Tube Mill control
Disposable system

German technology
made in the USA
The IKA® Tube Mill is 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 the world’s first patented batch mill with disposable grinding chamber, designed and manufactured exclusively by IKA®.
Cryo grinding for advanced results

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

- **Applications & Industries**
  - **Building Materials Industry**
    - Gypsum
    - Marble
  - **Food**
    - Rice
    - Wheat
    - Cobnut
    - Coffee beans
    - Spices
    - Seeds
    - Parsley
    - Chocolate (with dry ice)
  - **Biology**
    - Leaves (with dry ice)
    - Grass (with dry ice)
    - Tobacco
    - Fresh ginger (with dry ice)
  - **Cosmetics**
    - Color pigments
    - Rubber benzoate
    - Bees wax (with dry ice)
  - **Renevable energy**
    - Straw
    - Wood pellets
    - Woodwool + wax
    - Solid recovered fuel pellet
    - Tetrapack
    - Charcoal
    - Chipped wood
  - **Chemical Industry**
    - Rubber
    - PE
    - PET flakes
    - Molecular sieve
  - **Pharmacy**
    - Vitamin tablets
    - Tea leaves
    - Pastilles (with dry ice)
    - Glauber salt
    - Salt of hartshorn
    - Blond plantain
    - Sour orange paring
    - Hawkbit roots
    - Calamus roots
  - **Medicine / Forensic**
    - Chicken bones
    - Chicken skin (with dry ice)
    - Pig crazv (with dry ice)
    - Chicken gristle
    - Teeth
    - Bone
  - **Cosmetics**
    - Color pigments
    - Rubber benzoe
    - Bees wax (with dry ice)

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 embrittlement 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

**Process type**
batch

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 | 100 ml

**Timer**
5 s – 3 min

**Max. Feed hardness**
5 Mohs (manganese or apatite: 5 Mohs)

**Max. granularity of task**
10 mm

**Display**
OLED

**Dimensions (W x D x H)**
180 x 300 x 170 mm | 180 x 300 x 212 mm

**Weight**
2.7 kg | 2.8 kg

**Permissible ambient temperature**
5 – 40 °C

**Permissible relative moisture**
80%

**Protection class according to DIN EN 60529**
IP 30

**USB interface**
yes

**Voltage**
100 – 120 V

**Frequency**
50/60 Hz

**Price**
$ 2,065 | $ 2,340

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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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**Disposable grinding chamber, 40 ml**

<table>
<thead>
<tr>
<th>Ident. No.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>MT 40.10</td>
<td>4425000 $ 94</td>
</tr>
<tr>
<td>MT 40.100</td>
<td>0020001173 $ 802</td>
</tr>
<tr>
<td>MTC 40.100</td>
<td>0020001182 $ 85</td>
</tr>
</tbody>
</table>

**Disposable grinding chamber, 100 ml**

<table>
<thead>
<tr>
<th>Ident. No.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>MT 100.10</td>
<td>0020008386 $ 109</td>
</tr>
<tr>
<td>MT 100.50</td>
<td>0020006984 $ 421</td>
</tr>
</tbody>
</table>

The disposable grinding chamber with a stainless steel beater reduces soft, medium and 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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Cross-contamination free
No cleaning required
Precise milling results
Large application range

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**Disposable grinding chamber, 40 ml, 10 pieces**

**Disposable grinding chamber, 40 ml, 100 pieces**

**Disposable grinding chamber, 100 ml, 10 pieces**

**Disposable grinding chamber, 100 ml, 50 pieces**

**Disposable grinding chamber, 100 ml, 100 pieces**

**Cover for MT 40, 100 pieces**

**Disposable grinding chamber, steril, 40 ml, 10 pieces**

**Cover for MT 40 steril, 100 pieces**

**Disposable grinding chamber, steril, 100 ml, 10 pieces**

**Cover for MT 100, 100 pieces**

**Disposable grinding chamber, steril, 100 ml, 10 pieces**

**Disposable grinding chamber, steril, 100 ml, 50 pieces**

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The Multi-use Milling Tube MMT 40.1 with a maximum volume of 40 ml can be used and cleaned in a dishwasher multiple times. The package includes a rich set of spare parts so that wearing parts can be replaced if necessary. Therefore it is possible to carry out a number of experiments with the grinding chamber depending on the nature of the sample.

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**Cover for MT 40, 100 pieces**

**Cover for MT 100, 100 pieces**

**Disposable grinding chamber, steril, 40 ml, 10 pieces**

**Disposable grinding chamber, steril, 100 ml, 10 pieces**

**Disposable grinding chamber, steril, 100 ml, 50 pieces**

**Cover for MT 100 steril, 100 pieces**

**Disposable grinding chamber, steril, 100 ml, 100 pieces**

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**Multiple grinding chamber, 40 ml**

<table>
<thead>
<tr>
<th>Ident. No.</th>
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<tr>
<td>MMT 40.1</td>
<td>0020003165 $ 251</td>
</tr>
</tbody>
</table>

**MMT 40.1 stainless steel package, includes 1 MMT 40 chamber, 25 sealings, 5 beaters, 5 couplings**

**Multiple grinding chamber, 40 ml**

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<tr>
<td>MMT 40.1</td>
<td>0020003165 $ 251</td>
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</tbody>
</table>

**MMT 40.1 stainless steel package, includes 1 MMT 40 chamber, 25 sealings, 5 beaters, 5 couplings**

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**Multiple grinding chamber, 100 ml**

<table>
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</tr>
</thead>
<tbody>
<tr>
<td>MMT 100.1</td>
<td>0020003378 $ 172</td>
</tr>
</tbody>
</table>

**A-MMT 40.100 abrasion set spare parts, includes 100 sealings, 10 beaters, 10 couplings**

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**Disposable grinding chamber, 100 ml, 10 pieces**

**Disposable grinding chamber, 100 ml, 50 pieces**

**Disposable grinding chamber, 100 ml, 100 pieces**

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Watch the video:
www.ika.com/video

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Ident. No. 4180001* | 20007145**

* 2 x MT 40 and 1 x MMT 40 included in the delivery.

** 1 x MT 40, 1 x MT 100 and 1 x MMT 40 included in the delivery.
Tube milling | Smooth process and easy storage

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.
Worldwide service network – direct contact in your region

Our dedicated team of engineers provides comprehensive worldwide technical service. Please feel free to contact IKA® directly or your dealer in case of any service questions.

For spare parts IKA® guarantees 10 years of availability. In the event of an equipment malfunction or technical questions regarding devices, maintenance and spare parts, please call us on +1 800 733-3037 or send us an email at service@ika.com.

IKA® Application Support

Our Application Center spans 400sqm 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 processes that involve stirring, shaking, dispensing, grinding, heating, analyzing and distilling.

Please call us on +1 800 733-3037, send us an email at sales@ika.net or visit our website at www.ika.com/applicationsupport.

Customizing Center

It is important that IKA products work for your application. We have a special program: product solutions tailored to your needs.

Should you not find the appropriate device in our standard product range, please send us your requested specifications through the online form. Our team will determine its feasibility and offer a solution to you.

Please visit www.ika.com/customizingcenter to review already implemented product modifications.

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

* 2-3 years after registering at www.ika.com/register, glassware and wearing parts excluded.

Protection class according to DIN EN 60529: IP 30

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.