

超臨界水熱合成

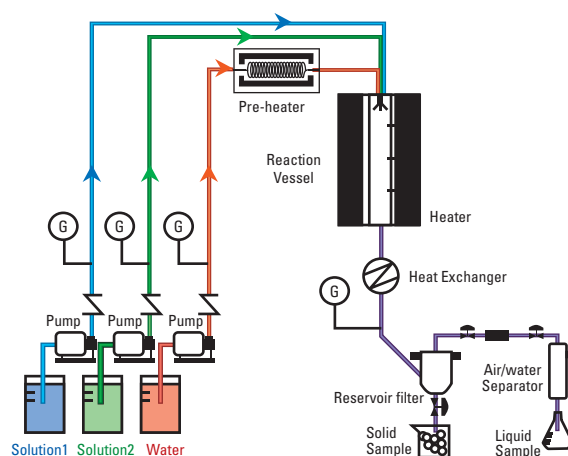
超臨界水熱合成はHydrothermal synthesis中、水が超臨界水の場合をいって水溶性金属鹽を超臨界水の条件で反応させて金属酸化物を生成するのです。この合成法は固体の間のはやい反応のために臨界点以上の圧力と温度を利用して結晶成長をする場合には液体状からより超臨界流体状での低い粘度、高い拡散性のためにsolid-fluid interfaceで溶質が効率的に伝えられてはやい結晶成長速度とともに良質のmicro-structureまたはsingle crystal製造を可能にします。

溶質の高い拡散性は核生成速度を早くしてこれは粒子の大きさを小さくする原動力になります。

Application

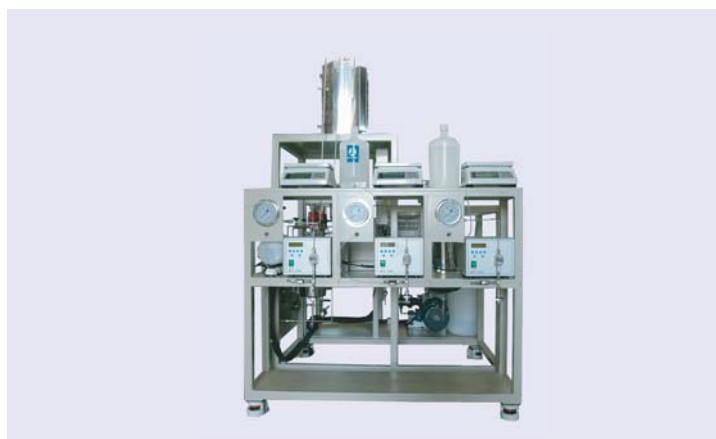
- セラミック ナノ粒子製造
- 抽出
- 化学反応

超臨界水熱合成 模式図



Features

- 溶媒によく溶解します
- 化学種の拡散(diffusion)を向上させます
- すべての固体物質使用適合します
- Hydroxyl group生成されません
- 温度圧力を調節して密度を自由自在に変わるようにして物性を得ることができる長所があります



Specification

Type	SCHS 05	SCHS 10	SCHS PS
Product			
Reaction Vessel	<ul style="list-style-type: none"> - Tube Type - Material : INC600 + SUS316 - Max. Working : 40 Mpa@600 °C - Volume : 0.5 L - Cover Type :Bolt Closure - Filtering Vessel & System 	<ul style="list-style-type: none"> - Tube Type - Material : INC600 + SUS316 - Max. Working : 40 Mpa@600 °C - Volume : 1 L ~ - Gasketless - Filtering Vessel & System 	<ul style="list-style-type: none"> - Tube Type - Material : SUS316 - Max. Working : 40 Mpa@400 °C - Volume : 30 L ~ - Filtering Vessel & System - Continuous Type
Pre-Heater	<ul style="list-style-type: none"> - Inline Double Type 	<ul style="list-style-type: none"> - Inline Double Type 	<ul style="list-style-type: none"> - Plange Sheath Type - Max. Working : 40 Mpa @450 °C - 380/440VAC, 3-ph, 100kw
High Pressure Pump	<ul style="list-style-type: none"> - Moter Driven Plunger Type - Max. Outlet Pressure :40 Mpa - Max. Flow Rate : 12 ml/min - 220VAC, 1-ph, 1HP 	<ul style="list-style-type: none"> - Moter Driven Plunger Type - Max. Outlet Pressure : 40 Mpa - Max. Flow Rate : 1 L/min - 220VAC, 3-ph, 1 HP 	<ul style="list-style-type: none"> - Electro-Hydraulic Driven Piston Type - Max. Outlet Pressure : 40 Mpa - Max. Flow Rate : 30 L/min - 380/440VAC, 3-ph, 3HP - Accumulator
Reaction Heater	<ul style="list-style-type: none"> - Ceramic Mold Horizontal Type - 380VAC, 3-ph, 6kw 	<ul style="list-style-type: none"> - Ceramic Mold Horizontal Type - 380VAC, 3-ph, 6kw 	<ul style="list-style-type: none"> - Ceramic Mold Vertical Type - 380/440VAC, 3-ph, 10kw
Condenser	<ul style="list-style-type: none"> Shell & Tube type - Max. Pressure : 40 Mpa - Temp Range : 0~50 °C - Cooling Rate : 450 °C → 30 °C 	<ul style="list-style-type: none"> Shell & Tube type - Max. Pressure : 40 Mpa - Temp Range : 0~50 °C - Cooling Rate : 450 °C → 30 °C 	<ul style="list-style-type: none"> Internal Coil type - Max. Pressure : 40 Mpa - Temp Range : 0~50 °C - Cooling Rate : 450 °C → 30 °C
Filtering Vessel	<ul style="list-style-type: none"> - Material : SUS304 - Max. Working : 40 Mpa@80 °C - Volume : 0.5L - Cover Type :Bolt Closure - MagneDrive - SUS Mesh Filter Integrated 	<ul style="list-style-type: none"> - Material : SUS304 - Max. Working : 40 Mpa@80 °C - Volume : 10L - Cover Type :Bolt Closure - MagneDrive - SUS Mesh Filter Integrated 	<ul style="list-style-type: none"> - Material : SUS304 - Max. Working : 40 Mpa@80 °C - Volume : 200L x 2 unit - Cover Type :Bolt Closure - MagneDrive - SUS Mesh Filter Integrated
Solution Tank	<ul style="list-style-type: none"> - Material : SUS304 - Volume : 0.1L 	<ul style="list-style-type: none"> - Material : SUS304 - Volume : 3L 	<ul style="list-style-type: none"> - Material : SUS304 - Volume : 70L
Receiver Tank	<ul style="list-style-type: none"> - Material : SUS304 - Volume : 0.1L 	<ul style="list-style-type: none"> - Material : SUS304 - Volume : 20L 	<ul style="list-style-type: none"> - Material : SUS304 - Volume : 2500L
Option	<ul style="list-style-type: none"> - Data Acquition 	<ul style="list-style-type: none"> - Data Acquition 	<ul style="list-style-type: none"> - Data Acquition

* 顧客の要求によって変更可能です