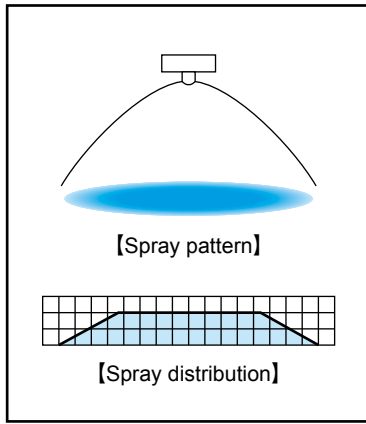


Low Flow Rate Fine Fog Nozzles

Flat Spray

—Liquid Pressure Type—

BIMV



- Flat spray pneumatic nozzle producing fine atomization with a mean droplet diameter of 100 μm or less.*1
- Features large turn-down ratio under liquid pressures of 0.1–0.3 MPa.
- Spray angle of 110°, 80°, or 45°.
- Produces two different spray distributions: uniform spray distribution throughout spray pattern area (when spraying at a low air-water ratio), or a mountain-shaped distribution having gradually tapered edges (at a high air-water ratio).

*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, moldings, automobile bodies, plastic products
- Moisture control: Paper, flue gas, ceramics, concrete
- Cleaning: Printed circuit boards, glass tubes

STRUCTURE

- Comprising four parts: 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.

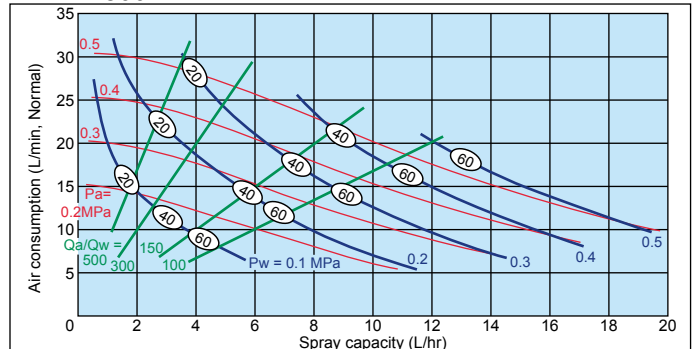
ACCESSORIES

- Mounting bracket is available as an option. See page 29.

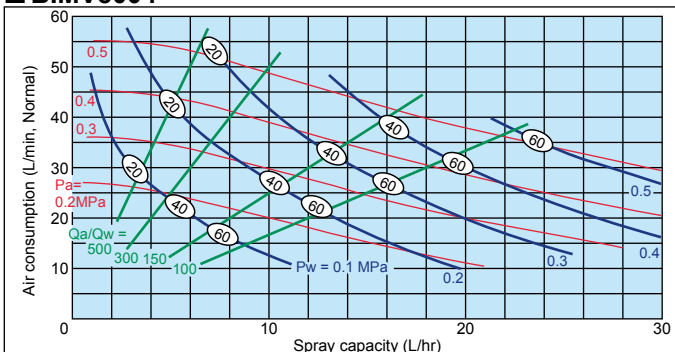
FLOW-RATE DIAGRAMS

- How to read the chart
- 1. The spray capacity shown is for one nozzle.
- 2. Red lines (—) represent compressed air pressures Pa in MPa.
- Blue lines (—) represent liquid pressures Pw in MPa.
- Green lines (—) represent air-water ratio Qa/Qw.
- 3. Figures in ovals \circ indicate Sauter mean diameters (μm) measured by laser Doppler method.
- 4. These flow-rate diagrams are applicable to adaptors type T and N only.
- 5. Flow-rate diagrams for spray angle code of 110 and 45 are available on request.

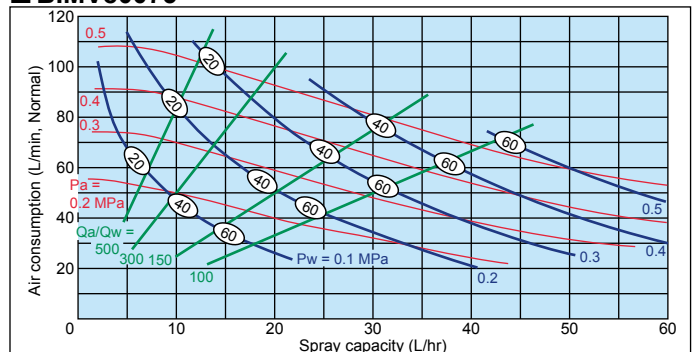
■ BIMV8002



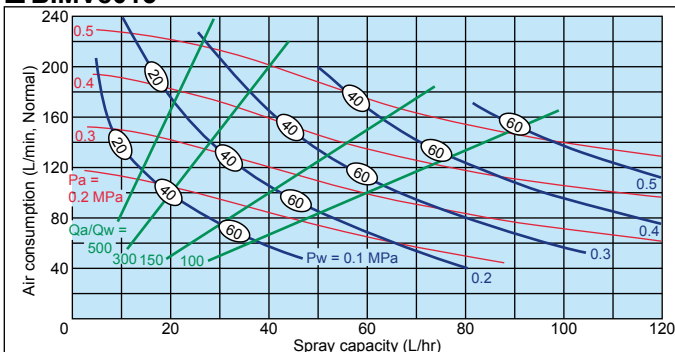
■ BIMV8004



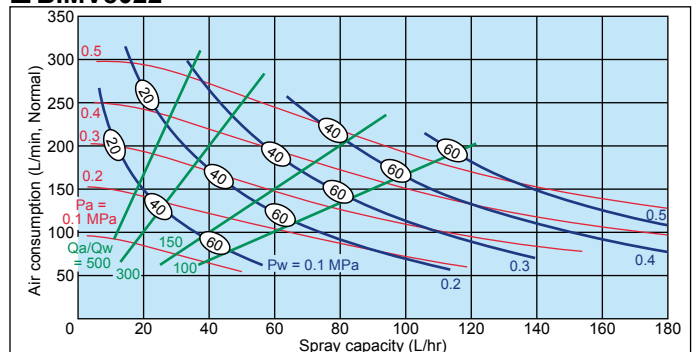
■ BIMV80075

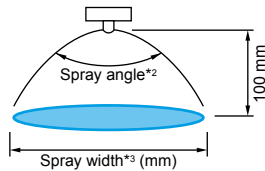


■ BIMV8015



■ BIMV8022





PERFORMANCE DATA

Spray angle code *2	Air consumption code	Air pressure (MPa)	Spray capacity (L/hr) & Air consumption (L/min, Normal)										Spray width*3 (mm)			Mean droplet dia. (µm)	Free passage diameter (mm)			
			Liquid pressure (MPa)										Liquid press. (MPa)				Laser Doppler method	Tip orifice	Adaptor	
			0.1		0.15		0.2		0.25		0.3		0.1	0.15	0.25				Liquid	Air
			Liquid	Air	Liquid	Air	Liquid	Air	Liquid	Air	Liquid	Air								
110	02	0.2	2.2	14	5.3	11	—	—	—	—	—	—	280	340	—	20-100	0.2	0.9	0.7	
		0.3	1.0	20	2.5	19	4.6	17	8.3	12	14.3	7	220	250	420					
		0.4	—	—	1.4	25	2.3	24	4.0	23	6.3	20	—	230	340					—
	04	0.2	4.5	25	9.5	20	17.0	13	—	—	—	—	300	360	—	20-100	0.3	0.9	0.9	
		0.3	2.0	36	4.7	35	8.5	31	13.1	27	19.6	20	230	270	430					
		0.4	—	—	2.8	45	4.8	44	7.7	41	11.4	37	—	250	350					—
	075	0.2	8.7	51	18.4	42	33.3	29	—	—	—	—	320	380	—	20-100	0.5	1.2	1.4	
		0.3	4.0	74	8.8	71	15.5	64	24.3	54	38.5	40	240	300	450					
		0.4	—	—	5.6	91	9.1	89	14.8	82	21.8	74	—	270	370					—
	15	0.2	16.8	107	34.8	90	64.4	60	—	—	—	—	340	400	—	20-100	0.8	1.8	1.9	
		0.3	8.0	150	17.7	144	30.8	130	50.0	108	74.5	87	270	320	470					
		0.4	—	—	11.2	190	18.3	183	29.1	172	42.9	154	—	280	380					—
22	0.2	22.3	140	45.6	116	92.1	77	—	—	—	—	350	420	—	20-100	0.9	2.1	2.2		
	0.3	11.5	200	23.9	189	41.3	169	68.5	138	107	103	280	330	490						
	0.4	—	—	15.3	245	24.5	238	39.1	220	57.7	198	—	300	400					—	
80	02	0.2	2.2	14	5.3	11	—	—	—	—	—	200	260	—	20-100	0.3	0.9	0.7		
		0.3	1.0	20	2.5	19	4.6	17	8.3	12	14.3	7	170	210					300	
		0.4	—	—	1.4	25	2.3	24	4.0	23	6.3	20	—	200					250	—
	04	0.2	4.5	25	9.5	20	17.0	13	—	—	—	—	200	260	—	20-100	0.4	0.9	0.9	
		0.3	2.0	36	4.7	35	8.5	31	13.1	27	19.6	20	170	210	310					
		0.4	—	—	2.8	45	4.8	44	7.7	41	11.4	37	—	200	260					—
	075	0.2	8.7	51	18.4	42	33.3	29	—	—	—	—	200	270	—	20-100	0.6	1.2	1.4	
		0.3	4.0	74	8.8	71	15.5	64	24.3	54	38.5	40	170	210	310					
		0.4	—	—	5.6	91	9.1	89	14.8	82	21.8	74	—	200	260					—
	15	0.2	16.8	107	34.8	90	64.4	60	—	—	—	—	210	280	—	20-100	0.9	1.8	1.9	
		0.3	8.0	150	17.7	144	30.8	130	50.0	108	74.5	87	180	220	320					
		0.4	—	—	11.2	190	18.3	183	29.1	172	42.9	154	—	200	270					—
22	0.2	22.3	140	45.6	116	92.1	77	—	—	—	—	210	280	—	20-100	1.1	2.1	2.2		
	0.3	11.5	200	23.9	189	41.3	169	68.5	138	107	103	180	220	330						
	0.4	—	—	15.3	245	24.5	238	39.1	220	57.7	198	—	210	280					—	
45	02	0.2	2.2	14	5.3	11	—	—	—	—	—	100	130	—	20-100	0.4	0.9	0.7		
		0.3	1.0	20	2.5	19	4.6	17	8.3	12	14.3	7	80	110					150	
		0.4	—	—	1.4	25	2.3	24	4.0	23	6.3	20	—	100					130	—
	04	0.2	4.5	25	9.5	20	17.0	13	—	—	—	—	100	130	—	20-100	0.5	0.9	0.9	
		0.3	2.0	36	4.7	35	8.5	31	13.1	27	19.6	20	80	110	150					
		0.4	—	—	2.8	45	4.8	44	7.7	41	11.4	37	—	100	130					—
	075	0.2	8.7	51	18.4	42	33.3	29	—	—	—	—	100	140	—	20-100	0.9	1.2	1.4	
		0.3	4.0	74	8.8	71	15.5	64	24.3	54	38.5	40	80	110	160					
		0.4	—	—	5.6	91	9.1	89	14.8	82	21.8	74	—	100	140					—
	15	0.2	16.8	107	34.8	90	64.4	60	—	—	—	—	110	150	—	20-100	1.2	1.8	1.9	
		0.3	8.0	150	17.7	144	30.8	130	50.0	108	74.5	87	90	120	170					
		0.4	—	—	11.2	190	18.3	183	29.1	172	42.9	154	—	110	150					—
22	0.2	22.3	140	45.6	116	92.1	77	—	—	—	—	110	160	—	20-100	1.6	2.1	2.2		
	0.3	11.5	200	23.9	189	41.3	169	68.5	138	107	103	90	120	180						
	0.4	—	—	15.3	245	24.5	238	39.1	220	57.7	198	—	110	150					—	

*2) Spray angle measured at compressed air pressure of 0.3 MPa and liquid pressure of 0.1 MPa.

*3) Measured at 100 mm from nozzle.

HOW TO ORDER

Please inquire or order for a specific nozzle using this coding system.

<Example> BIMV 11002 S303 + N S303

BIMV	110	02	S303	+	N	S303
	Spray angle code	Air consumption code	Material of nozzle tip		Type of adaptor	Material of adaptor
	■110	■02			■N	■T
	■80	■04			■NDB	■UNDB
	■45	■075			■SNB	■USNB
		■15			■SPB	■USPB
		■22				

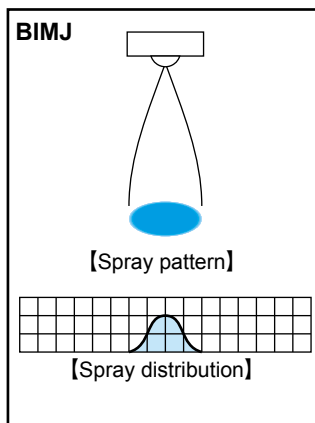
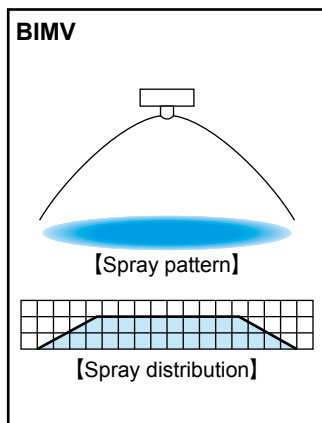
See pages 26 and 27 for details of adaptors.

BIMV

Low Flow Rate Fine Fog Nozzles

Made of Polypropylene —Liquid Pressure Type—

BIM-PP

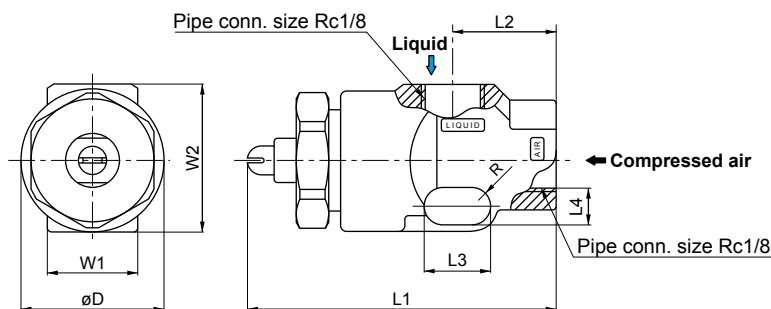


- Excellent chemical resistance with polypropylene construction.
- Two types, BIMV (flat spray pattern) and BIMJ (full cone spray pattern) are available.
- Liquid pressure type with approx. 0.1 to 0.3 MPa.

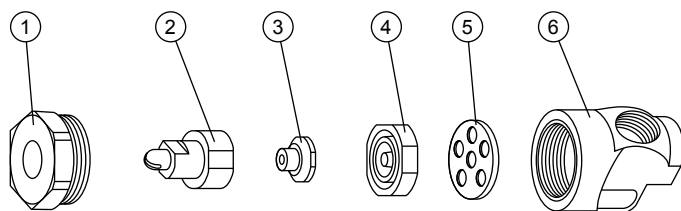
APPLICATIONS

- Spraying: Deodorant, germicide, disinfectant
- Moisture control: Paper, textile, printing
- Cleaning: Printed circuit boards, electrical components

DRAWING



STRUCTURE



COMPONENTS AND MATERIALS

No.	Components	Standard materials
1	Cap	PP
2	Nozzle tip	PP
3	Core	PP
4	Orifice disc	PP
5	Packing	PTFE
6	Adaptor	PP

DIMENSIONS

Spray pattern type	Nozzle code	Dimensions (mm)								Mass (g)
		L1	L2	L3	L4	W1	W2	øD	R	
Flat spray	BIMV80075	47.5	16	10	5	14	23	22	2.5	10
Full cone spray	BIMJ2004	46.7								

PERFORMANCE DATA

BIMV80075 (Flat spray): See [pages 13 and 14](#) for spray performance details of BIMV80075.
 BIMJ2004 (Full cone spray): See [pages 21 and 22](#) for spray performance details of BIMJ2004.

HOW TO ORDER

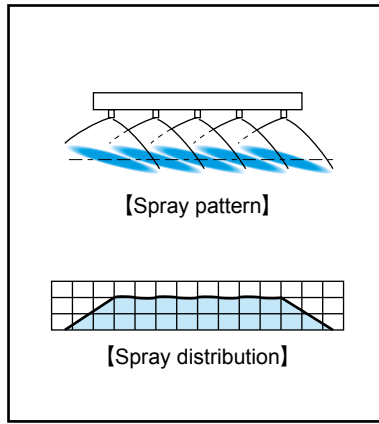
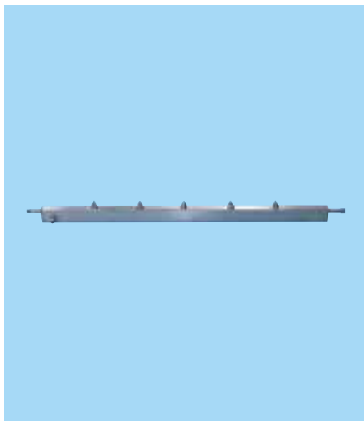
Please inquire or order for a specific nozzle using these product codes.

Flat spray type

BIMV 80075 PP + TPP-IN

Full cone spray type

BIMJ 2004 PP + TPP-IN



- Spray header equipped with BIMV series nozzles (liquid pressure type) producing fine atomization with a mean droplet diameter of 100 μm or less.*1
- Combines two pipes for air and water into one rectangular spray header. Compact and easy to install and maintain.
- Provides a uniform spray distribution across the entire spray area.

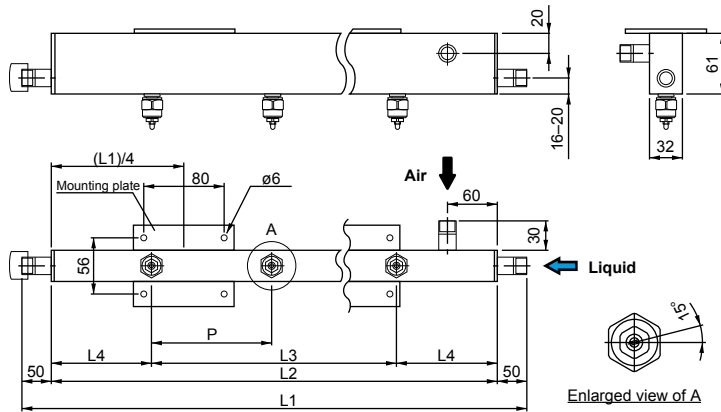
*1) Droplet diameter measured by laser Doppler method

APPLICATIONS

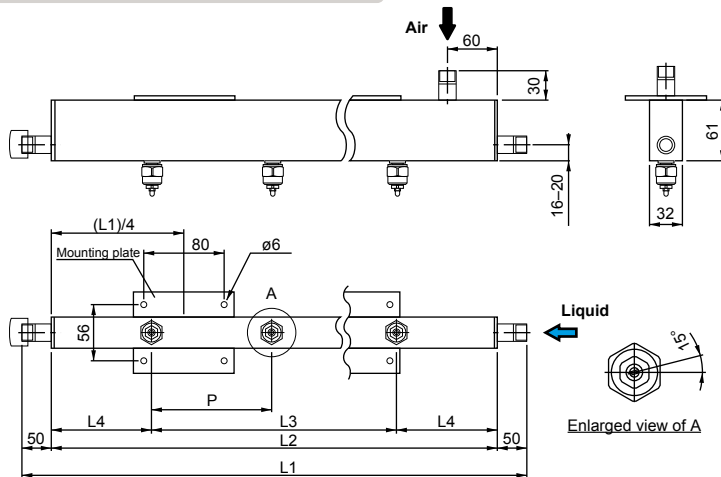
- Spraying: Oil, surface treatment agent
- Cooling: Moldings, steel plates, glass plates, plastic film
- Cleaning: Printed circuit boards

DRAWING

Air/Liquid inlet position type [A]



Air/Liquid inlet position type [B]



Mounting plate type [None, F, or S]

None	
F	
S	

F: To install facing perpendicular from a wall.
S: To install facing parallel along a wall edge.

DIMENSIONS

Header code		Nozzle spacing P (mm)	Nozzle quantity (Number of BIM nozzles equipped)	Spacing (mm)		Pipe connection size						Material	
Header length L2 (mm)	Total length L1 (mm)					Nozzle code							
						BIMV11002		BIMV11004		BIMV110075			
				L3	L4	Air	Liquid	Air	Liquid	Air	Liquid	Nozzle	Header
1,000	1,100	100	10	900	50	R3/8	R1/4	R3/8	R1/4	R1/2	R3/8	S303	S304
		200	5	800	100					R3/8	R1/4		
2,000	2,100	100	20	1,900	50	R1/2	R3/8	R1/2	R3/8	R3/4	R1/2		
		200	10	1,800	100	R3/8	R1/4	R3/8	R1/4	R1/2	R3/8		

PERFORMANCE DATA

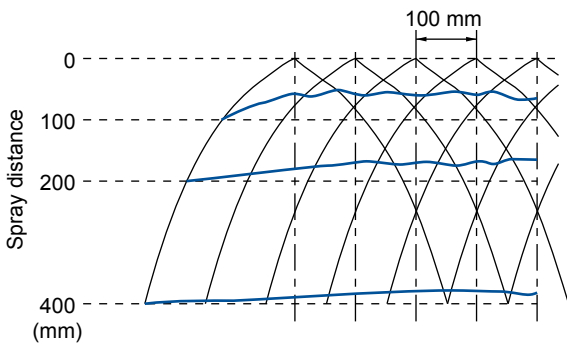
Nozzle code	Nozzle quantity	Air pressure (MPa)	Air consumption (L/min, Normal)	Spray capacity (L/hr) at liquid pressure of 0.1 MPa
BIMV11002	5	0.3	100	5.0
	10		200	10.0
	20		400	20.0
BIMV11004	5	0.3	180	10.0
	10		360	20.0
	20		720	40.0
BIMV110075	5	0.3	370	20.0
	10		740	40.0
	20		1,480	80.0

Note: Total air consumption and spray capacities shown in the above table are calculated from the number of nozzles used, based on each air consumption and spray capacity described on [page 14](#).

SPRAY DISTRIBUTION

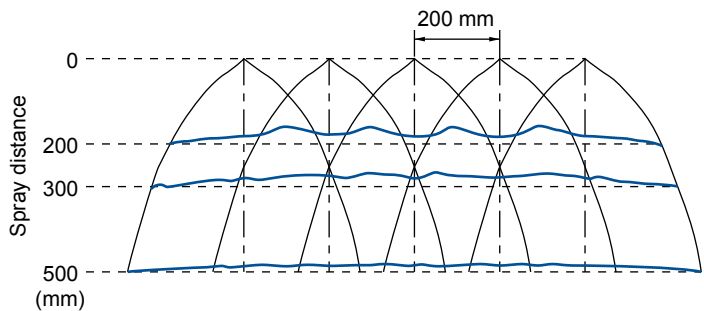
■ **BIMV11004S303**

Nozzle spacing: 100 mm
 Compressed air pressure: 0.3 MPa
 Liquid pressure: 0.1 MPa
 Offset angle (nozzle tip angle to axis of header): 15°



■ **BIMV11004S303**

Nozzle spacing: 200 mm
 Compressed air pressure: 0.3 MPa
 Liquid pressure: 0.1 MPa
 Offset angle (nozzle tip angle to axis of header): 15°



HOW TO ORDER

To determine the specifications, please specify a nozzle code, nozzle quantity, nozzle spacing, and header length etc., using this coding system.

<Example> BIMV11002S303 + 10 (P100) A1000F (Pre-setting 15°, L=1100)

BIMV11002 S303+ **10** (P **100**) **A** **1000** **F** (Pre-setting **15°**, L=**1100**)

Nozzle code	Nozzle quantity	Nozzle spacing	Inlet position type	Header length	Mounting plate type	Offset angle	Total length
■ BIMV11002	■ 5	■ 100	■ A	■ 1000	■ F	■ 0° (Blank denotes 0°.)	■ 1100
■ BIMV11004	■ 10	■ 200	■ A	■ 2000	■ S	■ 15°	■ 2100
■ BIMV110075	■ 20		■ B		■ None (Blank denotes "without plate".)		

Note: For details of BIMV nozzles, see [pages 13 and 14](#).
 For details of BIM Header, please ask for our [inquiry drawing](#).

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.

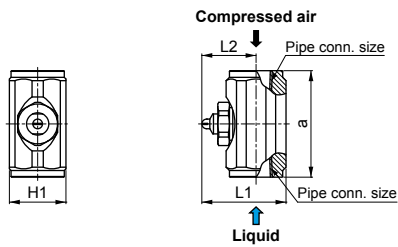
Drawings with parts list (each description and material) are available upon request.

TYPES OF ADAPTORS

Type N

Liquid and air enter into adaptor from both sides.

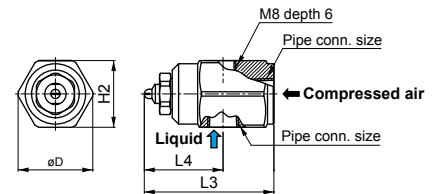
Material: S303



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.

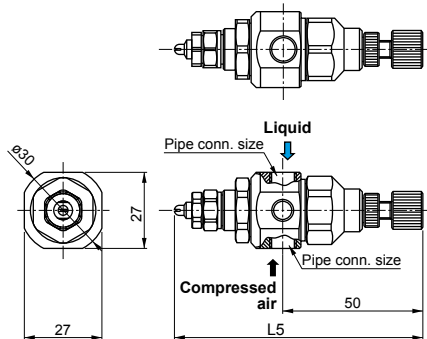
Material: S303



Type NDB

Spray capacity is adjustable with needle valve.

Material: S303, FKM, PTFE, and NBR

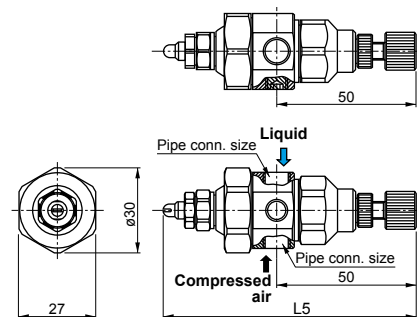


Type UNDB

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.

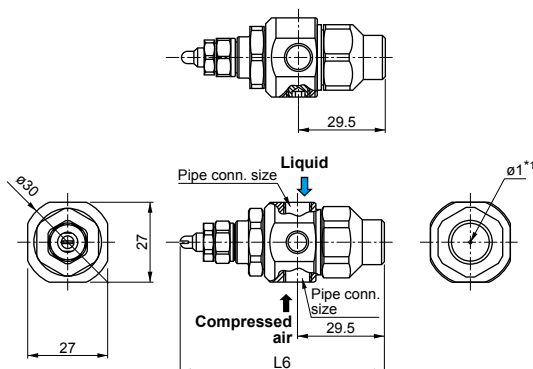
Material: S303, FKM, PTFE, and NBR



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

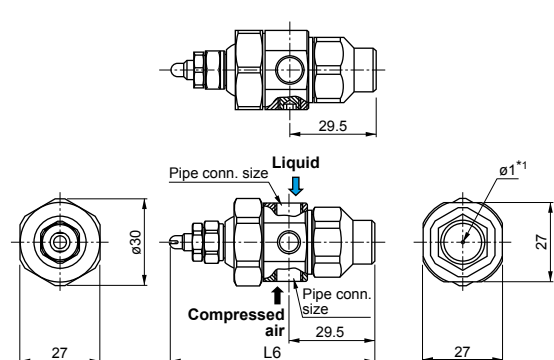


Type USNB

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



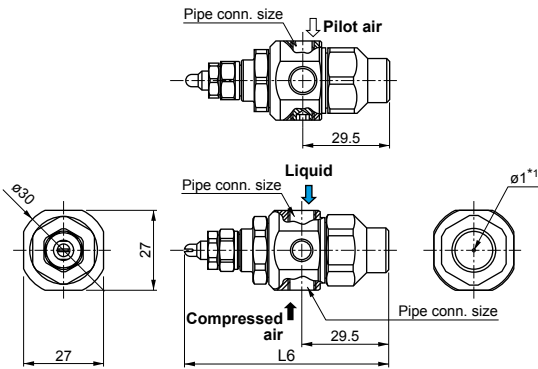
*1) Hole φ1 is for air relief.

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

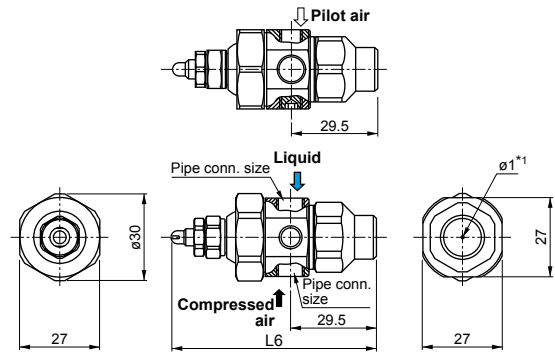


*1) Hole ø1 is for air relief.

Type USPB

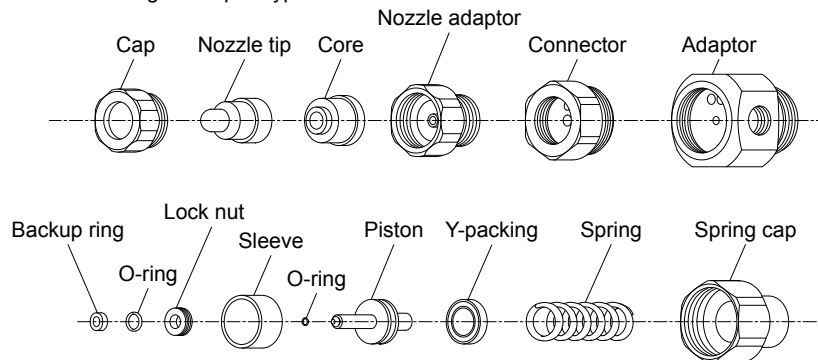
Besides the features of the SPB-type adaptor, spray direction can be adjusted within +/- 15° by means of a ball joint. It is ideal for fine-tuning of spray direction after pipe assemblies have been completed.

Material: S303, FKM, PTFE, and NBR



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 MASS

Adaptor type	Air consumption code	Pipe connection sizes			Mass (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

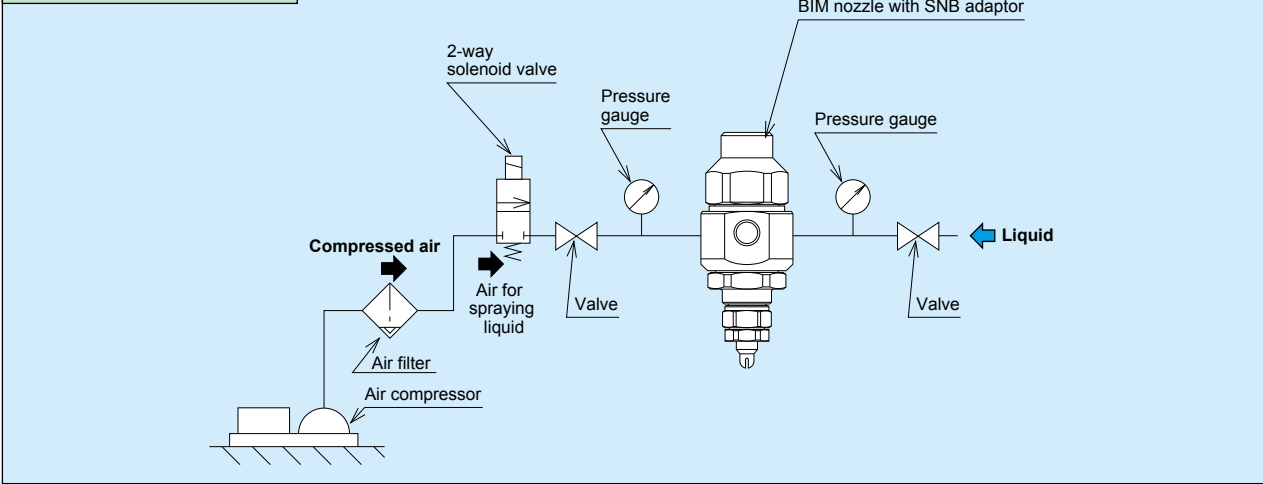
■SNB adaptor (CSN, SN adaptors)

Spray ON/OFF can be regulated by turning compressed air ON/OFF.
 Compressed air pressure must be 0.2 MPa or higher in order to start the spray.
 Adaptor types **CSN** (see page 30) and **SN** (page 35) are used in the same way.

Function chart

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

Connection example



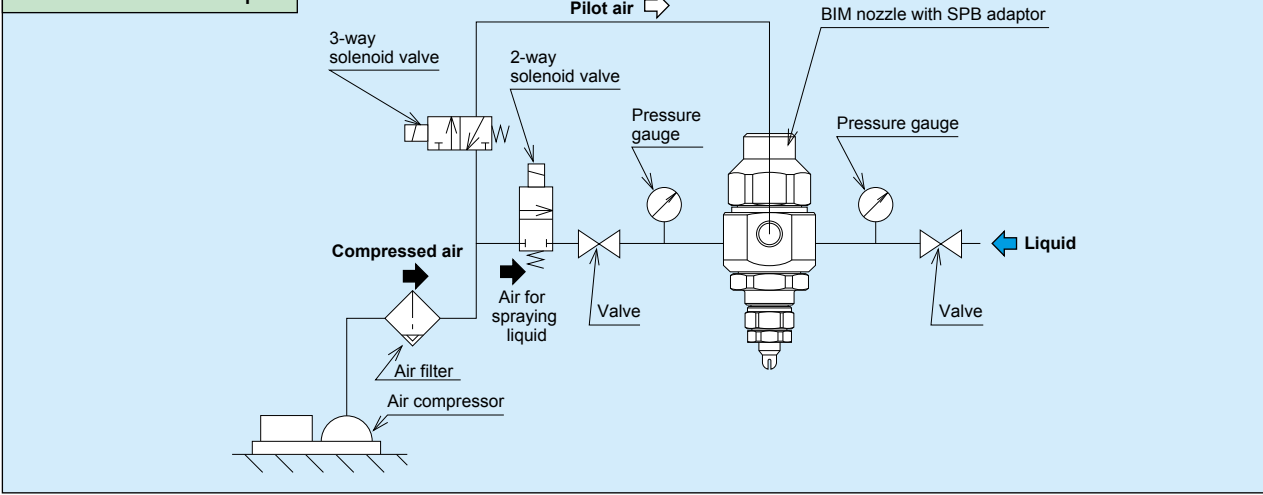
■SPB adaptor (CSP, SP adaptors)

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 must be 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 30) and **SP** (page 35) are used in the same way.

Function chart

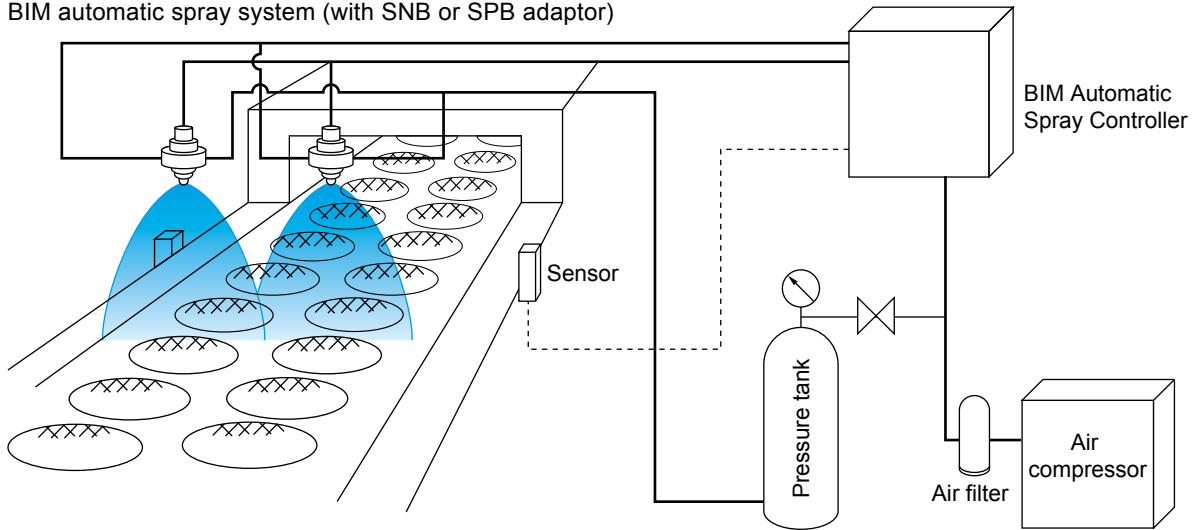
Compressed air	ON	ON	OFF	ON	OFF
Pilot air	OFF	ON	OFF	ON	OFF
Liquid	Stop	Spray	Stop	Spray	Stop

Connection example



Installation Example of BIM Automatic Spray System

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



Optional/ Related Products

■ Mounting Bracket (product code: MBW)

Mounting bracket enables easy fixing of a nozzle on a pole (metal rod) with desired spray direction.

Available in two size for pipe diameters of 8 mm or 10 mm.

Available for the adaptor types T, NDB, UNDB, SNB, USNB, SPB, and USPB (not available for N-type adaptor).



Mounting bracket

■ Spray Gun Unit with BIM nozzles: BIM-GUN

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

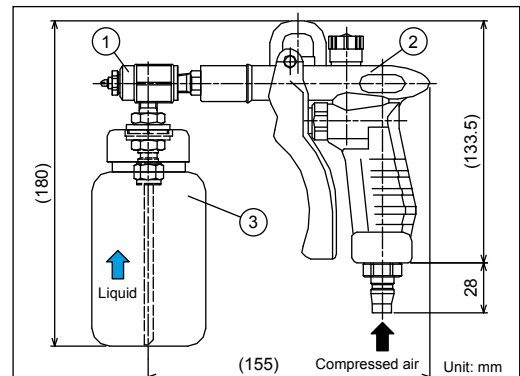
Suitable for chemical spraying, etc.

*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.

HOW TO ORDER

Please inquire or order for a specific BIM-GUN using these product codes.

(Flat spray) BIMV series

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

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

(Hollow cone spray) BIMK 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

