

Insertless Type

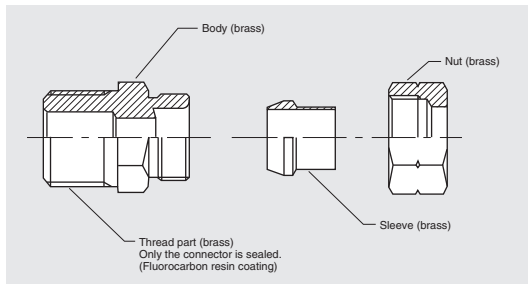
Screw-in type for general pneumatic piping

Features

- **Screw-in type**
Consisting of three parts: fitting body, nut and sleeve.
- **Large flow volume**
Large effective sectional area due to lack of an insertion part.
- **Only the connector is sealed**
Sealing tape is not required.

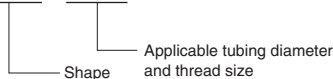


Cross-sectional structure diagram



Product number example

4A01 - 2402



Applicable tubing

Nylon tubing



N2 N5 N1

Operating fluid, working temperature range

| Operating fluid | Working temperature range |
|-----------------|---------------------------|
| Air | -40°C~+100°C |

See "Combination List of Tubing and Fitting" on page 8.

Pressure condition

Maximum working pressure: 1.0MPa
Negative pressure performance: -99.975kPa

Handling instructions

Caution: When the working conditions of tubes and fittings differ, use them under the lower specified conditions.

Caution: For use at a high temperature within the working temperature range, tighten the nut periodically. If the nut cannot be tightened further, cut the tubing end and insert the tubing again with a new sleeve.

Caution: Do not bend the pipe sharply near the tubing insertion port (sleeve end) of the fitting. Keep the tubing straight for twice as long as the tubing diameter from the insertion port.

See page 34 for the common handling instructions for fittings.

Reference

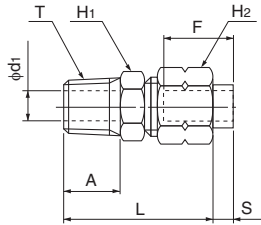
Instruction manual.....P.172
Effective sectional areaP.168
Negative-pressure performance list..P.169

QuickSeal Series Insertless type (brass)

Shape list



Connector

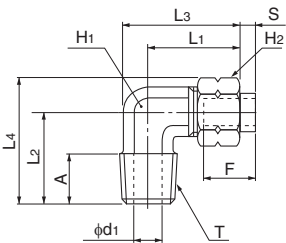


●Millimeter size type

| Product number | Applicable tubing outer diameter (mm) | T Thread size (R) | L (mm) | A (mm) | S (mm) | F Tubing insertion length (mm) | H ₁ Width across flat (mm) | H ₂ Width across flat (mm) | d ₁ (mm) | Min. inner diameter (mm) | Effective sectional area (mm ²) | Weight (g) |
|----------------|---------------------------------------|-------------------|--------|--------|--------|--------------------------------|---------------------------------------|---------------------------------------|---------------------|--------------------------|---|------------|
| 4A01-2402 | 4 | R1/8 | 27.9 | 11.0 | 2.7 | 14 | 10.0 | 10.0 | 5.0 | 2.0 | 3.0 | 13.0 |
| 4A01-2602 | 6 | R1/8 | 27.9 | 11.0 | 2.6 | 14 | 10.0 | 12.0 | 5.0 | 4.0 | 10.0 | 15.0 |
| 4A01-2604 | 6 | R1/4 | 29.9 | 12.0 | 2.6 | 14 | 14.0 | 12.0 | 7.0 | 4.0 | 10.0 | 23.0 |
| 4A01-2802 | 8 | R1/8 | 27.8 | 11.0 | 2.6 | 15 | 12.0 | 14.0 | 5.0 | 5.0 | 18.0 | 17.0 |
| 4A01-2804 | 8 | R1/4 | 29.8 | 12.0 | 2.6 | 15 | 14.0 | 14.0 | 7.0 | 6.0 | 25.0 | 24.0 |
| 4A01-3004 | 10 | R1/4 | 31.0 | 12.0 | 2.3 | 18 | 17.0 | 17.0 | 7.5 | 7.5 | 39.0 | 31.0 |
| 4A01-3006 | 10 | R3/8 | 32.0 | 13.0 | 2.3 | 18 | 17.0 | 17.0 | 9.0 | 7.5 | 39.0 | 38.0 |
| 4A01-3206 | 12 | R3/8 | 32.5 | 13.0 | 3.1 | 19 | 17.0 | 19.0 | 9.0 | 8.0 | 45.0 | 40.0 |
| 4A01-3208 | 12 | R1/2 | 40.5 | 18.0 | 3.1 | 19 | 24.0 | 19.0 | 12.0 | 8.0 | 45.0 | 71.0 |

☞ Only the connector is sealed.

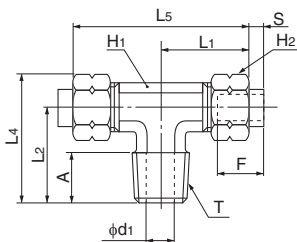
90 degree elbow



●Millimeter size type

| Product number | Applicable tubing outer diameter (mm) | T Thread size (R) | L ₁ (mm) | L ₂ (mm) | L ₃ (mm) | L ₄ (mm) | A (mm) | S (mm) | F Tubing insertion length (mm) | H ₁ Width across flat (mm) | H ₂ Width across flat (mm) | d ₁ (mm) | Min. inner diameter (mm) | Effective sectional area (mm ²) | Weight (g) |
|----------------|---------------------------------------|-------------------|---------------------|---------------------|---------------------|---------------------|--------|--------|--------------------------------|---------------------------------------|---------------------------------------|---------------------|--------------------------|---|------------|
| 4A02-2402 | 4 | R1/8 | 20.4 | 18.5 | 26.2 | 24.3 | 11.0 | 2.7 | 14 | 10.0 | 10.0 | 5.0 | 2.0 | 3.0 | 19.0 |
| 4A02-2602 | 6 | R1/8 | 20.4 | 18.5 | 26.2 | 25.4 | 11.0 | 2.6 | 14 | 10.0 | 12.0 | 5.0 | 4.0 | 9.0 | 20.0 |
| 4A02-2604 | 6 | R1/4 | 22.9 | 22.0 | 29.9 | 28.9 | 12.0 | 2.6 | 14 | 12.0 | 12.0 | 7.0 | 4.0 | 10.0 | 30.0 |
| 4A02-2802 | 8 | R1/8 | 22.8 | 21.0 | 29.8 | 29.1 | 11.0 | 2.6 | 15 | 12.0 | 14.0 | 5.0 | 5.0 | 16.0 | 29.0 |
| 4A02-2804 | 8 | R1/4 | 22.8 | 22.0 | 29.8 | 30.1 | 12.0 | 2.6 | 15 | 12.0 | 14.0 | 7.0 | 6.0 | 22.0 | 32.0 |
| 4A02-3004 | 10 | R1/4 | 27.0 | 25.0 | 35.1 | 34.8 | 13.5 | 2.3 | 18 | 14.0 | 17.0 | 7.0 | 7.0 | 30.0 | 46.0 |
| 4A02-3006 | 10 | R3/8 | 27.0 | 26.0 | 35.5 | 35.8 | 13.0 | 2.3 | 18 | 14.0 | 17.0 | 9.0 | 7.5 | 35.0 | 82.0 |
| 4A02-3206 | 12 | R3/8 | 27.5 | 26.0 | 36.0 | 37.0 | 13.0 | 3.1 | 19 | 14.0 | 19.0 | 9.0 | 8.0 | 40.0 | 53.0 |
| 4A02-3208 | 12 | R1/2 | 30.0 | 33.0 | 40.8 | 44.0 | 18.0 | 3.1 | 19 | 14.0 | 19.0 | 10.0 | 8.0 | 40.0 | 90.0 |

Tee



●Millimeter size type

| Product number | Applicable tubing outer diameter (mm) | T Thread size (R) | L ₁ (mm) | L ₂ (mm) | L ₄ (mm) | L ₅ (mm) | A (mm) | S (mm) | F Tubing insertion length (mm) | H ₁ Width across flat (mm) | H ₂ Width across flat (mm) | d ₁ (mm) | Min. inner diameter (mm) | Effective sectional area (mm ²) | Weight (g) |
|----------------|---------------------------------------|-------------------|---------------------|---------------------|---------------------|---------------------|--------|--------|--------------------------------|---------------------------------------|---------------------------------------|---------------------|--------------------------|---|------------|
| 4A03-2402 | 4 | R1/8 | 20.4 | 18.5 | 24.3 | 40.8 | 11.0 | 2.7 | 14 | 10.0 | 10.0 | 5.0 | 2.0 | 3.0 | 27.0 |
| 4A03-2602 | 6 | R1/8 | 20.4 | 18.5 | 25.4 | 40.8 | 11.0 | 2.6 | 14 | 10.0 | 12.0 | 5.0 | 4.0 | 9.0 | 29.0 |
| 4A03-2604 | 6 | R1/4 | 22.9 | 22.0 | 28.9 | 45.8 | 12.0 | 2.6 | 14 | 12.0 | 12.0 | 7.0 | 4.0 | 10.0 | 43.0 |
| 4A03-2802 | 8 | R1/8 | 22.8 | 21.0 | 29.1 | 45.7 | 11.0 | 2.6 | 15 | 12.0 | 14.0 | 5.0 | 5.0 | 16.0 | 42.0 |
| 4A03-2804 | 8 | R1/4 | 22.8 | 22.0 | 30.1 | 45.7 | 12.0 | 2.6 | 15 | 12.0 | 14.0 | 7.0 | 6.0 | 22.0 | 43.0 |
| 4A03-3004 | 10 | R1/4 | 27.0 | 25.0 | 34.8 | 53.9 | 12.0 | 2.3 | 18 | 14.0 | 17.0 | 7.0 | 7.0 | 30.0 | 69.0 |
| 4A03-3006 | 10 | R3/8 | 27.0 | 26.0 | 35.8 | 53.9 | 13.0 | 2.3 | 18 | 14.0 | 17.0 | 9.0 | 7.5 | 35.0 | 73.0 |
| 4A03-3206 | 12 | R3/8 | 27.5 | 26.0 | 37.0 | 54.9 | 13.0 | 3.1 | 19 | 14.0 | 19.0 | 9.0 | 8.0 | 40.0 | 79.0 |
| 4A03-3208 | 12 | R1/2 | 30.5 | 33.0 | 44.0 | 60.9 | 18.0 | 3.1 | 19 | 18.0 | 19.0 | 12.0 | 8.0 | 40.0 | 125.0 |

Tubing

Clean tubing

Processed tubing

PushOne fitting

QuickSeal fitting

Clean fitting/Chemifit

Bamboo-shoot fitting

Control switch/Detachable series

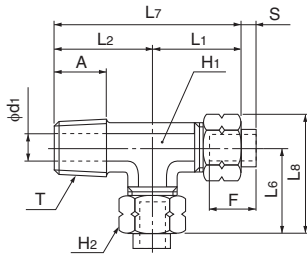
Jig/Tool/Accessory

Technical information

Reference

Service tee

●Millimeter size type

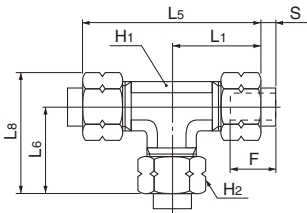


| Product number | Applicable tubing outer diameter (mm) | T Thread size (R) | L ₁ (mm) | L ₂ (mm) | L ₆ (mm) | L ₇ (mm) | L ₈ (mm) | A (mm) | S (mm) | F Tubing insertion length (mm) | H ₁ Width across flat (mm) | H ₂ Width across flat (mm) | d ₁ (mm) | Min. inner diameter (mm) | Effective sectional area (mm ²) | Weight (g) |
|----------------|---------------------------------------|-------------------|---------------------|---------------------|---------------------|---------------------|---------------------|--------|--------|--------------------------------|---------------------------------------|---------------------------------------|---------------------|--------------------------|---|------------|
| * 4A04-2402 | 4 | R1/8 | 20.4 | 18.5 | 20.4 | 38.9 | 26.2 | 11.0 | 2.7 | 14 | 10.0 | 10.0 | 5.0 | 2.0 | 3.0 | 27.0 |
| 4A04-2602 | 6 | R1/8 | 20.4 | 18.5 | 20.4 | 38.9 | 27.4 | 11.0 | 2.6 | 14 | 10.0 | 12.0 | 5.0 | 4.0 | 9.0 | 29.0 |
| 4A04-2604 | 6 | R1/4 | 22.9 | 22.0 | 22.9 | 44.9 | 29.9 | 12.0 | 2.6 | 14 | 12.0 | 12.0 | 7.0 | 4.0 | 10.0 | 37.0 |
| 4A04-2802 | 8 | R1/8 | 22.8 | 21.0 | 22.8 | 43.8 | 30.9 | 12.0 | 2.6 | 15 | 12.0 | 14.0 | 5.0 | 5.0 | 16.0 | 41.0 |
| 4A04-2804 | 8 | R1/4 | 22.8 | 22.0 | 22.8 | 44.8 | 30.9 | 12.0 | 2.6 | 15 | 12.0 | 14.0 | 7.0 | 6.0 | 22.0 | 43.0 |
| * 4A04-3004 | 10 | R1/4 | 27.0 | 25.0 | 27.0 | 52.0 | 36.8 | 12.0 | 2.3 | 18 | 14.0 | 17.0 | 7.0 | 7.0 | 30.0 | 70.0 |
| * 4A04-3006 | 10 | R3/8 | 27.0 | 26.0 | 27.0 | 53.0 | 36.8 | 13.0 | 2.3 | 18 | 14.0 | 17.0 | 9.0 | 7.5 | 35.0 | 73.0 |
| * 4A04-3206 | 12 | R3/8 | 27.5 | 26.0 | 27.5 | 53.5 | 38.4 | 13.0 | 3.1 | 19 | 14.0 | 19.0 | 9.0 | 8.0 | 40.0 | 80.0 |
| * 4A04-3208 | 12 | R1/2 | 30.5 | 35.5 | 30.5 | 66.0 | 41.4 | 18.0 | 3.1 | 19 | 18.0 | 19.0 | 12.0 | 8.0 | 40.0 | 127.0 |

*Made to order

Union tee

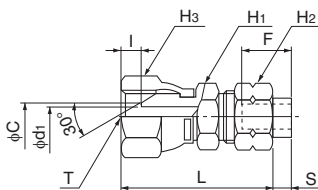
●Millimeter size type



| Product number | Applicable tubing outer diameter (mm) | L ₁ (mm) | L ₅ (mm) | L ₆ (mm) | L ₈ (mm) | S (mm) | F Tubing insertion length (mm) | H ₁ Width across flat (mm) | H ₂ Width across flat (mm) | Min. inner diameter (mm) | Effective sectional area (mm ²) | Weight (g) |
|----------------|---------------------------------------|---------------------|---------------------|---------------------|---------------------|--------|--------------------------------|---------------------------------------|---------------------------------------|--------------------------|---|------------|
| 4A05-2400 | 4 | 20.4 | 40.8 | 20.4 | 26.2 | 2.7 | 14 | 10.0 | 10.0 | 2.0 | 3.0 | 30.0 |
| 4A05-2600 | 6 | 20.4 | 40.8 | 20.4 | 27.4 | 2.6 | 14 | 10.0 | 12.0 | 4.0 | 8.0 | 34.0 |
| 4A05-2800 | 8 | 22.8 | 45.7 | 22.8 | 30.9 | 2.6 | 15 | 12.0 | 14.0 | 6.0 | 20.0 | 45.0 |
| 4A05-3000 | 10 | 27.0 | 53.9 | 27.0 | 36.8 | 2.3 | 18 | 14.0 | 17.0 | 7.5 | 31.0 | 74.0 |
| 4A05-3200 | 12 | 27.5 | 54.9 | 27.5 | 38.4 | 3.1 | 19 | 14.0 | 19.0 | 8.0 | 37.0 | 85.0 |

Swivel nut internal connector

●Millimeter size type



| Product number | Applicable tubing outer diameter (mm) | T Thread size (G) | L (mm) | S (mm) | I (mm) | F Tubing insertion length (mm) | H ₁ Width across flat (mm) | H ₂ Width across flat (mm) | H ₃ Width across flat (mm) | C (mm) | d ₁ (mm) | Min. inner diameter (mm) | Effective sectional area (mm ²) | Weight (g) |
|----------------|---------------------------------------|-------------------|--------|--------|--------|--------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|--------|---------------------|--------------------------|---|------------|
| * 4A06-2402 | 4 | G1/8 | 32.9 | 2.7 | 4.0 | 14 | 12.0 | 10.0 | 14.0 | 5.0 | 3.0 | 3.0 | 3.5 | 24.0 |
| * 4A06-2602 | 6 | G1/8 | 32.9 | 2.6 | 4.0 | 14 | 12.0 | 12.0 | 14.0 | 5.0 | 3.0 | 3.0 | 6.5 | 25.0 |
| 4A06-2604 | 6 | G1/4 | 34.6 | 2.6 | 5.7 | 14 | 17.0 | 12.0 | 19.0 | 7.0 | 5.0 | 5.0 | 10.0 | 43.0 |
| 4A06-2804 | 8 | G1/4 | 34.5 | 2.6 | 5.7 | 15 | 17.0 | 14.0 | 19.0 | 7.0 | 5.0 | 5.0 | 18.0 | 45.0 |
| * 4A06-3006 | 10 | G3/8 | 40.8 | 2.3 | 6.8 | 18 | 19.0 | 17.0 | 22.0 | 10.0 | 8.0 | 8.0 | 42.0 | 75.0 |
| * 4A06-3206 | 12 | G3/8 | 41.3 | 3.1 | 6.8 | 19 | 19.0 | 19.0 | 22.0 | 10.0 | 8.0 | 8.0 | 45.0 | 67.0 |
| * 4A06-3208 | 12 | G1/2 | 51.0 | 3.1 | 9.5 | 19 | 22.0 | 19.0 | 27.0 | 14.0 | 10.0 | 10.0 | 54.0 | 115.0 |

*Made to order

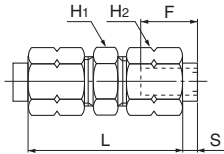
Tubing
Clean tubing
Processed tubing
PushOne fitting
QuickSeal fitting
Clean fitting/Chemifit
Bamboo-shoot fitting
Control switch/Detachable series
Jig/Tool/Accessory
Technical information
Reference

Union connector

●Millimeter size type



| Product number | Applicable tubing outer diameter (mm) | L (mm) | S (mm) | F Tubing insertion length (mm) | H ₁ Width across flat (mm) | H ₂ Width across flat (mm) | Min. inner diameter (mm) | Effective sectional area (mm ²) | Weight (g) |
|----------------|---------------------------------------|--------|--------|--------------------------------|---------------------------------------|---------------------------------------|--------------------------|---|------------|
| 4A07-2400 | 4 | 32.8 | 2.7 | 14 | 8.0 | 10.0 | 2.0 | 3.0 | 15.0 |
| 4A07-2600 | 6 | 32.8 | 2.6 | 14 | 10.0 | 12.0 | 4.0 | 10.0 | 20.0 |
| 4A07-2800 | 8 | 32.7 | 2.6 | 15 | 14.0 | 14.0 | 6.0 | 25.0 | 27.0 |
| 4A07-3000 | 10 | 35.9 | 2.3 | 18 | 17.0 | 17.0 | 7.5 | 39.0 | 42.0 |
| 4A07-3200 | 12 | 36.9 | 3.1 | 19 | 17.0 | 19.0 | 8.0 | 45.0 | 48.0 |

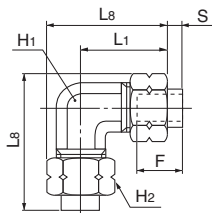


90 degree union elbow

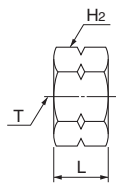
●Millimeter size type



| Product number | Applicable tubing outer diameter (mm) | L ₁ (mm) | L ₂ (mm) | S (mm) | F Tubing insertion length (mm) | H ₁ Width across flat (mm) | H ₂ Width across flat (mm) | Min. inner diameter (mm) | Effective sectional area (mm ²) | Weight (g) |
|----------------|---------------------------------------|---------------------|---------------------|--------|--------------------------------|---------------------------------------|---------------------------------------|--------------------------|---|------------|
| 4A08-2400 | 4 | 20.4 | 26.2 | 2.7 | 14 | 10.0 | 10.0 | 2.0 | 2.0 | 22.0 |
| 4A08-2600 | 6 | 20.4 | 27.4 | 2.6 | 14 | 10.0 | 12.0 | 4.0 | 8.0 | 25.0 |
| 4A08-2800 | 8 | 22.8 | 30.9 | 2.6 | 15 | 12.0 | 14.0 | 6.0 | 20.0 | 33.0 |
| 4A08-3000 | 10 | 27.0 | 36.8 | 2.3 | 18 | 14.0 | 17.0 | 7.5 | 31.0 | 52.0 |
| 4A08-3200 | 12 | 27.5 | 38.4 | 3.1 | 19 | 14.0 | 19.0 | 8.0 | 37.0 | 59.0 |



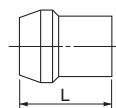
Brass nut



●Millimeter size type

| Product number | Applicable tubing outer diameter (mm) | T Thread size (M) | L (mm) | H ₂ Width across flat (mm) | Weight (g) |
|----------------|---------------------------------------|-------------------|--------|---------------------------------------|------------|
| N4 | 4 | M8×0.75 | 9.0 | 10.0 | 4.0 |
| N6 | 6 | M10×1.0 | 9.0 | 12.0 | 5.0 |
| N8 | 8 | M12×1.0 | 9.0 | 14.0 | 6.0 |
| N10 | 10 | M15×1.0 | 10.0 | 17.0 | 9.0 |
| N12 | 12 | M17×1.0 | 11.0 | 19.0 | 11.0 |

Brass sleeve



●Millimeter size type

| Product number | Applicable tubing outer diameter (mm) | L (mm) | Weight (g) |
|----------------|---------------------------------------|--------|------------|
| MSN4 | 4 | 9.0 | 0.7 |
| MSN6 | 6 | 9.0 | 1.0 |
| MSN8 | 8 | 9.0 | 1.3 |
| MSN10 | 10 | 10.0 | 2.1 |
| MSN12 | 12 | 11.3 | 2.8 |

☞ Insertless type requires a brass sleeve.

⚠ Caution: Brass sleeves that have been used once cannot be reused.

Tubing

Clean tubing

Processed tubing

PushOne fitting

QuickSeal fitting

Clean fitting/Chemifit

Bamboo-shoot fitting

Control switch/Detachable series

Jig/Tool/Accessory

Technical information

Reference