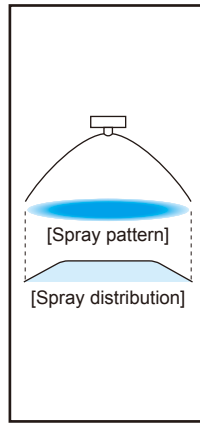


# Low Flow Rate Fine Fog Nozzles

## Flat Spray

—Liquid Siphon Type—

# BIMV-S



BIMV-S with T-type adaptor

- Flat spray pneumatic nozzle producing fine atomization with a mean droplet diameter of 30  $\mu\text{m}$  or less.\*1
  - Liquid siphon feed type (liquid pressure device is not required).
  - Even spray distribution across the entire spray area.
- \*1) Droplet diameter measured by laser Doppler method

### APPLICATIONS

- Spraying: Mold release agent, lubricant, deodorant, oil, surface treatment agent, rust preventive, honey, insecticide, aqueous urea
- Cooling: Dies, gas, glass, steel plates, steel pieces, castings, automobile bodies, plastic products
- Moisture control: Paper, flue gas, ceramics, concrete
- Cleaning: Printed circuit boards, glass tubes

BIMV-S

### STRUCTURE

- Four-part structure: Nozzle tip, core, cap, and adaptor.
- See pages 26 and 27 for details of adaptors.
- Materials: S303 (Optional material: S316L)
- Adaptors other than T and N types include the parts made of FKM, NBR, and PTFE.

### DIMENSIONS

- See pages 26 and 27 for dimensions and pipe connection sizes of BIM series.

### ACCESSORIES

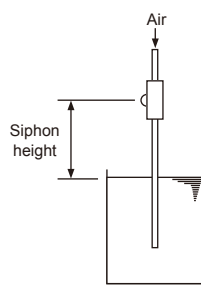
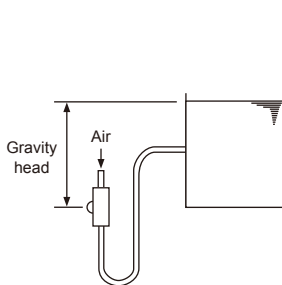
- Mounting bracket is available as an option. See page 30.



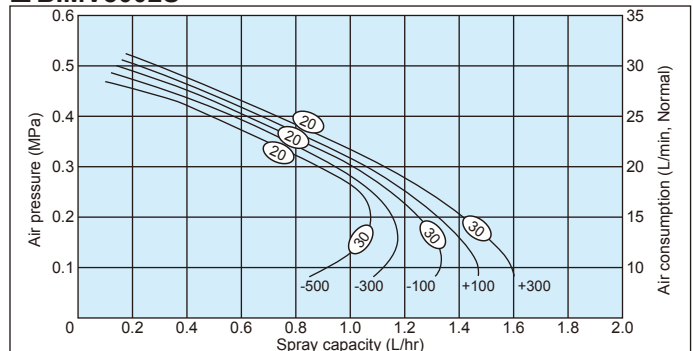
Download 3D CAD models (BIMV-S with various adaptors)

### FLOW-RATE DIAGRAMS

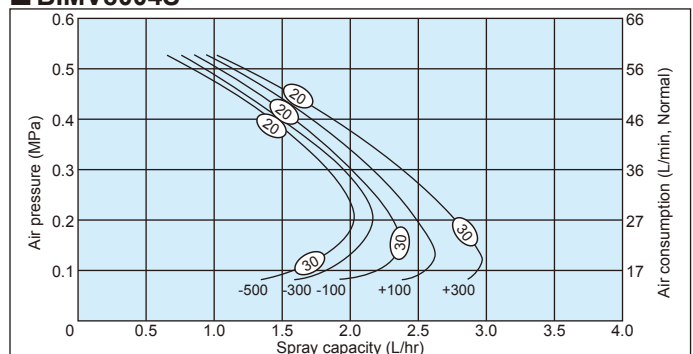
- How to read the chart
- 1. The spray capacity shown is for one nozzle.
- 2. Numbers at foot of each curve indicate gravity head (+) and siphon height (-) in mm.
- 3. Numbers in ovals  $\circ$  indicate Sauter mean diameters ( $\mu\text{m}$ ) measured by laser Doppler method.
- 4. These flow-rate diagrams are applicable to adaptors type T and N only.



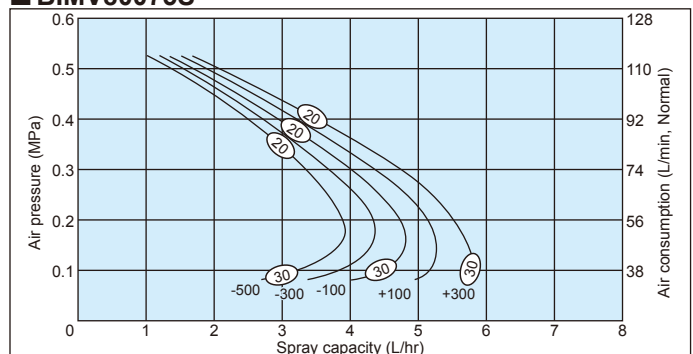
#### ■ BIMV8002S

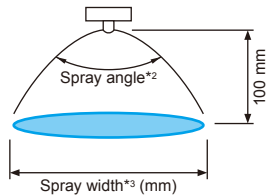


#### ■ BIMV8004S



#### ■ BIMV80075S





**PERFORMANCE DATA**

Spray angle code *2	Air consumption code	Air pressure (MPa)	Air consumption (L/min, Normal)	Spray capacity (L/hr)					Spray width*3 (mm)	Mean droplet diameter (µm)	Free passage diameter (mm)		
				Gravity head (mm)		Siphon height (mm)					Laser Doppler method	Tip orifice	Adaptor
				+300	+100	-100	-300	-500		Liquid			Air
80	02	0.2	15	1.4	1.3	1.2	1.2	1.1	160	20-30	0.3	0.9	0.7
		0.3	20	1.1	1.0	1.0	0.9	0.9	165				
		0.4	25	0.7	0.7	0.6	0.6	0.5	170				
	04	0.2	27	2.8	2.5	2.3	2.2	2.0	165	20-30	0.5	0.9	0.9
		0.3	36	2.4	2.1	2.0	1.9	1.8	170				
		0.4	46	1.9	1.7	1.6	1.5	1.4	175				
	075	0.2	56	5.5	5.1	4.7	4.3	3.9	170	20-30	0.7	1.2	1.4
		0.3	74	4.7	4.3	4.0	3.7	3.3	180				
		0.4	92	3.5	3.2	2.9	2.7	2.5	190				

\*2) Spray angle measured at compressed air pressure of 0.3 MPa and liquid siphon height of 100 mm.

\*3) Measured at spray distance of 100 mm from nozzle and liquid siphon height of 100 mm.

BIMV-S

**HOW TO ORDER**

To inquire about or order a specific product please refer to this coding system.

<Example> BIMV 8002S S303 + N S303

BIMV	<u>80</u>	<u>02</u>	<u>S</u>	<u>S303</u>	+	<u>N</u>	<u>S303</u>
	Spray angle code	Air consumption code	Siphon type	Material of nozzle tip		Type of adaptor	Material of adaptor
		<ul style="list-style-type: none"> <li>■02</li> <li>■04</li> <li>■075</li> </ul>				<ul style="list-style-type: none"> <li>■N</li> <li>■NDB</li> <li>■SNB</li> <li>■SPB</li> </ul>	<ul style="list-style-type: none"> <li>■T</li> <li>■UNDB</li> <li>■USNB</li> <li>■USPB</li> </ul>

See pages 26 and 27 for details of adaptors.

# Adaptors for BIM Series Fine Fog Nozzles

The following eight types of adaptors are available for BIM series Low Flow Rate Fine Fog Nozzles: BIMV, BIMV-S, BIMK, BIMK-S, and BIMJ, which are introduced on [pages 13 to 22](#).

See [page 27](#) for dimensions and pipe connection sizes of each adaptor.

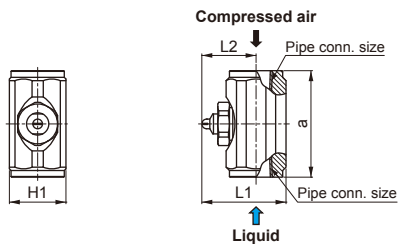
Drawings with parts list (each description and material) are available upon request.

## TYPES OF ADAPTORS

### Type N

Liquid and air enter into adaptor from both sides.

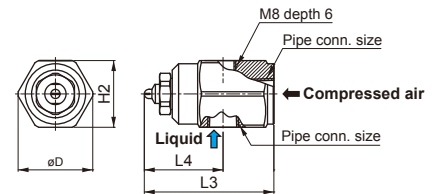
Material: S303



### Type T

Air inlet is on the center line and liquid inlet is on a 90° angle line to the center line. Suitable for use in a small space.

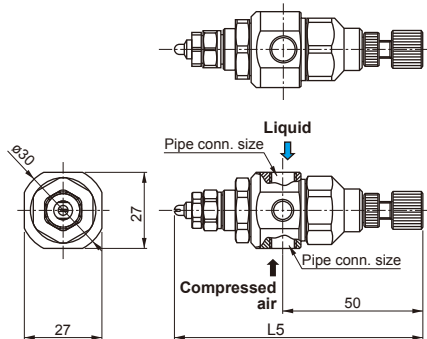
Material: S303



### Type NDB

Needle valve allows for reducing and stopping the spray flow rate.

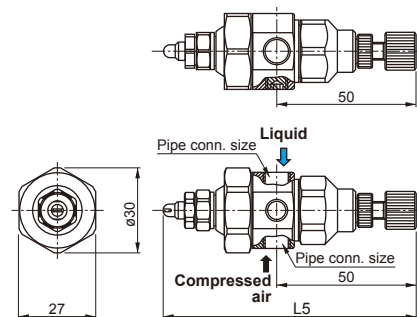
Material: S303, FKM, PTFE, and NBR



### Type UNDB

Besides the features of the NDB-type adaptor, spray direction can be adjusted within +/- 15° by means of a ball joint. It is ideal for fine-tuning of spray direction after pipe assemblies have been completed.

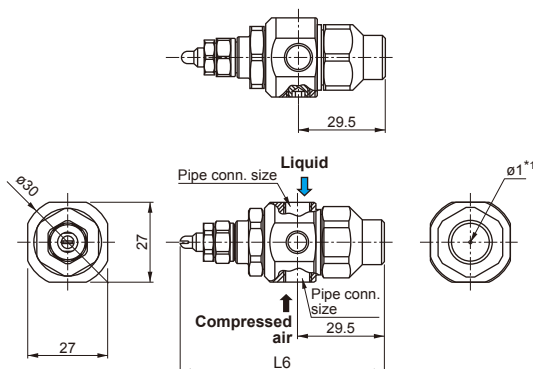
Material: S303, FKM, PTFE, and NBR



### Type SNB

Spray ON/OFF can be regulated by turning compressed air ON/OFF, which actuates an internal piston, to open or close the nozzle. Compressed air pressure over 0.2 MPa starts the spray.

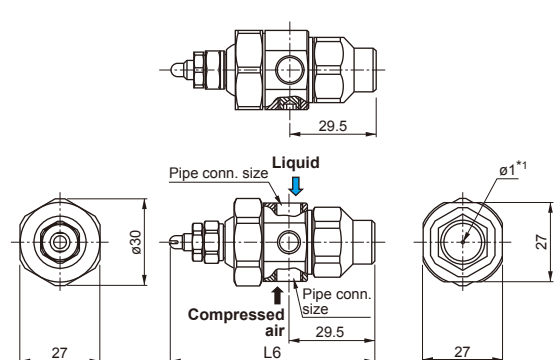
Material: S303, FKM, PTFE, and NBR



### Type USNB

Besides the features of the SNB-type adaptor, spray direction can be adjusted within +/- 15° by means of a ball joint. It is ideal for fine-tuning of spray direction after pipe assemblies have been completed.

Material: S303, FKM, PTFE, and NBR



\*1) Hole  $\phi 1$  is for air relief.

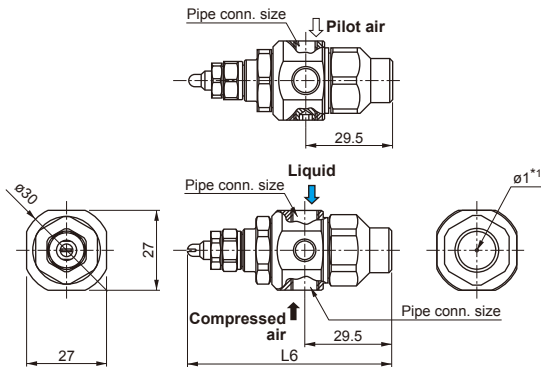
(Unit: mm)

## TYPES OF ADAPTORS

### Type SPB

Spray ON/OFF can be regulated by switching the pilot air ON/OFF. The pilot air actuates an internal piston to regulate the spray. (Pilot air pressure more than 0.2 MPa required) This type of adaptor is suitable for applications to avoid scattering droplets of fog.

Material: S303, FKM, PTFE, and NBR

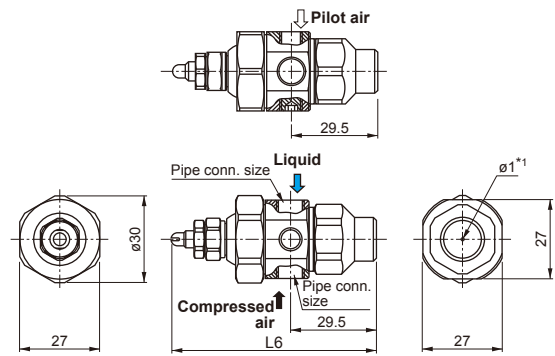


\*1) Hole ø1 is for air relief.

### Type USPB

Besides the features of the SPB-type adaptor, spray direction can be adjusted within +/- 15° by means of a ball joint. It is ideal for fine-tuning of spray direction after pipe assemblies have been completed.

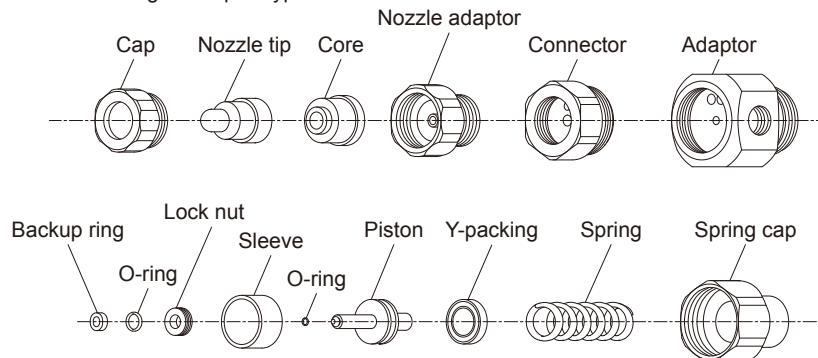
Material: S303, FKM, PTFE, and NBR



(Unit: mm)

## STRUCTURE OF SPB ADAPTOR

This exploded view shows a structure of SPB adaptor as an example. Structure and components varies according to adaptor types.



## CAUTIONS for NDB, UNDB, SNB, USNB, SPB, and USPB Adaptors

**Thin-walled nozzle adaptor tends to deform easily if installed directly by itself.**

First assemble Core, Nozzle tip, Cap and Nozzle adaptor by hand with light pressure, then attach them to Connector (or UT Ball). Use a well-fitting hexagon socket wrench instead of a regular spanner (wrench), as a spanner may deform the unit.

## PIPE CONNECTION SIZES AND WEIGHT

Adaptor type	Air consumption code	Pipe connection sizes			Weight (g)
		Compressed air	Liquid	Pilot air	
N	02, 04, 075	Rc1/8	Rc1/8		55
	15, 22	Rc1/4	Rc1/4		130
T	02, 04, 075	Rc1/8	Rc1/8		80
	15, 22	Rc1/4	Rc1/4		210
NDB	02, 04, 075	Rc1/8	Rc1/8		172
UNDB	15, 22				193
SNB	02, 04, 075	Rc1/8	Rc1/8		151
USNB	15, 22				172
SPB	02, 04, 075	Rc1/8	Rc1/8	Rc1/8	146
USPB	15, 22				167

## DIMENSIONS

Air consumption code	Dimensions (mm)									
	L1	L2	L3	L4	L5	L6	a	H1	H2	øD
02	25.3	16.3	40.8	24.8	87.3	66.8	32	17	21	23.5
04	26.8	17.8	42.3	26.3	88.8	68.3	32	17	21	23.5
075	28.1	19.1	43.6	27.6	90.1	69.6	32	17	21	23.5
15	39.1	26.6	60.1	38.1	97.6	77.1	43	23	29	32.5
22	41.3	28.8	62.3	40.3	99.8	79.3	43	23	29	32.5

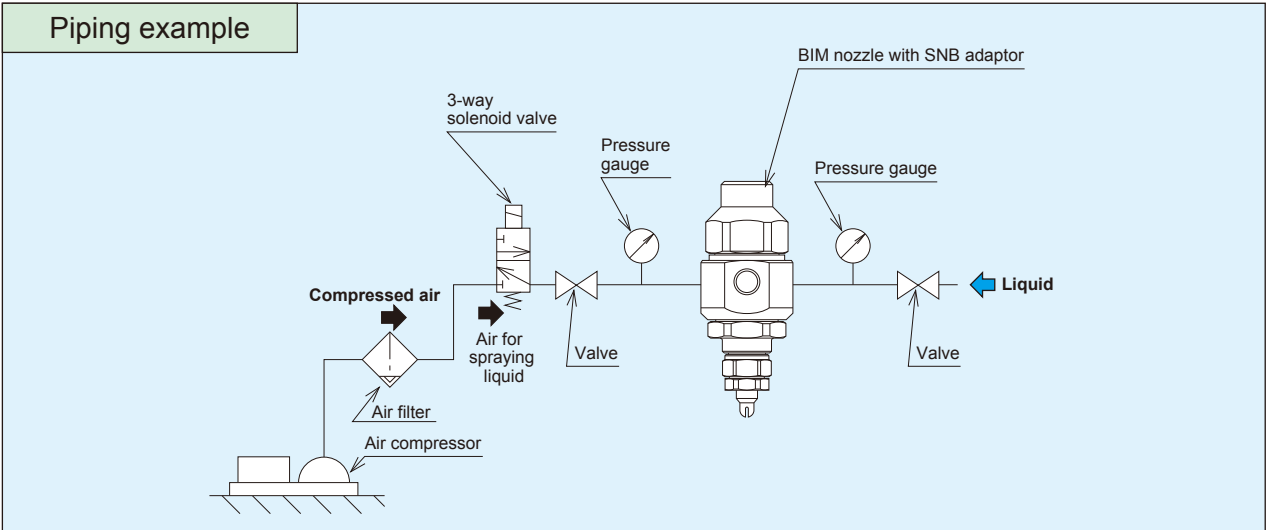
**How to Use Spray ON/OFF Control Adaptors**

**■SNB Adaptor (CSN, SN Adaptors)**

The spray is turned ON/OFF by turning the compressed air ON/OFF.  
 Use with compressed air pressure of 0.2 MPa or higher.  
 Adaptor types **CSN** (see page 31) and **SN** (page 40) are used in the same way.

**Operation Timing Diagram**

Compressed air	OFF	ON	OFF	ON	OFF
Liquid	Stop	Spray	Stop	Spray	Stop

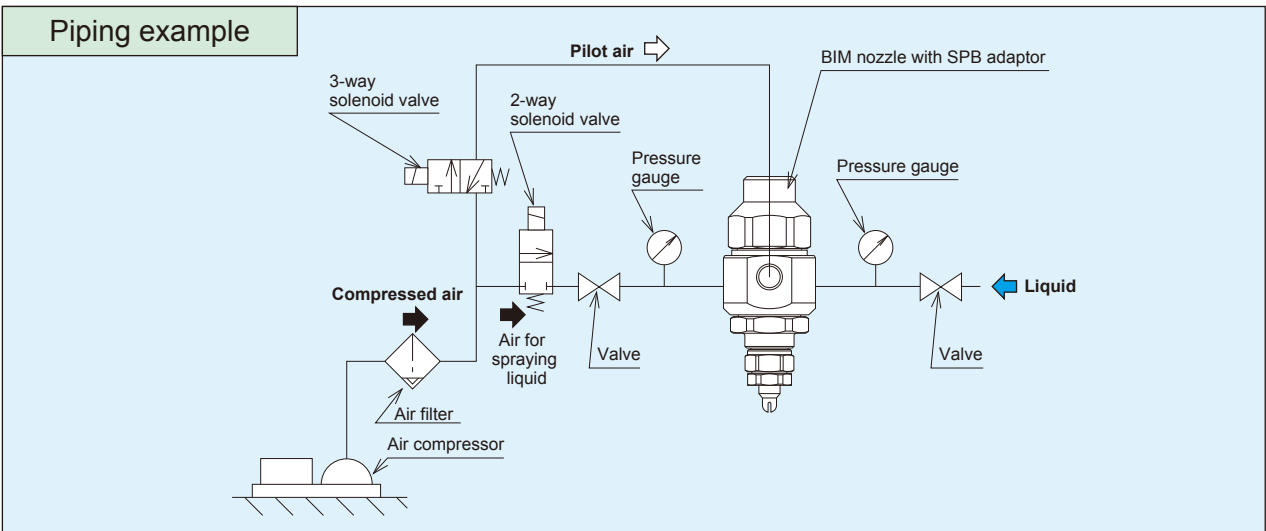


**■SPB Adaptor (CSP, SP Adaptors)**

This type has a built-in shutoff piston that operates on pilot air pressure. The spray is turned ON/OFF by turning the pilot air ON/OFF. Use with pilot air pressure of 0.2 MPa or higher.  
 As even low pressure atomizing air can be used, production of a range of fine to coarse fog is possible. Best-suited for when there is concern about scattering droplets.  
 Adaptor types **CSP** (see page 31) and **SP** (page 40) are used in the same way.

**Operation Timing Diagram**

Compressed air	ON	ON	ON	ON	ON
Pilot air	OFF	ON	OFF	ON	OFF
Liquid	Stop	Spray	Stop	Spray	Stop



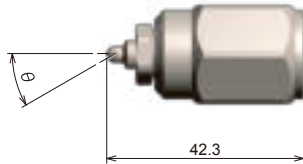
# Customized Options (Made-to-order) for BIM Series Fine Fog Nozzles

The BIM Series nozzles can be customized to meet special design requirements. Please refer to the following examples of tailored options and contact us for further information.

(Unit: mm)

## Off-Center Spray Type

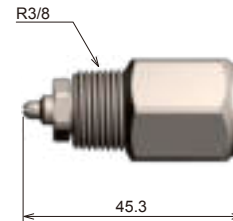
Designed to spray at a specified angle.



Pictured above is a nozzle with a T-type adaptor. Available in various adaptor types as shown on [pages 26 and 27](#).

## Screw-in Type

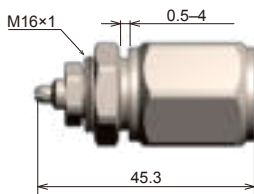
This type, equipped with a threaded adaptor, can be directly screwed into a plate or container with female threads.



Pictured above is a nozzle with a T-type adaptor. Available in various adaptor types as shown on [pages 26 and 27](#).

## Wall Mounting Type

This type can minimize nozzle exposure to the atmosphere inside the equipment or duct.



Pictured above is a nozzle with a T-type adaptor. Available in various adaptor types as shown on [pages 26 and 27](#).

## Hand-tightening Type

Hand-tightening nozzle tip is easy to detach and maintain.



Pictured above is a nozzle with a T-type adaptor. Available in various adaptor types as shown on [pages 26 and 27](#).

## Long Neck Type

Incorporates a pipe to allow spraying at the target at a distance.



Pictured above is a nozzle with a T-type adaptor. Available in various adaptor types as shown on [pages 26 and 27](#). Also available for the wall mounting type. Contact us for customizable length.

## 90-degree Bend Long-neck Type

Long neck type with a 90-degree angle at the tip.



Pictured above is a nozzle with a T-type adaptor. Available in various adaptor types as shown on [pages 26 and 27](#). Also available for the wall mounting type. Contact us for customizable length.

## Spray Direction Adjustable Type (Wall Mounting)

Incorporates a flexible tube to allow versatile adjustment of the spray direction.



Pictured above is wall mounting type with a T-type adaptor. Available in various adaptor types as shown on [pages 26 and 27](#).

## Special Material Nozzles

We offer nozzles made of special materials, such as PP, HTPVC, PTFE, and Titanium, upon request, particularly for applications that require enhanced chemical resistance. Contact us for further information.

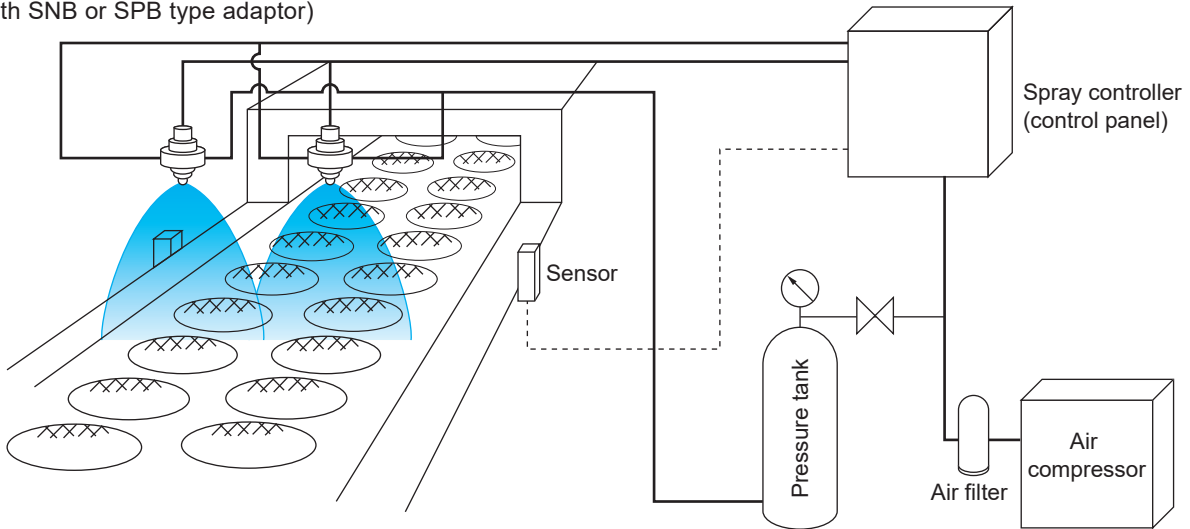


Spray header made of HTPVC

# Installation Example and Related Products for BIM Series

## Installation Example of BIM Automatic Spray System

■ Example of applications controlled by BIM automatic spray system (with SNB or SPB type adaptor)



## Related Products

### ■ Mounting Bracket (product code: MBW)

This mounting bracket allows for easy installation of BIM series nozzles to a metal pole/rod in the desired spray direction.

Available in two sizes for pipe diameters of 8 mm and 10 mm.

When ordering, specify **BIM ø8 MBW** for ø8 mounting bracket, or **BIM ø10 MBW** for ø10 mounting bracket.

Available for all adaptor types except N-type adaptor.



Download 3D CAD models

Mounting bracket



### ■ Spray Gun Unit with BIM nozzles: BIM-GUN

Liquid siphon type with 250 ml bottle.\*  
Air capacity adjustability (as standard equipment).

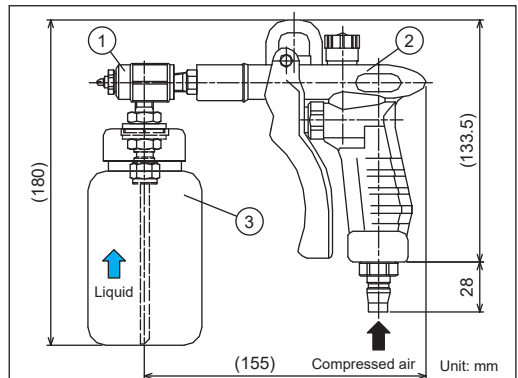
Suitable for chemical spraying, etc.

\*500 ml bottle is available as an option.



Pressure gauge kit including pressure reducing valve and two couplers.

Note: When using BIM\*\*04S types, this item is necessary.



Max. operating pressure: 0.5 MPa  
Structure: 1) BIM nozzle, 2) Air duster gun, 3) Plastic bottle  
Materials: S303, S304, PP, PE, etc.  
Liquid contacting parts: PE (bottle) and Stainless steel 303 (nozzle)  
Some kinds of chemical may not be suitable for use. (Unit: mm)

## HOW TO ORDER

Please use these product codes to inquire about or order a specific BIM-GUN.

(Flat spray) BIMV-S series

**BIMV8004SS303+TS303** siphon spray unit (w/ 250 ml bottle)

**BIMV80075SS303+TS303** siphon spray unit (w/ 250 ml bottle)

(Hollow cone spray) BIMK-S series

**BIMK6004SS303+TS303** siphon spray unit (w/ 250 ml bottle)

**BIMK60075SS303+TS303** siphon spray unit (w/ 250 ml bottle)

Approx. spray capacity (for your reference)

● BIMV8004S/BIMK6004S: 30 ml/min ● BIMV80075S/BIMK60075S: 60 ml/min



