



YES Solutions

Mixing / Dispersing
Powder Refinement Technology

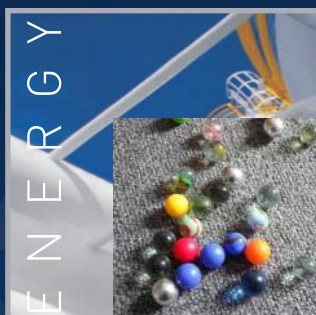
Reactor



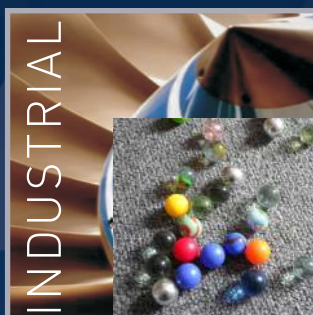
We offer you
One thing first and foremost:
An open range of possibilities.



ELECTRONICS



ENERGY



INDUSTRIAL



LIFE SCIENCE

Reactor (Super critical Fluid reactor)

A supercritical fluid is a substance at a temperature and pressure above its critical point.

It can be diffused through solid like gas and dissolved materials like liquid.

Near the critical point, small changes in pressure or temperature result in large changes in density, allowing many properties of a supercritical fluid to be “fine-tuned”. Supercritical fluids are suitable as a substitute for organic solvents in a range of industrial and laboratory processes.

Carbon dioxide is one of the many commonly used supercritical fluids.

Applications that involve supercritical fluids include extractions, nano particle and nano structured film formation, supercritical drying, carbon capture and storage, as well as enhanced oil recovery studies. UTO has provided systems at one time or another for all the aforementioned applications.

■ Accessories

EXTRACTIONS VESSEL

SEPARATION VESSEL

HIGH PRESSURE METERING PUMP

BACK PRESSURE REGULATOR

FILTRATION

SAFETY DEVICE(RELIEF V/V, RUPTURE DISC)

ON/OFF NEEDLE VALVE

MICRO METERING VALVE(FLOW ADJUST)

HEATING UNIT

FLOWMETER

PROCESS CONTROL SYSTEM

HIGH RESOLUTION GAUGE

BASKET

WIDE RANGE OPTION

(AGITATOR(MAGNETIC MIXER, CO₂ COOLING CONTROL SYSTEM,

ADDITIONAL SEPARATOR, DIGITAL PRESSURE INDICATOR, RECYCLE SYSTEM,

OTHER MATERIAL(STANDARD: SUS 316L), DATA ACQUISITION/CONTROL,

EXPLOSION PROOF(D2G4, EG3), COMPLETE AUTOMATION, CO-SOLVENT METERING PUMP)

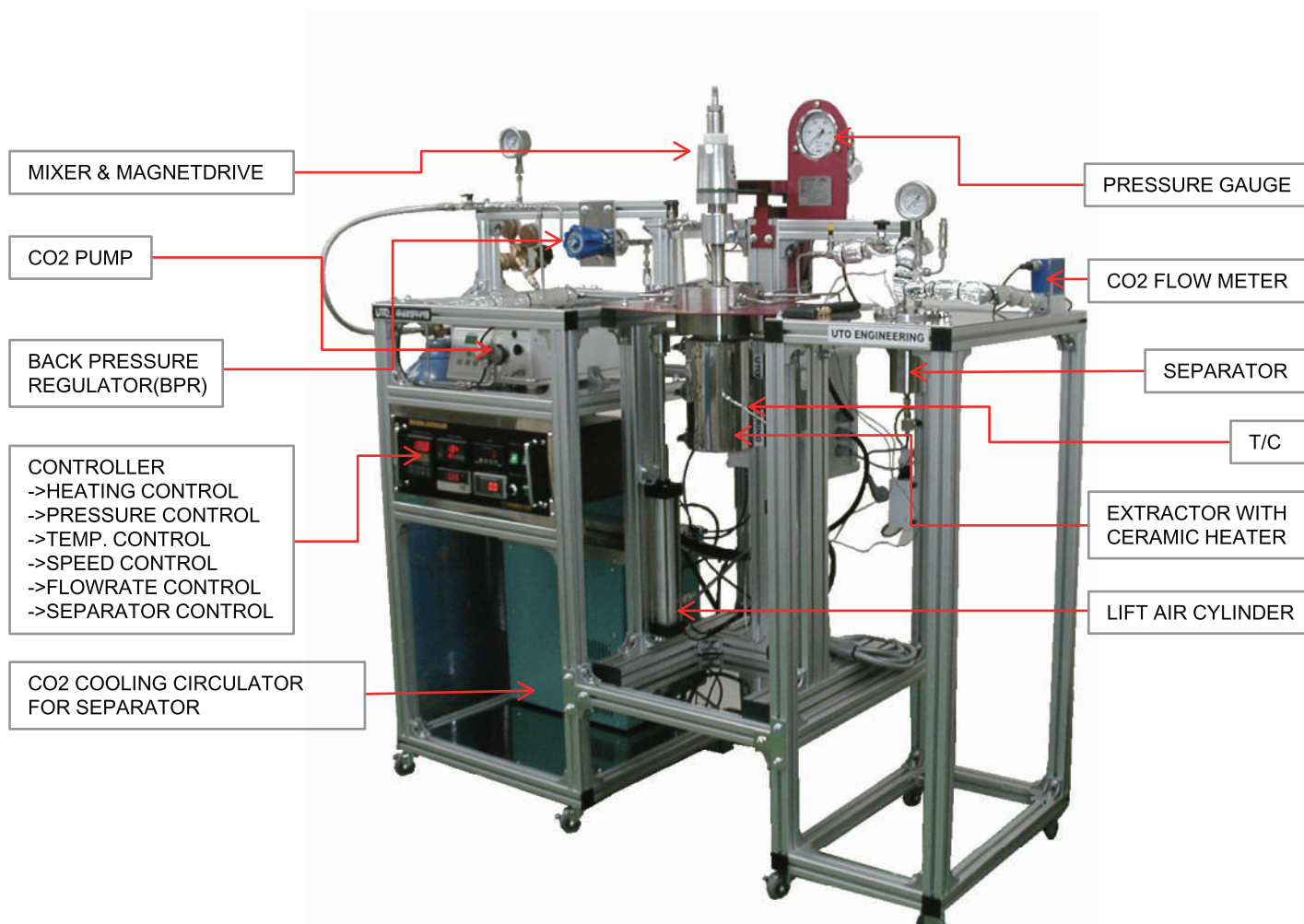


SUPER CRITICAL FLUID SYSTEM

■ CONFIGURATION 1,000CC, 400BAR, 200 °C

A supercritical fluid is a substance at a temperature and pressure above its critical point.

The supercritical fluid extraction system pictured below, incorporates a 1 liter vessel rated for use at 5,800 psig (400 bar) at temperature to 200 °C. The system includes an automated inlet valve and air piloted back pressure regulator which is used to facilitate a controlled pressure release at the end of the test. The vessel is heated with a 1,200W ceramic heater. The feed system includes a pump capable of delivery up to 20CC/MIN of liquid carbon dioxide at pressures up to 5,900 psig (406 bar).





SUPER CRITICAL FLUID SYSTEM

■ CONFIGURATION 300CC, 344BAR 400°C,

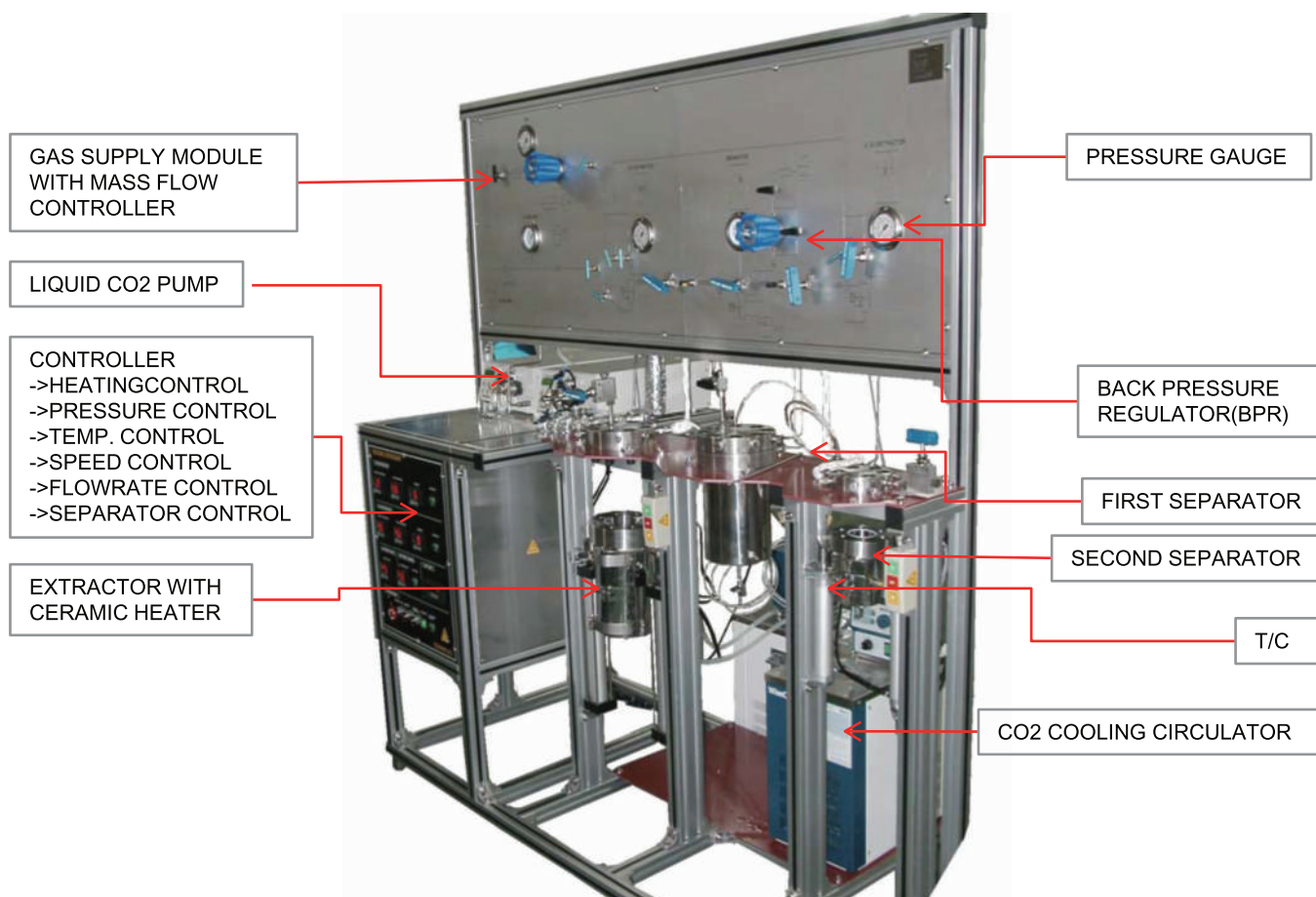
A supercritical fluid is a substance at a temperature and pressure above its critical point.

The supercritical fluid extraction system pictured below, incorporates a 300 CC vessel rated for use at 4,990 psig (344 bar) at temperature to 400 °C.

The system includes an automated inlet valve and an air piloted back pressure regulator which is used to facilitate a controlled pressure release at the end of the test.

The vessel is heated with a 500W ceramic heater.

The feed system includes a pump capable of delivery up to 20CC/MIN of liquid carbon dioxide at pressures up to 5,100 psig (351bar).





SUPER CRITICAL FLUID SYSTEM

■ CONFIGURATION 1,000CC, 200BAR, 250 °C

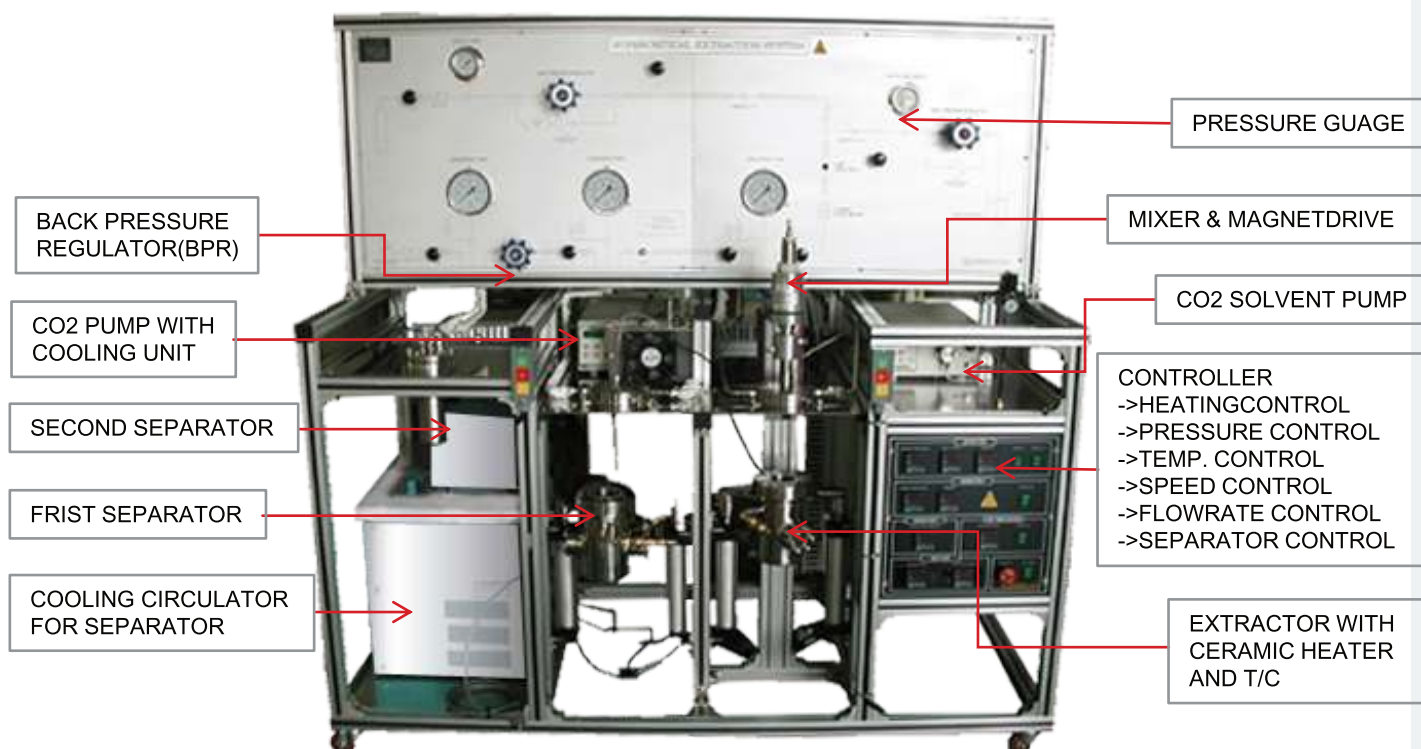
A supercritical fluid is a substance at a temperature and pressure above its critical point.

The supercritical fluid extraction system pictured below, incorporates a 1,000 CC vessel rated for use at 2,900 psig (200 bar) at temperature to 250 °C.

The system includes an automated inlet valve and an air piloted back pressure regulator which is used to facilitate a controlled pressure release at the end of the test.

The vessel is heated with a 1,300W flexible mantle heater.

The feed system includes a pump capable of delivery up to 100CC/MIN of liquid carbon dioxide at pressures up to 3,045 psig (300 bar).





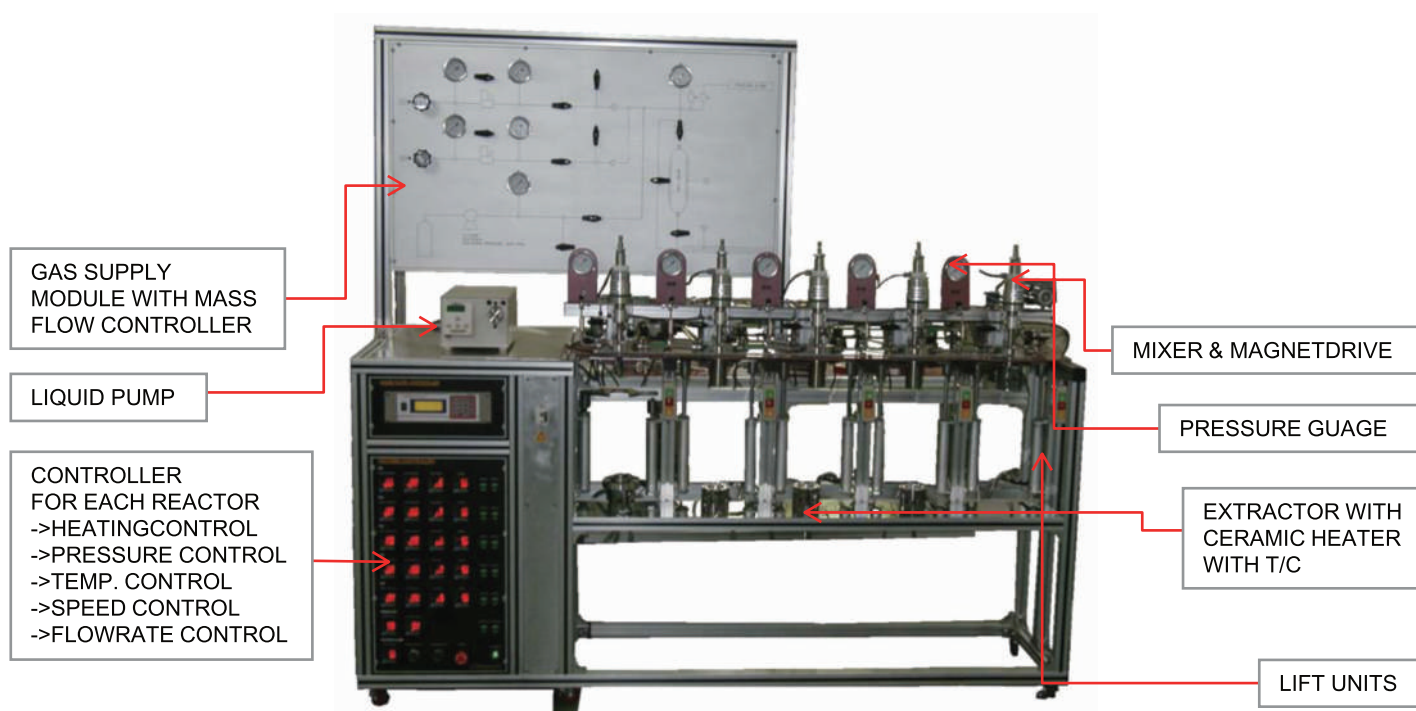
MULTI REACTOR SYSTEM

■ **CONFIGURATION** 100CC MULTI REACTOR, 100BAR, 250 °C

High pressure multi-reactor

High pressure multi reactor system pictured below,

incorporates a 100 CC vessel rated for use at 1,350 psig (100 bar) at temperatures to 250 °C

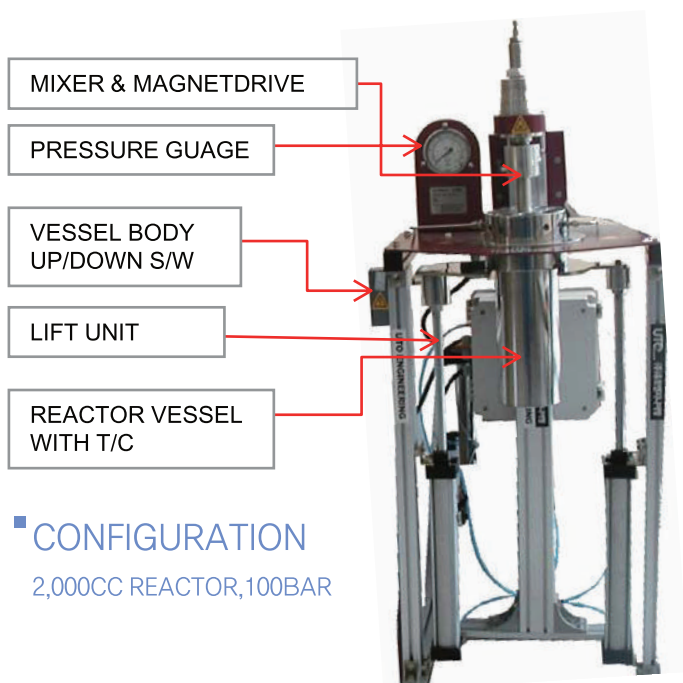




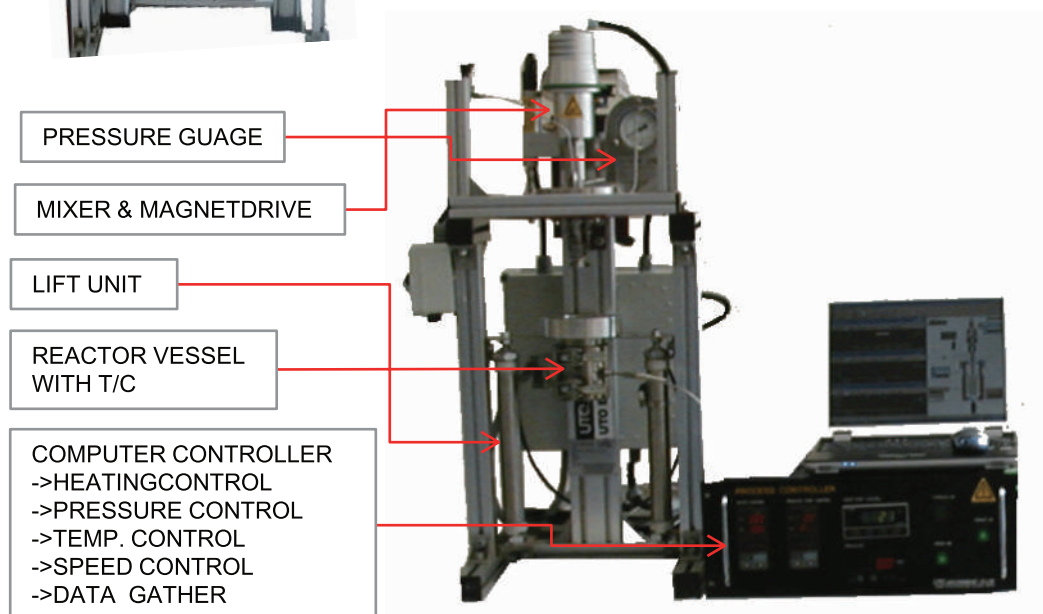
LOW PRESSURE REACTOR SYSTEM & HIGH PRESSURE REACTOR SYSTEM

Low & high pressure reactor

The low pressure reactor systems pictured below(left), incorporates a 2,000 CC vessel rated for use at 1,450 psig (100 bar) at temperature to 200 °C and and high pressure reactor systems pictured below(right), incorporates a 100 CC vessel rated for use at 725 psig (50 bar) at temperature to 200 °C

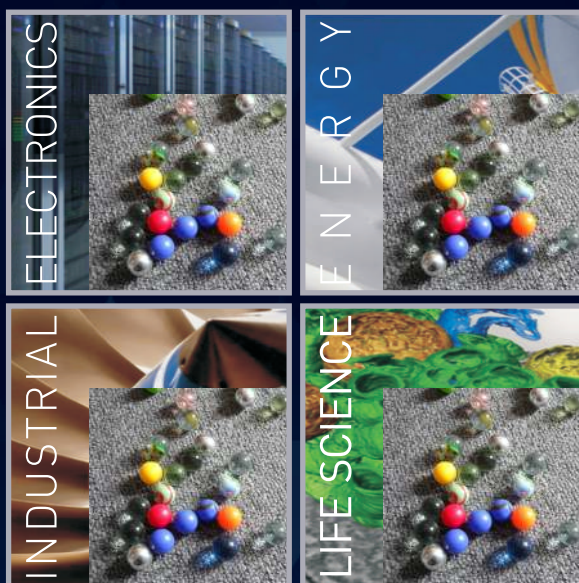


■ CONFIGURATION
2,000CC REACTOR, 100BAR



■ CONFIGURATION

100CC REACTOR, 50BAR, 200 °C, HASTELLOY-C



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