

FREWITT 

# FLEXMILL

PMC-260 CRYO



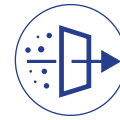
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# PMC-260 CRYO



**The PMC-260 is a premium-quality, high-speed mill ideal for production applications requiring a high output of homogeneous, micronized granular products down to a fineness of 10 µm.**

## **2 PROCESSES - 2 MILLING HEADS - ONE SYSTEM**

The continuous Pin Mill is used for applications to process from 100g batches to 150 kg/h. Having a compact and modular design, it is easy to place the mill in a laboratory, in an LAF or isolator, or to integrate fully into nearly any process flow.

Frewitt modularity ensures all processing heads provide the operator with easy handling and cleaning. It is constructed to ensure optimal, reliable production in GMP and High Containment for a broad range of products.

Designed with foresight it ensures identical results are guaranteed in the scale-up from Lab to pilot to production scale levels.

## **SUITABLE FOR THE FOLLOWING INDUSTRIES:**



Pharmaceutical



Battery



Chemical



Food

## **MODULARITY**

Distinctly avant-garde, modular concept: FlexMill allows you to alternate, depending on your production requirements, between 2 milling heads for the micronization of low Tg products (glass transition temperature) and products resisting milling in ambient conditions.

## **PERFORMANCE**

FlexMill proves its capabilities with the same degree of flexibility across the entire range of your processing needs, from small batch to large-scale production.

## **ADVANTAGES**

- Scalable to Frewitt Lab Scale / Production Scale Pin Mill systems
- Compact assembly for easy in-line integration
- Flexibility of modular arrangement
- Easy top-down cleaning (easy disassembly for easy cleaning)
- Reduced product contact surface areas
- Less energy consumption
- By embrittlement, the cryo-milling allows users to reduce polymer type products to powder and limits the phenomenon of degradation, which preserves the quality of the milled product.

## **INNOVATION**

Due to its extraordinary versatility and high performance, this mill can be used in many demanding milling processes, whether for achieving optimum particle size distribution, milling temperature-sensitive products, or potentially explosive substances. This innovation is also dedicated to polymers with low glass transition temperature (Tg).

## **SAVINGS**

Enhanced return on investment and lower cost of ownership: FlexMill integrates two milling processes into a single platform. With its low level of consumption, the PMC-260 is the best solution for combining micronization and cost saving.

Automatic regulation of the liquid nitrogen supply to guarantee the immersion of the product at  $-195^{\circ}\text{C}$

Management of nitrogen consumption obtained by automated and secure control

Thermal insulation to prevent nitrogen evaporation and increase operator safety



### PROCESS CHARACTERISTICS



**Size reduction range**  
2 mm  $\rightarrow$  10  $\mu\text{m}$



**Productivity**  
2 l/h  $\rightarrow$  150 l/h



**Product temperature range**  
 $-196^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$



**Product density**  
up to 2kg /  $\text{dm}^3$

### EXECUTIONS



#### Standard

- Pharma execution GMP/FDA
- Fully automated system
- Integrated dosing system with anti-vault stirrer for entry funnel
- Integrated cooling system
- Pressure and temperature sensors
- Inline process
- Mobile cart with lifting device
- Integration of Cryogenic Feeder CF-25



#### Optional

- ATEX
- WIP cleaning
- Controlled milling under inert atmosphere
- Specific custom tooling
- 21 CFR part 11/ GAMP 5
- Flexible arrangement
- Automatic LN2 control

### TECHNICAL CHARACTERISTICS



#### Materials

AISI 316/316L -  $R_a \leq 0.8 \mu\text{m}$   
AISI 304/304L -  $R_a \leq 1.4 \mu\text{m}$   
EPDM/PTFE/Silicone

Interior  
Exterior  
In product contact, certified FDA



#### Dimensions & weight

Length	2380 mm
Width	1930 mm
Height	2450 mm
Weight	1100 kg

## DOSING

Frewitt's electrical, double screw feeder is a compact system designed for the gentle and precise dosing of solid products. A uniform and clog-free product flow is ensured. Thanks to its compact construction, the stand-alone electrical double screw feeder by Frewitt is easily integrated into Frewitt units or the customers' existing process plants. Screws are guided on both ends, avoiding metal contact and contamination. On the inlet, the screw feeder is equipped with a bridge breaker system for poor-flowing products. It is mounted on a lifting and swiveling module for easy cleaning and maintenance.

This device is also available with CIP as option.



## FILTERING

Specially engineered, Frewitt's compact cyclone filter ensures a process under very low pressure. The de-dusting filters are cleaned automatically by pressure impulses, guaranteeing that the whole cartridge surface area remains clog-free. The powder is then blown back into the final product, avoiding loss.

The filter is mounted on a separate mobile trolley, this trolley allows the filter unit to be placed on the machine's lifting unit for easy dismantling.

## LIFTING

Integrated mobile lifting system for Frewitt's FlexMill range, users have the option of docking the mill onto the mobile lift, anywhere in the production area. The device can be brought to the desired height with a touch of a button, easily integrating into an existing or new process stream in an open or closed application.

In the PMC-260 the lifting column FreLift is ranged 1400 mm, is equipped with 4 castors, 2 fixed in the front and 2 mobile with a brake in antistatic execution at the back, an electrical panel of the machine integrated at the back of the column, with cabling shrouded inside. It also includes a special side-hinged module for easy filter removal for cleaning.







## WORLDWIDE PRESENCE



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