

TCU Temp. Control System



-20~135°C / -100~100°C / -20~200°C

How It Works

The TCU temperature control system delivers heating or cooling media to the equipment through pipes, and sensors monitor the temperature. When the temperature deviates from the set value, the controller starts the heater or cooler, and the circulating pump delivers the medium to adjust the temperature. The system integrates heat exchangers, circulating pumps, sensors, etc. to form a heating/cooling control system, and is equipped with automatic pressure relief control.

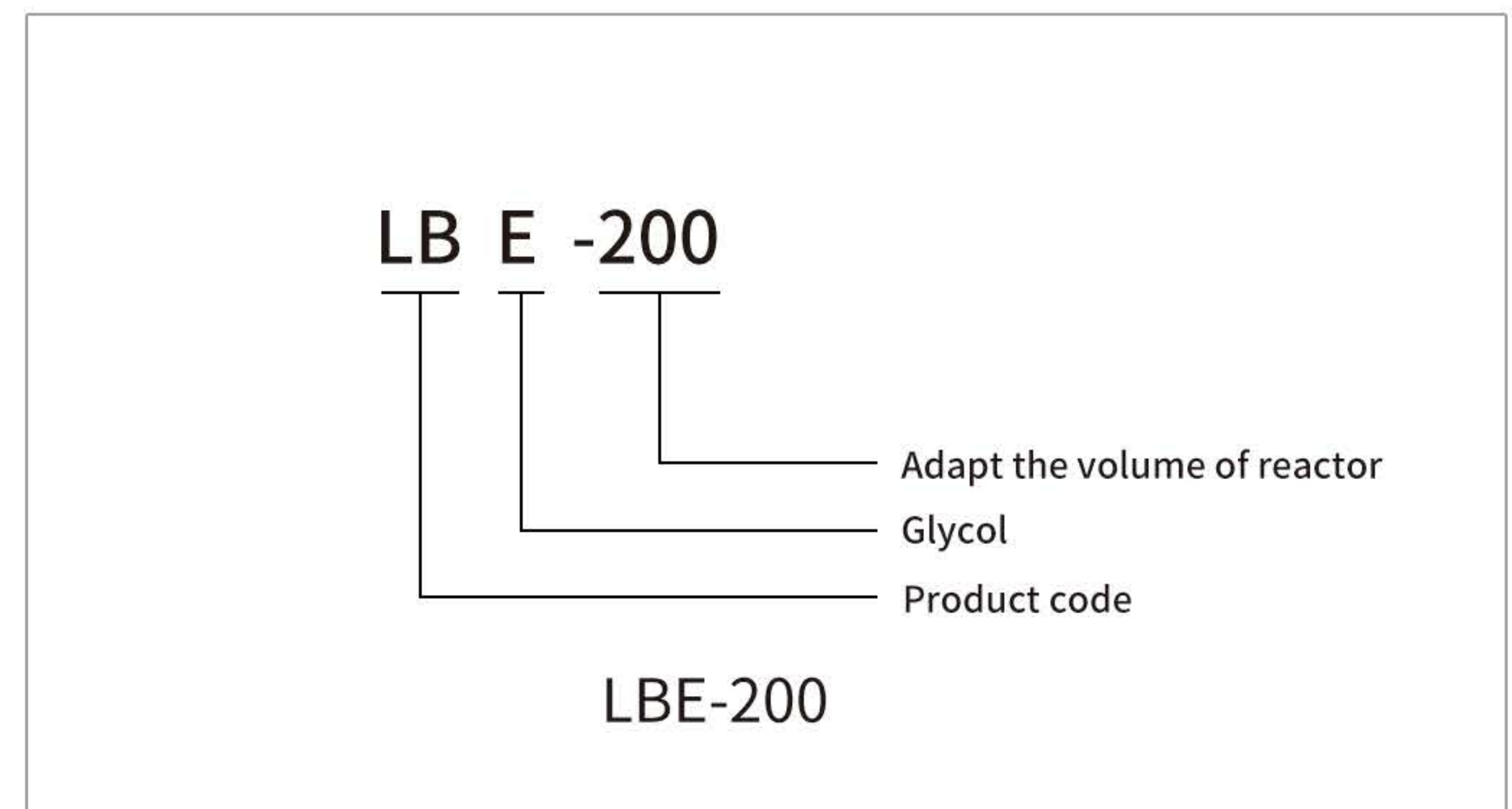
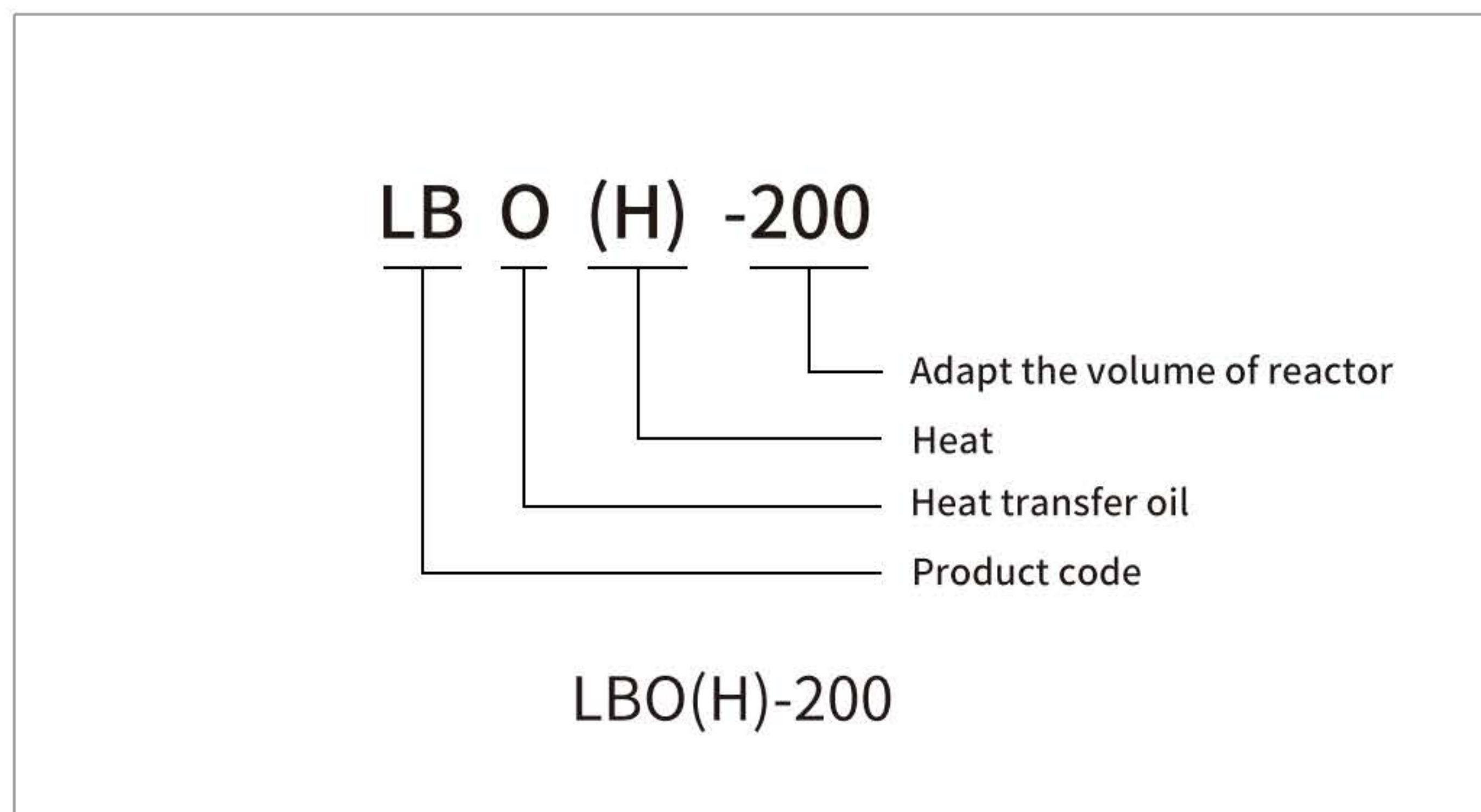


Features

- Wide temperature range control, -120°C ~ 300°C.
- The smaller fluid volume ensures rapid response of the control loop and reduces thermal response delay.
- Built-in electric heating transfer fluid auxiliary system, can automatically turn on the auxiliary heating system according to demand, reduce steam pressure.
- It saves energy by accurately matching each heat demand through fast operation.
- The temperature of the whole reaction process can be controlled by fast calculation, and the exothermic and endothermic reactions can be controlled by fast response.
- The temp. of the reaction process and the single fluid can be controlled, and the temp. difference between the reaction process and the single fluid can be set and controlled.
- Reserve standardized interfaces for adding heat transfer modules based on actual requirements.

With fully closed pipe design, manage formula, record the production process.

Model Description

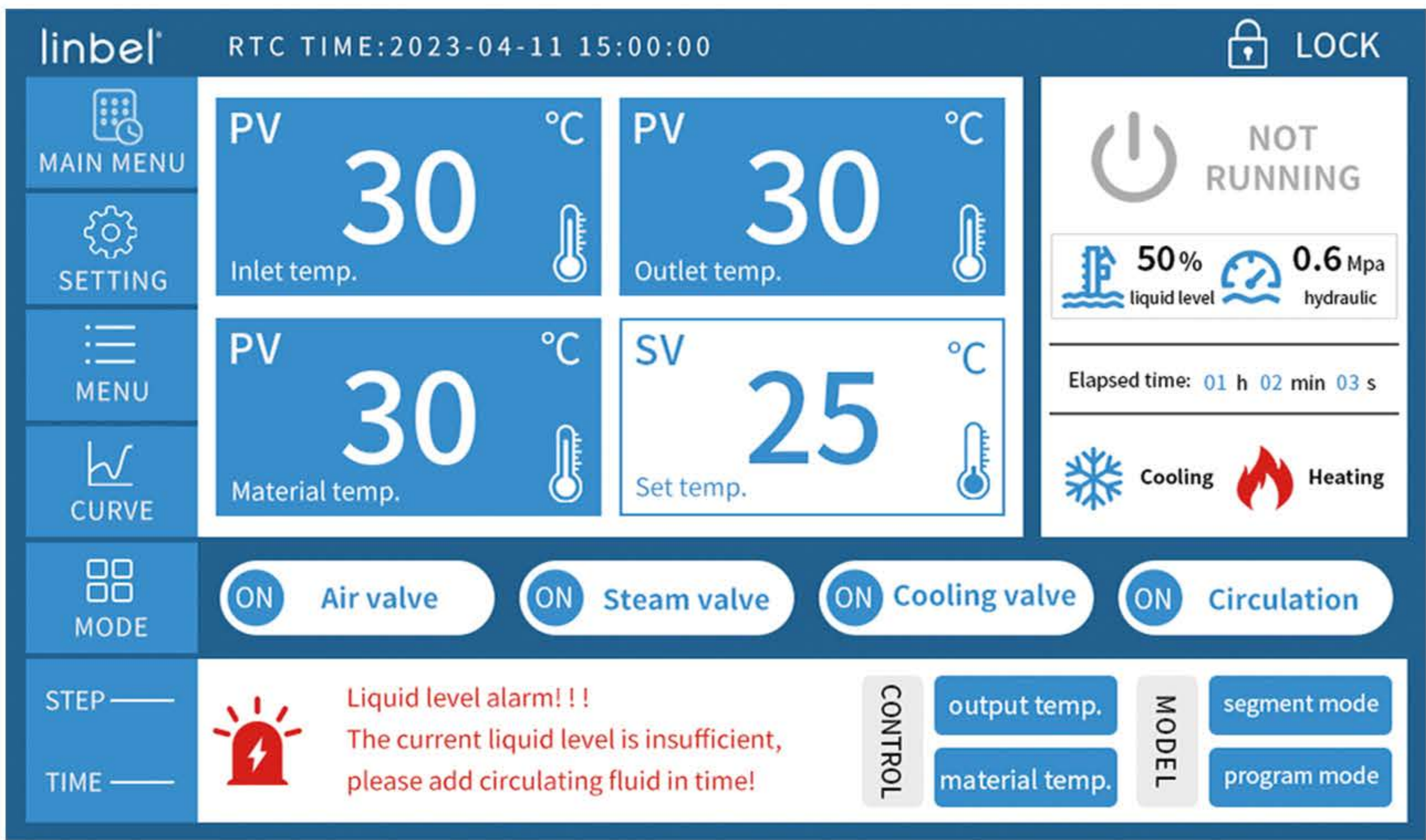


Using heat transfer oil as the medium, heat transfer oil has a high boiling point and a low freezing point, and can maintain good fluidity and thermal conductivity in a wide temperature range. Therefore, oil-based TCU is suitable for high-temperature environments, such as heating control of injection molding machines, extruders and other equipment in plastic molding processing, which can accurately control the temperature at a high level to meet process requirements.

Using steam as a heating source, the temperature is adjusted by controlling the flow and pressure of steam. Steam has a high thermal energy content and good heat transfer performance, and can quickly and effectively transfer heat to the controlled object. Steam-based TCU is often used in large-scale industrial production processes, such as chemical reactors, printing and dyeing equipment, etc. These equipment require a lot of heat to maintain the process temperature, and steam-based TCU can meet their high-load heating needs.

Customer Cases





Display and Settings

1. Complete data operation inspection, which can detect the operation status of all parts;
2. Simple and efficient HCI, easy to operate;
3. Program heating and cooling;
4. Perfect alarm information, timely feedback and timely correction;
5. Free switching between material and outlet temperature control.

Interior Details



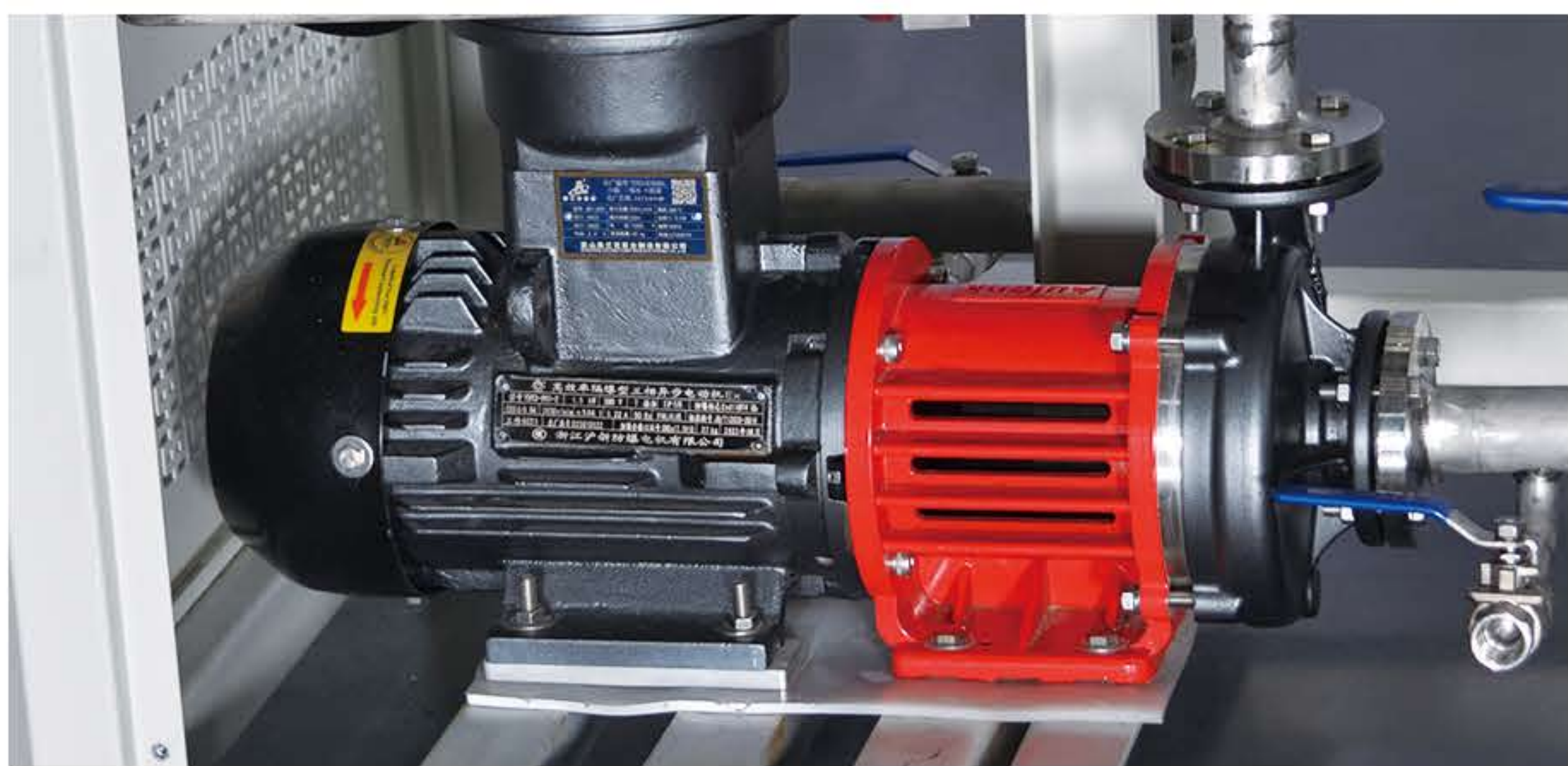
Heat exchanger



Magnetic flap level gauge



Steam trap



Magnetic pump



High standard welding



Regulating valve (optional)



Seismic pressure gauge

LBOH Parameters

Model	LBO(H)-200	LBO(H)-500	LBO(H)-1000	LBO(H)-1500	LBO(H)-2000	LBO(H)-3000	LBO(H)-5000	LBO(H)-8000
Temperature range	(-20°C~200°C)							
Pumping flow	3.5 m³/h	6 m³/h	10 m³/h	15 m³/h	20 m³/h	30 m³/h	35 m³/h	50 m³/h
Precision	±1°C							
Steam heating power	30 kW	60 kW	90 kW	120 kW	180 kW	250 kW	300 kW	350 kW
Cooling power	25 kW	45 kW	65 kW	100 kW	150 kW	210 kW	260 kW	300 kW
Steam interface size	DN20	DN25	DN25	DN32	DN40	DN40	DN40	DN50
Inlet & outlet	DN25	DN32	DN40	DN40	DN50	DN65	DN65	DN80
Electric heating power (H)	15 kW	25 kW	30 kW	45 kW	60 kW	75 kW	90 kW	98 kW

LBE Parameters

Model	LBE-200	LBE-500	LBE-1000	LBE-1500	LBE-2000	LBE-3000	LBE-5000	LBE-10000
Temperature range	(-20°C~135°C)							
Pumping flow	3.5 m³/h	6 m³/h	10 m³/h	15 m³/h	20 m³/h	30 m³/h	35 m³/h	50 m³/h
Precision	±1°C							
Steam heating power	30 kW	60 kW	90 kW	120 kW	180 kW	250 kW	300 kW	350 kW
Cooling power	25 kW	45 kW	65 kW	100 kW	150 kW	210 kW	260 kW	300 kW
Steam interface size	DN20	DN25	DN25	DN32	DN40	DN40	DN40	DN50
Inlet & outlet	DN25	DN32	DN40	DN40	DN50	DN65	DN65	DN80
Electric heating power (H)	N/A							
Control system	PLC controller							
Operation panel	7-inch colorful touch screen (screen size optional)							
Control model	The material temperature and equipment outlet temperature can be switched independently							
Communication protocol	MODBUS RTU protocol RS485 interface (optional RS232/Ethernet)							
Data export	Support for USB data export, can export temperature data in TXT format							
Protect	Multiple safety protection functions such as self diagnosis, overvoltage, delay, overcurrent, overheating, low liquid level, etc							
Explosion proof requirements	Non explosion-proof/explosion-proof (optional)							
Pipe materials	SUS304							
Shell material	Cold Rolled Plate Spray/SUS304							
Utility requirements	Power supply	Chilled water		Saturated steam		Compressed air		
	220/380V 50/60Hz	P=0.2~0.3MPa T≤-25°C		P=0.4~0.6MPa T=143~158°C		P≥0.5Mpa RT		