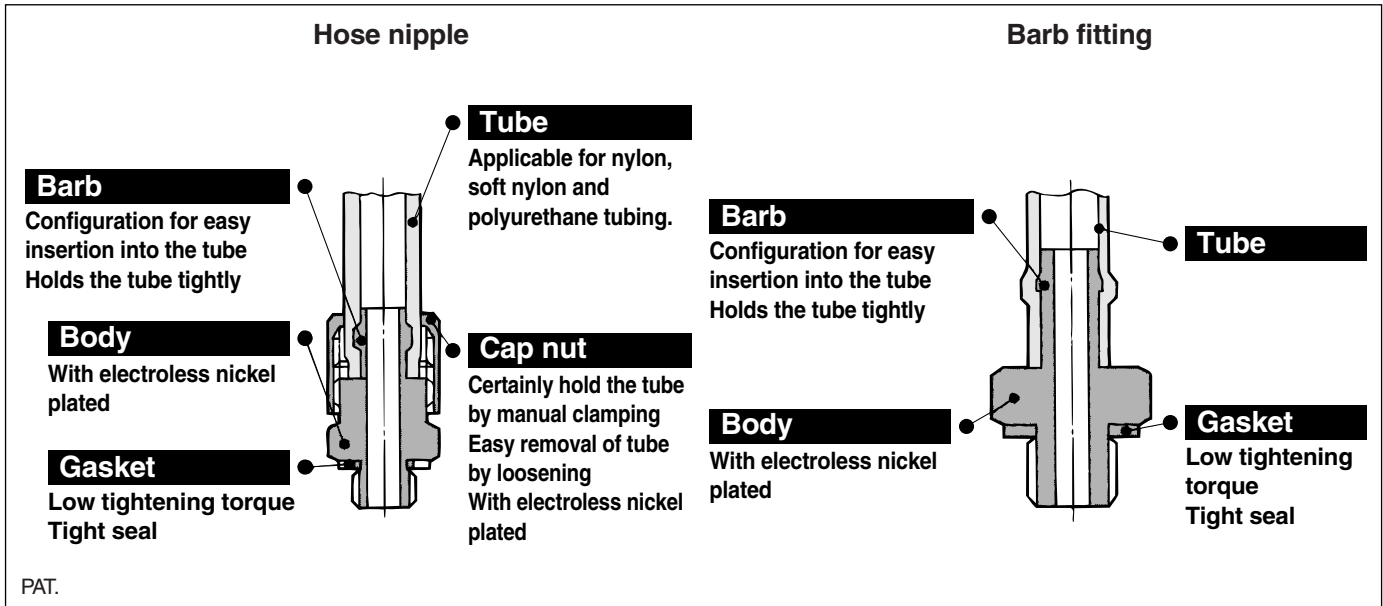


Miniature Fittings

M3, M5, R 1/8

Series M



Compact piping space

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

Line up various styles

For air connection in confined areas.

Accepts many styles of plastic tubing

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



Specifications

Applicable tubing material		Nylon	Soft nylon	Polyurethane
Applicable tubing	M3	—	ø3.18/ø2.18	ø3.18/ø2, ø4/ø2.5
	M5-R 1/8	ø4/ø2.5 ø6/ø4	ø4/ø2.5 ø6/ø4	ø3.18/ø2 ø4/ø2.5, ø6/ø4
Max. operating pressure (at 20°C)		1.5 MPa	1.0 MPa	0.8 MPa
Connection size		M3, M5, R 1/8		
Thread		JIS B 0209 Class 2 (Metric coarse thread), JIS B 0203 (Taper pipe thread)		

Principal Parts Material

Material	Body	C3604BD (Nipple M-3N, M-5N: Stainless steel 303)
	Gasket	PVC, Nylon 66: GF30%, Stainless steel 304, NBR










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			Surface treatment (Color)
		Barb fittings	Barb elbow	Barb elbow (H)	
M3	Soft nylon tubing Polyurethane tubing		—		Electroless nickel plated (Silver color)
	Nylon tubing				Electroless nickel plated (Silver color)
R 1/8, M5	Soft nylon tubing Polyurethane tubing	Marking	Marking	Marking	Electroless nickel plated (Black color) [Except stud]
	Nylon tubing				Electroless nickel plated (Silver color)























* Body of M-5E, M-5ER, M-5M is not surface-treated.
Electroless nickel plate treated is available as option -X2.














Series M3, R 1/8

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

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

Series M5

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

Series	Model	Description	Application	Note
M5	M-5T	tee 	Both sides allow 90° connection	M5 female x M5 female x M5 female
	M-5UL	Universal elbow 	Body rotates at 360° around the stud axis	M5 female x M5 male
	M-5UT	Universal tee 	Body rotates at 360° around the stud axis	M5 female x M5 female x M5 male
	M-5J	Extension fitting 	Solid piece moves fitting up from workpiece	M5 male x M5 female
	M-5N	Nipple 	Fitting to workpiece and fitting to fitting connection	M5 male x M5 male
	M-5UN	Universal nipple 	Body rotates at 360° around the stud axis	M5 male x M5 male PAT.
	M-5E	Bulkhead union 	Panel-mount connection	M5 female x M5 female
	M-5ER	Bulkhead reducer 	Reduction from Rc 1/8 to M5 including panel or bracket mounting	Rc 1/8 x M5 female
	M-5M	Manifold 	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 	For reducing R 1/8 female to M5.	R 1/8 x M5 female
M-5P	Plug 	Use to plug unused M5 port.		
M-5G1	Gasket 	To seal M5 thread	Material: PVC	
M-5GH	Gasket (H) 	M-5AL□-6 M-5ALH□-6 M-5HL-4, 6 M-5HLH-4, 6	Material: Nylon66 GF30%	

- K□
- M□
- H□
- D□
- MS
- T□
- VMG

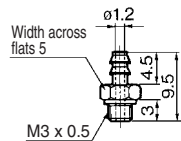
* Gaskets are prepared for other items than the above, too.

Part no.	Application	Material
M-5G2	For M5 thread for Series KQ2, KJ	Stainless steel 304,
M-6G	For M6 thread for Series KQ2	NBR
M-10/32G	For 10-32UNF thread for Series KQ2	

Series M

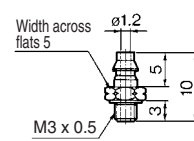
Series M3

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



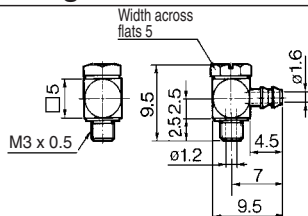
Effective area: 0.9 mm² Weight: 0.6 g

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



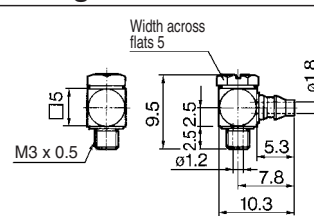
Effective area: 0.9 mm² Weight: 0.7 g

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



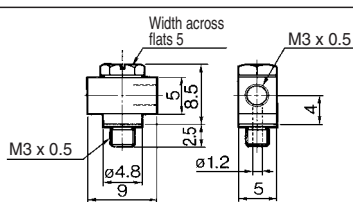
Effective area: 0.6 mm² Weight: 0.8 g

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



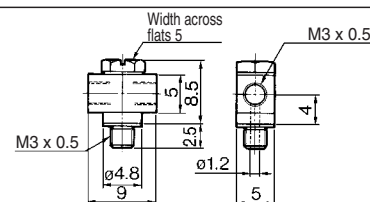
Effective area: 0.6 mm² Weight: 0.9 g

Universal Elbow: M-3UL



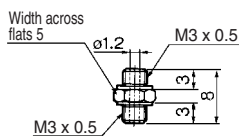
Effective area: 0.6 mm² Weight: 1.6 g

Universal Tee: M-3UT



Effective area: 0.6 mm² Weight: 1.4 g

Nipple: M-3N



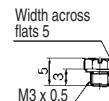
Weight: 0.6 g
Effective area: 0.9 mm²

Gasket: M-3G



Weight: 0.005 g

Plug: M-3P



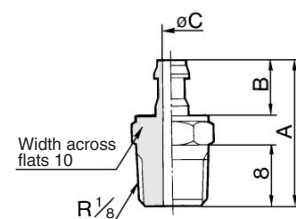
Weight: 0.5 g

Series R 1/8

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



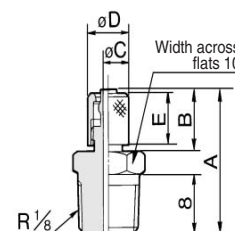
Applicable tubing	Model	A	B	øC	Effective area (mm ²)	Weight (g)
Nylon tubing	M-01AN-4	16	5	1.8	2.1	6.4
	M-01AN-6	18	7	2.5	4.0	6.6
Soft tubing	M-01AU-4	16	5	1.8	2.1	6.5
	M-01AU-6	18	7	2.5	4.0	6.7



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



Model	A	B	øC	øD	E	Effective area (mm ²)	Weight (g)
M-01H-4	19.5	8.5	1.8	6.5	7	2.1	7.1
M-01H-6	20.5	9.5	3	8.5	8	5.5	7.7

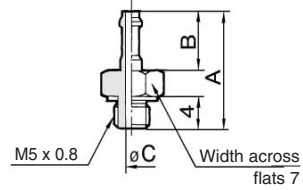


Series M5

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



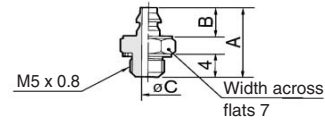
Model	A	B	øC	Effective area (mm ²)	Weight (g)
M-5AN-4	12	5	1.8	2.1	1.6
M-5AN-6	14	8	2.5	4.0	1.7



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

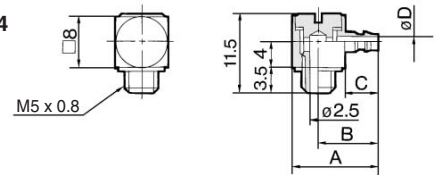


Barb Elbow for Nylon Tubing: M-5ALN-4/-6 Barb Elbow for Soft Tubing: M-5ALU-3/-4/-6

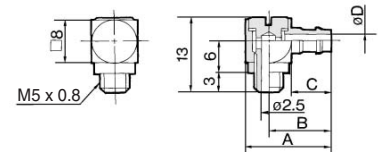


Model	A	B	C	øD	Effective area (mm ²)	Weight (g)
M-5ALN-4	13	9	5	1.8	1.4	4.0
M-5ALN-6	15	11	7	2.5	2.4	4.4
M-5ALU-3	12.5	8.5	4.5	1.6	1.1	4.0
M-5ALU-4	13.3	9.3	5	1.8	1.4	4.1
M-5ALU-6	15.3	11.3	7	2.5	2.4	4.5

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



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

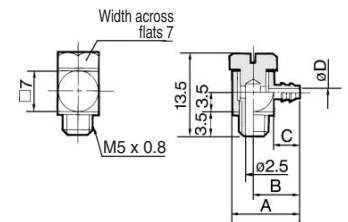


Barb Elbow for Nylon Tubing: M-5ALHN-4/-6 Barb Elbow for Soft Tubing: M-5ALHU-3/-4/-6

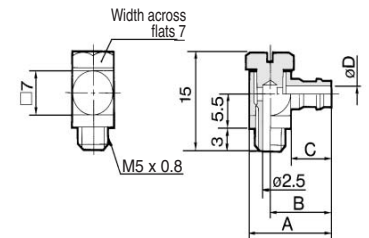


Model	A	B	C	øD	Effective area (mm ²)	Weight (g)
M-5ALHN-4	12	8.5	5	1.8	1.4	3.2
M-5ALHN-6	14	10.5	7	2.5	2.4	3.7
M-5ALHU-3	11.5	8	4.5	1.6	1.1	3.2
M-5ALHU-4	12.3	8.8	5	1.8	1.4	3.3
M-5ALHU-6	14.3	10.8	7	2.5	2.4	3.9

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



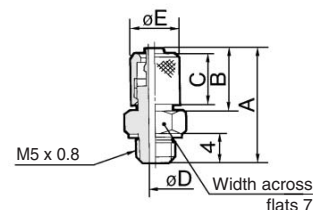
M-5ALHN-6
M-5ALHU-6



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



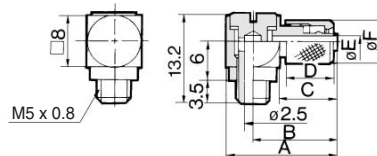
Series M

Series M5

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



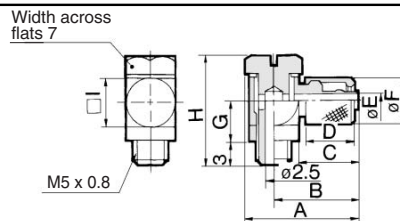
Model	A	B	C	D	øE	øF	Effective area (mm ²)	Weight (g)
M-5HL-4	16.5	12.5	8.5	7	1.8	6.5	1.4	4.4
M-5HL-6	17.5	13.5	9.5	8	2.5	8.5	2.4	5.2



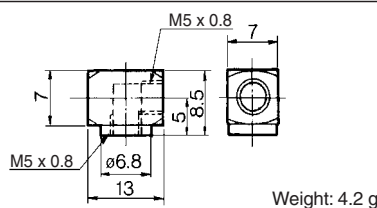
Hose Elbow: M-5HLH-4/-6



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

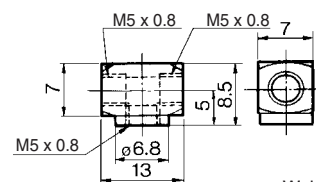


Elbow: M-5L



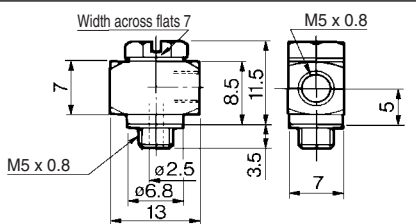
Weight: 4.2 g

Tee: M-5T



Weight: 3.5 g

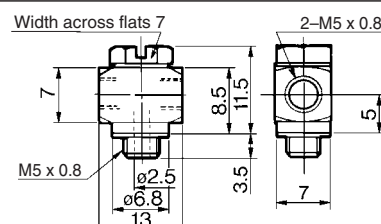
Universal Elbow: M-5UL



Effective area: 2.4 mm²

Weight: 5.3 g

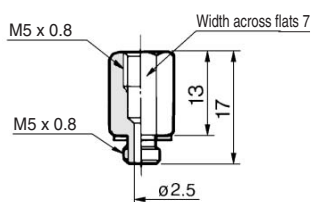
Universal Tee: M-5UT



Effective area: 2.4 mm²

Weight: 4.8 g

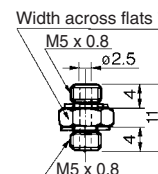
Extension Fitting: M-5J



Effective area: 4.0 mm²

Weight: 3.6 g

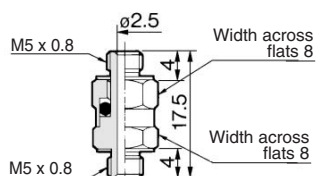
Nipple: M-5N



Effective area: 4.0 mm²

Weight: 1.5 g

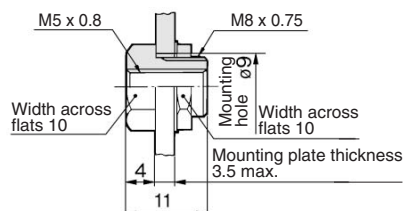
Universal Nipple: M-5UN



Effective area: 4.0 mm²

Weight: 3.9 g

Bulkhead Union: M-5E

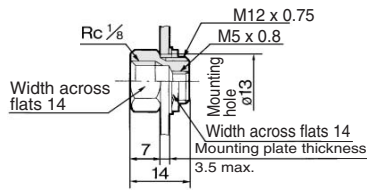


For the plate thickness 3.5 to 6 mm, give the plate tapping M8 x 0.75, and then screw-in.

Weight: 4.6 g

Series M5

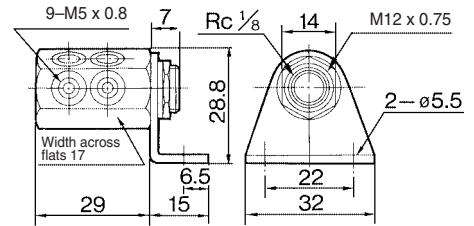
Bulkhead Reducer: M-5ER



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

Weight: 12 g

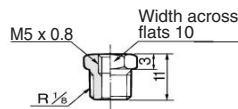
Manifold: M-5M



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.

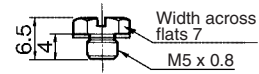
Weight: 59 g

Bushing: M-5B



Weight: 5.8 g

Plug: M-5P



Weight: 1.3 g

Gasket: M-5G1



Weight: 0.01 g

Gasket: M-5GH



Weight: 0.04 g

- K
- M
- H
- D
- MS
- T
- VMG

⚠ Precautions

Refer to pages 15-18-3 to 15-18-4 in the front matter for Safety Instructions and Common Precautions on the products mentioned in this catalog, and refer to pages 15-1-10 to 15-1-11 for Precautions on every series.

Tightening of M3/M5 Threads

⚠ Caution

1. Tighten by hand, and give it an additional 1/4 rotation with wrench. (The additional rotation should be doubled to 1/2 when using the universal elbow, universal tee, etc. which have two gaskets.) 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.

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.

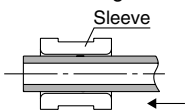
Miniature Fittings (For exclusive Miniature Tubing) Series M



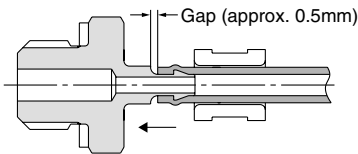
Tubing Connection and Removal

Installing of tube

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



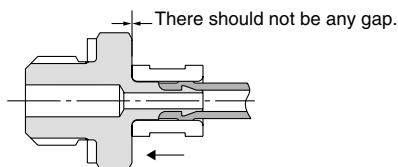
3. Insert the tubing slowly into the fittings. Make sure to secure a gap of approx. 0.5mm between the tubing end and the barb end.



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.

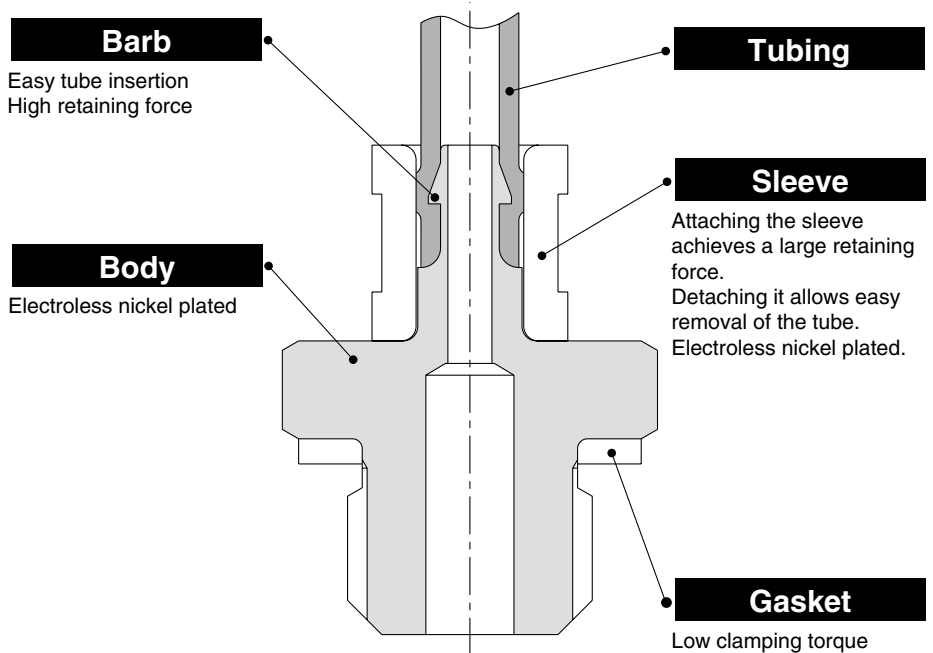
Note) When installing the tubing, the sleeve must be attached. Operation without attaching the sleeve may cause tubing disconnection.



Removing of tube

Withdraw the sleeve straight along the tubing. Use a tool such as long-nose pliers if it is difficult to pull out by hand.

1. Withdraw the tubing straight.
2. When reusing the tubing, cut off the previously installed portion of the tubing to avoid possible leakage and/or disconnection of the tubing.



Specifications

Applicable tube material	Polyurethane
Applicable tube dia.	ø2/ø1.2
Max. operating pressure (at 20°C)	1MPa
Port size	M3, M5, ø3.2, ø4
Thread	JIS B0209 Class 2 (Metric coarse thread)

How to Order

M-5 AU-2

Miniature fittings • Application tubing (O.D. / I.D.)
2 ø2/ø1.2

Model

AU	Barb fitting	M3, M5
ALU	Barb elbow	M3
ALHU	Barb elbow	M5
F	Barb one-touch	ø3.2, ø4
R	Reducer	

Port size

3	M3 x 0.5
5	M5 x 0.8
32	ø3.2
04	ø4

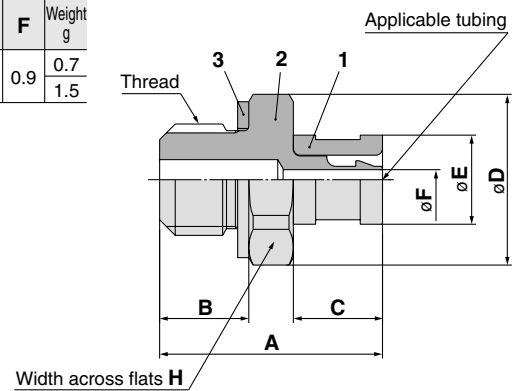
Barb fitting: M-3AU-2, M-5AU-2



Applicable tubing O.D. x I.D. (mm)	Thread	Model	H	A	B	C	D	E	F	Weight g
	M5 x 0.8	M-5AU-2	7	10	4		7.7			1.5

Component Parts

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



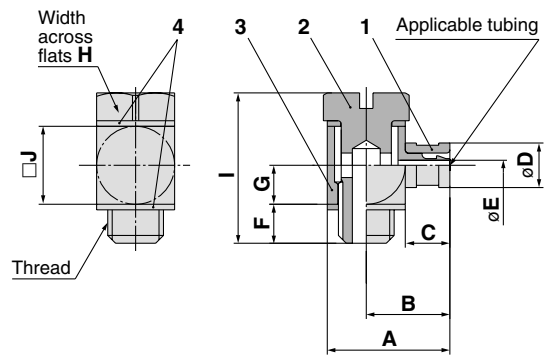
Barb elbow: M-3ALU-2, M-5ALHU-2



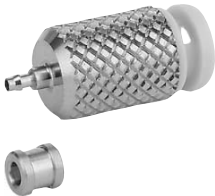
Applicable tubing O.D. x I.D. (mm)	Thread	Model	H	A	B	C	D	E	F	G	I	J	Weight g
	M5 x 0.8	M-5ALHU-2	7	11	7.5				3	3.5	13.5	7	3.5

Component Parts

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



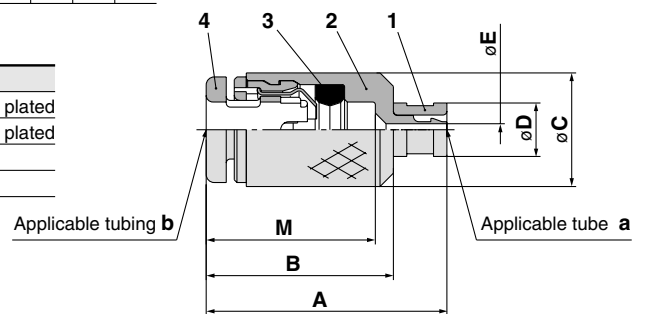
Barb one-touch: M-32F-2, M-04F-2



Applicable tubing (mm)	Model	A	B	C	D	E	M	Weight g
$\phi 2 \times \phi 1.2$	M-32F-2	17.7	13.7	7.5	4	0.9	12.7	2.4
	M-04F-2	18	14	8.5				2.9

Component Parts

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

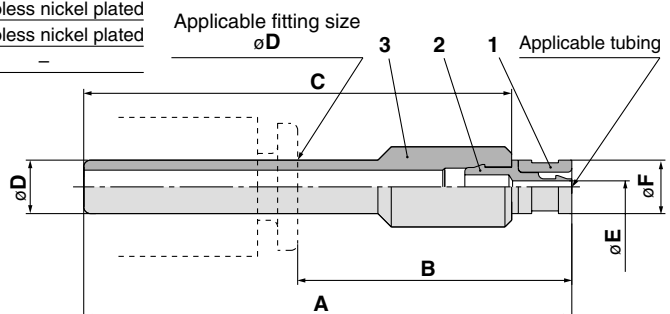


Reducer: M-32R-2, M-04R-2

Applicable tubing O.D. x I.D. (mm)	Fitting size ϕD	Model	A	B	C	E	F	Weight g
	$\phi 4$	M-04R-2	36.5		32			0.8

Component Parts

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





Miniature Tubing and Miniature Fittings

Specific Product Precautions

Be sure to read before handling.

Selection

Caution

1. Do not use in locations where the connected tubing will slide or rotate. This may result in damage of the fittings.
2. The tube bending radius in the vicinity of the fitting should be at least the minimum bending radius of the tubing. If bent more than the min. bending radius, tubing may fail or be crushed.
3. Do not use with fluids other than those shown in the applicable specifications. The tubing is applicable for air and general industrial water. Please consult with SMC when using with other fluids.
4. When using water, be careful that the surge pressure does not cause the tubing to burst.

Mounting

Caution

1. Before mounting confirm the model and size, etc. Also, confirm that there are no blemishes, nicks or cracks in the product.
2. Mount so that the tubing and fittings are not subjected to twisting, pulling or moment loads, allowing sufficient leeway in the tubing length. Failure to consider this factor, can cause damage to the fittings and flattening, bursting or disconnection of the tubing.
3. All tubing is specified as immovable piping, except in the case of the coil tubing. For example, if tubing is used inside the cable carrier, any piping movement may result in increased frictional abrasion, tensile expansion, or tubing disconnection from the fittings. Please check carefully when piping.

Operating Environment

Warning

1. Do not use in locations where static electric charges will be a problem. Please consult with SMC regarding use in this kind of environment.
2. Do not use in locations where spatter occurs.
There is a danger of spatter causing a fire.
3. Do not use in environments where there is direct contact with liquids such as cutting oil, lubricating oil or coolant oil, etc. Please contact SMC regarding use in environments where there will be direct contact with cutting oil, lubricating oil or coolant oil, etc.

Maintenance

Caution

1. Check for the following during regular maintenance, and replace components as necessary.
 - a) Scratches, gouges, abrasion, corrosion
 - b) Leakage
 - c) Twisting, flattening or distortion of tubing
 - d) Hardening, deterioration or softness of tubing
2. Do not repair or patch the replaced tubing or fittings for reuse.

Handling of One-touch Fittings

Caution

1. Tubing attachment/detachment for One-touch fittings
 - 1) Attaching of tube
 1. Take a tubing having no flaws on its periphery and cut it off at a right angle. When cutting the tubing, use tubing cutters TK-1, 2 or 3. Do not use pinchers, nippers or scissors, etc. If cutting is done with tools other than tubing cutters, the tubing may be cut diagonally or become flattened, etc. This can make a secure installation impossible, and cause problems such as the tubing pulling out after installation or air leakage. Allow some extra length in the tubing.
 2. The polyurethane tubing with internal pressure expands its O.D. This may result in failure of reconnection to One-touch fittings. Examine the tubing and do not cut the tubing but reconnect to the One-touch fittings when its O.D. accuracy is +0.15 or more. Make sure the tubing goes through the release bushing smoothly when reconnecting it to the One-touch fittings.
 3. Grasp the tubing and push it in slowly, inserting it securely all the way into the fitting.
 4. After inserting the tubing, pull on it lightly to confirm that it will not come out. If it is not installed securely all the way into the fitting, this can cause problems such as air leakage or the tubing pulling out.
 - 2) Detaching of tube
 1. Push in the release bushing sufficiently. When doing this, push the collar evenly.
 2. Pull out the tubing while holding down the release bushing so that it does not come out. If the release bushing is not pressed down sufficiently, there will be increased bite on the tubing and it will become more difficult to pull it out.
 3. When the removed tubing is to be used again, cut off the portion which has been chewed before reusing it. If the chewed portion of the tubing is used as is, this can cause trouble such as air leakage or difficulty in removing the tubing.
2. Tightening of M3 and M5 screws
 - 1) M3
 1. After tightening by hand, the barb fitting type should be tightened by an additional 1/4 rotation using an appropriate wrench.
 2. After tightening by hand, the barb elbow type should be tightened by an additional 1/2 rotation using an appropriate wrench.
 - 2) M5
 1. After tightening by hand, the barb fitting type should be tightened by an additional 1/6 rotation using a suitable tool.
 2. After tightening by hand, the barb elbow type should be tightened an additional 1/3 rotation using an appropriate wrench.

Over tightening can cause air leakage due to damage to the threads and/or deformation of the gasket. Under tightening can cause loose threads and air leakage, etc.

Miniature Fittings Stainless Steel 316 Series MS

For use in corrosive environments
Stainless steel

Compact piping space

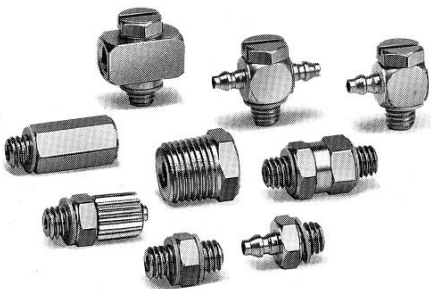
Tube has a large retaining force. Hose nipple assures easy installation and removal.

Line up various types

Possible for special tubing in the same direction. Accepts many styles of plastic tubing

Hose nipple and hose elbow

Accepts nylon, soft nylon, and polyurethane tubing.



Hose nipple

Barb

Configuration for easy insertion into the tube
Holds the tube tightly.

Body

Stainless steel 316

Gasket

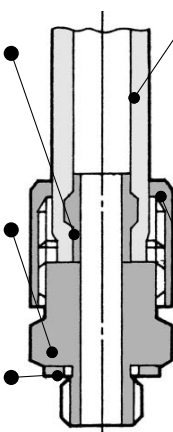
Low tightening torque
Tight seal

Tube

Possible for combination use of nylon tubing and polyurethane tubing.

Cap nut

Certainly hold the tube by manual clamping
Easy removal of tube by loosening
Stainless steel 316



Barb fitting

Barb

Configuration for easy insertion into the tube
Holds the tube tightly.

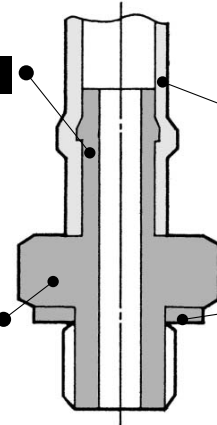
Body

Stainless steel 316

Tube

Gasket

Low tightening torque
Tight seal



Specifications

Applicable tubing material	Nylon	Soft nylon		Polyurethane
Applicable tubing diameter	ø4, ø2.5 ø6, ø4	ø3.18, ø2.18	ø4, ø2.5 ø6, ø4	ø3.18, ø2, ø4 ø2.5, ø6, ø4
Maximum operating pressure	1.5 MPa	1.0 MPa		0.8 MPa
Connection size	M5 (JIS B 0209 Class 2 metric coarse thread)			
Material	Body	Stainless steel 316		
	Gasket	PVC, Nylon 66, GF30%		

K□

M□

H□



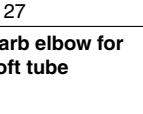


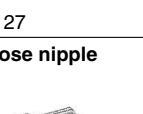

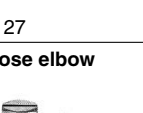












D□

MS

T□

VMG

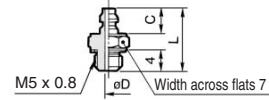
Series MS

Model			
Model	Description	Application	Note
MS-5AU-3	Barb fitting for soft tube 	For soft nylon tube	ø3.18, ø2.18 x M5
		For polyurethane tube	ø3.18, ø2 x M5
MS-5AU-4		For soft nylon and polyurethane tube	ø4, ø2.5 x M5
MS-5AU-6	 P. 27		ø6, ø4 x M5
MS-5ALHU-3	Barb elbow for soft tube 	For soft nylon tube	ø3.18, ø2.18 x M5
		For polyurethane tube	ø3.18, ø2 x M5
MS-5ALHU-4		For soft nylon and polyurethane tube	ø4, ø2.5 x M5
MS-5ALHU-6	 P. 27		ø6, ø4 x M5
MS-5H-4	Hose nipple 	For nylon, soft nylon, and polyurethane tube	ø4, ø2.5 x M5
MS-5H-6	 P. 27		ø6, ø4 x M5
MS-5HLH-4	Hose elbow 	<ul style="list-style-type: none"> For nylon, soft nylon, and polyurethane tube Body rotates at 360° around the stud axis 	ø4, ø2.5 x M5
MS-5HLH-6			ø6, ø4 x M5
MS-5G1	Gasket  P. 28	To seal M5 thread	Material: PVC
MS-5UL	Universal elbow  P. 27	Body rotates at 360° around the stud axis	M5 female x M5 male
MS-5UT	Universal tee  P. 27	Body rotates at 360° around the stud axis	M5 female x M5 female x M5 male
MS-5B	Push  P. 28	For reducing Rc 1/8 female to M5 female	R 1/8 x M5 female
MS-5P	Plug  P. 28	Use to plug unused M5 port.	
MS-5J	Extension fitting  P. 28	Solid piece moves fitting up from work piece	M5 male x M5 female
MS-5N	Nipple  P. 28	Fitting to workpiece and fitting to fitting connection	M5 male x M5 male
MS-5UN	Universal nipple  P. 28	Body rotates at 360° around the stud axis	M5 male x M5 male PAT
MS-5ATHU-3	Barb tee for soft tube 	For soft nylon tube	ø3.18, ø2.18 x M5
		For polyurethane tube	ø3.18, ø2 x M5
MS-5ATHU-4		For soft nylon and polyurethane tube	ø4, ø2.5 x M5
MS-5ATHU-6			ø6, ø4 x M5
M-5GH	Gasket (H)  P. 28	MS-5ALHU-6 MS-5HLH-4 MS-5HLH-6 MS-5ATHU-6 only	Material: Nylon 66 GF 30%

Barb Fitting for Soft Tube: MS-5AU-3/4/6



Model	C	øD	L	Effective area (mm ²)	Weight (g)
MS-5AU-3	4.5	1.6	11.5	1.7	1.4
MS-5AU-4	5	1.8	12	2.1	1.5
MS-5AU-6	7	2.5	14	4.0	1.7

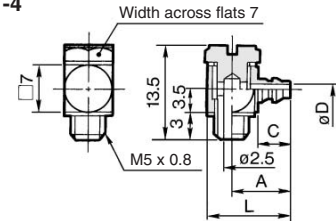


Barb Elbow for Soft Nylon: MS-5ALHU-3/4/6

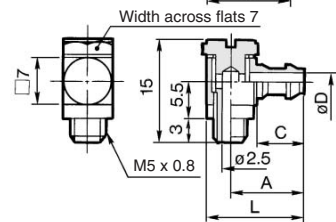


Model	A	C	øD	L	Effective area (mm ²)	Weight (g)
MS-5ALHU-3	8	4.5	1.6	11.8	1.1	3.0
MS-5ALHU-4	8.8	5.0	1.8	12.6	1.4	3.1
MS-5ALHU-6	10.8	7.0	2.5	14.6	2.4	3.7

MS-5ALHU-3, -4



MS-5ALHU-6

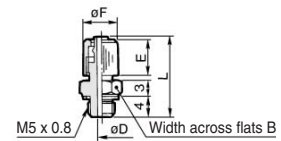


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- VMG

Hose Nipple: MS-5H-4/6



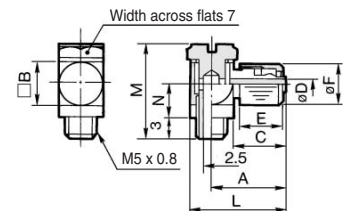
Model	B	øD	L	E	øF	Effective area (mm ²)	Weight (g)
MS-5H-4	7	1.8	15.5	7	6.5	2.1	2.5
MS-5H-6	8	2.5	16.5	8	8.5	4.0	3.7



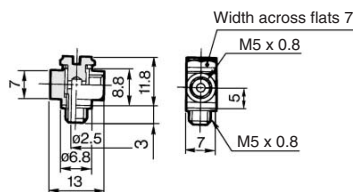
Hose Elbow: MS-5HLH-4/6



Model	A	IB	C	øD	E	øF	L	M	N	Effective area (mm ²)	Weight (g)
MS-5HLH-4	12	7	8.5	1.8	7	6.5	15.8	15	5.5	1.4	4.2
MS-5HLH-6	13.5	8	9.5	2.5	8	8.5	17.8	16	6	2.5	6.2

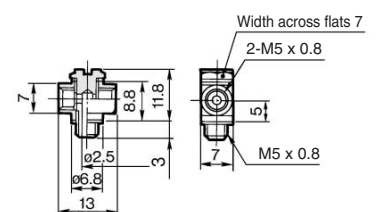


Universal Elbow: MS-5UL



Effective area: 2.4 mm²
Weight: 4.5 g

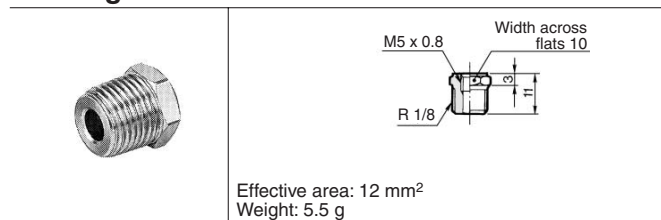
Universal Tee: MS-5UT



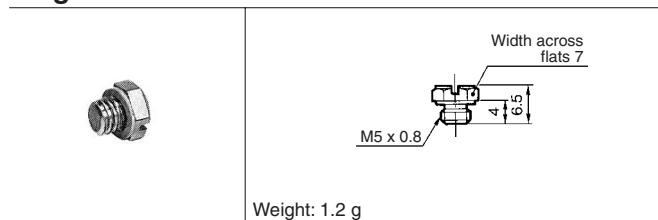
Effective area: 2.4 mm²
Weight: 4.5 g

Series MS

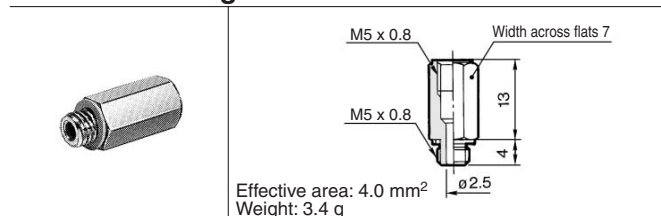
Bushing: MS-5B



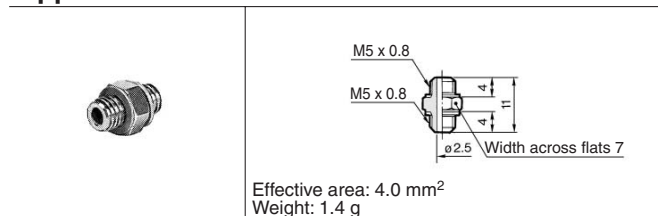
Plug: MS-5P



Extension Fitting: MS-5J



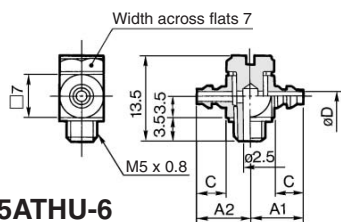
Nipple: MS-5N



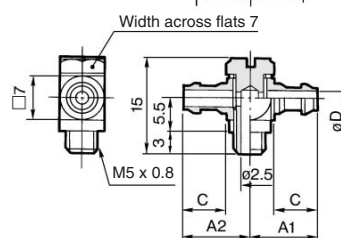
Barb Tee for Soft Tube: MS-5ATHU-3/4/6

Model	A1	A2	C	øD	Effective area (mm ²)	Weight (g)
MS-5ATHU-3	8	8.3	4.5	1.6	1.1	3.4
MS-5ATHU-4	8.8	8.8	5.0	1.8	1.4	3.6
MS-5ATHU-6	10.8	10.8	7.0	2.5	2.4	4.2

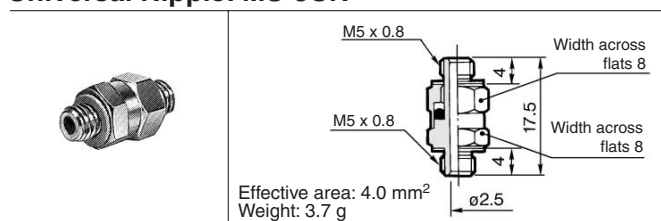
MS-5ATHU-3/4



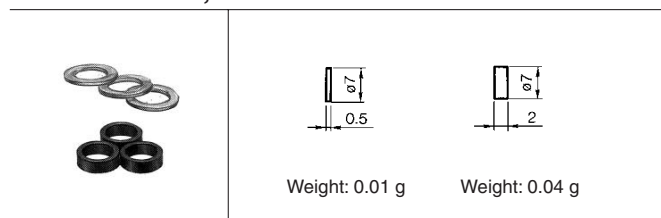
MS-5ATHU-6



Universal Nipple: MS-5UN



Gasket: M-5G1, M-5GH



⚠ Precautions

Be sure to read before handling. Refer to pages 15-8-3 to 15-8-4 for Safety Instructions and Common Precautions on the products mentioned in this catalog, and refer to pages 15-1-10 to 15-1-11 for Precautions on every series.

Tightening of M5 Thread

⚠ Caution

1. Tighten by hand, and give it an additional 1/4 rotation with a wrench. (The additional rotation should be doubled to 1/2 when using the universal elbow, universal tee, etc. which have two gaskets.) 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.

Use of Tube with Hose Nipple

⚠ Caution

1. Cut the tube perpendicularly to the tube axis to a little longer length than required (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 length than required (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.