

M-2.5 encapsulator

Supercritical CO2 Antisolvent Encapsulator










DESCRIPTION

The fully automated M-2.5 is perfect for the researcher or small-scale producer. The M-2.5 comes standard with an integrated mixer, HMI touchscreen interface to control data logging, temperature and pressure control.

It sits on a table top while providing a large range of customization options to enable active ingredients inclusion complex research:

FEATURES

-  **Alpha Cyclodextrin**
-  **Beta Cyclodextrin**
-  **Gamma Cyclodextrin**
-  **Modifie Cyclodextrin**
-  **Chelation**
-  **CO2 Antisolvent Processes**
-  **High Pressure Reactions in CO2**



Pump, chiller & table pictured, sold separately.

EXTENDED

OPTIONAL R&D FEATURES

- Table (sold separately)
- Detector
- Larger Column
- Automated Process Control
- Co-Solvent Pump
- Solvent Ratio Control
- C1D2
- Data Retransmit Module

PROCESS CONTROL

- Large Temperature Range, -10°C - 100°C
- Co-Solvent Pump (Optional)
- Reliable Pumps
- Manual BPR for Reliability & easier servicing without compressed air
- Build in Recycle Capability
- 800-5000 psi Pressure Range

GMP COMPLIANCE AVAILABLE UPON REQUEST

- Material Certifications for contact surfaces, PTFE, Stainless Steel
- Instrument calibrations
- Alarms
- Recipes
- ASME Section VIII Div 2 certified, listed CSA
- UL/ETL 508A listed

**In Development: Product specifications may change.*

SPECIFICATIONS

ATTRIBUTE	VALUE
General Specifications	
Dimensions (w/o light mast, in)	L48.375 × W31.615 × H40.688
Weight (lbs)	804
Footprint (sq ft)	10.48
Sound Pressure (db)	50
Electrical Specifications	
Certifications, Listed	ETL to UL 508A
Frequency (Hz)	50/60
Full Load Amps (amps)	30
Phase	1
Voltage (VAC)	208-230/380
Extractor Specifications	
CO2 Recycle Vessel (L)	2.5
Supply Inlet, chilled (psi)	750-850
Collection Vessels (L)	2.5
Extraction Vessels (L)	2.5
Operating Pressure, CO2 (psi)	800 to 5,000
Operating Temperature (°C)	-10° - 100°
EtOH Use/Run (mL)	up to 1000
Control Interface Specifications	
Flow Control	Positive Displacement

ATTRIBUTE	VALUE
Materials	
Cleaning Methods	Supercritical CO ₂ , alcohol, non-polar solvents
Data System	Export data, diagnostics and event logging, data traceability, unlimited working level access, user traceability method, CO2 lot, input lot trace
Regulatory Compliance	21 CFR Part 117, 211, 177 and Health Canada equivalents, P.E. stamped according to ASME VIII Div 2, PED compliant, CE marked, notified body Lloyd's Register, CRN number
Separation Principle	Cyclonic
Wetted Materials	FDA Approved, ASME 304 and 316 Structural Grade Steel
Performance Specifications*	
Biomass Input/Cycle (kg)	1-1.5
Cycle Time (min, estimated)	60
Biomass Processing/Day (up to)	6-9 kg / 13.2-19.8 lbs
<i>*Actual Performance Results May Vary</i>	
Warranty	
Duration (months)	12
Quality and Labor	Parts & workmanship

CHILLER REQUIREMENTS & CAPACITY

- Chiller, 1 hp
- 2000 W Chilling Capacity, enabling high flow operation
- Glycol heat exchanger
- High efficiency chilling capacity features a countercurrent exchanger, which outperforms micro watt solid state chillers.

SOLD SEPARATELY, Required:

Chiller, 1 hp #80-4003 (240V) 1 ph 50/60Hz

SOLD SEPARATELY, Optional:

Stainless Steel Table (Mobile) | #80-5520

Co-Solvent Pump Kit #10-1137

CO₂ Cage: #10-0009 (208-230V)

MPCART: #10-0031 (208-230V)

Condenser DrainDoyd, includes collection vessel: #10-0169

CO-SOLVENT PUMP FEATURES

- Diaphragm pump enables low pressure pulsation CO₂ delivery.
- Diaphragm pump offers more reliable alternative to pneumatic pumps.
- Diaphragm pump is much less susceptible to cavitation compared to piston pneumatic pumps.
- Extreme reliability compared to piston pumps.

To Order: #10-0216 (208-230V) | #10-0217 (380V)

SOLD SEPARATELY, optional services:

#80-9628 | GMP Equipment Commissioning & Training Package

#80-9606 | GMP Equipment Documentation Package

#80-9609 | Maintenance Package (12 months)



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