



# Laboratory/Pilot Plant Supermill

Premier Laboratory/Pilot Plant Supermills are unique because they offer all the advantages of larger production size units but are compact and rugged enough for pilot plant testing. The pilot plant mills are specifically designed for small product runs that require continuous dispersing and particle size reduction. Scaleup data is directly proportional to production size Supermills. A variable speed milling shaft, several milling shaft configurations (screen, discs, and spacers), and various pump options make this machine versatile enough to process and disperse a broad range of formulations.

Available for a wide range of processing industries, including: Paint, Ink and Coatings, Chemical, Electronics, Ceramics, Pharmaceuticals and Biotechnology, Personal Care, Food and Flavorings.

## Standard Features:

- Unit completely wired with Integrated Control Panel with gages, controls, pushbuttons, digital speed meter standard.
- Electronic VFD and 1/3 HP explosion proof pump motor with starter are included.
- NEMA 7 explosion proof standard (NEMA 4 and other classifications optional).
- Positive Displacement Gear Type Feed Pump with mechanical variable speed drive with micrometer adjustment for precise control of product feed rate.
- Automatic high pressure limiting system that shuts down mill if unsafe pressure levels are detected.
- 420 Stainless Steel grinding chamber with "patented" spirally grooved water jacket for high cooling efficiency.
- Easy clean sanitary style clamp type product plumbing.

## Available Options (All HML & SML Models):

- Patented AP High Energy Milling Discs in metal, urethane and other non-metallic materials.
- Special materials of construction for milling chamber components including abrasion and corrosion resistant materials such as ceramics, urethane, UHMW and nylon in industrial and FDA approved grades.
- Digital Ammeter.
- Special pumping systems including peristaltic and progressive cavity.
- Various electrical voltages and classifications for 50 & 60 Hz locations.

## Gross Void Volume:

- HML .75      0.86 Liters
- HML 1.5      1.72 Liters
- SML 1.5      1.72 Liters



## HML Configuration:

- Internal rotating “self-cleaning” discharge screen and media separator system with tungsten carbide separator rings - suitable for grinding media size as small as 0.4 mm (refer to HML screen chart for more information).
- Low cost component style double mechanical seal.
- 7.5 HP inverter duty explosion proof main motor.

HML Rotating Screen & Separator Selection Chart		
Screen Opening Slots Inches	Screen Opening Slots mm	Smallest Bead Size Recommended
0.005”	0.127 mm	0.40 mm*
0.008”	0.203 mm	0.60 mm
0.012”	0.305 mm	1.00 mm
0.020”	0.508 mm	1.50 mm

\* Requires floating separator ring configuration. Contact factory for details.

## SML Configuration:

- Front mounted stationary screen and media separation system suitable for easy removal and cleanup.
- Cartridge mechanical seal suitable for abrasive service - designed to run in the presence of grinding media. Cartridge seal has integral pumping ring to provide circulation of seal coolant fluid - eliminates need for external cooling pump.
- Suitable for grinding media size as small as 0.2 mm (refer to SML screen chart for more information).

SML Stationary Screen & Separator Selection Chart		
Screen Opening Slots Inches	Screen Opening Slots mm	Smallest Bead Size Recommended
0.003”	0.076 mm	0.20 mm
0.005”	0.127 mm	0.30 mm
0.008”	0.203 mm	0.40 mm
0.012”	0.305 mm	0.60 mm
0.020”	0.508 mm	1.00 mm

## Compact and Rugged

Designed For Small Product Runs That Require Continuous Dispersion.

- New frame design with inline direct drive provides quiet, vibration-free operation and reduced maintenance compared to previous frame design by eliminating mechanical pulley drive and many other moving parts (used on both HM & SM configurations).
- Electronic variable frequency drive is now standard equipment with digital speed display, providing improved accuracy and process control.



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