

# Fristam Colloid Mill



**CASE STUDY – The Fristam FCM replaced a piston homogeniser and saved one customer £130,000 in upfront equipment costs; halved their energy consumption and finished batches 60-70% faster!**

One cheese sauce manufacturer previously used a piston homogeniser to emulsify oil into their processed cheese sauce. When the homogeniser reached the end of its lifespan a direct replacement was quoted at £160,000. In contrast, the Fristam FCM solution was only £27,000.

When trialled, the FCM could finish batches approximately 60-70% faster than the homogeniser, achieving 190l per minute, whilst the homogeniser could only muster 57-76l before overheating. The FCM only needed a 30kW motor compared to the homogenisers 75kW - which decreased running costs by around 50%.

Additionally, since the FCM is CIP'able without bypass or disassembly the processor saw significant savings in maintenance time and effort.



# Fristam Colloid Mill FCM

An economical, time saving alternative to homogenisers. The Fristam colloid mill is an ultra-high performance rotor stator design pump, which reduces particles to sub-micron size, creating shelf stable solutions even with oil and water combinations.

## FREE FLOW LEVER TECHNOLOGY

Unlike other colloid mills, the FCM can alter the level of shear, without having to open the mill between products. The innovative external gap adjustment lever can increase or decrease the gap between the rotor and stator to change the shear, without pausing operation or moving the inlet or outlet ports.

CIP ready – adjust the lever to reach the maximum gap, so CIP can be blasted through at a high flow rate. This enables a thorough clean without stripping the pump.

With shear rates being so easily adjustable and cleaning so simple, the FCM can be used for multiple applications. Decreasing the outlay expenses as well as the running and maintenance costs.



## Technical specifications:

- Max shear rate: 143,000 1/s – submicron particle size.
- Max inlet pressure: 17 bar
- Direction of flow: Bi-directional
- Max flow rate: 190l product, 379l CIP
- Approximately 4 times greater shear rate than a shear pump.

## Intended applications:

- Sauces
- Mayonnaise
- Dressings
- Oil or fat emulsions
- Dairy solids
- Fruit and vegetable skin shearing
- Pharmaceutical emulsions