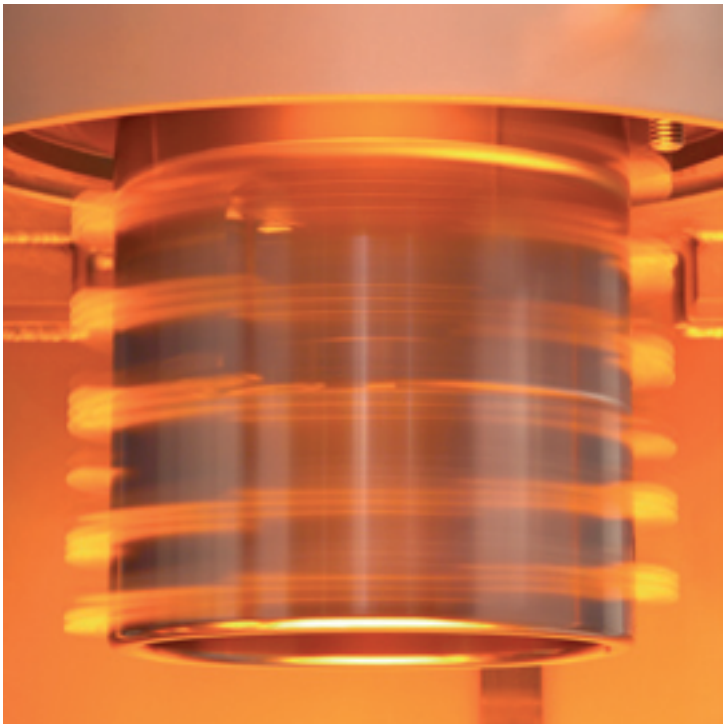
MicroMedia®.

Buhler Perl Mill®.

New ways for your product innovation.



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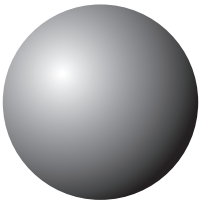
Micro beads for better products.

MicroMedia®* P1 is **the new Buhler agitated bead mill** on pilot scale for particularly demanding products. The specific technology of energy input and the defined internal product flow are designed specially for the safe use of extremely small grinding beads of 300 µm down to 20 µm. Depending on the requirements of different material systems, the operating conditions can be varied from “Soft Milling” up to “High Energy Grinding”, each in combination with unusually high flow rates. In this way, so far unknown product qualities of the highest level are achievable, exhibiting e.g. particle size distributions in the lower nanometer range, if required. As special feature of this innovative concept, the results can be transferred linearly to production mills of the successively following mill sizes of the **MicroMedia®** series.

* MicroMedia®: International patents applied for.
MicroMedia®: A trademark of Bühler AG.

Comparison of bead size
With a fraction of the size of conventional grinding beads, micro beads open up completely new possibilities in wet grinding technology.



ø 1 mm

Diameter range of grinding beads to be used in the MicroMedia®, magnified to 25 times their actual size

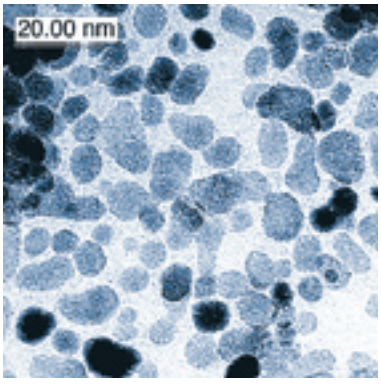
ø 300 µm ø 100 µm ø 20 µm

Some examples of the large variety of high-tech applications

- Pigment dispersions for colour filters (LCDs of the latest generation)
- Ink jet products of the highest quality level
- Nano-additives with various functional properties
- Functional ceramics (e.g. for MLCCs)
- Nanodispersions of metals
- Pigment preparations
- Pharmaceutical applications

LCDs of the latest generation

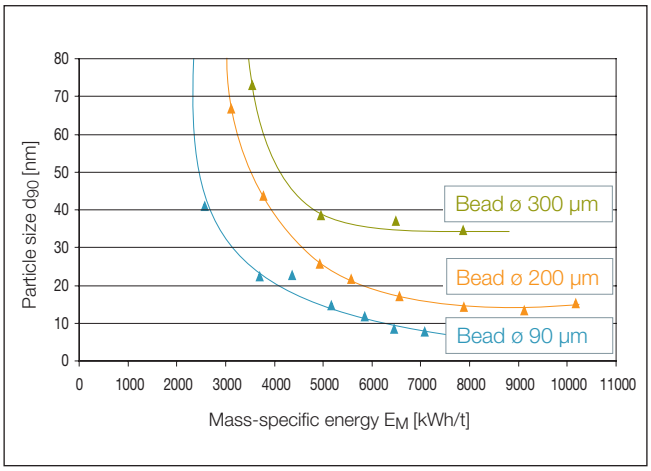
More colour strength for ink jet products



Functional nano-additives

MicroMedia® – The process technological advantages.

- Narrow particle size distribution by uniform treatment of product during axial flow through annular layer of radially centrifuged grinding beads
- Extremely low particle fineness, if required in the lower nanometer range, economically achievable by efficient shearing between micro beads
- Preferred diameter range of the micro beads 50 µm to 200 µm (permissible max. range: 20 µm to 300 µm)
- Widest range of variation of the load intensity from **“Soft Milling”** up to **“High Energy Grinding”** – electronically controllable according to the requirements of the material systems to be processed
- Extremely high flow rate capability even with the use of smallest micro beads, thus also offering ideal conditions for an efficient recirculation operation
- Wide range of processible product viscosity: 1 mPas < η < 500 mPas (measured at grinding temperature and with high shearing gradient), depending on the other operating parameters



Influence of bead diameter on quality and productivity of the grinding process.

MicroMedia® – The unique design advantages.

- Vertical arrangement of the small-volume, ring-cylindrical outer grinding chamber with product feed from the top: ideal for smooth running and extremely long durability of the mechanical seal relieved from bead load
- Ultimate elimination of bead load on the safely arranged large-surface protective screen
- Design of rotor and stator suitable for ceramic materials, ideal for metal-free grinding
- Filling and draining of beads, removal of the protective screen, cleaning and opening of the mill: ingenious detail solutions make the handling of micro beads Ø ≤ 100 µm extremely user-friendly
- Linear scale-up within the **MicroMedia®** family, due to the concept-specific consistency of the relevant geometric ratios

The Buhler offer for your product innovation:
Take us at our word and fix a date with us for demonstration tests in our test centre. Be surprised by the possibilities which are opening up for you:
Thanks to the new Buhler **MicroMedia®**.

New Buhler agitated bead mill MicroMedia® P1.

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