Miniature Fittings
Stainless Steel 316
MS Series

RoHS

Applicable Tubes: ø3.2, ø4, ø6 Connection Thread: M5, R 1/8

For use in corrosive environments

Stainless steel 316

Compact piping space

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

Line up various types

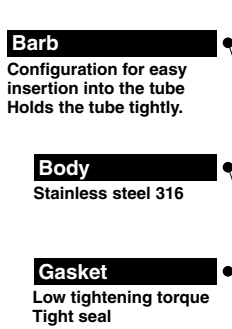
Possible for special tubing in the same direction. Accepts many types of plastic tubing

Hose nipple and hose elbow

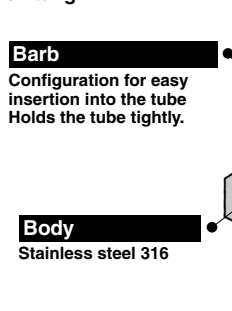
Accepts nylon, soft nylon, and polyurethane tubing.

Made to Order
(Refer to page 340 for details.)

Hose nipple



Barb fitting



Specifications

Applicable tubing material	Nylon	Soft nylon		Polyurethane	Super PFA (1)	FEP (2)	Modified PTFE (3)
Applicable tubing O.D./I.D.	ø4/ø2.5 ø6/ø4	ø3.18/ø2.18	ø4/ø2.5 ø6/ø4	ø3.18/ø2 ø4/ø2.5 ø6/ø4	ø6/ø4	ø4/ø2.5 ø6/ø4	ø4/ø2.5 ø6/ø4
Fluid	Air/Water (4)						
Maximum 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	M5, R1/8				M5		
Thread	JIS B0205 (Metric fine thread) JIS B0203 (Taper thread for piping)				JIS B0205, Class 2 (Metric fine thread)		

Note 1) , Note 2) , Note 3) Applicable only for hose nipple type.
Note 4) Barb fitting, barb elbow and barb tee are not compatible with water.

Principal Parts Material

Material	Body	Stainless steel 316
	Gasket	PVC, Nylon 66, GF30%

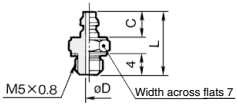
Model

Model	Description	Application		Note
MS-5AU-3	**Barb fitting for soft tube**  P.338	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				ø6/ø4 x M5
MS-5ALHU-3	**Barb elbow for soft tube**  P.338	For soft nylon tube	Body rotates at 360° around the stud axis	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				ø6/ø4 x M5
MS-5H-4	**Hose nipple**  P.338	For nylon, soft nylon, and polyurethane tube		ø4/ø2.5 x M5
MS-5H-6				ø6/ø4 x M5
MS-5HLH-4	**Hose elbow**  P.338	• 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

Model	Description	Application		Note
MS-5UL	**Universal elbow**  P.338	Body rotates at 360° around the stud axis		M5 female x M5 male
MS-5UT	**Universal tee**  P.338	Body rotates at 360° around the stud axis		M5 female x M5 female x M5 male
MS-5B	**Bushing**  P.339	For reducing Rc 1/8 female to M5 female		R 1/8 x M5 female
MS-5P	**Plug**  P.339	Use to plug unused M5 port.		
MS-5J	**Extention fitting**  P.339	Solid piece moves fitting up from work piece		M5 male x M5 female
MS-5N	**Nipple**  P.339	Fitting to workpiece and fitting to fitting connection		M5 male x M5 male
MS-5UN	**Universal nipple**  P.339	Body rotates at 360° around the stud axis		M5 male x M5 male
MS-5ATHU-3	**Barb tee for soft tube**  P.339	For soft nylon tube	Body rotates at 360° around the stud axis	ø3.18/ø2.18 x M5
		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

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

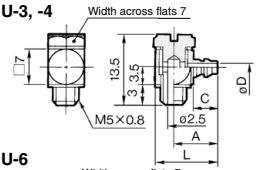
Model	C	øD	L	Effective area (mm²)	Weight (g)
MS-5AU-3	4.5	1.6	11.5	1.7	1.4
MS-5AU-4	5	1.8	12	2.1	1.5
MS-5AU-6	7	2.5	14	4.0	1.7



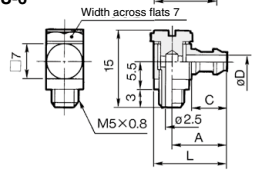
Barb Elbow for Soft Nylon: MS-5ALHU-3/4/6

Model	A	C	øD	L	Effective area (mm²)	Weight (g)
MS-5ALHU-3	8	4.5	1.6	11.8	1.1	3
MS-5ALHU-4	8.8	5	1.8	12.6	1.4	3.1
MS-5ALHU-6	10.8	7	2.5	14.6	2.4	3.7

MS-5ALHU-3, -4

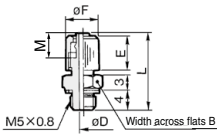


MS-5ALHU-6



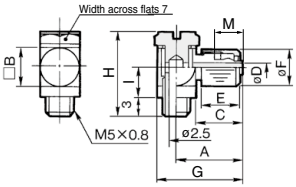
Hose Nipple: MS-5H-4/6

Model	B	øD	L	E	øF	M	Effective area (mm²)	Weight (g)
MS-5H-4	7	1.8	15.5	7	6.5	5	2.1	2.5
MS-5H-6	8	2.5	16.5	8	8.5	6	4.0	3.7

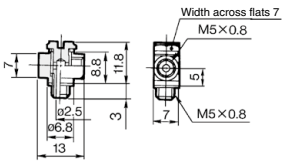


Hose Elbow: MS-5HLH-4/6

Model	A	□B	C	øD	E	øF	G	H	I	M	Effective area (mm²)	Weight (g)
MS-5HLH-4	12	7	8.5	1.8	7	6.5	15.8	15	5.5	5	1.4	4.2
MS-5HLH-6	13.5	8	9.5	2.5	8	8.5	17.8	16	6	6	2.5	6.2

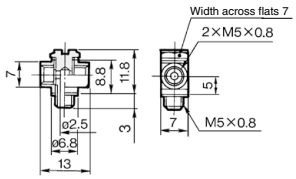


Universal Elbow: MS-5UL



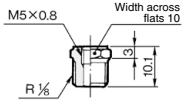
Effective area: 2.4 mm²
Weight: 4.5 g

Universal Tee: MS-5UT



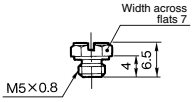
Effective area: 2.4 mm²
Weight: 4.5 g

Bushing: MS-5B



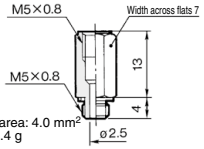
Effective area: 12 mm²
Weight: 5.5 g

Plug: MS-5P



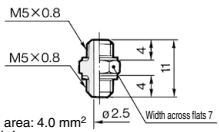
Weight: 1.2 g

Extension Fitting: MS-5J



Effective area: 4.0 mm²
Weight: 3.4 g

Nipple: MS-5N

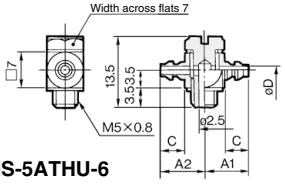


Effective area: 4.0 mm²
Weight: 1.4 g

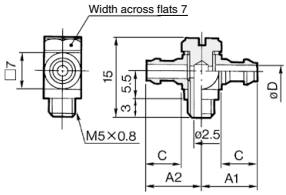
Barb Tee for Soft Tube: MS-5ATHU-3/4/6

Model	A1	A2	C	øD	Effective area (mm²)	Weight (g)
MS-5ATHU-3	8	8.3	4.5	1.6	1.1	3.4
MS-5ATHU-4	8.8	8.8	5	1.8	1.4	3.6
MS-5ATHU-6	10.8	10.8	7	2.5	2.4	4.2

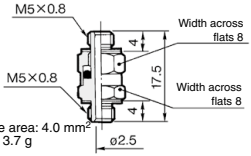
MS-5ATHU-3, -4



MS-5ATHU-6



Universal Nipple: MS-5UN



Effective area: 4.0 mm²
Weight: 3.7 g

Made to Order Specifications

Made to Order

Please contact SMC for detailed dimensions, specifications and lead times.

1 Gasket Material Modification

Symbol	Specifications	
X83	Gasket material: Stainless steel 304, NBR	
	Applicable thread	Gasket part no.
	M5	M-5G2
X112	Gasket material: Stainless steel 316, Special FKM	
	Applicable thread	Gasket part no.
	M5	M-5G3

Suffix "-X83" to the end of part number.
Example) **MS-5AU-4-X83**

Spare Parts

Description	Part no.	Applicable thread	Material	Applicable model
Gasket	M-5G1	M5	PVC	—
	M-5G2		Stainless steel 304, NBR	—
	M-5G3		Stainless steel 316, Special FKM	—
	M-5GH		Nylon 66, GF30%	MS-5ALHU-6 MS-5HLH-4 MS-5HLH-6 MS-5ATHU-6
Cap nut	MS-5-4-P01	—	Stainless steel 316	MS-5H-4 MS-5HL-4 MS-5HLH-4
	MS-5-6-P01	—	Stainless steel 316	MS-5H-6 MS-5HL-6 MS-5HLH-6

⚠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 M5 Thread

⚠Caution

1. Tighten by hand, and give it an additional rotation 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
M5	MS-5AU-□	Approx. 1/6 to 1/4 rotation Note)
	MS-5H-□	
	MS-5P	
	MS-5J	
	MS-5N	
	MS-5UN	
	MS-5ALHU-6	Approx. 1/2 rotation Note)
	MS-5HLH-□	
	MS-5ATHU-6	
	MS-5ALHU-3, 4	
	MS-5UL	
	MS-5UT	
	MS-5ATHU-3, 4	

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 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.