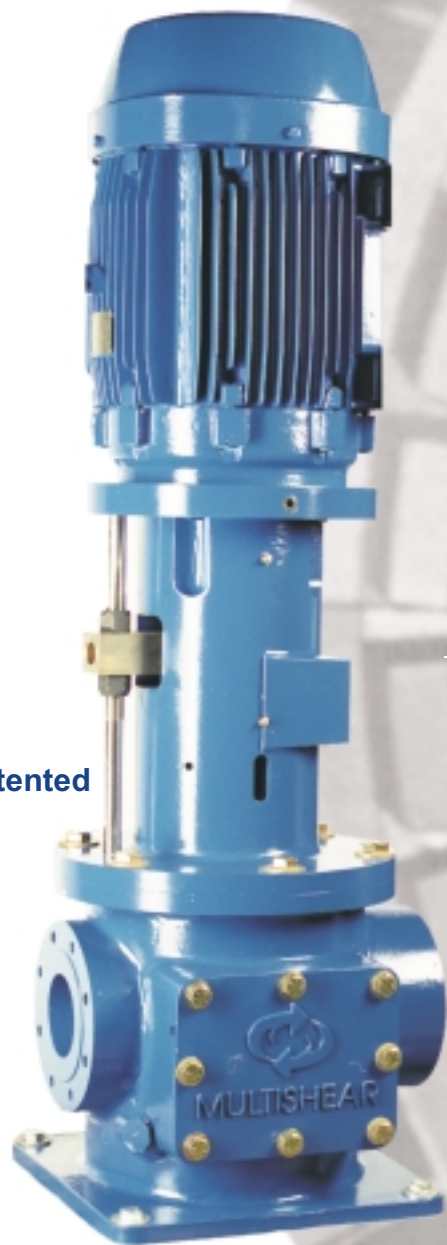


MULTISHEAR[®] PIPELINE DISK ATTRITION MILL

MODEL 4 X 4 - 8



Patented



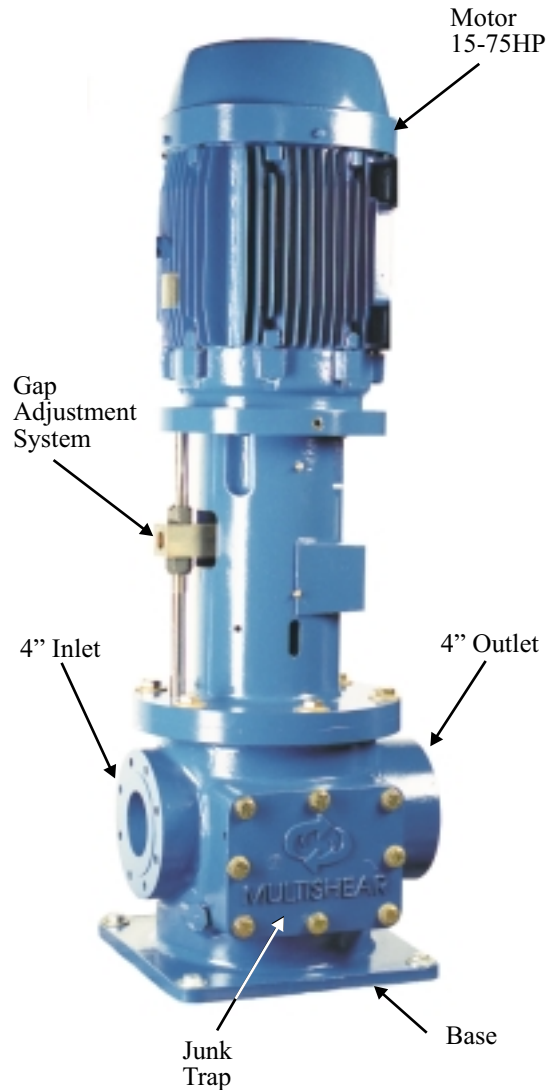
MULTISHEAR[®]
CORPORATION

SPECIFICATIONS

MODEL 4 X 3 - 15

FEATURES

- The PIPELINE DISK ATTRITION MILL features a 4" inlet, 4" outlet and an 8" diameter rotor. Motor sizes range from 15 to 75 Hp and 900 to 3600 RPM. A 4" drain is also provided. The unit can process up to 300 GPM of flow.
- The modular design of the unit allows a wide variety of configurations, depending upon the application.
- Attrition disks can be made from a wide variety of alloys to suit individual applications. They are easily removed and replaced.
- Attrition zone gap is manually adjusted to yield any particle size desired. The unit can also be adjusted to compensate for wear of the attrition zone teeth.
- Operates in both directions of rotation thereby doubling the life of the teeth.
- Pipeline Disk Attrition Mill features rugged construction throughout to insure long term performance in tough applications.
- Optional fine grind ring is available for extremely small particle sizing.
- Integral junk trap removes debris to protect the attrition zone. Optional rare earth magnets available to remove ferrous metals.



The unit shreds, grinds, macerates, disperses, and disintegrates in one step

MECHANICAL SEAL CARTRIDGE



SEAL CIRCULATION SYSTEM

MULTISHEAR PIPELINE DISK ATTRITION MILLS utilize double mechanical seals that are housed in a patented stainless steel cartridge that is easily removed and replaced. The seal cartridge also holds the shaft thrust bearing in place as a means of minimizing shaft length and overhang. The resulting configuration is extremely rigid with virtually no shaft deflection or run out that typically plagues other size reduction equipment. In addition, the PIPELINE DISK ATTRITION MILL is furnished with a seal circulation system which circulates, filters, pressurizes, and cools the seal barrier fluid to provide ideal conditions for an extended seal life.



REMOVABLE SEAL CARTRIDGE

CONFIGURATION OPTIONS

MODEL 4 x 4 - 8

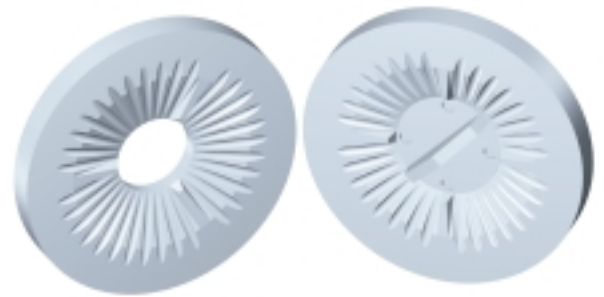
INTERMESHING TEETH



Intermeshing teeth are used to size nominal 1 inch solids down to a minimum particle size of approximately 1/16inch. The teeth are cast and hardened to provide maximum wear life. Also, the rotor can be operated in both directions of rotation, thereby wearing both sides of the teeth before replacement becomes necessary.

The micronizing configuration is used to size nominal 1 inch friable solids such as stone and sand down to a minimum particle size of approximately 150 microns. The micronizing stator and rotor are made from tungsten carbide chips imbedded in a metal matrix to provide superior wear characteristics in severe applications.

MICRONIZER



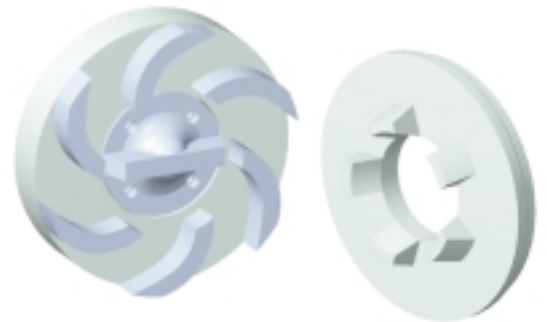
FINE GRIND RING



The fine grind ring surrounds the rotor and it significantly reduces the particle size produced. It also provides high energy mixing and homogenizing capability by providing millions of shears per minute.

The chopper pump configuration combines the patented attrition technology with pumping vanes to produce a machine that both pumps and grinds. The chopper pump is used to transfer liquids that contain large or stringy solids that would otherwise clog a conventional pump.

CHOPPER PUMP

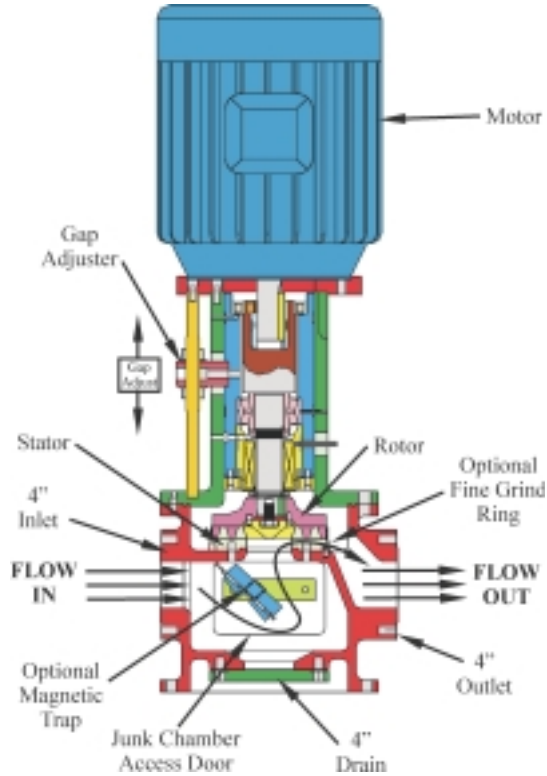


DISPERSER/ HOMOGENIZER



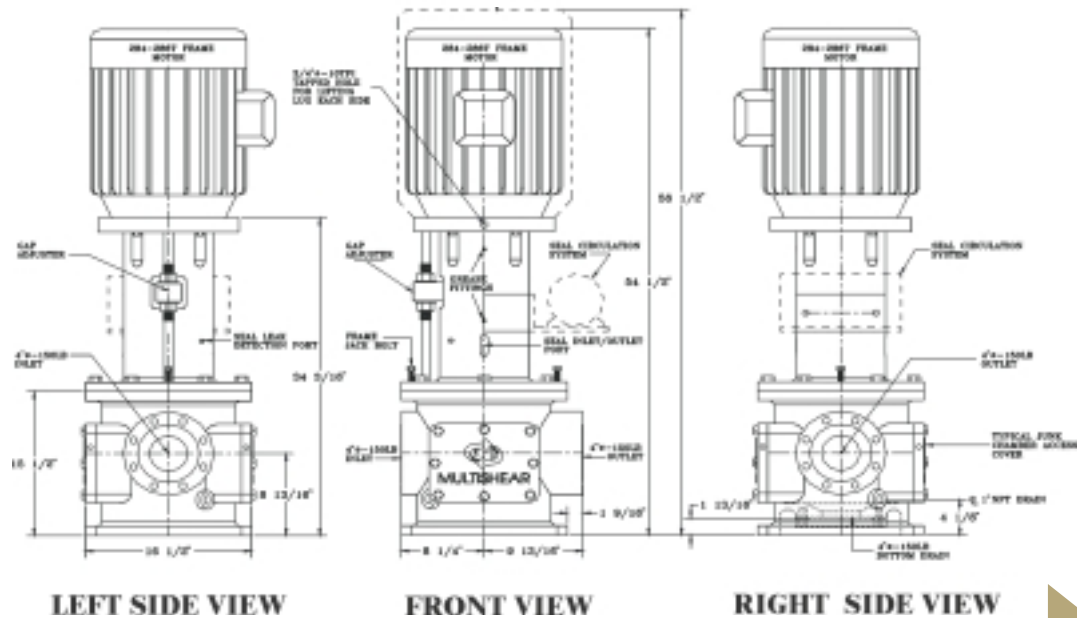
This configuration provides high energy mixing and dispersion to produce a thoroughly mixed and homogeneous blend of liquids and solids such as powders and dyes. It provides the most shears per minute of all configurations.

CROSS-SECTION AND PRINCIPLE OF OPERATION



During operation, fluid containing coarse solids enters the junk trap where tramp metal is removed by the rare earth magnet. The fluid then enters the suction of the grinding zone. As the slurry passes from the center of the rotor outwards, the solids are repeatedly sheared by intermeshing teeth forming an attrition zone. The teeth are arranged in rings or stages and the gap between teeth narrows with each successive stage. This configuration insures that only properly sized material can progress to the next stage for further reduction. It provides multiple stages of size reduction in one device so that even coarse solids can be reduced successfully that would otherwise plug other size reduction equipment. Finally, the position of the rotor is adjustable for wear compensation and control of the particle size produced.

TYPICAL DIMENSIONS



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