Release June 2022

REFRIGERATION UNITS

DRAVA Series

Cooling capacities from 16 to 65 kW in Medium Temperature
Cooling capacities from 12 to 23 kW in Low Temperature

Enex presents DRAVA, the refrigeration units designed specifically to be used in small-medium supermarkets, in the Ho.Re.Ca. sector, in all applications where simple and small units are required. Among the models offered by this range, there are both medium temperature units and the booster version, for low and medium temperature.

Enex has been the first company ever to develop CO_2 only solutions since 2004. CO_2 (R744) is a natural fluid with zero OPD, GWP = 1. Neutral refrigerant by excellence, CO_2 is neither toxic nor flammable: among natural gases it is in fact the one with fewer contraindications so that represents the perfect choice for the future, not subject to the F-gas regulation on fluorinated gases.

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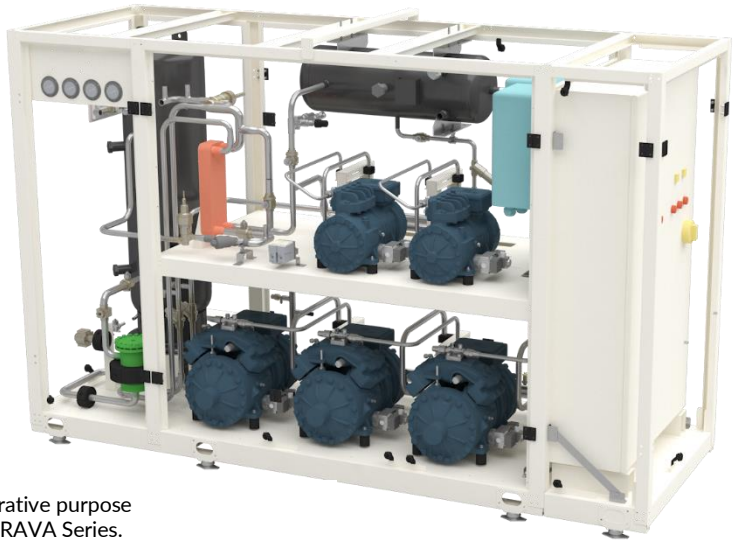
MAIN FEATURES

DRAVA series has been designed to guarantee ease of use and a plug and play unit, characterized by the following strengths:

- Robust and compact structure;
- Low noise: special assembly of compressors and sound absorbing coating;
- Two different versions: indoor or outdoor installation;
- Efficient subcritical operation: integrated condenser with finned coil, arranged horizontally (external installation);
- Standard version: design pressure 60 bar on the LP / IP-120 bar on the HP side;
- Complete ducting of the relief valve discharge;
- Electrical panel;
- Liquid receiver: 85 liters (small vers.), 106 liters (medium vers.), 140 liters (large vers.);
- CE / PED Certification Cat. III and IV.

DRAVA series represents the most effective solution to overcome the environmental problems related to synthetic refrigerants, harmful to the environment.



The image is for illustrative purpose
and it is referred to DRAVA Series.
Unit Type: DRAVA TOP 3/65kW + 2/20kW LT (3 + 2)

OPTIONS

- Heat recovery for space heating and / or sanitary water heating
- Inverter on one MT / LT compressor
- Pressure gauge panel
- Electrical resistance on the liquid receiver (outdoor installation version)
- enVECTOR® for greater efficiency and increased capacity
- Customizable control system based on customer specifications

Options can be provided also according specific needs of the plant or designed on demand of the customer.

GENERAL TECHNICAL DATA

DRAVA Series includes 5 sizes with various options. For these reasons, the technical data may vary according to the initial specifications provided and / or agreed with the Customer. Following the general technical data:

Model (*)		DRAVA SMALL 2/30kW	DRAVA SMALL 2/30kW + 1/10kW LT	DRAVA TOP 3/65kW	DRAVA TOP 3/65kW + 1/10kW LT	DRAVA TOP 3/65kW + 2/20kW LT
Cooling Capacity Low Temperature (-33°C)	[kW]	-	12,0	-	12,0	23,0
Cooling Capacity Medium Temperature (-9°C)	[kW]	30,0	16,0	65,0	50,0	36,0
Low Temperature Data (**)						
Compressors number	[-]	-	1	-	1	2
Cooling capacity	[kW]	-	12,0	-	12,0	23,0
Medium Temperature Data (**)						
Compressors number	[-]	2	2	3	3	3
Cooling capacity	[kW]	30,0	16,0	65,0	50,0	36,0
Electrical Data						
Nominal Power Input (**)	[kW]	17,8	20,7	33,8	42,4	45,3
Nominal Electric Current Input (**)	[A]	31,4	36,5	74,4	80,5	86,6
Connections piping diameters (K65 connections)						
Suction Pipe Low Temperature	[mm]	-	16	-	16	22
Suction Pipe Medium Temperature	[mm]	22	22	35	28	28
Gas Cooler Supply Pipe	[mm]	22	22	28	28	28
CO_2 Liquind Line Pipe	[mm]	22	22	28	28	28
Tanks						
Liquid Receiver Volume	[liters]	50,0	85,0	106,0	140,0	140,0
Oil Volume Reserve	[liters]	26,0	26,0	40,0	40,0	40,0
Dimensions						
Lenght max	[mm]	2150	2150	3000	3000	3000
Width max	[mm]	950	950	1100	1100	1100
Height max (***)	[mm]	1650	1650	1800	1800	1800
Estimed Weight (****)	[kg]	1200	1400	1600	1700	1800

NOTE:
The data expressed are referring to condition with air ambient temperature 34°C, discharge pressure in medium temperature condition 92 bar and gas cooler outlet temperature 36°C.
* Category PED IV
** Without Inverter
*** Dimensions does not include the base feets of the unit
**** The weight does not include the Gas Cooler

SPECIFICATIONS DESCRIPTION OF STANDARD UNITS

Structure: robust and painted frame with epoxy powders RAL5008 (other colors on request);

Covering panels (on request): in painted galvanized sheet or painted aluminum, with soundproofing coating;

MT and LT compressors on a single frame in a booster configuration, with provision for connecting the intercooler (external). High efficiency coalescent type oil separator. Oil receiver and oil level regulation for single compressor with optical electronic controller;

Piping: in AISI304L TIG welded stainless steel. Pressed stainless steel fittings. The pipes are clamped with industrial type fixings. Cold pipes are thermally insulated with Armaflex insulation or equivalent with closed cells with low vapor permeability;

HP regulating valves and flash gas: stainless steel step-motor, installed with shut-off valves and filter. Mechanical backup valves installed in parallel, with shut-off valves;

Exchangers: the heat exchangers for heat recovery or installed for anti-liquid protection functions are of the AISI 316L stainless steel plate type. Coating with fat bandage, vapor barrier and closed cell rubber insulation;

Tanks: in painted carbon steel. Cold storage tanks are insulated as described below. Standard design pressure 60 bar (80 bar on request - other possible options);

Insulation: Armaflex or equivalent with closed cells, combined with protection, for cold parts, with fat bandage and vapor barrier;

Condenser / gas cooler (optional supply): pipes and bends in K65, design pressure 130 bar. Tube/row pitch geometry 25 x 22 mm;

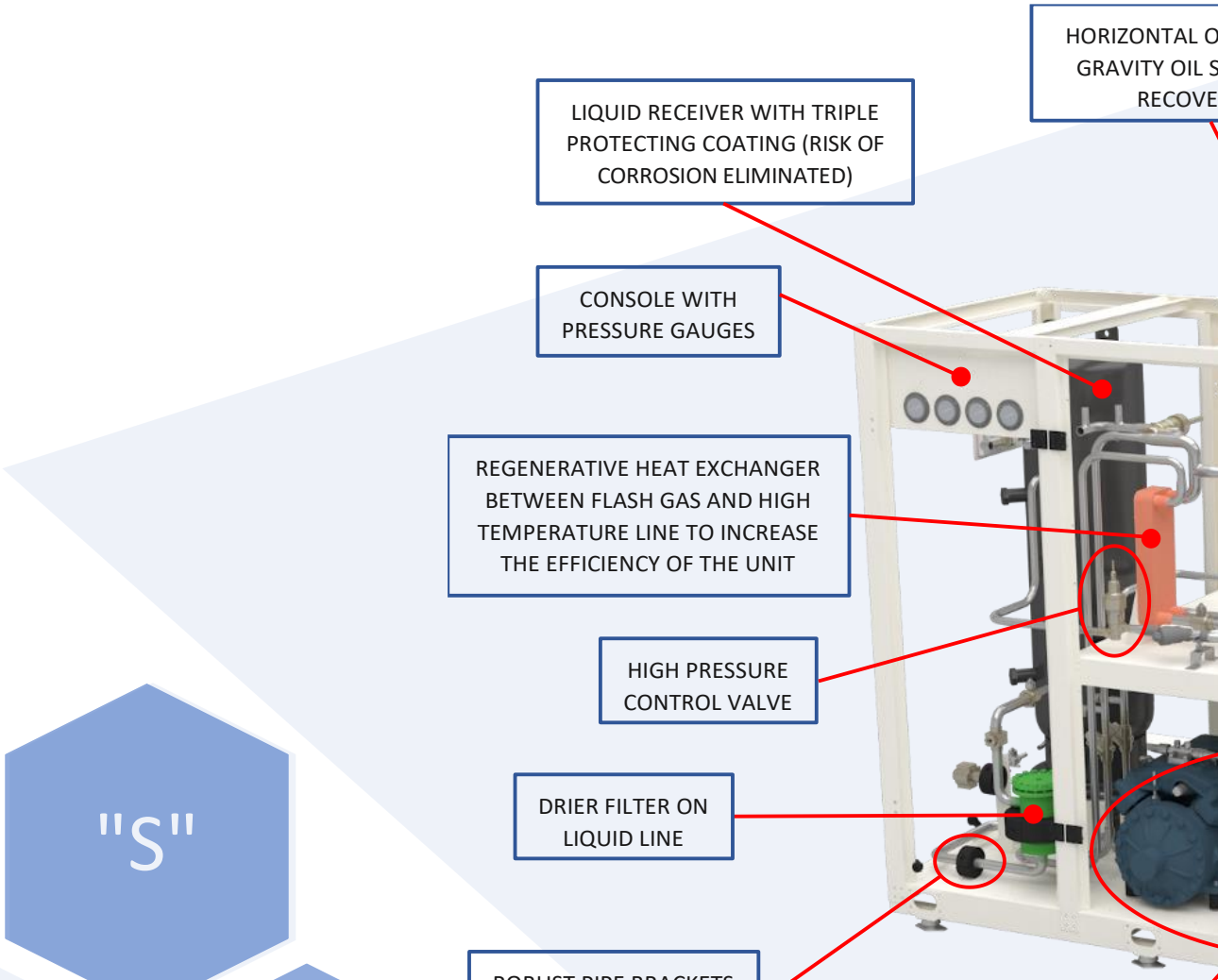
Liquid ejector (optional): according to the system concept developed and patented by Enex, to allow evaporators overfeeding to be controlled. Aluminum block with removable cartridge;

Electrical panel with degree of protection IP54 (galvanized sheet painted RAL 7035 textured) or IP67 (stainless steel) with controllers of different brands. Inverter on one compressor per bank at least;

Compressors: optimized for operation under specific conditions, with manifold obtained by casting, designed to limit oil temperature, with mobile mechanical parts of robust construction which have been tried out for over 10 years of reliable and trouble-free operation. In particular, hardening pin treated with carbon deposit and very thick connecting rod. Forced lubrication with pump also for piston pin and connecting rod eye;

PAG oil for longer life.

DISTINCTIVE TECHNOLOGICAL CHOICES OF THE RANGE



"S"

"B"

"EL"

VERSIONS

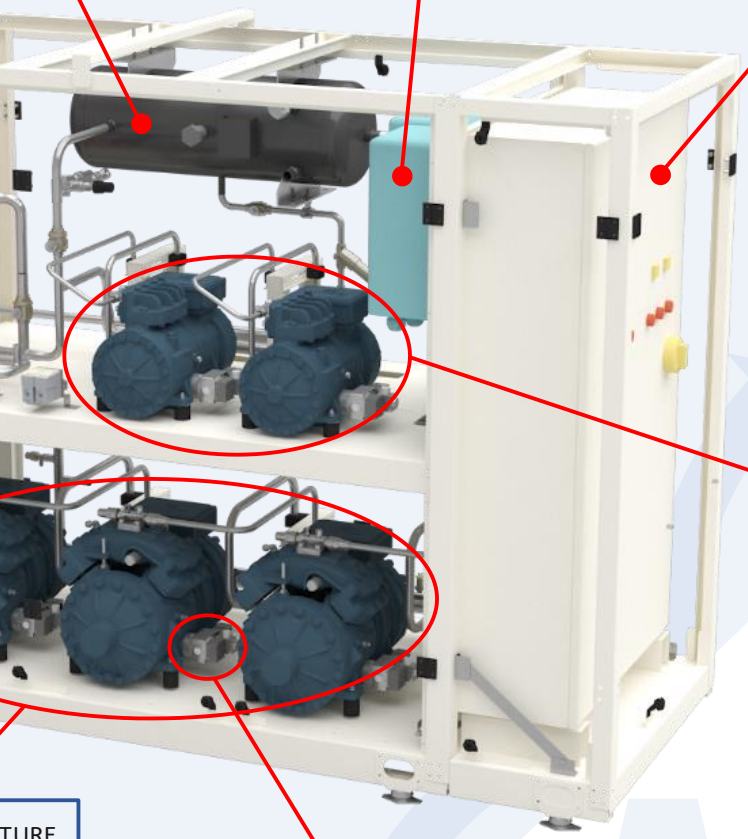
- Version “S”
  - single stage MT
  - design IPR standard
- Version “B”
  - booster version
  - design IPR standard
  - intercooler as an optional
- Version “EL”
  - booster version
  - design IPR standard
  - intercooler as an optional
  - overfeed of the enVECTOR® liquid for MT and LT

Different versions can be provided also according to specific needs of the plant or designed on demand of the customer.

ENEX PATENTS & INNOVATIONS

Enex developed numerous innovations in the field of CO_2 refrigeration, some of which have given rise to important patents such as the "overfeeding of evaporators". DRAVA refrigeration units can be equipped with this exclusive innovation on request.

enJECTOR®



ÒIL RECEIVER WITH SEPARATION AND RY SYSTEM

INVERTER IP21 OR IP55

ELECTRICAL PANEL WITH INDICATOR LIGHTS AND DISPLAY MOUNTED ON THE FRONT SIDE

LOW TEMPERATURE COMPRESSORS

STURDY POWDER-COATED STEEL CARPENTRY THAT REDUCES VIBRATIONS

TIG WELDED STAINLESS STEEL PIPING

"ANTI-VIBRATION" SUPPORT FOR COMPRESSORS

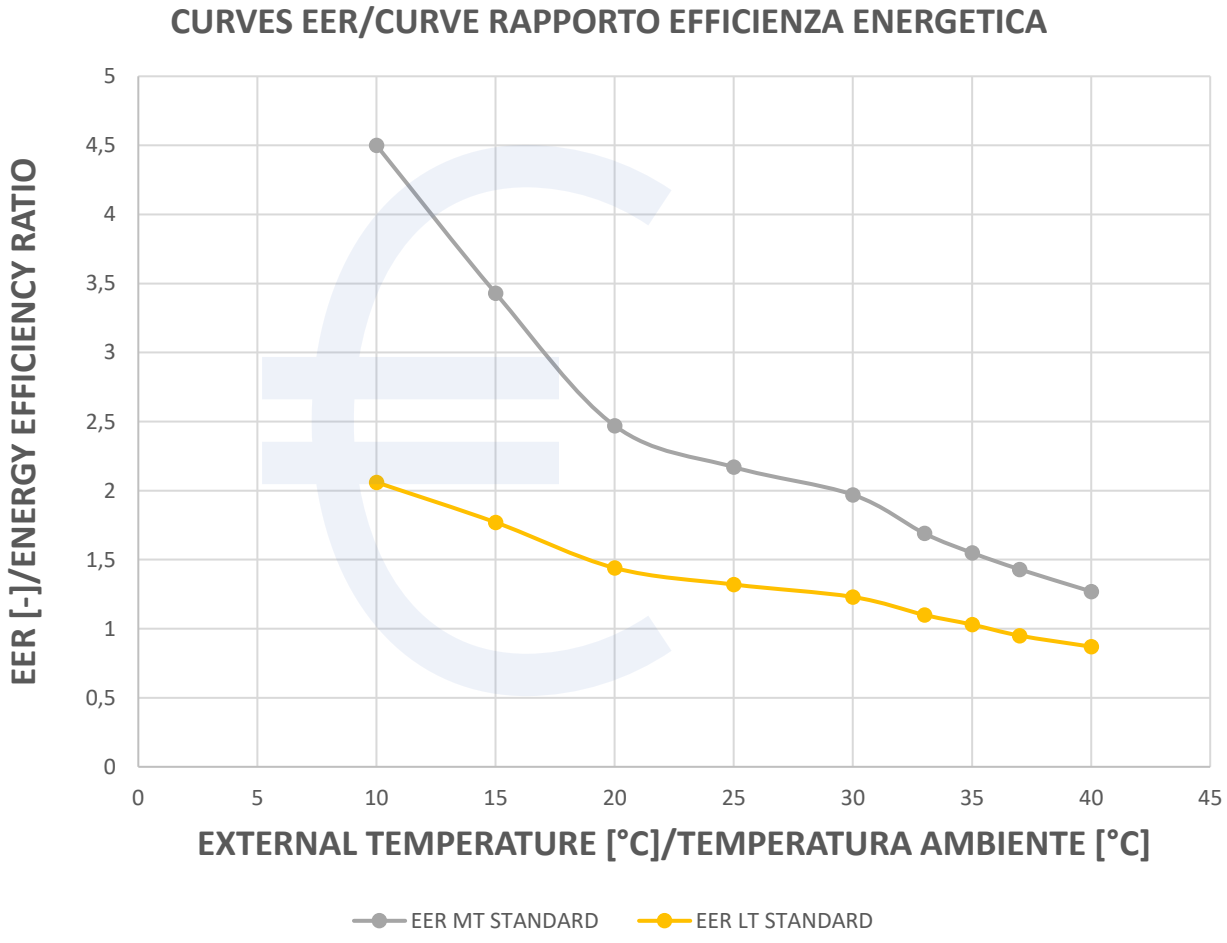
INDIVIDUAL OIL LEVEL CONTROL MODULES

TURE S

TECHNOLOGICAL ADVANTAGES ARISING FROM ENEX KNOW HOW

- High efficiency: optimal realization of the booster cycle with insertion of intercooler and regenerative heat exchanger;
- Robust frame and compact design;
- Stainless steel pipes;
- Low noise;
- Automatic backup of critical components for stable and continuous operation;
- Easily accessible components;
- Plug and play unit;
- Standard version: design pressure 60 bar on the LP / IP-120 bar on the HP side;
- Complete ducting of the safety valve drains;
- CE / PED certification Cat. IV.

ENERGY PERFORMANCE AT VARIATION OF THE EXTERNAL AIR TEMPERATURE



INNOVATION AS ENERGY

2004	>3000	25
Foundation year	Transcritical systems installed	Countries in the world where Enex is present

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