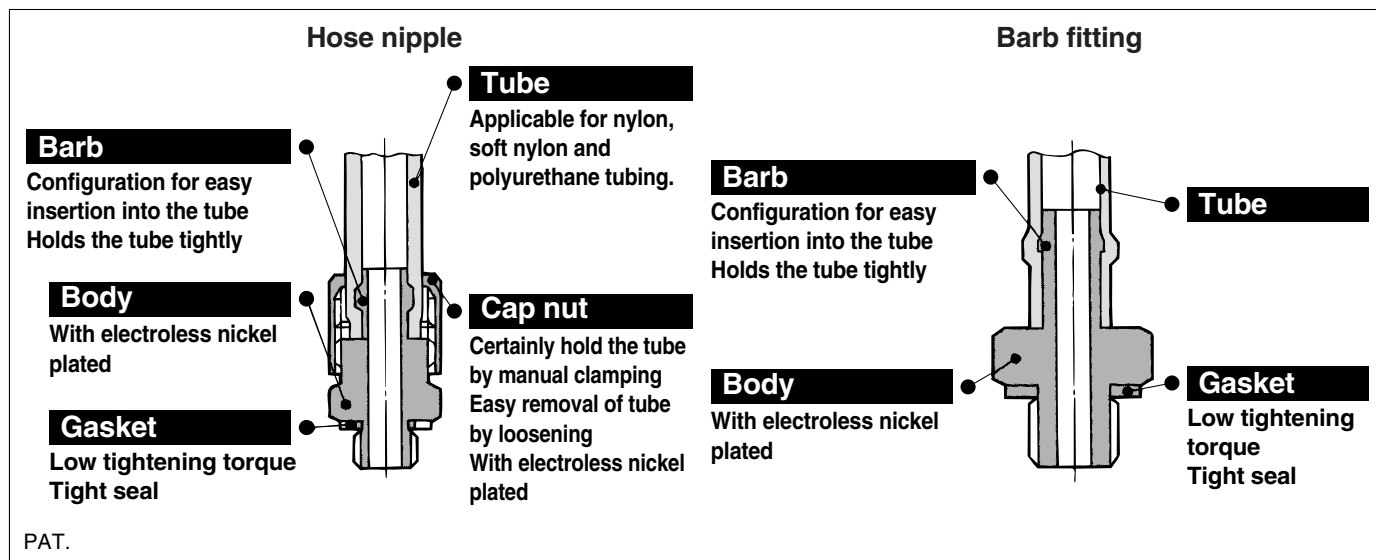


Miniature Fittings Series M

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 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.



Made to Order

(Refer to page 148 for details.)

Specifications

Applicable tubing material		Nylon	Soft nylon ⁽¹⁾	Polyurethane	FEP ⁽²⁾	Modified PTFE ⁽³⁾
Applicable tubing O.D. / I.D.	M3	—	$\varnothing 3.18/\varnothing 2.18$	$\varnothing 3.18/\varnothing 2.5$	—	—
	M5, R $\frac{1}{8}$	$\varnothing 4/\varnothing 2.5$ $\varnothing 6/\varnothing 4$		$\varnothing 3.18/\varnothing 2$ $\varnothing 4/\varnothing 2.5$ $\varnothing 6/\varnothing 4$	$\varnothing 3.18/\varnothing 2$ $\varnothing 4/\varnothing 2.5$ $\varnothing 6/\varnothing 4$	$\varnothing 4/\varnothing 2.5$ $\varnothing 6/\varnothing 4$
Fluid		Air, Water ⁽⁴⁾				
Max. operating pressure (at 20°C)		1.5 MPa	1 MPa	0.8 MPa	1.5 MPa	1.4 MPa
Ambient and fluid temperature		-5 to 60°C, Water: 0 to 40 (No freezing)				
Connection size		M3, M5, R $\frac{1}{8}$			M5, R $\frac{1}{8}$	
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) 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 (Nipple M-3N, M-5N: Stainless steel 303)
	Gasket	Nylon 66: GF30%, Stainless steel 304, NBR (PVC for M3)

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)
R $\frac{1}{8}$, M5	Nylon tubing				Electroless nickel plated (Silver color)
	Soft nylon tubing Polyurethane tubing	Marking	Marking	Marking	Electroless nickel plated (Black color) [Except stud]











* 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 M5

Series	Model	Description	Application	Note
M3	M-3AU-3	 P.144	For soft nylon tubing	ø3.18/2.18 x M3
			For polyurethane tubing	ø3.18/2 x M3
	M-3AU-4		For soft nylon and polyurethane tubing	ø4/2.5 x M3
	M-3ALU-3	 P.144	For soft nylon tubing	ø3.18/2.18 x M3
			For polyurethane tubing	ø3.18/2 x M3
	M-3ALU-4		For soft nylon and polyurethane tubing	ø4/2.5 x M3
	M-3UL	 P.144	Body rotates at 360° around the stud axis	M3 female x M3 male
	M-3UT	 P.144	Body rotates at 360° around the stud axis	M3 female x M3 female x M3 male
	M-3N	 P.144	Fitting to workpiece and fitting to fitting connection	M3 male x M3 male
	M-3P	 P.144	Use to plug unused M3 port	

Series	Model	Description	Application	Note
R 1/8	M-01AN-4	 P.144	For nylon tubing	ø4/2.5 x R 1/8
				ø6/4 x R 1/8
	M-01AU-4	 P.144	For soft nylon and polyurethane tubing	ø4/2.5 x R 1/8
				ø6/4 x R 1/8
	M-01H-4	 P.144	For nylon, soft nylon and polyurethane tubing	ø4/2.5 x R 1/8
	M-01H-6			ø6/4 x R 1/8

Series	Model	Description	Application	Note
M5	M-5AN-4	 P.145	For nylon tubing	ø4/2.5 x M5
				ø6/4 x M5
	M-5AN-6		For soft nylon tubing	ø3.18/2.18 x M5
	M-5AU-3	 P.145	For soft nylon tubing	ø3.18/2.18 x M5
			For polyurethane tubing	ø3.18/2 x M5
	M-5AU-4		For soft nylon and polyurethane tubing	ø4/2.5 x M5
	M-5AU-6			ø6/4 x M5
	M-5ALN-4	 P.145	For nylon	ø4/2.5 x M5
			• Body rotates at 360° around the stud axis	ø6/4 x M5
	M-5ALN-6			ø6/4 x M5
M-5ALU-3	 P.145	For soft nylon tubing	ø3.18/2.18 x M5	
		For polyurethane tubing	ø3.18/2 x M5	
		For soft nylon and polyurethane tubing	ø4/2.5 x M5	
M-5ALU-4			ø6/4 x M5	
M-5ALU-6			ø6/4 x M5	
M-5ALHN-4	 P.145	Body rotates at 360° around the stud axis	ø4/2.5 x M5	
		For nylon tubing	ø6/4 x M5	
M-5ALHN-6			ø6/4 x M5	
M-5ALHU-3	 P.145	For soft nylon tubing	ø3.18/2.18 x M5	
		For polyurethane tubing	ø3.18/2 x M5	
		For soft nylon and polyurethane tubing	ø4/2.5 x M5	
M-5ALHU-4			ø6/4 x M5	
M-5ALHU-6			ø6/4 x M5	
M-5H-4	 P.145	For nylon, soft nylon and polyurethane tubing	ø4/2.5 x M5	
M-5H-6			ø6/4 x M5	
M-5HL-4	 P.146	• For nylon, soft nylon and polyurethane tubing	ø4/2.5 x M5	
		• Body rotates at 360° around the stud axis	ø6/4 x M5	
M-5HL-6			ø6/4 x M5	
M-5HLH-4	 P.146		ø4/2.5 x M5	
			ø6/4 x M5	
M-5HLH-6			ø6/4 x M5	
M-5L	 P.146	One-sided 90° elbow	M5 female x M5 female	

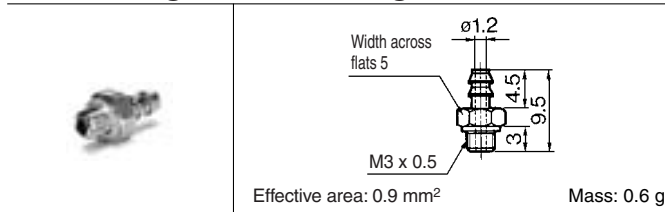
Series	Model	Description	Application	Note
M5	M-5T	 P.146	Both sides allow 90° connection	M5 female x M5 female x M5 female
	M-5UL	 P.146	Body rotates at 360° around the stud axis	M5 female x M5 male
	M-5UT	 P.146	Body rotates at 360° around the stud axis	M5 female x M5 female x M5 male
	M-5J	 P.146	Solid piece moves fitting up from workpiece	M5 male x M5 female
	M-5N	 P.146	Fitting to workpiece and fitting to fitting connection	M5 male x M5 male
	M-5UN	 P.146	Body rotates at 360° around the stud axis	M5 male x M5 male PAT.
M-5E	 P.146	Panel-mount connection	M5 female x M5 female	
M-5ER	 P.147	Reduction from Rc 1/8 to M5 including panel or bracket mounting	Rc 1/8 x M5 female	
M-5M	 P.147	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	 P.147	For reducing R 1/8 female to M5.	R 1/8 x M5 female	
M-5P	 P.147	Use to plug unused M5 port.		

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- LQ
- MQR
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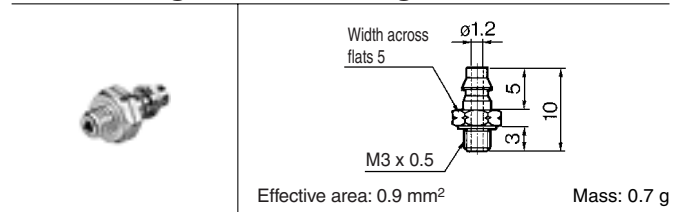
Series M

Series M3

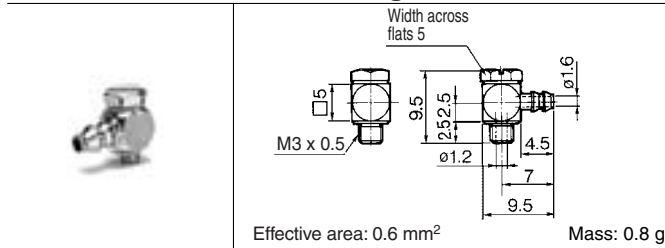
Barb Fitting for Soft Tubing: M-3AU-3



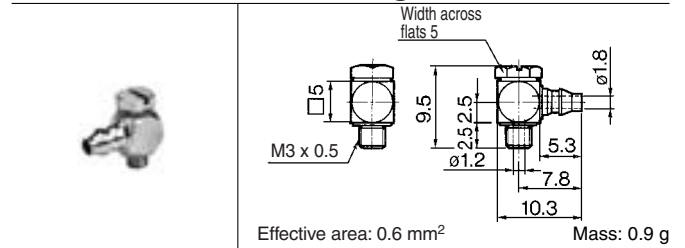
Barb Fitting for Soft Tubing: M-3AU-4



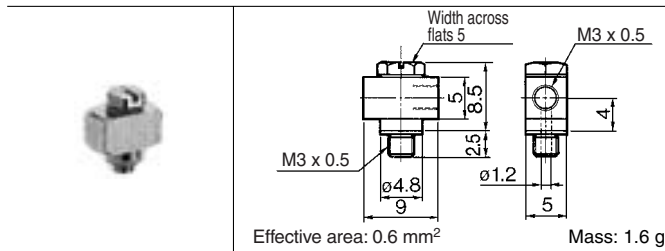
Barb Elbow for Soft Tubing: M-3ALU-3



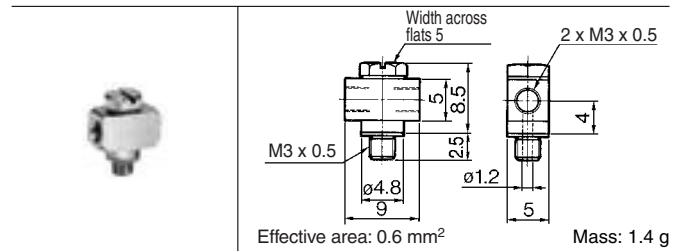
Barb Elbow for Soft Tubing: M-3ALU-4



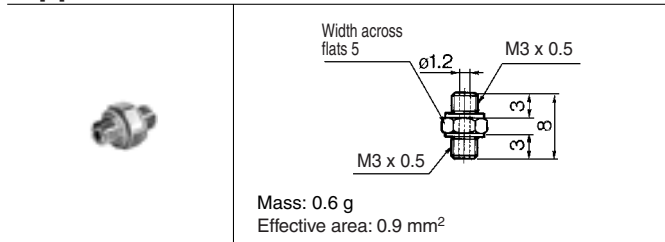
Universal Elbow: M-3UL



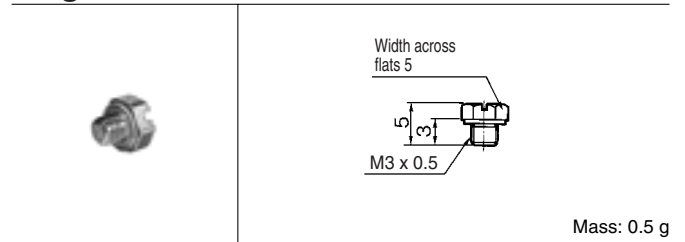
Universal Tee: M-3UT



Nipple: M-3N



Plug: M-3P



Series R 1/8

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

Applicable tubing	Model	A	B	øC	Effective area (mm²)	Mass (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

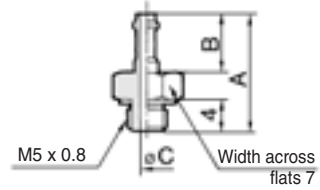
Hose Nipple: M-01H-4/6

Model	A	B	øC	øD	E	Effective area (mm²)	Mass (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

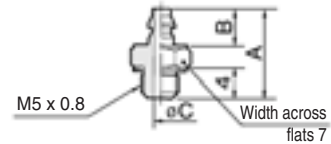
Model	A	B	øC	Effective area (mm ²)	Mass (g)
M-5AN-4	12	5	1.8	2.1	1.6
M-5AN-6	14	8	2.5	4.0	1.7



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



Model	A	B	øC	Effective area (mm ²)	Mass (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

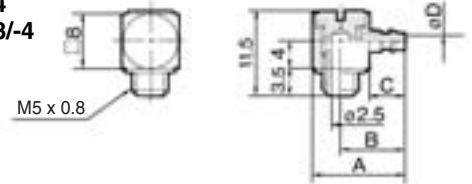


Barb Elbow for Nylon Tubing: M-5ALN-4/-6
Barb Elbow for Soft Tubing: M-5ALU-3/-4/-6

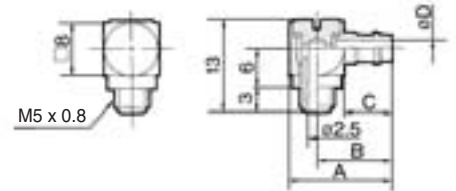


Model	A	B	C	øD	Effective area (mm ²)	Mass (g)
M-5ALN-4	13	9	5	1.8	1.4	4.0
M-5ALN-6	15	11	7	2.5	2.4	4.4
M-5ALU-3	12.5	8.5	4.5	1.6	1.1	4.0
M-5ALU-4	13.3	9.3	5	1.8	1.4	4.1
M-5ALU-6	15.3	11.3	7	2.5	2.4	4.5

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



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

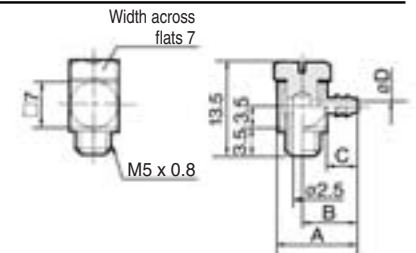


Barb Elbow for Nylon Tubing: M-5ALHN-4/-6
Barb Elbow for Soft Tubing: M-5ALHU-3/-4/-6

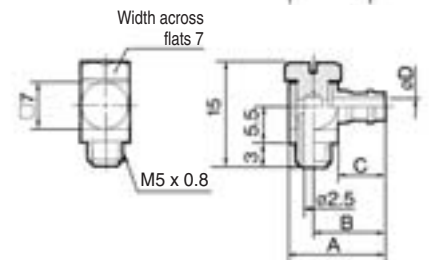


Model	A	B	C	øD	Effective area (mm ²)	Mass (g)
M-5ALHN-4	12	8.5	5	1.8	1.4	3.2
M-5ALHN-6	14	10.5	7	2.5	2.4	3.7
M-5ALHU-3	11.5	8	4.5	1.6	1.1	3.2
M-5ALHU-4	12.3	8.8	5	1.8	1.4	3.3
M-5ALHU-6	14.3	10.8	7	2.5	2.4	3.9

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



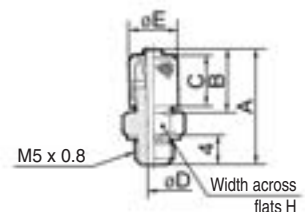
M-5ALHN-6
M-5ALHU-6



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



Model	A	B	C	øD	øE	H	Effective area (mm ²)	Mass (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



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- LQ
- MQR
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Series M

Series M5

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



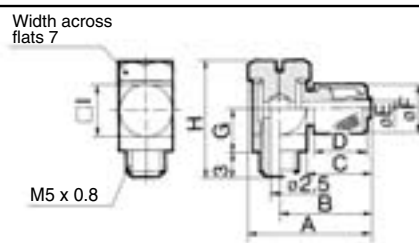
Model	A	B	C	D	øE	øF	Effective area (mm ²)	Mass (g)
M-5HL-4	16.5	12.5	8.5	7	1.8	6.5	1.4	4.4
M-5HL-6	17.5	13.5	9.5	8	2.5	8.5	2.4	5.2



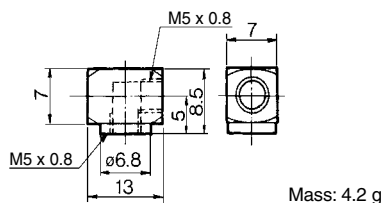
Hose Elbow: M-5HLH-4/-6



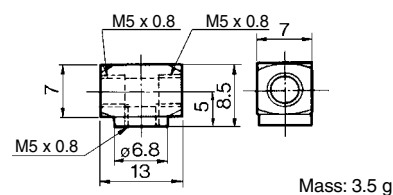
Model	A	B	C	D	øE	øF	G	H	I	Effective area (mm ²)	Mass (g)
M-5HLH-4	15.5	12	8.5	7	1.8	6.5	5.5	15	7	1.4	4.5
M-5HLH-6	17.5	13.5	9.5	8	2.5	8.5	6	16	8	2.4	6.6



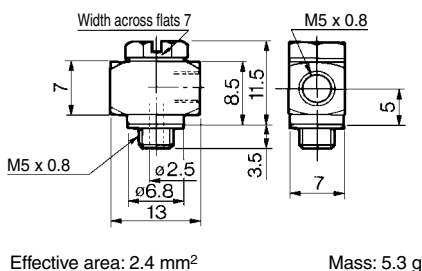
Elbow: M-5L



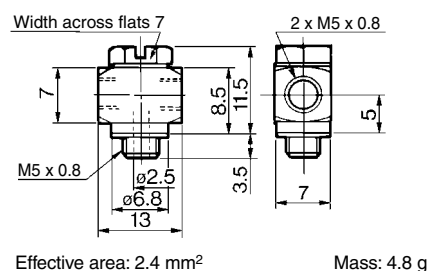
Tee: M-5T



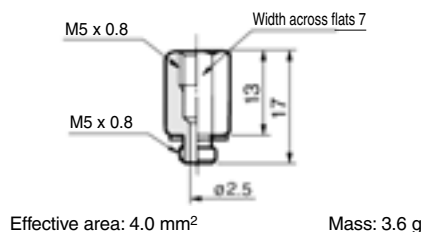
Universal Elbow: M-5UL



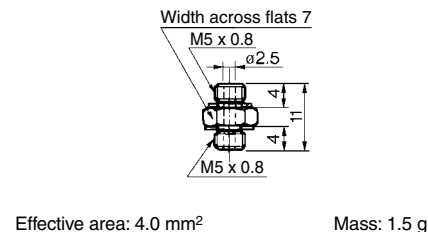
Universal Tee: M-5UT



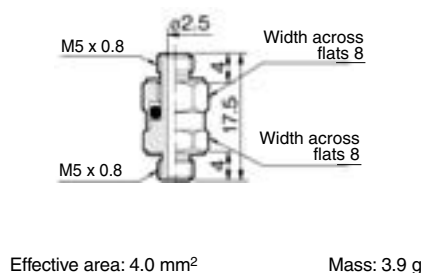
Extension Fitting: M-5J



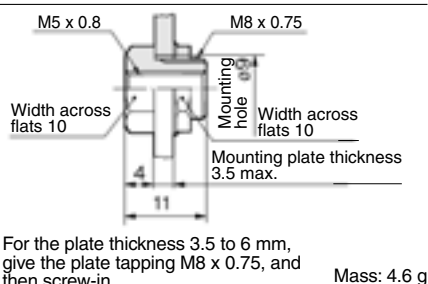
Nipple: M-5N



Universal Nipple: M-5UN


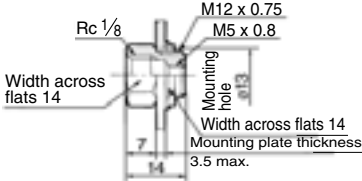


Bulkhead Union: M-5E



Series M5


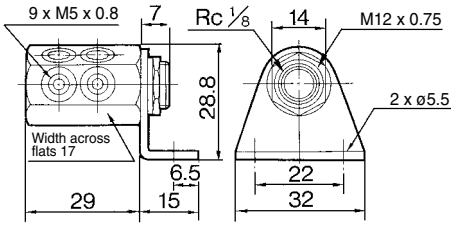
Bulkhead Reducer: M-5ER

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

Mass: 12 g


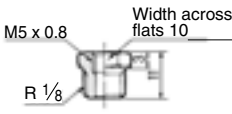
Manifold: M-5M

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.


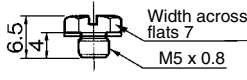
Mass: 59 g

Bushing: M-5B

Mass: 5.8 g

Plug: M-5P

Mass: 1.3 g

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- D
- MS
- LQ
- MQR
- T

⚠ Precautions

Be sure to read this before handling.
Refer to front matters 58 and 59 for Safety Instructions and pages 13 to 16 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-□	Approx. 1/2 rotations
	M-3UL	
	M-3UT	
M5	M-5AN-□	Approx. 1/6 to 1/4 rotations <small>Note)</small>
	M-5AU-□	
	M-5H-□	
	M-5J	
	M-5N	
	M-5UN	
	M-5P	Approx. 1/2 rotations <small>Note)</small>
	M-5ALN-6	
	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.



Please contact SMC for detailed dimensions, specifications, and delivery.

1 Gasket Material Modification

Symbol	Specifications	
X83	Gasket material: Stainless steel 304, NBR	
	Applicable thread	Gasket part no.
	M3	IN-233-706
	M5 ^{Note)}	M-5G2
X226	Gasket material: Stainless steel 304, FKM	
	Applicable thread	Gasket part no.
	M3	M3G-DPH00489
	Gasket material: Stainless steel 316, Special FKM	
X112	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-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
	M-10/32G	10-32 UNF	Series KQ2, 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