

Spe-ed SFE Sirocco

for Aerogel Drying

Dry Aerogels without Cracks

Use supercritical fluids and eliminate the capillary stress that causes cracks and yield loss in the aerogel drying process.

No need to tolerate low yield results as with freeze drying.

The *Spe-ed* SFE Sirocco is a supercritical fluid system specially designed for aerogel drying.

Automated depressurization

- Touch screen control of all parameters
- Set your rate of depressurization
- Assured quantitative reproducibility
- Set longer depressurization times (hours, days) if needed, to ensure drying for even the most fragile aerogels
- Set the rate and walk away

Variable size vessels

- accommodates numerous shapes and sizes or powders
- Special "Submersion Holder" to ensure no exposure to destructive 2 phases conditions

No "drift back"

Special heating to overcome Joule Thompson cooling during depressurization preventing "drift back" into destructive 2 phases conditions

- Temperatures to 150°C
- Pressure up to 1,600psi (110 BAR)
- CO₂ pump: up to 50mL/min flow rate
- Optional liquid pump



Sirocco for Many Kinds of Aerogels

- Silica
- Titanates, e.g. Ba
- Metals (copper and gold)
- Metal Oxides (iron, tin, aluminum)
- Rare earth metals (lanthanide and actinide series)
- Semiconductor Nanostructures
 - Cadmium selenide quantum dots
- Biological polymer
 - Gelatin
 - Pectin
 - Agar agar
- Tissue Scaffolding
- Organic Polymers
 - Resorcinol-formaldehyde
 - Phenol-formaldehyde
 - Polyacrylates, polystyrenes, polyurethanes, and epoxies
 - Polyimides
 - UHMWPE
- Carbon
 - Carbon nanotubes
 - Cellulose

