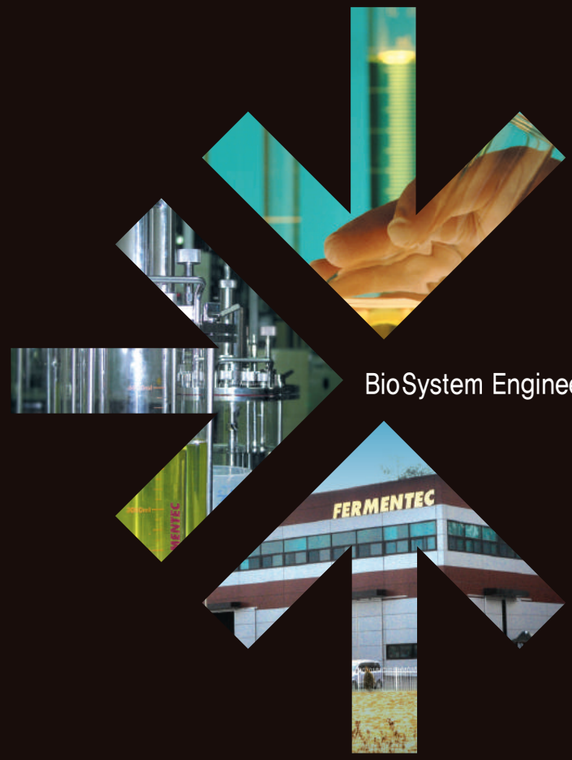
FERMENTEC
Bio System Engineering & Machine Company



BioSystem Engineering and Machine Company



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FERMENTEC
Bio System Engineering & Machine Company

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Company

No. 1 bioprocess company in Korea!
The bio industry will lead the future of mankind,
and Fermentec is at the center of this vibrant industry.





The biotechnology-based bio industry is riding a huge wave to realize the dreams of humanity and to lead the world economy.

Around the world, governments are so convinced of the potential of bio industries that they are competitively expanding policies to support the industry.

The field of bioprocessing represented by bioreactors and fermentors is a fundamental part of the bio industry.

Fermentec has been contributing to successfully materializing bioprocesses by designing and producing bioreactors, fermentors, culture mediums, downstream processes, plant facilities and utilities.

Fermentec is working to become the world's most trusted bioprocessing company, with years of expertise in bioprocessing, design and engineering.

CEO's Message

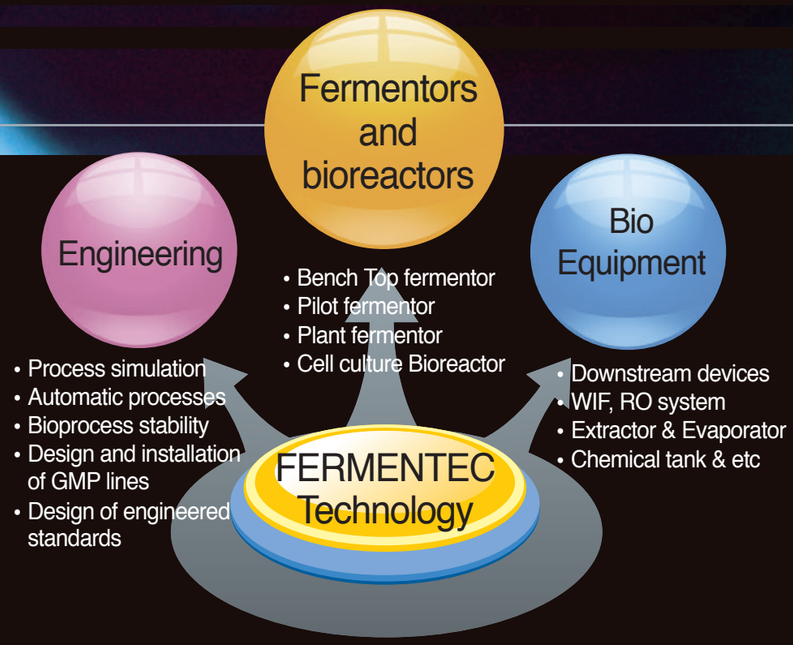


With the globalization of the corporate environment, strict international standards are being applied, not only to products, but also to production facilities. Accordingly, strict process standards are now required for the bio industry, considering that it is involved in the fields of food, medicine and life science. Fermentec produces and supplies devices and facilities that meet rigorous requirements related to size and standards.

Fermentec has substantial experience in the production of bioreactors, fermentors, culture mediums, chemical reactors, vessels for food and downstream, precision piping, and the construction and design of separation and refining processes.

In addition, Fermentec is doing its utmost to satisfy customers by designing and producing all production facilities, including fermentors, which meet international standards.

It is my promise that the engineers of Fermentec, with their diverse and extensive experience, will ceaselessly work to optimize the technical conditions demanded by your companies, and to reflect them in production.





Fermentec is going to bring about a new paradigm in bio equipment.

Fermentec has worked continuously to satisfy the strict facility standards required for biotechnology, which is considered a promising industry for the future, as well as in business related to the cultivation of microbes and fermentation.
The bioreactors and fermentors that Fermentec produces through its automated production processes have been installed in bioprocesses of Korean pharmaceutical companies, and are receiving favorable responses by enabling convenient and effective care. Fermentec is the first Korean company to acquire the U.S. ASEM-BPE certification.
Fermentec's bioprocessing equipment has been exported to countries such as Iran, Russia, Indonesia, Vietnam, the Philippines, France and Canada, beginning from Taiwan's FORMOSA group and promoting the technology and excellence of Korean bioreactors and fermentors.

Fermentec pursues the highest quality.



Fermentec applies strict quality standards.
Fermentec has established a system to produce high-quality facilities through international certifications, including ISO 9001/14001 and the CE mark, and ensures the reliability of its bioreactors and fermentors by applying strict international standards through the ASME (American Society of Mechanical Engineers) size certification.
Fermentec satisfies the highest quality standards by using verified systems and parts to meet the standard of manufacturing facilities applied in each field, such as GMP and FGMP.
In particular, when Fermentec is asked to produce equipment satisfying strengthened overseas quality standards, we execute construction using systems and parts suitable for FDA and 3-A guidelines.
Fermentec conducts examinations using advanced instruments, such as X-ray tests, supersonic wave tests and endoscopy. Fermentec guarantees the high precision of its precision parts, which are processed with the machining center and numerical control lathes.







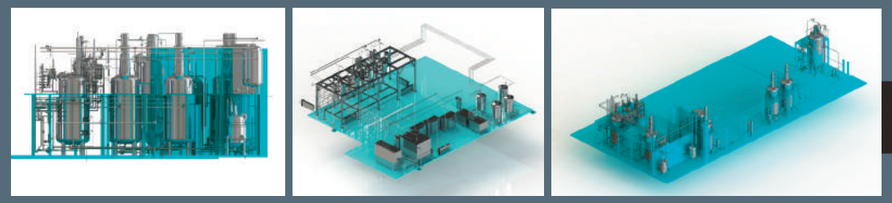






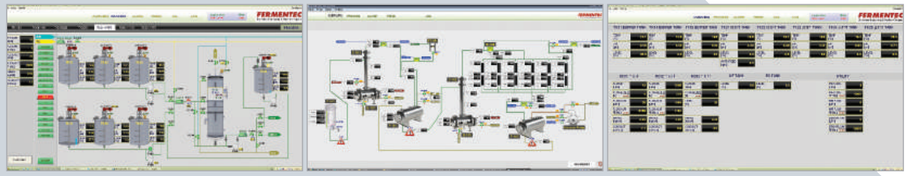
Fermentec guarantees effective design with a simulation system.

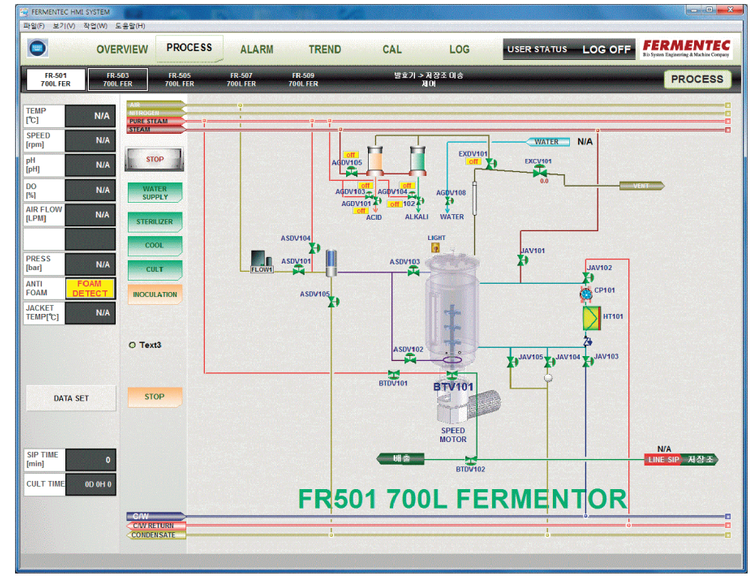
Fermentec adheres to ASME design standards, and only executes a design after sufficiently understanding the properties of the customer's equipment.
There are diverse conditions to reflect in system design, such as the structure of installation sites, the nature of each utility line, the kinds of products and other client demands.
Fermentec conducts simulation through a 3-dimensional design which reflects processes and production properties, and then grasps anticipated problems in advance before production and installation.
This simulation system is very effective in terms of reducing time and costs, as it can prevent various problems in advance.



Fermentec improves the stability of bioprocesses through the automation of processes.

Fermentec improves the stability of bioprocesses through the automation of processes.
Fermentec has established a control system that is highly suitable for bioprocessing and materialized process automation.
Process automation contributes to the stability of bioprocessing, productivity improvement and cost reduction in diverse fields of fermentation and bio industry.
Fermentec tries to reduce process losses as much as possible by designing the best equipment for each process and organizing control programs to achieve the highest level of efficiency.
Fermentec's control program engineers, who are leading experts in their respective fields, work for process optimization by automating bioprocesses.





■ Central control and monitoring through the HMI program

Fermentec has secured extensive experience and expertise.



- Came up with an anaerobic fermentation system for Mediogen
- Came up with a lactic acid bacteria fermentation system (3,000 ℓ) for Ildong Pharmaceutical
- Came up with a fermentation system (20,000 ℓ) for the biology support center of FOMOSA GROUP in Taiwan
- Came up with a fermentation system (1,200ℓ) for OBT
- Built a synthetic tank for (1,000- 3,000 ℓ) for Ildong Pharmaceutical
- Came up with a beer fermentation system for Korea Microbrewery Association
- Built an antibiotics fermentation system (3000ℓ) for Dongkook Pharmaceutical
- Came up with a phellinus linteus fmycelium fermentation system (18,000 ℓ) for Whanin Pharm
- Built a production facility for Donga Otsuka
- Came up with a water treatment system (3 ton/h) for Ildong Pharmaceutical
- [illegible] and medical centers
- [illegible] ℓ) for F&B
- Installed an autoclave for Myongji University
- Installed a vacuum dryer for Ildong Pharmaceutical
- Built a fermentation facility for Korea National University of Transportation (500 ℓ)
- [illegible] alcohol fermentation system for KRIBB
- Built a fermentation facility for Regeron
- Built a secondary fermentation facility (5,000 ℓ) for Dongkook Pharmaceutical
- Built a fermentation facility (3,000 ℓ) for Cell Biotech
- Built a fermentation facility for Songdo Techno Park
- Built a fermentation facility for GS Caltex

Medicine and pharmaceuticals

Bio energy

Food

Agriculture and environment

Universities

Labs

Institutes



Bio system

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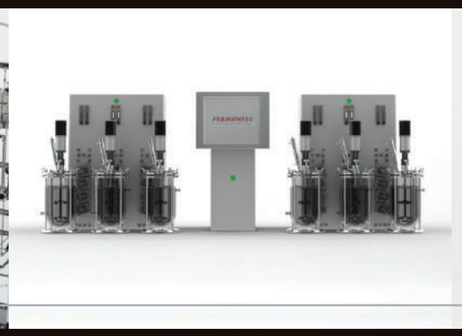
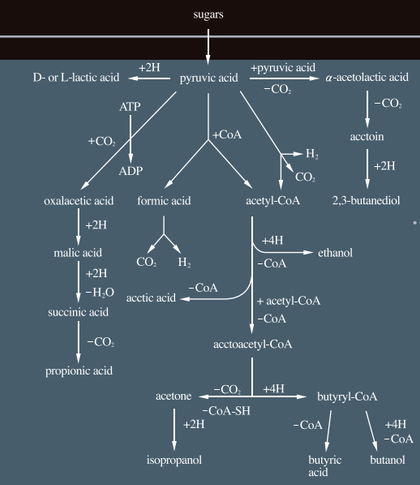




Product

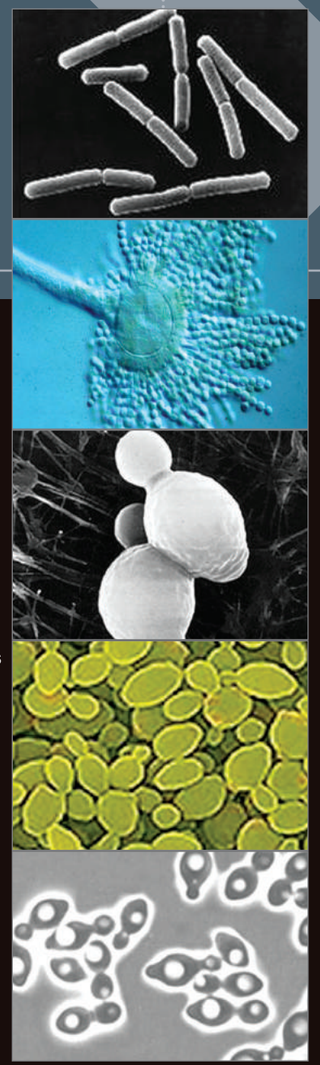
1 Bioreactors, Fermentors

Fermentec's bioreactors can be easily controlled because they are equipped with a control program that can perfectly control the sterilization and cultivation processes in order to provide facility efficiency according to consumers' demands.



Applications

1. Fermentation and cultivation of microbes
2. Cultivation of animal (plant) cells and production of metabolites
3. Production of metabolites (first metabolites, second metabolites) of microbes
4. Biochemical reactions through organism invertase by microbes



Leading-edge technology secured-Automatic control program

The automatic control program can change design according to the situation of a work site, and guarantees high reliability. The program can execute control by entering the variables of all processes from sterilization and cultivation to the CIP process on a computer.

All data are input and output and stored in real time, and can be converted into Excel files.

Types of bioreactors and fermentors

1. Lab scale: Lab fermenters with 1~14L → FMT ST/DS/DSA/AL Series
2. Pilot scale: 15~700L scale → FMT PI Series
3. Plant scale: Industrial fermentation system- More than 1,000L → FMT PL Series



PILOT FERMENTOR

FMT PI Series

Fermentec's medium-scale and small-scale pilot fermentors are good for producing high-value precision fermentation goods or research.
Pilot fermentors that are designed and produced to ASME standards to satisfy international standards cause no corrosion or abrasion, minimize material quality degeneration through delicate processing processes, and are produced after being approved as pressure vessels that are safe in high-temperature and high-pressure situations.
The compact pilot fermentors can be installed in narrow spaces of research rooms, and can be easily operated and maintained and repaired due to their automated systems and proper arrangement of devices. They have adopted the highest-standard controllers to secure precise control and reliability of operation data, and their control program of the highest technology in the industry guarantees improved results.
Fermentec's spirit of putting customers' safety first is reflected in the control system and the multiple safety systems adopted for their vessel part.



● FMT PI-M Bottom drive



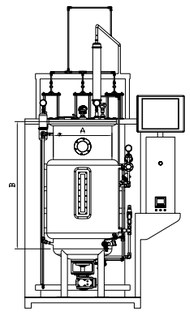
● FMT PI-S Top drive



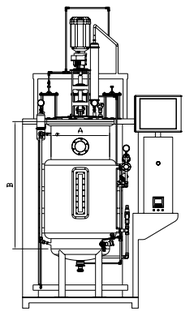
● FMT PI-D Top drive

Features

- A touch screen computer with HMI that can be conveniently operated
- PLC adopted as a main control system
- Loaded with an interlocking control program to enable the cultivation of various conditions
  DO interlocking function - Agitation Speed
  FEED interlocking function - dissolved oxygen, supply time
  PH interlocking function - feed rate, dissolved oxygen
- A controller with guaranteed reliability has been adopted
- STS316L Vessel + STS304 Jacket (first-class pressure vessel)
- An agitation system: mechanical seal or magnetic drive was used
- Various nozzles made with precisely processed STS 316L and parts guarantee the highest level of confidence
- Elegant design for easy repair and cleaning



FMT-PI bottom drive



FMT-PI Top drive

Specifications

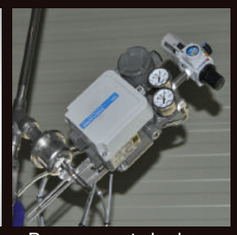
- High performance design
- Vessel with water jacketed and insulation
  (STS316L vessel + STS304 jacket)
- Automatic sterilization
- 15~1,000 L total volume
- Top plate
  - Inoculum port : Flaming
    (option : Septum nozzle or Aseptic inoculation valve)
  - Pressure gauge
  - Foam sensor port
  - Exhaust port & condenser
  - Agitation (top drive only)
  - Spare ports
- Upper side wall
  - 3 media port
  - Gas overlay port and spare port
  - Transmitter port
  - Light
- Lower side wall
  - Sparger port
  - Sampling port
  - Temperature, pH, DO sensor port and spare port
- Bottom
  - Harvest
  - Agitation (bottom drive only)
- Agitation
  - Single or double mechanical seal
  - 3 baffles or more
- Aeration
  - Ring sparger (option : 1 ~ 10㎛ micro sparger)
  - 0.2 ㎛ disposable hydrophobic filter with check valve
- Impeller
  - Rushton type/Pitched blade/Marine blade
- Gas flow
  - MFC + bypass rotameter
  - Flow rate : max 1 vvm or more
  - 2 or more MFC (option)

Control

- 17" touch screen computer
- 1 to 255 vessels intelligent control
- 16 control loop per vessel
- Temperature control : PID control with water jacket heat exchanger (or heater) and circulation loop
- pH control : acid/base agent
- Agitation control : speed control
- DO control : PID cascade control with agitation, feeding and gas flow rate
- Antifoam control : antifoaming agent
- Feed control : fed-batch control by time, DO, pH
- 8 multi trend log data per vessel
- Easily calibrated sensors
- Level control : electrode type Hi/Low level control load cell type weight control(option)
- Optional sensing unit : OPR, OD, 2nd pH, 2nd DO



● Hinged lid



● Pressure control valve



● Addition vessel



● No dead leg valve

PLANT FERMENTOR

Features

- A graphic HMI program that is easy-to-use and a reliable PLX system have been adopted.
- Through the use of an HMI program that is suitable for 21CFR PART 11, only approved users can change control variables.
- The highest-level of credibility and safety are guaranteed through the use of the PLC system.
- Pollution is prevented during a blackout. This product can work normally after a blackout by using a program to compensate for a blackout.





● A photo of plant construction

Specifications

- High performance design
- Vessel with water jacketed and insulation (STS316L vessel + STS304 jacket)
- Automatic sterilization
- 1 ~ 100 KL total volume or more
- Top plate
  - Inoculum port : Flaming (option : Aseptic inoculation valve)
  - Pressure gauge and transmitter port
  - Foam sensor port
  - Exhaust port & condenser
  - Agitation (top drive only)
  - Light and spare ports
  - Sight glass
  - Manhole
- Upper side wall
  - 3 media port
  - Gas overlay port and spare port
  - Transfer port
- Lower side wall
  - Sampling port
  - Temperature, pH, DO sensor port and spare port
- Bottom
  - Harvest
  - Agitation (bottom drive only)
- Agitation
  - Double mechanical seal
  - High torque AC geared motor
  - 4 baffles or more
- Aeration
  - Ring sparger (option : 1 ~ 10㎛ micro sparger)
  - 0.2 ㎛ disposable hydrophobic filter with check valve
- Impeller
  - Rushton type/ Piched blade/ Marine blade/ etc
- Gas flow
  - FIC + bypass rotameter
  - Flow rate : max 1 vvm or more
  - 2 or more FIC (option)

Control

- 17" touch screen computer
- 1 to 255 vessels intelligent control
- 16 control loop per vessel
- Temperature control : PID control with water jacket heat exchanger(or heater) and circulation loop
- pH control : acid/base agent
- Agitation control : speed control
- DO control : PID cascade control with agitation, feeding and gas flow rate
- Antifoam control : antifoaming agent
- Feed control : fed-batch control by time, DO, pH
- 8 multi trend log data per vessel
- Easily calibrated sensors
- Level control : electrode type Hi/Low level control load cell type weight control(option)
- Optional sensing unit : ORP, OD, 2nd pH, 2nd DO



LAB FERMENTOR

Credibility and precise control are important for the lab scale fermentor.
The FMT ST series control system, a touch screen computer loaded with HMI, can easily and accurately control diverse variables. This system, which is a standard-type fermentor for experiments, was produced in a way that enables data to be easily input-output and processed.



FMT ST-S



FMT ST-D

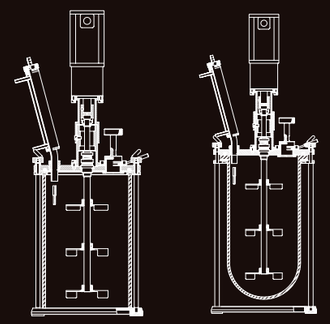


FMT ST-M

Features

- Structured in a single shell vessel, with a cartridge heater & cooler applied
- 8.4” touch screen computer with HMI allows for easy operation
- PLC adopted as a main control system
- Loaded with an interlocking control program to enable the cultivation of various conditions
  DO interlocking function - Agitation Speed
  FEED interlocking function - dissolved oxygen, supply time
  PH interlocking function - feed rate, dissolved oxygen
- A controller whose reliability can be guaranteed has been adopted.
- Cylinder borosilicate vessel (Pyrex glass)
- Agitation system: mechanical seal used
- Various nozzles made with precisely processed STS 316L and parts guarantee the highest level of confidence.
- Elegant design considered for easy repair and cleaning

Vessel Type



FMT ST Series

Specifications

- Autoclavable single shell borosilicate glass vessel
- 3 ~ 14 L total volume
- Electro polished STS316L head plate & bottom plate
- Nozzles
  - Inoculum port : Flaming
    (option: Septum nozzle or Aseptic inoculation valve)
  - Cartridge heater & cooler
  - Temperature, pH, DO, foam sensor
    (option : ORP, level, OD sensor)
  - Exhaust & condenser
  - Agitation
  - 4 media feeds
  - Sampling & harvest (option: Aseptic transfer valve)
- Agitation
  - Single mechanical seal
  - High torque 60 W BLDC motor (30 ~ 1,200 rpm)
  - 3 baffles or more
- Aeration
  - Ring sparger (option : 1 ~ 10㎛ micro sparger)
  - 0.2 ㎛ disposable hydrophobic filter with check valve
- Removable addition bottles support
  - Peristaltic pump with tubings
- Impeller
  - Rushton type/Pitched blade/Marine blade
- Gas flow
  - 2 gas control rotameters
    (option : 4 rotameters or 1 ~ 4 mass flow controller)
  - Flow rate
    0.3~3 L/min
    0.7~7 L/min
    1~10 L/min
    1.4~14 L/min

Control

- 8.4" or 17" touch screen computer
- 1 to 12 vessels intelligent control
- 16 control loop per vessel
- Temperature control : heating/cooling (option : water chiller)
- pH control : acid/base agent
- Agitation control : 30~1,200 rpm
- DO control : PID cascade control with agitation, feeding and gas flow rate
- Feed control : fed-batch control by time, DO, pH
- 4 pump control : acid, base, anti-foam, feeding easily calibrated pump
- 8 multi trend log data per vessel
- Easily calibrated sensors

Impeller



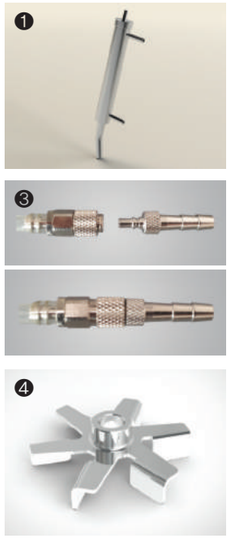
Rushton style standard with fermentation system



Low shear Pitched blade standard with cell culture.



Marine blade - option



❶ Condenser
❷ Cooling
❸ Quick connector
❹ Rushton impeller

LAB FERMENTOR

FMT DS Series

A model with a jacket-type, double-shell vessel structure that is ideal for the cultivation of plant and animal cells.
Quick coupling and a sliding-type peristaltic pump have been adopted for the exhaust gas condenser.



FMT DS-S



FMT DS-D

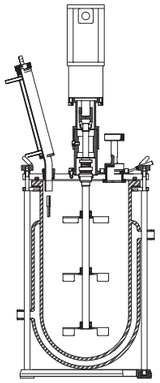


FMT DS-M

Features

- Precisely controls temperature using a double-shell vessel
- An 8.4" touch screen computer with HMI that can be conveniently operated
- PLC adopted as a main control system
- Loaded with an interlocking control program to enable the cultivation of various conditions
  DO interlocking function - Agitation Speed
  FEED interlocking function - dissolved oxygen, supply time
  PH interlocking function - feed rate, dissolved oxygen
- A controller whose reliability can be guaranteed has been adopted
- Cylinder borosilicate vessel (Pyrex glass)
- Agitation system: mechanical seal used
- Various nozzles made with precisely processed STS 316L and parts guarantee the highest level of confidence
- Elegant design considered for easy repair and cleaning

Vessel Type

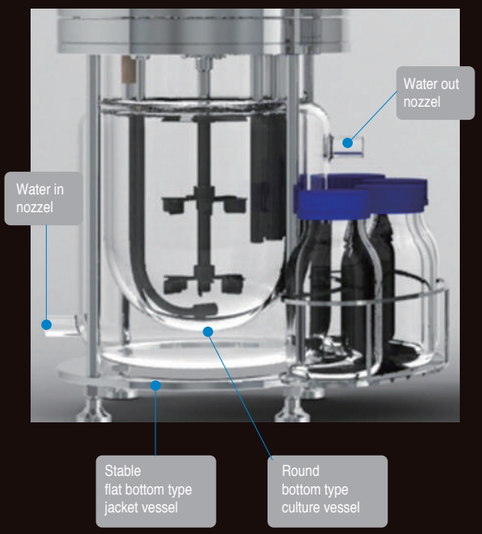


Specifications

- Double shell vessel perfect for cell culture: precisely controls temperature
- Autoclavable double shell borosilicate glass vessel
- 1~14 L total volume
- Electro polished STS316L head plate & bottom plate
- Nozzles
  - Inoculum port : Flaming
    (option: Septum nozzle or Aseptic inoculation valve)
  - Temperature, pH, DO, foam sensor
    (option : ORP, level, OD sensor)
  - Exhaust & condenser
  - Agitation
  - 4 media feeds
  - Sampling & harvest (option : Aseptic transfer valve)
- Agitation
  - Single mechanical seal
  - High torque 60 W BLDC motor (30 ~ 1,200 rpm)
  - 3 baffles or more
- Aeration
  - Ring sparger (option : 1 ~ 10㎛ micro sparger)
  - 0.2 ㎛ disposable hydrophobic filter with check valve
- Removable addition bottles support
  - Peristaltic pump with tubings
- Impeller
  - Rushton type/Pitched blade/Marine blade/ etc
- Gas flow
  - 2 gas control rotameters
    (option : 4 rotameters or 1 ~ 4 mass flow controller)
  - Flow rate
    0.3~3 L/min
    0.5~5 L/min
    0.7~7 L/min
    1~10 L/min
    1.4~14 L/min

Control

- 8.4" or 17" touch screen computer
- 1 to 12 vessels intelligent control
- 16 control loop per vessel
- Temperature control : heating/cooling
  (option : water chiller)
- pH control : acid/base agent
- Agitation control : 30~1,200 rpm
- DO control : PID cascade control with agitation, feeding and gas flow rate
- Feed control : fed-batch control by time, DO, pH
- 4 pump control : acid, base, anti-foam, feeding easily calibrated pump
- 8 multi trend log data per vessel
- Easily calibrated sensors



LAB FERMENTOR

FMT DSA Series

A model with a jacket-type, double-shell vessel structure that is ideal for the cultivation of plant and animal cells.
Quick coupling and a sliding-type peristaltic pump have been adopted for the exhaust gas condenser.



FMT DSA-S



FMT DSA-D

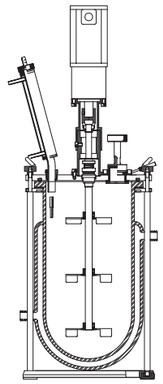


FMT DSA-M

Features

- Precisely controls temperature using a double-shell vessel
- An 17" touch screen computer with HMI that can be conveniently operated
- PLC adopted as a main control system
- Loaded with an interlocking control program to enable the cultivation of various conditions
  DO interlocking function - Agitation Speed
  FEED interlocking function - dissolved oxygen, supply time
  PH interlocking function - feed rate, dissolved oxygen
- A controller whose reliability can be guaranteed has been adopted
- Cylinder borosilicate vessel (Pyrex glass)
- Agitation system: mechanical seal used
- Various nozzles made with precisely processed STS 316L and parts guarantee the highest level of confidence
- Elegant design considered for easy repair and cleaning

Vessel Type

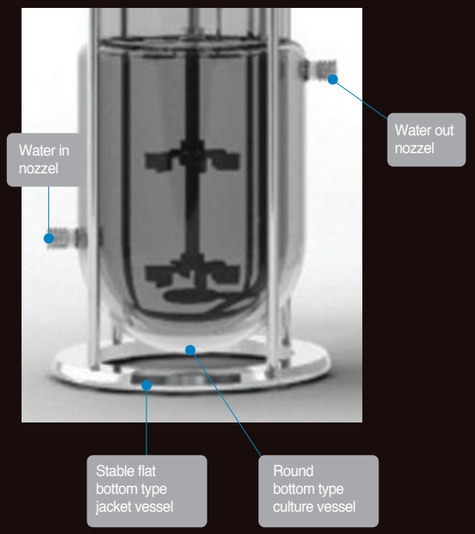


Specifications

- Double shell vessel perfect for cell culture: precisely controls temperature
- Autoclavable double shell borosilicate glass vessel
- 3~14L total volume
- Electro polished STS316L head plate & bottom plate
- Nozzles
  - Inoculum port : Flaming (option : Septum nozzle or Aseptic inoculation valve)
  - Temperature, pH, DO, foam sensor (option : ORP, level, OD sensor)
  - Exhaust & condenser
  - Agitation
  - 3 media feeds (option : 1 or 2 external pump)
  - Sampling & harvest (option : Aseptic transfer valve)
- Agitation
  - Single mechanical seal
  - High torque 60 W BLDC motor (30~1,200rpm)
  - 3 baffles or more
- Aeration
  - Ring sparger (option : 1~10 ㎛ micro sparger)
  - 0.2 ㎛ disposable hydrophobic filter with check valve
- Removable addition bottles support
  - Peristaltic pump with tubings
- Impeller
  - Rushton type/Pitched blade/Marine blade
- Gas flow
  - 2 gas control rotameters(option : 4 rotameters or 1~4 mass flow controller)
  - Flow rate
    0.3~3 L/min
    0.5~5 L/min
    0.7~7 L/min
    1~10 L/min
    1.4~14 L/min

Control

- 17" touch screen computer
- 1 to 12 vessels intelligent control
- 16 control loop per vessel
- Temperature control : heating/ cooling
  (option : water chiller)
- pH control : acid/base agent feeding control
- DO control : PID cascade control with feeding and gas flow rate
- Feed control : fed-batch control by time, DO, pH
- 4 pump control : acid, base, anti-foam, feeding easily calibrated pump
- Flow control (option) : 1~4 mass flow control
- 8 multi trend log data per vessel
- Easily calibrated sensors



LAB FERMENTOR

FMT AL Series

This air-lift bioreactor for cultivating cells that are sensitive to shear stress was designed to maximize the stirring effect following the circulation of injected air.
This control system can control the type and amount of injected gas.



FMT AL-S



FMT AL-D

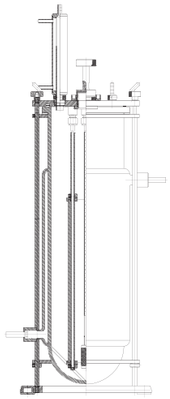


FMT AL-M

Features

- Air-lift type bioreactor in double shell structure
- Aeration system (L/D) in various types
- An 8.4" touch screen computer with HMI that can be conveniently operated
- PLC adopted as a main control system
- Loaded with an interlocking control program to enable the cultivation of various conditions
  DO interlocking function
  FEED interlocking function - dissolved oxygen, supply time
  PH interlocking function - feed rate, dissolved oxygen
- A controller whose reliability can be guaranteed has been adopted
- Cylinder borosilicate vessel (Pyrex glass)
- Various nozzles made with precisely processed STS 316L and parts guarantee the highest level of confidence
- Elegant design considered for easy repair and cleaning

Vessel Type

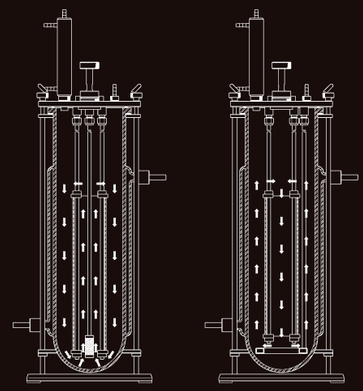


Specifications

- Aeration based circulation minimizes shear stress
- Double shell vessel perfect for cell culture: precisely controls temperature
- Various L/D
- Autoclavable double shell borosilicate glass vessel
- 3~14 L total volume
- Electro polished STS316L head plate & bottom plate
- Nozzles
  - Inoculum port : Flaming (option : Septum nozzle or Aseptic inoculation valve)
  - Temperature, pH, DO, foam sensor (option : ORP, level, OD sensor)
  - Exhaust & condenser
  - 4 media feeds
  - Sampling & harvest (option : Aseptic transfer valve)
- Aeration
  - 1~10 ㎛ micro sparger
  - 0.2 ㎛ disposable hydrophobic filter with check valve
- Removable addition bottles support
  - Peristaltic pump with tubing
- Gas flow
  - 2 gas control rotameters (option : 4 rotameters or 1~4 mass flow controller)
  - Flow rate
    0.3~3 L/min
    0.5~5 L/min
    0.7~7 L/min
    1~10 L/min
    1.4~14 L/min

Control

- 8.4" or 17" touch screen computer
- 1 to 12 vessels intelligent control
- 16 control loop per vessel
- Temperature control : heating/ cooling
  (option : water chiller)
- pH control : acid/base agent feeding control
- DO control : fed-batch control by time, DO, pH
- 4 pump control : acid, base, anti-foam, feeding easily calibrated pump
- 8 multi trend log data per vessel
- Easily calibrated sensors



Type A

Type B

2 Bio-Equipment and chemical reactors

Fermentec is working to achieve the highest levels of quality in the production of bio-equipment and chemical reactors for the bio industry (pharmacy, healthy functional food, cosmetics) based on its experience in production of fermentors.
We aware that only facilities which is easy to operate and designed with concept of user safety can improve the productivity of your company.
The engineers of Fermentec make systems under strict standards such as KS and ASME. Regarding GMP in particular, they do their utmost supports in terms of IQ, OQ and VALIDATION for the production of various facilities.

1) Bio-equipment
Fermentec produces a range of the highest-quality bio-equipment (such as extractors, concentrators, establishment of water treatment systems (PW, WFI, PSD), food & beverage tanks, autoclaves) necessary for production processes of the bio industry, including pharmacy, healthy and functional food and cosmetics, to which strict standards of GMP are applied.



2) Chemical reactors and all kinds of vessels
By making chemical reactors after considering the various control conditions and physical properties demanded by your company, Fermentec's chemical reactors have the highest operating efficiency.



3) Beer fermentors
A beer fermentor for a microbrewery is very important for making house beer.
Due to the nature of their process, beer fermentors should be designed to display warming and cooling efficiency, and should provide perfect CIP to prevent pollution. They should also be designed and made so that preciptation and separation of enzymes can be done smoothly.



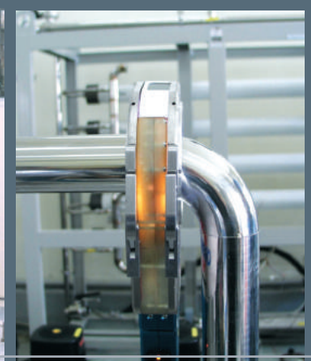
4) Other facilities
Production of synthetic tanks (such as agitators and reactors), utility installation and piping (such as boilers, compressors, chillers and cooling towers)
Computer validation and facility validation (DQ, IQ, OQ)



3 Engineering

Fermentec provides engineering services in relation to the production of fermentation-related products and chemical products, and the installation of instruments related to the separation and refining of these products.







1) Construction of separation and refining facilities

The downstream equipment related to separation and refining after the cultivation of microbes and animal and plant cells is very important in terms of productivity and efficiency. To select and install the right equipment for your environment and final product, you need professional knowledge and rich work site experience.
We help your company to work to its potential by arranging and designing lines that carefully consider the nature of each piece of equipment, after sufficiently exchanging opinions and examining data on the facilities required by your company based on our 10 years of experience.

2) Design and construction of GMP line

Stricter design and construction are essential considering the ever-strengthening facility standards of GMP.
We are working to provide services according to strengthening standards with our advanced instruments for precision construction, such as orbital welding machines, endoscopes and supersonic wave measuring instruments.

3) Installation of utility equipment

In addition to production systems, various utility facilities to operate those systems are necessary for production lines.
It is very important to choose the proper types and volumes of these utility facilities in order to achieve the highest efficiency, and the connection of each facility is also critically important. We will provide you with the best service in terms of the selection and installation of facilities.

Bio System Engineering And Machine Company FERMENTEC



Fermentec, a bio facility company

Since we were founded in 1999, Fermentec has accomplished a great deal in the field of bio facilities.

Fermentec, a company established to help to extend production facilities for the many BT companies founded in Korea since the IMF crisis, has been receiving favorable responses domestically and internationally based on technology accumulated in Korea.

Since Fermentec received international acknowledgement after receiving an order from the biotechnology support center of FORMOSA Group, the largest company in Taiwan, in 2002, the company has been producing and installing many systems for Korean pharmaceutical firms.

Based on the technology it uses to produce and supply precision fermentation facilities for domestic and foreign bio companies and pharmaceutical companies, Fermentec makes chemical reactors and products related to liquid seed culture mediums.

The engineers of Fermentec are ready to work to your specifications.

Fermentec will do its best to help customers that are leading the 21st-century bio industry.



FERMENTEC Bio System Engineering And Machine Company