

**CANNABIS  
& HEMP**  
PROCESSING  
SAMPLE PREPARATION  
& AUTOMATION

***FRITSCH***

 [ExtractionsBestBud.com](http://ExtractionsBestBud.com)



## HOW WOULD THESE INSTRUMENTS HELP OUR BUSINESS?

### FOR THE GROWER/PROCESSOR

- ✱ Time savings; operational cost reduction
- ✱ Greater product consistency; batch to batch reproducibility
- ✱ Improve extraction yield & quality
- ✱ Easy to clean & validate

### FOR THE ANALYTICAL TESTING LABORATORY

- ✱ Affordable, effective options for CryoMilling of infused samples
- ✱ High-throughput solvent extractions

collecting vessel, 3 liters  
stainless steel 316L  
item no.: 45.5730.00

FRITSCH

## PULVERISETTE 19

PRECISION CUTTING MILL



### APPLICATIONS

- Optimize particle size & distribution for CO2 or EtOH extraction yield
- Create material for premium pre-rolls
- Homogenize isolates



### PERFORMANCE ADVANTAGES

- Variable-speed motor 300-3000rpm
- Designed with GLP/GMP processes in mind
- Adjustable, controllable particle size output with tight particle size distribution
- Reproducible performance regardless of end user
- High-throughput, continuous processing 1-5+ lbs. per-minute avg.\*
- Dust-free, easy to clean - stainless steel product contact surfaces
- Cyclone sample collection system provides heat mitigation and prevents resin build up.
  - Heat Mitigation - Maintain chemical profile & product integrity

### FAQS

Are Cannabinoid & Terpenes Preserved?

- Yes. As a continuous milling systems (vs. a closed batch system like a blender or wire trimmer), the P-19 Cutting Mill does not exert any heat load on Cannabis material. The precision cutting mechanisms ensure rapid particle size reduction with minimum exposure to physical damage.

How Fast Can I Grind?

- ≥ 1-5+ lbs. per-minute dried flowers avg.\* Individual performance may vary based on moisture content, nature of starting material, and desired final particle size.

How Much Do They Cost?

- We strive to optimize our milling systems for any given application. System investment costs may vary depending on specific processing requirements and we'd be happy to work with you to assess what would work best for your operation.

Is It Easy to Clean?

- Yes. All interior product contact surfaces are stainless steel. The cutting chamber opens up completely to allow easy access to all areas. Reducing the likelihood of accidental batch cross-contamination has never been easier.

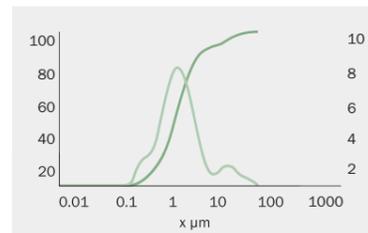
PROCESSING CONSIDERATION	HAND GRINDER	BLENDER	LEAF CUTTER	HAMMER MILL	FRITSCH CUTTING MILL
Adjustable, controllable particle size output	Some	No	No	Some	<b>YES</b>
High-throughput ≥ 1-5+ lbs. per-minute avg.*	No	No	Yes	Some	<b>YES</b>
Reproducible results, regardless of end user	No	No	No	Yes	<b>YES</b>
Easy to clean; prevent cross-contamination	No	Yes	No	No	<b>YES</b>
Heat mitigation	Yes	No	Some	No	<b>YES</b>
Process control automation	No	No	No	Some	<b>YES</b>

## PARTICLE CHARACTERIZATION

### ANALYSETTE 22 NANOTEC

LASER PARTICLE SIZER

Determine particle size distribution of milled Cannabis, or CBD isolate. Measuring range from 10 nanometers to 2 mm.



### ANALYSETTE 28

DYNAMIC IMAGE ANALYSIS

Determine particle size distribution and particle shapes. Measuring range from 20μm to 20mm.

- Process optimization
- Formulation
- R&D



## CYROMILLING - INFUSED SAMPLES

### PULVERISETTE 11

KNIFE MILL

- Create uniform powder from various edibles samples. Capacity of 300+ g per sample, depending on material.
- Embrittle edibles and samples directly in liquid nitrogen, and create homogenous powder (representative sampling) in minutes.
- Edibles & samples up to 300+ g, depending on matrix
- Flower/leaf samples from 2 g to 30+ g – using single-use grinding vessels in 10 ml or 100 ml volume
- Create & save SOP's



\*Dependant on physical properties of material.



## **PARTNERS. COLLABORATORS. FAMILY.**

What happens when you combine a century of engineering excellence, a 10,000+ year old medicinal plant, a 4th generation family business, and a collaborative industry that is growing like a weed?

## **THE PRECISION STANDARD FOR BIOMASS MILLING**

YOU ASKED. WE LISTENED. TOGETHER, WE CREATED A BEAST.

The NEXT Generation PULVERISETTE 19.

[ExtractionsBestBud.com](http://ExtractionsBestBud.com)

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**Since 1920**

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