

For Low Pressure

# Micro Cupla

For piping in pneumatic control devices

Working pressure



1.0 MPa  
(10 kgf/cm<sup>2</sup>)

Valve structure



One-way shut-off

Applicable fluids



Air

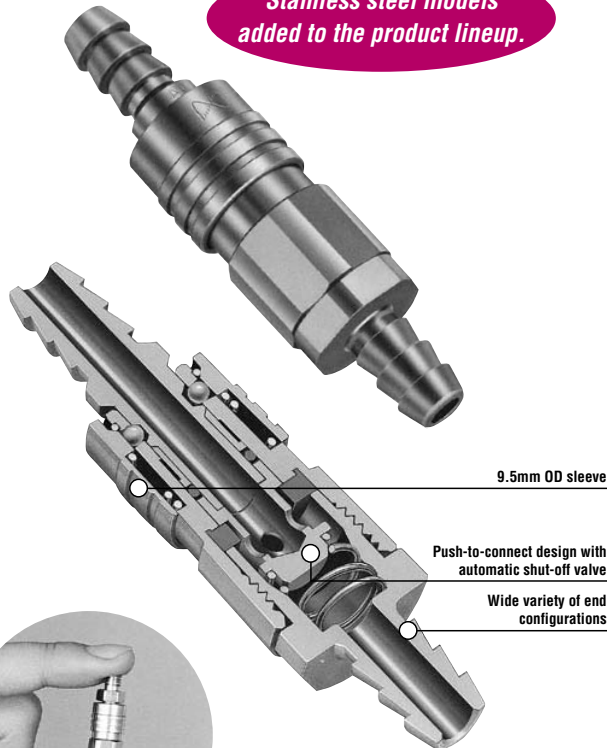
Water (Tube Fitter type is unsuitable for water.)

**Compact, lightweight Cuplas with only 9.5mm outer diameter.**  
**Push-to-connect operation. Tube Fitter type for even easier tube insertion.**

- Even though the valve is built in the socket, the sleeve outer diameter is confined to 9.5mm.
- Push-to-connect design.
- Just push in and the tube mount is completed.
- Compact design for piping in narrow spaces.
- Plated brass and stainless steel bodies are available for excellent corrosion resistance.
- Available in various end configurations to satisfy a wide range of pneumatic applications.

Note: Fluid will flow out from the plug when disconnected because of no valve inside the plug. If the fluid is water and you require a valve in the plug, ask for semi-standard Little Cupla or Compact Cupla series.

*Stainless steel models added to the product lineup.*



## Specifications

|  |   |             |                           |                       |
|--|---|-------------|---------------------------|-----------------------|
| Body material                                  | Cupla : Brass (Plated) • Stainless steel (SUS 304)<br>Tube Fitter Type : Brass (Chrome-plated)  |             |                           |                       |
| Size   | 1/8" (Minimum internal diameter 2.5mm) *Minimum internal diameter of MC-03SP : 1.2mm  |             |                           |                       |
| Tube size (for Tube Fitter end configurations) | Polyurethane : $\phi 4 \pm 0.1$ • $\phi 6 \pm 0.1$<br>Nylon : $\phi 4^{+0.05}_{-0.08}$ • $\phi 6^{+0.05}_{-0.08}$<br>Teflon : $\phi 4 \pm 0.05$ • $\phi 6 \pm 0.07$ |             |                           |                       |
| Working pressure MPa (kgf/cm <sup>2</sup> )    | 1.0 (10)  |             |                           |                       |
| Pressure resistance MPa (kgf/cm <sup>2</sup> ) | 1.5 (15)  |             |                           |                       |
| Seal material<br>Working temperature range     | Seal material   | Mark        | Working temperature range | Remarks               |
|  | Nitrile rubber  | NBR (SG)    | -20°C~+80°C               | Standard material     |
|  | Fluoro rubber   | FKM (X-100) | -20°C~+180°C              | Made-to-order item(s) |

\* Above specifications apply only to Cuplas. Working pressure, pressure resistance and working temperature range may vary depending on tube materials you use with and temperature conditions you use under. Micro Cupla with Tube Fitter has NBR packing material only.

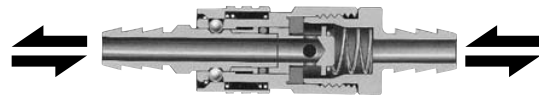
## Max. Tightening Torque

N·m (kgf·cm)

|        |          |        |
|--------|----------|--------|
| Size   | M5 x 0.8 | 1/8"   |
| Torque | 1.3 (13) | 7 (71) |

## Flow Direction

Air flows in either direction from plug or socket side when coupled.



## Interchangeability

Sockets and plugs can be connected regardless of end configurations.

## Min. Cross-Sectional Area

(mm<sup>2</sup>)

| Model                     | MC-03SP | MC-04SP | MC-05SP | MC-10SP | Tube Fitter Type for 4mm OD tube | Tube Fitter Type for 6mm OD tube |
|---------------------------|---------|---------|---------|---------|----------------------------------|----------------------------------|
| Min. cross-sectional area | 1.1     | 4.9     | 4.9     | 4.9     | 4.9                              | 4.9                              |

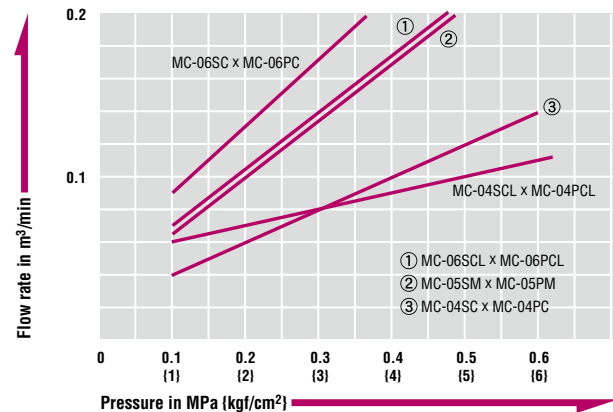
## Suitability for Vacuum

53.0kPa (400mmHg)

| Socket only | Plug only | When connected |
|-------------|-----------|----------------|
| —           | —         | Operational    |

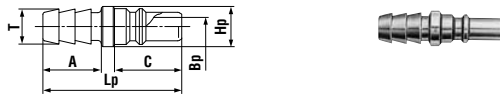
## Pressure - Flow Characteristics

[Test conditions] • Fluid : Air • Temperature : Room temperature  
 • Tube size :  $\phi 4\text{mm} \times \phi 2\text{mm}$ ,  $\phi 6\text{mm} \times \phi 4\text{mm}$  (Micro Cupla with Tube Fitter)



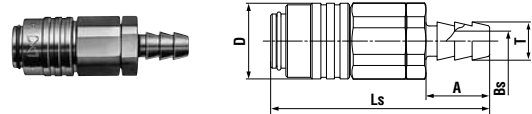
Models and Dimensions

**Plug PH type (Hose barb)**



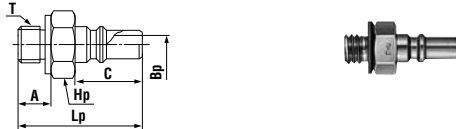
| Model   | Application (Tube) | Body material*Mass (g) |  | Dimensions (mm) |     |   |     |     |     |
|---------|--------------------|------------------------|--|-----------------|-----|---|-----|-----|-----|
|         |                    | Brass                  |  | Lp              | C   | A | Hp  | øT  | øBp |
| MC-03PH | 3mm ID             | 1.2                    |  | 19              | 9.2 | 8 | 5.5 | 3.5 | 1.2 |
| MC-04PH | 4mm ID             | 1.4                    |  | 19              | 9.2 | 8 | 5.5 | 4.8 | 2.5 |

**Socket SH type (Hose barb)**



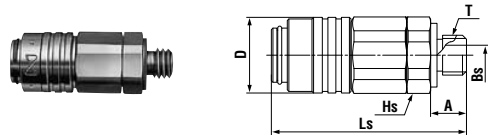
| Model   | Application (Tube) | Body material*Mass (g) |  | Dimensions (mm) |     |   |     |     |  |
|---------|--------------------|------------------------|--|-----------------|-----|---|-----|-----|--|
|         |                    | Brass                  |  | Ls              | øD  | A | øT  | øBs |  |
| MC-03SH | 3mm ID             | 7                      |  | (27.5)          | 9.5 | 8 | 3.5 | 1.2 |  |
| MC-04SH | 4mm ID             | 7.3                    |  | (27.5)          | 9.5 | 8 | 4.8 | 2.5 |  |

**Plug PM type (Male thread)**



| Model   | Application | Body material*Mass (g) |  | Dimensions (mm) |     |     |         |        |     |
|---------|-------------|------------------------|--|-----------------|-----|-----|---------|--------|-----|
|         |             | Brass                  |  | Lp              | C   | A   | Hp(WAF) | T      | øBp |
| MC-05PM | M5 x 0.8    | 1.9                    |  | 17              | 9.2 | 4.5 | Hex.7   | M5x0.8 | 2.5 |

**Socket SM type (Male thread)**



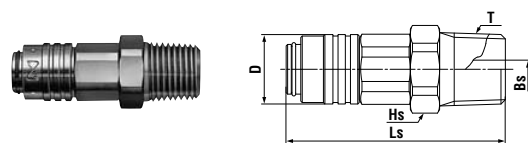
| Model   | Application | Body material*Mass (g) |  | Dimensions (mm) |     |     |        |         |     |
|---------|-------------|------------------------|--|-----------------|-----|-----|--------|---------|-----|
|         |             | Brass                  |  | Ls              | øD  | A   | T      | Hs(WAF) | øBs |
| MC-05SM | M5 x 0.8    | 7.4                    |  | (24.5)          | 9.5 | 4.5 | M5x0.8 | Hex.9   | 2.5 |

**Plug PM type (Male thread)**



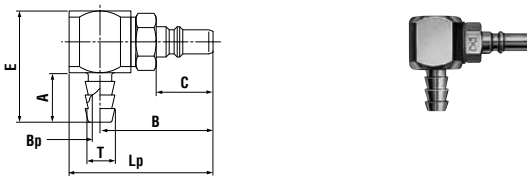
| Model   | Application | Body material*Mass (g) |  | Dimensions (mm) |     |         |      |     |  |
|---------|-------------|------------------------|--|-----------------|-----|---------|------|-----|--|
|         |             | Brass                  |  | Lp              | C   | Hp(WAF) | T    | øBp |  |
| MC-10PM | Rc1/8       | 9                      |  | 26              | 9.2 | Hex.11  | R1/8 | 2.5 |  |

**Socket SM type (Male thread)**



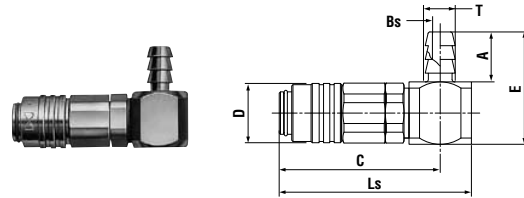
| Model   | Application | Body material*Mass (g) |  | Dimensions (mm) |     |      |         |     |  |
|---------|-------------|------------------------|--|-----------------|-----|------|---------|-----|--|
|         |             | Brass                  |  | Ls              | øD  | T    | Hs(WAF) | øBs |  |
| MC-10SM | Rc1/8       | 13.1                   |  | (30)            | 9.5 | R1/8 | Hex.11  | 3   |  |

**Plug PHL type (L-shaped hose barb)**



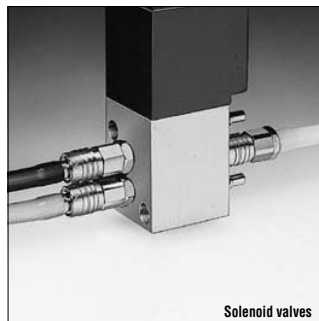
| Model    | Application (Tube) | Body material*Mass (g) |  | Dimensions (mm) |     |   |        |    |     |     |
|----------|--------------------|------------------------|--|-----------------|-----|---|--------|----|-----|-----|
|          |                    | Brass                  |  | Lp              | C   | A | B      | E  | øT  | øBp |
| MC-04PHL | 4mm ID             | 9.4                    |  | (23.3)          | 9.2 | 8 | (18.3) | 18 | 4.8 | 2.5 |

**Socket SHL type (L-shaped hose barb)**

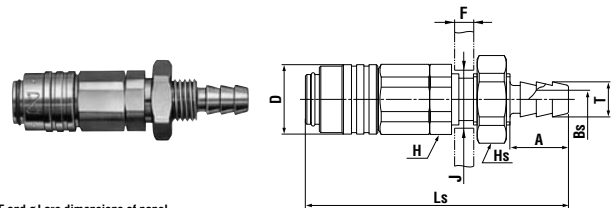


| Model    | Application (Tube) | Body material*Mass (g) |  | Dimensions (mm) |        |    |   |     |     |     |
|----------|--------------------|------------------------|--|-----------------|--------|----|---|-----|-----|-----|
|          |                    | Brass                  |  | Ls              | C      | E  | A | øD  | øT  | øBs |
| MC-04SHL | 4mm ID             | 14.8                   |  | (30.8)          | (25.8) | 18 | 8 | 9.5 | 4.8 | 2.5 |

Application Example



**Socket SHB type (For panel mounting)**



\* F and øJ are dimensions of panel.

| Model    | Application (Tube) | Body material*Mass (g) |  | Dimensions (mm) |   |     |     |     |         |                                  |        |         |  |
|----------|--------------------|------------------------|--|-----------------|---|-----|-----|-----|---------|----------------------------------|--------|---------|--|
|          |                    | Brass                  |  | Ls              | A | øD  | øT  | øBs | Hs(WAF) | øJ                               | H(WAF) | F       |  |
| MC-04SHB | 4mm ID             | 11.5                   |  | (36)            | 8 | 9.5 | 4.8 | 2.5 | Hex.11  | 7.1 <sup>+0.3</sup> <sub>0</sub> | Hex.9  | 1.2-3.5 |  |

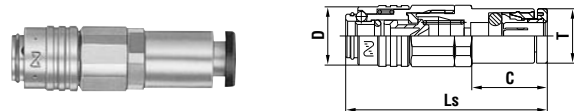
**Models and Dimensions (Micro Cupla with Tube Fitter)**

**Plug PC type (With Tube Fitter)**



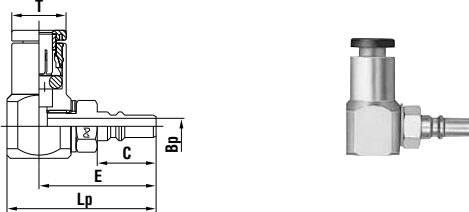
| Model   | Application (Tube) | Mass (g) | Dimensions (mm) |     |     |     |
|---------|--------------------|----------|-----------------|-----|-----|-----|
|         |                    |          | Lp              | C   | øT  | øBp |
| MC-04PC | 4mm OD             | 3        | (21.7)          | 9.2 | 8   | 2.5 |
| MC-06PC | 6mm OD             | 5        | (25)            | 9.2 | 9.8 | 2.5 |

**Socket SC type (With Tube Fitter)**



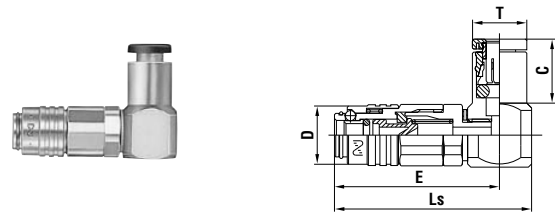
| Model   | Application (Tube) | Mass (g) | Dimensions (mm) |     |        |     |
|---------|--------------------|----------|-----------------|-----|--------|-----|
|         |                    |          | Ls              | øD  | C      | øT  |
| MC-04SC | 4mm OD             | 9        | (31.5)          | 9.5 | (11.8) | 8   |
| MC-06SC | 6mm OD             | 11.5     | (33.5)          | 9.5 | (12.5) | 9.8 |

**Plug PCL type (With L-shaped Tube Fitter)**

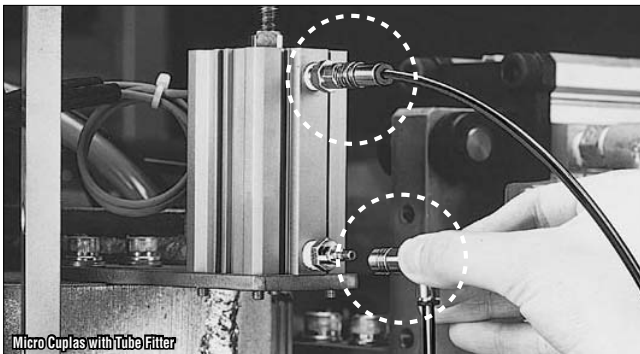


| Model    | Application (Tube) | Mass (g) | Dimensions (mm) |     |        |     |     |
|----------|--------------------|----------|-----------------|-----|--------|-----|-----|
|          |                    |          | Lp              | C   | E      | øT  | øBp |
| MC-04PCL | 4mm OD             | 10       | (23.3)          | 9.2 | (18.3) | 8   | 2.5 |
| MC-06PCL | 6mm OD             | 13.5     | (24.3)          | 9.2 | (18.8) | 9.8 | 2.5 |

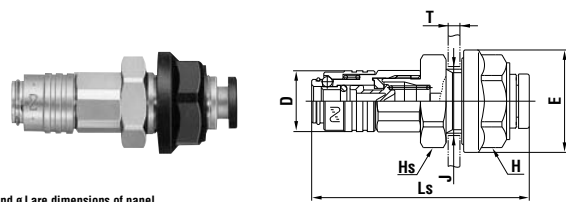
**Socket SCL type (With L-shaped Tube Fitter)**



| Model    | Application (Tube) | Mass (g) | Dimensions (mm) |        |     |        |     |
|----------|--------------------|----------|-----------------|--------|-----|--------|-----|
|          |                    |          | Ls              | E      | øD  | C      | øT  |
| MC-04SCL | 4mm OD             | 16       | (30.8)          | (25.8) | 9.5 | (10)   | 8   |
| MC-06SCL | 6mm OD             | 19       | (31.8)          | (26.3) | 9.5 | (12.5) | 9.8 |



**Socket SCB type (With Tube Fitter for panel mounting)**



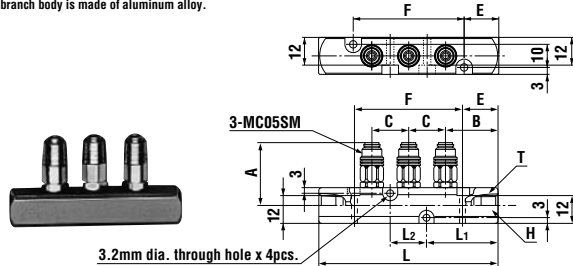
• T and øJ are dimensions of panel.

| Model    | Application (Tube) | Mass (g) | Dimensions (mm) |     |    |         |        |             |                      |  |
|----------|--------------------|----------|-----------------|-----|----|---------|--------|-------------|----------------------|--|
|          |                    |          | Ls              | øD  | øE | Hs(WAF) | H(WAF) | T           | øJ                   |  |
| MC-04SCB | 4mm OD             | 15       | (34)            | 9.5 | 16 | Hex.13  | Hex.13 | 3.5 or less | 10.5 <sup>+0.3</sup> |  |
| MC-06SCB | 6mm OD             | 18.5     | (36)            | 9.5 | 18 | Hex.15  | Hex.15 | 3.5 or less | 12.5 <sup>+0.3</sup> |  |

**Models and Dimensions (Micro Line Cupla)**

**Socket Micro Line Cupla with three branch ports**

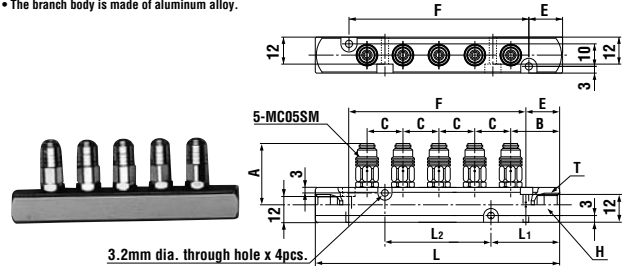
• The branch body is made of aluminum alloy.



| Model | Application | Mass (g) | Dimensions (mm) |                |                |        |    |    |    |    |         |        |
|-------|-------------|----------|-----------------|----------------|----------------|--------|----|----|----|----|---------|--------|
|       |             |          | L               | L <sub>1</sub> | L <sub>2</sub> | A      | B  | C  | E  | F  | T       | H(WAF) |
| MC-03 | 3 ports     | 65       | 78              | 31             | 16             | (28.8) | 23 | 16 | 15 | 48 | 2-Rc1/8 | Box 16 |

**Socket Micro Line Cupla with 5 branch ports**

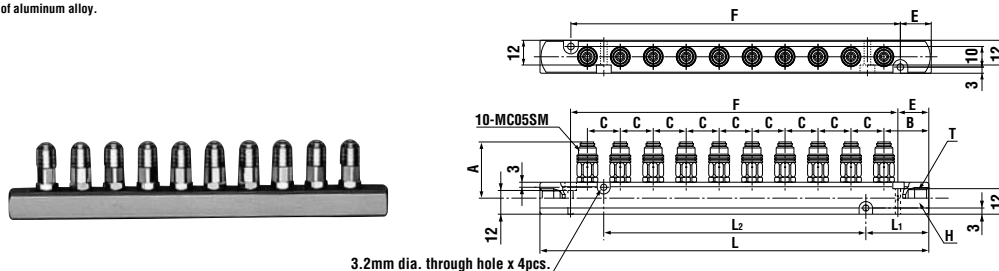
• The branch body is made of aluminum alloy.



| Model | Application | Mass (g) | Dimensions (mm) |                |                |        |    |    |    |    |         |        |
|-------|-------------|----------|-----------------|----------------|----------------|--------|----|----|----|----|---------|--------|
|       |             |          | L               | L <sub>1</sub> | L <sub>2</sub> | A      | B  | C  | E  | F  | T       | H(WAF) |
| MC-05 | 5 ports     | 101      | 110             | 31             | 48             | (28.8) | 23 | 16 | 15 | 80 | 2-Rc1/8 | Box 16 |

**Socket Micro Line Cupla with 10 branch ports**

• The branch body is made of aluminum alloy.

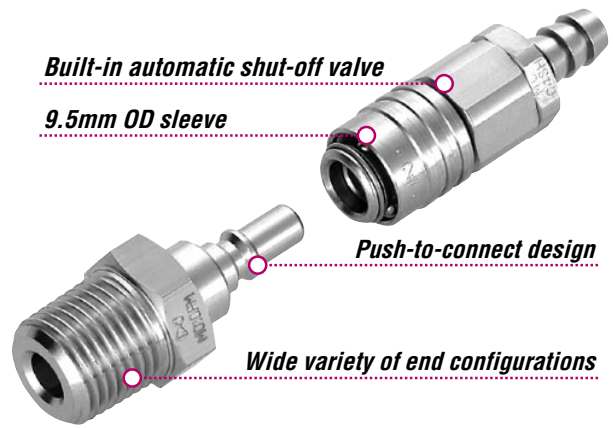


| Model | Application | Mass (g) | Dimensions (mm) |                |                |        |    |    |    |     |         |        |
|-------|-------------|----------|-----------------|----------------|----------------|--------|----|----|----|-----|---------|--------|
|       |             |          | L               | L <sub>1</sub> | L <sub>2</sub> | A      | B  | C  | E  | F   | T       | H(WAF) |
| MC-10 | 10 ports    | 187      | 190             | 31             | 128            | (28.8) | 23 | 16 | 15 | 160 | 2-Rc1/8 | Box 16 |

# Micro Cupla

**NEW** Stainless steel models

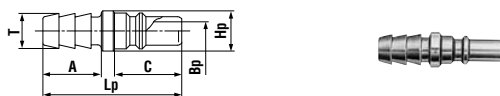
Highly corrosion-resistant stainless steel Micro Cupla



**Models and Dimensions (Stainless Steel)**

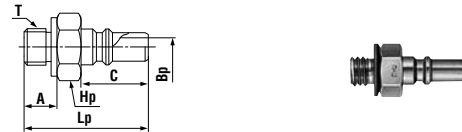
WAF : WAF stands for width across flat.

**Plug PH type (Hose barb)**



| Model   | Application (Tube) | Body material*Mass (g)<br>Stainless steel | Dimensions (mm) |     |   |     |     |     |
|---------|--------------------|---|-----------------|-----|---|-----|-----|-----|
|         |                    |   | Lp              | C   | A | Hp  | T   | BPp |
| MC-04PH | 4mm ID             | 1.3                                       | 19              | 9.2 | 8 | 5.5 | 4.8 | 2.5 |

**Plug PM type (Male thread)**



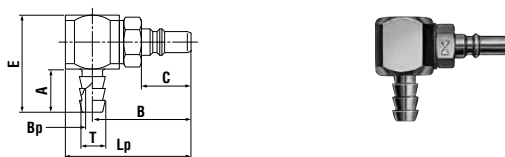
| Model   | Application | Body material*Mass (g)<br>Stainless steel | Dimensions (mm) |     |     |         |        |     |
|---------|-------------|---|-----------------|-----|-----|---------|--------|-----|
|         |             |   | Lp              | C   | A   | Hp(WAF) | T      | BPp |
| MC-05PM | M5 x 0.8    | 2.2                                       | 17              | 9.2 | 4.5 | Hex.8   | M5x0.8 | 2.5 |

**Plug PM type (Male thread)**



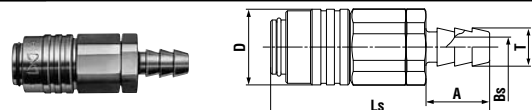
| Model   | Application | Body material*Mass (g)<br>Stainless steel | Dimensions (mm) |     |         |      |     |
|---------|-------------|---|-----------------|-----|---------|------|-----|
|         |             |   | Lp              | C   | Hp(WAF) | T    | BPp |
| MC-10PM | Rc1/8       | 8.1                                       | 26              | 9.2 | Hex.11  | R1/8 | 2.5 |

**Plug PHL type (L-shaped hose barb)**



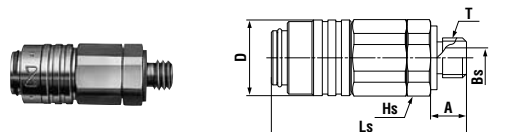
| Model    | Application (Tube) | Body material*Mass (g)<br>Stainless steel | Dimensions (mm) |     |   |        |    |     |     |
|----------|--------------------|---|-----------------|-----|---|--------|----|-----|-----|
|          |                    |   | Lp              | C   | A | B      | E  | T   | BPp |
| MC-04PHL | 4mm ID             | 9   | (23.3)          | 9.2 | 8 | (18.3) | 18 | 4.8 | 2.5 |

**Socket SH type (Hose barb)**



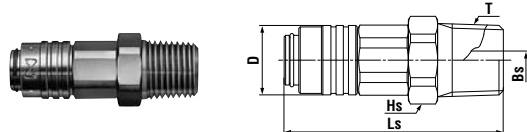
| Model   | Application (Tube) | Body material*Mass (g)<br>Stainless steel | Dimensions (mm) |     |   |     |     |
|---------|--------------------|---|-----------------|-----|---|-----|-----|
|         |                    |   | Ls              | D   | A | T   | BS  |
| MC-04SH | 4mm ID             | 6.7                                       | (27.5)          | 9.5 | 8 | 4.8 | 2.5 |

**Socket SM type (Male thread)**



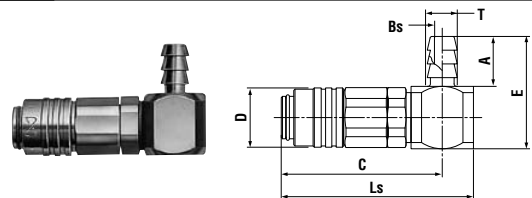
| Model   | Application | Body material*Mass (g)<br>Stainless steel | Dimensions (mm) |     |     |        |         |     |
|---------|-------------|---|-----------------|-----|-----|--------|---------|-----|
|         |             |   | Ls              | D   | A   | T      | Hs(WAF) | BS  |
| MC-05SM | M5 x 0.8    | 6.8                                       | (24.5)          | 9.5 | 4.5 | M5x0.8 | Hex.9   | 2.5 |

**Socket SM type (Male thread)**



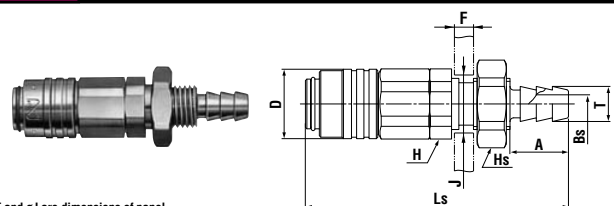
| Model   | Application | Body material*Mass (g)<br>Stainless steel | Dimensions (mm) |     |      |         |    |
|---------|-------------|---|-----------------|-----|------|---------|----|
|         |             |   | Ls              | D   | T    | Hs(WAF) | BS |
| MC-10SM | Rc1/8       | 12.1                                      | (30)            | 9.5 | R1/8 | Hex.11  | 3  |

**Socket SHL type (L-shaped hose barb)**



| Model    | Application (Tube) | Body material*Mass (g)<br>Stainless steel | Dimensions (mm) |        |    |   |     |     |     |
|----------|--------------------|---|-----------------|--------|----|---|-----|-----|-----|
|          |                    |   | Ls              | C      | E  | A | D   | T   | BS  |
| MC-04SHL | 4mm ID             | 13.6                                      | (30.8)          | (25.8) | 18 | 8 | 9.5 | 4.8 | 2.5 |

**Socket SHB type (For panel mounting)**



\* F and aJ are dimensions of panel.

| Model    | Application (Tube) | Body material*Mass (g)<br>Stainless steel | Dimensions (mm) |   |     |     |     |         |                                  |        |         |  |
|----------|--------------------|---|-----------------|---|-----|-----|-----|---------|----------------------------------|--------|---------|--|
|          |                    |   | Ls              | A | D   | T   | BS  | Hs(WAF) | aJ                               | H(WAF) | F       |  |
| MC-04SHB | 4mm ID             | 10.6                                      | (36)            | 8 | 9.5 | 4.8 | 2.5 | Hex.11  | 7.1 <sup>+0.3</sup> <sub>0</sub> | Hex.9  | 1.2-3.5 |  |

Before use, please be sure to read "Safety Guide" described at the end of this book and "Instruction Sheet" that comes with the products.