



## 超离心研磨仪ZM 300

????????????????????????????????

????????????ZM 300????????????6000?24000 rpm  
 ?????????????????????????????????????????????  
 ?????????????????????????????????????ZM 300????????  
 ?????????????????????????????



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## 食品和饲料标准

- | 在一次的运行过程中,可实现温和和高速的粗粉和精细粉碎
- | 基于收集盘温度监测的最佳过程控制和再现性
- | 专利收集盘系统,最大限度地回收样品,易于清洗
- | 可选收集盘,样本容量可达600毫升
- | 转速范围从 6,000 到 24,000 rpm
- | 由孔径在0.08–10 mm之间的环筛确定最终细度
- | 用于收集250毫升至4.5升样品的收集桶
- | 自动振动进样仪和各种旋风收集系统可用



处理时间简短

**避免过热和电机过载**

????6000 r/min?24000 r/min????????????????????  
 ?????????????????????????????????ZM 300????????  
 ?????????????????????????????



## 超离心研磨仪 ZM 300

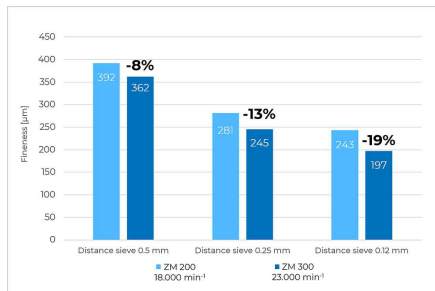
## 更精细的最终产品和更高的样本处理量

### 用例

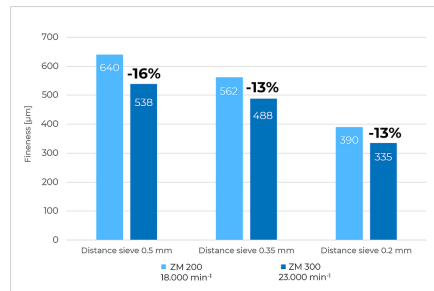
????POM?PP????????????????????18000 rpm????????24000 rpm????????????????????0.12 mm????24000 rpm????POM????????19%?

??24000 rpm????18000 rpm????????????????????????????0.5 mm????????????16%?

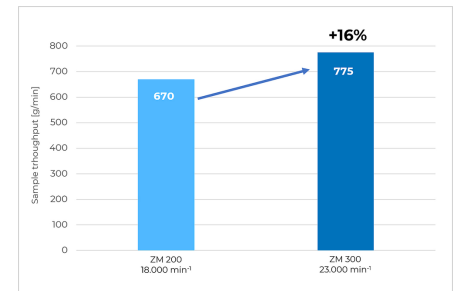
### 聚合物 POM



### 聚合物 PP

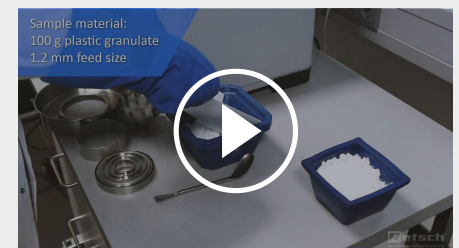


### 研磨动物饲料



### 冷冻研磨 莱驰研磨仪

????????????????????????????????????????????-196°C????????????????  
??-78°C???/????????????????????????????????????????????????????  
ZM 300????????????????????????????????????????????ZM 200????????ZM 300???



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这段视频展示了 ZM 200 对塑料颗粒的干冰冷冻研磨，ZM 300 也适用。

## 超离心研磨仪 ZM 300 适用于光敏和热敏材料

配合旋风吸尘装置使用时，ZM 300超离心研磨仪甚至适用于研磨轻质和热敏性材料。

- | 样品和研磨工具的高效冷却
- | 改进了研磨腔的样品收集
- | 特别适用于大容量
- | 旋风收集器可容纳0.25、3和5升的收集桶
- | 非常适合冷冻研磨



## ZM 300配件



环筛

??ZM 300????????????????????  
????????????????????????????  
????????????????????



转刀

???6??12??24??12????????????  
????????????????6????????24?  
??????



防重金属污染研磨

????????????????????????  
????????1.4404???????



收集容器

??????900 ml????????300 ml????  
????????600????????  
????4500???



进样仪 DR 100

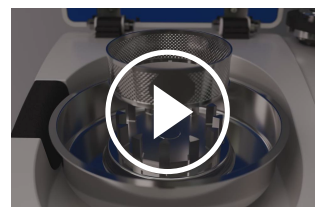
????DR 100????????ZM 300????  
????????

## 超离心研磨仪ZM 300

### 操作便捷 — 易于清洁

大型触摸屏搭配旋转旋钮，便于设置所有研磨参数，并实时显示收集盘温度和电机负载等当前数值。

得益于推入式转刀设计和专利收集盘原理，研磨工具可徒手插拔。插拔转刀和环筛实现快速便捷的清洁。所有接触产品的部件均可用流水冲洗或放入洗碗机清洗。



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## 超离心研磨仪ZM 300

### 典型样品材料

ZM 300 适用于研磨多种材料：废料、石墨、胶原蛋白、药品、化肥、饲料颗粒、谷物、香料、橡胶、木材、咖啡豆、骨头、煤炭、食品、玉米、矿物、纸张、植物部位、聚合物、粉末涂料、大米、种子、秸秆、糖果、烟草、纺织品、化工产品、电子元件、干果蔬菜、干蛹、药品。



粉末涂料



咖啡豆



PET小薄片



药草



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欧芹

为了找到解决方案，请访问我们的应用数据库。

## 超离心研磨仪ZM 300

### 作用原理

The grinding process is carried out by impact and shearing forces between the rotor and the fixed ring sieve. The sample material is fed into the rotor via a funnel with splash protection, accelerated outwards by centrifugal force, and pre-ground by the wedge-shaped rotor teeth. The subsequent fine grinding takes place in the narrow gap between the rotor and the sieve.

Thanks to this two-stage process, sample preparation is particularly gentle and fast. Since the ground material only remains in the grinding chamber for a short time, the characteristic properties of the sample are retained. The end product is collected in the collection vessel, cyclone, or paper filter bag that surrounds the grinding chamber.



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|                    |                                                                                                              |
|--------------------|--------------------------------------------------------------------------------------------------------------|
| 应用                 | 精细研磨                                                                                                         |
| 应用领域               | 农业, 化学 / 合成材料, 医药品, 地质 / 冶金, 工程/电子, 建筑原料, 环境 / 资源回收利用, 生物, 食物                                                |
| 样品特征               | 软性的, 中硬性, 脆性的, 含纤维的                                                                                          |
| 粉碎原理:              | 碰撞, 剪切                                                                                                       |
| 最大进样尺寸             | < 10 mm                                                                                                      |
| 最终出料粒度 *           | < 40 µm                                                                                                      |
| 批次加料量*             | 300毫升, 带标准收集盘<br>600毫升, 带大容量手机盘<br>4500毫升/2500毫升/450毫升/230毫升, 带旋风收集器                                         |
| 网频50赫兹 (60赫兹) 下的转速 | 6,000 - 23,000 min <sup>-1</sup> , 可自由选择                                                                     |
| 旋翼圆周线速度            | 31 - 119 m/s                                                                                                 |
| 转刀直径               | 99 mm                                                                                                        |
| 转刀类型               | 6齿转刀/12齿转刀/24齿转刀                                                                                             |
| 研磨套件材料:            | 不锈钢、钛合金、带耐磨涂层的不锈钢                                                                                            |
| 筛网尺寸:              | 梯形孔0.08 / 0.12 / 0.20 / 0.25 / 0.50 / 0.75 / 1.00 / 1.50 / 2.00 mm<br>圆孔3.00 / 4.00 / 5.00 / 6.00 / 10.00 mm |
| 粉碎时间设定             | 无                                                                                                            |
| 接收槽容积              | 900毫升 (带标准收集盘)<br>1200毫升 (带大容量手收集盘)<br>5000毫升/3000毫升/500毫升/250毫升 (带旋风分离器)                                    |
| 驱动                 | 带变频器的三相交流电动机                                                                                                 |
| 电源接头:              | 单相                                                                                                           |
| 防护类型               | IP 30                                                                                                        |
| 接受功率               | 1750 VA ((200..240V), 1400 VA (110..120V)                                                                    |
| 机体尺寸 (宽x高x纵深)      | 452 x 431 x 426 mm                                                                                           |
| 净重                 | ~ 38 kg                                                                                                      |
| 标准                 | CE                                                                                                           |

受样品材料性质和仪器配置/设定的影响

[www.retsch.cn/zm300](http://www.retsch.cn/zm300)

## ORDER DATA

### ULTRA CENTRIFUGAL MILL ZM 300

**Ultra Centrifugal Mill ZM 300 with 900 ml cassette**  
(please order push-fit rotor and ring sieve separately)

|             |                                                                                   |        |                     |
|-------------|-----------------------------------------------------------------------------------|--------|---------------------|
| 20.824.0001 |  | ZM 300 | 230 V, 50/60 Hz     |
| 20.824.0002 |  | ZM 300 | 110-120 V, 50/60 Hz |

其余可选的电源配置机型价格相同

### ACCESSORIES ZM 300 STANDARD

#### 不锈钢推入式转刀

|             |                                                                                     |       |         |
|-------------|-------------------------------------------------------------------------------------|-------|---------|
| 02.608.0040 |   | 推入式转刀 | 6 teeth |
| 02.608.0041 |  | 推入式转刀 | 12齿     |
| 02.608.0042 |  | 推入式转刀 | 24齿     |

#### RING SIEVES OF STAINLESS STEEL, WITH REINFORCED RIM

|             |      |         |
|-------------|------|---------|
| 03.647.0465 | 梯形筛孔 | 0.08毫米  |
| 03.647.0466 | 梯形筛孔 | 0.12毫米  |
| 03.647.0467 | 梯形筛孔 | 0.20毫米  |
| 03.647.0468 | 梯形筛孔 | 0.25 mm |
| 03.647.0469 | 梯形筛孔 | 0.35 mm |
| 03.647.0470 | 梯形筛孔 | 0.50毫米  |
| 03.647.0471 | 梯形筛孔 | 0.75毫米  |
| 03.647.0472 | 梯形筛孔 | 1.00毫米  |
| 03.647.0473 | 梯形筛孔 | 1.50毫米  |
| 03.647.0474 | 梯形筛孔 | 2.00毫米  |
| 03.647.0475 | 圆形筛孔 | 3.00毫米  |

|             |      |        |
|-------------|------|--------|
| 03.647.0476 | 圆形筛孔 | 4.00毫米 |
| 03.647.0477 | 圆形筛孔 | 5.00毫米 |
| 03.647.0478 | 圆形筛孔 | 6.00毫米 |

DISTANCE SIEVES OF STAINLESS STEEL,  
RECOMMENDED FOR TEMPERATURE-SENSITIVE AND FATTY MATERIALS

|             |      |         |        |
|-------------|------|---------|--------|
| 03.647.0441 | 梯形筛孔 | 0.08毫米  |        |
| 03.647.0442 | 梯形筛孔 | 0.12毫米  |        |
| 03.647.0443 | 梯形筛孔 | 0.20毫米  |        |
| 03.647.0444 | 梯形筛孔 | 0.25 mm |        |
| 03.647.0445 | 梯形筛孔 | 0.35 mm |        |
| 03.647.0446 | 梯形筛孔 | 0.50毫米  |        |
| 03.647.0447 | 梯形筛孔 | 0.75毫米  |        |
| 03.647.0448 | 梯形筛孔 | 1.00毫米  |        |
| 03.647.0449 | 梯形筛孔 | 1.50毫米  |        |
| 03.647.0450 | 梯形筛孔 | 2.00毫米  |        |
| 03.647.0451 | 圆形筛孔 | 3.00毫米  |        |
| 03.647.0452 | 圆形筛孔 | 4.00毫米  |        |
| 03.647.0453 | 圆形筛孔 | 5.00毫米  |        |
| 03.647.0454 | 圆形筛孔 | 6.0 mm  |        |
| 03.647.0455 | 方形筛孔 | 10.00毫米 | 适用于初粉碎 |

## ACCESSORIES ZM 300 FOR ABRASIVE PRODUCTS

### 抗损耗型推入式转刀

|             |                                                                                     |       |         |
|-------------|-------------------------------------------------------------------------------------|-------|---------|
| 02.608.0043 |  | 推入式转刀 | 6 teeth |
| 02.608.0044 |  | 推入式转刀 | 12齿     |
| 02.608.0045 |  | 推入式转刀 | 24齿     |

#### 抗损耗型不锈钢环筛，边框加固

|             |      |         |
|-------------|------|---------|
| 03.647.0456 | 梯形筛孔 | 0.20毫米  |
| 03.647.0457 | 梯形筛孔 | 0.25 mm |
| 03.647.0458 | 梯形筛孔 | 0.35 mm |
| 03.647.0459 | 梯形筛孔 | 0.50毫米  |
| 03.647.0460 | 梯形筛孔 | 0.75毫米  |
| 03.647.0461 | 梯形筛孔 | 1.00毫米  |
| 03.647.0462 | 梯形筛孔 | 1.50毫米  |
| 03.647.0463 | 梯形筛孔 | 2.00毫米  |
| 03.647.0464 | 圆形筛孔 | 3.00毫米  |

## ACCESSORIES ZM 300 FOR GRINDING WITHOUT HEAVY-METAL CONTAMINATION

#### PUSH-FIT ROTOR AND CASSETTE

02.608.0047  Push-fit rotor, 12 teeth of pure titanium

22.355.0012 Cassette 900 ml with coating of titanium-niobium, complete (pan and lid with gasket)

#### 纯钛环筛，边框加固

|             |              |         |
|-------------|--------------|---------|
| 03.647.0479 | 梯形筛孔, 0.08毫米 |         |
| 03.647.0480 | 梯形筛孔         | 0.12毫米  |
| 03.647.0481 | 梯形筛孔         | 0.20毫米  |
| 03.647.0482 | 梯形筛孔         | 0.25 mm |
| 03.647.0483 | 梯形筛孔         | 0.35 mm |
| 03.647.0484 | 梯形筛孔         | 0.50毫米  |
| 03.647.0485 | 梯形筛孔         | 0.75毫米  |
| 03.647.0486 | 梯形筛孔         | 1.00毫米  |
| 03.647.0487 | 梯形筛孔         | 1.50毫米  |

|                                  |      |         |        |
|----------------------------------|------|---------|--------|
| 03.647.0488                      | 圆形筛孔 | 2.00毫米  |        |
| DISTANCE SIEVES OF PURE TITANIUM |      |         |        |
| 03.647.0493                      | 梯形筛孔 | 0.08毫米  |        |
| 03.647.0550                      | 梯形筛孔 | 0.12毫米  |        |
| 03.647.0551                      | 梯形筛孔 | 0.20毫米  |        |
| 03.647.0552                      | 梯形筛孔 | 0.25 mm |        |
| 03.647.0553                      | 梯形筛孔 | 0.35 mm |        |
| 03.647.0489                      | 梯形筛孔 | 0.50毫米  |        |
| 03.647.0554                      | 梯形筛孔 | 0.75毫米  |        |
| 03.647.0490                      | 梯形筛孔 | 1.00毫米  |        |
| 03.647.0555                      | 梯形筛孔 | 1.50毫米  |        |
| 03.647.0556                      | 梯形筛孔 | 2.00毫米  |        |
| 03.647.0557                      | 圆形筛孔 | 3.00毫米  |        |
| 03.647.0561                      | 圆形筛孔 | 4.00毫米  |        |
| 03.647.0558                      | 圆形筛孔 | 5.00毫米  |        |
| 03.647.0559                      | 圆形筛孔 | 6.0 mm  |        |
| 03.647.0560                      | 方形筛孔 | 10.00毫米 | 适用于初粉碎 |

## CYCLONES ZM 300

### CYCLONE INCL. CASSETTE PAN WITH OUTLET AND SUPPORT

|             |                                                                                                                                                                                                                |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 22.935.0030 | 带过滤袋以及0.25和0.5升样品瓶的旋风分离器                                                                                                                                                                                       |
| 22.935.0028 | 带过滤袋以及3升样品瓶的旋风分离器                                                                                                                                                                                              |
| 22.935.0027 | 带过滤袋以及5升样品瓶的旋风分离器                                                                                                                                                                                              |
| 22.935.0029 | Cyclone with connection for vacuum cleaner, with sample bottles 0.25 and 0.5 litres                                                                                                                            |
| 22.935.0026 | 带吸尘器接口以及3升收集容器的旋风分离器                                                                                                                                                                                           |
| 22.935.0025 | 带吸尘器接口以及5升收集容器的旋风分离器                                                                                                                                                                                           |
| 22.935.0042 | High-performance cyclone including holder, collecting receptacle (250 ml and 500 ml sample bottle) and 1.5 m FDA certified hose with clamps.<br>Requires 02.010.0060 cassette pan with outlet, stainless steel |

|             |                                                                                   |                                                                                                                                  |
|-------------|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| 22.748.0005 |  | Industrial vacuum cleaner for mills, 230 V, 50/60 Hz<br>(other electrical versions and spare filter bags available upon request) |
|-------------|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|

## ACCESSORIES FOR COLD GRINDING ZM 300

|             |  |                                                                                                                                                                       |
|-------------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 22.354.0007 |  | Cryo kit for embrittlement of samples in liquid nitrogen or dry ice snow<br>(incl. 2 insulated containers (1 and 4 liter), 1 spoon spatula, 1 pair of safety glasses) |
|-------------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## ADDITIONAL ITEMS ZM 300

|             |                                                                                     |                                                                                      |
|-------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| 22.355.0018 |                                                                                     | Cassette complete, stainless steel, incl. pan 900 ml, lid with gasket                |
| 22.355.0021 |                                                                                     | Cassette complete, stainless steel, incl. pan 1200 ml, lid with gasket               |
| 22.355.0020 |    | Cassette complete, stainless steel, incl. pan with outlet, lid with gasket           |
| 22.355.0012 |    | Cassette 900 ml with coating of titanium-niobium, complete (pan and lid with gasket) |
| 03.010.0058 |                                                                                     | Cassette pan 900 ml, stainless steel                                                 |
| 03.010.0059 |                                                                                     | Cassette pan 1200 ml, stainless steel                                                |
| 02.010.0060 |  | Cassette pan with outlet, stainless steel                                            |
| 03.010.0062 |  | Cassette pan 900 ml, titanium-niobium coating                                        |
| 22.355.0015 |                                                                                     | Cassette lid, stainless steel, with gasket                                           |
| 22.355.0011 |  | Cassette lid, titanium-niobium coating, with gasket                                  |
| 22.936.0009 |                                                                                     | 收集桶盖的配套垫圈, 全套5件                                                                      |
| 02.011.0078 |                                                                                     | 旋风分离器5升不锈钢收集容器                                                                       |
| 02.011.0031 |  | 旋风分离器3升不锈钢收集容器                                                                       |
| 02.107.0634 |                                                                                     | Lid for collecting receptacle, 5 litres                                              |
| 02.107.0493 |  | Lid for collecting receptacle, 3 litres                                              |
| 02.186.0010 |  | 旋风分析器配套尼龙过滤袋                                                                         |
| 01.706.0318 |                                                                                     | Labyrinth disc                                                                       |
| 03.114.0092 |                                                                                     | Gasket for labyrinth disc, 1 piece                                                   |

|             |                                                                                   |                                  |
|-------------|-----------------------------------------------------------------------------------|----------------------------------|
| 03.785.0156 |  | Hopper                           |
| 03.143.0049 |  | Hopper insert for rebound safety |
| 22.524.0006 |                                                                                   | 带有滤尘器的保护性格筛                      |
| 22.524.0007 |                                                                                   | Dust filter for ZM 300, 10 pcs.  |
| 99.200.0033 |                                                                                   | IQ/OQ Documentation for ZM 300   |

## VIBRATORY FEEDER DR 100 FOR ZM 300

### DR100驱动单元 (请单独订购进料套件)

|             |                                                                                    |                                                                                                                                                                                               |                  |
|-------------|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| 70.938.0001 |   | DR 100 drive unit                                                                                                                                                                             | 220–240 V, 50 Hz |
| 70.938.0002 |  | DR 100 drive unit                                                                                                                                                                             | 110–120 V, 60 Hz |
| 72.020.0018 |                                                                                    | Feeding kit DR 100-75/40 for ZM 300,<br>incl. push-fit feed chute 75/40 mm, length 250 mm, holder for push-fit feed chute,<br>hopper 3.5 litres and fixture for hopper, stand with data cable |                  |

### PUSH-FIT FEED CHUTE DR 100 FOR ZM 300

|             |                                                                                     |                                                  |
|-------------|-------------------------------------------------------------------------------------|--------------------------------------------------|
| 03.729.0054 |  | 推入式进料槽, 不锈钢, 宽40毫米, length 250 mm                |
| 03.729.0056 |  | 推入式进料槽, 不锈钢, 宽75/40毫米, length 250 mm             |
| 03.729.0055 |  | 推入式进料槽, 不锈钢, V-shape, width 40 mm, length 250 mm |