



Jacketed Stainless Steel Reactor

Laboratory and Processing Equipment

● JSR-B Series



LAB1ST / Laboratory and Processing Equipment

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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, mechanical 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 cooled with an external circulator. 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



Motor



Vacuum Gauge



Jacketed Vessel

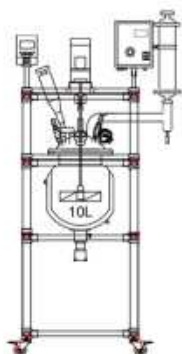
Condenser



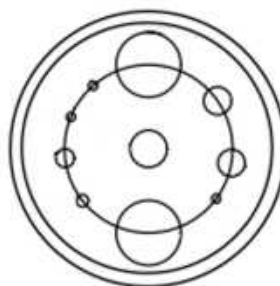
Electric Cabinet



Discharging Valve

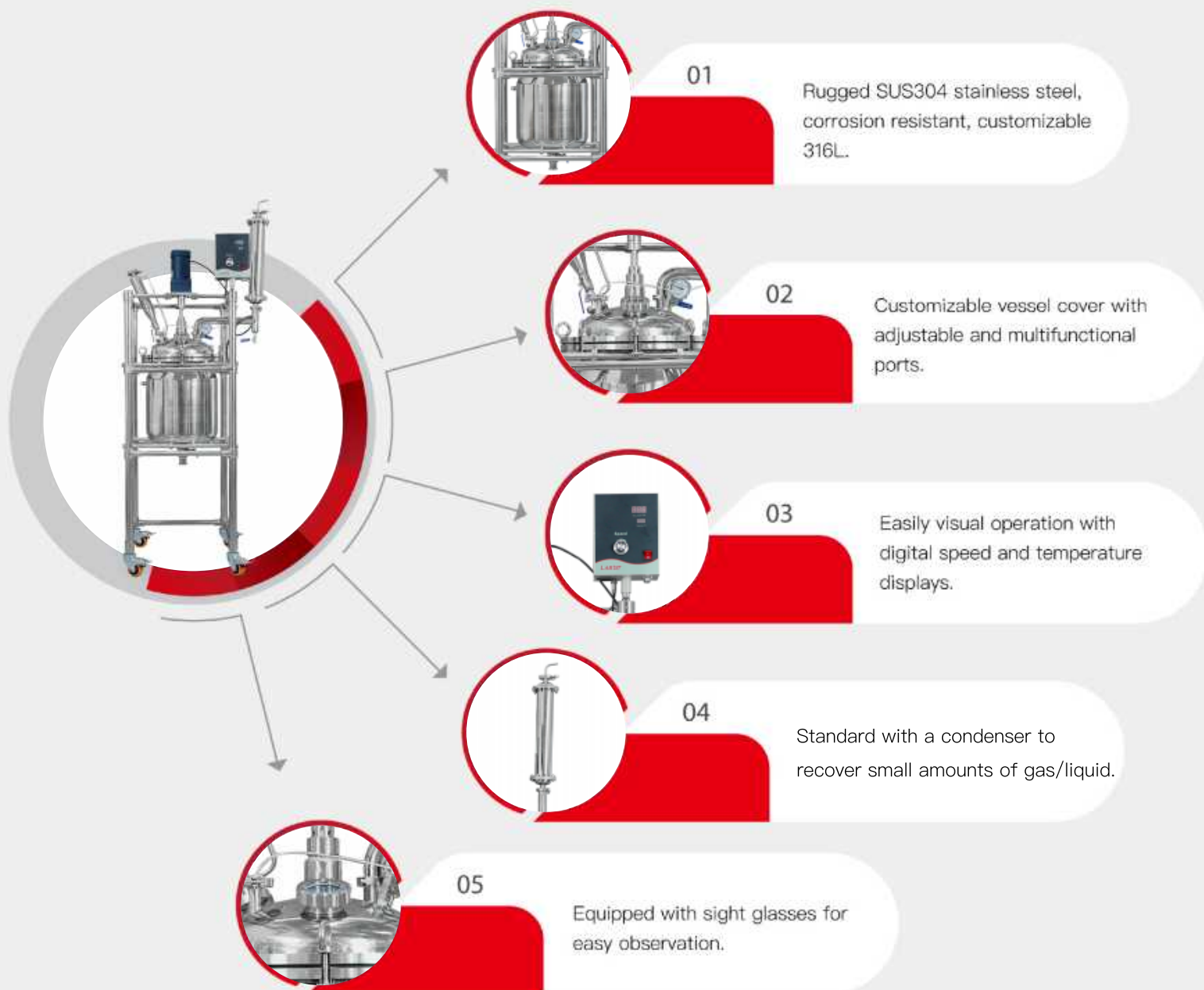


Front View

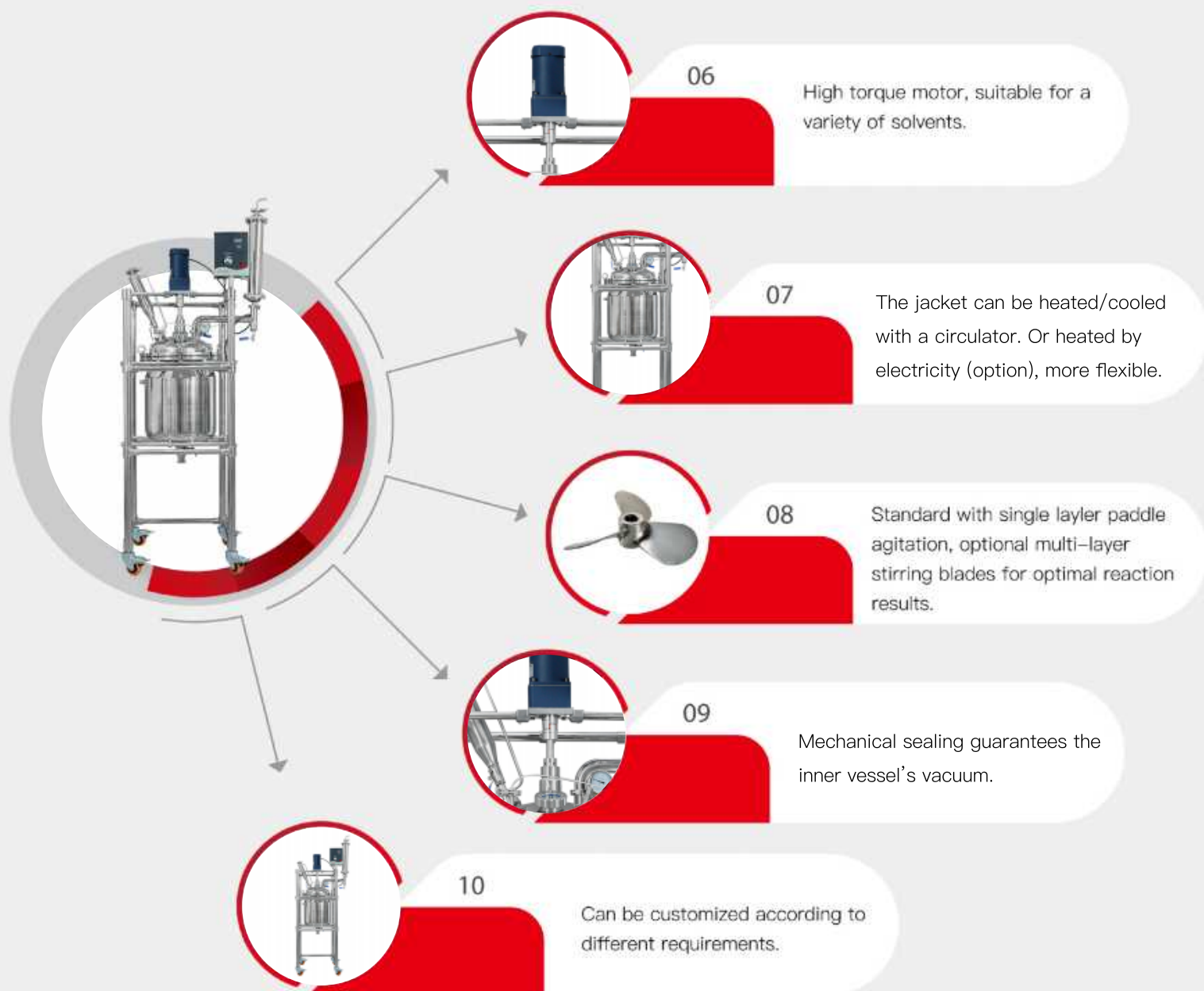


Top View

FEATURES



FEATURES



TECHNICAL DATA

Model	JSR-1B	JSR-2B	JSR-3B
Technical Data			
Temperature Range	RT-200°C	RT-200°C	RT-200°C
Range of Speed	0-600rpm	0-600rpm	0-600rpm
Heating Method	Jacket Fluid Heating	Jacket Fluid Heating	Jacket 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]	220	220	220
Phase [P]	1	1	1
Frequency [HZ]	50/60	50/60	50/60
Total Power [W]	120	120	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]	1.5"TC	1.5"TC	1.5"TC
Port [Liquid Inlet]	ø12mm Barb	ø12mm Barb	ø12mm Barb
Port [Thermometer]	1"TC	1"TC	1"TC
Port [Vacuum Gauge]	14×1.5 [Female Thread]	14×1.5 [Female Thread]	14×1.5 [Female Thread]
Port [Relief Valve]	1/2" [Male Thread]	1/2" [Male Thread]	1/2" [Male Thread]
Port [Inert Gas]	ø8mm [Male Thread]	ø8mm [Male Thread]	ø8mm [Male Thread]
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
Options			
Standard explosion-proof [ExibIIBT4Gb]	○	○	○
ATEX/IECEX explosion-proof motor [TECO]	○	○	○
Pneumatic mixing motor	○	○	○
Jacket electric heating	○	○	○
Condenser customization	○	○	○
Thermal clothing [High temperature coating + rubber and plastic sponge filling]	○	○	○
Kettle body rotation and lifting	○	○	○
Solvent collection bottle [glass/stainless steel]	○	○	○
Stirring paddle type	○	○	○
Weight Dimension			
Unit Dimension [mm]	500×600×1200	500×600×1300	500×600×1300
Unit Weight [Kg]	40	40	45

Note: ○ for option

TECHNICAL DATA

Model	JSR-5B	JSR-10B	JSR-20B
Technical Data			
Temperature Range	RT-200°C	RT-200°C	RT-200°C
Range of Speed	0-600rpm	0-600rpm	0-600rpm
Heating Method	Jacket Fluid Heating	Jacket Fluid Heating	Jacket 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]	220	220	220
Phase [P]	1	1	1
Frequency [HZ]	50/60	50/60	50/60
Total Power [W]	120	120	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]	ø12mm Barb	ø12mm Barb	ø12mm Barb
Port [Thermometer]	1"TC	1"TC	1"TC
Port [Vacuum Gauge]	14×1.5 [Female Thread]	14×1.5 [Female Thread]	1/2" [Male Thread]
Port [Relief Valve]	1/2" [Male Thread]	1/2" [Male Thread]	1/2" [Male Thread]
Port [Inert Gas]	ø8mm [Male Thread]	ø8mm [Male Thread]	ø8mm [Male Thread]
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
Options			
Standard explosion-proof [ExibIIBT4Gb]	○	○	○
ATEX/IECEX explosion-proof motor [TECO]	○	○	○
Pneumatic mixing motor	○	○	○
Jacket electric heating	○	○	○
Condenser customization	○	○	○
Thermal clothing [High temperature coating + rubber and plastic sponge filling]	○	○	○
Kettle body rotation and lifting	○	○	○
Solvent collection bottle [glass/stainless steel]	○	○	○
Stirring paddle type	○	○	○
Weight Dimension			
Unit Dimension [mm]	500×600×1400	550×800×1700	600×850×1800
Unit Weight [Kg]	53	72	80

Note: ○ for option

TECHNICAL DATA

Model	JSR-30B	JSR-50B
Technical Data		
Temperature Range	RT-200°C	RT-200°C
Range of Speed	0-600rpm	0-600rpm
Heating Method	Jacket Fluid Heating	Jacket Fluid Heating
Material	SUS304	SUS304
Vacuum Sealing	Mechanical Seal	Mechanical Seal
Agitation Type	Anchor Stirring	Anchor Stirring
Electrical Requirement		
Voltage [V]	220	220
Phase [P]	1	1
Frequency [HZ]	50/60	50/60
Total Power [W]	120	120
Vessel		
Vessel Volume [L]	30	50
Jacket Volume [L]	12	30
Inner Vessel Diameter [mm]	318	360
Outer Vessel Diameter [mm]	380	460
Inner Vessel Height [mm]	400	550
Vessel Pressure [Mpa]	-0.1...0.6	-0.1...0.6
Jacket Pressure [Mpa]	0.1...0.3	0.1...0.3
Drain Valve Port	1.5"TC	1.5"TC
Jacket Port	3/4 [Male Thread]	3/4 [Male Thread]
Reactor Lid		
Port [Motor]	M59×2 [Male Thread]	M59×2 [Male Thread]
Port [Solid Inlet/Sight Glass 1]	ø76mm	ø89mm
Port [Sight Glass 2]	ø57mm	ø57mm
Port [Reflux]	1.5"TC	1.5"TC
Port [Liquid Inlet]	ø12mm Barb	ø12mm Barb
Port [Thermometer]	1"TC	1"TC
Port [Vacuum Gauge]	1/2" [Male Thread]	1/2" [Male Thread]
Port [Relief Valve]	1/2" [Male Thread]	1/2" [Male Thread]
Port [Inert Gas]	ø8mm [Male Thread]	ø8mm [Male Thread]
Condenser		
Material	SUS304	SUS304
Condenser Type	Shell-and Tube Condenser	Shell-and Tube Condenser
Condenser Diameter [mm]	ø102mm	ø102mm
Condenser Height [mm]	530mm	530mm
Heat Exchange Area [m^2]	0.33	0.33
Condenser Liquid Inlet & Outlet Port	1/2" [Male Thread]	1/2" [Male Thread]
Vacuum Port	ø12mm Barb	ø12mm Barb
Options		
Standard explosion-proof [ExibIIBT4Gb]	☐	☐
ATEX/IECEX explosion-proof motor [TECO]	☐	☐
Pneumatic mixing motor	☐	☐
Jacket electric heating	☐	☐
Condenser customization	☐	☐
Thermal clothing [High temperature coating + rubber and plastic sponge filling]	☐	☐
Kettle body rotation and lifting	☐	☐
Solvent collection bottle [glass/stainless steel]	☐	☐
Stirring paddle type	☐	☐
Weight Dimension		
Unit Dimension [mm]	620×850×1850	700×900×2050
Unit Weight [Kg]	95	105

Note: ☐ for option

TECHNICAL DATA

Model	JSR-100B	JSR-150B
Technical Data		
Temperature Range	RT-200°C	RT-200°C
Range of Speed	0-600rpm	0-600rpm
Heating Method	Jacket Fluid Heating	Jacket Fluid Heating
Material	SUS304	SUS304
Vacuum Sealing	Mechanical Seal	Mechanical Seal
Agitation Type	Anchor Stirring	Anchor Stirring
Electrical Requirement		
Voltage [V]	220	220
Phase [P]	1	1
Frequency [HZ]	50/60	50/60
Total Power [W]	200	750
Vessel		
Vessel Volume [L]	100	150
Jacket Volume [L]	58	65
Inner Vessel Diameter [mm]	500	550
Outer Vessel Diameter [mm]	600	650
Inner Vessel Height [mm]	680	750
Vessel Pressure [Mpa]	-0.1...0.6	-0.1...0.6
Jacket Pressure [Mpa]	0.1...0.3	0.1...0.3
Drain Valve Port	1.5"TC	2.0"TC
Jacket Port	3/4 [Male Thread]	3/4 [Male Thread]
Reactor Lid		
Port [Motor]	M59×2 [Male Thread]	M79×2 [Male Thread]
Port [Solid Inlet/Sight Glass 1]	ø133mm	ø133mm
Port [Sight Glass 2]	ø76mm	ø76mm
Port [Reflux]	1.5"TC	1.5"TC
Port [Liquid Inlet]	ø12mm Barb	ø12mm Barb
Port [Thermometer]	1"TC	1"TC
Port [Vacuum Gauge]	1/2" [Male Thread]	1/2" [Male Thread]
Port [Relief Valve]	1/2" [Male Thread]	1/2" [Male Thread]
Port [Inert Gas]	ø8mm [Male Thread]	ø8mm [Male Thread]
Condenser		
Material	SUS304	SUS304
Condenser Type	Shell-and Tube Condenser	Shell-and Tube Condenser
Condenser Diameter [mm]	ø114mm	ø159mm
Condenser Height [mm]	530mm	720mm
Heat Exchange Area [m^2]	0.33	0.8
Condenser Liquid Inlet & Outlet Port	1/2" [Male Thread]	3/4" [Male Thread]
Vacuum Port	ø12mm Barb	ø12mm Barb
Options		
Standard explosion-proof [ExibIIBT4Gb]	☐	☐
ATEX/IECEX explosion-proof motor [TECO]	☐	☐
Pneumatic mixing motor	☐	☐
Jacket electric heating	☐	☐
Condenser customization	☐	☐
Thermal clothing [High temperature coating + rubber and plastic sponge filling]	☐	☐
Kettle body rotation and lifting	☐	—
Solvent collection bottle [glass/stainless steel]	☐	☐
Stirring paddle type	☐	☐
Weight Dimension		
Unit Dimension [mm]	1000×1100×2100	1000×1250×2350
Unit Weight [Kg]	170	240
Note: ☐ for option		

AUXILIARY EQUIPMENTS

Vacuum Pump

Water-jet Vacuum Pump

Chemical duty 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 capabilities (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 2.5 CFM to 45 CFM. Some of them are suitable for 24x7 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. The starting temperature range is from -25 °C to 200 °C . On advanced models, the lowest temperature can be as low as -80°C, and the highest temperature can be up to 250°C .



AUXILIARY EQUIPMENTS

Heating Circulator

OBC-Series

The most cost-effective heating circulator, with a concise but efficient design. Standard versions can heat up to 180C and advanced versions can reach 300C. These circulators comes 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 200C or 300C 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 with lowest temperature from -20C to -120C.



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 -15C to -120C.

