



GÜNEŞ INDUSTRIAL PRODUCT CATALOG



GÜNEŞ ENDÜSTRİYEL





GÜNEŞ INDUSTRIAL

Industrial Cooling Systems



R245 FA refrigerant is used for this air conditioner.

**INDUSTRIAL
COOLING
SYSTEMS**



CRANE CABIN AIR CONDITIONERS

Specifications

These air conditioners with refrigerants R-227EA and R-236FA are manufactured for iron and steel plants, aluminium treatment facilities, casting factories which working conditions up to +90 C.

Crane Air Conditioners are designed for cooling of crane operator cabins, utility boxes and driver cells. We use R-134, R-227 and R-236 refrigerants in our products.

Air conditioners with R-134 refrigerant are used when ambient air temperature is +60 C

Air conditioners with R-227 refrigerant are used when ambient air temperature is +70 C

Air conditioners with R-236 refrigerant are used when ambient air temperature is +90 C

Germany is the country of origin for our air conditioners' compressor, exhaust fan, expansion valve and electrical spare parts.

The level of protection of evaporators and condensers is enhanced due to implementation of duplicated steel primer and epoxy paint.

Crane Cabin Air Conditioners are mostly manufactured with cooling power of 3-50 kW range.

We are specialised on these type of air conditioners.

Our crane air conditioners are manufactured with R236fa refrigerant. Orders of crane air conditioners can be delivered within 30 working-days. Our after sale department work with 24/7 principle. Crane air conditioners can be manufactured in desired cooling power. Your old-fashioned air conditioners can be revised and be accorded with R236 refrigerant.

CRANE CABIN AIR CONDITIONERS





CRANE CABIN AIR CONDITIONERS

Specifications

Crane operator cabins and driver cells are air-conditioned with R134, R227 and R236 refrigerants.



CRANE CABIN AIR CONDITIONERS





GÜNEŞ SOĞUTMA

THERMO
MAY 2016
P. 1000 1000 1000 1000

| TYPE | TYPE | COOLING CAPACITY | AMBIENT TEMPERATURE | | | | | | NOMINAL AIR FLOW RATE | VOLTAGE |
|-----------------|---|------------------|---------------------|------|-------|-------|-------|-------|-----------------------|---------------|
| | | | 40°C | 50°C | +60°C | +70°C | +80°C | +90°C | | |
| GÜN-TR 155/4,2 | Crane Operator Cabins | 4,2 kW | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 1000 | |
| GÜN-TR 189/5 | Crane Operator Cabins | 5 kW | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 1150 | |
| GÜN-TR 228/6 | Crane Operator Cabins | 6 kW | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 1250 | 380 v 3 50 hz |
| GÜN-TR 279/7,5 | Crane Operator Cabins Switchboard Cabins | 7,5 kW | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 1500 | 380 v 3 50 hz |
| GÜN-TR 435/12 | Switchboard Cabins | 12 kW | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 2300 | 380 v 3 50 hz |
| GÜN-TR 498/13,4 | Switchboard Cabins | 13,4 kW | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 2500 | 380 v 3 50 hz |
| GÜN-TR 698/17 | Switchboard Cabins | 17 kW | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 3300 | 380 v 3 50 hz |
| GÜN-TR 744/20 | Switchboard Cabins | 20 kW | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 4000 | 380 v 3 50 hz |
| GÜN-TR 846/22,4 | Switchboard Cabins | 22,5 kW | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 4300 | |
| GÜN-TR 972/26 | Switchboard Cabins | 26 kW | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 4600 | |



REFRIGERANTS

Specifications

R-236 FA Refrigerant

R236fa can operate in extreme hot environments and it is environmentally friendly. It can be used up to +80 degree and dusty places with high efficiency. Comparing to R227ea refrigerant, this allow of 15C degree hotter working conditions for cooling. Evaporation temperature is -1,4C degree when R227ea is -15,4 C degree. So this difference makes it possible to bear with higher temperature.

As a manufacturer and user tried and trusted that R236fa is more tolerant to heat than R227ea and thus usage of condenser/ evaporator is significantly reduced.

This refrigerant makes it possible to choose smaller compressor and air-conditioning size as 1 unit of evaporator can be sufficient for 1,5 unit of condenser.

Air conditioners with this refrigerant is specially chosen in iron and steel plants and cement plants because of the available space is limited and the environment is hot and dusty. As these air conditioners are tolerant to these harsh conditions, it seems as an ideal solution. Even if these air conditioners seem expensive at first, its operational costs are much less than its substitutes and such problems like change of state from gas to liquid will not be happening so often. This problem may not be seen in these air conditioners because when the temperature gets a little bit lower then it automatically starts operating itself.

These air conditioners are the most efficient ones we installed in iron and steel plants, cement and casting plants. Especially on top of stoves, these can operate seamlessly.

It should be keep in mind that all air conditioners working in hot and dusty environment should be cleaned in routine. Cleaning of condensers and evaporators are essential for cooling the refrigerant.



Specifications

R-227ea

R-227ea(HFC) is not manufactured since 31.12.1994 in EU and it is a substitute for R-114(CFC)

R-227ea can be used in air conditioners working in high temperatures, high temperature pumps and termic sensors.



Specifications



R245FA Refrigerant

R245 fa is the newest refrigerant used in hot environments. Purpose of this refrigerant is to obtain electrical energy from hot water, namely ORC, but our firm used this refrigerant for cooling.

Its evaporating temrepature is +16 degree higher than its closer opponent, rr236 fa. So it is not likely to stop cooling because of state of change of refrigerant.

Working conditions of refrigerant in condenser is around +80 C to +90 C degree as it is around +50 and +60 C degree for r236 fa.

Our firm has already installed air conditioners with r245 fa refrigerant in iron and steel plants and according to our experince it is guaranteed that r245 fa +40 C degree more tolerant than r 236 fa. Also the price of r245 fa is lower than r 236 fa so operating costs are more competitive.

If you are troubling with hot weather, this air conditioner is a right option for you.

Pressure range is between 1,5 bar and 10 bar. In this range, there is no loss of efficiency on cooling. It is possible to call it a “very hot weather refrigerant” because it almost never stops cooling.

Air conditioners with r245 fa refrigerant offers a lot of advantages such as less frequent condenser cleaning working without problem in dusty and hot environments because of above mentioned properties and it is vital for operational safety.

Our firm achieved manufacturing this air conditioner after a long research and development proces. You can acquire more information about this air conditioner from us.

Specifications

HCFC R-22

R-22 can be used for households, commercial and industrial air conditioning purposes. Namely “Hydrochlorofluorocarbon” is refrigerant with high latent heat of vaporization.

R-22 can be used for deep freezing up to -40C degree. It enables to operate heat pumps up to +55C degree in energy saving applications



Specifications

HFC R-32

R-32 has a low GWP. It literally means “Hydrofluorocarbon”. It is mildly flammable and it is indicated in A2L sign. Main area of usage is split air-conditioners which its recharger connection is in accordance with EN378 standard.

It is not a fortification alternative for other AC systems with different refrigerants. It can be used as a component for HFC and HFO mixtures.



Specifications

HFC R-134a

Hydrofluorocarbon (HFC) can be used for households, commercial, industrial purposes such as AC systems, liquid cooling systems and heat pumps.

R-143a can also be used for large cooling systems, agricultural purposes and air conditioners of cars. When needed, it can be considered as a substitute to R-12.



Specifications

HFC R-407F (Performax LT)

Performax LT developed for low and normal level of cooling operations and it is a zeotropic HFC blend. It can be a substitute for R-404A for new or existing facilities.

Performax LT can enhance the energy efficiency by reducing consumption of energy and thus alleviates environmental impact.



Specifications

HFC r-417A (Freon™ MO59)

R-417A (Freon™ MO59) is zeotropic HFC changing blend.

This refrigerant is substitute for R-22(HCFC).

Freon™ MO 59 can be used as a substitute for R-22 for direct expansion systems.



Specifications

HFC R-404A

R-404A is a near azeotropic HFC blend specially developed for commercial, industrial and transport vehicle cooling.

R-404A mainly used for food cooling, freezer rooms, food storage areas and cold transport vehicles.



Specifications

HFC R-407C

R-407C mainly used as a substitute for R-22 and it's an HFC change blend but not zeotropic.



Specifications

HFC R-410A

R-410A is a near azeotropic blend mainly used in new air conditioning systems.

It is used in small power air conditioning and industrial refrigeration sectors.



Specifications

HFC R-124

R-124 is a transitional "hydrochlorofluorocarbon", its use being limited in time by the Montreal Protocol. This HCFC is particularly suited for air conditioning systems placed in high temperature environments and for energy saving applications.

R-124 is mainly an alternative for R-114 (CFC) used for the realization of new systems in order to protect the ozone layer.



Specifications

HFC R-407A

R-407A is a “non azeotropic” HFC blend.

It can be used in medium and low temperature commercial refrigeration applications where R-22 or R-404A may have traditionally been used.



Specifications

Isobutane R-600A

R-600a is a hydrocarbon, classified as highly flammable, Typically used in domestic refrigerators and small cabinets with hermetic compressors. See regulation EN-378 for the conditions governing its use in refrigeration applications.





AIR COOLED PRODUCTS



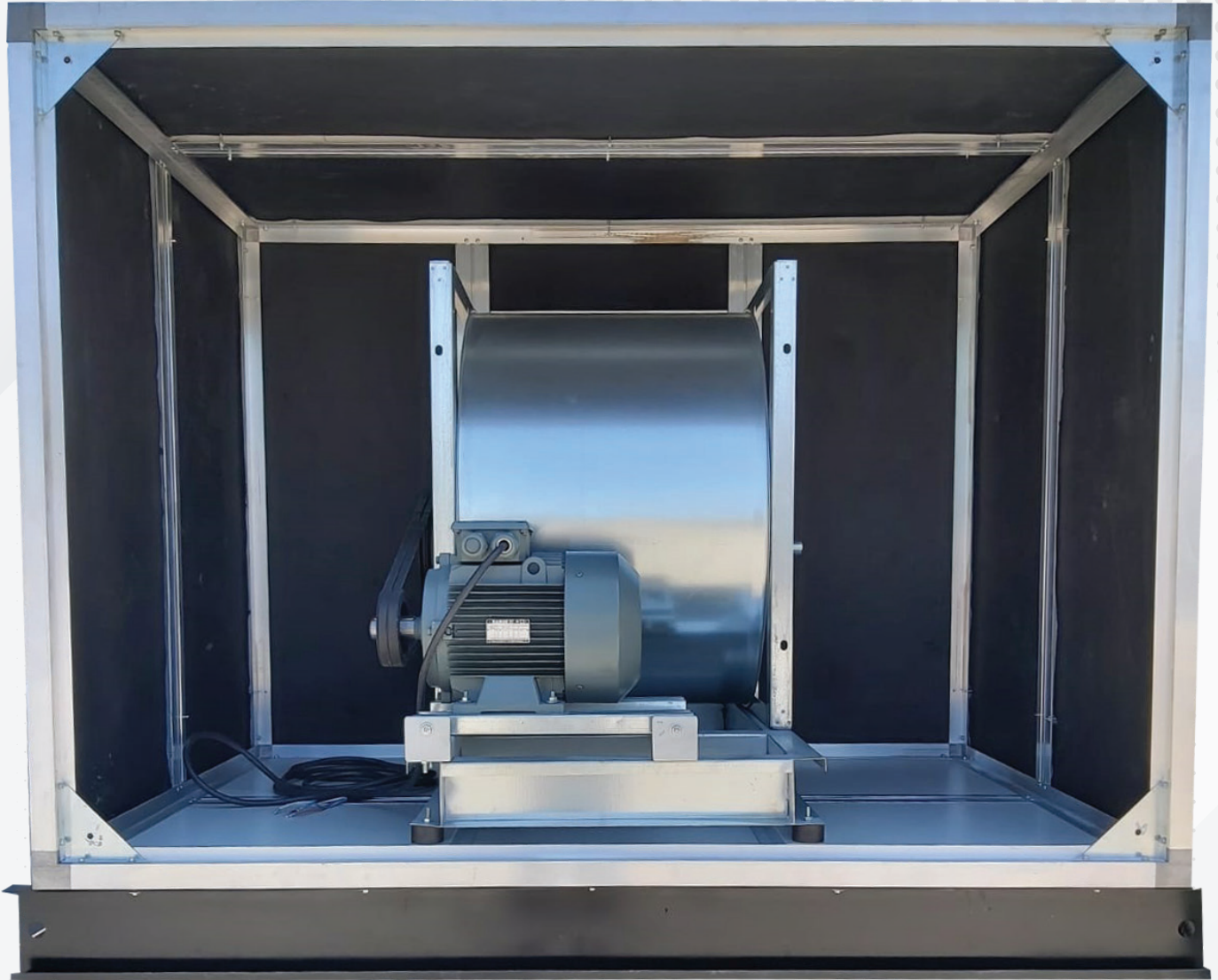
Specifications

This type of condensers are ideal for places when cooling water is not available or not sufficiently cooled and for refrigerated vehicles. Another issue for this particular condenser is that right refrigerant should be chosen according to ambient temperature. Because ambient air flow rate may not be sufficient to balance high pressure. Refrigerant should be chosen according to highest ambient temperature possible.



AIR COOLED PRODUCTS







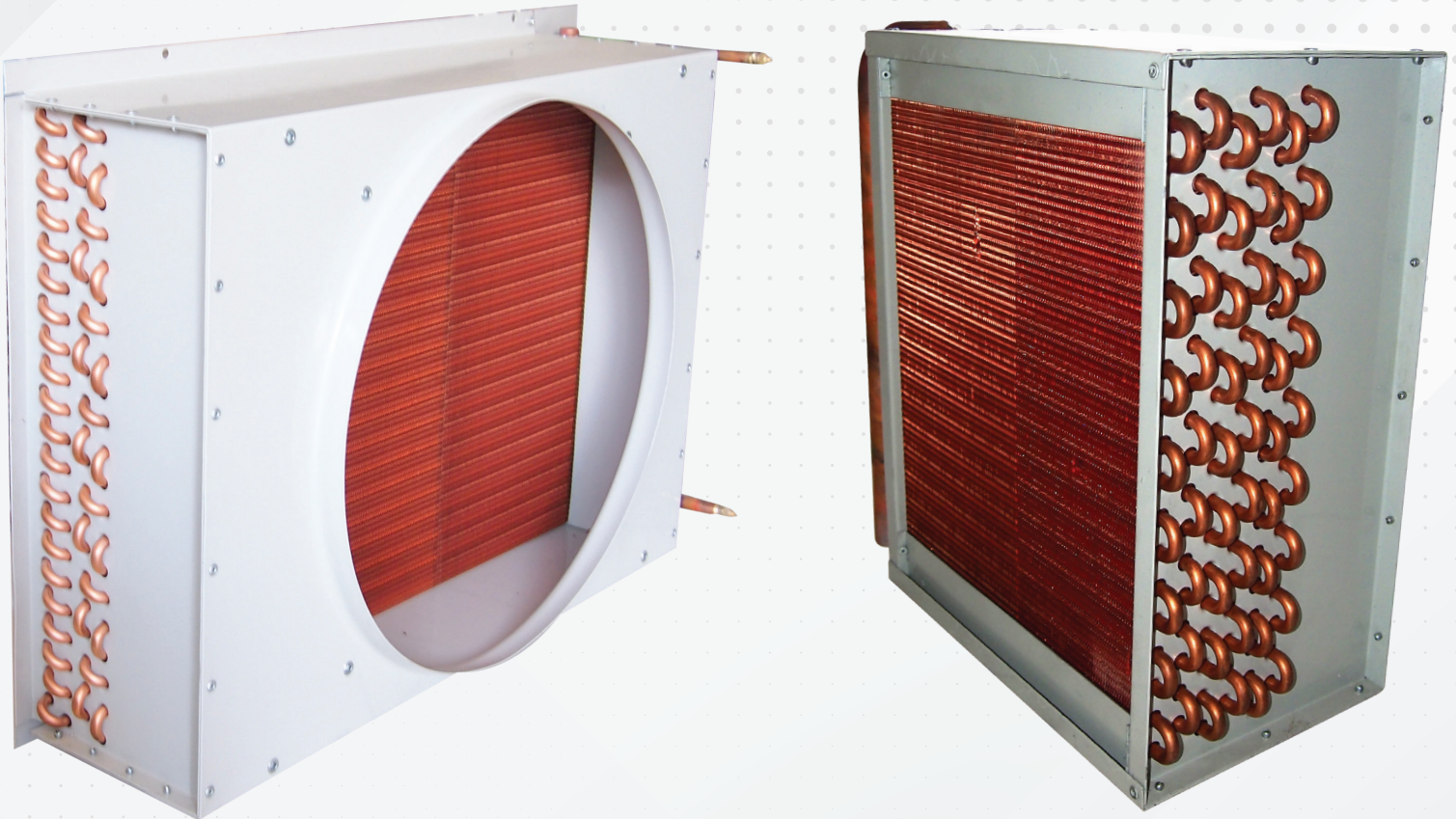
Specifications

Our company manufactures hard to find 3,16 chrome pipes, condensers with case and evaporators. When dimensions such as number of pipes and diameter of pipes are given to us, we can provide you these product at any power range and dimensions.

The most challenging production for companies are specifically designed condensers and evaporators. Because most of the time firms focus on standardised dimensions. For this reason, it is challenging to manufacture cooling systems for iron and steel plants as they require a specialized dimensions. Our company can give you a back on these issues. In all kinds of type and power range, we deliver your orders within 3 weeks for any kind of refrigerant used in.

Properties

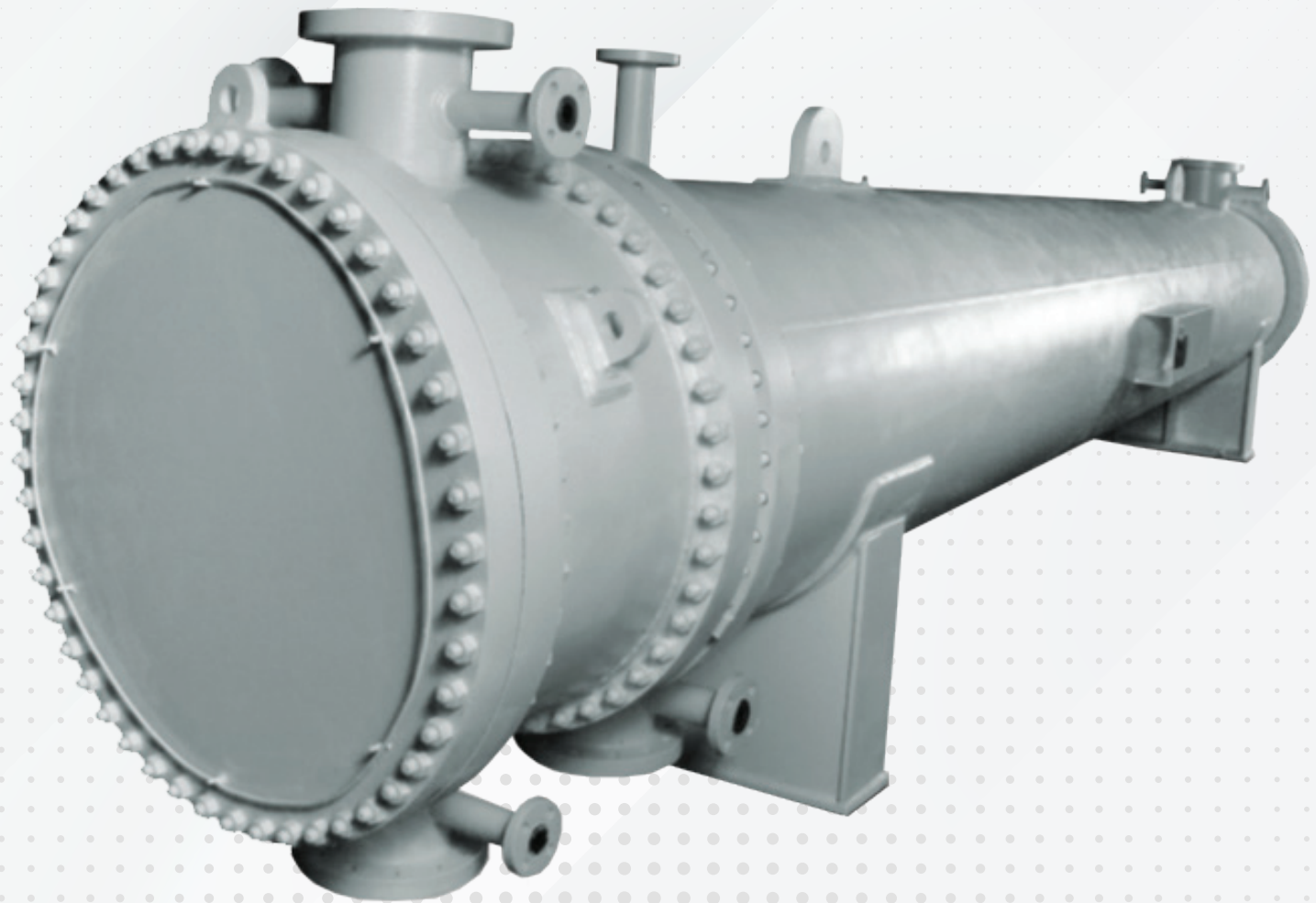
These condensers and evaporators can be manufactured either with copper pipe and copper fins or copper pipe and aluminium fins. Case of the product can be either stainless steel or galvanised sheet iron or steel primer or epoxy paint or gold lamel.





Specifications

Shell and tube heat exchangers are formed of a few tubes mounted in a cylindrical shaped main body. There can be a heat exchange between two fluids: One fluid can be flowing from outer of pipes and the other fluid can be inner side of the pipes. Fluids can be one or two phases and parallel and cross- flows can be arranged.



Specifications

These are air conditioners mainly used for cooling of containers that crane control box and drivers are mounted. It is mainly used for places for up to +90 C degree. Preferable refrigerants are R-227ea and R-236fa.

Our company prefers R-234 fa refrigerant for crane air conditioners.

Crane air conditioners are delivered and installed within 30 working days.

Crane air conditioning after-sale department works 24/7.

All kinds of air conditioners with wide range of power can be manufactured.

We can provide service for renovating your old air conditioners to be in accordance with R-236 refrigerant.



Specifications

Air Handling Units and Split Air Conditioners can be manufactured. We specialised on iron and steel plants. Especially plants that recycle metals are our most frequent customers.

Our air conditioners operate seamlessly both in metal melting pots or rolling mills. We can provide all kinds of air conditioners with different design and power. Spare parts are mostly from Germany.



Specifications

As can be understood from the name, condensers are cooled with water in air conditioners with water-cooled condensers.

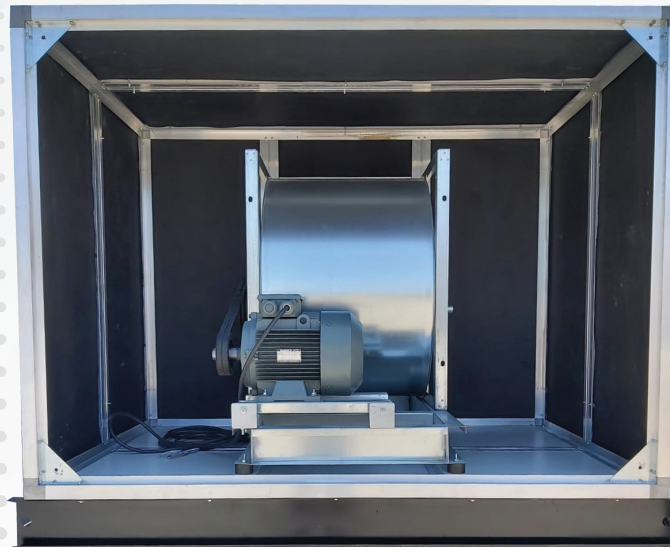
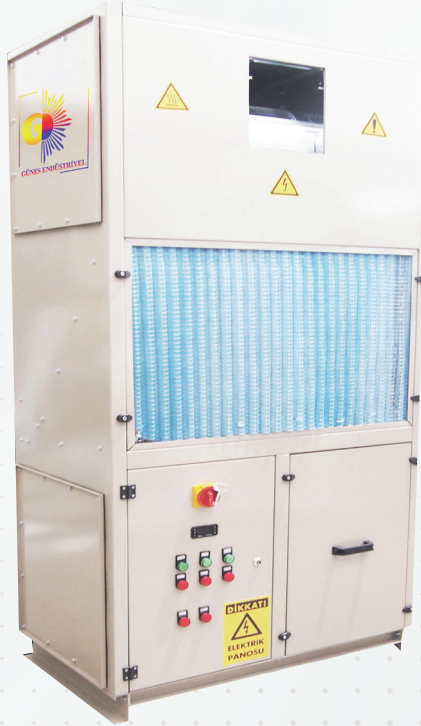
Water can be cooled on water towers and turns back to condensers to cool the refrigerant inside the condenser.

This is called as Shell Tube in local market. It is a fruitful solution where air-cooled condensers are not operating well. Shell Tube is life saver as hot air can be a disturbant to environment and condenser fan can suck hot weather that results for not cooling condensers





WATER-COOLED CONDENSER AIR CONDITIONER





EVAPORATOR

Specifications

There are two types of applications as wall type or ceiling type.

Capacity range is between 2 kW and 15 kW.

Evaporators are in accordance with R-22, R-134A, R-404A refrigerants.

Loss of pressure is minimised thanks to circuiting.

Evaporators can be manufactured in on purpose with fin distances 4,5-6,5-7-8 mm wide.

Our evaporators have corrugated wings that enhances efficiency.

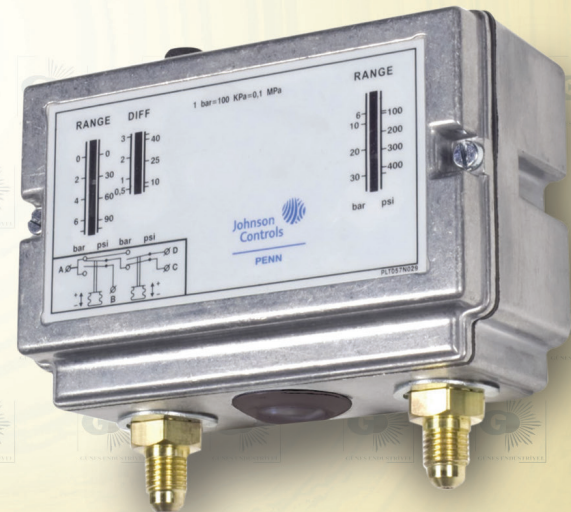
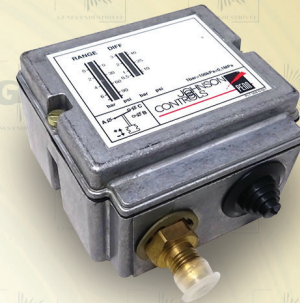
Inlet-Outlet of copper pipe dimensions are prepared according to capacity.

Distributor is present to where inlet expansion valve will be installed.

Test pressure for evaporator is 28 bar.

There is a standard pressure relief valve on outlet of evaporator.





PRESSURE CONTROL UNITS

Properties

Place of Manufacture: Germany

Trademark: Danfoss

Product Type: Mechanical

Place of Use: Cooling



Properties

Danfoss Oil Pressure Control Unit

Place of Manufacture: Poland

Trademark: Danfoss

Product Type: Mechanical

Place of Use: Cooling

Explanation: This is a unit to protect compressor in case of oil loss for the protection of cooling system overall.



Properties

Jhonson Combined Control Unit

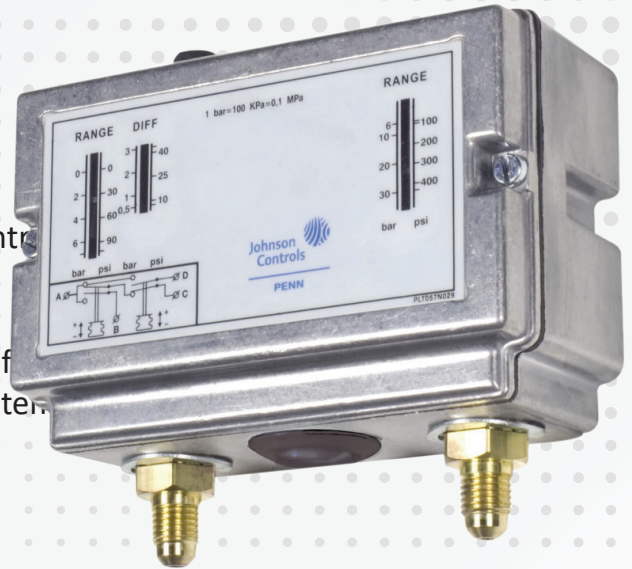
Properties:

Pressure switch

Highest and lowest levels of refrigerant pressure can be controlled at the same time.

Manual and automated versions are available.

It hinders the cooling system operate when there is a loss of refrigerant or high pressure and in this regard it protects the whole system.



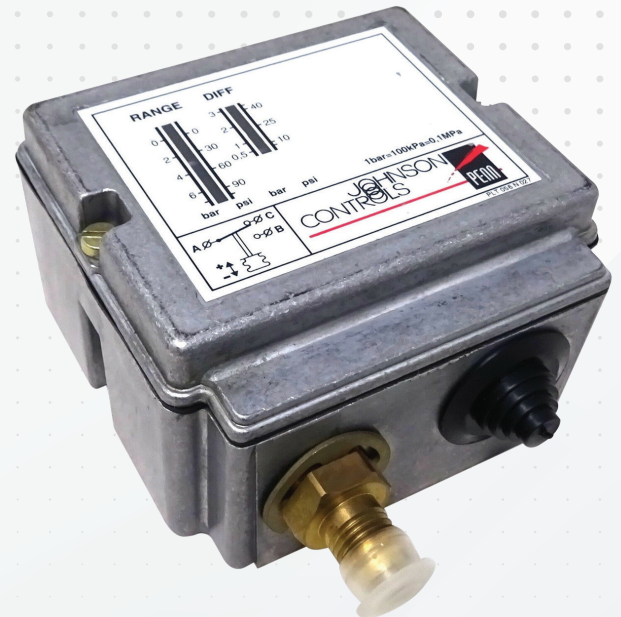
Specifications

Jhonson Single Unit Pressure switch

Highest and lowest levels of refrigerant pressure can be controlled.

Manual and automated versions are available.

It hinders the cooling system operate when there is a loss of refrigerant or high pressure and in this regard it protects the whole system overall.





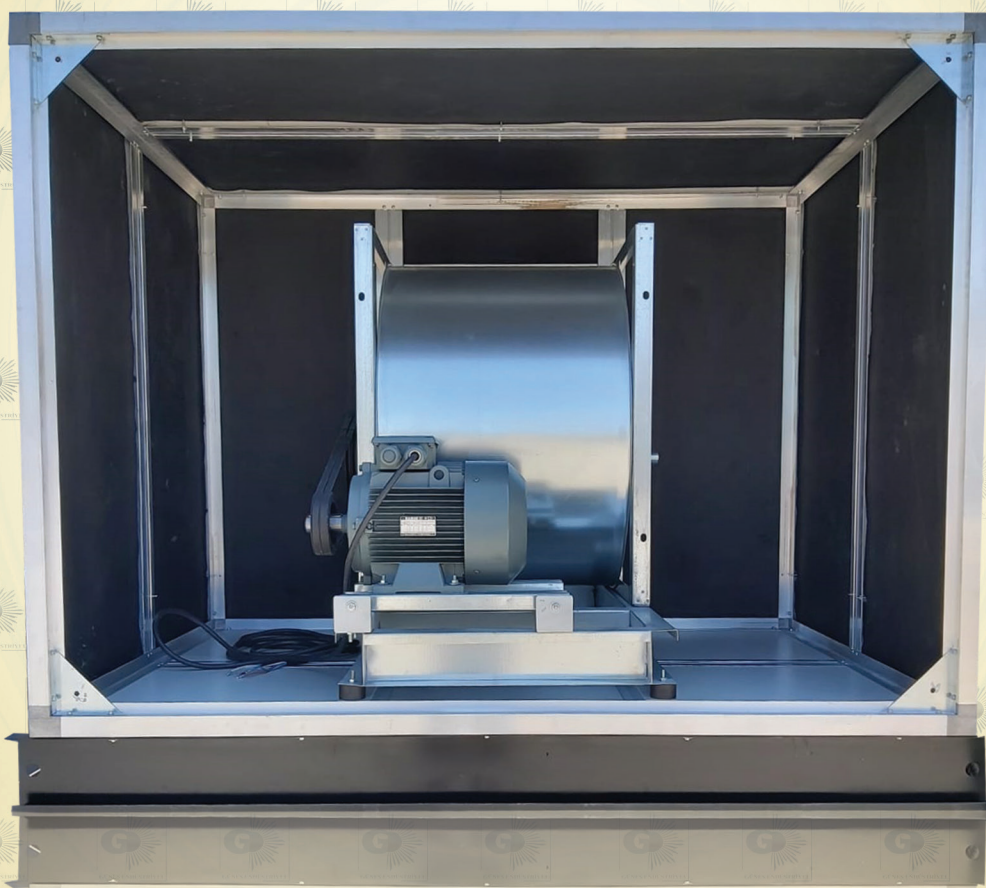
Properties

Pressure Switch

Trademark: Danfoss

Type: Pressure Switch





CHILLERS

Properties

Chillers seamlessly work when water temperature is up to +35C. When above +35C, the efficiency reduces so in this kind of working conditions air-cooled condenser should be considered.

Our Chillers are manufactured in the power range of 5 kW-1372 kW either with air-cooled or water-cooled. Chillers are ideal in industrial working areas with limited space. Our air-cooled and water-cooled chillers are manufactured with 40 years of experience so they are modern, compact and easy to install.

It is very easy to install in confined areas with its compact design, high performans and small size. We provide consultancy service for determining cooling capacity.

Area of Use

Plastic Injection Machine

Chemical Industry

Textile Industry

Ship Building

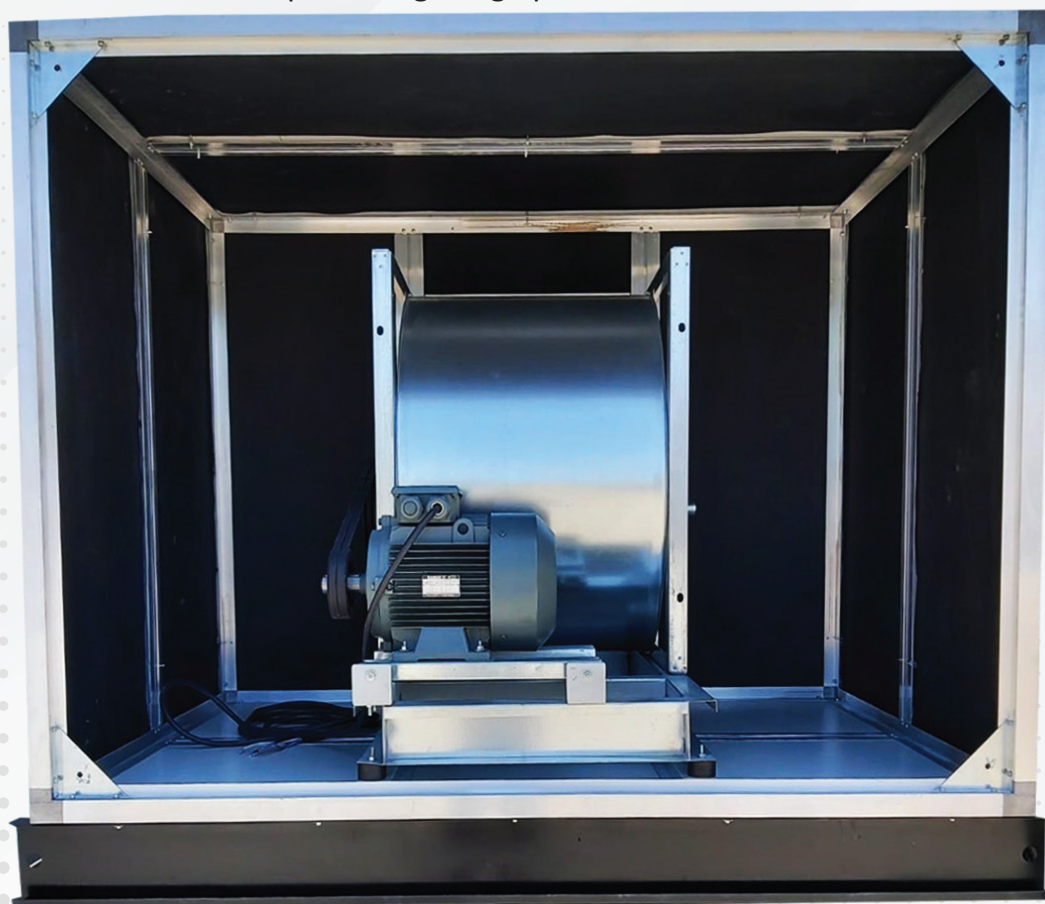
Extruder Pipe and Cable
Machines

Oil Winterisation Plants

Food Industry (Freezer
Rooms)

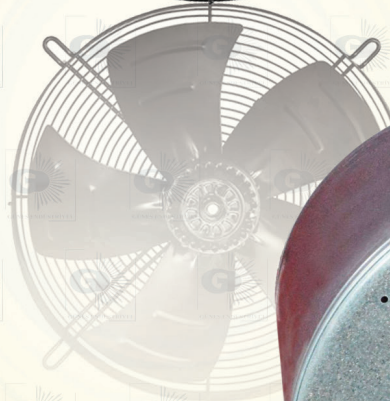
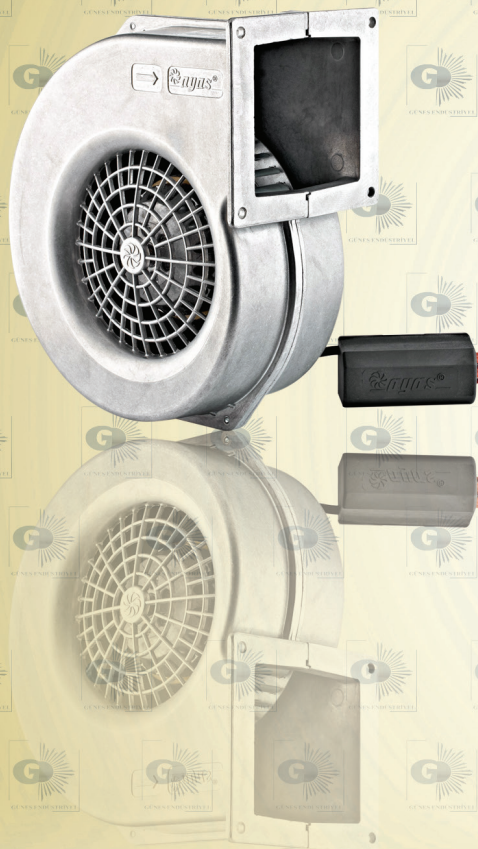
Air conditioning Plants

Heating and Cooling of offices
and buildings





DRIERS



VENTILATORS

Properties

| | |
|----------------|---|
| Brand | : European Origin |
| Type | : Blowing |
| Model | : GN25-87-R |
| Rotation | : 1400 Rot/Min |
| Voltage | : 230V-50Hz |
| Diameter | : 200 mm/250 mm/300 mm/350 mm/400 mm |
| Current | : 0,12 A/0,22 A/0,38 A/0,68 A/0,81 A |
| Air Flow Rate: | 490 m ³ /h-1000 m ³ /h-1900 m ³ /h-2.980m ³ /h-3700 m ³ /h |
| Power: | 29 W/50 W/90 W/138 W/180 W |



Properties

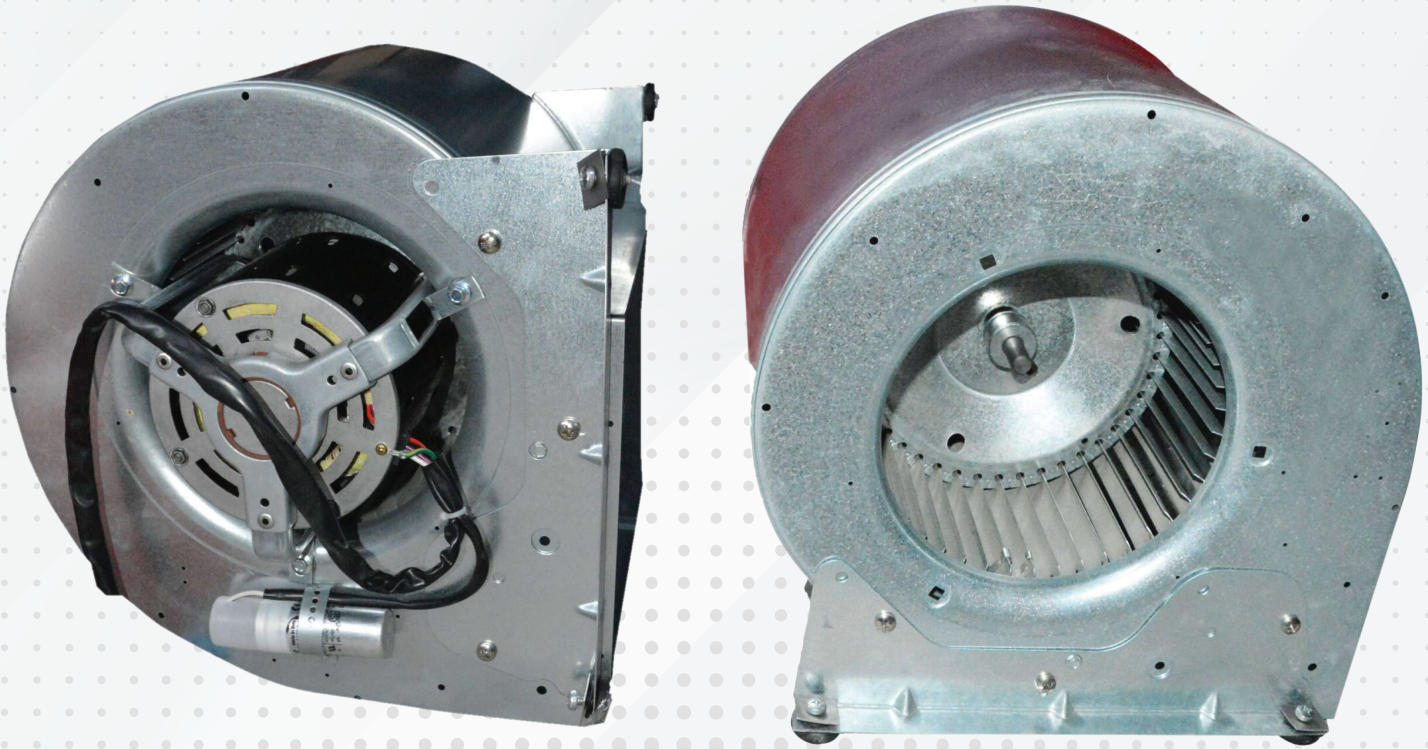
Radial fans with forward inclined blades are in use due to its low-noise level and high efficiency. Fans are statically and dynamically balanced on 750 and 1500 rot/ mins. Induction motors with three coils for three different rotation speed are preferred for direct-drive radial fans. Long-lasting bearings are in use for electrical motors. It has 40.000 hour of service life. There is thermic controls for high temperatures. Direct-drive motors used for fans between 1000-5000 m³/h capacity and belt-drive motors are used for fans between 6.000-8.000 m³/h capacity. Direct-drive motors are one phase and belt-drive motors are three phase.



Specifications

SNAIL FANS (CENTRIFUGAL FANS WITH BACKWARD INCLINED BLADES)

These are used for fresh air blowing or aspirating the existing air. Squire-shaped or circular-shaped ventilatin ducts are mounted to these flexible and more durable fans. As the blades are backward inclined the efficiency is between 70-80%. It enables the highest head when stable minimum air flow is provided. Rotation rate is doubled comparing to forward inclined fans and because of that it requires a solid structure and sensitice balance. It is easy to clean.





EXPANSION VALVES

Specifications

Place of Manufacture: Germany
 Trademark: RESIDEO / HONEYWELL
 Valve/Orifice Type: Connection flange
 Version: TMX
 Connection Type: Welded
 Refrigerator: ALL
 Design: TMX type connection flange
 Connection dimensions (Inlet X Outlet X Balance)
 Plane Type- ½" +5/8" x 5/8" + 7/8" ODF



Specifications

Place of Manufacture: Germany
 Trademark: Honeywell
 Valve/ Orifice Type: expansion valve TMX
 Connection Type: Up to Connection Flange
 Refrigerant: R236
 Balance Type: External Balance
 Design: TMX type main body with adjustable orifice (4,5 -10,0)
 Connection Dimensions (Inlet X Outlet X Balance): Up to Connection Flange



Specifications

Place of Manufacture: Turkey
 Volume (Lt.): Depends on the system requirements



Specifications

Place of Manufacture: Turkey

Volume (Lt.): depends on the system requirements

Connection Dimensions: depends on the system requirements



Specifications

Place of Manufacture: Germany

Trademark: Honeywell

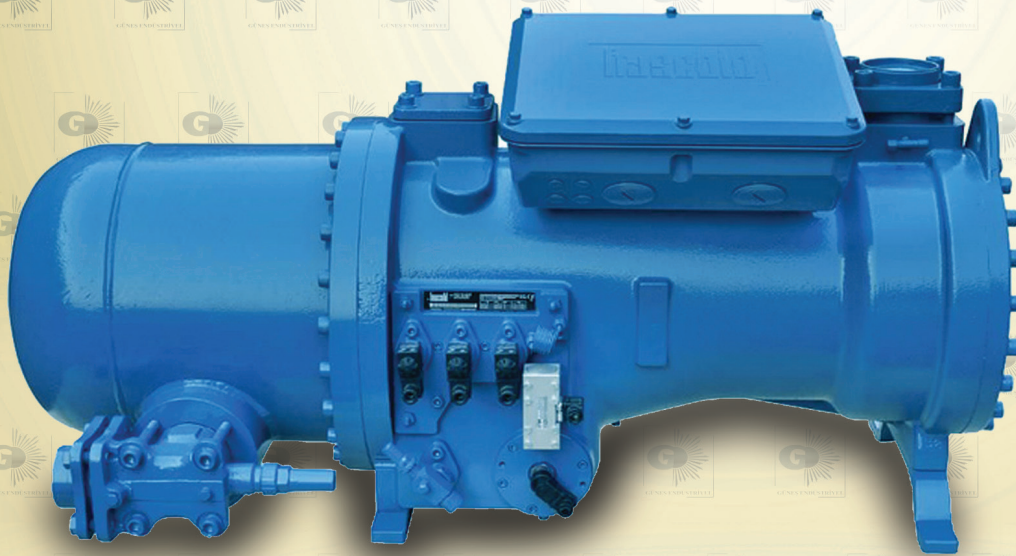
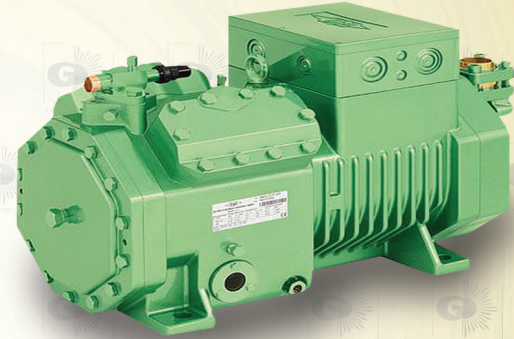
Valve /Orifice Type: Orifice

Serial: TMX

Refrigerant: ALL

Design: TMXD (4,5 – 10,0)





TYPES OF COMPRESSORS

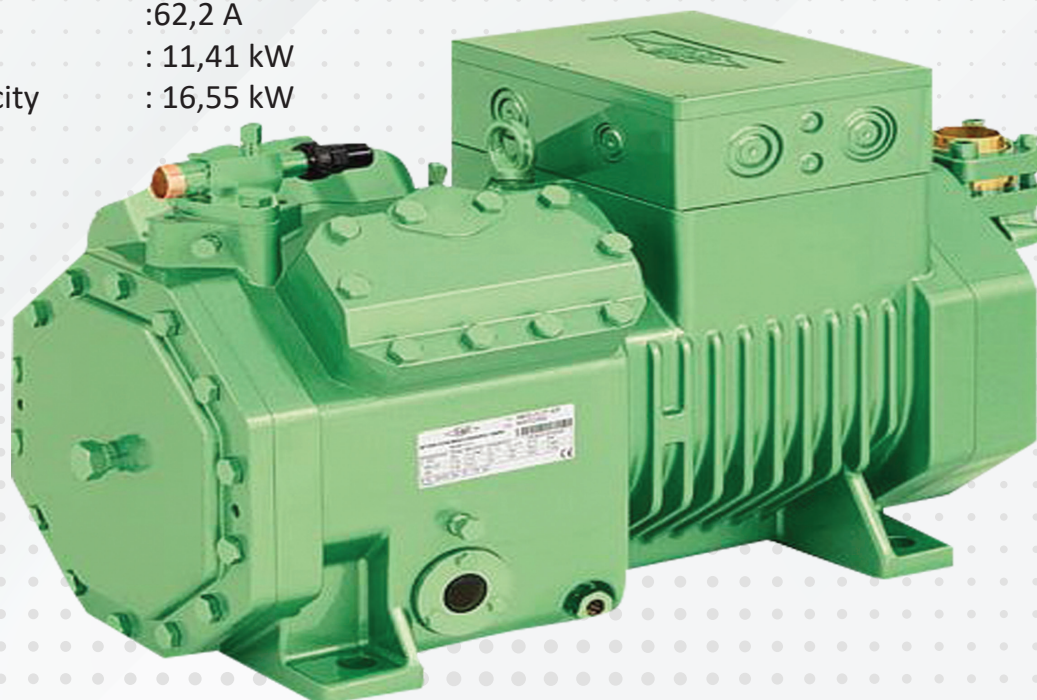
A large blue industrial motor is the central focus of the image. The motor has a prominent circular cooling fan on its front, which is partially covered by a logo. The logo consists of a stylized 'G' on the left, colored in a gradient from yellow to blue, and a sunburst on the right, colored in a gradient from red to blue. Below the logo, the text 'GÜNEŞ ENDÜSTRİYEL' is written in a bold, red, serif font with a white outline. The background shows various industrial components, including pipes, valves, and other machinery, all in shades of blue and grey.

GÜNEŞ ENDÜSTRİYEL

BITZER

Specifications

| | |
|----------------------------------|--------------------------|
| Number of Cylinders | : 4 |
| Power | : 6 hp |
| Displacement | : 22,7 m ³ /h |
| Oil Charge | : 2 lt |
| Weight | : 86 kg |
| Connection Diameter (Discharge): | 5/8" |
| Connection Diameter (Suction): | 1 1/8" |
| Max. Pressure LP | : 19 Bar |
| Max. Pressure HP | : 32 Bar |
| Refrigerant | : R404A |
| Motor Voltage | : 380 V |
| Max. Current | : 13,6 A |
| Start-up Current | : 62,2 A |
| Cooling Capacity | : 11,41 kW |
| Condenser Capacity | : 16,55 kW |



BOCK

Specifications

PLACE OF MANUFACTURE: GERMANY

TRADEMARK: BOCK

APPLICATION: COOLING EQUIPMENTS



COPELAND

Specifications

Place of Manufacture
People's Republic of China
Trademark
Copeland
Compressor Type
Scroll / semi hermetic



DANFOSS

Specifications

Place of Manufacture
 France
 Trademark
 Danfoss
 Compressor Type
 Hermetic Reciprocating
 Refrigerant
 R134a/R404A/R407C



DORIN

Specifications

| | |
|----------------------|---------------|
| Place of Manufacture | Italy |
| Trademark | Dorin |
| Compressor Type | Semi-hermetic |



EMBRACO

Specifications

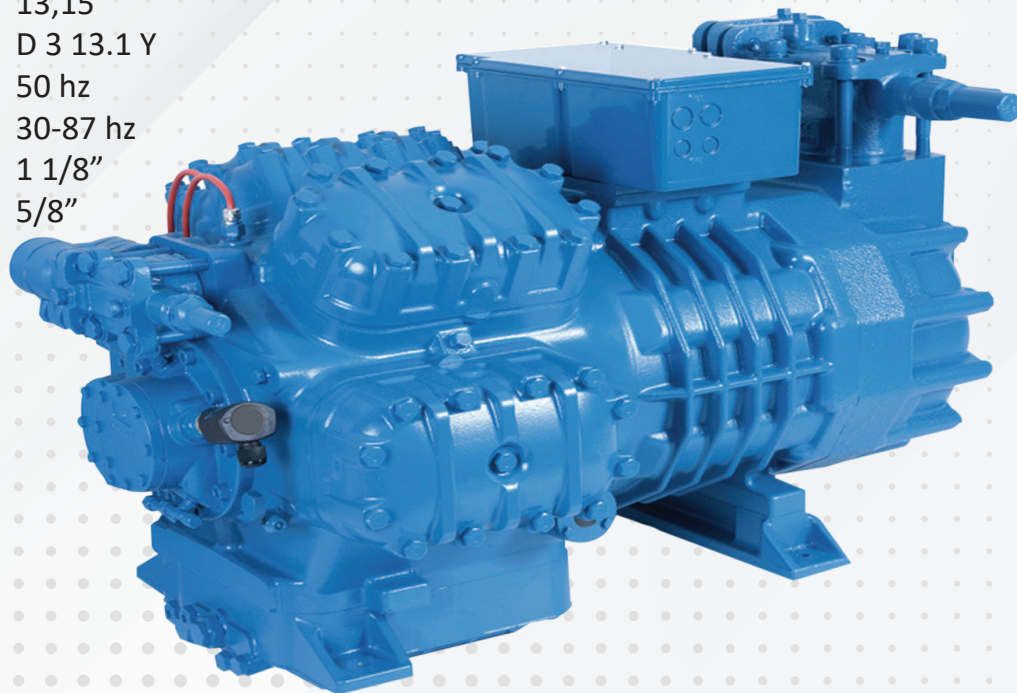
| | |
|--------------------------|-------------------------|
| Place of Manufacture | Brasil |
| Trademark | Embraco |
| Compressor Type | Hermetic Reciprocating |
| Working range | LBP (-23,3°C / +54,4°C) |
| Compressor Power (Hp) | 1/8 |
| Power Supply | 220V |
| Refrigerant | R134a |
| Cooling Capacity (Watt) | 95 |
| Motor Type | 1 Faz - RSIR |
| BOM. | 51330616597UA |
| Version of Compressor | EMIE40 HJP |
| Sweeping Volume(cm3/rev) | 3,4 |
| Frequency (Hz) | 50-60 |
| Inlet Pipe | 1/4" |
| Outlet Pipe | 3/16" |



FRASCOLD

Specifications

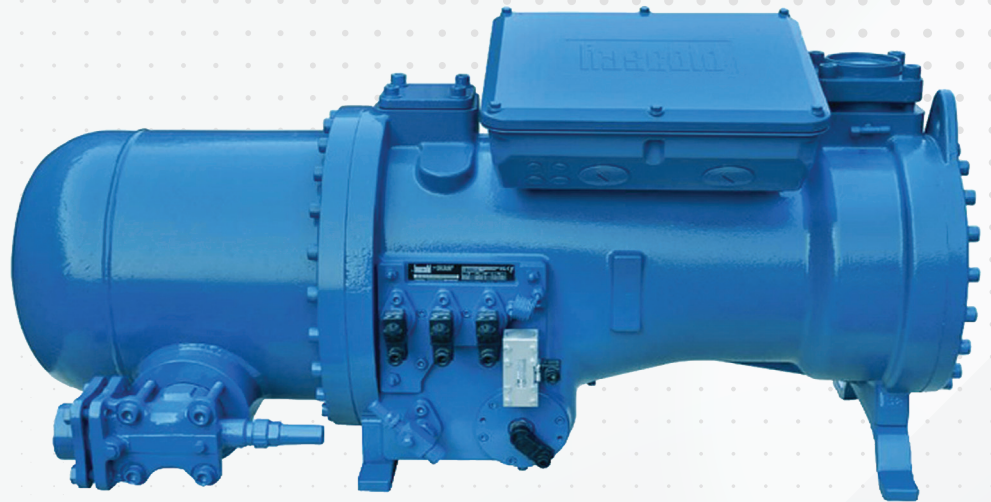
| | |
|-------------------------|--------------------------------------|
| Place of Manufacture | Italy |
| Trademark | Frascold |
| Compressor Type | Semi-hermetic/Reciprocating |
| Working Range | (+7,5°C / -30°C) |
| Compressor Power(Hp) | 3 |
| Power Supply | 380V |
| Refrigerant | R404A R407C |
| Cooling Capacity (Watt) | -10°C/+45°C=6480 -25°C/+45°C=3180 |
| Number of Cylinders | 2 |
| Sweeping Volume (m3/hr) | 13,15 |
| Version of Compressor | D 3 13.1 Y |
| Frequency | 50 hz |
| Frequency Range | 30-87 hz |
| Inlet Pipe | 1 1/8" |
| Outlet Pipe | 5/8" |



SCREW TYPE COOLING COMPRESSOR/ SPECIFICATIONS

Specifications

It is mostly used in chiller groups. It is not used in conventional cooling due to its structure.

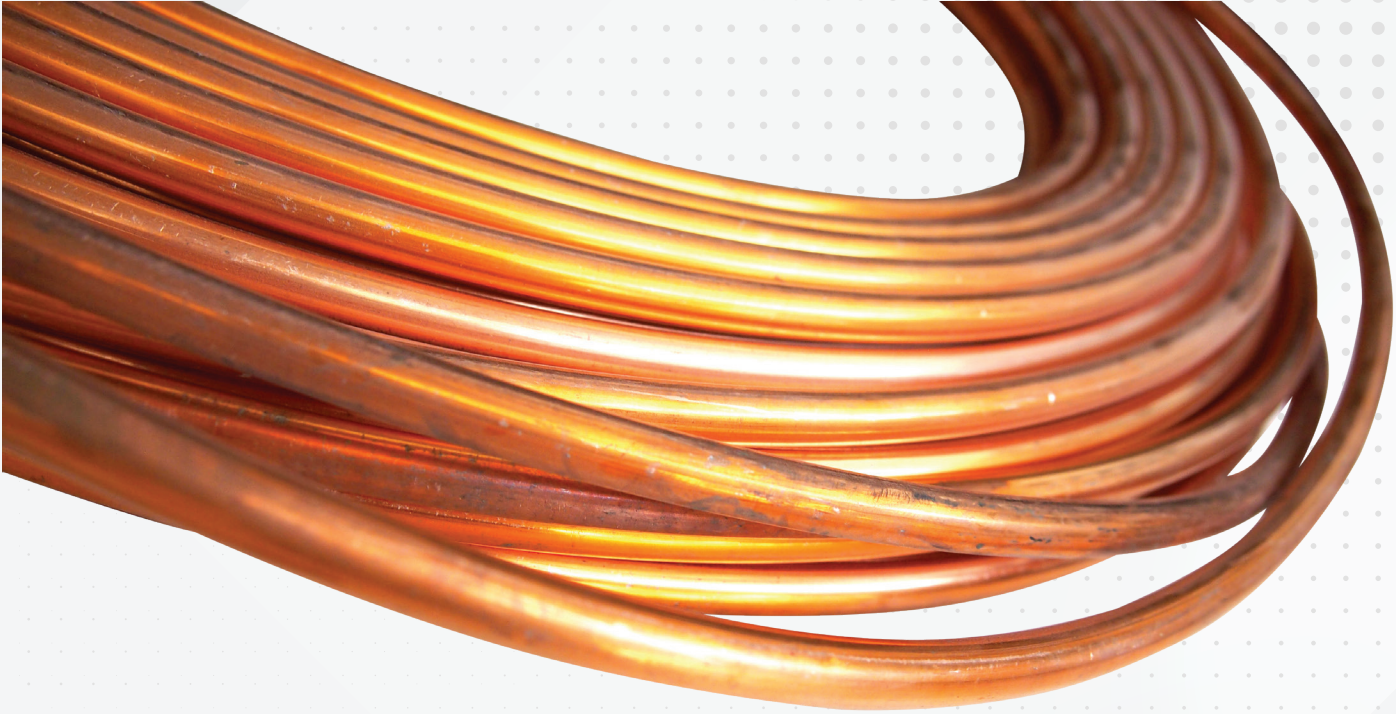




COPPER PIPES

Specifications

| | |
|---|--|
| Place of Manufacture | : Turkey |
| Pipe Type | : Copper |
| Diameter | : -1/4" -3/8" -1/2" -5/8" -7/8" -28" -33" -42" -50" -67" |
| Packaging | : Tube Copper Coil |
| Copper "T", Elbow, Collar, Reduction etc. | |





Below, you can find technical specifications for full synthetic cooling compressor oils.

| COOLING COMPRESSOR OILS WITH FREON | PACKAGING | PROPER REFRIGERANT | MELTING POINT (°C) |
|---|-----------|---------------------------------|--------------------|
| CARINA ES 32 | 20 LT | R134a-R404a-R410a | -42 |
| CARINA ES 32 | 5 LT | R134a-R404a-R410a | -42 |
| CARINA ES 46 | 20 LT | R134a-R404a-R410a | -49 |
| CARINA ES 46 | 5 LT | R134a-R404a-R410a | -49 |
| CARINA ES 68 | 20 LT | R134a-R404a-R410a | -45 |
| CARINA ES 68 | 5 LT | R134a-R404a-R410a | -45 |
| CARINA ES 100 | 20 LT | R134a-R404a-R410a | -41 |
| CARINA ES 100 | 5 LT | R134a-R404a-R410a | -41 |
| CARINA ES 120 | 20 LT | R134a-R404a-R410a | -33 |
| CARINA ES 120 | 5 LT | R134a-R404a-R410a | -33 |
| CARINA ES 170 | 20 LT | R134a-R404a-R410a | -30 |
| CARINA ES 170 | 5 LT | R134a-R404a-R410a | -30 |
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| CARINA ES 220 | 5 LT | R134a-R404a-R410a | -27 |
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| CARINA ES 370 | 20 LT | R134a-R404a-R410a | -24 |
| COOLING COMPRESSOR OILS WITH AMMONIA AND FULL SYNTHETIC OIL | PACKAGING | PROPER REFRIGERANT | MELTING POINT (°C) |
| CARINA RFL 68 EP | 205 LT | R744(Karbon Dioksit Gazlılarda) | -46 |
| CARINA AS 68 | 20 LT | R717 | -55 |
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