



Jacketed Stainless Steel Reactor

Laboratory and Processing Equipment

● JSR-B Series



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JACKETED STAINLESS STEEL REACTOR

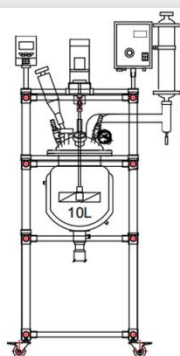
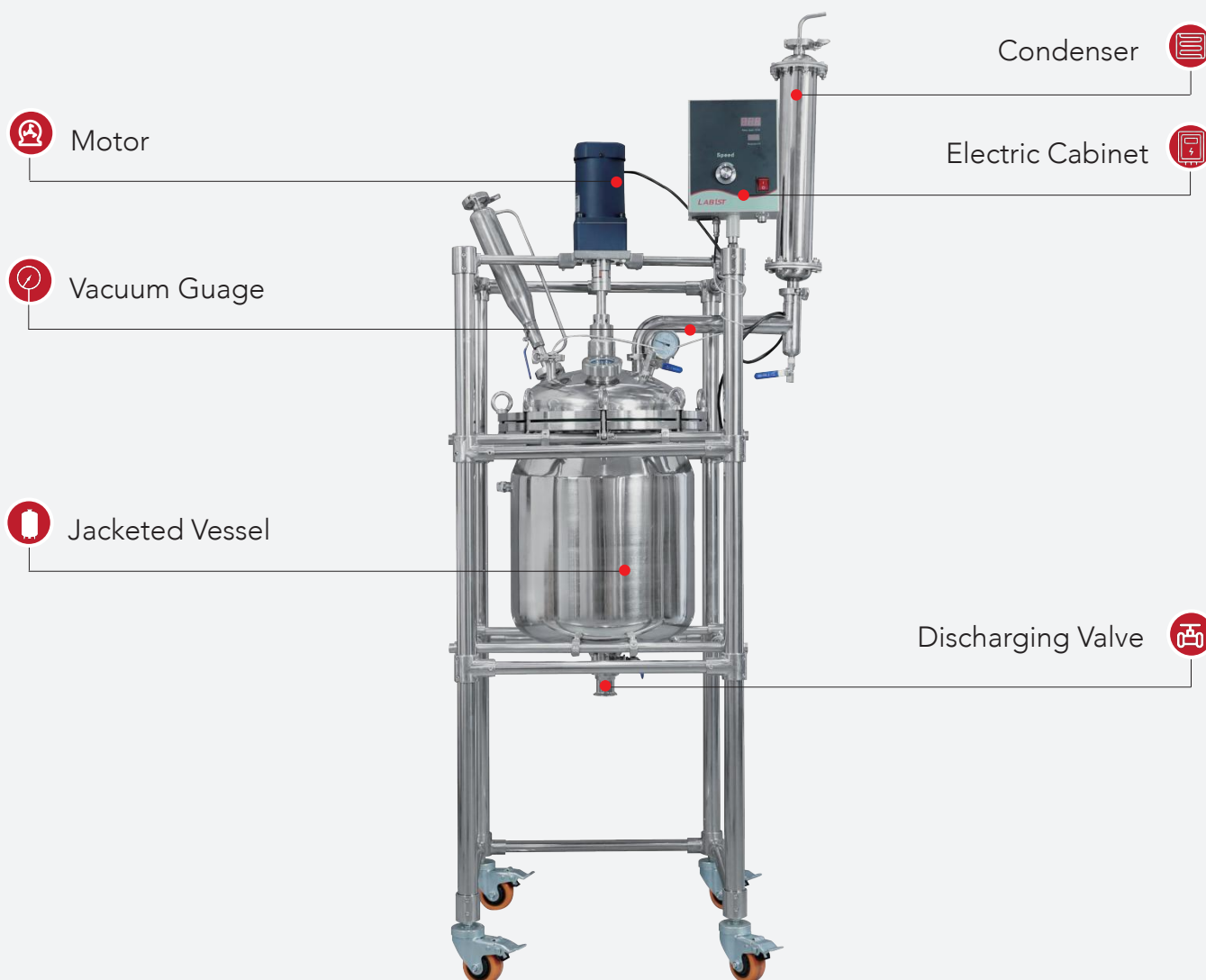
Lab1st JSR-B series jacketed stainless steel reactor is built with advanced technology and quality material. It provides controlled temperature and pressure environment for your versatile lab needs. Each stainless steel jacketed reactor consists of SUS30408 stainless steel reaction vessel, rotary lip seal, single layer paddle agitation, temperature probe and digital display, and other accessories like coiled condenser, bottom discharge valve and other accessories.

The standard JSR-B series stainless steel reactors come with vessels from 1L to 150L. The jacketed can be heated and the vessel can be lifted and rotated. It can also be fully customized to meet all your essential requirements, like high torque, high speed agitation, baffled reaction vessel, programmable controller, air driven motor, etc.

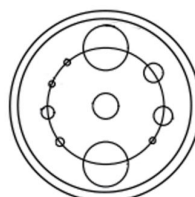


PRODUCT DISPLAY

JSR-20B

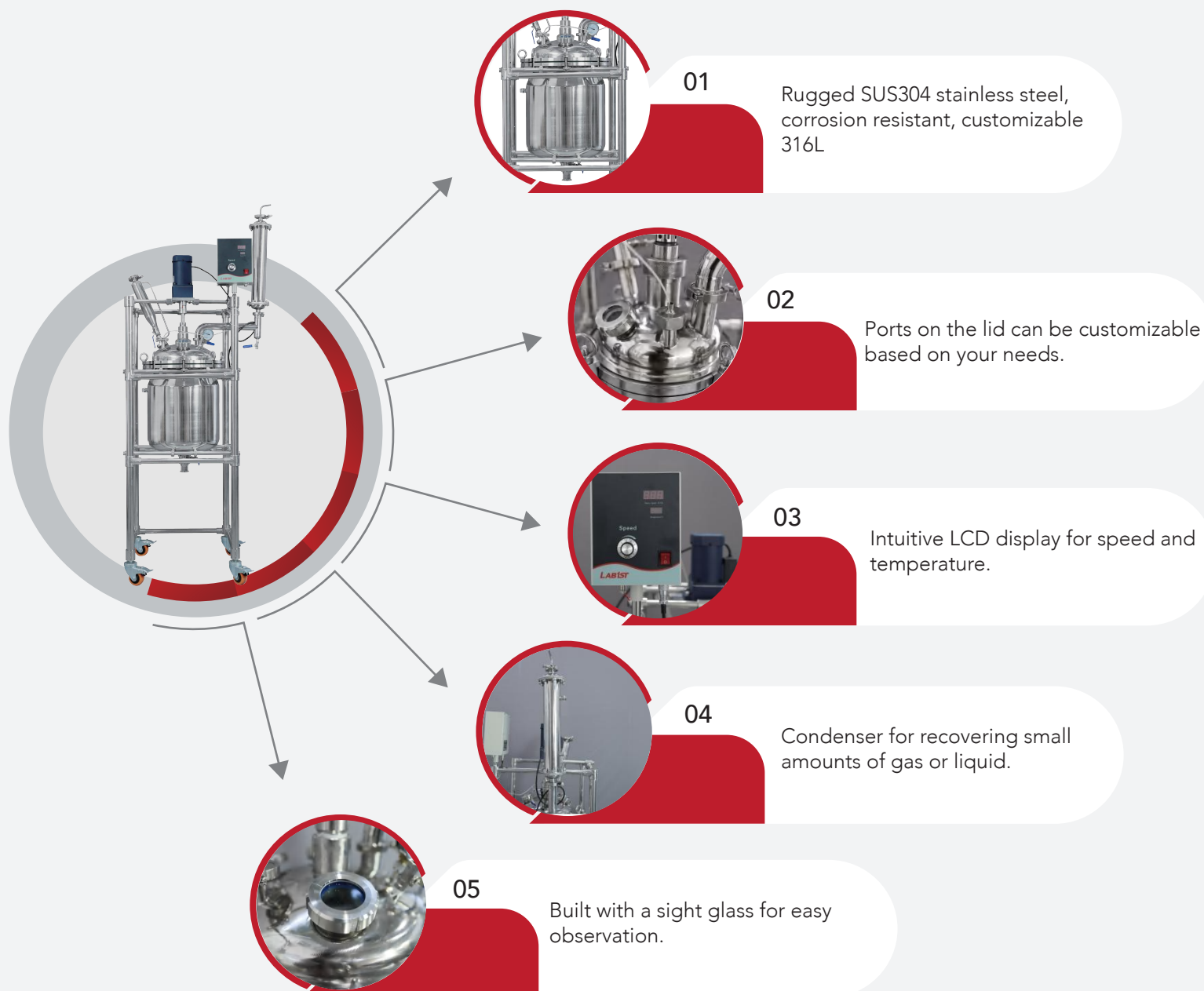


Front View

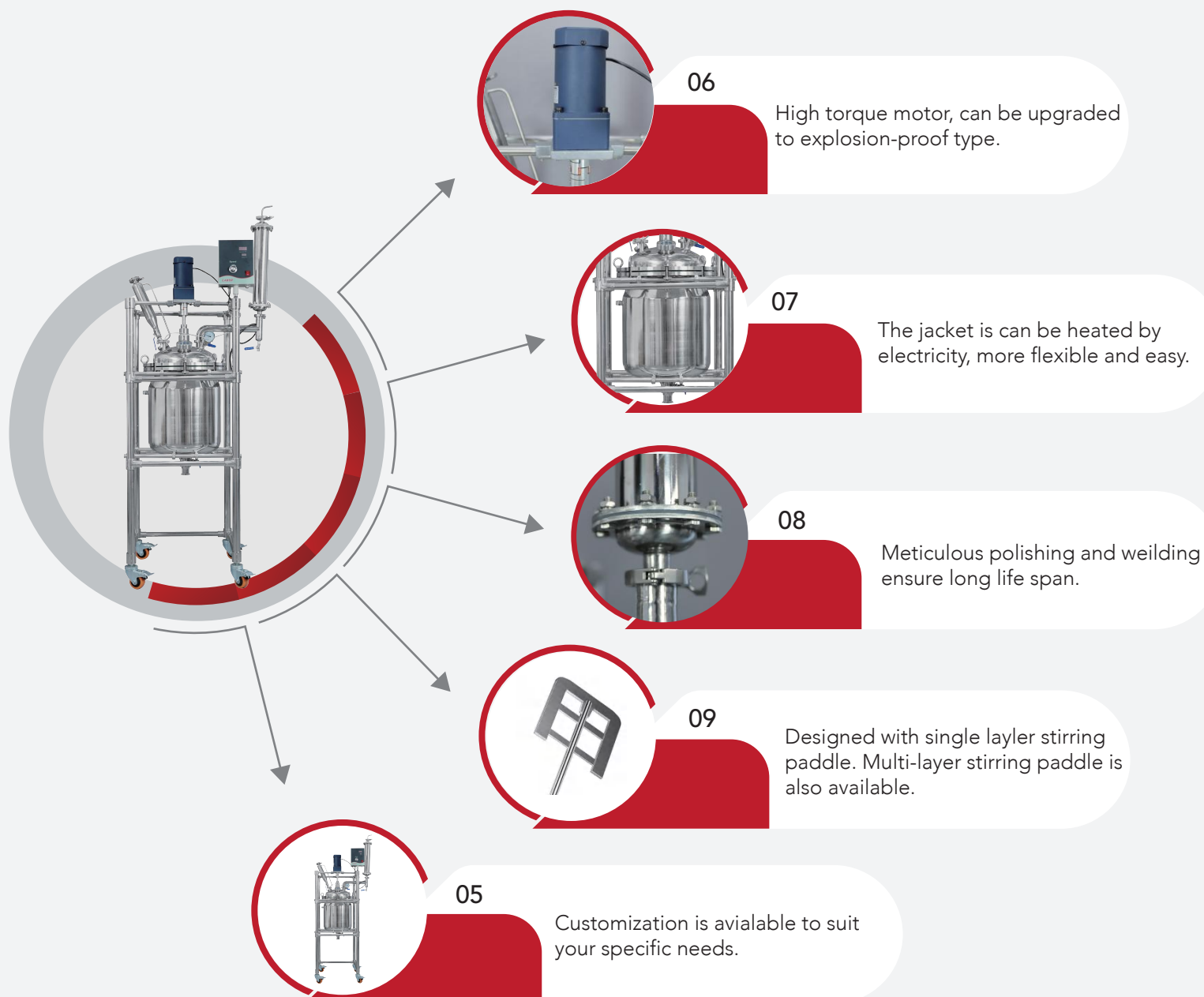


Top View

FEATURES



FEATURES



TECHNICAL DATA

Model	JSR-1B	JSR-2B	JSR-3B
Technical Data			
Design Working Temp. Range	-40 ~ 250 °C -20 ~ 220 °C	-40 ~ 250 °C -20 ~ 220 °C	-40 ~ 250 °C -20 ~ 220 °C
Range of Speed	0-600rpm	0-600rpm	0-600rpm
Heating Method	Jacketed Fluid Heating	Jacketed Fluid Heating	Jacketed Fluid Heating
Material	SUS304	SUS304	SUS304
Vacuum Sealing	Mechanical Seal	Mechanical Seal	Mechanical Seal
Agitation Type	Anchor Stirring	Anchor Stirring	Anchor Stirring
Electrical Requirement			
Voltage [V] Frequency [HZ]	220 50/60	220 50/60	220 50/60
Phase [P] Total Power [W]	1 120	1 120	1 120
Vessel			
Vessel Volume [L]	1	2	3
Jacket Volume [L]	1	2	2.5
Inner Vessel Diameter [mm]	180	180	180
Outer Vessel Diameter [mm]	275	275	275
Inner Vessel Height [mm]	108	140	148
Vessel Pressure [Mpa]	-0.1...0.6	-0.1...0.6	-0.1...0.6
Jacket Pressure [Mpa]	0.1...0.3	0.1...0.3	0.1...0.3
Drain Valve Port	1.5"TC	1.5"TC	1.5"TC
Jacket Port	3/4 [Male Thread]	3/4 [Male Thread]	3/4 [Male Thread]
Reactor Lid			
Port [Motor]	M59×2 [Male Thread]	M59×2 [Male Thread]	M59×2 [Male Thread]
Port [Solid Inlet/Sight Glass 1]	ø38mm	ø45mm	ø45mm
Port [Sight Glass 2]	ø25mm	ø25mm	ø25mm
Port [Reflux]	1.0"TC	1.0"TC	1.0"TC
Port [Liquid Inlet/Pressure Equilizing Funnel]	1.0" TC	1.0" TC	1.0" TC
Port [Thermometer]	1.0"TC	1.0"TC	1.0"TC
Port [Vacuum Gauge]	ø8mm [Female Thread]	ø8mm [Female Thread]	ø8mm [Female Thread]
Port [Relief Valve]	M27×1.5	M27×1.5	M27×1.5
Port [Inert Gas]	1.0"TC	1.0"TC	1.0"TC
Condenser			
Material	SUS304	SUS304	SUS304
Condenser Type	Shell-and Tube Condenser	Shell-and Tube Condenser	Shell-and Tube Condenser
Condenser Diameter [mm]	ø76mm	ø76mm	ø76mm
Condenser Height [mm]	390mm	390mm	390mm
Heat Exchange Area [m^2]	0.16	0.16	0.16
Condenser Liquid Inlet & Outlet Port	1/2" [Male Thread]	1/2" [Male Thread]	1/2" [Male Thread]
Vacuum Port	ø12mm Barb	ø12mm Barb	ø12mm Barb
Pressure Equilizing Funnel			
Material	SUS304	SUS304	SUS304
Volume [ml]	500	500	500
Dimension			
Unit Dimension [mm]	500×600×1200	500×600×1300	500×600×1300
Unit Weight [Kg]	40	40	45

TECHNICAL DATA

Model	JSR-5B	JSR-10B	JSR-20B
Technical Data			
Design Working Temp. Range	-40 ~ 250 °C -20 ~ 220 °C	-40 ~ 250 °C -20 ~ 220 °C	-40 ~ 250 °C -20 ~ 220 °C
Range of Speed	0-600rpm	0-600rpm	0-600rpm
Heating Method	Jacketed Fluid Heating	Jacketed Fluid Heating	Jacketed Fluid Heating
Material	SUS304	SUS304	SUS304
Vacuum Sealing	Mechanical Seal	Mechanical Seal	Mechanical Seal
Agitation Type	Anchor Stirring	Anchor Stirring	Anchor Stirring
Electrical Requirement			
Voltage [V] Frequency [HZ]	220 50/60	220 50/60	220 50/60
Phase [P] Total Power [W]	1 120	1 120	1 120
Vessel			
Vessel Volume [L]	5	10	20
Jacket Volume [L]	3.5	5	10
Inner Vessel Diameter [mm]	200	215	318
Outer Vessel Diameter [mm]	275	280	380
Inner Vessel Height [mm]	232	310	330
Vessel Pressure [Mpa]	-0.1...0.6	-0.1...0.6	-0.1...0.6
Jacket Pressure [Mpa]	0.1...0.3	0.1...0.3	0.1...0.3
Drain Valve Port	1.5"TC	1.5"TC	1.5"TC
Jacket Port	3/4 [Male Thread]	3/4 [Male Thread]	3/4 [Male Thread]
Reactor Lid			
Port [Motor]	M59×2 [Male Thread]	M59×2 [Male Thread]	M59×2 [Male Thread]
Port [Solid Inlet/Sight Glass 1]	ø45mm	ø57mm	ø76mm
Port [Sight Glass 2]	ø25mm	ø38mm	ø57mm
Port [Reflux]	1.5"TC	1.5"TC	1.5"TC
Port [Liquid Inlet/Pressure Equilizing Funnel]	1.0" TC	1.0" TC	1.0" TC
Port [Thermometer]	1.0"TC	1.0"TC	1.0"TC
Port [Vacuum Gauge]	ø8mm [Female Thread]	ø8mm [Female Thread]	ø14mm [Female Thread]
Port [Relief Valve]	M27×1.5	M27×1.5	M27×1.5
Port [Inert Gas]	1.0"TC	1.0"TC	1.0"TC
Condenser			
Material	SUS304	SUS304	SUS304
Condenser Type	Shell-and Tube Condenser	Shell-and Tube Condenser	Shell-and Tube Condenser
Condenser Diameter [mm]	ø76mm	ø76mm	ø76mm
Condenser Height [mm]	390mm	390mm	390mm
Heat Exchange Area [m^2]	0.16	0.16	0.16
Condenser Liquid Inlet & Outlet Port	1/2" [Male Thread]	1/2" [Male Thread]	1/2" [Male Thread]
Vacuum Port	ø12mm Barb	ø12mm Barb	ø12mm Barb
Pressure Equilizing Funnel			
Material	SUS304	SUS304	SUS304
Volume [ml]	1000	1000	1000
Dimension			
Unit Dimension [mm]	500×600×1400	500×800×1700	600×850×1800
Unit Weight [Kg]	53	72	80

TECHNICAL DATA

Model	JSR-30B	JSR-50B	JSR-100B	JSR-150B
Technical Data				
Design Working Temp. Range	-40 ~ 250 C -20 ~ 220 C	-40 ~ 250 C -20 ~ 220 C	-40 ~ 250 C -20 ~ 220 C	-40 ~ 250 C -20 ~ 220 C
Range of Speed	0-600rpm	0-600rpm	0-600rpm	0-600rpm
Heating Method	Jacketed Fluid Heating	Jacketed Fluid Heating	Jacketed Fluid Heating	Jacketed Fluid Heating
Material	SUS304	SUS304	SUS304	SUS304
Vacuum Sealing	Mechanical Seal	Mechanical Seal	Mechanical Seal	Mechanical Seal
Agitation Type	Anchor Stirring	Anchor Stirring	Anchor Stirring	Anchor Stirring
Electrical Requirement				
Voltage [V] Frequency [HZ]	220 50/60	220 50/60	220 50/60	220 50/60
Phase [P] Total Power [W]	1 120	1 120	1 120	1 120
Vessel				
Vessel Volume [L]	30	50	100	150
Jacket Volume [L]	12	30	58	65
Inner Vessel Diameter [mm]	318	360	500	550
Outer Vessel Diameter [mm]	380	460	600	650
Inner Vessel Height [mm]	400	550	680	750
Vessel Pressure [Mpa]	-0.1...0.6	-0.1...0.6	-0.1...0.6	-0.1...0.6
Jacket Pressure [Mpa]	0.1...0.3	0.1...0.3	0.1...0.3	0.1...0.3
Drain Valve Port	1.5"TC	1.5"TC	1.5"TC	2.0"TC
Jacket Port	3/4 [Male Thread]	3/4 [Male Thread]	3/4 [Male Thread]	3/4 [Male Thread]
Reactor Lid				
Port [Motor]	M59×2 [Male Thread]	M59×2 [Male Thread]	M59×2 [Male Thread]	M79×2 [Male Thread]
Port [Solid Inlet/Sight Glass 1]	ø76mm	ø89mm	ø133mm	ø133mm
Port [Sight Glass 2]	ø57mm	ø57mm	ø76mm	ø76mm
Port [Reflux]	1.5"TC	1.5"TC	1.5"TC	1.5"TC
Port [Liquid Inlet/Pressure Equilizing Funnel]	1.0" TC	1.0" TC	1.0" TC	1.0" TC
Port [Thermometer]	1.0"TC	1.0"TC	1.0"TC	1.0"TC
Port [Vacuum Gauge]	ø14mm [Female Thread]	ø14mm [Female Thread]	ø14mm [Female Thread]	ø14mm [Female Thread]
Port [Relief Valve]	M27×1.5	M27×1.5	M27×1.5	M27×1.5
Port [Inert Gas]	1.0"TC	1.0"TC	1.0"TC	1.0"TC
Condenser				
Material	SUS304	SUS304	SUS304	SUS304
Condenser Type	Shell-and Tube Condenser	Shell-and Tube Condenser	Shell-and Tube Condenser	Shell-and Tube Condenser
Condenser Diameter [mm]	ø102mm	ø102mm	ø114mm	ø159mm
Condenser Height [mm]	530mm	530mm	530mm	720mm
Heat Exchange Area [m^2]	0.33	0.33	0.33	0.8
Condenser Liquid Inlet & Outlet Port	1/2" [Male Thread]	1/2" [Male Thread]	1/2" [Male Thread]	3/4" [Male Thread]
Vacuum Port	ø12mm Barb	ø12mm Barb	ø12mm Barb	ø12mm Barb
Pressure Equilizing Funnel				
Material	SUS304	SUS304	SUS304	SUS304
Volume [ml]	1000	1000	2000	2000
Dimension				
Unit Dimension [mm]	620×850×1850	700×900×2050	1000×1100×2100	1000×1250×2350
Unit Weight [Kg]	95	105	170	240

OPTIONS



Explosion-proof motor: ExibIIBT4GB
type ATEX/IECEX type



Pneumatic mixing motor



Magnetic coupling seal [design
temperature up to 250°C]



Internal PTFE coating



Thermal clothing [High temperature
coating + rubber and plastic sponge
filling]



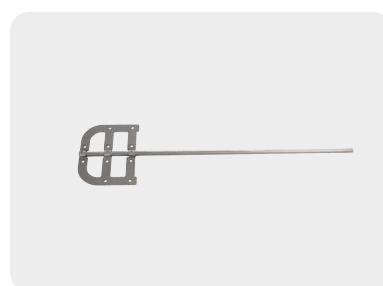
Kettle body rotation and
lifting



Collection flask: glass type
or stainless steel type



Different condensers



Different stirrers



Jacket electric heating

SUPPORT EQUIPMENTS

Vacuum Pump

Water-jet Vacuum Pump

High-efficiency and easy to maintain vacuum pumps with up to 50L/min air-taking speed and 20 mbar end vacuum. Vacuum is generated by forced water circulation, making it the ideal vacuum pump for chemical applications.



PTFE Diaphragm Vacuum Pump

Light-weight and low noise. The PTFE diaphragm design makes them suitable for even the most corrosive solvents. Available in different capacities: up to 120L/min air-taking speed and 50 mbar end vacuum.



Rotary Vane Oil Pump

Strong and relatively low cost, with different choices based on your requirement. They are available in single-stage or dual-stage, from 2.5CFM to 45 CFM. Some of them are suitable for 24 x 7 continuous operation. Note: a cold trap is needed for rotary vane oil pumps in chemical applications.



Heating & Cooling Circulator

HR-Series

These are integrated heating & cooling circulators for customers requiring a high dynamic temperature range. They come with a hermetic design and are available in different models, with temperature ranging from -25°C to 200°C or even -80°C to 250°C.



SUPPORT EQUIPMENTS

Heating Circulator

OBC-Series

The most cost-effective heating circulator, with a compact design. Standard versions can heat up to 180°C and advanced versions can reach 300°C. These circulators come with an open reservoir from 10L to 100L, which can also be used as a heating bath. The heating power and voltage of the circulators are totally customizable.



UC-Series

Advanced heating circulator with a hermetic design, for minimized oxidation of heating oil at high temperature. These circulators are available with 200°C or 300°C max. temperature. They come with air or water cooling, making them suitable for applications requiring a quick drop from high temperature to room temperature.



Cooling Circulator

DL-Series

The most cost-effective cooling circulator, which comes with an open reservoir from 5L to 100L, making them suitable to be also used as a cooling bath. They come with a variety of models with reservoirs from 5L to 100L and lowest temperature from -20°C to -120°C.



DLH-Series

High-end cooling circulators with a hermetic design, for extended life of both the circulator and the cooling fluid (preventing frost and ice flake in the circulator). They come with a variety of models with chilling power as low as 2.5kW and with lowest temperature from -15°C to -120°C.

