



ABM
EQUIPMENT



kason



MARION
PROCESS SOLUTIONS



Cannabis Drying Systems and Terpene Extraction

Buyer's
Guide

Preserving The Essence
of Your Harvest



Superior Results from Deeper Experience

Originating from direct requests of customers, our solutions are developed and field-tested in coordination with expert growers and processors like you. Based on decades of processing experience, we've brought several unique and industry-leading solutions to market – all with turn-key integration, training, and service from a single point of responsibility. These novel solutions protect the greatest amount (and most representative sample) possible of the plant's active compounds.

To maximize CBD yield, shelf-life, and terpene retention, you'll need expertise in three critical areas: the properties of cannabis, capabilities of equipment, and opportunities for automation. With their combined knowledge of available technologies and system integration, ABM Equipment, Kason, and Marion Process Solutions deliver high-performing solutions to the cannabis industry from a single point of responsibility. Each system is designed, integrated, and fine-tuned to work with your staff and process.

- **Higher yield and quality**
- **Biomass, whole bud and terpene processing**
- **Integration, installation and service**
- **Food/pharma grade equipment**
- **Made in the USA**



BEDS—Biomass Extraction Dryer System: Turn-Key & High Yield

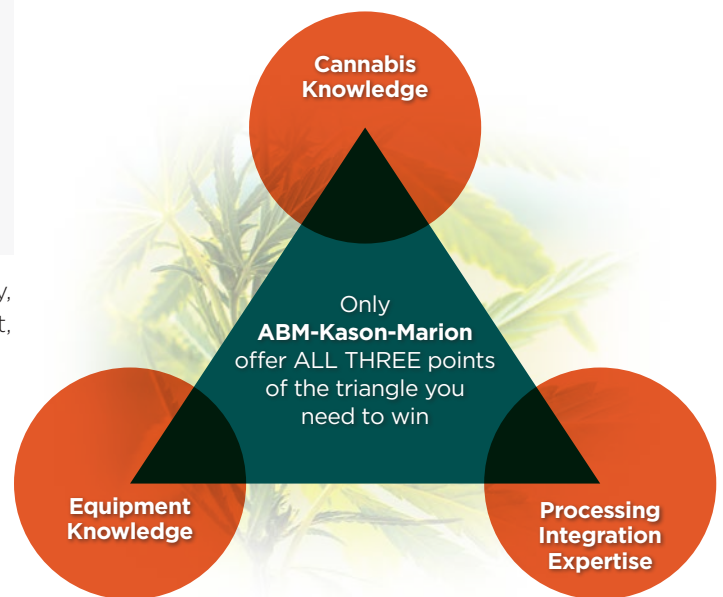
The BEDS—Biomass Extraction Dryer System processes 800-8000 pounds of biomass per hour, producing a consistent, high-quality output with 4-12% moisture content. The fully integrated system includes all five steps required between harvest and storage:

- **Conveying**
- **Particle Size Reduction**
- **Drying**
- **Bucking/Stem Removal**
- **Packaging**

Based on Kason circular fluid-bed dryer technology, the BEDS operates at a precisely controlled low heat, significantly reducing discoloration and damage to desirable compounds. It's able to retain more CBD & THC than its tumbling predecessors by using heat as an evaporation accelerant rather than driver.

Additionally, the majority of lost trichomes and other volatiles are also captured and returned on batch-by-batch basis instead of accumulating on equipment or escaping into the environment.

By integrating several machines for conveyance, particle size reduction, sorting, and packaging the ABM solution eliminates integration guesswork or patching together equipment from multiple vendors.



DRY MORE. SPEND LESS. RETAIN CBD.

Better Drying for Superior Cannabis Product Integrity

Microwave Technology

Don't let your profits get hung out to dry... it can take weeks for the post-harvest processing of hemp or cannabis the old fashioned way. With WaveMix™, Marion's microwave drying technology, you can go from wet to dry in under 180 minutes with maximum CBD retention. And with the extremely precise temperature control and vacuum environment, WaveMix can be used to decarboxylate pellets and extract terpenes.

Repeatable Results

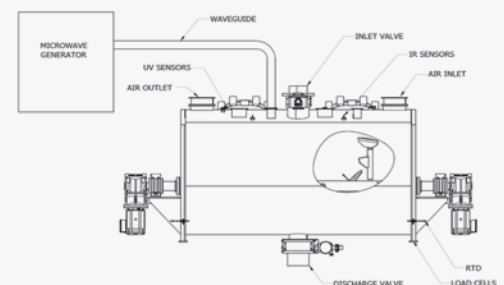
When you need every batch to turn out the same, you need a machine designed to deliver predictable product. WaveMix gently removes moisture from hemp or cannabis by precisely applying consistent, low-level temperature thermal power. The uniform process prevents overheating or burning, unlocking your potential for maximum extraction. WaveMix puts you in full control of all the variables, resulting in higher quality product, harvest after harvest.

Experience Matters

While hemp and cannabis are emerging markets, Marion has been processing and drying products for more than 80 years. Using our insight to drive innovative technologies, we've been at the forefront of many industries, and our attentive customer service has delivered on even the highest of expectations. When you choose WaveMix, you begin a partnership with a company that not only stands behind our products, we stand beside our customers. Look to Marion Process Solutions to create a competitive advantage — for you.



Marion WaveMix™ Microwave Drying System



- **Superior CBD retention**
- **Process up to 3,000 lbs**
- **From wet to dry in 3 hours or less**
- **Made in the USA**



Grow With Us

“From pilot to 400 cubic foot units, we offer the system size and application expertise to take your process from experimental to production. By drying up to 99.5% faster, this allows you to move product through your facility almost as fast as it comes in from the fields. And, we help create even more opportunity for growth with a comparatively smaller equipment footprint and increased energy efficiency, which contribute to a lower total cost of ownership.

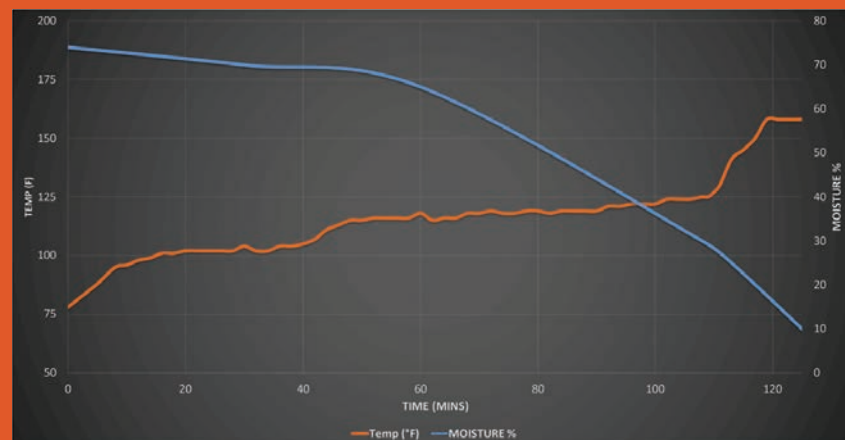
The Difference Is in the Details

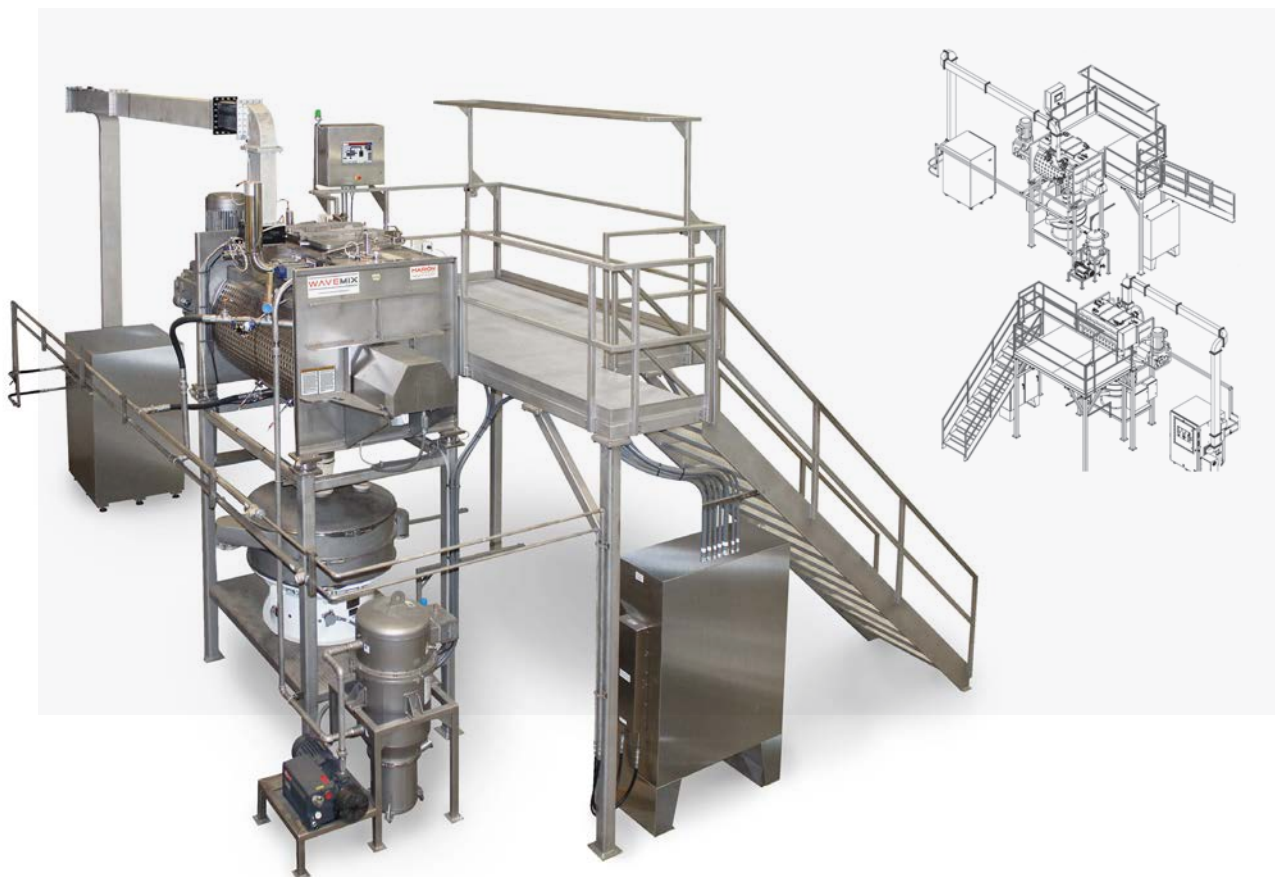
Drying 3,000 lbs of hemp or cannabis in a matter of minutes might seem like magic, but there's some serious science behind it. Depending on the size of WaveMix machine you choose, the variables will change. But the incredible outcome is always constant — perfectly dried product that is ready for extraction faster than ever before.

Specifications

Capacity	60cf	100cf	200cf	400cf
Material Temperature Degree F	145-165	145-165	145-165	145-165
Maximum Machine Temp Degree F	350	350	350	350
Temperature Sensor	Infrared & RTD Measurement	Infrared & RTD Measurement	Infrared & RTD Measurement	Infrared & RTD Measurement
Machine Materials	T304 Stainless Steel	T304 Stainless Steel	T304 Stainless Steel	T304 Stainless Steel
Electrical Requirements	3PH 480V 50/60Hz	3PH 480V 50/60Hz	3PH 480V 50/60Hz	3PH 480V 50/60Hz
Initial Wet Material Weight (75% moisture)	600	1,000	2,000	3,000
Rate of Water Removal (lbs/hr)	188.0	187.5	375.0	749.7
Final Dry Material Weight (10% moisture)	167	298	556	833
Total Dry Time (hrs)	2.3	3.85	3.85	2.89
Average Applied Power (kW)	80	80	160	320
Dried Material Rate (lbs/hr)	72.5	72.2	144.3	288.3
Power Density (W/lb)	133.3	80.0	80.0	106.7

Hemp drying curve





WaveMix™ For Smokable Flower Drying

It can take weeks to months for cannabis to dry the old-fashioned way. With WaveMix™, you can dry dense, whole buds and flowers at up to 1000 pounds per hour without destroying their flavor, potency, or shelf-appeal.

By applying gentle, consistent heat in a vacuum chamber, the WaveMix pulls moisture from cannabis without the destructivity of other methods. WaveMix puts the operator in full control of the variables, resulting in higher-quality product, harvest after harvest.

TXM (Terp Xtract Master) Series™: Terpene Oil Separator

The TXM uses a combination of the WaveMix™ and a cold trap to create a solvent-free separation process for cannabinoid terpenes. The result is a clear, wide-spectrum terpene oil containing all of the active materials in the original plant, without color-changing contaminants. All equipment in the process is pharma-grade, ensuring complete safety of the end product. Sanitary finishes and welding provide the ability to quickly clean equipment.



TXM can produce 1.5 pounds of material within 45 minutes, compared to 2 days using hang drying processes, at a lower operational cost than gas-powered steam drying. No post-processing is required and the quality of the oil is consistent on every batch, using the precision controls built into the microwave and vacuum technology.

Precision and Care Lead to Profits

Cannabis processing is a high-precision procedure. Better care and handling of material leads to higher yields and lower risks to growers and processors. The cannabis industry is still developing, and with more than 140 cannabinoids and 200 terpenes identified to date, we as a scientific community are just beginning to understand the nuances of cannabis processing. High-precision equipment centered around full-spectrum results reduces the risk of being left with outdated equipment as the industry progresses. And with processing equipment that preserves the delicate nature of the product, you'll always end up with high-grade oils and extracts that reliably replicate the attributes of the plant itself. Furthermore, with food and medical-grade certifications, you're protected when it comes to regulations and the demands of buyers.





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