

# Boston Shearmill™



**High Intensity Wet Milling, Homogenizing & Particle Reduction**

*Advanced Mixing Technologies*


## **Outperforms inline mixers, conventional shearpumps and colloid mills**

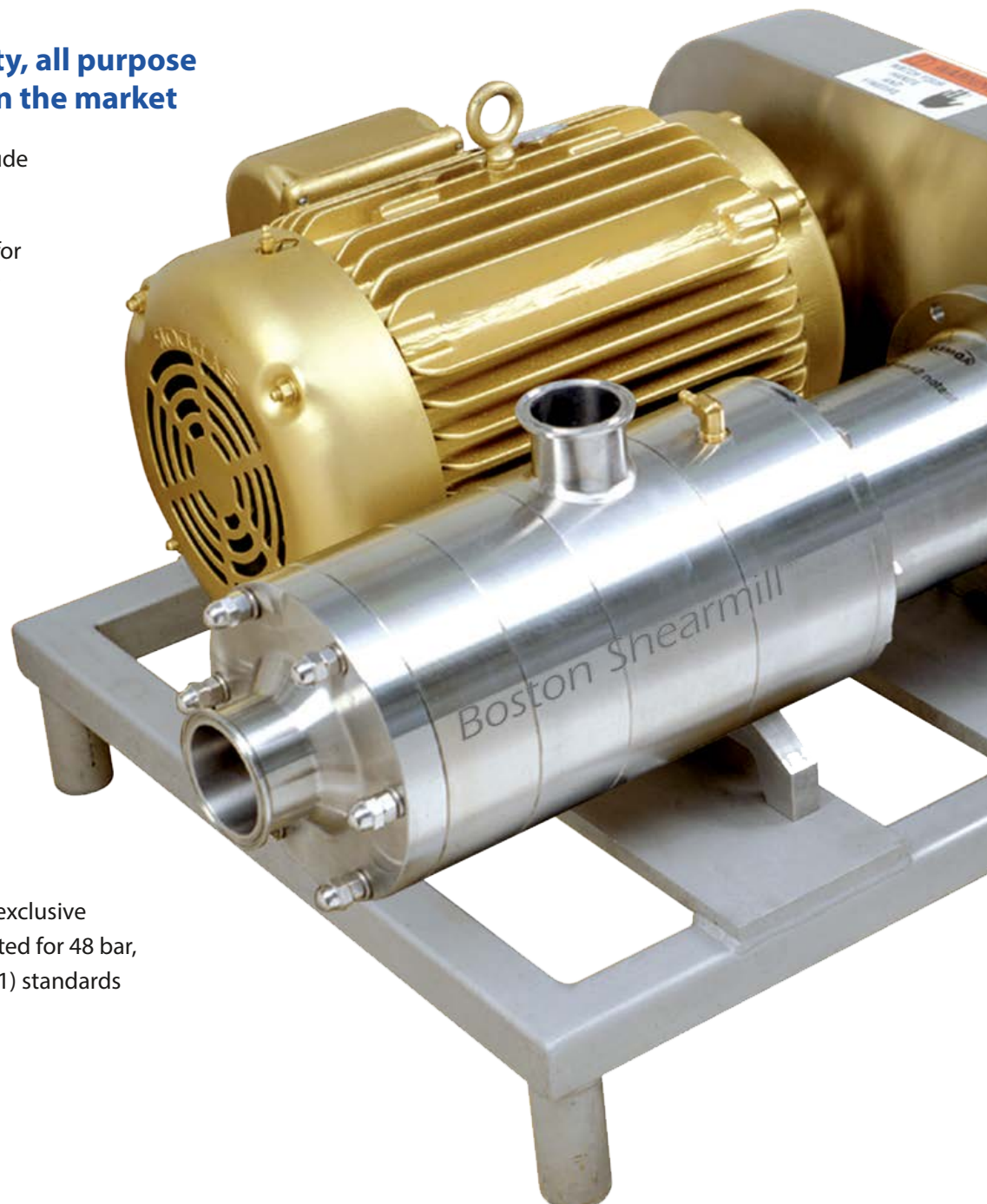
The Boston Shearmill is our ultimate machine for providing high to extreme shear rates and tip speeds for maximum droplet and particle size reduction. If your process requires milling of soft particles to under 1 micron, or hard particles down to 1-2 microns, the Boston Shearmill will meet this criteria, often with just a single pass at high production rates! The Boston Shearmill has replaced colloid mills and homogenizers where submicron processing was not necessary. Existing installations include tomato paste enhancement and standardization, ketchup and mustard production, salad dressing and mayonnaise, pet foods and treats, soups and sauces, flavor emulsions, pharmaceutical preps, polymers and more. Boston Shearmills have up to three sets of shear heads for a total of 9 shear zones in a single pass. This increase in residence time between the stages allows the Boston Shearmill to create tremendous mechanical and hydraulic energy for applying maximum shear forces into the product.

## **The best built, heavy duty, all purpose inline milling machine on the market**

- Standard shear head grades include coarse, medium, and fine
- Special purpose heads available for texturizing and blending without damaging or altering solids and desired consistency



- Shearmill models available from 15 - 55 kW, providing product throughput from 18-625 ltr/min depending upon feed rate and viscosity
- All Shearmill models feature our exclusive single mechanical quench seal rated for 48 bar, and comply with  TPV (#36-01) standards



## The Boston Shearmill™ BSM-25, 37 & 60

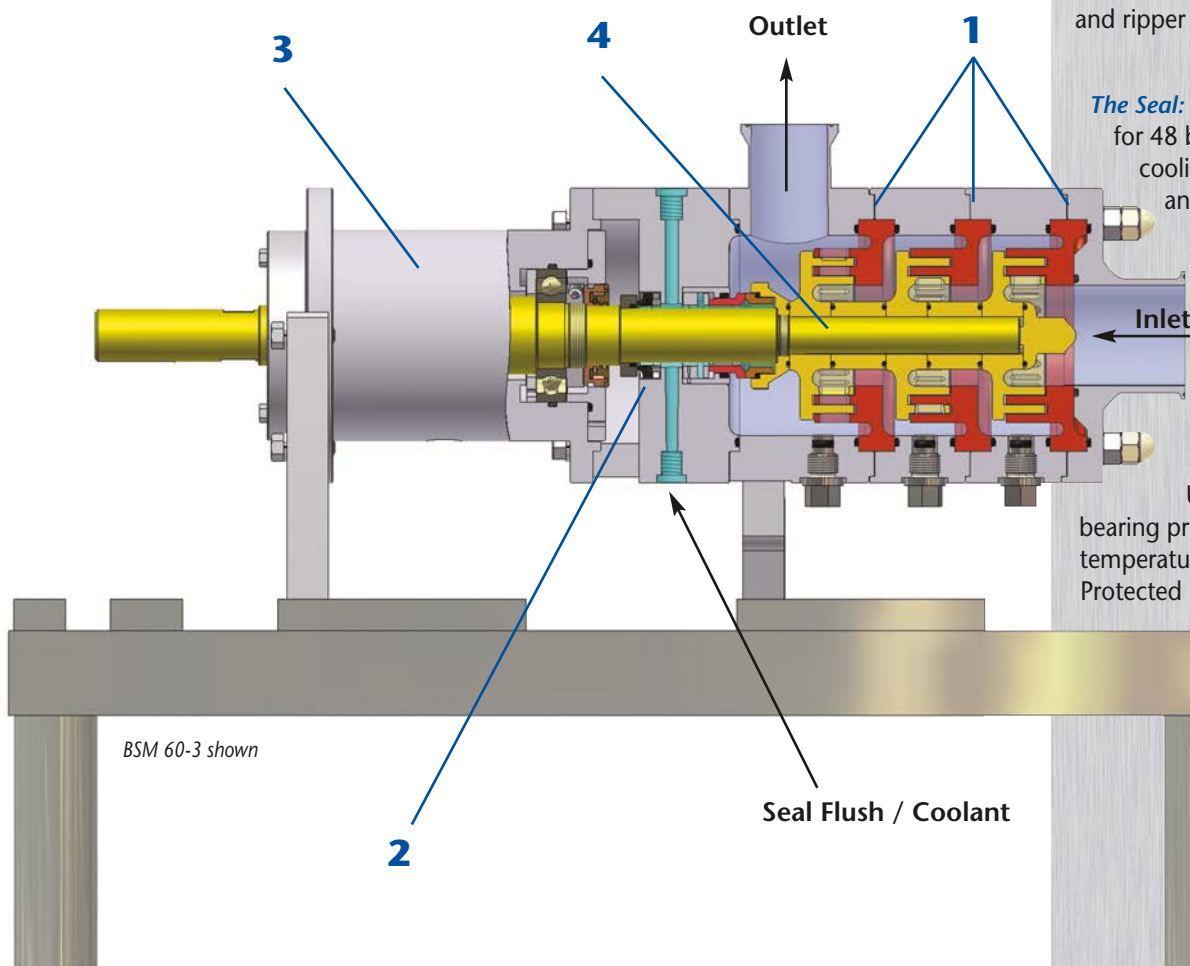
While a shearpump or inline mixer will first and foremost be judged by how well it does its job, it is just as important to the user that the machine is strong enough to work day after day, year after year, with as little need for service as possible. The Boston Shearmill is designed for 24/7 operation, through your most critical processing schedules when downtime is not an option.

Combining the well-proven rotor-stator principle with the latest innovations in seal design and bearing support technology, Boston Shearmill's engineers created a series of inline mixers of deceptively simple but exceptionally durable design. Their goal was a superior piece of equipment which would outperform all others in its class and that would be so rugged that downtime would be reduced to an absolute minimum.

### Models & Specifications

Model	Tip Speed	Throughput	Motor/Speed (kW)	Fittings (mm)	Footprint (mm)
BSM 25-3	35 mps	18-56 ltr/min	15 @ 10.000 RPM	38,1 In / 25,4 Out	660x686x534
BSM 37-3	35 mps	56-190 ltr/min	30 @ 7.300 RPM	63,5 In / 50,8 Out	762x762x660
BSM 60-1 & 60-3	28,6 mps	150-625 ltr/min	55 @ 3.600 RPM	76,2 In / 50,8 Out	1.625x635x686

\*Motor HP/kW may be able to be downgraded depending on the application and shear head combination.



## Design Technology and Features

**The Manufacturing Process:** Rotor and stator ports have wire-cut radii with computer controlled precision. Double thickness housings for the bearing frame and mixer body are built for a lifetime of use. "Cartridge" design on the bearing frame allows quick replacement for servicing. Even our base is twice the strength, weight and rigidity than competitive machines.

**1**

**The Rotor and Stator:** Closed slot design prevents twisting and bending for maximum durability, longevity and safety. Machined from massive cylinders of 316L or 17-4 SS, and dynamically balanced for smooth rotation through high speeds and bumps. Choose from a wide range of rotor stator variations from coarse to ultra-fine, plus chopper and ripper heads for select models.

**2**

**The Seal:** A single mechanical seal rated for 48 bar with a unique low-pressure cooling loop. Complies with U.S. and European hygienic standards. Double mechanical seal optional.

**3**

**The Bearings:** We use only Super Precision Ball Bearings (ABEC 7) with abundant strength for high-speed work. Unique preloading of each bearing protects against spikes. Running temperature is 38°C or less in operation. Protected by labyrinth seals. Complete bearing assembly installs as a cartridge for easy replacement.

**4**

**The Shaft:** Oversized, hardened 17-4 Stainless. Stout enough to carry three heads, and perfectly balanced for zero run-out.



**Cleanability:** All units bear the 3-A symbol. All surfaces and welds are machined and polished to a 32 Ra or better. Inside corners and slots have a radius and there are no crevices, deadlegs or open threads.

