

# P-14

ROTOR MILL



## TECHNICAL SPECIFICATIONS



EASY WORKING. GREAT RESULTS.



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## TECHNICAL DATA

### P-14 – Rotor Mill

Industry & areas of application

Food & feed, agriculture, plastics and textiles, chemistry, environment & recycling, medicine & pharmaceuticals, biology, metallurgy

Grinding principle

Impact, shearing, cutting

Final fineness <sup>1)</sup>

< 40 µm

Rotational speed at 50 Hz (60Hz)

2000 - 24000 min<sup>-1</sup>; impact rotor  
2000 - 18000 min<sup>-1</sup>; cutting rotor

Rotor diameter

Impact rotor

97 mm

Cutting rotor

84 mm

<sup>1)</sup> Depending on material and sieve selection

<sup>2)</sup> Per bulk density & bulk volume standard pan



Material of the grinding tools	Stainless steel, stainless 316 L, pure titanium grade 2, cutting rotor hardened stainless steel with tungsten carbide; TiN coated + zirconium blades and titan
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SOP management	Yes; 20 SOP's with plain text declaration
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Possibility of remote control via USB-interface	Yes
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Detection and visualisation in the user interface of the labyrinth disk, collection vessel and lid collection vessel	Yes
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Integrated energy measurement to record the grinding energy	Yes
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Power-dependent infinitely variable feed control via vibrating channel	Yes
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Drive	3-phase current asynchronous motor with frequency converter
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Protection class	IP 22
Drive power	2500 watt
Weight	33 kg (net)





## ACCESSORIES

### P-14 – Rotor Mill

Order no.

Article



#### Instrument without grinding parts, incl. funnel and funnel lid

14.8020.00

for 200-240 V/1~, 50-60 Hz, 2700 watts

*Other voltages on request!*



Collecting vessel with lid and labyrinth disk, impact resp. cutting rotor, as well as sieve ring resp. sieve shells are additionally necessary!



#### Accessories for use as Rotor Mill

##### Accessories for standard applications with the impact rotor and sieve rings

14.6315.00

collecting vessel with outlet and lid made of stainless steel 316L and labyrinth disk made of aluminium for connecting to FRITSCH cyclone separators

14.6310.00

collecting vessel with lid made of stainless steel 316L and labyrinth disk made of aluminium

##### Impact rotors with cooling fins made of stainless steel

14.4330.10

with 6 ribs

14.4334.10

with 12 ribs

14.4337.10

with 24 ribs

##### Sieve rings with reinforced edges made of stainless steel 316L

14.4341.00

0.08 mm trapezoidal perforation

14.4342.00

0.12 mm trapezoidal perforation



Order no.	Article
14.4344.00	0.5 mm trapezoidal perforation
14.4346.00	1 mm trapezoidal perforation
14.4348.00	2 mm trapezoidal perforation
14.4357.00	4 mm square perforation
14.4360.00	1 mm round perforation
14.4362.00	4 mm round perforation

**Accessories for grinding in the analytical sector, for food and pharmaceutical industry and for sample preparation with special focus on increased resistance to corrosion, alkalis and acids**

14.6385.00	collecting vessel with outlet and lid and labyrinth disk made of stainless steel 316L for connecting to FRITSCH cyclone separators
14.6380.00	collecting vessel with lid and labyrinth disk made of stainless steel 316L
14.4335.10	impact rotor with 12 ribs and cooling fins made of stainless steel 316L



**Please note: sieve ring with reinforced edges made of stainless steel 316L is additionally necessary!**



Order no.	Article
<b>Accessories for heavy-metal- and iron-free grinding and sample preparation according to RoHS</b>	
14.6415.00	collecting vessel with outlet PTFE-coated and lid made of pure titanium and labyrinth disk made of aluminium for connecting to small volume cyclone separator
14.6410.00	collecting vessel PTFE-coated with lid made of pure titanium and labyrinth disk made of aluminium
<b>Impact rotors with cooling fins made of pure titanium</b>	
14.4430.32	with 6 ribs
14.4434.32	with 12 ribs
14.4437.32	with 24 ribs
<b>Sieve rings with reinforced edge made of pure titanium</b>	
14.4441.32	0.08 mm trapezoidal perforation
14.4442.32	0.12 mm trapezoidal perforation
14.4443.32	0.2 mm trapezoidal perforation
14.4444.32	0.5 mm trapezoidal perforation
14.4445.32	0.75 mm trapezoidal perforation
14.4446.32	1 mm trapezoidal perforation
14.4447.32	1.5 mm trapezoidal perforation
14.4448.32	2 mm trapezoidal perforation
<b>Accessories for difficult-to-mill and temperature-sensitive samples</b>	
14.6315.00	collecting vessel with outlet and lid made of stainless steel 316L and labyrinth disk made of aluminum for connecting to FRITSCH cyclone separators
14.6310.00	collecting vessel with lid made of stainless steel 316L and labyrinth disk made of aluminum
14.4470.00	impact bar



Order no.	Article
<b>Impact rotors with cooling fins made of stainless steel</b>	
14.4330.10	with 6 ribs
14.4334.10	with 12 ribs
14.4337.10	with 24 ribs
<b>Sieve rings for impact bar made of stainless steel 316L</b>	
14.4481.10	0.08 mm trapezoidal perforation
14.4482.10	0.12 mm trapezoidal perforation
14.4483.10	0.2 mm trapezoidal perforation
14.4496.10	0.35 mm trapezoidal perforation
14.4484.10	0.5 mm trapezoidal perforation
14.4485.10	0.75 mm trapezoidal perforation
14.4486.10	1 mm trapezoidal perforation
14.4487.10	1.5 mm trapezoidal perforation
14.4488.10	2 mm trapezoidal perforation
14.4497.10	2 mm square perforation
14.4498.10	4 mm square perforation
14.4499.10	6 mm square perforation
14.4490.10	1 mm round perforation
14.4491.10	2 mm round perforation
14.4492.10	4 mm round perforation
14.4493.10	6 mm round perforation

*Sieve rings are also available in further perforations.*



Order no.

Article



## Accessories for use as Cutting Mill

### Accessories for standard applications with the cutting rotor and sieve shells

14.6515.00 collecting vessel with outlet and lid made of stainless steel and labyrinth disk made of aluminium for connecting to FRITSCH cyclone separators

14.6510.00 collecting vessel with lid made of stainless steel and labyrinth disk made of aluminium

14.6590.00 cutting rotor made of stainless steel consisting of cutting rotor with cooling fins and sieve shells holder made of stainless steel and rotor edges and fixed knives made of hardened stainless steel

14.4540.00 sieve shells holder without cutting rotor with fixed knives made of hardened stainless steel

14.6595.00 cutting rotor made of hardmetal tungsten carbide consisting of cutting rotor with cooling fins and sieve shells holder made of stainless steel and rotor edges and fixed knives made of hardmetal tungsten carbide

14.4585.00 sieve shells holder without cutting rotor with fixed knives made of hardmetal tungsten carbide

### Sieve shells made of stainless steel 316L

14.4541.00 0.08 mm trapezoidal perforation

14.4542.00 0.12 mm trapezoidal perforation

14.4543.00 0.2 mm trapezoidal perforation

14.4544.00 0.5 mm trapezoidal perforation

14.4545.00 0.75 mm trapezoidal perforation

14.4546.00 1 mm trapezoidal perforation

14.4547.00 1.5 mm trapezoidal perforation



Order no.	Article
14.4548.00	2 mm trapezoidal perforation
14.4554.00	4 mm square perforation
14.4560.00	1 mm round perforation
14.4562.00	2 mm round perforation
14.4564.00	4 mm round perforation
<b>Accessories for heavy-metal- and iron-free grinding and sample preparation according to RoHS</b>	
14.4615.00	collecting vessel with outlet PTFE-coated and lid made of pure titanium and labyrinth disk made of aluminium for connecting to small volume cyclone separator
14.4610.00	collecting vessel PTFE-coated with lid made of pure titanium and labyrinth disk made of aluminium
14.4690.00	cutting rotor TiN-coated with knives made of pure titanium consisting of cutting rotor with cooling fins and sieve shells holder made of stainless steel TiN-coated, rotor edges and fixed knives made of pure titanium
14.4695.00	cutting rotor TiN-coated made of zirconium oxide consisting of cutting rotor with cooling fins and sieve shells holder made of stainless steel TiN-coated, rotor edges and fixed knives made of zirconium oxide
<b>Sieve shells, TiN-coated</b>	
14.4644.00	0.5 mm trapezoidal perforation
14.4646.00	1 mm trapezoidal perforation
14.4648.00	2 mm trapezoidal perforation
<i>Sieve shells are also available in further perforations.</i>	



Order no.

Article



## Sample exhaustion with cyclone separators and for grinding large quantities

### High-performance cyclone separator

14.4807.00	high-performance cyclone separator made of stainless steel 316L, incl. sample glass 1 liter
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### Collecting vessels for high-performance cyclone separator

83.3250.00	sample glass 1 liter
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83.3260.00	sample glass 2 liters
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83.3270.00	sample glass 5 liters
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45.8040.00	collecting vessel, 20 liters made of stainless steel 316L
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45.8050.00	collecting vessel, 60 liters made of stainless steel 316L
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### Small volume cyclone separator

14.8140.00	small volume cyclone separator made of plastic, incl. sample glass 500 ml
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45.8218.16	replacement fine-dust filter 80-100 $\mu\text{m}$ for small volume cyclone separator for passive utilization
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45.8219.16	replacement fine-dust filter 35-40 $\mu\text{m}$ for small volume cyclone separator for passive utilization
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### Collecting vessels for small volume cyclone separator

27.1450.00	sample glass 250 ml
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27.1460.00	sample glass 500 ml
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Order no.

Article

### Exhaust system for high-performance and small volume cyclone separator and for cooling the P-14

86.5505.00	switch box for controlling the exhaust system directly via the Rotor Mill P-14 for 100–240 V/1~, 50 – 60 Hz, up to 3600 watts
14.8128.00	connecting piece for exhaust system (for additional cooling of the P-14)
43.9070.00	exhaust system, dust category „M“ according to DIN EN 60335-2-69 for 230 V/1~, 50/60 Hz, 1,600 watts
43.9055.00	fleece filter bag for exhaust system (pack = 5 pieces) <sup>5)</sup>
43.9052.00	plastic bag for exhaust system (pack = 5 pieces) <sup>5)</sup>

<sup>5)</sup> Remark: One pack/one piece is included in the scope of delivery of the exhaust system.

#### Certification

96.0450.00	IQ/OQ documentation (questionnaire format - implementation not included)
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### Accessories for automatic sample feeding

#### Sample Feeder L-24

*Instrument incl. V-shaped channel, funnel and control unit*

24.0030.00	for 200-240 V/1~, 50-60 Hz, 25 watts
24.0040.00	for 100-120 V/1~, 50-60 Hz, 25 watts
14.8130.00	L-24 mount for P-14, incl. connection cable for automatic control of the L-24 via the Rotor Mill P-14

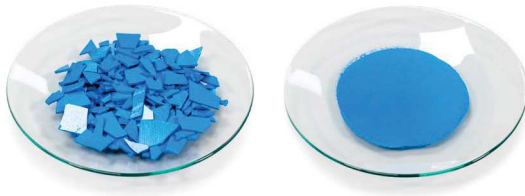
#### Certification

96.0370.00	IQ/OQ documentation (questionnaire format – implementation not included)
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## APPLICATION EXAMPLES

### For use as rotor mill or cutting mill



#### Sample 1: Epoxy resin

**Accessories:**

- Cyclone
- Impact rotor with 12 ribs
- 0.2 mm trapezoidal perforation sieve shell



#### Sample 2: Pellet feed

**Accessories:**

- Impact rotor with 12 ribs
- 0.5 mm trapezoidal perforation sieve shell



#### Sample 3: Wood shavings

**Accessories:**

- Cutting rotor
- 2 mm trapezoidal perforation sieve shell



#### Sample 4: Juniper

**Accessories:**

- Impact rotor with 12 ribs
- 0.75 mm trapezoidal perforation sieve shell



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