

BREWING PILOT PLANT

Mod. BEER150/EV

BR



INTRODUCTION

This plant is designed to make craft beer with the traditional method consisting in cooking mashed malt, filtering the resulting must by special equipment and adding some hop during the final boiling phase. Then adding yeast will start the fermentation process.

This process enables to personalize the end product in every part of its: different raw materials can be used, they can be brewed in most various combinations and the result will always be different recipes.

Brewing phases can be summarized as follows:

- Grinding: this phase consists in grinding malt; this operation is necessary to prepare the product for the next boiling phase.
- Cooking: it consists in boiling the mashed malt in water and mixing constantly with an agitator.
- Filtering: must is filtered in two different phases developing differently. The first filtering phase separates stillage from the liquid part in a basket of stainless steel, immediately after cooking malt. Then the second whirlpool phase is carried out after boiling malt and adding hop. The whirlpool developed inside the vat makes the residues still available in must, settle on bottom central part. Then the product that can be drawn from the side of the vat is already filtered and clean.

- Fermentation: it is the biological transformation of sugars into alcohol and carbon dioxide, provoked by the metabolism of yeast.
- Maturation: at the end of this process, must reaches a more or less stable balance of all its components. A lot of enzymes brought by yeast are still active in this phase, thus enabling to complete what already done by fermentation.
- Packaging: it consists in filling bottles and barrels with beer.

The equipment that makes up the brewing line is described in detail below.

MILL

- Production: 150 kg/h

COOKING AND FILTERING VAT

- Capacity: 150 litres
- Material: AISI 304 stainless steel
- Stillage filtering basket
- Electric heater of 7 kW
- Jacket of AISI 304 stainless steel with very high thermal insulation
- Upper dust-proof cover with exhaust of fumes
- Temperature sensor
- Agitator of stainless steel without stillage cutter

BOILING AND HOP BREWING BOILER

- Capacity: 220 litres
- Material: AISI 304 stainless steel
- Electric heater of 7 kW
- Jacket of AISI 304 stainless steel with very high thermal insulation
- Upper dust-proof cover with exhaust of fumes
- Temperature sensor

WHIRLPOOL VAT

- Capacity: 250 litres
- Material: AISI 304 stainless steel
- Jacket of AISI 304 stainless steel with very high thermal insulation
- Upper dust-proof cover

BEER PASSAGE VESSEL

- Capacity: 10 litres
- Material: AISI 304 stainless steel
- Upper dust-proof cover

BREWING CONTROL BOARD

- Programming beer recipe
- Control of temperature rise with automatic heat reduction
- Display of elapsed time
- Possibility of setting the recipe step by step
- Speed variator for cooking vat
- Setting beer decanting pump at work
- Control and programming of temperature in hot water tank

FERMENTER WITH FREE BLEEDING OF CO₂

- Capacity: 300 litres
- Material: AISI 304 stainless steel
- Conical bottom
- Duct-shaped refrigeration band of stainless steel
- Level holding cock
- Taster of stainless steel
- Digital thermometer with pocket
- Insulation of bottom and plating
- Adjustable feet
- Washing pipe with washing ball
- External airlock with water drain
- Bleeder valve of stainless steel

BEER MIXER

- Capacity: 300 litres
- Material: AISI 304 stainless steel
- Conical bottom
- Central manhole cover
- Bleeder valve of PVC
- Level holding cock
- Taster of stainless steel
- Partial and total drain
- Adjustable feet
- Washing pipe with washing ball
- Agitator with motor reducer

REFRIGERATION UNIT

- 1 Compressor
- Maximum power: 1.75 kW
- Internal tank of glycol
- Internal displacement pumps

COOLING CONTROL SYSTEM

- Control board of stainless steel with thermostat
- Temperature sensor
- Solenoid valve

Total dimensions: about 6000 x 2500 x 2200 (h) mm

Total weight: about 1800 kg

SUITABLE FOR PROCESSING:

MILK (table top)	MILK (on castors)	FRUIT	TOMATO	CITRUS	OLIVE	OLEAGINOUS SEED	GRAPE	BREWING	SEAFOOD	LIQUEURS
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SUPPLIED WITH ACCESSORIES

- Heat exchanger of AISI 316 stainless steel for beer cooling, using countercurrent tap water
- Pump for transferring must and beer from the plant to product cooling and storing units, provided with variable-speed motor controlled by inverter in the control board
- Pipe of stainless steel provided with throttle valve, for the connection between masher, filter and whirlpool
- Platform of welded stainless-steel tubes with castors and supporting feet.

REQUIRED

UTILITIES (PROVIDED BY THE CUSTOMER)

- Power supply: 400 Vac 50 Hz three-phase - 8 kVA (Other voltage and frequency on request)
- Tap water