

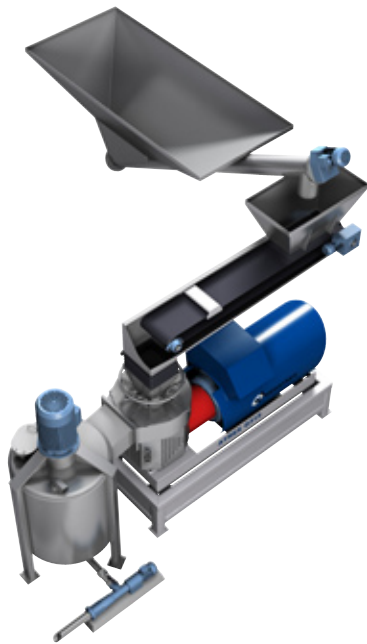


## Technology for Pigment Dispersing

The Finnish company Megatrex Oy has developed the next generation continuous slurring process the excellence of which has been proved with all different mineral pigments. The Atrex G-series provides an opportunity to optimize the quality of the finished slurry in a simple, flexible and compact process. The process is based on effective rotors rotating in opposite directions.

- CONTINUOUS OPERATION
- GOOD SLURRY QUALITY, HIGH SOLIDS
- SHORT MIXING AND RESIDENCE TIME
- EXTREMELY HIGH SHEAR, TURBULENCE AND IMPACT FORCES
- ENERGY EFFICIENT
- COMPACT ONE FLOOR LAY OUT





All pigments particles to be introduced into the unit have to pass through the strong shear zone. In this way the interparticle adhesive forces can be compensated, the surfaces of individual particles wetted, and the necessary chemicals bound on pigment surfaces.

The most important targets, obtaining the original particle size distribution of pigments, stability of the finished slurry and preventing the agglomeration, are achieved by the Atrex<sup>®</sup>-technology easier than with a comparable equipment.

Unlike in conventional dispersing units, the process in the dispersing chamber is very rapid and it occurs inside the water-chemical mixture. Exactly correct and simultaneous dosage amounts of water-chemical mixture and the pigment to be dispersed always guarantee an end product of uniform quality, i.e. at the dispersing stage the proportion between the chemicals and the pigment is always correct. The structure of the equipment also makes possible the simultaneous dispersing of several pigments.

The stability of the finished slurry is very good, because re-agglomeration of pigment particles will not occur after the treatment of all pigment surfaces with necessary chemicals.

The greatest advantage of the Atrex<sup>®</sup>-disperser compared to conventional batch mixers is its very compact structure and continuous operation, which together enable a great capacity with low investment costs. The installation of the unit in already existing slurry processing units is relatively effortless and this is how

a batch-typed slurry processing unit can be transformed into a continuous one.

Megatrex Oy has delivered a large number of Atrex<sup>®</sup>-units to the paper industry for dispersing coating pigments. It is possible to disperse pigments being to a clearly higher solids content than with conventional dispersers. Consequently, the Atrex<sup>®</sup>-unit gives a possibility to raise the solids content maintaining at the same time the viscosity properties of the slurry at the same level as before.

On several occasions the slurry prepared by the Atrex<sup>®</sup>-unit has proved to be better in terms of its flow properties than those of an equivalent product prepared on a conventional unit. When making use of coating pigments dispersed using this method, also a decrease of blade pressures on the coating machine is observed due to effective dispersing of pigments and, as a consequence of this, owing to the improved rheology of the coating colour.

#### MOBILE CONTINUOUS SLURRY PLANT

Megatrex Oy has also developed an equipment based on the Atrex<sup>®</sup>-technology, which due to its compactness and easy mobility is very well suited e.g. for testing new pigment qualities at the customers' mill. The unit features a complete slurry conditioning unit with pigment feeding equipment, chemical systems and post-mixing equipment. The unit comprises also a complete monitoring equipment of the operation.