



MMSD

Micro Mist Spray Dryer

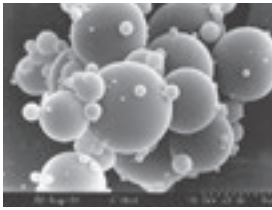
MMSD is a GF original product that is capable of generating powders with a size of $10\ \mu\text{m}$ or smaller, quickly and large quantities.

GF Corporation

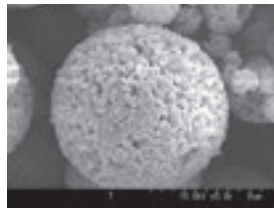
MMSD

What is MMSD?

MMSD is a GF original product that is capable of generating powders with a size of $10\ \mu\text{m}$ or smaller, quickly and large quantities.

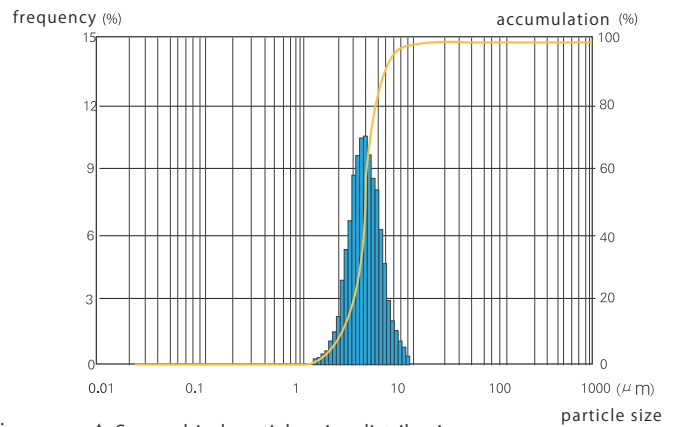


0 8 (μm)



0 8 (μm)

▲ Spray-dried product from a solution ▲ Spray-dried product from a slurry



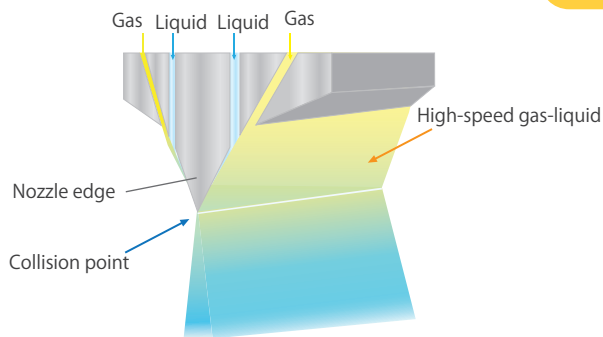
▲ Spray-dried particles size distribution

NOZZLE

Introducing GF Nozzels

We offer a variety of nozzles tailored to your needs, from small scale testing to mass production.

STRAIGHT EDGE

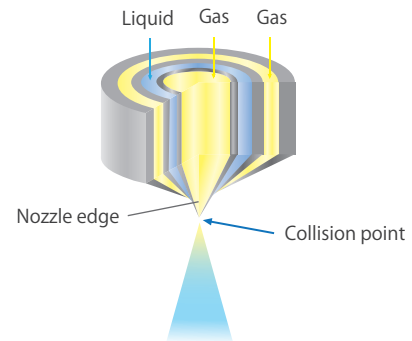


Basic nozzle for generating mist with droplets smaller than $10\ \mu\text{m}$.

Four-fluid
Nozzle

For Test use

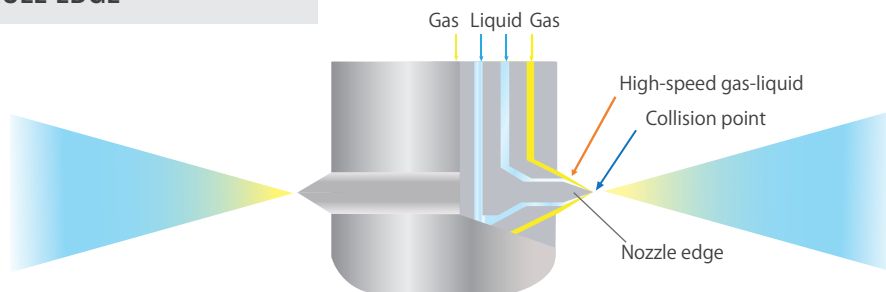
PENCIL EDGE



Nozzle optimized for high-viscosity materials.

Three-fluid
Nozzle

CIRCLE EDGE



By combining the features of the straight-edge nozzle and the pencil-edge nozzle, stable continuous production becomes possible.

For production
use



Do you have any of these issues?

Want to verify the capabilities and specifications.

Want to conduct experiments with various materials.

Want to verify the scale-up process

Need small sample quantities are required for evaluation.

Need large quantities of powder are needed for production



Leveraging MMSD, we can solve these concerns.

Allow us to assist you in developing new materials that will change the future.

Visit us and try making sample products.

STEP 01.

Contact information
Please feel free to contact us using the QR code on the back cover or the dedicated phone line for our representative.



STEP 03.

Schedule Coordination
We will discuss the details via email or web meeting and finalize the schedule.



STEP 05.

Submitting a report
Upon completion of the prototype, we will submit the report on the next business day. (operational records, particle size distribution, moisture content)

CONTACT

REQUEST

SCHEDULE

SAMPLEWORK

REPORT

Customer needs

Please let us know your requirements. We will use our technology to address and fulfill your needs.

STEP 02.

Create a prototype

In accordance with our prior discussion, we will proceed with the prototype. You are welcome to attend in person, or if you prefer, we handle it on your behalf.

STEP 04.

SCHEDULE

Recommended Schedule

9:30

Meet in the lab room of the factory building

10:00

Start making samples

12:00

Enjoy the daily lunch special at the cafe

13:00

Continue to work while proceeding with making samples

16:00

Closing meeting

FACILITY

GF Facility Information



▲ Factory
The building is located in the back of the site.



▲ Lab room
The room for producing prototypes.



▲ The room for customers
It is adjacent to lab. Please feel free to use it.



▲ New office building
Office tour is available upon request.

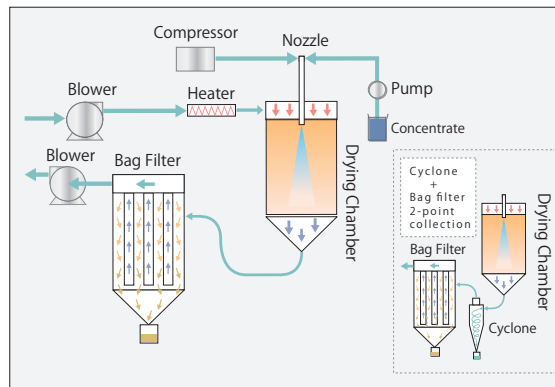


▲ Cafe Bon Voyage
Enjoy the lunch!!



▲ Lunch
Free lunch for visitors for prototyping.

MDL-050(C)M

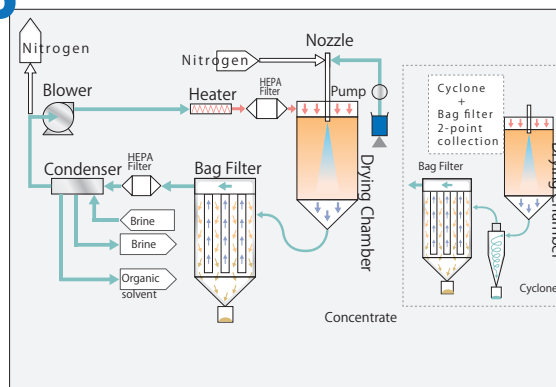


Model	MDL-050 (C) M	MDL-100 (C) M	MDL-150 (C) M
Evaporation capacity(*1)	3kg/h	6kg/h	9kg/h
Atomizing nozzle	Straight edge and Pencil edge		
Drying hot air inlet temperature(*2)	~ 200°C		
Drying hot air flow rate	1,000NL/min	2,000NL/min	3,000NL/min
Recovery method	Cyclone or Bag filter		
Concentrate pump	Roller pump or Diaphragm pump		
Power supply	3-phase 200V 30 A	3-phase 200V 50 A	3-phase 200V 100 A
External dimensions	W2300×D1000×H2100	W2000×D1350×H2450	W2300×D1500×H2250
Weight	Approx.300kg	Approx.600kg	Approx.800kg

We also offer batch type systems for a wide variety of products in small quantities.

(*1) hot air inlet temperature is 200°C and outlet temperature of 60°C, (*2) specifications can be modified up to max.320°C

MDL-015(C)MGC-S



Model	MDL-015 (C) MGC-S	MDL-050 (C) MGC-S	MDL-150 (C) MGC-S
Evaporation capacity(*1)	1.3kg/h	4kg/h	12kg/h
Atomizing nozzle	Straight edge and Pencil edge		
Drying hot air inlet temperature(*2)	~ 200°C		
Drying hot air flow rate	340NL/min	1,000NL/min	3,000NL/min
Recovery method	Cyclone or Bag filter		
Concentrate pump	Roller pump or Diaphragm pump		
Power supply	3-phase 200V 30 A	3-phase 200V 50 A	3-phase 200V 75 A
External dimensions	W1200×D1650×H1750	W2100×D1700×H2150	W2480×D4200×H3140
Weight	Approx.650kg	Approx.950kg	Approx.2,800kg

Compatible with organic solvents. Please contact us in case of installing in an explosive-proof area.

(*1) hot air inlet temperature is 140°C and outlet temperature of 70°C for ethanol as the standard,

(*2) specifications can be modified up to max.320°C and the system is compatible with solvents ranging from low to high boiling points

MDP-050

POINT

- We can modify the scale of the products according to the necessary capacity.
- We can customize the allocation and layout of equipment.



Model	MDP-020	MDP-030	MDP-050	MDP-100	MDP-200	
Evaporation capacity(*1)	20kg/h	30kg/h	50kg/h	100kg/h	200kg/h	
Quadruple fluid nozzle	Straight edge		Circle edge			
Hot air inlet temperature(*2)	~ 200°C					
Estimated heat load	22,500kcal/h	35,000kcal/h	57,000kcal/h	115,000kcal/h	220,000kcal/h	
Heat source	Electricity, Gas, Steam					
Recovery method	Bag filter (Option:Cyclone)					
Effective space (*3)	Width	6.5m	9.1m	10.0m	11.0m	12.0m
	Depth	4.5m	5.5m	6.5m	6.5m	7.5m
	Height	5.0m	7.0m	7.5m	9.5m	19.5m

(*1) Hot air inlet temperature 200°C、Outlet temperature 80°C。

(*2) Hot air inlet temperature can be above 200°C

(*3) Including maintenance space

OPTION

Cyclone

- Selectable from two types of cyclones

High-efficiency type



Standard type



In case collecting with bag filter is not possible in pharmaceutical applications, please opt for a cyclone.

In case maximizing collection efficiency needed, we recommend the high-efficiency type.

In case requiring fine particle removal, we recommend the standard type.

Remote control with tablet



By using a smart device with an application we developed, remote control is possible



Corporate website



Contact inquiry code



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Anan-city, Tokushima 774-0006 JAPAN
MMSD contact phone #81-21-0321