Low Flow Rate Fine Fog Nozzles Hollow Cone Spray — Liquid Pressure Type—

BIMK





BIMK with T-type adaptor

- 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.

FLOW-RATE DIAGRAMS

- ■How to read the chart
- 1. The spray capacity shown is for one nozzle.
- 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. Numbers in ovals O indicate Sauter mean diameters (µm) measured by laser Doppler method.
- 4. These flow-rate diagrams are applicable to adaptors type T and N only.





BIMK60075







Hollow cone spray pneumatic nozzle producing fine atomization with a mean droplet diameter of 100 µm

Spraying: Mold release agent, lubricant, deodorant,

oil, surface treatment agent, rust preventive, honey,

Cooling: Dies, gas, glass, steel plates, steel pieces,

castings, automobile bodies, plastic products Moisture control: Paper, flue gas, ceramics, concrete

Features a large turn-down ratio under the liquid

*1) Droplet diameter measured by laser Doppler method

or less.*1

APPLICATIONS

pressures of 0.1-0.3 MPa.

insecticide, aqueous urea

Download 3D CAD models (BIMK with various adaptors)



PERFORMANCE DATA

| Spray angle code *2 | Air consumption | Air pressure | 5 | Spray capacity (L/hr) & Air consumption (L/min, Normal) Spray width (mm) Liquid pressure (MPa) (mm) | | | | | | | | | | | | Mean droplet dia. (µm) | Free passage diameter (mm) | | | |
|------------------------------|--------------------|-------------------|-------------------|---|----------------------|-------------------|----------------------|------------------|-------------------|----------------|-------------------|----------------|-----------------|-------------------|----------------|---------------------------------|----------------------------|--------|------|--|
| | code | (MPa) | 0.1 | | 0.15 | | 0.2 | | 0.2 | 0.25 | | 0.3 | | press | . (MPa) | Laser | Tip | Ada | ptor | |
| | | | Liquid | Air | Liquid | Air | Liquid | Air | Liquid | Air | Liquid | Air | 0.1 | 0.15 | 0.25 | method | orifice | Liquid | Air | |
| 60 | 04 | 0.2 0.3 0.4 | 4.5 2.0 | 25 36 | 9.5 4.7 2.8 | 20 35 45 | 17.0 8.5 4.8 | 13 31 44 | — 13.1 7.7 | 27 41 | — 19.6 11.4 | 20 37 | 140 130 — | 160 160 150 | 170 170 | 20– 100 | 0.5 | 0.9 | 0.9 | |
| | 075 | 0.2 0.3 0.4 | 8.7 4.0 | 51 74 | 18.4 8.8 5.6 | 42 71 91 | 33.3 15.5 9.1 | 29 64 89 | 24.3 14.8 | 54 82 | — 38.5 21.8 | 40 74 | 140 130 — | 170 160 150 | 180 170 | 20– 100 | 0.7 | 1.2 | 1.4 | |
| | 15 | 0.2 0.3 0.4 | 16.8 8.0 — | 107 150 | 34.8 17.7 11.2 | 90 144 190 | 64.4 30.8 18.3 | 60 130 183 | — 50.0 29.1 | 108 172 | — 74.5 42.9 | 87 154 | 150 140 — | 170 170 160 | 180 180 | 20– 100 | 0.9 | 1.8 | 1.9 | |
| | 22 | 0.2 0.3 0.4 | 22.3 11.5 — | 140 200 | 45.6 23.9 15.3 | 116 189 245 | 92.1 41.3 24.5 | 77 169 238 | — 68.5 39.1 | 138 220 | 107 57.7 | 103 198 | 160 140 — | 180 170 160 | 190 180 | 20– 100 | 1.1 | 2.1 | 2.2 | |

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

*3) Measured at spray distance of 100 mm from nozzle.



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



TYPES OF ADAPTORS



*1) Hole ø1 is for air relief.

STRUCTURE OF SPB ADAPTOR



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

| Adaptan | Air | Pipe cor | | | |
|---------|---------------------|----------------|--------|-----------|-----|
| type | consumption code | Compressed air | Liquid | Pilot air | (g) |
| N | 02, 04, 075 | Rc1/8 | Rc1/8 | | 55 |
| IN | 15, 22 | Rc1/4 | Rc1/4 | | 130 |
| т | 02, 04, 075 | Rc1/8 | Rc1/8 | | 80 |
| | 15, 22 | Rc1/4 | Rc1/4 | | 210 |
| NDB | 02, 04, 075 | Do1/9 | Do1/9 | | 172 |
| UNDB | 15, 22 | RC1/0 | RCI/O | | 193 |
| SNB | 02, 04, 075 | Do1/9 | Do1/9 | | 151 |
| USNB | 15, 22 | RC1/0 | RCI/O | | 172 |
| SPB | 02, 04, 075 | Do1/9 | Do1/9 | Do1/9 | 146 |
| USPB | 15, 22 | ru 1/0 | RU1/0 | | 167 |

DIMENSIONS

| Air | Dimensions (mm) | | | | | | | | | | | | | |
|---------------------|-----------------|------|------|------|------|------|----|----|----|------|--|--|--|--|
| consumption code | L1 | L2 | L3 | L4 | L5 | L6 | а | 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 | | | | | | | | | | | | | | |
|--------------------------|-------------|----------------|------------|--|--|--|--|--|--|--|--|--|--|--|
| | | | | | | | | | | | | | | |
| OFF | ON | OFF | ON | OFF | | | | | | | | | | |
| | | x | | | | | | | | | | | | |
| Stop | Spray | Stop | Spray | Stop | | | | | | | | | | |
| | OFF Stop | OFF ON Stop | OFF ON OFF | Operation Timing Diagram OFF ON OFF ON Stop Spray Stop Spray | | | | | | | | | | |



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 | | | 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.



Installation Example and Related Products for BIM Series

Installation Example of BIM Automatic Spray System



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.





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.



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

(Flat spray) BIMV-S series

S 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

List of Nozzle Tip Interchangeability

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

BIM Series

| | | | | | | | | | | | | | | L | .iquic | l pre | ssure | e typ | е | | | | | | | | | | | | Lic | uid : | on type | | |
|-------|---------|--------|--------|------------|----------|----------|--|------|----------|----------------|------|--------|--------|--------|--------|----------------|------------|-------|----------|--------|--------|----------|----------------|----------|----------|-----------|------|----------|-------------------------|------|-------|----------|---------|------------|------------|
| | | | | _ | | | | | | BIMV | / | | | | | | | | BI | ИK | | | | | | BIMJ | | | | | В | IMV- | S | BIM | K-S |
| | | | 11002 | 11004 | 110075 | 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 |
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| | | 11004 | | 12 | ¦ — | - | | — | 0 | — | | | | 0 | | | ¦ — | 0 | | | | 0 | — | <u> </u> | | | 0 | — | | | | | | ¦ | |
| | | 110075 | | | \sim | | | | | 0 | | | | | 0 | | | | 0 | | | | 0 | | | | | 0 | | | | | | | |
| | | 11015 | | | | | | | | | 0 | | | | | 0 | + | | | 0 | | | | 0 | | | | | 0 | | | ,; | | | |
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| | BIMV | 80075 | _ | | 0 | _ | | _ | > — | | | | _ | _ | 0 | | | _ | 0 | _ | _ | | 0 | | | | _ | 0 | | | | | | | |
| | | 8015 | | | _ | 0 | | _ | | | | | _ | | _ | Ō | ; | | _ | 0 | — | | _ | 0 | | [=] | _ | _ | 0 | | | | [_] | [<u> </u> | |
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