



REVOLUTIONIZING BIOTECH INDUSTRY FOREVER

Custom-made solutions for your optimum bioprocess engineering

INTRODUCTION

Biotree is a leading Bioprocess Engineering company with a global presence in over 15 countries. As pioneers in the industry with 20 years of proven track record, we bring to the table the highest quality of professional expertise.



WHAT WE DO

Biotree offers strategic solutions that are highly optimized and meet stringent industry product development regulations. We build the best bioprocess equipment and automate different processes that are economically and environmentally sustainable. This way we increase efficiency and create value for our clients. We work with some of the world's leading Bio-technology companies and are acknowledged for our creative designs.



Process Consultancy

We provide expert advice and strategic solutions to turn bioprocess ideas into reality.

Conceptual Design | Basic Engineering | Automation Solution
Validation Master Plan



Design Build

We believe in providing tailor-made, exclusive customized solutions to our clients.

Fermenter | Bioreactor | Process Vessel | Buffer & Media Vessel
CIP/SIP System | TFF System | Circulation Tanks | Filtration Skids | Bio Kill System



Automation Solution

We focus on operational flexibility and operator efficiency.

Control System Design | Automation Architecture | Software Development
Installation Support | Integration (Upstream & Downstream) | Computer System Validation



Validation

We offer validation services to establish IQ, OQ and PQ for all bioprocess equipment.

Validation Master Plan | IQ and OQ Support | Equipment Validation | Process Validation

MARKET SEGMENTS WE CATER TO

Biotechnology & Sterile Engineering

We are practically associated with every unit operation of the Biopharmaceutical manufacturing industry.



Core Equipment

- Fermenter
- Bioreactor
- Fixed Bed Reactor
- Conjugation System

Process Vessels

- Media/Buffer Preparation Vessel
- Blending/Mixing Vessel
- Harvest Tanks
- Customized Process Vessels



Clean Utility

- PW, WFI Tanks
- CIP/SIP Systems
- Bio-Kill Systems

Filtration Systems

- Tangential Flow Filtration
- Sterile filtration skids
- Ultra/Micro Filtration

PRODUCT PORTFOLIO

We design, engineer and manufacture customized Bioprocess equipment



- Fermenters & Bioreactors
- Media, Buffer & Process Tanks
- Ultra Filtration & Micro Filtration Systems
- Cleaning-In-Place Systems (CIP)
- Sterilization-In-Place Systems (SIP)
- Bio Kill Systems



PRODUCTS

BIOREACTORS

Bioreactor is for animal cell culture to support vaccine and mAb production.

FERMENTERS

Fermentation is for microbial applications.

PROCESS VESSELS

- Media Preparation Tank
- Buffer Preparation Tank
- Media/Buffer Hold Tank
- Mixing/Blending Vessel
- Harvest Vessel
- Customized Process Vessels like Conjugation System, PEGylation Systems, etc.,

FEATURES OF OUR EQUIPMENT

- ASME BPE compliant design.
- Modes of operation - Batch, Fed-Batch and Continuous.
- Manual, Semi-automated and fully-automated.
- Instrumentation and Automation provided as per Process Chain requirement.
- GMP compliant : 21CFR-Part 11 compliant automation – PLC with SCADA.
- Tailor-made to meet process requirements of clients.

TFF SYSTEM

The TFF systems designed to accommodate Cassette Type or Hollow Fibre Membrane based filters from reputed manufacturers.

CIP/SIP STATIONS

- Individual, Integrated or Centralized systems.
- To meet the cleansing and sterilization requirements of process equipment.

FILTRATION SKIDS

Filtration Skids for cell removal, sterile filtration of process fluids.

Available with or without vessel

BIOKILL SYSTEM

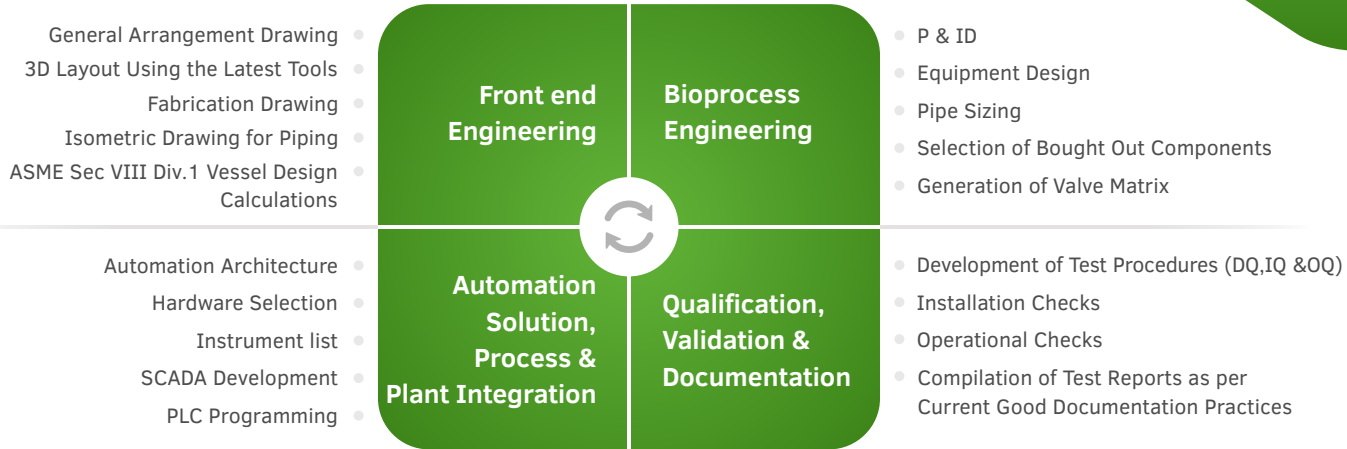
- Heat/Chemical Inactivation of cells.
- Batch/continuous mode.

DESIGN BUILD

Our customization expertise meet your specific requirements

BIOTREE DESIGN & BUILD EXPERTISE

We believe in providing tailor-made, exclusive customised solutions to our clients



BIOTREE DESIGN & BUILD

Enquiry (URS)

Design of Bioprocess Equipment

Production, Instrumentation,

Automation

Qualification

FAT

SAT

Fermenters & Bioreactors

Media, Buffer & Process Tanks

Ultra Filtration & Micro Filtration Systems

Cleaning-In-Place Systems (CIP)

Sterilization – In – Place Systems (SIP)

Bio Kill Systems



OUR COMMITMENT



BIOTREE QUALIFICATION, VALIDATION & DOCUMENTATION

Standardized V-Model for Qualification and Documentation

Qualification

Protocol & Report



Mechanical Check



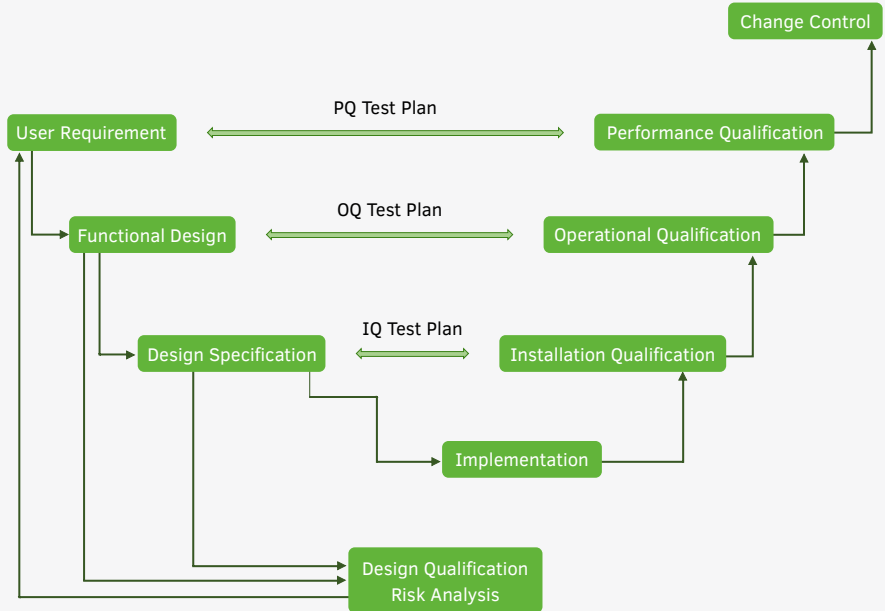
Control System Check



Process Check



Documentation Check



CONSULTANCY SERVICE

BIOTREE CONSULTING SERVICES

As a consultant, Biotree provides expert consulting and engineering services to support each phase of a project in both new and existing facilities.



Concept design



Detailed design for biopharma plants



Bioprocess engineering design services



Supply of equipment and inter-connections



Integrate the plant with central control systems



Support start-up and bring to commercial production

AUTOMATION SOLUTION

focuses on giving the desired comfort and an advanced outlook on every touch



Consulting

- Control System Specification
- Instrumentation Specification
- Control System Philosophy
- Automation Architecture
- Networking Architecture



Design & Development

- BOM (Instrumentation & Automation)
- IO List and Allocation
- Automation Architecture
- FDS (Functional Design Specification)
- Software Development
- Software Validation



Integration

- Unit Integration
- Suite Integration
- Process Integration
- Plant Integration



Installation & Commissioning

- FAT
- SAT
- Software Testing
- Computer System Validation

AUTOMATION SOLUTIONS

Features

- Customized process control
- Diagnostics feature
- Electronic Batch Report (EBR)
- Electronic Data Collection
- Electronic SOP's
- Third party integration
- Regulatory requirements
- 21 CFR, Part 11 Compliance
- ISA and EN Standards

Advantages

- High accuracy of process control
- User friendliness for user interface
- Excellent process visualization
- Process comparison and analysis
- Multiple equipment integration
- Optimization of process control
- Ease of troubleshooting

Benefits

- Economical solutions
- Reduced Batch period
- Accurate process control
• which enables high output
- Less Operator interface
- Less=Reduced
- Post sales support

QUALIFICATION, VALIDATION & TRAINING

TRAINING AND DEVELOPMENT

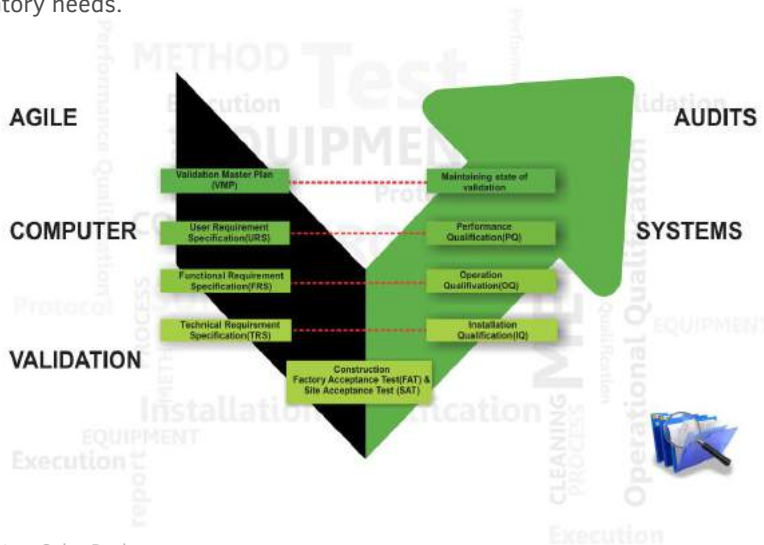
We bridge the gap between academy and industry, maintaining an accurate balance of theoretical learning and practical experience.



Biotree provides a wide range of training, educational resources and learning opportunities to students and industry personnel in the bioprocess industry. These include hands-on experience in design build of equipment, analysis and consultancy for bioprocess engineering projects and skill development in automation and validation services.

QUALIFICATION & VALIDATION SERVICES

We help our clients to validate the designs as per the regulatory guidelines and standards. Our validation process begins with the creation of VMP, followed by enlisting results of each phase of the process, ensuring compliance to the respective regulatory needs.



Validation Master Plan



Execution of Validation



IQ and OQ Support



Equipment Validation



Software Validation

OUR CORE COMPETENCY

“Concept – to –
Commissioning”

Process
driven
system design

Sterile
Engineering

Training and
Qualification
services

Integrated
automation
solution from
micro PLC
to plant DCS

Documentation
in compliance
with
international
regulations



WHY US

360° Bioprocess Engineering Solution

We offer comprehensive solutions that meet all the requirements of the biopharmaceutical industry.

Commitment to Quality

We adhere to strict international quality standards for all our designs, developments and solutions.

Strong Relationship

We build our business connections on honesty and integrity, ensuring that our relationship lasts for years.

Our Approach

We take a bottom-line approach to each project, focusing on the client's specific business goals and the best ways to achieve them.



OUR GROWTH CONTRIBUTORS

International



India



GLOBAL FOOTPRINT

