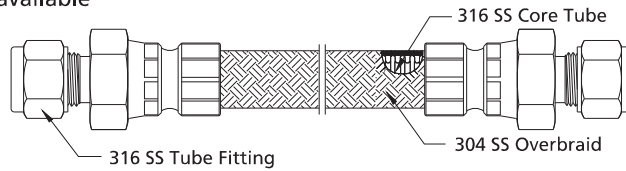


# Metal Flexible Hoses

## MH, MM Series

### Features

- ⦿ Core tube and fitting material: 316 stainless steel
- ⦿ Overbraid material: 304 stainless steel (316 SS available)
- ⦿ Vacuum and positive pressure applications
- ⦿ Working pressure up to: 3100 psig (213 bar)
- ⦿ Nominal hose size: 1/4" to 2"
- ⦿ Working temperature: -325°F to 800°F (-200°C to 426°C)
- ⦿ End connections:
  - 1/4 to 2 thread
  - 1/4" to 2" and 6 mm to 50 mm tube fitting
- ⦿ Welded fitting-to-hose construction to ensure reliable seal
- ⦿ Standard and custom length available



### Hose Technical Data (MH Series)

Nominal Hose Size	Inside Diameter	Min. Bend Radius		Temperature Range	Working Pressure at 70°F (20°C)	Burst Pressure at 70°F (20°C)	Hose Series
		Static	Dynamic				
		in. (mm)	in. (mm)				
1/4 (6.4)	0.28 (7.1)	2.25 (57.2)	10.0 (254)	-325 to 800 (-200 to 426)	3100 (213)	12400 (854)	MH4
3/8 (9.7)	0.42 (10.6)	3.00 (76.2)	12.0 (305)		2000 (137)	8000 (551)	MH6
1/2 (12.7)	0.53 (13.5)	4.50 (114)	16.0 (406)		1800 (124)	7200 (496)	MH8
3/4 (19.0)	0.80 (20.3)	6.00 (152)	17.0 (432)		1500 (103)	6000 (413)	MH12
1 (25.4)	1.03 (26.0)	6.75 (171)	20.0 (508)		1200 (82.6)	4800 (330)	MH16
1 1/4 (31.8)	1.30 (33.0)	8.86 (225)	23.0 (584)		950 (65.4)	3800 (261)	MH20
1 1/2 (38.1)	1.53 (38.9)	11.0 (280)	26.0 (660)		900 (62.0)	3600 (248)	MH24
2 (50.8)	2.05 (52.1)	13.8 (350)	32.0 (813)		500 (34.4)	2000 (137)	MH32

### Hose Technical Data (MM Series)

Nominal Hose Size	Inside Diameter	Min. Bend Radius				Temperature Range	Working Pressure at 70°F (20°C)	Burst Pressure at 70°F (20°C)	Hose Series
		Helical Convoluted Core		Annular Convoluted Core					
		Static	Dynamic	Static	Dynamic				
		in. (mm)	in. (mm)	in. (mm)	in. (mm)				
1/4 (6.4)	0.25 (6.4)	1.38 (35)	8.66 (220)	0.79 (20)	4.33 (110)	-325 to 800 (-200 to 426)	1600 (110)	6400 (440)	MM4
3/8 (9.7)	0.38 (9.5)	2.36 (60)	10.40 (264)	0.98 (25)	5.91 (150)		1470 (101)	6000 (413)	MM6
1/2 (12.7)	0.50 (12.7)	2.95 (75)	11.89 (302)	1.18 (30)	4.88 (124)		1110 (76.4)	4500 (310)	MM8
3/4 (19.0)	0.75 (19.0)	3.54 (90)	13.58 (345)	1.50 (38)	6.65 (169)		860 (59.2)	3500 (241)	MM12
1 (25.4)	1.00 (25.4)	4.13 (105)	15.00 (381)	1.77 (45)	7.68 (195)		680 (46.8)	2680 (184)	MM16
1 1/4 (31.8)	1.25 (31.8)	4.72 (120)	16.22 (412)				680 (46.8)	2600 (179)	MM20
1 1/2 (38.1)	1.50 (38.1)	5.51 (140)	16.89 (429)				520 (35.8)	2200 (151)	MM24
2 (50.8)	2.00 (50.8)	6.30 (160)	18.43 (468)				450 (31.0)	1800 (124)	MM32

Hoses Quick-connects

## Testing

Every FITOK metal flexible hose assembly is factory tested with helium to a maximum leak rate of  $1 \times 10^{-5}$  std  $\text{cm}^3/\text{s}$ .

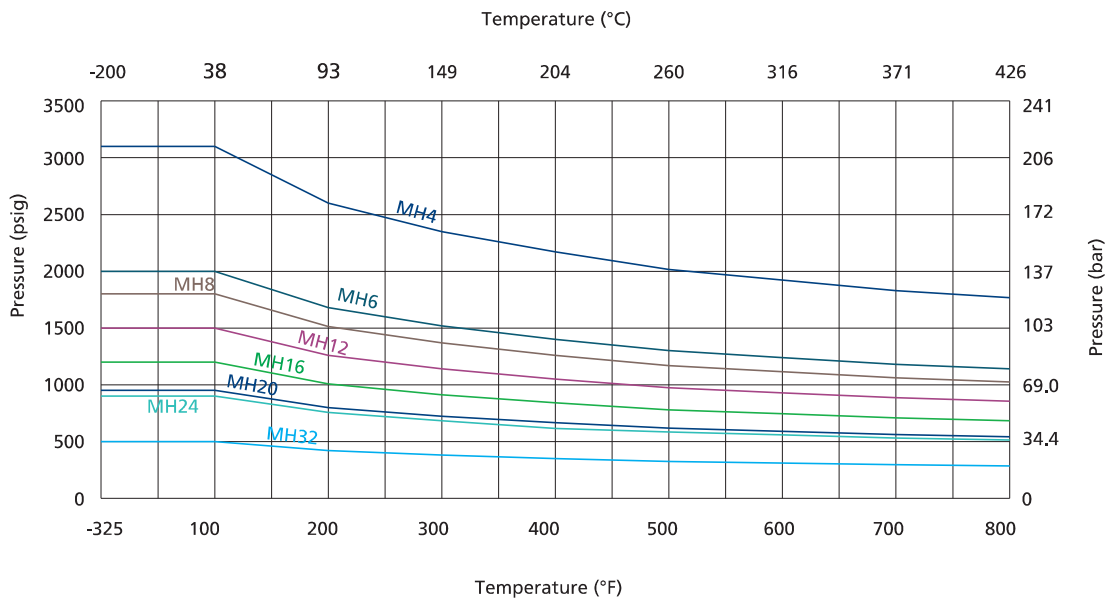
## Cleaning and Packaging

FITOK metal flexible hose components are cleaned in accordance with FITOK *Standard Cleaning and Packaging Process (FC-01)* for general industrial procedures.

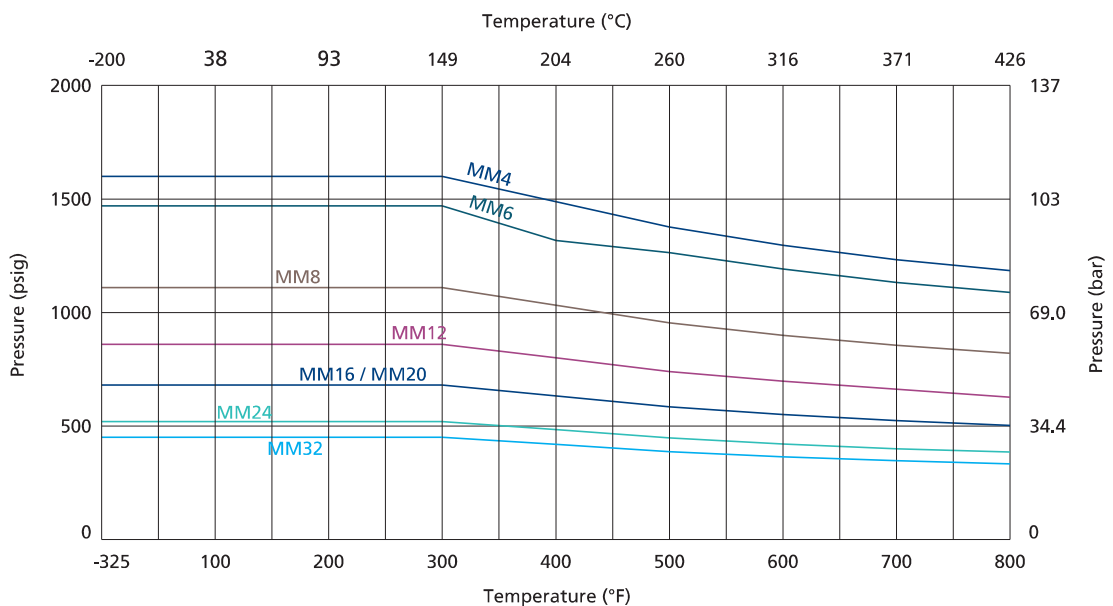
Shorter hoses are packed in cartons with suitable protective material, longer hoses are coiled, bagged and boxed or crated.

## Pressure vs. Temperature

### MH series



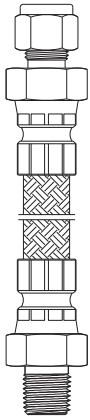
### MM series



When pulsating, surge, or shock pressures exist, the peak pressure in the system should not exceed 50% of the rated working pressure of the hose.

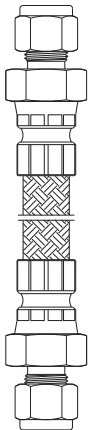
## Standard Assemblies

### Tube Fitting to Male NPT End



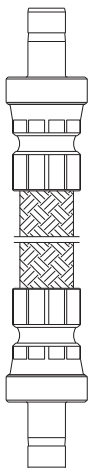
Nominal Hose Size	Tube Fitting Size	NPT Size	Hose Series	Overall Length	Ordering Number	Minimum Inside Diameter	Maximum Outside Dimension
	in.	in.		in. (mm)		in. (mm)	in. (mm)
1/4	1/4	1/4	MH4	12 (305)	SS-MH4-FL4-NS4-F12	0.19 (4.8)	0.94 (23.8)
			MM4	36 (914)	SS-MM4-FL4-NS4-F36	0.19 (4.8)	0.87 (22.0)
3/8	3/8	3/8	MH6	18 (457)	SS-MH6-FL6-NS6-F18	0.28 (7.1)	1.09 (27.7)
			MM6	36 (914)	SS-MM6-FL6-NS6-F36	0.28 (7.1)	1.01 (25.7)
1/2	1/2	1/2	MH8	18 (457)	SS-MH8-FL8-NS8-F18	0.41 (10.4)	1.23 (31.3)
			MM8	48 (1220)	SS-MM8-FL8-NS8-F48	0.41 (10.4)	1.23 (31.3)
3/4	3/4	3/4	MH12	18 (457)	SS-MH12-FL12-NS12-F18	0.66 (16.0)	1.74 (44.2)
			MM12	48 (1220)	SS-MM12-FL12-NS12-F48	0.66 (16.0)	1.59 (40.5)
1	1	1	MH16	24 (610)	SS-MH16-FL16-NS16-F24	0.88 (22.4)	1.82 (46.3)

### Tube Fitting End



Nominal Hose Size	Tube Fitting Size	Hose Series	Overall Length	Ordering Number	Minimum Inside Diameter	Maximum Outside Dimension
	in.		in. (mm)		in. (mm)	in. (mm)
1/4	1/4	MH4	12 (305)	SS-MH4-FL4-F12	0.19 (4.8)	0.94 (23.8)
		MM4	36 (914)	SS-MM4-FL4-F36	0.19 (4.8)	0.87 (22.0)
3/8	3/8	MH6	18 (457)	SS-MH6-FL6-F18	0.28 (7.1)	1.09 (27.7)
		MM6	36 (914)	SS-MM6-FL6-F36	0.28 (7.1)	1.01 (25.7)
1/2	1/2	MH8	18 (457)	SS-MH8-FL8-F18	0.41 (10.4)	1.23 (31.3)
		MM8	48 (1220)	SS-MM8-FL8-F48	0.41 (10.4)	1.23 (31.3)
3/4	3/4	MH12	18 (457)	SS-MH12-FL12-F18	0.66 (16.0)	1.74 (44.2)
		MM12	48 (1220)	SS-MM12-FL12-F48	0.66 (16.0)	1.59 (40.5)
1	1	MH16	24 (610)	SS-MH16-FL16-F24	0.88 (22.4)	1.82 (46.3)

### Tube Adapter End

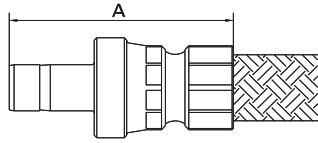


Nominal Hose Size	Tube Adapter Size	Hose Series	Overall Length	Ordering Number	Minimum Inside Diameter	Maximum Outside Dimension
	in.		in. (mm)		in. (mm)	in. (mm)
1/4	1/4	MH4	12 (305)	SS-MH4-FT4-F12	0.16 (4.1)	0.81 (20.6)
		MM4	36 (914)	SS-MM4-FT4-F36	0.16 (4.1)	0.76 (19.2)
3/8	3/8	MH6	12 (305)	SS-MH6-FT6-F12	0.27 (6.9)	1.01 (25.6)
		MM6	36 (914)	SS-MM6-FT6-F36	0.27 (6.9)	0.91 (23.1)

1. All dimensions are for reference only and are subject to change. For dimensions not shown above, please contact FITOK Group or our authorized distributors.
2. Types listed are standard. Other types are available upon request.

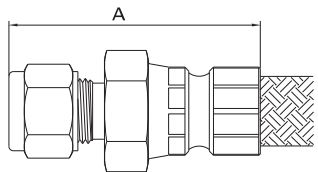
## End Connections

### Tube Adapters

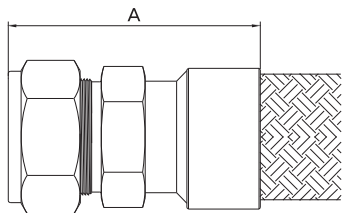


Tube Adapter Size	Nominal Hose Size	End Connection Designator	Dimensions		
			A	Minimum Inside Diameter	Maximum Outside Dimension
in.			in. (mm)		
1/4	1/4	FT4	1.76 (44.7)	0.16 (4.1)	0.81 (20.6)
3/8	3/8	FT6	1.82 (46.2)	0.27 (6.9)	1.01 (25.6)
1/2	1/2	FT8	2.22 (56.4)	0.37 (9.4)	1.23 (31.3)
3/4	3/4	FT12	2.35 (59.7)	0.58 (14.7)	1.53 (38.8)
1	1	FT16	2.69 (68.3)	0.80 (20.3)	1.82 (46.3)
mm	in.	—	mm (in. )		
6	1/4	MT6	44.4 (1.75)	4.1 (0.16)	20.6 (0.81)
10	3/8	MT10	47.0 (1.85)	7.1 (0.28)	25.6 (1.01)
12	1/2	MT12	57.2 (2.25)	8.9 (0.35)	31.3 (1.23)

### Tube Fittings



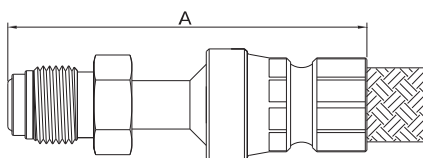
Automatic Weld Style-1 in. and Under



Manual Weld Style-Over 1 in.

Tube Fitting Size	Nominal Hose Size	End Connection Designator	Dimensions		
			A	Minimum Inside Diameter	Maximum Outside Dimension
in.			in. (mm)		
1/4	1/4	FL4	1.94 (49.3)	0.19 (4.8)	0.94 (23.8)
3/8	1/4	FL6	2.00 (50.8)	0.28 (7.1)	0.94 (23.8)
3/8	3/8	FL6	2.02 (51.3)	0.28 (7.1)	1.09 (27.7)
1/2	1/2	FL8	2.24 (56.9)	0.41 (10.4)	1.23 (31.3)
5/8	1/2	FL10	2.27 (57.7)	0.50 (12.7)	1.23 (31.3)
3/4	3/4	FL12	2.35 (59.7)	0.63 (16.0)	1.74 (44.2)
1	1	FL16	2.64 (67.1)	0.88 (22.4)	1.82 (46.3)
1 1/4	1 1/4	FL20	4.04 (103)	1.09 (27.7)	2.23 (58.9)
1 1/2	1 1/2	FL24	4.75 (121)	1.34 (34.0)	2.61 (66.3)
2	2	FL32	5.72 (145)	1.88 (47.8)	3.48 (88.4)
mm	in.	—	mm (in. )		
6	1/4	ML6	62.2 (2.45)	4.8 (0.19)	20.6 (0.81)
8	1/4	ML8	63.2 (2.49)	6.4 (0.25)	20.6 (0.81)
10	3/8	ML10	51.6 (2.03)	7.9 (0.31)	31.3 (1.23)
12	1/2	ML12	56.9 (2.24)	9.7 (0.38)	38.8 (1.53)

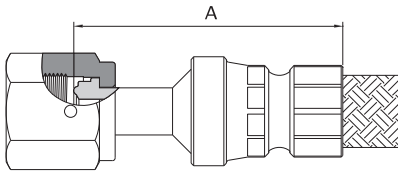
### Male FR Metal Gasket Face Seal Fittings Swivel



FR Size	Nominal Hose Size	End Connection Designator	Dimensions		
			A	Minimum Inside Diameter	Maximum Outside Dimension
in.			in. (mm)		
1/4	1/4	SFR4	2.60 (66.0)	0.18 (4.6)	0.81 (20.6)
1/2	1/2	SFR8	2.83 (71.9)	0.40 (10.2)	1.23 (31.3)
3/4	3/4	SFR12	4.19 (106)	0.65 (16.5)	1.52 (38.7)
1	1	SFR16	4.80 (122)	0.87 (22.1)	1.53 (38.8)

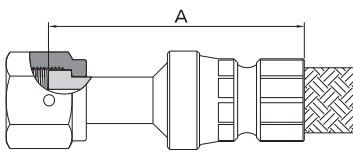
## End Connections

Female FR Metal Gasket Face Seal Fittings Swivel



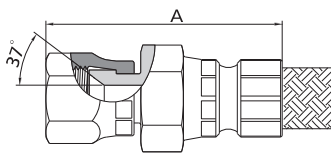
FR Size	Nominal Hose Size	End Connection Designator	Dimensions		
			A	Minimum Inside Diameter	Maximum Outside Dimension
in.			in. (mm)		
1/4	1/4	SFFR4	2.00 (50.8)	0.18 (4.6)	0.87 (22.1)
1/2	1/2	SFFR8	2.16 (54.9)	0.40 (10.2)	1.23 (31.3)
3/4	3/4	SFFR12	4.19 (106)	0.65 (16.5)	1.74 (44.2)
1	1	SFFR16	4.80 (122)	0.87 (22.1)	2.03 (51.6)

Female FO O-Ring Face Seal Fittings Swivel



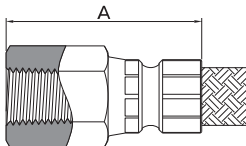
FO Size	Nominal Hose Size	End Connection Designator	Dimensions		
			A	Minimum Inside Diameter	Maximum Outside Dimension
in.			in. (mm)		
1/4	1/4	SFFO4	2.11 (53.6)	0.18 (4.6)	0.81 (20.6)
1/2	1/2	SFFO8	2.14 (54.4)	0.40 (10.2)	1.23 (31.3)

SAE 37° (JIC) Female Swivel



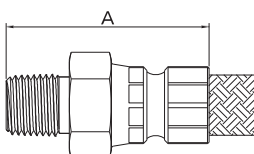
Swivel Size	Nominal Hose Size	End Connection Designator	Dimensions		
			A	Minimum Inside Diameter	Maximum Outside Dimension
in.			in. (mm)		
1/4	1/4	SAN4	1.87 (47.5)	0.17 (4.3)	0.81 (20.6)
3/8	3/8	SAN6	1.98 (50.3)	0.28 (7.1)	1.01 (25.6)
1/2	1/2	SAN8	2.25 (57.2)	0.42 (10.7)	1.23 (31.3)

Female Pipe Threads, NPT

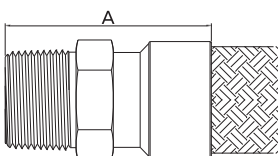


NPT Size	Nominal Hose Size	End Connection Designator	Dimensions		
			A	Minimum Inside Diameter	Maximum Outside Dimension
in.			in. (mm)		
1/4	1/4	FNS4	1.81 (46.0)	0.28 (7.1)	0.94 (23.9)
3/8	3/8	FNS6	1.87 (47.5)	0.38 (9.7)	1.09 (27.7)
1/2	1/2	FNS8	2.18 (55.4)	0.47 (11.9)	1.23 (31.3)
3/4	3/4	FNS12	2.21 (56.1)	0.72 (18.3)	1.74 (44.2)

Male Pipe Threads, NPT



Automatic Weld Style-1 in. and Under



Manual Weld Style-Over 1 in.

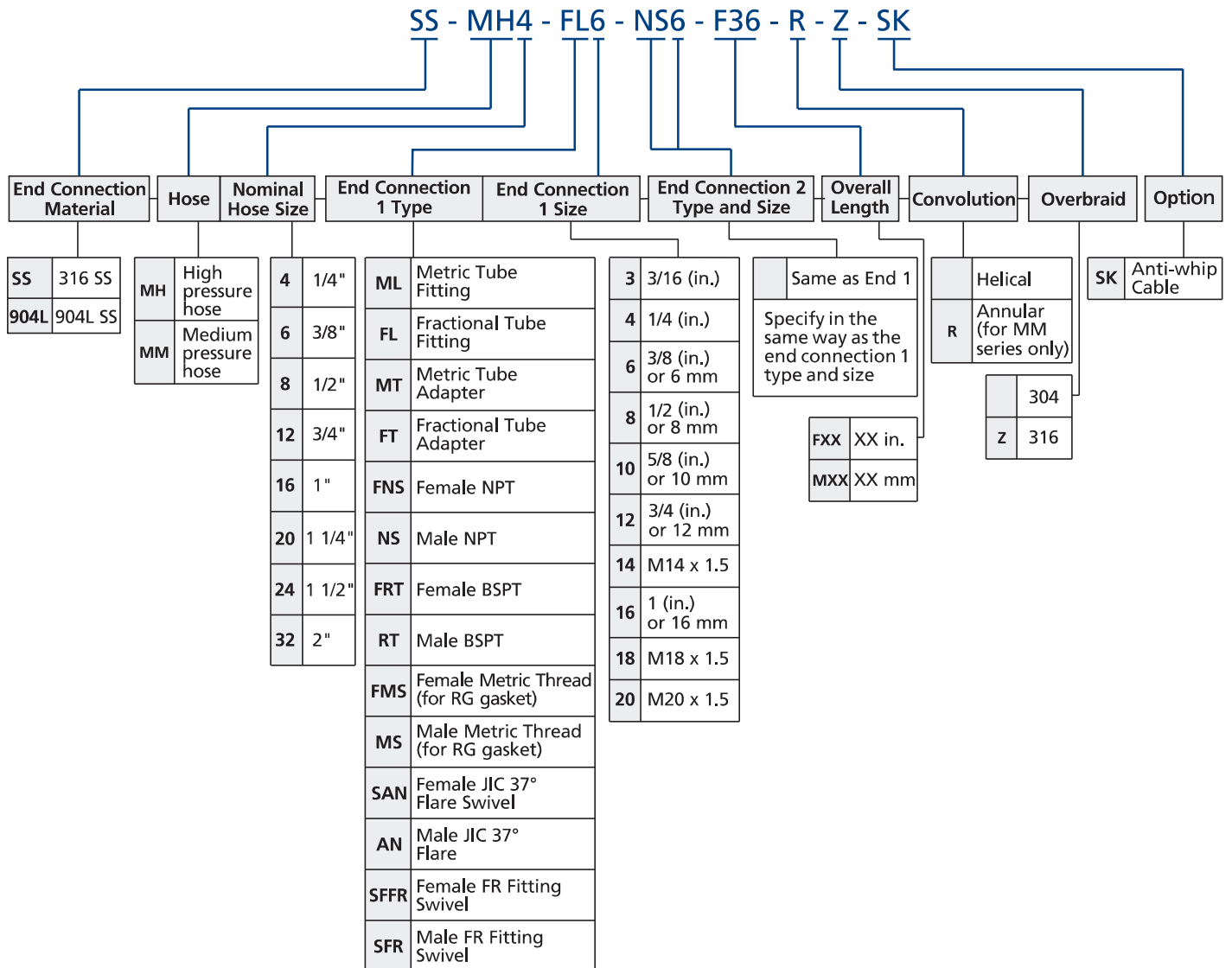
NPT Size	Nominal Hose Size	End Connection Designator	Dimensions		
			A	Minimum Inside Diameter	Maximum Outside Dimension
in.			in. (mm)		
1/4	1/4	NS4	1.80 (45.7)	0.28 (7.1)	0.94 (23.9)
1/4	3/8	NS4	1.81 (46.0)	0.28 (7.1)	1.09 (27.7)
3/8	3/8	NS6	1.81 (46.0)	0.38 (9.7)	1.09 (27.7)
1/2	1/4	NS8	1.99 (50.6)	0.47 (11.9)	1.02 (25.8)
1/2	1/2	NS8	2.15 (54.6)	0.47 (11.9)	1.23 (31.3)
3/4	3/4	NS12	2.22 (56.4)	0.63 (16.0)	1.74 (44.2)
1	1	NS16	2.54 (64.5)	0.88 (22.4)	1.82 (46.3)
1 1/4	1 1/4	NS20	3.06 (77.7)	1.09 (27.7)	2.03 (51.6)
1 1/2	1 1/2	NS24	3.72 (94.5)	1.34 (34.0)	2.47 (62.6)
2	2	NS32	4.19 (106)	1.81 (46.0)	3.19 (81.0)

## Options

### Anti-whip Cable

- 304 stainless steel cable
- Available on hoses without changing the technical data of hoses
- Prevent hoses from whipping around and causing serious injuries in the event of fitting blow-off or hose burst

## Ordering Number Description



#### Example: SS-MH4-FT6-M710

**SS:** End connection material is 316 stainless steel.

**MH4:** MH series, nominal hose size is 1/4".

**FT6:** End connection 1 is 3/8" tube adapter.

End connection 2 is 3/8" tube adapter.

**M710:** Overall length is 710 mm.

End 1 and end 2 follow the orders and regulations below:

- Metric Double Ferrules - Fractional Double Ferrules - Metric Tube Adapters - Fractional Tube Adapters - NPT Threads - BSPT Threads - BSPP Threads - SAE/MS Parallel Threads - 37° Flare - Others
- Put the sizes from the biggest down to the smallest if they are of the same type.
- Put the female before male if they are of the same type and size.

Note: "Ordering Number Description" is a reference to understand the combination rules of FITOK product part number. Not all combinations are available.