



High Pressure Reactor

BIOJENIK ENGINEERING

Your Trusted Partner in Bioprocess Engineering

Biojenik Engineering has been providing innovation
and reliable bioprocess engineering solution for
over 15 years



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HIGH PRESSURE REACTOR

Biojenik Engineering's high-pressure reactors are engineered for cutting-edge applications in chemical synthesis, petrochemical refining, pharmaceutical research, and biotechnology processes. With customizable designs and advanced features, these reactors guarantee superior performance, safety, and durability across all scales.



Application Areas

Chemical | Pharmaceutical | Petrochemical | Biotechnology | Materials Science

Optional Accessories

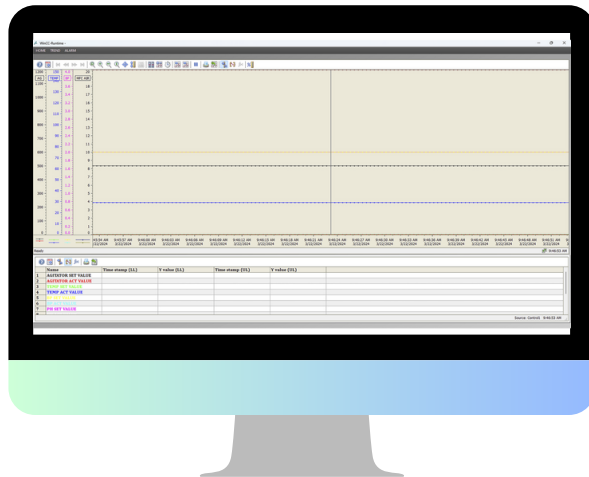
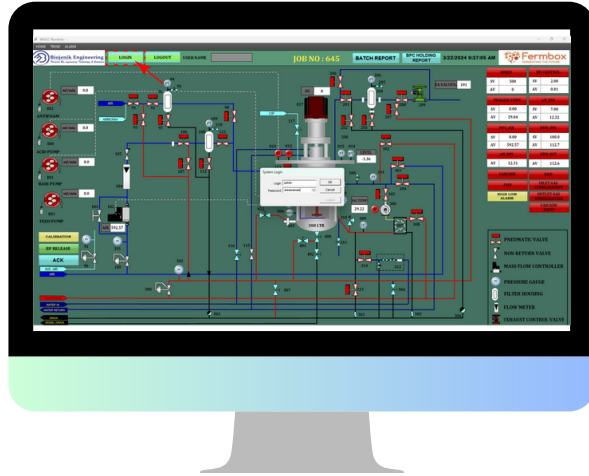
- Gas spargers
- Internal/external heating & cooling systems
- High-precision sensors for real-time data
- Sampling valves for in-process analysis

Key Features

- **Customizable Designs:** Tailored to specific process requirements.
- **Advanced Automation:** Real-time monitoring and control with HMI.
- **Material Versatility:** Corrosion-resistant alloys for aggressive media.
- **High Safety Standards:** Compliance with ASME, PED, and other global safety norms.
- **Easy Maintenance:** Quick disassembly for cleaning and upkeep.

Biojenik Engineering SCADA Software

Biojenik Engineering's **SCADA software** is designed for real-time monitoring and control, offering a range of features to improve efficiency and ensure compliance.



- **Software:** Siemens WinCC.
- **Simulation and Auto-Tuning:** Generates random process values for simulation and auto-tuning.
- **Third-Party Integration:** Free OPC server for third-party device integration.
- **Remote Operation:** Webex-based remote operation/control of setpoints.
- **Customized Interface:** Personalize display to show Process, Profiles, Set Points, and Cascade.
- **Batch Management:** Manage batches and track them using tags.
- **Access Control:** Different access levels for enhanced security.
- **Dosage Tracking:** Monitor and record material consumption during production.
- **Real-Time Data Recording:** Automatic recording and trending of setpoints and measurement values.
- **Data Export:** Export data to Excel for analysis and reporting.
- **Data Comparison:** Compare and analyze data for improved decision-making.
- **Event Alarms & History:** Alerts for issues, historical data access, and ANSI-18.2 compliant alarm management.
- **Audit Trail:** Record-keeping compliant with 21 CFR Part 11 standards.
- **Lifetime Support:** One-time license with lifelong updates and support.

Benefits:

- Simplifies process monitoring and control.
- Increases efficiency by automating tasks and tracking.
- Ensures compliance with regulatory standards.
- Provides actionable insights with data comparison and analysis.

Technical Specification

PARAMETER	LAB-SERIES	PILOT-SERIES	INDUSTRIAL-SERIES
Model Options	Lab-Series	Pilot-Series	Industrial-Series
Volume Range	100 mL to 2 L	2 L to 50 L	50 L to 500 L
Material Options	Stainless Steel, Hastelloy, Titanium	Stainless Steel, Hastelloy, Inconel	Stainless Steel, Hastelloy, Inconel, Titanium
Reactor Geometry	Cylindrical with hemispherical heads	Cylindrical with hemispherical heads	Cylindrical or custom with hemispherical heads
Temperature Range	-20°C to 300°C	-20°C to 350°C	-20°C to 400°C
Maximum Pressure	100 bar	200 bar	300 bar
Maximum Temperature	350°C (with PTFE flat gasket)	350°C (with PTFE flat gasket)	350°C (with PTFE flat gasket)
Temperature Control	PID Digital Controllers, Single Zone	PID Digital Controllers, Multi-Zone	PID Digital Controllers, Multi-Zone
Pressure Control	Digital/Analog Sensors	Digital/Analog Sensors	Digital/Analog Sensors
Pressure Relief Valve	Precision-engineered safety valves	Precision-engineered safety valves	Precision-engineered safety valves
Rupture Disk	ASME-certified for maximum safety	ASME-certified for maximum safety	ASME-certified for maximum safety
Overpressure Alarm	Integrated acoustic and visual alerts	Integrated acoustic and visual alerts	Integrated acoustic and visual alerts
Heating Type	Electrical heating mantle or fluid-jacketed systems	Electrical heating mantle or fluid-jacketed systems	Electrical heating mantle or fluid-jacketed systems
Heater Power	1000 watts	1300 watts	1500 watts
Cooling System	Integrated cooling system	Integrated cooling system	Integrated or external cooling system
Cooling Coil (Optional)	Serpentine or loop	Serpentine or loop	Serpentine or loop
Stirrer Type	Magnetic or Mechanical (Customizable)	Magnetic or Mechanical (Customizable)	Magnetic or Mechanical (Customizable)
Stirrer Motor	1/8 hp (Brushless DC)	1/4 hp (Brushless DC)	1/2 hp or more (Brushless DC)
Speed Control	Digital or Manual; 0-2000 RPM	Digital or Manual; 0-2000 RPM	Digital or Manual; 0-2000 RPM
Impellers	Dual, 6-bladed impellers (1.75" diameter)	Dual, 6-bladed impellers (1.75" diameter)	Dual or multiple impellers (3-6 blades, 2-3" diameter)
Maximum Torque	16 Inch-Pounds	25 Inch-Pounds	50 Inch-Pounds
Sampling Ports	Multiple configurations (Customizable)	Multiple configurations (Customizable)	Multiple configurations (Customizable)
Magnetic Drive Model	BM1120HC General Purpose or BM2140HC Footless	BM1120HC General Purpose or BM2140HC Footless	BM1120HC General Purpose or BM2140HC Footless

Reactor Models

Lab-Series Reactors

S.No	Specifications	Details
1	Material	Stainless steel
2	Volume	100 ml – 2 L
3	Temperature	20°C – 300°C
4	Pressure	0 – 100 bar
5	Application	R&D and small-scale synthesis

Pilot-Series Reactors

S.No	Specifications	Details
1	Material	Hastelloy, Inconel, or titanium (custom options)
2	Volume	5 L – 50 L
3	Temperature	20°C – 400°C
4	Pressure	0 – 200 bar
5	Application	Process development and scale-up studies

Optional Accessories

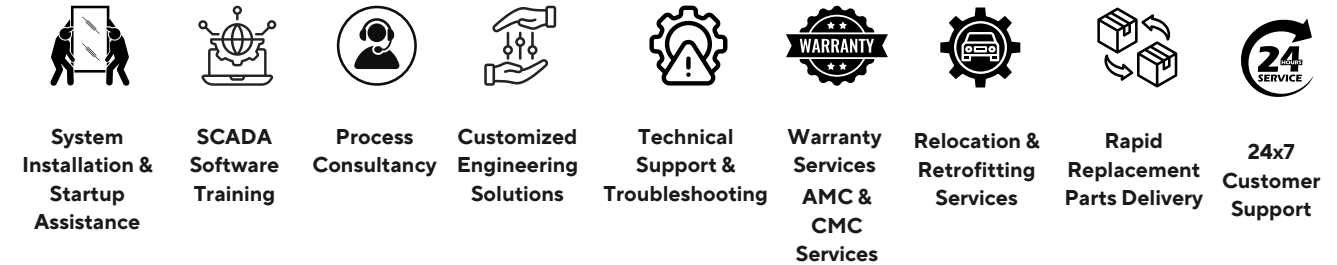
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Our Valuable Clients



Biojenik Engineering Services

We offer a comprehensive range of services to ensure the smooth operation and longevity of your systems:



Our Certifications



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