

Fermentor SDS 100L~300L

The Fermentor **SiDoLim SDS**(100L~300L) is a large size pilot scale fermentation systems and the top driving mechanism is applied.

The head plate lifting system by air cylinder and linear motion guide is adapted in standard specification.

This system can be used for microbial, insect and mammalian cell culturing procedures. The stainless steel (SUS316L) vessel and the whole attachments can be sterilized automatically or manually in the pilot scale fermentation system and the whole fermentation procedures can be also performed automatically. The integrated control board measures the whole sensor values and control the fermentor system based on the measured values. The procedures and monitored data are graphically displayed in the 8.5" color LCD screen and all the control parameters can be adjusted in the graphic mode.

The system is designed with the spirit of mass production process to apply the system in the pilot scale for the test production to the mass production in the small scale plant.



Controller System

- The integrated controller board is adopted to measure, control and display the fermentation system.
- Color LCD displays the whole status of the system in graphic mode.
- Digital PID control algorithm makes fast approach to the target temperature and maintains the vessel temperature very stably.
- Measured data and control parameters can be not only saved and transmitted to the computer in Excel format but also printed out by thermal printer in real time state.
- Li-ion battery is used to backup the data in the memory.
- Very easy to connect with the various systems such as memory stick, printer, computer with the RS-232C communication protocol.

Head Lifting System

- Head plate is lifted by air cylinder and guided by the two sets of linear motion guide.
- Lifting speed can be adjusted by the modulation of the speed control valve.
- Safety pin is used to hold the lifted head plate in case of air system failure.



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- Lifting system can be easily disassembled from the head plate by unlocking the bolts.
- The lifting system is made of stainless steel (SUS 304) that it is rustless.

Specification

Agitation	Drive	DC motor, AC Gear motor Top drive motor (mechanical drive)
	Range	50~550 rpm ± 1 rpm
	Sensor	Magnetic Hall sensor
	Impellers	Turbine impeller(SUS 316L) Foam breaker(SUS 316L)
	Control	Microprocessor based PID
Temperature	Range($^{\circ}$ C)	From 3 $^{\circ}$ C above the cooling water temperature to 80 $^{\circ}$ C (accuracy $\pm 0.1^{\circ}$ C)
	Control	The temperature is automatically controlled by the built-in heater cartridge.
	Sensor	RTD(Pt-100)
Aeration	Sparger	Ring sparger (SUS 316L)
	Inlet Filter	The cartridge type sterilizable pleated type 0.2 μ m absolute filter is applied.
	Outer Filter	The same as inlet filter specification.(optional item)
	Control Range	Different vessel size and/or ordered specifications.
Materials & Finish	Vessel	Using 316L stainless steel it is polished mechanically and/or electrically.
	Piping	316L stainless steel prevents contamination and is polished by electrically.
	O-rings / Gaskets	Viton or silicone material is used for the O-ring and the EPDM is used for the gasket.
Control Unit	Panel	8.5" Graphic Color LCD, Membrane keypad
	Communications	Memory stick, printer, computer with the RS-232C communication protocol
	Controller Board	Microprocessor based integrated controller board is adopted to measure, control and display the fermentation system



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Pressure control	The pressure is controlled manually and/or automatically
Power Supply	220V 50/60Hz single phase, 380V 50/60Hz three phase
Data Storage	pH, DO, Pressure, Temperature and Agitation speed
Heating Plate	The head lift system is powered by air cylinder and guided by two sets of linear motion guide. The lifting load capacity can be adjusted and designed for the size of the head plate.

Fermentor Vessel Dimension

Order Number	Total Vol. (Working Vol.)	Inner Dia. (mm)	Inner Height (mm)	Impeller Dia. (mm)	D/P (%)	H: D
		D	H	P		
PD100	100L (70L)	385	900	155	40	2.3 :1
PD200	200L (150L)	500	1055	200	40	2.1 :1
PD300	300L (210L)	550	1255	220	40	2.3 :1
PD500	500L (350L)	680	1400	280	40	2 :1
PD700	700L (500L)	750	1600	300	40	2 :1



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