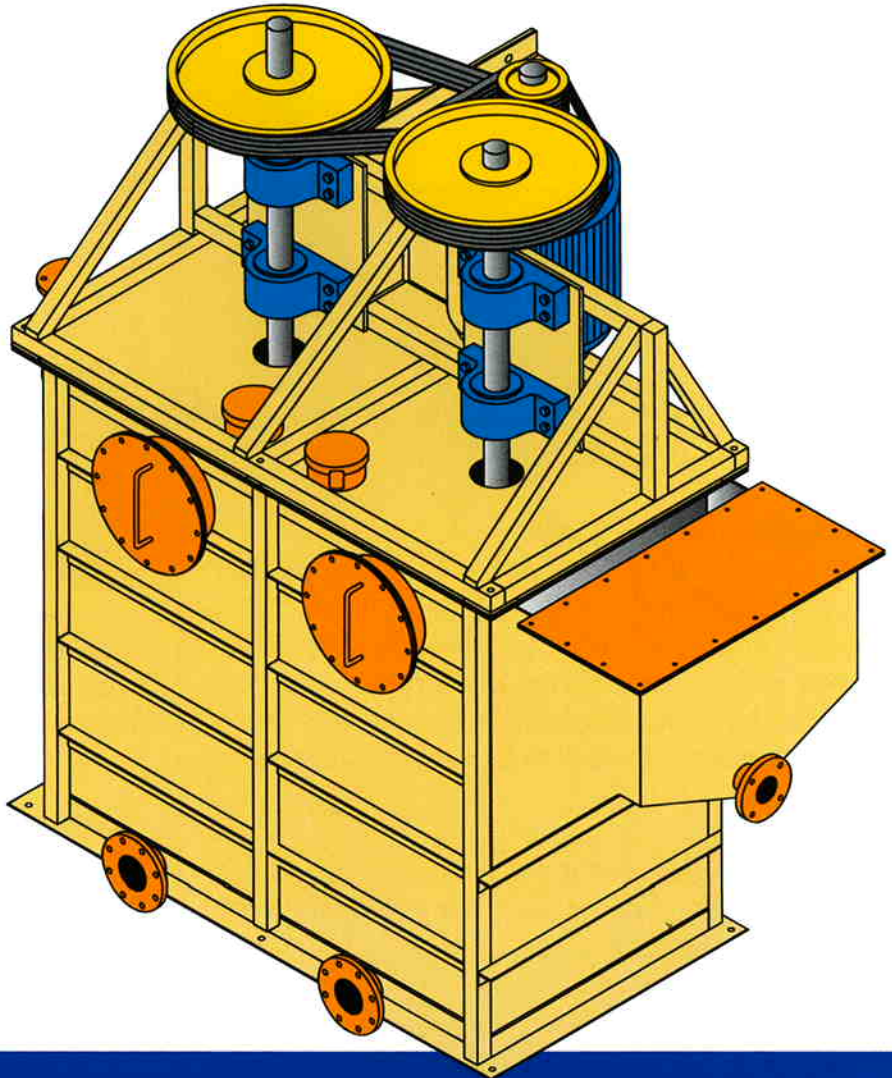


IMPEX[®] PILOT PLANT DELAMINATOR

The **IMPEX Pilot Plant FMM Delaminator** is a Fine Media Mill (FMM) for high intensity grinding using the latest technology for delamination of kaolin type clays. The mill is suitable for light (nylon/styrene), medium (glass/sand), or heavy (alumina/zirconia) microsphere grinding media of varying sizes. Dr. Joe Iannicelli, now Vice President with IMPEX, patented the delamination of kaolin clays with ultra fine glass microsphere media in this type of mill in 1972. The pilot plant mill can be scaled up to the large production size mill used throughout the industry.



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FEATURES OF IMPEX[®] PILOT PLANT DELAMINATOR

TWO CELL VESSEL

The IMPEX delaminator is designed with two cells separated by a vertical partition that prevents short circuiting of feed to product.

TWIN SHAFT DESIGN

Each section has its own shaft with propellers and v-belt drive to a common motor. Each shaft has an extra heavy tapered coupling for true alignment. The drives, shafting and propellers are identical in each cell.

LINING

Mills are available in either 316 SS or 3/8" rubber lining on all wetted surfaces.

PROPELLER PITCH

Each shaft has two 610mm (24") propellers. The top propeller has a 150 percent pitch driving the slurry downward while the bottom propeller has a 100 percent pitch driving the slurry upward. This opposing action creates intensive contact of the media with the mineral to be delaminated.

INTERNAL SCREENS

In order to contain the fine microspheres, a triple mesh stainless wire screen is internally mounted near the discharge outlet.

MOTOR AND DRIVE

Each cell is driven by a v-belt drive coupled to a 50 HP, 1750 rpm, 480/380 V, 3 pH, 60/50 Hz, TEFC, 1.15 SF, motor with adjustable base and guard.

RIGID COUPLINGS AND SHAFTS

An extra heavy, double cone shaped coupling with flanges is used to connect the heavy duty replaceable shaft to the driven shaft. This specially designed coupling permits alignment of the shaft as well as simplifying maintenance.

AIR VENTS

Due to the intensive action within the delaminator, air vents are included in the design.

GRINDING MEDIA

Various forms and size of grinding media may be used with this mill. The most commonly used on kaolin clays are nylon, styrene, glass, sand, ceramic proppants, and alumina microspheres.

FEED AND DISCHARGE PORTS

The feed and discharge ports may vary with customer request, but normally the feed and outlet port is 76mm (3") flanged port.

MAINTENANCE ACCESS

A bolted 305mm (12") port is located in each compartment. Also the entire top is bolted for removal of shafts and access to the internals.

DRAIN PORTS

Each cell has a 102mm (4") 150 psi flanged drain outlet.

INSPECTION PORTS

Each cell has a quick opening inspection port 152mm (6") for visual inspection of operations inside the vessel.

CHEMICAL ADDITION PORTS

If chemical additions are required, they can be added through the inspection ports provided.

NORMAL CAPACITY

On kaolin slurries in the 35-40% solids range, the pilot plant delaminator has a capacity of 500 kgs (~1000 lbs.) at 30 minutes retention time and 250 kgs (~500 lbs.) at 60 minute retention time when delaminating from 30-40% < 2um to 75-80% < 2um. Each cell is approximately 1.0 cu.meter (264.2 gallons). A minimum of 50% by volume of grinding media is required.

MAINTENANCE

Most of the maintenance problems are created by improper shut-down and start-up procedures. However, preventive maintenance programs, including v-belt tension plus periodic inspection of the rubber lining, will give years of trouble-free operation. An Owner's Manual with operating and maintenance advice is included with each order.