

Miniature Fittings Stainless Steel 316 *Series MS*

RoHS

Applicable Tubes: $\phi 3.2$, $\phi 4$, $\phi 6$ 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 styles of plastic tubing

Hose nipple and hose elbow

Accepts nylon, soft nylon, and polyurethane tubing.



Made to Order
(Refer to page 266 for details.)

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 ⁽¹⁾		Polyurethane	FEP ⁽²⁾	Modified PTFE ⁽³⁾
Applicable tubing O.D./I.D.	$\phi 4/\phi 2.5$ $\phi 6/\phi 4$	$\phi 3.18/\phi 2.18$	$\phi 4/\phi 2.5$ $\phi 6/\phi 4$	$\phi 3.18/\phi 2$ $\phi 4/\phi 2.5$ $\phi 6/\phi 4$	$\phi 4/\phi 2.5$ $\phi 6/\phi 4$	$\phi 4/\phi 2.5$ $\phi 6/\phi 4$
Fluid	Air/Water ⁽⁴⁾					
Maximum operating pressure (at 20°C)	1.5MPa	1MPa		0.8MPa	1.5MPa	1.4MPa
Ambient and fluid temperature	-5 to 60°C (Water: 0 to 60°C) (No freezing)					
Connection size	M5, R1/8				M5	
Thread	JIS B0205 (Metric fine thread) JIS B0203 (Taper thread for piping)				JIS B0205, (Metric fine thread)	

Note 1) Soft nylon tubing is not compatible with water.

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 	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		
MS-5AU-6			ø6/ø4 x M5	
P.264				
MS-5ALHU-3	Barb elbow for soft tube 	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			
P.264				
MS-5H-4	Hose nipple 	For nylon, soft nylon, and polyurethane tube		ø4/ø2.5 x M5
MS-5H-6				ø6/ø4 x M5
P.264				
MS-5HLH-4	Hose elbow 	- 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
P.264				

Model	Description	Application		Note
MS-5UL	Universal elbow  P.264	Body rotates at 360° around the stud axis		M5 female x M5 male
MS-5UT	Universal tee  P.264	Body rotates at 360° around the stud axis		M5 female x M5 female x M5 male
MS-5B	Push  P.265	For reducing Rc 1/8 female to M5 female		R 1/8 x M5 female
MS-5P	Plug  P.265	Use to plug unused M5 port.		
MS-5J	Extension fitting  P.265	Solid piece moves fitting up from work piece		M5 male x M5 female
MS-5N	Nipple  P.265	Fitting to workpiece and fitting to fitting connection		M5 male x M5 male
MS-5UN	Universal nipple  P.265	Body rotates at 360° around the stud axis		M5 male x M5 male
MS-5ATHU-3	Barb tee for soft tube   P.265	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

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M ☐

H ☐

KK ☐

D ☐

MS ☐

LQ ☐

MQR ☐

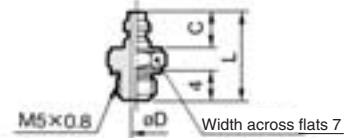
T ☐

Series MS

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



Model	C	øD	L	Effective area (mm ²)	Mass (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

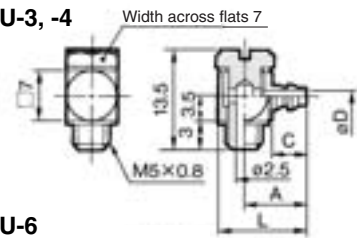


Barb Elbow for Soft Nylon: MS-5ALHU-3/4/6

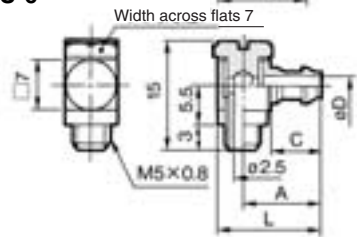


Model	A	C	øD	L	Effective area (mm ²)	Mass (g)
MS-5ALHU-3	8	4.5	1.6	11.8	1.1	3
MS-5ALHU-4	8.8	5	1.8	12.6	1.4	3.1
MS-5ALHU-6	10.8	7	2.5	14.6	2.4	3.7

MS-5ALHU-3, -4



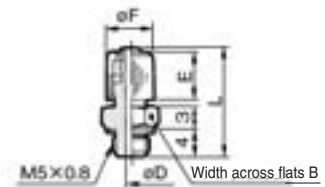
MS-5ALHU-6



Hose Nipple: MS-5H-4/6



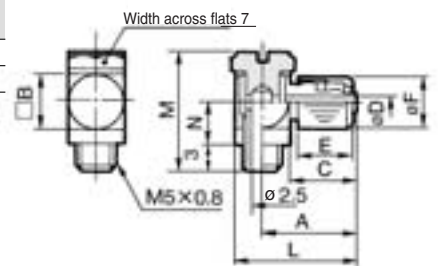
Model	B	øD	L	E	øF	Effective area (mm ²)	Mass (g)
MS-5H-4	7	1.8	15.5	7	6.5	2.1	2.5
MS-5H-6	8	2.5	16.5	8	8.5	4.0	3.7



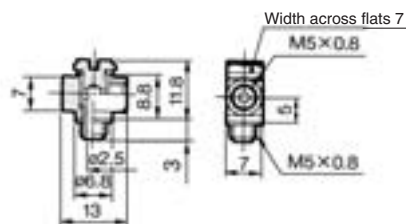
Hose Elbow: MS-5HLH-4/6



Model	A	□B	C	øD	E	øF	L	M	N	Effective area (mm ²)	Mass (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

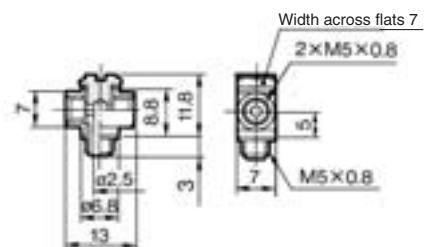


Universal Elbow: MS-5UL



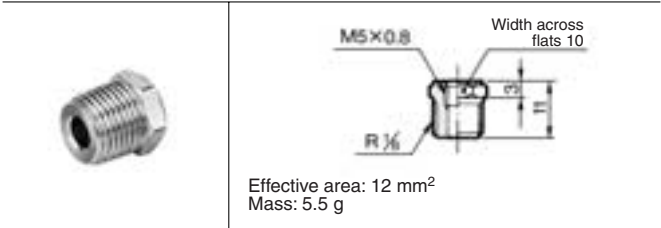
Effective area: 2.4 mm²
Mass: 4.5 g

Universal Tee: MS-5UT

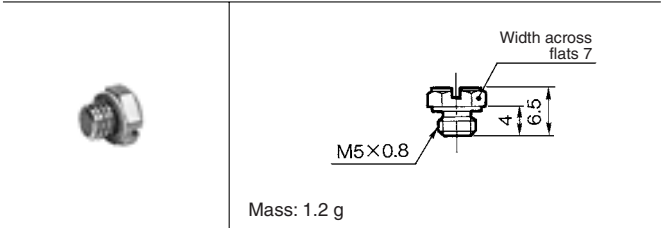


Effective area: 2.4 mm²
Mass: 4.5 g

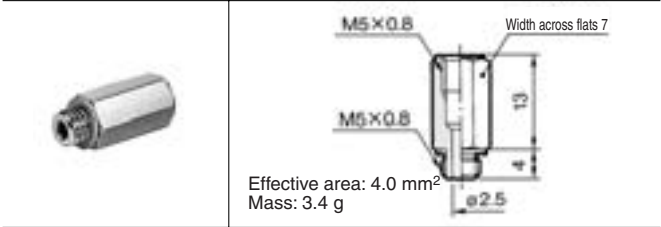
Bushing: MS-5B



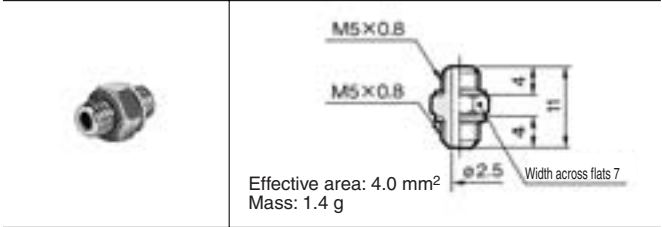
Plug: MS-5P



Extension Fitting: MS-5J



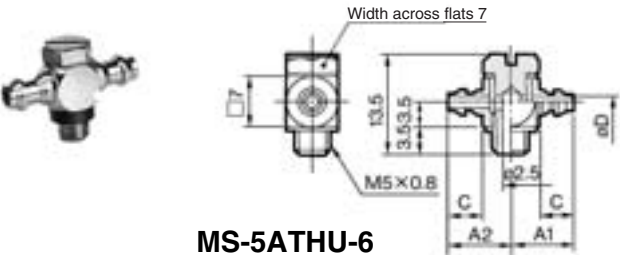
Nipple: MS-5N



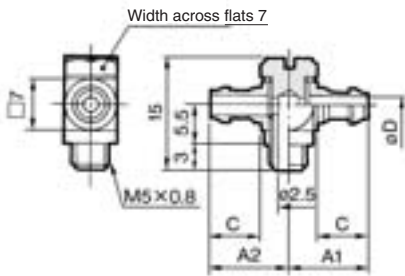
Barb Tee for Soft Tube: MS-5ATHU-3/4/6

Model	A1	A2	C	øD	Effective area (mm²)	Mass (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

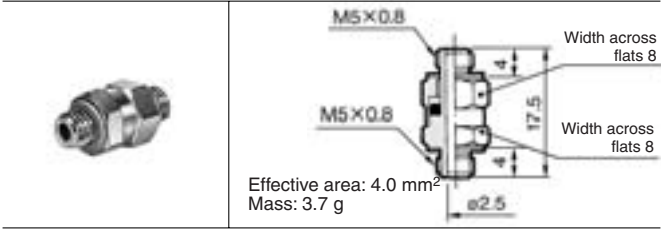
MS-5ATHU-3, -4



MS-5ATHU-6



Universal Nipple: MS-5UN



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LQ ☐

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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-P02	—	Stainless steel 316	MS-5H-6 MS-5HL-6 MS-5HLH-6

⚠ Precautions

Be sure to read before handling.

Refer to front matters 58 and 59 for Safety Instructions and pages 13 to 16 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	Approx. 1/2 rotation ^{Note)}
	MS-5ALHU-6	
	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.