



POLAR technical data

CONSUMPTION HYPOTHESISED CO² AND ELECTRICITY:

From tests we deduced an average consumption of CO² gas to the following extent:

1,3 kg of CO₂ gas is able to cool 100kg of grapes of 1°C

These consumption values may vary based on system performance, on the homogeneity of the crushed grapes feeding, and the temperature differences required for the processing.

Electric, pneumatic, hydro connections, at purchaser's charge, for the working of the machine:

An electric socket for the machine to work, with varying power from 3 to 12 kW to verify in function of the accessories that are wanted to manage from the electrical panel.

An electrical socket suitable for approximately 15KW power (power to be arranged with the supplier of the gas and in function of the adopted system of supplying), strictly necessary to transfer the CO₂ from the cistern to the cryogenic collection tank and to set back the pressure in the system.

A ¾" compressed air connection for the management of the automatisms able to uniformly supply 7-8 bar.

A water connection point for automatic washing from 1" to 3 or 4 bar.

The electric and pneumatic system for the operation of the machine from the electric and pneumatic switchboard to the equipment on machine edge are included in the cost of the machine, however if any modification and/or variations were needed, these would be quantified separately.

DESCRIPTION OF MANUFACTURE DETAILS:

- Chilling tank completely in stainless steel AISI 304. construction on a vertical axis to reduce the volume
- Tested in compliance with PED norms, certified by the Italian State Authority ISPESL to be qualified for commercialization.
- Valves and operating accessories suitable for contact with cryogenic gases
- Tank designed for internal washing, porthole for inner inspection and cleaning
- Valves and nozzles for gas entrance, easy to disassemble for maintenance and cleaning
- Adjustable pipe for the outgoing chilled product, with Garolla connection max diameter 120 (it is possible to modify the size of the connection at the moment of the order).
- Fixed pipe for the incoming product to chill, with Garolla connection diameter 120 (it is possible to modify the size of the connection at the moment of the order).
- Outgoing cryogenic gas pipe for heat removal, with flange DN150 to connect a conveying chimney or to connect a noise reduction device.
- Knife gate valves D 125, pneumatic control, to be installed on product inlet and outlet excluded (optional)
- Switchboard contained by a stainless steel case with multiple connector that allows a protected positioning in winter time
- Touch-screen graphic keyboard with SIEMENS programming system, software with automatic self-regulating operation, in relation to the required outgoing temperature and the loading speed or batch management to reach low temperatures with a little quantity of product
- conveyance of the chilled product from the machine to its destination place without the aid of pumps or mechanic device in motion (compatibly with the distances to cover, suitable for max pressure of 4 bar on line)
- Transport of the product in inert atmosphere
- Complete and comprehensive use and maintenance handbooks.

Predispositions for possible process controls already inside the machine:

Terminal block in the machine awry and to valley

Alarm of elevated pressure on the line of product in exit

Possibility of positioning the electric panel in remote posting (within limits of reception of signal).

Tele assistance through Modem

Alarm sensor of elevated concentration of CO₂ in environment.

Control of working of the extractor CO₂ for low points.

Command of pump of feeling through inverter directly managed by our planner.

Emergency for stop machine in remote posting

Sensor for temperature and pressure gas in entrance and alarm for lock gas of cooling

Heater for CO₂ gas in water with inside management from electric panel

Exclusions from the supply and eventually to quantify if required:

Carrying out of the CO₂ exhaust pipe and relevant noise reduction device

Carrying out of the system connecting the liquid CO₂ loading

Carrying out of the system connecting the gaseous CO₂ loading

Carrying out of the system connecting the automatic water washing

Carrying out of the system connecting the switchboard in case you wish to place it in remote posting

Carrying out of the system of electric feeding and relative putting on mass of the members of plant

Transport lines of the product to cool and/or already cooled and any eventual accessory for the mentioned lines

Installation of any insulation and protections for the safety of the systems assembled on site

Perimeter protections of the ended plant, implantation with blocking to earth for safety of the members of plant

Emanation of procedures for the safe management of the cryogenic systems and not, connected to the machine