

Ultra-Compact Design, Low Flow Rate Fine Fog Nozzles with Spray Control Adaptor

SCBIM



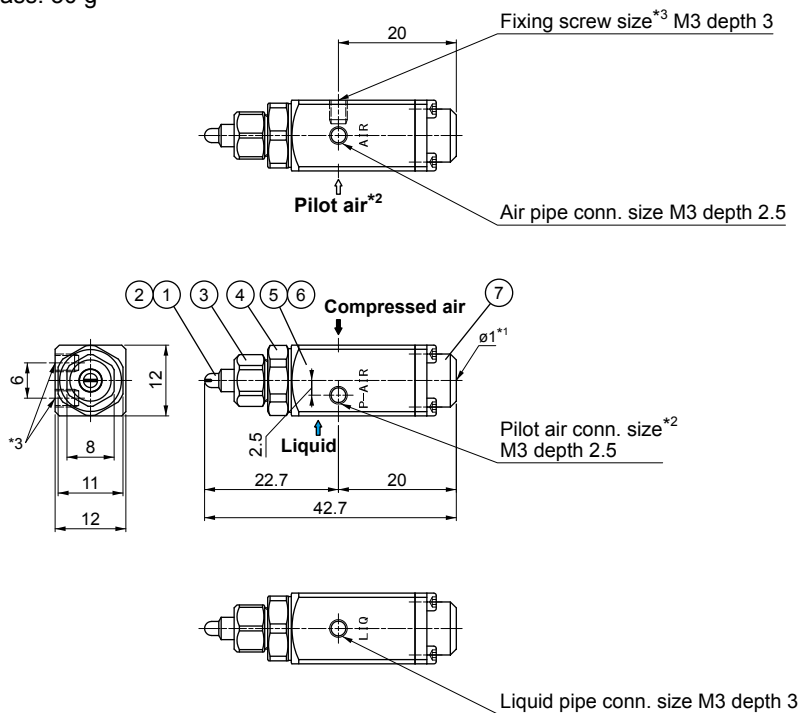
- Further miniaturized version of CBIM series producing fine atomization. All SCBIM models come with a spray ON/OFF control adaptor.
- Available in liquid pressure or liquid siphon feed type, two spray pattern types (flat spray or full cone spray)—nine varieties in total.
- Able to provide the lowest flow rate among all of our pneumatic spray nozzles.

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: Printed circuit boards, glass tubes (for SCBIMV and SCBIMV-S only)

DRAWING

■ Mass: 30 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 Ø1 is for air relief.

*2) No pilot air for SN-type adaptor.

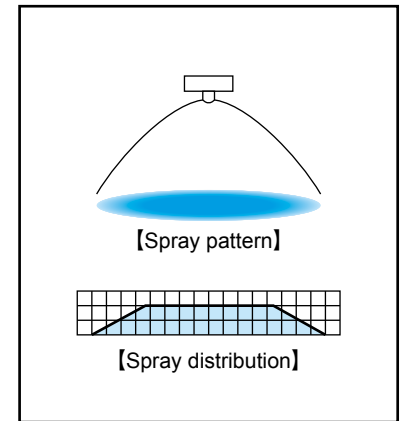
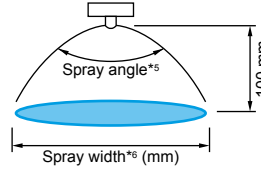
*3) Adaptor has two fixing screw holes of the same size.

Unit: mm

SCBIMV (Flat Spray)

- Pneumatic spray nozzle producing fine atomization with a mean droplet diameter of 100 μm or less.*4
- Flat spray pattern.
- Features large turn-down ratio under liquid pressures of 0.1–0.3 MPa.
- 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).

*4) Droplet diameter measured by laser Doppler method



PERFORMANCE DATA

Spray angle code *5	Air consumption code	Air pressure (MPa)	Spray capacity (L/hr) & Air consumption (L/min, Normal)												Spray width*6 (mm)	Mean droplet dia. (μm)	Free passage diameter (mm)			
			Liquid pressure (MPa)														Laser Doppler method	Tip orifice	Adaptor	
			0.1		0.15		0.2		0.25		0.3		Liquid press. (MPa)						Liquid	Air
			Liquid	Air	Liquid	Air	Liquid	Air	Liquid	Air	Liquid	Air	0.1	0.15	0.25					
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					
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					
80	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					
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					
45	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					

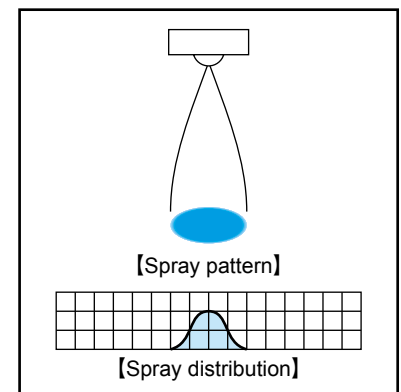
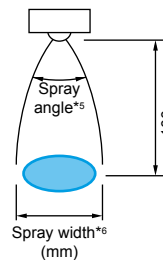
*5) Spray angle measured at compressed air pressure of 0.3 MPa and liquid pressure of 0.1 MPa.

*6) Measured at 100 mm from nozzle.

SCBIMJ (Full Cone Spray)

- Pneumatic spray nozzle producing fine atomization with a mean droplet diameter of 100 μm or less.*4
- Full cone spray pattern.
- Features large turn-down ratio under liquid pressures of 0.1–0.3 MPa.

*4) Droplet diameter measured by laser Doppler method



PERFORMANCE DATA

Spray angle code *5	Air consumption code	Air pressure (MPa)	Spray capacity (L/hr) & Air consumption (L/min, Normal)												Spray width*6 (mm)	Mean droplet dia. (μm)	Free passage diameter (mm)			
			Liquid pressure (MPa)														Laser Doppler method	Tip orifice	Adaptor	
			0.1		0.15		0.2		0.25		0.3		Liquid press. (MPa)						Liquid	Air
			Liquid	Air	Liquid	Air	Liquid	Air	Liquid	Air	Liquid	Air	0.1	0.15	0.25					
20	005	0.2	0.7	3.4	1.5	2.6	—	—	—	—	—	—	25	20	—	20–100	0.7	0.4	0.3	
		0.3	0.25	5.0	0.6	4.7	1.25	4.1	2.0	3.2	—	—	30	30	25					
		0.4	—	—	0.3	6.3	0.55	6.0	1.1	5.5	1.65	4.8	—	30	30					
20	01	0.2	1.3	6.8	2.8	5.3	—	—	—	—	—	—	25	20	—	20–100	0.8	0.6	0.5	
		0.3	0.5	10	1.1	9.5	2.3	8.4	4.0	6.5	—	—	30	30	25					
		0.4	—	—	0.6	12.4	1.1	12	2.2	11	3.3	9.6	—	30	30					

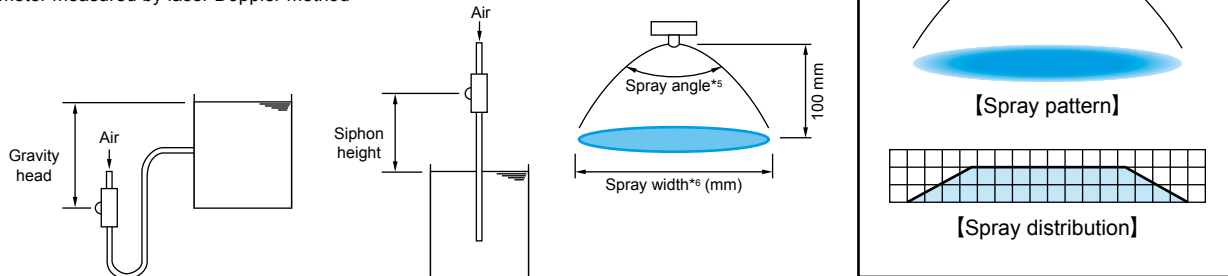
*5) Spray angle measured at compressed air pressure of 0.3 MPa and liquid pressure of 0.1 MPa.

*6) Measured at 100 mm from nozzle.

SCBIMV-S (Flat Spray)

- Pneumatic spray nozzle producing fine atomization with a mean droplet diameter of 30 μm or less.*4
- Flat spray pattern.
- Liquid siphon feed type (liquid pressure device is not required).
- Even spray distribution across the entire spray area.

*4) Droplet diameter measured by laser Doppler method



PERFORMANCE DATA

Spray angle code *5	Air consumption code	Air pressure (MPa)	Air consumption (L/min, Normal)	Spray capacity (L/hr)					Spray width*6 (mm)	Mean droplet diameter (μm) Laser Doppler method	Free passage dia. (mm)		
				Gravity head (mm)		Siphon height (mm)					Tip orifice	Adaptor	
				+300	+100	-100	-300	-500				Liquid	Air
80	005S	0.2	3.75	0.4	0.38	0.36	0.34	0.32	160	20-30	0.2	0.4	0.3
		0.3	5.0	0.29	0.27	0.25	0.23	0.21					
		0.4	6.25	0.16	0.15	0.13	0.11	0.1					
	01S	0.2	7.5	0.74	0.68	0.65	0.61	0.57	160	20-30	0.2	0.6	0.5
		0.3	10	0.55	0.52	0.5	0.47	0.43					
		0.4	12.5	0.38	0.34	0.3	0.27	0.25					

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

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

HOW TO ORDER

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

Liquid Pressure Type

<Example> SCBIMV 80005 S303 + SP S303

SCBIMV	80	005	S303	+	SP	S303
Nozzle series	Spray angle code	Air consumption code	Material of nozzle tip		Type of adaptor	Material of adaptor
■SCBIMV ■SCBIMJ	■110 ■80 ■45 ■20	■005 ■01			■SN ■SP	

Liquid Siphon Type

<Example> SCBIMV 80005S S303 + SP S303

SCBIMV	80	005S	S303	+	SP	S303
Nozzle series	Spray angle code	Air consumption code	Material of nozzle tip		Type of adaptor	Material of adaptor
		■005S ■01S			■SN ■SP	

Adaptor type SN is used in the same way as SNB. Adaptor type SP is used in the same way as SPB. See page 28 for details.

How to Use Spray ON/OFF Control Adaptors

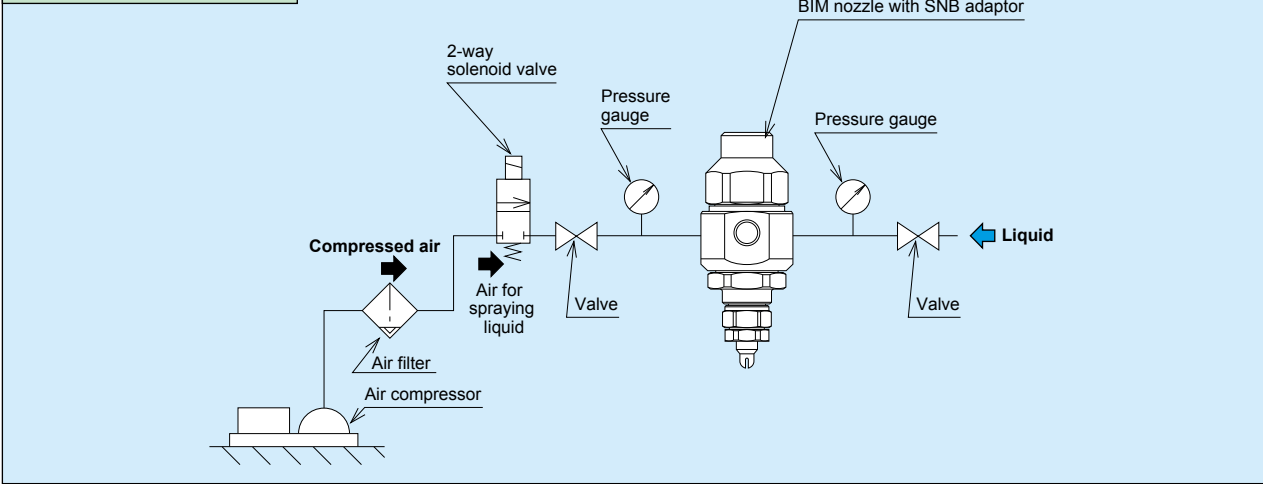
■SNB adaptor (CSN, SN adaptors)

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



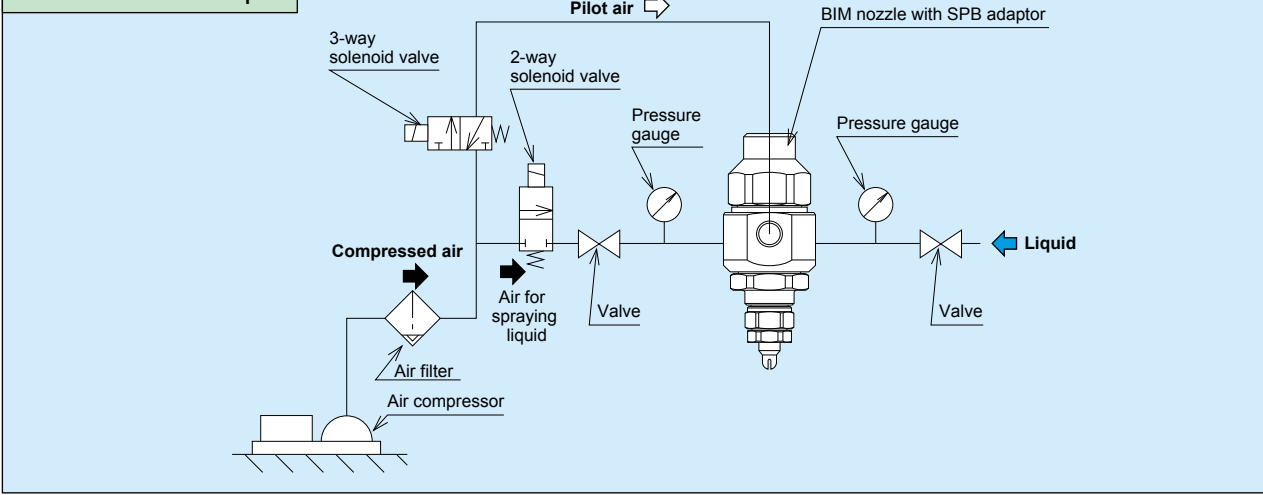
■SPB adaptor (CSP, SP adaptors)

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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	6004S	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
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).