

pulverisette® 1



Laboratory Jaw Crusher

- Fast precrushing of laboratory samples
- Suitable for hard to soft-brittle materials
- Iron-free crushing

ZERKLEINERN



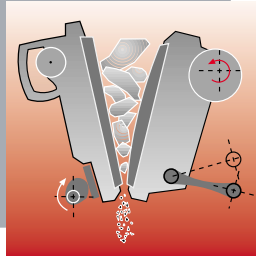
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Made in Germany

Laboratory Jaw Crusher „pulverisette 1“

working principle



Field of application

For intermittent or continuous precrushing of coarse materials.

The maximum feed size is approximately 60 mm (model I) or 95 mm (model II). The maximum throughput is 140 kg/h (model I) or 200 kg/h (model II). The optimum fineness depends on the gap setting which is approximately $d_{50} = 15$ mm (maximum gap width) $d_{50} = 1$ mm (minimum gap width)

Method of operation

The laboratory sample is crushed under high pressure between two crushing plates in an enclosed chamber.

A fixed vertical crushing plate is located between two lateral support walls. A second cam-driven crushing plate draws the sample between the plates and presses it against the fixed crushing plate. The sample pieces are crushed due to the very high pressure between the two plates.

The crushed material leaves the machine through the gap between the plates which can be adjusted from outside.

When a discrete sample is processed it can be collected in the drawer supplied. In the case of continuous operation it can be fed via a chute for further processing, such as further comminution with a „pulverisette 13“ laboratory disc mill.

Examples of application

Mining and metallurgy:

Niobium-titanium, ferrovanadium, chrome vanadium, tungsten carbide, ores, coal, slag, coke

Chemicals:

wide variety of various raw materials available in the whole spectrum of the chemical industry

Geology and mineralogy:

Rocks, granite, basalt, barite, silicates

Glass industry:

Frits, glass, raw materials

Ceramics:

Steatite, fire-clay, sintered ceramics, electroporcelain

Construction materials:

Bauxite, clinker, quartz, concrete

Design Characteristics

- Totally enclosed crushing chamber
- Adaptable crushing geometry
- 10 stage gap setting adjustment
- Crushing plates easily accessed and replaced
- No accessible, moving parts fully interlocked-casing
- Maintenance-free drive motor
- Flywheel of high mass
- Recyclable, compact gray cast-iron housing

Advantages

- Final fineness down to $d_{50} < 1$ mm
- Very fast, uniform comminution
- Almost loss-free grinding
- Closed grinding chamber with extraction part for dust free operation
- Easy cleaning, minimum contamination between samples
- Analytically pure grinding materials for contamination-free grinding

Laboratory Jaw Crusher „pulverisette 1“

gap setting and connecting
for dust extraction



„pulverisette 1“ in combination
with „pulverisette 13“



- 5 different materials for crushing plates and support walls
- Compact design
- High power 1.1 or 2.2 kW overload protected motor, heavy duty bearings
- Can be combined with „pulverisette 13“ laboratory disc mill
- Safety tested by TÜV (CE mark)
- 2 year guarantee

Accessories

■ Crushing plates and support walls

The crushing plates and support walls are available in 5 different materials to ensure that contamination of the samples through abrasion of the grinding parts is avoided during processing.

Material	Density g/cm ³	Abrasion resistance	Material to be crushed
Stainless steel 16.5-18.5 % Cr + 10.5-13.5 % Ni	7.8	fairly good	medium-hard, brittle sample
Manganese steel 12-13 % Mn	7.9-8	good	hard, brittle sample
Tempered steel 11-12 % Cr	7.9	good	hard, brittle sample
Hardmetal tungsten carbide 91 % WC + 9 % Co	14.8	very good	hard, abrasive sample
Zirconium oxide 94.8 % ZrO ₂	5.7	extremely good	abrasive, medium-hard sample, for iron- free grinding

Normally, the crushing plates and support walls should be of the same material, but if the lateral walls are not subjected to any great load, it is possible to retain the tempered steel support which are supplied as standard.

■ Equipment for iron-free precrushing

A conversion kit for iron-free precrushing can be supplied which comprises:

- Crushing plates of zirconium oxide
- Support walls and crushing plate holders of special aluminium
- Polyamide funnel

■ Continuous operation

Mounting frame with delivery chute

■ Fine precrushing from 95 mm down to 0.1 mm

Mounting frame with delivery chute in combination with the „pulverisette 13“ laboratory disc mill

■ Dust extraction

For dust-free grinding

Technical data

	Model I	Model II		Model I + II
Funnel opening	65 x 65 mm	100 x 100 mm	Bearings	Needle and spherical roller bearings
Feed particle size	approx. 60 mm	approx. 95 mm	Standard equipment	Crushing plates and lateral support walls of tempered steel
Throughput	140 kg/h	200 kg/h	Dimensions W x D x H	41 x 83 x 72 cm
Gap width (fineness)	1 - 15 mm	1 - 15 mm	Packing Details	Box 59 x 93 x 102 cm
Motor power	1.1 kW	2.2 kW		
Weight	Net 177 kg Gross 217 kg	Net 205 kg Gross 245 kg		
	Model I		Model II	
Electrical details	400 V/3~, 50-60 Hz, 1400 watt 230 V/1~, 50-60 Hz, 1700 watt 115 V/1~, 50-60 Hz, 1630 watt		400 V/3~, 50-60 Hz, 2800 watt	

Ordering data

Order-Nr.	Description	For rapid fax quotation tick here!
	Laboratory Jaw Crusher „pulverisette 1“ including fixed and movable crushing plates and lateral support walls of tempered steel * included in the basic price of the machine	
01.503.00	Model I , for 400 V/3~, 50-60 Hz, 1400 watt, 1500 rpm Attention: The „pulverisette 1“ with voltage of „3/~“ can only be operated on a three phase supply network! Other voltages on request.	
01.502.00	Model I , for 230 V/1~, 50-60 Hz, 1700 watt, 1410 rpm	
01.501.00	Model I , for 115 V/1~, 50-60 Hz, 1630 watt, 1730 rpm	
01.703.00	Model II , for 400 V/3~, 50-60 Hz, 2800 watt, 1500 rpm Attention: The „pulverisette 1“ with voltage of „3/~“ can only be operated on a three phase supply network! Other voltages on request.	
	Accessories for Model I	
	Crushing plates	
43.001.09*	fixed crushing plate of tempered steel	
43.002.09*	movable crushing plate of tempered steel	
43.003.10	fixed crushing plate of stainless steel	
43.004.10	movable crushing plate of stainless steel	
43.005.08	fixed crushing plate of hard metal tungsten carbide	
43.006.08	movable crushing plate of hard metal tungsten carbide	
43.013.23	fixed crushing plate of manganese steel	
43.014.23	movable crushing plate of manganese steel	
43.010.27	fixed crushing plate of zirconium oxide	
43.011.27	movable crushing plate of zirconium oxide	
	Lateral support walls	
43.007.09*	1 pair of lateral support walls of tempered steel	
43.008.10	1 pair of lateral support walls of stainless steel	
43.009.08	1 pair of lateral support walls of hard metal tungsten carbide	
	Accessories for iron-free precrushing	
01.540.00	Conversion kit with crushing plates made of zirconium oxide	
	Accessories for Model II	
	Crushing plates	
43.301.09*	fixed crushing plate of tempered steel	
43.302.09*	movable crushing plate of tempered steel	
43.303.10	fixed crushing plate of stainless steel	
43.304.10	movable crushing plate of stainless steel	
43.305.08	fixed crushing plate of hard metal tungsten carbide	
43.306.08	movable crushing plate of hard metal tungsten carbide	
43.313.23	fixed crushing plate of manganese steel	
43.314.23	movable crushing plate of manganese steel	
43.310.27	fixed crushing plate of zirconium oxide	
43.311.27	movable crushing plate of zirconium oxide	
	Lateral support walls	
43.307.09*	1 pair of lateral support walls of tempered steel	
43.308.10	1 pair of lateral support walls of stainless steel	
43.309.08	1 pair of lateral support walls of hard metal tungsten carbide	
	Accessories for iron-free precrushing	
01.740.00	Conversion kit with crushing plates made of zirconium oxide	
	Accessories for Model I and II	
43.902.00	Dust exhaust system for use on 230 V/1~	
43.953.00	Dust filters for dust exhaust system (set = 3 pieces)	
43.510.00	Accessories for continuous crushing from 95 mm to 0.1 mm Mounting frame for continuous use of „pulverisette 1“ with the „pulverisette 13“ disc mill	
	See separate brochure for „pulverisette 13“ ordering data	