P-14

ROTOR MILL

FRITSCH

TECHNICAL SPECIFICATIONS



EASY WORKING. GREAT RESULTS.

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TECHNICAL DATA

P-14 – Rotor Mill

Fields of applications	Fine grinding
Industry & areas of application	Food & feed, agriculture, plastics and textiles, chemistry, environment & recycling, medicine & pharmaceuticals, biology, metallurgy
Material properties, feed materials	Soft, medium-hard, brittle, tough, elastic, fibrous, temperature-sensitive
Grinding principle	Impact, shearing, cutting
Feed size [1]	< 15 mm
Final fineness [1]	< 40 µm
Batch / feed quantity [2]	470 ml / 600 ml[1]
	60 l / 20 l / 5000 ml / 2000 ml / 1000 ml / 500 ml / 250 ml with cyclone
Rotational speed at 50 Hz (60Hz)	2000 – 24000 min -1; impact rotor
	2000 – 18000 min -1; cutting rotor
Peripheral speed	
Impact rotor	10.2 m/s – 121.9 m/s
Cutting rotor	8.8 m/s – 79.2 m/s
Rotor diameter	
Impact rotor	97 mm
Cutting rotor	84 mm
Rotor types	6/12/24 rib rotor
	Cutting rotor 3 blades

[1] Depending on material and sieve selection
[2] 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
Engine mounting	Ceramic hybrid bearing
SOP management	Yes; 20 SOP´s with plain text declaration
Multilingual menu navigation	Yes, 7 languages: English, Italian, Spanish, French, Chinese, Arabic, German
Possibility of remote control via USB-interface	Yes
Graphical display trend display of temperature/speed power consumption/rotational speed	Yes, variable sampling rates can be set
Detection and visualisation in the user interface of the labyrinth disk, collection vessel and lid collection vessel	Yes
Error memory with real-time display	Yes, display of the error message in plain text format
Integrated energy measurement to record the grinding energy	Yes
Setting grinding time	Yes
Power-dependent infinitely variable feed control via vibrating channel	Yes
Control options of cyclone or vacuum cleaner via user interface	Yes
Drive	3-phase current asynchronous motor with frequency converter
Power supply	200 – 240 V/~ 1 (50 – 60 Hz)

Protection class	IP 22
Power consumption	2700 VA (200..240 V)
Drive power	2500 watt
W x H x D	420 x 520 x 450 mm
Weight	33 kg (net)
Norm standards	CE, UKCA, UL/CSA



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, 2,700 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
14.4343.00	0.2 mm trapezoidal perforation
14.4344.00	0.5 mm trapezoidal perforation
14.4345.00	0.75 mm trapezoidal perforation
14.4346.00	1 mm trapezoidal perforation
14.4347.00	1.5 mm trapezoidal perforation
14.4348.00	2 mm trapezoidal perforation
14.4355.00	2 mm square perforation
14.4357.00	4 mm square perforation
14.4359.00	6 mm square perforation
14.4360.00	1 mm round perforation
14.4361.00	2 mm round perforation
14.4362.00	4 mm round perforation
14.4363.00	6 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
	Accessories for heavy-metal- and iron-free grinding and sample preparation according to RoHS
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
	Impact rotors with cooling fins made of pure titanium
14.4430.32	with 6 ribs
14.4434.32	with 12 ribs
14.4437.32	with 24 ribs
	Sieve rings with reinforced edge made of pure titanium
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
	Accessories for difficult-to-mill and temperature-sensitive samples
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
	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 for impact bar made of stainless steel 316L
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
14.4552.00	2 mm square perforation
14.4554.00	4 mm square perforation
14.4556.00	6 mm square perforation
14.4560.00	1 mm round perforation
14.4561.00	1.5 mm round perforation
14.4562.00	2 mm round perforation
14.4563.00	3 mm round perforation
14.4564.00	4 mm round perforation
	Accessories for heavy-metal- and iron-free grinding and sample preparation according to RoHS
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
	Sieve shells, TiN-coated
14.4644.00	0.5 mm trapezoidal perforation
14.4646.00	1 mm trapezoidal perforation
14.4648.00	2 mm trapezoidal perforation
	Sieve shells are also available in further perforations.



Sample exhaustion with cyclone separators and for grinding large quantities

Order no.	Article
	High-performance cyclone separator
14.4807.00	high-performance cyclone separator made of stainless steel 316L, incl. sample glass 1 liter
	Collecting vessels for high-performance cyclone separator
83.3250.00	sample glass 1 liter
83.3260.00	sample glass 2 liters
83.3270.00	sample glass 5 liters
45.8040.00	collecting vessel, 20 liters made of stainless steel 316L
45.8050.00	collecting vessel, 60 liters made of stainless steel 316L
	Small volume cyclone separator
14.8140.00	small volume cyclone separator made of plastic, incl. sample glass 500 ml
45.8218.16	replacement fine-dust filter 80 – 100 µm for small volume cyclone separator for passive utilization
45.8219.16	replacement fine-dust filter 35 – 40 µm for small volume cyclone separator for passive utilization
	Collecting vessels for small volume cyclone separator
27.1450.00	sample glass 250 ml
27.1460.00	sample glass 500 ml

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 3,600 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) [5]
43.9052.00	plastic bag for exhaust system (pack = 5 pieces) [5]
	[5] *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)



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)

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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Contact person:

Contact us now

for a non-binding consultation or individual test grinding to identify your ideal device configuration and optimal grinding parameters.

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