Compact Design, Small Capacity Fine Fog Nozzles with Spray Control Adaptor
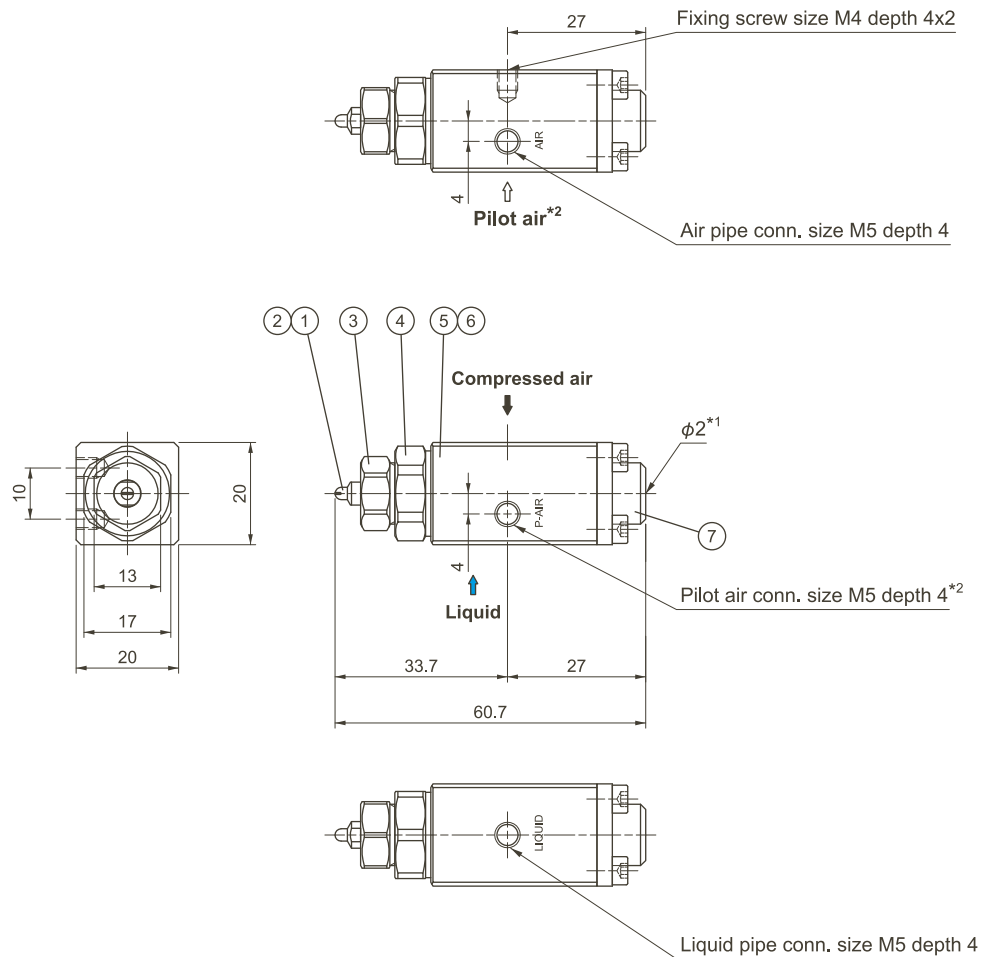
Features

■Compact design, fine fog spray nozzles with spray-control adaptor, which can regulate spray ON/OFF with a built-in piston.

■Available in liquid pressure or liquid siphon feed type, two spray pattern types (flat spray or full cone spray)—14 varieties in total. Wide selection.

■Capable of spraying smallest flow rate among all of our pneumatic spray nozzles.

Structure & Material

■Mass: 125 g

27

Fixing screw size M4 depth 4x2

AIR

4

⇧ **Pilot air**[*2]

Air pipe conn. size M5 depth 4

② ① ③ ④ ⑤ ⑥

Compressed air

$\phi 2$[*1]

10

20

P-AIR

⑦

13

17

20

4

⬆ **Liquid**

Pilot air conn. size M5 depth 4[*2]

33.7   27

60.7

LIQUID

Liquid pipe conn. size M5 depth 4

*1) Hole $\phi 2$ is for air relief.
*2) No pilot air for CSN-type adaptor.

■Components and materials

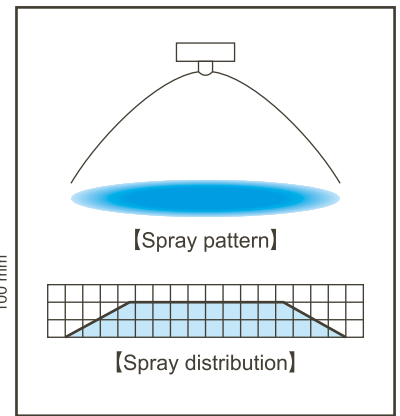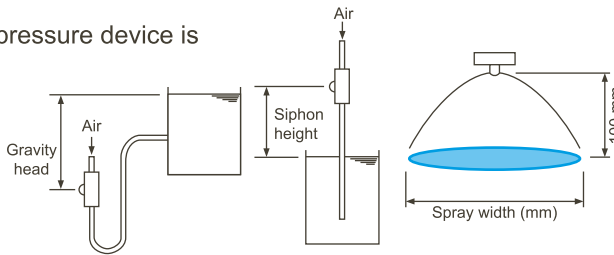| No.	Components	Standard materials
①	Spray tip	S303
②	Core	S303
③	Cap	S303
④	Connector	S303
⑤	Adaptor	S303
⑥	Packing	FKM
⑦	Spring cap	S303

CBIMV-S (Flat Spray)

Features

- Flat 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 80°.
- Even spray distribution across the entire spray area.

[1] Droplet diameter measured by laser Doppler method

【Spray pattern】

【Spray distribution】

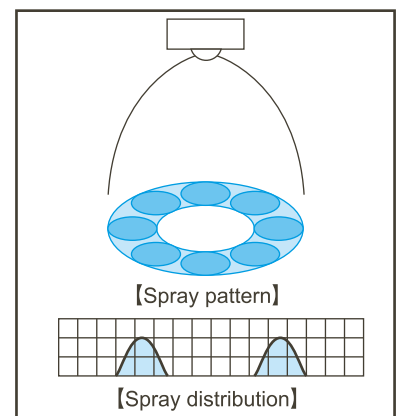| Spray angle code [2]	Air consumption code	Air pressure (MPa)	Air consumption (ℓ/min, Normal)	Spray capacity (ℓ/hr)					Spray width[3] (mm)	Mean droplet diameter (µm) Laser Doppler method	Free passage dia. (mm)		
				Gravity head (mm)		Siphon height (mm)					Spray orifice	Adaptor	
				+300	+100	-100	-300	-500				Liquid	Air
80	005S	0.2 0.3 0.4	3.75 5.0 6.25	0.4 0.29 0.16	0.38 0.27 0.15	0.36 0.25 0.13	0.34 0.23 0.11	0.32 0.21 0.1	160 165 170	20−30	0.2	0.4	0.3
	01S	0.2 0.3 0.4	7.5 10 12.5	0.74 0.55 0.38	0.68 0.52 0.34	0.65 0.5 0.3	0.61 0.47 0.27	0.57 0.43 0.25	160 165 170	20−30	0.2	0.6	0.5
	02S	0.2 0.3 0.4	15 20 25	1.4 1.1 0.7	1.3 1.0 0.7	1.2 1.0 0.6	1.2 0.9 0.6	1.1 0.9 0.5	160 165 170	20−30	0.3	0.6	0.7
	04S	0.2 0.3 0.4	27 36 46	2.8 2.4 1.9	2.5 2.1 1.7	2.3 2.0 1.6	2.2 1.9 1.5	2.0 1.8 1.4	165 170 175	20−30	0.5	0.9	0.9
	075S	0.2 0.3 0.4	56 74 92	5.5 4.7 3.5	5.1 4.3 3.2	4.7 4.0 2.9	4.3 3.7 2.7	3.9 3.3 2.5	170 180 190	20−30	0.7	1.2	1.4

[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.

CBIMK-S (Hollow Cone Spray)

Features

- 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

【Spray pattern】

【Spray distribution】

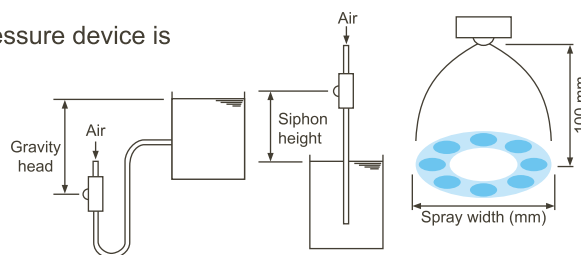| Spray angle code [2]	Air consumption code	Air pressure (MPa)	Air consumption (ℓ/min, Normal)	Spray capacity (ℓ/hr)					Spray width[3] (mm)	Mean droplet diameter (µm) Laser Doppler method	Free passage dia. (mm)		
				Gravity head (mm)		Siphon height (mm)					Spray orifice	Adaptor	
				+300	+100	-100	-300	-500				Liquid	Air
60	04S	0.2 0.3 0.4	27 36 46	2.8 2.4 1.9	2.5 2.1 1.7	2.3 2.0 1.6	2.2 1.9 1.5	2.0 1.8 1.4	120 120 120	20−30	0.6	0.9	0.9
	075S	0.2 0.3 0.4	56 74 92	5.5 4.7 3.5	5.1 4.3 3.2	4.7 4.0 2.9	4.3 3.7 2.7	3.9 3.3 2.5	120 120 120	20−30	0.8	1.2	1.4

[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.

How to order

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

<Example> CBIMV 11002 S303 + T S303

CBIMV	110	02	S303 + T S303
Nozzle series	Spray angle code	Air consumption code	

- CBIMV, CBIMV-S
- CBIMK, CBIMK-S
- CBIMJ

See the respective tables on pages 31–33 for Spray angle code and Air consumption code.

List of Spray Tip Interchangeability

Spray tips with ◎ are interchangeable with each other to change spray angle and spray pattern. See page 41 for SCBIM series.

Table 1 — BIM series

		Liquid pressure type				Liquid siphon type	
		BIMV	BIMK	BIMJ		BIMV-S	BIMK-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
Liquid pressure type	BIMV	11002, 11004, 110075, 11015, 11022, 8002, 8004, 80075, 8015, 8022, 4502, 4504, 45075, 4515, 4522					
	BIMK	6004, 60075, 6015, 6022					
	BIMJ	7004, 70075, 7015, 7022, 2002, 2004, 20075, 2015, 2022					
Liquid siphon type	BIMV-S	8002S, 8004S, 80075S					
	BIMK-S	6004S, 60075S					

Table 2 — CBIM series

		Liquid pressure type			Liquid siphon type	
		CBIMV	CBIMK	CBIMJ	CBIMV-S	CBIMK-S
		11001 11002 11004 110075 / 80005 8001 8002 8004 80075 / 45005 4501 4502 4504 45075	6004 60075	20005 2001 2002 2004 20075	80005S 8001S 8002S 8004S 80075S	6004S 60075S
Liquid pressure type	CBIMV	11001, 11002, 11004, 110075, 80005, 8001, 8002, 8004, 80075, 45005, 4501, 4502, 4504, 45075				
	CBIMK	6004, 60075				
	CBIMJ	20005, 2001, 2002, 2004, 20075				
Liquid siphon type	CBIMV-S	80005S, 8001S, 8002S, 8004S, 80075S				
	CBIMK-S	6004S, 60075S				

SCBIM series Spray Tip Interchangeability

			Liquid pressure type					Liquid siphon type	
			SCBIMV				SCBIMJ	SCBIMV-S	
		11001	80005	8001	45005	4501	20005	2001	80005S	8001S
Liquid pressure type	SCBIMV	11001		×	◎	×	◎	×	◎	×	×
		80005	×		×	◎	×	◎	×	×	×
		8001	◎	×		×	◎	×	◎	×	×
		45005	×	◎	×		×	◎	×	×	×
		4501	◎	×	◎	×		×	◎	×	×
	SCBIMJ	20005	×	◎	×	◎	×			×	×
		2001	◎	×	◎	×	◎	×		×	×
Liquid siphon type	SCBIMV-S	80005S	×	×	×	×	×	×	×		×
		8001S	×	×	×	×	×	×	×	×	

Spray tips with ◎ are interchangeable with each other.

CBIM series Cap Interchangeability

| Adaptor type		T[*1]					CSP/CSN[*2]		
		005	01	02	04	075	005	01	02
T[*1]	005		◎	◎	×	×	×	×	×
	01	◎		◎	×	×	×	×	×
	02	◎	◎		×	×	×	×	×
	04	×	×	×		◎	×	×	×
	075	×	×	×	◎		×	×	×
CSP/CSN[*2]	005	×	×	×	×	×		◎	◎
	01	×	×	×	×	×	◎		◎
	02	×	×	×	×	×	◎	◎	

Caps with ◎ are interchangeable with each other.
*1) Air consumption codes available for T-type adaptor are 005, 01, 02, 04, and 075.
*2) Air consumption codes available for CSP- and CSN-type adaptors are 005, 01, and 02 only.

> When changing an adaptor type of the existing CBIM nozzle between T, CSP, and CSN types, it is possible to continue to use the same spray tips and core, which are the common parts (the cap is not).

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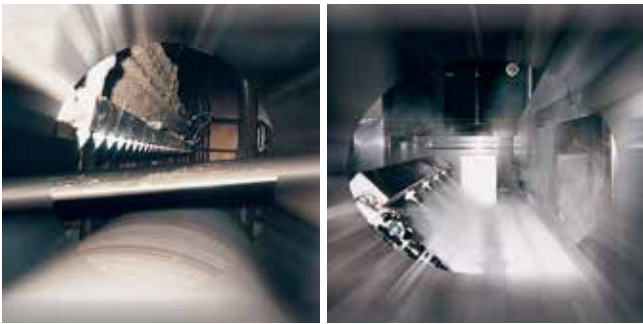
■**Paper & Pulp:** Moisture control, spraying mold lubricant, preventing cardboard from curling
■**Plastics:** Spraying anti-electrostatic agent, coating
■**Iron & Steel:** Cooling metal sheets
■**Glass:** Coating and cooling glass sheets
■**Textile:** Moisture control of textile and fiber
■**Printing:**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

New cleaning method "Fog Cleaning"

Cleaning mechanism
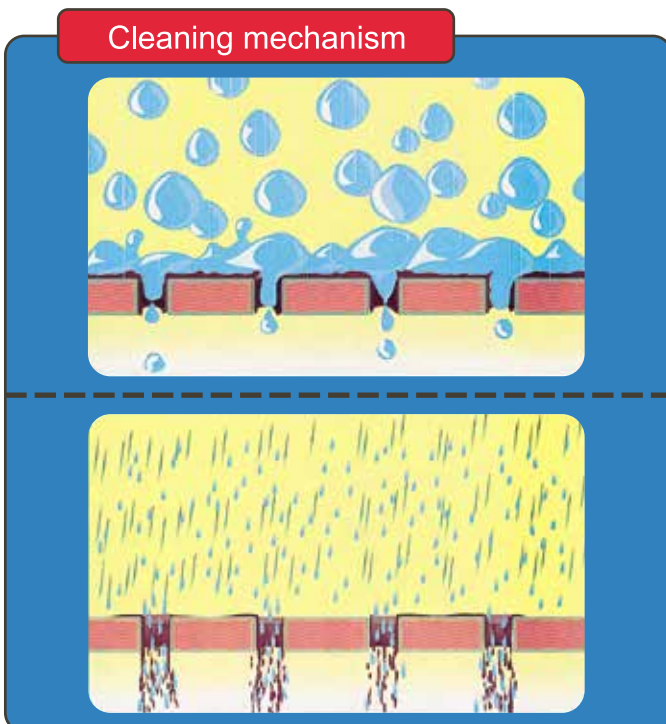
■For precise cleaning in cleaning process of photo-processing products

In conventional cleaning methods, large droplets created by hydraulic nozzles are used and cannot clean within fine interstices.
By using air, pneumatic spray nozzles produce very fine droplets for "fog cleaning".

■Features of Fog Cleaning

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