

Metal Flexible Hose

For Gas, Cooling water, Vacuum

Short Delivery



Free Length

Free Connections



IHARA SCIENCE CORPORATION

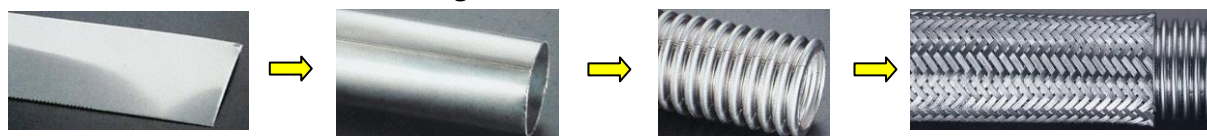
Metal Flexible Hose (abbreviated Metal flex)

Metal flex is the flexible hose made of metal with corrugate formed pipe.

Using the seam welded pipe made of metal sheet or thin wall pipe, corrugate it by the method of bulge forming and/or mechanical molding for higher flexibility.

Besides, metal braid type to increase the pressure resistance is available.

Fig.1 Process of Metal flex



1. Material of Metal flex

Material of each part of hose assembly is shown in Table-1.

Table-1 Material list

Parts Name	Material
Flex tube	316L
Braid	304
Adapter	304 · 316 or 316L
Collar	304

2. Summary of Type and Size

As the standard of Metal flex, 3 types of flexible tube, semi-soft flex and fixed bent tube are available.

Summary of Types and Size are shown in Table-2.

Table-2 Type and Size

Type	Flex tube		Micro flex	Semi-flex tube		Fixed bent tube	
Symbol	MHM		MMF	MCF		MHF	
Braid Y or N	Yes	No	No	No	Yes	No	Yes
Size	1/4~1-1/2		1/8~1/4	1/4~1/2、 1-1/2、2	1-1/2、 2	1/4~1-1/2	

※Regarding the internally polished clean flex, refer to separate 「Clean micro flex」 .

3. Types and Dimensions

3.1 Types and dimensions of MHM type are shown in Table-3.

Table-3 MHM Type Flexible hose

Type	I.D. mm	O.D. mm		Thick mm	Min. bend radius (mm)		Max work press(20°C) Static MPa		Hose Weight g/m		Fitting size Both Ends
		B-N	B-Y		Fixed	Repeat	B-N	B-Y	B-N	B-Y	
MHM4	6.35	10.7	12.2	0.15	23	94	0.63	12.6	104	208	1/4
MHM6	9.53	16.5	18.1	0.20	25	101	0.49	10.9	297	446	3/8
MHM8	12.7	19.6	21.1	0.20	30	111	0.49	8.3	327	490	1/2
MHM12	19.05	29.5	31.0	0.25	43	162	0.30	6.3	490	758	3/4
MHM16	25.4	37.3	38.9	0.25	53	181	0.30	5.0	669	1025	1
MHM20	31.75	44.5	46.0	0.25	63	200	0.30	4.5	832	1307	1 1/4
MHM24	38.1	52.8	54.9	0.25	79	221	0.20	3.7	1218	1783	1 1/2

※Total length including the fittings is customers' option.

3.2 Types and dimensions of MMF Micro flex are shown in Table-4.

Table-4 MMF Micro flex

Type	I.D. mm	O.D. mm	Thick mm	Work Press	Fitting size Both Ends
MMF2-0	3.5	5	0.15	Vacuum~ Max0.5MPa	1/8
MMF3-0	4.5	7	0.15		1/4
MMF4-0	5.5	8.5	0.15		1/4

※Total length including the fittings is customers' option.

3.3 Types and dimensions of MCF semi-soft flex are shown in Table-5.

Table-5 MCF Semi-soft flex

Type	I.D. mm	B-N O.D. mm	B-Y O.D. mm	Thick mm	Min bend radius (mm)		Max work press (20°C) MPa		Hose Weight g/m		Fitting size Both ends
					Fixed	Repeat	B-N	B-Y	B-N	B-Y	
MCF4	7.8	11.0	-	0.15	25	80	0.3	-	78	-	1/4
MCF6	10.0	13.5	-	0.15	25	100	0.3	-	90	-	3/8
MCF8	12.5	16.5	-	0.15	40	120	0.3	-	108	-	1/2
MCF24	41.5	54.0	55.6	0.25	100	270	0.2	0.8	710	1235	11/2
MCF32	50.5	65.0	66.6	0.25	120	480	0.2	0.7	850	1500	2

※Total length including the fittings are customers' option. B-N : none braid, B-Y : with braid

3.4 Types and dimensions of flex for fixed (MHF) are shown in Table-6.

Table-6 MHF Flex for fixed

Type	I.D. mm	O.D. mm		Thick mm	Min bend radius (mm)	Max work press (20°C) Static MPa		Hose Weight g/m		Fitting size Both Ends
		B-N	B-Y			Fixed	B-N	B-Y	B-N	
MHF4	6.35	10.5	12.2	0.15	25.4	0.63	6.3	59	163	1/4
MHF6	9.53	16.5	18.1	0.20	30.5	0.49	5.6	149	253	3/8
MHF8	12.7	19.6	21.1	0.20	38.1	0.49	4.7	163	282	1/2
MHF12	19.05	29.5	31.0	0.25	53.3	0.30	2.7	282	431	3/4
MHF16	25.4	37.3	38.9	0.25	68.6	0.30	2.5	386	624	1
MHF20	31.75	44.5	46.0	0.25	78.8	0.21	2.0	431	698	1 1/4
MHF24	38.1	52.8	54.9	0.25	99.1	0.10	1.9	698	1055	1 1/2

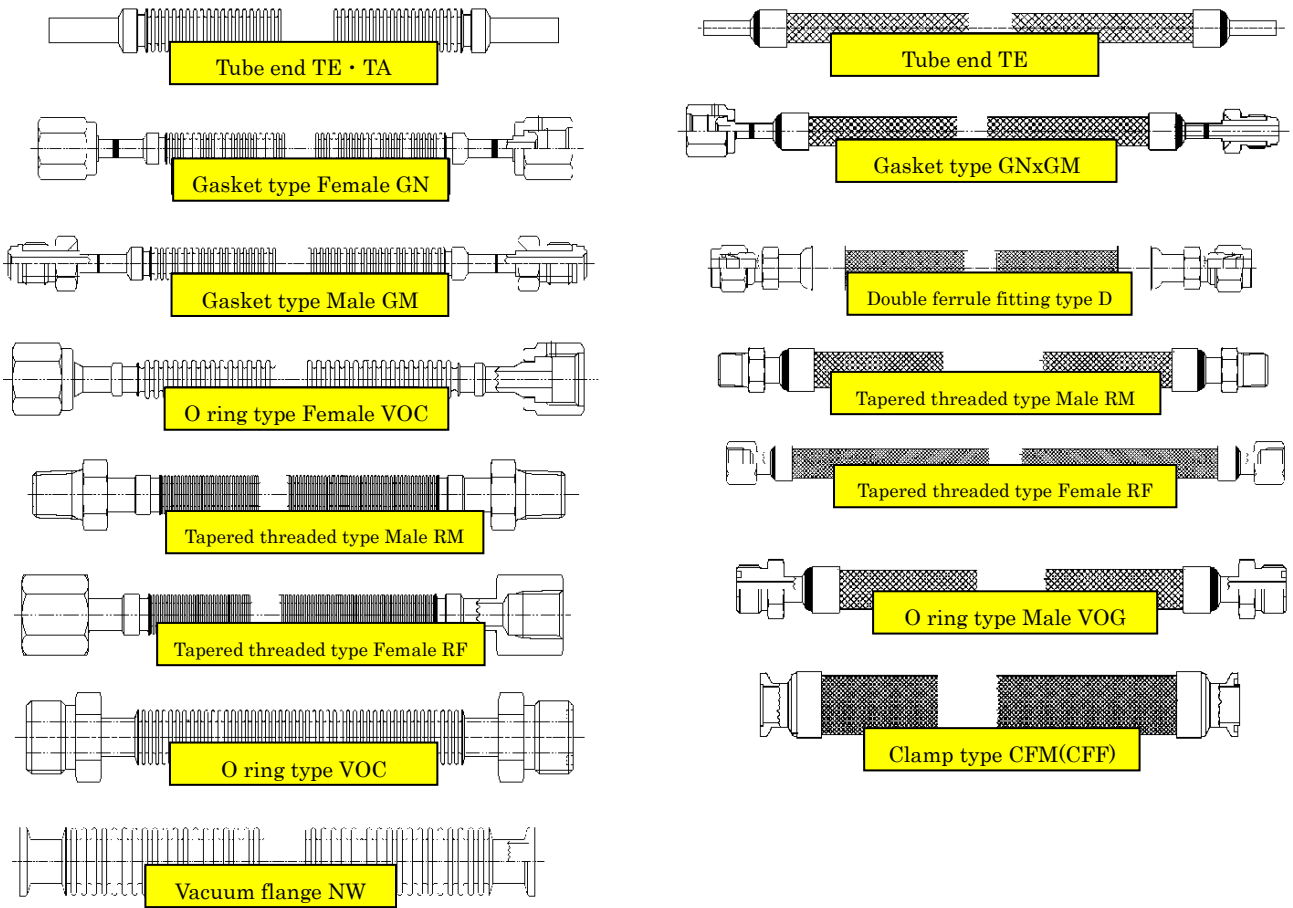
※Total length including the fittings are customers' option.

4. Types of adaptor

The connection fittings (Adaptor) on Metal flex both ends will be designed in accordance with customers' piping system.

The standard types are shown in Fig-2

Fig-2 Standard types of connection fittings



5. Allowable tolerance of total length

Allowable tolerance of total length (L) is shown in Table-7.

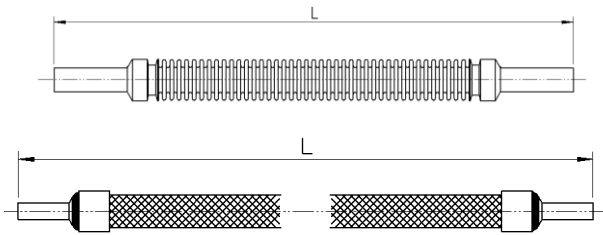
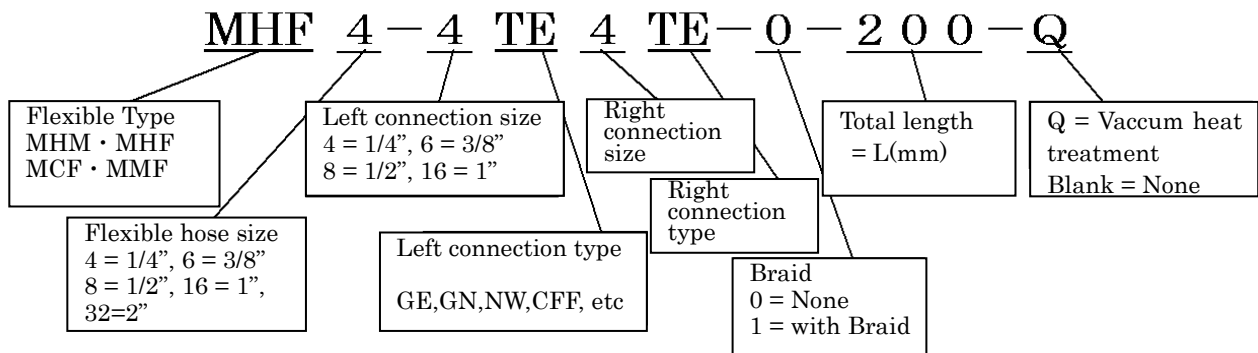


Table-7 Tolerance of Total length (L)

Total length L mm	Tolerance
Less 300	±10 mm
300~500	±15 mm
500~1000	±20 mm
1000~3000	±30 mm
3000~5000	±50 mm
Over 5000	±100 mm

6. Nomenclature



Note : In case of same type on both ends, right side type and size can be omitted. Ex : MHF4-4TE-0-200-Q.

7. He and Airtight inspections (Standard)

Though the inspection will be conducted in accordance with customers' specification, but following inspection will be done as in-house standard when not specified.

7.1 He Inspection

As for the Metal flex 「none braid」, He inspection will be done. Criteria for the leak is less 1.0×10^{-9} Pa·m³/sec.

7.2 Airtight Inspection

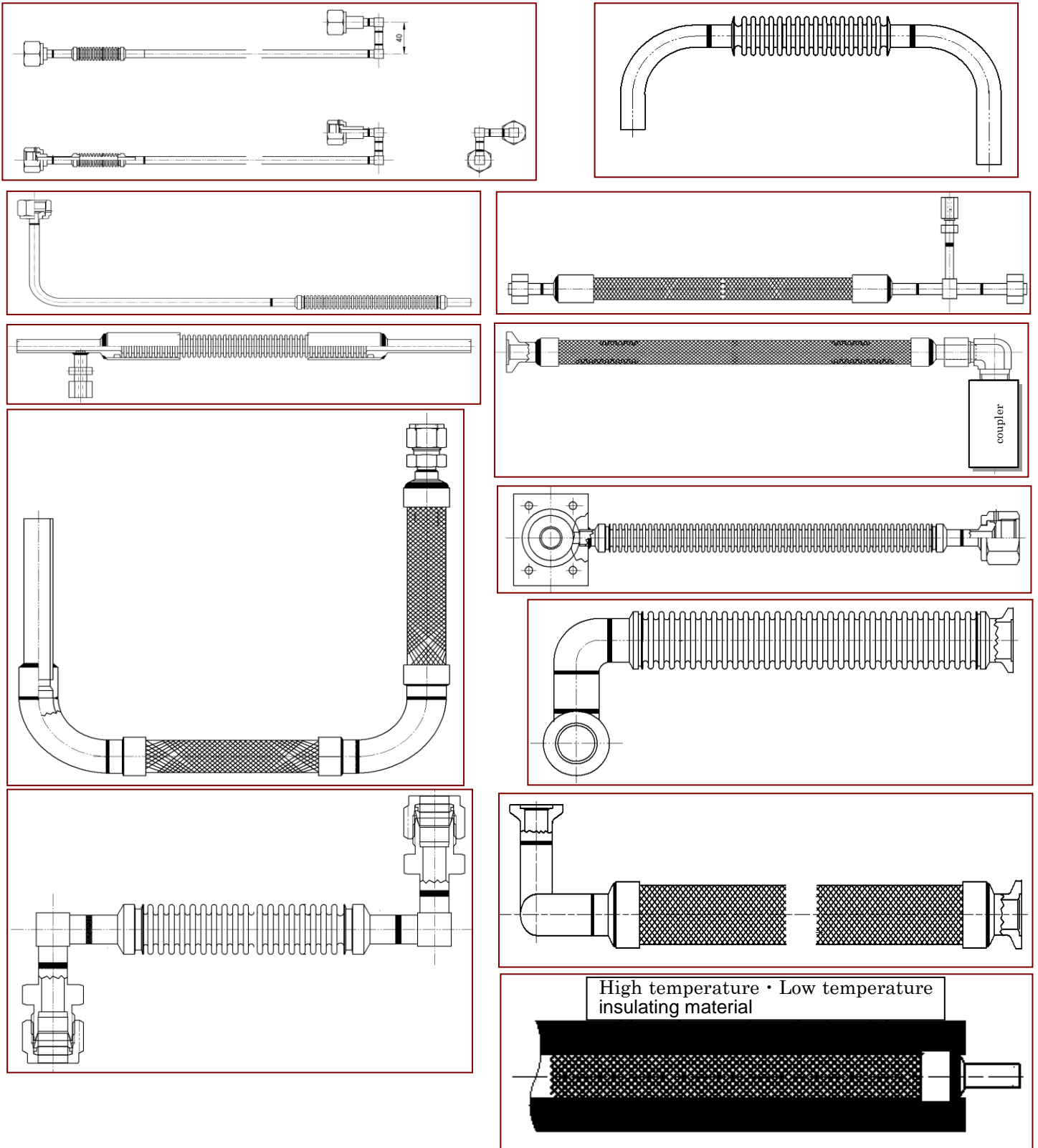
As for the Metal flex 「with braid」, airtight inspection will be done.

Pressurize with N₂ gas up to 1.0MPa and immerse into water bath and hold 3 minutes to check the leakage.

Memo

We design and manufacture optimum long fitting (piping system) cooperating with customers.

Please inquire us.



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