Tube Mill control
Disposable system

World’s first
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®.

Protection class according to DIN EN 60529: IP 30

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

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

> Food
- Rice
- Wheat
- Cobnut
- Coffee beans
- Spices
- Seeds
- Parsley
- Chocolate
- 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

> 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

> Cosmetics
- Color pigments
- Rubber borax
- Bees wax
- (with dry ice)

> Chemical Industry
- Rubber
- PE
- PET flakes
- Molecular sieve

> Medicine / Forensic
- Chicken bones
- Chicken skin
- (with dry ice)
- Pig crazv
- (with dry ice)
- Chicken gristle
- Teeth
- Bone

> Building Materials Industry
- Gypsum
- Marble

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.
## Tube Mill control | Technical data

<table>
<thead>
<tr>
<th>Technical data</th>
<th>Tube Mill control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process type</td>
<td>batch</td>
</tr>
<tr>
<td>Operating principle</td>
<td>cutting / impact</td>
</tr>
<tr>
<td>Motor rating input/output</td>
<td>100 / 80 W</td>
</tr>
<tr>
<td>Speed range</td>
<td>5000 – 25,000 rpm</td>
</tr>
<tr>
<td>Max. circumferential speed</td>
<td>65 m/s</td>
</tr>
<tr>
<td>Max. usable volume</td>
<td>40 ml</td>
</tr>
<tr>
<td>Timer</td>
<td>5 – 30 s</td>
</tr>
<tr>
<td>Interval timer</td>
<td>5 – 60 s</td>
</tr>
<tr>
<td>Display</td>
<td>OLED</td>
</tr>
<tr>
<td>Max. Feed hardness</td>
<td>5 Mohs</td>
</tr>
<tr>
<td>Max. granularity of task</td>
<td>manganese or apatite: 5 Mohs</td>
</tr>
<tr>
<td>Mill feed can be cooled in milling chamber with dry ice</td>
<td>yes</td>
</tr>
<tr>
<td>Dimensions (W x D x H)</td>
<td>180 x 300 x 170 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>2.7 kg</td>
</tr>
<tr>
<td>Permissible ambient temperature</td>
<td>5 – 40 °C</td>
</tr>
<tr>
<td>Permissible relative moisture</td>
<td>80%</td>
</tr>
<tr>
<td>Protection class according to DIN EN 60529</td>
<td>IP 30</td>
</tr>
<tr>
<td>USB interface</td>
<td>yes</td>
</tr>
<tr>
<td>Voltage</td>
<td>220 – 240 V</td>
</tr>
<tr>
<td>Frequency</td>
<td>50/60 Hz</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Technical data</th>
<th>MT 40 Disposable grinding chamber</th>
</tr>
</thead>
<tbody>
<tr>
<td>Useful volume</td>
<td>40 ml</td>
</tr>
<tr>
<td>Grinding chamber material</td>
<td>Transparent plastic (PP)</td>
</tr>
<tr>
<td>Beater</td>
<td>Stainless steel</td>
</tr>
</tbody>
</table>

Ident. No. 0004180000

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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### 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

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The disposable grinding chamber: Stops cross-contamination No cleaning required Easy handling
Tube milling | Smooth process and easy storage

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.
IKA® offers more

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.

Tube Mill control | Your benefits

- Adjustable safety speed and time
- Interval operation available
- USB interface to control and document all the parameters and for updating your firmware
- Clearly arranged, multi-lingual OLED display
- Quiet operation
- Special safety features
- Protection class according to DIN EN 60529: IP 30

3 Year warranty®

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Please visit www.ika.com
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.