



Grasso's Industrial Refrigeration Equipment

Company Profile

INTRODUCTION

The success of Grasso and the satisfaction of our customers arises not only from providing the quality products and services outlined in this brochure, but also from our enormous store of technical know-how and Grasso's marketing philosophy in the world of industrial refrigeration. Since the company was founded more than 140 years ago by Willem Grasso, our approach has been to put the customers' interests first.

Grasso is one of the leading manufacturers of innovative reciprocating and screw compressors, packages, chillers, valves and other components. The extensive range of high quality, reliable and modern refrigeration compressors, can be applied in almost every industrial refrigeration process. Our products are distributed worldwide to contractors, distributors and Original Equipment Manufacturers (OEM's).

Grasso, with its head office in The Netherlands and factories in The Netherlands and Germany, has sales offices all over the world. See the back cover of this brochure.

The various companies within the Grasso group deliver many additional components and services for refrigeration systems:

- Industrial refrigeration valves from Revalco, The Netherlands
- Pressure Vessels from Prevesco, The Netherlands
- Evaporators and condensers from Küba Kältetechnik, Germany
- Spiral freezers from Matal, France
- Flake ice machines from FrigoFrance, France.

Grasso is the head company of the Refrigeration Division of the multinational GEA AG in Bochum, Germany, which in turn has become a part of mg technologies group. The GEA Group employs about 15,600 people in around 50 countries and consists of more than 200 operating companies. GEA Group sales in 1999/2000 exceeded 2.6 billion Euro.



Grasso Headquarters at 's-Hertogenbosch, The Netherlands

Specialist in Refrigeration

GRASSO'S PRODUCTION

Grasso has more than a century of experience as a manufacturer of compressors for industrial refrigeration. Constant improvements and innovations has created world class products, for which Grasso is known throughout the industry.

Grasso operates with two manufacturing locations each with their respective R & D divisions:

- Grasso Products B.V. for the reciprocating compressors and components, located in 's-Hertogenbosch, The Netherlands
- Grasso GmbH Refrigeration Technology for the screw compressors and components, located in Berlin, Germany.

With this organization structure Grasso is able to guarantee maximum attention for both product groups.

DESIGN

Grasso works continuously on product improvements and innovations. The development never ends. Our research and development engineers are working together with customers and universities to find better solutions and products to fulfil our clients' future specific needs. They are backed up by computer simulation models, computer aided design facilities and the latest know-how in refrigeration technology. New designs are tested both in Grasso's laboratories and in field situations.

MANUFACTURING

Our products are built with state of the art production technology, computerized automatic machining centres and measuring facilities. Welding robots together with highly experienced mechanical engineers guarantee consistent quality of the highest standards.

Quality control at all stages, according to a comprehensive quality assurance system, is significant for Grasso's production process.

This system covers all stages from design/development, manufacturing, assembly and testing through to customer service.

COMPRESSORS AND AUXILIARY EQUIPMENT CAN BE SUPPLIED WITH ALL MAJOR CLASSIFICATION SOCIETIES' CERTIFICATES.



Screw compressor R&D department at Grasso Berlin



Preparing for the test run of a screw compressor. All compressors are test run and all packaged units are pressure and leak tested prior to delivery according to the selected manufacturing standards.



Welding robot. Manufacturing of Grasso's unique welded steel reciprocating compressor crankcase

Modern Technologies

APPLICATIONS FOR GRASSO EQUIPMENT

THERE ARE ALMOST NO LIMITS TO THE FIELDS OF APPLICATION OF GRASSO'S EQUIPMENT:

FOOD PROCESSING INDUSTRY

For Vegetables, Fruits, Potatoes, Fish, Poultry and Dairy etc.



Grasso has special equipment for storage of all kind of food products under specific conditions.

SLAUGHTERHOUSES

With its expertise in the refrigeration technology for meat, Grasso offers the optimized equipment for the appropriate chilling system.



After slaughtering, the meat must be able to go through its biochemical process, meat ageing time. The meat must also be chilled as quickly as possible in order to prevent unacceptable bacterial growth which would cause taint.

BREWERIES, MALTINGS & THE BEVERAGE INDUSTRY

Grasso's refrigeration equipment used in the brewing, malting & beverage processes makes us the preferred choice of many of the world's leading companies.



Beer is fermented, deep-cooled and stored in vertical tanks at temperatures of -1°C and over, depending on the type of beer, with an accuracy of $\pm 0.1^{\circ}\text{C}$.



MULTI PURPOSE COLD STORES

Cold stores are indispensable as a link between the production of perishable goods and the consumer. The storage temperatures vary from -28 to $+15^{\circ}\text{C}$.

Grasso provides compressors where special storage conditions are required such as ripening warehouses where cheese is stored for longer periods of time.



ICE CREAM FACTORIES

Within the ice cream production process refrigeration is a vital part.

Grasso delivers refrigeration equipment suitable for running any ice machine all over the world.



AIR CONDITIONING SYSTEMS

Air conditioning within office buildings, shopping centres, domestic applications, hotels etc. Grasso supplies the heart of the air conditioning systems.

Grasso is also active in the following sectors: Ice Plants, Ice Rinks, Marine Applications, Concrete Cooling and Chemical Processes.

Market Orientated

GRASSO'S WIDE CAPACITY RANGE: 66 DIFFERENT COMPRESSOR TYPES



THE GRASSO PROGRAMME

Grasso has the optimal refrigeration compressor type for every application:

- Standard compressors for single-stage and/or two-stage operation
- Evaporating temperatures from -65 up to +30 °C
- Refrigerating capacities from 20 up to 4100 kW at -10/+30 °C for NH₃
- Suitable for NH₃, R22, R134a, R404A, R507 and other common refrigerants.

RECIPROCATING OR SCREW COMPRESSORS, OR BOTH?

There is no general answer, each compressor type has its particular advantages, depending on the required conditions of operation. Both types have very specific properties which influence the correct choice considerably. In order to make an optimum selection, one should consider all relevant criteria, such as capacity required, ease of maintenance, operating conditions, energy consumption, temperature levels, investment and available space.

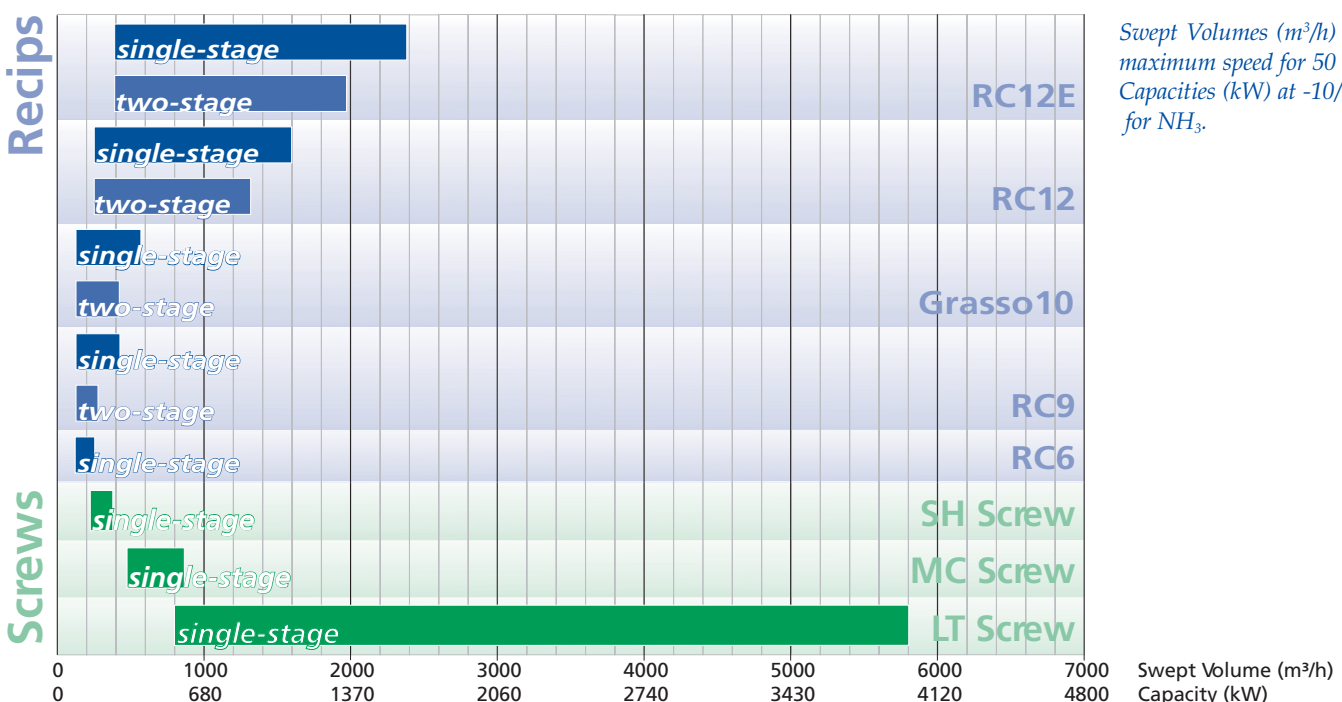
QUICK COMPRESSOR SELECTION

From the wide range of Grasso compressors an easy selection can be made with the aid of the Grasso Refrigeration Equipment Catalogue, covering the complete reciprocating and screw compressor range, and Grasso's COMSEL compressor selection programme. This selection software combines refrigerant properties with compressor data, offering a quick and accurate selection of the optimum compressor and main accessories including oil separators and oil coolers. This selection programme is also available on the internet: www.grasso.nl

CONVERSION INFORMATION

European unit	multiplied by	US unit
Millimeter (mm)	0.03937	Inch (in)
Millimeter (mm)	0.0032808	Foot (ft)
Degrees Centigrade (°C)	1.8•°C+32	Degrees Fahrenheit (°F)
Temp. Diff. Kelvin (K)	1.8	Degrees Fahrenheit (°F)
Cubic Meters per Hour (m³/h)	0.59	Cubic Feet per Minute (CFM)
Kilowatt (capacity) (kW)	0.2846	Ton (TR)
Kilowatt (power) (kW)	1.341	Brake Horsepower (BHP)
Kilogram (kg)	2.2	Pounds (lbs)

GRASSO COMPRESSORS: SWEEP VOLUMES AND CAPACITIES



Swept Volumes (m³/h) at maximum speed for 50 Hz and Capacities (kW) at -10/+30 °C for NH₃.

Individual Solutions

GRASSO RECIPROCATING COMPRESSORS

Grasso's reciprocating compressor range includes 47 types of compressors subdivided into five series: RC12E, RC12, Grasso 10, RC9 and RC6. The RC12E, RC12, Grasso 10 and RC9 series have a unique welded steel crankcase that ensures an extremely high heat dissipation, which allows operation without cylinder head

cooling and oil cooling in most applications. Reciprocating compressors have the following features in common, and have been developed to meet the specific needs of respective appliances, thus being highly recognized by the customers throughout the world.



Type RC912E with Monitron® electronic control device

Grasso RC12E and RC12 compressor series contain the world's largest number of single-stage and two-stage compressors within one range.

Grasso RC12E, RC12 Series

Single-stage	Two-stage
<ul style="list-style-type: none"> • Types: 6 • Cylinders: 2 to 12 • Swept volumes at maximum speed: RC12E: 398 to 2388 m³/h RC12: 265 to 1590 m³/h 	<ul style="list-style-type: none"> • Types: 9 • Cylinders: 3 to 12 • Swept volumes at maximum speed: RC12E: 398 to 1991 m³/h RC12: 265 to 1330 m³/h
<ul style="list-style-type: none"> • Maximum speed: RC12E: 1500 min⁻¹ (NH₃), 1200 min⁻¹ (halocarbons) RC12: 1000 min⁻¹ • Bore: 160 mm, Stroke: 110 mm • Refrigerants: NH₃, R22, R134a, R404A and R507, others on request 	

The new Grasso 10 series offers maximum reliability for a modest investment and low maintenance costs. The series consists of single-stage and two-stage models.

Grasso 10 Series Single-stage	Two-stage
<ul style="list-style-type: none"> • Types: 5 • Cylinders: 2 to 8 • Swept volume at 1500 min⁻¹: 145 to 580 m³/h 	<ul style="list-style-type: none"> • Types: 4 • Cylinders: 3 to 8 • Swept volume at 1500 min⁻¹: 145 to 435 m³/h
<ul style="list-style-type: none"> • Maximum speed: 1500 min⁻¹ • Bore: 110 mm, Stroke: 85 mm • Refrigerants: NH₃, R22, R134a, R404A and R507, others on request 	



Type Grasso 610

For Every Application

GRASSO RECIPROCATING COMPRESSORS

COMMON FEATURES

- Superior COP values at full and part load operation
- High reliability
- High quality wear resistant parts
- Low maintenance costs & service friendly
- Energy saving
- Easy to package and to install
- Low vibration, low noise level
- Safety design
- Wide capacity range
- Long life
- Low costs of investment

COMMON OPTIONS

- Electronic control device Monitron®
- Crankcase heater
- Stop valves
- Interstage cooling systems for the two-stage compressors



Assembling reciprocating compressors at Grasso's-Hertogenbosch

Grasso's RC9 series offers high quality, reliable and easy to operate refrigeration compressors.

Grasso RC9 Series Single-stage	Two-stage
<ul style="list-style-type: none"> • Types: 3 • Cylinders: 2, 4 or 6 • Swept volume at 1450 min⁻¹: 140 to 420 m³/h 	<ul style="list-style-type: none"> • Types: 2 • Cylinders: 3 and 6 • LP swept volume at 1450 min⁻¹: 140 to 280 m³/h
<ul style="list-style-type: none"> • Maximum speed: 1500 min⁻¹ • Bore: 110 mm, Stroke: 85 mm • Refrigerants: NH₃, R22, R134a, R404A and R507, others on request 	



Type RC49



Type RC66

Grasso's RC6 series is well known for its compact design. The compressors are smaller in size than many other comparable compressors.

Grasso RC6 Series Single-stage
<ul style="list-style-type: none"> • Types: 3 • Cylinders: 4, 6 or 8 • Swept volume at 1450 min⁻¹: 130 to 260 m³/h • Maximum speed: 1500 min⁻¹ • Bore: 85 mm, Stroke: 66 mm • Refrigerants: NH₃, R22, R134a, R404A and R507, others on request

Optimal Compressors

GRASSO SCREW COMPRESSORS

The supply range of Grasso screw compressors comprises 19 types, subdivided into 3 series which differ from each other in the volume flow ranges and in the degree of integrating functional components of the package into the compressor housing. Grasso now has one of the most extensive and comprehensive range of screw compressors providing uniform steps of capacity with 19 different sizes.

COMMON FEATURES

- High efficiency under full and part load conditions by patented rotor profile and combined Vi/part load control system

- Very low noise level
- Extreme durability
- Very smooth running
- Compact space saving design
- Patented gas pulsation protection
- Wear-free semi-hermetic slide position indicator
- Wide operation limits up to 28 bar discharge pressure
- Suitable for all known and new refrigerants and blends, such as NH₃, R22, R134a, R404A, R507 and others on request
- Simple design and service friendly
- Environmentally friendly
- Vi control for full load and part load

Grasso SH Series, high integrated Semi-Pack Single-stage & economized

- Types: 4 (C, D, E and G)
- Swept volume at 2940 min⁻¹: 230 to 370 m³/h
- Maximum speed: 6000 min⁻¹

FEATURES

- All anti-frictional bearings
- Low packaging costs due to high degree of component integration



Type G



Type H

Grasso MC Series, Compact screw Single-stage & economized

- Types: 4 (H, L, M and N)
- Swept volume at 2940 min⁻¹: 470 to 860 m³/h
- Maximum speed: 4500 min⁻¹

FEATURES

- All anti-frictional bearings
- Component integration, compact design

Grasso LT Series, high performance screw Single-stage & economized

- Types: 11 (P, R, S, V, W, Y, Z, Alpha, Beta, Gamma and Delta)
- Swept volume at 2940 min⁻¹: 805 to 5800 m³/h
- Maximum speed: 3600 min⁻¹

FEATURES

- Radial slide bearings
- Simple design



Type Y

Optimal Compressors

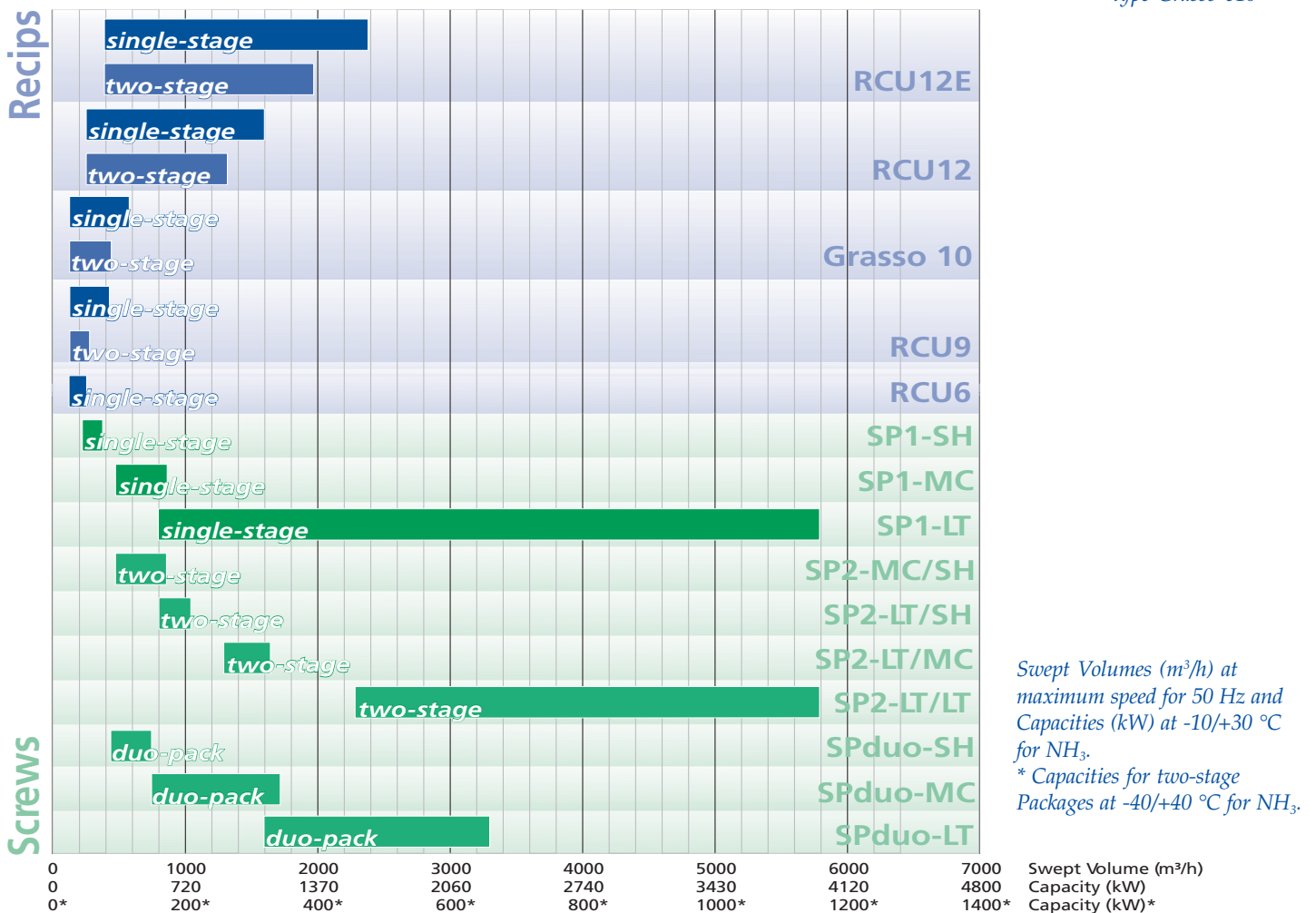
GRASSO RECIPROCATING AND SCREW COMPRESSOR PACKAGES



Single-stage reciprocating compressor package, type Grasso 610

A wide assortment of standard components is available to build-up the optimum compressor package to meet the customer's needs.

GRASSO COMPRESSOR PACKAGES: SWEPT VOLUMES AND CAPACITIES



GRASSO RECIPROCATING COMPRESSOR PACKAGES

Grasso reciprocating compressor packages are available in single-stage (23 types) or two-stage (24 types) versions.

OPTIONS

- Steel base frame
- Vibration dampers
- Motor and drive
- Oil separator(s)
- Oil system
- Valves and filters
- Electronic control device Monitron®
- Interstage cooling systems

COMMON FEATURES

- Approval by certification authorities
- Low space requirement
- Simple construction
- Easy to install
- Low oil carry over
- Master/slave control for Monitron®
- Low noise and vibration level
- Long servicing intervals and low maintenance costs

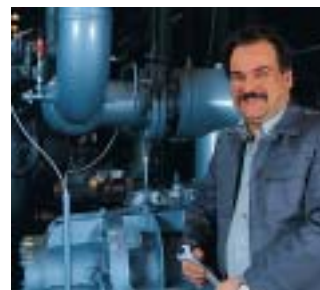
Packages

GRASSO SCREW COMPRESSOR PACKAGES

Grasso screw compressor packages are available in single or two-stage versions and as DuoPack.

COMMON FEATURES

- Approval by certification authorities
- Water-cooled oil coolers including heat recovery
- Refrigerant cooled oil coolers
- Refrigerant injection for NH₃
- Economizer or intercooler for two-stage or single-stage expansion
- Electronic control device



Packaging department at Grasso Berlin



SP1 Single-stage screw compressor package, type YB-2AO

SINGLE-STAGE SCREW COMPRESSOR PACKAGES

The range comprises 19 types, which are subdivided into 3 series: SH, MC, LT.

FEATURES

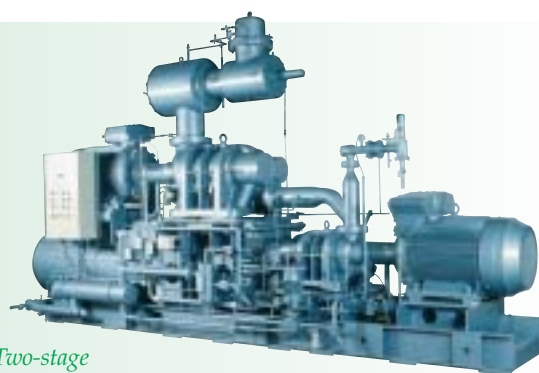
- Compact dimensions and simple construction
- High functional safety, long servicing intervals and low maintenance costs
- Very low noise emission and vibration transmission
- Low oil carry-over due to optimized oil separation systems
- Electronic control device GSC

TWO-STAGE SCREW COMPRESSOR PACKAGES

The range comprises 15 types, which are subdivided into 4 series: MC/SH, LT/SH, LT/MC, LT/LT.

FEATURES

- Low space requirement due to compact design with common oil separator, oil circuit, control and monitoring system
- Optimized performance with two-stage operation and interstage cooling



SP2 Two-stage screw compressor package, type Gamma E-6BK



DuoPack screw compressor package, type LD-2BH

DUOPACK SCREW COMPRESSOR PACKAGES

The range comprises 12 types, which are subdivided into 3 series: SH, MC, LT.

In comparison to one large screw compressor package:

- Stand-by facility
- Improved part load efficiencies

In comparison to two screw compressor packages of the same size:

- Reduced installation costs
- Smaller space requirement

Packages

GRASSO AMMONIA CHILLERS

Grasso has produced a new generation of ammonia liquid chillers to meet user needs particularly in the industrial market. Over the years, the field of application has also been extended to cover the air conditioning sector. Consequently Grasso has introduced the concept of the I and AC-Lines. The I-Line comprises Grasso ammonia chillers for industrial applications. These chillers can be used for medium and large refrigeration requirements, process cooling and heat pump applications. Most of the chillers are also available with other refrigerants for use in different sectors, the marine industry for example. The AC-Line comprises a large range of ammonia chillers especially designed for air conditioning applications.

COMMON FEATURES

- 3 Condenser versions: the standard being water-cooled or as split units with air cooled or evaporative condenser
- Low operating costs
- Highest COP values
- No ODP and no GWP, optimum TEWI value
- Proven reliability
- Low noise and vibration
- Extremely low ammonia content
- Most European land based and marine approvals
- Motor starter and PLC standard
- Large number of customized options available.

GRASSO I-LINE CHILLERS

For all applications that demand the highest efficiency Grasso have specifically designed the I-Line ammonia chiller series with Grasso screws as well as reciprocating compressors. The I-Line, with a capacity range from 60 to 6000 kW is divided into the following 3 series:

- FX P with a single screw compressor and flooded evaporation with plate heat exchangers
- FX Pduo with two parallel screw compressors and flooded evaporation with plate heat exchangers
- FX GC with one or two reciprocating compressors and flooded evaporation with fully hermetic shell & plate heat exchangers.

FX Pduo Series



FX GC Series



DX R Series



FKA PT/PK Series

GRASSO AC-LINE CHILLERS

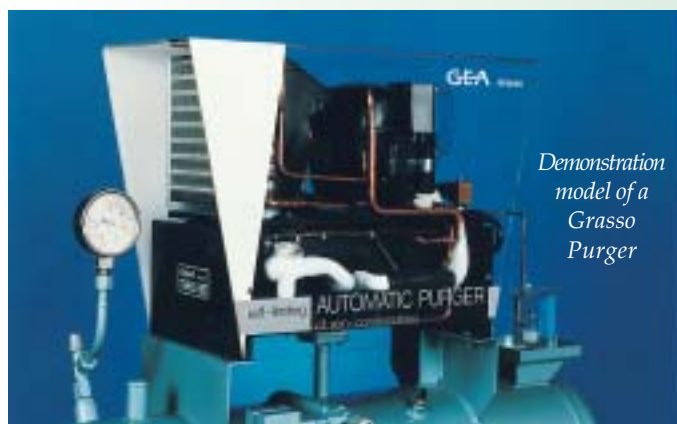
As an alternative to the industrial series Grasso can offer the AC-Line of ammonia chillers especially for applications with reduced operating hours per year. The AC-Line, with a capacity range from 100 to 1600 kW, is divided into the following 4 series:

- DX R with a single screw compressor and dry evaporation with shell & tube heat exchangers
- DX LR compact with a single screw compressor and dry evaporation with a shell & tube heat exchanger complete with an air cooled condenser
- FKA PT/PK with one *semi-hermetic* reciprocating compressor and dry evaporation with fully hermetic heat exchangers
- FKA with one *semi-hermetic* reciprocating compressor and dry evaporation in single circuit and shell & tube heat exchangers.

GRASSO SELF-LIMITING AUTOMATIC PURGER, GRASSO ELECTRONIC CONTROL DEVICES AND GRASSO PRESSURE VESSELS

GRASSO SELF-LIMITING AUTOMATIC PURGER

The Grasso self-limiting Automatic Purger removes non-condensable gases from the refrigeration system and as a result significantly improves the efficiency and the characteristics of any industrial refrigeration plant. The energy savings are usually so substantial that the initial



investment in the purger is recovered over a very short period. The plant is always working at its maximum efficiency reducing the running hours of compressors and condenser fans and therefore increasing the lifetime of the whole installation.

OPTIONS

- TÜV approval

FEATURES

- Economical
- Fast payback
- Energy saving
- Environmentally friendly
- Compact design (L700 x W330 x H450 mm)
- Simple installation in new and existing refrigeration systems
- Built according to CE regulations

GRASSO ELECTRONIC CONTROL DEVICES

The Grasso Screw Control (GSC) and Grasso Reciprocating Control (Monitron®) are electronic monitoring and control devices for reciprocating and screw compressors, packages and chillers.



Grasso Reciprocating Control (Monitron®)



Grasso Screw Control (GSC)

They provide on-line information on all relevant conditions, e.g. pressures, temperatures, hours of operation, % of capacity, safety control, alarm history file. Automatic start-up, shutdown and capacity control routines are implemented.



Prevesco refrigerant vessel with a pump station

PREVESCO PRESSURE VESSELS

A complete range of pressure vessels for industrial refrigeration installations can be delivered with all known certificates of approval.

The vessel series consists of:

- High pressure refrigerant receiver vessels 23 bar(g)
- Low and interstage pressure refrigerant separator vessels 17 bar(g)
- Interstage coolers "open flash" and "closed flash"
- Oil separators
- Custom built vessels for refrigeration and process industries.

Purger, Controls, Pressure Vessels

REVALCO REFRIGERATION VALVES AND COMPONENTS

VALVES AT A HIGHER LEVEL

With an experience of more than 50 years and a team of 20 employees, Revalco develops, produces and sells high standard products for the customers needs. The worldwide presence of selling companies makes both short delivery times and customer oriented marketing possible.

PRODUCT LINE

- Service Valves with welding and screw connections
- Stop Valves:
NB 15 up to 300 mm, NB ½" up to 12"
- Hand Expansion Valves:
NB 15 up to 50 mm, NB ½" up to 2"
- Check Valves:
NB 15 up to 80 mm, NB ½" up to 3"
- Combined Stop Check Valves:
NB 15 up to 80 mm, NB ½" up to 3"
- Angle Strainers:
NB 32 up to 125 mm, NB 1¼" up to 5"
- (Dual) Safety Valves:
NB 10/20 up to 65/100 mm, NB ⅜" - ¾" up to 2 ½" - 6"

All products are tested with dry air under pressure. Where approval is requested Revalco products can be supplied with the necessary certificates for:

- CE Type approval
- TÜV Type approval
- Lloyds Register of Shipping
- Other certificates on request.

SELECTION & ORDERING

Revalco selection programmes help you to determine and purchase the correct valves and parts.



PRODUCT FEATURES

- Suitable for all today's common refrigerants
- Welding and soldering connections according to ISO, DIN and ASTM
- Compact and low-weight design
- All products back-seated
- Modular build up
- Cap-hand wheel combination.

Valves and Components

GRASSO'S SERVICE

We are very proud of the quality and reliability of our products. Our objectives are to ensure that our refrigeration equipment is well designed, properly installed and well maintained. Correct maintenance prevents breakdowns and increases the life span of the installation.

With this in mind, Grasso takes care of its customers by forming the best possible service organization within the industry. We are pleased to offer you the following service facilities:

GRASSO HOTLINES



Reciprocating Compressors:

Parts +31 (0)651 61 50 76

Service +31 (0)651 60 17 65

Screw Compressors:

Parts +49 (0)172 301 45 79

Service +49 (0)172 391 20 50

24 hours per day • 7 days per week

The Grasso Hotlines are always open, however, please first contact your local office as detailed on the back cover of this brochure.

You can also contact our service department via e-mail: service@grasso.nl

FIELD SERVICE TEAM

Specially trained and experienced service engineers are on stand-by to give full technical assistance and after-sales service. The specialists of the Field Service Team can assist you with the installation, commissioning, maintenance, operational problems, on site inspection, overhauling and repairing of our products.

SPARE PARTS

A practical and fast working parts organization has been established to supply the necessary spare parts worldwide. Grasso despatch the required spare parts within 24 hours and to shorten delivery times further, distribution centres have been created at Grasso offices throughout the world. In addition, the number of contractors and agents who stock Grasso parts is constantly increasing. Grasso has an extensive stock of spare parts covering compressors currently manufactured and machines which are over 30 years old.



One of the Grasso service vans

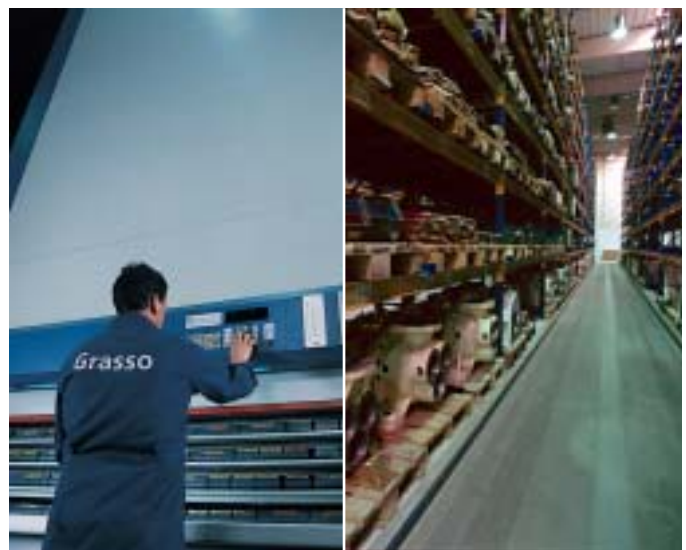
SERVICE CONTRACTS

Service contracts tailored to suit your specific requirements can be made to keep your refrigeration compressor running smoothly.

In practice, regular maintenance on a preventive basis has proved to be cheaper than waiting for breakdowns to occur. Grasso engineers are fully trained to carry this service out or to help you to set up your own preventive maintenance schedules.

TRAINING COURSES

Grasso regularly organizes extensive training courses for service and mechanical engineers to ensure proper application and maintenance of our equipment.



Grasso's highly specialized storage for spare parts

Service

REFRIGERANTS AND THE ENVIRONMENT

General concern about the effect of human activities on the global environment has grown rapidly. There is widespread anxiety over the influence of CFC's and other greenhouse gases on the ozone layer, some of which are used in refrigerating systems.

The environmental concerns led to a ban of the further use of CFC's like R11, R12, R502 and the life-span of HCFC's such as R22 is coming to an end soon.

Today some new refrigerants and blends of HCFC's/HFC's are introduced to the refrigeration market. Grasso's compressors have been tested with these new fluids and are suitable for all the new refrigerants.

However, the only refrigerant with a zero Ozone Depletion Potential (ODP), a zero Global Warming Potential (GWP), superior thermodynamic properties and worldwide availability is ammonia (NH_3).

Grasso has an enviable reputation gained in using ammonia as a refrigerant for more than 100 years.

The use of ammonia as a refrigerant in refrigeration systems means an important contribution to the preservation of the ozone layer. Moreover, ammonia quickly breaks down into its natural components nitrogen and hydrogen, thus excluding the possibility of a risk to the climate through a direct greenhouse effect.

For that reason, we are convinced that, because of its efficiency and environmentally friendly properties, ammonia is an important refrigerant of the future.



Refrigeration systems are essential for food processing and storage. This refrigeration plant includes three Grasso reciprocating compressor packages.



Refrigeration system installed at a dairy plant in the United Kingdom. Screw compressors, made by Grasso, are the heart of this installation. Revalco contributed the valves.



WHERE CAN YOU FIND US



MANUFACTURING & SALES

The Netherlands

Grasso Products B.V. • Parallelweg 27 • P.O. Box 343 • 5201 AH 's-Hertogenbosch
Phone: +31 (0)73 - 6203 911 • Fax: +31 (0)73 - 6214 320 • E-Mail: products@grasso.nl • Website: www.grasso.nl

Prevesco B.V. • Parallelweg 27 • P.O. Box 720 • 5201 AS 's-Hertogenbosch
Phone: +31 (0)73 - 6203 600 • Fax: +31 (0)73 - 6214 073 • E-Mail: info@prevesco.nl • Website: www.prevesco.nl

Revalco B.V. • De Beverspijken 7a • 5221 EE 's-Hertogenbosch
Phone: +31 (0)73 - 6390 700 • Fax: +31 (0)73 - 6312 779 • E-Mail: info@revalco.nl • Website: www.revalco.nl

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Phone: +49 (0)30 - 43 592 6 • Fax: +49 (0)30 - 43 592 777 • E-Mail: info@grasso.de • Website: www.grasso.de

SALES

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Republic of South-Africa

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Philippines

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