

Product Range

compressors and solutions for refrigeration,
air conditioning and process cooling

frascold[®]

FCOM02.3-EN

Applications

Commercial refrigeration

Frascold is a European leader in commercial refrigeration and a global partner for different applications. It offers a wide range of compressors and renowned and specialized companies are using them in their refrigeration systems worldwide. Rack units or condensing units; split systems or mono-blocks for cold rooms or large cold storages; cabinets and refrigerated display cases; machines and cases for ice creams and pastries; ice machines, food and beverage coolers; and blast and shock freezers are just examples of typical applications with Frascold compressors.



Supermarkets and commercial areas

Frascold compressors are designed and made to cover all possible technologies applied in cooling and freezing systems of small and large grocery stores, supermarkets and hypermarkets. In this sector Frascold compressors are proven for long operative life, for high and stable performances and for low running cost with consequent minimal impact on the environment. Frascold offers also innovative products and solutions for:

- Inverter technology
- Hybrid cascade systems
- Booster applications
- Natural refrigerant applications (CO₂, HC, NH₃)



Transport refrigeration

With its dedicated line for mobile applications, Frascold is also a leader in mobile refrigeration and is one of the main supplier of the major companies producing systems for refrigerated trucks. So Frascold compressors represents the perfect choice in many steps of the cold chain, ensuring always preservation and quality of processed, transported or stocked goods.



Industrial applications and logistics

For more than 75 years Frascold has continued to develop compressors and solutions for a wide variety of industrial cooling and freezing applications. With this extensive experience Frascold has achieved the best results in terms of performances, energy efficiency and smooth operation of its wide range of reciprocating and screw compressors; but thanks to their intelligent design and sturdy construction these compressors maintain without failure and with minimal maintenance the highest level of performances and efficiency in all possible operating conditions, even in the most critical ones, for very long time.



Climate and comfort

More than 145 different screw compressors are offered by Frascold for climate control of medium and large industrial or commercial buildings, such as shopping centers, data centers or office buildings. Through this wide range of compressors it is possible to guarantee appropriate air conditioning and heating everywhere, always assuring very silent operation and high performances and low energy consumption at all different loads. It is worth mentioning that specific product lines, among others, have been developed for railway or marine A/C with both reciprocating and screw compressors.



Special applications

Because of their outstanding flexibility and reliability many Frascold compressors are successfully used also in very special refrigeration systems such as precise industrial processes, medical or scientific cold rooms, cryogenic applications, laboratories, industrial dehumidifiers, and environmental chambers.



Compressors Range

Single stage semi-hermetic reciprocating compressors STANDARD RANGE / ECOinside



More than 80 models - 2,4,6,8 cylinders - 38 displacements from 4 up to 239 m³/h at 50Hz - power range: 0.5 ÷ 80Hp.

Suitable for a wide variety of applications in single or compound configurations and in single or cascade systems. All models can be driven by VFD.

Refrigerants: traditional HFC- or HCFC-based and new low-GWP gases
Highly efficient and cost effective range. Particularly sturdy and compact design. Advanced protection devices and complete accessory list ensure flexibility and safety operation.

As special version the ECOinside models have been designed for giving the best performances with R134a and R1234ze. Tandem version are also available for all models.

The majority of the range has its performances certified by ASERCOM, while the whole range is UL certified. Other certifications available upon request.

Single stage semi-hermetic reciprocating compressors SK2 RANGE (CO₂ subcritical)



13 models - 2 and 4 cylinders - 13 displacements from 1.7 up to 33.5 m³/h at 50Hz - power range: 0.7 ÷ 20Hp. All models can be driven by VFD.

Cooling capacity range at 50Hz: 2.7kW ÷ 61.6kW (-35°C = T_{ev}; -5°C = T_{cond}; 10K/0K = SH/SC)

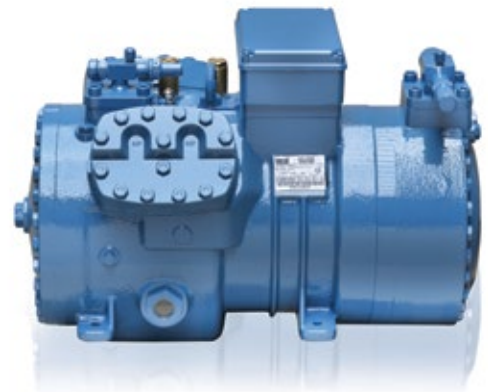
Suitable for low temperature cascade or booster systems with high standstill pressures (PS = 55bar; PSS = 30bar or higher upon request). The specific design assures high performances and provides for safe and smooth operation.

Single stage semi-hermetic reciprocating compressors TK RANGE (CO₂ transcritical)

19 models - 4 cylinders - 11 displacements from 4.0 up to 25.3 m³/h at 50Hz - power range: 5 ÷ 30Hp. All models can be driven by VFD.

Cooling capacity range at 50Hz: 6.4 ÷ 53.7kW (-10°C = T_{ev}; 35°C and 90bar as gas cooler exit conditions; 10K = SH)

Suitable for medium temperature cascade or booster systems (PS = 140bar; PSS = 80bar). Materials, components and safety devices grant the maximum efficiency and reliability. Some models can be equipped with oversized motor and are thus suitable also for heat pump applications.



Single stage semi-hermetic reciprocating compressors AXH, AXY & AXE RANGE (ATEX certified)

More than 70 models - 2,4,6,8 cylinders - 41 displacements from 4 up to 239 m³/h at 50Hz - power range: 0.5 ÷ 80Hp. All models can be driven by VFD.

Refrigerants: HC (typically R290, R1270, R600a) or traditional HFC- or HCFC-based and new low-GWP gases

The main characteristic of this wide range is that it is ATEX certified (zone II, gas group IIB according to ATEX directive 94/9/EC), so all the electrical components and box are meant to safely work even in atmospheres that might occasionally and for short periods become flammable because of the not likely formation of mixture of air and flammable gases.

When charged with PAG oil the series is called AXH (HC refrigerants); while when charged with POE oil the series is called AXY (HFC-based refrigerants) or AXE (ECOinside construction and HFO refrigerants like R1234ze or R1234yf).





Single stage semi-hermetic reciprocating compressors VS RANGE (built-in VFD)

9 models - 2,4 cylinders - frequency range: 25 ÷ 87Hz (4-cylinder models) and 30 ÷ 87Hz (2-cylinder models)

Refrigerants: traditional HFC- or HCFC-based and new low-GWP gases

These compressors have a built-in IP65-class inverter and a built-in RFI filter. Hence their efficiency is significantly higher compared with a traditional compressor not matched with any VFD, especially while working at part loads. Moreover they assure a more stable set point and way reduced stress of the electrical and mechanical components (no starting current, reduced on-off cycles and reduced noise/vibrations).

The inverter is factory-set and tested and can work either as slave or master.

Two stage semi-hermetic reciprocating compressors

7 models - 4 or 6 cylinders - displacements from 25.2 up to 102.9 m³/h at 50Hz - power range: 5 ÷ 30Hp

Refrigerants: traditional HFC- or HCFC-based and new low-GWP gases

These new compressors have been re-design to offer higher performances and to make their installation easier. Suitable for low temperature applications, they offer their best performances and the highest cooling capacity when provided with integrated liquid sub-cooling system.



Semi-hermetic screw compressors RTS & NR RANGE

32 models - displacements from 120 up to 468 m³/h at 50Hz - power range: 50 ÷ 160Hp. All models can be driven by VFD.

Refrigerants: traditional HFC- or HCFC-based and new low-GWP gases

New compressors with innovative and compact design that suit numerous commercial and industrial applications at LT or MT. They have to work with an external oil separator, therefore the parallel compound of up to 6 compressors is possible. Their efficiency is particularly high both with and without economizer, and their silent working make them perfect whenever low noise units are required.

Due to the multi-function automatic electronic control and to the exclusive oil management system, this series is also extremely reliable.

A wide range of accessories for controlling the correct lubrication is also available.



Open screw compressors ATS & ATSA RANGES

32 models - displacements from 120 up to 360 m³/h at 50Hz.

Refrigerants: Ammonia (NH₃); HC; traditional HFC- or HCFC-based and new low-GWP gases

Designed to suit many different kind of industrial and commercial applications, they can be used also in marine refrigeration and even in systems with explosion risk (ATEX). The parallel compound of up to 6 compressors is also possible. They are characterized by high efficiency both with and without economizer circuit.

Specifically the ATSA range is that suitable for ammonia.

A wide range of accessories for controlling the correct lubrication is also available.





Semi-hermetic compact screw compressors CX RANGE

142 models - displacement range: from 199 up to 1085 m³/h at 50Hz - power range: 50 ÷ 310Hp

Refrigerants: traditional HFC- or HCFC-based and new low-GWP gases

This series is suitable mainly for AC or MT applications. To maximize its efficiency it can be provided with 2 different V_i and it can be equipped with oversized motors to extend its application limits. The compressors can be driven by an external VFD and in that event a dedicated execution called "I" will be provided. With this execution it is possible to adopt the ACVR device (option), which sets the optimum V_i automatically and in a continuous range of possible values, increasing thus significantly the seasonal efficiency of the system. Furthermore in the special version "P", the compressors can work in parallel compound and/or with flooded type evaporator.

The compressor operation is always efficient, silent and reliable. Apart from VFD-driven models, the capacity control is achieved through a slide valve. All models can also work with economizer. Furthermore the sophisticated 3-stage oil separation system assures min oil carry-over.

A wide and complete list of accessories and different motor voltages are available on request.

UL certification available.



Semi-hermetic compact screw compressors CX_IT RANGE (built-in inverter)

18 models - 9 displacements from 316 up to 912 m³/h at 50Hz - frequency range: 30 ÷ 70Hz

Refrigerant: R134a

These compressors have a built-in inverter and to maximize their efficiency they can be provided with 2 different V_i . Because of the refrigerant-cooled inverter these compressors are extremely compact and independent on the weather conditions in respect of inverter's cooling. In comparison to a traditional screw compressor not driven by any VFD, this range grants higher max cooling capacity and in general higher seasonal efficiencies, especially when the compressors are equipped with the special device ACVR (option), which sets the optimum V_i automatically and in a continuous range of possible values.

Other significant pluses are the absence of starting current, the high precision and quick response in adjusting the cooling capacity to the actual load, the reduced electrical and mechanical stress and the unnoticeable noise/vibration at low frequencies. All models are in compliance with the electromagnetic compatibility and the EMC filter is available as accessory. Moreover they are factory set and tested and can be managed either via digital or analog signals, or via software.

A wide and complete list of accessories is available on request.

Open reciprocating compressors C6 RANGE

The new generation of Frascold C6 open drive reciprocating compressors has been designed with the utmost attention to compactness, reliability and flexibility.

Two different series are offered: one is specifically designed for ammonia (R717), the second is suitable for operation with HFC and HCFC. At the moment the range consists of 6 models, all of them realised on a six cylinder frame.

C6 compressor series is suitable for several applications: refrigeration, air conditioning, cooling process, marine and ATEX zone.



Condensing units RANGE LaBLU / SH

With its 120 models the range is quite wide and suit numerous MT & LT applications with traditional HFC- or HCFC-based refrigerants or with the new low-GWP ones.

They are equipped with semi-hermetic reciprocating compressors whose nominal power ranges from 0.5 up to 30HP and whose efficiency, reliability and flexibility are significantly higher compared to the market standard.

Thanks to the specific condensing section sizing these units can be used in any climatic zone. Moreover their compact design and low noise make it possible their installation also in urban areas.

The units can be equipped also with compressor with built-in VFD. Many of the offered accessories can be factory installed and tested.

Finally through a special and optional protection coating of their housing the units can be installed outdoor.



Service



Assistance

Frascold offers to its customers complete services to support the correct use and operation of its products. Frascold service team consists of highly skilled and fully trained specialists committed to provide accurate and responsive support in selecting, installing, starting up and maintaining Frascold products. Moreover they will be able to help in identifying operational problems and to assist in repair and overhaul activities.



Application engineering

The great experience acquired in more than 75 years of activity allows Frascold to provide its customers with competent engineering support in all possible applications of its products. The application team will help identifying the right solution by focusing on specific customer needs and always looking for the highest efficiency and safe operation.



Recurrent training

Due to the constant evolution of the compressor technology and related application systems, Frascold promote recurrent trainings to share with its customers and partners the latest knowledge acquired and applied. These trainings are usually held at Frascold headquarters or at partners' premises and will focus on new technologies and products with special attention to their correct application and with special care of the necessary diagnostic and servicing skills and tools.

Web & Software Tools

Frascold Web site

www.frascol.it Welcome to Frascold web site. Through it you will discover what is new and will access so many info on Frascold organization and products. Contact info of the company and of its global sales organization network are there together with the products' technical datasheets, catalogues, brochures, dimensional drawings, manuals and operational guides. Through it you can also download the software tools for the selection of products and of spare parts.



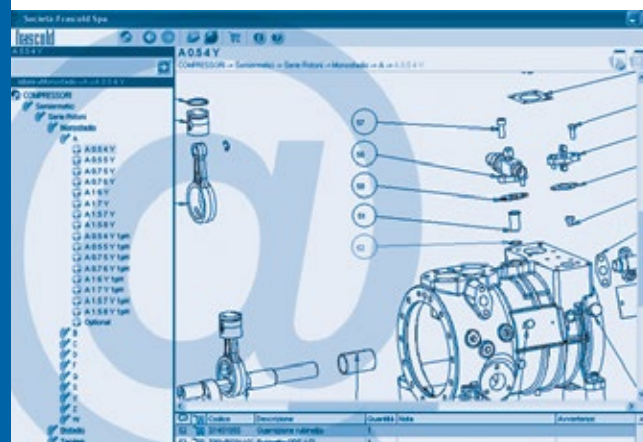
Frascold Selection software

Frascold selection software is a powerful and an easy tool to select or verify a unit in accord to the given refrigerant and working conditions. Its output provides with the performances and the main useful data of the selected compressor. The output data are available in a printable report or can be copied in the clipboard or exported in excel or txt files. Very user-friendly this selection software allows also to pass from SI measurement system to the Imperial one and vice-versa. Furthermore it is downloadable for free from Frascold web site www.frascol.it



Frascold Spare parts software

Through Frascold spare part software it is possible to identify the spare parts of each Frascold product. The spare parts design and manufacturing processes are subjected to the same severe and excellent quality standard of the regular compressors' production. The logistical team have a spare part stock so as to grant a fast shipping and minimize the inconveniences due to a compressor's shut-down. With its interactive navigation Frascold spare part software displays exploded views of the selected products making it easier the identification of the needed parts. Plus it gives a detailed list of available kits, making very quick their selection and simple their order. The software is free and accessible also via web browser.





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