

Process Reactor React Master DDS-1000 · 1400



The React Master is a smart automatic chemical synthesizer, designed to efficiently perform process optimization experiments such as developing the optimal production method of API for development of pharmaceutical intermediates and agents, etc, measuring thermal data for scale-up, evaluating crystallization conditions for hypothetical production, etc. Possibilities range from measuring thermal data needed for process optimization, precision PC control and data storage of basic functions like temperature, stirring, dosing conditions, pH values, etc, up to measurement and precision control of reaction parameters for production or scale-up.

Specifications

Product name	Process Reactor React Master
Model	DDS-1000
Cat. No	213050
Available number of reaction vessels	1pc (Seperable Flask)
Synthesis scale (Working Volume)	Max. working volume: 100mL: (Total volume 195mL) ³
	Max. working volume: 250mL: (Total volume 315mL) ³
Capacity	Temperature control range
	Ambient to 200°C, option: -30°C ^{1,4}
Temperature control accuracy	Setting value±0.1°C (water)
	Heating and cooling source
Heating and cooling source	Heating: NESAs coating heater, Cooling: air cooling or Water cooling ^{1,4}
	Stirring mechanism
Stirring speed range	Mechanical stirrer (2 straight blades)
	31-266rpm, option: 8-69rpm, 125-1059rpm
PH control	Single or double liquid control, 0-14pH, 0.1pH range (option) ⁵
	Dosing control
Minimum dosing volume, dosing speed (volume/time)	Minimum dosing volume: 50μL, dosing accuracy: ±3%, total dosing volume, dosing speed (volume/time)
	Gas purging
Inert gas purgins under reduced pressure ²	Reflux
	Comes with small condenser ¹
Observation window of reaction	Visible white color LED with back light (ON/OFF)
	Temperature range control
-10°C~80°C (Reactor with double Jacket) ³	Main functions
	Integrating calorimetry (J), specific heat measurement (J/g·K), sensible heat measurement (K)
Minimum sensitivity-measurement deviation	1W (heating balance system)-1% (standard condition)
	Normal 5%
Control	Various program functions & operations by PC (laptop)
	Trend function
Real time monitoring and recording of parameters.	Report function
	Transfer of reaction parameters via Excel format
Safety features	Heater cut-off, Motor overload protector, circuit protector, Independent overheat protector, breaker for leakage and excess current
	Ambient temperature
5~35°C	Overall dimensions(mm) · Weight
160W x 490D x 450H · 20kg	Power source
10.4A, 1040VA · AC100V 50/60HZ	

¹ For controlling the temperatures below ambient, tap water circulation or a cool water circulator is necessary.
² A vacuum line and gas source are required.
³ A jacket reaction unit is an optional accessory.
⁴ When using a cold finger: 0~80°C, using a flask cover with cooling coil: -30~50°C, the cooling unit is an option.
⁵ The pH controller is an option.
⁶ Calorimetry is an option.

The React Master Max is a 4-position automatic chemical synthesizer designed to efficiently perform process optimization experiments such as developing the optimal production method of API for development, pharmaceutical intermediates and agents, etc, developing reasonable synthesis methods for scale-up, evaluating crystallization conditions for hypothetical production, etc.

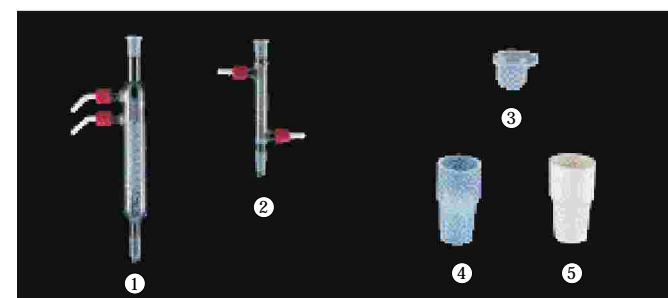
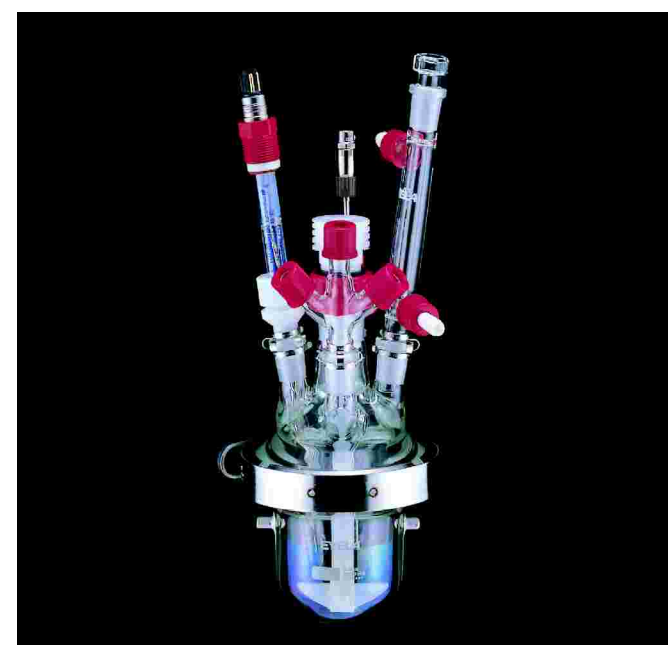
Temperature, stirring, sample dosing conditions, pH, etc. can be controlled and recorded in detail on the PC. Screening of the sample dosing amount and dosing speed, individual temperature control, pH, torque, crystallization conditions, etc. for process optimization are all done simultaneously, enabling optimization of intricate reaction conditions.

Specifications

Product name	Process Reactor React Master
Model	DDS-1000
Cat. No	213050
Available number of reaction vessels	4 pcs (Seperable Flask)
Synthesis scale (Working Volume)	Max. working volume: 100mL: (Total volume 195mL) ³
	Max. working volume: 250mL: (Total volume 315mL) ³
Capacity	Temperature control range
	Ambient to 200°C, option: -20°C ^{1,4}
Temperature control accuracy	Set value±0.1°C (water)
	Heat control
Heating and cooling source	Heating: NESAs coating heater, Cooling: air cooling, water cooling ^{1,4}
	Stirring mechanism
Stirring speed range	Mechanical stirrer (2 straight blades), individual stir
	31-266rpm, option: 8-69rpm, 125-1059rpm
PH control	Single or double liquid control, 0-14pH, 0.1pH range (option) ⁵
	Dosing speed control
Minimum dosing volume, dosing speed (volume/time)	Minimum dosing volume: 50μL, dosing accuracy: ±3%, total dosing volume, dosing speed (volume/time)
	Gas purging
Inert gas purgins under reduced pressure ²	Reflux
	Comes with small condenser ¹
Observation window of reaction	Visible white color LED with back light (ON/OFF)
	Control
Various program functions & operations by PC (laptop)	Trend function
	Real time monitoring and recording of parameters in real time
Report function	Transfer of reaction parameters via Excel format
	Safety Features
Heater out-off, Motor overload protector, circuit protector, Independent, Individual overheat protector, breaker for leakage and excess current	Ambient temperature
5~35°C	Overall dimensions(mm) · Weight
580W x 490D x 450H · 50kg	Power source
10.4A, 1040VA · AC100V 50/60HZ	

¹ For controlling the temperatures below ambient, tap water circulation or a cool water circulator is necessary.
² For this function a vacuum line and gas source are required.
³ A 250mL flask is an option.
⁴ When using a cold finger: 0~80°C, using a flask cover with cooling coil: -30~50°C, the cooling unit is an optional accessory.
⁵ The pH controller is an option.

Process Reactor React Master DDS-1000 · 1400 Parts



*Condenser · Hose

Part name	Catalogue No.
① Dimroth condenser	212780
② Liebig condenser	217200
Silicone tube (5m)	212790

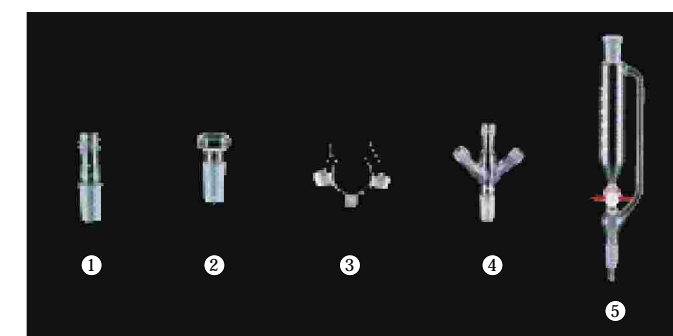
*Septam

Part name	Catalogue No.
③ Septa seal silicone	212700
④ Septa seal silicone	218410
⑤ Septa natural rubber	218420



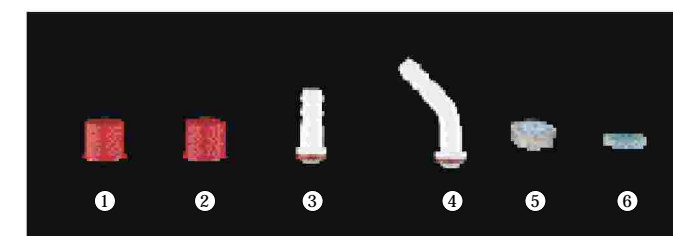
*Temperature sensor

Part name	Catalogue No.
① Temperature sensor (Double, Pt100Ω)	221490
② Temperature sensor (single, Pt100Ω)	221500
③ Temperature sensor (Double)	221530
④ Temperature sensor (single)	221540



* GL14 (GL Conical shape) parts

Part name	Catalogue No.
① Screwthread Tube with GL14 GL14/23 10pcs	217220
② Stopper (GL14/23) Hexagonal (10 pcs)	217290
③ Keck crip GL14 metal (10 pcs)	217300
④ Traident tyube GL14/23	221150
⑤ Dripping funnel (25mL) GL14/23	217210



*GL14 Accessary parts

Part name	Catalogue No.
① Screw Cap GL14 with hole (10 pcs)	217230
② Screw Cap GL14 without hole, with PTFE (10 pcs)	217240
③ Hose connection straight (10 pcs)	217250
④ Hose connection bent (10 pcs)	227260
⑤ Silicone raber sealing septa (10 pcs)	217270



*Vessel

Part name	Catalogue No.
① Reaction Vessel (With coating heater) 100mL	221160
② Reaction Vessel (With coating heater) 250mL	221170
③ Flask cover	221180
Clamp (reaction vessel type)	221190
O ring (PTFE coverd)	221200
O ring (Silicone)	221210
Flask base (for 2)	221220

Accessories Main unit, PC (laptop) with pre-installed software, reaction vessels (100mL, 250mL), reagent bottle (100mL x 10 pcs)

Accessories Main unit, PC (laptop) with pre-installed software, reaction vessels (100mL), reagent bottle (100mL x 10 pcs)