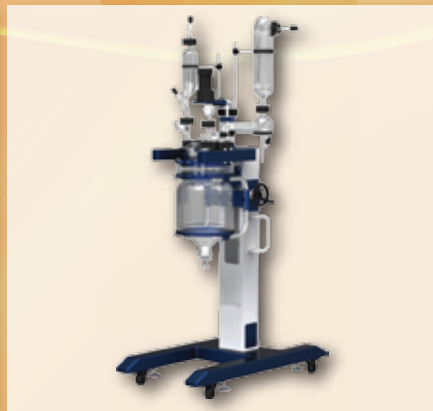


# REACTORS



**mrc**



## REAC-Series, Reactors

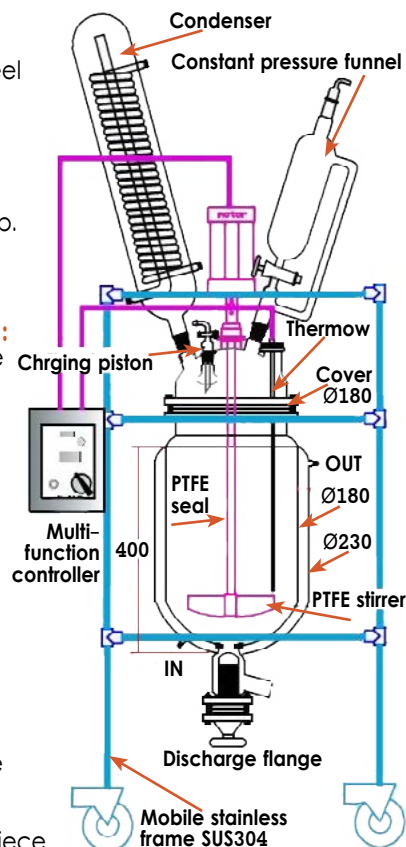
Glass reactors or mixing vessels are frequently used for stirring, dissolving, mixing, extraction and other processes in labs and pilot plants. Jacketed models permit heat exchange for better dissolving and crystallization. Mobile mixing vessels can be transported with their content for further processing. They can also be equipped with condensers for vacuum distillation.

### Features:

- Borosilicate glass 3.3
- Compact stainless steel mobile frame
- PTFE seal, Ø8mm PTFE stirrer (stainless steel core, the outer PTFE)
- PTFE active discharge valve, electronic temp. measurement
- Constant speed stir controller.

### Detailed configuration:

- Glass jacket - 1 piece
- Cover - 1 piece
- PTFE seal - 1 set
- PTFE stirrer - 1 set
- Body tray (aluminium alloy) - 1 piece
- Clamp (aluminium alloy) - 1 piece
- Manipulator (stainless steel) - 2 pieces for 1-10L, 3 pieces for 20-100L
- Gear motor (panasonic) - 1 set
- Multi-function controller - 1 set
- Mobile stainless frame SUS 304 - 1 set
- Condenser - 1 piece
- Dropping bottle - 1 piece
- Thermowell - 1 piece
- Solid feed inlet - 1 piece (for up to 10L)
- Charging piston - 1 piece
- Frequency converter - 1 set
- PTFE discharging valve - 1 piece.



Model	REAC-1L	REAC-2L	REAC-3L
Capacity (L)	1	2	3
ports		4	
Flange cover diameter		150mm	
Cylinder diameter		113/135/150mm	
The outer cylinder dia.		150/180/200mm	
The height of the reactor		250/280/300mm	
Middle flange port		40#	
Gear motor power(W)		60	
pressure(Mpa)		-0.096	
Agitator speed(rpm)		0-600	
Condenser		24#	
Constant pressure funnel		250ml/24#	
Charging piston		29#	
Solid feed inlet		-	
Electronic temp. measurement port		DN15	
Discharge flange port		38#	
PTFE		Ø8	
Gear motor		60W	
Power (V/Hz)		220/50 or 60	



**REAC-N  
2 Layers**

### REAC-N Series, Double-layer Glass Reaction Kettle with Variable Frequency Speed Control

Reagents are set in the inner layer of double-layer glass reaction kettle, at the same time, vacuum can be taken out and mixing speed be adjusted. Interlayer can lead in refrigerating fluid, water and high temperature liquid to heat and cool the materials.

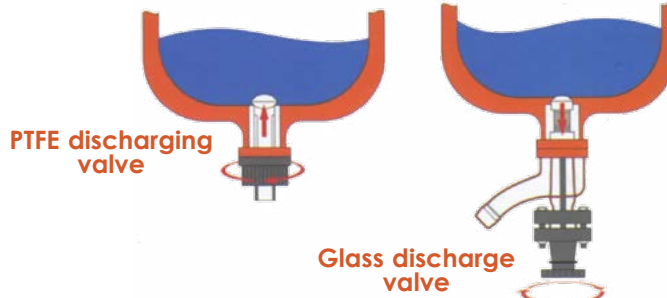
It can be used in the experiment, middle-scale test, and production of chemistry, fine chemical engineering, biological pharmacy and synthesis of new materials. The products can be made into system devices with multi-purpose circulating water vacuum pump, diaphragm vacuum pump, low temperature circulating pump (vacuum), circulating cooler, constant temperature circulator, low temperature cooling liquid circulating pump and closed cooling and heating circulating equipment.

#### Features:

- High borosilicate glass has good physical and chemical properties .
- Can be used in wide temperature range from high temperature (300°C) to low temperature (-80°C).
- can work in constant pressure & vacuum, vacuum degree is below 0.095MPa in stationary stationary.
- Digital display of mixing speed, , frequency conversion, and constant speed mixing system, work steadily.
- The sealing method and materials between mixer shah, PTFE mixing propeller (paddle) and kettle cover are Know how of our company .
- Corrosion resistant discharge valve is without dead space design.
- The cooling or heating solution in the interlayer can be completely removed after reaction.
- The whole structure is novelty, practical & beautiful.



**REAC-N  
3 Layers**



**PTFE discharging  
valve**

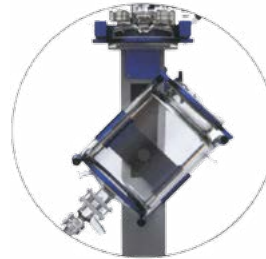
**Glass discharging  
valve**

Model	REAC-N5L	REAC-N10L	REAC-N20L	REAC-N30L	REAC-N50L	REAC-N80L	REAC-N100L
Power (W)	90				140	250	
Stirring Speed (rpm)	50 ~ 500						
Max. Torque (N m)	0.6				0.96	1.7	
Material Capacity (L)	5	10	20	30	50	80	100
Interlining Cover Capacity(L)	1.5	3	6	10	16	24	30
Power Supply (V/Hz)	220/50						

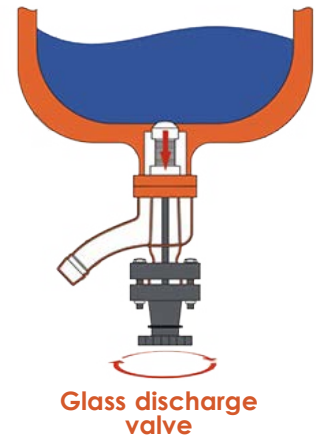
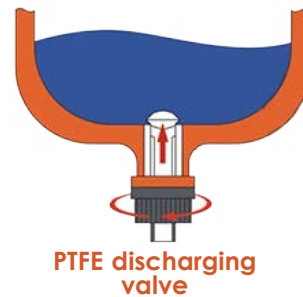




### REAC-N10/20/30/50LE Series, Elevating Reactors



- Reaction Kettle can lift, fall & rotate 360°. It is convenient to use & clean.
- Use flange to seal glass interface, avoid using vacuum silicon to seal and open it difficultly.
- Connect it using all flange interface, it can with stand the positive pressure to 0.03Mpa.
- Options:  
**3 layers add** - 3 to the ordering information.  
**Ex explosion proof add** - Ex the ordering information.



Model		REAC-N10LE	REAC-N20LE	REAC-N30LE	REAC-N50LE
Effective vol. inside glass reactor (L)		10	20	30	50
Volume of jacket capacity (L)		3	6	8	16
Heat transfer area of condenser (m <sup>2</sup> )		0.2			0.3
Material of glass reactor		High borosilicate glass 3.3			
Temperature range of kettle (°C)		-80 ~ 200°C			
Bearable temperature difference (°C)		90			
Operating pressure (MPa)		Vacuum or normal pressure			
Motor	Power (W)	90 /Explosion-proof 180			140/Explosion-proof 180
	Adjusting mode	Variable frequency speed control			
	Stirring speed (rpm)	50 ~ 500			
Six opening of glass reactor cover		Mixing open mouth			
		Opening of temperature sensor			
		Connecting opening of condenser			
		Liquid-adding opening			
		Constant pressure funnel connecting opening			
		Solid-adding opening			
Liquid-circulating inlet and outlet of kettle		DN15			
Power supply (V/Hz)		220/50			
Discharge Valve		The height of the discharge valve from ground (mm): >300mm			
Material of temperature sensor		Stainless steel covered with fluorine outside, double anti-corrosion			
Stirring		Rotary vane agitator, stainless steel axis covered with PTFE outside			
Dimension (mm) (LxWxH)		1100×720×1990	1100×720×2030		1100×720×2455
Discharge height (mm)		580	540		580



REAC-HP-100-E

### REAC-HP-E Series, Stirred Reactors

#### Own state-of-the-art technologies if choose Century MRC:

It is always a difficult problem to realize the goal of easy operation, safety, energy conservation and environmental protection under the experimental conditions with high temperature and high-pressure. Yet, the REAC-HP-E high-pressure reactor from Century MRC can effectively and intelligently integrate multiple systems for high pressure reaction into one set of high-pressure reaction apparatus, so that it can help you easily realize the above goal. Its perfect performance allows it to take the lead in high temperature reactions. With reasonable configuration, each accessory passes rigorous performance testing. Super excellent suit ability perfectly tallies with precision operation of the reactor to further ensure that you are safe and secure. Tiny detail can also provide you with new vitality. With Classical heritage, it naturally becomes a competent partner of scientific researchers; safe control & unattended operation; originating top-entry flexible shaft drive magnetic coupling mechanical stirring patent technology; a breakthrough in bidirectional stirring (clockwise and anticlockwise); no exposed rotating parts; safe & reliable, speedy and stable; eliminating unexpected leakage of low-boiling point gas or vapor or inflammable gas which can lead to risk when motor circuits are present.

#### Configuration and functions:

- Magnetic coupling: Used for stirring, connected with flexible shaft drive;
- Temperature sensor plug: Used to monitor temperature in the reactor, connected with thermocouple;
- Cooling water port for magnetic coupling: When operation temperature of REAC-HP-E exceeds 120°C, supply cooling water to protect magnetic coupling;
- Needle valve: Used for intake, exhaust or sampling (if this function is available; configuration will made according to real objects); OFF-clockwise, ON-counterclockwise; tightly close it during operation; do not open it at any time; if it is not used for a long time (2 days), keep it in opened status;
- Thermocouple: Insert it into temperature sensor for use;
- Sampling tube: Facilitating taking samples at any time in reaction process and analyzing the reaction progress;
- Stirring paddle: three-blade type, used for stirring and mixing;
- Cooling coil in reactor: Used to lower the temperature in reactor; the general-purpose machine does not have this function and this needs to be customized;
- Explosion valve: Used to work protect the reactor in overpressure;
- Pressure gage: Used to monitor working pressure in the reactor.



#### Applicable scientific research fields:

Petrochemical industry, chemistry, pharmacy, metallurgy, environmental protection and other chemical process fields. For example, High-pressure reaction, hydrogenation reaction, catalytic reaction, synthesis process, drug synthesis, high-pressure polymerization, nano synthesis, condition screening, crystallization screening, combinatorial chemistry, biomass conversion, supercritical reaction, hydrothermal reaction, polymer synthesis, electronic corrosion testing, infrared detection and so on. REAC-HP-E mini-sized reactor series are optimal reaction devices suitable for less sample reaction as well as for sample testing of media with high temperature, high viscosity or magnetism and of expensive or low-yield raw material. Originating top-entry flexible shaft drive magnetic coupling mechanical stirring; a breakthrough in bidirectional stirring (clockwise & anticlockwise); no exposed rotating parts; safe & reliable, speedy & stable; eliminating unexpected leakage of low-boiling point gas or vapor or inflammable gas which can lead to risk when motor circuits are present. Equipped with A-type double-thread seal and snap-ring type quick disassembly structure; carrying MRSC-REAC-HP-E control system.

Model	REAC-HP-10-E	REAC-HP-25-E	REAC-HP-50-E	REAC-HP-100-E	REAC-HP-250-E	REAC-HP-500-E
Sizes (ml)	10	25	50	100	250	500
Maximum Pressure (WAWP)	10MPa (1500psi)					
Maximum Temperature	350°C					
Constant Temp. Accuracy	±1°C					
Reactor Mounting	Bench Top					
Rotation Speed	0-1200rpm					
Volts (AC)	100 or 220V, 50Hz					
Motor power (W)	80	80	80	90	120	150
Dimensions WxHxD (mm)	350x360x620					
Weight (kg)	32	34	36	40	45	50
Materials of Construction	316L Stainless Steel.Alloy TA2.Alloy C-276. Nickel Alloy.Zirconium materials					



## REAC-HP-S Series, Micro Reactors

REAC-HP-S series micro reactors have A-type double-thread sealing patent technology, static sealing, no leakage and no exposed rotating parts; the reactor body can be totally separated from the heater, which greatly facilitates disassembly of high-temperature and high-pressure reactor and improves working efficiency. It carries MRSC-SLM control system and has over-temperature and failure sound-light alarm system, timing function and bidirectional stirring (clockwise and anticlockwise); LCD (Liquid Crystal Display): temperature, rotation speed and working time.



Model	REAC-HP-10-S	REAC-HP-25-S	REAC-HP-50-S	REAC-HP-100-S	REAC-HP-250-S	REAC-HP-500-S
Sizes (ml)	10	25	50	100	250	500
Maximum Pressure (WAWP)	10MPa		20MPa		20MPa	
Maximum Temperature	300°C					
Rotation Speed	0-1200rpm					
Volts (AC)	200 or 240V/AC, 50-60Hz					
Materials of Construction	316L Stainless Steel					