



AGRICULTORES DE LA VEGA
DE VALENCIA



PILOT PLANT

Smart solutions in biotechnological processes



BIOPROCESS SCALING SERVICES



BIOPROCESS PILOT PLANT



The SAV bioprocess demonstration plant (TLR6-7) provides a biotechnology laboratory and a pilot plant with the necessary equipment (stirred reactors, bioreactor, filtration and centrifugal units, distillation units...) for the development of various types of bioprocesses, having experience in the framework of the circular economy.

The R&D&I division within SAV has high expertise in the treatment of different sources of biomass (lignocellulosic material, agri-food waste, biowaste...) to produce a wide range of bioproducts, such as primary and secondary metabolites, proteins, additives, cosmetics or food ingredients, through the development and optimization of chemical products (pretreatments and hydrolysis) and biological processes (mainly fermentations) on a semi-industrial scale.



BIOMASS PRETREATMENT



Maceration Tank:

Total volume of 1.5 m³ and maximum power of 5.5 kW. Anchor type agitator.



Thermal Extraction Tank:

Total volume of 1.5 m³, maximum power of 5.5 kW and temperature up to 150°C. Anchor type agitator.



HYDROLYSIS



Hydrolysis Tank:

Total volume of 2.0 m³, maximum power of 5.5 kW and temperature up to 150°C. Propeller type agitator.

Process scaling



Hydrolysis Tank:

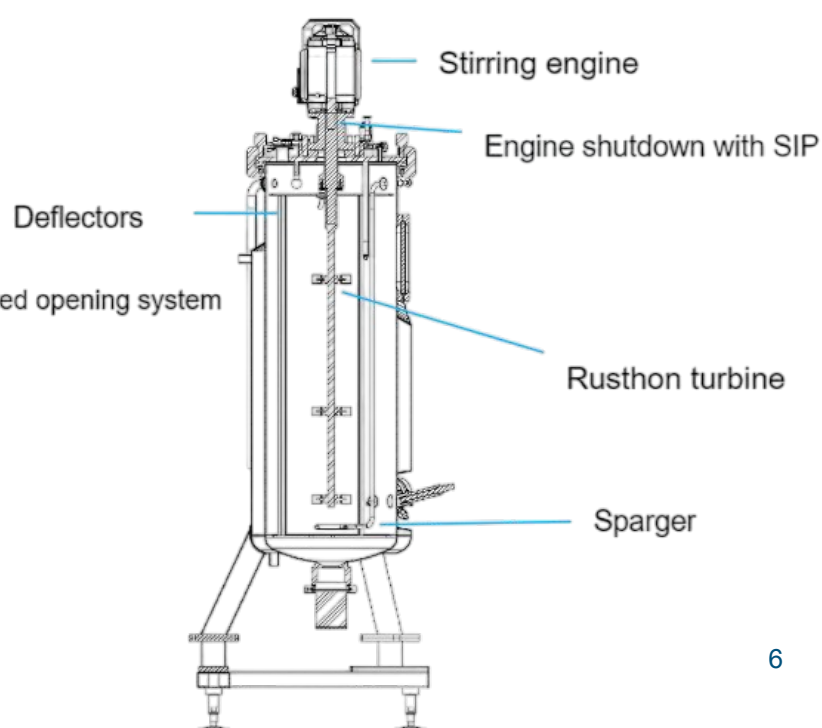
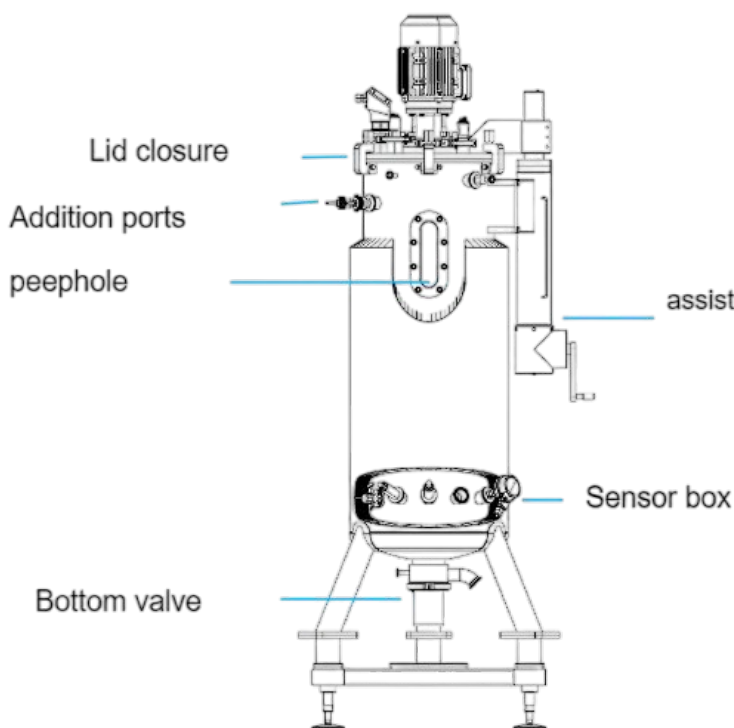
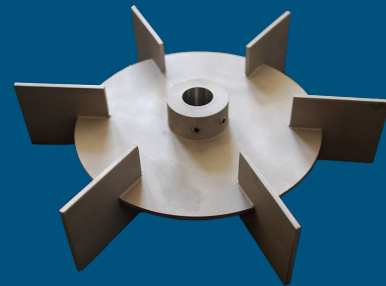
Total volume of 470 l, maximum power of 2.2 kW and temperature up to 150°C. Anchor type agitator.

FERMENTATION



Fermenter

Total volume of 100 l, 3 Rushton blade turbines for agitation, pH and pO₂ control.



Hydraulic filter press

5 plates (expandable) of 470x470 mm equipped with fabrics.



Tangential Flow Filtration (TFF) Unit

Buffer capacity 100 l, inner diameter 0.8 μm .



Filtration is achieved with two ceramic filter modules with stainless steel casing connected in series.

Rotary Sieve

Rotating sieve with 1.5 mm mesh size, rotating brush and washing heads.



Ultrafiltration and nanofiltration



Total volume of 1.5 m³, capacity 500 l/h, ultrafiltration 10 kDa,
nanofiltration 200 Da.

CENTRIFUGATION



Centrifuge

Disc, discontinuous, GEA, capacity
of 300 l/h.



HOMOGENIZATION



High pressure homogenizer

Flow of 80 l/h, max.

Designed for continuous operation up to
1200 bars.

EXTRACTION



Rotary evaporator

Liquid/liquid extraction: 20l evaporation cylinder, 2 10l receiving cylinders.



Soxhlet

Solid/liquid extraction: 50 liter spherical balloon, 10 liter solids tank, built in ATEX room, controlled temperature and pressure, atmospheric and vacuum conditions.



EVAPORATION AND DRYING



Flash Evaporator

Continuous operation, steam heat exchanger, liquid cooling condenser, with 300l buffer tank.

Drum Dryer

Stainless steel, max. steam pressure 7 bars, max. rotation speed 14 rpm, drying area 450 mm x 450 mm.



SHREDDING



Chopper

Work capacity of 1150 kg/h.
Power 5 kW.



Mill

Work capacity from 5 Kg/h to 5,000 Kg/h
depending on the hardness and fineness
to be processed. Power 2.2 kW.



Four hectares to carry out field trials in a real production environment

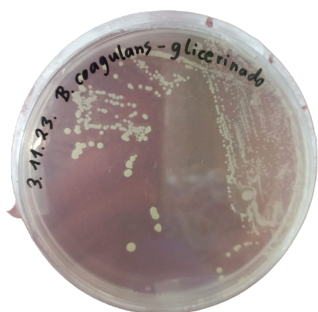
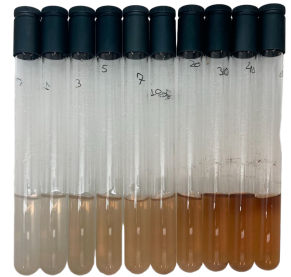


MICROBIOLOGY LABORATORY



Fully equipped microbiology laboratory, which allows us to carry out: culture scaling up to inoculation volume and process monitoring by analyzing samples

Spectrophotometer
Orbital shaking incubator
Centrifuge
Moisture analyzer



pH-meter
Viscometer
Autoclave
Laminar flow cabinet

R&D&I PROJECTS



soilutions



hoop

Go-
CHAMPLAST



FUELPHORIA

Accelerating the sustainable production of advanced biofuels
and RFNBOs - from feedstock to end-use



BIOPLA

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