

MZ Toothed colloid mill



For refining, homogenizing, dispersing and emulsifying liquid to highly viscous products



The product is fed to the mill either openly via a hopper or by means of a pump in a closed pipeline system. A special toothed-colloid grinding set with an adjustable grinding gap is used for the grinding or homogenization process. Different grinding sets can be used, depending on the product.



Toothed colloid mill MZ-50

Undeniable Advantages

- ◆ High throughput in a very small space
- ◆ Different grinding sets available for a variety of applications
- ◆ Grinding gap steplessly adjustable
- ◆ Optimally adaptable to each particular product
- ◆ Excellent reproducibility guaranteed
- ◆ Easy monitoring for safer operation
- ◆ Upright and horizontal versions available
- ◆ Also available as an inline mill for system pressures up to 6 bar, higher pressure executions on request
- ◆ Safety elements prevent handling errors
- ◆ Optional cleaning nozzles for CIP and sterile operation
- ◆ Optionally available as a combined mill (perforated disc, corundum stone and toothed colloid mill)
- ◆ More than 5000 FrymaKoruma toothed colloid mills already installed worldwide

Mustard
Mayonnaise

Nut pastes
Peanut butter
Sesame

Fruit juices
Soya milk
Junior food

Ointments
Make-up cosmetics
Creams

Emulsions
Toothpastes

Agro &
Household-
chemicals
Adhesive

Printing inks
Emulsion paints
Textile-inks



The FrymaKoruma toothed colloid mill is the number one choice whenever liquid to highly viscous products need to be refined, homogenized, dispersed and emulsified. Examples in the pharmaceutical and cosmetics industries include emulsions, creams, ointments, toothpaste and shaving soap. In the food processing sector this method is used to manufacture peanut butter, nut pastes, soya milk or fruit juices. In the chemical and re-

lated industries it is applied to paints, varnish, lubricants, bitumen emulsions and pesticide dispersions.

The FrymaKoruma toothed colloid mill facilitates a controlled, uniform particle or droplet size, a dense particle-size distribution, no - or only a very slight - temperature rise and a high throughput combined with a low specific energy requirement.

Many Applications



The rotor grinding element is mounted directly on the motor shaft. The grinding gap can be adjusted steplessly. The gap width can be read off on a scale and reproduced at any time.

FrymaKoruma toothed colloid mills are suitable for CIP. Versions for sterile operation are available for all machine sizes and types. Either a steam flow or pressure is used to sterilize the mill.

Extremely Efficient Operation

The drive motor also serves as the machine platform. Depending on the machine version, the grinding or emulsifying stock is either supplied via a hopper and discharged into a vessel or fed to the mill via an inline piping system and transported onwards from there.

The grinding gap can be adjusted steplessly. The gap width can be read off on a scale and reproduced at any time.

All the mill parts in contact with the grinding stock are either freely accessible or easily removable. Most applications allow the machine to be cleaned while closed.

Typ	MZ-50	MZ-80	MZ-100	MZ-110	MZ-130
Motor output [kW]	0.75	2.2	4	5.5	11
Feed hopper [litres]	3	7	20	20	50
Net weight [kg]	-	55	80	100	210

Typ	MZ-150	MZ-170	MZ-190	MZ-250	
Motor output [kW]	22	37	45	75	
Feed hopper [litres]	50	75	75	100	
Net weight [kg]	280	420	620	950	

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TECHNICAL INFORMATION

Machines listed (Please click on machine type for relative table)

Mills (MZ, MK, MS, ML) In-Lines Deaerators Continuous Heat Mixing Units (MA) Heat Exchangers (SWT) Processing Units (Frymix) Processing Units (VME) Processing Units (DisHo) Processing Units (Maxx D)

Mills

Type	MZ-50	MZ-80	MZ-100	MZ-110	MZ-130	MZ-150	MZ-170	MZ-190	MZ-250
kg/h	120 – 300	100 – 1.000	200 – 2.000	300 – 3.000	700 – 7.000	1.500 – 15.000	2.000 – 20.000	2.600 – 26.000	4.000 – 40.000

Type	MK-60	MK-95	MK-160	MK-180	MK-200	MK-250	MK-270	MK-360
kg/h	5 – 80	10 – 160	30 – 500	50 – 1.000	60 – 1.300	90 – 2.000	105 – 2.400	1.650 – 3.600

Type	MS-12	MS-18	MS-32	MS-50	MS-65	MS-100
kg/h	15 – 30	30 – 80	120 – 240	250 – 500	400 – 850	1.000 – 2.000

Type	ML-150	ML-180	ML-250	ML-330
kg/h	400 – 2.500	2.000 – 12.000	5.000 – 20.000	8.000 – 40.000

In-Lines

Type	DIL 100	DIL 120	DIL 140	DIL 160K	DIL 160L	DIL 170	DIL 180
m ³ /h	approx. 7	approx. 15	approx. 22	approx. 30	approx. 42	approx. 52	approx. 60

Deaerators

Type	LVE/B	LVE/D	VE-I	VE-II	VE-III	VE-IV	VE-V	VE-VI
kg/h	15 – 60	400 – 600	300 – 1.500	800 – 4.000	1.600 – 8.000	3.000 – 15.000	4.000 – 20.000	6.000 – 30.000

Continuous Mixing Units MA

Type	MA 100	MA 600	MA 1000	MA 1500	MA 3000	MA 6000
kg/h	100	300 – 600	600 – 1.000	1.500	3.000	6.000

Heat Exchangers SWT

Type	SWT 7	SWT 15	SWT 30	SWT 60
kg/h	300 – 450	600 – 900	1.200 – 1.800	2.400 – 3.600

Processing Units Frymix

Type	VME-12/C	VME-50/C	VME-120/C	VME-500/C	VME-1000/C	VME-2000/C	VME-4000/C
Total Volume in l	22	90	226	745	1.350	2.830	6.000
Batch Size	4 - 12	15 - 50	25 - 120	65 - 500	120 - 1.000	240 - 2.000	500 - 4.000

Processing Units VME

Type	VME-12	VME-20	VME-50	VME-120	VME-250	VME-400	VME-700	VME-1300	VME-1800	VME-2400
Total Volume in l	21	37	60	200	425	480	1.000	1.720	2.275	2.920
Batch Size	1 - 14	8 - 25	20 - 50	50 - 120	105 - 250	105 - 400	325 - 700	580 - 1300	950 - 1.800	1.230 - 2.400

Processing Units DisHo

Type	DisHo S 120/85	DisHo S 160/200	DisHo S 160/400	DisHo S 170/700	DisHo S 180/1300	DisHo S 230/5200
Total Volume in l	85	200	400	700	1.300	5.200
Batch Size	20 - 60	40 - 160	80 - 300	150 - 500	250 - 1.000	1.000 - 4.800

Processing Units Maxx D

Type	Maxx D 200	Maxx D 400	Maxx D 700
Total Volume in l	200	400	700
Batch Size	40 - 160	80 - 300	150 - 500

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MK

 FrymaKoruma

Corundum Stone Mill.

- ◆ Continuously adjustable grinding gap (fully automatic adjustment on request).
- ◆ Optimum adjustment to the required grinding finenesses.
- ◆ Optionally available as a combined mill (perforated disc, corundum stone and toothed colloid mill).

- ◆ [Print Specification Summary](#)
- ◆ [Download & Print Full Specifications](#)



Fryma was bought out by Romaco. Romaco FrymaKoruma is a prestigious Swiss-German merger that manufactures the highest standards of processing equipment. Their 200 strong team contains expert consultants and ProTec laboratory technologists to deliver the full scope of individual solutions for new or existing plants. Romaco USA located in Pompton Plains, New Jersey maintains a state-of-the-art testing laboratory for machine demonstrations, product trials and factory acceptance tests. The pharmaceutical grade facility features six individual capsule filling suites, plus two conference areas designed for the privacy and comfort of our customers.

Customers may come to machinery in operation, in our separate equipment showroom or run their products on any of our machines in the laboratory. All product testing is conducted under the guidance of our encapsulation experts.

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Fryma Colloid Mill, Type MZ-150-D, Part Number M16919, 1995, 2 3/4 in inlet and outlet, 87 PSI maximum pressure, 40 in L x 21 in W x 23 in H.



