.4	101.0	120.7	105.7	157.4	110.8	201.0	116.4	251.7	122.5
15	VPM3268UR-225NE	225	3	06TSR186	85.0	107.7	113.3	113.5	148.3	120.3	190.6	128.1	240.6	137.0	298.7	146.9
16	VPM3268UR-300NE	300	3	06TTR266	123.8	178.5	168.0	184.5	223.0	190.8	289.9	197.4	369.4	204.3	462.2	211.5
17	VPM3268UR-375NE	375	3	06TTR301	144.1	190.1	194.1	198.2	256.5	207.2	332.1	217.3	421.9	228.4	526.5	240.4
18	VPM3268UR-450NE	450	3	06TTR356	181.8	206.3	240.3	216.6	313.3	229.2	401.6	244.1	506.5	261.2	628.9	280.6
19	VPM4268UR-200NE	200	4	06TSR137	74.8	122.0	103.4	126.6	139.4	131.6	183.3	136.8	235.8	142.4	297.4	148.4
20	VPM4268UR-240NE	240	4	06TSR155	88.0	129.1	120.5	134.7	161.0	140.9	209.9	147.7	268.0	155.2	335.6	163.4
21	VPM4268UR-300NE	300	4	06TSR186	113.3	143.6	151.1	151.3	197.8	160.4	254.1	170.8	320.8	182.6	398.2	195.8
22	VPM4268UR-400NE	400	4	06TTR266	165.1	238.0	224.0	246.0	297.4	254.4	386.6	263.2	492.5	272.4	616.3	282.0
23	VPM4268UR-500NE	500	4	06TTR301	192.1	253.4	258.8	264.2	342.0	276.3	442.8	289.7	562.5	304.5	702.0	320.6
24	VPM4268UR-600NE	600	4	06TTR356	242.4	275.1	320.4	288.8	417.7	305.6	535.5	325.4	675.4	348.2	838.5	374.1

SDT=40°C						SST(°C)											
Item	Rack Model	HP	Compressor		-45		-40		-35		-30		-25		-20	
			Quantity	Model	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
1	VPM1268UR-50NE	50	1	06TSR137	15.6	33.7	22.1	34.9	30.3	36.2	40.3	37.6	52.4	39.0	66.6	40.5
2	VPM1268UR-60NE	60	1	06TSR155	18.6	35.5	26.1	37.0	35.4	38.5	46.6	40.3	60.1	42.2	75.8	44.3
3	VPM1268UR-75NE	75	1	06TSR186	24.8	39.4	33.4	41.3	44.1	43.6	57.1	46.3	72.6	49.3	90.6	52.6
4	VPM1268UR-100NE	100	1	06TTR266	35.5	66.9	49.0	68.8	65.9	70.8	86.5	72.9	111.1	75.2	139.9	77.5
5	VPM1268UR-125NE	125	1	06TTR301	41.9	69.9	57.2	72.6	76.3	75.6	99.6	78.9	127.4	82.6	159.9	86.6
6	VPM1268UR-150NE	150	1	06TTR356	53.6	75.8	71.6	79.2	94.1	83.3	121.4	88.1	154.0	93.7	192.1	100.1
7	VPM2268UR-100NE	100	2	06TSR137	31.2	67.4	44.2	69.8	60.5	72.4	80.6	75.1	104.8	78.0	133.2	81.1
8	VPM2268UR-120NE	120	2	06TSR155	37.3	71.1	52.1	73.9	70.7	77.1	93.3	80.6	120.2	84.4	151.6	88.6
9	VPM2268UR-150NE	150	2	06TSR186	49.5	78.8	66.8	82.7	88.3	87.3	114.3	92.6	145.1	98.5	181.2	105.2
10	VPM2268UR-200NE	200	2	06TTR266	71.1	133.8	98.1	137.6	131.9	141.7	173.1	145.9	222.2	150.3	279.8	154.9
11	VPM2268UR-250NE	250	2	06TTR301	83.7	139.8	114.4	145.1	152.7	151.1	199.3	157.8	254.8	165.2	319.7	173.2
12	VPM2268UR-300NE	300	2	06TTR356	107.2	151.6	143.2	158.3	188.2	166.5	242.9	176.2	308.0	187.5	384.2	200.2
13	VPM3268UR-150NE	150	3	06TSR137	46.8	101.1	66.3	104.7	90.8	108.6	121.0	112.7	157.1	117.0	199.8	121.6
14	VPM3268UR-180NE	180	3	06TSR155	55.9	106.6	78.2	110.9	106.1	115.6	139.9	120.9	180.3	126.6	227.5	132.8
15	VPM3268UR-225NE	225	3	06TSR186	74.3	118.1	100.2	124.0	132.4	130.9	171.4	138.8	217.7	147.8	271.7	157.7
16	VPM3268UR-300NE	300	3	06TTR266	106.6	200.7	147.1	206.4	197.8	212.5	259.6	218.8	333.3	225.5	419.7	232.4
17	VPM3268UR-375NE	375	3	06TTR301	125.6	209.6	171.5	217.7	229.0	226.7	298.9	236.7	382.1	247.7	479.6	259.7
18	VPM3268UR-450NE	450	3	06TTR356	160.8	227.5	214.8	237.5	282.3	249.8	364.3	264.4	462.0	281.2	576.2	300.3
19	VPM4268UR-200NE	200	4	06TSR137	62.4	134.8	88.4	139.6	121.0	144.8	161.3	150.2	209.5	156.0	266.4	162.1
20	VPM4268UR-240NE	240	4	06TSR155	74.5	142.1	104.2	147.8	141.4	154.2	186.6	161.2	240.4	168.8	303.3	177.1
21	VPM4268UR-300NE	300	4	06TSR186	99.0	157.5	133.6	165.4	176.5	174.6	228.6	185.1	290.3	197.0	362.3	210.3
22	VPM4268UR-400NE	400	4	06TTR266	142.2	267.6	196.1	275.2	263.7	283.3	346.2	291.8	444.4	300.6	559.6	309.8
23	VPM4268UR-500NE	500	4	06TTR301	167.4	279.5	228.7	290.2	305.3	302.2	398.6	315.6	509.5	330.3	639.4	346.3
24	VPM4268UR-600NE	600	4	06TTR356	214.4	303.3	286.4	316.6	376.4	333.0	485.8	352.5	616.0	374.9	768.3	400.4

SDT=45°C					SST(°C)											
Item	Rack Model	HP	Compressor		-45		-40		-35		-30		-25		-20	
			Quantity	Model	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
1	VPM1268UR-50NE	50	1	06TSR137	12.5	37.2	18.3	38.5	25.7	39.8	34.8	41.2	45.8	42.7	58.8	44.3
2	VPM1268UR-60NE	60	1	06TSR155	15.3	39.1	22.0	40.6	30.4	42.2	40.7	44.0	53.1	45.9	67.6	48.0
3	VPM1268UR-75NE	75	1	06TSR186	21.1	43.2	28.9	45.2	38.7	47.5	50.6	50.2	64.8	53.2	81.4	56.6
4	VPM1268UR-100NE	100	1	06TTR266	29.8	75.4	42.1	77.2	57.5	79.1	76.3	81.2	98.9	83.3	125.5	85.5
5	VPM1268UR-125NE	125	1	06TTR301	35.7	77.1	49.6	79.8	67.1	82.8	88.4	86.1	113.9	89.7	143.9	93.7
6	VPM1268UR-150NE	150	1	06TTR356	46.5	83.8	62.9	87.0	83.5	91.0	108.7	95.8	138.7	101.3	174.0	107.6
7	VPM2268UR-100NE	100	2	06TSR137	25.1	74.4	36.6	76.9	51.3	79.6	69.6	82.4	91.6	85.4	117.6	88.5
8	VPM2268UR-120NE	120	2	06TSR155	30.5	78.2	44.0	81.1	60.8	84.4	81.5	87.9	106.1	91.8	135.1	96.1
9	VPM2268UR-150NE	150	2	06TSR186	42.2	86.4	57.9	90.4	77.4	95.1	101.2	100.4	129.6	106.4	162.8	113.1
10	VPM2268UR-200NE	200	2	06TTR266	59.7	150.7	84.1	154.4	114.9	158.3	152.6	162.3	197.8	166.6	250.9	171.0
11	VPM2268UR-250NE	250	2	06TTR301	71.4	154.2	99.2	159.5	134.1	165.5	176.8	172.1	227.9	179.5	287.8	187.4
12	VPM2268UR-300NE	300	2	06TTR356	93.0	167.5	125.8	174.0	167.0	182.1	217.4	191.6	277.5	202.6	348.0	215.1
13	VPM3268UR-150NE	150	3	06TSR137	37.6	111.6	54.9	115.4	77.0	119.3	104.4	123.6	137.3	128.0	176.4	132.8
14	VPM3268UR-180NE	180	3	06TSR155	45.8	117.3	65.9	121.7	91.3	126.6	122.2	131.9	159.2	137.8	202.7	144.1
15	VPM3268UR-225NE	225	3	06TSR186	63.3	129.7	86.8	135.6	116.1	142.6	151.8	150.6	194.3	159.6	244.2	169.7
16	VPM3268UR-300NE	300	3	06TTR266	89.5	226.1	126.2	231.6	172.4	237.4	229.0	243.5	296.7	249.8	376.4	256.5
17	VPM3268UR-375NE	375	3	06TTR301	107.1	231.3	148.8	239.3	201.2	248.3	265.2	258.2	341.8	269.2	431.7	281.2
18	VPM3268UR-450NE	450	3	06TTR356	139.4	251.3	188.7	261.1	250.5	273.1	326.0	287.4	416.2	303.9	522.0	322.7
19	VPM4268UR-200NE	200	4	06TSR137	50.2	148.8	73.2	153.8	102.7	159.1	139.2	164.8	183.1	170.7	235.2	177.0
20	VPM4268UR-240NE	240	4	06TSR155	61.0	156.4	87.9	162.2	121.7	168.8	162.9	175.9	212.3	183.7	270.3	192.2
21	VPM4268UR-300NE	300	4	06TSR186	84.4	172.9	115.7	180.8	154.8	190.2	202.4	200.8	259.1	212.8	325.6	226.2
22	VPM4268UR-400NE	400	4	06TTR266	119.4	301.4	168.2	308.8	229.8	316.5	305.3	324.6	395.6	333.1	501.9	342.0
23	VPM4268UR-500NE	500	4	06TTR301	142.8	308.4	198.4	319.0	268.2	331.0	353.6	344.3	455.7	358.9	575.6	374.9
24	VPM4268UR-600NE	600	4	06TTR356	185.9	335.1	251.6	348.1	334.0	364.1	434.7	383.2	554.9	405.2	696.0	430.3

MT Screw Parallel Racks Technical Parameters (R404A - without Economizer)

SDT=35°C					SST(°C)									
Item	Rack Model	HP	Compressor		-15		-10		-5		0		5	
			Quantity	Model	Q	P	Q	P	Q	P	Q	P	Q	P
1	VPP1268UR-60NE	60	1	06TSM137	122.9	43.7	146.8	45.2	173.8	46.8	203.7	48.2	236.4	49.5
2	VPP1268UR-75NE	75	1	06TSM155	136.8	48.5	163.7	50.4	193.8	52.2	227.2	53.8	263.7	55.0
3	VPP1268UR-125NE	125	1	06TTM266	265.0	84.3	313.3	87.8	367.8	91.4	428.4	94.7	494.9	97.7
4	VPP1268UR-150NE	150	1	06TTM301	298.2	93.8	353.3	98.2	415.2	102.5	483.9	105.9	559.2	106.7
7	VPP2268UR-120NE	120	2	06TSM137	245.7	87.3	293.6	90.5	347.6	93.5	407.4	96.4	472.8	99.0
8	VPP2268UR-150NE	150	2	06TSM155	273.6	97.0	327.4	100.9	387.7	104.5	454.5	107.6	527.4	109.9
9	VPP2268UR-250NE	250	2	06TTM266	530.0	168.5	626.6	175.6	735.7	182.7	856.7	189.5	989.7	195.3
10	VPP2268UR-300NE	300	2	06TTM301	596.4	187.5	706.6	196.5	830.5	204.9	967.8	211.8	1118.4	213.4
13	VPP3268UR-180NE	180	3	06TSM137	368.6	131.0	440.4	135.7	521.3	140.3	611.0	144.6	709.2	148.4
14	VPP3268UR-225NE	225	3	06TSM155	410.5	145.5	491.0	151.3	581.5	156.7	681.7	161.5	791.2	164.9
15	VPP3268UR-375NE	375	3	06TTM266	795.1	252.8	940.0	263.5	1103.5	274.1	1285.1	284.2	1484.6	293.0
16	VPP3268UR-450NE	450	3	06TTM301	894.6	281.3	1059.9	294.7	1245.7	307.4	1451.8	317.7	1677.6	320.0
19	VPP4268UR-240NE	240	4	06TSM137	491.4	174.6	587.2	180.9	695.1	187.0	814.7	192.8	945.6	197.9
20	VPP4268UR-300NE	300	4	06TSM155	547.3	194.0	654.7	201.7	775.3	209.0	908.9	215.3	1054.9	219.8
21	VPP4268UR-500NE	500	4	06TTM266	1060.1	337.0	1253.3	351.3	1471.4	365.4	1713.4	379.0	1979.4	390.7
22	VPP4268UR-600NE	600	4	06TTM301	1192.8	375.0	1413.2	392.9	1660.9	409.8	1935.7	423.6	2236.8	426.7

SDT=40°C					SST(°C)									
Item	Rack Model	HP	Compressor		-15		-10		-5		0		5	
			Quantity	Model	Q	P	Q	P	Q	P	Q	P	Q	P
1	VPP1268UR-60NE	60	1	06TSR137	118.0	48.0	139.7	49.7	164.5	51.4	192.1	52.9	222.3	54.4
2	VPP1268UR-75NE	75	1	06TSR155	129.9	52.8	153.9	55.0	181.1	57.1	211.5	59.0	244.9	60.6
3	VPP1268UR-125NE	125	1	06TSR186	255.6	92.0	299.5	95.7	349.4	99.5	405.0	103.2	466.4	106.7
4	VPP1268UR-150NE	150	1	06TTR266	284.1	101.6	333.7	106.4	390.0	111.1	452.7	115.5	521.7	119.2
7	VPP2268UR-120NE	120	2	06TSR137	236.0	96.1	279.5	99.5	329.0	102.7	384.1	105.9	444.7	108.8
8	VPP2268UR-150NE	150	2	06TSR155	259.7	105.6	307.8	109.9	362.3	114.1	423.0	118.0	489.7	121.2
9	VPP2268UR-250NE	250	2	06TSR186	511.2	183.9	599.0	191.4	698.7	199.0	810.0	206.4	932.9	213.3
10	VPP2268UR-300NE	300	2	06TTR266	568.2	203.2	667.4	212.7	780.0	222.1	905.5	231.0	1043.5	238.3
13	VPP3268UR-180NE	180	3	06TSR137	354.1	144.1	419.2	149.2	493.5	154.1	576.2	158.8	667.0	163.2
14	VPP3268UR-225NE	225	3	06TSR155	389.6	158.3	461.6	164.9	543.4	171.2	634.5	176.9	734.6	181.9
15	VPP3268UR-375NE	375	3	06TSR186	766.7	275.9	898.5	287.2	1048.1	298.5	1215.0	309.6	1399.3	320.0
16	VPP3268UR-450NE	450	3	06TTR266	852.3	304.7	1001.1	319.1	1170.0	333.2	1358.2	346.5	1565.2	357.5
19	VPP4268UR-240NE	240	4	06TSR137	472.1	192.2	559.0	199.0	658.0	205.5	768.2	211.8	889.3	217.6
20	VPP4268UR-300NE	300	4	06TSR155	519.4	211.1	615.5	219.9	724.5	228.2	846.0	235.9	979.5	242.5
21	VPP4268UR-500NE	500	4	06TSR186	1022.3	367.8	1198.0	382.9	1397.4	398.0	1620.0	412.8	1865.7	426.6
22	VPP4268UR-600NE	600	4	06TTR266	1136.4	406.3	1334.8	425.5	1560.0	444.2	1811.0	462.0	2087.0	476.6

SDT=45°C					SST(°C)									
Item	Rack Model	HP	Compressor		-15		-10		-5		0		5	
			Quantity	Model	Q	P	Q	P	Q	P	Q	P	Q	P
1	VPP1268UR-60NE	60	1	06TSM137	112.7	52.9	132.3	54.7	154.8	56.5	180.0	58.2	207.9	59.8
2	VPP1268UR-75NE	75	1	06TSM155	122.9	57.7	144.1	60.1	168.5	62.5	195.9	64.7	226.2	66.7
3	VPP1268UR-125NE	125	1	06TTM266	245.1	100.5	284.6	104.5	329.8	108.5	380.7	112.4	437.1	116.2
4	VPP1268UR-150NE	150	1	06TTM301	269.7	110.6	313.8	115.6	364.5	120.7	421.4	125.6	484.3	130.2
7	VPP2268UR-120NE	120	2	06TSM137	225.5	105.8	264.6	109.4	309.6	112.9	360.0	116.4	415.8	119.5
8	VPP2268UR-150NE	150	2	06TSM155	245.8	115.4	288.2	120.3	337.0	125.0	391.8	129.4	452.4	133.3
9	VPP2268UR-250NE	250	2	06TTM266	490.2	201.0	569.2	208.9	659.7	216.9	761.4	224.9	874.2	232.5
10	VPP2268UR-300NE	300	2	06TTM301	539.3	221.2	627.7	231.3	729.0	241.3	842.8	251.1	968.5	260.3
13	VPP3268UR-180NE	180	3	06TSM137	338.2	158.7	396.8	164.1	464.3	169.4	540.0	174.6	623.6	179.3
14	VPP3268UR-225NE	225	3	06TSM155	368.7	173.1	432.3	180.4	505.4	187.4	587.6	194.0	678.6	200.0
15	VPP3268UR-375NE	375	3	06TTM266	735.3	301.4	853.8	313.4	989.5	325.4	1142.2	337.3	1311.3	348.7
16	VPP3268UR-450NE	450	3	06TTM301	809.0	331.8	941.5	346.9	1093.5	362.0	1264.2	376.7	1452.8	390.5
19	VPP4268UR-240NE	240	4	06TSM137	451.0	211.6	529.1	218.8	619.1	225.9	720.0	232.8	831.5	239.1
20	VPP4268UR-300NE	300	4	06TSM155	491.6	230.8	576.4	240.6	673.9	249.9	783.5	258.7	904.8	266.6
21	VPP4268UR-500NE	500	4	06TTM266	980.4	401.9	1138.4	417.8	1319.4	433.9	1522.9	449.7	1748.4	464.9
22	VPP4268UR-600NE	600	4	06TTM301	1078.6	442.4	1255.4	462.5	1458.0	482.6	1685.6	502.2	1937.0	520.6

Screw Racks Technical Parameters

Product Series	Dimension of Racks' External Pipes						External Dimensions			Max. Working Current A	Weight kg	Machine Room Ventilation Rate m³/H/F
	Racks Model	Model Abbreviations	Discharge DL	Suction SL	Liquid Pipe Inlet	Liquid Pipe Outlet	L	W	H/F			
LT Screw Racks	VP(H/F)M125(6)8UR-50NE	TS1R	DN50	1*DN80	1-3/8"	1-1/8"	2300	1810	1800	119	1300	5500
	VP(H/F)M125(6)8UR-60NE	TS2R	DN50	1*DN80	1-3/8"	1-1/8"	2300	1810	1800	145	1307	6600
	VP(H/F)M125(6)8UR-75NE	TS3R	DN50	1*DN80	1-3/8"	1-1/8"	2300	1810	1800	146	1324	8250
	VP(H/F)M125(6)8UR-100NE	TT1R	DN65	1*DN100	2-1/8"	1-5/8"	2300	1810	1800	223	1713	11000
	VP(H/F)M125(6)8UR-125NE	TT2R	DN65	1*DN100	2-1/8"	1-5/8"	2300	1810	1800	247	1733	13750
	VP(H/F)M125(6)8UR-150NE	TT3R	DN65	1*DN100	2-1/8"	1-5/8"	2300	1810	1800	279	1765	16500
	VP(H/F)M225(6)8UR-100NE	TS1R	DN65	1*DN100	2-1/8"	1-5/8"	3150	1950	2100	238	2475	7500
	VP(H/F)M225(6)8UR-120NE	TS2R	DN65	1*DN100	2-1/8"	1-5/8"	3150	1950	2100	290	2489	9000
	VP(H/F)M225(6)8UR-150NE	TS3R	DN65	1*DN100	2-1/8"	1-5/8"	3150	1950	2100	292	2543	11250
	VP(H/F)M225(6)8UR-200NE	TT1R	DN80	1*DN150	DN65	2-1/8"	3150	1950	2100	446	2976	15000
	VP(H/F)M225(6)8UR-250NE	TT2R	DN80	1*DN150	DN65	2-1/8"	3150	1950	2100	494	3016	18750
	VP(H/F)M225(6)8UR-300NE	TT3R	DN80	1*DN150	DN65	2-1/8"	3150	1950	2100	558	3163	22500
	VP(H/F)M325(6)8UR-150NE	TS1R	DN65	1*DN125	2-1/8"	1-5/8"	3990	1950	2400	357	3228	11250
	VP(H/F)M325(6)8UR-180NE	TS2R	DN65	1*DN125	2-1/8"	1-5/8"	3990	1950	2400	435	3259	13500
	VP(H/F)M325(6)8UR-225NE	TS3R	DN80	1*DN150	DN65	2-1/8"	3990	1950	2400	438	3405	16875
	VP(H/F)M325(6)8UN-300NE	TT1R	DN80	2*DN125	DN65	2-1/8"	3990	1950	2400	669	4298	22500
	VP(H/F)M325(6)8UN-375NE	TT2R	DN100	2*DN150	DN80	DN65	3990	1950	2400	741	4659	28125
	VP(H/F)M325(6)8UN-450NE	TT3R	DN100	2*DN150	DN80	DN65	3990	1950	2400	837	4755	33750
	VP(H/F)M425(6)8UR-200NE	TS1R	DN80	1*DN150	2-1/8"	1-5/8"	4770	1990	2470	476	4191	15000
	VP(H/F)M425(6)8UR-240NE	TS2R	DN80	1*DN150	DN65	2-1/8"	4770	1990	2470	580	4239	18000
	VP(H/F)M425(6)8UR-300NE	TS3R	DN80	1*DN150	DN65	2-1/8"	4770	1990	2470	584	4389	22500
	VP(H/F)M425(6)8UN-400NE	TT1R	DN100	2*DN150	DN80	DN65	4770	1990	2470	892	5744	30000
	VP(H/F)M425(6)8UN-500NE	TT2R	DN125	2*DN150	DN80	DN65	4770	1990	2470	988	5967	37500
	VP(H/F)M425(6)8UN-600NE	TT3R	DN125	2*DN150	DN100	DN80	4770	1990	2470	1116	6152	45000
MT Screw Racks	VP(H/F)P126(5)8UR-60NE	TS1M	DN50	1*DN80	2-1/8"	1-5/8"	2300	1200	1800	135	1133	6300
	VP(H/F)P126(5)8UR-75NE	TS2M	DN50	1*DN80	2-1/8"	1-5/8"	2300	1200	1800	144	1140	7875
	VP(H/F)P126(5)8UR-125NE	TT1M	DN65	1*DN100	DN65	2-1/8"	2300	1200	1800	263	1479	13125
	VP(H/F)P126(5)8UR-150NE	TT2M	DN65	1*DN100	DN65	2-1/8"	2300	1200	1800	264	1496	15750
	VP(H/F)P226(5)8UR-120NE	TS1M	DN65	1*DN100	DN65	2-1/8"	3150	1950	2100	270	2213	12600
	VP(H/F)P226(5)8UR-150NE	TS2M	DN65	1*DN100	DN65	2-1/8"	3150	1950	2100	288	2227	15750
	VP(H/F)P226(5)8UR-250NE	TT1M	DN80	1*DN150	DN80	DN80	3150	1950	2100	526	2989	26250
	VP(H/F)P226(5)8UR-300NE	TT2M	DN100	1*DN150	DN80	DN80	3150	1950	2100	528	3049	31500
	VP(H/F)P326(5)8UR-180NE	TS1M	DN80	1*DN125	DN80	DN65	3990	1950	2400	405	3212	18900
	VP(H/F)P326(5)8UR-225NE	TS2M	DN80	1*DN125	DN80	DN80	3990	1950	2400	432	3290	23625
	VP(H/F)P326(5)8UN-375NE	TT1M	DN125	2*DN125	DN125	DN100	3990	1950	2400	789	4392	39375
	VP(H/F)P326(5)8UN-450NE	TT2M	DN125	2*DN150	DN125	DN100	3990	1950	2400	792	4631	47250
	VP(H/F)P426(5)8UN-240NE	TS1M	DN80	1*DN150	DN80	DN80	4770	1950	2470	540	4163	25200
	VP(H/F)P426(5)8UN-300NE	TS2M	DN100	1*DN150	DN100	DN80	4770	1950	2470	576	4437	31500
	VP(H/F)P426(5)8UN-500NE	TT1M	DN125	2*DN150	DN125	DN100	4770	1950	2470	1052	5680	52500
	VP(H/F)P426(5)8UN-600NE	TT2M	DN125	2*DN150	DN125	DN100	4770	1950	2470	1056	5798	63000

Supply Temperature with ECO

LT Racks Model R404A/R507A	Compressor Model	Condensing Temperature °C	Liquid Supply Temperature (TLE) °C at Different Evaporating Temperature (SST)					
			-45	-40	-35	-30	-25	-20
VP(F)M125(6)8UR-50NE VP(F)M225(6)8UR-100NE VP(F)M325(6)8UR-150NE VP(F)M425(6)8UR-200NE	06TSR137	35	-15.6	-10.6	-5.6	-0.6	4.3	9.2
		40	-14.4	-9.3	-4.2	0.9	5.8	10.7
		45	-12.5	-7.5	-2.5	2.5	7.5	12.3
VP(F)M125(6)8UR-60NE VP(F)M225(6)8UR-120NE VP(F)M325(6)8UR-180NE VP(F)M425(6)8UR-240NE	06TSR155	35	-10.1	-5.2	-0.3	4.6	9.4	14.1
		40	-8.6	-3.6	1.4	6.4	11.2	15.9
		45	-6.4	-1.5	3.4	8.3	13.2	17.9
VP(F)M125(6)8UR-75NE VP(F)M225(6)8UR-150NE VP(F)M325(6)8UR-225NE VP(F)M425(6)8UR-300NE	06TSR186	35	-5.3	-0.2	4.9	9.8	14.5	19.1
		40	-3.4	1.7	6.8	11.7	16.5	21.1
		45	-0.9	4.0	8.9	13.8	18.6	23.3
VP(F)M125(6)8UR-100NE VP(F)M225(6)8UR-200NE VP(F)M325(6)8UR-300NE VP(F)M425(6)8UR-400NE	06TTR266	35	-5.7	-1.3	2.8	6.8	10.5	14.0
		40	-3.0	1.4	5.6	9.7	13.5	17.1
		45	0.1	4.4	8.7	12.7	16.6	20.3
VP(F)M125(6)8UR-125NE VP(F)M225(6)8UR-250NE VP(F)M325(6)8UR-375NE VP(F)M425(6)8UR-500NE	06TTR301	35	-9.4	-4.4	-0.5	5.3	10.0	14.6
		40	-7.6	-2.5	2.4	7.3	12.0	16.5
		45	-5.5	-0.4	4.6	9.4	14.1	18.7
VP(F)M125(6)8UR-150NE VP(F)M225(6)8UR-300NE VP(F)M325(6)8UR-450NE VP(F)M425(6)8UR-600NE	06TTR356	35	-1.7	2.8	7.2	11.4	15.3	19.0
		40	0.8	5.4	9.9	14.1	18.1	21.9
		45	3.5	8.2	12.7	17.0	21.0	24.9

Supply Temperature with ECO

MT Racks Model R404A/R507A	Compressor Model	Condensing Temperature °C	Liquid Supply Temperature (TLE) °C at Different Evaporating Temperature (SST)					
			-20	-15	-10	-5	0	5
VP(F)P125(6)8UR-60NE VP(F)P225(6)8UR-120NE VP(F)P325(6)8UR-180NE VP(F)P425(6)8UR-240NE	06TSM137	35	10.9	15.0	19.0	22.8	26.5	30.0
		40	13.0	17.2	21.2	25.1	28.8	32.3
		45	15.4	19.6	23.6	27.5	31.2	34.7
VP(F)P125(6)8UR-75NE VP(F)P225(6)8UR-150NE VP(F)P325(6)8UR-225NE VP(F)P425(6)8UR-300NE	06TSM155	35	13.7	17.8	21.7	25.5	29.0	32.4
		40	15.9	20.1	24.0	27.8	31.4	34.8
		45	18.4	22.5	26.5	30.3	33.9	37.5
VP(F)P125(6)8UR-125NE VP(F)P225(6)8UR-250NE VP(F)P325(6)8UR-375NE VP(F)P425(6)8UR-500NE"	06TTM266	35	13.5	17.4	21.2	24.8	28.3	31.5
		40	15.8	19.8	23.7	27.3	30.7	34.0
		45	18.4	22.4	26.3	29.9	33.4	36.6
VP(F)P125(6)8UR-150NE VP(F)P225(6)8UR-300NE VP(F)P325(6)8UR-450NE VP(F)P425(6)8UR-600NE	06TTM301	35	15.4	19.4	23.2	26.8	30.1	33.3
		40	17.8	21.8	25.6	29.2	32.6	35.8
		45	20.4	24.5	28.3	31.9	35.3	38.5

HybridCO$_2$OL

Cascade CO$_2$ Parallel Racks

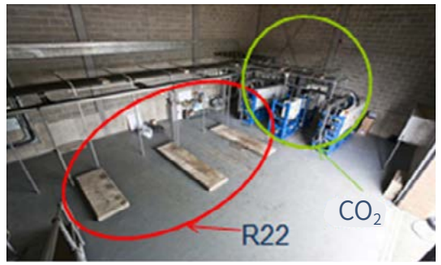
Customer Values

- Natural refrigerants, GWP=1, ODP=0
- Non-toxic, non-combustible, safe to use
- Compact equipment, small piping size, saving room space
- High energy efficiency, 5-10% annual energy saving compared with HFC racks
- Low-price refrigerant, low charging cost

Product Features

- Adopt natural refrigerant - CO$_2$
- Compliant with EU F-Gas Regulation, not subject to phase- out controls of refrigerant regulations
- High CO$_2$ cooling capacity per unit volume, compact and small occupied area
- CO$_2$ with better heat transfer, improving evaporating temperature by 2K, higher energy efficiency
- Large cooling capacity range of 24-240 HP with 2 to 8 compressor heads
- Configurable pressure regulators for safe and reliable operation
- Independently skid mounted, easy to install and maintain
- Configurable heat recovery, high overall energy efficiency

*GWP: Global Warming Potential. ODP: Ozone Depletion Potential



The images above show the differences in pipeline and machine room area after R22 system is changed into CO$_2$ system.

* All comparisons are based on the product performances of last generation.

*GWP: Global Warming Potential. ODP: Ozone Depletion Potential

Naming Rule of HybridCO2OL Parallel Racks

V C M 4 1 0 0 O E - 24

- Total Horsepower of Racks
- Emergency CDU
  - E: with emergency CDU
  - N: No emergency CDU
- Oil Return System
- Compressor Type
  - 0: Reciprocating Compressor
- Accessories
  - 0: No precooler or heat recoverer, subcooler, MT suction line heat exchanger
  - 1: Only with precooler or heat recoverer
  - 2: Only with subcooler
  - 3: Only with MT suction line heat exchanger
  - 4: Both precooler and subcooler
  - 5: Precooler, MT suction line heat exchanger
  - 6: Subcooler, MT suction line heat exchanger
  - 7: Precooler, subcooler, MT suction line heat exchanger

  Note: Precooler or heat recoverer. Exchangers are not included in the accessories and need to be purchased.
- Control System
  - 0: No electrical control system
  - 1: Racks with Danfoss electrical control system
  - 2: Racks with Carel control system
- Number of Compressors
- Applicable Temperature
  - M: Low temperature
- Refrigerant
  - C:CO$_2$
- Parallel Racks

HybridCO2OL Parallel Racks Configuration Table

No.	Refrigerant	Refrigerant Oil	Standard Racks Model	HP	Compressor Configuration
1	R744 (R134a*)	BSE 60K	VCM4100ON-24	24	4x2CSL-6K
2			VCM3100ON-36	36	3x4CSL-12K
3			VCM4100ON-48	48	4x4CSL-12K

*HybridCO2OL Parallel racks are low temperature racks, and must use with medium temperature racks. Standard racks are designed as R134a medium temperature racks.

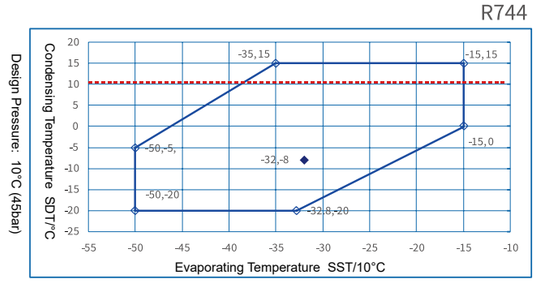
Rated conditions: SST -32° C, SDT -8° C.

Standard racks configuration instruction

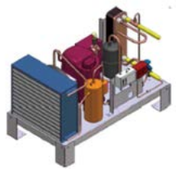
- Each compressor is equipped with an Electronic oil level regulator
- Oil separator with safety relief valve
- Oil accumulator with safety relief valve, sight glass, stop valve and differential valve
- Oil return system includes ball valves, oil filter, solenoid valve, sight glass
- Refrigerant sight glass includes liquid accumulators, low liquid level switches, filters, sight glass and stop valves. System safety valves are provided and installed at site
- Cascade brazing plate heat exchanger
- Cascade plate heat exchangers' electronic expansion valves
- Cascade plate exchangers' controllers and pressure/temperature sensors
- Angle valves are equipped with safety valves (enabled during maintenance)
- Accumulator is equipped with safety relief valve
- Suction headers and discharge headers and oil return headers
- Suction/Discharge pressure gage and pressure switch
- Welded frame
- Control system consists of electric cabinets, controllers, pressure/temperature sensors and other electric components

Note: Refrigerant/refrigerant oil not included

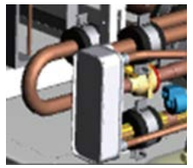
Operation Range of HybridCO2OL Parallel Racks



Description of Optional Kit

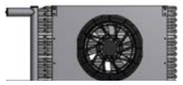


Emergency compressor unit
Independent UPS to prevent emergency stop



Liquid supply subcooler
Higher energy efficiency, higher degree of subcooling to prevent flash gas before the expansion valves

Medium temperature gas return superheater
Higher degree of superheat for medium temperature gas return to prevent flood back



Desuperheat
Higher heat exchange efficiency for condensers

Cascade CO_2 Parallel Racks Performance Table (Degree of Superheat 10K)

Refrigerant: R744. Condensing temperature: -10°C. Degree of superheat: 10K, Degree of subcooling: 0K, 50Hz, Cooling capacity unit: kW

	HybridCO2OL racks	HP	Compressor Configuration	Evaporating Temperature:-40°C			Evaporating Temperature:-35°C			Evaporating Temperature:-32°C			Evaporating Temperature:-25°C		
				Q	P	COP	Q	P	COP	Q	P	COP	Q	P	COP
1	VCM4100ON-24	24	4x2CSL-6K	68.56	17.08	4.01	86.26	16.88	5.11	98.22	16.40	5.99	130.38	14.12	9.23
2	VCM3100ON-36	36	3x4CSL-12K	101.71	25.08	4.06	128.18	24.78	5.17	146.28	24.09	6.07	195.41	20.94	9.33
3	VCM4100ON-48	48	4x4CSL-12K	135.62	33.44	4.06	170.91	33.04	5.17	195.04	32.12	6.07	260.54	27.92	9.33

Refrigerant: R744. Condensing temperature: -8°C. Degree of superheat: 10K, Degree of subcooling: 0K, 50Hz, Cooling capacity unit: kW

	HybridCO2OL racks	HP	Compressor Configuration	Evaporating Temperature:-40°C			Evaporating Temperature:-35°C			Evaporating Temperature:-32°C			Evaporating Temperature:-25°C		
				Q	P	COP	Q	P	COP	Q	P	COP	Q	P	COP
1	VCM4100ON-24	24	4x2CSL-6K	66.28	17.92	3.70	83.60	17.88	4.68	95.20	17.56	5.42	126.80	15.60	8.13
2	VCM3100ON-36	36	3x4CSL-12K	101.71	26.31	3.74	124.20	26.28	4.73	141.90	25.80	5.50	189.90	23.07	8.23
3	VCM4100ON-48	48	4x4CSL-12K	131.20	35.08	3.74	165.60	35.04	4.73	189.20	34.40	5.50	253.20	30.76	8.23

Refrigerant: R744. Condensing temperature: -5°C. Degree of superheat: 10K, Degree of subcooling: 0K, 50Hz, Cooling capacity unit: kW

	HybridCO2OL racks	HP	Compressor Configuration	Evaporating Temperature:-40°C			Evaporating Temperature:-35°C			Evaporating Temperature:-32°C			Evaporating Temperature:-25°C		
				Q	P	COP	Q	P	COP	Q	P	COP	Q	P	COP
1	VCM4100ON-24	24	4x2CSL-6K	62.84	19.12	3.29	79.50	19.40	4.10	90.78	19.24	4.72	121.18	17.76	6.82
2	VCM3100ON-36	36	3x4CSL-12K	93.18	28.20	3.30	117.99	28.53	4.14	135.00	28.29	4.77	181.31	26.22	6.91
3	VCM4100ON-48	48	4x4CSL-12K	124.24	37.60	3.30	157.32	38.04	4.14	180.00	37.72	4.77	241.74	34.96	6.91

Refrigerant: R744. Condensing temperature: 0°C. Degree of superheat: 10K, Degree of subcooling: 0K, 50Hz, Cooling capacity unit: kW

	HybridCO2OL racks	HP	Compressor Configuration	Evaporating Temperature:-40°C			Evaporating Temperature:-35°C			Evaporating Temperature:-32°C			Evaporating Temperature:-25°C		
				Q	P	COP	Q	P	COP	Q	P	COP	Q	P	COP
1	VCM4100ON-24	24	4x2CSL-6K	57.16	21.12	2.71	72.73	21.84	3.33	83.31	22.00	3.79	111.86	21.28	5.26
2	VCM3100ON-36	36	3x4CSL-12K	84.61	31.26	2.71	107.66	32.28	3.34	123.53	32.46	3.81	166.84	31.44	5.31
3	VCM4100ON-48	48	4x4CSL-12K	112.82	41.68	2.71	143.55	43.04	3.34	164.70	43.28	3.81	222.46	41.92	5.31

Cascade CO_2 Parallel Racks Performance Table (Degree of Superheat 20K)

Refrigerant: R744. Condensing temperature: -10°C. Degree of superheat: 10K, Degree of subcooling: 0K, 50Hz, Cooling capacity unit: kW

	HybridCO2OL racks	HP	Compressor Configuration	Evaporating Temperature:-40°C			Evaporating Temperature:-35°C			Evaporating Temperature:-32°C			Evaporating Temperature:-25°C		
				Q	P	COP	Q	P	COP	Q	P	COP	Q	P	COP
1	VCM4100ON-24	24	4x2CSL-6K	67.10	17.08	3.93	84.36	16.88	5.00	96.01	16.40	5.85	127.27	14.12	9.01
2	VCM3100ON-36	36	3x4CSL-12K	99.54	25.08	3.97	125.36	24.78	5.06	142.99	24.09	5.94	190.75	20.94	9.11
3	VCM4100ON-48	48	4x4CSL-12K	132.72	33.44	3.97	167.15	33.04	5.06	190.66	32.12	5.94	254.33	27.92	9.11

Refrigerant: R744. Condensing temperature: -8°C. Degree of superheat: 10K, Degree of subcooling: 0K, 50Hz, Cooling capacity unit: kW

	HybridCO2OL racks	HP	Compressor Configuration	Evaporating Temperature:-40°C			Evaporating Temperature:-35°C			Evaporating Temperature:-32°C			Evaporating Temperature:-25°C		
				Q	P	COP	Q	P	COP	Q	P	COP	Q	P	COP
1	VCM4100ON-24	24	4x2CSL-6K	64.88	17.92	3.62	81.60	17.88	4.56	93.20	17.56	5.31	123.60	15.60	7.92
2	VCM3100ON-36	36	3x4CSL-12K	96.30	26.31	3.66	121.50	26.28	4.62	138.60	25.80	5.37	185.40	23.07	8.04
3	VCM4100ON-48	48	4x4CSL-12K	128.40	35.08	3.66	162.00	35.04	4.62	184.80	34.40	5.37	247.20	30.76	8.04

Refrigerant: R744. Condensing temperature: -5°C. Degree of superheat: 10K, Degree of subcooling: 0K, 50Hz, Cooling capacity unit: kW

	HybridCO2OL racks	HP	Compressor Configuration	Evaporating Temperature:-40°C			Evaporating Temperature:-35°C			Evaporating Temperature:-32°C			Evaporating Temperature:-25°C		
				Q	P	COP	Q	P	COP	Q	P	COP	Q	P	COP
1	VCM4100ON-24	24	4x2CSL-6K	61.59	19.12	3.22	77.88	19.40	4.01	88.89	19.24	4.62	118.50	17.76	6.67
2	VCM3100ON-36	36	3x4CSL-12K	91.33	28.20	3.24	115.58	28.53	4.05	132.18	28.29	4.67	177.29	26.22	6.76
3	VCM4100ON-48	48	4x4CSL-12K	121.77	37.60	3.24	154.10	38.04	4.05	176.24	37.72	4.67	236.38	34.96	6.76

Refrigerant: R744. Condensing temperature: 0°C. Degree of superheat: 10K, Degree of subcooling: 0K, 50Hz, Cooling capacity unit: kW

	HybridCO2OL racks	HP	Compressor Configuration	Evaporating Temperature:-40°C			Evaporating Temperature:-35°C			Evaporating Temperature:-32°C			Evaporating Temperature:-25°C		
				Q	P	COP	Q	P	COP	Q	P	COP	Q	P	COP
1	VCM4100ON-24	24	4x2CSL-6K	56.13	21.12	2.66	71.38	21.84	3.27	81.72	22.00	3.71	109.59	21.28	5.15
2	VCM3100ON-36	36	3x4CSL-12K	83.08	31.26	2.66	105.65	32.28	3.27	121.17	32.46	3.73	163.46	31.44	5.20
3	VCM4100ON-48	48	4x4CSL-12K	110.78	41.68	2.66	140.87	43.04	3.27	161.56	43.28	3.73	217.94	41.92	5.20

Neptune Series

Reciprocating Parallel Racks

Large Parallel Racks (30~350 HP)

Small Parallel Racks (13~45HP)

Customer Values

- Applicable for multiple refrigerants in various applications, with a cooling capacity up to 350HP
- Multiple non-standard customizations for various needs
- High energy efficiency, low operation cost, 30%+ energy saving for LT two-stage reciprocating parallel racks and 5% energy saving for MT parallel racks
- Support VFD driving, highly energy efficient
- Reliable operation, safe and stable
- Good oil return, long service life
- Compact, small occupied area

Product Features

- Multi-compressor parallel design, optional cooling capacity: 13~350HP
- R22/R404A and other refrigerants
- Support new eco-friendly refrigerants such as R448/R449
- Multiple non-standard options
- Self-developed special refrigeration compressors, reliable and efficient
- Compressors and system with individual pressure switches and electric protection for reliable operation
- Three-stage oil separator, with an efficiency of >98%
- Integrated skids, compact and easy to install

* All comparisons are based on the product performances of last generation.

Reciprocating Parallel Racks Application Range

Working Conditions	Reciprocating Compressor					
	MT		Single Stage LT		Two-Stage LT	
Refrigerant	R22	R404A	R22	R404A	R22	R404A
Evaporating Temperature	-18 ~ +7	-18 ~ +4	-37 ~ -18	-40 ~ -18	-50 ~ -24	-50 ~ -24

Naming Rule of Reciprocating Parallel Racks

V H P 3 2 0 3 O R - 120 - E

- E: Frameless Small Parallel Racks
- 120: Total Horsepower of Racks
- R: With Receiver
- O: Oil return system
- 3: Compressor Type
  - 3: Carlyle Single Stage
  - 4: Bitzer Single Stage
  - 5: Bitzer Two-Stage
  - 7: Carlyle Two-Stage
- 0: Accessories
  - 0: Without subcooler or heat recoverer
  - 1: Only with heat recoverer
  - 5: Only with subcooler
  - 6: Both subcooler and heat recoverer
- 3: Control system
  - 0: Without control cabinet
  - 1: With control cabinet for temperature control system
  - 2: With control cabinet for energy management system
  - 3: Only with control cabinet
- 2: Number of Compressors
- P: Applicable Temperature
  - P: Medium Temp.
  - M: Low Temp.
  - PM: Medium & Low Temp.
- 0: Refrigerant Oil
- 3: Parallel Racks

<45HP Small Reciprocating Parallel Racks Optional Configuration

	Reciprocating Parallel Racks Optional Configuration
1	Electronic regulator
2	Discharge line muffler
3	Accessary pack
4	Condensing pressure control

Note: The accessory kit included: return air filter x 1, return air filter cartridge x 1, exhaust ball valve x 1, return air ball valve x 1.

Non-standard Options for >45HP Large Parallel Reciprocating Compressor Racks

	LT Two-stage Reciprocating Parallel Racks Non-standard Option Configuration:
1	Danfoss, Carel controller
2	Supply and return branches
3	Electronic oil balancer
4	Multi-suction pressure unit
5	Inverter
6	Remote control
	LT Single-stage & MT Reciprocating Parallel Racks Non-standard Option Configuration:
1	Subcooler
2	Danfoss, Carel controller
3	Electronic oil balancer
4	Split horizontal/vertical reservoirs
5	Condensate pressure switch
6	Equipped with vibration damping hoses
7	Multi-suction pressure unit
8	Inverter
9	Remote control
	MT/LT Single-stage Reciprocating Parallel Racks Non-standard Option Configuration:
1	Subcooler
2	Danfoss, Carel controller
3	Electronic oil balancer
4	Split horizontal/vertical reservoirs
5	Condensate switch
6	Exhaust air check valve
7	Hot gas defrost system

1) The cooling capacity and Power Consumption listed above are based on an ambient temperature of 32°C, the condensing temperature is 45°C, no subcooler for the liquid, and the temperature of the interstage cooling liquid for two-stage is 4.4°C. For example, SIT+2.8>4.4°C, the temperature is SIT+5.6°C.
2) The power wire for the compressor racks is three-phase 380V/50Hz, and the power for the control operation is one-phase 220V/50Hz.
3) If the compressor racks are to operate with different evaporating temperatures or with too high/too low ambient temperature, please contact us.
4) For an application under working conditions of temperature (i.e. -50°C), please contact our technical staff.
5) If you need R22 refrigerant, please contact our technical staff.

Reciprocating Parallel Racks

Standard Configuration

>45HP Large Reciprocating Parallel Racks Configuration

LT Two-stage Reciprocating Parallel Racks Standard Configuration:

- Compressor
- Supercooler
- Mechanical oil level regulator
- Integrated vertical reservoir
- Muffler
- Detachable liquid supply drying filter
- Gas-liquid separator
- Exhaust/return/liquid supply check valve or ball valve

LT Single-stage & MT Reciprocating Parallel Racks Standard Configuration:

- Compressor
- Mechanical oil level regulator
- Integrated vertical reservoir
- Return air filter
- Gas-liquid separator (standard for LT version, none for MT version)
- Drain filter at reservoir outlet
- Muffler
- Exhaust/return/liquid supply check valve or ball valve

MT/LT Single-stage Reciprocating Parallel Racks Standard Configuration:

- Compressor
- Mechanical oil level regulator
- Integrated vertical reservoir
- Exhaust check valve
- Muffler
- Alarm relay
- Drain filter at the reservoir outlet
- Exhaust/return/liquid supply check valve or ball valve

<45HP Small Parallel Reciprocating Compressor Racks (R404A)

Low Temperature Racks

Model	HP	Compressor	Evaporating Temperature					
			To: -37°C		To: -35°C		To: -30°C	
			Cooling Capacity Q (kW)	Power Consumption P (kW)	Cooling Capacity Q (kW)	Power Consumption P (kW)	Cooling Capacity Q (kW)	Power Consumption P (kW)
VPM2203OR-13E	13	2*06DR725	7.48	6.4	8.72	7.02	12.28	8.58
VPM2203OR-15E	15	2*06DR228	10.18	8.28	11.78	9.08	16.18	11.4
VPM2203OR-20E	20	2*06DR337	14.94	11.96	16.64	12.78	21.54	14.96
VPM2203OR-30E	30	2*06DR541	23.7	17.2	18.08	14.98	23.7	17.2
VPM3203OR-30E	30	3*06DR337	22.41	17.94	24.96	19.17	32.31	22.44
VPM3203OR-45E	45	3*06DR541	35.55	25.8	27.12	22.47	35.55	25.8

Medium Temperature Racks

Model	HP	Compressor	Evaporating Temperature					
			To: -12°C		To: -10°C		To: -5°C	
			Cooling Capacity Q (kW)	Power Consumption P (kW)	Cooling Capacity Q (kW)	Power Consumption P (kW)	Cooling Capacity Q (kW)	Power Consumption P (KW)
VPP2203OR-15E	15	2*06DA825	27.28	13.72	30.28	14.26	38.68	15.44
VPP2203OR-20E	20	2*06DA328	33.86	16.74	37.22	17.28	46.66	18.48
VPP2203OR-30E	30	2*06DA537	47.26	22.82	51.72	23.62	64.14	25.4
VPP3203OR-35E	35	2*06DA328+06DA537	57.49	28.15	63.08	29.09	78.73	31.18
VPP3203OR-40E	40	06DA328+2*06DA537	64.19	31.19	70.33	32.26	87.47	34.64
VPP3203OR-45E	45	3*06DA537	70.89	34.23	77.58	35.43	96.21	38.1

Note:
1) The cooling capacity and Power Consumption of the all racks are based on condensing temperature at +45°C, liquid with subcooler.
2) The power wire for the compressor racks is three-phase 380V/50Hz.
3) Optional refrigerants, R22 and R404A.
4) Height and weight of low temperature racks includes head fans.
5) Excluding freight.
6) If you need R22 refrigerant, please contact our technical staff.

>45HP Large Parallel Reciprocating Compressor Racks (R404A)

Low Temperature Two-Stage Parallel Racks

Racks Model No.	Compressor Configuration Model x Quantity	Evaporating Temperature							
		to: -50°C		to: -45°C		to: -40°C		to:-35°C	
		Cooling Capacity Q (kW)	Power Consumption P (kW)	Cooling Capacity Q (kW)	Power Consumption P (kW)	Cooling Capacity Q (kW)	Power Consumption P (kW)	Cooling Capacity Q (kW)	Power Consumption P (kW)
VPM2257OR-30	2*06CC550	—	—	—	—	17.40	11.48	23.94	13.40
VPM2257OR-40	2*06CC675	19.96	13.78	25.06	16.5	32.16	19.38	41.06	22.20
VPM3257OR-45	3*06CC550	—	—	—	—	26.10	17.22	35.91	20.10
VPM3257OR-60	3*06CC675	29.94	20.67	37.59	24.75	48.24	29.07	61.59	33.30
VPM3257OR-90	3*06CC899	42.99	30.66	52.23	36.12	65.64	41.70	82.62	47.25
VPM4257OR-120	4*06CC899	57.32	40.88	69.64	48.16	87.52	55.60	110.16	63.00
VPM5257OR-150	5*06CC899	71.65	51.11	87.05	60.20	109.40	69.50	137.70	78.75
VPM6257OR-180	6*06CC899	85.98	61.32	104.46	72.24	131.28	83.40	165.24	94.50

Low Temperature Parallel Racks

Racks Model No.	Compressor Configuration Model x Quantity	Evaporating Temperature							
		to: -40°C		to: -35°C		to: -30°C		to:-25°C	
		Cooling Capacity Q (kW)	Power Consumption P (kW)	Cooling Capacity Q (kW)	Power Consumption P (kW)	Cooling Capacity Q (kW)	Power Consumption P (kW)	Cooling Capacity Q (kW)	Power Consumption P (kW)
VPM2203OR-30	2*06ER450	12.88	12.94	20.42	17.14	28.94	21.26	38.58	25.24
VPM2203OR-50	2*06ER475	18.84	18.64	29.04	23.84	40.96	29.26	54.90	34.80
VPM3203OR-45	3*06ER450	19.32	19.41	30.63	25.71	43.41	31.89	57.87	37.86
VPM3203OR-60	3*06ER475	28.26	27.96	43.56	35.76	61.44	43.89	82.35	52.20
VPM3203OR-90	3*06ER399	41.22	40.35	58.56	49.71	78.78	59.67	102.42	70.08
VPM4203OR-120	4*06ER399	54.96	53.80	78.08	66.28	105.04	79.56	136.56	93.44
VPM5203OR-130	3*06ER399 +2*06ER475	60.06	58.99	87.60	73.55	119.74	88.93	157.32	104.88
VPM5203OR-150	5*06ER399	68.70	67.25	97.60	82.85	131.30	99.45	170.70	116.80
VPM6203OR-160	4*06ER399 +2*06ER475	73.80	72.44	107.12	90.12	146.00	108.82	191.46	128.24
VPM6203OR-180	6*06ER399	82.44	80.70	117.12	99.42	157.56	119.34	204.84	140.16

Medium Temperature Parallel Racks

Racks Model No.	Compressor Configuration Model x Quantity	Evaporating Temperature							
		to: -15°C		to: -12°C		to: -10°C		to:-5°C	
		Cooling Capacity Q (kW)	Power Consumption P (kW)	Cooling Capacity Q (kW)	Power Consumption P (kW)	Cooling Capacity Q (kW)	Power Consumption P (kW)	Cooling Capacity Q (kW)	Power Consumption P (kW)
VPP2203OR-30	2*06EM450	49.02	24.78	57.26	26.94	63.20	28.34	79.72	31.66
VPP2203OR-40	2*06EM475	77.50	37.62	89.92	40.72	98.88	42.78	123.98	47.84
VPP3203OR-45	3*06EM450	73.53	37.17	85.89	40.41	94.80	42.51	119.58	47.49
VPP3203OR-75	3*06EM475	116.25	56.43	134.88	61.08	148.32	64.17	185.97	71.76
VPP3203OR-105	3*06EM499	180.78	87.06	199.89	92.40	213.48	95.52	250.92	102.60
VPP4203OR-120	2*06EM499 +2*06EM475	198.02	95.66	223.18	102.32	241.20	106.46	291.26	116.24
VPP4203OR-130	3*06EM499 +06EM475	219.53	105.87	244.85	112.76	262.92	116.91	312.91	126.52
VPP4203OR-140	4*06EM499	241.04	116.08	266.52	123.20	284.64	127.36	334.56	136.80
VPP5203OR-155	3*06EM499 +2*06EM475	258.28	124.68	289.81	133.12	312.36	138.30	374.90	150.44
VPP5203OR-175	5*06EM499	301.30	145.10	333.15	154.00	355.80	159.20	418.20	171.00
VPP6203OR-190	4*06EM499 +2*06EM475	318.54	153.70	356.44	163.92	383.52	170.14	458.54	184.64
VPP6203OR-210	6*06EM499	361.56	174.12	399.78	184.80	426.96	191.04	501.84	205.20

Technical Parameters of >45HP Large Parallel Reciprocating Compressor Racks

Racks Model No.	Dimension of Racks' External Pipes				External Dimensions			Max. Working Current	Weight	Machine Room Ventilation Rate
	Discharge DL	Suction SL	Liquid Pipe Inlet	Liquid Pipe Outlet	L	W	H	A	Kg	m^3/h
VPM2257OR-30	35	67	35	28	2700	1200	1900	52	1400	2700
VPM2257OR-40	35	67	35	28	2700	1200	1900	80	1600	3200
VPM3257OR-45	35	76	35	35	3400	1200	1900	78	1800	4100
VPM3257OR-60	35	76	35	35	3400	1200	1900	120	2000	4800
VPM3257OR-90	42	76	42	35	3400	1200	1900	174	2100	6600
VPM4257OR-120	54	89	42	35	4100	1200	1900	232	2500	8800
VPM5257OR-150	54	108	54	42	4900	1200	1900	290	3000	11000
VPM6257OR-180	54	108	54	42	5500	1200	1900	348	3500	13500
VPM2203OR-30	35	67	35	28	2700	1200	1900	72	700	3200
VPM2203OR-40	35	67	35	28	2700	1200	1900	88	800	3800
VPM3203OR-45	35	76	35	35	3400	1200	1900	108	1000	4750
VPM3203OR-60	35	76	35	35	3400	1200	1900	132	1100	5650
VPM3203OR-90	42	76	42	35	3400	1200	1900	204	1200	8600
VPM4203OR-120	42	89	42	35	4100	1200	1900	272	1700	11500
VPM5203OR-130	54	108	54	42	4900	1200	1900	292	2000	13000
VPM5203OR-150	54	108	54	42	4900	1200	1900	340	2000	15500
VPM6203OR-160	54	108	54	42	5500	1200	1900	360	2300	16000
VPM6203OR-180	54	108	54	42	5500	1200	1900	408	2300	19000
VPP2203OR-30	35	67	35	28	2700	1200	1900	72	700	3200
VPP2203OR-40	35	67	35	28	2700	1200	1900	88	800	4750
VPP3203OR-45	42	76	42	35	3400	1200	1900	108	1000	4750
VPP3203OR-75	42	76	42	35	3400	1200	1900	168	1100	7300
VPP3203OR-105	54	89	42	42	3400	1200	1900	231	1300	10000
VPP4203OR-120	54	89	54	54	3900	1200	1900	266	1400	11500
VPP4203OR-130	54	89	54	54	3900	1200	1900	287	1500	12600
VPP4203OR-140	54	108	54	54	3900	1200	1900	308	1700	13500
VPP5203OR-155	54	108	54	54	4600	1200	1900	343	2000	15000
VPP5203OR-175	67	108	54	54	4600	1200	1900	385	2000	16000
VPP6203OR-190	67	108	54	54	4600	1200	1900	420	2300	18500
VPP6203OR-210	67	108	54	54	5300	1200	1900	462	2300	19500

Technical Parameters of <45HP Small Parallel Reciprocating Compressor Racks

Racks Model No.	Dimension of Racks' External Pipes				External Dimensions			Max. Working Current	Weight	Machine Room Ventilation Rate
	Discharge DL	Suction SL	Liquid Pipe Inlet	Liquid Pipe Outlet	L	W	H	A	Kg	m^3/h
VPM2203OR-13E	1-1/8"	2-1/8"	1-1/8"	7/8"	1602	707	1009	22.26	500	1600
VPM2203OR-15E	1-1/8"	2-1/8"	1-1/8"	7/8"	1602	707	1009	31.2	500	1600
VPM2203OR-20E	1-1/8"	2-1/8"	1-1/8"	7/8"	1602	707	1009	36.42	500	2000
VPM2203OR-30E	1-1/8"	2-1/8"	1-1/8"	7/8"	1602	707	1009	44.52	500	3000
VPM3203OR-30E	1-3/8"	2-1/8"	1-3/8"	1-1/8"	2112	699	1009	54.63	650	3000
VPM3203OR-45E	1-3/8"	2-1/8"	1-3/8"	1-1/8"	2112	699	1009	66.78	650	4500
VPP2203OR-15E	1-1/8"	2-1/8"	1-1/8"	7/8"	1602	707	814	35.44	500	2000
VPP2203OR-20E	1-1/8"	2-1/8"	1-1/8"	7/8"	1602	707	814	41.8	500	2500
VPP2203OR-30E	1-1/8"	2-1/8"	1-1/8"	7/8"	1602	707	814	48	500	3500
VPP3203OR-35E	1-3/8"	2-1/8"	1-3/8"	1-1/8"	2112	699	814	70.8	650	4000
VPP3203OR-40E	1-3/8"	2-1/8"	1-3/8"	1-1/8"	2112	699	814	68.9	650	4500
VPP3203OR-45E	1-3/8"	2-1/8"	1-3/8"	1-1/8"	2112	699	814	72	650	5200

Pluto Series

Scroll Parallel Racks

Customer Values

- Extensive applications, water-cooling and air-cooling
- Widely adjustable cooling capacity, reliable operation even under low-frequency load
- Silent racks, 8~10dBA lower than traditional Reciprocating racks
- Full automatic control, remotely monitoring
- Compressor timing rotation control, long service life
- Compact, small occupied area

Product Features

- Non-proportional parallel design, racks adjusting range: 15%~100%, up to 6 compressors
- One check valve for each by-pass, vibration eliminators, preventing blow-by, reduce noise
- Electronic oil level regulator adopted, ensuring reliable oil return
- Controllers allow the rotating start of compressors ensuring the service life
- Integrated framework, compact structure

Naming Rule of Scroll Parallel Racks

V P P 4 2 0 6 O R - 50

- 50: Total Horsepower of Racks
- R: With Receiver
  - R: With Receiver
  - F: Field Installation
- O: Oil Return System
- 6: Compressor Type
  - 6: Scroll
- 0: Accessories
  - 0: Without subcooler or heat recoverer
  - 1: Only with heat recoverer
  - 5: Only with Subcooler
  - 6: Both subcooler and heat recoverer
- 6: Control system
  - 0: Without control system
  - 2: With control cabinet for energy management system
- 2: Number of Compressors
- 4: Applicable Temperature
  - P: Medium Temperature
- P: Refrigerant Oil
  - H: Mineral Oil P: Polyester Oil
- P: Parallel Racks

Scroll Parallel Racks Application

Working Conditions	Scroll Parallel Racks
	Medium Temperature
Refrigerant	R404A
Evaporating Temperature (°C)	-20~+10

* All comparisons are based on the product performances of last generation.

> 45HP Large Scroll Parallel Racks Configuration (R404A)

No.	Type	Standard Options	Non-standard Options
1	Subcooler	×	√
2	Control system	With dixell* controller electric box	With controller electric box (Dixell*, Danfoss, Carel, etc.)
3	Racks external pipes	Liquid drain, gas return, supply liquid and discharge	By-passes for supply liquid and gas return
4	Oil return system	High-pressure return oil system + electronic oil level equalizer	×
5	Reservoir	Vertical reservoir	Horizontal reservoir (Field installation only)
6	Condensing pressure control	×	1, Condensing pressure control switch 2, A9 System pressure control valve (cold region) optional, A8 valve needs field installation

> 45HP Large MT Parallel Scroll Compressor Racks Performance Table

Racks Model No.	Compressor Model x Quantity	Evaporating Temperature							
		to: -15°C		to: -10°C		to: -5°C		to: 0°C	
		Cooling Capacity Q(kW)	Power Consumption P(kW)	Cooling Capacity Q(kW)	Power Consumption P(kW)	Cooling Capacity Q(kW)	Power Consumption P(kW)	Cooling Capacity Q(kW)	Power Consumption P(kW)
VPP3206OR-30	3*ZB76	43.8	24.5	53.3	24.7	64.2	24.9	76.2	25.1
VPP3206OR-35	2*ZB76+ZB114	49.9	29.0	61.2	29.1	74.0	29.2	88.2	29.4
VPP3206OR-40	ZB76+2*ZB114	56.0	33.5	69.2	33.5	83.8	33.6	100.2	33.8
VPP4206OR-45	3*ZB76+ZB114	64.5	37.1	79.0	37.3	95.4	37.5	113.6	37.8
VPP4206OR-50	2*ZB76+2*ZB114	70.6	41.6	86.9	41.7	105.2	41.9	125.6	42.1
VPP4206OR-55	ZB76+3*ZB114	76.7	46.1	94.9	46.2	115.0	46.2	137.6	46.5
VPP4206OR-60	4*ZB114	82.8	50.6	102.8	50.6	124.8	50.6	149.6	50.8
VPP5206OR-65	2*ZB76+3*ZB114	91.3	54.3	112.6	54.4	136.4	54.5	163.0	54.8
VPP5206OR-70	ZB76+4*ZB114	97.4	58.8	120.6	58.8	146.2	58.9	175.0	59.2
VPP5206OR-75	5*ZB114	103.5	63.3	128.5	63.3	156.0	63.3	187.0	63.5
VPP6206OR-90	6*ZB114	124.2	75.9	154.2	75.9	187.2	75.9	224.4	76.2

Notes:
1) Cooling capacity and input power listed is based on condensing temperature at 45°C, without liquid subcooling.
2) The power wire for the compressor racks is three-phase 380V/50Hz, and the power for the control operation is one-phase 220V/50Hz.
3) If the compressor racks are to operate with different evaporating temperatures or with too high/too low ambient temperature, please contact us.
4) If you need a water cooling rack, please contact our technical staff.

> 45HP Large MT Parallel Scroll Compressor Racks Technical Parameters

Racks Model No.	Dimension of Racks' External Pipes				External Dimensions			Max. Working Current	Weight	Machine Room Ventilation Rate
	Discharge DL	Suction SL	Liquid Pipe Inlet	Liquid Pipe Outlet	L	W	H	A	Kg	m^3/h
VPP3206OR-30	35	54	35	35	2950	900	1950	96.84	970	3500
VPP3206OR-35	35	67	35	35	2950	900	1950	110.16	980	4000
VPP3206OR-40	35	67	35	35	2950	900	1950	123.48	990	4500
VPP4206OR-45	35	67	35	35	3400	900	1950	136.8	1000	5000
VPP4206OR-50	35	67	35	35	3400	900	1950	155.76	1120	5500
VPP4206OR-55	42	76	42	42	3400	900	1950	169.08	1130	6000
VPP4206OR-60	42	76	42	42	3400	900	1950	182.4	1140	6500
VPP5206OR-65	42	76	42	42	3900	900	1950	201.36	1270	7000
VPP5206OR-70	42	89	42	42	3900	900	1950	214.68	1280	7500
VPP5206OR-75	42	89	42	42	3900	900	1950	228	1290	8000
VPP6206OR-90	42	89	42	42	4400	900	1950	273.6	1350	9500

1) The dimensions of the racks' external pipes are for standard racks and can be customized.
2) Ball valves and headers on the pipeline can be customized.
3) If more than one Parallel rack is used in the machine room, it is necessary to calculate the total ventilation rate.
4) If you need a water cooling rack, please contact our technical staff.

Pluto Series

E Series Scroll Small Parallel Racks

Customer Values

- Suitable for small cold rooms and small/medium-sized supermarkets with an evaporating temperature of -20°C ~+7°C
- Suitable for small cold rooms and small/medium-sized supermarkets with an evaporating temperature of -40°C ~-18°C
- Silent units, ~ 10dBA noise reduction
- High refrigerating capacity, high energy efficiency, low price per unit of cooling capacity, reduced initial investment
- Complete standard accessories, high reliability, stable temperature
- Small occupied area
- Easy to operate and unattended control, reducing operator costs
- Quality-assured parts

Product Features

- Cooling capacity 34.5kW-74.7kW * (MT), R404A refrigerant
- Cooling capacity 12.0kW-41.0kW (LT), R404A refrigerant
- Highly efficient silent Copeland full-sealed scroll compressor in parallel, two or three compressors in parallel, small vibration, the noise of the two-head and three-head scroll units are 8dB-10dB lower than that of the same head scroll unit
- The low-temperature unit adopts "enhanced vapor injection + subcooler," the cooling capacity increased by ~ 30%, energy saving and highly efficient
- The minimum capacity adjustment range is 27%-100%, energy saving and highly efficient
- Frameless structure, compact and robust
- Adopting Emerson electronic oil level equalizer, ensuring reliable oil return
- Check valve equipped at each exhaust by-pass, avoiding blow-by and low vibration, ensuring the systematic reliability
- Controller time average rotating start, ensuring the service life
- Full-automatic control system, remotely monitoring

*Comparison of compressor units with the same number and head in the range of 1m

Scroll Parallel Racks Application

Working Conditions	Copeland Scroll Parallel Racks	
	Medium Temperature	Low Temperature
Refrigerant	R404A	
Evaporating Temperature	- 20 ~ +7	- 40 ~ -18

* All comparisons are based on the product performances of last generation.

Standard Configuration

- Compressor
- Subcoolers (standard for LT, none for MT)
- Emerson controller
- Integrated horizontal reservoir
- Electronic oil balancer
- Suction filter
- Gas-liquid separator (standard for LT, none for MT)

Optional Configuration

- Condensate pressure switch
- Oil separator outlet check valve
- Liquid reservoir supply ball valve
- Soundproof cover
- Remote control

Naming Rule of Scroll Parallel Racks

V P M 2 2 5 6 O R - 20 - E

- E: Without Frame (E Series Small Scroll Parallel Racks)
- 20: Total Horsepower of Racks
- R: Reservoir: R: Random installation
- O: Oil Return System
- 6: Compressor Type: 6: Scroll
- 5: Accessories: 0: Without subcooler or heat recoverer 5: Only with Subcooler
- 6: Control system: 0: Without control system; 2: With control cabinet for energy management system
- 2: Number of Compressors
- 2: Applicable Temperature: P: Medium Temperature M: Low Temperature
- M: Refrigerant Oil: P: Polyester Oil
- P: Parallel Racks
- V: Parallel Racks

E Series MT Small Scroll Parallel Racks Parameters

Model			VPP2206OR-20E	VPP2206OR-26E	VPP2206OR-30E	VPP3206OR-39E	VPP3206OR-45E
Refrigerant			R404A				
Water Cooling Condition	Maximum Cooling Capacity	kW	37.7	46.4	55.0	69.6	82.5
	Maximum Power	kW	14.8	19.0	22.6	28.5	33.9
	COP	W/W	2.6	2.4	2.4	2.4	2.4
	Nominal Running Current	A	28.3	35.5	45.6	53.3	68.4
Air Cooling Condition	Maximum Cooling Capacity	kW	34.5	42.2	49.8	63.3	74.7
	Maximum Power	kW	16.4	21.2	25.3	31.8	38.0
	COP	W/W	2.1	2.0	2.0	2.0	2.0
	Nominal Running Current	A	30.4	38.7	49.0	58.1	73.5
Noise @1m		dB(A)	69.0	71.0	75.0	72.8	76.8
Maximum Running Current		A	40.8	62.0	67.0	93.0	100.5
Power Type			380V - 3PH - 50Hz				
Compressor	Type		Silent, efficient, fully enclosed scroll compressor				
	Model		2*ZB76	2*ZB95	2*ZB114	3*ZB95	3*ZB114
Minimum Load Percentage		%	50	50	50	33	33
Reservoir	Type		Horizontal			Horizontal	
	Volume	L	72			100	
Dimensions		mm	1480×750×1180			2050×850×1200	
Weight		kg	360			500	

Notes:
Water cooling condition: condensation temperature 40°C, evaporation temperature - 10°C, subcooling 0°C, suction temperature 10°C.
Air cooling condition: condensing temperature 45°C, evaporation temperature - 10°C, subcooling 0°C, suction temperature 10°C.

E Series LT Small Scroll Parallel Racks Technical Parameters

Model			VPM 2256OR -12E	VPM 2256OR -15E	VPM 2256OR -20E	VPM 2256O -30E	VPM 3256OR -30E	VPM 3256OR -35E	VPM 3256OR -40E	VPM 3256OR -45E
Refrigerant			R404A							
Water Cooling Condition	Maximum Cooling Capacity	kW	12.2	15.3	20.4	28.1	30.6	34.5	38.3	42.2
	Maximum Power	kW	8.0	9.4	12.8	18.1	19.1	21.8	24.5	27.2
	COP	W/W	1.52	1.63	1.60	1.55	1.60	1.58	1.56	1.55
	Nominal Running Current	A	14.7	16.9	27.2	33.6	40.9	44.0	47.2	50.3
Air Cooling Condition	Maximum Cooling Capacity	kW	12.0	15.0	19.8	27.3	29.7	33.5	37.2	41.0
	Maximum Power	kW	8.8	10.2	14.0	19.8	21.0	23.9	26.8	29.7
	COP	W/W	1.36	1.47	1.42	1.38	1.42	1.40	1.39	1.38
	Nominal Running Current	A	15.8	18.0	28.3	36.0	42.4	46.3	50.1	54.0
Noise @1m		dB(A)	70.0	73.0	71.0	74.0	72.8	74.0	75.0	75.8
Maximum Running Current		A	27.4	32.0	50.0	60.0	75.0	80.0	85.0	90.0
Power Type			380V - 3PH - 50Hz							
Compressor	Type		Silent, efficient, fully enclosed scroll compressor							
	Model		2*ZFI26KQE	2*ZFI36KQE	2*ZFI50KQE	2*ZFI68KQE	3*ZFI50KQE	2*ZFI50KQE +ZFI68KQE	2*ZFI50KQE +ZFI68KQE	3*ZFI68KQE
subcooler			Plate heat exchanger + electronic expansion valve				Plate heat exchanger + electronic expansion valve			
Minimum Load Percentage		%	50	50	50	50	33	30	27	33
Reservoir	Type		Horizontal				Horizontal			
	Volume	L	72				100			
Dimensions		mm	1500×850×1180				2050×900×1200			
Weight		kg	350		400		550			

Note:
Water cooling condition: condensation temperature 40°C, evaporation temperature - 35°C, suction temperature 0°C.
Air cooling condition: condensation temperature 45°C, evaporation temperature - 35°C, suction temperature 0°C.

E Series MT Small Scroll Parallel Racks - Air Cooling

MT Air Cooling Racks Model No.	Compressor	Evaporating Temperature							
		to: -15°C		to: -10°C		to: -5°C		to: 0°C	
	Model x Quantity	Cooling Capacity Q(kW)	Power Consumption P(kW)	Cooling Capacity Q(kW)	Power Consumption P(kW)	Cooling Capacity Q(kW)	Power Consumption P(kW)	Cooling Capacity Q(kW)	Power Consumption P(kW)
VPP2206OR-20E	2*ZB76	28.3	16.3	34.5	16.4	41.6	16.6	49.4	16.7
VPP2206OR-26E	2*ZB95	34.3	21.2	42.2	21.2	51.0	21.4	60.6	21.5
VPP2206OR-30E	2*ZB114	40.2	25.3	49.8	25.3	60.6	25.3	73.2	25.4
VPP3206OR-39E	3*ZB95	51.5	31.8	63.3	31.8	76.5	32.1	90.9	32.3
VPP3206OR-45E	3*ZB114	60.3	38.0	74.7	38.0	90.9	38.0	109.8	38.1

Notes:
1) Cooling capacity and input power listed is based on the condensing temperature at 45°C, and the suction temperature at 10°C. without liquid subcooling.
2) The power wire for the compressor racks is three-phase 380V/50Hz, and the power for the control operation is one-phase 220V/50Hz.
3) If the compressor racks are to operate with different evaporating temperatures or with too high/too low ambient temperature, please contact us.

E Series MT Small Scroll Parallel Racks - Water Cooling

MT Water Cooling Racks Model No.	Compressor	Evaporating Temperature							
		to: -15°C		to: -10°C		to: -5°C		to: 0°C	
	Model x Quantity	Cooling Capacity Q(kW)	Power Consumption P(kW)	Cooling Capacity Q(kW)	Power Consumption P(kW)	Cooling Capacity Q(kW)	Power Consumption P(kW)	Cooling Capacity Q(kW)	Power Consumption P(kW)
VPP2206OR-20E	2*ZB76	31.0	14.6	37.7	14.8	45.2	15.0	54.0	15.1
VPP2206OR-26E	2*ZB95	38.1	18.9	46.4	19.0	55.6	19.2	66.2	19.4
VPP2206OR-30E	2*ZB114	44.8	22.5	55.0	22.6	66.6	22.8	79.4	22.9
VPP3206OR-39E	3*ZB95	57.2	28.3	69.6	28.5	83.4	28.8	99.3	29.1
VPP3206OR-45E	3*ZB114	67.2	33.8	82.5	33.9	99.9	34.2	119.1	34.4

Notes:
1) Cooling capacity and input power listed is based on the condensing temperature at 40°C, suction temperature at 10°C. without liquid subcooling.
2) The power wire for the compressor racks is three-phase 380V/50Hz, and the power for the control operation is one-phase 220V/50Hz.
3) If the compressor racks are to operate with different evaporating temperatures or with too high/too low ambient temperature, please contact us.

E Series LT Small Scroll Parallel Racks - Air Cooling

LT Air Cooling Racks Model No.	Compressor	Evaporating Temperature							
		to: -37°C		to: -35°C		to: -32°C		to: -30°C	
	Model x Quantity	Cooling Capacity Q(kW)	Power Consumption P(kW)	Cooling Capacity Q(kW)	Power Consumption P(kW)	Cooling Capacity Q(kW)	Power Consumption P(kW)	Cooling Capacity Q(kW)	Power Consumption P(kW)
VPM2256OR-12E	2*ZFI26KQE	11.2	8.7	12.0	8.8	13.3	9.1	14.3	9.3
VPM2256OR-15E	2*ZFI36KQE	13.9	9.9	15.0	10.2	16.7	10.7	17.9	11.0
VPM2256OR-20E	2*ZFI50KQE	18.4	13.6	19.8	14.0	22.1	14.5	23.9	14.8
VPM2256OR-30E	2*ZFI68KQE	25.4	19.3	27.3	19.8	30.5	20.5	32.9	21.0
VPM3256OR-30E	3*ZFI50KQE	27.7	20.4	29.7	21.0	33.2	21.7	35.9	22.2
VPM3256OR-35E	2*ZFI50KQE +ZFI68KQE	31.1	23.3	33.5	23.9	37.4	24.7	40.4	25.3
VPM3256OR-40E	2*ZFI50KQE +ZFI68KQE	34.6	26.1	37.2	26.8	41.6	27.7	44.9	28.4
VPM3256OR-45E	3*ZFI68KQE	38.1	29.0	41.0	29.7	45.8	30.8	49.4	31.5

Notes:
1) Cooling capacity and input power listed are based on condensing temperature at 45°C, suction temperature at 0°C.
2) The power wire for the compressor racks is three-phase 380V/50Hz, the power for the control operation is one-phase 220V/50Hz.
3) If the compressor racks are to operate with different evaporating temperature or with too high/too low ambient temperature, please contact us.

E Series LT Small Scroll Parallel Racks - Water Cooling

LT Water Cooling Racks Model No.	Compressor	Evaporating Temperature							
		to: -37°C		to: -35°C		to: -32°C		to: -30°C	
	Model x Quantity	Cooling Capacity Q(kW)	Power Consumption P(kW)	Cooling Capacity Q(kW)	Power Consumption P(kW)	Cooling Capacity Q(kW)	Power Consumption P(kW)	Cooling Capacity Q(kW)	Power Consumption P(kW)
VPM2256OR-12E	2*ZFI26KQE	11.3	7.8	12.2	8.0	13.6	8.3	14.6	8.4
VPM2256OR-15E	2*ZFI36KQE	14.1	9.1	15.3	9.4	17.1	9.8	18.4	10.1
VPM2256OR-20E	2*ZFI50KQE	19.0	12.4	20.4	12.8	22.2	13.2	24.6	13.6
VPM2256OR-30E	2*ZFI68KQE	26.2	17.6	28.1	18.1	31.4	18.8	33.8	19.2
VPM3256OR-30E	3*ZFI50KQE	28.6	18.6	30.6	19.1	33.3	19.9	36.9	20.3
VPM3256OR-35E	2*ZFI50KQE +ZFI68KQE	32.1	21.2	34.5	21.8	37.9	22.6	41.5	23.2
VPM3256OR-40E	2*ZFI50KQE +ZFI68KQE	35.7	23.8	38.3	24.5	42.5	25.4	46.1	26.0
VPM3256OR-45E	3*ZFI68KQE	39.3	26.4	42.2	27.2	47.1	28.2	50.7	28.8

Notes:

1) Cooling capacity and input power listed is based on the condensing temperature at 40°C, and suction temperature at 0°C.
2) The power wire for the compressor racks is three-phase 380V/50Hz, and the power for the control operation is one-phase 220V/50Hz.
3) If the compressor racks are to operate with different evaporating temperatures or with too high/too low ambient temperature, please contact us.

E Series Small Scroll Parallel Racks

Racks Model No.	Dimension of Racks' External Pipes				External Dimensions			Max. Working Current	Weight	Machine Room Ventilation Rate
	Discharge DL mm	Suction SL mm	Liquid Pipe Inlet mm	Liquid Pipe Outlet mm	L mm	W mm	H mm	A	kg	m^3/h
VPP2206OR-20E	28	54	28	22	1480	750	1180	40.8	360	3400
VPP2206OR-26E	28	54	28	22	1480	750	1180	62	360	3600
VPP2206OR-30E	28	54	28	22	1480	750	1180	67	360	3800
VPP3206OR-39E	35	54	35	28	2050	850	1180	93	500	4300
VPP3206OR-45E	35	54	35	28	2050	850	1180	100.5	500	4500
VPP3206OR-45E	28	54	28	22	1480	850	1180	27.4	350	3400
VPP3206OR-45E	28	54	28	22	1480	850	1180	32	350	3600
VPP3206OR-45E	28	54	28	22	1480	850	1180	50	400	4000
VPP3206OR-45E	28	54	28	22	1480	850	1180	60	400	4400
VPP3206OR-45E	35	54	35	28	2050	900	1180	75	550	4900
VPP3206OR-45E	35	54	35	28	2050	900	1180	80	550	5100
VPP3206OR-45E	35	54	35	28	2050	900	1180	85	550	5300
VPP3206OR-45E	35	54	35	28	2050	900	1180	90	550	5500

Notes:

1) The dimensions of the racks' external pipes are for standard racks.
2) If more than one Parallel rack is used in the machine room, it is necessary to calculate the total ventilation rate.

E Series MT Small Scroll Parallel Racks Configuration (R404A)

No.	Type	Standard Options	Non-standard Options	Optional Customer Value
1	Control system	Control Panel Box with Dixell Controller	×	Standard controller, easy to operate with higher reliability
2	Racks external pipes	One for each liquid feed, return air, liquid supply and exhaust Note: Inlet branch with angle valve	×	
3	Oil return system	High Pressure Oil Return System+ Electronic Oil Equalizer	×	Stable return oil and high reliability
4	Reservoir	Horizontal reservoir	×	
5	Condensing pressure control	×	Optional condensing pressure switches according to the number of heads, 2 heads with 2 condensing pressure switches, and 3 heads with 3 condensing pressure switches	Be able to control multiple condensing fans or cooling towers
6	Filter	Return air filter	×	Self-contained return air filter, with stable and reliable operation

E Series LT Small Scroll Parallel Racks Configuration (R404A)

No.	Type	Standard Options	Non-standard Options	Optional Customer Value
1	Subcooler	√	×	Improve the supercooling of liquid supply to meet the special demands of customers
2	Control system	Control Panel Box with Dixell Controller	×	Standard controller, easy to operate with higher reliability
3	Racks external pipes	One for each liquid feed, return air, liquid supply and exhaust Note: Inlet branch with angle valve	×	
4	Oil return system	High Pressure Oil Return System+ Electronic Oil Equalizer	×	Stable return oil and high reliability
5	Reservoir	Horizontal reservoir	×	
6	Condensing pressure control	×	Optional condensing pressure switches according to the number of heads, 2 heads with 2 condensing pressure switches, and 3 heads with 3 condensing pressure switches	Be able to control multiple condensing fans or cooling towers
7	Filter	Return air filter	×	Self-contained return air filter, with stable and reliable operation

Fantasy Series 2.0

R410A MT DC Inverter Condensing Units

1.5~4HP
Rotary Compressor
Single Compressor
Single Fan

5~10HP
Rotary Compressor
Single Compressor
Dual Fans

Customer Values

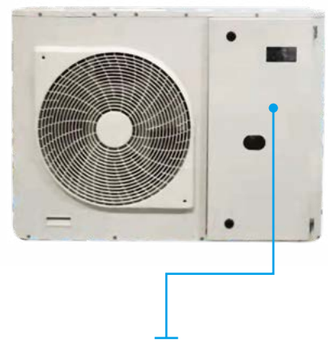
- Wide adjustable range for cooling capacity and small fluctuation of food storage temperature
- Low operation cost and over 30% of annual energy saving compared with Fixed Speed unit
- Quiet unit with 4BA lower sound level compared with Fix speed unit
- Working temperatures range from -30°C to 48°C, available in harsh environments
- No need for a separate machine room; easier to installation
- Optional Remote monitoring, optimize the operation mode

Product Features

- DC inverter compressor adopted with step-less adjustment of output cooling capacity from 30Hz to 100Hz, supply on demand
- DC inverter fan adopted, adjust the speed according to the end requirements
- Large condensing coils adopted for ensuring operation under high ambient temperature
- Thickened sound insulation cotton with effective noise insulation
- R410A refrigerant adopted with high volumetric efficiency
- Integrated shell design, compact structure
- With 485 communication interfaces for remote linking, convenient for operation

Optional

Magnetic Air Filter
One-click cleaning, Reduce Labor Cost



Hinged Door
Convenient for maintenance

Triangular Bracket
Reduced vibration and leakage

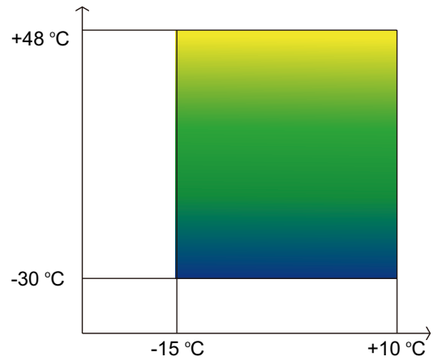
Naming Rule of MT DC Inverter CDU

GV	R	M	080	N	S	A	1	X

- Internal Design Serial Number
  - B - 2nd generation
- Power
  - 1. 380V/3Ph/50~60Hz
  - 2. 220V/1Ph/50~60Hz
  - 3. 220V/3Ph/60Hz
  - 4. 380V/3Ph/60Hz
  - 5. 380V/3Ph/50Hz
- Cooling Method
  - A-Air Cooling
- No. of Compressor
  - S-Single Compressor
  - D-Double Compressors
- Refrigerant
  - N-R410A
- Nominal HP
  - 015-1.5HP
  - 040-4HP
  - 100-10HP
  - 460-46HP
- Application Temperature of Unit
  - M-Medium Temperature
- Compressor Type
  - R-Rotary Compressor
  - S-Scroll Compressor
- Hermetic Inverter Compressing and Condensing Unit

Operation Range

1.5~10HP



Technical Parameters

Model	GVRM 015NSA2B	GVRM 020NSA2B	GVRM 025NSA2B	GVRM 035NSA2B	GVRM 040NSA1B	GVRM 050NSA1B	GVRM 060NSA1B	GVRM 080NSA1B	GVRM 100NSA1B
Refrigerant	R410A								
Supply Voltage of Unit	220V/1PH/50~60Hz				380V/3Ph/50~60Hz				
Type of Refrigerant Oil	FV50S								
Number of Fan	1				2				
Diameter of Fan (mm)	500								
Fan Speed Range (rpm)	300~850								
Maximum Air Volume (m^3/h)	4030				7060				
Reservoir Volume (L)	4.5				8.8				
Evaporating Temperature Range	-15~10								
Unit rated cooling Capacity (kW)	3.1	3.7	4.9	6.6	7.8	9.6	11.4	13.8	15.2
Unit rated power (kW)	1.0	1.2	1.6	2.4	2.8	3.2	4.0	4.8	5.8
Maximum Cooling Capacity of Unit (kW)	5.3	6.4	8.1	10.1	11.9	14.0	16.3	19.1	20.6
Maximum Power of Unit (kW)	1.8	2.3	3.3	5.0	6.4	5.2	6.5	8.1	9.8
Noise of Unit dBA@1m	52	52	53	53	56	56	59	60	60
Nominal Running Current of Unit (A)	4.8	5.7	7.8	11.0	5.0	5.5	6.3	8.9	9.6
Maximum Running Current (A)	14	20	23	33	17	20	22	27	28
Diameter of Suction Pipe (Inch)	1/2			5/8		3/4			
Diameter of Liquid Pipe (Inch)	3/8					1/2			
Dimensions (L x W x H) (mm)	1064 X 424 X 802					1064 X 448 X 1358			
Weight (kg)	93	93	95	97		142	142	146	150

Notes: 1.5~4HP Norminal working condition: 60rps; 5~10 norminal working condition: 70rps
Cooling capacity power testing conditions: National standard medium temperature working conditions: GB/T21363-2008
Evaporating temperature: -7°C, ambient temperature: 32°C, return temperature 18°C.

Performance Parameters

Model	Ambient Temperature °C	Cooling Capacity Q Power Consumption P (kW)	-15		-12		-10		-7		-5		0		5		10	
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
1.5HP	27	Q	2.3	3.9	2.6	4.4	2.9	4.8	3.3	5.4	3.5	5.9	4.3	7.0	5.2	8.4	6.2	9.9
		P	0.9	1.6	0.9	1.7	0.9	1.7	0.9	1.8	1.0	1.8	1.0	1.9	1.1	2.1	1.1	2.2
	32	Q	2.2	3.7	2.5	4.2	2.7	4.5	3.1	5.3	3.3	5.5	4.0	6.6	4.9	7.9	5.8	9.2
		P	0.9	1.7	1.0	1.8	1.0	1.9	1.0	1.9	1.0	2.0	1.1	2.1	1.1	2.3	1.2	2.4
	38	Q	2.0	3.3	2.3	3.8	2.5	4.2	2.8	4.7	3.0	5.1	3.7	6.1	4.5	7.2	5.3	8.5
		P	1.0	1.9	1.0	2.0	1.0	2.0	1.1	2.1	1.1	2.2	1.2	2.3	1.2	2.5	1.3	2.6
	43	Q	1.8	3.1	2.1	3.5	2.3	3.8	2.6	4.3	2.8	4.7	3.4	5.7	4.1	6.7	4.9	7.3
		P	1.1	2.1	1.1	2.2	1.1	2.2	1.1	2.3	1.2	2.3	1.2	2.5	1.3	2.6	1.4	2.4
	48	Q	1.6	2.8	1.9	3.2	2.1	3.5	2.4	3.9	2.6	4.3	3.2	4.8	3.8	5.7	4.6	6.0
		P	1.1	2.2	1.1	2.3	1.2	2.4	1.2	2.5	1.2	2.5	1.3	2.3	1.4	2.4	1.5	2.2
2HP	27	Q	2.8	4.9	3.2	5.6	3.5	6.1	3.9	6.8	4.3	7.4	5.2	8.8	6.2	10.4	7.4	12.1
		P	1.0	1.9	1.1	2.0	1.1	2.1	1.1	2.2	1.1	2.2	1.2	2.4	1.2	2.6	1.2	2.8
	32	Q	2.6	4.6	3.0	5.2	3.3	5.7	3.7	6.4	4.0	6.9	4.9	8.3	5.8	9.8	6.9	11.3
		P	1.1	2.1	1.2	2.2	1.2	2.3	1.2	2.4	1.2	2.4	1.3	2.6	1.3	2.8	1.4	3.0
	38	Q	2.4	4.2	2.7	4.8	3.0	5.2	3.4	5.8	3.7	6.3	4.5	7.6	5.4	9.0	6.4	10.4
		P	1.3	2.3	1.3	2.4	1.3	2.5	1.4	2.6	1.4	2.7	1.4	2.9	1.5	3.1	1.6	3.3

Performance Parameters

Model	Ambient Temperature °C	Cooling Capacity Q Power Consumption P (kW)	-15		-12		-10		-7		-5		0		5		10	
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
2HP	43	Q	2.2	3.8	2.5	4.4	2.8	4.7	3.1	5.3	3.4	5.8	4.2	6.9	5.0	8.3	5.9	9.7
		P	1.3	2.5	1.4	2.6	1.4	2.7	1.5	2.8	1.5	2.9	1.6	3.1	1.6	3.3	1.7	3.6
	48	Q	2.0	3.4	2.3	3.9	2.5	4.2	2.9	4.8	3.1	5.2	3.8	6.3	4.6	7.4	5.4	8.1
		P	1.4	2.6	1.5	2.8	1.5	2.9	1.6	3.0	1.6	3.1	1.7	3.4	1.8	3.6	1.9	3.3
2.5HP	27	Q	3.7	6.5	4.2	7.4	4.6	8.0	5.1	8.9	5.5	9.6	6.6	11.4	7.9	13.3	9.3	15.4
		P	1.4	2.8	1.4	2.9	1.4	2.9	1.5	3.0	1.5	3.1	1.5	3.3	1.6	3.5	1.7	3.8
	32	Q	3.5	6.1	3.9	6.9	4.3	7.5	4.9	8.1	5.2	9.0	6.3	10.7	7.4	12.5	8.8	14.5
		P	1.5	3.1	1.6	3.2	1.6	3.2	1.6	3.3	1.6	3.4	1.7	3.6	1.8	3.8	1.8	4.1
	38	Q	3.2	5.5	3.6	6.3	3.9	6.8	4.4	7.6	4.8	8.2	5.8	9.9	6.9	11.6	8.1	13.3
		P	1.7	3.3	1.7	3.5	1.8	3.6	1.8	3.7	1.8	3.8	1.9	4.0	2.0	4.2	2.0	4.5
	43	Q	2.9	4.9	3.3	5.6	3.6	6.1	4.1	6.9	4.5	7.5	5.4	9.0	6.4	9.7	7.6	11.3
		P	1.8	3.5	1.9	3.7	1.9	3.8	2.0	4.0	2.0	4.1	2.1	4.3	2.1	3.8	2.2	4.0
	48	Q	2.6	4.3	3.0	4.9	3.3	5.4	3.7	6.1	4.1	6.7	5.0	7.4	6.0	8.8	7.0	9.3
		P	1.9	3.7	2.0	3.9	2.0	4.0	2.1	4.2	2.1	4.3	2.2	3.9	2.3	4.1	2.4	3.6
3.5HP	27	Q	5.2	8.6	5.9	9.7	6.3	10.4	7.1	11.7	7.6	12.5	9.1	14.6	10.7	16.9	12.4	19.1
		P	2.0	4.1	2.1	4.4	2.1	4.5	2.2	4.7	2.2	4.9	2.4	5.4	2.5	6.0	2.7	6.6
	32	Q	4.9	8.0	5.5	9.0	6.0	9.6	6.6	10.1	7.2	11.5	8.6	13.7	10.0	15.8	11.7	17.9
		P	2.2	4.5	2.3	4.7	2.3	4.9	2.4	5.1	2.4	5.4	2.6	5.8	2.7	6.4	2.9	7.0
	38	Q	4.5	7.1	5.1	8.0	5.5	8.6	6.2	9.6	6.7	10.3	7.9	12.1	9.3	14.1	10.8	15.1
		P	2.4	4.8	2.5	5.1	2.6	5.4	2.6	5.7	2.7	5.9	2.9	6.4	3.0	7.0	3.2	6.1
	43	Q	4.1	6.2	4.7	7.1	5.1	7.7	5.7	8.6	6.1	9.2	7.4	10.2	8.7	11.9	10.0	12.7
		P	2.6	5.0	2.7	5.4	2.8	5.6	2.9	6.0	2.9	6.2	3.1	5.7	3.3	6.1	3.5	5.3
	48	Q	3.7	5.2	4.2	6.0	4.6	6.5	5.2	6.9	5.6	7.4	6.7	8.4	7.9	8.9	-	9.4
		P	2.7	5.2	2.9	5.6	3.0	5.8	3.1	5.2	3.2	5.4	3.3	5.0	3.5	4.4	-	3.7
4HP	27	Q	6.0	9.8	6.8	10.9	7.3	11.8	8.2	13.1	8.9	14.0	10.5	16.5	12.4	19.0	14.3	21.4
		P	2.3	4.9	2.4	5.3	2.5	5.5	2.6	5.8	2.6	6.1	2.8	6.7	3.1	7.4	3.4	8.2
	32	Q	5.6	8.8	6.3	9.9	7.0	10.7	7.8	11.9	8.4	12.8	9.9	14.9	11.6	17.7	13.4	18.5
		P	2.5	5.4	2.6	5.8	2.7	6.0	2.8	6.4	2.9	6.7	3.1	7.3	3.4	8.1	3.7	7.1
	38	Q	5.0	7.6	5.7	8.6	6.2	9.3	7.0	10.4	7.5	11.2	9.1	13.1	10.7	14.4	12.3	15.6
		P	2.8	5.8	2.9	6.2	3.0	6.5	3.1	6.9	3.2	7.2	3.4	7.9	3.7	7.1	4.0	6.2
	43	Q	4.5	6.6	5.2	7.5	5.6	8.1	6.4	9.1	6.9	9.8	8.3	11.0	9.9	12.0	11.4	12.9
		P	3.0	6.2	3.1	6.6	3.2	6.9	3.4	7.3	3.5	7.6	3.7	6.9	4.0	6.2	4.3	5.4
	48	Q	3.9	5.5	4.5	6.3	4.9	6.5	5.6	7.4	6.1	7.5	7.4	8.4	-	9.0	-	9.5
		P	3.2	6.5	3.3	6.9	3.4	6.0	3.6	6.4	3.7	5.5	4.0	5.0	-	4.5	-	3.5
5HP	27	Q	6.2	10.8	7.1	12.3	7.7	13.3	8.7	15.0	9.4	16.2	11.4	19.4	13.6	22.9	16.2	26.7
		P	2.3	4.2	2.3	4.4	2.4	4.5	2.5	4.7	2.5	4.9	2.6	5.2	2.8	5.7	2.9	6.1
	32	Q	5.8	10.0	6.6	11.5	7.2	12.4	8.1	14.0	8.8	15.1	10.7	18.1	12.8	21.4	15.2	25.0
		P	2.5	4.8	2.6	5.0	2.6	5.1	2.7	5.3	2.8	5.4	2.9	5.8	3.0	6.2	3.2	6.7
	38	Q	5.3	9.1	6.1	10.3	6.6	11.3	7.5	12.7	8.2	13.8	9.8	16.7	11.8	19.7	14.0	23.0
		P	2.8	5.4	2.9	5.6	2.9	5.8	3.0	6.0	3.1	6.1	3.2	6.5	3.4	7.0	3.6	7.5
	43	Q	4.8	8.1	5.5	9.3	6.1	10.2	6.9	11.6	7.5	12.6	9.1	15.2	10.9	18.2	13.0	21.2
		P	3.0	5.9	3.1	6.2	3.2	6.3	3.3	6.6	3.4	6.8	3.5	7.2	3.7	7.6	3.9	8.1
	48	Q	4.3	7.0	5.0	8.2	5.5	9.0	6.3	10.3	6.8	11.2	8.4	13.7	10.1	16.4	11.9	19.4
		P	3.3	6.3	3.4	6.6	3.5	6.8	3.6	7.1	3.7	7.3	3.8	7.9	4.0	8.3	4.2	8.8

Performance Parameters

Model	Ambient Temperature °C	Cooling Capacity Q Power Consumption P (kW)	-15		-12		-10		-7		-5		0		5		10	
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
6HP	27	Q	7.4	12.7	8.5	14.4	9.2	15.6	10.4	17.5	11.2	18.9	13.5	22.5	16.1	26.4	19.1	30.7
		P	2.7	5.3	2.8	5.5	2.9	5.7	2.9	6.0	3.0	6.2	3.1	6.7	3.2	7.3	3.4	7.9
	32	Q	6.9	11.7	7.9	13.3	8.6	14.5	9.7	16.3	10.5	17.6	12.7	21.1	15.2	24.8	17.9	28.7
		P	3.0	5.7	3.1	6.0	3.2	6.2	3.2	6.5	3.3	6.8	3.5	7.3	3.6	7.9	3.7	8.6
	38	Q	6.3	10.6	7.2	12.1	7.8	13.1	8.9	14.8	9.6	16.0	11.7	19.2	14.0	22.8	16.5	26.4
		P	3.3	6.4	3.5	6.8	3.5	6.9	3.6	7.2	3.7	7.5	3.9	8.1	4.0	8.7	4.2	9.4
	43	Q	5.8	9.5	6.6	10.9	7.2	11.9	8.2	13.5	8.9	14.6	10.9	17.5	13.0	21.1	15.3	24.4
		P	3.6	6.9	3.7	7.3	3.8	7.5	3.9	7.9	4.0	8.2	4.2	8.7	4.4	9.4	4.6	10.1
	48	Q	5.1	8.3	6.0	9.6	6.5	10.5	7.4	12.0	8.1	13.0	9.9	15.8	12.0	18.7	14.1	20.5
		P	3.9	7.2	4.1	7.6	4.2	8.0	4.3	8.4	4.4	8.7	4.6	9.5	4.8	10.0	5.0	9.1
8HP	27	Q	9.1	14.7	10.4	16.9	11.3	18.3	12.7	20.6	13.7	22.2	16.6	26.4	19.7	31.0	23.2	35.8
		P	3.4	6.8	3.5	7.0	3.6	7.2	3.7	7.6	3.8	7.8	3.9	8.5	4.0	9.1	4.3	9.9
	32	Q	8.5	13.5	9.7	15.4	10.5	16.8	11.9	19.1	12.9	20.6	15.5	24.6	18.5	28.9	21.7	33.4
		P	3.7	7.3	3.9	7.6	3.9	7.9	4.0	8.2	4.1	8.4	4.3	9.1	4.4	9.8	4.7	10.6
	38	Q	7.7	12.0	8.8	13.8	9.6	15.0	10.9	17.0	11.8	18.5	14.2	22.5	17.0	26.4	19.9	30.6
		P	4.1	7.9	4.3	8.3	4.4	8.6	4.5	9.0	4.6	9.3	4.8	9.9	5.0	10.6	5.3	11.5
	43	Q	7.0	10.6	8.1	12.3	8.8	13.5	10.0	15.4	10.9	16.7	13.2	20.2	15.7	24.4	18.5	28.0
		P	4.4	8.2	4.6	8.7	4.7	9.1	4.9	9.6	5.0	9.9	5.2	10.6	5.4	11.3	5.7	12.2
	48	Q	6.3	9.1	7.3	10.7	7.9	11.7	9.1	13.5	9.9	14.7	12.0	18.0	14.5	20.0	17.0	21.4
		P	4.7	8.5	5.0	9.1	5.1	9.4	5.3	10.0	5.3	10.4	5.6	11.3	5.9	10.2	6.2	9.1
10HP	27	Q	10.2	16.1	11.5	18.3	12.5	20.0	14.1	22.5	15.2	24.2	18.2	28.7	21.6	33.5	25.2	38.4
		P	3.9	7.9	4.1	8.3	4.1	8.5	4.3	9.0	4.4	9.3	4.6	10.2	4.9	11.2	5.2	12.3
	32	Q	9.4	14.6	10.8	16.8	11.7	18.3	13.2	20.6	14.3	22.2	17.1	26.8	20.3	31.3	23.7	35.9
		P	4.4	8.5	4.5	9.0	4.6	9.4	4.7	9.9	4.8	10.2	5.1	11.0	5.4	12.0	5.8	13.2
	38	Q	8.5	12.9	9.8	14.9	10.6	16.3	12.1	18.4	13.1	20.0	15.7	24.0	18.7	28.6	21.8	32.8
		P	4.9	9.2	5.1	9.8	5.2	10.2	5.3	10.8	5.4	11.2	5.7	12.1	6.1	13.0	6.4	14.2
	43	Q	7.7	11.4	8.9	13.2	9.7	14.5	11.1	16.5	12.0	18.0	14.6	21.7	17.3	25.7	20.2	28.0
		P	5.4	9.7	5.6	10.5	5.7	10.9	5.9	11.5	6.0	12.0	6.3	13.0	6.6	14.1	7.0	12.6
	48	Q	6.8	9.7	7.9	11.4	8.7	12.6	10.0	14.5	10.9	15.8	13.3	18.0	15.9	20.0	18.6	21.4
		P	5.8	10.0	6.0	10.8	6.2	11.4	6.4	12.1	6.6	12.7	6.9	11.8	7.2	10.6	7.6	9.2

Fantasy Series

R410A MT DC Inverter Condensing Units

1.5~4HP
Rotary Compressor
Single Compressor
Single Fan

6~10HP
Rotary Compressor
Single Compressor
Dual Fans

18HP~21HP
Scroll Compressor
Dual Compressors
Single Fan

27HP~46HP
Scroll Compressor
Dual Compressors
Dual fans

27HP~46HP(Remote)
Scroll Compressor
Dual Compressors
Dual fans

Customer Values

- Various models, applicable for C-stores, supermarkets and cold rooms
- Wide adjustable cooling capacity, little temperature fluctuation for food
- Low operating cost, 30%+ annual energy saving compared with fixed frequency units
- Low noise units, 4dBA noise reduction compared with fixed frequency units
- Small pipe size, saving 15% installation cost
- Adapt to the highest ambient temperature of 43 °C, using extensively
- Compact structure, saving occupied area to save footprint
- Optional split design, suitable for various applications

Product Features

- DC inverter compressor, step-less regulation of load and rotary speed, highly efficient and energy saving
- DC inverter fan, automatically adjustable fan speed, low noise and energy saving
- Thickened sound-absorbing cotton, effective noise insulation
- R410A refrigerant adopted, high cooling capacity per unit volume
- Large-area condensing coils adopted, ensuring high temperature operation
- Integrated enclosure, no separate machine room, saving space and easy installation

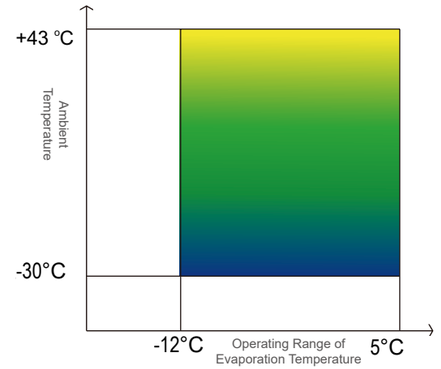
Naming Rule of MT DC Inverter Condensing Units

GV	R	M	080	N	S	A	1	X

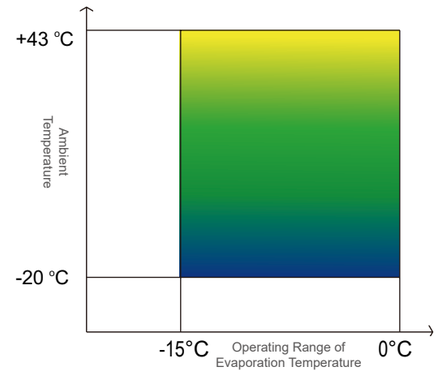
- Internal Design Serial Number
- Power
  - 1. 380V/3Ph/50~60Hz
  - 2. 220V/1Ph/50~60Hz
  - 3. 220V/3Ph/60Hz
  - 4. 380V/3Ph/60Hz
  - 5. 380V/3Ph/50Hz
- Cooling Method
  - A-Air Cooling
- No. of Compressor
  - S-Single Compressor
  - D-Double Compressors
- Refrigerant
  - N-R410A
- Nominal HP
  - 015-1.5HP
  - 040-4HP
  - 100-10HP
  - 460-46HP
- Application Temperature of Unit
  - M-Medium Temperature
- Compressor Type
  - R-Rotary Compressor
  - S-Scroll Compressor
- Hermetic Inverter Compressing and Condensing Unit

Operation Range

1.5HP~10HP



18HP~46HP



MT DC Inverter Condensing Units Technical Parameters

Technical Parameters (1.5-10HP)

Model	GVRM015 NSA2A	GVRM025 NSA2A	GVRM035 NSA2A	GVRM040 NSA1A	GVRM060 NSA1A	GVRM080 NSA1A	GVRM100 NSA1A	GVRM100 NSA3A
Refrigerant	R410A							
Supply Voltage of Unit	220V/1PH/50~60Hz			380V/3PH/50~60Hz				220V / 3PH / 60Hz
Compressor Model	SNB140 FCAMC	TNB220 FFEMC-L	TNB306 FPPMC-L	MNB36 FABMC	MNB42 FFDMC-L	LNB53 FCAMC	LNB65F	LNB65 FAJMC
Type of Refrigerant Oil	FV50S			FV50S				
Compressor Oil Charge (L)	0.35	0.72	1.07	1.1	1.4	1.7	2.3	2.3
Number of Fan	500							
Diameter of Fan (mm)	1					2		
Fan Speed Range (rpm)	300~850							
Maximum Air Volume (m^3/h)	4030					7060		
Reservoir Volume (L)	4.5				8.8			
Evaporating Temperature Range	-12°C~5°C							
Unit rated cooling Capacity (kW)	3.0	4.9	6.6	7.3	9.8	11.5	13.5	13.5
Unit rated power (kW)	1.0	1.7	2.4	2.7	3.3	4.1	4.9	4.9
Maximum Cooling Capacity of Unit (kW)	5	8.6	10.0	12.1	16.0	19.2	20.0	20.0
Maximum Power of Unit (kW)	2.1	3.5	5.1	6.3	6.6	8.9	9.3	9.3
Noise of Unit dBA@1m	52	53	53	56	59	60	60	60
Nominal Running Current of Unit (A)	6	9	11	5.0	6.3	8.9	9.6	15.1
Maximum Running Current (A)	12	16	23	12	16	23	25	38
Diameter of Suction Pipe (Inch)	1/2		5/8		3/4		7/8	
Diameter of Liquid Pipe (Inch)	3/8				1/2			
Dimensions (L x W x H) (mm)	1064X424X802				1064X448X1358			
Weight (kg)	93	95	97	97	142	146	150	150

Cooling capacity power testing conditions: National standard medium temperature working conditions: GB/T21363-2008
Evaporating temperature: -7°C, ambient temperature: 32°C, return temperature 18°C.

Performance Parameters (1.5-10HP)

Model	Ambient Temperature °C	Cooling Capacity Q Power Consumption P (kW)	Evaporating Temperature °C							
			-10		-7		-5		0	
			Min	Max	Min	Max	Min	Max	Min	Max
1.5HP	27	Q	2.7	4.5	3.1	5.2	3.4	5.5	4.1	6.8
		P	0.9	1.9	0.9	1.9	1.0	1.9	1.0	2.2
	32	Q	2.7	4.4	3.0	5.0	3.2	5.4	4.0	6.5
		P	1.0	2.1	1.0	2.1	1.1	2.2	1.1	2.3
	38	Q	2.4	4.0	2.7	4.6	2.9	4.9	3.7	5.9
		P	1.1	2.1	1.1	2.1	1.2	2.2	1.2	2.4
	43	Q	2.2	3.3	2.5	4.0	2.7	4.1	3.3	5.0
		P	1.1	2.2	1.2	2.3	1.2	2.3	1.2	2.4
2.5HP	27	Q	4.6	8.1	5.2	9.1	5.6	9.8	6.7	11.7
		P	1.5	3.1	1.5	3.2	1.5	3.3	1.6	3.5
	32	Q	4.4	7.7	4.9	8.6	5.3	9.3	6.3	11
		P	1.6	3.3	1.7	3.5	1.7	3.5	1.8	3.8
	38	Q	4.1	7.1	4.6	8.0	4.9	8.6	5.9	10.3
		P	1.8	3.6	1.9	3.8	1.9	3.9	2.0	4.1
	43	Q	3.8	6.7	4.3	7.5	4.6	8.1	5.6	9.6
		P	2.0	3.8	2.0	4.0	2.1	4.1	2.2	4.4
3.5HP	27	Q	6.2	9.4	6.9	10.6	7.5	11.4	8.9	13.5
		P	2.1	3.9	2.1	4.5	2.2	4.7	2.3	5.0
	32	Q	5.9	8.8	6.6	10.0	7.1	10.9	8.5	12.8
		P	2.3	4.4	2.4	5.1	2.4	5.3	2.6	5.5
	38	Q	5.5	8.2	6.1	9.2	6.6	10.0	7.9	11.8
		P	2.6	4.7	2.7	5.5	2.7	5.6	2.9	6.1
	43	Q	5.1	7.3	5.7	7.9	6.2	8.7	7.4	10.6
		P	2.8	5.5	2.9	5.7	2.9	6.0	3.1	6.6
4HP	27	Q	7.2	12.1	8.0	13.3	8.6	14.1	10.1	16.4
		P	2.4	5.7	2.5	6.0	2.6	6.1	2.7	6.6
	32	Q	6.5	11.0	7.3	12.1	7.8	12.8	9.2	14.8
		P	2.7	6.1	2.7	6.3	2.8	6.6	2.9	7.1
	38	Q	5.8	9.6	6.4	10.6	6.9	11.3	8.1	13.1
		P	2.9	6.7	3.0	6.9	3.1	7.0	3.2	7.6
	43	Q	4.9	7.1	5.5	8.2	5.9	8.7	7.0	10.1
		P	3.2	7.0	3.3	7.6	3.4	6.6	3.6	8.0
6HP	27	Q	9.1	15.3	10.2	17.0	11.0	18.3	13.3	21.7
		P	2.9	6.0	3.0	6.2	3.0	6.4	3.2	7.0
	32	Q	8.5	14.2	9.8	16.0	10.4	17.2	12.5	20.4
		P	3.2	6.3	3.3	6.6	3.3	6.9	3.5	7.5
	38	Q	7.8	13.2	8.9	14.7	9.6	15.7	11.5	18.9
		P	3.5	6.9	3.6	7.1	3.7	7.4	3.8	7.9
	43	Q	7.1	10.4	8.0	11.8	8.6	13.1	10.4	16.4
		P	3.8	7.4	4.0	7.7	4.0	8.1	4.1	8.9
8HP	27	Q	10.9	18.2	12.2	20.6	13.2	22.1	15.9	26.4
		P	3.6	7.8	3.8	8.1	3.9	8.5	4.1	9.6
	32	Q	10.2	17.0	11.5	19.2	12.4	20.8	15.0	24.9
		P	3.9	8.3	4.1	8.9	4.2	9.2	4.5	10.2
	38	Q	9.3	15.9	10.6	17.6	11.5	19.0	13.9	22.6
		P	4.3	8.7	4.5	9.6	4.6	10.0	5.0	11.2
	43	Q	8.4	12.8	9.5	14.4	10.3	15.8	12.6	19.8
		P	4.8	9.3	5.0	10.4	5.1	11.0	5.4	12.5
10HP	27	Q	12.9	19.3	14.3	21.7	15.3	23.4	18.2	27.9
		P	4.3	8.6	4.5	8.7	4.6	9.2	4.8	10
	32	Q	12.0	17.9	13.5	20.0	14.5	21.5	17.2	26.1
		P	4.7	9.1	4.9	9.3	4.9	10.2	5.4	10.6
	38	Q	11.2	16.8	12.5	18.4	13.4	19.8	15.9	23.9
		P	5.3	9.6	5.3	10.2	5.4	10.8	5.9	11.3
	43	Q	10.1	13.3	11.2	15.0	12.2	16.4	14.5	20.7
		P	5.8	10.1	5.9	11.0	6.0	11.7	6.4	12.4

* This technical parameter is a range of selection parameters, not the actual operating range.

MT DC Inverter Condensing Units Technical Parameters

Technical Parameters (18-46HP)

Model	GVSM180NDA50	GVSM210NDA50	GVSM270NDA50	GVSM350NDA50	GVSM460NDA50
Refrigerant	R410A				
Supply Voltage of Unit	380V/3Ph/50Hz				
Compressor Model	SH090+VZH088	SH120+VZH088	SH161+VZH117	SH180+VZH170	SH295+VZH170
Type of Refrigerant Oil	160SZ				
Self-contained Oil in the Compressor	6.3	6.6	6.9	13.4	13.4
Complimentary Oil (Refill according to site requirements) (L)	2.5				
Number of Fan	1		2		
Diameter of Fan (mm)	800				
Fan Speed Range (rpm)	710				930
Nominal Air Volume (m^3/h)	14000				19000
Oil Accumulator Capacity (L)	4		8		
Reservoir Volume (L)	20		40		
Evaporating Temperature Range	-15°C~0°C				
Unit rated cooling Capacity (kW)	34.3	38.5	49.6	65.3	82.7
Unit rated power (kW)	13.4	15.4	19.6	25.6	33.6
Maximum Cooling Capacity of Unit (kW)	42.1	46.0	59.9	80.6	97.4
Maximum Power of Unit (kW)	18.1	20.2	25.8	34.1	42.1
Noise of Unit dBA@1m (Intergrated)	66	66	66	67	68
Noise of Unit dBA@1m (Remote)	NA	NA	62	64	64
Nominal Running Current of Unit (A)	26	30	39	45	59
Maximum Running Current (A)	60	65	80	100	125
Diameter of Suction Pipe (Inch)	1 3/8	1 3/8	1 5/8	2 1/8	2 1/8
Diameter of Liquid Pipe (Inch)	5/8	5/8	7/8	7/8	1 1/8
Dimensions (L x W x H)(mm)	1240x1050x1870			2240x1200x2250	
Weight (kg)	565	575	700	870	880

Cooling capacity power testing conditions: National standard medium temperature working conditions: GB/T21363-2008
Evaporating temperature: -7°C, ambient temperature: 32°C, return temperature 18°C.

Performance Parameters (18-46HP)

Model	Ambient Temperature °C	Cooling Capacity Q Power Consumption P (kW)	Evaporating Temperature °C							
			-10°C		-7°C		-5°C		0°C	
			Min	Max	Min	Max	Min	Max	Min	Max
18HP	27	Q	29.9	40.2	33.3	44.5	35.7	47.6	42.2	56.0
		P	10.8	16.2	11.0	16.6	11.1	17.0	11.6	17.9
	32	Q	28.2	37.9	31.4	42.1	33.7	45.1	40.0	53.0
		P	11.8	17.6	12.1	18.1	12.2	18.4	12.7	19.4
	38	Q	26.2	35.3	29.2	39.2	31.4	42.0	37.2	49.4
		P	13.3	19.5	13.5	20.0	13.7	20.3	14.2	21.2
	43	Q	24.5	33.0	27.3	36.7	29.4	39.3	34.9	46.3
		P	14.6	21.2	14.8	21.7	15.0	22.0	15.5	22.9
21HP	27	Q	34.1	43.9	38.0	48.7	40.7	52.0	48.0	61.1
		P	12.4	18.0	12.8	18.6	13.0	19.0	13.8	20.3
	32	Q	32.2	41.5	35.9	46.0	38.5	49.2	45.5	57.8
		P	13.7	19.6	14.0	20.2	14.3	20.7	15.0	21.9
	38	Q	29.9	38.5	33.3	42.8	35.8	45.8	42.3	53.9
		P	15.3	21.7	15.7	22.3	16.0	22.8	16.7	24.0
	43	Q	27.9	36.0	31.1	40.0	33.4	42.8	39.7	50.5
		P	16.8	23.6	17.2	24.3	17.5	24.7	18.2	25.9
27HP	27	Q	43.9	57.3	48.7	63.4	52.2	67.8	61.5	79.4
		P	15.8	23.0	16.1	23.6	16.4	24.1	17.0	25.3
	32	Q	41.4	54.1	46.0	59.9	49.3	64.0	58.2	75.1
		P	17.5	25.2	17.8	25.8	18.1	26.3	18.7	27.5
	38	Q	38.3	50.1	42.7	55.6	45.8	59.5	54.1	69.8
		P	19.8	28.1	20.1	28.7	20.3	29.1	20.9	30.4
	43	Q	35.7	46.8	39.9	51.9	42.8	55.5	50.7	65.3
		P	21.8	30.6	22.1	31.2	22.3	31.7	23.0	32.9
35HP	27	Q	56.9	76.9	63.2	85.2	67.7	91.0	79.9	106.5
		P	20.7	30.4	21.0	31.3	21.2	31.9	21.9	33.6
	32	Q	53.8	72.8	59.8	80.6	64.1	86.1	75.7	101.0
		P	22.7	33.2	23.1	34.1	23.3	34.7	24.0	36.4
	38	Q	49.9	67.7	55.6	75.0	59.7	80.2	70.6	94.1
		P	25.5	36.8	25.8	37.7	26.0	38.3	26.7	40.0
	43	Q	46.7	63.3	52.1	70.3	55.9	75.2	66.2	88.3
		P	27.9	40.0	28.3	40.9	28.5	41.5	29.2	43.1
46HP	27	Q	73.8	92.9	81.9	102.9	87.7	109.9	103.3	128.7
		P	27.9	37.7	28.5	38.9	29.0	39.7	30.2	42.0
	32	Q	69.8	87.9	77.5	97.4	83.0	104.0	97.8	121.9
		P	30.4	40.9	31.0	42.1	31.4	42.9	32.7	45.1
	38	Q	64.8	81.8	72.1	90.6	77.3	96.9	91.2	113.6
		P	33.7	45.1	34.3	46.2	34.7	47.0	35.9	49.2
	43	Q	60.6	76.5	67.5	84.9	72.4	90.7	85.5	106.5
		P	36.6	48.9	37.2	50.0	37.7	50.8	38.9	52.9

* This technical parameter is a range of selection parameters, not the actual operating range.

Fantasy Series

R410A LT DC Inverter Condensing Units

2.5~5HP

7~10HP

Product Features

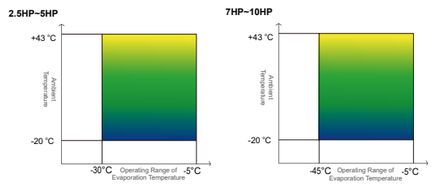
- Freezing and refrigerating integrated application, easy to store renovation and maintenance
- DC variable frequency compressor, wide adjustable range, high energy efficiency, low operating cost
- Frequency conversion fan, low operating cost.
- Compact structure, small occupied area
- Inner frame with sound insulation cotton, low noise
- R410A refrigerant, low piping installation cost
- 30% energy saving, ~4dBA noise reduction compared with fixed frequency units

Operating Range

Model	Refrigerant	Minimum Evaporating Temperature	Nominal Condition Cooling Capacity @60rps(kW)*	COP	Maximum Cooling Capacity
2.5HP	R410A	-30	2.1	1.2	4.2
3.5HP			2.4	1.3	5.4
5HP			3.5	1.3	6.9
7HP		-45	5.5	1.3	9.2
10HP			9.0	1.5	14.6

* The working condition is based on the ambient temperature of 32°C and the evaporation temperature of - 30°C. Rated working conditions is 60Hz.

Operation Range and Naming Rule



* All comparisons are based on the product performances of last generation.

Naming Rule

GV R M 080 N S A 1 X

- Internal design code, initial code is A
- Power Supply:
  - 1. 380V/3Ph/50~60Hz
  - 2. 220V/1Ph/50~60Hz
- Cooling mode:
  - A - Air cooling
  - W - Water cooling
- Compressor quantity:
  - S - Single compressor
- Refrigerant:
  - N-R410A
- Horse Power:
  - 015-1.5HP
  - 040-4HP
  - 100-10HP
- Application:
  - M - Medium temperature
  - L - Low temperature
- Compressor model:
  - R - Rotary compressor
  - S - Scroll compressor
- Hermetically sealed DC inverter CDU

Application Scenarios

Medium / small cold storage
Hotel cold storage, chain restaurant, front warehouse, food cold storage with small and medium-sized low-temperature cold storage

Room temperature: -35° C ~ +5° C

Supermarket
Provide cooling capacity to remote freezer

Food temperature: -35° C ~ +5° C

Performance Parameters - Low Temperature Unit

Model	GVRL025NSA2A	GVRL035NSA2A	GVRL050NSA2B	GVSL070NSA1B	GVSL100NSA1B
Number of Horse Power	2.5HP	3.5HP	5.0HP	7.0HP	10HP
Refrigerant	R410A				
Supply Voltage of Unit	220V/1PH/50~60Hz			380V/3PH/50~60Hz	
Type of Refrigerant Oil	a68HES-H			MEL32R	
Compressor Oil Charge (L)	1.65			2.3	3
Operating Frequency Range (Hz)	30~100		30~90	30~85	30~100
Minimum Evaporation Temperature (° C)	-30			-45	
Number of Fan	1			2	
Diameter of Fan (mm)	500				
Fan Speed Range (rpm)	300~850				
Maximum Air Volume (m^3/h)	4030			7060	
Reservoir Volume (L)	4.5			8.8	
Evaporating Temperature Range	-30°C~-5°C			-45°C~-5°C	
Unit rated cooling Capacity (kW)	3.4	4.1	5.4	8.9	13
Unit rated power (kW)	2.1	2.5	3.5	5	7.5
Maximum Cooling Capacity of Unit (kW)	5.5	6.9	8.8	12	18.4
Maximum Power of Unit (kW)	3.8	4.7	7.1	7.2	13.3
Noise of Unit dBA@1m	54	54	54	57	60
Unit starting current (A)	--				
Unit rated operating current (A)	10	12	16	10	13
Maximum Running Current (A)	25	30	33	25	30
Diameter of Suction Pipe (Inch)	1/2	5/8		3/4	1-1/8
Diameter of Liquid Pipe (Inch)	3/8			1/2	
Dimensions (L x W x H) (mm)	1164x470x817			1164x470x1373	
Weight (kg)	112	112	112	172	186

Cooling capacity power testing conditions: National standard medium temperature working conditions: GB/T21363-2008
Evaporating temperature: -23° C, ambient temperature: 32° C, return temperature 5° C.

Model Selection Table

Model	Ambient Temperature (° C)	Capacity Q Power P (KW)	Evaporating Temp ° C											
			-5		-10		-15		-20		-25		-30	
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
2.5HP	27	Q	5.3	10.7	4.5	9.1	3.8	7.7	3.2	6.4	2.6	5.3	2.1	4.4
		P	1.7	4.2	1.7	4.0	1.6	3.8	1.6	3.6	1.6	3.5	1.6	3.3
	32	Q	5.1	10.2	4.3	8.7	3.6	7.3	3.0	6.2	2.5	5.1	2.1	4.2
		P	1.9	4.6	1.8	4.3	1.8	4.1	1.8	4.0	1.7	3.8	1.7	3.6
		LST	19.3	19.8	16.5	17.3	13.9	15.1	11.5	13.0	9.4	11.2	7.4	9.6
	38	Q	4.8	9.2	4.1	8.0	3.5	6.9	2.9	5.8	2.4	4.8	2.0	3.9
		P	2.1	4.7	2.1	4.6	2.0	4.6	2.0	4.4	1.9	4.2	1.9	4.0
		LST	25.7	28.3	22.9	26.1	20.3	24.1	17.9	22.0	15.7	20.1	13.7	18.4
	43	Q	4.6	8.3	3.9	7.2	3.3	6.3	2.7	5.4	2.3	4.6	1.9	3.7
		P	2.3	4.6	2.3	4.6	2.2	4.6	2.2	4.6	2.1	4.5	2.1	4.3
		LST	26.5	30.2	23.7	27.9	21.0	25.9	18.5	24.4	16.3	22.9	14.3	21.2
3.5HP	27	Q	6.0	12.7	5.1	11.0	4.3	9.4	3.6	8.0	3.0	6.7	2.5	5.6
		P	1.9	5.6	1.9	5.2	1.8	4.8	1.8	4.5	1.7	4.1	1.7	3.8
	32	Q	5.8	12.2	4.9	10.5	4.2	9.0	3.5	7.7	2.9	6.5	2.4	5.4
		P	2.1	6.1	2.1	5.7	2.0	5.2	2.0	4.9	1.9	4.5	1.9	4.2
		LST	26.3	32.7	21.0	26.9	16.5	21.9	12.9	17.7	10.1	14.4	8.1	11.9
	38	Q	5.5	10.6	5.1	9.4	4.7	8.3	4.0	7.2	3.3	6.2	3.0	5.2
		P	2.4	5.7	2.4	5.6	2.3	5.4	2.3	5.3	2.2	5.0	2.2	4.7
		LST	30.8	34.7	25.5	29.4	21.0	25.0	17.3	21.6	14.5	18.8	12.5	16.3
	43	Q	5.2	9.3	4.5	8.6	3.8	7.7	3.2	6.8	2.6	5.9	2.2	4.9
		P	2.6	5.5	2.6	5.7	2.5	5.6	2.4	5.6	2.3	5.4	2.3	5.1
		LST	34.8	37.7	29.5	32.7	25.0	28.4	21.3	25.3	18.4	22.7	16.4	20.2
5HP	27	Q	8.7	14.9	7.4	13.5	6.3	12.0	5.3	10.2	4.4	8.6	3.6	7.2
		P	3.1	8.2	2.9	8.3	2.8	7.8	2.7	6.9	2.5	6.1	2.4	5.3
	32	Q	8.4	13.7	7.1	12.5	6.0	11.3	5.1	9.8	4.2	8.2	3.5	6.9
		P	3.5	8.2	3.4	8.3	3.2	8.2	3.0	7.6	2.9	6.7	2.7	5.9
		LST	27.9	37.6	23.2	33.8	19.0	30.4	15.3	26.4	12.0	22.4	9.3	18.8
	38	Q	7.9	12.0	6.7	10.9	5.7	9.9	4.8	8.9	4.0	7.8	3.3	6.6
		P	4.1	7.9	3.9	7.8	3.7	8.0	3.5	7.9	3.3	7.6	3.1	6.7
		LST	31.5	40.5	27.0	36.8	22.9	34.1	19.4	31.5	16.3	29.0	13.8	25.6
	43	Q	7.5	10.5	6.4	9.5	5.4	8.5	4.6	7.7	3.8	6.9	3.1	6.3
		P	4.6	7.3	4.3	7.3	4.1	7.3	3.9	7.3	3.7	7.3	3.5	7.4
		LST	35.1	42.4	30.7	39.0	26.8	36.0	23.4	33.8	20.5	32.3	18.1	31.9
7HP	27	Q	13.7	23.0	11.7	19.7	9.9	16.7	8.3	14.0	6.9	11.6	5.7	9.6
		P	4.4	8.5	4.2	7.9	4.0	7.3	3.8	6.8	3.7	6.3	3.6	6.0
	32	Q	13.2	21.9	11.3	18.8	9.5	16.0	8.0	13.4	6.7	11.1	5.5	9.2
		P	5.0	9.3	4.7	8.6	4.5	8.0	4.3	7.5	4.2	7.0	4.1	6.6
		LST	26.2	30.0	20.9	24.3	16.3	19.2	12.2	14.7	8.7	10.7	5.7	7.4
	38	Q	12.5	20.6	10.7	17.7	9.1	15.0	7.6	12.7	6.4	10.5	5.3	8.7
		P	5.6	10.2	5.4	9.5	5.1	8.9	5.0	8.3	4.8	7.9	4.8	7.5
		LST	30.3	34.2	25.0	28.4	20.2	23.3	16.1	18.7	12.5	14.7	9.6	11.3
	43	Q	11.9	19.5	10.2	16.8	8.7	14.3	7.3	12.0	6.1	10.0	5.0	8.2
		P	6.2	11.0	6.0	10.3	5.7	9.7	5.6	9.1	5.5	8.6	5.4	8.2
		LST	33.9	37.9	28.6	32.2	23.8	27.0	19.7	22.4	16.1	18.4	13.1	14.9
10HP	27	Q	20.8	31.9	18.0	28.0	15.4	24.3	13.1	20.8	11.1	17.8	9.3	15.0
		P	7.1	16.6	6.7	15.2	6.3	13.9	6.0	12.8	5.7	11.8	5.4	10.9
	32	Q	20.1	30.7	17.4	27.0	14.9	23.4	12.7	20.2	10.7	17.2	9.0	14.6
		P	7.9	17.9	7.4	16.4	7.1	15.1	6.7	14.0	6.4	12.9	6.1	12.0
		LST	37.9	42.3	30.1	34.7	23.3	28.1	17.3	22.4	12.3	17.6	8.2	13.7
	38	Q	19.1	25.2	16.6	22.5	14.3	20.6	12.2	19.0	10.3	16.5	8.6	14.0
		P	8.9	13.8	8.4	13.6	8.0	14.0	7.6	15.0	7.2	14.3	6.9	13.4
		LST	38.3	44.3	31.3	38.2	25.2	34.1	20.0	31.3	15.8	27.9	12.4	24.8
	43	Q	15.2	20.1	15.9	18.7	13.7	18.2	11.7	17.8	9.9	15.9	8.3	13.5
		P	7.8	11.0	9.2	11.5	8.8	13.1	8.4	15.5	8.0	15.6	7.7	14.6
		LST	35.9	37.9	29.5	33.4	24.1	32.4	19.5	32.9	15.8	31.2	13.1	28.8

* This technical parameter is a range of selection parameters, not the actual operating range.

Fantasy Series

R410A Water Cooling
MT/LT DC Inverter Condensing Units

R410A DC Inverter Compressor

Electric system: 220V/1PH/50Hz(60Hz)

Customer Values

- Low noise
- Low energy consumption (energy saving ~ 25% *)
- Stable food temperature
- Low downtime
- 100% heat recovery

Product Features

- Water-cooled, no indoor cooling, silent
- Compact design, height less than 300m, highly flexible
- No machine room needed, flexibly placing
- Speed range: 30-80rps
- DC inverter compressor, highly energy efficient
- Mature Carel controller, highly reliable, stable food temperature

Product Design Advantages

Horizontal rotary inverter compressor, energy saving up to 25%**

Low temperature spray design to improve operation reliability

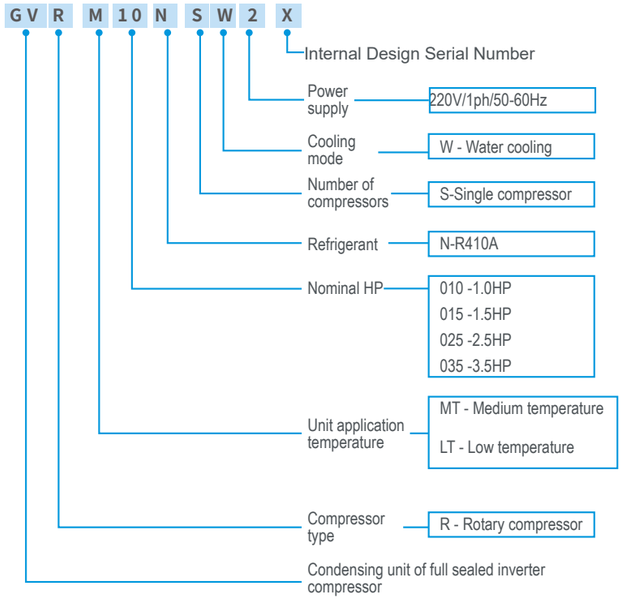
Water cooled brazed plate with high heat exchange efficiency

Mature controller for refrigeration

** Data from laboratory

* All comparisons are based on the product performances of last generation.
* Based on third-party data

Water Cooling Inverter Compressor Unit Naming Rule

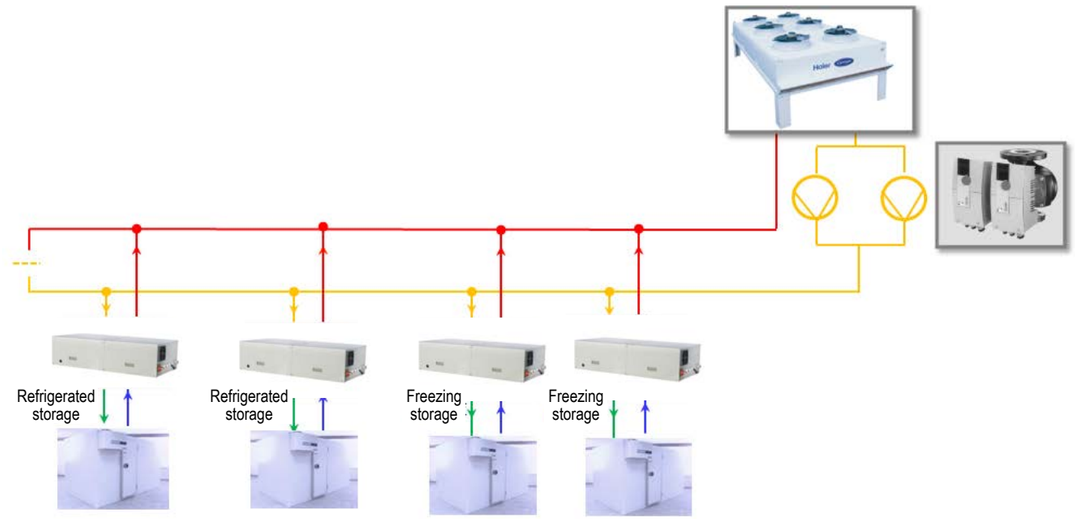


Application Scenarios

Catering chain
Chain restaurants with small medium / low temperature cold storage
Room temperature: -30°C ~ +13°C
Ambient temperature:
-20°C - +43°C
Storage capacity: <5t

Hotel cold storage
Chain restaurants with small and medium temperatures cold storage
Room temperature: -30°C ~ +13°C
Ambient temperature:
-20°C - +43°C
Storage capacity: <5t

Brief Introduction of Water Cooling Inverter Compressor Unit



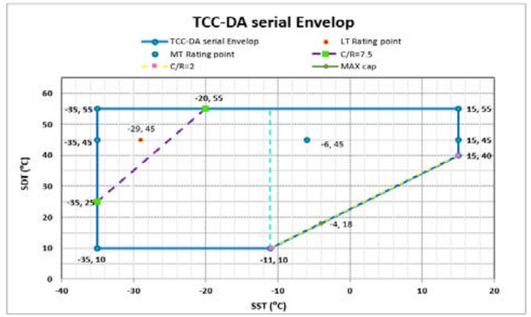
System advantages:

- The refrigeration part of the main machine adopts compressed condensed water cooling inverter unit, which has a small footprint
- The frozen part does not need to choose a place with good ventilation, and the equipment can be placed flexibly
- The refrigeration of each piece of equipment is independently controlled, and the failure of a single piece of equipment does not affect the system's operation using environmentally friendly refrigerant R410A
- Easy to install
- 100% heat recovery

Application Scope of Water Cooling Inverter Compressor Unit

Working Condition	MT/LT
Refrigerant	R410A
Evaporation Temperature °C	- 35 ~ +15

	CDU Name	CDU Model
MT	MT 1HP	GVRM10NSW2X
	MT 1.5HP	GVRM15NSW2X
	MT 2.5HP	GVRM25NSW2X
	MT 3.5HP	GVRM35NSW2X
LT	LT 1HP	GVRL10NSW2X
	LT 1.5HP	GVRL15NSW2X
	LT 2.5HP	GVRL25NSW2X
	LT 3.5HP	GVRL35NSW2X



Water Cooling - MT Technical Parameters

Model		GVRM10NSW2X	GVRM15NSW2X	GVRM25NSW2X	GVRM35NSW2X	GVRM45NSW2X
Refrigerant		R410A				
Ambient Temperature Condition		25°C, 60%				
Rated Running Condition		Evaporation temperature: - 5°C, condensation temperature: 48 °C, subcooling degree: 2K, superheating degree: 10K, frequency: 60Hz				
Cooling Capacity	kW	1.69	2.33	4.09	6.14	7.75
Power	kW	0.73	1.04	1.76	2.62	3.23
COP	W/W	2.33	2.24	2.32	2.35	2.35
Plate Replacement Model		B26x8	B26x12	B26x18	B26x24	B26x24
Plate Water Exchange Side Interface Size [1]		Stainless steel, internal thread 3/4"				
water Flow	m^3/h	0.48	0.76	1.141	1.929	2.343
Noise	dB(A)	<52	<52	<52	<52	<52
Maximum Running Current	A	8.5	9.2	11.1	15.6	25
Power Type		220V - 1ph - 50/60Hz				380V - 3ph - 50/60Hz
Compressor	Type	Silent, efficient, fully enclosed rotary compressor				
	Model	DA91A1FJH-10A	DA130A1FJH-10A	DA220A1FJH-10B	DA330A3FJH-10C	DA420A3FJH-10C
	Quantity	1	1	1	1	1
	Self-contained Oil	0.4	0.4	0.62	0.9	0.9
Speed Range, rps		30~80	30~80	30~80	30~80	30~80
Reservoir	Type	Vertical		Horizontal		
	Volume L	1.8	1.8	3.3	4	4
Overall Dimensions	mm	1100*500*300				
Packing Dimensions	mm	1203*640*440				
Weight	kg	62	63	63.8	65	65.8

Water cooling working conditions:condensation temperature: 48 °C, superheating degree: 10K, subcooling degree: 2K.
[1] It is recommended to select water connector (0080600407) on the plate water exchange side. CDU shall be connected at the external thread side of water connector, and PVR water pipe shall be connected at PP-R side after hot melting.

Water Cooling - MT Performance Parameters

Model	Ambient Temperature (° C)	Capacity Q Power P (KW)	Evaporating Temp ° C											
			-12		-10		-7		15		0		5	
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
GVRM010NSW2X	25	Q	1.82	2.30	1.97	2.48	2.22	2.78	2.39	3.00	2.87	3.58	3.42	4.23
		P	0.36	0.44	0.36	0.45	0.31	0.45	0.36	0.45	0.39	0.51	0.38	0.51
	35	Q	1.60	2.02	1.74	2.20	1.96	2.47	2.12	2.67	2.56	3.21	3.06	3.82
		P	0.41	0.51	0.42	0.53	0.49	0.64	0.42	0.53	0.52	0.66	0.52	0.66
	45	Q	1.30	1.66	1.42	1.81	1.62	2.06	1.76	2.24	2.15	2.73	2.59	3.29
		P	0.51	0.65	0.52	0.67	0.79	0.99	0.52	0.67	0.73	0.91	0.75	0.93
	55	Q	0.87	1.14	0.98	1.28	1.14	1.50	1.26	1.66	1.60	2.09	1.98	2.59
		P	0.54	0.69	0.56	0.72	0.90	1.12	0.56	0.72	0.80	1.00	0.83	1.04
GVRM015NSW2X	25	Q	2.60	3.28	2.82	3.55	3.18	3.99	3.43	4.29	4.13	5.14	4.92	6.09
		P	0.51	0.63	0.52	0.64	0.46	0.65	0.52	0.64	0.56	0.74	0.55	0.73
	35	Q	2.27	2.89	2.47	3.14	2.80	3.54	3.03	3.82	3.66	4.61	4.39	5.49
		P	0.60	0.74	0.61	0.76	0.71	0.93	0.61	0.76	0.74	0.94	0.75	0.95
	45	Q	1.93	2.46	2.11	2.69	2.40	3.06	2.60	3.32	3.18	4.04	3.83	4.86
		P	0.73	0.93	0.75	0.96	1.14	1.42	0.75	0.96	1.05	1.31	1.08	1.34
	55	Q	1.57	2.01	1.72	2.21	1.98	2.54	2.16	2.78	2.67	3.44	3.25	4.18
		P	0.77	1.00	0.80	1.03	1.30	1.60	0.80	1.03	1.16	1.44	1.20	1.49
GVRM025NSW2X	25	Q	4.42	5.52	4.79	5.98	5.38	6.70	5.81	7.21	6.97	8.62	8.29	10.20
		P	0.86	1.05	0.88	1.08	0.82	1.14	0.88	1.08	0.97	1.25	0.95	1.24
	35	Q	3.89	4.88	4.23	5.31	4.78	5.98	5.17	6.46	6.24	7.78	7.46	9.26
		P	1.00	1.25	1.03	1.28	1.21	1.59	1.03	1.28	1.25	1.59	1.25	1.60
	45	Q	3.30	4.17	3.60	4.55	4.09	5.18	4.45	5.62	5.42	6.83	6.53	8.21
		P	1.23	1.57	1.27	1.63	1.92	2.40	1.27	1.63	1.76	2.20	1.81	2.26
	55	Q	2.62	3.35	2.88	3.70	3.31	4.26	3.62	4.67	4.49	5.77	5.48	7.03
		P	1.31	1.68	1.36	1.74	2.20	2.70	1.36	1.74	1.96	2.42	2.02	2.50
GVRM035NSW2X	25	Q	6.58	8.29	7.13	8.97	8.02	10.06	8.65	10.84	10.40	12.95	12.38	15.34
		P	1.29	1.57	1.32	1.61	1.19	1.72	1.32	1.61	1.43	1.87	1.40	1.86
	35	Q	5.75	7.30	6.25	7.93	7.07	8.94	7.65	9.66	9.25	11.63	11.07	13.86
		P	1.51	1.86	1.55	1.91	1.80	2.39	1.55	1.91	1.87	2.39	1.88	2.41
	45	Q	4.88	6.23	5.33	6.81	6.06	7.74	6.59	8.40	8.03	10.22	9.68	12.28
		P	1.85	2.34	1.91	2.42	2.87	3.61	1.91	2.42	2.64	3.30	2.71	3.39
	55	Q	3.96	5.07	4.36	5.60	5.00	6.44	5.47	7.04	6.75	8.70	8.23	10.58
		P	1.96	2.51	2.03	2.60	3.27	4.07	2.03	2.60	2.92	3.65	3.02	3.76
GVRM045NSW2X	25	Q	8.41	10.59	9.12	11.46	10.26	12.86	11.07	13.86	13.31	16.57	15.85	19.64
		P	1.65	2.02	1.68	2.06	1.53	2.16	1.68	2.06	1.83	2.38	1.79	2.37
	35	Q	7.35	9.31	8.00	10.12	9.04	11.42	9.78	12.34	11.83	14.87	14.16	17.73
		P	1.92	2.39	1.97	2.45	2.31	3.04	1.97	2.45	2.40	3.05	2.41	3.08
	45	Q	6.24	7.94	6.82	8.68	7.76	9.88	8.43	10.73	10.27	13.06	12.39	15.70
		P	2.36	3.01	2.44	3.11	3.68	4.59	2.44	3.11	3.37	4.21	3.47	4.32
	55	Q	5.07	6.48	5.58	7.15	6.40	8.23	7.00	9.00	8.64	11.12	10.52	13.54
		P	2.51	3.24	2.60	3.35	4.19	5.17	2.60	3.35	3.73	4.64	3.85	4.79

The minimum and maximum cooling capacity is the selected cooling capacity, corresponding to 60Hz and 75Hz.

Water Cooling - LT Technical Parameters

Model		GVRL10NSW2X	GVRL15NSW2X	GVRL25NSW2X	GVRL35NSW2X	GVRL45NSW2X
Refrigerant		R410A				
Ambient Temperature Condition		25°C, 60%				
Rated Running Condition		Evaporation temperature: - 29°C, condensation temperature: 48 °C, subcooling degree: 2K, superheating degree: 10K, frequency: 60Hz				
Cooling Capacity	kW	0.5	0.72	1.26	1.89	2.33
Power	kW	0.53	0.76	1.28	1.90	2.42
COP	W/W	0.95	0.95	0.98	1.00	0.96
Plate Replacement Model		B26x8	B26x12	B26x18	B26x24	B26x24
Plate Water Exchange Side Interface Size [1]		Stainless steel, internal thread 3/4"				
water Flow	m^3/h	0.48	0.76	1.141	1.929	2.343
Noise	dB(A)	<52	<52	<52	<52	<52
Maximum Running Current	A	8.1	8.7	10.8	15.1	20
Power Type		220V - 1ph - 50/60Hz				380V - 3ph - 50/60Hz
Compressor	Type	Silent, efficient, fully enclosed rotary compressor				
	Model	DA91A1FJH-10A	DA130A1FJH-10A	DA220A1FJH-10B	DA330A3FJH-10C	DA420A3FJH-10C
	Quantity	1	1	1	1	1
	Self-contained Oil	0.4	0.4	0.62	0.9	0.9
Speed Range, rps		30~80	30~80	30~80	30~80	30~80
Reservoir	Type	Vertical		Horizontal		
	Volume L	1.8	1.8	3.3	4	4
Overall Dimensions	mm	1100*500*300				
Packing Dimensions	mm	1203*640*440				
Weight	kg	62	63	63.8	65	65.8

Water cooling working conditions:condensation temperature: 48 °C, superheating degree: 10K, subcooling degree: 2K.
[1] It is recommended to select water connector (0080600407) on the plate water exchange side. CDU shall be connected at the external thread side of water connector, and PVR water pipe shall be connected at PP-R side after hot melting.

Water Cooling - MT Performance Parameters

Model	Ambient Temperature (° C)	Capacity Q Power P (KW)	Evaporating Temp ° C					
			-35		-30		-25	
			Min	Max	Min	Max	Min	Max
GVRL010NSW2X	25	Q	0.58	0.77	0.78	1.01	1.02	1.30
		P	0.36	0.44	0.39	0.51	0.40	0.51
	35	Q	0.49	0.62	0.67	0.85	0.88	1.11
		P	0.41	0.51	0.52	0.66	0.51	0.65
	45	Q	0.35	0.41	0.50	0.61	0.68	0.84
		P	0.51	0.65	0.74	0.93	0.71	0.89
	55	Q	0.10	0.08	0.22	0.24	0.36	0.44
		P	0.54	0.69	0.82	1.03	0.78	0.98
GVRL015NSW2X	25	Q	0.85	1.10	1.12	1.45	1.45	1.86
		P	0.51	0.63	0.56	0.73	0.57	0.74
	35	Q	0.68	0.87	0.93	1.19	1.23	1.57
		P	0.60	0.74	0.74	0.95	0.74	0.94
	45	Q	0.51	0.62	0.74	0.92	1.00	1.26
		P	0.73	0.93	1.07	1.33	1.02	1.28
	55	Q	0.34	0.36	0.54	0.62	0.76	0.93
		P	0.77	1.00	1.18	1.47	1.13	1.41
GVRL025NSW2X	25	Q	1.43	1.82	1.91	2.42	2.47	3.12
		P	0.86	1.05	0.95	1.24	0.97	1.25
	35	Q	1.16	1.44	1.60	2.00	2.11	2.65
		P	1.00	1.25	1.25	1.60	1.24	1.57
	45	Q	0.87	1.03	1.26	1.53	1.71	2.13
		P	1.23	1.57	1.80	2.24	1.72	2.16
	55	Q	0.55	0.58	0.87	1.02	1.26	1.54
		P	1.31	1.68	2.00	2.48	1.91	2.37
GVRL035NSW2X	25	Q	2.15	2.79	2.85	3.67	3.69	4.71
		P	1.29	1.57	1.41	1.87	1.44	1.87
	35	Q	1.72	2.20	2.37	3.01	3.12	3.98
		P	1.51	1.86	1.88	2.41	1.86	2.36
	45	Q	1.29	1.56	1.86	2.31	2.53	3.19
		P	1.85	2.34	2.69	3.36	2.58	3.23
	55	Q	0.84	0.88	1.34	1.55	1.92	2.34
		P	1.96	2.51	2.99	3.73	2.85	3.56
GVRL045NSW2X	25	Q	2.73	3.59	3.63	4.69	4.70	6.01
		P	1.65	2.02	1.81	2.37	1.84	2.39
	35	Q	2.19	2.82	3.01	3.85	3.98	5.07
		P	1.92	2.39	2.40	3.07	2.38	3.02
	45	Q	1.64	2.02	2.37	2.95	3.23	4.06
		P	2.36	3.01	3.43	4.29	3.30	4.12
	55	Q	1.07	1.16	1.71	1.99	2.45	2.99
		P	2.51	3.24	3.81	4.74	3.63	4.54

The minimum and maximum cooling capacity is the selected cooling capacity, corresponding to 60Hz and 75Hz.

COOL-TAI Series

R404A Air-cooled Fix Speed Condensing Units

Stable Reliable Quiet

Customer Values

- For freezing and refrigerating, stable, simple and reliable
- Applicable for 48°C ambient temperature, providing solutions in harsh environments
- Low noise units, complaint-free
- No need for a separate machine room, easy to install
- Multiple flexible control options, applicable in various application scenarios
- Optional remote monitoring module, optimize operating

Product Features

- Apply brand compressors with built-in oil separators, reliable oil return without internal leakage
- Large condenser design with high heat transfer area, applicable for the ambient temperature range of -15 to 48°C, -30°C is also optional application
- Options: mechanical control/PCB control/no electronic control
- Internet-capable, equipped with 485 RS connection for PCB control
- Options: solenoid valve liquid line to avoid liquid in the compressor

Optional

- Flexible control, multiple applications
- Mechanical control/PCB control/no electronic control
- -30°C low OAT option, applicable for multiple areas
- Assembled liquid line with solenoid valve, avoid liquid back into the compressor
- Triangular bracket to reduce vibration and leakage

Triangular Bracket

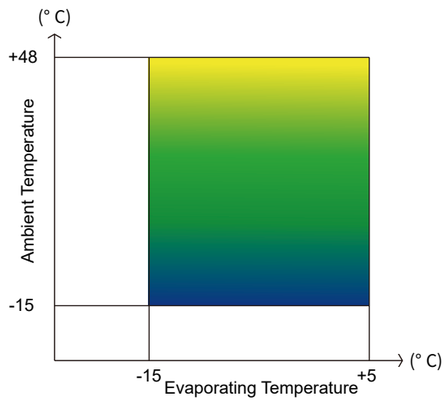
Naming Rule

GQ	H	050	P	S	4	KT	A

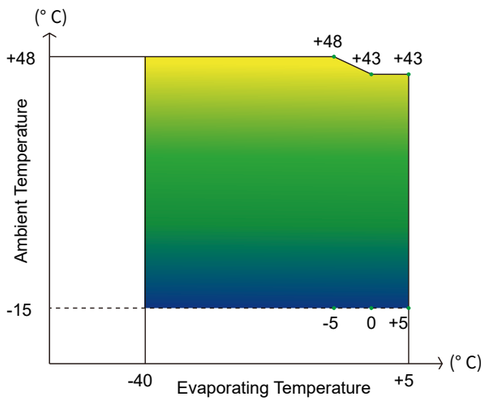
- A — Internal Design Serial Number
- KT — Cool-Tai Series
- 4 — Power（Voltage fluctuation±10%）
  - 4. 380-400V/3Ph/50Hz
  - 5. 230V/1Ph/50Hz
- S — No. of Compressor
  - S-Single Compressor
  - D-Double Compressors
- P — Refrigerant
  - P-R404A
- 050 — Nominal HP
- H — Application Temperature of Unit
  - L-LT /H-MT
- Q — Hermetic Inverter Compressing and Condensing Unit
- GQ

Operation Range

MT



MT & LT



MT - Technical Parameters

GQH			025PS5	030PS4	045PS4	050PS4	070PS4
Refrigerant			R404A				
Supply Voltage of Unit			220V/1PH/50HZ	380V/3PH/50HZ			
R404A	Nominal Cooling Capacity (1)	kW	4.13	5.79	9.09	10.06	12.55
	Nominal Input Power (1)	kW	1.67	2.22	3.51	4.32	5.35
Compressor	Quantity		1	1	1	1	1
	Nominal Power	HP	1x2.5	1x3	1x4.5	1x5	1x7
Crankcase Heating Belt	Quantity x Power (2)	W	1x65	1x65	1x65	1x65	1x65
Noise	dB（A） (3)		56	56	60	60	60
Fan Motor	Quantity x Diameter	mm	1xØ490	1xØ490	2xØ490	2xØ490	2xØ490
	Air Volume	m^3/h	4043	4043	7060	7060	7060
Total Current	Fan Nominal Current	A	0.66	0.66	1.32	1.32	1.32
	Compressor Starting Current	A	50	32	83	55	67.5
	Compressor Max. Continuous Current	A	19.9	8.5	21	22.8	20.1
Factory Setting for Over Current Protection		A	15	7	12	13	13
Reservoir Volume		L	5	5	7	7	7
Lubricating Oil	(R404A)		α68HES-H				FV68S
Oil Charge		L	0.6	1.05	1.85	1.85	1.7
Connection	Gas Return	inch	5/8"	5/8"	3/4"	3/4"	3/4"
	Liquid Line	inch	1/2"	1/2"	1/2"	1/2"	1/2"
Dimensions (L x W x H)		mm	960X370X810			960×370×1260	
Weight		kg	63	68	125	125	125

(1) Testing conditions of nominal cooling capacity and nominal power: National standard medium temperature working conditions SST -7° C , ambient temperature 32° C , gas return temperature 18° C.
(2) The power of the low ambient temperature series of COL crankcase is 2 times higher than the standard model.
(3) Noise measurement standard: dB(A)@1m, different operating environment may lead to different noise values. Affected by wall sound reflection and other factors may lead to differences between measured values and nominal values at the installation field. Acoustic attenuation due to distance only exists in theory. Sound reflection and resonance may lead to different results of measurement, including total noise and frequency.

MT - Selection Table

Evaporating Temperature (° C)	Model	Ambient Temperature									
		27° C		32° C		38° C		43° C		48° C	
		Q kW	P kW	Q kW	P kW	Q kW	P kW	Q kW	P kW	Q kW	P kW
-15	GQH025PS5KTA	3.55	1.43	3.17	1.56	2.91	1.66	2.66	1.77	2.37	1.91
	GQH030PS4KTA	4.98	1.90	4.45	2.07	4.09	2.20	3.73	2.35	3.32	2.55
	GQH045PS4KTA	7.74	3.17	6.91	3.45	6.43	3.69	5.94	3.93	5.41	4.16
	GQH050PS4KTA	8.65	3.70	7.72	4.02	7.10	4.28	6.47	4.58	5.77	4.95
	GQH070PS4KTA	13.65	4.39	8.86	4.84	8.17	5.60	7.61	6.23	6.66	6.57
-10	GQH025PS5KTA	4.19	1.48	3.74	1.61	3.42	1.72	3.11	1.84	2.76	1.99
	GQH030PS4KTA	5.87	1.97	5.25	2.14	4.80	2.28	4.36	2.45	3.88	2.65
	GQH045PS4KTA	9.18	3.19	8.19	3.47	7.61	3.75	7.02	4.02	6.38	4.28
	GQH050PS4KTA	10.20	3.83	9.11	4.17	8.34	4.44	7.57	4.76	6.73	5.15
	GQH070PS4KTA	14.52	4.69	11.17	5.16	9.84	5.89	9.39	6.51	7.91	6.86
-5	GQH025PS5KTA	4.91	1.57	4.39	1.71	4.00	1.83	3.62	1.96	3.21	2.12
	GQH030PS4KTA	6.90	2.09	6.16	2.27	5.61	2.43	5.08	2.51	4.50	2.82
	GQH045PS4KTA	10.84	3.26	9.68	3.54	8.98	3.86	8.28	4.17	7.52	4.47
	GQH050PS4KTA	11.98	4.07	10.69	4.42	9.75	4.73	8.82	5.07	7.84	5.49
	GQH070PS4KTA	15.39	4.98	13.52	5.48	12.24	6.20	11.18	6.80	9.16	7.14
0	GQH025PS5KTA	5.69	1.61	5.08	1.75	4.61	1.88	4.16	2.02	3.67	2.19
	GQH030PS4KTA	7.98	2.32	7.13	2.52	6.48	2.50	5.83	2.69	/	/
	GQH045PS4KTA	12.66	3.17	11.31	3.44	10.48	3.80	9.65	4.14	8.74	4.48
	GQH050PS4KTA	13.87	4.17	12.38	4.53	11.25	4.86	10.13	5.23	8.95	5.67
	GQH070PS4KTA	16.26	5.27	15.93	5.81	14.25	6.31	12.44	6.87	/	/

Notes: the variable condition data is based on the national standard GB/T 21363 requirements, return temperature 18° C.

LT - Technical Parameters

GQL			015PS5	020PS4	030PS4	035PS4
Refrigerant			R404A			
Supply Voltage of Unit			220V/1PH/50HZ	380V/3PH/50HZ		
R404A	Nominal Cooling Capacity (1)	kW	2.18	3.00	4.90	5.60
	Nominal Input Power（1）	kW	1.43	1.86	3.05	3.96
Compressor	Quantity		1	1	1	1
	Nominal Power	HP	1x1.5	1x2	1x3	1x3.5
Crankcase Heating Belt	Quantity x Power (2)	W	1x65	1x65	1x65	1x65
Noise	dB（A） (3)		56	56	56	60
Fan Motor	Quantity x Diameter	mm	1xØ490	1xØ490	1xØ490	2xØ490
	Air Volume	m^3/h	4043	4043	4043	7060
Total Current	Fan Nominal Current	A	0.66	0.66	0.66	1.32
	Compressor Starting Current	A	50	32	83	55
	Compressor Max. Continuous Current	A	19.9	8.5	21	22.8
Factory Setting for Over Current Protection		A	15	7	12	13
Reservoir Volume		L	5	5	5	7
Lubricating Oil	(R404A)		α68HES-H			
Oil Charge		L	0.6	1.05	1.85	1.85
Connection	Gas Return	inch	5/8"	5/8"	5/8"	3/4"
	Liquid Line	inch	1/2"	1/2"	1/2"	1/2"
Dimensions (L x W x H)		mm	960X370X810			960×370×1260
Weight		kg	63	68	82	125

(1) Testing conditions of nominal cooling capacity and nominal power: National standard medium temperature working conditions SST -23° C , ambient temperature 32° C , gas return temperature 5° C.
(2) The power of the low ambient temperature series of COL crankcase is 2 times higher than the standard model.
(3) Noise measurement standard: dB(A)@1m, different operating environment may lead to different noise values. Affected by wall sound reflection and other factors may lead to differences between measured values and nominal values at the installation field. Acoustic attenuation due to distance only exists in theory. Sound reflection and resonance may lead to different results of measurement, including total noise and frequency.

LT - Selection Table

Evaporating Temperature (° C)	Model	Ambient Temperature									
		27° C		32° C		38° C		43° C		48° C	
		Q kW	P kW	Q kW	P kW	Q kW	P kW	Q kW	P kW	Q kW	P kW
-40	GQL015PS5KTA	1.21	1.14	1.08	1.24	0.98	1.36	0.87	1.41	0.68	1.54
	GQL020PS4KTA	1.52	1.40	1.39	1.54	1.18	1.80	0.98	2.05	0.85	2.3
	GQL030PS4KTA	2.67	2.15	2.38	2.33	2.21	2.44	2.03	2.54	1.74	2.64
	GQL035PS4KTA	2.94	2.75	2.66	2.97	2.34	3.47	2.07	3.89	1.82	4.33
-35	GQL015PS5KTA	1.49	1.18	1.33	1.29	1.22	1.36	1.10	1.46	0.89	1.59
	GQL020PS4KTA	2.41	1.75	2.15	1.91	1.98	2.01	1.81	2.12	1.53	2.24
	GQL030PS4KTA	3.33	2.33	2.97	2.53	2.75	2.66	2.52	2.78	2.16	2.90
	GQL035PS4KTA	3.72	2.99	3.38	3.22	3.01	3.65	2.62	4.10	2.35	4.55
-30	GQL015PS5KTA	1.87	1.23	1.67	1.34	1.54	1.42	1.39	1.52	1.15	1.64
	GQL020PS4KTA	2.66	1.61	2.18	1.68	1.94	1.83	1.68	2.08	1.59	2.34
	GQL030PS4KTA	3.72	2.46	3.69	2.75	3.41	2.90	3.13	3.05	2.67	3.19
	GQL035PS4KTA	4.49	3.24	4.10	3.47	3.68	3.83	3.18	4.31	2.87	4.78
-25	GQL015PS5KTA	2.23	1.28	2.00	1.39	1.84	1.48	1.66	1.58	1.39	1.7
	GQL020PS4KTA	3.23	1.72	2.80	1.82	2.41	1.98	2.15	2.18	1.87	2.45
	GQL030PS4KTA	4.93	2.73	4.40	2.97	4.06	3.14	3.73	3.31	3.18	3.48
	GQL035PS4KTA	5.62	3.45	5.14	3.78	4.50	4.12	4.07	4.57	3.53	5.04
-20	GQL015PS5KTA	2.75	1.38	2.45	1.50	2.25	1.59	2.03	1.70	1.7	1.83
	GQL020PS4KTA	3.80	1.82	3.42	1.96	2.88	2.13	2.62	2.28	2.15	2.56
	GQL030PS4KTA	6.01	2.92	5.66	3.18	5.25	3.39	4.83	3.59	4.28	3.79
	GQL035PS4KTA	6.74	3.67	6.18	4.09	5.32	4.40	4.96	4.82	4.29	5.29

Notes: the variable condition data is based on the national standard GB/T 21363 requirements, return temperature 5° C.

Gemini Series

MT/LT Fixed Speed Reciprocating Condensing Units

Indoor Version

Outdoor Version

Customer Values

- Excellent BITZER semi-hermetic reciprocating compressors, low noise, low vibration
- Large cooling capacity, high efficiency
- Damping pipeline design, low vibration
- Large-capacity condenser, higher reliability, good refrigeration in poor working conditions
- Standard oil separator, stable oil return, reliable running
- Integrated type, split type, indoor and outdoor types, covering all applications

Product Features

Full series

- 2-7HP MT units, 2-7HP LT units
- Integrated type, split type, indoor type, outdoor type
- R22/R404A dual-refrigerant

Highly reliable

- Standard oil separator, stable oil return
- Large-capacity condenser, good refrigeration effect in poor working conditions
- Condensing pressure switch design, ensuring smooth operation in low ambient temperature
- Using hydrophilic aluminum foil fins, good corrosion resistance
- High waterproof grade of the indoor units, easy to install and replace, high reliability

* All comparisons are based on the product performances of last generation.

Product Features

Wide range of applications

- Ambient temperature range: -15°C ~43°C
- MT units: evaporating temperature range -15°C ~50°C
- LT units: evaporating temperature range -40°C ~15°C
- Low noise, low vibration

Low noise, low vibration

- BITZER compressor, soft vibration pads in combination with damping pipes, maximizing vibration absorption and noise reduction
- Well-known brand fan, low noise, large air volume

Naming Rule of Condensing Units

C H M E 4 05 - I

- I: Unit type: I: Indoor; O: Outdoor
- 05: Total horse power
- 4: Compressor
- E: Condenser type: E: With condenser; S: Without condenser
- M: Applicable Temperature: M: Medium temperature; L: Low temperature
- H: Refrigerant: H: Mineral oil; S: POE polyolester oil
- C: CDU

Naming Rule of Condensers

HC 45 35 - 4PH

- 4PH: Pole number of motor
- 35: Heat exchange area
- 45: X10 Fan size
- HC: CDU condenser

Technical Parameters of MT Fixed Speed Reciprocating CDU (R22)

Model			CHME(S)402-I(O)	CHME(S)403-I(O)	CHME(S)404-I(O)	CHME(S)405-I(O)	CHME(S)406-I(O)	CHME(S)407-I(O)
Refrigerant			R22					
Cooling Capacity		kW	4.44	6.81	10.01	10.67	13.61	15.77
Input Power		kW	1.77	2.48	3.50	3.81	4.89	5.54
COP		W/W	2.50	2.75	2.86	2.80	2.78	2.85
Evaporating Temperature Range		° C	-15° C~-5° C					
Power Type			380V - 3~ - 50Hz					
Compressor		Type	Silent, efficient, semi-hermetic reciprocating compressor					
		Model	2GES-2	2EES-3	2CES-4	4FES-5	4EES-6	4DES-7
Noise @1m	Intergrated (with Condensing fan)	dB	52.7	57.7	58.7	59.2	61.6	62.0
	Remote (without Condensing fan)	dB	48.6	51.6	52.6	54.2	57.2	59.3
Condensing Fan	Quantity x Diameter [mm]		1×Ø500	1×Ø500	1×Ø550	1×Ø550	2×Ø500	2×Ø500
	Air Volume [m^3/h]		4750	5200	5900	5900	10100	10100
Total Current	Fan Nominal Current [A]	A	0.54	0.68	0.67	0.67	1.36	1.36
	Compressor Starting Current	A	22.5	37.0	44.2	62.2	62.2	82.4
	Compressor Max. Continuous Current	A	5.0	7.5	10.0	10.8	13.6	16.5
Reservoir Volume		L	8				14	
Lubricating Oil	Model		B5.2					
	Oil Charge	L	1	1.5	1.5	2.0	2.0	2.0
Connection	Liquid Line	mm	12.7	12.7	15.88	15.88	15.88	15.88
	Gas Return	mm	15.88	22.22	22.22	22.22	28.58	28.58
	Gas out (Remote, connect to the condenser)	mm	12.7	12.7	15.88	15.88	22.22	22.22
	Liquid Return (Remote, back to the reservoir)	mm	12.7	12.7	12.7	12.7	15.88	15.88

(1) Testing conditions of nominal cooling capacity and nominal power: ambient temperature 32° C, Evaporation temperature -7° C, gas return temperature 18° C.
(2) Different operating environment may lead to different noise values. Affected by wall sound reflection and other factors may lead to differences between measured values and nominal values at the installation field. Acoustic attenuation due to distance only exists in theory. Sound reflection and resonance may lead to different results of measurement, including total noise and frequency.
(3) Split units are without condenser and condenser fan. The parameters of the condenser fan motor in the table are the parameters of the corresponding condenser fan.

Note: All data and pictures are for reference only. Carrier reserves the right to change without prior notice.

Technical Parameters of LT Fixed Speed Reciprocating CDU (R22)

Model			CHME(S) 402-I(O)	CHME(S) 403-I(O)	CHME(S) 404-I(O)	CHME(S) 405-I(O)	CHME(S)406-I(O)	CHME(S) 407-I(O)	CHME(S) 407-I(O
Refrigerant			R22						
Cooling Capacity		kW	3.11	4.66	6.21	7.29	9.33	9.53	11.65
Input Power		kW	1.79	2.64	3.46	4.08	5.02	4.96	6.29
COP		W/W	1.73	1.77	1.80	1.79	1.86	1.92	1.85
Evaporating Temperature Range		° C	-40° C~-20° C						
Power Type			380V - 3~ - 50Hz						
Compressor		Type	Silent, efficient, semi-hermetic reciprocating compressor						
		Model	2EES-2	2CES-3	4EES-4	4DES-5	4CES-6	4VES-7	4TES-9
Noise @1m	Intergrated (with Condensing fan)	dB	55.4	59.1	60.8	60.3	62.7	64.1	65.5
	Remote (without Condensing fan)	dB	55.4	56.84	58.8	58.04	60.3	63.3	64.7
Condensing Fan	Quantity x Diameter [mm]		1×Ø400	1×Ø500	1×Ø500	1×Ø500	1×Ø550	1×Ø550	2×Ø500
	Air Volume [m^3/h]		3200	4750	5200	5200	5900	5900	10100
Total Current	Fan Nominal Current [A]	A	0.44	0.54	0.68	0.68	0.67	0.67	1.36
	Compressor Starting Current	A	26.0	37.0	53.5	62.2	82.4	68.0	81.0
	Compressor Max. Continuous Current	A	6.0	9.1	12.2	14.5	17.7	16.6	19.9
Reservoir Volume		L	8				14		
Lubricating Oil	Model		B5.2						
	Oil Charge	L	1.5	1.5	2.0	2.0	2.0	2.6	2.6
Connection	Liquid Line	mm	12.7	12.7	12.7	12.7	15.88	15.88	15.88
	Gas Return	mm	22.22	22.22	28.58	28.58	28.58	28.58	34.92
	Gas out (Remote, connect to the condenser)	mm	12.7	12.7	15.88	15.88	15.88	15.88	22.22
	Liquid Return (Remote, back to the reservoir)	mm	12.7	12.7	12.7	12.7	12.7	12.7	15.88

(1) Testing conditions of nominal cooling capacity and nominal power: ambient temperature 32° C, Evaporation temperature -23° C, gas return temperature 5° C.
(2) Different operating environment may lead to different noise values. Affected by wall sound reflection and other factors may lead to differences between measured values and nominal values at the installation field. Acoustic attenuation due to distance only exists in theory. Sound reflection and resonance may lead to different results of measurement, including total noise and frequency.
(3) Split units are without condenser and condenser fan. The parameters of the condenser fan motor in the table are the parameters of the corresponding condenser fan.

Note: All data and pictures are for reference only. Carrier reserves the right to change without prior notice.

Technical Parameters of MT Fixed Speed Reciprocating CDU (R404A)

Model			CPME(S)402-I(O)	CPME(S)403-I(O)	CPME(S)404-I(O)	CPME(S)405-I(O)	CPME(S)406-I(O)	CPME(S)407-I(O)
Refrigerant			R404A					
Cooling Capacity		kW	4.54	7.27	10.71	11.60	14.56	17.01
Input Power		kW	1.95	2.75	3.90	4.19	5.50	6.29
COP		W/W	2.33	2.64	2.74	2.77	2.64	2.70
Evaporating Temperature Range		° C	-15° C~-5° C					
Power Type			380V - 3~ - 50Hz					
Compressor		Type	Silent, efficient, semi-hermetic reciprocating compressor					
		Model	2GES-2Y	2EES-3Y	2CES-4Y	4FES-5Y	4EES-6Y	4DES-7Y
Noise @1m	Intergrated (with Condensing fan)	dB	52.7	57.7	58.7	59.2	61.6	62.0
	Remote (without Condensing fan)	dB	48.6	51.6	52.6	54.2	57.2	59.3
Condensing Fan	Quantity x Diameter [mm]		1×Ø500	1×Ø500	1×Ø550	1×Ø550	2×Ø500	2×Ø500
	Air Volume [m^3/h]		4750	5200	5900	5900	10100	10100
Total Current	Fan Nominal Current [A]	A	0.54	0.68	0.67	0.67	1.36	1.36
	Compressor Starting Current	A	22.5	37.0	44.2	62.2	62.2	82.4
	Compressor Max. Continuous Current	A	5.0	7.5	10.0	10.8	13.6	16.5
Reservoir Volume		L	8				14	
Lubricating Oil	Model		BSE32					
	Oil Charge	L	1	1.5	1.5	2.0	2.0	2.0
Connection	Liquid Line	mm	12.7	12.7	15.88	15.88	15.88	15.88
	Gas Return	mm	15.88	22.22	22.22	22.22	28.58	28.58
	Gas out (Remote, connect to the condenser)	mm	12.7	12.7	15.88	15.88	22.22	22.22
	Liquid Return (Remote, back to the reservoir)	mm	12.7	12.7	12.7	12.7	15.88	15.88

(1) Testing conditions of nominal cooling capacity and nominal power: ambient temperature 32° C, Evaporation temperature -7° C, gas return temperature 18° C.
(2) Different operating environment may lead to different noise values. Affected by wall sound reflection and other factors may lead to differences between measured values and nominal values at the installation field. Acoustic attenuation due to distance only exists in theory. Sound reflection and resonance may lead to different results of measurement, including total noise and frequency.
(3) Split units are without condenser and condenser fan. The parameters of the condenser fan motor in the table are the parameters of the corresponding condenser fan.

Note: All data and pictures are for reference only. Carrier reserves the right to change without prior notice.

Technical Parameters of LT Fixed Speed Reciprocating CDU (R404A)

Model			CPLE(S)402-I(O)	CPLE(S)403-I(O)	CPLE(S)404-I(O)	CPLE(S)405-I(O)	CPLE(S)406-I(O)	CPLE(S)407-I(O)	CPLE(S)408-I(O)
Refrigerant			R404A						
Cooling Capacity		kW	3.32	5.02	6.78	7.85	9.70	9.77	12.04
Input Power		kW	1.99	2.94	4.05	4.61	5.57	5.37	6.87
COP		W/W	1.67	1.71	1.68	1.70	1.74	1.82	1.75
Evaporating Temperature Range		° C	-40° C~-20° C						
Power Type			380V - 3~ - 50Hz						
Compressor		Type	Silent, efficient, semi-hermetic reciprocating compressor						
		Model	2EES-2Y	2CES-3Y	4EES-4Y	4DES-5Y	4CES-6Y	4VES-7Y	4TES-9Y
Noise @1m	Intergrated (with Condensing fan)	dB	55.4	59.1	60.8	60.3	62.7	64.1	65.5
	Remote (without Condensing fan)	dB	55.4	56.84	58.8	58.04	60.3	63.3	64.7
Condensing Fan	Quantity x Diameter [mm]		1×Ø400	1×Ø500	1×Ø500	1×Ø500	1×Ø550	1×Ø550	2×Ø500
	Air Volume [m^3/h]		3200	4750	5200	5200	5900	5900	10100
Total Current	Fan Nominal Current [A]	A	0.44	0.54	0.68	0.68	0.67	0.67	1.36
	Compressor Starting Current	A	26.0	37.0	53.5	62.2	82.4	68.0	81.0
	Compressor Max. Continuous Current	A	6.0	9.1	12.2	14.5	17.7	16.6	19.9
Reservoir Volume		L	8				14		
Lubricating Oil	Model		BSE32						
	Oil Charge	L	1.5	1.5	2.0	2.0	2.0	2.6	2.6
Connection	Liquid Line	mm	12.7	12.7	12.7	12.7	15.9	15.88	15.88
	Gas Return	mm	22.22	22.22	28.58	28.58	28.58	28.58	34.92
	Gas out (Remote, connect to the condenser)	mm	12.7	12.7	15.88	15.88	15.88	15.88	22.22
	Liquid Return (Remote, back to the reservoir)	mm	12.7	12.7	12.7	12.7	12.7	12.7	15.88

(1) Testing conditions of nominal cooling capacity and nominal power: ambient temperature 32° C, Evaporation temperature -23° C, gas return temperature 5° C.
(2) Different operating environment may lead to different noise values. Affected by wall sound reflection and other factors may lead to differences between measured values and nominal values at the installation field. Acoustic attenuation due to distance only exists in theory. Sound reflection and resonance may lead to different results of measurement, including total noise and frequency.
(3) Split units are without condenser and condenser fan. The parameters of the condenser fan motor in the table are the parameters of the corresponding condenser fan.

Note: All data and pictures are for reference only. Carrier reserves the right to change without prior notice.

Taurus Series

MT Fixed Speed Scroll Condensing Units

Customer Values

- R404A refrigerant provided
- Multiple models available, 1.5-15HP
- Highly energy efficient, low noise
- Condensing coils with high cooling capacity, suitable for 48°C ambient temperature applications, with -30°C as an option, to meet various customer needs
- Stable oil return, reliable running
- With 485 communication systems for remote monitoring

Product Features

- Advanced microprocessor-based control system, automatic adjustment according to load changes
- Two-speed fan motor, automatically switching according to ambient temperature and terminal load
- Large coil design, strong heat exchange, suitable for extreme conditions
- Hermetic and sound insulated cabinet, quiet running

Naming Rule of Fixed Speed Condensing Units

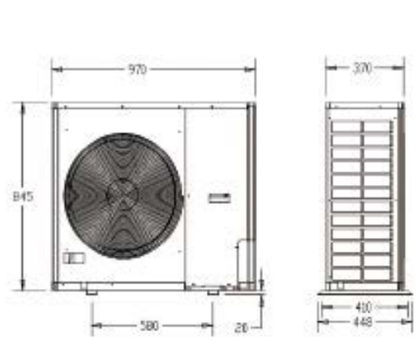
GQ H 015 P S 4 XXX

- XXX — Internal Design Serial Number
- 4 — Form of Power Supply (Allowable Voltage Fluctuation Range±10%)
  - 4.380-400V/3PH/50Hz
  - 5.230V/1PH/50Hz
- S — Number of Compressor
  - S-Single Compressor
  - D-Double Compressors
- P — Type of Refrigerant
  - H-AB Alkylbenzene Oil
  - P-Ester (Ether) Oil
- 015 — Nominal Capacity of Unit, kBtu/h@60Hz, ARI
- H — Application Temperature of Unit
  - H – Medium Temperature
  - L – Low Temperature
- GQ — Hermetic Air-cooled Compressor Condensing Unit - Quietor Series

* All comparisons are based on the product performances of last generation.

Medium Temperature Working Conditions (<7HP) 380V/3PH/50Hz

GQH			015PS	021PS	026PS	030PS	038PS	045PS	048PS
Refrigerant			R404A						
Casing Type			M1	M1	M1	M1	M2	M2	M2
R404A	Nominal Cooling Capacity (1)	kW	4.15	5.57	6.28	8.06	10.16	12.08	13.03
	Nominal Input Power (1)	kW	1.58	2.24	2.64	3.37	3.86	4.71	5.09
R22	Nominal Cooling Capacity (1)	kW	3.74	5.01	5.65	7.25	9.64	11.42	12.52
	Nominal Input Power (1)	kW	1.42	2.02	2.38	3.03	3.40	4.08	4.48
Compressor	Quantity		1	1	1	1	1	1	1
	Model		MLZ015T4	MLZ021T4/	MLZ026T4	MLZ030T4	MLZ038T4	MLZ045T4	MLZ048T4
	Nominal Power	HP	1x2	1x3	1x3.5	1x4	1x5	1x6	1x7
Crankcase Heating Belt	Quantity x Power	W	1 x 65	1 x 65	1 x 65	1 X 75	1 X 75	1 X 75	1 X 75
Noise	dB (A) (2)		60	60	60	60	60	60	60
Fan Motor	Quantity x Diameter	mm	1x0500	1x0500	1x0500	1x0500	2x0500	2x0500	2x0500
	Air Volume	m^3/h	4445	4445	4445	4445	8890	8890	8890
Total Current	Fan Nominal Current	A	0.71	0.71	0.71	0.71	1.42	1.42	1.42
	Compressor Starting current	A	30	45	45	60	70	82	87
	Compressor Max. Continuous Current	A	7	9.5	11	13	15	15	16
Reservoir Volume		L	6	6	6	6	7.6	7.6	7.6
Lubricating Oil			Ester oil 320HV(R404A))						
Oil Charge		L	1.1	1.1	1.6	1.6	1.6	1.6	1.6
Connection	Gas Return	inch	5/8"	5/8"	5/8"	5/8"	3/4"	3/4"	3/4"
	Liquid Line	inch	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Dimension		mm	Please see the pictures attached						
Weight		kg	68	68	68	74	125	125	125



M1 M2

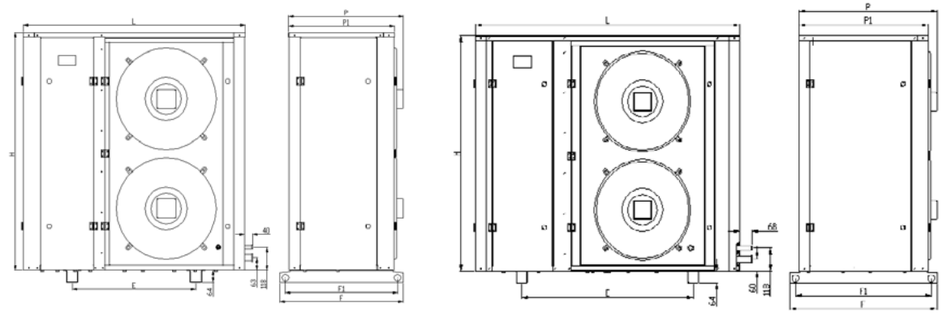
Model Selection Table of Medium Temperature Fixed Speed CDU (<7HP)
230V/1PH/50Hz&380V/3PH/50Hz

	R22	Ambient Temperature							
		27 ° C		32 ° C		37 ° C		42 ° C	
	GQH	Cooling Capacity Q (kW)	Power Consumption P (kW)	Cooling Capacity Q (kW)	Power Consumption P (kW)	Cooling Capacity Q (kW)	Power Consumption P (kW)	Cooling Capacity Q (kW)	Power Consumption P (kW)
SST -15 °C	015PS	3.07	1.48	2.82	1.67	2.56	1.86	2.26	2.07
	021PS	4.23	1.91	3.89	2.14	3.59	2.35	3.23	2.60
	026PS	5.13	2.48	4.70	2.74	4.36	2.98	3.91	3.28
	030PS	6.00	2.99	5.62	3.23	5.10	3.56	5.06	3.92
	038PS	7.70	3.39	7.08	3.76	6.54	4.12	5.89	4.55
	045PS	9.01	4.16	8.26	4.61	7.64	5.04	6.86	5.57
	048PS	9.73	4.52	8.93	5.00	8.26	5.45	7.42	6.01
SST -10 °C	015PS	3.83	1.43	3.51	1.63	3.22	1.83	2.88	2.05
	021PS	5.13	1.98	4.73	2.22	4.41	2.43	3.99	2.69
	026PS	6.21	2.54	5.84	2.75	5.33	3.04	4.81	3.34
	030PS	7.23	3.10	6.82	3.34	6.21	3.67	5.59	4.03
	038PS	9.36	3.48	8.64	3.84	8.04	4.20	7.28	4.63
	045PS	10.94	4.28	10.07	4.74	9.37	5.16	8.46	5.69
	048PS	11.77	4.66	11.07	5.06	10.11	5.58	9.13	6.14
SST -7 °C	015PS	4.33	1.39	4.15	1.58	3.68	1.79	3.31	2.02
	021PS	5.75	2.03	5.57	2.24	4.96	2.48	4.50	2.75
	026PS	6.94	2.59	6.28	2.64	6.00	3.08	5.42	3.38
	030PS	8.21	3.13	8.06	3.37	6.96	3.74	6.28	4.10
	038PS	10.48	3.53	10.16	3.86	9.06	4.26	8.23	4.69
	045PS	12.24	4.38	12.08	4.71	10.55	5.24	9.55	5.77
	048PS	13.16	4.75	13.03	5.09	11.37	5.66	10.29	6.23
SST -5 °C	015PS	4.66	1.37	4.29	1.57	3.98	1.77	3.59	2.00
	021PS	6.16	2.06	5.81	2.26	5.33	2.51	4.84	2.78
	026PS	7.42	2.62	7.02	2.82	6.44	3.10	5.83	3.41
	030PS	8.86	3.15	8.17	3.46	7.46	3.79	6.74	4.15
	038PS	11.23	3.57	10.41	3.94	9.74	4.29	8.86	4.72
	045PS	13.11	4.44	12.37	4.80	11.34	5.29	10.28	5.83
	048PS	14.08	4.81	13.31	5.20	12.20	5.72	11.06	6.29
SST 0 °C	015PS	5.60	1.30	5.18	1.50	4.83	1.70	4.39	1.94
	021PS	7.30	2.15	6.92	2.34	6.37	2.60	5.81	2.87
	026PS	8.77	2.71	8.34	2.90	7.67	3.18	6.97	3.49
	030PS	10.47	3.27	9.67	3.60	8.86	3.93	8.01	4.30
	038PS	13.34	3.69	12.64	4.00	11.66	4.39	10.65	4.83
	045PS	15.56	4.61	14.75	4.96	13.55	5.45	12.32	5.98
	048PS	16.65	5.00	15.82	5.36	14.55	5.89	13.22	6.46

Testing conditions: refrigerant R404A, degree of superheat of gas return 10K

MT Fixed Speed Scroll Condensing Units (>7HP)

GQH				066PS	076PD	090PD	096PD
Refrigerant				R404A			
Casing Type				M5	M6	M6	M6
Nominal Cooling Capacity		(1)	kW	18.58	20.32	23.82	26.27
Nominal Input Power		(1)	kW	8.17	9.22	10.42	11.84
Compressor	Quantity			1	2	2	2
	Model			ZB66 KQE	ZB38 KQE	ZB45 KQE	ZB48 KQE
	Nominal Power		HP	1x9	2x6	2x7	2x8
Crankcase Heating Belt	Quantity x Power		W	1x90	2x75	2x75	2x75
Noise		(2)	dB(A)	65	64	64	66
Fan Motor	Quantity x Diameter		mm	2xØ500	2xØ500	2xØ500	2xØ500
	Air Volume		m^3/h	10400	10400	10400	10400
Total Current	Fan Nominal Current	(3)	A	1.38	1.38	1.38	1.38
	Compressor Starting Current		A	111	65.5*2	74*2	101*2
	Compressor Max. Continuous Current		A	17.3	10*2	11.5*2	12.1*2
Reservoir Volume			dm^3	14	19	19	23
Connection	Gas Return		inch	1"3/8	1"3/8	1"3/8	1"3/8
	Liquid Line		inch	5/8"	5/8"	5/8"	7/8"
Dimension	Length	L	mm	1166	1440	1440	1440
	Wide	P	mm	604	754	754	754
		P1	mm	556	706	706	706
	Height	H	mm	1226	1226	1226	1226
	Fixing Feet	E	mm	650	934	934	934
		F	mm	650	800	800	800
		F1	mm	590	740	740	740
Weight			kg	210	232	266	310



(1) Testing conditions of nominal cooling capacity and nominal power: National standard medium temperature working conditions SST -7°C, ambient temperature 32°C, gas return temperature 18°C.
(2) The COL low ring temperature series crankcase heating tape is twice as powerful as the standard model cranking power.
(3) Noise measurement standard: dB(A)@1m,different operating environment may lead to different noise values. Affected by wall sound reflection and other factors may lead to differences between measured values and nominal values at the installation field. Acoustic attenuation due to distance only exists in theory. Sound reflection and resonance may lead to different results of measurement, including total noise and frequency.

Note: All data and images are for reference only and Carrier reserves the right to make changes without prior notice.

MT Fixed Speed Scroll Condensing Units (>7HP)

	Model	Horse Power	Ambient Temperature									
			27 ° C		32 ° C		38 ° C		43 ° C		48 ° C	
		HP	Q(kW)	P (kW)	Q(kW)	P (kW)	Q(kW)	P (kW)	Q(kW)	P (kW)	Q(kW)	P (kW)
SST -20 °C	GQH066PS4COX	9	12.20	5.51	11.09	6.08	10.19	7.16	9.27	8.14	7.93	8.57
	GQH076PD4COX	12	14.46	6.59	14.52	7.26	12.10	8.54	11.16	9.71	10.60	10.58
	GQH090PD4COX	14	17.03	7.45	17.10	8.20	14.25	9.65	13.14	10.97	12.48	11.96
	GQH096PD4COX	16	18.78	8.46	18.86	9.32	15.72	10.97	14.49	12.47	13.77	13.59
SST -15 °C	GQH066PS4COX	9	14.73	5.82	13.74	6.34	12.98	7.41	11.81	8.30	9.61	8.87
	GQH076PD4COX	12	16.91	7.23	16.62	7.82	14.74	8.92	13.95	10.00	13.25	10.90
	GQH090PD4COX	14	19.91	8.17	19.57	8.84	17.35	10.09	16.43	11.30	15.61	12.32
	GQH096PD4COX	16	21.96	9.28	21.58	10.04	19.14	11.46	18.12	12.84	17.21	14.00
SST -10 °C	GQH066PS4COX	9	17.45	6.08	16.72	6.63	15.84	7.68	14.41	8.37	11.34	9.19
	GQH076PD4COX	12	19.36	7.86	18.71	8.38	17.51	9.44	16.75	10.29	15.91	11.21
	GQH090PD4COX	14	22.79	8.89	22.03	9.47	20.62	10.67	19.72	11.63	18.73	12.67
	GQH096PD4COX	16	25.14	10.10	24.30	10.76	22.74	12.12	21.75	13.21	20.66	14.40
SST -5 °C	GQH066PS4COX	9	20.74	6.41	19.93	6.93	19.03	7.98	17.31	8.86	14.42	9.55
	GQH076PD4COX	12	23.49	8.00	22.28	8.86	20.91	9.86	20.29	11.80	19.28	12.87
	GQH090PD4COX	14	27.65	9.05	26.23	10.01	24.62	11.14	23.89	13.34	22.70	14.54
	GQH096PD4COX	16	30.50	10.28	28.93	11.38	27.15	12.66	26.35	15.16	25.03	16.52
SST 0 °C	GQH066PS4COX	9	24.06	6.89	23.22	7.45	22.40	8.43	20.38	10.12	16.70	11.09
	GQH076PD4COX	12	26.71	8.56	26.16	9.41	24.67	10.46	23.83	13.32	22.64	14.52
	GQH090PD4COX	14	31.45	9.67	30.81	10.63	29.05	11.83	28.06	15.06	26.66	16.41
	GQH096PD4COX	16	34.69	10.99	33.98	12.08	32.04	13.44	30.95	17.11	29.40	18.65
SST 5 °C	GQH066PS4COX	9	28.00	7.23	26.77	7.93	25.87	8.87	23.53	10.64	19.29	11.62
	GQH076PD4COX	12	31.37	9.16	30.32	10.00	28.54	11.16	27.16	14.84	25.80	16.18
	GQH090PD4COX	14	36.94	10.35	35.71	11.30	33.60	12.61	32.34	16.77	30.72	18.28
	GQH096PD4COX	16	40.74	11.76	39.38	12.84	37.06	14.33	35.87	19.06	34.08	20.78

Notes: the variable condition data is based on the national standard GB/T 21363 requirements, return temperature 18° C.

Taurus Series

LT Fixed Speed Scroll Condensing Units

Model: 2~5HP
Evaporating Temperature: -30C~-15° C
Refrigerant option: R404A

Model: 6~7HP
Evaporating Temperature: -30° C~-15° C
Refrigerant option: R404A

Model: 9~16HP
Evaporating Temperature: -45° C~-15° C
Refrigerant option: R404A

Customer Values

- Compression and condensation integrated machine, easy and flexible installing, no machine room needed, saving time and money
- Vortex machine spray application adopted, light, low vibration, low noise, without noise complaints
- PCB intelligent control, high energy efficiency ratio, lower store operating cost
- Condensing coils with high cooling capacity, suitable for 48°C ambient temperature applications, with -30°C as an option, to meet various customer needs
- 485 communication system, optional remote monitoring

Product Features

- Well-known low-temperature scroll compressor, highly reliable, high energy efficiency ratio, low noise
- Step less linear regulation of fan speed (SCR), little system fluctuation, perfect match with load demands
- PCB control, automatically adjusting cooling output with the load demand, identifying fault code at a glance, easy maintenance and fault diagnosis
- With network connection and remote control functions
- Use supercooled coil to improve energy efficiency, operating well in the extreme condition of high ambient temperature (43°C)
- Low-temperature liquid spray adopted, ensuring operation reliability under extreme ambient temperatures, and that the parameters are in a stable and moderate range

Application Scenarios

Medium / small cold storage
Hotel cold storage, chain restaurant, front warehouse, food cold storage with small and medium-sized low-temperature cold storage

Room temperature: -35° C ~ +5° C

* Line pressure drop also needs to be taken into account

Supermarket
Used for remote freezer whth evaporating temperature > -30° C
Applicable Model: AGDF

Naming Rule

GQ H 015 P S 4 COX

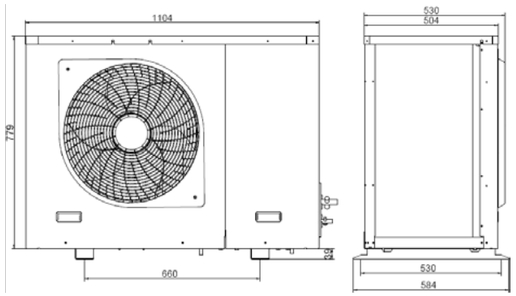
- COX — Internal Design Serial Number
- 4 — Form of Power Supply (Allowable Voltage Fluctuation Range±10%)
  - 1: 208-203V/1PH/60Hz
  - 3: 200-230V/3PH/60Hz
  - 4: 380-400V/3PH/50Hz;460V/3PH/60Hz
  - 5: 230V/1PH/50Hz
  - 9: 380V/60Hz
- S — Number of Compressor
  - S-Single Compressor
  - D-Double Compressors
- P — Refrigerant
  - H-AB Alkylbenzene Oil / P-Ester (Ether) Oil
- 015 — Nominal Capacity of Unit, kBtu/h@60Hz, ARI
- H — Application Temperature of Unit
  - H – Medium Temperature
  - L – Low Temperature
- GQ — Hermetic Air-cooled Compressor Condensing Unit

Technical Parameters

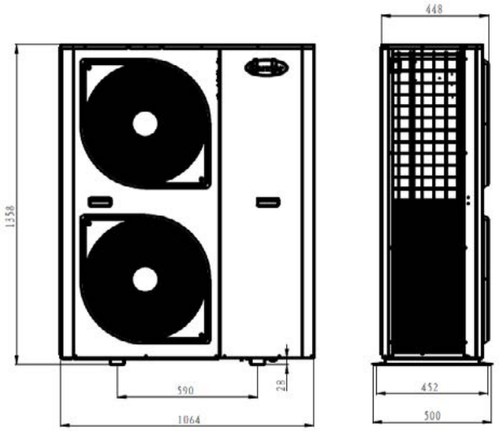
GQL		GQL015PS4 COX	GQL018PS4 COX	GQL021PS4 COX	GQL015PS4 COX	GQL018PS4 COX	GQL021PS4 COX
Refrigerant		R404A					
Casing Type		M3	M3	M3	M3	M4	M4
R404A	Nominal Cooling Capacity [kW]	2.28	2.67	3.47	4.39	6.09	7.01
	Nominal Input Power [kW]	1.69	2.04	2.47	2.88	3.85	4.33
COP		1.35	1.31	1.40	1.52	1.58	1.62
Compressor	Quantity	1	1	1	1	1	1
	Model	ZSI06KQET	ZSI09KQET	ZSI11KQET	ZSI14KQET	ZSI18KQET	ZSI21KQET
	Nominal Power [HP]	1x2	1x3	1x4	1x5	1×6	1×7
Crankcase Heating Belt	Quantity x Power [W]	1x65	1x65	1x65	1x65	1x75	1x75
Noise	dB(A)(2)	53	53	56	56	60	60
Fan motor	Quantity x Diameter [mm]	1xØ500	1xØ500	1xØ500	1xØ500	2xØ500	2xØ500
	Air Volume [m^3/h]	4043	4043	4043	4043	7060	7060
Total Current	Fan Nominal Current [A]	0.6	0.6	0.6	0.6	1.2	1.2
	Compressor Starting Current [A]	34.8	34.8	47	47	67	90.5
	Compressor Max. Continuous Current [A]	5.7	6.7	7.5	9.2	13.2	14.6
Factory Setting for Over Current Protection [A]		6	7	10	11	13	16
Reservoir Volume [L]		6	6	6	6	8	8
Lubricating Oil		RL 32-3MAF/RL 32H					
Oil Charge [L]		0.74	0.74	1.36	1.36	1.89	1.89
Connection	Gas Return [inch]	5/8"	5/8"	3/4"	3/4"	3/4"	3/4"
	Liquid Line [inch]	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Dimension	mm	1104X504X818				1064×448×1358	
Weight	kg	99.2	99.2	103.2	110.9	140	142.3

(1) Testing conditions of nominal cooling capacity and nominal power: National standard medium temperature working conditions SST -23° C, ambient temperature 32° C, gas return temperature 5° C.
(2) Noise measurement standard: dB(A)@1m, different operating environment may lead to different noise values. Affected by wall sound reflection and other factors may lead to differences between measured values and nominal values at the installation field. Acoustic attenuation due to distance only exists in theory. Sound reflection and resonance may lead to different results of measurement, including total noise and frequency.

M3



M4



Variable Condition Parameters

SST: -30° C

GQL	Ambient Temperature							
	27° C		32° C		38° C		43° C	
	Q (kW)	P (kW)	Q (kW)	P (kW)	Q (kW)	P (kW)	Q (kW)	P (kW)
006PS4COX	1.84	1.49	1.67	1.61	1.46	1.76	1.18	2.06
009PS4COX	2.35	1.80	1.79	1.91	1.81	2.17	1.59	2.43
011PS4COX	2.84	2.13	2.59	2.33	2.39	2.64	2.20	2.99
015PS4COX	3.83	2.50	3.51	2.79	3.06	2.99	2.73	3.48
018PS4COX	5.11	3.22	4.75	3.59	4.25	4.13	3.79	4.60
021PS4COX	5.64	3.66	5.27	3.96	4.66	4.35	4.26	4.89

SST: -25° C

GQL	Ambient Temperature							
	27° C		32° C		38° C		43° C	
	Q (kW)	P (kW)	Q (kW)	P (kW)	Q (kW)	P (kW)	Q (kW)	P (kW)
006PS4COX	2.24	1.53	2.10	1.67	1.87	1.75	1.46	2.08
009PS4COX	2.79	1.86	2.43	1.91	2.24	2.26	1.99	2.48
011PS4COX	3.59	2.11	3.21	2.44	2.88	2.69	2.53	3.02
015PS4COX	4.55	2.58	4.17	2.86	3.70	3.12	3.28	3.59
018PS4COX	6.17	3.42	5.79	3.84	5.07	4.18	4.52	4.64
021PS4COX	6.67	3.86	6.51	4.23	5.62	4.56	5.25	5.03

SST: -20° C

GQL	Ambient Temperature							
	27° C		32° C		38° C		43° C	
	Q (kW)	P (kW)	Q (kW)	P (kW)	Q (kW)	P (kW)	Q (kW)	P (kW)
006PS4COX	2.75	1.59	2.57	1.61	2.19	1.81	1.80	2.11
009PS4COX	3.41	1.94	2.97	2.07	2.77	2.35	2.42	2.57
011PS4COX	4.32	2.22	4.02	2.51	3.59	2.81	3.15	3.07
015PS4COX	5.59	2.77	5.21	3.13	4.48	3.32	4.13	3.73
018PS4COX	7.37	3.73	6.84	4.03	6.17	4.41	5.57	4.89
021PS4COX	8.10	4.12	7.76	4.47	6.82	4.85	6.37	5.30

SST: -15° C

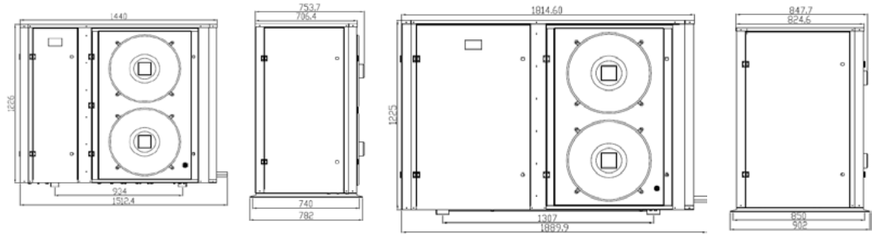
GQL	Ambient Temperature							
	27° C		32° C		38° C		43° C	
	Q (kW)	P (kW)	Q (kW)	P (kW)	Q (kW)	P (kW)	Q (kW)	P (kW)
006PS4COX	3.37	1.63	2.99	1.75	2.55	1.85	2.24	2.15
009PS4COX	4.07	2.00	3.58	2.18	3.25	2.45	2.91	2.67
011PS4COX	5.10	2.32	4.78	2.47	4.16	2.93	3.84	3.17
015PS4COX	6.47	2.93	6.25	3.33	5.34	3.51	4.96	3.96
018PS4COX	8.85	3.99	8.11	4.30	7.31	4.71	6.72	5.12
021PS4COX	9.95	4.45	9.08	4.74	8.10	5.16	7.80	5.64

Notes: the variable condition data is based on the national standard GB/T 21363 requirements, return temperature 5°C;
For LT Scroll Fixed Speed low loop temperature special CDU, the product type covers 2HP to 7HP; the product code is COL;
All parameters (performance, dimensions) are the same as for conventional units, except for the applied ambient temperature range.

Technical Parameters of LT Fixed Speed CDU (>7HP) 380V/3PH/50Hz

GQL			GQL036PS4 COX	GQL050PS4 COX	GQL072PS4 COX
HP			9	12	16
Refrigerant				R404A	
Casing Type			M6	M6	M7
R404A	Nominal Cooling Capacity (1)	kW	10.97	15.12	20.60
	Nominal Input Power (1)	kW	5.77	7.81	11.16
COP			1.90	1.94	1.85
Compressor	Quantity		1	1	2
	Model		ZFI36KQE	ZFI50KQE	ZFI36KQE
	Nominal Power	HP	1x8	1x10	1x4
Crankcase Heating Belt	Quantity x Power		1x75	190	2x75
Noise	dB(A)	(2)			
Fan Motor	Quantity x Diameter	mm	1xØ500	1xØ500	1xØ500
	Air Volume	m^3/h	10540	10540	10540
Total Current	Fan Nominal Current	A	2x0.7	2x0.7	2x0.7
	Compressor Starting current	A	1x102	1x100	2x102
	Compressor Nominal Current	A	1x16	1x25	2x16
Factory Setting for Over Current Protection		A	16	25	16x2
Reservoir Volume		L	8	14	19
Lubricating Oil			RL 32-3MAF/RL 32H		
Oil Charge		L	0.74	0.74	1.36
Connection	Gas Return	inch	7/8"	1-3/8"	1-3/8"
	Liquid Line	inch	5/8"	5/8"	5/8"
Dimension			1525X754X1257		1870X873X1257
Weight		kg	225	249	323

M6 **M7**



(1) Testing conditions of nominal cooling capacity and nominal power: National standard medium temperature working conditions SST -23° C, ambient temperature 32° C, gas return temperature 5° C.
(2) Noise measurement standard: dB(A)@1m, different operating environment may lead to different noise values. Affected by wall sound reflection and other factors may lead to differences between measured values and nominal values at the installation field. Acoustic attenuation due to distance only exists in theory. Sound reflection and resonance may lead to different results of measurement, including total noise and frequency.

Model Selection Table of LT Fixed Speed CDU (>7HP) 380V/3PH/50Hz

	R404A	Ambient Temperature									
		27 °C		32 °C		38°C		43°C		48°C	
	GQL	Q(kW)	P (kW)	Q(kW)	P (kW)	Q(kW)	P (kW)	Q(kW)	P (kW)	Q(kW)	P (kW)
SST -40 °C	GQL036PS4COX	5.82	4.07	5.63	4.45	5.44	5.11	5.17	5.91	4.87	6.36
	GQL050PS4COX	8.40	5.61	8.06	6.32	7.53	6.95	7.11	8.43	6.18	9.31
	GQL072PS4COX	10.98	7.54	10.71	8.36	10.81	9.94	11.53	11.09	9.08	9.96
SST -35 °C	GQL036PS4COX	7.17	4.38	7.06	4.85	6.55	5.31	6.37	5.99	5.93	6.77
	GQL050PS4COX	9.99	5.95	9.76	6.62	9.36	7.50	7.98	8.98	7.59	9.61
	GQL072PS4COX	13.55	8.32	13.27	9.13	12.94	10.24	11.88	11.38	10.83	12.74
SST -30 °C	GQL036PS4COX	8.63	4.72	8.47	5.16	7.96	5.72	7.69	6.28	7.27	7.09
	GQL050PS4COX	12.00	6.35	11.57	7.11	10.38	9.05	9.71	9.47	9.47	10.00
	GQL072PS4COX	16.49	9.15	16.22	9.89	15.10	10.81	15.11	11.94	13.67	13.69
SST -25 °C	GQL036PS4COX	10.34	5.07	10.17	5.58	9.98	6.21	9.11	6.74	8.67	7.51
	GQL050PS4COX	14.21	6.93	14.04	7.59	11.91	9.83	11.96	9.91	11.32	10.46
	GQL072PS4COX	19.85	9.99	19.41	10.60	18.89	11.33	17.34	12.66	17.37	14.12
SST -20 °C	GQL036PS4COX	12.62	5.43	12.45	5.88	11.79	6.59	10.62	7.24	10.34	8.01
	GQL050PS4COX	16.89	7.61	16.83	8.15	14.20	10.45	14.20	10.19	13.50	11.16
	GQL072PS4COX	23.70	10.58	23.44	11.21	20.99	12.83	21.56	14.15	19.27	15.23
SST -15 °C	GQL036PS4COX	14.53	5.73	13.96	6.28	13.70	7.02	12.83	7.85	/	/
	GQL050PS4COX	19.52	8.27	19.28	9.05	18.03	9.91	16.61	10.83	15.61	11.77
	GQL072PS4COX	27.35	10.73	26.77	12.37	25.68	13.24	28.97	14.43	/	/
SST -10 °C	GQL036PS4COX	17.37	6.08	16.21	6.64	15.53	7.60	14.90	8.74	/	/
	GQL050PS4COX	23.14	9.10	21.84	9.60	20.70	10.34	19.04	11.56	18.35	12.46
	GQL072PS4COX	33.97	10.88	31.98	13.77	30.92	14.75	28.75	16.02	/	/

Notes: the variable condition data is based on the national standard GB/T 21363 requirements, return temperature 5° C.

Taurus Series

Water Cooling Fixed Speed Condensing Units

Customer Values

- Compression and condensation integrated machine, flexibly installing no machine room needed, saving labor, time and investment
- Large refrigerating capacity, low noise, reliable operation
- PCB intelligent control, adjust based on load, energy efficient
- Optional RS485 remote monitor, easy and convenient remote monitoring
- Supercooling (10-30K) liquid supply for low-temperature units, suitable for projects with longer pipelines and larger height differences
- Larger water chilling condenser, suitable for harsh water systems
- No pressure vessel registration needed, easier installation

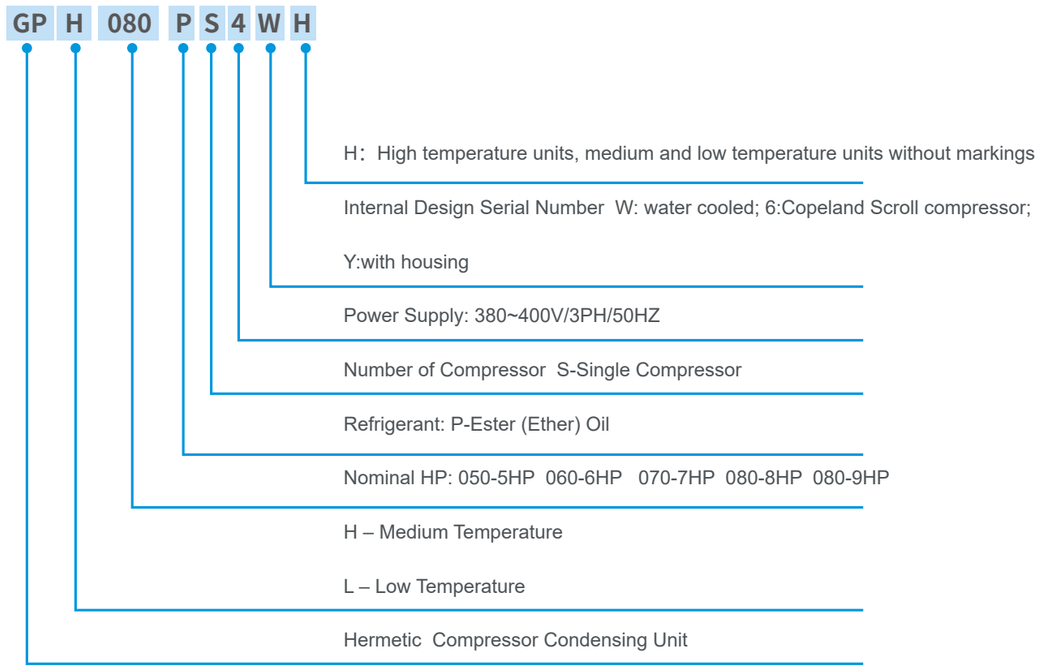
Product Features

- Adopts famous scroll compressor and enhanced vapor injection under low temperature for high reliability, high-cost efficiency and low vibration
- Intelligent control of PCB boards can adjust refrigeration output based on load, with full presence of error code for fast and convenient maintenance
- With functions like RS485 network connection and remote monitor
- Equipped with plate type heat exchanger and high liquid supercooling degree (10-30K) to enhance refrigeration output and increase COP
- Larger water chilling condenser for stable operation and no need for pressure vessel registration
- Integrated compressing and condensing unit for convenient installation
- The height of only 650mm suits for space with limitations

Product Features

- No need for a machine room or excellent ventilation
- Suitable for projects with longer pipelines and larger height differences
- Low noise, reliable operation
- 100% recycling of waste heat, usd for domestic hot water and house warming to save energy

Naming Rule



LT Water-cooled Box-type CDU Performance Parameters

Model			GPL060PS4W6Y	GPL080PS4W6Y
Refrigerant			R404A/507A	
Horse Power			6	8
Cooling Capacity		kW	7.19	9.10
Power		kW	4.35	5.19
COP		W/W	1.65	1.75
Evaporation Temperature Range		° C	-40 ~ -20	
Power Supply			380V - 3~ - 50Hz	
Compressor	Type		Silent, efficient, fully enclosed rotary compressor	
	Model		ZFI26KQE	ZFI36KQE
Total Current	Compressor Starting Current	A	74.0	102.0
	Compressor Max. Continuous Current	A	13.7	16.0
Lubricating Oil	Model		32H	
	Oil Charge	L	1.9	1.9
Oil Charge	Liquid Line	mm	15.88	15.88
	Gas Return	mm	28.58	28.58
External Dimensions (W/O Feet)		mm	1500*800*650	
External Dimensions (with Feet)		mm	1500*900*650	
Weight		kg	220	220

Nominal refrigeration capacity and nominal power test conditions: condensing temperature 40°C, evaporating temperature -30°C, gas return temperature 0°C.

HT Water-cooled Box-type CDU Performance Parameters

Model			GPH080PS4W6Y-H
Refrigerant			R404A/507A
Horse Power			8
Cooling Capacity		kW	20.6
Power		kW	5.77
COP		W/W	3.57
Evaporation Temperature Range		° C	-15 ~ 5
Power Supply			380V - 3~ - 50Hz
Compressor	Type		Silent, efficient, fully enclosed rotary compressor
	Model		ZB58KQE
Total Current	Compressor Starting Current	A	95
	Compressor Max. Continuous Current	A	15.9
Lubricating Oil	Model		32H
	Oil Charge	L	2.51
Oil Charge	Liquid Line	mm	19.05
	Gas Return	mm	34.93
External Dimensions (W/O Feet)		mm	1500*800*650
External Dimensions (with Feet)		mm	1500*900*650
Weight		kg	245

Nominal refrigeration capacity and nominal power test conditions: condensing temperature 40°C, evaporating temperature 0°C, gas return temperature 15°C.

MT Water-cooled Box-type CDU Performance Parameters

Model			GPH050PS4W6Y	GPH070PS4W6Y	GPH080PS4W6Y	GPH090PS4W6Y
Refrigerant			R404A/507A			
Horse Power			5	7	8	9
Cooling Capacity		kW	9.14	11.75	14.10	15.9
Power		kW	3.73	4.65	5.67	6.34
COP		W/W	2.45	2.53	2.49	2.51
Evaporation Temperature Range		° C	-15 ~ 0			
Power Supply			380V - 3~ - 50Hz			
Compressor	Type		Silent, efficient, fully enclosed rotary compressor			
	Model		ZB38KQE	ZB48KQE	ZB58KQE	ZB66KQE
Total Current	Compressor Starting Current	A	65.5	101.0	95.0	111.0
	Compressor Max. Continuous Current	A	12.8	14.0	15.9	17.5
Lubricating Oil	Model		32H			
	Oil Charge	L	2.07	1.8	2.51	3.25
Oil Charge	Liquid Line	mm	15.88	15.88	15.88	15.88
	Gas Return	mm	28.58	28.58	34.93	34.93
External Dimensions (W/O Feet)		mm	1500*800*650			
External Dimensions (with Feet)		mm	1500*900*650			
Weight		kg	215	220	235	248

Nominal refrigeration capacity and nominal power test conditions: condensing temperature 40°C, evaporating temperature 0°C, gas return temperature 15°C.

Adventer Series

Air Cooler

SOLO

(Cooling capacity 1.44~15.69kW)

DUO

(Cooling capacity 1.6~20.67kW)

Customer Values

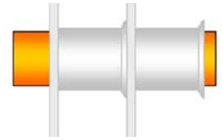
- Available for regular refrigerants and numerous models for more application
- High energy efficiency, low operation cost, safe & reliable
- Long range and equal food temperature in all zones
- High efficiency defrost, quick cooling effect, small fluctuation temperature for food preservation
- Anti-corrosion and long service life
- Energy saving 5%-10%*

Product Features

- Inner grooved tube and corrugated fins for larger heat exchange area and higher heat exchange efficiency
- Fine flanged fins, fixed and stable
- High efficiency defrosting, longer intervals and short defrosting time
- After high pressure powder spray double coatings, the fins are corrosion proof and easy to clean
- Less vapor generation during defrosting and easy to maintain and replace defrosting heating tubes
- Metal plate parts are all coated for corrosion resistance and the coating materials meet food hygiene requirements

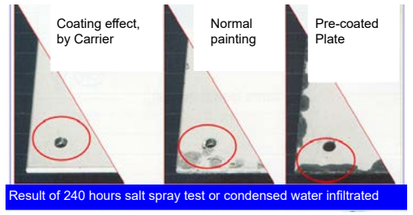
Inner grooved tube

Corrugated fin



Flanging fins

Coating treatment of external surface



Result of salt spray test

* In comparison with the single-outlet air coolers of the same series provided by competitors

Naming Rule of Air Cooler

SOLO 3 0 E 2 64B M X X X

- Non-standard Optional
- Working Conditions
- Coil type
- Number of Fans
- Defrost Type
  - A: Air defrosting
  - E: Electric defrosting
- Fan Diameter x10 (mm)
- Air Cooler Type
  - SOLO: Single-side draw-through
  - DUO: Double-side blow-through

*Range value description: Range is effective at ambient temperature 20ºC, mounted on the ceiling.
Note: After the air cooler is installed in the field, the actual range value may be different from that stated in the table for the following reasons: shape of the warehouse, load of the warehouse, installation of the air coolers, frosting inside the air cooler in operation and temperature difference at the inlet and outlet of the air coolers.
Noise data in the table are measured 1m from the fan axis in accordance with the EN13487 Test Standard. In actual application, the values may be lower due to measurement distance.

Table of Non-standard and Optional Parts

Item	Non-standard Parts, Optional Parts and Special Standard Parts	SOLO 30/35	DUO 30/35
1	Natural defrosting	Standard	Standard
2	Electric defrosting	Standard	Standard
3	Dual-layer drain pan	Standard	Standard
4	Dual-layer insulation water pan	Non-standard	Non-standard
5	Coil protective coating	Non-standard	Non-standard
6	Hot gas defrosting	Non-standard	\

Models of SOLO

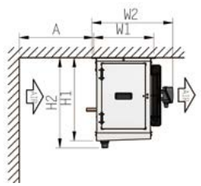
SOLO 30/35 1M

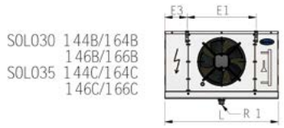
SOLO 30/35 2M

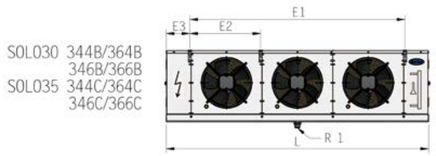
SOLO 30/35 3M

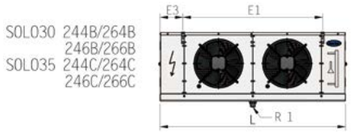
SOLO 30/35 4M

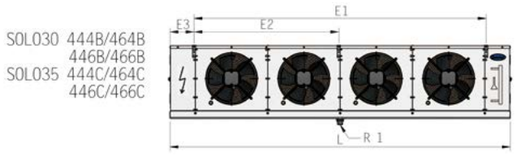
Dimensions of SOLO











Performance Parameters (SOLO 30)

Type SOLO	Fan Dimension (Cm)	Number of Motors	Coil Rows	Fin Distance	Coil Code	Cooling Capacity R404A SC2 Heat Transfer Temperature Difference 8K Evaporating Temperature -8°C kW	Cooling Capacity R404A SC3 Heat Transfer Temperature Difference 7K Evaporating Temperature -25°C kW	Pipeline Volume dm³	Heat Exchange Area m²	Air Volume m³/h	Air Throw m	Sound Pressure dB(A)	Connection SC2 Inlet Dimension inch	Connection SC2 Outlet Dimension inch	Connection SC3 Inlet Dimension inch	Connection SC3 Outlet Dimension inch	Fan 50 Hz Rotation Speed min⁻¹	Input Power W	Input Current A	Power Supply V
30/35 1M	30	1	4	4	B	2.15	1.6	2	7.1	1421	6	57	1/2"	5/8"	1/2"	5/8"	1363	65	0.29	230V-1
	30	1	6	4	B	2.67	1.99	3	10.6	1324	5	57	1/2"	5/8"	1/2"	5/8"	1359	69	0.29	230V-1
	30	1	4	6	B	1.88	1.44	2	5.1	1490	7	57	1/2"	5/8"	1/2"	5/8"	1367	64	0.28	230V-1
	30	1	6	6	B	2.4	1.88	3	7.9	1366	6	57	1/2"	5/8"	1/2"	5/8"	1361	66	0.29	230V-1
30/35 2M	30	2	4	4	B	4.56	3.46	3.9	14.7	2842	8	60	1/2"	5/8"	1/2"	7/8"	1363	130	0.57	230V-1
	30	2	6	4	B	5.21	4.12	5.8	22.1	2647	7	60	1/2"	7/8"	1/2"	7/8"	1359	137	0.59	230V-1
	30	2	4	6	B	3.85	3.04	3.9	11	2979	9	60	1/2"	5/8"	1/2"	5/8"	1367	129	0.57	230V-1
	30	2	6	6	B	4.93	3.87	5.8	16.5	3731	8	60	1/2"	5/8"	1/2"	5/8"	1361	132	0.58	230V-1
30/35 3M	30	3	4	4	B	6.87	5.13	5.8	22.3	4263	9	62	1/2"	7/8"	1/2"	7/8"	1363	196	0.86	230V-1
	30	3	6	4	B	7.84	6.01	8.6	33.5	3971	8	62	1"1/8	7/8"	1"1/8	1"1/8	1359	206	0.88	230V-1
	30	3	4	6	B	5.92	4.63	5.8	16.7	4469	10	62	1/2"	7/8"	1/2"	7/8"	1367	193	0.85	230V-1
	30	3	6	6	B	7.22	5.68	8.6	25.1	4097	9	62	1/2"	7/8"	1/2"	7/8"	1361	198	0.87	230V-1
30/35 4M	30	4	4	4	B	8.92	6.59	7.6	30	5684	9	63	1/2"	7/8"	1"1/8	1"1/8	1363	261	1.15	230V-1
	30	4	6	4	B	10.78	8.12	11.4	44.9	5295	8	63	1"1/8	1"1/8	1"1/8	1"1/8	1359	274	1.17	230V-1
	30	4	4	6	B	7.76	5.94	7.6	22.4	5959	10	63	1/2"	7/8"	1"1/8	1"1/8	1367	257	1.14	230V-1
	30	4	6	6	B	9.72	7.7	11.4	33.6	5462	9	63	1"1/8	7/8"	1"1/8	1"1/8	1361	264	1.16	230V-1

Model	External Dimension L mm	W1 mm	W2 mm	H1 mm	H2 mm	E1 mm	E2 mm	E3 mm	A mm	Electric Defrosting 230V -1 Coil W	Water Pan W	Total kW	Weight Net Weight P kg
SOLO 30 144B	790	340	460	470	510	485	-	155	420	750	300	0.8	27
SOLO 30 164B	790	340	460	470	510	485	-	155	420	750	300	0.8	30
SOLO 30 146B	790	340	460	470	510	485	-	155	420	750	300	1.05	27
SOLO 30 166B	790	340	460	470	510	485	-	155	420	750	300	1.05	29
SOLO 30 244B	1265	340	460	470	510	950	-	155	420	2100	500	1.9	44
SOLO 30 264B	1265	340	460	470	510	950	-	155	420	2100	500	1.9	50
SOLO 30 246B	1265	340	460	470	510	950	-	155	420	2100	500	2.6	43
SOLO 30 266B	1265	340	460	470	510	950	-	155	420	2100	500	2.6	48
SOLO 30 344B	1730	340	460	470	510	1420	470	155	420	2850	700	2.6	65
SOLO 30 364B	1730	340	460	470	510	1420	470	155	420	2850	700	2.6	73
SOLO 30 346B	1730	340	460	470	510	1420	470	155	420	2850	700	3.55	63
SOLO 30 366B	1730	340	460	470	510	1420	470	155	420	2850	700	3.55	69
SOLO 30 444B	2195	340	460	470	510	1885	935	155	420	3600	900	3.3	92
SOLO 30 464B	2195	340	460	470	510	1885	935	155	420	3600	900	3.3	103
SOLO 30 446B	2195	340	460	470	510	1885	935	155	420	3600	900	4.5	89
SOLO 30 466B	2195	340	460	470	510	1885	935	155	420	3600	900	4.5	98

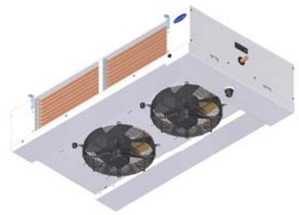
Performance Parameters (SOLO 35)

Model SOLO						Cooling Capacity R404A						Connection				Fan 50 Hz			
						SC2		SC3				SC2		SC3					
Type SOLO	Fan Dimension (Cm)	Number of Motors	Coil Rows	Fin Distance	Coil Code	Heat Transfer Temperature Difference 8K / Evaporating Temperature -8°C kW		Heat Transfer Temperature Difference 7K / Evaporating Temperature -25°C kW		Pipeline Volume	Heat Exchange Area	Air Volume	Air Throw	Sound Pressure	Inlet Dimension	Outlet Dimension	Inlet Dimension	Outlet Dimension	Rotation Speed	Input Power	Input Current	Power Supply
										dm³	m²	m³/h	m	dB(A)	inch	inch	inch	inch	min⁻¹	W	A	V
30/35 1M	35	1	4	4	C	3.22	2.38			2.5	8.9	2325	6	63	1/2"	5/8"	1/2"	5/8"	1336	157	0.69	230V-1
	35	1	6	4	C	4	3.01			3.8	13.4	2223	6	63	1/2"	5/8"	1/2"	7/8"	1321	166	0.73	I230V-1
	35	1	4	6	C	2.85	2.12			2.5	6.7	2555	6.5	63	1/2"	5/8"	1/2"	5/8"	1337	158	0.7	I230V-1
	35	1	6	6	C	3.66	2.72			3.8	10	2440	6.5	63	1/2"	5/8"	1/2"	5/8"	1320	167	0.74	I?30V-1
30/35 2M	35	2	4	4	C	6.36	4.76			4.8	18.4	4651	8	66	1/2"	7/8"	1/2"	7/8"	1336	315	1.38	I230V-1
	35	2	6	4	C	7.94	5.9			7.2	27.6	4447	8	66	1/2"	7/8"	1/2"	1"1/8	1321	331	1.46	I230V-1
	35	2	4	6	C	5.55	4.14			4.8	13.7	5110	8.5	66	1/2"	7/8"	1/2"	7/8"	1337	316	1.4	I230V-1
	35	2	6	6	C	7.39	5.5			7.2	20.6	4880	8.5	66	1/2"	7/8"	1/2"	7/8"	1320	333	1.48	230V-1
30/35 3M	35	3	4	4	C	9.72	7.28			7.2	27.9	6976	9	68	1"1/8	7/8"	1"1/8	1"1/8	1336	472	2.07	I230V-1
	35	3	6	4	C	11.75	8.73			10.8	41.9	6670	9	68	1"1/8	1"1/8	1"1/8	1"1/8	1321	497	2.19	I230V-1
	35	3	4	6	C	8.62	6.4			7.2	20.9	7665	9.5	68	1"1/8	7/8"	1"1/8	1"1/8	1337	475	2.1	I?30V-1
	35	3	6	6	C	10.85	8.08			10.8	31.3	7321	9.5	68	1"1/8	1"1/8	1"1/8	1"1/8	1320	500	2.22	I230V-1
30/35 4M	35	4	4	4	C	12.85	9.4			9.5	37.4	9301	9	69	1"1/8	1"1/8	1"1/8	1"1/8	1336	630	2.76	I230V-1
	35	4	6	4	C	15.69	11.69			14.2	56.1	8894	9	69	1"1/8	1"1/8	1"1/8	1"3/8	1321	662	2.92	I230V-1
	35	4	4	6	C	11.46	8.47			9.5	28	10220	9.5	69	1"1/8	1"1/8	1"1/8	1"1/8	1337	633	2.8	I230V-1
	35	4	6	6	C	14.43	10.77			14.2	42	9761	9.5	69	1"1/8	1"1/8	1"1/8	1"3/8	1320	667	2.96	I230V-1

Model	External Dimension									Electric Defrosting 230V -1			Weight Net Weight
	L	W1	W2	H1	H2	E1	E2	E3	A	Coil	Water Pan	Total	P
	mm	mm	mm	mm	mm	mm	mm	mm	mm	W	W	kW	kg
SOLO 35 144C	840	340	460	520	560	535	-	155	420	1500	350	1.35	31
SOLO 35 164C	840	340	460	520	560	535	-	155	420	1500	350	1.35	34
SOLO 35 146C	840	340	460	520	560	535	-	155	420	1500	350	1.85	30
SOLO 35 166C	840	340	460	520	560	535	-	155	420	1500	350	1.85	32
SOLO 35 244C	1365	340	460	520	560	1050	-	155	420	2250	550	2.05	52
SOLO 35 264C	1365	340	460	520	560	1050	-	155	420	2250	550	2.05	59
SOLO 35 246C	1365	340	460	520	560	1050	-	155	420	2250	550	2.8	50
SOLO 35 266C	1365	340	460	520	560	1050	-	155	420	2250	550	2.8	55
SOLO 35 344C	1880	340	460	520	560	1570	520	155	420	3150	750	2.85	71
SOLO 35 364C	1880	340	460	520	560	1570	520	155	420	3150	750	2.85	83
SOLO 35 346C	1880	340	460	520	560	1570	520	155	420	3150	750	3.9	67
SOLO 35 366C	1880	340	460	520	560	1570	520	155	420	3150	750	3.9	78
SOLO 35 444C	2395	340	460	520	560	2085	1035	155	420	4200	950	3.75	92
SOLO 35 464C	2395	340	460	520	560	2085	1035	155	420	4200	950	3.75	106
SOLO 35 446C	2395	340	460	520	560	2085	1035	155	420	4200	950	5.15	88
SOLO 35 466C	2395	340	460	520	560	2085	1035	155	420	4200	950	5.15	100

Models of DUO

DUO 30/35 1M

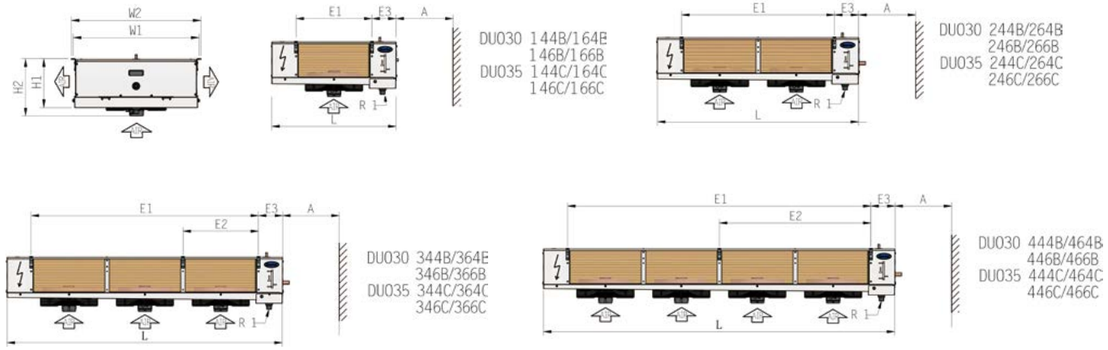


DUO 30/35 2M

DUO 30/35 3M

DUO 30/35 4M

Dimensions of DUO



Performance Parameters (DUO 30)

Model DUO						Cooling Capacity R404A								Connection				Fan 50 Hz			
						SC1		SC2						SC1		SC2					
Type DUO	Fan Dimension (Cm)	Number of Motors	Coil Rows	Fin Distance	Coil Code	Heat Transfer Temperature Difference 10K / Evaporating Temperature 0°C kW		Heat Transfer Temperature Difference 8K / Evaporating Temperature -8°C kW		Pipeline Volume	Heat Exchange Area	Air Volume	Air Throw	Sound Pressure	Inlet Dimension	Outlet Dimension	Inlet Dimension	Outlet Dimension	Rotation Speed	Input Power	Input Current	Power Supply
										dm³	m²	m³/h	m	dB(A)	inch	inch	inch	inch	min⁻¹	W	A	V
30/35 1M	30	1	4	4	B	2.87	1.91			2	7.1	1458	2 X 6	56	1/2"	5/8"	1/2"	5/8"	1363	65	0.29	230V -1
	30	1	6	4	B	3.46	2.29			3	10.6	1316	2 X 5	56	1/2"	5/8"	1/2"	5/8"	1359	69	0.29	230V -1
	30	1	4	6	B	2.39	1.6			2	5.3	1478	2 X 7	56	1/2"	5/8"	1/2"	5/8"	1367	64	0.28	230V -1
	30	1	6	6	B	3.02	2			3	7.9	1355	2 X 6	56	1/2"	5/8"	1/2"	5/8"	1361	66	0.29	230V -1
30/35 2M	30	2	4	4	B	5.6	3.75			3.9	14.7	2915	2 X 8	59	1/2"	5/8"	1/2"	5/8"	1363	130	0.57	230V -1
	30	2	6	4	B	6.56	4.59			5.8	22.1	2632	2 X 7	59	1/2"	7/8"	1/2"	5/8"	1359	137	0.59	230V -1
	30	2	4	6	B	4.65	3.12			3.9	11	2956	2 X 9	59	1/2"	5/8"	1/2"	5/8"	1367	129	0.57	230V -1
	30	2	6	6	B	6.04	4.01			5.8	16.5	2711	2 X 8	59	1/2"	5/8"	1/2"	5/8"	1361	132	0.58	230V -1
30/35 3M	30	3	4	4	B	8.73	5.81			5.8	22.3	4373	2 X 9	61	1/2"	7/8"	1/2"	7/8"	1363	196	0.86	230V -1
	30	3	6	4	B	10.04	6.64			8.6	33.5	3948	2 X 8	61	1/2"	7/8"	1/2"	7/8"	1359	206	0.88	230V -1
	30	3	4	6	B	7.23	4.86			5.8	16.7	4435	2 X 10	61	1/2"	7/8"	1/2"	5/8"	1367	193	0.85	230V -1
	30	3	6	6	B	8.85	5.89			8.6	25.1	4066	2 X 9	61	1/2"	7/8"	1/2"	7/8"	1361	198	0.87	230V -1
30/35 4M	30	4	4	4	B	11.46	7.69			7.6	30	5831	2 X 9	62	1"1/8	7/8"	1"1/8	7/8"	1363	261	1.15	230V -1
	30	4	6	4	B	13.41	8.94			11.4	44.9	5264	2 X 8	62	1"1/8	1"1/8	1"1/8	7/8"	1359	274	1.17	230V -1
	30	4	4	6	B	9.54	6.33			7.6	22.4	5913	2 X 10	62	1/2"	7/8"	1/2"	7/8"	1367	257	1.14	230V -1
	30	4	6	6	B	11.51	7.68			11.4	33.6	5422	2 X 9	62	1"1/8	7/8"	1"1/8	7/8"	1361	264	1.16	230V -1

Model	External Dimension									Electric Defrosting 230V -1			Weight Net Weight
	L	W1	W2	H1	H2	E1	E2	E3	A Min	Coil	Water Pan	Total	P
	mm	mm	mm	mm	mm	mm	mm	mm	mm	W	W	kW	kg
DUO 30 144B	795	770	795	295	350	465	-	165	795	500	300	0.8	31
DUO 30 164B	795	770	795	295	350	465	-	165	795	500	300	0.8	35
DUO 30 146B	795	770	795	295	350	465	-	165	795	500	300	0.8	31
DUO 30 166B	795	770	795	295	350	465	-	165	795	500	300	0.8	34
DUO 30 244B	1260	770	795	295	350	930	-	165	1260	1400	500	1.9	51
DUO 30 264B	1260	770	795	295	350	930	-	165	1260	1400	500	1.9	57
DUO 30 246B	1260	770	795	295	350	930	-	165	1260	1400	500	1.9	50
DUO 30 266B	1260	770	795	295	350	930	-	165	1260	1400	500	1.9	55
DUO 30 344B	1725	770	795	295	350	1395	470	165	1725	1900	700	2.6	75
DUO 30 364B	1725	770	795	295	350	1395	470	165	1725	1900	700	2.6	85
DUO 30 346B	1725	770	795	295	350	1395	470	165	1725	1900	700	2.6	73
DUO 30 366B	1725	770	795	295	350	1395	470	165	1725	1900	700	2.6	80
DUO 30 444B	2190	770	795	295	350	1860	935	165	2190	2400	900	3.3	107
DUO 30 464B	2190	770	795	295	350	1860	935	165	2190	2400	900	3.3	119
DUO 30 446B	2190	770	795	295	350	1860	935	165	2190	2400	900	3.3	103
DUO 30 466B	2190	770	795	295	350	1860	935	165	2190	2400	900	3.3	114

Performance Parameters (DUO 35)

Model DUO						Cooling Capacity R404A								Connection				Fan 50 Hz			
						SC1		SC2						SC1		SC2					
Type DUO	Fan Dimension (Cm)	Number of Motors	Coil Rows	Fin Distance	Coil Code	Heat Transfer Temperature Difference 10K / Evaporating Temperature 0°C kW		Heat Transfer Temperature Difference 8K / Evaporating Temperature -8°C kW		Pipeline Volume	Heat Exchange Area	Air Volume	Air Throw	Sound Pressure	Inlet Dimension	Outlet Dimension	Inlet Dimension	Outlet Dimension	Rotation Speed	Input Power	Input Current	Power Supply
										dm³	m²	m³/h	m	dB(A)	inch	inch	inch	inch	min⁻¹	W	A	V
30/35 1M	35	1	4	4	C	4.13	2.74			2.5	8.9	2418	2 X 7,5	62	1/2"	5/8"	1/2"	5/8"	1360	157	0.69	230V -1
	35	1	6	4	C	5.28	3.54			3.8	13.4	2153	2 X 6,5	62	1/2"	5/8"	1/2"	5/8"	1272	166	0.73	230V -1
	35	1	4	6	C	3.39	2.23			2.5	6.7	2471	2 X 8,5	62	1/2"	5/8"	1/2"	5/8"	1362	158	0.7	230V -1
	35	1	6	6	C	4.67	3.11			3.8	10	2310	2 X 7,5	62	1/2"	5/8"	1/2"	5/8"	1316	167	0.74	230V -1
30/35 2M	35	2	4	4	C	8.35	5.58			4.8	18.4	4836	2 X 9,5	65	1/2"	7/8"	1/2"	7/8"	1360	315	1.38	230V -1
	35	2	6	4	C	10.45	6.92			7.2	27.6	4307	2 X 8,5	65	1/2"	7/8"	1/2"	7/8"	1272	331	1.46	230V -1
	35	2	4	6	C	6.99	4.63			4.8	13.7	4943	2 X 10,5	65	1/2"	7/8"	1/2"	5/8"	1362	316	1.4	230V -1
	30	2	6	6	C	9.3	6.19			7.2	20.6	4620	2 X 9,5	65	1/2"	7/8"	1/2"	7/8"	1316	333	1.48	230V -1
30/35 3M	35	3	4	4	C	12.54	8.35			7.2	27.9	7254	2 X 10,5	67	1/2"	7/8"	1/2"	7/8"	1360	472	2.07	230V -1
	35	3	6	4	C	15.76	10.49			10.8	41.9	6460	2 X 9,5	67	1"1/8	1"1/8	1"1/8	1"1/8	1272	497	2.19	230V -1
	35	3	4	6	C	10.48	7.05			7.2	20.9	7414	2 X 11,5	67	1/2"	7/8"	1/2"	7/8"	1362	475	2.1	230V -1
	35	3	6	6	C	14.11	9.43			10.8	31.3	6929	2 X 10,5	67	1"1/8	1"1/8	1"1/8	7/8"	1316	500	2.22	230V -1
30/35 4M	35	4	4	4	C	16.59	11.02			9.5	37.4	9672	2 X 10,5	68	1"1/8	1"1/8	1"1/8	1"1/8	1360	630	2.76	230V -1
	35	4	6	4	C	20.67	13.93			14.2	56.1	8613	2 X 9,5	68	1"1/8	1"1/8	1"1/8	1"1/8	1272	662	2.92	230V -1
	35	4	4	6	C	13.85	9.2			9.5	28	9886	2 X 11,5	68	1/2"	7/8"	1/2"	7/8"	1362	633	2.8	230V -1
	35	4	6	6	C	18.33	12.33			14.2	42	9239	2 X 10,5	68	1"1/8	1"1/8	1"1/8	1"1/8	1316	667	2.96	230V -1

Model	External Dimension									Electric Defrosting 230V -1			Weight Net Weight
	L	W1	W2	H1	H2	E1	E2	E3	A Min	Coil	Water Pan	Total	P
	mm	mm	mm	mm	mm	mm	mm	mm	mm	W	W	kW	kg
DUO 35 144C	845	820	845	320	370	515	-	165	845	1000	400	1.4	37
DUO 35 164C	845	820	845	320	370	515	-	165	845	1000	400	1.4	41
DUO 35 146C	845	820	845	320	370	515	-	165	845	1000	400	1.4	36
DUO 35 166C	845	820	845	320	370	515	-	165	845	1000	400	1.4	38
DUO 35 244C	1360	820	845	320	370	1030	-	165	1360	1500	600	2.1	62
DUO 35 264C	1360	820	845	320	370	1030	-	165	1360	1500	600	2.1	69
DUO 35 246C	1360	820	845	320	370	1030	-	165	1360	1500	600	2.1	60
DUO 35 266C	1360	820	845	320	370	1030	-	165	1360	1500	600	2.1	65
DUO 35 344C	1875	820	845	320	370	1550	520	165	1875	2100	800	2.9	85
DUO 35 364C	1875	820	845	320	370	1550	520	165	1875	2100	800	2.9	99
DUO 35 346C	1875	820	845	320	370	1550	520	165	1875	2100	800	2.9	80
DUO 35 366C	1875	820	845	320	370	1550	520	165	1875	2100	800	2.9	93
DUO 35 444C	2390	820	845	320	370	2065	1035	165	2390	2800	1000	3.8	110
DUO 35 464C	2390	820	845	320	370	2065	1035	165	2390	2800	1000	3.8	126
DUO 35 446C	2390	820	845	320	370	2065	1035	165	2390	2800	1000	3.8	105
DUO 35 466C	2390	820	845	320	370	2065	1035	165	2390	2800	1000	3.8	119

Pleasure Series

Air Cooler SOLO30/35 DUO35

Customer Values

- Multiple options, more applications
- Adapt to applications with various humidity and temperatures
- Suitable for cold rooms and processing rooms with -18 ~ +10°C storage temperature
- Highly efficient defrosting, saving operating costs, small fluctuations in storage temperature, ensuring goods safety and freshness
- High heat exchange efficiency, lower energy consumption, faster cooling speed, 6-11% operating cost saving
- Easy to maintain
- Longer service life, easy to clean and maintain, reducing maintenance costs

Product Features

- A cooling capacity of 1.4 ~ 20.7kw, including two categories SOLO\DUO of 46 models
- 4.5mm/6.3mm fin spacing, flexible options
- Suitable for SC1 \ SC2 \ SC3 working conditions, and more applications
- Optional electric defrost/air defrost
- Short defrost time, high efficiency, low energy consumption
- Highly efficient corrugated fin + internal thread heat exchange tube, increased heat exchange area, higher heat exchange efficiency
- Side panel hinges
- High pressure powder sprayed double coated enclosure

* SC1: storage temperature 10°C, usually for fruit and vegetable storage environment, suitable for supermarkets.
SC2: storage temperature 0°C, usually for daily distribution needs, suitable for supermarkets and distribution.
SC3: storage temperature -18°C, usually for low temperature storage, suitable for cold storage.

Application

Pleasure Series - Single-outlet - SOLO

- 30 different models
- Cooling capacity: 1.4 kW ~ 26.5 kW
- Suitable for SC1, SC2, SC3 conditions

▼

-18 °C to + 10 °C logistics cold storage, supermarket distribution warehouse, small and medium cold storage.

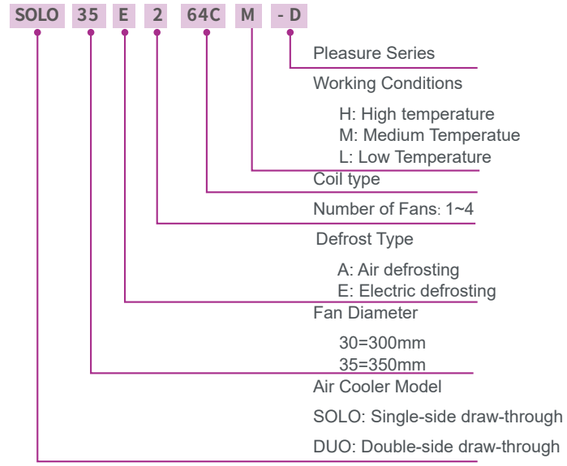
Pleasure Series - Double-outlet - DUO

- 16 different models
- Cooling capacity: 2.7 kW ~ 20.7 kW
- Suitable for SC1, SC2 conditions

▼

0 °C to + 10 °C operating room, processing room, medium and high temperature fruit and vegetable warehouse, laboratory.

Naming Rule of Air Cooler



Non-standard Option

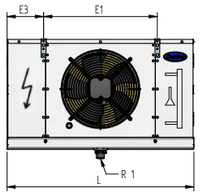
Item	Non-standard Parts	Description
1	Coil protective coating (Epoxy coating, Hydrophilic aluminum foil, etc)	Non-standard
2	EBM Motor	High-end motor brands
3	Fin Distance: 9mm	Optional for harsh applications to reduce fin frosting
4	Wind ring heating tape	Optional for harsh application conditions to avoid abnormal fan due to frosting of the air ring
5	Dual-layer insulation water pan	Avoid condensation on the water pan surface, causing water dripping
6	Hot gas defrosting	Less frost, higher efficiency and lower energy consumption

Neutral Salt Spray Test of Coil Coating

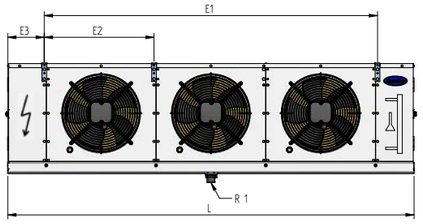
Type of anticorrosive coating	Neutral salt spray test (H)
Hydrophilic aluminum foil	500
Epoxy coating	>1500

Dimensions of SOLO

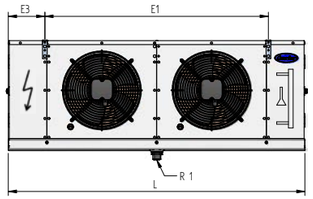
SOL030 144B/164B
146B/166B
SOL035 144C/164C
146C/166C



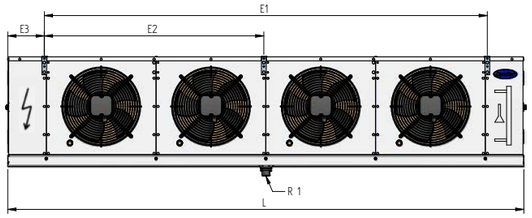
SOL030 344B/364B
346B/366B
SOL035 344C/364C
346C/366C

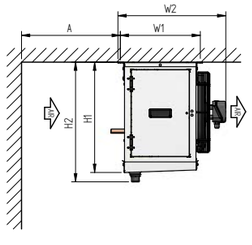


SOL030 244B/264B
246B/266B
SOL035 244C/264C
246C/266C



SOL030 444B/464B
446B/466B
SOL035 444C/464C
446C/466C





Performance Parameters (SOLO 30)

Model SOLO (Pleasure Series)						Cooling Capacity R404A								Connection				Fan 50 Hz			
						SC2		SC3						SC2		SC3					
Type SOLO	Fan Dimension (Cm)	Number of Motors	Coil Rows	Fin Distance	Coil Code	Heat transfer Temperature Difference 8K	Evaporating Temperature -8° C	Heat Transfer Temperature Difference 7K	Evaporating Temperature -25° C	Pipeline Volume	Heat Exchange Area	Air Volume	Air Throw	Sound Pressure	Inlet Dimension	Outlet Dimension	Inlet Dimension	Outlet Dimension	Rotation Speed	Input Power	Input Current	Power Supply
						kW		kW		dm^3	m^2	m^3/h	m	dB(A)	inch	inch	inch	inch	min^{-1}	W	A	V
SOLO	30	1	4	4	B	2.15		1.6		2	7.1	1421	6	57	1/2"	5/8"	1/2"	5/8"	1363	85	0.39	230V -1
SOLO	30	1	4	6	B	1.88		1.44		2	5.1	1490	7	57	1/2"	5/8"	1/2"	5/8"	1367	85	0.39	230V -1
SOLO	30	2	4	4	B	4.56		3.46		3.9	14.7	2842	8	60	1/2"	5/8"	1/2"	7/8"	1363	170	0.78	230V -1
SOLO	30	2	4	6	B	3.85		3.04		3.9	11	2979	9	60	1/2"	5/8"	1/2"	5/8"	1367	170	0.78	230V -1

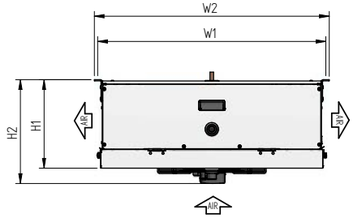
Model (Pleasure Series)	External Dimension									Electric Defrosting			Weight
										230V - 1			Net Weight
	L	W1	W2	H1	H2	E1	E2	E3	A	Coil	Water Pan	Total	P
	mm	mm	mm	mm	mm	mm	mm	mm	mm	W	W	kW	kg
SOLO 30 144B	790	340	460	470	510	485	-	155	420	500	300	0.8	27
SOLO 30 146B	790	340	460	470	510	485	-	155	420	750	300	1.05	27
SOLO 30 244B	1265	340	460	470	510	950	-	155	420	1400	500	1.9	44
SOLO 30 246B	1265	340	460	470	510	950	-	155	420	2100	500	2.6	43

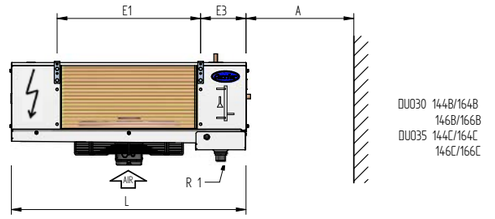
Performance Parameters (SOLO 35)

Model SOLO (Pleasure Series)						Cooling Capacity R404A									Connection				Fan 50 Hz			
						SC2		SC3							SC2		SC3					
Type SOLO	Fan Dimension (Cm)	Number of Motors	Coil Rows	Fin Distance	Coil Code	Heat transfer Temperature Difference 8K	Evaporating Temperature -8° C	Heat Transfer Temperature Difference 7K	Evaporating Temperature -25° C	Pipeline Volume	Heat Exchange Area	Air Volume	Air Throw	Sound Pressure	Inlet Dimension	Outlet Dimension	Inlet Dimension	Outlet Dimension	Rotation Speed	Input Power	Input Current	Power Supply
						kW		kW		dm^3	m^2	m^3/h	m	dB(A)	inch	inch	inch	inch	min^{-1}	W	A	V
SOLO	35	1	4	4	C	3.22		2.38		2.5	8.9	2325	6	63	1/2"	5/8"	1/2"	5/8"	1336	163	0.79	230V -1
SOLO	35	1	6	4	C	4		3.01		3.8	13.4	2223	6	63	1/2"	5/8"	1/2"	7/8"	1321	163	0.79	230V -1
SOLO	35	1	4	6	C	2.85		2.12		2.5	6.7	2555	6.5	63	1/2"	5/8"	1/2"	5/8"	1337	163	0.79	230V -1
SOLO	35	1	6	6	C	3.66		2.72		3.8	10	2440	6.5	63	1/2"	5/8"	1/2"	5/8"	1320	163	0.79	230V -1
SOLO	35	2	4	4	C	6.36		4.76		4.8	18.4	4651	8	66	1/2"	7/8"	1/2"	7/8"	1336	326	1.58	230V -1
SOLO	35	2	6	4	C	7.94		5.9		7.2	27.6	4447	8	66	1/2"	7/8"	1/2"	1"1/8	1321	326	1.58	230V -1
SOLO	35	2	4	6	C	5.55		4.14		4.8	13.7	5110	8.5	66	1/2"	7/8"	1/2"	7/8"	1337	326	1.58	230V -1
SOLO	35	2	6	6	C	7.39		5.5		7.2	20.6	4880	8.5	66	1/2"	7/8"	1/2"	7/8"	1320	326	1.58	230V -1
SOLO	35	3	4	4	C	9.72		7.28		7.2	27.9	6976	9	68	1"1/8	7/8"	1"1/8	1"1/8	1336	489	2.37	230V -1
SOLO	35	3	6	4	C	11.75		8.73		10.8	41.9	6670	9	68	1"1/8	1"1/8	1"1/8	1"1/8	1321	489	2.37	230V -1
SOLO	35	3	4	6	C	8.62		6.4		7.2	20.9	7665	9.5	68	1"1/8	7/8"	1"1/8	1"1/8	1337	489	2.37	230V -1
SOLO	35	3	6	6	C	10.85		8.08		10.8	31.3	7321	9.5	68	1"1/8	1"1/8	1"1/8	1"1/8	1320	489	2.37	230V -1
SOLO	35	4	4	4	C	12.85		9.4		9.5	37.4	9301	9	69	1"1/8	1"1/8	1"1/8	1"1/8	1336	652	3.16	230V -1
SOLO	35	4	6	4	C	15.69		11.69		14.2	56.1	8894	9	69	1"1/8	1"1/8	1"1/8	1"3/8	1321	652	3.16	230V -1
SOLO	35	4	4	6	C	11.46		8.47		9.5	28	10220	9.5	69	1"1/8	1"1/8	1"1/8	1"1/8	1337	652	3.16	230V -1
SOLO	35	4	6	6	C	14.43		10.77		14.2	42	9761	9.5	69	1"1/8	1"1/8	1"1/8	1"1/8	1320	652	3.16	230V -1

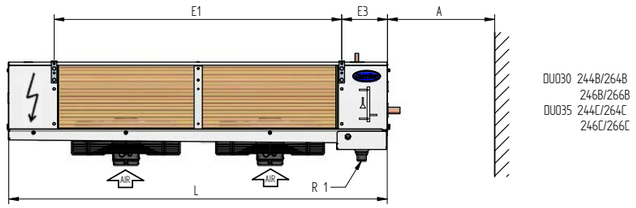
Model (Pleasure Series)	External Dimension									Electric Defrosting			Weight
										230V - 1			Net Weight
	L	W1	W2	H1	H2	E1	E2	E3	A	Coil	Water Pan	Total	P
	mm	mm	mm	mm	mm	mm	mm	mm	mm	W	W	kW	kg
SOLO 35 144C	840	340	460	520	560	535	-	155	420	1000	350	1.35	31
SOLO 35 164C	840	340	460	520	560	535	-	155	420	1000	350	1.35	34
SOLO 35 146C	840	340	460	520	560	535	-	155	420	1500	350	1.85	30
SOLO 35 166C	840	340	460	520	560	535	-	155	420	1500	350	1.85	32
SOLO 35 244C	1365	340	460	520	560	1050	-	155	420	1500	550	2.05	52
SOLO 35 264C	1365	340	460	520	560	1050	-	155	420	1500	550	2.05	59
SOLO 35 246C	1365	340	460	520	560	1050	-	155	420	2250	550	2.8	50
SOLO 35 266C	1365	340	460	520	560	1050	-	155	420	2250	550	2.8	55
SOLO 35 344C	1880	340	460	520	560	1570	520	155	420	2100	750	2.85	71
SOLO 35 364C	1880	340	460	520	560	1570	520	155	420	2100	750	2.85	83
SOLO 35 346C	1880	340	460	520	560	1570	520	155	420	3150	750	3.9	67
SOLO 35 366C	1880	340	460	520	560	1570	520	155	420	3150	750	3.9	78
SOLO 35 444C	2395	340	460	520	560	2085	1035	155	420	2800	950	3.75	92
SOLO 35 464C	2395	340	460	520	560	2085	1035	155	420	2800	950	3.75	106
SOLO 35 446C	2395	340	460	520	560	2085	1035	155	420	4200	950	5.15	88
SOLO 35 466C	2395	340	460	520	560	2085	1035	155	420	4200	950	5.15	100

Dimensions of DUO

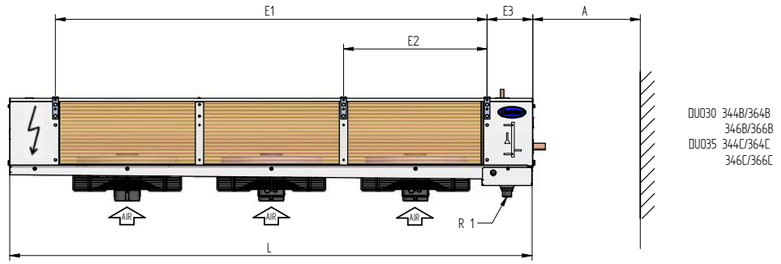




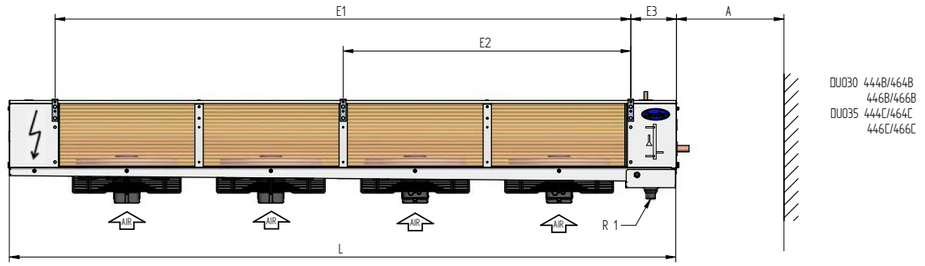
DUO30 144B/164B
146B/166B
DUO35 144C/164C
146C/166C



DUO30 244B/264B
246B/266B
DUO35 244C/264C
246C/266C



DUO30 344B/364B
346B/366B
DUO35 344C/364C
346C/366C



DUO30 444B/464B
446B/466B
DUO35 444C/464C
446C/466C

Performance Parameters (DUO 35)

Model DUO (Pleasure Series)						Cooling Capacity DUO R404A								Connection				Fan 50 Hz			
						SC2		SC3						SC2		SC3					
Type DUO 35 Model	Fan Dimension (Qm)	Number of Motors	Coil Rows	Fin Distance	Coil Code	Heat transfer Temperature Difference 8K	Evaporating Temperature -8° C	Heat Transfer Temperature Difference 7K	Evaporating Temperature 25° C	Pipeline Volume	Heat Exchange Area	Air Volume	Air Throw	Sound Pressure	Inlet Dimension	Outlet Dimension	Inlet Dimension	Outlet Dimension	Rotation Speed	Input Power	Input Current	Power Supply
						kW		kW		dm^3	m^2	m^3/h	m	dB(A)	inch	inch	inch	inch	min^{-1}	W	A	V
DUO	35	1	4	4	C	4.13		2.74		2.5	8.9	2418	2 X 7,5	62	1/2"	5/8"	1/2"	5/8"	1360	163	0.79	230V -1
DUO	35	1	6	4	C	5.28		3.54		3.8	13.4	2153	2 X 6,5	62	1/2"	5/8"	1/2"	5/8"	1272	163	0.79	230V -1
DUO	35	2	4	4	C	8.35		5.58		4.8	18.4	4836	2 X 9,5	65	1/2"	7/8"	1/2"	7/8"	1360	326	1.58	230V -1
DUO	35	2	6	4	C	10.45		6.92		7.2	27.6	4307	2 X 8,5	65	1/2"	7/8"	1/2"	7/8"	1272	326	1.58	230V -1
DUO	35	3	4	4	C	12.54		8.35		7.2	27.9	7254	2 X 10,5	67	1/2"	7/8"	1/2"	7/8"	1360	489	2.37	230V -1
DUO	35	3	6	4	C	15.76		10.49		10.8	41.9	6460	2 X 9,5	67	1"1/8	1"1/8	1"1/8	1"1/8	1272	489	2.37	230V -1
DUO	35	4	4	4	C	16.59		11.02		9.5	37.4	9672	2 X 10,5	68	1"1/8	1"1/8	1"1/8	1"1/8	1360	652	3.16	230V -1
DUO	35	4	6	4	C	20.67		13.93		14.2	56.1	8613	2 X 9,5	68	1"1/8	1"1/8	1"1/8	1"1/8	1272	652	3.16	230V -1

Model (Pleasure Series)	External Dimension									Electric Defrosting 230V - 1			Weight Net Weight
	L	W1	W2	H1	H2	E1	E2	E3	A	Coil	Water Pan	Total	P
	mm	mm	mm	mm	mm	mm	mm	mm	mm	W	W	kW	kg
DUO 35 144C	845	820	845	320	370	515	-	165	845	37	350	1.35	31
DUO 35 164C	845	820	845	320	370	515	-	165	845	41	350	1.35	34
DUO 35 244C	1360	820	845	320	370	1030	-	165	1360	62	550	2.05	52
DUO 35 264C	1360	820	845	320	370	1030	-	165	1360	69	550	2.05	59
DUO 35 344C	1875	820	845	320	370	1550	520	165	1875	85	750	2.85	71
DUO 35 364C	1875	820	845	320	370	1550	520	165	1875	99	750	2.85	83
DUO 35 444C	2390	820	845	320	370	2065	1035	165	2390	110	950	3.75	92
DUO 35 464C	2390	820	845	320	370	2065	1035	165	2390	126	950	3.75	106

Pleasure Series

Air Cooler SOLO45

Customer Values

- Expanded commercial chiller cooling capacity to meet more applications
- High heat transfer efficiency, energy saving and highly efficient
- Efficient defrosting, saving operating costs, low temperature fluctuations, ensuring the safety and freshness of goods
- Sheet metal parts have long service life, validated by long-term corrosion resistance tests
- Simple structure, easy to install and maintain

Product Features

- 450mm-diameter fan of 24 models, cooling capacity: 5.7~41 kW
- 1~4 fans, suitable for SC2 and SC3 working conditions, and multiple applications
- Suitable for medium-sized logistics cold rooms, supermarket distribution warehouses, forecourt cold rooms, etc. with -18 ºC ~ +0 ºC storage temperatures
- Optional electric defrost/air defrost
- Highly efficient copper tube fins - corrugated fins - to increase evaporative surface area and heat transfer efficiency
- Perfect surface spraying process - powder coating that meets the higher hygiene standard (HACCP), anti-corrosion and anti-rust, longer service life, easy to clean and maintain

Naming Rule of Air Cooler

SOLO 45 E 2 64G M

- M: Working Conditions — M: Medium Temperatue; L: Low Temperature
- 64G: Coil type: Coil code
- 2: Number of Fans: 1~4
- E: Defrost Type — A: Air defrosting; E: Electric defrosting
- 45: Fan: 45=450mm, Standard with domestic motor MAER
- SOLO: Air Cooler Model: Single-side draw-through

Non-standard Option

Item	Standard Parts	Non-standard Parts	Description
1	Aluminium foil	Coil protective coating (Epoxy coating, Hydrophilic aluminum foil, etc)	Epoxy coating: for corrosive applications Hydrophilic aluminum foil: used in high humidity, easy to frost occasions
2	MAER Motor	EBM Motor	High-end motor brand
3	MT: 4.5mm LT: 7.0mm	Max Fin Distance: 12mm	Reduce fin frosting and ensure heat transfer performance
4	N/A	Wind ring heating tape	Used for harsh application, to avoid wind circle frost caused by abnormal fan
5	Galvanized sheet spraying	Stainless steel case	Food grade application, more corrosion resistant
6	Electric defrosting	Hot gas defrosting	Energy saving by using compressor waste heat to defrost
7	Drain pan	Dual-layer drain pan	Avoid condensation dripping from the catch basin due to hot and cold convection

Neutral Salt Spray Test of Coil Coating

Type of anticorrosive coating	Neutral salt spray test (H)
Hydrophilic aluminum foil	500
Epoxy coating	>1500

Performance Parameters (SOLO 45)

Model SOLO						Cooling Capacity R404A									Connection		Fan 50 Hz			External Dimension	Electric Defrosting 230V -1			Weight
Type: SOLO	Fan Dimension (cm)	Number of Motors	Coil Rows	Fin Distance	Coil Code	SC2 Heat transfer Temperature Difference 8K	SC2 Evaporating Temperature -8° C	SC3 Heat Transfer Temperature Difference 7K	SC3 Evaporating Temperature -25° C	Pipeline Volume	Heat Exchange Area	Air Volume	Air Throw	Sound (5m)	Inlet Dimension	Outlet Dimension	Input Power	Input Current	Power Supply		Coil	Water Pan	Total	
						kW		kW		dm^3	m^2	m^3/h	m	dB(A)	inch	inch	W	A	V	mm	kW	kW	kW	kg
SOLO	45	1	4	4	G	7.6	/			5.7	31.1	5450	27	62	5/8"	1 3/8"	400	1.82	230V -1	1194*630*674	3.3	1.1	4.4	64
SOLO	45	1	6	4	G	9.2	/			8.5	46.6	5200	25	62	5/8"	1 3/8"	408	1.86	230V -1	1194*630*674	4.4	1.1	5.5	75
SOLO	45	1	4	7	G	/		5.1		5.7	20.7	5600	31	62	5/8"	1 3/8"	396	1.80	230V -1	1194*630*674	3.3	1.1	4.4	64
SOLO	45	1	6	7	G	/		6.7		8.5	31.1	5500	29	62	5/8"	1 3/8"	400	1.82	230V -1	1194*630*674	4.4	1.1	5.5	74
SOLO	45	2	4	4	G	15.5	/			11.6	63.3	11000	31	65	5/8"	1 5/8"	800	3.64	230V -1	2076*630*674	6	1.6	7.6	110
SOLO	45	2	6	4	G	20.1	/			17.3	94.9	10500	29	65	7/8"	1 5/8"	816	3.72	230V -1	2076*630*674	8	1.6	9.6	130
SOLO	45	2	4	7	G	/		10.4		11.6	42.2	11400	35	65	5/8"	1 5/8"	792	3.60	230V -1	2076*630*674	6	1.6	7.6	109
SOLO	45	2	6	7	G	/		13.7		17.3	63.3	11000	33	65	5/8"	2 1/8"	800	3.64	230V -1	2076*630*674	8	1.6	9.6	128
SOLO	45	3	4	4	G	23.6	/			17.4	95.5	16500	35	67	7/8"	2 1/8"	1200	5.46	230V -1	2958*630*674	9.2	2.3	11.5	155
SOLO	45	3	6	4	G	30.8	/			26.2	143.3	15700	33	67	7/8"	2 1/8"	1224	5.58	230V -1	2958*630*674	11.5	2.3	13.8	186
SOLO	45	3	4	7	G	/		15.7		17.4	63.7	17000	39	67	7/8"	2 1/8"	1188	5.40	230V -1	2958*630*674	9.2	2.3	11.5	154
SOLO	45	3	6	7	G	/		20.5		26.2	95.6	16500	37	67	7/8"	2 1/8"	1200	5.46	230V -1	2958*630*674	11.5	2.3	13.8	184
SOLO	45	4	4	4	G	33.9	/			29.2	159.7	21800	38	68	1 1/8"	2 1/8"	1600	7.28	230V -1	3840*630*674	12.5	3.3	15.8	222
SOLO	45	4	6	4	G	41	/			35.0	191.7	21000	36	68	1 1/8"	2 5/8"	1632	7.44	230V -1	3840*630*674	15	3.3	18.3	240
SOLO	45	4	4	7	G	/		23.4		29.2	106.6	22400	42	68	1 1/8"	2 5/8"	1584	7.20	230V -1	3840*630*674	12.5	3.3	15.8	221
SOLO	45	4	6	7	G	/		27.2		35.0	127.9	22000	40	68	1 1/8"	2 5/8"	1600	7.28	230V -1	3840*630*674	15	3.3	18.3	238

Cooleasure Series

Air Cooler

Customer Values

- Adapt to the applications of frequent door opening, harsh humidity and temperature conditions
- Less fin frosting, higher melting efficiency
- Longer service life, reduced maintenance costs

Product Features

- Added wind heating tapes to avoid wind ring icing and ensure normal motor operation
- Optimized heat exchanger fin spacing, improving frosting and ensuring the good performance of the heat exchanger
- Hydrophilic aluminum foils for fins, effectively reducing frost accumulation
- Unique logo design, distinguishing from the traditional chiller models

Applicable Working Conditions

- Cold storage where doors are opened and closed frequently or left open for long periods
- Occasions such as basements located in the southern humid environment and high ambient humidity
- Refrigerated warehouse panels sharpened by the renovation store
- Need to be installed near the door due to space constraints

General air cooler

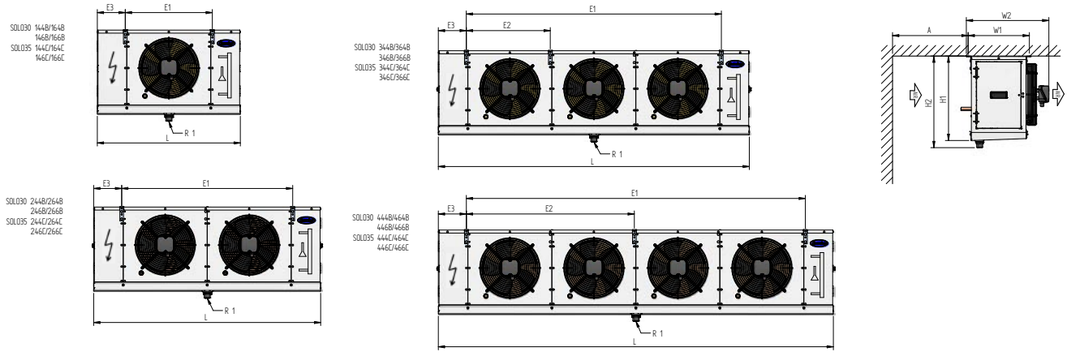
Cooleasure Series air cooler

Naming Rule of Air Cooler

SOLO 35 E 2 46S L - H

- Cooleasure Series: H = Special purpose for atrocious working conditions
- Working Conditions: LT
- Coil type: Coil code
- Number of Fans: 1~4
- Defrost Type: E: Electric defrosting
- Fan Diameter: 30=300mm, 35=350mm
- Air Cooler Model: SOLO: Single-side draw-through

Dimensions of SOLO



Performance Parameters (SOLO 30/35)

Model	Fan Dimension (Cm)	Number of Motors	Coil Rows	Fin Distance	Coil Code	Atrocious Working Conditions	Cooling Capacity R404A SC3 Heat transfer Temperature Difference 7K / Evaporating Temperature -25° C	Pipeline Volume	Heat Exchange Area	Air Volume	Air Throw	Sound Pressure	Connection SC3 Inlet Dimension	Connection SC3 Outlet Dimension	Fan 50 Hz Rotation Speed	Fan 50 Hz Input Power	Fan 50 Hz Input Current	Fan 50 Hz Power Supply
Type DUO 35 Model							kW	dm^3	m^2	m^3/h	m	dB(A)	inch	inch	min^{-1}	W	A	V
SOLO	30	1	4	9	F	-H	1.26	2	3.8	1565	9	57	1/2"	5/8"	1367	85	0.4	230V -1
SOLO	30	2	4	9	F	-H	2.57	3.9	8.3	3128	10	60	1/2"	5/8"	1367	170	0.8	230V -1
SOLO	35	1	4	9	S	-H	1.76	2.5	5	2683	12	63	1/2"	5/8"	1337	163	0.8	230V -1
SOLO	35	1	6	9	S	-H	2.30	3.8	7.5	2562	11	63	1/2"	5/8"	1320	163	0.8	230V -1
SOLO	35	2	4	9	S	-H	3.41	4.8	10	5366	14	66	1/2"	7/8"	1337	326	1.6	230V -1
SOLO	35	2	6	9	S	-H	4.65	7.2	15	5124	13	66	1/2"	7/8"	1320	326	1.6	230V -1
SOLO	35	3	4	9	S	-H	5.26	7.2	16	8048	15	68	5/8"	1"1/8	1337	489	2.4	230V -1
SOLO	35	3	6	9	S	-H	6.96	11	23	7687	14	68	5/8"	1"1/8	1320	489	2.4	230V -1
SOLO	35	4	4	9	S	-H	7.13	9.5	21	10731	16	69	5/8"	1"1/8	1337	652	3.2	230V -1
SOLO	35	4	6	9	S	-H	9.30	14	32	10249	15	69	5/8"	1"1/8	1320	652	3.2	230V -1

Model	External Dimension L	W1	W2	H1	H2	E1	E2	E3	A	Electric Defrosting 230V - 1 Coil	Water Pan	Heater Tape	Total	Weight Net Weight P
	mm	mm	mm	mm	mm	mm	mm	mm	mm	W	W	W	kW	kg
SOLO30E149FL-H	790	340	460	470	510	485	-	155	420	750	300	128	1.18	31
SOLO30E249FL-H	1265	340	460	470	510	950	-	155	420	2100	500	256	2.86	34
SOLO35E149SL-H	840	340	460	520	560	535	-	155	420	1500	350	110	1.96	30
SOLO35E169SL-H	840	340	460	520	560	535	-	155	420	1500	350	110	1.96	32
SOLO35E249SL-H	1365	340	460	520	560	1050	-	155	420	2250	550	220	3.02	50
SOLO35E269SL-H	1365	340	460	520	560	1050	-	155	420	2250	550	220	3.02	55
SOLO35E349SL-H	1880	340	460	520	560	1570	520	155	420	3150	750	330	4.23	67
SOLO35E369SL-H	1880	340	460	520	560	1570	520	155	420	3150	750	330	4.23	78
SOLO35E449SL-H	2395	340	460	520	560	2085	1035	155	420	4200	950	440	5.59	88
SOLO35E469SL-H	2395	340	460	520	560	2085	1035	155	420	4200	950	440	5.59	100

Adventer / Pleasure Series

Air Cooled Condenser

Soprano Pleasure series air cooled condenser
500, 630, 910mm fan
Heat exchange capacity (13~353kW)

Alto Adventer Series air cooled condenser
910mm fan
Heat exchange capacity (102~1092kW)

Customer Values

- Multiple materials and air flow direction options for various applications
- High heat exchange efficiency, low operating cost
- Silent running
- Anti-corrosion, long service life

Product Features

- Coil cover made of pre-coated galvanized steel sheets
- Vertical or horizontal air flow direction options for all models
- Copper pipes for condensing process, with aluminum fins
- Grade F fans, 2-speed options, with high-efficiency shielding cases, super silent
- Alternative fins can be customized to resist corrosion from saline/ polluted atmosphere
- Unique materials and process assembly technologies, making the products efficient and simple

Performance Advantages

- Fans with double-speed optionals can be customized
- EC axial flow fans areoptional, energy efficient and silent
- Unique materials and process assembly technologies, making the products efficient and simple

Naming Rule of Air Cooled Condenser

SO	60	2	MD	B	6PH	SH

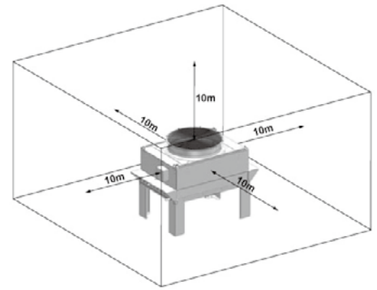
- SH: Airflow Form
  - SV= Vertical outlet
  - SH= Horizontal outlet
- 6PH: Pole Number
- B: Coil type
- MD: Model of row
  - MS= Single row
  - MD= Double row
- 2: Fan Quantity
- MD: Fan diameter
  - 50=500mm
  - 60=630mm
  - 90=910mm
- SO: SOPRANO Condenser

AL	91	4	MS	C	6PH	SH

- SH: Airflow Form
  - SV= Vertical outlet
  - SH= Horizontal outlet
- 6PH: Pole Number
- C: Coil type
- MS: Model of row
  - MS= Single row
  - MD= Double row
- 4: Fan Quantity
- MS: Fan diameter
  - 91=910mm
- AL: ALTO Condenser

Acoustic Performance

- In accordance with IS03741 and IS03744 Standards, sound power classes of vertical outlets of the condensers are tested in standard labs.
- Sound pressure intensity is calculated by EN 13487 Standard. Sound pressure intensity is based on the reference zones in the parallelepiped 10m away from the sound source and parallel to the envelope line.
- Due to sound reflection (against walls or frames, etc.) or environment factors, results obtained at the installation site may be different from that in the manuals.
- In addition, sound level decreases function with distance as the independent variable is calculated with theoretical calculus.



Sound Power Correction by Fan Quantity

Fan Quantity	1	2	3	4	5	6	7	8	10	12	14
Correction Factor dB(A)	+0	+3	+5	+6	+7	+8	+9	+9	+10	+11	+12

For example, sound power for S060 4MSB Condenser with four 6PH fans is: 75+6=81dB(A)

Sound Pressure Level and Distance

Fan Distance (m)	5	10	20	30	40	50
Corrected dB(A)	+6	0	-6	-9.5	-12	-14

Fan and Motor

Fan Specifications 400V~3/50Hz

SOPRANO SO50 (Performance data for each fan)						
Fan	Motor	Rotation Speed (rpm)	Wiring	Nominal Power (kW)	Current (A)	Sound Power dB(A)
500 mm	4PH	1390	Delta	0.72	1.41	71
	4PL	1180	Star	0.55	0.95	68
	6PH	930	Delta	0.27	0.69	63
	6PL	800	Star	0.19	0.40	59
	8PH	680	Delta	0.15	0.40	54
	8PL	560	Star	0.09	0.18	50

SOPRANO SO60 (Performance data for each fan)						
Fan	Motor	Rotation Speed (rpm)	Wiring	Nominal Power (kW)	Current (A)	Sound Power dB(A)
630 mm	6PH	1330	Delta	1.25	2.48	75
	6PL	1070	Star	0.84	1.42	70
	8PH	890	Delta	0.60	1.20	67
	8PL	690	Star	0.40	0.68	61

SOPRANO SO90/ALTO AL91 (Performance data for each fan)						
Fan	Motor	Rotation Speed (rpm)	Wiring	Nominal Power (kW)	Current (A)	Sound Power dB(A)
910 mm	6PH	885	Delta	2.48	5.15	77
	6PL	685	Star	1.57	2.90	71
	8PH	650	Delta	1.15	2.78	70
	8PL	475	Star	0.64	1.36	63
	12PH	420	Delta	0.41	1.13	59
	12PL	305	Star	0.21	0.48	50

SOPRANO SO90/ALTO AL91 (Performance data of EC fans)						
Fan	Motor	Rotation Speed (rpm)	Wiring	Nominal Power (kW)	Current (A)	Sound Power dB(A)
910 mm	6PH/6PL	450~885	/	2.10	3.20	79

*Motor parameters in this table are from EBM

Air Cooled Condenser Technical Parameters

Energy Efficiency Grade

Grade	Energy Consumption	R
A	Extremely low	R>110
B	Very low	70<R<110
C	Low	45<R<70
D	Medium	30<R<45
E	High	R<30

R=Heat Extraction Rate (ENV327 Working Conditions) / Motor energy consumption

Heat Extraction Rate

Nominal Capacity in the manual is rated and calculated based on the temperature / pressure working conditions when refrigeration condensing gas starts to condensate (reaches dew point).

As some refrigerant (R407Aor R407C) has obvious temperature glide, the saturation vapor temperature and saturation liquid temperature are different. The heat of such refrigerant is rated and calculated at the same saturation vapor temperature rather the mean of the saturation vapor and liquid temperature.

Quick Select

If you multiply the Nominal Capacity with the factor below, you will get the Nominal Capacity in other working conditions (Correction factor only allows interpolation not extrapolation):

Working Medium Correction Factor:

Working Medium	R134a	R22	R404A	R507	R407A	R407C
F1	0.93	0.96	1.00	1.00	0.82	0.85

Temperature Difference ⊿T Correction Factor:

⊿T		8K	10K	12K	15K	17K	20K
F2	R22,R507,R134a,R404A	0.53	0.67	0.80	1.00	1.13	1.33
	R407A,R407C	0.46	0.62	0.77	1.00	1.15	1.38

Ambient Temperature Correction Factor:

Ambient Temperature °C	15	20	25	30	35	40	45	50
F3	1.034	1.018	1	0.98	0.96	0.94	0.923	0.906

Altitude Correction Factor:

Altitude m	0	200	400	600	800	1000	1200	1400	1600	1800	2000	2200	2400	2600
F4	1	0.986	1.00	1.00	0.82	0.85	0.918	0.904	0.891	0.877	0.863	0.85	0.836	0.823

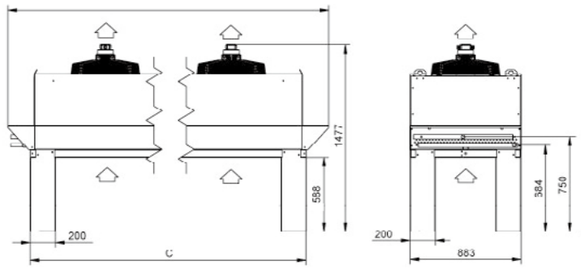
Fin Spacing Correction Factor:

Fin Spacing 2.54mm	SOPRANO	ALTO
F5	0.95	0.96

Air Cooled Condenser Technical Parameters - SO 50 - Single Row

	Model	SO50 1MSA		SO50 1MSB		SO50 2MSA		SO50 2MSB		SO50 3MSA		SO50 3MSB	
	Fan	1 x Ø 500		1 x Ø 500		2 x Ø 500		2 x Ø 500		3 x Ø 500		3 x Ø 500	
4PH /4PL	Wiring	4PH	4PL	4PH	4PL	4PH	4PL	4PH	4PL	4PH	4PL	4PH	4PL
	Heat Exchange *	29	26	36	32	59	52	72	64	88	77	108	96
	Air Volume [m³/h]	6665	5645	7665	6495	13330	11290	15330	12990	19995	16935	22995	19485
	Sound Pressure Level dB(A) 10m	52	48	52	48	55	51	55	51	57	52	57	52
	Energy Efficiency Grade	D	C	C	C	D	C	C	C	D	C	C	C
	Inlet Pipe	7/8"		7/8"		1"1/8		1"1/8		1"1/8		1"3/8	
	Drain Pipe	7/8"		7/8"		1"1/8		1"1/8		1"1/8		1"3/8	
6PH /6PL	Wiring	6PH	6PL	6PH	6PL	6PH	6PL	6PH	6PL	6PH	6PL	6PH	6PL
	Heat Exchange *	21	18	26	21	42	37	52	43	63	56	78	64
	Air Volume [m³/h]	4300	3630	4990	4215	8600	7260	9980	8430	12900	10890	14970	12645
	Sound Pressure Level dB(A) 10m	38	35	38	35	41	38	40	38	42	39	42	39
	Energy Efficiency Grade	B	B	B	A	B	B	B	A	B	B	B	A
	Inlet Pipe	5/8"		7/8"		7/8"		1"1/8		1"1/8		1"1/8	
	Drain Pipe	5/8"		7/8"		7/8"		1"1/8		1"1/8		1"1/8	
8PH /8PL	Wiring	8PH	8PL	8PH	8PL	8PH	8PL	8PH	8PL	8PH	8PL	8PH	8PL
	Heat Exchange *	16	13	20	17	32	27	41	34	48	40	61	51
	Air Volume [m³/h]	2935	2360	3635	2920	5870	4720	7270	5840	8805	7080	10905	8760
	Sound Pressure Level dB(A) 10m	32	29	32	29	35	32	35	32	37	34	36	34
	Energy Efficiency Grade	B	A	A	A	B	A	A	A	B	A	A	A
	Inlet Pipe	5/8"		5/8"		7/8"		7/8"		7/8"		1"1/8	
	Drain Pipe	5/8"		5/8"		7/8"		7/8"		7/8"		1"1/8	
	Surface Area	49		73		97		146		146		220	
	Refrigerant Circuit Volume	8		11		14		20		20		30	
	Net Weight (without refrigerant)	98		117		163		201		227		285	
	Dimension A mm	1168		1543		1920		2670		2671		3796	
	Dimension C mm	814		1189		1566		2316		2317		3442	

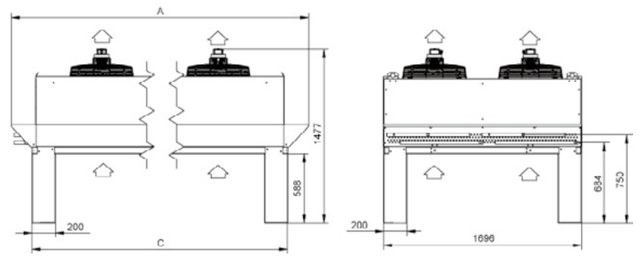
Dimension data tolerance is +/-10mm. Weight data tolerance is +/-15kg. The value is related to the part options selected.
* Heat extraction rate is based on the condition of condensation temperature of 40°C and heat transfer temperature difference of 15K, and the refrigerant is R404A.



Air Cooled Condenser Technical Parameters - SO 50 - Double Row

	Model	SO50 2MDA		SO50 2MDB		SO50 4MDA		SO50 4MDB		SO50 6MDA		SO50 6MDB	
	Fan	2 x Ø 500		2 x Ø 500		4 x Ø 500		4 x Ø 500		6 x Ø 500		6 x Ø 500	
4PH /4PL	Wiring	4PH	4PL	4PH	4PL	4PH	4PL	4PH	4PL	4PH	4PL	4PH	4PL
	Heat Exchange *	59	52	72	64	117	103	144	128	175	154	216	191
	Air Volume [m³/h]	13330	11290	15330	12990	26660	22580	30660	25980	39990	33870	45990	38970
	Sound Pressure Level dB(A) 10m	55	51	55	51	58	54	58	54	60	55	60	55
	Energy Efficiency Grade	D	C	C	C	D	C	C	C	D	C	C	C
	Inlet Pipe	2×7/8"		2×7/8"		2×1"1/8		2×1"1/8		2×1"1/8		2×1"3/8	
	Drain Pipe	2×7/8"		2×7/8"		2×1"1/8		2×1"1/8		2×1"1/8		2×1"3/8	
6PH /6PL	Wiring	6PH	6PL	6PH	6PL	6PH	6PL	6PH	6PL	6PH	6PL	6PH	6PL
	Heat Exchange *	42	37	52	43	84	74	104	86	126	111	156	128
	Air Volume [m³/h]	8600	7260	9980	8430	17200	14520	19960	16860	25800	21780	29940	25290
	Sound Pressure Level dB(A) 10m	41	38	40	38	43	41	43	40	45	42	45	42
	Energy Efficiency Grade	B	B	B	A	B	B	B	A	B	B	B	A
	Inlet Pipe	2×5/8"		2×7/8"		2×7/8"		2×1"1/8		2×1"1/8		2×1"1/8	
	Drain Pipe	2×5/8"		2×7/8"		2×7/8"		2×1"1/8		2×1"1/8		2×1"1/8	
8PH /8PL	Wiring	8PH	8PL	8PH	8PL	8PH	8PL	8PH	8PL	8PH	8PL	8PH	8PL
	Heat Exchange *	32	27	41	34	63	54	81	68	95	80	122	102
	Air Volume [m³/h]	5870	4720	7270	5840	11740	9440	14540	11680	17610	14160	21810	17520
	Sound Pressure Level dB(A) 10m	35	32	35	32	38	35	38	35	39	37	39	37
	Energy Efficiency Grade	B	A	A	A	B	A	A	A	B	A	A	A
	Inlet Pipe	2×5/8"		2×5/8"		2×7/8"		2×7/8"		2×7/8"		2×1"1/8	
	Drain Pipe	2×5/8"		2×5/8"		2×7/8"		2×7/8"		2×7/8"		2×1"1/8	
	Surface Area	98		146		194		292		292		440	
	Refrigerant Circuit Volume	15		21		28		41		41		60	
	Net Weight (without refrigerant)	162		195		282		346		399		498	
	Dimension A mm	1168		1543		1920		2670		2671		3796	
	Dimension C mm	814		1189		1566		2316		2317		3442	

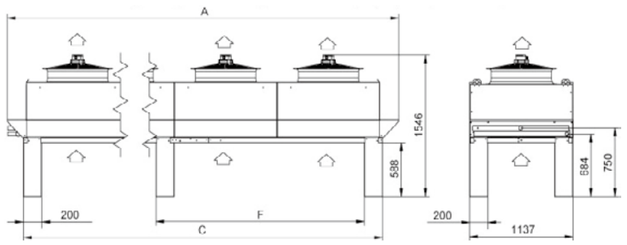
Dimension data tolerance is +/-10mm. Weight data tolerance is +/-15kg. The value is related to the part options selected.
* Heat extraction rate is based on the condition of condensation temperature of 40°C and heat transfer temperature difference of 15K, and the refrigerant is R404A.



Air Cooled Condenser Technical Parameters - SO 60 - Single Row

	Model	SO60 1MSB		SO60 1MSC		SO60 2MSB		SO60 2MSC		SO60 3MSB		SO60 3MSC		SO60 4MSB		SO60 4MSC	
	Fan	1 x Ø 630		1 x Ø 630		2 x Ø 630		2 x Ø 630		3 x Ø 630		3 x Ø 630		4 x Ø 630		4 x Ø 630	
	Wiring	6PH	6PL	6PH	6PL	6PH	6PL	6PH	6PL	6PH	6PL	6PH	6PL	6PH	6PL	6PH	6PL
	Heat Exchange *	45	39	54	49	89	77	108	99	134	116	161	147	179	154	215	197
	Air Volume [m³/h]	10290	8410	11790	9745	20580	16820	23580	19490	30870	25230	35370	29235	41160	33640	47160	38980
6PH /6PL	Sound Pressure Level dB(A) 10m	52	47	52	47	55	50	55	49	57	51	57	51	58	52	58	52
	Energy Efficiency Grade	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C
	Inlet Pipe	7/8"		7/8"		1"3/8		1"3/8		1"5/8		1"5/8		1"5/8		2"1/8	
	Drain Pipe	7/8"		7/8"		1"3/8		1"3/8		1"5/8		1"5/8		1"5/8		2"1/8	
	Wiring	8PH	8PL	8PH	8PL	8PH	8PL	8PH	8PL	8PH	8PL	8PH	8PL	8PH	8PL	8PH	8PL
	Heat Exchange *	34	29	43	36	69	58	87	73	103	86	130	108	137	115	173	145
	Air Volume [m³/h]	7160	5650	8760	6890	14320	11300	17520	13780	21480	16950	26280	20670	28640	22600	35040	27560
8PH /8PL	Sound Pressure Level dB(A) 10m	40	34	40	34	43	37	43	37	45	39	45	38	46	40	46	40
	Energy Efficiency Grade	C	B	B	B	C	B	B	B	C	B	B	B	C	B	B	B
	Inlet Pipe	7/8"		7/8"		1"1/8		1"3/8		1"3/8		1"5/8		1"5/8		1"5/8	
	Drain Pipe	7/8"		7/8"		1"1/8		1"3/8		1"3/8		1"5/8		1"5/8		1"5/8	
	Surface Area	96		127		190		254		286		381		381		508	
	Refrigerant Circuit Volume	14		18		27		35		41		53		53		72	
	Net Weight (without refrigerant)	141		163		247		297		351		428		468		526	
	A mm	1543		1918		2670		3420		3796		4921		4922		6422	
	Dimension C mm	1189		1564		2316		3066		3442		4567		4568		6068	
	F mm	-		-		-		-		-		-		2286		3036	

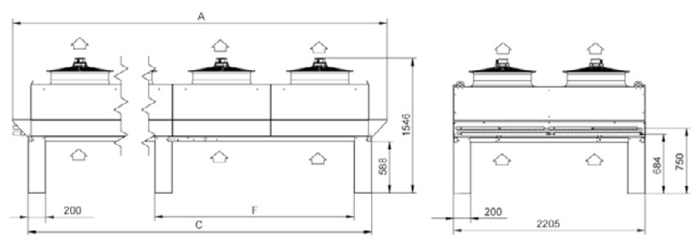
Dimension data tolerance is +/-10mm. Weight data tolerance is +/-15kg. The value is related to the part options selected.
* Heat extraction rate is based on the condition of condensation temperature of 40°C and heat transfer temperature difference of 15K, and the refrigerant is R404A.



Air Cooled Condenser Technical Parameters - SO 60 - Double Row

	Model	SO60 2MDB		SO60 2MDC		SO60 4MDB		SO60 4MDC		SO60 6MDB		SO60 6MDC	
	Fan	2 x Ø 630		2 x Ø 630		4 x Ø 630		4 x Ø 630		6 x Ø 630		6 x Ø 630	
	Wiring	6PH	6PL	6PH	6PL	6PH	6PL	6PH	6PL	6PH	6PL	6PH	6PL
	Heat Exchange *	90	77	108	99	179	155	215	197	268	231	322	295
	Air Volume [m³/h]	20580	16820	23850	19490	41160	33640	47160	38980	61740	50460	70740	58470
6PH /6PL	Sound Pressure Level dB(A) 10m	55	50	55	50	58	52	58	52	60	54	60	54
	Energy Efficiency Grade	D	C	D	C	D	C	D	C	D	C	D	C
	Inlet Pipe	2×7/8"		2×7/8"		2×1"3/8		2×1"3/8		2×1"5/8		2×1"5/8	
	Drain Pipe	2×7/8"		2×7/8"		2×1"3/8		2×1"3/8		2×1"5/8		2×1"5/8	
	Wiring	8PH	8PL	8PH	8PL	8PH	8PL	8PH	8PL	8PH	8PL	8PH	8PL
	Heat Exchange *	69	58	87	73	137	115	173	145	205	172	259	217
	Air Volume [m³/h]	14320	11300	17520	13780	28640	22600	35040	27560	42960	33900	52560	41340
8PH /8PL	Sound Pressure Level dB(A) 10m	43	37	43	37	46	40	46	40	48	41	47	41
	Energy Efficiency Grade	C	B	B	B	C	B	B	B	C	B	B	B
	Inlet Pipe	2×7/8"		2×7/8"		2×1"1/8		2×1"3/8		2×1"3/8		2×1"5/8	
	Drain Pipe	2×7/8"		2×7/8"		2×1"1/8		2×1"3/8		2×1"3/8		2×1"5/8	
	Surface Area	190		254		381		508		572		761	
	Refrigerant Circuit Volume	27		35		54		70		82		106	
	Net Weight (without refrigerant)	243		283		438		523		630			
	A mm	1543		1918		2670		3420		3796		4921	
	Dimension C mm	1189		1564		2316		3066		3442		4567	
	F mm	-		-		-		-		-		-	

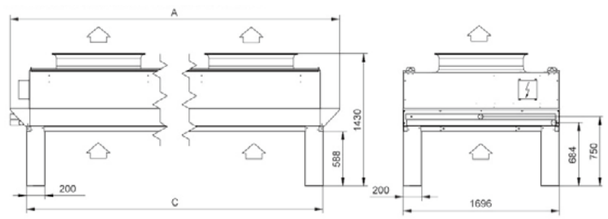
Dimension data tolerance is +/-10mm. Weight data tolerance is +/-15kg. The value is related to the part options selected.
* Heat extraction rate is based on the condition of condensation temperature of 40°C and heat transfer temperature difference of 15K, and the refrigerant is R404A.



Air Cooled Condenser Technical Parameters - SO 90 - Single Row

	Model		SO90 1MSC		SO90 1MSD		SO90 1MSE		SO90 2MSC		SO90 2MSD		SO90 2MSE		SO90 3MSC		SO90 3MSD	
	Fan		1 x Ø 910		1 x Ø 910		1 x Ø 910		2 x Ø 910		2 x Ø 910		2 x Ø 910		3 x Ø 90		3 x Ø 910	
6PH/6PL	Wiring		6PH	6PL	6PH	6PL	6PH	6PL	6PH	6PL	6PH	6PL	6PH	6PL	6PH	6PL	6PH	6PL
	Heat Exchange	kW	106	89	118	98	128	106	212	177	235	196	255	212	317	266	353	294
	Air Volume	m^3/h	26125	20405	27490	21395	28235	22110	52250	40810	54980	42790	56470	44220	78375	61215	82470	64185
	Sound Pressure Level 10m	dB(A)	60	50	60	50	60	50	63	53	63	53	63	53	64	55	64	55
	Energy Efficiency Grade		D	C	C	C	C	C	D	C	C	C	C	C	D	C	C	C
	Inlet Pipe		1"3/8		1"5/8		1"5/8		2"1/8		2"1/8		2"1/8		2"1/8		2"1/8	
	Drain Pipe		1"3/8		1"5/8		1"5/8		2"1/8		2"1/8		2"1/8		2"1/8		2"1/8	
8PH/8PL	Wiring		8PH	8PL	8PH	8PL	8PH	8PL	8PH	8PL	8PH	8PL	8PH	8PL	8PH	8PL	8PH	8PL
	Heat Exchange R404A 40° C Tcond40° C~ΔT15K	kW	88	73	96	79	104	85	176	145	192	157	208	170	264	217	288	236
	Air Volume	m^3/h	20240	15455	20900	15950	21560	16445	40480	30910	41800	31900	43120	32890	60720	46365	62700	47850
	Sound Pressure Level 10m	dB(A)	49	39	49	39	49	39	51	42	51	42	51	42	53	44	53	44
	Energy Efficiency Grade		B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A
	Inlet Pipe		1"3/8		1"3/8		1"3/8		2"1/8		2"1/8		2"1/8		2"1/8		2"1/8	
	Drain Pipe		1"3/8		1"3/8		1"3/8		2"1/8		2"1/8		2"1/8		2"1/8		2"1/8	
12PH/12PL	Wiring		12PH	12PL	12PH	12PL	12PH	12PL	12PH	12PL	12PH	12PL	12PH	12PL	12PH	12PL	12PH	12PL
	eat Exchange R404A 40° C Tcond40° C~ΔT15K	kW	63	48	68	51	73	55	126	96	136	103	146	110	189	144	204	155
	Air Volume	m^3/h	12650	8800	13035	9135	13530	9515	25300	17600	26070	18270	27060	19030	37950	26400	39105	27405
	Sound Pressure Level 10m	dB(A)	37	29	37	29	37	29	40	32	40	32	40	32	42	33	42	33
	Energy Efficiency Grade		A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	Inlet Pipe		1"1/8		1"1/8		1"3/8		1"5/8		1"5/8		1"5/8		2"1/8		2"1/8	
	Drain Pipe		1"1/8		1"1/8		1"3/8		1"5/8		1"5/8		1"5/8		2"1/8		2"1/8	
	Surface Area	m^2	195		244		293		390		488		586		586		732	
	Refrigerant Circuit Volume	dm^3	29		38		44		60		72		85		87		105	
	Net Weight (without refrigerant)	kg	251		289		319		469		542		610		681		794	
	Dimension	A mm	1918		2293		2668		3420		4170		4920		4921		6046	
		C mm	1564		1939		2314		3066		3816		4566		4567		5692	

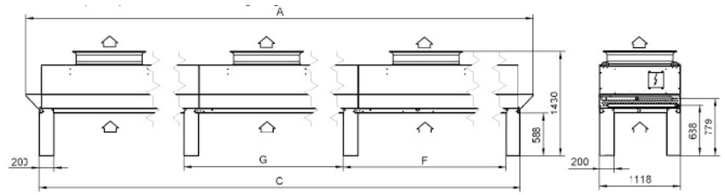
Dimension data tolerance is +/-10mm. Weight data tolerance is +/-15kg. The value is related to the part options selected.



Air Cooled Condenser Technical Parameters - AL91 - Single Row

	Model		AL91 3MSC	AL91 3MSD	AL91 3MSE	AL91 4MSC	AL91 4MSD	AL91 4MSE	AL91 5MSC	AL91 5MSD	AL91 5MSE	AL91 6MSC	AL91 6MSD
	Fan		3 x Ø 910	3 x Ø 910	3 x Ø 910	4 x Ø 910	4 x Ø 910	4 x Ø 910	5 x Ø 910	5 x Ø 910	5 x Ø 910	6 x Ø 910	6 x Ø 910
6PH/6PL	Wiring		6PH 6PL	6PH 6PL	6PH 6PL	6PH 6PL	6PH 6PL	6PH 6PL	6PH 6PL	6PH 6PL	6PH 6PL	6PH 6PL	6PH 6PL
	Heat Exchange R404A 40°C Tcond40°C~ΔT15K	kW	224 190	273 231	326 275	299 253	364 308	434 366	373 316	455 385	543 458	448 379	546 482
	Air Volume	m^3/h	70455 54180	80850 62205	85800 66000	93940 72240	107800 82940	114400 88000	117425 90300	134750 103675	143000 110000	140910 108360	161700 124410
	Sound Pressure Level dB(A) 10m		64 55	64 55	64 55	65 56	65 56	65 56	66 57	66 57	66 57	67 58	67 58
	Energy Efficiency Grade		D D	D C	D C	D D	D C	D C	D D	D C	D C	D D	D C
	Inlet Pipe		2"1/8	2"1/8	2"1/8	2"5/8	2"5/8	2"5/8	2"5/8	2"5/8	2"5/8	2"5/8	2"5/8
	Drain Pipe		2"1/8	2"1/8	2"1/8	2"5/8	2"5/8	2"5/8	2"5/8	2"5/8	2"5/8	2"5/8	2"5/8
8PH/8PL	Wiring		8PH 8PL	8PH 8PL	8PH 8PL	8PH 8PL	8PH 8PL	8PH 8PL	8PH 8PL	8PH 8PL	8PH 8PL	8PH 8PL	8PH 8PL
	Heat Exchange R404A 40°C Tcond40°C~ΔT15K	kW	182 153	214 178	253 207	242 204	285 237	337 276	303 255	356 296	421 344	363 306	427 355
	Air Volume	m^3/h	50490 38775	55440 42570	58410 44880	67320 51700	73920 56760	77880 59840	84150 64625	92400 70950	97350 74800	100980 77550	110880 85140
	Sound Pressure Level dB(A) 10m		53 44	53 44	53 44	54 45	54 45	54 45	55 46	55 46	55 46	56 47	56 47
	Energy Efficiency Grade		C B	C B	B B	C B	C B	B B	C B	C B	C B	C B	C B
	Inlet Pipe		2"1/8	2"1/8	2"1/8	2"1/8	2"5/8	2"5/8	2"5/8	2"5/8	2"5/8	2"5/8	2"5/8
	Drain Pipe		2"1/8	2"1/8	2"1/8	2"1/8	2"5/8	2"5/8	2"5/8	2"5/8	2"5/8	2"5/8	2"5/8
12PH/12PL	Wiring		12PH 12PL	12PH 12PL	12PH 12PL	12PH 12PL	12PH 12PL	12PH 12PL	12PH 12PL	12PH 12PL	12PH 12PL	12PH 12PL	12PH 12PL
	Heat Exchange R404A 40°C Tcond40°C~ΔT15K	kW	131 102	152 119	180 138	175 136	202 158	240 184	218 170	253 198	300 230	262 203	303 237
	Air Volume	m^3/h	31020 22110	34650 24750	37290 26565	41360 29480	46200 33000	49720 35420	51700 36850	57750 41250	62150 44275	62040 44220	69300 49500
	Sound Pressure Level dB(A) 10m		42 33	42 33	42 33	43 34	43 34	43 34	44 35	44 35	44 35	45 36	45 36
	Energy Efficiency Grade		B A	A A	A A	B A	A A	A A	B A	A A	A A	B A	A A
	Inlet Pipe		1"5/8	2"1/8	2"1/8	2"1/8	2"1/8	2"1/8	2"1/8	2"1/8	2"5/8	2"5/8	2"5/8
	Drain Pipe		1"5/8	2"1/8	2"1/8	2"1/8	2"1/8	2"1/8	2"1/8	2"1/8	2"5/8	2"5/8	2"5/8
	Surface Area	m^2	498	623	748	665	831	997	831	1038	1246	997	1246
	Refrigerant Circuit Volume	dm^3	69	84	101	91	111	132	111	137	162	132	162
	Net Weight (without refrigerant)	kg	557	654	740	742	872	986	860	1090	1233	1098	1295
	Dimension	A mm	4921	6046	7171	6422	7922	9422	7924	9799	11674	9426	11676
		C mm	4567	5692	6817	6068	7568	9068	7570	9444	11320	9072	11322
		F mm	-	-	2285	3036	3786	4536	3036	3787	4536	3037	3787
		G mm	-	-	-	-	-	-	1502	1876	2252	3003	3753

Dimension data tolerance is +/-10mm. Weight data tolerance is +/-15kg. The value is related to the part options selected.



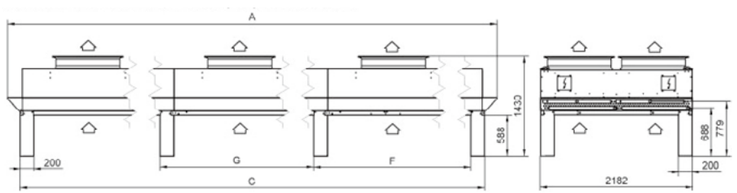
Air Cooled Condenser Technical Parameters - AL91 - Double Row

	Model		AL91 4MDC		AL91 4MDD		AL91 4MDE		AL91 6MDC		AL91 6MDD		AL91 6MDE	
	Fan		4 x Ø 910		4 x Ø 910		4 x Ø 910		6 x Ø 910		6 x Ø 910		6 x Ø 910	
6PH/6PL	Wiring		6PH	6PL	6PH	6PL	6PH	6PL	6PH	6PL	6PH	6PL	6PH	6PL
	Heat Exchange R404A 40° C Tcond40° C~ΔT15K	kW	300	254	364	308	434	366	448	380	546	462	652	550
	Air Volume	m³/h	93940	72240	107800	82940	114400	88000	140910	108360	161700	124410	171600	132000
	Sound Pressure Level dB(A) 10m		65	56	65	56	65	56	67	57	67	57	67	57
	Energy Efficiency Grade		D	D	D	C	D	C	D	D	D	C	D	C
	Inlet Pipe		2×1"5/8		2×2"1/8		2×2"1/8		2×2"1/8		2×2"1/8		2×2"1/8	
	Drain Pipe		2×1"5/8		2×2"1/8		2×2"1/8		2×2"1/8		2×2"1/8		2×2"1/8	
8PH/8PL	Wiring		8PH	8PL	8PH	8PL	8PH	8PL	8PH	8PL	8PH	8PL	8PH	8PL
	Heat Exchange R404A 40° C Tcond40° C~ΔT15K	kW	252	204	286	238	338	276	364	306	428	356	506	414
	Air Volume	m³/h	67320	51700	73920	56760	77880	59840	100980	77550	110880	85140	116820	89760
	Sound Pressure Level dB(A) 10m		54	45	54	45	54	45	56	46	56	46	56	46
	Energy Efficiency Grade		C	B	C	B	B	B	C	B	C	B	B	B
	Inlet Pipe		2×1"5/8		2×1"5/8		2×1"5/8		2×2"1/8		2×2"1/8		2×2"1/8	
	Drain Pipe		2×1"5/8		2×1"5/8		2×1"5/8		2×2"1/8		2×2"1/8		2×2"1/8	
12PH/12PL	Wiring		12PH	12PL	12PH	12PL	12PH	12PL	12PH	12PL	12PH	12PL	12PH	12PL
	Heat Exchange R404A 40° C Tcond40° C~ΔT15K	kW	176	136	202	158	240	184	262	204	304	238	360	276
	Air Volume	m³/h	41360	29480	46200	33000	49720	35420	62040	44220	69300	49500	74580	53130
	Sound Pressure Level dB(A) 10m		43	35	43	35	43	35	45	36	45	36	45	36
	Energy Efficiency Grade		B	A	A	A	A	A	B	A	A	A	A	A
	Inlet Pipe		2×1"3/8		2×1"5/8		2×1"5/8		2×1"5/8		2×2"1/8		2×2"1/8	
	Drain Pipe		2×1"3/8		2×1"5/8		2×1"5/8		2×1"5/8		2×2"1/8		2×2"1/8	
	Surface Area	m²	660		831		997		997		1246		1495	
	Refrigerant Circuit Volume	dm³	92		117		137		137		168		202	
	Net Weight (without refrigerant)	kg	685		796		894		1000		1168		1320	
	Dimension	A mm	3420		4170		4920		4921		6046		7171	
		C mm	3066		3816		4566		4567		5692		6817	
		F mm	-		-		-		-		-		2285	
		G mm	-		-		-		-		-		-	

Air Cooled Condenser Technical Parameters - AL91 - Double Row

Model	AL91 8MDC		AL91 8MDD		AL91 8MDE		AL91 10MDC		AL91 10MDD		AL91 10MDE		AL91 12MDC		AL91 12MDD	
Fan	8 x Ø 910		8 x Ø 910		8 x Ø 910		10 x Ø 910		10 x Ø 910		10 x Ø 910		12 x Ø 910		12 x Ø 910	
Wiring	6PH	6PL	6PH	6PL	6PH	6PL	6PH	6PL	6PH	6PL	6PH	6PL	6PH	6PL	6PH	6PL
Heat Exchange R404A 40° C Tcond40° C~ΔT15K kW	598	506	728	616	868	732	746	632	910	770	1086	916	896	758	1092	924
Air Volume m³/h	187880	144480	215600	165880	228800	176000	234850	180600	269500	207350	286000	220000	281820	216720	323400	248820
Sound Pressure Level dB(A) 10m	68	58	68	58	68	58	69	59	69	59	69	59	70	60	70	60
Energy Efficiency Grade	D	D	D	C	D	C	D	D	D	C	D	C	D	D	D	C
Inlet Pipe	2×2"5/8		2×2"5/8		2×2"5/8		2×2"5/8		2×2"5/8		2×2"5/8		2×2"5/8		2×2"5/8	
Drain Pipe	2×2"5/8		2×2"5/8		2×2"5/8		2×2"5/8		2×2"5/8		2×2"5/8		2×2"5/8		2×2"5/8	
Wiring	8PH	8PL	8PH	8PL	8PH	8PL	8PH	8PL	8PH	8PL	8PH	8PL	8PH	8PL	8PH	8PL
Heat Exchange R404A 40° C Tcond40° C~ΔT15K kW	484	408	570	474	674	552	606	510	712	592	842	688	726	612	854	710
Air Volume m³/h	134640	103400	147840	113520	155760	119680	168300	129250	184800	141900	194700	149600	201960	155100	221760	170280
Sound Pressure Level dB(A) 10m	57	47	57	47	57	47	58	48	58	48	58	48	58	49	58	49
Energy Efficiency Grade	C	B	C	B	B	B	C	B	C	B	B	B	C	B	C	B
Inlet Pipe	2×2"1/8		2×2"5/8		2×2"5/8		2×2"5/8		2×2"5/8		2×2"5/8		2×2"5/8		2×2"5/8	
Drain Pipe	2×2"1/8		2×2"5/8		2×2"5/8		2×2"5/8		2×2"5/8		2×2"5/8		2×2"5/8		2×2"5/8	
Wiring	12PH	12PL	12PH	12PL	12PH	12PL	12PH	12PL	12PH	12PL	12PH	12PL	12PH	12PL	12PH	12PL
Heat Exchange R404A 40° C Tcond40° C~ΔT15K kW	350	272	404	295	480	368	436	340	506	396	600	460	524	406	606	474
Air Volume m³/h	82720	58960	92400	66000	99440	70840	103400	73700	115500	82500	124300	88550	124080	88440	138600	99000
Sound Pressure Level dB(A) 10m	46	37	46	37	46	37	47	38	47	38	47	38	48	39	48	39
Energy Efficiency Grade	B	A	A	A	A	A	B	A	A	A	A	A	B	A	A	A
Inlet Pipe	2×2"1/8		2×2"1/8		2×2"1/8		2×2"1/8		2×2"1/8		2×2"5/8		2×2"5/8		2×2"5/8	
Drain Pipe	2×2"1/8		2×2"1/8		2×2"1/8		2×2"1/8		2×2"1/8		2×2"5/8		2×2"5/8		2×2"5/8	
Surface Area m²	1330		1662		1994		1662		2077		2492		1994		2492	
Refrigerant Circuit Volume dm³	181		222		263		222		273		324		263		324	
Net Weight (without refrigerant) kg	1338		1548		1740		1657		1930		2169		1973		2297	
Dimension A mm	6422		7922		9422		7924		9799		11674		9426		11676	
C mm	6068		7568		9068		7570		9445		11320		9072		11322	
F mm	3036		3786		4536		3036		3787		4536		3037		3787	
G mm	-		-		-		1502		1876		2252		3003		3753	

Dimension data tolerance is +/-10mm. Weight data tolerance is +/-15kg. The value is related to the part options selected.



Libra Series

V-type Condenser

630mm V-type Condenser
Number of fans: 1 ~ 3
Nominal Capacity: 28.2~110.9 kW

9000mm V-type Condenser
Number of fans: 2 ~ 3
Nominal Capacity: 97~259.7kW

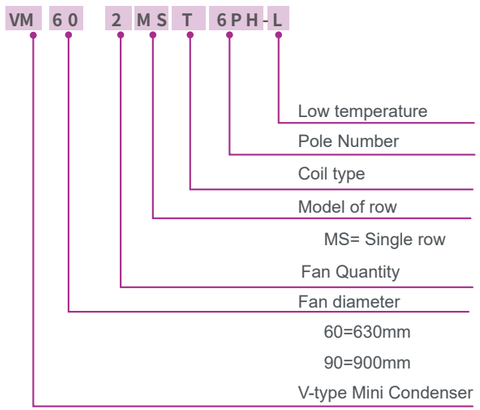
Customer Values

- Provides Carrier economical total solutions to customers
- Provides low noise models, ~ 10% noise reducing
- High heat exchange efficiency, energy saving and highly efficient, reducing operating cost
- Compact, small occupied area, more flexible, suitable for various applications
- Sheet metal parts with long service life, validated by long-term corrosion resistance tests
- Exquisite appearance, easy to install and maintain

Product Features

- Fans with thermal prevention devices, long service life, high reliability, easy to install and replace, low noise
- Efficient copper pipe fins - corrugated fins- fine flanged fins covering the entire copper pipes for a larger heat exchange area and higher heat exchange efficiency
- Power sprayed surface to ensure rust protection, high pressure powder sprayed double coatings, easy to clean

Naming Rule of V-type Condenser



Technical Advantage

The fan is equipped with an integral stamping to streamline air guide

- Streamline air guide can reduce the flow resistance of the fan and increase the air volume at the same time;
- The fan is equipped with a thermal protection device, waterproof grade IP54, long service life, high reliability, easy to install and replace, low noise, etc.

Coil optimized design and high heat exchange efficiency, meeting customer needs

- The coil design is optimized by the combination of numerical simulation and test;
- The end plate and each welding point are improved by design to reduce the risk of leakage and enhance the reliability of the product;
- High-efficiency copper tube fin system - corrugated fin, fin flanging use full flanging to cover copper tube, expand surface area, and improve heat exchange efficiency;
- The fins can be anti-corrosion treated according to the customer's application scenarios to improve the product life.

Carrier's iconic outdoor white, external surface coating treatment

- Spray powder on the surface for more than 400h to prevent the surface from rusting;
- The surface powder spraying treatment before the overall assembly of the whole machine can ensure that every surface can achieve rust prevention. The anti-corrosion adopts high-pressure powder spraying double coating, which is easy to clean.

Performance Advantages

- EC axial flow fans optional, high energy efficiency;
- The coils are treated for corrosion resistance according to the installation environment, for a longer service life.

Model		VM60 1MST 6PH	VM60 1MST 8PH	VM60 2MST 6PH	VM60 2MST 8PH	VM60 3MST 6PH	VM60 3MST 8PH
Power Supply		380V/3PH/50Hz					
Fan		1 x Ø 630	1 x Ø 630	2 x Ø 630	2 x Ø 630	3 x Ø 630	3 x Ø 630
Wiring		6PH	8PH	6PH	8PH	6PH	8PH
Running Current	A	1*1.25	1*0.67	2*1.25	2*0.67	3*1.25	3*0.67
Power Consumption	W	520	291	2*520	2*291	3*520	3*291
Air Volume	m³/h	8200	6000	17500	15000	30000	22950
Nominal Capacity *	kW	28.2	22.1	59.4	53.1	90.8	76.4
Sound Pressure Level	dB(A) 10m	38.7	29.5	41	32.6	41.8	33.5
Inlet Pipe	(mm)	28	28	28	28	28	28
Drain Pipe	(mm)	28	28	28	28	28	28
Surface Area	m²	90	90	180	180	260	260
Net Weight (without refrigerant)	kg	100	100	180	180	234	234
Dimension	Length [mm]	985	985	1788	1788	2528	2528
	Width [mm]	1017	1017	1017	1017	1017	1017
	Height [mm]	1345	1345	1345	1345	1345	1345

Notes:
1) The heat extraction rate work condition: Ambient Temperature 35°C, condensation temperature is 50°C;
2) The noise was measured at 10m location.
* Heat extraction rate is based on the condition of condensation temperature of 50°C and heat transfer temperature difference of 15K, and the refrigerant is R404A.

Model		VM60 1MST 6PH-L	VM60 1MST 8PH-L	VM60 2MST 6PH-L	VM60 2MST 8PH-L	VM60 3MST 6PH-L	VM60 3MST 8PH-L
Power Supply		380V/3PH/50Hz					
Fan		1 x Ø 630	1 x Ø 630	2 x Ø 630	2 x Ø 630	3 x Ø 630	3 x Ø 630
Wiring		6PH	8PH	6PH	8PH	6PH	8PH
Running Current	A	1*1.25	1*0.67	2*1.25	2*0.67	3*1.25	3*0.67
Power Consumption	W	520	291	2*520	2*291	3*520	3*291
Air Volume	m³/h	8200	6000	17500	15000	30000	22950
Nominal Capacity *	kW	28.2	22.1	59.4	53.1	90.8	76.4
Sound Pressure Level	dB(A) 10m	38.7	29.5	41	32.6	41.8	33.5
Inlet Pipe	(mm)	28	28	28	28	28	28
Drain Pipe	(mm)	28	28	28	28	28	28
Surface Area	m²	90	90	180	180	260	260
Net Weight (without refrigerant)	kg	100	100	180	180	234	234
Dimension	Length [mm]	985	985	1788	1788	2528	2528
	Width [mm]	1017	1017	1017	1017	1017	1017
	Height [mm]	1345	1345	1345	1345	1345	1345

Notes:
1) The heat extraction rate work condition: Ambient Temperature 35°C, condensation temperature is 50°C;
2) For the area such as Inner Mongolia, Liaoning, Jilin, Heilongjiang, northern Tibet, northern Gansu, northern Qinghai, Sinkiang and etc., where ambient temperature below -20°C, it is better to commend the users to select Low-temperature V-condenser; while other users can determine by requirements.
3) The noise was measured at 10m.
* Heat extraction rate is based on the condition of condensation temperature of 50°C and heat transfer temperature difference of 15K, and the refrigerant is R404A.

Model		VM90 2MSF 6PH	VM90 2MSF 8PH	VM90 2MSF 12PH	VM90 3MSF 6PH	VM90 3MSF 8PH	VM90 3MSF 12PH
Power Supply		380V/3PH/50Hz					
Fan		2 x Ø 910	2 x Ø 910	2 x Ø 910	3 x Ø 910	3 x Ø 910	3 x Ø 910
Wiring		6PH	8PH	12PH	6PH	8PH	12PH
Running Current	A	2*4.85	2*2.35	2*0.99	3*4.85	3*2.35	3*0.99
Power Consumption	W	2*2476	2*1065	2*351	3*2476	3*1065	3*351
Air Volume	m³/h	51000	39000	25000	78000	61500	36000
Nominal Capacity *	kW	168.5	137.6	97	259.7	217.8	142.9
Sound Pressure Level	dB(A) 10m	61.8	50.6	34.5	63.2	52.5	36.7
Inlet Pipe	(mm)	28	28	28	28	28	28
Drain Pipe	(mm)	28	28	28	28	28	28
Surface Area	m²	360	360	360	545	545	545
Net Weight (without refrigerant)	kg	390	390	390	597	597	597
Dimension	Length [mm]	2455	2455	2455	3555	3555	3555
	Width [mm]	1265	1265	1265	1265	1265	1265
	Height [mm]	1450	1450	1450	1450	1450	1450

Notes:
Heat extraction rate is based on the condition of ambient temperature of 35°C and condensation temperature of 50°C.

Features of Carrier Compressors

06D MT/LT single stage reciprocating compressor

06E MT/LT single stage reciprocating compressor

06CC LT double stage reciprocating compressor

06TT/TS MT/LT double stage screw compressor

Reciprocating Compressor

1. 6 cylinder design, optional PWM valve intelligent unloading, cooling capacity adjustment range is 20%~100%
2. Energy saving and high efficiency, energy saving of single-stage reciprocating compressor is about 5% ~ 10%, energy saving of double-stage reciprocating compressor is about 30%
3. New type tight valve plate, valve seat, valve plate system (made of Swedish steel), good quality and long service life
4. Two-way automatic high-flow oil pump, oversized crankcase oil groove design, ensuring oil return reliability
5. High-efficiency heavy load motor and the latest insulation system, ensuring the reliability of the compressor

Screw Compressor

1. 25% ~ 100% slide valve stepless regulation, energy saving by ~ 10-20%
2. Built in NTC thermal resistance, can read the temperature value of the motor, suction cooling motor, reliable operation
3. Simple oil system design, reliable oil return

High Reliability Design:

1. High capacity Carrier Patented oil pumps
2. Large crankcase and oil reservoir design
3. Efficient heavy-duty motor design
4. Big suction channel design
5. Highly reliable wearing parts, reciprocating rods and valve blocks

Environmental Protection Design

1. Efficient and reliable refrigerants –R22 and -R404A
2. Special valve plate and lubrication systems for POE oil

Benefits for the Customers

1. Efficient Carrier compressors may help reduce the initial costs of the refrigeration systems, as well as the initial costs of condensers and electrical control system of the refrigeration systems for the customers
2. Low vibration, low noise and low compressor operation temperature
3. Low system operation costs ensure that the compressor has the same load as that of the system under different conditions
4. Compressor lubrication system is reliable and ensures that only little circulates in system

Energy Saving Solutions

- Hot Gas Defrosting

Comparison of electric defrosting and hot gas defrosting of air coolers in cold storage rooms:

Energy consumption of electric defrosting of air coolers in cold storage rooms

Room Name	Room Temperature	Evaporating/ Condensing Temperature	Number of Rooms	Energy Consumption of Electric Defrosting Air Coolers			
				Air Cooler Model	Quantity / Room	Power of defrosting [KW/set]	Total Defrosting Power [KW]
Cold Storage Room 1	-18	-26/36	1	S-GHN 071.2J/310-END50.E	7	40.5	283.5
Cold Storage Room 2	-18	-26/36	1	S-GHN 071.2J/310-END50.E	7	40.5	283.5
						Total	567

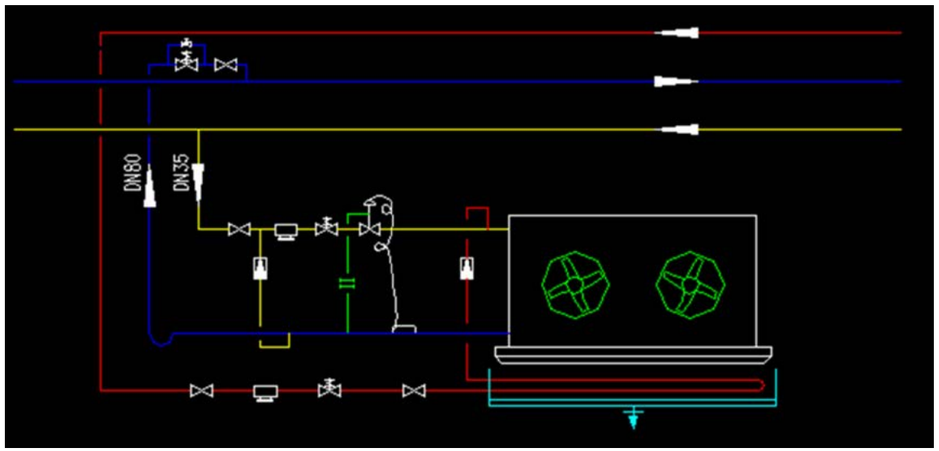
Note: The data above are based on some cold storage project in Nanjing.

If hot gas defrosting is adopted for air coolers in cold storage rooms, it uses the waste heat from the refrigerating system, so it does not consume any energy.

If the air coolers run 6 hours and need defrosting of 1 hour twice a day, and there are 365 days in the years, the comparison of power consumption of the two defrosting approaches are as follows.

(Defrosting) power consumption [kwh]	567.0
Annual power consumption saved [kwh]	206955

If the average price of electricity in cold storage is 1 Yuan/Kwh, according to the above calculation, the use of hot air defrost can save about 206,900 Kwh of electricity every year, and save about 206,900 RMB of electricity cost every year.



Principle Diagram of Hot Gas Defrosting

If the air coolers adopt hot gas defrosting, the increased costs of the refrigeration system are as follows:

Equipment Name	Name	Specifications	Quantity	Remarks
Additional valves for the hot gas defrosting compressor	Main valves	ICS65	2	Danfoss
	Through stop valves	DN80	2	AMG
	Solenoid pilot valves	EVM	2	Danfoss
	Differential pressure pilot valves	CVPP(HP)	2	Danfoss
	Coils		2	Danfoss
	Filters	(54mm)FIA50	2	Danfoss
	Through stop valves	DN50	2	AMG
	Through stop valves	DN25	2	AMG
Additional valves increased for the hot gas defrosting air coolers	Two-stage start main valves	PMLX65	14	Danfoss
	Solenoid pilot valves	EVM (NC)	4	Danfoss
	Solenoid pilot valves	EVM (NO)	14	Danfoss
	Coils		42	Danfoss
	Check valves	NRV 35S	28	Danfoss
	Solenoid valves	EVR32(42mm)	14	Danfoss
	Filters	(42mm)	14	Danfoss
	Through stop valves	GBC22S	28	Danfoss
Additional Pipes for hot defrosting air coolers	Seamless steel tubes	ϕ45X3.0	20	N/A
	Seamless steel tubes	ϕ57X3.5	80	1.61
Thermal Insulation for hot gas defrosting	009PS	3.01	1	2.57

Including the price of the air coolers and other costs not covered here, the increased cost in total is **450000** RMB. And the electricity cost saved annually is about **206,900** RMB. If the air cooler adopts hot gas defrosting, the increased costs can be recovered in **2.18 years.**

The calculation above is based on assumed conditions and the costs can be adjusted base on the actual operation conditions. According to engineering calculations and actual operation conditions, the cost of hot gas defrosting can be recovered in 2-3 years.

Energy Saving Solutions

- Dual Temperature Racks

Besides the features of reciprocating parallel racks, the double-suction reciprocating parallel racks have the following advantages:

1. Each set of racks can provide cooling for two systems with different evaporating temperatures
2. The system is easy to control, maintain and manage
3. Balance control of the oil return of the compressors with different evaporating temperatures
4. Stand-by valves as multi-ensuring measures for the operation of the system to improve operation safety
5. Small refrigerant consumption, economic and environment-friendly
6. Compact structure and small footprint
7. High energy efficiency

Energy Saving Data Analysis:

Data analysis based on Model VPPM6203OR-170 (medium and low temperature integrated racks)

Operation Condition: Low temperature: -28/45°C; High temperature -8/45°C (evaporating temperature /condensing temperature)						
Model	VPPM6203OR-170 (MT / LT integrated racks)					
Refrigerant	R404A					
Compressor Brand	Carlyle					
Compressor No.	1# - LT	2# - LT	3# - LT	4# - LT	1# - HT	2# - HT
Compressor Model	06ER399	06ER399	06ER399	06ER399	06EM450	06EM450
Horsepower	30	30	30	30	25	25
Dual Temperature Operation Condition	-28/45°C				-8/45°C	

Energy Saving Data Analysis:

VPPM6203OR-170 (medium and low temperature integrated racks): 1 set
The low temperature load is 117.04kW and the input power is 85.04kW

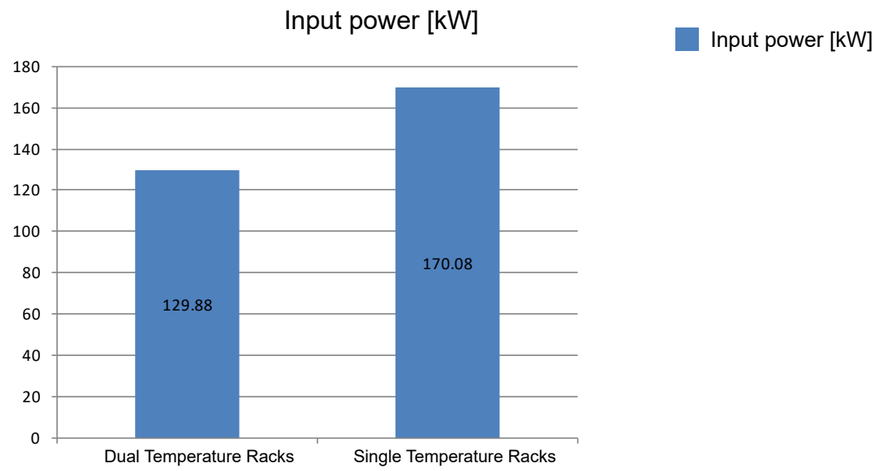
The high temperature load is 108.44kW and the input power is 44.84kW

Either dual temperature racks or single temperature racks in parallel are used
The model is VPM8203OF-240, one set
The low temperature load is 234.1kW and the input power is 170kW

From the aspect of input data, the dual temperature racks save 23.6% of operation energy
On the whole, the cooling capacity of parallel racks is 3.7% higher

For the same cooling capacity, the dual temperature racks **save about 20% of the energy**

Model	Cooling Capacity [kW]	Power Comparison	Power Consumption [kW]
VPPM6203OR-170 (MT / LT integrated racks)	226	Dual Temperature Racks	129.88
VPM8203OF-240	235	Single Temperature Racks	170.08



Energy Saving Data Analysis:

Taking VPPM5203OR-145 (Medium and low temperature integrated racks) for example to analyze the energy saving data

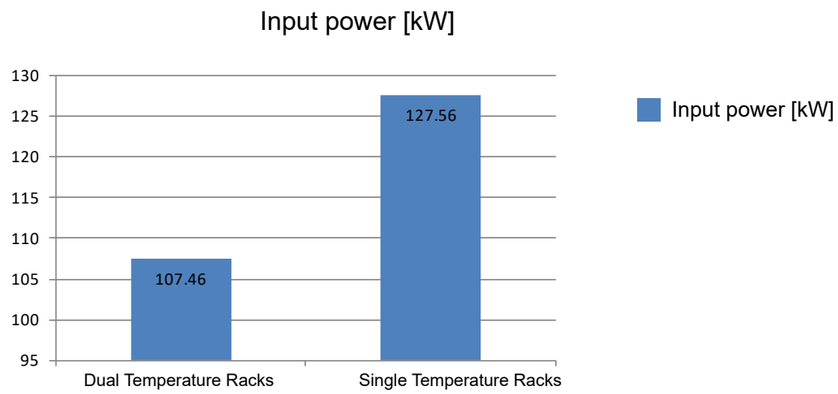
Operation Condition: Low temperature: -28/45°C; High temperature -8/45°C (evaporating temperature /condensing temperature)					
Model	VPPM5203OR-145 (MT / LT integrated racks)				
Refrigerant	R404A				
Compressor Brand	Carlyle				
Compressor No.	1# - LT	2# - LT	3# - LT	4# - LT	1# - HT
Compressor Model	06ER399	06ER399	06ER399	06ER399	06EM450
Horsepower	30	30	30	30	25
Dual Temperature Operation Condition	-28/45°C				-8/45°C

VPPM5203OR-145 (Medium and low temperature integrated racks) 1 set
The low temperature load is 117.04kW and the input power is 85.04kW
The high temperature load is 54.22kW and the input power is 22.42kW

Either dual temperature racks or single temperature racks in parallel are used
The model is VPM6203OF-180, one set
The low temperature load is 175.56kW and the input power is 127.56kW

From the aspect of input data, the dual temperature racks save 15.8% of operation energy
On the whole, the cooling capacity of parallel racks is 2.5% higher
For the same cooling capacity, the dual temperature racks **save about 13% of the energy**

Model	Cooling Capacity [kW]	Power Comparison	Power Consumption [kW]
VPPM5203OR-145 (MT / LT integrated racks)	171.26	Dual Temperature Racks	107.46
VPM6203OR-180	175.56	Single Temperature Racks	127.56



Energy Saving Solutions

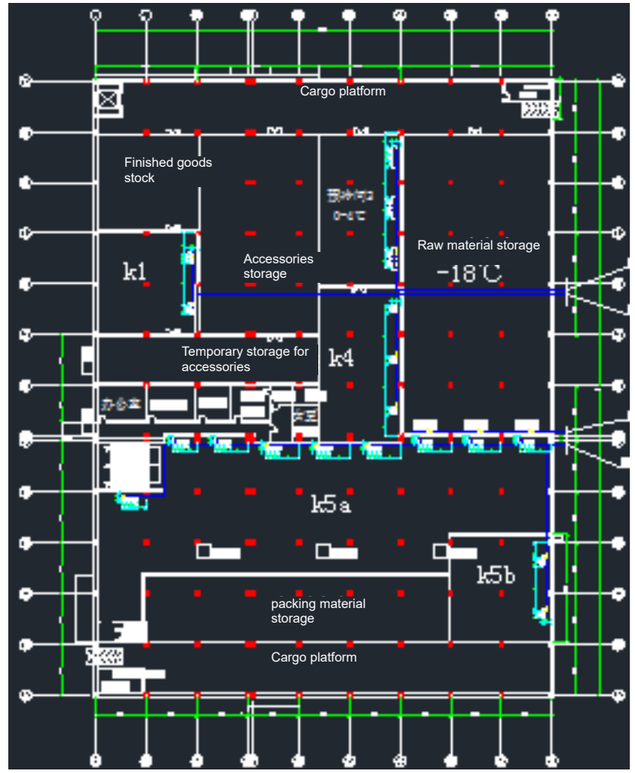
- Water Defrosting

Project Overview

Factory Planning

The project is for quick-frozen prepared food. To full play to its favorable regional advantages and resources and improve the industrial chain, the company is to establish a high-end quick frozen food processing and cold chain logistics center. The total investment in the project is 260 million Yuan, including 200 million Yuan of fixed-asset investment. The total floor area is 41,220m2, including a workshop area of 28,390m2. The workshop is 15m high, and the automated warehouse is 24m high. The company plans to purchase domestic and imported production equipment, including 400 sets of computer management systems, auxiliary equipment, etc. The project is planned to be completed in September 2014. When it is put into operation, the factory will have a production capacity of 80,000 tons of high-end frozen food and an automated warehouse capacity of 12,000 tons. Then, it will be a professional quick-frozen food production base integrating high-end food processing, high-end cold chain logistics, provincial technology center and training center, promoting the intelligent, automated management and industrial upgrading of the company.

Plane Drawing



Low temperature system (Raw Material Storage):

1. The overall is 130KW
2. The rack is VHM6257OR-180 *1, with overall cooling capacity of 140 kw
3. Condenser: SPL-410(N) *1
4. Air coolers: IEVR16.8G2/63.N24-W-F *3
5. Air coolers adopt water defrosting

Electric defrosting: Defrosting relies on electric heating tube to heat from outside, consuming much energy and heating the food at the same time.

Water defrosting: Defrosting relies on the 15°C -25°C warm water pumped by the defrosting water pumps. The water is evenly sprayed on the air cooling coils, ensuring high defrosting efficiency, consuming less energy, causing small changes in the cold storage and securing the food quality.

Project	Equipment	Cooling Capacity [KW/set]	Quantity	Fan power [KW/set]	Defrosting Power [KW/set]	Total Operation Power [KW]	Total Defrosting Power [KW]
Water Defrosting	Air Cooler	43	3	1.96	0	5.88	0
	Water Pump		1			5.5	0
Electric defrosting	Air Cooler	43	3	1.96	25.3	5.88	75.9

Calculation based on air coolers operating 10 hours and defrosting 1 hour per day		
Project	Daily Power Consumption [kwh]	Daily Energy Saving
Water defrosting air cooler operation & defrosting	75.3	44.1%
Electric defrosting air cooler operation & defrosting	134.7	

Other energy efficiency of air cooler water defrosting 1 – LT

Project	Equipment	Cooling Capacity [KW/set]	Quantity	Fan power [KW/set]	Defrosting Power [KW/set]	Total Operation Power [KW]	Total Defrosting Power [KW]
Water Defrosting	Air Cooler	18	3	0.73	0	2.19	0
	Water Pump		1			4	0
Electric defrosting	Air Cooler	18	3	0.73	7.7	2.19	23.1

Calculation based on air coolers operating 10 hours and defrosting 1 hour per day		
Project	Daily Power Consumption [kwh]	Daily Energy Saving
Water defrosting air cooler operation & defrosting	33.9	24.7%
Electric defrosting air cooler operation & defrosting	45	

Operation Time	Defrosting Time
10	33.9

Other energy efficiency of air cooler water defrosting 2 – LT

Project	Equipment	Cooling Capacity [KW/set]	Quantity	Fan power [KW/set]	Defrosting Power [KW/set]	Total Operation Power [KW]	Total Defrosting Power [KW]
Water Defrosting	Air Cooler	22.2	3	1.96	0	5.88	0
	Water Pump		1			5.5	0
Electric defrosting	Air Cooler	22.2	3	1.96	20.7	5.88	62.1

Calculation based on air coolers operating 10 hours and defrosting 1 hour per day		
Project	Daily Power Consumption [kwh]	Daily Energy Saving
Water defrosting air cooler operation & defrosting	75.3	37.7%
Electric defrosting air cooler operation & defrosting	120.9	

Operation Time	Defrosting Time
10	1

Other energy efficiency of air cooler water defrosting 3 – MT

Project	Equipment	Cooling Capacity [KW/set]	Quantity	Fan power [KW/set]	Defrosting Power [KW/set]	Total Operation Power [KW]	Total Defrosting Power [KW]
Water Defrosting	Air Cooler	23	3	1.46	0	4.38	0
	Water Pump		1			5.5	0
Electric defrosting	Air Cooler	23	3	1.46	14	4.38	42

Calculation based on air coolers operating 10 hours and defrosting 1 hour per day		
Project	Daily Power Consumption [kwh]	Daily Energy Saving
Water defrosting air cooler operation & defrosting	60.3	29.7%
Electric defrosting air cooler operation & defrosting	85.8	

Operation Time	Defrosting Time
10	1

Other energy efficiency of air cooler water defrosting 4 – MT

Project	Equipment	Cooling Capacity [KW/set]	Quantity	Fan power [KW/set]	Defrosting Power [KW/set]	Total Operation Power [KW]	Total Defrosting Power [KW]
Water Defrosting	Air Cooler	18.2	3	0.98	0	2.94	0
	Water Pump		1			4	0
Electric defrosting	Air Cooler	18.2	3	0.98	10.8	2.94	32.4

Calculation based on air coolers operating 10 hours and defrosting 1 hour per day		
Project	Daily Power Consumption [kwh]	Daily Energy Saving
Water defrosting air cooler operation & defrosting	41.4	33.0%
Electric defrosting air cooler operation & defrosting	61.8	

Operation Time	Defrosting Time
10	1

Energy Saving Solutions

- Inverter Condensing Units

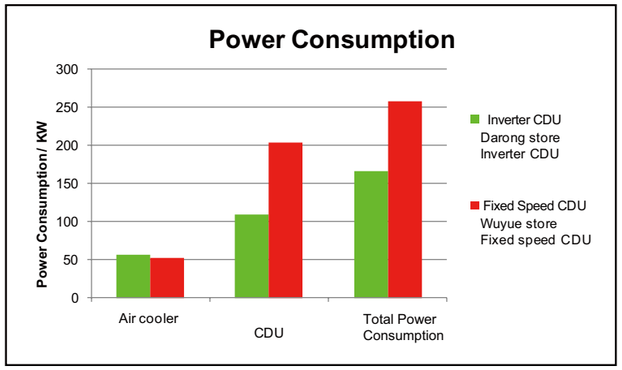
1. **Catering cold storage B,** two stores in Qingdao: Two stores are located in Qingdao, with cold storage of the same size and storage capacity. One uses Carrier 1.5HP fixed frequency unit and the other uses Carrier 1.5HP variable frequency unit.

2. The air cooler of the 1.5HP fixed frequency unit +SOLO30 A164BM
   The air cooler of the 1.5HP variable frequency unit +SOLO30 A164BM
   The specifications are as follows:

Project	Store	Type	Length /mm	Width /mm	Height /mm	Volume (m^3)	CDU Model	Air Cooler Model
Fixing Speed Condensing Units (CDU)	Store A	Cold Storage	2630	2360	2600	12.6	GQH015PS4M3X	SOLO30 A164BM
Inverter Condensing Units (CDU)	Store B	Cold Storage	2970	2010	2600	12.0	GVRM015NSA2A	SOLO30 A164BM

3. **Store feedback:** The units and the air coolers are running smoothly. Especially, The units featuring low noise is well-received by the users.
4. **Data collection:** During Aug. 10th – Sep. 8th, 2018, in both stores, the power consumption was measured by electricity meters and monitored remotely in real time.

Measuring Results:



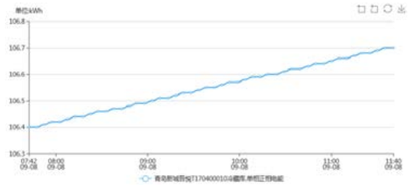


Chart of remote monitoring

Total power consumption saved 35%

Power consumption saved by variable frequency CDU 46%

The test data are real measurements. The difference in the storage capacity of the two stores is less than 5%. The difference is already corrected in the test data.

Energy Saving Solutions

- A well-known Logistics Center in Nanjing

Refrigeration area: 4500 m^2
Refrigeration area: 3200 m^2
Temporary storage and dispatch area: 2200 m^2

Project Configuration

Room	Temperature (° C)	Area (m^2)	Racks	Cooling Capacity (kW)
Freezer	-25	2500	250HP LT Screw Parallel Racks	280
Variable temperature storage	-22 5	2000	225HP MT/LT Intergrated Screw Racks	260 470
Low temperature storage	-18	3200	200HP LT Screw Parallel Racks	320
Sorting and storage area	0~8	1400	250HP MT Screw Parallel Racks	700
South delivery area	0~8	400		
North delivery area	0~8	400		

Advantage

Stepless adjustment

Issues to solve: Wide temperature fluctuation in the warehouse can reduce product quality.

Advantages over the traditional solution:

• Traditional solution:

Paralleling multiple compressors and adjusting by three or four level adjustment of the compressors or turning on/off of the compressors.

• Carrier stepless adjustment paralleling unit

Paralleling multiple Carrier compressors and adjusting by stepless adjustment of the compressors or turning on/off the compressors. A single compressor can be adjusted between 25%~100%, and a unit can be adjusted between 6.3%~100%, which could address the refrigeration adjustment needs of the warehouse throughout the year.

• Comparison:

Carrier stepless adjustment paralleling unit can meet the load requirement anytime throughout the year. Frequent load adjustment or switching on and off the compressors could assure the temperature stability of the warehouse.

MT/LT Integrated Unit

Issues to solve: The planned low temperature warehouse or high temperature warehouse cannot meet the actual operation needs, and it needs to be upgraded later.

Advantages over the traditional solution:

• Traditional solution:

Combine a set of mid-temperature units and a set of low temperature units. Manually switch between the two units. Or only use a set of low temperature units and adjust the warehouse temperature when operated at high temperature.

• Carrier stepless adjustment paralleling unit

Use a set of mid-low temperature integrated units. When adjusting the warehouse temperature, adjust the equipment parameters to switch between mid-temperature and low temperature without manually switching the valves.

• Comparison:

Carrier stepless adjustment paralleling unit doesn’t require manually switching the valves, which could simplify the process and reduce the risk of misoperation.

Customer Values

Customer feedback:

The temperature in the warehouse runs stable, and the product quality gets improved; it is easy to adjust temperatures with the MT/LT integrated unit and it provides convenience to the customer.

ROI

Stable temperature in the warehouse reduces the power consumption, and the flexible adjustment of the warehouse temperature makes the customers more adaptable to market demand changes.

Initial investment reduces by **6~8%** and the average project energy consumption reduces by **8~12%**

Patent List

Utility Model Patents

Patent Name	Patent No.
a new inverter plug-in cabinet	ZL202021482075.5
REFRIGERATION DISPLAY CASE	ZL201720817201.X
Refrigeration Cabinet and a Group of Refrigeration Cabinet	ZL201620287257.4
A refrigerated display case with auxiliary air duct	ZL201420698145.9

Design Patents

Patent Name	Patent No.
a new transparent cabinet	ZL202130247387.1
Industrial design for refrigeration display cabinet.	ZL202030512577.7
Industrial design for refrigeration display cabinet.	ZL202130095430.7
REFRIGERATION DISPLAY CABINET	ZL202030343168.9
REFRIGERATION DISPLAY CABINET	ZL202030705050.6
REFRIGERATION DISPLAY CABINET	ZL202030705057.8
DISPLAY CABINET	ZL201930426914.8
AXIAL FLOW FAN	ZL201830409386.0
CABINET	ZL201730677052.7
REFRIGERATION DISPLAY CASE	ZL201730528369.4

Invention Patents

Patent Name	Patent No.
METHOD AND SYSTEM FOR MONITORING REFRIGERATION SYSTEM	ZL201711179958.1
THROTTLING DISTRIBUTION ASSEMBLY AND REFRIGERATION SYSTEM	ZL201710880991.0
REFRIGERANT DISTRIBUTOR FOR FALLING FILM EVAPORATOR	ZL201780052482.7
METHOD AND SYSTEM OF ANALYZING AND CONTROLLING A COLD CHAIN SYSTEM	ZL201780019959.1
Rail system for height adjusting refrigeration cabinet shelves	ZL201780087306.7
Means to avoid condensate on vertical mullion of plug-in freezer cabinet with heat pipes	ZL201680090995.2
Improved profile for passive ventilation to avoid condensate formation on glass-doors of refrigerated display cabinets	ZL201680075534.8
Fixing a motorized night blind during night operation for open refrigerated display cabinet.	ZL201680090595.1
Multi-stage Oil Batch Boiling System	ZL201680060702.6
Diffuser Restriction Ring	ZL201680042822.3
MULITLEVEL DISTRIBUTION SYSTEM FOR EVAPORATOR	ZL201680030548.8
Economized Reciprocating Compressor	ZL201680027739.9
CO2 refrigeration system MT suction liquid separation	ZL201680084211.5
Average support for furniture and equipment set	ZL201680083579.X
SINKING DESUPERHEATER	ZL201610075232.2
BYPASS EVAPORATOR	ZL201610075233.7
Means of passive ventilation avoiding condensate formation on glass-doors of refrigerated display cabinets	ZL201580085491.7
Coil arrangement in a heat trap for fast and energy saving defrost of frozen food display cabinets	ZL201580085499.3
MAGNETIC BEARING FAULT-TOLERANT DRIVE SYSTEM	ZL201580059213.4
COMPRESSOR MOTOR OVERLOAD DETECTION	ZL201580053438.9
uneaven multiple variable ejector racks	ZL201580079751.X
Control strategy for parallel ejectors with variable mass flow	ZL201580079761.3
Vertical LED	ZL201480084336.9
Refrigerated Locker	ZL201480084159.4

* 截至 2022 年 3 月 2 日的数据统计

Invention Patents

Patent Name	Patent No.
Refrigerant Compressor Lubricant Viscosity Enhancement	ZL201480069075.3
Method of Improving Compressor Bearing Reliability	ZL201480069113.5
Ejector cycle method	ZL201480080513.6
Oil separation and return to compressor in refrigerant discharge lines	ZL201380080579.0
Door opening for small multidecks	ZL201380080717.5
Recovery of liquid fraction in CO2 systems with heatrecovery	ZL201380079723.9
Lockable glass lids for ice cream island	ZL201380048001.7
Simplified air management for bottom display shelf	ZL201380077241.X
Refrigerant system leakage detection by means of measuring the subcooling	ZL201380077073.4
MULTIPLE-AXIS MAGNETIC BEARING AND CONTROL OF THE MAGNETIC BEARING WITH A TOPOLOGY INCLUDING ACTIVE SWITCHES	ZL201380018453.0
Extruded Reinforced Nylon for Display Case Frame Structure	ZL201280077272.0
RACK DEVICE	ZL201280047665.7
Glass-door refrigerated Cabinet - door frame - Limit heat conduction through the mullions	ZL201280075978.3
refrigeration display cabinet frame door - front layer with air gap	ZL201210297908.4
Glass-door freezer - door frame - insulation coating	ZL201280074997.4
Siphon for refrigerated cabinet	ZL201280074996.X
Glass-door freezer - door frame - nanoporous aerogel as insulation material -	ZL201280074923.0
Ejector	ZL201280008132.8
Ejector	ZL201180068373.7
Ejector	ZL201180057597.8
Circuit for Heat Recovery of Refrigeration System	ZL201180073176.4
Matrix cooling at display cabinets	ZL201180073201.9
Selfcleaning Condenser	ZL201180072730.7
Ejector Cycle	ZL201180057591.0

* 截至 2022 年 3 月 2 日的数据统计

Invention Patents

Patent Name	Patent No.
High Efficiency Ejector Cycle	ZL201180036128.8
High Efficiency Ejector Cycle	ZL201180036062.2
EJECTOR-TYPE REFRIGERATION CYCLE AND REFRIGERATION DEVICE USING THE SAME	ZL201180036089.1
Ejector Cycle Refrigerant Separator	ZL201180036061.8
Ejector Cycle and Separator	ZL201180036106.1
Ejector Cycle	ZL201180036102.3
Oil accumulation in CO2 Refrigeration Ejektor Cycles	ZL201180072382.3
Ejector	ZL201180064145.2
Refrigerated Case	ZL201080064761.3
Oil Compensation in a Refrigeration Circuit	ZL201080070471.X
Refrigerated Case Defrost Water Evaporation	ZL 201080063468.5
Bulk-Processed, Enhanced Figure-of-Merit Thermoelectric Materials	ZL200980151017.4
Compact Desuperheater	ZL200780102213.3
Compact Desuperheater	ZL201310118417.3
Compact Desuperheater	ZL201310118415.4
Refrigerant System With Bypass Line and Dedicated Economized Flow Compression Chamber	ZL200780100791.3
CO2 Refrigerant System With Booster Circuit	ZL200780053471.7
CONDENSATE HEAT TRANSFER FOR TRANSCRITICAL CARBON DIOXIDE REFRIGERATION SYSTEM	ZL200580049119.7
Two-stage expansion	ZL200580026836.8
Booster Circuit	ZL200910246380.6
DE-GASSING LUBRICATION RECLAMATION SYSTEM	ZL200580050969.9
PCT/EP2005/001785 Refrigeration Circui	ZL 200580048413.6
PCT/EP2005/001720 Controlling Method	ZL 200580048407.0
SUPERCRITICAL PRESSURE REGULATION OF VAPOR COMPRESSION SYSTEM	ZL200480032529.6
A RECIPROCATING COMPRESSOR	ZL02152945.0

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