

# Supercritical Co<sub>2</sub> Extraction System

10L-5L x 2/50Mpa/2Extraction 2 Separation



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**Analytical Technologies Limited**

An ISO 9001 Certified Company

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## ►► Advantages of Supercritical co2 extraction system

- Unique highly integrated system, small size occupied but high capacity output
- 99% of the system assembled before shipping, easily installation at customer site
- Max working pressure 50Mpa(500 Bar, 7250psi)
- Pressure and temperature can be easily adjusted and controlled precisely
- Friendly CO2 flow route design with self-explanatory flow chart for easy training and easy operation
- Special design on the pressure-balance, can save CO2 maximum limit
- High efficiency CO2 high pressure pump, can increase the pressure in shortest time
- Special design inside the pump piston system, to let the pump has very long life time with few maintenance requirements.
- High quality Back-pressure regulator
- Double safety protection, over pressure protection gauge and safety valves
- Low extraction temperature which is suitable for extraction and purification of heat sensitive compound.
- Fast extraction speed, completely extracted, no toxicity, non-flammable, safe application and non-pollution upon environment.
- Being capable to provide inert environment to avoid oxidation of the products and affection of effective content of extracts.
- No residue of solvent, no nitrate and ions of heavy metal

## ►► Main Part List of Model 5Lx2 Supercritical CO<sub>2</sub> extraction machine

	Part Description	Qty(set)
1	Extraction Vessel	2
2	Material Cylinder	3
3	Separation Vessel	2
4	Pump	2
5	Cooling System	1
6	Heating Exchange System	4
7	Purification System	1
8	CO <sub>2</sub> Storage Tank	1
9	Flow rate Meter	1
10	Temperature Control System	4
11	Safety valves	5
12	Over-pressure gauge	1
13	Control panel	1
14	Main machine frame and operation	1

## ►► Customer self-provided Items

3 Phase Electricity Power : 18KW

Installation dimension: 2700×2500×1500mm, plus operation space.

CO<sub>2</sub> gas : Food grade ≥99.5%, single bottle net weight ≥22Kg

Food grade alcohol ≥99.5%

## ►► Main Part Specification

### EXTRACTION TANK

Equipped with jacket water circling heating system, temperature adjustable, equipped with material barrel for both liquid and solid material.

Volume 5LX2  
 Max Design Pressure 50MPa

### SEPARATION TANK

Equipped with jacket water circling heating system, temperature adjustable.

Volume 1X4L and 1X2L  
 Max design Pressure 30MPa

### CO2 HIGH-PRESSURE PUMP

Flow Rate(Triple plunger) 50L/H  
 Max working Pressure 50MPa, pumps head with cooling system

### SOLVENT PUMP

Flow Rate: 0.25-4L/H  
 Max working Pressure 50MPa (Mechanical adjustable)

### COOLING SYSTEM

Cooling Capacity 5100Kcal/h (air cooling)  
 Temperature range -5°C~+5°C (meet process requirement)

### HEATING EXCHANGE SYSTEM

Type: Φ6/50Mpa  
 With circulating water jacket heating system, adjustable temperature

### PURIFICATION SYSTEM

Volume: 1L  
 Max working Pressure 50MPa

### CO2 STORAGE TANK

Volume: 6L  
 Max working Pressure 16MPa

### FLOW METER

Metal tube float flow meter 6.3-63L/H (Digital indication)

### TEMPERATURE CONTROL SYSTEM

Temperature Range: Room temperature~75°C adjustable  
 Accuracy: ±1°C

### SAFETY DEVICES AND OTHER COMPONETNS

Pressure gauge at high pressure pump outlet, overpressure protection.  
 Safety valve at extraction tank, separation tank, distillation column, Overpressure automatic relief.

### PIPE LINES

Valves, fittings: DW6  
 All parts connected with fluid material are made by 1Cr18Ni9Ti Stainless steel

**TOTAL POWER** : 3 Phase, 18Kw

## HPLC Servicing, Validation, Trainings and Preventive Maintenance :

**HPLC Servicing** :HPLC Servicing : We have team of service engineers who can attend to any make of HPLC promptly @the most affordable cost.

**Trainings** :We also take up preventive Maintenance to reduce downtime of HPLC's Trainings.

**AMC's/CMC** :AMC's/CMC :We offer user training both in-House and at customer sites on HPLC principles, operations, trouble-shooting.

**Validations** :Validations :We have protocols for carrying out periodic Validations as per GLP/GMP/USFDA norms.

**Instruments** :Instruments :We offer instruments/Renting Services Modules like pumps,detector etc. on Rent.



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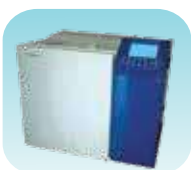
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Total Organic  
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system



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 **Analytical**<sup>®</sup>  
Technologies Limited

HPLC Solutions   MultipleLabs   Analytical Bio-Med   Analytical Distributors   Analytical Foundation (Trust)

**Corporate & Regd. Office:**  
Analytical House, # E67 & E68,  
Ravi Park, Vasna Road, Baroda,  
Gujarat 390 015. INDIA

T: +91 265 2253620  
+91 265 2252839  
+91 265 2252370  
F: +91 265 2254395

E: [info@hplctechnologies.com](mailto:info@hplctechnologies.com)  
[info@multiplelabs.com](mailto:info@multiplelabs.com)  
[info@analyticalgroup.net](mailto:info@analyticalgroup.net)

W. [www.analyticalgroup.net](http://www.analyticalgroup.net)  
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