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 regulates spray ON/OFF with a built-in piston.

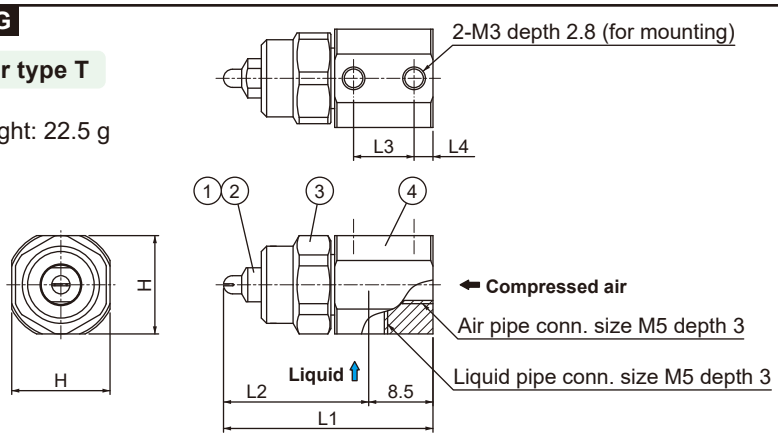
APPLICATIONS

■Spraying: Mold release agent, lubricant, deodorant, oil, surface treatment agent, rust preventive, insecticide, aqueous urea
■Cooling: Dies, gas, glass, steel plates, steel pieces, castings, 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

■Weight: 22.5 g

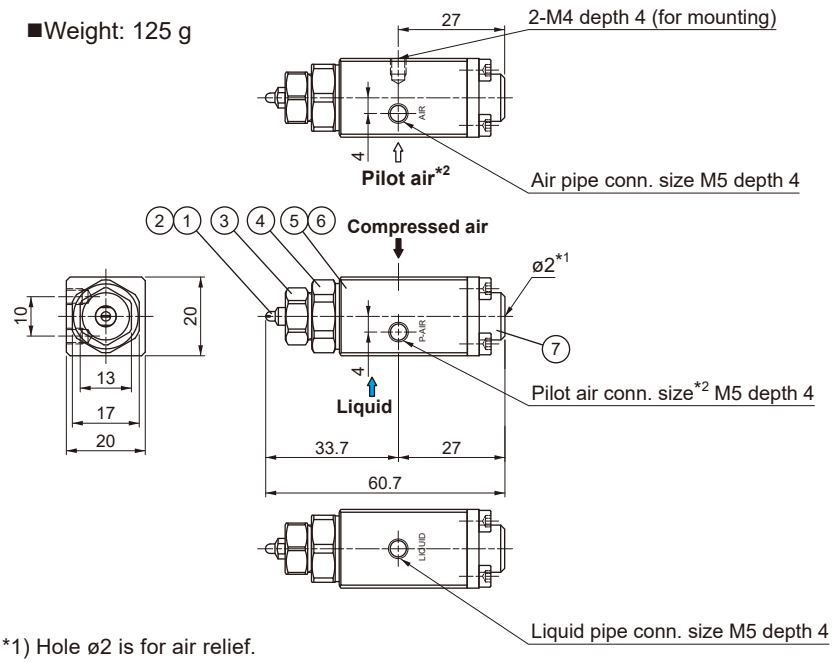


■COMPONENTS AND MATERIALS

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

Adaptor type CSN/CSP (Spray control adaptor)

■Weight: 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 ø2 is for air relief.
*2) No pilot air for CSN-type adaptor.

Unit: mm

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			

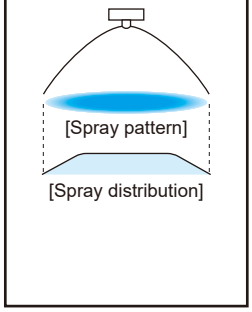
Download 3D CAD models

CBIMV / CBIMV-S | CBIMK / CBIMK-S | CBIMJ

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.
■The spray distribution varies depending on the air-water ratio. At a low air-water ratio, the distribution takes a mountain shape, and it shifts to even, as the air-water ratio increases.

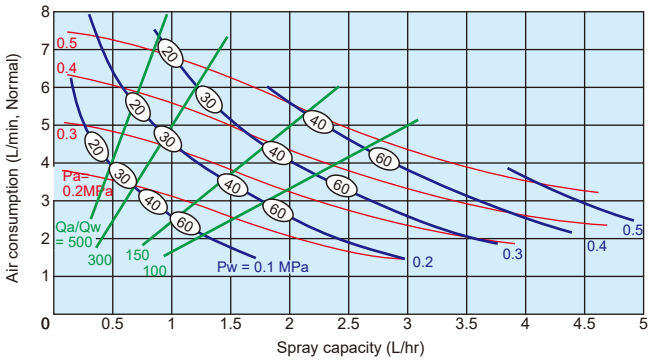
*1) Droplet diameter measured by laser Doppler method



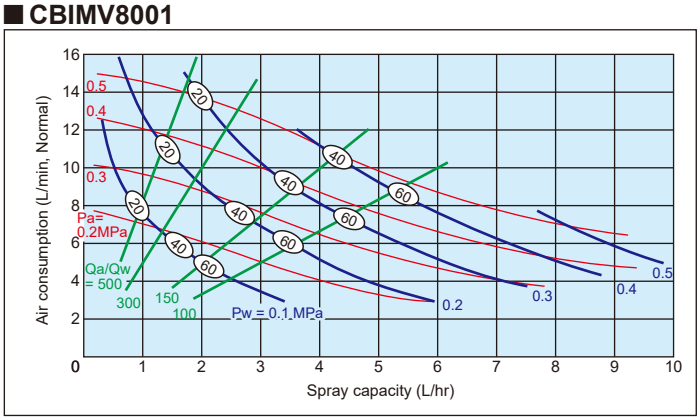
FLOW-RATE DIAGRAMS

■How to read the chart
1. The spray capacity shown is for one nozzle.
2. 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 ⬭ indicate Sauter mean diameters (μm) measured by laser Doppler method.
4. These flow-rate diagrams are only applicable when using T-type adaptor.
5. Flow-rate diagrams for spray angle code of 110 and 45 are available on request.

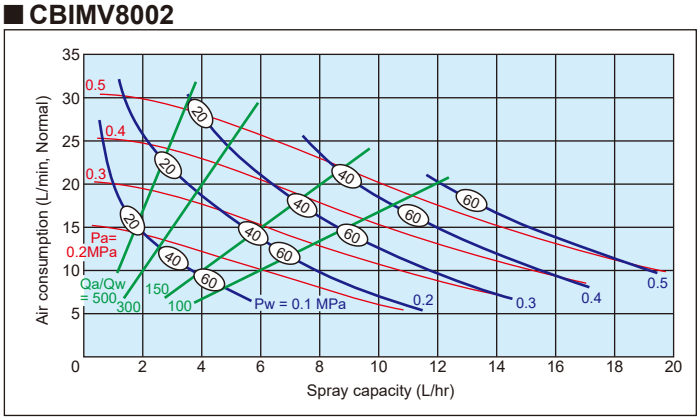
■ CBIMV80005



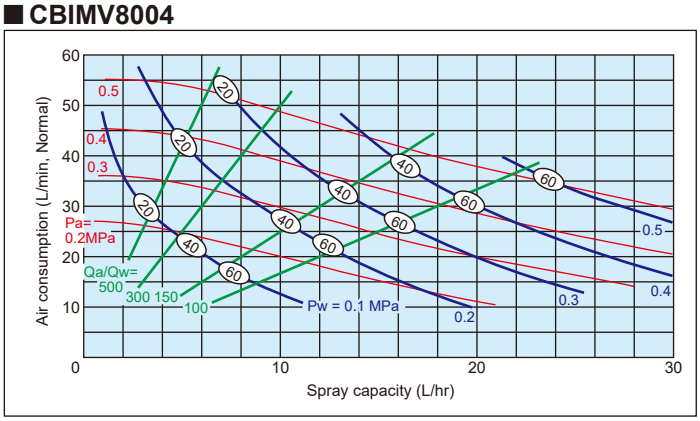
■ CBIMV8001



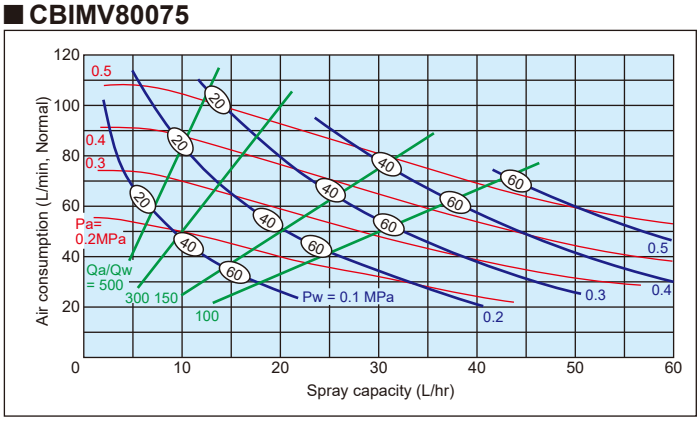
■ CBIMV8002



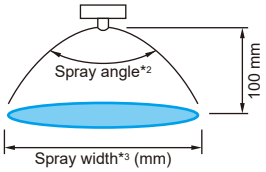
■ CBIMV8004



■ CBIMV80075



CBIMV (Flat Spray)

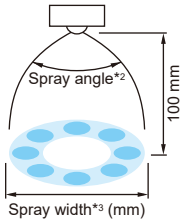


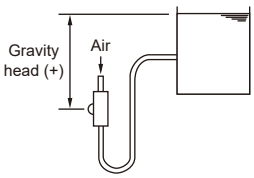
PERFORMANCE DATA

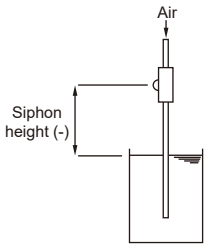
Adaptor type*4		Spray angle code *2	Air con-sump-tion code	Air press. (MPa)	Spray capacity (L/hr) & Air consumption (L/min, Normal)										Spray width*3 (mm)			Mean droplet diameter (μm)	Free passage diameter (mm)		
					Liquid pressure (MPa)																
					0.1		0.15		0.2		0.25		0.3		Liquid press. (MPa)			Laser Doppler method	Tip orifice	Adaptor	
T	CSN CSP				Liquid	Air	Liquid	Air	Liquid	Air	Liquid	Air	Liquid	Air	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 spray distance of 100 mm from nozzle.
*4) ○ shows the availability of adaptor for each model number.

CBIMK-S (Hollow Cone Spray)







PERFORMANCE DATA

Adaptor type*4		Spray angle code *2	Air con-sump-tion code	Air press. (MPa)	Air consumption (L/min, Normal)	Spray capacity (L/hr)					Spray width*3 (mm)	Mean droplet diameter (μm)	Free passage dia. (mm)		
						Gravity head (mm)		Siphon height (mm)							
T	CSN CSP					+300	+100	-100	-300	-500		Laser Doppler method	Tip orifice	Adaptor	
														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 spray distance of 100 mm from nozzle and liquid siphon height of 100 mm.
*4) ○ shows the availability of adaptor for each model number.

CBIM

HOW TO ORDER

To inquire about or order a specific product please refer to this coding system.

Liquid Pressure Type

<Example> CBIMV 80005 S303 + CSP S303

CBIMV	80	005	S303	+	CSP	S303
Nozzle series	Spray angle code	Air consumption code*5	Material of nozzle tip		Type of adaptor	Material of adaptor
■CBIMV ■CBIMK ■CBIMJ	■110 ■80 ■60 ■45 ■20	■005 ■01 ■02 ■04 ■075			■T ■CSN ■CSP	

Liquid Siphon Type

<Example> CBIMV 80005S S303 + CSP S303

CBIMV	80	005S	S303	+	CSP	S303
Nozzle series	Spray angle code	Air consumption code*5	Material of nozzle tip		Type of adaptor	Material of adaptor
■CBIMV ■CBIMK	■80 ■60	■005S ■01S ■02S ■04S ■075S			■T ■CSN ■CSP	

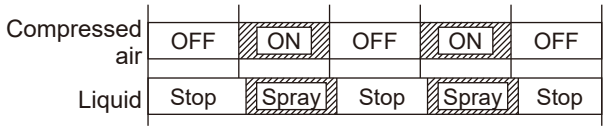
*5) Air consumption codes 04(S) and 075(S) are only available for T-type adaptor.
Adaptor type CSN is used in the same way as SNB. Adaptor type CSP is used in the same way as SPB. See page 29 for details.

How to Use Spray ON/OFF Control Adaptors

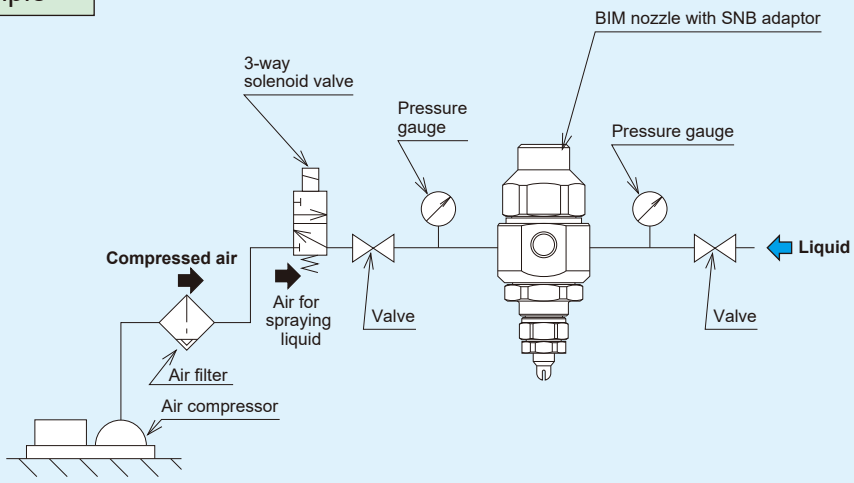
■SNB Adaptor (CSN, SN Adaptors)

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 32) and **SN** (page 41) are used in the same way.

Operation Timing Diagram



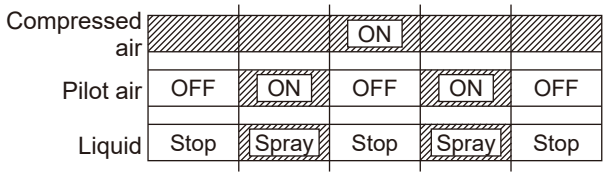
Piping example



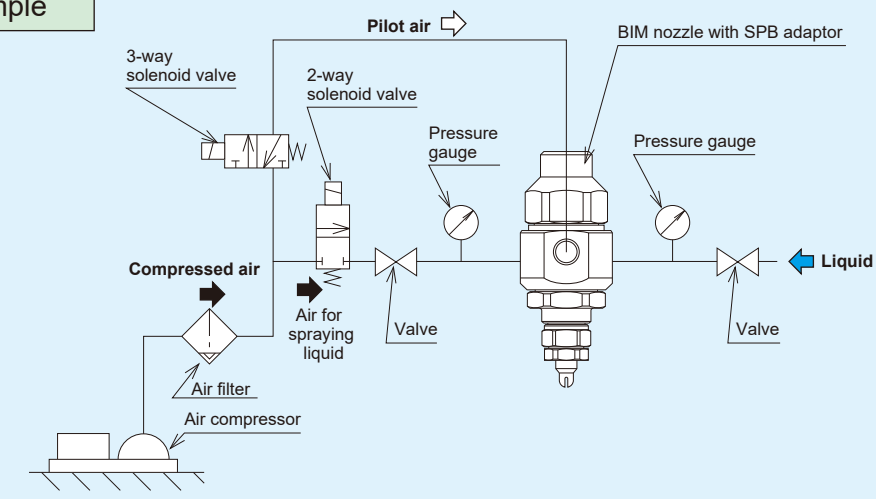
■SPB Adaptor (CSP, SP Adaptors)

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 32) and **SP** (page 41) are used in the same way.

Operation Timing Diagram



Piping example



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	11075	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	—	—		—	—	—	—	○	—	—	—	—	○	—	○	—	—	—	—	○	—	—	—	—	—	—	—	—	—
		11075	—	—	—		—	—	—	—	○	—	—	—	—	○	—	○	—	—	—	—	○	—	—	—	—	—	—	—	—	—
		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

			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).