



# ***PILOT BIOREACTOR***

## ***BIO-TEC-PRO-II-PILOTO***

Fermentations and Bioprocesses; Animal and M.O. cell cultures (bacteria, fungi and yeasts); Enzymatic and Acid Hydrolysis; Biomass; Biofuels and 2G Ethanol; Production of Enzymes, Vaccines and Pharmaceuticals; Biological Control, Bioinoculants and Biofertilizers; Bioremediation and Waste Treatment; Studies in Mining and Ore Biolixiviation; Oils, Creams and Cosmetics Production

## Technical Characteristics

### BIO-TEC-PRO-II-PILOTO

- On/off button: With luminous indication according to NR12 ;
- Energy cable: 3P+T connection (with ground wire) ;
- Max environmental conditions: 0 to 50 °C at 80% RH ;
- Power/Voltage: 220V three phase (10KW\*) \*Can be changed according to vessel volume;
- Software: - Shake/rotation control loop - Foam level control loop through peristaltic pump - Pressure control loop with transmitters for process and sterilization - Temperature control loop for process and sterilization - pH control loop through peristaltic pumps or CO2 injection (gas mixer) - Dissolved oxygen control loop with cascade depending on the actuators purchased - Control loop for gas mixer - Monitoring of oxygen and carbon dioxide gas - Torque monitoring - Expansion for several variables such as redox conductivity viable cells turbidity among others upon request.H59;
- Control: -10 inch touch screen - USB port for data storage - Ethernet port for remote access - Extra analog and digital ports (input and output) - Regulating air filter with manometer and coalescing filter - Pt-100 type temperature sensor class A with 3/4"TC process connection. - Sanitary pressure transmitter with 1.1/2"TC connection scale from -1 to 3 Bar for the inner vessel. - Pressure transmitter with siphon tube with 1/2"NPT connection scale from -1 to 3 Bar for jacket. - Cable for level/foam sensor - Cable for lamp It has connections/inputs for: - Digital pH sensor Relief through safety valve - Digital dissolved oxygen sensor (polarographic or optical) - gas mixer - O2/CO2 gas sensor - Up to 5 peristaltic pumps - stirring engine - mass controller - rotameter;

## Benefits and Advantages

- Towers that dispense with the use of external computers and store data in internal memory and via pen-drive
- Automation of process parameters, remote access and software for up to 20 users, with different access levels
- Provides safe and aseptic sampling
- Known, controlled and reproducible cultivation conditions, with greater batch homogeneity and standardization
- Gain in productivity and efficiency
- Compatible with vases of all volumes: 25L/ 50L/ 150L/ 300L/ 650L/ 1000L/ 2600L