



# KINEMATICA

Homogenizing perfected.



## POLYMIX®

**LABORATORY LINE**

### POLYMIX® PX-MFC 90 D

Laboratory mill, dry sample preparation

# POLYMIX® PX-MFC 90 D

## Laboratory mill.

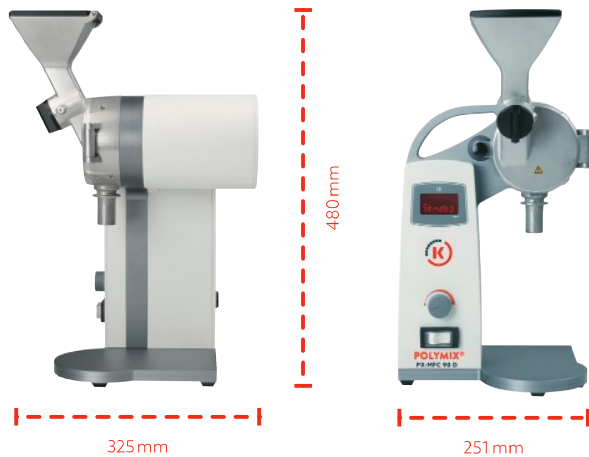
Analysis or quality control requires finely ground samples. Easy to change grinding attachments and sieves extend the range of any samples that can be processed. Simple handling, high user safety and efficient grinding results are just a few of the advantages of this mill.

### YOUR LABORATORY EXPERT

This laboratory mill is characterized by a very robust design using solid milled parts and hardened components that have been designed for high wear and tear found with such processes as grinding of stones which can have a hardness of up to 6 on the Mohs scale. You will receive tried and tested Swiss quality.

### ERGONOMICS

- Dust protected main safety switch
- Gearless speed control
- Illuminated speed- and status display
- Funnel with hinged lid
- Refilling during operation is possible depending on the product
- Sample dosing or addition with turnstile
- Tight-fitting stodger in grinding chamber for subsequent application of pressure
- Grinding attachment variants can be easily changed by customer
- Tool free sieve change
- Motor stop when opening grind chamber
- Very simple cleaning process
- Carrying handle
- Very quiet maintenance-free motor
- Integrated excess load-, excess heat- and jam protection
- Automatic standby mode





#### RESULTS ARE CRUCIAL

Attainable particle sizes	< 40µm (depending on product)
Sieve kernel sizes	1/5 of sieve diameter is the approximately attainable kernel size e.g., sieve 0.2mm/5 = 0.04mm (40µm)
Grinding attachment variants	Hammering / Blade from hardened stainless steel Hammer grinding attachment: brittle samples Blade grinding attachment: stringy, fibrous samples

#### TECHNICAL INFORMATION

Funnel volume	300ml
Product discharge	For collection tubes with norm grinding NS29
Sieves	0.2 to 6 mm mesh size
Grinding attachments (convertible)	Hammer grinding attachment Blade grinding attachment
Motor	Wear-free three-phase motor Gearless direct drive Security system auto-off
Drive power	1000W
Speed range	50 to 6000 rpm
Sound level (without load)	70 dB(A) for 6000 rpm
Supply voltage	100 - 230 V ± 10%, 50Hz / 60Hz
Maximum relative humidity	80% in storage 80% during operation
Operating temperature	0 - 40 °C
Protection class according to DIN	IP 20
Measurements (L x W x H)	325 x 251 x 480 mm
Weight	12 kg
Standard EMC	IEC / EN 61000-6-2 / EN 61000-6-3
Safety Norm	IEC / EN 61010-2-51



#### USERS / APPLICATION RANGES

- Grinding of solids for general sample preparation
- Grinding samples for dry analysis or analysis in liquids
- Sample preparation in content analysis
- Sample preparation for quality control
- Pollutant analysis (e.g. ground samples, foodstuffs etc.)

This list provides a small selection of possible applications.

# Grinding attachments.

Blade grinding or hammer grinding? You have the choice.

If there are questions regarding the use of our mill for your application after speaking with a specialist, our application lab will be happy to run your sample and send the results for your inspection.

## NOTE ABOUT GRINDING ATTACHMENTS

Wet samples or samples with high fat content gum up the sieve and chamber, producing a useless grinding result. For these types of samples Kinematica provides the POLYMIX® mixer and POLYTRON® homogenizers. They cover a broad range of samples.



## BLADE GRINDING ATTACHMENT

### Technology

Consists of a rotor with three hardened cutting knives and stator with 3 cutting bars. During the cutting process, the sample is spun around the grinding chamber and cut until the desired particle size has been achieved. The ground sample passes through the sieve into the collection container. Particles that are larger than the sieves diameter remain in the mill and can be removed by opening the grinding chamber.

Ideal for processing of dry, stringy, fibrous and fat-free materials such as:

Wood, bark, roots, leaves, straw, corks, dried fruit, dried fat-free meat, fish fins, fish bones, feathers, leather, leather skin, wool, cotton, linen, paper, coals, turf, grass, dried resins, synthetic materials, fiber glass, plastic pellets, various textiles, felt, etc.



Before



After



## HAMMER GRINDING ATTACHMENT

### Technology

Consists of a rotor with three hardened strike hammers and a grooved stator. During the grinding process, the sample is spun around the grinding chamber and struck until the desired particle size has been achieved. The ground sample passes through the sieve into the collection container. Particles that are larger than the sieve diameter remain in the mill and can be easily removed by opening the grinding chamber.

Ideal for processing of dried, brittle and fat-free materials such as:

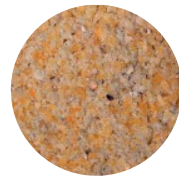
Dried grains, oats, malt, pectin, raw and roasted coffee beans, dry beans, fish skeletons, nut shells, bones, pebbles, rock, amber, ceramics, etc.



Before



After





# Order information and accessories.

Authorized extension of your system.

Our modular accessories provide the at most flexibility. Switching grinding attachments is as easy as changing sieves. Our application experts are available to answer your questions at any time.

## MILL



Sales No.	Product	Description
Mill with <b>hammer grinding</b> attachment		
35010020	PX-MFC 90 D, 230 V	CH-power cable, hammer attachment, sieve 2.0mm, tool set, rack for tubes with 12 intercepting tubes
35010021	PX-MFC 90 D, 230 V	EU-power cable, hammer attachment, sieve 2.0 mm, tool set, rack for tubes with 12 intercepting tubes
35010022	PX-MFC 90 D, 230 V	UK-power cable, hammer attachment, sieve 2.0 mm, tool set, rack for tubes with 12 intercepting tubes
35010023	PX-MFC 90 D, 100 - 120 V	Power cable, hammer attachment, sieve 2.0mm, tool set, rack for tubes with 12 intercepting tubes



Mill with <b>blade grinding</b> attachment		
35010030	PX-MFC 90 D, 230 V	CH-power cable, blade grinding attachment incl. dismantling tool, sieve 2.0 mm, tool set, rack for tubes with 12 intercepting tubes
35010031	PX-MFC 90 D, 230 V	EU-power cable, blade grinding attachment incl. dismantling tool, sieve 2.0 mm, tool set, rack for tubes with 12 intercepting tubes
35010032	PX-MFC 90 D, 230 V	UK-power cable, blade grinding attachment incl. dismantling tool, sieve 2.0 mm, tool set, rack for tubes with 12 intercepting tubes
35010033	PX-MFC 90 D, 100 - 120 V	Power cable, blade grinding attachment incl. dismantling tool, sieve 2.0 mm, tool set, rack for tubes with 12 intercepting tubes



## STODGER

Sales No.	Product	Description
35080001	Stodger	For active insertion of fibrous materials, which do not reach the grinding chamber due to their weight.



## OTHER ACCESSORIES

Sales No.	Product	Description
35080004	Intercepting tubes	12 intercepting tubes for PX-MFC 90 D
35080003	Rack for tubes	Rack with a drawer for 12 intercepting tubes

### GRINDING ATTACHMENTS

Sales No.	Product	Description
35031001	Hammer grinding attachment	Consists of 3-armed rotor and grooved stator / tool included.
35031002	Blade grinding attachment	Consists of 3-armed rotor with cutting knives and stator with 3 cutting bars / tool included.



### SIEVE ATTACHMENTS

Sales No.	Product	Description
35095002	Sieve 0.2	Hole diameter 0.2 mm
35095005	Sieve 0.5	Hole diameter 0.5 mm
35095008	Sieve 0.8	Hole diameter 0.8 mm
35095010	Sieve 1.0	Hole diameter 1.0 mm
35095015	Sieve 1.5	Hole diameter 1.5 mm
35095020	Sieve 2.0	Hole diameter 2.0 mm
35095030	Sieve 3.0	Hole diameter 3.0 mm
35095040	Sieve 4.0	Hole diameter 4.0 mm
35095050	Sieve 5.0	Hole diameter 5.0 mm
35095060	Sieve 6.0	Hole diameter 6.0 mm



Depending on the sample, even finer results can be achieved by grinding with two or more sieves with progressively smaller hole sizes. Each mill includes a 2.0 mm sieve attachment.

Hole diameter: Depending on the product, 1/5 of sieve diameter is the approximately attainable particle size.

Example: Sieve 0.2 mm / 5 = 0.04 mm (40µm)