



***Spraying Systems Co., Japan***  
Experts in Spray Technology



Spray  
Nozzles



Spray  
Control



Spray  
Analysis



Spray  
Fabrication



# Humidifying and Moisturizing Spray Nozzles

## Humidification Spray Nozzles and Units

- Air-Atomizing Compact Humidifier **MiniFoggerIII**
- Portable Humidifying and Cooling Unit **Mist Vehicle Cart**
- Air Atomizing Nozzle **QuickFogger**
- Portable Spray Unit **Kirry Tank**

# INDEX



Air-Atomizing Compact Humidifier  
**MiniFoggerIII**

Ultra fine mist by double atomizing system achieves the best humidification and cooling environment.

**P3~6**



Portable Humidifying and Cooling Unit  
**Mist Vehicle Cart**

Mist Vehicle Cart is portable spray unit with MiniFoggerIII. Even one Mist Vehicle Cart can serve in various spray sites and applications.

**P7**



Air Atomizing Nozzle  
**QuickFogger**

Utilizing the same spray nozzle from MiniFoggerIII. It is ideal for humidification for your desired spot area.

**P9**



Portable Spray Unit  
**Kirry Tank**

QuickFogger unit, mounted in polypropylene tank. Spray operation can be done easily by simply installing air supply to the tank.

**P10**

## Precautions

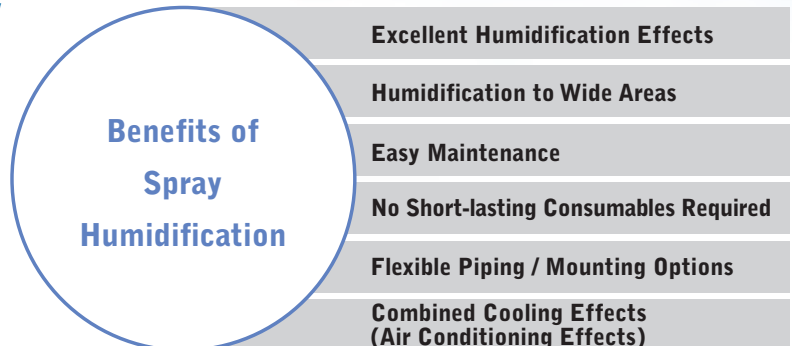
Precautions to use Mini FoggerIII safely.

**P11**



## Spray nozzles are most appropriate and environmentally innovative solutions for humidification and cooling.

Spray nozzles are the optimum solutions to environmental innovations for humidification and cooling. Only spray nozzles can integrate such functions as "high efficiency in humidification/moisturization", "environmentally friendly high energy-saving performance (function)" "high cost performance" and "easy maintenance". In addition to humidifying and cooling effects, they can achieve excellent static electricity/dust control effects. You are sure to find a solution suited to your requirements from our wide variety of sprays from dense fog to ultra fine mist.



## Humidification using spray nozzles efficiently provide combined effects of static prevention, cooling and dust control.



## Ideal for various types of industry fields

### ●Printing

To reduce in occurrence of misprinting, uneven coloring of collation paper and warpage of paper / To reduce in trouble with paper feeding / To improve resolution of color printing by better inking on papers.

### ●Textile

Reduce in occurrence of thread breakage, rumpling and shapeless of clothes / To reduce trouble during spinning twist process of fiberfilm / To reduce winding trouble of raw wool at machine.

### ●Farms and Gardens

To maintain stable humidity in mushroom plant house / To maintain appropriate humidity by automatic sensor and so on.

### ●Electronics

To prevent electrostatic breakdown / To prevent electrostatic adhesion / To prevent electromagnetic disturbance.

### ●Painting

To prevent suspending dust in air / To reduce defective goods which are caused by electrostatic adhesion.

### ●Paper Process

To reduce occurrence of jamming, unevenly uniformed papers and sudden feeding of paper to belt / To prevent ignition to paper particles.

### ●Plastic

To reduce trouble with slicing machine caused by static electricity / To prevent explosion to explosive gas.

### ●Food

To preserve freshness and flavor of food by maintaining moisture contents / To accelerate ripening food / To stop shrinking food which is caused by dry atmosphere.





Air-Atomizing Compact Humidifier

# MiniFogger III

**Compact, Better Humidification and Cooling Performance.**  
**Newly Developed MiniFogger III has made its debut.**

MiniFogger- regarded as a synonym for spray humidifier- has been developed into further improved version. Besides being compact enough to fit in your hand, its spray capacity and energy saving performance have increased (about 20% of reduction in air consumption). Total improvement has been made to humidification and cooling performance. Ultra fine mist with uniformity of droplet sizes by double atomizing system achieves the best humidification and cooling environments.



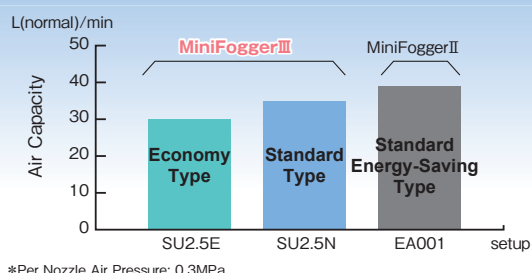
**Compact body with weight about 210g, total height 115mm Reduced air consumption, increased liquid capacity size (1.0~18L/h)**

Weight has become less than half — from 450g to 210g — compared with the conventional type. Total height is dramatically changed from 180mm into 115mm. Installation and maintenance can be easily conducted. In despite of reduction in air consumption, excellent droplet size performance has been maintained and liquid flowrate can be further increased. Total improvement has been made to humidification and cooling performance. MiniFogger III produces incomparably excellent uniformity of droplet sizes.



**20% reduction in air consumption than conventional MiniFoggerII**

Air consumption has been reduced by 20% compared with conventional MiniFogger II. MiniFogger III produces ultra fine mist with lower air consumption, leading to contribution to energy saving.





## Spray direction is adjustable, one-way to four-way.

Spray direction is adjustable, one-way to four-way. Wide coverage of humidification and cooling is achieved, and quick evaporation is realized due to ultra fine mist.

One Way



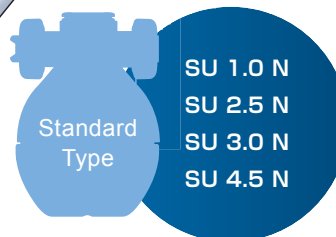
Four Way



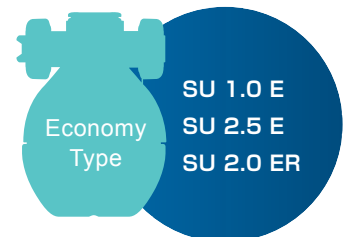
## You are offered a wide choice to meet your application requirement. Available from 2 types, total 7 sizes, depending on your application requirements.

You can choose one appropriate nozzle to meet your spray performance requirement from among 7 liquid capacity sizes.

※Please refer the performance chart in page 5.



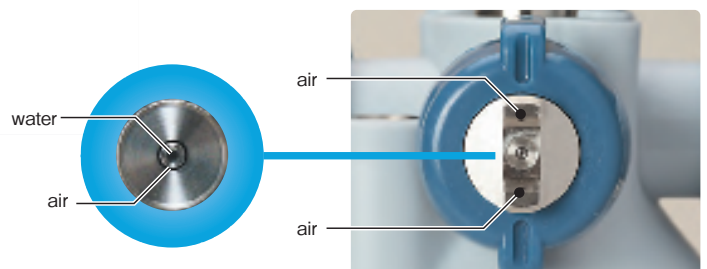
Mist-sprays with very small air consumption



Smaller air consumption than Standard type

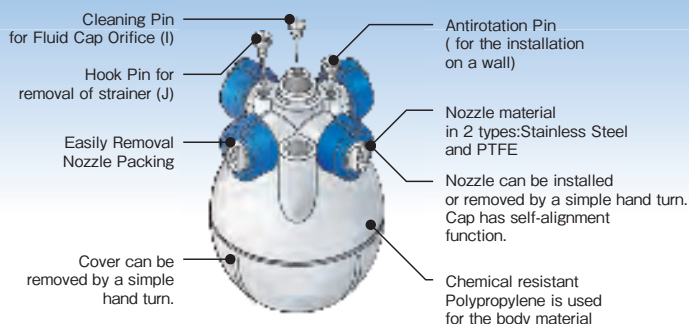
## Double atomizing system to produce fine droplet size and to prevent clogging.

In the double atomizing system, fine mists mixtures of air and water, are sprayed from the center orifice and then re-mixed with air from the side orifices.



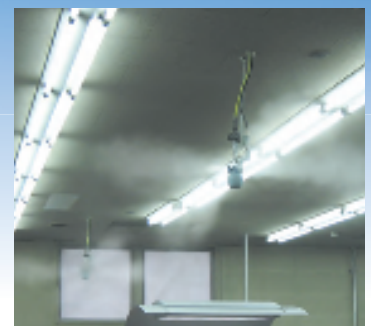
## Built in functions for easy setup and easy maintenance.

For installation or removal of the nozzles, only turn the nozzle cap 45°. Easy maintenance functions have been built in everywhere on MiniFogger III.



## Harmonious appearance, Perfect environmental safety and Sanitation measure.

Made of Polypropylene which excels in rigidity, durability and chemical proof. Fresh water is always supplied to MiniFogger III. The biological contamination which may be caused in summer by such as the algae or bacteria is kept off. The sophisticated design prevents disharmonizing to room interior.



# MiniFogger III

## Performance Table

Type	Setup No.	Air Capacity*1 [L(normal)/min]			Liquid Capacity*1 [L/h]			Sauter Means Diameter*2 [μm]		
		0.25MPa	0.3MPa	0.4MPa	0.25MPa	0.3MPa	0.4MPa	0.25MPa	0.3MPa	0.4MPa
Standard Type	SU1.0N	30	35	45	0.9	1.0	1.1	8.5	7.6	6.7
	SU2.5N				2.3	2.5	2.6	9.6	8.5	7.6
	SU3.0N				2.8	3.0	3.2	9.8	9.0	8.4
	SU4.5N	35	40	50	4.1	4.5	4.8	11.8	11.2	10.7
Economy Type	SU1.0E	26	30	38	0.9	1.0	1.1	8.8	8.0	7.0
	SU2.5E				2.3	2.5	2.6	10.6	9.7	8.5
Ecoround Type	SU2.0ER	18	20	26	1.9	2.0	2.2	11.7	10.5	9.0

\*1 Data per nozzle.

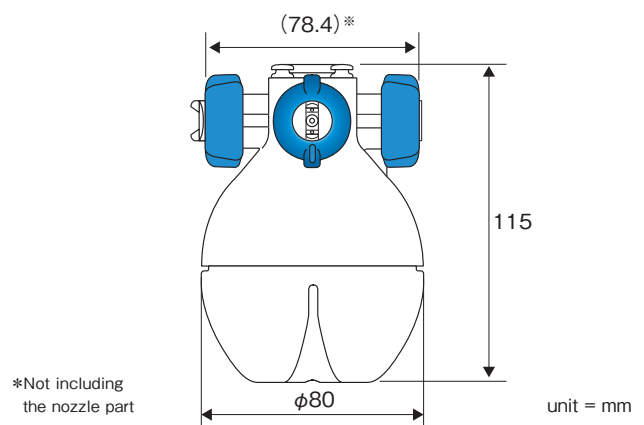
\*2 Particle size measuring position 200mm from nozzle, center part of spray.

## Specification

Material	Body	Polypropylene (PP)
	Nozzle	Standard : 303SS
		Option : PTFE
	Packing	Fluoro- rubber
Connection	Air Side	Rc1/4 (F)
	Water Side	Rc1/8 (F)
Connection	Single-Nozzle	About 210g *
	Multiple 4- Nozzle	About 250g *

\*When assembled SUS 303 nozzle.

## Dimensional Drawing



## Ordering Information

To order MiniFogger III, specify the number of nozzles and the set-up No.

### Nozzle Model Number

Liquid Capacity(at 0.3MPa)	Oil Removal Treatment	Type	Nozzle Material
1.0L/h 1.0	With AC	Normal Air N	Standard Stainless Steel SS
2.5L/h 2.5	Without -	Economy Air E	PTFE TEF
3.0L/h 3.0		Ecoround Air ER	
4.5L/h 4.5			

MF3- [ ] +SU [ ] [ ] - [ ] - [ ]

Number of Nozzles

Qty 1 ~ 4

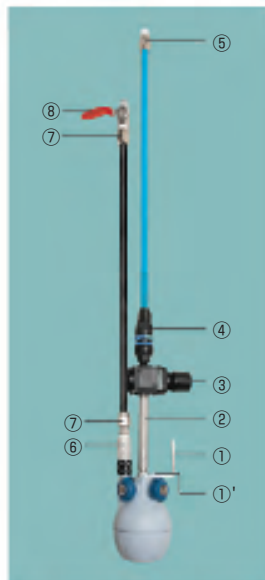
Type

Nozzle Material

Type	SU No.	Air Cap	Fluid Cap
Standard Type	SU1.0N- _	MF-PA035- _	MF-PF1.0- _
	SU2.5N- _		MF-PF2.5- _
	SU3.0N- _		MF-PF3.0- _
	SU4.5N- _		MF-PF4.5- _
Economy Type	SU1.0E- _	MF-PA030- _	MF-PF1.0- _
	SU2.5E- _		MF-PF2.5- _
Ecoround Type	SU2.0ER-SS	MF-PA020R-SS	MF-PF2.0R-SS

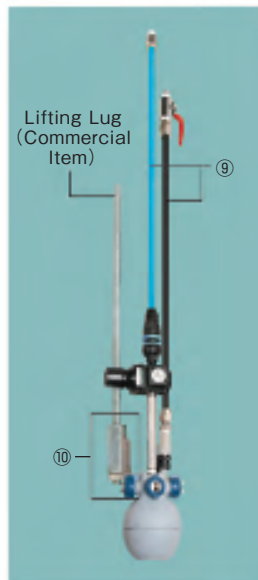
\*Flow rate of ER is 2.0L/h with stainless type only

## Installation Kits



### Standard Installation Kits

- ① Wall Mounting Fitting
- ①' Tapping Screw
- Air Line
- ② Long Nipple (Length: 125mm)
- ③ Air Regulator
- ④ Air Coupler Plug & Socket
- ⑤ Fitting
- Liquid Line
- ⑥ Liquid Coupler Plug & Socket
- ⑦ Fitting
- ⑧ Ball Valve



### Option

- ⑨ Hose (order available per meter)  
Pressure durability of hose is 0.5MPa  
For Air:  
Y76738-HB-6-BU (Made with polyurethane φ10×6.5mm)  
For Water:  
Y34567-10-6.5-POL-B (Polyolefin φ10×6.5mm)
- ⑩ Mounting Bracket (Model No: MF3-K-CP-MOF)  
You can mount to hanger of W3/8 screw to be supplied by customers to adjust a mounting height

Long Nut (Unichrome plated SS) .....	1Pc
Hex Socket Head Bolt (M4 SS) .....	2Pcs
Flat Washer (SS for M4) .....	2Pcs
Spring Washer (SS for M4) .....	2Pcs
HEX nut (W3/8-16+ Zinc Plating) .....	1Pc

## PTFE Nozzle

Attention



Sticking of Silica substance to the around of spray orifice - which causes clogging of orifice - is prevented. Best spray condition is always maintained.

## Kit for Variable Spray Direction

Flexible to all direction

### MF Adjustable Joint

- 2 or 4 piece lengths are available. Please select according to your purpose.
- Concentrated humidification to specific area.
- Humidification avoiding obstructions.
- Fine adjustment of spray direction after assembly.
- Humidification to targeted local area.

Material : Polypropylene (with glass)  
Urethane-polyolefin  
Maximum Usage pressure : 0.4MPa (both liquid air)  
Usage Environment Temperature : 5 to 60°C

Type	Product Part Number	Angle (All direction)
	MF-ADJ-2	45° <sup>*1</sup>
	MF-ADJ-4	90° <sup>*1</sup>

\*1 If sprayed downward, it might cause liquid drip when stopped spray.

It could be used for Mist Vehicle Cart, Quick Fogger, and Kirry Tank described hereinafter.

## Air Cap Model Number

MF-PA   -  

Air Capacity (at 0.3MPa)

30L(normal)/min	030
35L(normal)/min	035
40L(normal)/min	040

Nozzle Material

Standard Stainless Steel	SS
PTFE	TEF

## Fluid Cap Model Number

MF-PF   -  

Liquid Capacity (at 0.3MPa)

1.0L/h	1.0	3.0L/h	3.0
2.5L/h	2.5	4.5L/h	4.5

Nozzle Material

Standard Stainless Steel	SS
PTFE	TEF



## Mist Vehicle Cart

Portable Humidifying and Moisturizing Unit

# Mist Vehicle Cart

**Mist Vehicle Cart is the portable spray unit with Compact Humidifier Mini FoggerⅢ.**

One Mist Vehicle Cart can serve in various sites and for a variety of purposes. Pole height/spray direction can be set as you like. Caster provides easy unit portability. No installation work is necessary.



**Including newly developed humidifier Mini Fogger Ⅲ as standard equipment, this cart provides ultra fine mist sprays which eliminate wetted floor problem.**

- Equipped with Mini Fogger Ⅲ, this cart realizes superior specification; droplet size of 7.6 ~11.2μm, maximum spray capacity 18.0 L/h (with 4 nozzles, at 0.3MPa air). A wide variety of flow-rate sizes, total 7 sizes, is available.
- One to four nozzles can be installed by a simple hand turn (Standard Type). This cart can provide ultra fine mist sprays free from any wetted floors.

**Easy Handling and No Installation Work.  
Unit with Caster for Easy Portability**

- With an air source, you can immediately operate the cart. Casters allow you to move the cart anywhere you like. One cart can serve for a variety of purposes from spot to wide area humidification.

**Adjustable Pole Height**

- You can set pole height from 1.1 to 2.6 m as you like and easily adjust the range of spray.

**Superior User-Friendliness**

- The cart has been designed in consideration of user-friendliness. Equipped with a regulator on the cart body, ON-OFF pressure setting can be easily conducted.

**Tank Capacity consists of two types:  
Standard Type (18L) and Large Capacity Type(39L)**

- In the case of one Nozzle, roughly 16 hours of continuous spray is possible. (Large Capacity Type)

**Automatic Humidity Control by the Humidity Controller (option)**





## Type

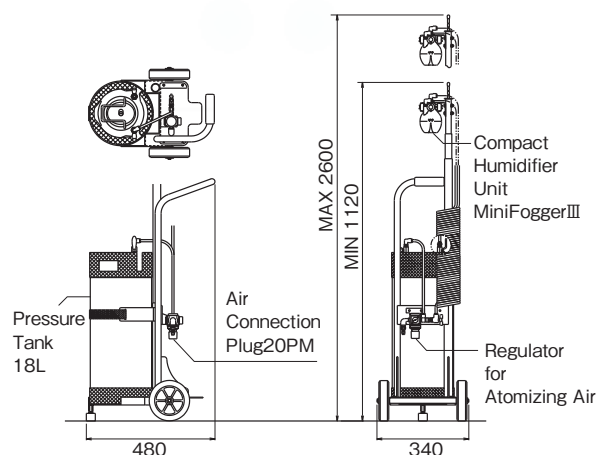


Black (Standard Type)

Blue (Standard Type)

Blue (Large Capacity Type)

## Dimensional Drawing (Standard Type)



Unit:mm

## Specification

Type	標準タイプ	大容量タイプ
Model	Black : SCU-MF3-BL+MF3-□ Blue : SCU-MF3-BU+MF3-□	Blue : SCU-MF3-BU+39L (G※)+MF3-□ ※With Liquid-Level Meter
Dimensions	W480×D340×Hmax2600mm	W530×D430×Hmax2600mm
Quantity in drying tank	About 14kg	About 21kg
Pressure Tank	Capacity : 18L Main material : SUS304-NBR	Capacity : 39L Main material : SUS304

※Please refer to page 5 in regard to performance and specification of MiniFoggerIII.

※Only blue color is available in Large Capacity Type.

## Option

### Humidity Controller MF-CU1 (Control Panel + External Control Sensor)

Power Supply	100V/Compatible with 50/60Hz/10W and below
Control Box Size	W175×D75×H250mm

\*A solenoid valve <sold separately> is necessary in use.

\*Humidity Controller Mounted Type is also available.



## Ordering Information

### Standard Type

**SCU - MF3 - □ + MF3 - □ + SU □ - □**

Cart Colour

Black	BL
Blue	BU

Nozzle Qty

1 pc	1	3 pcs	3
2 pcs	2	4 pcs	4

Set-Up No  
(Refer to Performance Table on page 5)

Nozzle Material

Standard Stainless Steel	SS
PTFE	TEF

Ex.Standard Type, Blue Cart, with One PTFE Nozzle

**SCU-MF3-BU+MF3-1+SU2.5N-TEF**

### Large Capacity Type

**SCU - MF3 - BU + 39L □ + MF3 - □ + SU □ - □**

Liquid-Level Meter

No	-
Yes	G

Nozzle Qty

1 pc	1	3 pcs	3
2 pcs	2	4 pcs	4

Set-Up No  
(Refer to Performance Table on page 5)

Nozzle Material

Standard Stainless Steel	SS
PTFE	TEF





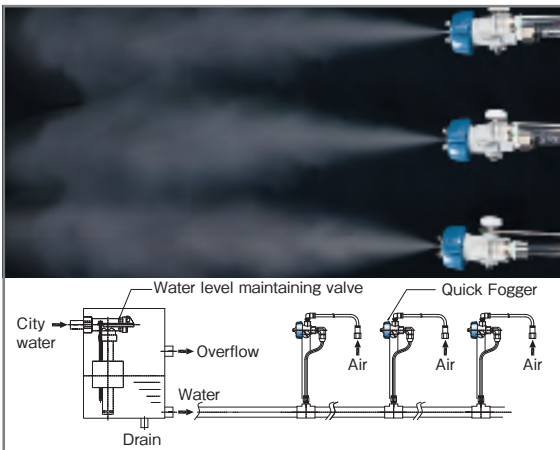
## Air Atomizing Nozzle

# Quick Fogger

**QuickFogger is an air atomizing nozzle suitable for humidification, sterilization and deodorization to your desired spot space.**

Installation of nozzles from best-selling, air atomizing humidifier "MiniFogger III".  
Providing high quality of small droplet size of MF III: 7.6 ~ 11.2μm by double atomizing system,  
QuickFogger is suitable for targeted humidification, sterilization and deodorization for your desired spot space.

NOTE : Sterile liquid and de-odor liquid shall be prepared separately.



**Easy Installation at Limited Space**

**Dramatic Reduction in Air Consumption**

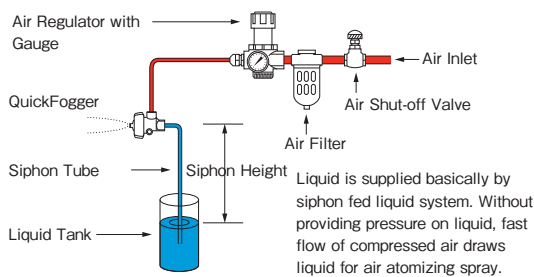
**High Quality in Droplet Size : 7.6~11.2μm**

(Standard type at air pressure of 0.3MPa)

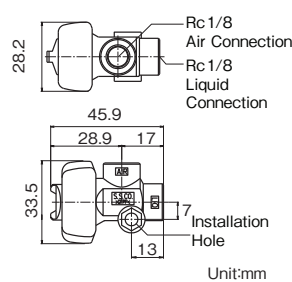
**A Wide Variety of Selections of Liquid Capacities**

You can choose one appropriate nozzle to meet required liquid capacity from 2 types, total 7 liquid capacity sizes according to your application (Refer to page 5).  
Liquid capacity will vary depending on siphon height.

## Standard Installation Method



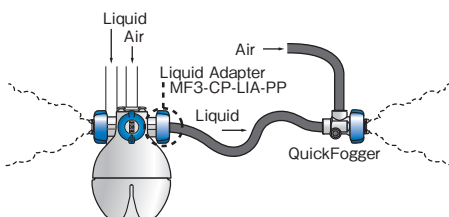
## Dimensional Drawing



## Specification

Liquid Capacity	Water 1.0~4.5L/h (Air pressure: 0.3MPa) * Refer to page 5. Liquid capacity will vary depending on siphon height.	
Material	Body/Cap	Polypropylene(PP)
	Nozzle Tip	Stainless Steel or PTFE
Connection	Packing for Nozzle	Fluoro-rubber
	Rc 1/8 (F)	

## Combination with MiniFogger III



You can conduct spray operation with QuickFogger by using liquid supplied to MFIII. Overall spray will be enhanced by using MFIII for wide area humidification and QuickFogger for spot humidification.

## Ordering Information

**YB 1/8QF + SU** [ ] - [ ]

QuickFogger

\* For Set-Up No, Refer to page 5.

Set-Up No.

Nozzle Material

Standard Stainless Steel	SS
PTFE	TEF



## Portable Spray Unit

# Kirry Tank

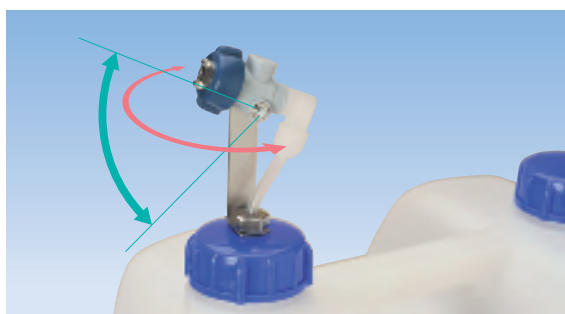
## Easy carrying and installation anywhere

**Ideal for sterilizing and deodorizing for local/spot area of narrow space**

Quick Fogger to provide ultra fine mist is mounted on the body of the polyethylene tank.

Only connected to the air line, this product enables you to easily provide spraying to narrow spaces.

NOTE : Sterile liquid and de-odor liquid shall be prepared separately.



Spray direction can be changed from right to left and up and down

### Compact and Portable Type

Tank capacity is 10L. Only connected to the air line, this product enables you to provide spraying anywhere.

### Siphon Type, Providing Ultra-Fine Mists with Small Air Consumption

The liquid is supplied by a liquid siphon. The supplied liquid is mixed with air internally to produce a completely atomized spray.

### Adjustable Spray Direction

Spray direction can be changed by using the nozzle stand.

### Easy Installation/Removal, Easy Maintenance

A simple 45 degrees turn of the cap by hand can quickly install or remove the nozzle. Lock mechanism prevents the nozzle from coming off during operation.

### Wide Range of Capacity Size

From 2 types, total 7 set-ups, you can choose appropriate capacity size to meet your application (Please refer to page 5. Note that capacity size will vary according to Siphon height).

## Specification

Material	Tank	PE (Capacity 10L)
	Nozzle Body/Cap	Polypropylene (PP)
	Nozzle Tip	Stainless Steel or PTFE
	Nozzle Packing	Fluorine-Contained Rubber
	Tube	Silicone
Connection	Rc1/8(F)	
Dimensions (mm)	Tank 280×200×H265(355 if including the nozzle part)	

## Ordering Information

**YB 1/8QFT + SU**   -  

Body                      Set-Up No.                      Nozzle Material

Standard Stainless Steel	SS
PTFE	TEF

\* For Set-Up No, refer to page 5.



## For Safe Use of MiniFogger III

- Not necessary for liquid pressure control unit. As water is supplied by siphon-fed system, only low liquid pressure is required. Use a liquid pressure 0.05 - 0.4MPa.
- Refrain from using this MiniFoggerIII, if any leakage has been found at the body or piping system, or if a hazardous or problem-causing factor is likely to exist.
- If the MiniFoggerIII has to be installed at a high place, firmly secure it to prevent falling. (The coupler, which is in the installation kit, has a locking device. Firmly lock it)
- Be sure to securely connect the water or air tubes.
- When the MiniFoggerIII stops spraying, the spraying may become coarse for a moment and water particles may fly about, because of the pressure remaining inside air pipes. The best way to prevent it is to use a quick-exhaust valve on the air line.
- It is recommendable to use MiniFoggerIII installation kit for connecting to liquid and air tube. When you use it, be sure to use fittings enclosed with the kit for the installation.
- In case that you do not use installation kit, make sure to use air tube and fittings designed for use of air connection, and use liquid tube and fittings designed for use of liquid connection. If they are wrongly chosen, leakage of liquid may occur.

### ■ Before Using the Unit

- ① Use clean air and liquid. The air should be clean, free from oil, water and dust. The water to be supplied should be as pure as possible. If you have to use city water or well water for unavoidable reasons, you may have to do maintenance work more frequently. If you would like to know how often the maintenance work is required, please contact your local Spraying Systems Co. representative.
- ② Check the compressor capacity. More than 35L(normal)/min is required per nozzle tip (SU2.5N type).
- ③ Air and water pipes should be of adequate sizes. When specifying the material, take chemical property and ambient conditions into account.
- ④ Flush air and liquid pipes sufficiently.

### ■ Instruction for Use

Read the following instructions carefully.

- ① Install the MiniFoggerIII horizontally. Don't put a thing directly under the nozzle and within a distance of 4 meters from it.
- ② Attach the air regulator to the MiniFoggerIII air line. Make sure that the air regulator is correctly directed.
- ③ Attach the liquid valve to the MiniFogger liquid line.
- ④ Use an air pressure of 0.25~0.4MPa and a liquid pressure of 0.05~0.4MPa. Also, pressure durability of optional polyolefin hose is 0.5MPa.
- ⑤ Don't expose this unit to the direct rays of the sun, or to the rain. Don't use it at an extreme high or low temperature. Use it at a temperature between 5-60 degrees C.
- ⑥ Depending on what the water quality is, the minerals which are dissolved in the supplied water will, after the water has been evaporated, fly into the air in the form of minute particles or they will stick to around the liquid cap. We recommend that a water softener be used to minimize such defects and a water purifier to completely eliminate them. For selecting what type to use, contact your local Spraying Systems Co. representative.



**Spraying Systems Co., Japan**  
Experts in Spray Technology

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