

Planetary Ball Mills, (4 Models) *classic line*, FRITSCH

Planetary ball mills

For rapid batchwise ultra fine grinding down to colloidal fineness of hard to soft materials dry or in suspension. Mixing and perfect homogenizing of emulsions and pastes as well as to mechanical alloyage.

Typical fields of application:

Geology and mineralogy, ceramics, chemistry, biology, medicine, pharmacology and galenic research, nuclear research, materials engineering, analysis preparation: spectroscopy, x-ray fluorescence, x-ray structure analysis, chromatography

Method of operation:

The Planetary ball mills work according to the known and reliable planetary system. The sample is primarily crushed by the high-energy impact of grinding balls and in part by friction between the balls and the wall of the grinding bowl.

Features at a glance:

- very fast uniform comminution
- no-loss grinding - including suspensions because of grinding bowls with sealing ring
- reproducible grinding results due to controlled drive and programmable electronic system
- programmable grinding and cooling times and reversible operation
- RS232 interface for data transfer of process parameters (validation)
- microprocessor control electronic system and precise digital display of all functions (as well as rotational speed)
- analytically pure grinding materials in 9 different materials for contamination-free grinding
- easy cleaning
- safety tested (CE mark)
- 2-year guarantee

4 different models with different feed quantities are available:

Technical data:

PULVERISETTE 5 *classic line* (2 models):

Max. feed size:	10 mm
Max. throughput:	Model I up to 4 × 225 ml Model II up to 2 × 225 ml
Final fineness:	< 1 µm
Dimensions (L × D × H):	58 × 67 × 57 cm
Weight net:	120 kg

PULVERISETTE 6 *classic line*

Max. feed size:	10 mm
Max. throughput:	up to 1 × 225 ml
Final fineness:	< 1 µm
Dimensions (L × D × H):	37 × 53 × 50 cm
Weight net:	63 kg



Article	Order No.
① Planetary mill PULVERISETTE 5 <i>classic line</i> , model I	53 98 05500
With 4 fasteners , without grinding bowls and balls, for 100 – 120/200 – 240 V/1~, 50 – 60 Hz, 1300/1600 Watt (the voltage specified on the order form will be set by the factory)	
Article	Order No.
Planetary mill PULVERISETTE 5 <i>classic line</i> , model II	53 98 05600
With 4 fasteners , without grinding bowls and balls, for 100 – 120/200 – 240 V/1~, 50 – 60 Hz, 1300/1600 Watt (the voltage specified on the order form will be set by the factory).	

Article	Order No.
② Planetary mono mill PULVERISETTE 6 <i>classic line</i>	53 98 06000
With just one working station and an adjustable mass to compensate for imbalances which develop, without grinding bowls and balls, for 100 – 120/200 – 240 V/1~, 50 – 60 Hz, 1100 Watt (the voltage specified on the order form will be set by the factory).	

Grinding bowls and balls for the PULVERISETTE 5 und PULVERISETTE 6 should be chosen from the **corresponding** list, because otherwise operation is not possible.

We also offer a Vario-Planetary Mill PULVERISETTE 4 *classic line*, where the rotation speed of the grinding bowl and supporting disc can be set independently of each other. For small sample volumes, the planetary micro mill PULVERISETTE 7 *classic line* is recommended, max. sample size: 5 mm, max. sample amount: 40 ml.

As an upgrade of the existing *classic line* planetary mill, FRITSCH offers a premium line generation for the first time, see catalogue page XXX. With the planetary mill premium line, you can reach unprecedented revolution numbers and thus ultra-fine grinding results in the nano-range.

③ Accessories PULVERISETTE 5 and PULVERISETTE 6 *classic line*

Cylindrical grinding bowls with cover and seal ring

Material	Volume ml		
	500	250	80
	Order No.	Order No.	Order No.
Stainless steel	53 98 05213	53 98 05313	53 98 05413
Agate	53 98 05201	53 98 05301	53 98 05401
Sintered corundum	53 98 05205	53 98 05305	53 98 05405
Silicon nitride	53 98 05203	53 98 05303	53 98 05403
Zircon oxide	53 98 05215	53 98 05315	53 98 05415
Hard metal TC		53 98 05309	53 98 05409

One bowl holder can hold either 2 × 80 ml bowls or 1 × 80 ml bowl together with reducing adapter.

Adapter

Required, when only one bowl is used per bowl holder.

Article	for	Order No.
Adapter	Grinding bowl 80 ml volume	53 98 90112

Grinding balls for their grinding bowls (pulverisette5/6)

Material	Ball Ø mm			
	10	20	30	40
	Order No.	Order No.	Order No.	Order No.
Stainless steel	53 98 05711	53 98 05712	53 98 05713	53 98 05714
Agate	53 98 05611	53 98 05612	53 98 05613	
Sintered corundum	53 98 05651	53 98 05652	53 98 05653	53 98 05654
Silicon nitride	53 98 05631	53 98 05632	53 98 05633	53 98 05634
Zircon oxide	53 98 05751	53 98 05752	53 98 05753	53 98 05754
Hard metal TC	53 98 05671	53 98 05672	53 98 05673	53 98 05674

Grinding bowls and balls are also available in other materials.

Grinding balls are also available in the diameters 0.5 - 4 mm (to obtain fineness in the nanometre range), as well as in 5 mm and 15 mm (see grinding balls for grinding bowls for planetary micro mill PULVERISETTE 7 premium line).

Recommended number of grinding balls (max. per bowl)

Ball dia. mm	Volume ml		
	500	250	80
5	2000	1200	250
10	100	50	25
15	70	45	10
20	25	15	5
30	8	6	
40	4		

Special lids for milling under protection gas as well as the **GTM system** for „IN SITU“ gas pressure and temperature measuring during the grinding process can be delivered.