







DESCRIPTION

The E2i crystallization skid provides an automated crystallization of extracts. The system is intended to interface with the clearSTILL-400 distillation system via an interface vessel which will introduce distilled extract into the E2i apparatus. The E2i skid features an automated mixing and dilution tank that is insulated and chilled with a recirculating glycol chiller. The filtration system features a filtration drum with single stage falling film for solvent recovery.



FEATURES

-  **Interfaces with clearSTILL-400**
-  **Crystallization of Target Compounds from Distillates**
-  **Vacuum Filtration**
-  **Integrated Falling Film Solvent Recovery**
-  **Oil Free Vacuum Pump & Solvent Trap**
-  **CIP Connections**

EXTENDED

GMP COMPLIANCE

- Intended for use with distilled extracts.
- Process: Dissolution, Mixing, Precipitation, Filtration, Solvent Recovery
- Containment: Contained Process
- Lubricants: None in direct contact. No contact with process fluids.
- PLC GAMP5: Category 3
- Materials Traceability & Manufacturers' DOC for Contact Materials
- Seals: PTFE, Viton

SYSTEMS CLASSIFICATIONS

Isolate Skid

- Components: Vessels, Pumps, Vacuum Pumps, Falling Film Evaporator, Filter
- Type: Direct Impact
- Documentation: GEP Startup, Commissioning, Qualification

Off Skid Components

- Chiller 1: Process Chilling
- Chiller 2: Condenser
- Heater 1: Evaporation
- Type: Direct Impact
- Documentation: GEP Startup, Commissioning

CLEANABILITY

- Surface Finishes: 0.8 µm or better on all contact surfaces
- Welds: Ground, Argon Purged
- Fittings: Sanitary
- CIP: Sprayball, Low Point Fluid Exit
- CIP: External

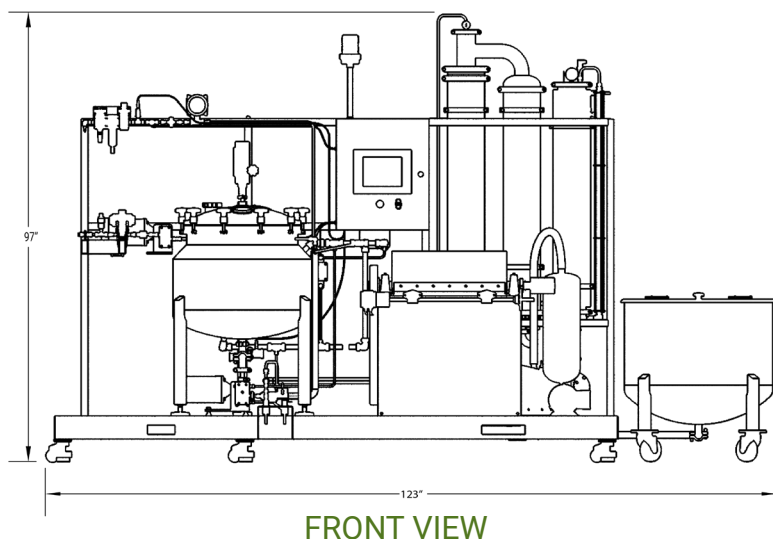
SPECIFICATIONS

ATTRIBUTE	VALUE
General Specifications	
Dimensions (in)	L36" x W123" x H97"
Unit Weight (lbs)	900
Footprint (sq ft)	25
Heat Load (kW)	1.1
Mobility:	Leveling Casters
Electrical Specifications	
Voltage (VAC)	208-230/380
Full Load Amps (amps)	25A for 240V 40A for 380V
Phase	3
Frequency (Hz)	50/60
Bonded & Grounded to all external vessels required	
Off Skid Utilities Required	
Heater/Chiller 1, 1 zone	6kW @ 200°C 10.2 kW @ -40°C
Chiller 2, 1 zone	5hp
Heater 2, 1 zone, Recirculation, 1 zone	18kW
Compressed air for z purge, 80 psi, clean dry de-oiled air	
CIP	Off Skid
Off Skid Vessels Required	
Pentane Source Vessel	
Pentane & Waste Vessel - External	
Containment Vessel for Isolate	

ATTRIBUTE	VALUE
Filter	
Material	SS316
Seal Type	PTFE, Viton
Volume (Gal)	5
Quantity	1
Bypass Valves	Sanitary, Manual
Chilled Vessel	
Volume (GL, max)	13
Quantity	1
Max Pressure (psi)	20
Insulation	Vacuum Jacketed
Mixer	
Solvent Ratio Control	Weigh Cells
Inlet Tubing Connection	Compression
Outlet Valve	Sanitary, Air Actuation
Outlet Pump	Gear Pump, SS316
Dilution Pump	Gear Pump, SS316
CIP	
Type	External
Connection	Sanitary
Type	Spray Ball
Drain, Manual	Lowpoint, Drain
Pump, Manual	Lowpoint, Drain

ATTRIBUTE	VALUE
Falling Film	
Heat Exchanger	Tube, Shell
Falling Film Pump	Gear
Falling Film Condenser	Tube, Shell
Falling Film Valves, Outlet	Manual On/Off
Vacuum Pump	Recirculating
Controls & Methods	
Transmission (mAmp)	4-20
Recirculation Level Sensor	
Vessel 1	Vessel Level Sensor
Vessel 1	Pressure Sensor
Filtration	Pressure Sensor
Falling Film	Pressure Sensor
PLC-VFD Control of Pumps & Valves	
Classification	
Class	Ex d e m IIA Gc, II 3G IIB T4
Motors	Ex, pentane
Z Purge	Ex, Yes, Air Connection Required
Sensors	Ex
HMI Panel	Ex
Certification	
ETL, UL 508A, CE, PED, NA	

LINE DRAWING



REQUIRED, SOLD SEPARATELY:

e-140 #10-0063 (240V) | #10-0099 (380V) OR
e-180 #10-0010 (240V) | #10-0147 (380V)
E2Di #10-0174 (240V) | #10-0175 (380V)
clearSTILL-400 #10-0081 (240V) | #10-0143 (380V)
Interface Vessel #10-0199 (240V) | #10-0200 (380V)

ALSO AVAILABLE, SOLD SEPARATELY:

#80-9621 | Factory Acceptance Test
#80-9622 | Site Acceptance Test
#80-9636 | Design Qualification
#80-9611 | Installation Qualification
#80-9612 | Operational Qualification
#80-9608 | GMP Equip. Commissioning & Training
#80-9606 | GMP Equip. Documentation Package
#80-9609 | Maintenance Package (12months)

Configuration & specifications may change. Please confer with your sales specialist for the latest version.

To Order: **Extraction to Isolate Skid #10-0186 (240V) | #10-0187 (380V)**

Recommended, Sold Separately:

Heater/Chiller, 1 zone: 6kW/10.2kW #80-4423 (240V) | #80-4424 (380V)

Chiller 2: 5hp, 35.2A #80-4018 (240V) | #40-4097 (380V)

Heater 2: 36kW, Recirculating Oil #80-4096 (240V, 380V)

CIP Unit #10-0197 (240V) | #10-0198 (380V)



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