Nasuko

INFORMATION

2018 Vol.24 E

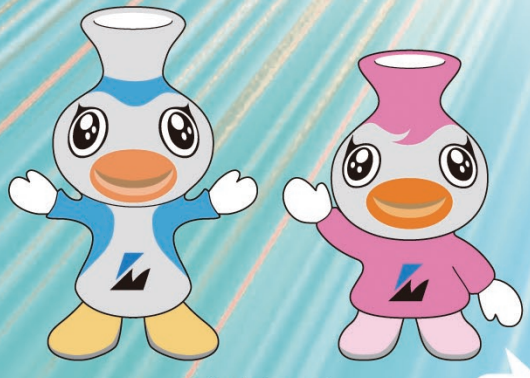
ISO 9001

since1922

IV

Version 4

Grinding expertise for



Please come to see me!

Masuko's mascot

MAX & MIRAI

90th anniversary mascot & 95th anniversary mascot

worldwide demand.

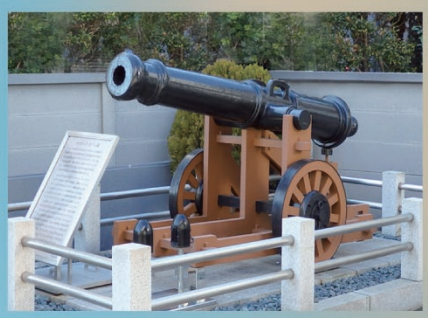
Contributing to industries world wide with advanced grinding expertise.

The recent rapid progress of advanced technologies and constant pursuit of high quality are demanding higher technical levels in every industry. Particularly powder processing industry is confronting a challenge of achieving such a finer product as nanometer particle size, under a recent circumstances that focus on technologies enabling further ultra-fine pulverization.

In 1965, Masuko became the first manufacturer in the world to commercialize an innovative friction grinder using a grinding wheel. It was called "Supermasscolloider" . Since then, Masuko has introduced a broad range of machines that achieve ultra-fine pulverization for an expanding range of materials. Masuko's superb expertise and technologies offer unlimited possibilities for tackling such challenges as recycling and saving resources, anti-pollution control, developing new materials to achieve greater economic effects and global environmental conservation. Masuko will further research and develop triturating technologies, and are willing to confront a challenge of achieving technologies enabling ultra-fine trituration of all materials except for diamond.

With the approach of the twenty-first century, Masuko obtained ISO9001 & 14001 qualifications in order to buildup their management foundation. For future they will give first priority to "Customers' Satisfaction" and "Improvement of Management Quality", and carry out earnestly the TQM "Ambition-Action 21".

We sincerely ask for your favorable consideration and valuable support to our future activities.



Restored model of 18 lb. cannon
(near the front gate).

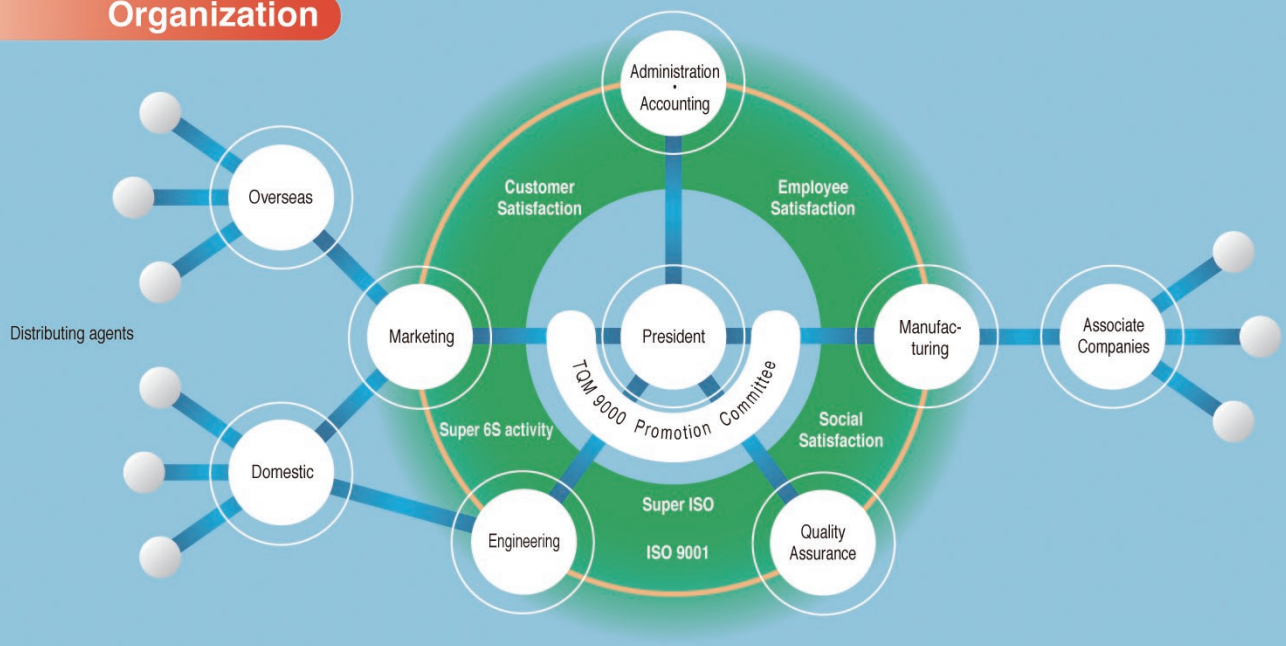
The original - allegedlly unproducible at that time-was produced by the 3rd of the Masuda family(CEO of Masuko Sangyo)in 1852.

MASUKO-pursuing customers' satisfaction

Outline of the Company

Name	Masuko Sangyo Co., Ltd.
Address	12-24 Honcho 1-chome, Kawaguchi-city, Saitama 332-0012, Japan Tel.+81-48-222-4343
Predecessor established:	April 1922
Masuko established:	August 1971
Capital	10 million yen
Fiscal Year-end	End of June (annualy)
No. of empoloyees	25
Executive officers	President:Sachiya Masuda
Main banks	Kawaguchi Shinkin Bank, Head office Musashino Bank Kawaguchi branch
Operations:	**Manufacturing and distribution of:** **Ultra-fine friction grinder** Supermasscolloider, Supermasscolloider α, Supermasscolloider Ⅳ, Hypermasscolloider Ⅳ, etc. **Ultra-precise cutting machine** Micro-Meister **Air-flow type ultra-fine micronizer** Ceren Miller, Ceren Miller DAU **Other micronizer** Atomizers, Cutter Mill, Shredder, Bone Cutters, Choppers, etc. **Peripheral equipment** Conveyors, Pumps, Mixers, Chargers, Weighing machines, etc.
Overseas agent	Korea・China・Taiwan・Thailand・Singapore・Malaysia・Indonesia・Philippines・India・EU

Organization



● In communication type of organization with an emphasis on horizontal connections, We will "pursue happiness" through the Super 6S activities

and management quality improvement.

96th Anniversary. Thank you.

Milestone

Around 1750	Manufactured hundreds of cannons under the leadership of Shuhan Takashima in the last days of the Tokugawa Government, then businesses were developed into the form of present industrial enterprise.
April 1922	Started sales of special products of Kawaguchi at Honcho 4-home, Kawaguchi-city
August 1947	Started production of castings and other industrial machines at Honcho I-chome, Kawaguchi-city
1965	Developed the Supermasscolloider.
August 1971	Reorganized into Masuko Sangyo, Co., Ltd.
1972 - 1979	Developed a fully automatic tofu (bea curd) manufacturing plant; developed chicken and pig bone marrow remulsion manufacturing lines; and started sales of small-scale *tofu* manufacturing units in the U.S.
October 1982	Developed cattle bone marrow remulsion manufacturing lines.
September 1984	Developed manufacturing lines for composite fuel containing carbide colloidal.
November 1985	Awarded the Saitama Industrial Technology Grand Prix for the polymer complex structure of a grinder and its manufacturing method.
January 1986	Awarded a prize in recognition of technical services to the food industry for the development and the distribution of the "Supermasscolloider," a grinder producing ultra-fine particles.
February 1986	Awarded a prize for inventing a system that converts bones into a food meterial
February 1987	Awarded a prize in recognition of the innovative idea of polymer complex structure for grinding-head.
April 1988	Awarded a prize by the director general of the Science and Technology Agency for developing ultra-fine grinders.
August 1988	Developed "Grindell" grinders which were patented in the U.S.A. and the U.K.
May 1989	Awarded a prize from the Japanese Society for Food Science and Technology for developing a triturator and applying it to the food industry.
May 1989	Tsuneo Masuda, chairman, was awarded the Yellow Ribbon Medal. by Japanese Government
October 1993	Developed "Cerendipitor" to enable ultra-fine grinding of difficult-to-crush materials.
October 1993	Awarded a prize for the inventing the Cerendipitor high-speed grinder.
November 1994	Hatogaya Plant No.2 completed.
December 1994	Company-wide Five "S" campaign launched.
September 1995	New head office plant completed.
May 1996	TQM "Ambition - Action 2000" campaign initiated company-wide.
April 1998	The patent for anti-bacterial type grinder was granted.
October 1999	Developed a air-flow type ultra-fime micronizer "Ceren Miiller"
February 2000	Acquired ISO9001 qualification.
February 2001	Acquired ISO14001 qualifIcation.
January 2002	Started company-wide activity pursuing customers' satisfaction and management quality improvement.
June 2002	Developed Ultra-precise cutting machine "Micro-Meister"
June 2006	Developed Ultra-high-pressure wet jet mill "Masscomizer X"
December 2008	Joined Super ISO research group.
June 2009	Developed multi functional grinding machine "Supermasscolloider α"
July 2009	"New 6S Activity" initiated company wide.
June 2011	Developed Under decompression air-flow type ultra-fime micronizer "Ceren Miiller DAU"
June 2012	All employees went to the Great East Japan Earthquake volunteer.
2013	Exported Supermasscolloider to 22 countries for cellulose nano fiber application.
July 2013	"Super 6S activity" initiated company wide.
January 2015	Developed forth generation "Supermasscolloider IV"
August 2015	Certified in management innovation company in Saitama.
January 2016	Awarded the Eiichi Shibusawa grand business prize.
December 2016	Introduction of electronic microscope and 300t press machine.
July 2017	Health management proclamation declaration (employees and the company are more healthy)
November 2017	Developed "Hypermasscolloider IV"

Putting our hearts into every process,

Pursuit of happiness through the Super 6S activities

Since 1994, we continued 5S, ISO, TQM, 6S, Super-ISO activities.
As we celebrate the 2014 milestone of 20 years, we change appellation as “Super 6S activity”. With new origila key words such as **“Creation, Evolution, Success, Growth, Deep Performance, Happiness”**, we restart activity toward the culmination.

People work for what?… Let's create happiness through the work!
“Participating in the **creation** of new value with fellow, **evolving** the company, increasing the **success**ful experience, **grow**ing their own, do **deep performance**, and making people **happy** to be associated with this project = Masuko Sango” is new management philosophy. We aim to the company that has “Ability to think deeply things”, “Problem-solving ability”, and “To share the human resources and organization that can adapt to environmental change”.

As there is a quality in thing, there is a quality to people. Human quality. To raise the human quality, the system quality and the product quality. It will lead to raising the overall quality of the company as a result. We want to be the company that delights customers, admitted serving, the employees work with a smile.

Technical Department (3D CAD)

Plant No.2


Quality inspection


Head Office Plant

ISO9001

CE marking self-declaration.


KCS authentication certificate

this is our mission.

Marketing Department

Head Office
Plant

Grinding all kind of substances except

Super ISO activity

The demanded thing to Masuko Sangyo now is "mind". That is a key word. We have "5S activity" and "quality system" that we can proud of. Putting mind in the system is needed.
ISO9001 is the system to guarantee quality without mind. It is obvious that if we put mind in it, it will be much better system. Not only following the rules, but also to think what to do to better is necessary. Making improvements to bring awareness of the issues is needed to cultivate.

Masuko Sangyo has started participating Super ISO research group that is organized by Japanese Industrial Standard since 2009. Bases are manipulating ISO 9001, realization of competition supremacy, and scientific problem solving methods. Built-in TQM thinking, goal type activity. To base up an activity to TQM9001 are our effort. We believe that with this activity, competitive products, continuous serving company with a dream is possible.

Grinding all kind of substances except diamond to super fine particle.

The recent rapid progress of advanced technologies and constant pursuit of high quality are demanding higher technical levels in every industry. Particularly powder processing industry is confronting a challenge of achieving such a finer product as nanometer particle size, under a recent circumstances that focus on technologies enabling further ultra fine pulverization.
To make nano size particle is an important theme for realization of a recycling-oriented society, resource saving, low pollution, and developing new materials. Masuko Sangyo will pursue further grinding expertise in both wet and dry applications to develop our technology.

New material/product display room

Test room No.1

Analyzing room

diamond to super fine particle.

Nano Laboratory
- Laser diffraction scattering particle size distribution measuring device
- Scanning electron microscope
- Digital microscope

Meeting

Test room No.2

SUPERMASSCOLLOIDER® (Ultra-fine friction grinding machine)

Masuko's Supermasscolloider, which is even called "Dissolving Machine", can make ultra-fine particle products which looks as if dissolving. The Supermasscolloider, ultra-fine grinding machine features two ceramic non-porous grinding stones. Clearance between these two stones can be adjusted freely. While the upper grinding stone is fixed, the lower one is rotated at a high speed. Raw materials fed into the hopper are dispersed by centrifugal force into the clearance between those grinding stones, where they are ground into ultra-fine particles, after subjected to massive compression, shearing, and rolling friction forces. As is a stone-mill type machine, it produces more round shape and smoother particles than other type of crushing machines.
The product consists of uniform size of particles.

●Setting the clearance between two grinding stones is a important work, since it secures high quality of the product. When turning the adjusting handle, the clearance increases or decreases by a unit of 1/100mm. Besides, during "0" operation (two grinding stones contact each other), the clearance can be adjusted freely.

MKCA6-2J Wet Dry

●Compact type for laboratories and small volume production.
These machines can grind small lot of materials with 100% recovery. They are extremely easy to disassemble, clean, and reassemble.

Specfications

Model	MKCA6-2J	MKZA6-5JR
Motor	1.5Kw, 3P	3.7Kw, 3P
Grinder diameter(mm)	φ150	φ150
Standard capacity(wet)	35~120Kg/Hr	35~120Kg/Hr
External dimensions W×L×H(mm)	427×381×633	560×1097×1055~1632(MAX)
Weight	60Kg	230Kg
	※Machine with a trolley type is also possible production.	※Movable up and down width 577mm

▲MKCA6-2J

▲MKCA6-5JR

MKZA10-5LDR Dry

●Models for dry materials only, grinding to 1-30microns.
These machines can efficiently pulverize small amounts of materials that are fibrous and vulnerable to heat, such as powder tea and chitosan.
Rotary speed can be adjusted within the range from 0 to 830rpm.

Specifications

Model	MKZA6-2LDR	MKZA10-5LDR
Motor	1.5Kw, 3P Variable speed	3.7Kw, 3P Variable speed
Grinder diameter	φ150mm	φ250mm
Standard capacity(dry)	0.2~3Kg/Hr	0.4~5Kg/Hr
External dimensions W×L×H	500×550×1200mm	903×925×1540mm
Weight	150Kg	250Kg

▲MKZA10-5LDR

MKZA10-15J IV Wet Dry

●The birth of Supermasscolloider to has elapsed 50 years. Forth generation, New Supermasscolloider (MKZA10 series) has been developed to its turning point. It complies safety of global standards such as CE marking, KCS mark, and UL. It is a new type friction grinding machine in pursuit of ease of use and functionality. Even part time staff can use the machine easily. Moreover, we provide three types of bearing mechanism that corresponds to tough environment such as high temperature, high pressure, and 24 hours operation.

Specifications

Model	MKZA8-10J IV	MKZA10-15J IV	MKZA12-20J IV
Motor	7.5~15Kw, 3P		
Grinder diameter	φ200mm	φ250mm	φ300mm
Standard capacity(wet)	35~600Kg/Hr	80~1200Kg/Hr	140~2000Kg/Hr
External dimensions W×L×H	685×1050×1370mm		
Weight	220Kg	250Kg	300Kg

▲MKZA10-15J IV

MKZA15-40J Wet Dry

●A medium-sized grinder for low to moderate viscosity materials.
With a capacity of 350-3,500kg/hr., this medium-sized grinder with jacket, is widely available for mass-production applications. The spring-damper assists lid to open and close easily.

Specifications

Motor	15Kw~30Kw, 3P
Grinder diameter	φ360mm
Standard capacity(wet)	350~3500Kg/Hr
External dimensions W×L×H	905×1270×1735mm
Weight	650Kg

MKZB20-100J Wet Dry

●Large grinders for highly viscous materials. These models are among the world's largest machines.

Specifications

Model	MKZB15-50J	MKZB20-100J
Motor	30~55Kw, 3P	37~160Kw, 3P
Grinder diameter	φ360mm	φ500mm
Standard capacity(wet)	350~3500Kg/Hr	1200~6000Kg/Hr
External dimensions W×L×H	780×2100×1530mm	900×2500×1800mm
Weight	1300Kg	2500Kg


▲MKZB20-100J

SUPERMASSCOLLOIDER α® (Multi functional mill)

Supermasscolloider α is the compact and high performance multi mill that has 15 functions by changing core parts.
Multi function system like the food processor is applied to this triturating machine, and it can be used for both wet and dry trituration methods. Rough cutting, ultra fine cutting, slicing, and dicing are possible for many uses.

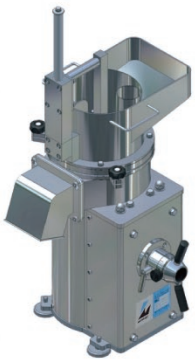
α10 series with Micro cutter(M)

● Convenient for R&D research use and Hotel & Restaurant kitchen use. Existing customers can also use α parts to their machines. For more information, please contact Masuko Sangyo.

MKCA6-2Jα

α6 series

15 kinds of different functions



●It is easy to operate because of its compact size. One machine for 15 functions by changing core parts inside braking chamber. Most suitable type for laboratory and small production.

Specfications	
Motor	1.5~3.7Kw, 3P
Standard Capacity	35~120Kg/Hr
External dimensions WXLXH	445×445×715mm
Weight	60Kg

MKZA10-20Jα IV

α10 series

13 kinds of different functions

●Most popular medium sized production machine.
100% corresponding to customer's needs by one machine.

Specfications	
Motor	15Kw, 3P
Standard Capacity	80~1200Kg/Hr
External dimensions WXLXH	685×1050×1370mm
Weight	250Kg

MKZA15-40Jα

α15 series

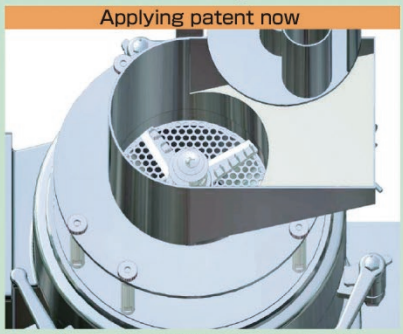
3 kinds of different functions

●Large type of α series.
Mass production machine with jacket structure for many applications.
Easy to handle by upper lid spring system.
Whole cabbage can be fed into the hopper.

Specfications	
Motor	15~30Kw, 3P
Standard Capacity	350~3500Kg/Hr
External dimensions WXLXH	905×1270×1800mm
Weight	650Kg

W Core system

Applying patent now



Chop cutter(CO) with Grinder(G)

W core system unites plural different core parts in one main body, and smooth process is possible by excellent system. It is the most appropriate system for saving space and cost.

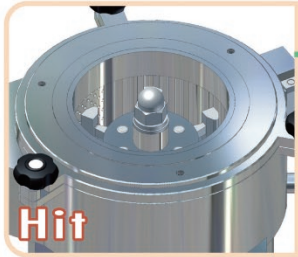
α Core parts

W = Wet D = Dry

Grinder (G) W D

Friction grinding by one pair of non-porous grinders. Raw materials fed into the hopper are dispersed by centrifugal force into the clearance between those grinding stones where they are ground into ultra fine particles, after subjected to massive compression, shearing and rolling friction forces. Masuko Sangyo has 150 kinds of grinders.

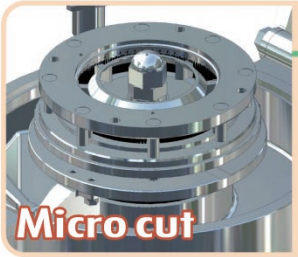
corresponding machine α6・α10・α15



Hammer (H) D

Attached hammers on the rotary disk rotate inside lining. Raw materials become fine powder by impact, friction, compression, and collision of materials. Hammering function has big capacity and stable product particle size.

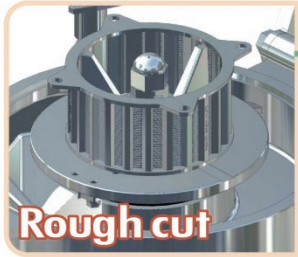
corresponding machine α6・α10



Micro cutter (M) W

Ultra precise cutting of micron size level is achieved by the shearing force generated between a speedily spinning rotor and many blade edges which are planted in a ring placed around the rotor. Cutting heads of Micro-Meister (3M series) can be attachable.

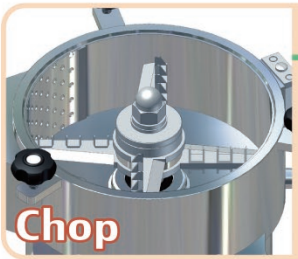
corresponding machine α10



Rough cutter (R) W D

Material is pressed against the inner surface of the basket cutting head by centrifugal force which is generated by a speedily spinning rotor, and it is cut by the knife inside basket cutting head. Basket cutting head of Micro-Meister (4M series) can be attachable.

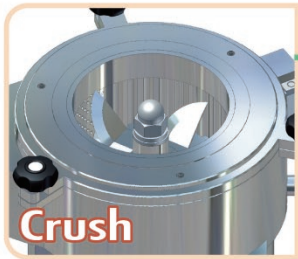
corresponding machine α6・α10



Chop cutter (CO) W D

Materials are cut on horizontal cutter and vertical cutter into fine pieces. Making paste of materials that have strong fiber such as ginger is possible without preparation.
2 step cutters, 3 step cutters, 4 step cutters are possible to set up.

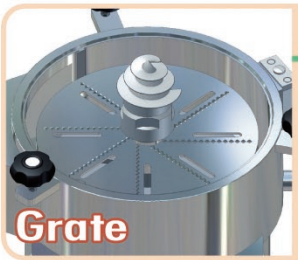
corresponding machine α6・α10



Crush cutter (CR) W D

Powdering of high oil content materials that are weak to heat such as peanut and sesame seed. Materials with strong fiber can be cut sharply. All periphery screen type is available.

corresponding machine α6・α10・α15



Grater (GT) W

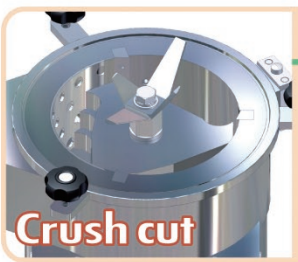
Materials are grated by projecting on the rotary plate. Special disk for finer grate is available. Fruit size like an apple can be fed without precutting.

corresponding machine α6・α10

Slice cutter (S) Dice cutter (D) W

Materials are sliced by rotary round slicer and cut by dicer where right under slicer. Materials become dice. By taking off dicer, sliced products are obtained. Fruit size like an apple can be fed without precutting.

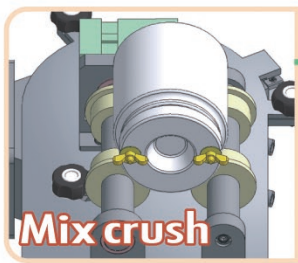
corresponding machine α6・α10



Cutter mill (CM) D

Applicable various uses for both hard and soft materials. Material fed into hopper is cut by the edge of three steps rotor and fixed three pieces knives on the outskirts part. Only products that are smaller than hole size of the Screen are discharged.

corresponding machine α6・α10



Ball mill (BM) D

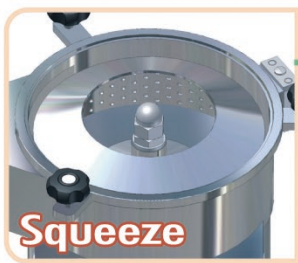
By setting the pot containing the raw material and the ball horizontally and turning it, it is miniaturized by impact crushing with a large-diameter ball and grinding with a small-diameter ball.Besides pulverization, it can also be used for mixing and dispersing, and it is possible to control the rotation speed with an inverter.

corresponding machine α6

Grain (GR) D

Star shaped special knife is suitable for crushing and granulating of raw material. It is possible to suppress the pulverization of the fine powder.
It is good for material with strong fiber and adherent material.

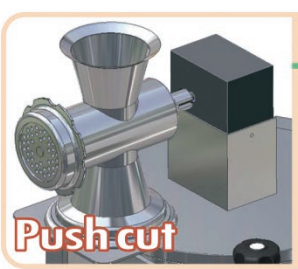
corresponding machine α6・α10



Dehydrator (DR)

Solid-liquid separator which is available in a range of 1,000 to 3,000rpm as a simple centrifugal dehydrator. It is also good for dehydrating slurry of 20um material.

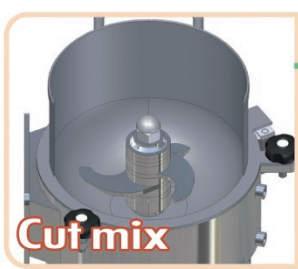
corresponding machine α6



Chopper (CH) W

Stainless steel mincing machine. Meat, fish, of course, vegetables and fruits also briefly minced.
World first grinder that can make sesame paste and Surigoma.

corresponding machine α6



Cutter mixer (CX) W D

The high-speed rotation and the cutter knife, it is a mixer to cut and mixed and emulsified any material instantly.
Freely adjustable the rotation speed by inverter, enables processing on the fine adjustment, widely available from food to industrial raw materials.

corresponding machine α6

HYPERMASSCOLLOIDER IV® (Ultra-fine friction grinding machine)

half century after the birth of the ultra-fine friction grinding machine "Superamasscolloider" equipped with a nonporous grinding stone ahead of the world.
we realized high performance, high efficiency, high functionality in the machine, but this time as its culmination Hypermasscolloider IV has developed.
By attracting the grinding granularity and processing capacity to the highest level, it became possible to demonstrate the high performance which could not be achieved conventionally.
We realize ultrafine atomization of all materials except diamond, from soft materials to hard materials, from raw materials containing a lot of fibers to crystals.
As a result of a thorough review of ease of use and safety, in addition to safety complying with world standards such as CE marking, UL, KCS mark, etc., this machine has been reputed as "finished form of grinding machine".

MKZA10-30J IV Wet Dry

●Since the grinder rotation speed can be freely adjusted in the range of 1000 to 3600 rpm, it is possible to obtain the maximum production amount with desired particles.
In addition, it has become possible to fully exploit the performance of α parts that require high torque, such as micro-cutter and rough cutter.

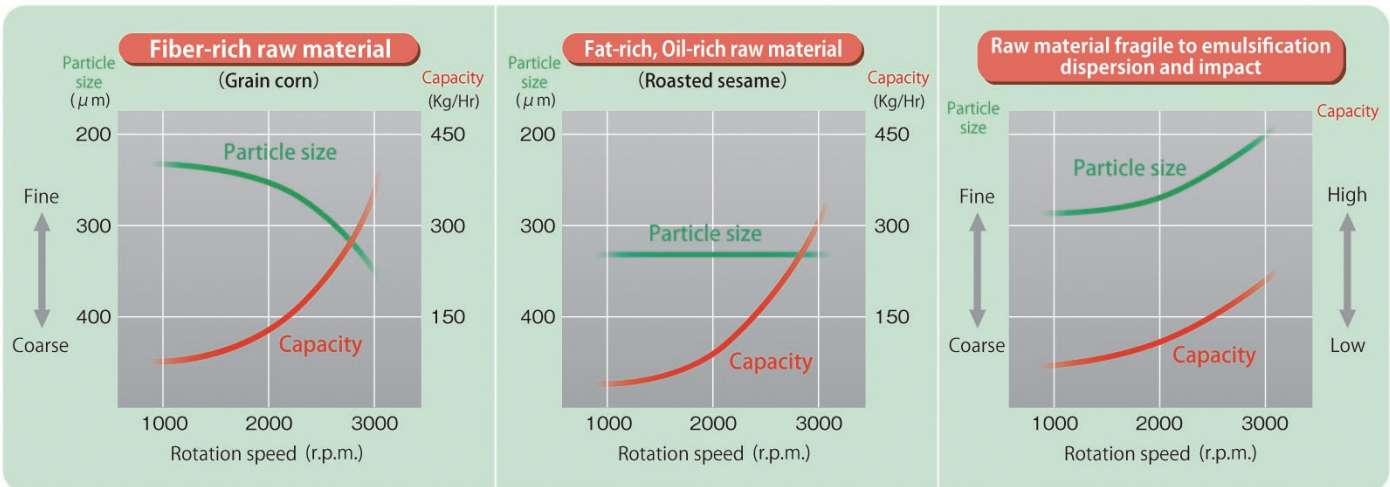
Specifications

Model	MKZA10-30J IV	MKZA12-40J IV
Motor	22Kw, 3P	30Kw, 3P
Grinder diameter	φ250mm	φ300mm
Standard capacity (wet)	80~2000Kg/Hr	140~2400Kg/Hr
External dimensions W×L×H	752×1013×1518mm	
Weight	550Kg	600Kg

▲MKZA10-30J IV

●Grinding particle size and processing capacity example

Depending on the raw material, ① one with the coarser particle size as the rotation speed increases, ② one that the particle size hardly changes even if the rotation speed goes up, ③ one that becomes finer as the rotation speed increases. It is the most recommended product that can pursue optimum granularity and processing capacity.



SMART MEISTER® FUNCTION (Computer aided automatic ultra-fine grinder)

Conventionally, subtle clearance adjustment had done by veteran workers, we will do on behalf of the electronic eyes of smart Meister function.
Smart sensor constantly monitors the operation state, to keep the product particle size and temperature constant. You can set a 24 kinds of operation pattern, one button in it is varieties instead, it does not involve troublesome setting work.
It also makes possible to control plural Supermasscolloiders from one screen, and it is more convenient to use.

A display example

MKCA6-5JM Wet Dry

●Small grinder with Meister function was born. It is good for research site that reproducibility is important and high-mix low-volume production. Movement of the machine location is easy.

Specifications	
Motor	3.7Kw, 3P
Grinder diameter	φ150mm
Standard capacity (wet)	35~120Kg/Hr
External dimensions W×L×H	560×1097×1055~1632 (MAX) mm
Weight	235Kg

※Movable up and down width 577mm

MKZA10-20JM IV Wet Dry

●In addition to the safety of the world standards such as CE marking, it is the most popular small production machine that has ease of use and functionality. Even part time staff can use the machine easily and get uniform product by switch Pong!

With caster type

Specifications	
Motor	15Kw, 3P
Grinder diameter	φ250mm
Standard capacity (wet)	80~1200Kg/Hr
External dimensions W×L×H	685×1050×1370mm
Weight	280Kg

MKZB15-50JM Wet Dry

●By introduction of Meister function, no longer need a skilled worker. Checking clearance under unattended operation in inline. Allowing uniformed grinding and stable production.

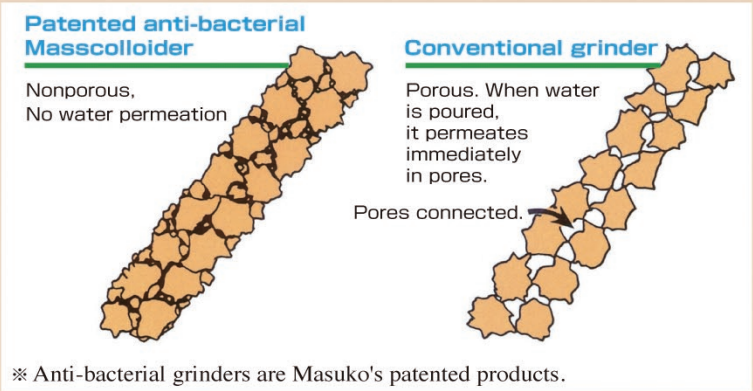
Specifications	
Motor	37Kw, 3P
Grinder diameter	φ360mm
Standard capacity (wet)	350~3500Kg/Hr
External dimensions W×L×H	780×2100×1340mm
Weight	1300Kg

GRINDERS

Our ultra-fine friction grinding machine is equipped with special grinders, which produce overwhelmingly fine and round-shape particles of products. These grinders have 200 kinds and over variations classified in material itself, material particle size, or ditch style. Besides, anti-bacterial grinders are added in our range which keep good sanitary conditions at foodstuff industry that corresponds to HACCP.

●NONPOROUS GRINDER

As previously mentioned briefly, conventional grinders have a porosity of about 40%. Accordingly, when raw food materials such as animal bones are triturated, the liquid containing nutrients such as protein enters the inner part of the grinder which promotes the growth of innumerable bacteria. Also sometimes these pores cause cracks of grinder due to uneven heat distribution or thermal stress. The Supermasscolloider solves these problems completely, there is no growth of bacteria and no crack due to thermal stress. It contributes the improvement of yield and overwhelmingly fine particles.



※ Anti-bacterial grinders are Masuko's patented products.

● All of the grinder is Dry and Wet combined.

16#, 24# (coarse) 46# (fine)

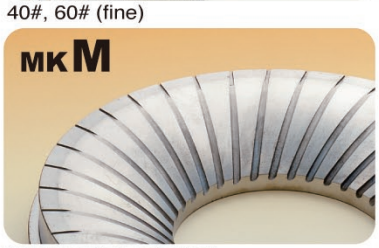
SiC+$A\Omega_2O_3$
For soft material standard grindstone
※Antibacterial version available.
For making pastes of vegetables, fruits, meat, sesame seeds, peanuts, pigments, plaster, sea weeds, soy beans, rice, Japanese horseradish, ginger, etc.

24#, 46# (fine) 80#, 120# (Ultra-fine)

$A\Omega_2O_3$ 〈MK G-A〉
SiC 〈MK G-C〉
For pulverizing and emulsifying fibrous materia
※Antibacterial version available.
For pulverizing corns, ginger, mustards, almonds, carbon, talc, silica, cellulose, etc., and for emulsifying grease, cosmetics, etc.

40#, 60# (fine)

C100% [diamond]
For hard materials
For powdering or slurrying egg shells, minerals, bones, metal oxide, fossil shells, zeolite, polymide fluororesin, etc.



(Intermediate grinding)

SUS304/316
For special materials
For powdering or slurrying medical materials, etc.

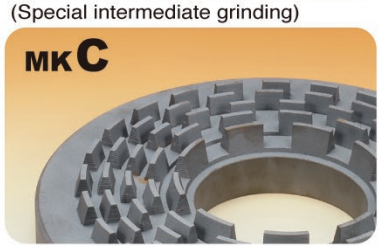
SiC composite
For hard material, wear resistant grinder
For pigments, dyes, lubricants, cosmetic ingredients, ointments, etc.

(Special fine grinding)

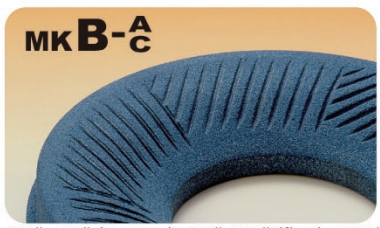
Si_3N_4 & ZrO_2
For extra-hard materia
For powdering or slurrying glass, minerals, medical materials, plaster, pigments, antimony trisulfide, ink lead, calcium hydroxide

(Special intermediate grinding)

$A\Omega_2O_3$
For white material
For powdering or slurrying white materials, including cosmetics, pigments and drinks.

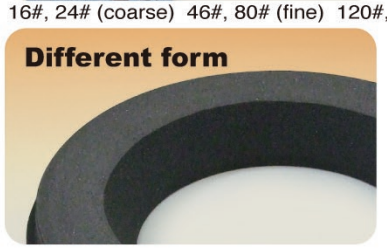


FcD60 &SUS
For preliminary grinding/kneading powdery materials
For preliminary grinding of bones, wood chip, resin pellet, etc., or for mixing / knead-ing pigments, etc.



16#, 24# (coarse) 46#, 80# (fine) 120#, 220# (ultra-fine)

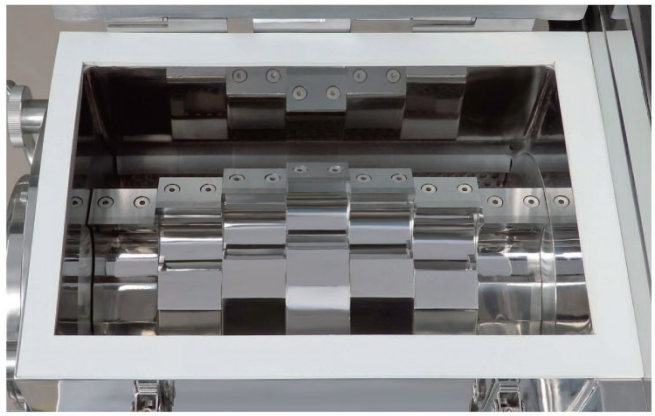
$A\Omega_2O_3$ 〈MK B-A〉
SiC 〈MK B-C〉
For powdering mugworts, herbs, spices, minerals, powder tea leaves, chitosan, potassium sulfate, chlorella, nitric acid, etc.



correspond to MK E, MK New E, MK G, MK B
For emulsification・promoting dispersion

CUTTER MILL (Pre-crusher)

Masuko's standard Cutter Mill machines are made of stainless steel, making them safe to use for food and medical applications. The edges of knifes are cartridges, and it is easy to exchange them. The horizontal structure ensures durable bearings and complete seal for washing. The screens to be fitted below the cutters are available between 1.5～30mmϕ.



MKCM-5 MARK II Dry Wet

●Usable sanitary even in pharmaceutical industry. Disassembly and assembly time of new type machine becomes one-third of the time of conventional machine.With bolt less structure, desorption of parts was facilitated. Lighter parts and 20cm lower machine height design allows women workers to handle it easily.
It is not only easy to handle in a hygienic but also excellent in corrosion resistance and chemical resistance. It is good for food, pharmaceutical, and chemical products without any problems.

Specifications

Model	MKCM-5 II
Motor	3.7Kw, 3P
No. of cutters	7 pieces
Standard capacity(dry)	36～240Kg/Hr
External dimensions W×L×H	840×1000×1200mm
Weight	330Kg

MKCM-10 Dry Wet

●These models enable easy and convenient crushing of various materials, including vegetables, fruits, seaweeds, crude drugs, used paper and fibers, and wood chips.
Screen is easy to clean as well as to change. This machine structure enables easy change of material. A hopper equipped with a magnet is made-to-order to prevent magnetic substances being mixed.

▲MKCM-3

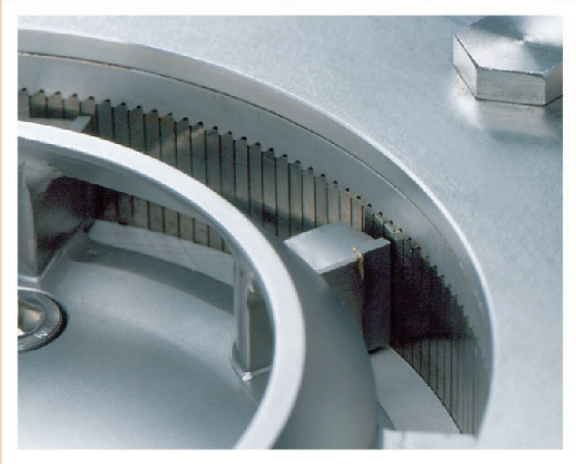
▲MKCM-10

Specifications

Model	MKCM-3	MKCM-10
Motor	2.2Kw, 3P	7.5Kw, 3P
No. of cutters	5 pieces	9 pieces
Standard capacity(dry)	12～60Kg/Hr	96～600Kg/Hr
External dimensions W×L×H	500×600×1000mm	1000×1000×1500mm
Weight	90Kg	250Kg

MICRO-MEISTER® (Ultra-precise Cutting)

"Micro-Meister" is a ultra-precise cutting machine with the ultra-high speed which has never been achieved. Ultra-precise cutting of micron size level is achieved by the shearing force generated between a speedily spinning rotor and many blade edges which are planted in a ring placed around the rotor. Micro-Meister, the first multi-functional triturating machine in the world can operate with three triturating tools, i.e. Cutting Head, Basket Cutting Head, and Grinder which work out in different effects. Micro-Meister can be applied in various industrial fields like foodstuffs, spices, pharmaceuticals, chemicals, cosmetics, etc. Its driven part is supported by oil mist lubricating system, and can rotate with high speed continuously, as well as evolves less heat when operating.



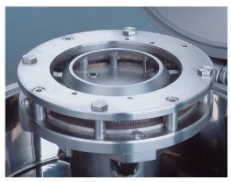
3M7-40Ⅱ Wet Dry

●The rotor and the blades are very precisely machined so that the clearance between them keeps 300um. Number of blades ranges between 50 and 222 : over 10 kinds of cutting heads are available which provide rough cutting, minute cutting, and ultra-minute cutting. If preferable, basket cutting head or grinder can be equipped.

Specfications

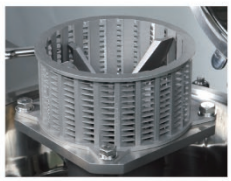
Motor	30Kw, 3phase
Rotating speed	6,000~12,000r.p.m.
Standard capacity(wet)	1800~3600Kg/Hr
External dimensions W×L×H	815×1285×1445mm
Weight	500Kg(main body)

※Low center of gravity type



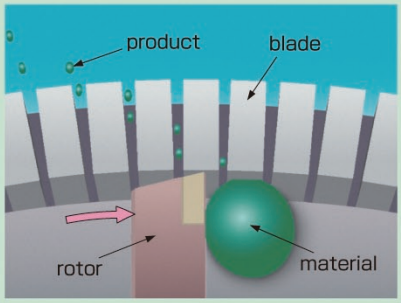
Cutting Head

Grinder



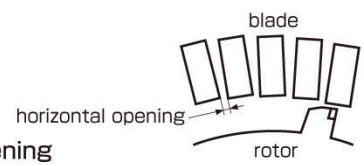
Basket Cutting Head

●Ultra-precise cutting



●Consistent size of product

Two kinds of blades are available; one is "S" type for ultra precise cutting, the other is "L" type for normal precise cutting. There are two kinds of blades such as super hard and ceramic made.

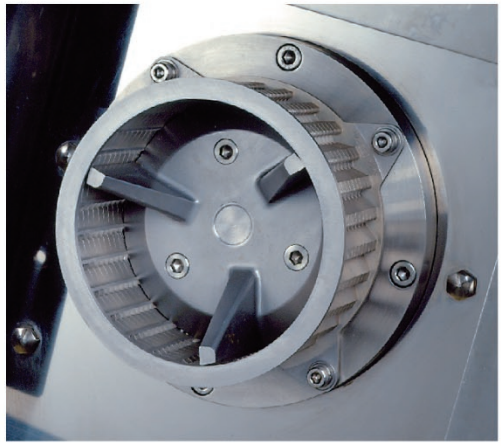


Number of blades and horizontal opening

	"L" type blade					"S" type blade									
No. of blades	50	70	80	90	100	140	160	180	190	200	206	212	216	220	222
Size (mm)	5.6	2.9	2.0	1.4	0.8	1.3	0.9	0.5	0.4	0.3	0.2	0.1	0.08	0.05	0.02

MICRO-MEISTER MINI® (Precise Cutting)

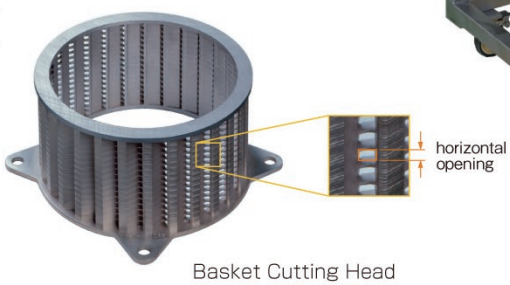
As Micro-Meister, Mini is a wet and dry triturating machine which has a plentiful lineup of basket cutting heads, it can provide various product sizes to meet your requirement. Material is pressed against the inner surface of the basket cutting head by centrifugal force which is generated by a speedily spinning rotor, and it is cut by the knife inside basket cutting head. The product size is quite consistent. This machine is highly applicable to poultry and fish meat processing, and to vegetable and fruit processing.



4M7-10 Wet Dry

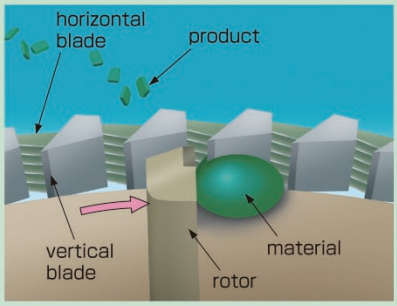
●Basket Cutting Head which is mounted on this machine varies in the size of its horizontal opening.
Its lineup is plentiful between 0.25mm - 12.90mm. As the structure is simple, it is easy to disassemble and clean.

Specfications	
Motor	7.5Kw, 3P
Rotating Speed	1,000~1800r.p.m.
Standard Capacity(wet)	360~1800Kg/Hr
External dimensions W×L×H	1400×600×1300mm
Weight	120Kg(main body)



Basket Cutting Head

●Precise cutting



Sizes of horizontal opening

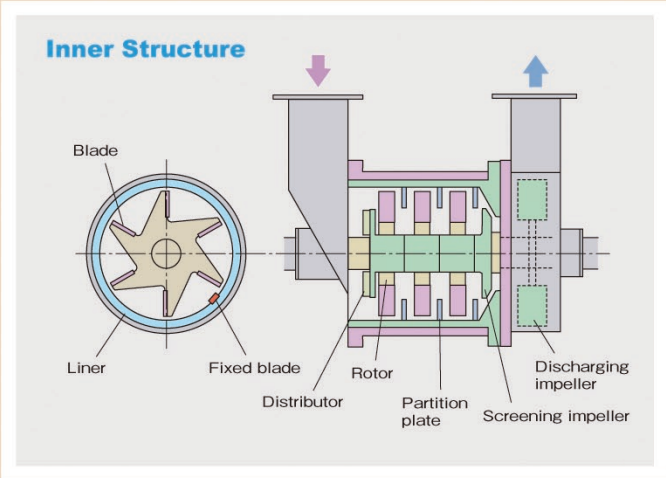
No.	1	2	3	4	5	6	7	8	9	10	11
Size (mm)	0.25	0.38	0.51	0.76	0.88	1.00	1.20	1.50	1.80	2.00	2.20

12	13	14	15	16	17	18	19	20	21	22
2.50	3.00	3.81	4.20	5.30	6.00	6.80	7.60	8.40	9.90	12.90

※ Basket cutting head can also be used with 3M7-40 model.

CEREN MILLER® (air-flow type ultra-fine micronizer)

Rapid spinning air-flow caused in triturating chamber by speedily rotating impeller generates impacting, shearing, compressing, triturating and vibrating forces to mill material into ultra-fine particles. Ceren Miller is a hybrid triturating machine based on three triturating principles: jet trituration, impact trituration, and stone mill grinding.
Ceren Miller is not equipped with a screen, which features its solid and almost truouble-free structure. Screening impeller existing in triturating chamber also works as screen to confine material particles within the chamber, and triturate them into ultra-fine particles, which show quite unifom particle size of 5 to 10 micron. Product particle size is adjustable by changing spinning speed, blade clearance, feeding speed, and air-flow volume. Every model is equipped with cooling water jacket.



MKCL8-15J Dry

●This model is designed for easy disassembly when cleaning and for easy material change. Though installed in a small area of 1.5m², this model has a large capacity.
Its cooling water jacket affords lower temperature of products.

Specifications

Motor	11~15Kw, 3P
Standard capacity	12~60Kg/Hr
External dimensions W×L×H(mm)	1000×1400×1800
Weight	280Kg

MKCL15-30J Dry

●This model is a large triturator for industrial use which afford large capacity and stable production. Main body is made of special solid casting intended for noise reduction. In order to meet application to food stuff or hard material, stainless steel or hardened steel is available as machine structure, which is made-to-order.

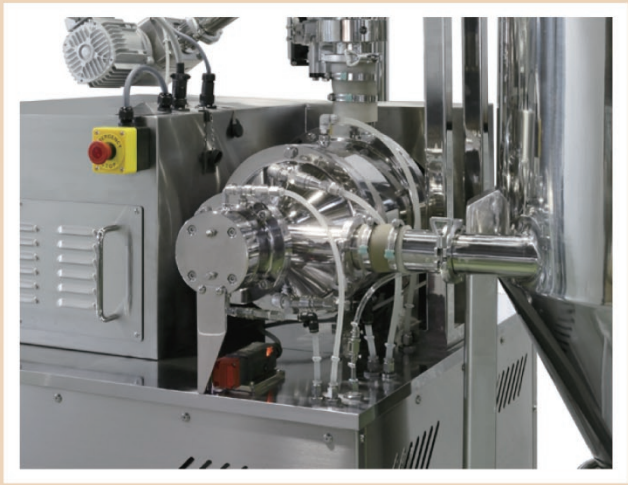
▲MKCL15-30J

Specifications

Model	MKCL15-30J	MKCL20-60J	MKCL25-100J	MKCL30-200J
Motor	22Kw, 3P	45Kw, 3P	75Kw, 3P	160Kw, 3P
Standard capacity	180~600Kg/Hr	350~1100Kg/Hr	550~1800Kg/Hr	720~3000Kg/Hr
External dimensions W×L×H (mm)	1720×1240×870	2000×1450×1030	2450×1750×1200	3140×2000×1380
Weight	2500Kg	3500Kg	5000Kg	7500Kg

CEREN MILLER DAU® (Under decompression air-flow type ultra-fine micronizer)

Traditional Ceren Miller is a hybrid triturating machine based on five triturating principles: jet trituration, impact trituration, stone mill grinding, compression, and high-frequency vibration to achieve 10 -20 micron size particle. Newly developed Ceren Miller DAU evolved traditional triturating method, and continuous batch method trituration became possible. 5 -10 micron size particle can be achieved, and Ceren Miller DAU can be compared favorably with Jet mill.



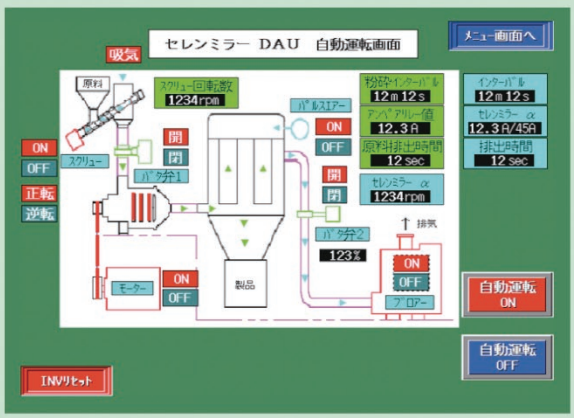
MKCL8-15J-DAU Dry

●Not only miniaturize the machine, but also sanitary bag filer is built in. Disassembling, assembling, cleaning of filter are easy. It ensures complete sanitary.

Specifications

Model		MKCL8-20J-DAU	MKCL15-30J-DAU
Motor		11～15Kw, 3P	22～30Kw, 3P
Standard capacity	Continuous batch method	6～20Kg/Hr	18～60Kg/Hr
	Continuous method	12～60Kg/Hr	60～250Kg/H
External dimensions W×L×H		1125×1740×2030mm	We designed for your demand
Weight		1100Kg	4000Kg

▲MKCL15-30J-DAU

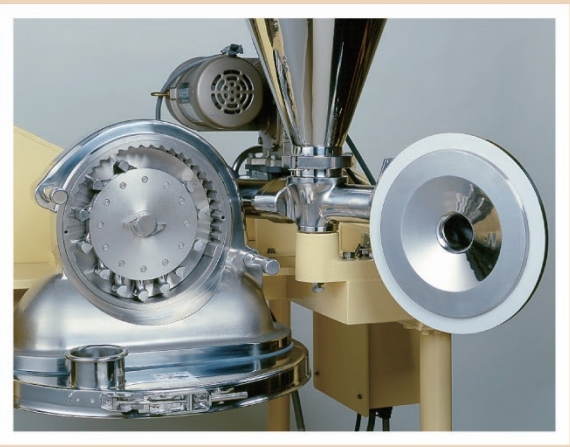


●Continuous batch method trituraton under decompression

This is continuous batch method trituration machine under decompression by adjusting material feeding volume.
Characteristic of batch method is “ultra atomization by triturating repeatedly” and “preventing deterioration by decompression trituration” (adiabatic expansion effect works temperature drops). It makes finer particles with less discoloration, less alteration, and less deterioration of taste. Inert gas can be fed under decompression, and it grows material protection effect more effectively.

ATOMIZER (Impact pulverizer : Hammer mill)

Masuko's Atomizer, impact pulverizer are designed to provide high-speed fine crushing at peripheral speeds of more than 100m/sec to make products with uniform grain size at an extremely large capacity. Atomization is attained by swing hammers attached to a rotating disk, which rapidly rotate at a distance of one millimeter inside a fixed lining plate to cause impact, grinding, collapse, and molecular collision. The Atomizer series features rigid casing and case protection parts, enabling durable and problem-free operation.



Labomizer **MKA-L05** Dry

●It can be used as a trace amount (about 50～200g) for pulverization experiments.
The circumferential velocity of the hammer is 100m/sec, and the same particle size as the production machine can be obtained.

Specifications	
Motor	0.4Kw, 3P
No. of hammers	Fixed type 8pieces (1line)
Standard capacity	200～300g/badge
External dimensions W×L×H	317×424×570mm
Weight	40Kg

MKA-2J Dry

●Because it is a compact type for laboratory and small volume production, it is not troubled by the installation location.
It is easy to disassemble and wash easily even by women worker.

Specifications	
Motor	0.75～1.5Kw, 3P
No. of hammers	6pieces (1line)
Standard capacity	12～60Kg/Hr
External dimensions W×L×H	720×690×1070mm
Weight	150Kg

MKA-5J Dry

●These are stainless steel, jacket-cooling, small production machines capable of atomizing small amounts of materials.
The front cover can be opened for easy disassembly, cleaning and reassembly. The machines enjoy high atomizing efficiency, easily producing fine particles of 200-300 mesh.

Specifications

Motor	2.2~3.7Kw, 3P
No. of hammers	12pieces (1line)
Standard capacity	36~180Kg/Hr
External dimensions W×L×H	940×650×1430mm
Weight	250Kg

Option : Rotor for fine grinding

MKA-10J Dry

●These large crushers can achieve products of uniform grain size with an extremely large output. Due to the rigid and compact design, they enjoy a wide range of applications in mass-production lines. The hopper can be equipped with a roll or plate permanent magnet or electromagnet to prevent magnetic substances being mixed.

Specifications

Model	MKA-10J	MKA-15J	MKA-20J
Motor	3.7~7.5Kw, 3P	7.5~15Kw, 3P	11~22Kw, 3P
No. of hammers	12pieces (1line)	12pieces (1line)	24pieces (2 line)
Standard capacity	50~250Kg/Hr	150~700Kg/Hr	400~1500Kg/Hr
External dimensions W×L×H	1200×1400×1600mm	1500×1300×1800mm	1500×1400×1800mm
Weight	450Kg	800Kg	1000Kg

▲MKA-10J

Pulverizer MKP-10 Dry

●This pulverizer is designed to provide low-speed crushing at peripheral speeds of 30m/sec to make coarse particle size (100~300μm) products. The characteristics of this pulverizer are low-speed, less numbers of hammers, and big clearance in the pulverizing room. This pulverizer also provides stable particle size products and high working capacity.

Specifications

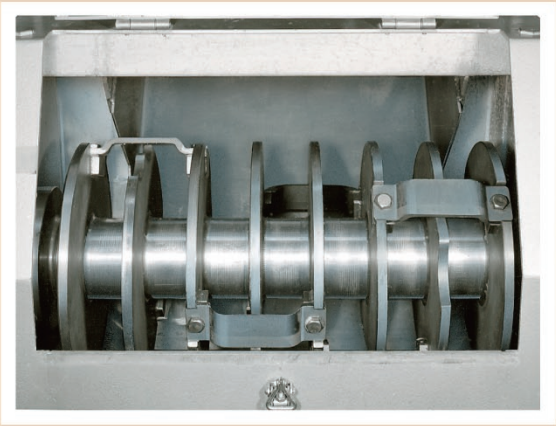
Model	MKP-3	MKP-10	MKP-20
Motor	2.2+0.4Kw	7.5+0.4Kw	11+0.4Kw
No. of hammers	6 pieces (1 line)	12 pieces (2 lines)	24 pieces (4 lines)
Standard capacity	60~240Kg/Hr	240~960Kg/Hr	720~1800Kg/Hr
External dimensions W×L×H	1000×700×1550mm	1200×1000×1830mm	1850×1550×2100mm
Weight	300Kg	800Kg	800Kg

▲MKP-10

BONE CUTTER (Frozen Flaker)

These cutters are designed to crush frozen block materials, such as frozen meat and fruits and cheese, into small chips. There is no need to thaw the material, keeping it fresh, and also eliminates the need for pre-processing and the space it requires.

<Applications>
Poultry meat, fish, pork, cattle, hide, chicken bones, fruits, eggs, vegetables, butter, cheese, industrial or pharmaceutical materials



MKBFC-3 Wet Dry

●These cutters are designed to treat small lot of a material, which falls into the cutting chamber by its gravity. The simple design ensures problem-free operation, and significantly saves installation space.

Specifications

Model	MKBFC-3	MKBFC-5
Motor	2.2Kw, 3P	5.5Kw, 3P
Rotor speed (50Hz)	150r.p.m.	150r.p.m.
Standard capacity (wet)	400~500Kg/Hr	600~800Kg/Hr
Maximum input dimensions	200×400×550mm	200×500×600mm
External dimensions W×L×H	933×1510×1191mm	850×980×1300mm
Weight	270Kg	300Kg

▲MKBFC-3

MKBFC-10B Wet Dry

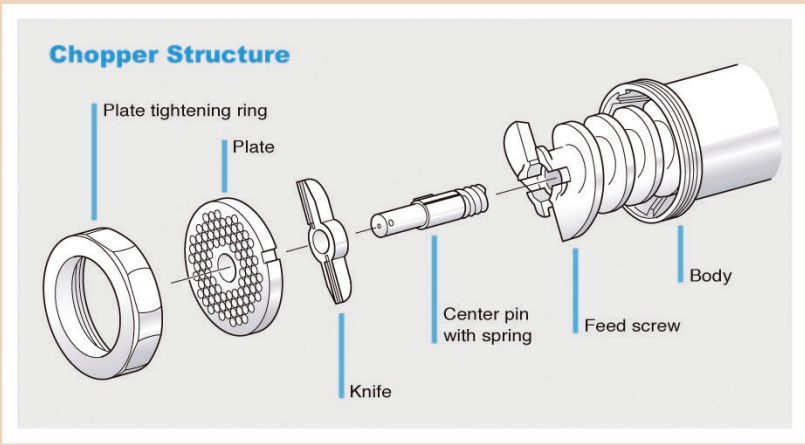
●This box-type model ensures safe and splash-free operation. It achieves a large capacity by using a cylinder to force-feed the material.

Specifications

Motor	5.5+0.4Kw, 3P
Rotor speed	200r.p.m.
Standard capacity (wet)	1300~3000Kg/Hr
Maximum input dimensions	250×530×650mm
External dimensions W×L×H	1425×2175×1200mm
Weight	880Kg

CHOPPER (Chopper for frozen meat and bones:Mincer)

Masuko MK choppers can chop cattle bones, hide, and pig bones - materials traditionally considered the most difficult to chop - with just one process. The chopper consists of a special feed screw for the processed material, and a polishing-free plate, knife and spring mechanism. This design minimizes, so called, kneading disadvantage and generation of heat to ensure quality products from almost any material.



Compact Chopper **MKBC-42D** Wet

●These compact machines for small-lot production are specially designed for easy disassembly and cleaning. They are available for processing chicken bones and cartilage, as well as raw and frozen meat. The MKBC-42D model incorporates a force feeding screw, which reduces labor costs by reducing the operator's work load.

Specifications

Model	MKBC-22	MKBC-32	MKBC-42D
Motor	1.5Kw, 3P	3.7Kw, 3P	7.5&11Kw, 3P
Standard capacity	20~100Kg/Hr	50~200Kg/Hr	100~1000Kg/Hr
External dimensions W×L×H	431×632×510mm	700×350×600mm	900×900×1100mm
Weight	45Kg	90Kg	470Kg

※Compact chopper is not equipped with spring as shown above.
Center pin is screw-on type.

▲MKBC-22 ▲MKBC-32 ▲MKBC-42D

Heavy Duty Chopper **MKBC42MGD** Wet

●Since the meat feeder (meat feed screw) and mixer for stirring the material in the vessel have been integrally incorporated, it is a space-saving and labor saving for maintenance management. You can secure a large processing capacity by meat feed screw.
By controlling the rotational speed, excessive feeding of raw materials can be prevented. As the result, it is possible to prevent the overload operation, you can protect the knife and hole plate from damage or abnormal wear.

Specifications

Model	MKBC32MGD	MKBC42MGD
Motor	16.2Kw	22.7Kw
Standard capacity	1~1.5Ton/Hr	1~2.5Ton/Hr
Agitation tank capacity	Full capacity 200 liters	Full capacity 450 liters
External dimensions W×L×H	800×1947×1438mm	1000×2475×1717mm
Weight	1090Kg	1800Kg

▲MKBC32MGD

PERIPHERAL EQUIPMENT

New Chop cutter **MKYC-7.5** Wet Dry

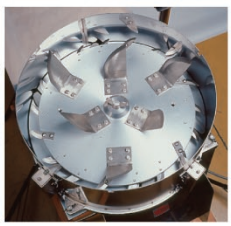
●New chop cutter can inject large size raw materials directly and chopped. The input material is instantly chopped and cut by multiple knives of different shapes to obtain well-formed particles
(Eg : whole cabbage → chopped cabbage)
It also has excellent sanitary properties, making it easy to disassemble and assemble. Not only is it hygienic and easy to handle, it is excellent in corrosion resistance and chemical resistance and it can be used for crushing foods, pharmaceuticals and chemical materials.

Specifications

Motor	5.5Kw, 4P
Cutter	ϕ430mm 3pieces
Standard capacity (wet)	300~3000Kg/Hr
External dimensions W×L×H	740×1420×1660mm
Weight	250Kg

Food Cutter **MKFS-302** Wet Dry

●Provided with a big capacity, this machine chops instantly such vegetables into pieces as cabbage, onion and etc.
As a whole head of cabbage can be fed at a time in spite of its compact structure, this machine enables efficient operation.
By its special cutter made of stainless steel, it makes up smooth cut surface of vegetables.



▲MKFS-302

Specifications

Model	MKFS-104	MKFS-302
Motor	1.5Kw, 3P	2.2Kw, 3P
Standard capacity (wet)	500~700Kg/Hr	1000~1500Kg/Hr
External dimensions W×L×H	730×400×1150mm	930×500×1200mm
Weight	80Kg	150Kg

Bone Crusher **MKBP-200** Wet Dry

●This crusher is designed to crush garbage and animal bones, and achieves a high capacity of one to two tons per hour.
Variable speed drive is used to ensure efficient operation according to the size and the properties of the material being processed. Automatic reversal is provided in case there is an overload.

Specifications

Motor	7.5Kw, 3P
Standard capacity (wet)	1~2ton/Hr.
Roll diameter	ϕ200mm
No. of cutters	5pcs×2 lines
Hopper bore dia.	400×415mm
External dimensions W×L×H	1000×2260×2000mm
Weight	1700Kg

Cartridge type Vibrating sieve Dry Wet

●The adoption of a cartridge sieve has made it possible to exchange sieve nets in a short time. In addition, since the ultrasonic generator can be installed as an option, classification is possible without clogging even in a fine mesh.

Specifications

Model	MKS-400	MKS-500	MKS-700
Sieve number of stages	1～3 stages		
Motor	0.4Kw, 3P		0.85Kw, 3P
Weight	95Kg	105Kg	180Kg
Required floor area	about φ600mm	about φ700mm	about φ1000mm

▲MKS-700

Mohno-pump **NBLS-40MR** Wet

●With quantitative and self-priming features, the NBLS-40MR pump ensures vibration-free transfer of food, chemical and industrial materials, even those with high density and viscosity.

Specifications

Model	NBLS-20MR	NBLS-30MR	NBLS-40MR
Motor	0.4Kw, 3P	0.75Kw, 3P	1.5Kw, 3P
Standard capacity	0.7～16.5ℓ/min	2.6～61ℓ/min	4.7～108ℓ/min
External dimensions W×L×H	400×830×600mm	600×1200×700mm	800×1200×800mm
Weight	80Kg	110Kg	150Kg

▲NBLS-40MR

Quantitative Charger Wet

●Gravimetric quantitative Charger using a load cell, with weighing error within ±2% thanks to its head correction function. Its measurement is adjustable between 1-30Kg.

Specifications

Compressor	0.2Kw, 3P
Charging amount	1～30kg/charging
Filling error	±2%
Filling valve	Sanitary air pressure valve
External dimensions W×L×H	1500×1400×1330mm
Weight	130Kg

Vertical Conveyor **MKVC-1700** Wet Dry

●The Vertical Conveyor requires only 30% of the space of a conventional inclined screw conveyor. Both horizontal and vertical screws can be removed or installed by a single action for thorough cleaning of components. This model can convey powders, particles and viscous materials.

Specifications

Motor	1.5Kw, 3P
Carrying capacity (wet)	3.2Ton/hr.(Max.)
External dimensions W×L×H	1200×600×2000mm
Weight	120Kg

Masuko contributes to countries around the world as a new leader
in developing resources that have not ever been utilized.

Making a challenge in the field of microsized materials.
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