



# INFORMATION

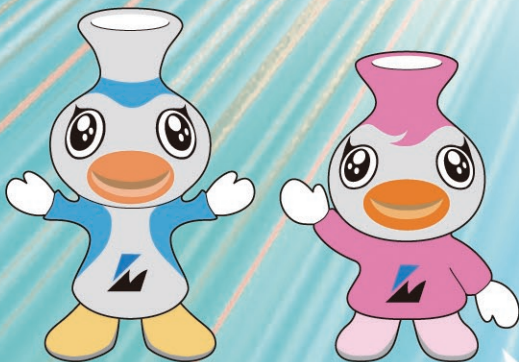
2024 Vol.29 **E**



220 years since business establishment, 102 years since company establishment

We would like to express our sincere gratitude for your patronage

# Grinding expertise for



Masuko's mascot

**MAX & MIRAI**

90<sup>th</sup> anniversary mascot & 95<sup>th</sup> anniversary mascot

Please come to see me!



# 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 tritulating 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 - allegedly unproducible at that time - was produced by the 3rd of the Masuda family (CEO of Masuko Sangyo) in 1852.



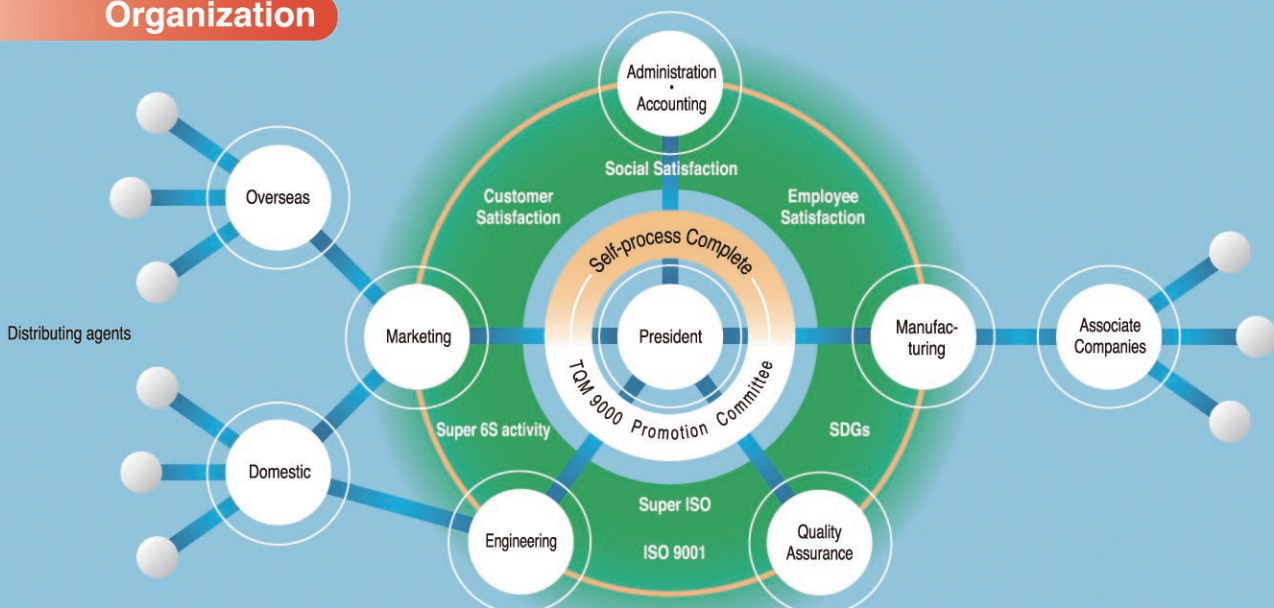
# MASUKO-pursuing customers' satisfaction

## Outline of the Company



<b>Name</b>	Masuko Sangyo Co., Ltd.
<b>Address</b>	12-24 Honcho 1-chome, Kawaguchi-city, Saitama 332-0012, Japan Tel.+81-48-222-4343
<b>Predecessor established:</b>	February 1804
<b>Masuko established:</b>	April 1922
<b>Capital</b>	10 million yen
<b>Fiscal Year-end</b>	End of June (annually)
<b>No. of employees</b>	28
<b>Executive officers</b>	President:Sachiya Masuda
<b>Main banks</b>	Kawaguchi Shinkin Bank, Head office Musashino Bank Kawaguchi branch
<b>Operations:</b>	<b>Manufacturing and distribution of:</b> <b>Ultra-fine friction grinder</b> Supermasscolloider, Supermasscolloider $\alpha$ , Hypermasscolloider IV, etc. <b>Ultra-precise cutting machine</b> Micro-Meister <b>Air-flow type ultra-fine micronizer</b> Ceren Miller, Ceren Miller DAU <b>Other micronizer</b> Atomizers, Cutter Mill, Shredder, Bone Cutters, Choppers, etc. <b>Peripheral equipment</b> Conveyors, Pumps, Mixers, Chargers, Weighing machines, etc.
<b>Overseas agent</b>	Korea • China • Taiwan • Thailand • Singapore • Malaysia • Indonesia • Philippines • India • EU • Brazil

## 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.

102<sup>th</sup> 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.	October 1993	Developed "Cerendipitor" to enable ultra-fine grinding of difficult-to-crush materials.
April 1922	Started sales of special products of Kawaguchi at Honcho 4-home, Kawaguchi-city	October 1993	Awarded a prize for the inventing the Cerendipitor high-speed grinder.
August 1947	Started production of castings and other industrial machines at Honcho I-chome, Kawaguchi-city	November 1994	Hatogaya Plant No.2 completed.
1965	Developed the Supermasscolloider.	December 1994	Company-wide Five "S" campaign launched.
August 1971	Reorganized into Masuko Sangyo, Co., Ltd.	September 1995	New head office plant completed.
1972	Developed a fully automatic tofu (bea curd) manufacturing plant; developed chicken and pig bone marrow remulsion manufacturing lines.	May 1996	TQM "Ambition - Action 2000" campaign initiated company-wide.
October 1982	Developed cattle bone marrow remulsion manufacturing lines.	April 1998	The patent for anti-bacterial type grinder was granted.
September 1984	Developed manufacturing lines for composite fuel containing carbide colloidal.	October 1999	Developed a air-flow type ultra-fine micronizer "Ceren Miiller"
November 1985	Awarded the Saitama Industrial Technology Grand Prix for the polymer complex structure of a grinder and its manufacturing method.	February 2000	Acquired ISO9001 qualification.
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 2001	Acquired ISO14001 qualification.
February 1986	Awarded a prize for inventing a system that converts bones into a food material	June 2002	Developed Ultra-precise cutting machine "Micro-Meister"
February 1987	Awarded a prize in recognition of the innovative idea of polymer complex structure for grinding-head.	December 2008	Joined Super ISO research group.
April 1988	Awarded a prize by the director general of the Science and Technology Agency for developing ultra-fine grinders.	June 2009	Developed multi functional grinding machine "Supermasscolloider α"
August 1988	Developed "Grindell" grinders which were patented in the U.S.A. and the U.K.	June 2011	Developed Under decompression air-flow type ultra-fine micronizer "Ceren Miiller DAU"
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.	June 2012	All employees went to the Great East Japan Earthquake volunteer.
May 1989	Tsuneo Masuda, chairman, was awarded the Yellow Ribbon Medal. by Japanese Government.	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"
		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"
		May 2018	Certified in management innovation company in Saitama.
		June 2019	Developed "self-circulation type Supermasscolloider"
		December 2019	Developed "Large Ceren Miller"
		March 2021	Certified as an excellent health management corporation.
		May 2021	SDGs activity kickoff.
		September 2022	100th anniversary of company establishment.
		2024	220 years since establishment
			Realization of "company that completes its own process"



We have various challenges!



# Putting our hearts into every process,

## ■ Super 6S pursuit of happiness through “heart” activities

Since 1994, we have been promoting 5S, ISO, TQM, 6S, Super ISO, and since 2014, “Super 6S activities”. And, as we celebrate the 100th anniversary of company establishment, we have set a new strategic goal of putting “heart” in every process and becoming as “self-process complete company”, and “Super 6S” heart “activity” **creation, evolution, success, renamed “growth, deep performance, happiness”**. We will continue to promote it even more strongly.

A “self-process complete company” is a company that has a mechanism to guarantee quality in its own work (process), and “the best inspection is not to inspect” (Mr. Sakichi Toyota, founder of Toyota). A company that can practice his words.



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 **successful** experience, **growing** 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

## ■ Initiatives for SDGs

The earth is now reaching its limits of resilience. As the same earthlings, regardless of country or ideology, we must start working now to maintain the ecosystem and the environment in which we can continue to live. In order to gather with friends, expand the circle of activities, and maintain a global environment where children can live with smiles and healthy spirits. Masuko Sangyo will work together with employees to think seriously, work together, and promote the most fruitful activities that can be done. We promise to do it.

## ■ Efforts for Super ISO

What is required of us now, that keyword is “heart”. We have two management bases. “Super 6S heart activities” and ISO (quality management system), but inspire the process. It means doing a work with all your heart. We know that ISO9001 is the system that can guarantee quality with or without mind, but it is clear that if the “heart” is included in it, it will be a better system. Rather than just following the rules, I would like to cultivate an eye that always thins about “how to make it better than it is now” and leads to improvement with an awareness of problems.

## ■ 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

Test room No.2



Meeting





# 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.

## MKCA6-5JR 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.

### Specifications

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 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.

**In addition, an automatic cleaning function has been added to the lineup, making it possible to support CIP cleaning. (option)**

### Specifications

Model	MKZA8-10J IV	MKZA10-15J IV	MKZA12-20J IV
Motor	7.5Kw, 3P	11Kw, 3P	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



## MKZA15-40J Wet Dry

●Following the MKZA10 series, it has been completely improved to the Forth generation. 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.

**In addition, an automatic cleaning function has been added to the lineup, making it possible to support CIP cleaning. (option)**

### Specifications

Model	MKZA15-30J IV	MKZA15-40J IV	MKZA15-50J IV
Motor	22Kw, 3P	30Kw, 3P	37Kw, 3P
Grinder diameter	φ360mm		
Standard capacity(wet)	350~3500Kg/Hr		
External dimensions W×L×H	1300×920×1715mm		
Weight	600Kg	660Kg	760Kg



## MKZB20-100J Wet Dry

●Compare to ZA type, the motor is places horizontally and driven by a belt, so the overall height is low, workability and safety are excellent, and it is robust and has almost no failures.

### 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





# SUPERMASSCOLLOIDER $\alpha$ <sup>®</sup> (Multi functional mill)

Supermasscolloider  $\alpha$  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 trituration 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.



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

$\alpha$ 10 series with Micro cutter(M)

## MKCA6-2J $\alpha$

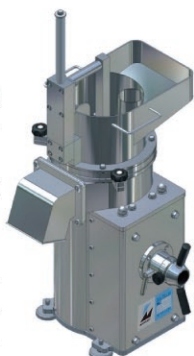
### $\alpha$ 6 series

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.

#### Specifications

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



## MKZA10-20J $\alpha$ IV

### $\alpha$ 10 series

13 kinds of different functions

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

#### Specifications

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



**IV**  
VERSION 4  
Super Masscolloider

## MKZA15-40J $\alpha$

### $\alpha$ 15 series

3 kinds of different functions

● Large type of  $\alpha$  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.

#### Specifications

Motor	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

Grind



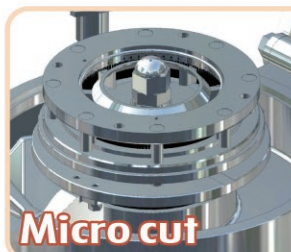
### Hammer (H)

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

Hit



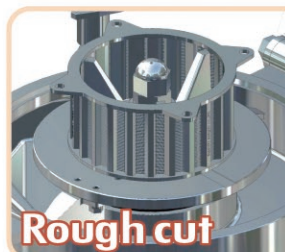
### Micro cutter (M)

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

Micro cut



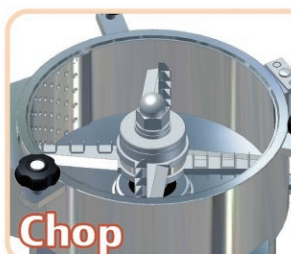
### Rough cutter (R)

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 α10

Rough cut



### Chop cutter (CO)

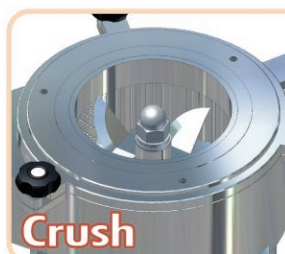
W D

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

Chop



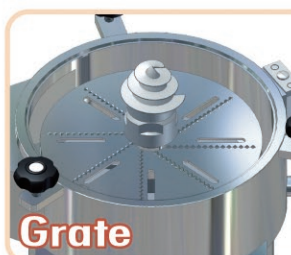
### Crush cutter (CR)

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

Crush



### 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

Grate



### 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

Slice, Dice



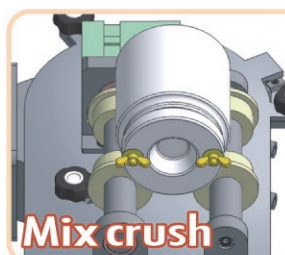
### Cutter mill (CM)

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

Crush cut



### 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

Mix crush



### 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

Ravel

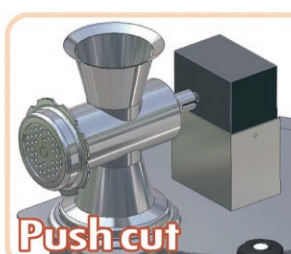


### Dehydrator (DR)

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

Squeeze



### Chopper (CH)

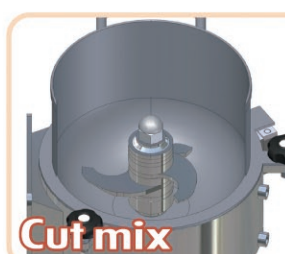
W

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

Push cut



### 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

Cut mix



# HYPERMASSCOLLOIDER IV<sup>®</sup> (Ultra-fine friction grinding machine)

half century after the birth of the ultra-fine friction grinding machine "Supermasscolloider" 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".



## MKHP10-40J 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  $\alpha$  parts that require high torque, such as micro-cutter and rough cutter.



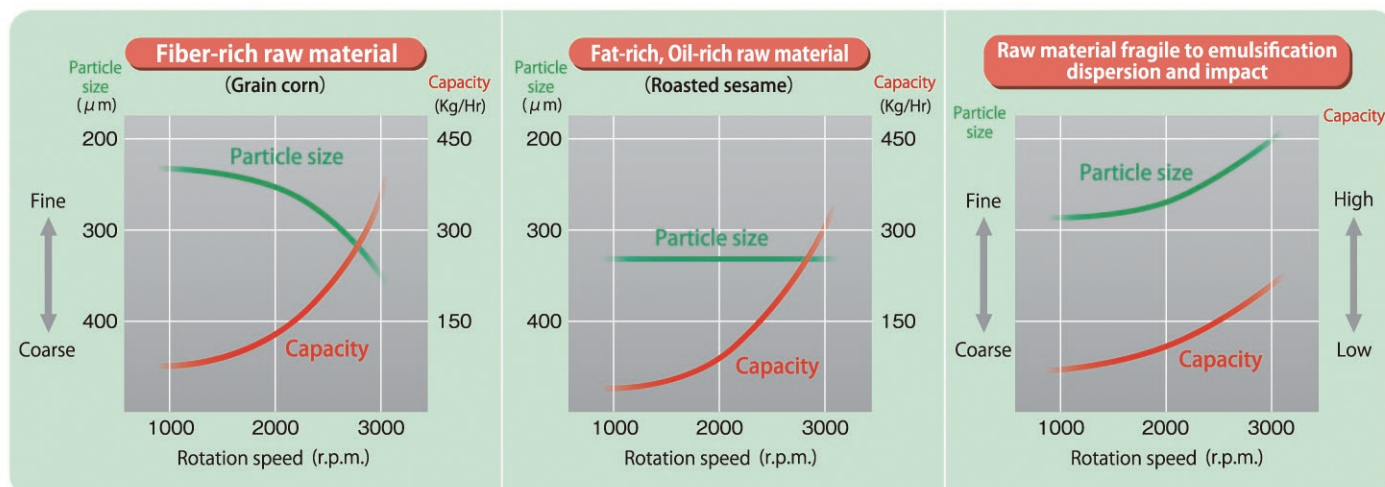
▲MKHP10-40J IV

### Specifications

Model	MKHP10-40J IV	MKHP12-40J IV
Motor	30Kw, 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

### ● 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

## MKCA6-5JMR 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!

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



With caster type

## 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.

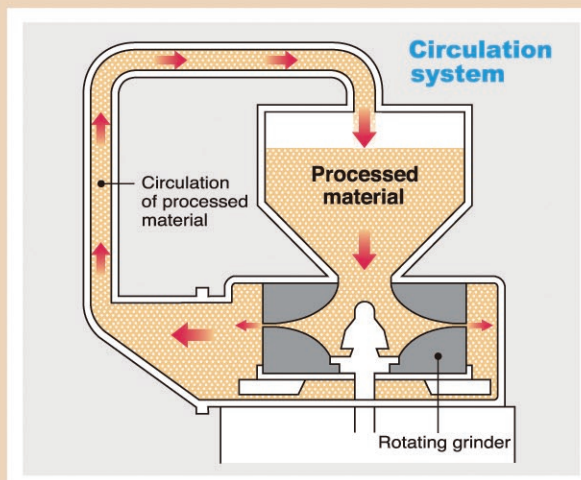
Specifications	
Motor	37Kw, 3P
Grinder diameter	φ360mm
Standard capacity (wet)	350~3500Kg/Hr
External dimensions W×L×H	780×2100×1340mm
Weight	1300Kg





## Self-circulation type SUPERMASSCOLLOIDER® (Ultra-fine friction grinding machine)

In the past, when trying to obtain under micron class ultrafine particles, the operator could not leave the site because grinding was repeated many times while fine-adjustment the equipment. The “self-circulation type grinder” equipped with the newly developed “self-pumping function” can obtain the target particles by simply turning on the switch. When the raw materials is fed, the operation starts in the “coarse grinding mode” and switches to the “fine mode” at the preset timing. Delicate clearance and rotation speed control are all automatic. When the specified process is completed, it automatically stops and issues an alarm to notify the end of operation. There are also settings for automatic discharge and automatic cleaning functions (option). In addition, since the grinding chamber is filled with the processed material does not come into contact with air and there is almost no deterioration in quality. The main body design of the new mechanism that does not cause retention has realized epoch-making performance with no unevenness in the particle size distribution.



### MKZA6-5CJMR Wet

● Compact design for laboratory and low volume production, easy to disassemble and assemble. By supplying chiller water to the jacket part, the product temperature can be lowered significantly, so higher quality products can be made.

#### Specifications

Motor	3.7Kw, 3P
Grinder diameter(mm)	φ150
Amount of charge	1 batch = 5kg
External dimensions W×L×H	700×1200×1300mm
Weight	230Kg



### MKZA10-20CJMIV Wet

● In the case of CNF, a batch of 20 to 30 kg of raw material slurry is defibrated into ultrafine particles of 200 to 300 nanometers in about 1 hour. Since it can be automated (option) from raw material supply to discharge and cleaning, it can be fully used for production.

#### Specifications

Motor	15Kw, 3P
Grinder diameter(mm)	φ250
Amount of charge	1 batch = 20kg
External dimensions W×L×H	685×1050×1500mm
Weight	300Kg





# MASUKO GRINDERS

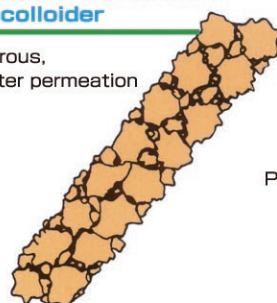
Our ultra-fine friction grinding machine is equipped with special grinders, which produce overwhelmingly fine and round-shape particles of products. These grinders have 200 kinds and over variations classified in material itself, material particle size, or ditch style. Besides, anti-bacterial grinders 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.

### Patented anti-bacterial Masscolloider

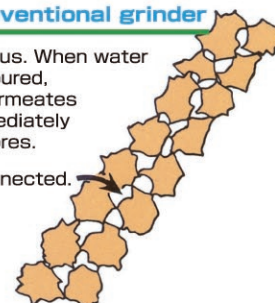
Nonporous,  
No water permeation



### Conventional grinder

Porous. When water is poured, it permeates immediately in pores.

Pores connected.



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

● All of the grinder is **Dry** and **Wet** combined.

**MKE**



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

**SiC + Al<sub>2</sub>O<sub>3</sub>**  
**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.

**MKFC**



(Special fine grinding)

**Si<sub>3</sub>N<sub>4</sub> & ZrO<sub>2</sub>**

**For extra-hard material**

For powdering or slurring glass, minerals, medical materials, plaster, pigments, antimony trisulfide, ink lead, calcium hydroxide

**MKG-A**



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

**Al<sub>2</sub>O<sub>3</sub> <MKG-A>**  
**SiC <MKG-C>**  
**For pulverizing and emulsifying fibrous material**

※ Antibacterial version available.

For pulverizing corns, ginger, mustards, almonds, carbon, talc, silica, cellulose, etc., and for emulsifying grease, cosmetics, etc.

**MKFCW**



(Special intermediate grinding)

**Al<sub>2</sub>O<sub>3</sub>**  
**For white material**

For powdering or slurring white materials, including cosmetics, pigments and drinks.

**MKD**



40#, 60# (fine)

**C100% [diamond]**  
**For hard materials**

For powdering or slurring egg shells, minerals, bones, metal oxide, fossil shells, zeolite, polyimide fluororesin, etc.

**MKC**



**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.

**MKM**



(Intermediate grinding)

**SUS304/316**  
**For special materials**

For powdering or slurring medical materials, etc.

**MKB-A**



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

**Al<sub>2</sub>O<sub>3</sub> <MKB-A>**  
**SiC <MKB-C>**

For powdering mugworts, herbs, spices, minerals, powder tea leaves, chitosan, potassium sulfate, chlorella, nitric acid, etc.

**MK New E**



**SiC composite**  
**For hard material, wear resistant grinder**

For pigments, dyes, lubricants, cosmetic ingredients, ointments, etc.

**Different form**

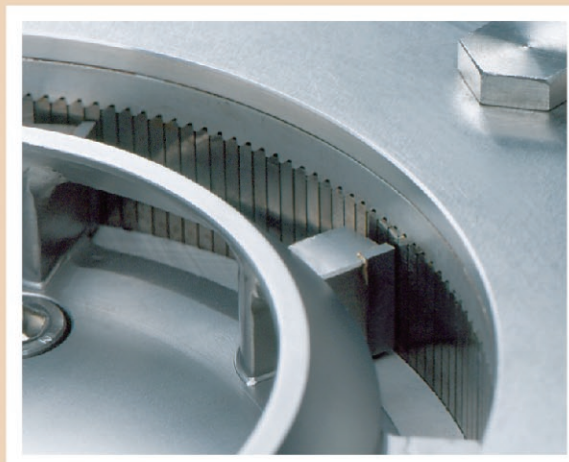


correspond to MKE, MK New E, MKG, MKB  
**For emulsification promoting dispersion**



# 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.



## 3M7-40 MARK II Wet Dry

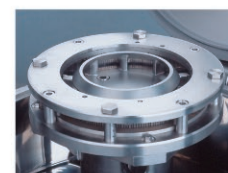
●The rotor and the blades are very precisely machined so that the clearance between them keeps 300um. Number of blades ranges between 50 and 222: over 10 kinds of cutting heads are available which provide rough cutting, minute cutting, and ultra-minute cutting. If preferable, basket cutting head or grinder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

### Specifications

Motor	30Kw, 3phase
Rotating speed	6,000~12,000r.p.m.
Standard capacity(wet)	1800~3600Kg/Hr
External dimensions WxLxH	815x1285x1445mm
Weight	500Kg(main body)



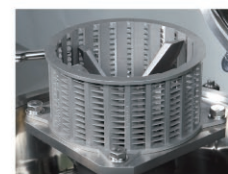
※Low center of gravity type



Cutting Head

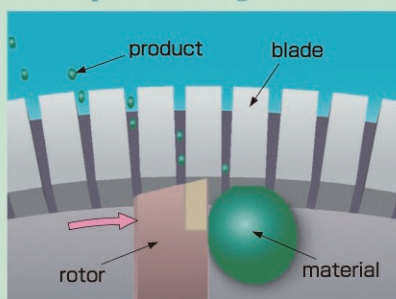


Grinder



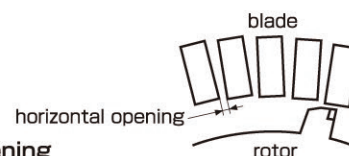
Basket Cutting Head

### 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.



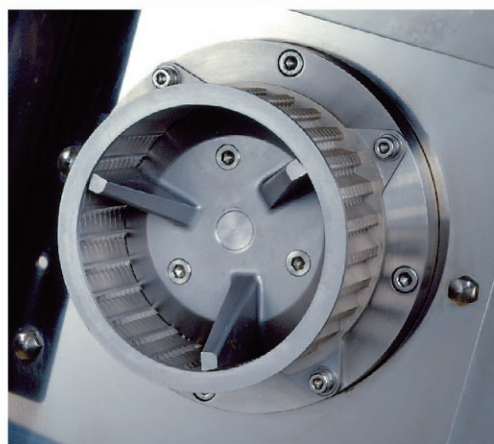
### Number of blades and horizontal opening

No. of blades	"L" type blade					"S" type blade									
	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

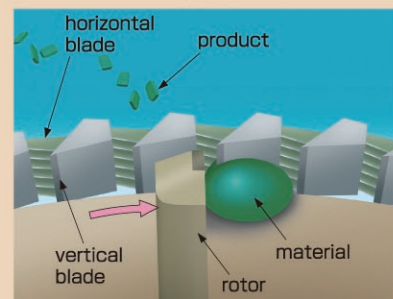


# MICRO-MEISTER MINI® (Precise Cutting)

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.



## Precise cutting

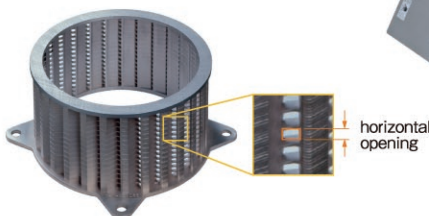


## 4M7-10 Wet Dry

●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.

### Specifications

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



Basket Cutting Head



### Sizes of horizontal opening

No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Size (mm)	0.25	0.38	0.51	0.76	0.88	1.00	1.20	1.50	1.80	2.00	2.20	2.50	3.00	3.81	4.20	5.30	6.00	6.80	7.60	8.40	9.90	12.90

※ Can accommodate up to 40.6mm opening size.

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

## <Sister machine> GZcutter **MKGZ7-05** Wet Dry

●Compact and space-saving, simple design that provides the same grinding effect.

Instantly crushes vegetables, fruits, and gyoza fillings.

Easy to operate and can be used from the day you receive it. Anyone can achieve the same quality and greatly reduce preparation time.

### Specifications

Motor	0.4Kw, 2P
Cutter	4 blade rotor
Standard Capacity(wet)	4.5~10Kg/3minutes
External dimensions W×L×H	777×406×503mm
Weight	58Kg

※Continuous use is limited



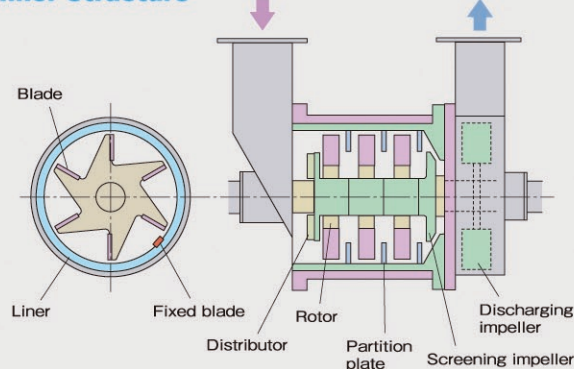


## CEREN MILLER® (air-flow type ultra-fine micronizer)

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 trouble-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 uniform 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.

### Inner Structure



## MKCL8-15J Dry

● This model is designed for easy disassembly when cleaning and for easy material change. Though installed in a small area of 1.5m<sup>2</sup>, 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	1000×1400×1800mm
Weight	280Kg



## MKCL15-40J *MARK II* Dry

● Achieves all-stainless steel that was not possible with conventional machines. It has a sanitary structure that is extremely easy to disassemble and clean.

### Specifications

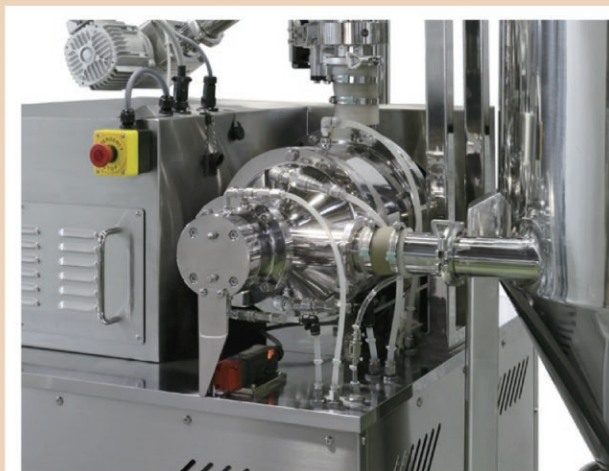
Motor	30Kw, 3P
Standard capacity	20~100Kg/Hr
Air consumption	135 ℓ / min
External dimensions W×L×H	1050×1210×1120mm
Weight	820Kg





# CEREN MILLER DAU<sup>®</sup> (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.

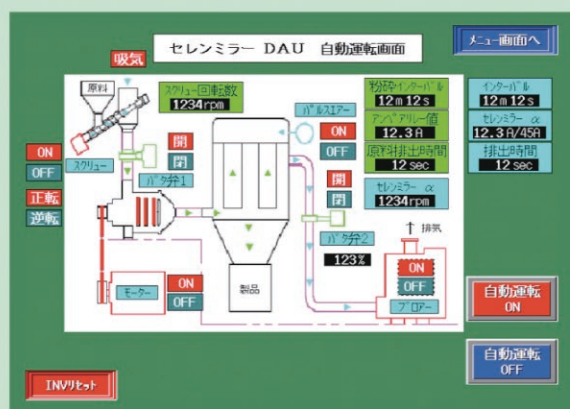


## MKCL8-20J-DAU Dry

● This machine has all equipment such as a crusher, bag filter, and blower set on a common base, so you can start production immediately by simply connecting the power and air.  
The sanitary type bag filter allows the filter to be easily removed and cleaned, making it completely sanitary.

### Specifications

Motor		11~15Kw, 3P
Standard capacity	Continuous batch method	6~20Kg/Hr
	Continuous method	12~60Kg/Hr
Air consumption		210ℓ/min
External dimensions W×L×H		1125×1740×2030mm
Weight		1100Kg



### ● Continuous batch method trituration 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.



Option: Rotor for fine grinding



## 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

Model	MKA-2J	MKA-5J
Motor	0.75~1.5Kw, 3P	2.2~3.7Kw, 3P
No. of hammers	6pieces (1line)	12pieces (1line)
Standard capacity	12~60Kg/Hr	36~180Kg/Hr
External dimensions W×L×H	720×690×1070mm	940×650×1430mm
Weight	150Kg	250Kg



▲MKA-2J



▲MKA-5J

## <Sister machine> 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

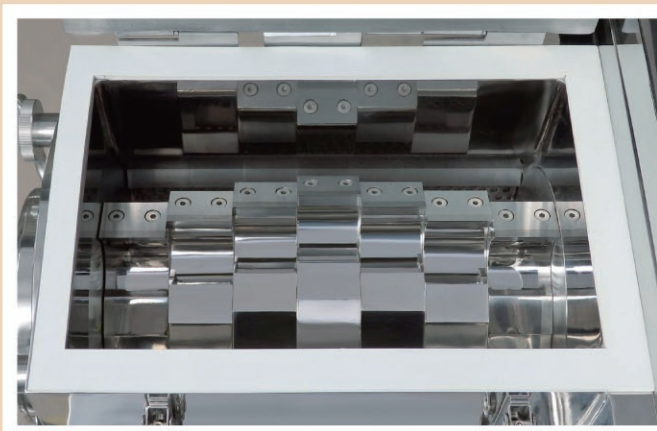


▲MKP-10



## 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 knives 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 ~ 30mm $\phi$ .



### 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	
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



### <Sister machine> Food Cutter MKFS-104 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.

Specifications	
Motor	1.5Kw, 3P
Standard capacity(wet)	500~700Kg/hr
External dimensions W×L×H	730×400×1150mm
Weight	80Kg



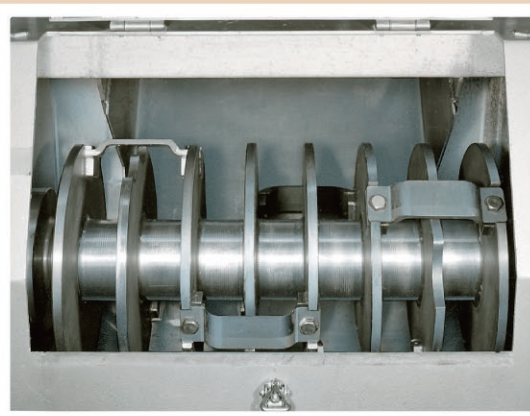


## BONE CUTTER (Frozen Flaker)

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

Motor	2.2Kw, 3P
Rotor speed	150r.p.m.
Standard capacity (wet)	400~500Kg/Hr
Maximum input dimensions	200×400×550mm
External dimensions W×L×H	933×1510×1191mm
Weight	270Kg



### 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

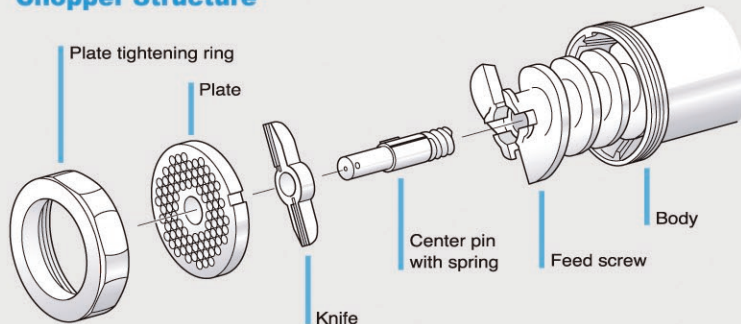




# CHOPPER (Chopper for frozen meat and bones:Mincer)

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.

## Chopper Structure



"This diagram is a conceptual diagram and does not show the exact structure."

## Compact Chopper **MKBC-42E** 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-42E model incorporates a force feeding screw, which reduces labor costs by reducing the operator's work load.

### Specifications

Model	MKBC-22	MKBC-32	MKBC-42E
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

※MKBC-22 is not equipped with spring as shown above.  
Center pin is screw-on type.



## Yam chopper **MKBC8-15** Wet

● This machine is a special machine for grinding down potatoes such as yams into a paste, and is characterized by its large processing capacity and ease of disassembly and cleaning. In addition, in order to suppress the generation of bacteria, the structure is designed to prevent raw materials from entering the drive unit, and after cleaning, a sterilizing solution is stored in the grinding chamber to ensure complete sterility.

### Specifications

Motor	7.5Kw+0.4Kw, 3P
Plate diameter	φ200mm
Plate hole diameter	φ1.1~1.5mm
Standard capacity (For refrigerated raw materials)	Yamatoimo 500~600Kg/Hr Nagaimo 200~300Kg/Hr
External dimensions W×L×H	600×1344×2568mm
Weight	700Kg





## PERIPHERAL EQUIPMENT

### Shedding device **MKDPseries** Dry

● Easily shedding soybeans and peanuts with a yield of over 90% using the “twisting” and “pounding” effects of a Masuko grinder.

#### Specifications

Model	MKDP-30	MKDP-150	MKDP-500
Standard capacity	30~40Kg/Hr	150~200Kg/Hr	500~600Kg/Hr
External dimensions W×L×H	492×1069×1116mm	1000×2500×2200mm	3750×2000×400mm
Weight	150Kg	650Kg	1500Kg

※Does not include dust collection equipment



▲MKDP-30



▲MKDP-500

### 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

Model	MKYC-7.5	MKYC-10
Motor	5.5Kw, 4P	7.5Kw, 4P
Cutter	φ430mm 3pieces	φ430mm 6pieces
Standard capacity (wet)	300~3000Kg/Hr	300~4000Kg/Hr
External dimensions W×L×H	740×1420×1660mm	740×1620×1660mm
Weight	250Kg	350Kg



▲MKYC-7.5

### 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

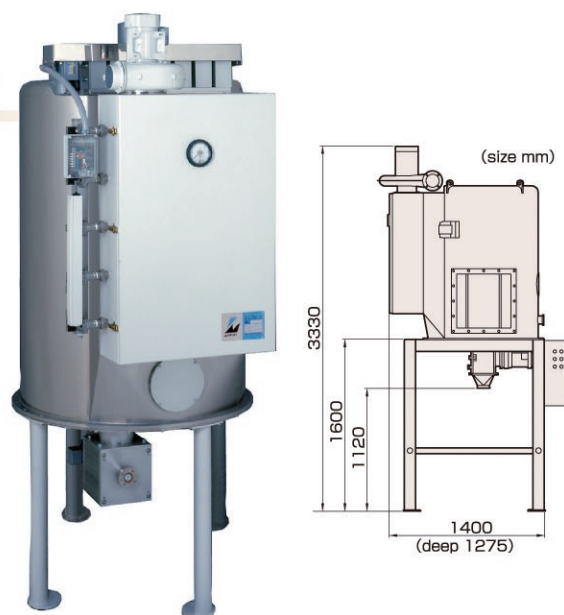




## Sanitary-type continuous powder collector Dry

● Sanitary bag filter used with fine powder making machine like Ceren Miller or Atomizer. It can collect almost 100% of the product. Quite sanitary with its product contact part made of stainless steel and finished by #400 polish. Being not tall thanks to a built-in table feeder, it can be installed in a rather low area.

Specifications	
Motor	1.5Kw, 3-phase
Processing air volume	10m <sup>3</sup> /min
Filtering area	9.9m <sup>2</sup>
Body material	SUS304
Weight	500Kg



## 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



## Quantitative Charger Wet

● Gravimetric quantitative Charger using a load cell, with weighing error within  $\pm 2\%$  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	$\pm 2\%$
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 nanosized materials.

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● Specifications are subject to change without prior notice.