

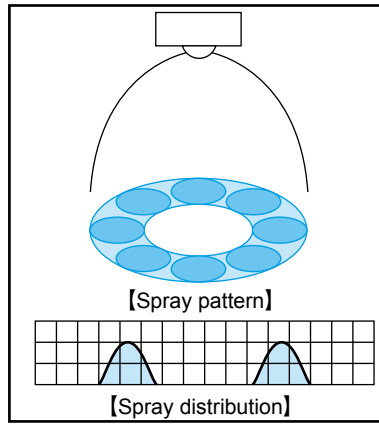
Low Flow Rate Fine Fog Nozzles

Hollow Cone Spray —Liquid Siphon Type—

BIMK-S



BIMK-S with T-type adaptor



- Hollow cone spray pneumatic nozzle producing fine atomization with a mean droplet diameter of 30 μm or less.*1
- Liquid siphon feed type (liquid pressure device is not required).
- Spray angle of 60°.

*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

BIMK-S

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.

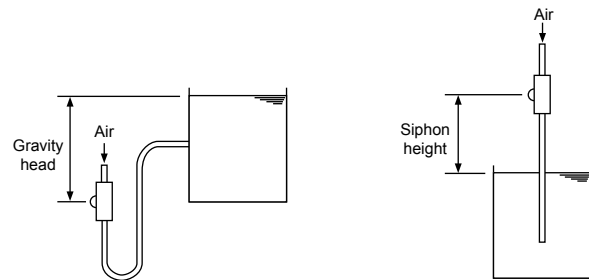
ACCESSORIES

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

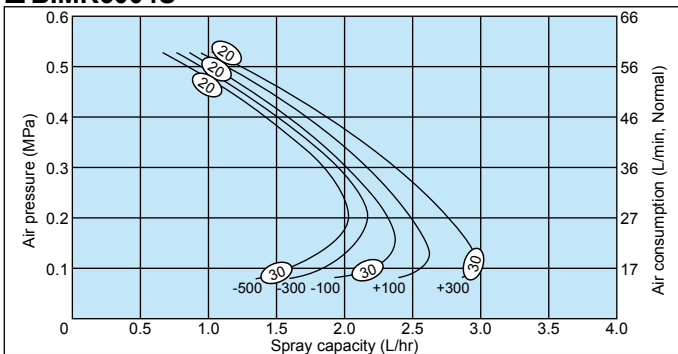
FLOW-RATE DIAGRAMS

- How to read the chart

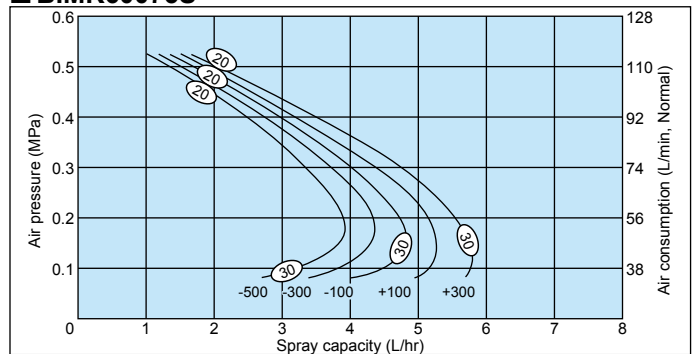
 1. The spray capacity shown is for one nozzle.
 2. Figures at foot of each curve indicate gravity head (+) and siphon height (-) in mm.
 3. Figures in ovals \circ indicate Sauter mean diameters (μm) measured by laser Doppler method.
 4. These flow-rate diagrams are applicable to adaptors type T and N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

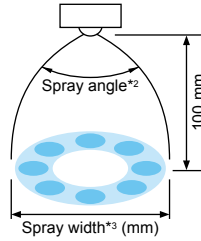


■ BIMK6004S



■ BIMK60075S





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
60	04	0.2	27	2.8	2.5	2.3	2.2	2.0	120	20-30	0.6	0.9	0.9
		0.3	36	2.4	2.1	2.0	1.9	1.8	120				
		0.4	46	1.9	1.7	1.6	1.5	1.4	120				
	075	0.2	56	5.5	5.1	4.7	4.3	3.9	120	20-30	0.8	1.2	1.4
		0.3	74	4.7	4.3	4.0	3.7	3.3	120				
		0.4	92	3.5	3.2	2.9	2.7	2.5	120				

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

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

BIMK-S

HOW TO ORDER

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

<Example> BIMK 60075S S303 + N S303

BIMK	<u>60</u>	<u>075</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"> ■04 ■075 				<ul style="list-style-type: none"> ■N ■NDB ■SNB ■SPB 	<ul style="list-style-type: none"> ■T ■UNDB ■USNB ■USPB

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](#).

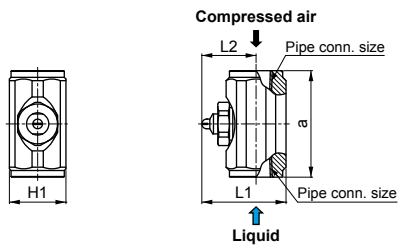
See [page 27](#) for dimensions and pipe connection sizes of each adaptor.

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

TYPES OF ADAPTORS

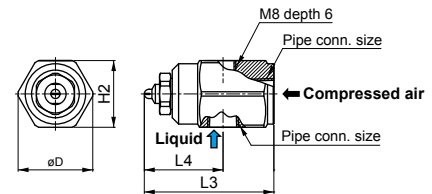
Type N Liquid and air enter into adaptor from both sides.

Material: S303



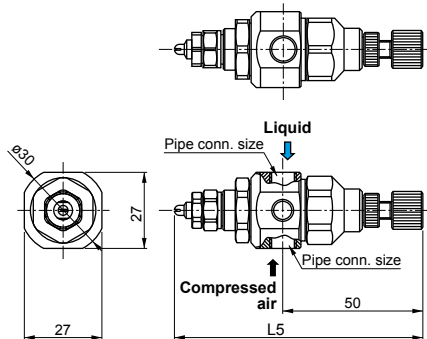
Type T Air inlet is on the center line and liquid inlet is on a 90° angle line to the center line. Suitable for use in a small space.

Material: S303



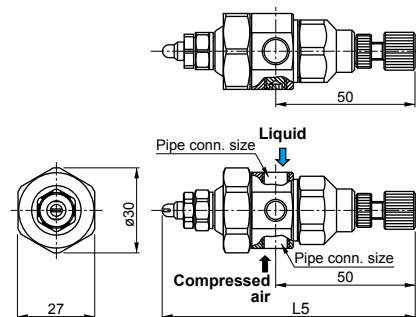
Type NDB Spray capacity is adjustable with needle valve.

Material: S303, FKM, PTFE, and NBR



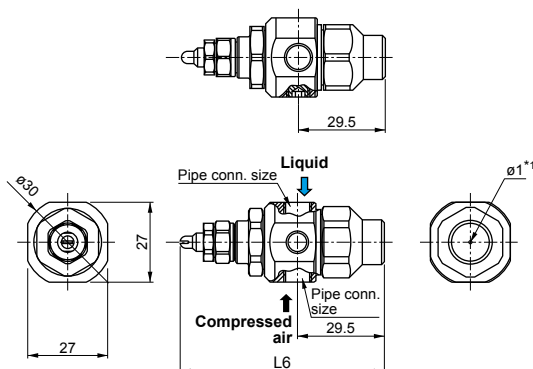
Type UNDB Besides the features of the NDB-type adaptor, spray direction can be adjusted within +/- 15° by means of a ball joint. It is ideal for fine-tuning of spray direction after pipe assemblies have been completed.

Material: S303, FKM, PTFE, and NBR



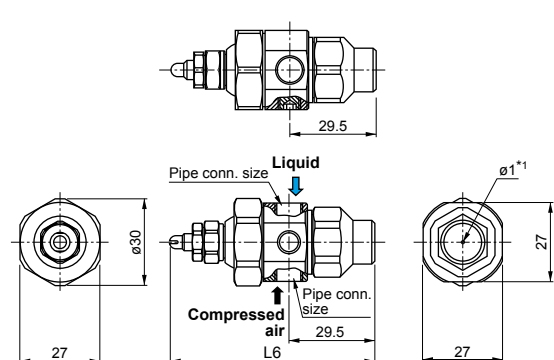
Type SNB Spray ON/OFF can be regulated by turning compressed air ON/OFF, which actuates an internal piston, to open or close the nozzle. Compressed air pressure over 0.2 MPa starts the spray.

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



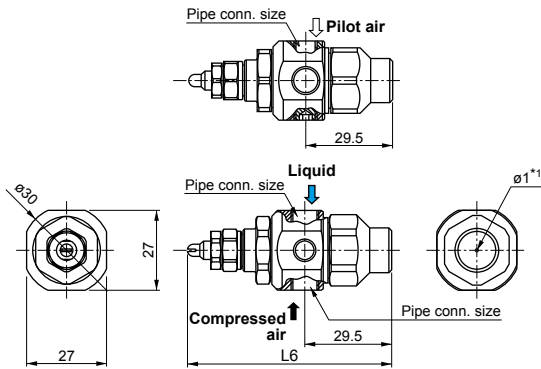
*1) Hole φ1 is for air relief.

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

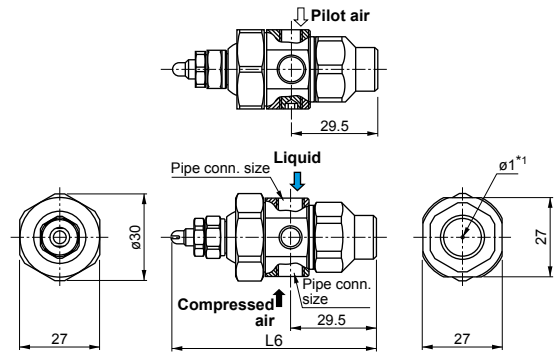


*1) Hole ø1 is for air relief.

Type USPB

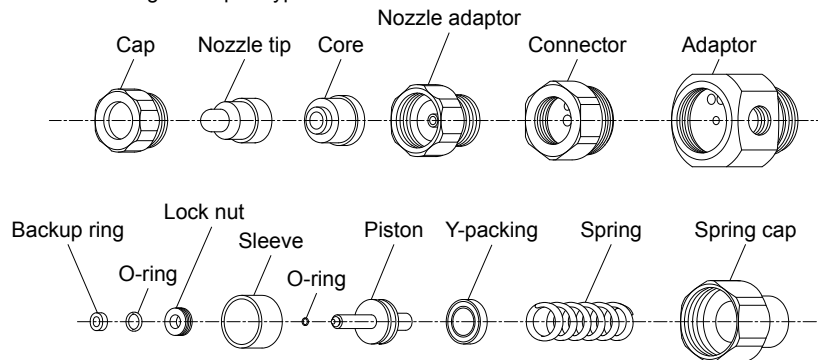
Besides the features of the SPB-type adaptor, spray direction can be adjusted within +/- 15° by means of a ball joint. It is ideal for fine-tuning of spray direction after pipe assemblies have been completed.

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.

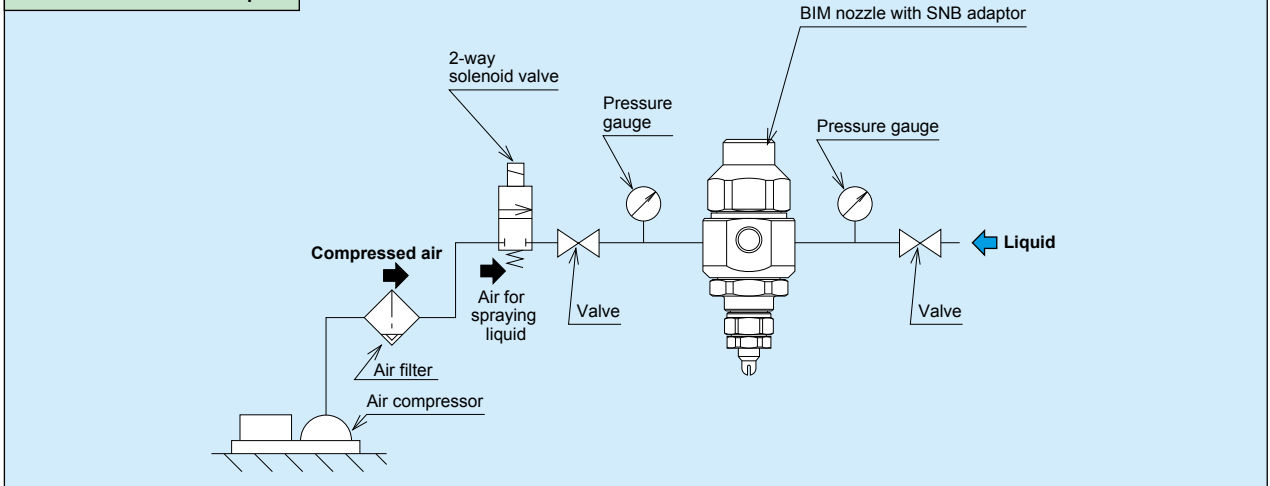
Compressed air pressure must be 0.2 MPa or higher in order to start the spray.

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.)

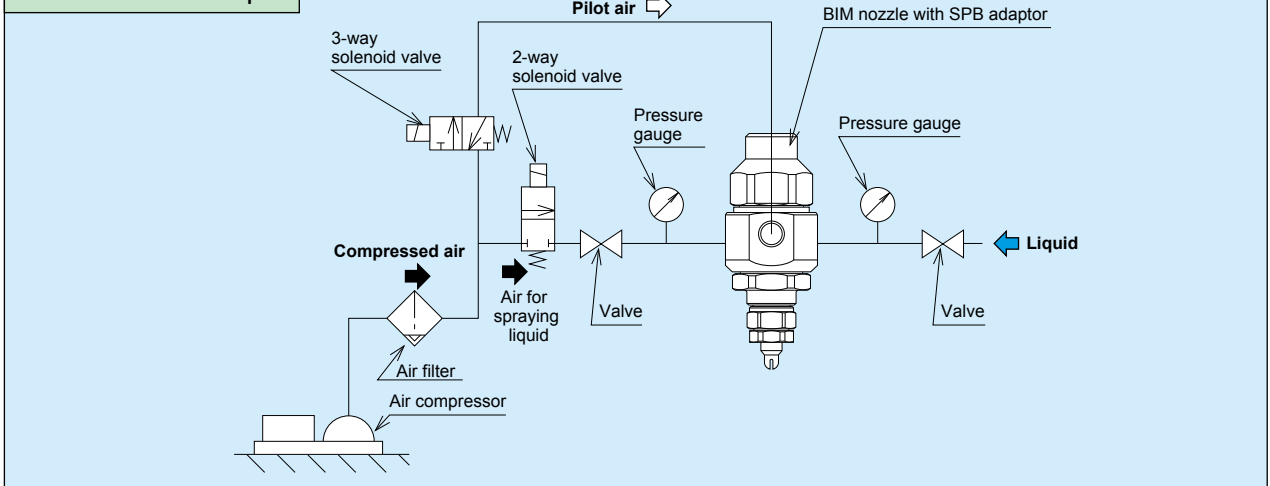
As even low pressure atomizing air can be used, production of a range of fine to coarse fog is possible. Best-suited for when there is concern about scattering droplets.

Adaptor types **CSP** (see page 30) and **SP** (page 35) are used in the same way.

Function chart

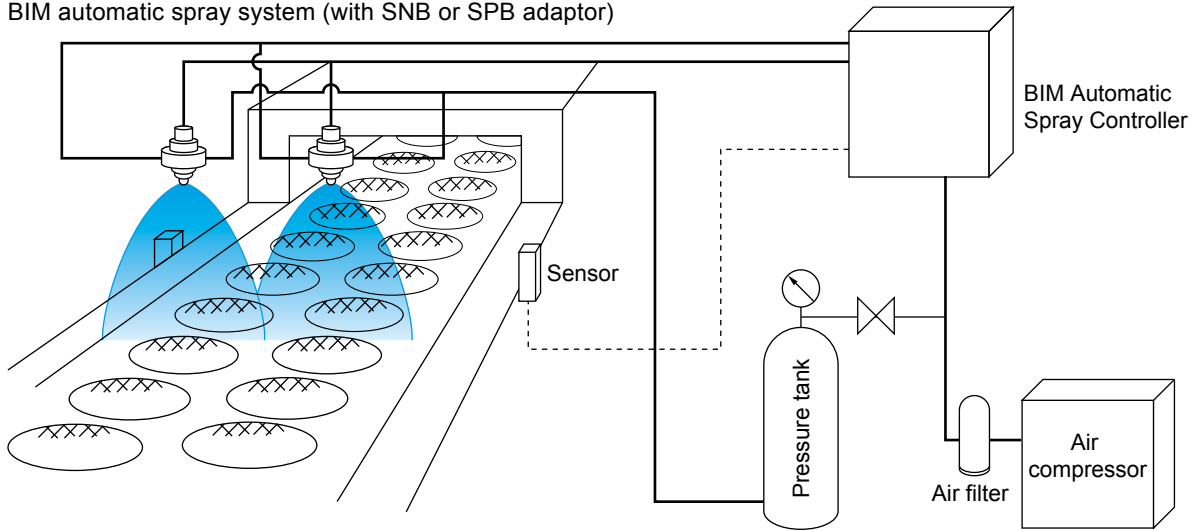
Compressed air	ON	ON	OFF	ON	OFF
Pilot air	OFF	ON	OFF	ON	OFF
Liquid	Stop	Spray	Stop	Spray	Stop

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).

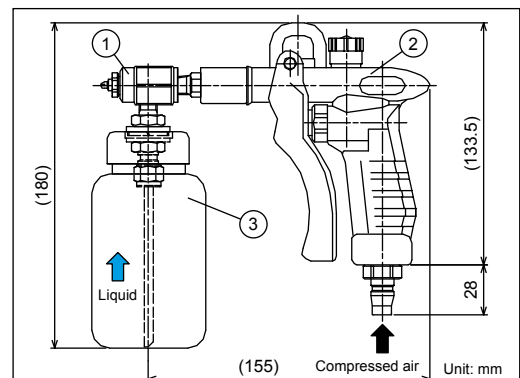
Suitable for chemical spraying, etc.

*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

BIM series Nozzle Tip Interchangeability

List of Nozzle Tip Interchangeability

Nozzle tips with ○ are interchangeable with each other to change spray angle and spray pattern.

BIM series

		Liquid pressure type																				Liquid siphon type																	
		BIMV										BIMK				BIMJ						BIMV-S		BIMK-S															
		11002	11004	11075	11015	11022	8002	8004	80075	8015	8022	4502	4504	45075	4515	4522	6004	60075	6015	6022	7004	70075	7015	7022	2002	2004	20075	2015	2022	8002S	8004S	80075S	6004S	60075S					
Liquid pressure type	BIMV	11002	○																																				
		11004		○																																			
		11075			○																																		
		11015				○																																	
		11022					○																																
	BIMK	8002					○																																
		8004						○																															
		80075							○																														
		8015								○																													
		8022									○																												
	BIMJ	4502									○																												
		4504										○																											
		45075											○																										
		4515												○																									
		4522													○																								
BIMK	6004															○																							
	60075																○																						
	6015																	○																					
	6022																		○																				
	BIMJ	7004																			○																		
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7015																						○																	
7022																							○																
2002																								○															
BIMV-S	2004																							○															
	20075																								○														
	2015																									○													
	2022																										○												
	BIMK-S	8002S																																					
8004S																																							
BIMK-S	6004S																																						
	60075S																																						