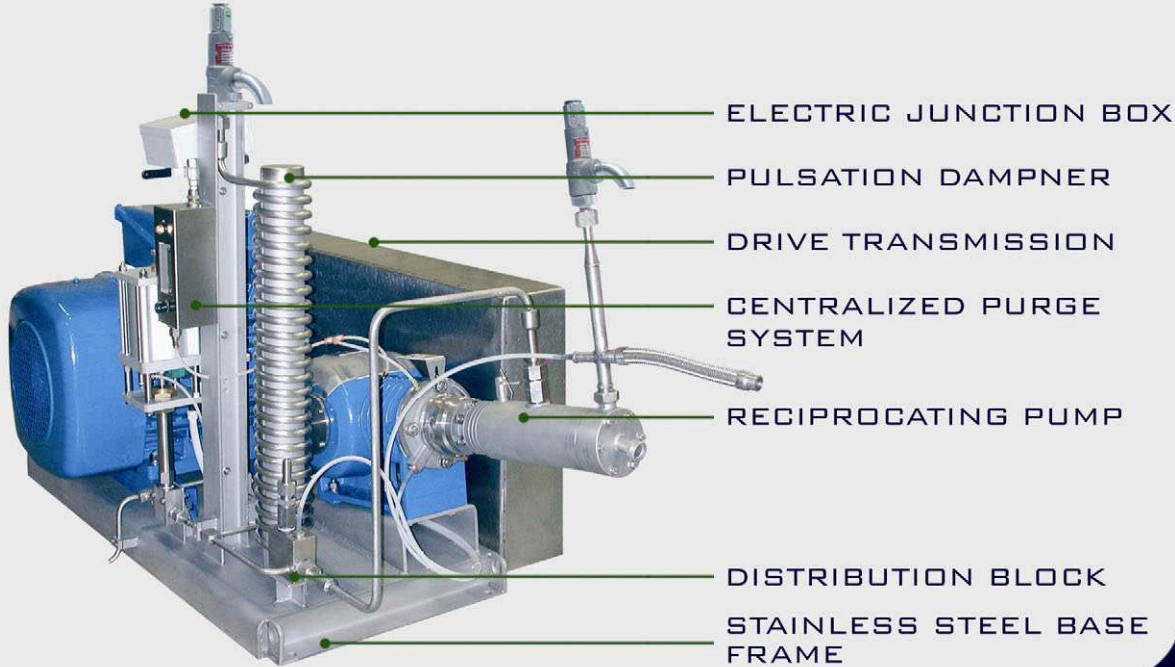




TECNOCRYO



RECIPROCATING PUMP SKID

PRODUCT DESCRIPTION

The reciprocating pump skids are user-friendly packages for pumping cryogenic liquids at high pressures. Filling gas buffers and cylinders, they are the pumping core of the Filling Stations for industrial, food and medical fields. Compatibility with all the cryogenic gases is assured using the most reliable materials.

A compact and an effective system of pump, valves and pipings provides the highest safety in every service condition in a tough environment of very low temperatures, high pressures and dangerous fluids. Every component is designed to enable high performances meeting the customer's needs.

The complete system is assembled and supported by a stiff baseframe in stainless steel, as far as the pulleys protection case and the purging system, to assure the best resistance against weather agents and ageing.

MAIN FEATURES

Performance data

Pumped fluids	LIN, LOX, LAr, LNG, LCO ₂ , LN ₂ O, LHe, LH ₂ and others available
Max. pumped pressure	up to 420 barg (design for higher pressure on demand)
Temperature range	-196°C/+50°C
Suction pressure (NPSH)	up to 18 barg
Flow range	up to 88 l/min (special pumps for higher flow on demand)
System configuration	Manual to fully automatic with ECP onboard

Configuration

- Dedicated HYTC series for LNG Refuelling stations for automotive market, ATEX certified.
- Adaptable to any configuration of cryogenic tanks.
- Manually operated or fully automatic systems by an onboard ECP or a remote controller.
- Easy, safe and noise reduced service.

Certification and testing

- Pumping system hydraulically tested at 630 bar.
- Cleaned and degreased for oxygen compatibility to EN12300.
- Assessment to E.U. directives: 2014/68/EU PED 2006/42/CE Machine
- Design and manufacture based on EIGA and ASTM recommendations.

TECNOCRYO DESIGN

Features

Baseframe and supports in stainless steel for corrosive environments. Standard grade to 304L can be replaced by 316L for the most aggressive situations.

Drive transmission is covered by a movable case in stainless steel for an easy maintenance of the belts.

The system can be fully customized by selecting options and accessories giving a major flexibility to the plant requirements.

The system can be manual, automatic or semi-automatic depending on the configuration chosen.

Options and accessories

Suction and gas return lines can include automatic or manual valves with safety valves to prevent cryogenic liquid enclosures.

Safety valves settings are chosen depending on the application and the tank pressure for the suction side.

Motor size is selected depending on the flow rate and the maximum working pressure required by the plant.

Automatic or manual valves ensure the correct liquid vent for the discharge piping system. The valve actuator works with a standard pneumatic air pressure.

Pulsation damper in the discharge system can be chosen between the spiral type or bottle type.

Temperatures are controlled by PT100 in different locations, particularly in the suction line, in the discharge line for cavitation, for the pump leak detection and in the crank drive.

Pumps can be Thermosyphon / K version for the connection to the different tank configurations on the market.

Centralized purging system provides a small nitrogen flow to the pump case preventing any ice formation in the crank drive. This option is mandatory for long service.

TECNOCRYO QUALITY SYSTEM

TECNOCRYO relies on a High Quality System which completely merges with the Engineering and Manufacturing facilities, pursuing a strategy of continuous improvement within a moving market of high technology. Attention has been posed to the Standards and the relevant product certifications, specially for the European Directives.

HYTC is a dedicated line for HYdrocarbon fluids, specifically designed for LNG or LCNG applications in the refuelling stations for automotive field. The design and the use of reliable materials makes the difference.

