

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

SCBIM



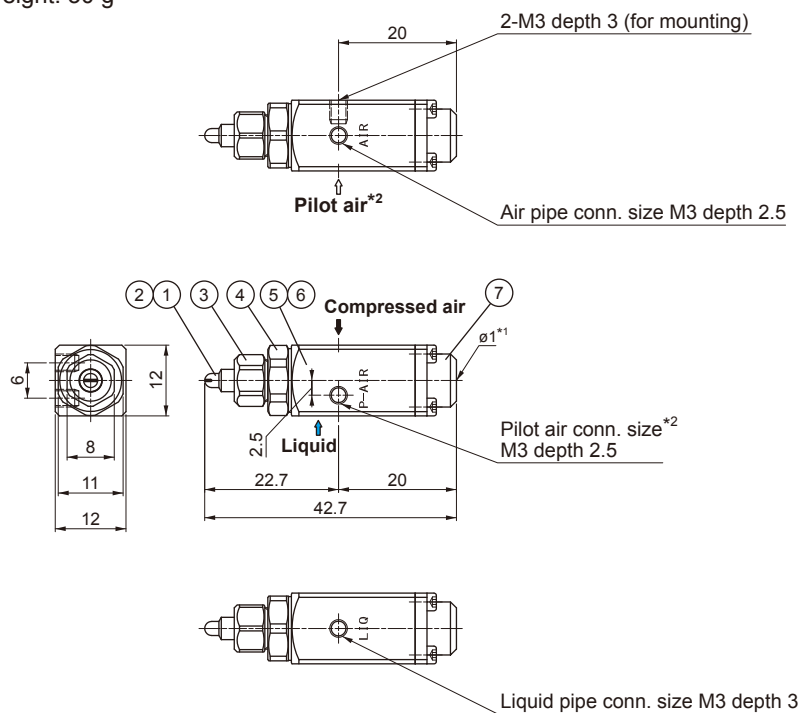
- Further miniaturized version of CBIM series producing fine atomization. All SCBIM models come with a spray ON/OFF control adaptor.
- Available in liquid pressure or liquid siphon feed type, two spray pattern types (flat spray or full cone spray)—nine varieties in total.
- Able to provide the lowest 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, castings, automobile bodies, plastic products
- Moisture control: Paper, flue gas, ceramics, concrete
- Cleaning: Printed circuit boards, glass tubes (for SCBIMV and SCBIMV-S only)

DRAWING

■ Weight: 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 $\phi 1$ is for air relief.

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

Unit: mm

SCBIM

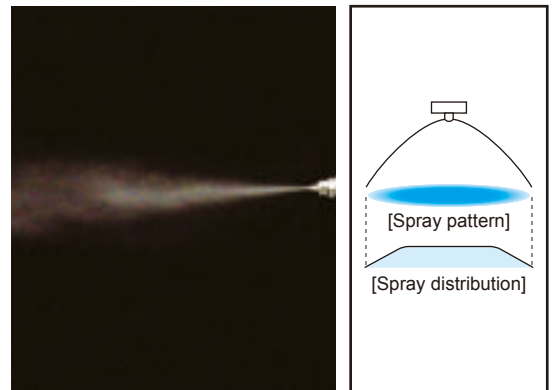
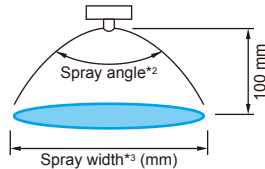
SCBIMV (Flat Spray)

- Pneumatic spray nozzle producing fine atomization with a mean droplet diameter of 100 μm or less.*1
- Flat spray pattern.
- 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

See the flow-rate diagrams for CBIMV on [page 32](#).



PERFORMANCE DATA

| 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) | | | | | | | | | | | | | | 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 | | | | | | |

*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.

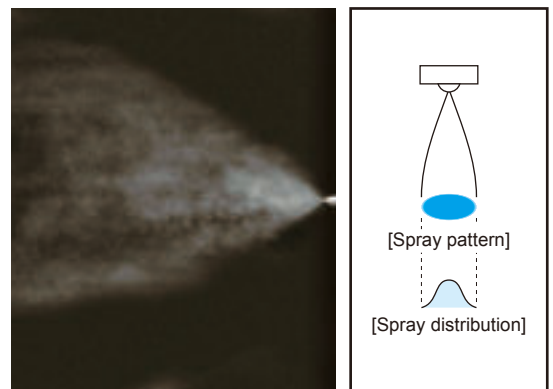
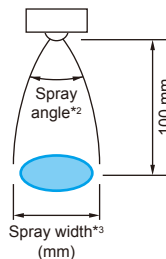
SCBIMJ (Full Cone Spray)

- Pneumatic spray nozzle producing fine atomization with a mean droplet diameter of 100 μm or less.*1
- Full cone spray pattern.
- Features large turn-down ratio under liquid pressures of 0.1–0.3 MPa.

*1) Droplet diameter measured by laser Doppler method

FLOW-RATE DIAGRAMS

See the flow-rate diagrams for CBIMJ on [page 35](#).



PERFORMANCE DATA

| 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) | | | | | | | | | | | | | | 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 | | | | | | |

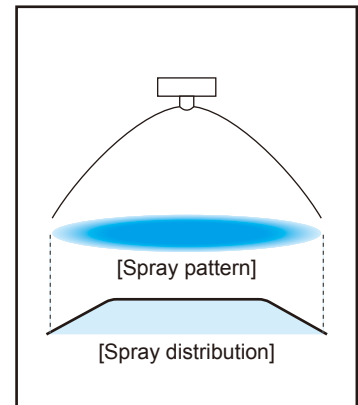
*2) Spray angle measured at compressed air pressure of 0.3 MPa and liquid pressure of 0.1 MPa.

*3) Measured at spray distance of 100 mm from nozzle.

SCBIMV-S (Flat Spray)

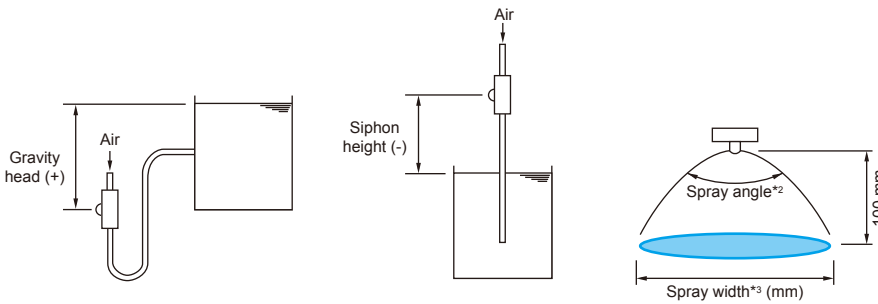
- Pneumatic spray nozzle producing fine atomization with a mean droplet diameter of 30 μm or less.*1
- Flat spray pattern.
- Liquid siphon feed type (liquid pressure device is not required).
- Even spray distribution across the entire spray area.

*1) Droplet diameter measured by laser Doppler method



FLOW-RATE DIAGRAMS

See the flow-rate diagrams for CBIMV-S on [page 37](#).



PERFORMANCE DATA

| 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) | | | | | 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 | | | | | | 165 |
| | | 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 | | | | | | 165 |
| | | 0.4 | 12.5 | 0.38 | 0.34 | 0.3 | 0.27 | 0.25 | | | | | | |

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

*3) Measure at spray distance of 100 mm from nozzle and liquid siphon height of 100 mm.

HOW TO ORDER

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

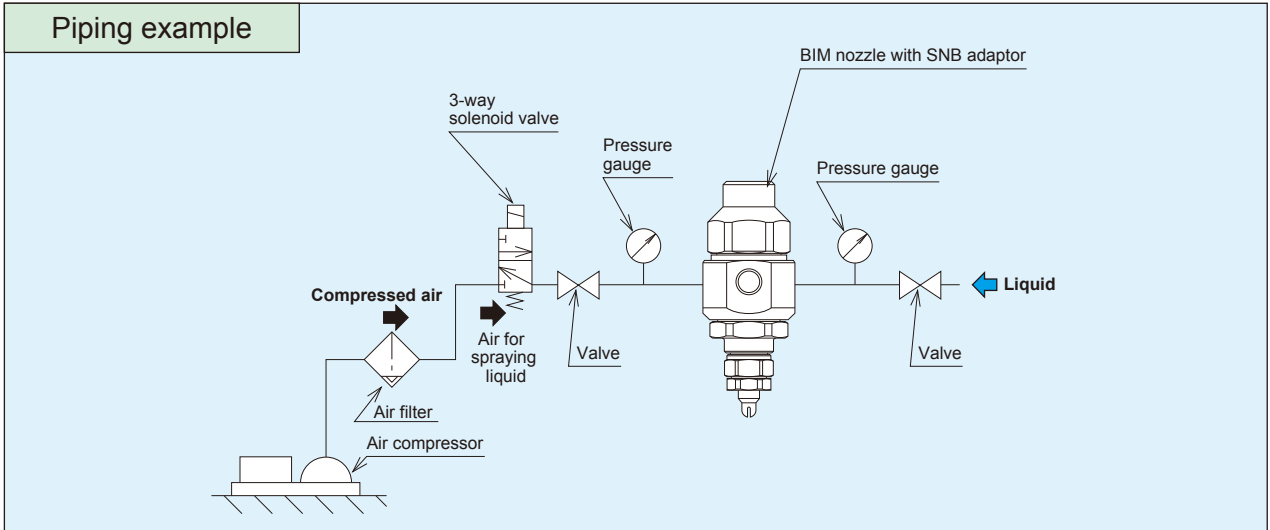
How to Use Spray ON/OFF Control Adaptors

■SNB Adaptor (CSN, SN Adaptors)

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 31) and **SN** (page 40) are used in the same way.

Operation Timing Diagram

| | | | | | |
|----------------|------|-------|------|-------|------|
| Compressed air | OFF | ON | OFF | ON | OFF |
| Liquid | Stop | Spray | Stop | Spray | Stop |

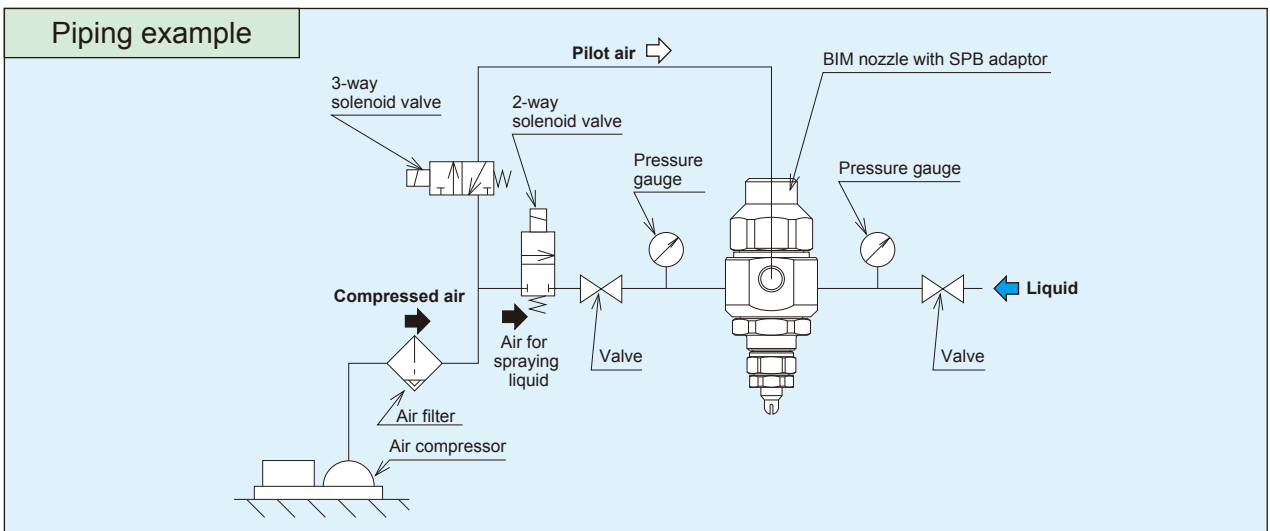


■SPB Adaptor (CSP, SP Adaptors)

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 31) and **SP** (page 40) are used in the same way.

Operation Timing Diagram

| | | | | | |
|----------------|------|-------|------|-------|------|
| Compressed air | ON | ON | ON | ON | ON |
| Pilot air | OFF | ON | OFF | ON | OFF |
| Liquid | Stop | Spray | Stop | Spray | Stop |



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 | 11007S | 80005 | 8001 | 8002 | 8004 | 8007S | 45005 | 4501 | 4502 | 4504 | 4507S | 6004 | 6007S | 20005 | 2001 | 2002 | 2004 | 2007S | 80005S | 8001S | 8002S | 8004S | 8007S | 6004S | 6007S | |
| Liquid pressure type | CBIMV | 11001 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| | | 11002 | — | — | — | — | ○ | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| | | 11004 | — | — | — | — | — | — | ○ | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| | | 11007S | — | — | — | — | — | — | — | ○ | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| | | 80005 | — | — | — | — | — | — | — | — | ○ | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| | | 8001 | ○ | — | — | — | — | — | — | — | — | ○ | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| | | 8002 | — | ○ | — | — | — | — | — | — | — | — | ○ | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| | | 8004 | — | — | ○ | — | — | — | — | — | — | — | — | ○ | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| | | 8007S | — | — | — | ○ | — | — | — | — | — | — | — | — | ○ | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| | CBIMK | 6004 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| | | 6007S | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| | | CBIMJ | 20005 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | | | 2001 | ○ | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | | | 2002 | — | ○ | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | | | 2004 | — | — | ○ | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2007S | — | | — | — | ○ | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | | |
| Liquid siphon type | CBIMV-S | 80005S | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | | |
| | | 8001S | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | | |
| | | 8002S | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | | |
| | | 8004S | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | | |
| | | 8007S | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | | |
| | CBIMK-S | 6004S | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | | |
| 6007S | | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | | | |

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).