

Metering and Transfer Pumps for CBD Extraction

» ISOChem, Eclipse, ECO, PulsaPro



The passage of the 2018 Farm Bill made the cultivation and processing of low THC industrial hemp legal at the federal level. CBD (or cannabidiol) extracted from industrial hemp is not psychoactive and it does not make users feel “high” because it contains low doses of THC. CBD interacts with the body’s natural endocannabinoid receptors to provide what many regard as health benefits without the drawbacks of marijuana. CBD products derived from hemp include oils, topical creams, lotions, breath mints and even coffee and bottle water. Available online or in retail stores, CBD products are marketed and consumed like natural alternatives to ibuprofen or commercially available nutritional supplements.

Industry analysts are forecasting that the market for CBD products will grow to an estimated \$22 billion by 2022.

How is CBD Oil Extracted?

Cannabidiol is one of approximately 100 substances that can be extracted from cannabis plants. It’s produced similar to the way essential oils (like lavender or eucalyptus) are extracted – by pressing chemical solvents through plants in order to create the reactions needed to unlock the desired molecules. This process requires that chemicals be pressed through plants at specific volumes, pressures and temperatures, using metering pumps.

Different solvents can be used, including liquid CO₂, Ethanol, Pentane and Butane – and each method has its tradeoffs: CO₂ extraction requires high pressures (up to 5000 psi) and low temperatures (down to -40°C); hydrocarbon extraction creates explosion risks, which require safety equipment and incremental safeguards for the process. Ethanol extraction is gaining traction as the preferred process that balances flammability risks, scalability, and cost effectiveness.

In addition to the chemical metering process, pumps are also used to move solvents through various stages of the process, including: plant preparation, extraction, winterization, filtration/dewaxing, solvent recovery, purification, fractional distillation and transfer to storage.

» KEY METERING PUMP ATTRIBUTES:

Sanitary Connections

» KEY CUSTOMERS:

Small/medium sized Extractors

The Right Pumps for the Job:

Ethanol extraction is typically accomplished at less than 100 psig and at temperature ranges of -40°F to 250°F – a zone where Pulsafeeder pumps excel. Pulsafeeder offers gear pumps that are compact, magnetically-driven, and sealless. They are designed to handle hazardous and expensive chemicals and they offer the flow and pressure envelope needed to address any ethanol extraction process. Their sealless designs ensure no leaks, no downtime and minimal maintenance. Their compact footprint fits on any skid, and Pulsafeeder distributors like gear pumps because of their price point, and the fact that they can be provisioned within hours, and shipped to the customer in a matter of days. For higher pressure applications, Pulsafeeder diaphragm pumps offer a greater level of precision and accuracy, and they are built to last for decades with minimal maintenance.

Addressing the Pump Requirements for CBD Extraction

- **Pressures** – up to 150 psig
- **Flow** – from .75 gpm (2.8 lpm) up to 55 gpm (206 lpm)
- **Accuracy** – the right mix of solvents enhances yield and product quality
- **Temperatures** – between -40°F (-40°C) to 405°F (232°C)
- **Sanitary Connections** – similar to requirements for food & beverage applications
- **Reliability** – Pulsafeeder pumps have a 40 year track record in the field
- **Streamlined Maintenance** – Sealless mag drive means no leaks and minimal maintenance
- **Price** – A complete line of pumps priced to meet any need
- **Availability** – Gear pumps can be provisioned and delivered in a matter of days, and Diaphragm pumps can be customized to meet any need.

When it comes to CBD extraction, no single pump feature dominates. It’s the combination of capabilities that have enabled Pulsafeeder pumps to carve a niche in the rapidly-growing CBD Extraction market.

Pulsafeeder only works with distributors and extractors in accordance with local laws and regulations.

PUMPS FOR CBD EXTRACTION



Eclipse

- Sealless mag-drive
- All non-metallic construction
- Easy to maintain front pull out design



ECO

- Economical solution for a range of viscosities
- Compact footprint
- Sanitary Tri-Clamp connection option



ISOChem

- Sealless mag-drive for high temperatures
- Proven track record in CBD extraction
- Sanitary Tri-Clamp connection option



PulsaPro

- Designed for higher pressure applications
- Precision accuracy to +/- one percent
- Built to run for decades with minimal maintenance

THE RIGHT PUMP FOR YOUR PROCESS:

- Diaphragm or Gear Pumps
- Sealed or Sealless
- Wide Flow and Pressure Range
- Sanitary Connections
- Accurate, Reliable and Easy to Maintain

When it comes to CBD Extraction, no single pump feature dominates – it's the combination of capabilities, reliability, immediate availability and price point that makes Pulsafeeder pumps the preferred choice for the CBD Extraction market.

Unparalleled Support with a 70+ Year Track Record of Service

www.pulsa.com