

# Compact Design Low Flow Rate Fine Fog Nozzles

CBIM



CBIM with T-type adaptor



CBIM with spray control adaptor

- Compact version of BIM series producing fine atomization. Space-saving design.
- Able to provide the lowest spray flow rate among all of our pneumatic spray nozzles.
- Clog-resistant design with a low parts count.
- Some CBIM models are available with a spray control adaptor (type CSP or CSN), which can regulate spray ON/OFF with a built-in piston.

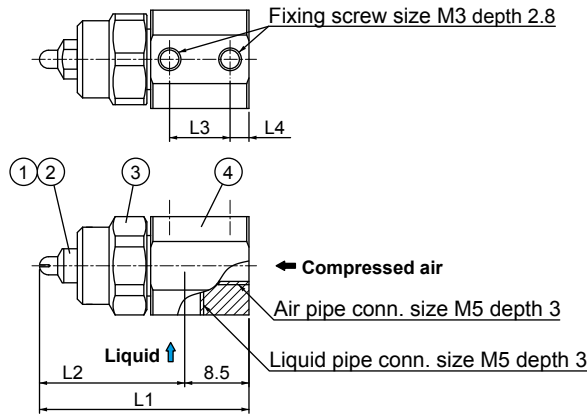
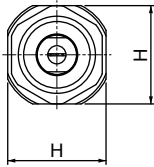
### APPLICATIONS

- 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: PC boards, glass tubes (for CBIMV and CBIMV-S only)

### DRAWING

#### Adaptor type T

■ Mass: 22 g

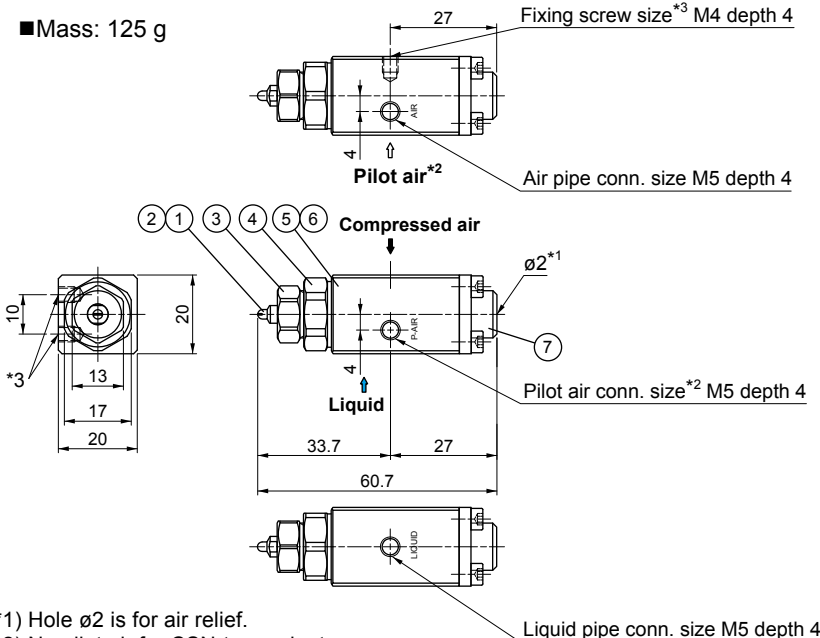


#### COMPONENTS AND MATERIALS

No.	Components	Standard materials
1	Nozzle tip	S303
2	Core	S303
3	Cap	S303
4	Adaptor	S303

#### Adaptor type CSN/CSP (Spray control adaptor)

■ Mass: 125 g



#### COMPONENTS AND MATERIALS

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

\*1) Hole  $\phi 2$  is for air relief.

\*2) No pilot air for CSN-type adaptor.

\*3) Adaptor has two fixing screw holes of the same size.

### DIMENSIONS

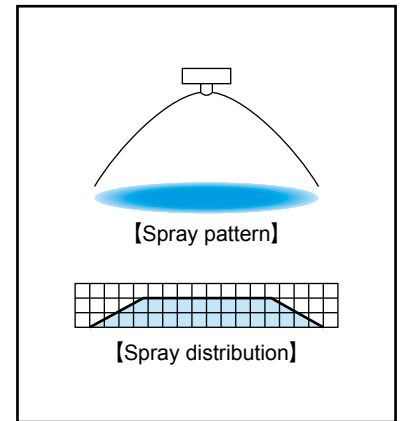
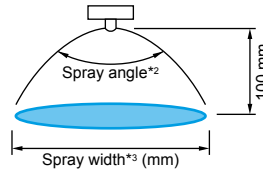
Air consumption code	Dimensions (mm)				
	L1	L2	L3	L4	H
005	27.7	19.2	8	2.5	13
01	27.7	19.2			
02	28.0	19.5			
04	31.3	22.8			
075	32.6	24.1			

CBIM

## CBIMV (Flat Spray)

- 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: even spray distribution across the entire spray 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



### PERFORMANCE DATA

Adaptor type*4		Spray angle code *2	Air consumption code	Air press. (MPa)	Spray capacity (L/hr) & Air consumption (L/min, Normal)										Spray width*3 (mm)			Mean droplet diameter (µm)	Free passage diameter (mm)			
T	CSN CSP				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
○	○	110	01	0.2	1.3	6.8	2.8	5.3	—	—	—	—	—	—	—	280	330	—	20–100	0.2	0.6	0.5
				0.3	0.5	10	1.1	9.5	2.3	8.4	4.0	6.5	—	—	240	250	380					
				0.4	—	—	0.6	12.4	1.1	12	2.2	11	3.3	9.6	—	220	300					
			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						
○	○	80	005	0.2	0.7	3.4	1.5	2.6	—	—	—	—	—	—	230	260	—	20–100	0.1	0.4	0.3	
				0.3	0.25	5.0	0.6	4.7	1.25	4.1	2.0	3.2	—	—	170	200	280					
				0.4	—	—	0.3	6.3	0.55	6.0	1.1	5.5	1.65	4.8	—	160	250					
			01	0.2	1.3	6.8	2.8	5.3	—	—	—	—	—	—	220	250	—	20–100	0.2	0.6	0.5	
				0.3	0.5	10	1.1	9.5	2.3	8.4	4.0	6.5	—	—	140	200	250					
				0.4	—	—	0.6	12.4	1.1	12	2.2	11	3.3	9.6	—	140	220					
		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								
○	○	45	005	0.2	0.7	3.4	1.5	2.6	—	—	—	—	—	—	120	150	—	20–100	0.2	0.4	0.3	
				0.3	0.25	5.0	0.6	4.7	1.25	4.1	2.0	3.2	—	—	80	110	150					
				0.4	—	—	0.3	6.3	0.55	6.0	1.1	5.5	1.65	4.8	—	80	140					
			01	0.2	1.3	6.8	2.8	5.3	—	—	—	—	—	—	120	150	—	20–100	0.3	0.6	0.5	
				0.3	0.5	10	1.1	9.5	2.3	8.4	4.0	6.5	—	—	80	110	150					
				0.4	—	—	0.6	12.4	1.1	12	2.2	11	3.3	9.6	—	70	120					
		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								

\*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.

\*4) ○ shows the availability of adaptor for each model number.

## HOW TO ORDER

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

## Liquid Pressure Type

&lt;Example&gt; CBIMV 80005 S303 + CSP S303

<b>CBIMV</b>	<b>80</b>	<b>005</b>	<b>S303</b>	+	<b>CSP</b>	<b>S303</b>
Nozzle series	Spray angle code	Air consumption code	Material of nozzle tip		Type of adaptor	Material of adaptor
■CBIMV	■110	■005			■T	
■CBIMK	■80	■01			■CSN	
■CBIMJ	■60	■02			■CSP	
	■45	■04				
	■20	■075				

## Liquid Siphon Type

&lt;Example&gt; CBIMV 80005S S303 + CSP S303

<b>CBIMV</b>	<b>80</b>	<b>005S</b>	<b>S303</b>	+	<b>CSP</b>	<b>S303</b>
Nozzle series	Spray angle code	Air consumption code	Material of nozzle tip		Type of adaptor	Material of adaptor
■CBIMV	■80	■005S			■T	
■CBIMK	■60	■01S			■CSN	
		■02S			■CSP	
		■04S				
		■075S				

CSN and CSP adaptors are available for the limited models as shown on [pages 31–33](#).Adaptor type CSN is used in the same way as SNB. Adaptor type CSP is used in the same way as SPB. See [page 28](#) for details.

**How to Use Spray ON/OFF Control Adaptors**

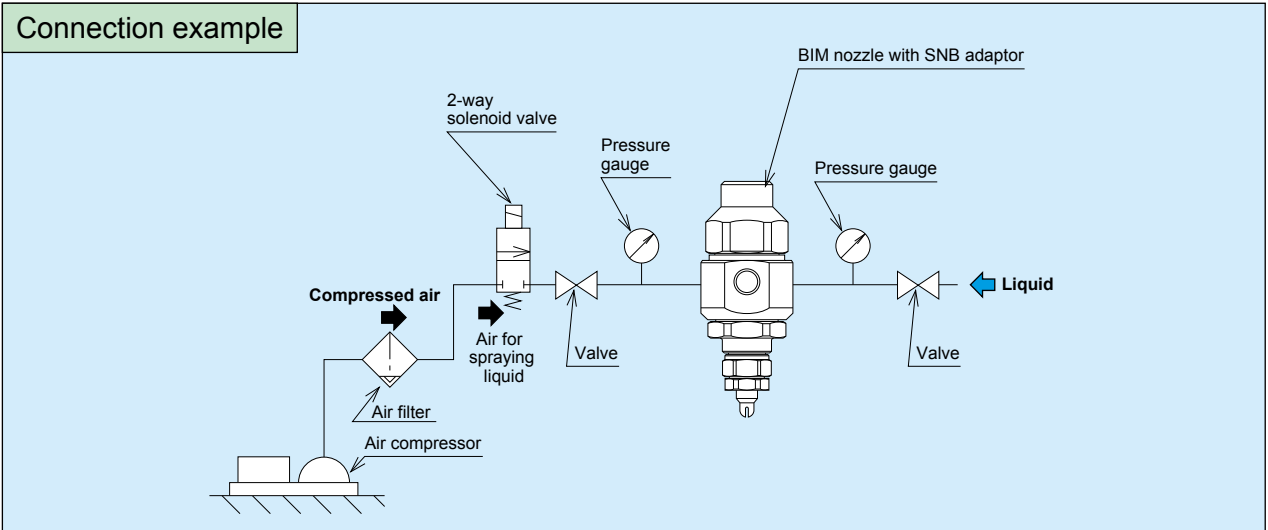
**■SNB adaptor (CSN, SN adaptors)**

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**



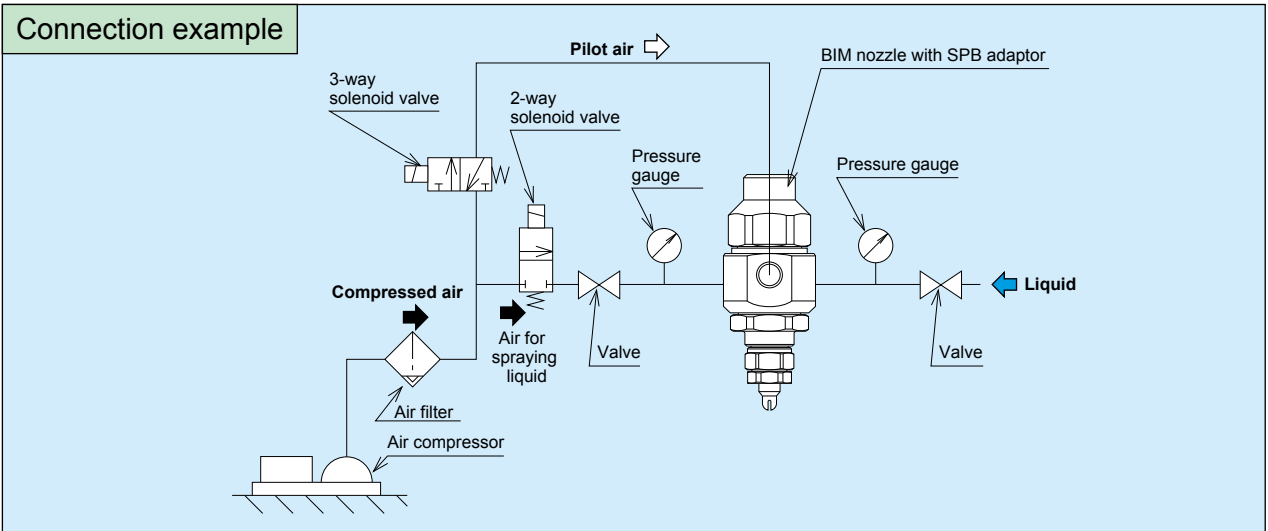
**■SPB adaptor (CSP, SP adaptors)**

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**



# 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.

### 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	—	—	—	○	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	Liquid siphon type	CBIMK	6004	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
60075			—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
CBIMJ		20005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		2001	○	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		2002	—	○	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		2004	—	—	○	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		20075	—	—	—	○	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
CBIMV-S		80005S	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		8001S	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		8002S	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	8004S	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	80075S	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	CBIMK-S	6004S	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
60075S		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	

### SCBIM series

		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	—	—	—	—	—	—	—	—	—

### CBIM series Cap Interchangeability

Caps with ○ are interchangeable with each other.

Adaptor type		T					CSN/CSP		
		005	01	02	04	075	005	01	02
T	005	—	—	—	—	—	—	—	—
	01	○	—	—	—	—	—	—	—
	02	○	○	—	—	—	—	—	—
	04	—	—	—	—	—	—	—	—
	075	—	—	—	—	—	—	—	—
CSN/CSP	005	—	—	—	—	—	—	—	—
	01	—	—	—	—	—	—	—	—
	02	—	—	—	—	—	—	—	—

Note:

- 1) Air consumption codes available for T-type adaptor are 005, 01, 02, 04, and 075.
- 2) Air consumption codes available for CSN- and CSP-type adaptors are 005, 01, and 02 only.

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