



HammerWitt-Lab

*The new hammer mill for small batch production
and laboratory application with upgraded process characteristics
for the pharmaceutical, food, and fine chemical industries.*

HammerWitt-Lab

Excellent for small batch production and laboratory applications

Hammer mills are particularly well-suited for the fine milling of powders.

The HammerWitt-Lab hammer mill has been radically redesigned, substantially increasing efficiency.

Setting new benchmarks in the industry in terms of modularity, user and maintenance friendliness, it offers unsurpassed flexibility at less cost.

The advantages are obvious

- Highly flexibility thanks to the interchangeability with a ConiWitt-150/200 conical sieve mill head! This means: two milling processes on one machine.
- The ingenious design reduces the number of moving parts to a minimum. Using tri-clamp connections, the lightweight milling head can be removed from the shaft easily and quickly.
- This means : quick, easy cleaning and maintenance, as well as high operational availability at lower operating costs.

A broader use spectrum

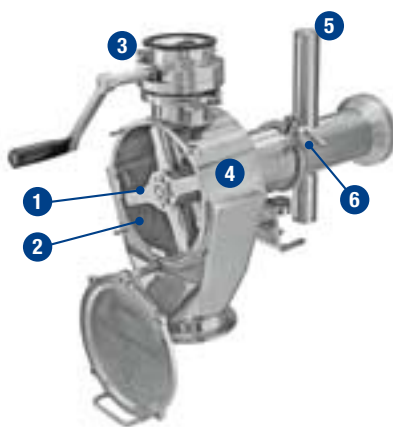
The outputs achieved with a HammerWitt-Lab can be upscaled to those of the industrial hammer mills (MFH-6 und MFH-15).

It functions as a stand alone system, and is equally easy to integrate into production facilities.

The HammerWitt-Lab is preferable for the high precision fine milling required in the pharmaceutical, food, and fine chemical industries.



The HammerWitt-Lab milling process



- 1 Rotor with hammer and blade side
- 2 Sieve in various sizes
- 3 (Manual or pneumatic) rotary paddle feeder for the product
- 4 Milling chamber with improved surface finish and frontal access for easy handling and cleaning
- 5 Inlet funnel and front door equipped with a safety switch (cable channel inside the arm)
- 6 Milling head detachable and interchangeable with a ConiWitt head!

The HammerWitt-Lab milling head comprises the following process modules:

Rotary paddle feeder and milling chamber with high speed rotor. The product is sized by a sieve in the milling chamber, resulting in a fine powder with optimum particle size distribution and large active sieve surface. It is the only hammer mill in this size class in which the head is interchangeable with a conical sieve mill.

Milling forces



In a hammer mill, the product is pulverized by impact on the rotor and the shearing forces acting between the particles.

The HammerWitt-Lab is part of Frewitt's complete line of mills.

Final products particle sizes between 30 cm to 50 µm can be processed.



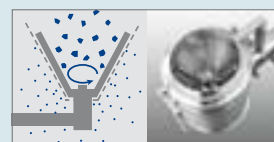
30 cm 2 cm

Crusher
CCD-450
CC-310



5 cm 250 µm

Oscillating Sieve Mill
MF-Lab
MF-3
MF-6
MF-8



2 cm 150 µm

Conical Sieve Mill
TC-Lab
ConiWitt-150
ConiWitt-200
ConiWitt-250



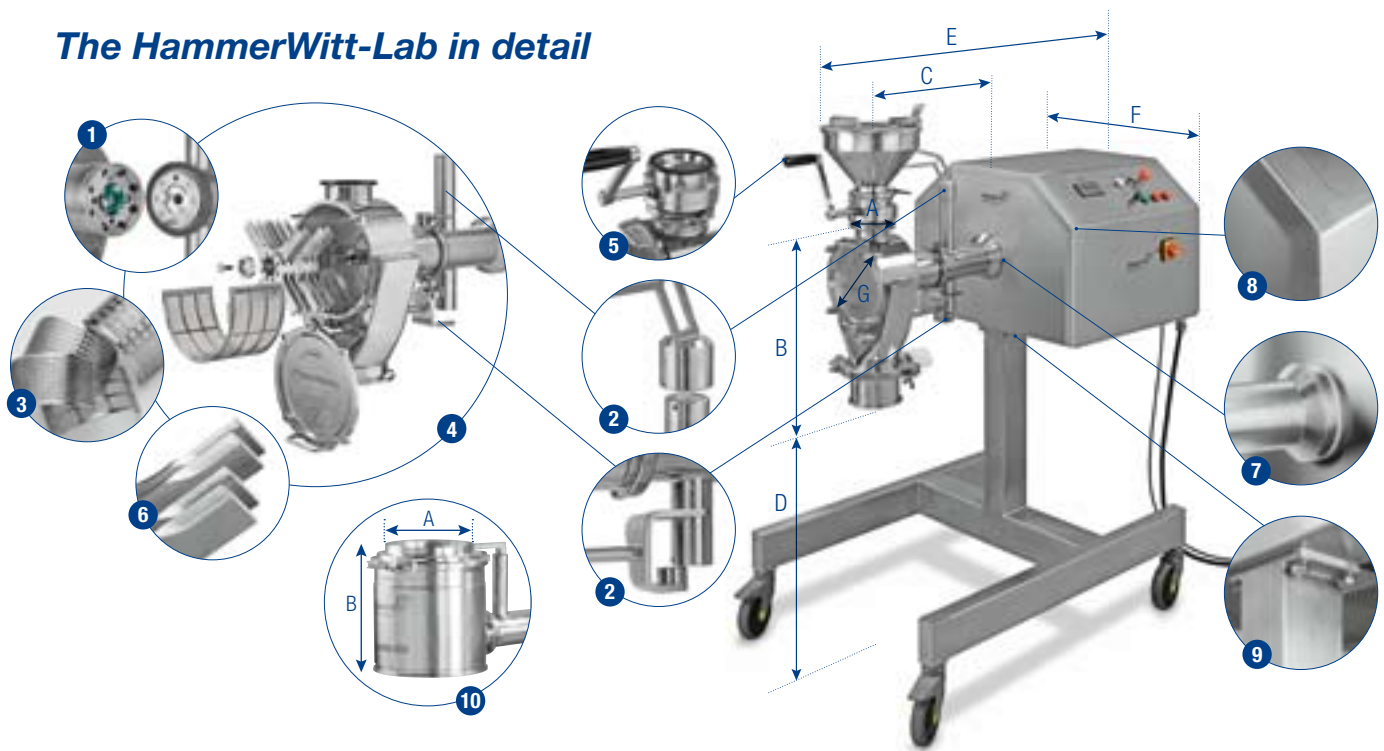
1 cm 50 µm

Hammer Mill
HammerWitt-Lab
MFH-6
MFH-15

Particle Size

30 cm 15 cm 1.5 cm 1.5 mm 50 µm

The HammerWitt-Lab in detail



The HammerWitt-Lab at a glance

- 1 Milling head easily detachable with tri-clamp connections. Interchangeable with the ConiWitt-150 and ConiWitt-200 conical sieve mill heads!
- 2 Safety switch (standard) for the inlet and front door, all cables out of sight in inside channels
- 3 Large selection of sieve inserts for sizing solid products
- 4 Easy handling, quick cleaning and easy to convert
- 5 Manually or pneumatically operated CIP rotary paddle feeder, can be separately used and is dismantled in just a few steps
- 6 High speed rotor with hammer and blade side (standard), or high impact rotor for heavy duty use
- 7 Easy to clean, no outside cables on the arm
- 8 No screws on the cover
- 9 Easy attachment
- 10 Multi-functional mill, thanks to the interchangeability of the hammer milling head with a conical sieve mill head
 - Upscalable to the MFH-6 and MFH-15 mills for large production batches
 - Rated for ATEX Zone 0/20 inside
 - Can be installed through a wall, with the motor in the machine room

Installation	B	C	D	E	F	G	A - INLET (ISO 2852)	A - OUTLET (ISO 2852)
HammerWitt-Lab	487	433	768	1008	653	∅ 193	DN 80	DIN 125
ConiWitt-150	250	350	920	1045	653	–	DN 150	DN 150
ConiWitt-200	314	400	920	1141	653	–	DN 200	DN 250

Advantages

Ergonomic and easy to use

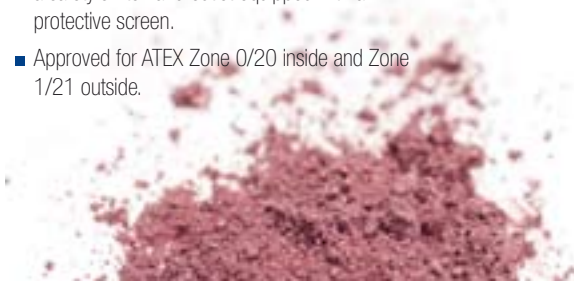
- Modular, compact design.
- Rotor and sieve easy to change.
- Mobile base on request.
- Lightweight, detachable milling head, interchangeable with the ConiWitt-150 and the ConiWitt-200 conical sieve mill heads.
- The Error-Proof-System guarantees correct installation, easy removal of the rotor and sieve, and safe to use.
- The rotary paddle feeder can be operated either manually or pneumatically.

Cleaning according to the strictest health standards

- Milling head autoclavable.
- The milling head is made from AISI-316L stainless steel. The polished, even surfaces allow the product to flow through without friction and without leaving residues.
- The HammerWitt-Lab complies with the Washing in Place (WIP) standards.
- Easy, safe cleaning possible due to inside cables.

Less maintenance and greater workplace safety

- Simple, intuitive, low maintenance construction.
- Efficient design for after-sales service.
- Quick delivery service of spare parts.
- Inlet and front door standardly equipped with a safety switch and outlet equipped with a protective screen.
- Approved for ATEX Zone 0/20 inside and Zone 1/21 outside.





Significantly higher flexibility and performance

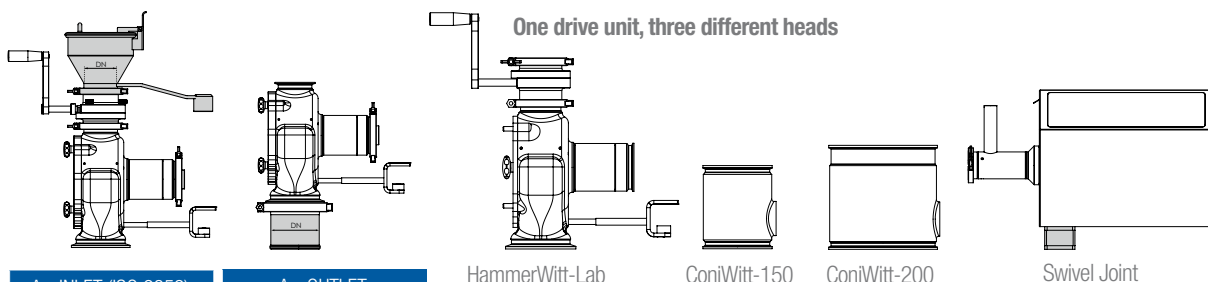
- Thanks to the interchangeability of the HammerWitt-Lab hammer mill head with the heads of the ConiWitt-150 and the ConiWitt-200 conical sieve mills, which are the newest generation of their kind on the market, future technology and flexibility are already built into the standard version today.
- The ConiWitt-150 head expands the range of small batch and laboratory applications with a conical sieve milling process, and the HammerWitt-Lab can be converted to a large scale production system with the ConiWitt-200 head (see the table on this page).
- The outputs of the HammerWitt-Lab can be upscaled to those of the MFH-6 and MFH-15 industrial hammer mills.
- Benefitting from a large selection of sieves and the rotor with a hammer and a blade side; which is a standard feature, the milling process can be adapted to every conceivable product.
- Optional base with adjustable height.
- The new and improved inner surface finish of the milling chamber reduces residue buildup to a minimum.

	Flow rate*	Voltage	Speed	Power	Net weight
HammerWitt-Lab	up to 300 kg/h	3 x 400 V - 50 Hz	max. 7000 U/min-1	4.0 kW	~ 200 kg
ConiWitt-150 ¹⁾	up to 1500 kg/h	3 x 400 V - 50 Hz	max. 2400 U/min-1	4.0 kW	~ 160 kg
ConiWitt-200 ¹⁾	up to 2300 kg/h	3 x 400 V - 50 Hz	max. 1800 U/min-1	4.0 kW	~ 170 kg
MFH-6²⁾	up to 1500 kg/h	3 x 400 V - 50 Hz	max. 6000 U/min-1	4.0 kW	~ 420 kg
MFH-15²⁾	up to 5000 kg/h	3 x 400 V - 50 Hz	max. 4500 U/min-1	7.5 - 15 kW	~ 470 kg

* The flow rate depends on product characteristics and particle size: 1) Conical sieve mills 2) Industrial hammer mills

Construction	Parts in contact with the product	Parts not in contact with the product
Metals	1.4435 / 1.4404 (AISI-316L)	1.4301 / 1.4305 (AISI-304)
Seals	FDA compliant plastics (EPDM / PTFE)	Various plastics
Surface finish	Ra ≤ 0.8 µm polished	Ra ≤ 1.4 µm polished
Weld seams	Ground and polished	Treated and brushed
Rotor	HammerWitt-Lab Rotor rotor with 16 arms	
Perforated sheet / sieve	∅ ~100 µm – 10 mm	

Options for custom-made solutions



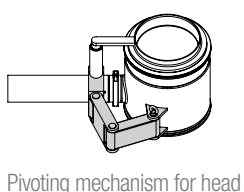
A - INLET (ISO 2852)	A - OUTLET
DN 80 Inlet	DIN 125 Outlet
Tri-clamp	Tri-clamp
α/β Port Connection	α/β Port Connection

HammerWitt-Lab

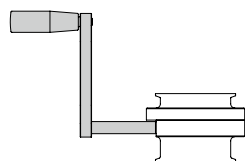
ConiWitt-150

ConiWitt-200

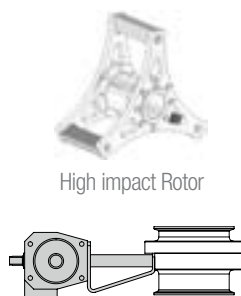
Swivel Joint



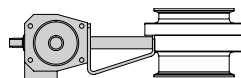
Pivoting mechanism for head



Manual ValveWitt-80



High impact Rotor



Pneumatic ValveWitt-80

Other available options

- ATEX T3, T4, Zone 0/20 inside, Zone 1/21 outside
- Swivel mechanism for head
- In-wall installation, production room and machine room in separate zones
- Interchangeable ConiWitt-150 and ConiWitt-200 heads
- Easy installation on a lift column
- Manual or pneumatic ValveWitt-80
- High impact rotor



A particle sizing system for universal use

Beckoned by needs for flexible, small batch production and laboratory applications, it has already established a place for itself in the market. HammeWitt-Lab is used in research and production in the pharmaceutical, food, and fine chemical industries.

Whether for kilo-sized-laboratory applications or small-scale commercial production, for hard or fibrous products, batch or inline processing, as a standard or customized system: The HammeWitt-Lab assures reliable, rapid, and safe processing.

For both operator and product, it lowers ownership costs. The HammeWitt-Lab is the all-around tool of the Frewitt product line that will meet your growing demands.



The HammerWitt-Lab is equipped with either a manually or pneumatically operated ValveWitt-80 inlet mechanism.



The HammerWitt-Lab is a multifunctional unit, thanks to the easy interchange of the milling head; it can be converted to a conical sieve mill.



Cleaning the HammerWitt-Lab is quick and easy thanks to the readily accessible mill housing.



The outputs of a HammerWitt-Lab are upscalable to those of the MFH-6 and MFH-15 industrial hammer mills.



Equipping a HammerWitt-Lab with a ConiWitt-200 head can increase flow rates to over 2 tons/hr.



By using the corresponding head, the deagglomerating process of a conical sieve mill can also be duplicated in the HammerWitt-Lab.

Thanks to its modular design, you can integrate the HammerWitt-Lab anywhere quickly and easily. Call us and discuss your application with us.



Worldwide presence

References

Arena Pharmaceutical GmbH
 Bayer Schering AG
 BASF Orgamol SA
 Boehringer Ingelheim GmbH
 Ciba Spezialitätenchemie AG
 Cilag AG

Clariant Produkte AG
 F. Hoffmann-La Roche AG
 Firmenich SA
 Grünenthal GmbH
 Hobako AG
 Lonza AG

Merck & Cie KG
 Nestlé SA
 Novartis Consumer Health SA
 Pfizer
 Pharmasynthese
 Sanofi Aventis

Sanofi Chimie
 Siegfried LTD
 UCB Farchim SA
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