

Miniature Fittings



M Series

Applicable Tubing: $\phi 2$ Connection Thread: M3, M5



Made to Order
(Refer to page 193 for details.)

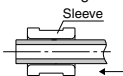
Applicable tubing O.D. x I.D.: $\phi 2 \times \phi 1.2$
 Connection thread: M3 x 0.5 / M5 x 0.8
 One-touch fitting size: $\phi 3.2 / \phi 4$



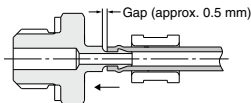
Tubing Connection and Removal

Connection of tubing

1. Cut the tubing perpendicularly allowing additional length.
2. Insert the tubing into the sleeve.



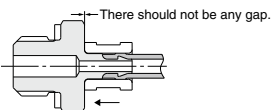
3. Insert the tubing slowly into the fittings. Make sure to secure a gap of approx. 0.5 mm between the tubing end and the barb end.



4. Insert the sleeve slowly. Make sure not to allow any gap between the sleeve end side and the body end side. (Please refer to the illustration below.)

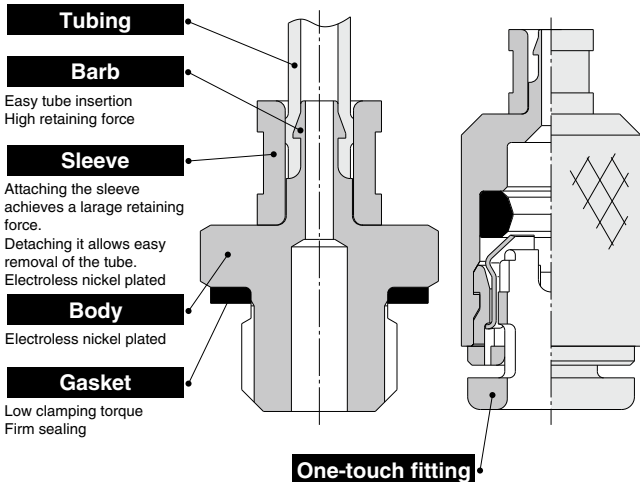
If you feel any strong resistance and cannot push the sleeve completely to the end side, this may be caused due to jamming. Remove and repeat again by starting from step 1 making sure to secure a gap in the step 3.

Note) When installing the tubing, the sleeve must be attached. Operation without attaching the sleeve may cause tubing disconnection.



Removal of tubing

1. Withdraw the sleeve straight along the tubing. Use a tool such as long-nose pliers if it is difficult to pull out by hand.
2. Withdraw the tubing straight.
3. When reusing the tubing, cut off the previously installed portion of the tubing to avoid possible leakage and/or disconnection of the tubing.



Easy tube insertion
High retaining force

Attaching the sleeve achieves a large retaining force.
Detaching it allows easy removal of the tube.
Electroless nickel plated

Electroless nickel plated

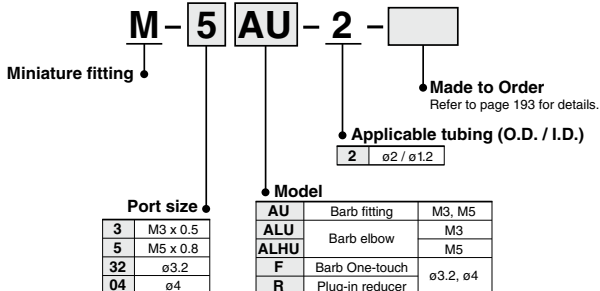
Low clamping torque
Firm sealing

Specifications

| | |
|---------------------------------|--|
| Applicable tubing material | Polyurethane |
| Applicable tubing (O.D. / I.D.) | $\phi 2 / \phi 1.2$ |
| Fluid | Air, Water ⁽¹⁾ |
| Max. operating pressure | 1 MPa ⁽²⁾ |
| Ambient and fluid temperature | -5 to 60°C, Water: 0 to 40 (No freezing) |
| Port size | M3, M5, $\phi 3.2$, $\phi 4$ |
| Thread | JIS B0205 (Metric fine thread) |

Note 1) The surge voltage pressure must be under the maximum operating pressure.
 Note 2) Apply the maximum operating pressure to the tube during the tube connection.

How to Order



For details on applicable tubing O.D. and port size combinations for each model, refer to the charts on the Dimensions page.

- KQ2
- KQB2
- KS
- KX
- KM
- KF
- M
- H/DL
- L/LL
- KC
- KK
- KK130
- DM
- KDM
- KB
- KR
- KA
- KQG2
- KG
- KFG2
- MS
- KKA
- KP
- LQ
- MQR
- T
- IDK

M Series

Dimensions

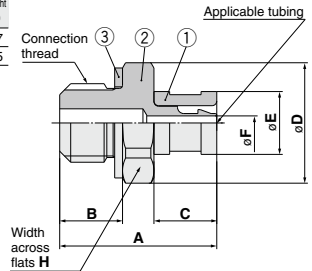
Barb Fitting: M-3AU-2, M-5AU-2



| Applicable tubing O.D. / I.D. (mm) | Connection thread | Model | H | A | B | C | D | E | F | Weight (g) |
|---------------------------------------|----------------------|---------|-----|----|---|---|-----|---|-----|---------------|
| ø2 / ø1.2 | M3 x 0.5 | M-3AU-2 | 4.5 | 9 | 3 | 4 | 5 | 4 | 0.9 | 0.7 |
| | M5 x 0.8 | M-5AU-2 | 7 | 10 | 4 | 4 | 7.7 | 4 | 0.9 | 1.5 |

Component Parts

| No. | Description | Material | Note |
|-----|--------------|--------------------------|---------------------------|
| 1 | Sleeve | C3604 | Electroless nickel plated |
| 2 | Barb fitting | C3604 | Electroless nickel plated |
| 3 | Gasket | NBR, Stainless steel 304 | — |



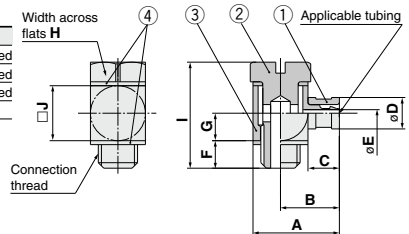
Barb Elbow: M-3ALU-2, M-5ALHU-2



| Applicable tubing O.D. / I.D. (mm) | Connection thread | Model | H | A | B | C | D | E | F | G | I | J | Weight (g) |
|---------------------------------------|----------------------|-----------|---|----|-----|---|---|-----|-----|-----|------|---|---------------|
| ø2 / ø1.2 | M3 x 0.5 | M-3ALU-2 | 5 | 9 | 6.5 | 4 | 4 | 0.9 | 2.5 | 2.5 | 9.4 | 5 | 1.6 |
| | M5 x 0.8 | M-5ALHU-2 | 7 | 11 | 7.5 | 4 | 4 | 0.9 | 3.5 | 3.5 | 13.5 | 7 | 3.5 |

Component Parts

| No. | Description | Material | Note |
|-----|-------------|--------------------------|---------------------------|
| 1 | Sleeve | C3604 | Electroless nickel plated |
| 2 | Stud | C3604 | Electroless nickel plated |
| 3 | Barb elbow | C3604 | Electroless nickel plated |
| 4 | Gasket | NBR, Stainless steel 304 | — |



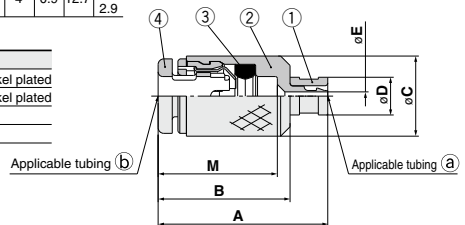
Barb One-touch: M-32F-2, M-04F-2



| Applicable tubing (mm) | Model | | A | B | C | D | E | M | Weight (g) |
|------------------------|--------------|--------------|------|------|-----|---|-----|------|---------------|
| | ø (a) (O.D.) | ø (b) (O.D.) | | | | | | | |
| ø2 / ø1.2 | ø3.2 | M-32F-2 | 17.7 | 13.7 | 7.5 | 4 | 0.9 | 12.7 | 2.4 |
| | | M-04F-2 | 18 | 14 | 8.5 | 4 | 0.9 | 12.7 | 2.9 |

Component Parts

| No. | Description | Material | Note |
|-----|-------------|--------------------------|---------------------------|
| 1 | Sleeve | C3604 | Electroless nickel plated |
| 2 | Body | C3604 | Electroless nickel plated |
| 3 | Seal | NBR | — |
| 4 | Cassette | POM, Stainless steel 304 | — |



Plug-in Reducer: M-32R-2, M-04R-2

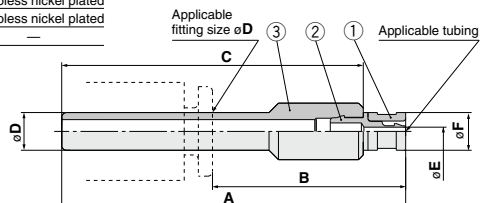
| Applicable tubing O.D. / I.D. (mm) | Fitting size øD | Model | A | B ⁽¹⁾ | B ⁽²⁾ | C | E | F | Weight (g) |
|---------------------------------------|--------------------|---------|------|------------------|------------------|------|-----|---|---------------|
| ø2 / ø1.2 | ø3.2 | M-32R-2 | 36 | 23.3 | 20.5 | 31.5 | 0.9 | 4 | 0.7 |
| | ø4 | M-04R-2 | 36.5 | 23.8 | 20.5 | 32 | 0.9 | 4 | 0.8 |

Note 1) Dimensions when connected to the M5 and M6 connection threads for KJ series and KQ series.

Note 2) Dimensions when connected to KQ series.

Component Parts

| No. | Description | Material | Note |
|-----|--------------|----------|---------------------------|
| 1 | Sleeve | C3604 | Electroless nickel plated |
| 2 | Studded body | C3604 | Electroless nickel plated |
| 3 | Stem | PP | — |





1 Gasket Material Modification

| Symbol | Specifications | |
|--------|---|-----------------|
| X226 | Gasket material: Stainless steel 304, FKM | |
| | Applicable thread | Gasket part no. |
| | M3 | M3G-DPH00489 |
| X112 | Gasket material: Stainless steel 316, Special FKM | |
| | Applicable thread | Gasket part no. |
| | M5 | M-5G3 |

Spare Parts

| Description | Part no. | Applicable thread | Material |
|-------------|------------|-------------------|--|
| Gasket | IN-233-706 | M3 | Stainless steel 304, NBR |
| | M-5G2 | M5 | Stainless steel 304, NBR |
| | M-5G3 | | Stainless steel 316, Special FKM |
| Sleeve | M-5-2-P02 | — | C3604 (With electroless nickel plated) |

⚠ Specific Product Precautions

Be sure to read this before handling the products.
Refer to back page 50 for Safety Instructions and pages 13 to 17 for Fittings and Tubing Precautions.

⚠ Caution

- Tightening of M3/M5 Threads
 - Tighten a barb fitting by hand, and give it an additional 1/6 turn with a wrench.
 - Tighten a barb elbow by hand, and give it an additional 1/3 turn with a wrench.

KQ2

KQB2

KS
KX

KM

KF

M

H/DL
L/LL

KC

KK

KK130

DM

KDM

KB

KR

KA

KQG2

KG

KFG2

MS

KKA

KP

LQ

MQR

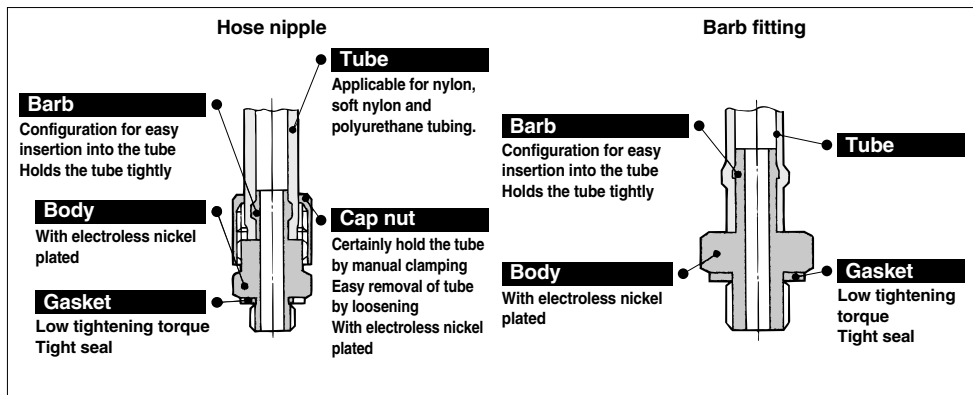
T

IDK

Miniature Fittings

M Series

Applicable Tubing: $\varnothing 3.2, \varnothing 4, \varnothing 6$ Connection Thread: M3, M5, R $\frac{1}{8}$



Compact piping space

Hose nipple tubing connection/disconnection is simple while keeping a large retaining force.

Line up various types

For air connection in confined areas.

Accepts many types of plastic tubing

Hose nipple and hose elbow accepts nylon, soft nylon, and polyurethane tubing.



Made to Order

(Refer to page 200 for details.)

Specifications

| Applicable tubing material | Nylon | Soft nylon | Polyurethane | Super PFA ⁽¹⁾ | FEP ⁽²⁾ | Modified PTFE ⁽³⁾ |
|-----------------------------------|--|---|---|---|---|--|
| Applicable tubing O.D. / I.D. | M3 M5, R $\frac{1}{8}$ | — $\varnothing 4/\varnothing 2.5$ $\varnothing 6/\varnothing 4$ | $\varnothing 3.18/\varnothing 2.18$ $\varnothing 4/\varnothing 2.5$ $\varnothing 6/\varnothing 4$ | $\varnothing 3.18/\varnothing 2$ $\varnothing 4/\varnothing 2.5$ $\varnothing 3.18/\varnothing 2$ $\varnothing 4/\varnothing 2.5$ $\varnothing 6/\varnothing 4$ | — — $\varnothing 6/\varnothing 4$ | — — $\varnothing 4/\varnothing 2.5$ $\varnothing 6/\varnothing 4$ $\varnothing 4/\varnothing 2.5$ $\varnothing 6/\varnothing 4$ |
| Fluid | Air, Water ⁽⁴⁾ | | | | | |
| Max. operating pressure (at 20°C) | 1.5 MPa | 1 MPa | 0.8 MPa | 1 MPa | 1.5 MPa | 1.4 MPa |
| Ambient and fluid temperature | -5 to 60°C, Water: 0 to 40°C (No freezing) | | | | | |
| Connection size | M3, M5, R $\frac{1}{8}$ | | | M5, R $\frac{1}{8}$ | | |
| Thread | JIS B0205, Class 2 (Metric fine thread) JIS B0203 (Taper thread for piping) | | | | | |

Note 1), Note 2), Note 3) Compatible only with hose nipple type.

Note 4) Barb fitting, barb elbow, barb elbow (H) are not compatible with water.

Principal Parts Material

| Material | Body | C3604 (Electroless nickel plate) (Nipple M-3N, M-5N: Stainless steel 303) |
|----------|--------|---|
| | Gasket | Nylon 66: GF30%, Stainless steel 304: NBR (PVC for M3) |

* Body of M-5E, M-5ER, M-5M is not surface-treated.

Electroless nickel plate treated is available as option -X2.









Fitting Markings for Applicable Tubing Material (Barb fitting, Barb elbow, Barb elbow (H))







Tubing material determines the compatible fittings. (Refer to the table below.)























| Connection | Tubing | Fitting marking for applicable tubing material | | |
|-------------------------|--|--|-------------|----------------|
| | | Barb fittings | Barb elbow | Barb elbow (H) |
| M3 | Soft nylon tubing Polyurethane tubing | | — | |
| R $\frac{1}{8}$, M5 | Nylon tubing | | | |
| | Soft nylon tubing Polyurethane tubing | Marking | Marking | Marking |












M3, R 1/8 Series

M5 Series

| Series | Model | Description | Application | Note |
|--------|----------|---|---|---------------------------------|
| M3 | M-3AU-3 | Barb fitting for soft tube  | For soft nylon tubing For polyurethane tubing | ø3.18/2.18 x M3 ø3.18/2 x M3 |
| | M-3AU-4 |  P.196 | For soft nylon and polyurethane tubing | ø4/2.5 x M3 |
| | M-3ALU-3 | Barb elbow for soft tubing  | For soft nylon tubing Body rotates at 360° around the stud axis For polyurethane tubing | ø3.18/2.18 x M3 ø3.18/2 x M3 |
| | M-3ALU-4 |  P.196 | For soft nylon and polyurethane tubing | ø4/2.5 x M3 |
| | M-3UL | Universal elbow  P.196 | Body rotates at 360° around the stud axis | M3 female x M3 male |
| | M-3UT | Universal tee  P.196 | Body rotates at 360° around the stud axis | M3 female x M3 female x M3 male |
| | M-3N | Nipple  P.196 | Fitting to workpiece and fitting to fitting connection | M3 male x M3 male |
| | M-3P | Plug  P.196 | Use to plug unused M3 port | |

| Series | Model | Description | Application | Note |
|--------|----------|---|---|--------------------------------|
| R 1/8 | M-01AN-4 | Barb fitting for nylon tubing  P.196 | For nylon tubing | ø4/2.5 x R 1/8 ø6/4 x R 1/8 |
| | M-01AN-6 |  P.196 | | |
| | M-01AU-4 | Barb fitting for soft tubing  P.196 | For soft nylon and polyurethane tubing | ø4/2.5 x R 1/8 ø6/4 x R 1/8 |
| | M-01AU-6 |  P.196 | | |
| | M-01H-4 | Hose nipple  P.196 | For nylon, soft nylon and polyurethane tubing | ø4/2.5 x R 1/8 ø6/4 x R 1/8 |
| | M-01H-6 |  P.196 | | |

| Series | Model | Description | Application | Note |
|----------|---|--|--|---------------------------------|
| M5 | M-5AN-4 | Barb fitting for nylon tubing  | For nylon tubing | ø4/2.5 x M5 ø6/4 x M5 |
| | M-5AN-6 |  P.197 | | |
| | M-5AU-3 | Barb fitting for soft tubing  | For soft nylon tubing For polyurethane tubing | ø3.18/2.18 x M5 ø3.18/2 x M5 |
| | M-5AU-4 |  P.197 | For soft nylon and polyurethane tubing | ø4/2.5 x M5 ø6/4 x M5 |
| | M-5AU-6 |  P.197 | | |
| | M-5ALN-4 | Barb elbow for nylon tubing  | • For nylon • Body rotates at 360° around the stud axis | ø4/2.5 x M5 ø6/4 x M5 |
| | M-5ALN-6 |  P.197 | | |
| | M-5ALU-3 | Barb elbow for soft tubing  | Body rotates at 360° around the stud axis For soft nylon tubing For polyurethane tubing | ø3.18/2.18 x M5 ø3.18/2 x M5 |
| | M-5ALU-4 |  P.197 | For soft nylon and polyurethane tubing | ø4/2.5 x M5 ø6/4 x M5 |
| | M-5ALU-6 |  P.197 | | |
| M5 | M-5ALHN-4 | Barb elbow (H) for nylon tubing  | Body rotates at 360° around the stud axis For nylon tubing | ø4/2.5 x M5 ø6/4 x M5 |
| | M-5ALHN-6 |  P.197 | | |
| | M-5ALHU-3 | Barb elbow (H) for soft tubing  | Body rotates at 360° around the stud axis For soft nylon tubing For polyurethane tubing | ø3.18/2.18 x M5 ø3.18/2 x M5 |
| | M-5ALHU-4 |  P.197 | For soft nylon and polyurethane tubing | ø4/2.5 x M5 ø6/4 x M5 |
| | M-5ALHU-6 |  P.197 | | |
| | M-5H-4 | Hose nipple  | For nylon, soft nylon and polyurethane tubing | ø4/2.5 x M5 ø6/4 x M5 |
| | M-5H-6 |  P.197 | | |
| | M-5HL-4 | Hose elbow  | • For nylon, soft nylon and polyurethane tubing • Body rotates at 360° around the stud axis | ø4/2.5 x M5 ø6/4 x M5 |
| | M-5HL-6 |  P.198 | | |
| | M-5HLH-4 | Hose elbow (H)  | Body rotates at 360° around the stud axis | ø4/2.5 x M5 ø6/4 x M5 |
| M-5HLH-6 |  P.198 | | | |
| M-5L | Elbow  P.198 | One-sided 90° elbow | M5 female x M5 female | |

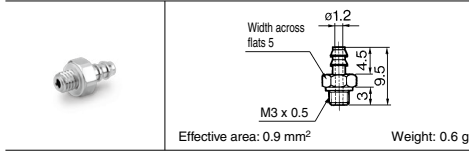
| Series | Model | Description | Application | Note |
|--------|--|---|---|-----------------------------------|
| M5 | M-5T | tee  P.198 | Both sides allow 90° connection | M5 female x M5 female x M5 female |
| | M-5UL | Universal elbow  P.198 | Body rotates at 360° around the stud axis | M5 female x M5 male |
| | M-5UT | Universal tee  P.198 | Body rotates at 360° around the stud axis | M5 female x M5 female x M5 male |
| | M-5J | Extension fitting  P.198 | Solid piece moves fitting up from workpiece | M5 male x M5 female |
| | M-5N | Nipple  P.198 | Fitting to workpiece and fitting to fitting connection | M5 male x M5 male |
| | M-5UN | Universal nipple  P.198 | Body rotates at 360° around the stud axis | M5 male x M5 male PAT. |
| | M-5E | Bulkhead union  P.198 | Panel-mount connection | M5 female x M5 female |
| | M-5ER | Bulkhead reducer  P.199 | Reduction from Rc 1/8 to M5 including panel or bracket mounting | Rc 1/8 x M5 female |
| | M-5M | Manifold  P.199 | For reducing Rc 1/8 female be diverted to up to 9, M5 stations, including panel or bracket mounting | Rc 1/8 x M5 female (9 stations) |
| | M-5B | Bushing  P.199 | For reducing R 1/8 female to M5. | R 1/8 x M5 female |
| M-5P | Plug  P.199 | Use to plug unused M5 port. | | |

- KQ2**
- KQB2**
- KS**
- KX**
- KM**
- KF**
- M**
- H/DL**
- L/LL**
- KC**
- KK**
- KK130**
- DM**
- KDM**
- KB**
- KR**
- KA**
- KQG2**
- KG**
- KFG2**
- MS**
- KKA**
- KP**
- LQ**
- MQR**
- T**
- IDK**

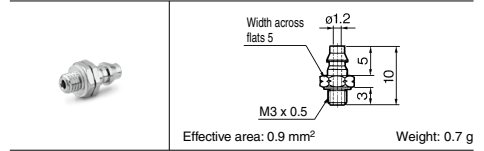
M Series

M3 Series

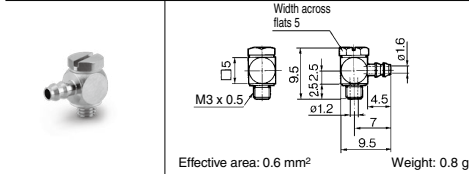
Barb Fitting for Soft Tubing: M-3AU-3



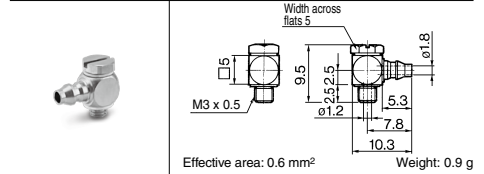
Barb Fitting for Soft Tubing: M-3AU-4



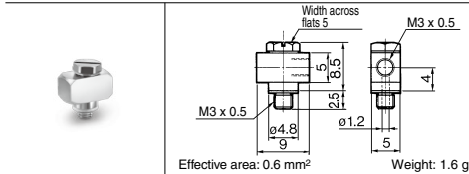
Barb Elbow for Soft Tubing: M-3ALU-3



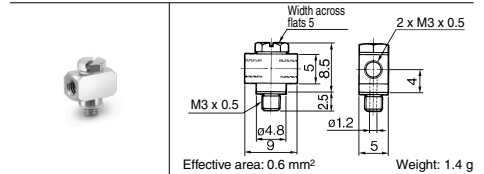
Barb Elbow for Soft Tubing: M-3ALU-4



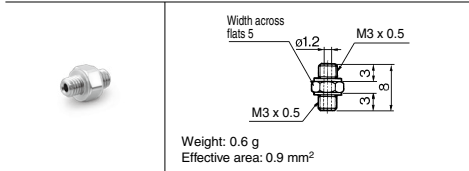
Universal Elbow: M-3UL



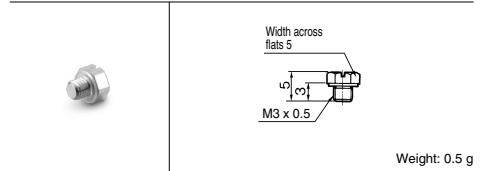
Universal Tee: M-3UT



Nipple: M-3N



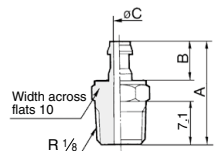
Plug: M-3P



R 1/8 Series

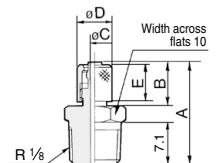
Barb Fitting for Nylon Tubing, Soft Tubing: M-01A□-4/-6

| Applicable tubing | Model | A | B | øC | Effective area (mm ²) | Weight (g) |
|-------------------|----------|------|---|-----|-----------------------------------|------------|
| Nylon tubing | M-01AN-4 | 15.1 | 5 | 1.8 | 2.1 | 6.4 |
| | M-01AN-6 | 17.1 | 7 | 2.5 | 4.0 | 6.6 |
| Soft tubing | M-01AU-4 | 15.1 | 5 | 1.8 | 2.1 | 6.5 |
| | M-01AU-6 | 17.1 | 7 | 2.5 | 4.0 | 6.7 |



Hose Nipple: M-01H-4/-6

| Model | A | B | øC | øD | E | Effective area (mm ²) | Weight (g) |
|---------|------|-----|-----|-----|---|-----------------------------------|------------|
| M-01H-4 | 18.6 | 8.5 | 1.8 | 6.5 | 7 | 2.1 | 7.1 |
| M-01H-6 | 19.6 | 9.5 | 3 | 8.5 | 8 | 5.5 | 7.7 |

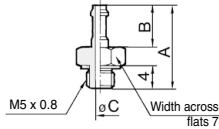


M5 Series

Barb Fitting for Nylon Tubing: M-5AN-4/-6



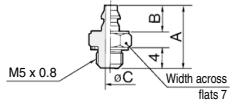
| Model | A | B | øC | Effective area (mm ²) | Weight (g) |
|---------|----|---|-----|-----------------------------------|------------|
| M-5AN-4 | 12 | 5 | 1.8 | 2.1 | 1.6 |
| M-5AN-6 | 14 | 8 | 2.5 | 4.0 | 1.7 |



Barb Fitting for Soft Tubing: M-5AU-3/-4/-6



| Model | A | B | øC | Effective area (mm ²) | Weight (g) |
|---------|------|-----|-----|-----------------------------------|------------|
| M-5AU-3 | 11.5 | 4.5 | 1.6 | 1.7 | 1.5 |
| M-5AU-4 | 12 | 5 | 1.8 | 2.1 | 1.6 |
| M-5AU-6 | 14 | 7 | 2.5 | 4.0 | 1.8 |

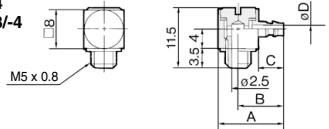


Barb Elbow for Nylon Tubing: M-5ALN-4/-6
Barb Elbow for Soft Tubing: M-5ALU-3/-4/-6

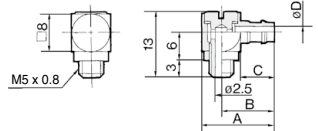


| Model | A | B | C | øD | Effective area (mm ²) | Weight (g) |
|----------|------|------|-----|-----|-----------------------------------|------------|
| M-5ALN-4 | 13 | 9 | 5 | 1.8 | 1.4 | 4.0 |
| M-5ALN-6 | 15 | 11 | 7 | 2.5 | 2.4 | 4.4 |
| M-5ALU-3 | 13 | 9 | 4.5 | 1.6 | 1.1 | 4.0 |
| M-5ALU-4 | 13.5 | 9.5 | 5 | 1.8 | 1.4 | 4.1 |
| M-5ALU-6 | 15.5 | 11.5 | 7 | 2.5 | 2.4 | 4.5 |

M-5ALN-4
M-5ALU-3/-4



M-5ALN-6
M-5ALU-6

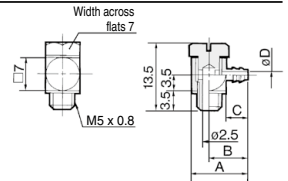


Barb Elbow for Nylon Tubing: M-5ALHN-4/-6
Barb Elbow for Soft Tubing: M-5ALHU-3/-4/-6

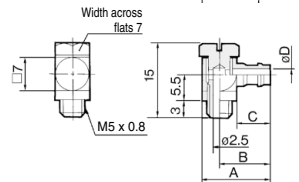


| Model | A | B | C | øD | Effective area (mm ²) | Weight (g) |
|-----------|------|------|-----|-----|-----------------------------------|------------|
| M-5ALHN-4 | 12 | 8.5 | 5 | 1.8 | 1.4 | 3.2 |
| M-5ALHN-6 | 14 | 10.5 | 7 | 2.5 | 2.4 | 3.7 |
| M-5ALHU-3 | 12 | 8.5 | 4.5 | 1.6 | 1.1 | 3.2 |
| M-5ALHU-4 | 12.5 | 9 | 5 | 1.8 | 1.4 | 3.3 |
| M-5ALHU-6 | 14.5 | 11 | 7 | 2.5 | 2.4 | 3.9 |

M-5ALHN-4
M-5ALHU-3/-4



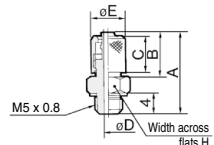
M-5ALHN-6
M-5ALHU-6



Hose Nipple: M-5H-4/-6



| Model | A | B | C | øD | øE | H | Effective area (mm ²) | Weight (g) |
|--------|------|-----|---|-----|-----|---|-----------------------------------|------------|
| M-5H-4 | 15.5 | 8.5 | 7 | 1.8 | 6.5 | 7 | 2.1 | 2.7 |
| M-5H-6 | 16.5 | 9.5 | 8 | 2.5 | 8.5 | 8 | 4.0 | 3.9 |



KQ2

KQB2

KS

KX

KM

KF

M

H/DL

L/LL

KC

KK

KK130

DM

KDM

KB

KR

KA

KQG2

KG

KFG2

MS

KKA

KP

LQ

MQR

T

IDK

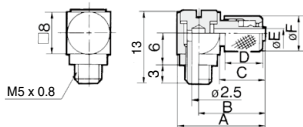
M Series

M5 Series

Hose Elbow: M-5HL-4/-6



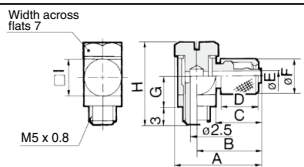
| Model | A | B | C | D | øE | øF | Effective area (mm ²) | Weight (g) |
|---------|------|------|-----|---|-----|-----|-----------------------------------|------------|
| M-5HL-4 | 16.5 | 12.5 | 8.5 | 7 | 1.8 | 6.5 | 1.4 | 4.4 |
| M-5HL-6 | 17.5 | 13.5 | 9.5 | 8 | 2.5 | 8.5 | 2.4 | 5.2 |



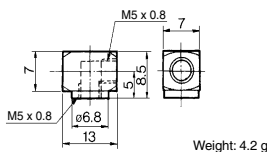
Hose Elbow: M-5HLH-4/-6



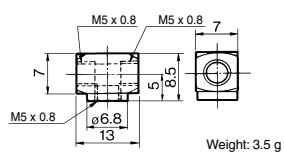
| Model | A | B | C | D | øE | øF | G | H | I | Effective area (mm ²) | Weight (g) |
|----------|------|------|-----|---|-----|-----|-----|----|---|-----------------------------------|------------|
| M-5HLH-4 | 15.5 | 12 | 8.5 | 7 | 1.8 | 6.5 | 5.5 | 15 | 7 | 1.4 | 4.5 |
| M-5HLH-6 | 17.5 | 13.5 | 9.5 | 8 | 2.5 | 8.5 | 6 | 16 | 8 | 2.4 | 6.6 |



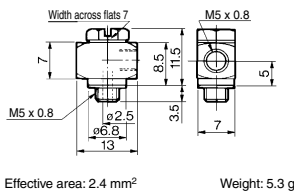
Elbow: M-5L



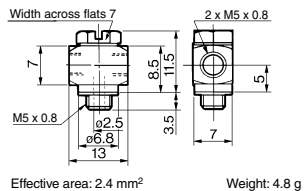
Tee: M-5T



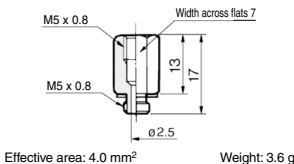
Universal Elbow: M-5UL



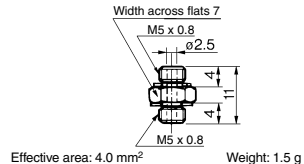
Universal Tee: M-5UT



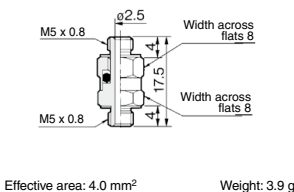
Extension Fitting: M-5J



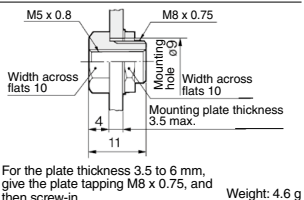
Nipple: M-5N



Universal Nipple: M-5UN

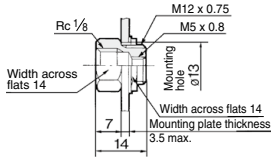


Bulkhead Union: M-5E



M5 Series

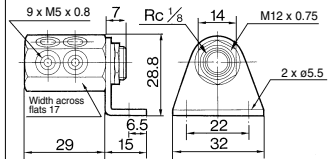
Bulkhead Reducer: M-5ER



For the plate thickness 3.5 to 6 mm, give the plate tapping M12 x 0.75, and then screw-in.

Weight: 12 g

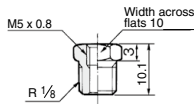
Manifold: M-5M



Panel mounting plate thickness max. 3.5 mm
For the plate thickness 3.5 to 6 mm, give the plate tapping M12 x 0.75, and then screw-in.

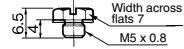
Weight: 59 g

Bushing: M-5B



Weight: 5.8 g

Plug: M-5P



Weight: 1.3 g

⚠ Precautions

- Be sure to read this before handling the products.
- Refer to back page 50 for Safety Instructions and pages 13 to 17 for Fittings and Tubing Precautions.

Tightening of M3/M5 Threads

⚠ Caution

1. Tighten by hand, and give it an additional turn with a wrench.
Please check the number of tightening revolutions using the table below.
If tightened excessively, thread portion may be damaged and gasket may be deformed. This will cause air leakage. On the contrary, if tightened insufficiently, thread may loosen causing air leakage.

| Thread | Model | Number of tightening rotations | |
|-------------|-----------|--|---|
| M3 | M-3AU-□ | Approx. 1/4 rotations | |
| | M-3N | | |
| | M-3P | | |
| | M-3ALU-□ | | |
| | M-3UL | | |
| M5 | M-3UT | Approx. 1/2 rotations | |
| | M-5AN-□ | | |
| | M-5AU-□ | | |
| | M-5H-□ | Approx. 1/6 to 1/4 rotations <small>(Note)</small> | |
| | M-5J | | |
| | M-5N | | |
| | M-5UN | | |
| | M-5P | | |
| | M-5ALN-6 | | Approx. 1/2 rotations <small>(Note)</small> |
| | M-5ALU-6 | | |
| | M-5ALHN-6 | | |
| | M-5ALHU-6 | | |
| | M-5HL-□ | | |
| | M-5HLH-□ | | |
| | M-5ALN-4 | | |
| M-5ALU-3,4 | | | |
| M-5ALHN-4 | | | |
| M-5ALHU-3,4 | | | |
| M-5UL | | | |
| M-5UT | | | |

(Note) As a guideline, the tightening torque should be 1 to 1.5 N·m.

Use of Tube with Hose Nipple

⚠ Caution

1. Cut the tube perpendicularly to the tube axis to a little longer than required length. (Use tube cutter "TK-1", "TK-2" or "TK-3".)
2. Pass the tube through the cap nut.
3. Push the tube until it comes to the end of the barb portion, or it may cause air leakage or hose releasing.
4. Tighten the cap nut firmly by hand on the fitting.

Use of Tube with Barb Fitting

⚠ Caution

1. Cut the tube perpendicularly to the tube axis to a little longer than required length. (Use tube cutter "TK-1", "TK-2" or "TK-3".)
2. Push the tube until it comes to the end of the barb portion, or it may cause air leakage or release hose.

KQ2

KQB2

KS
KX

KM

KF

M

H/DL
L/LL

KC

KK

KK130

DM

KDM

KB

KR

KA

KQG2

KG

KFG2

MS

KKA

KP

LQ

MQR

T

IDK



1 Gasket Material Modification

| Symbol | Specifications | |
|-------------|---|-----------------|
| X83 | Gasket material: Stainless steel 304, NBR | |
| | Applicable thread | Gasket part no. |
| | M3 | M-3G2 |
| | M5 <small>Note)</small> | M-5G2 |
| X226 | Gasket material: Stainless steel 304, FKM | |
| | Applicable thread | Gasket part no. |
| | M3 | M3G-DPH00489 |
| X112 | Gasket material: Stainless steel 316, Special FKM | |
| | Applicable thread | Gasket part no. |
| | M5 | M-5G3 |

Note) Compatible with only models using M-5GH.

Spare Parts

| Description | Part no. | Applicable thread | Material | Applicable model |
|-------------|-----------|-------------------|---|---|
| Gasket | M-3G | M3 | PVC | — |
| | M-3G2 | | Stainless steel 304, NBR | — |
| | M-5G1 | M5 | PVC | — |
| | M-5G2 | | Stainless steel 304, NBR | — |
| | M-5G3 | | Stainless steel 316, Special FKM | — |
| | M-5GH | | Nylon 66, GF30% | M-5AL□-6, M-5ALH□-6 M-5HL-4, 6, M-5HLH4, 6 |
| | M-6G | M6 | Stainless steel 304, NBR | For KQ2 M6 thread |
| | M-10/32G | 10-32 UNF | | KQ2 Series, 10-32 UNF |
| Cap nut | M-5-4-P01 | — | C3604 (With electroless nickel plated) | M-01H-4, M-5H-4 M-5HL-4, M-5HLH-4 |
| | M-5-6-P01 | — | C3604 (With electroless nickel plated) | M-01H-6, M-5H-6 M-5HL-6, M-5HLH-6 |