Tube Mill control
Disposable system

IKA®

designed
to work perfectly

IKA® introduces the world's first disposable grinding system for safe, instant and precise milling results. Its unique and compact design makes the unit space saving and ultra-portable. The disposable grinding chamber eliminates the possibility of cross-contamination and saves you cleaning costs and time.

The Tube Mill control is a batch mill for grinding soft, fibrous, hard and brittle materials (Mohs hardness up to 5). The transparent grinding chamber and cover facilitate observation at all times. Convenient and safe to use while assuring high safety and reproducibility to cover a broad range of applications. Amongst other applications, the mill is suitable for grinding seeds, such as corn and wheat. The ability to cool the sample with dry ice expands applications tremendously. During development of the mill, particular emphasis was placed on user safety.

The Tube Mill control is "Patent Pending", designed and manufactured exclusively by IKA®.

IKA®+

World's first

> Disposable grinding chamber
> Cross-contamination free
> No cleaning required
> Precise milling results
> Large application range

3 Year warranty*

* 2+1 years after registering at www.ika.com/register, glassware and wearing parts excluded

reddot design award winner 2013

Protection class according to DIN EN 60529: IP 30

CE

Applications & Industries

> Food

Rice
Wheat
Cobnut
Coffee beans
Spices
Seeds
Parsley
Chocolate
(with dry ice)

> Pharmacy

Vitamin tablets
Tea leaves
Pastilles
(with dry ice)
Glauber salt
Salt of hartshorn
Blond plantain
Sour orange paring
Hawkbit roots
Calamus roots

The Tube Mill control is a highly-versatile milling device suitable for a broad range of applications used in various industries

> Cosmetics

Color pigments
Rubber benzoe
Bees wax
(with dry ice)

> Chemical Industry

Rubber
PE
PET flakes
Molecular sieve

> Biology

Leaves *(with dry ice)*
Grass *(with dry ice)*
Tobacco
Fresh ginger
(with dry ice)

> Renewable energy

Straw
Wood pellets
Woodwool + wax
Solid recovered fuel pellet
Tetrapack
Charcoal
Chipped wood

> Building Materials Industry

Gypsum
Marble

> Medicine / Forensic

Chicken bones
Chicken skin
(with dry ice)
Pig craw
(with dry ice)
Chicken gristle
Teeth
Bone

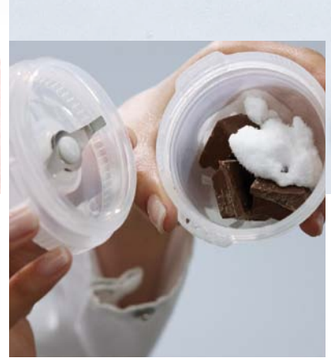
Cryo grinding for advanced results

Typical applications for sample embrittlement with dry ice:

> chocolate
> bread
> nuts
> soil samples
> gummy bears
> leaves
> meat
> sausages
> some plastics
> beef
> bones
> feedstuffs
> tobacco
> grass

The Tube Mill control can also be used to process moist, fatty, elastic and fibrous samples.

Dry ice is introduced directly into the grinding chamber in order to embrittle the sample. The insulating effect of the plastic chamber allows minimal amounts of dry ice to be used. The cold remains in the milling chamber, allowing the user to handle the grinding chamber even after cooling. This greatly increases the range of applications for which the Tube Mill control can be used.



Technical data	Tube Mill control
Process type	batch
Operating principle	cutting / impact
Motor rating input/output	100 / 80 W
Speed range	5000 – 25,000 rpm
Max. circumferential speed	65 m/s
Max. usable volume	40 ml
Timer	5 s – 3 min
Interval timer	5 – 60 s
Display	OLED
Max. Feed hardness	5 Mohs (manganese or apatite: 5 Mohs)
Max. granularity of task	10 mm
Mill feed can be cooled in milling chamber with dry ice	yes
Dimensions (W x D x H)	180 x 300 x 170 mm
Weight	2.7 kg
Permissible ambient temperature	5 – 40 °C
Permissible relative moisture	80%
Protection class according to DIN EN 60529	IP 30
USB interface	yes
Voltage	220 – 240 V
Frequency	50/60 Hz
	Ident. No. 0004180000

Technical data	MT 40 Disposable grinding chamber
Useful volume	40 ml
Grinding chamber material	Transparent plastic (PP)
Beater	Stainless steel
	Ident. No. 0004425000

All parts that are in contact with the product are FDA conform

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Special safety features

> The mill can only operate if the hood is closed

> The motor does only operate with a correct grinding chamber

> The system recognizes if the grinding chamber is not properly closed and the machine will not operate

> The grinding chamber cannot be opened during the process

> The motor is fitted with a labyrinth seal, preventing dust from entering the motor

Disposable grinding chamber:

Stops cross-contamination

No cleaning required

Easy handling

Disposable grinding chamber

The disposable grinding chamber with a stainless steel beater reduces soft, medium, hard and brittle materials with a Mohs hardness of up to 5 (manganese or apatite: 5 Mohs). The chamber is made of transparent plastic so grinding tests can be observed at any time. In addition the chamber shows excellent resistance to chemicals and temperature.

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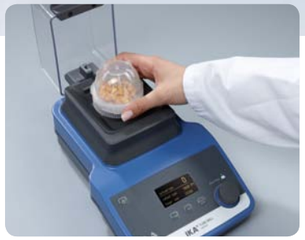
No cleaning costs

The grinding chamber can either be disposed of after the test or it can be used for storage of the processed sample. This new procedure will save on both time and money. As no cleaning of the tube system is required, the user is safe from aerosol formation that frequently occurs during cleaning procedures.

After grinding, a part of the sample will be analyzed. The remaining sample can either be discarded or it can be stored as a reference sample directly in the grinding chamber. In the later case, grinding chambers can be labeled and either stored in a refrigerator or in a drying room. Reference samples can be re-analyzed and traced at any time.

Step 1 | Fill the sample in the grinding chamber



Step 2 | Attach the grinding chamber onto the Tube Mill

Step 3 | Start the milling process

Step 4 | Grinding the sample

Step 5 | Remove the grinding chamber

Step 6 | Remove the grinding sample

labworldsoft®

IKA® laboratory software labworldsoft® is an advanced software for all your laboratory needs. With the help of this software, you can network up to 64 laboratory devices via one PC. All test parameters can be documented ensuring complete automation of your laboratory experiments. Measurements and processes may be run independently. Long waits and processing times are reduced, which increases productivity.

Comprehensive Worldwide Service!

Our dedicated team of engineers provides comprehensive worldwide technical service. Please feel free to contact your dealers or IKA® directly in case of any service queries. Hotline: In the event of an equipment malfunction or technical questions regarding devices and spare parts:
call 00 8000 4524357 (00 8000 IKAHELP)

IKA® Application Support

Our Application Center spans 400 sqm and offers modern facilities for presenting and testing lab devices and processes. This brings us even closer to our customers and improves our service. Here, prospective buyers and customers can test out processes that involve stirring, shaking, dispersing, grinding, heating, analyzing and distilling. In addition, it also further extends the opportunity to test your own devices and to develop new models.

Patent pending

Speed Time — Adjustable safety speed and time

Interval — Interval operation available

USB interface to control and document all the parameters and for updating your firmware

Safety — Special safety features

OLED Display — Clearly arranged, multi-lingual OLED display

Quiet operation

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CE

Please visit **www.ika.com**

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Ordering made easy!

For more information about our products and to place your order, please visit:

www.ika.com

Service | FAQ

Is it possible to use the grinding chamber more than one time?
We recommend to use the grinding chamber only once to avoid cross-contamination

What about the cleaning methods of the grinding chamber?
Before the first use, the grinding chamber can be autoclaved

What material are the grinding chamber, knife and vlies made of?
The grinding chamber is made of PP, the knife is made of spring steel 1.4310 and vlies are made of PA

Can standard grinding chamber be used with dry ice?
Yes, the grinding chamber can be used with dry ice

What about the end fineness of samples?
The end fineness is between 1 – 100 µm (depends on sample)

What about the minimum quantity for the grinding chamber?
One corn

What about the Mohs hardness of the samples?
The maximum Mohs hardness for samples is 5

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IKA®-Werke GmbH & Co. KG
Janke & Kunkel-Str. 10
79219 Staufen
Germany

Tel. +49 7633 831-0
Fax +49 7633 831-98

sales@ika.de
www.ika.com

IKA® **German** technology