SUPERCRITICAL FLUID TECHNOLOGIES, INC.

Supercritical Fluid Extractions, Reactions and High Pressure Chemistry
www.supercriticalfluids.com

HPR-Micro Reactor™

Supercritical Fluid Reaction Chemistry and High Pressure Organic Synthesis

- Stirred Inconel 718 Reactor Vessel, 10, 25, and 50 ml Capacity, Hand-Tight Closure
- Operation up to 10,000 psi (689 Bar / 68.9 MPa) and Ambient to 180°C
- Safety Rupture Disc and Pressure Gauge Assembly
- Two Inlet Valves and One Outlet with Back Pressure Regulation Valve
- Three Additional Inlet Ports for Liquids and Gases
- Optional Cooling/Heating Jacket and Fluid Chiller/Heater Adds Sub-ambient Temperature Capability (-40°C to 100°C)
- Optional SCF Carbon Dioxide (SFT-10) Pump and Co-Solvent Pumps

The HPR-Micro Reactor™

The HPR-Micro Reactor™ is the ideal high pressure reactor for early, exploratory research. It is especially well suited for research, process development, and screening applications when reagents, catalysts, or other essential materials are expensive or only available in very limited supply. Both green and traditional organic solvents may be used.

The HPR-Micro Reactor™ comes standard with an Inconel 718 SS reactor vessel, 10, 25, and 50 ml in volume, for operation up to 10,000 psi (689 Bar / 68.9 MPa) and -40°C to 100°C with heating/cooling jackets and Ambient to 180°C with heating mantle. The vessel closure is of the hand-tight type where no wrenches are needed to make the closure. The reactor is equipped with a magnetically coupled stir bar for optimal mixing.

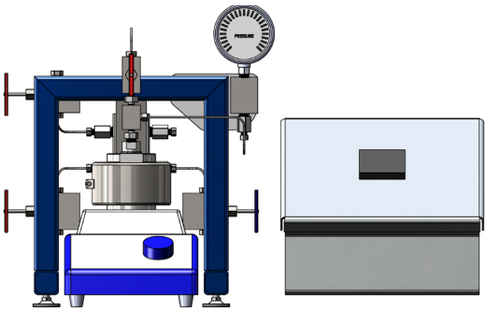
All high pressure components conform to ASME code standards and the reactor is protected from accidental over pressurization by a rupture disc assembly. The HPR-Micro Reactor™ is well suited to applications where repetitive use makes convenience a necessity. A few examples include: catalytic studies, polymerization, hydrogenation, oxidation, isomerization, and dehydrogenation. All reactors are supplied as ready-to-use instruments, requiring only utility connections prior to operation. The HPR-Micro Reactor™ is compact and can fit into a fume hood, but also allows for the removal of the reactor assembly from the stand with associated valving to allow for anaerobic reagent loading in a glove box.

One Innovation Way • Newark, DE 19711 • 302-738-3420 • Fax 302-738-4320 • www.supercriticalfluids.com

HPR-Micro Reactor™ Specifications

Standard Features

- **Support Structure:** Corrosion Resistant Powder Coated Stand
- **Power Requirements:** 110 VAC/220VAC, 50/60 Hz
- **Heating/Cooling Flow Jacket:** Stainless Steel (Heater/Chiller Assembly Optional)
- **Process Valves:** 1/16” OD Compression Fitting, Two 2-way Straight Valves
- **Safety Head:** Union Style with Rupture Disc: 1/16” OD Compression Fitting Mixer Plate and Teflon Coated Stir Bar



▲ *Front View*

Standard Vessel Ports Size

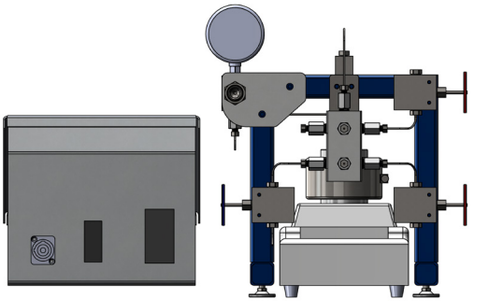
Rupture Disc Connection: 1/16“ Compression Fitting

Pressure Gauge Connection

(2) Process Connections: 1/16” Fitting with (2) 1/16” Inlet Valves

(1) Process Connection: 1/16” Fitted with Outlet Micro Metering Valve

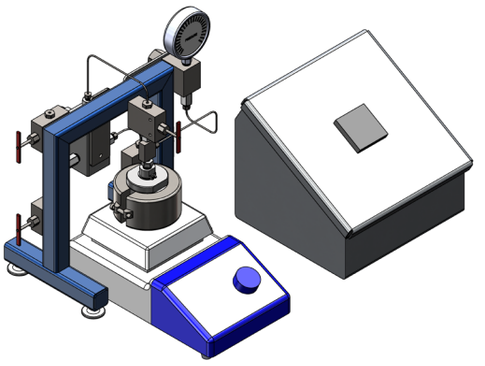
(2) Additional Plugged Inlet Ports Included



▲ *Back View*

Areas of Investigation For Traditional or Green Solvent System

- Alkylation
- Amination
- Biotechnology
- Carboxylation
- Catalytic Studies
- Fermentation
- Halogenation
- Hydrolysis
- Isomerization
- Nitration
- Oxidation
- Polymerization
- Hydrogenation and Dehydrogenation
- Toxic/Hazardous Substance Processing



▲ *Isomeric View*

Innovative Leadership in Supercritical Fluids and High Pressure Chemistry

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