



Beverages|Cooking Oil

Mineral water |Rice |Nuts

Fill Nitrogen | Deoxygenate | Increase Pressure



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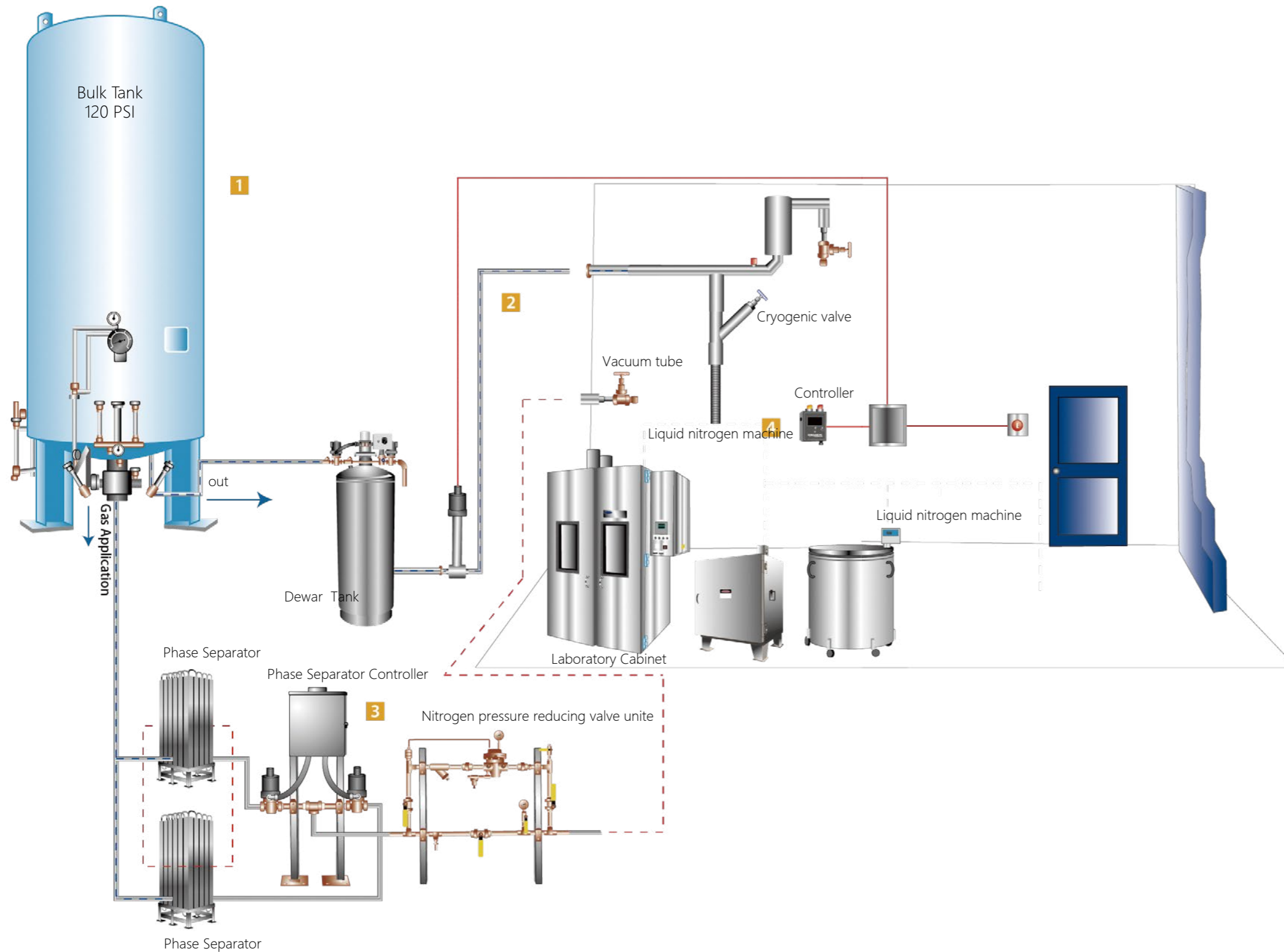


WeChat

INCH INDUSTRY LTD
ADD: 51 The Chase, Bromley, England,United kingdom BR1 3DE
<https://www.inchindustry.co.uk>
E-Mail:info@inchindustry.co.uk
Tel:+447729876353

OUR TOTAL SYSTEM SOLUTION

PRODUCT CATALOG



CRYOGENIC TECHNOLOGY

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SCT/COCO LN2 DOSER

- Made of stainless steel to meet FDA requirements
- The use of ultra-low temperature vacuum insulation technology, the least loss of liquid nitrogen
- For beverage, mineral water, wine, cooking oil and other production lines
- The use of intermittent nitrogen, no bottle/can without filling.
- Accurate injection quantity, stable internal pressure, internal pressure deviation.
- Able to store 20 refueling programs.
- The use of dry nitrogen to protect the nitrogen head, really never freeze $\pm 0.1\text{kg}$.
- Ultrasonic liquid level control.
- Nitrogen liquid supply pressure up to 7kg/cm
- No heating, save liquid nitrogen.
- The use of stainless steel needle, the least vulnerable parts.
- With gas-liquid separator function, do not need to add additional gas-liquid separator.



Never ice Blockage

Save Liquid Nitrogen

No Wearing Parts

- SCT Nitrogen Dosing Machine 600P/M
- COCO Nitrogen Dosing Machine 200P/M

S300LN2 DOSER

- Pulse injection modes, which are tankless and fill-interval free, reduce liquid nitrogen consumption and lower operating costs.
- Vacuum insulation - ultra-low daily evaporation rate (NER of 0.15 liters/hour, reducing operating costs).
- Nozzle nitrogen care system (Nozzle Blanketing) prevents outside air from invading the spray chamber and causing frost inside.
- Liquid nitrogen horizontal positioning control: The horizontal pressure is stable, which improves the accuracy of liquid nitrogen dosage;
- The liquid level is controlled by power system positioning.
- The liquid-gas phase separator ensures that the liquid nitrogen is in a super-cold transition state,
- improves the quality of the pure liquid phase, and helps the accuracy of liquid nitrogen dosage.
- The buffer nitrogen filling function effectively prevents liquid nitrogen from rebounding and splashing, and the liquid nitroge

EQUIPMENT INTRODUCTION

- 1.Product name: Liquid nitrogen metering and filling system.
- 2.Application: used in beverage production.
- 3.Brand: Inch Industry
- 4.Function: When aluminum can beverages or lightweight PET bottle beverages are being canned and are about to be sealed or capped, the system will accurately measure liquid nitrogen and precisely add it to the can or bottle. The liquid nitrogen added to the can or bottle will quickly absorb heat and vaporize (turn into gas), and the volume will expand 700 times, which will firstly push the oxygen on the top of the can/bottle out and secondly, generate internal pressure, completely solving the problem of deflated cans/bottles. At the same time, because the air in the product is replaced by nitrogen, the quality of the product is improved and the life of the product is extended. More importantly, it can save more than 15% of your packaging and transportation costs.

CONTROLLER



S600LN2 DOSER

- Highly automated, no manual operation is required after installation and setting, reducing the probability of manual error.
- Liquid nitrogen dosage control is precise, 10ms-500ms, +/-1ms (the dosage can be changed online without machine operation).
- Equipped with the function of fully automatic detection of line speed changes, 1-1200 cans/min.
- Equipped with a container sensor, it can perform the function of no tank and no charging, saving liquid nitrogen consumption and reducing operating costs.
- Equipped with a tank speed sensor (Speed Sensor) to improve the accuracy of tank speed calculation
- Can be used with timing sensor to improve the accuracy of bottle mouth positioning and liquid nitrogen filling.
- based on individual production process parameters (filling temperature, line speed). Recipe setting & storage >10, for example, users can customize recipes

AUTOMATIC NITROGEN GAS PROTECTION SYSTEM

- One-click automatic quick service (Quick Service)
- 1.Nitrogen automatically cleans the accumulated moisture inside the machine
 - 2.Accelerate the nitrogen injection head purge speed to frost the work
 - 3.CIIP/SIP nitrogen positive pressure care prevents the outside humid hot air from invading the inside of the machine body and frost
 - 4.Equipped with nitrogen injection head pre-cooling function - the production line starts and the tank is pre-cooled before it arrives Drip nitrogen for 5 drops. Pre-cool the nitrogen dripping head to prevent the liquid nitrogen from vaporizing due to the hot single head Affects liquid nitrogen dosage.

CONTROLLER



ASEPTIC LN₂ DOSER

ONE STEP SERVICE

**STEAM
STERILIZATION**



STERILE LIQUID NITROGEN GENERATOR

In the aseptic liquid nitrogen generator, aseptic nitrogen is liquefied in this special device to form aseptic liquid nitrogen.

ASEPTIC LN₂ DOSER SOFT DOSING HEAD

Liquid nitrogen after liquefaction is transported to the nitrogen head, which is controlled by the valve. The movement of the valve is tracked and adjusted according to the speed signal of the filling machine and the signal of bottle without bottle, so that the valve can be opened without bottle. Under different speeds, the amount of filling is different to ensure the stability of the internal pressure of the final product.

ASEPTIC LN₂ DOSER

Used for liquid nitrogen injection in aseptic production line; Not affected by sterile line cleaning and disinfection; Liquid nitrogen is liquefied through gas sterilization to meet the requirement of asepsis. The pipe and the body can be sterilized by steam.

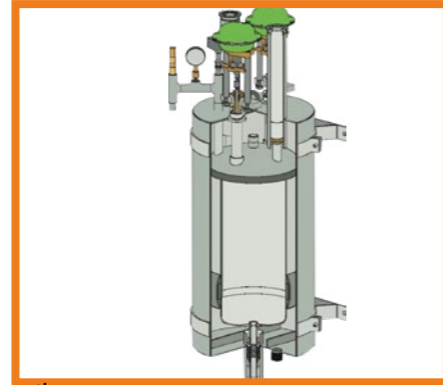
STERILE LN₂ DOSER CONTROL CABINET

Aseptic liquid nitrogen machine control cabinet the aseptic liquid nitrogen machine control cabinet is compact and beautiful in structure, equipped with nitrogen control valves, aseptic filters, etc., as well as steam electrical control and valves for heating and sterilization. It is usually installed on the lid-cutting platform on the top of the filling machine and sometimes next to the filling machine.

VERTICAL/HORIZONTAL PHASE SEPERATOR

VERTICAL PHASE SEPERATOR

Degasser The degasser removes gas by slowing down the liquid flow velocity, ensuring that. The liquid nitrogen is stored in a bulk storage tank at various saturation pressure, usually between 5 to 10 bars (80 to 150psi). The saturated liquid is drawn from tank and transferred via vacuum jacketed pipelines to the point of use (POU) at the production floor. Liquid nitrogen travels through the pipelines will picks up energy incrementally due of presence of heat leaks, surface friction and turbulence at bends. Depending on the amount of the energy absorbed, the liquid enthalpy increases and vapor is formed creating gas bubbles in liquid stream, . resulting in 2-phase flow conditions as shown in diagram below. Appropriate conditioning equipment



HORIZONTAL PHASE SEPERATOR

Technical parameters:

Type: horizontal container
 Volume: 40L
 Output flow: 1600L/H
 Inlet pressure: maximum 12bar
 Outlet pressure: 12 bar
 Voltage: 230V/24V DC
 Air supply: 4-5bar
 Pressure indication: pressure gauge
 Safety precautions: pressure relief valve to prevent overpressure



EDIBLE OIL LN₂ DOSER

- Pulse liquid discharge, no bottle, no filling - that is, intermittent filling method, used to fill containers one by one, reduce liquid nitrogen consumption, and reduce operating costs.
- High vacuum (below 110-5mba) deep low temperature insulation - ultra-low daily evaporation, reducing operating costs. and adopting a special structural design for connecting the liquid inlet and exhaust pipes. There will be no air condensation on the surface of the entire equipment and at the pipe connection, and will not pollute the grease of the filling equipment.
- Filling nozzle nitrogen protection and heating system (nozzle blanketing system) to prevent the entry of external air and cause frost and ice blockage inside the nozzle.
- The liquid nitrogen level adopts mechanical automatic liquid level control to maintain a stable liquid improve the accuracy of filling, and reduce the waste caused by liquid nitrogen flash evaporation.

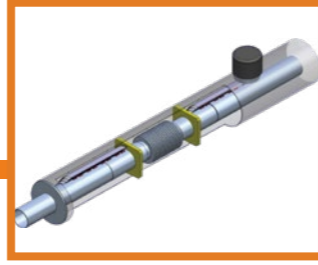
DEOXYGENATED | PRESSURIZED | LIGHTWEIGHT BOTTLES |

CONTROLLER



ACCESSORIES

CRYOGENIC
VACUUM PIPE



DOSING VALVE



VACUUM PIPE
VACUUM VALVE



NOZZEL



VACUUM PIPE

