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MOARA TĂIETOARE

SM 50

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SM 50

MOARA TĂIETOARE

The new SM 50 revolutionizes laboratory workflows and solves multiple problems at the same time.

Many laboratories face these challenges: time losses due to complex cleaning and reassembly; sample losses caused by hidden residues in hard-to-reach areas; limited flexibility when processing various materials; risk of contamination that can distort analysis results.

With its innovative design featuring a removable milling chamber, the SM 50 simplifies cleaning, saving up to 30 % process time. At the same time, the unrivaled powerful benchtop cutting mill with a single phase power plug allows up to 100 % sample recovery* and contamination-free sample preparation.

The SM 50 expertly merges the compactness of benchtop-mills with the high-capacity performance of floor-standing mills.

* Depending on the sample material and application.

PRECISION. POWER. PERFORMANCE.

Its 1.5 kW motor drives a large rotor, delivering impressive high-speed cutting power. The max. speed is 4,000 rpm and can be adjusted to suit various applications.

SM 50

KEY FEATURES

- Powerful 1.5 kW motor with a standard single phase power plug.
- Up to 30 % time savings on cleaning with the Total Access Concept.
- Push-fit milling chamber, rotor, sieve and cyclone for tool-free removal.
- Integrated cyclone for efficient sample recovery.
- EasyInspect hopper for sample pieces up to 50 mm.
- Variable speed up to 4,000 rpm.

SM 50

A SINGLE SOLUTION FOR EVERYTHING

SM 50 este cea mai puternică moară tăietoare din lume, cu un conector standard de alimentare cu o fază. Motorul său de 1,5 kW antrenează un rotor mare, oferind o putere de tăiere impresionantă la o viteza mare. Viteza maximă de 4000 rpm poate fi ajustată pentru a se potrivi diferitelor tipuri de aplicații.

The EasyInspect hopper operates on a batch-wise feeding system and can process large sample pieces up to 50 mm with ease. The compact powerhouse features an internal cyclone system, ensuring effortless and efficient processing of various materials.

Sieves with apertures from 0.25 mm to 10 mm allow a final fineness of less than 250 µm, depending on the feed material. A two-step grinding process allows fine particles to be produced by first using a large aperture sieve, followed by a finer one. The design supports high throughput with large sieve areas of 48 mm x 120 mm.

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EVERYTHING IN VIEW

World innovation: When opening the machine door, the front of the hopper swings out to the side, providing full visibility inside. The Total Access Concept ensures easy inspection and cleaning of all sample-contacting components.

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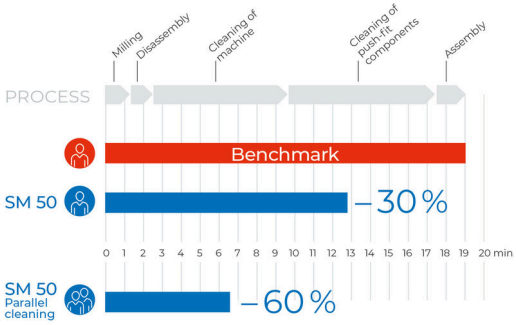
STOP WASTING TIME

Up to 30 % time savings on cleaning with the Total Access Concept and push-fit components.

- The push-fit system allows rotor, sieves, cyclone and milling chamber to be removed without tools.
- For the first time, the milling chamber can be removed as well, making complete cleaning easy and significantly reducing machine downtime.
- EasyInspect hopper fully opens for inspection and cleaning, ensuring quick cleaning.
- No more hard-to-reach pipes or hoses – the SM 50 integrates the cyclone directly into the machine.
- Intuitive operation via touch display and push button, allowing effortless speed adjustments.



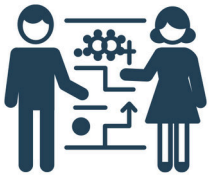
Thanks to the Total Access Concept and removable milling chamber process time is significantly reduced in the SM 50.

MOARA TĂIETOARE SM 50

THREE OPTIONS FOR THE CLEANING OPERATION

Surface cleaning: full access to mill interior, including hopper, with door open for inspection and cleaning with brush, vacuum or compressed air.

Intense Cleaning: comprehensive external cleaning of all grinding tools, including sieve, rotor, cyclone and grinding chamber, all removable without tools using a push-fit system.



Parallel cleaning: with a second grinding set, samples can be processed directly one after another, thanks to the push-fit grinding tools.

UP TO 100 % SAMPLE RECOVERY

STOP LOSING MATERIAL

- Compared to milling without cyclone technology, the recovery of sample material is significantly improved. The cyclone technology efficiently transports the sample into the receptacle with no dust release and minimal sample residue left in the mill.
- The integrated cyclone eliminates the need for connecting elements such as pipes or hoses and minimizes distances and surface areas.
- The batchwise feeding of the hopper concept serves as a flow control gate and optimizes the grinding performance and separation efficiency of the cyclone.

Cyclone technology, small distances and minimized surface areas optimize material flow and enable up to 100 % sample recovery.*

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STOP MANUAL PRE-CUTTING

The compact EasyInspect hopper allows processing of large sample pieces without pre-cutting. The exceptionally large grinding chamber and hopper design allow feeding of samples up to 50 mm. The SM 50 processes a wide range of materials:

- **Dense monoliths:** Dog biscuits, roots, wood pieces
- **Tough polymers:** Plastic components, rubber compounds, children toys, household items
- **Hard & brittle components:** electronic parts, LN_2 embrittled samples

furaje

jucării din plastic

roots

SM 50

STOP CONTAMINATION

Maximum safety, even with frequent sample material changes. All grinding tools are easily accessible and can be reliably cleaned of persistent residues. For the first time, the milling chamber can be cleaned separately as well, further preventing cross-contamination from previous milled samples.

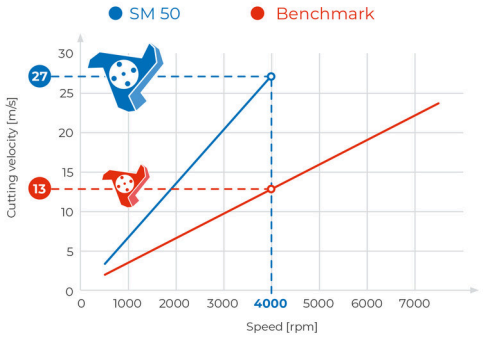
The push-fit milling chamber is available in stainless steel for abrasion-resistant grinding or aluminum for standard applications and grinding without heavy-metal contamination. It can be cleaned outside the machine using e.g. water.

SM 50

STOP COMPROMISING

The SM 50 expertly merges the compactness of benchtop-mills with the high-capacity performance of floor-standing mills. Its expansive hopper and chamber can grind large monolithic samples.

- 1.5 kW drive with variable speed for highly efficient size reduction.
- Maximum speed of 4,000 rpm and superior cutting speed of 27 m/s.
- Large 130 mm rotor diameter and depth of 48 mm for high impact power and fast sample throughput.
- 3 double acting cutting bars result in 18 cutting events per round and a specific cutting length of 864 mm per round.
- Optimized design reduces blockages and guarantees smooth operation.
- Convenient door opening with a pivoting handle.



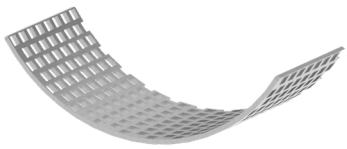
Large rotor diameter and high speed leads to exceptional high cutting speed for high cutting power.

MOARA TĂIETOARE SM 50

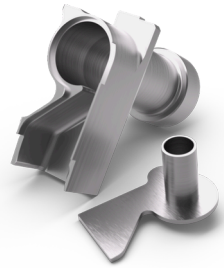
WIDE RANGE OF ACCESSORIES FOR HIGHEST FLEXIBILITY

Push-fit milling chambers, rotors, sieves and collecting systems give the SM 50 flexibility for standard applications, abrasion- and corrosion-resistant applications, and grinding without heavy-metal contamination.

Parallel-section rotor and 3-disc rotor



9 different sieve sizes from 10 mm down to 0.25 mm



Integrated cyclone and collecting systems

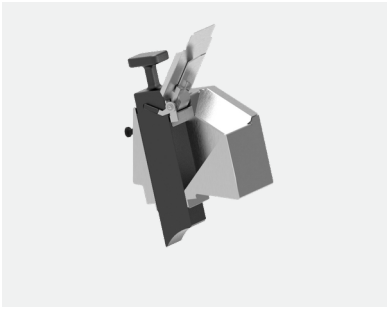
MOARA TĂIETOARE SM 50

INNOVATIVE COMPONENTS AT A GLANCE

The SM 50 ensures up to 100 % sample recovery and contamination-free results through advanced engineering with the EasyInspect hopper, integrated cyclone, and push-fit milling chamber.

1 | PUSH-FIT MILLING CHAMBER

The removable push-fit milling chamber, available in various materials, prevents contamination and allows quick setup changes. External cleaning ensures complete residue removal, enhancing contamination-free sample preparation.



2 | EASYINSPECT HOPPER

The EasyInspect hopper enables loading of up to 200 ml sample volume or single samples up to 50 mm. It operates on a batch feed basis and features a flow control gate for optimum grinding performance and cyclone efficiency. A one-hand plunger system controls sample flow.

3 | INTEGRATED CYCLONE

The compact, push-fit cyclone is integrated into the machine housing for easy cleaning and minimal sample loss. A GL55 thread enables attachment of 250 / 500 ml glass bottles or a 3 liter receptacle via adapter.

MOARA TĂIETOARE SM 50

ATTENTION TO DETAIL: SPECIAL FEATURES FOR SUPERIOR PERFORMANCE

- **Rotor Shaft Release:** The rotor shaft can be released using a touch display function for easy cleaning or rotor mounting.
- **Hopper Flap:** Assists in pushing fluffy materials into the milling chamber efficiently.
- **Removable Plunger:** The plunger can be detached by loosening just one screw for quick access.
- **Inspection Opening:** Allows inspection and cleaning of channels that connect to the vacuum cleaner.
- **Touch Display with rotary push button:** Provides intuitive control and operation.
- **Gravity Chamber:** For coarse pre-crushing tasks of non-dusty materials.

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FASTER AND MORE FLEXIBLE SAMPLE PREPARATION

Different tasks, different users: In contract laboratories or academic institutions, many people use the same laboratory grinder for a wide variety of samples. Feathers may be ground today and textiles or different samples tomorrow.

Optimized for different sample tasks in a row: The quality of agricultural products is tested in environmental and food laboratories. Precise knowledge of food composition and freedom from harmful substances are important.

Grinding of small sample quantities: Product safety is essential for children's toys and animal feed. Manufacturers and retailers must ensure their products do not contain ingredients harmful to health.

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EXEMPLE DE APLICAȚII

The high cutting performance of the SM 50 makes it ideal for applications in industries such as agriculture, recycling, food and feed, and pharmaceuticals. The shearing and cutting action, the clever design and the wide range of accessories make it possible to grind soft, medium-hard, tough, elastic and fibrous materials.

roots

preforme

feathers

jucării din plastic

MOARA TĂIETOARE SM 50

IN CUSTOMER USE

DEPARTMENT OF CHEMISTRY, BIOCHEMISTRY & PHYSICS · UNIVERSITÉ DU QUÉBEC À TROIS-RIVIÈRES

The research group uses the SM 50 cutting mill to shred plastic waste, biomass, and electronic scrap for the development of new materials for a sustainable world.

“The SM 50 allows us to quickly and easily pre-grind a wide variety of samples, enabling mechanochemical processes that ultimately lead to the creation of new materials in a circular mindset — a true asset to our scientific work.”

Prof. Thomas Auvray, Department of Chemistry, Biochemistry & Physics, Université du Québec à Trois-Rivières

MOARA TĂIETOARE SM 50

DATE TEHNICE

Aplicații	reducerea dimensiunii prin tăiere
Domenii in care se utilizeaza	agriculture, chemicals / plastics, electronics, environmental / recyling, food / feed, pharma / biotech / medtech, construction materials, power generation / energy
Material probă	moale, duritate medie, dur, elastic, fibros
Principiul de reducere a dimensiunii	forfecare, tăiere
Dimens. max. probă*	50 mm
Finețe finală*	0.25 - 10 mm
Viteza la 50 Hz (60 Hz)	500 - 4,000 min-1
Viteză periferică rotor	4.3 - 27.1 m/s
Diametru rotor	129,5 mm
Tipuri de rotor	parallel section rotor / 3-disc rotor
Tipuri de buncare de încărcare	EasyInspect hopper
Material de constructie a elementelor de macinare	stainless steel, steel for heavy-metal free grinding
Dimensiuni ochiuri site	trapezoid holes 0.25 / 0.50 / 0.75 / 1.00 mm square holes 2.00 / 4.00 / 6.00 / 8.00 / 10.00 mm
Sisteme / capacități colector	collecting glass 0.25 / 0.5 l (not for gravity chamber) and collecting receptacle 3 l
Antrenare	motor asincron cu convertizor de frecvență
Putere motor	1,5 kW
Alimentare electrica	100 V, 110 V, 120 V, 20 A 200-230 V, 10 A
Conectare sursă de alimentare	monofazic
Frână motor	da
Grad de protecție	IP 20
W x H x D (închis)	565 x 750 x 530 (with base frame and hopper)
Masa netă	80 kg
Standard	CE

SM 50

DATE COMANDĂ

CUTTING MILL SM 50

Please order milling chamber set, rotor, hopper and bottom sieve separately.

20.720.0001	SM 50 · 200-230V 50/60Hz, with frequency converter for variable speed
20.720.0003	SM 50 · 110V 50/60Hz, with frequency converter for variable speed

MILLING CHAMBER SETS SM 50

Consisting of milling chamber, double acting cutting bars, door insert and 500 ml glass bottle / receptacle.

22.010.0003	For standard applications: Aluminum milling chamber with stainless steel double acting cutting bars, stainless steel cyclone, stainless steel door insert, and 500 ml glass bottle
22.010.0004	For abrasion and corrosion resistant applications: Stainless steel milling chamber with stainless steel double acting cutting bars, stainless steel cyclone, stainless steel door insert, and 500 ml glass bottle
22.010.0005	For grinding without heavy metal contamination: Aluminum milling chamber with steel 1.1740 double acting cutting bars, stainless steel cyclone, heavy metal free steel door insert, and 500 ml glass bottle
22.010.0006	For grinding without cyclone: Aluminium gravity chamber with stainless steel double acting cutting bars, stainless steel door insert, adapter incl. stainless steel 3 l receptacle

ROTORS SM 50

22.608.0041	3-disc rotor made of stainless steel with reversible cutting tips made of tungsten carbide
22.608.0042	3-disc rotor made of steel 1.0570 with reversible cutting tips made of tungsten carbide, for grinding without heavy-metal contamination
22.608.0039	Parallel-section rotor made of stainless steel with cutting plates made of stainless steel
22.608.0040	Parallel-section rotor made of steel 1.0570 with cutting plates made of steel 1.1740, for grinding without heavy-metal contamination

HOPPER SM 50

22.785.0011	EasyInspect hopper made of stainless steel with PE plunger

DATE COMANDĂ

BOTTOM SIEVES SM 50

BOTTOM SIEVES MADE OF STAINLESS STEEL 1.4404

03.647.0574	Găuri trapezoidale, 0.25 mm
03.647.0575	Găuri trapezoidale, 0.5 mm
03.647.0576	Găuri trapezoidale, 0.75 mm
03.647.0577	Găuri trapezoidale, 1.00 mm
03.647.0578	Găuri pătrate, 2.00 mm
03.647.0579	Găuri pătrate, 4.00 mm
03.647.0580	Găuri pătrate, 6.00 mm
03.647.0581	Găuri pătrate, 8.00 mm
03.647.0582	Găuri pătrate, 10.00 mm
22.647.0001	Bottom sieves made of stainless steel complete set of 9 bottom sieves 0.25 - 10 mm

BOTTOM SIEVES MADE OF STEEL 1.0353 FOR GRINDING WITHOUT HEAVY-METAL CONTAMINATION

03.647.0583	Găuri trapezoidale, 0.25 mm
03.647.0584	Găuri trapezoidale, 0.5 mm
03.647.0585	Găuri trapezoidale, 0.75 mm
03.647.0586	Găuri trapezoidale, 1.00 mm
03.647.0587	Găuri pătrate, 2.00 mm
03.647.0588	Găuri pătrate, 4.00 mm
03.647.0589	Găuri pătrate, 6.00 mm
03.647.0590	Găuri pătrate, 8.00 mm
03.647.0591	Găuri pătrate, 10.00 mm
22.647.0002	Bottom sieves made of steel 1.0353 complete set of 9 bottom sieves 0.25 - 10 mm

DATE COMANDĂ

ACCESSORIES SM 50

COLLECTING RECEPTACLES

22.523.0001	Sample bottle 250 ml (10 pcs.)
22.523.0002	Sample bottle 500 ml (10 pcs.)
02.107.0493	Lid for collecting receptacle cyclone 3l (only for cyclone)
02.011.0031	Collecting receptacle 3 litres, stainless steel (for grinding with or without cyclone)
02.183.0146	Adapter for collecting receptacle 3l and 5l (only for SM 50 gravity outlet)
02.011.0029	Collecting receptacle 5 litres, stainless steel (only for SM 50 gravity outlet)

MILLING CHAMBERS

22.010.0007	Milling chamber for cyclone made of aluminium with stainless steel double acting cutting bars for standard grinding applications (A)
22.010.0008	Milling chamber for cyclone made of aluminium with steel 1.1740 double acting cutting bars for grinding without heavy metal contamination (A)
22.010.0009	Milling chamber for cyclone made of stainless steel with stainless steel double acting cutting bars for corrosion resistant applications (A)
22.010.0010	Milling chamber for gravity use made of aluminium with stainless steel double acting cutting bars (B)
22.730.0004	Door insert made of heavy metal free steel 1.0570
22.730.0003	Door insert made of stainless steel

STATIONARY CUTTING BARS FOR MILLING CHAMBERS

22.152.0012	Double acting cutting bars made of stainless steel (3 pcs.) for SM 50
22.152.0013	Double acting cutting bars made of steel 1.1740 (3 pcs.) for grinding without heavy metal contamination
22.608.0043	Adjustment tool for double acting cutting bars

DATE COMANDĂ

ACCESSORIES SM 50

ACCESSORIES FOR ROTORS

22.908.0001	Reversible cutting tip incl. screws, tungsten carbide, for 3-disc rotor (10 pcs.)
22.151.0010	Cutting plates made of stainless steel for parallel section rotors (3 pcs.)
22.151.0011	Cutting plates made of steel 1.1740 for parallel section rotors (3 pcs.)

CYCLONES

22.935.0040	Cyclone made of stainless steel
22.748.0005	Industrial vacuum cleaner for mills, 230 V, 50/ 60 Hz (other electrical versions and spare filter bags available upon request)

ADDITIONAL ITEMS

03.725.0047	PE plunger for EasyInspect hopper
22.225.0002	Replacement extraction tool for rotor
99.200.0045	IQ/OQ Documentation for SM 50

SM 50

DESCĂRCĂRI

Fișă de produs SM 50, Flyer SM 50 și General Catalogue sunt disponibile pe pagina produsului.

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