

Professional Supercritical Fluid Engineering

■ Food & Pharmaceuticals

- SCCO₂ extraction, fractionation, chromatography
- Liquid/supercritical CO₂ degreasing
- Supercritical micro-powder forming system
- R134a extraction system for essential oils(*New*)



20Lx2x40MPa SCCO₂ Extraction System

■ Surface Treatment

- SCCO₂ cleaning, drying, plating
- Supercritical fluid surface modification(*New*)

■ Energy & Chemical Engineering

- SCMeOH for biodiesel production
- Hydrothermal liquefaction of wet bio-Wastes(*New*)
- Supercritical hydrogenation reaction(*New*)
- Subcritical propane extraction for microalgae oil(*New*)



SCCO₂ Powder Forming Sys.



2LPHx35MPa SCCO₂ Fractionation System



2Lx70MPa SCCO₂ Extraction Sys.



25MPa/480°C Supercritical Fluid Tubular reactor System



Subcritical Water Biomass Treatment System (24MPa/350°C, 100L)

■ Instruments

- High pressure tester(water: 160MPa; nitrogen: 100MPa)
- High Pressure water platform(600MPa, 1L、10L autoclaves)

■ Industrial Service

- Supercritical Fluid & High Pressure Processing Systems for healthy foods, essential oils, cosmetics, medicines, food processing, etc.
- High Pressure & High Temperature for hydrothermal reactions, hydrolysis, pyrolysis, synthesis reactions, etc.

Bio-process & Energy Engineering Section, MIRDC

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