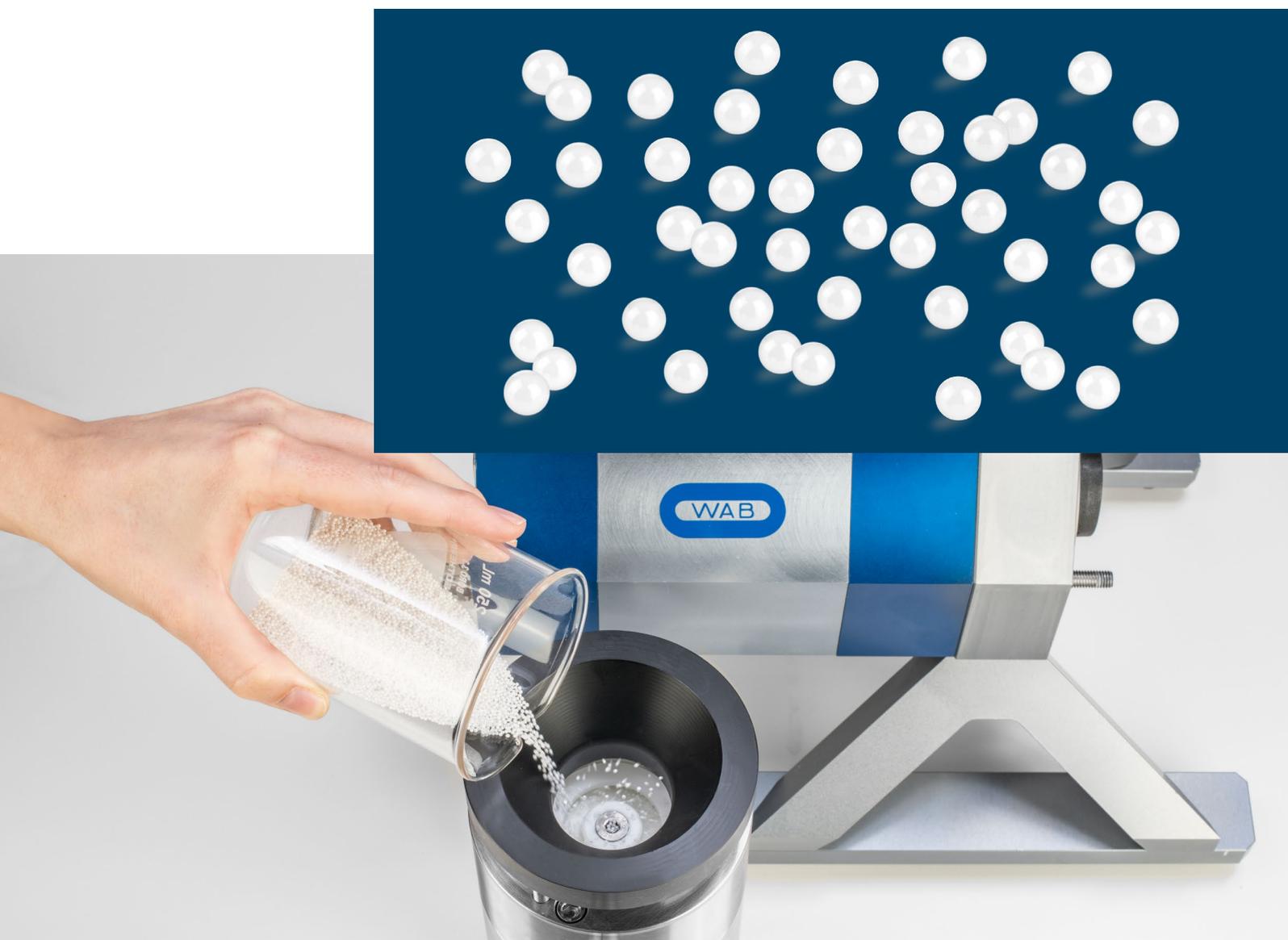


DYNO[®]-BEADS

GRINDING BEADS
TYPE G / S / C / Y / Y-XE

Optimised grinding beads for maximum efficiency and durability



DYNO®-BEADS

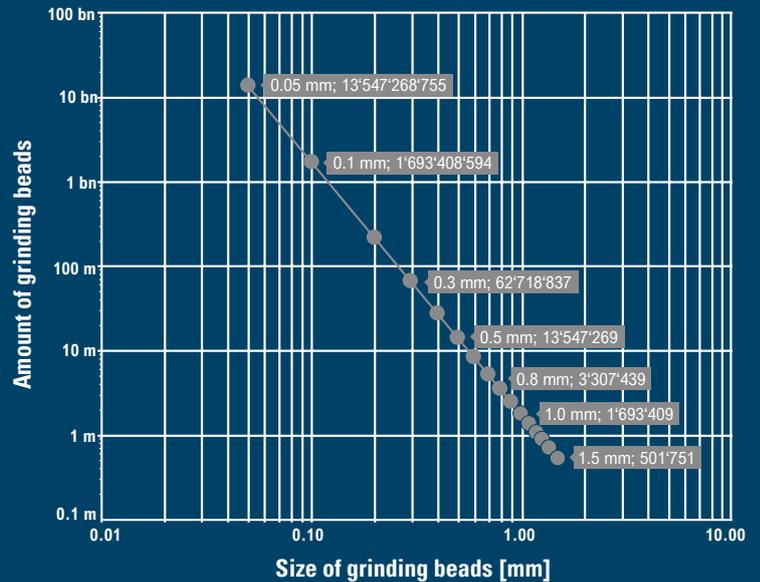
OPTIMISED GRINDING BEADS FOR MAXIMUM EFFICIENCY AND DURABILITY

Grinding beads are a decisive factor for successful grinding, dispersing or cell disruption processes. With **DYNO®-BEADS** from the WAB-GROUP® you can achieve outstanding results. We offer a perfect combination of leading DYNO®-MILL technology and high-quality grinding beads that are optimised for your applications. Our grinding media are characterised by the highest quality, energy efficiency and excellent wear behaviour. You also benefit from the comprehensive support of WAB service globally.

- Highest grinding beads quality
- Worldwide inventory at WAB-GROUP®
- Maximum productivity thanks to complete process specification from the WAB Process Technology Centre (PTC) up to production
- Stable supply chain thanks to WAB-GROUP® control

The choice of bead material, size, bulk density and functionality is determined by the application and the associated milling process requirements.

65% bead filling volume in a 2 litre mill



The bead size determines:

- The amount of beads per defined volume
- The number of impacts between the beads (number of stress events)
- The energy per impact (intensity of stress energy)

THE BEAD-MASTER

EFFICIENT FILLING AND EMPTYING

The BEAD-Master allows ergonomic handling of grinding beads and ensures effortless and efficient filling and emptying of agitator bead mills. The innovative design prevents spillage and ensures clean and safe handling. Compared to manual filling, the BEAD-Master offers enormous time savings, significantly increasing productivity. The BEAD-Master is ideal for larger machines to ensure fast and accurate filling and emptying. This practical system not only minimises the amount of work involved, but also optimises the entire process, resulting in greater overall efficiency.

The BEAD-Master is available in three different sizes – with container volumes of 100 L, 200 L and 400 L – and can be equipped with or without explosion protection to meet different filling and emptying requirements.



DYNO®-BEADS TYPE G GLASS GRINDING BEADS

TYPE G

General information

DYNO®-BEADS made of glass are particularly suitable for dispersing, cell disruption and wet grinding processes in agitator bead mills. Their low density and bulk weight make them ideal for applications where the product to be processed has a low viscosity.

Applications

- Food & Beverage
- Cell disruption
- Crop protection

Technical data

DYNO®-BEADS TYPE G

Mechanical properties	
Specific weight	2.5 kg/dm ³
Bulk density	1.46-1.53 kg/dm ³
Young's modulus	63 GPa
Mohs hardness	≥ 6

Art. No.	Ø [mm]
261250	0.25-0.50
261251	0.50-0.75
261252	0.75-1.00
261253	1.00-1.30
261254	1.25-1.65
261255	1.55-1.85
261256	1.70-2.10
261257	2.00-2.40
261258	2.40-2.90

Machine series

- DYNO®-MILL KD
- DYNO®-MILL UBM
- DYNO®-MILL CIP/SIP

TYPE G-PHARMA

General information

DYNO®-BEADS made of pharmaceutical grade glass are specifically designed for pharmaceutical applications to meet the stringent requirements of purity, quality, performance, certification and packaging.

Applications

- Food & Beverage
- Vaccine production

Technical data

DYNO®-BEADS TYPE G-PHARMA

Mechanical properties	
Specific weight	2.5 kg/dm ³
Bulk density	1.46-1.53 kg/dm ³
Young's modulus	63 GPa
Mohs hardness	≥ 6

Art. No.	Ø [mm]
261260	0.50-0.75
261261	0.75-1.00
261262	1.00-1.30
261263	1.25-1.65



DYNO®-BEADS TYPE S ZIRCONIUM SILICATE GRINDING BEADS

TYPE S

General information

DYNO®-BEADS made of zirconium silicate are grinding media with a medium bulk density and are used in agitator bead mills with agitator disc technology. Compared to conventional grinding beads of this composition, DYNO®-BEADS are characterised by their high quality, breaking strength and wear resistance.

Applications

- Crop protection
- Minerals and mining
- Industrial paint
- Ink
- Paper coating

Technical data

DYNO®-BEADS TYPE S

Mechanical properties	
Specific weight	4.1 kg/dm ³
Bulk density	2.39-2.46 kg/dm ³
Young's modulus	100 GPa
Microhardness HV ₁₀	1000

Art. No.	Ø [mm]
261265	0.40-0.60
261266	0.60-0.80
261267	0.80-1.00
261268	1.00-1.20
261269	1.20-1.40
261270	1.40-1.60
261271	1.60-1.80
261272	1.80-2.00
261273	2.00-2.20
261274	2.20-2.50

Machine series

- DYNO®-MILL KD



DYNO®-BEADS TYPE C ZIRCONIUM OXIDE, CERIUM STABILISED GRINDING BEADS

TYPE C

General information

The DYNO®-BEADS made of zirconium oxide with cerium stabilisation are high density, high hardness grinding media. They offer excellent grinding efficiency at an economically attractive price/performance ratio. These properties make them an ideal choice for demanding applications where both performance and cost optimisation are important.

Applications

- Crop protection
- Minerals and mining
- Industrial paint
- Ink
- Paper coating

Technical data

DYNO®-BEADS TYPE C

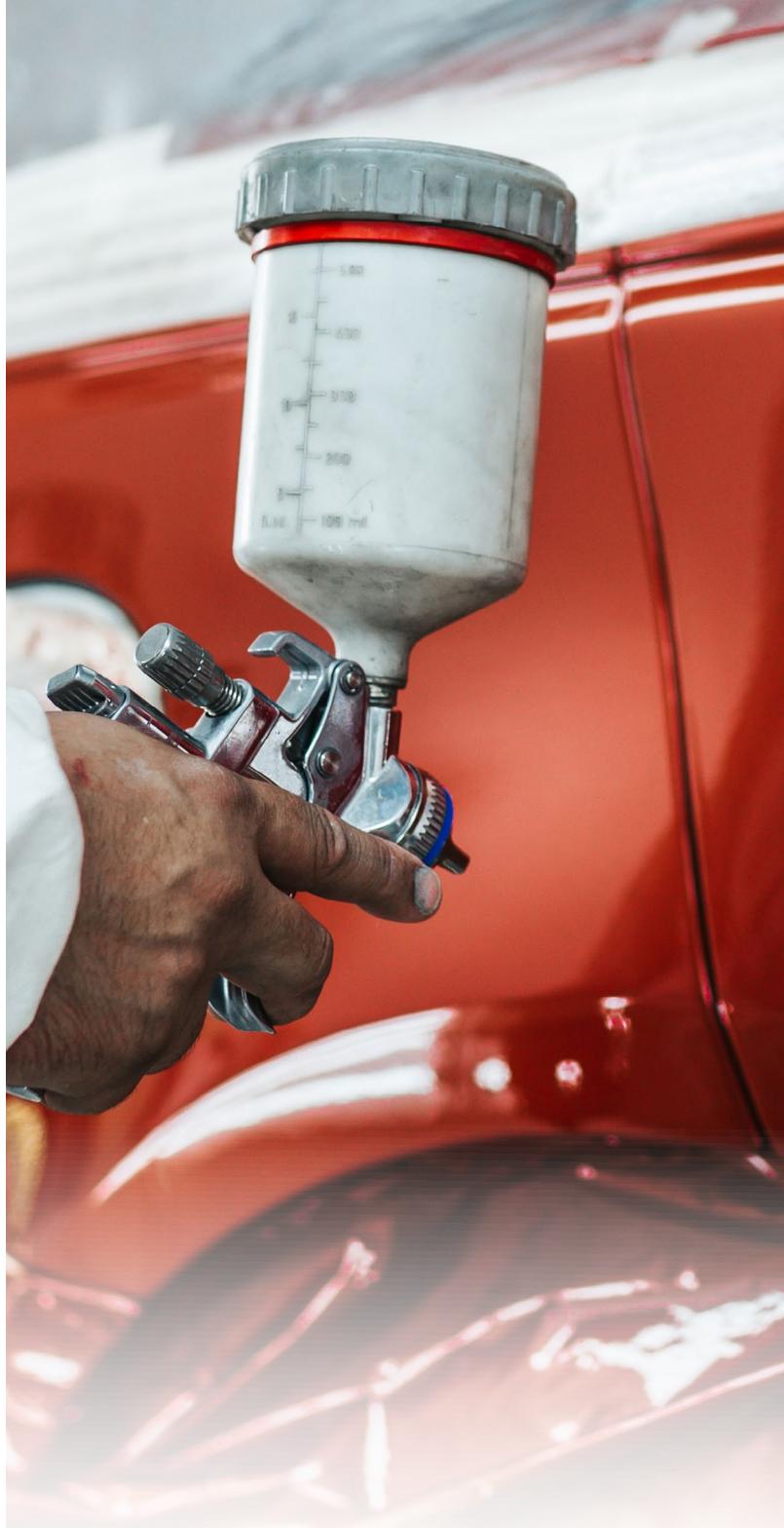
Mechanical properties

Specific weight	6.13 kg/dm ³
Bulk density	3.68-3.83 kg/dm ³
Young's modulus	205 GPa
Microhardness HV ₁₀	1100

Art. No.	Ø [mm]	Art. No.	Ø [mm]
261276	0.40-0.60	261281	1.40-1.60
261277	0.60-0.80	261282	1.60-1.80
261278	0.80-1.00	261283	1.80-2.00
261279	1.00-1.20	261284	2.00-2.20
261280	1.20-1.40	261285	2.20-2.50

Machine series

- DYNO®-MILL KD
- DYNO®-MILL UBM



DYNO®-BEADS TYPE Y / Y-XE

ZIRCONIUM OXIDE, YTTRIUM STABILISED GRINDING BEADS

TYPE Y

General information

DYNO®-BEADS made of zirconium oxide with yttrium stabilisation are grinding media characterised by their high density and hardness. Thanks to their excellent roundness and polished surface, these grinding beads not only offer exceptional wear resistance but also reduce abrasion. This results in significantly longer machine component life and reduced maintenance costs. All these properties result in minimised product contamination and increased production efficiency.

Applications

- Ink
- Battery materials
- Industrial paint
- Crop protection
- Ceramics
- Nanoproducts

Technical data

DYNO®-BEADS TYPE Y

Mechanical properties	
Specific weight	6.05 kg/dm ³
Bulk density	3.62-3.75 kg/dm ³
Young's modulus	210 GPa
Microhardness HV ₁₀	1300

Art. No.	Ø [mm]	Art. No.	Ø [mm]
261287	0.08	261294	0.80
261288	0.10	261295	1.00
261289	0.20	261296	1.25
261290	0.30	261297	1.50
261291	0.40	261298	1.75
261292	0.50	261299	2.00
261293	0.60		

TYPE Y-XE

General information

The DYNO®-BEADS Y-Xtreme Endurance (XE) are characterised by their exceptional resistance to mechanical wear and long service life, making it ideal for the most demanding applications where high loads and abrasive materials are handled.

Applications

- Abrasive materials
- Battery materials
- Nanoproducts

Technical data

DYNO®-BEADS TYPE Y-XE

Mechanical properties	
Specific weight	≥ 5.95 kg/dm ³
Bulk density	3.5-3.9 kg/dm ³
Young's modulus	210 GPa
Microhardness HV ₁₀	1250

Art. No.	Ø [mm]
261313	0.03
261314	0.05
261315	0.10
261316	0.20
261317	0.30
261318	0.40
261319	0.50
261320	0.65
261321	0.80
261322	1.00
261323	1.25
261324	1.50

Machine series

- DYNO®-MILL KD
- DYNO®-MILL UBM
- DYNO®-MILL ECM-AP



DYNO®-BEADS TYPE Y-PHARMA / Y-PHARMA-RTS ZIRCONIUM OXIDE, YTTRIUM STABILISED GRINDING BEADS

TYPE Y-PHARMA

General information

Pharmaceutical grade DYNO®-BEADS Y have been specially developed for use in the pharmaceutical industry to meet the stringent requirements of purity, quality, performance, certification and packaging.

Applications

- Food & Beverage
- Pharmaceuticals

Technical data

DYNO®-BEADS TYPE Y-PHARMA

Mechanical properties	
Specific weight	6.05 kg/dm ³
Bulk density	3.62-3.75 kg/dm ³
Young's modulus	210 GPa
Microhardness HV ₁₀	1300

Art. No.	Ø [mm]
261301	0.10
261302	0.20
261303	0.30
261304	0.40
261305	0.50
261306	0.70
261307	0.90
261308	1.10
261309	1.30
261310	1.50

TYPE Y-PHARMA-RTS

General information

The DYNO®-BEADS Y-PHARMA ready-to-sterilise (RTS) are manufactured specifically for use in sterile production environments and are supplied in autoclavable packaging to meet the highest hygiene requirements.

Application

- Pharmaceuticals

Technical data

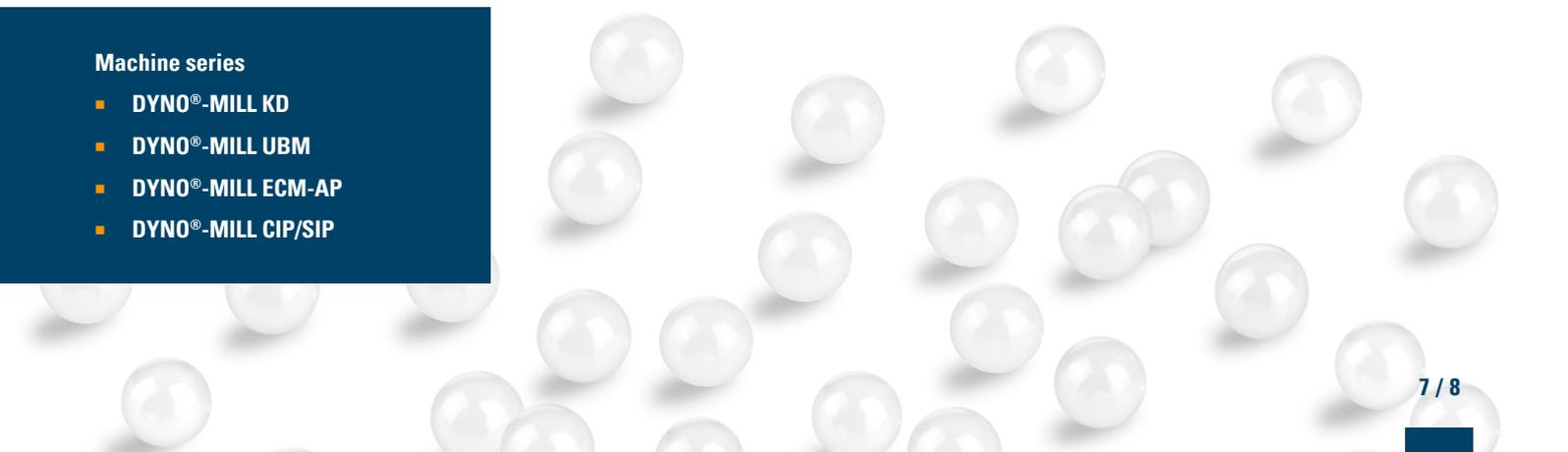
DYNO®-BEADS TYPE Y-PHARMA-RTS

Mechanical properties	
Specific weight	6.05 kg/dm ³
Bulk density	3.62-3.75 kg/dm ³
Young's modulus	210 GPa
Microhardness HV ₁₀	1300

Art. No.	Ø [mm]
261311	0.20
261312	0.30

Machine series

- DYNO®-MILL KD
- DYNO®-MILL UBM
- DYNO®-MILL ECM-AP
- DYNO®-MILL CIP/SIP



WAB-GROUP® ENTITIES

WAB-GROUP® is your reliable and global partner. With our local sites and technical specialists on site, we are happy to be at your service as a proficient mechanical engineering company and proven process expert. In our production facilities on four continents, we manufacture to the highest quality standards and assure professional and comprehensive support.

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