

Small Capacity Fine Fog Nozzles

BIM/CBIM series Fine Fog Nozzles



- BIM/CBIM series produces fine atomization with a mean droplet diameter of 10-100 μ m measured by Laser Doppler Method.
- Unique design greatly minimizes clogging.
Designed using fewer parts than typical nozzles for easier maintenance and lower price.
- Available in 3 spray patterns, BIMV/CBIMV flat spray, BIMK/CBIMK hollow cone spray and BIMJ/CBIMJ full cone spray.
Versatile pneumatic spray nozzles - you can select a suitable type depending on the intended use.
- Available with Integrated spray header combining air and liquid conduits, ring-shaped header, and other compact headers to fit your site.

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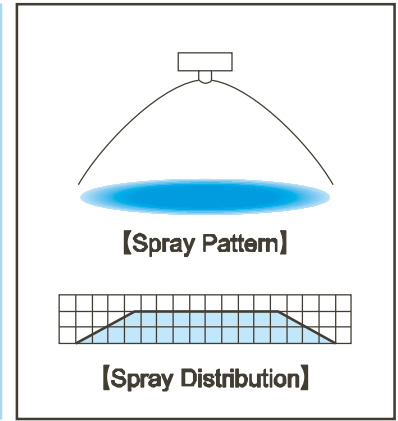
Small Capacity Fine Fog Nozzles / Flat Spray – Liquid Pressure Type –

BIMV

Features

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

*1) Measured by Laser Doppler Method



BIM with SN-type adaptor

Applications

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

Structure & Materials

- Comprising 4 parts: Spray tip, core, cap and adaptor. (Details of adaptors are shown on pages 23 and 24.)
- Materials: S303 (Optional material; S316L)

Dimensions & Pipe Conn. Sizes

- Dimensions and pipe connection sizes are shown on page 25.

Accessories

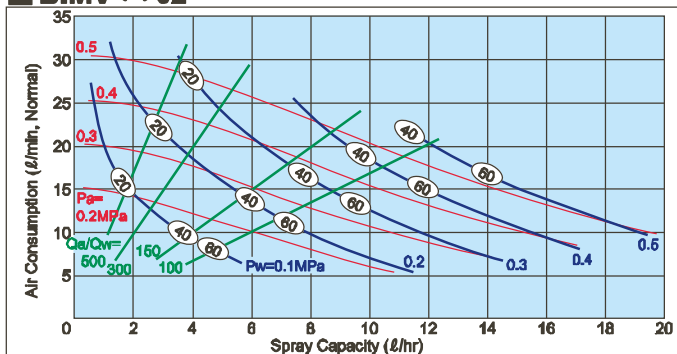
- Fixing support for easy installation is shown on page 26.

Flow-rate Diagram

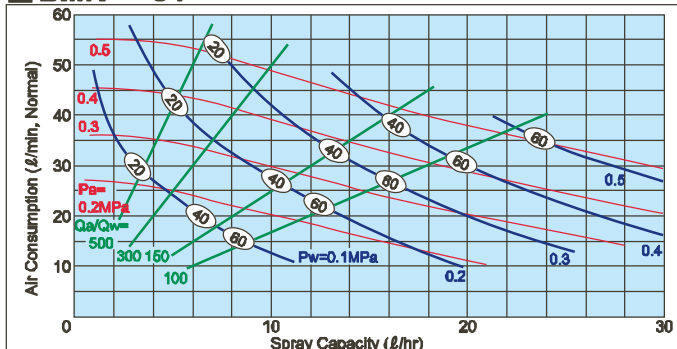
- How to read the chart

- ① The spray capacity shown is for one nozzle.
- ② Red lines (—) represent compressed air pressures P_a in MPa.
Blue lines (—) represent liquid pressures P_w in MPa.
Green lines (—) represent air-water ratio Q_a/Q_w .
- ③ Figures in ovals \bigcirc indicate Sauter mean droplet diameters (μm) measured by the Laser Doppler Method.
- ④ ** to be filled by spray angle code of 110, 80 or 45.

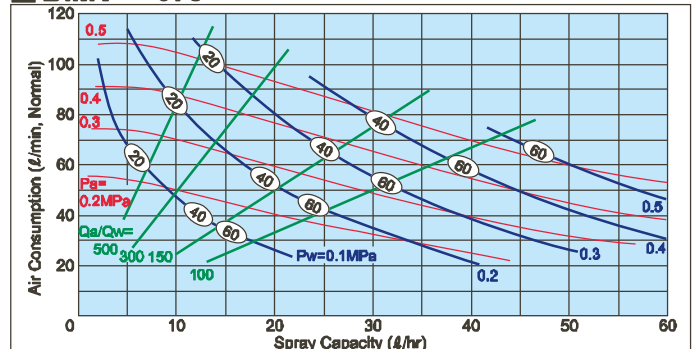
BIMV**02



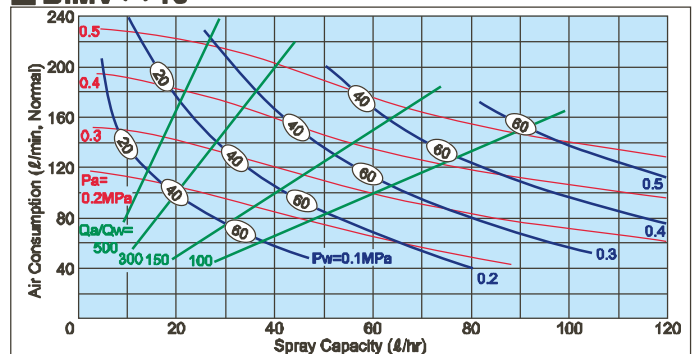
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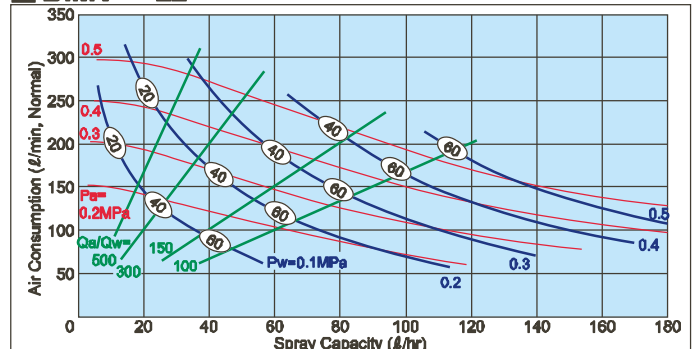
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BIMV**15



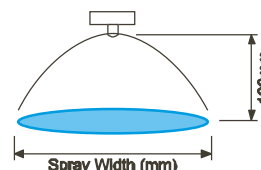
BIMV**22



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	Spray 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	—	15 ↓ 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	—	15 ↓ 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	—	15 ↓ 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	—	15 ↓ 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	76.9	—	—	—	—	350	420	—	15 ↓ 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	—	15 ↓ 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	—	15 ↓ 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	—	15 ↓ 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	—	15 ↓ 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	76.9	—	—	—	—	210	280	—	15 ↓ 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	—	15 ↓ 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	—	15 ↓ 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	—	15 ↓ 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	—	15 ↓ 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	76.9	—	—	—	—	110	160	—	15 ↓ 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					—		

Note: *2) Measured at compressed air pressure of 0.3MPa and liquid pressure of 0.1MPa.

*3) Measured at 100mm from nozzle.



How to order

To determine specifications, please specify a spray angle code and air consumption code referring to the above chart, then select a connecting adaptor from the 8 types (type N, T, ND, etc.). Please inquire or order for a specific nozzle using this coding system.

<Example> BIMV11002S303+NS303

BIMV

110

Spray Angle Code

- 110°
- 80°
- 45°

02

Air Consumption Code

- 02
- 04
- 075
- 15
- 22

S303

+

N

Type of Adaptor

- N
- T
- ND
- SP
- SN
- UND
- USP
- USN

S303

Details of adaptors are shown on pages 23 and 24.

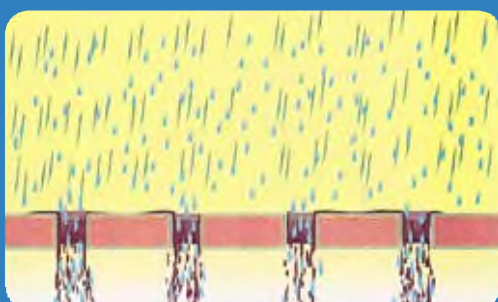
●Common Applications



- **Paper & Pulp** : Moisture control, spraying mold lubricant, preventing cardboard from curling, etc.
- **Plastics** : Spraying anti-electrostatic agent, coating, etc.
- **Iron & Steel** : Cooling metal sheets, etc.
- **Glass** : Coating and cooling glass sheets, etc.
- **Textile** : Moisture control of textile and fiber, etc.
- **Printing** : Moisture control of paper after dryer of web offset printing machine, etc.
- **Automotives** : Cooling carriages of automobile bodies on the painting lines after oven, etc.
- **Food** : Spraying egg yolk, oil, honey, etc.

●New cleaning method "Fog Cleaning"

Cleaning Mechanism



- For precise cleaning in cleaning process of photo-processing products

In conventional cleaning methods large droplets created by hydraulic nozzles are used and cannot clean within fine interstices.

By using air, pneumatic nozzles produce very fine droplets for "fog cleaning".

Features of Fog Cleaning

- ① Very fine droplets get into interstices and wash out dirt.
- ② Velocity of cleaning water has been remarkably improved due to compressed air blow, that contributes to maximizing spray impact.
- ③ Compressed air will blow off puddles on surfaces of objects, stopping chemical reactions and get better cleaning effects.

