

FLEXIBLE HOSE

STAINLESS STEEL FLEXIBLE HOSE



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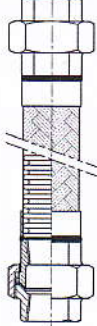
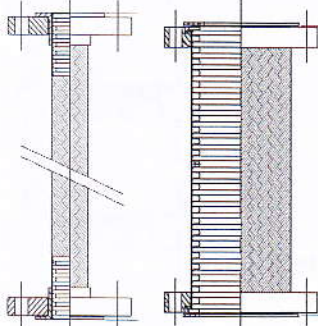
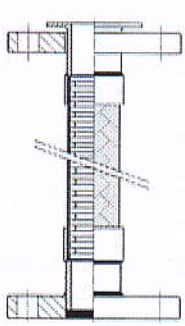
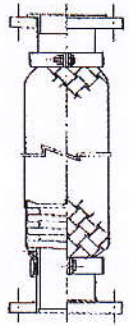

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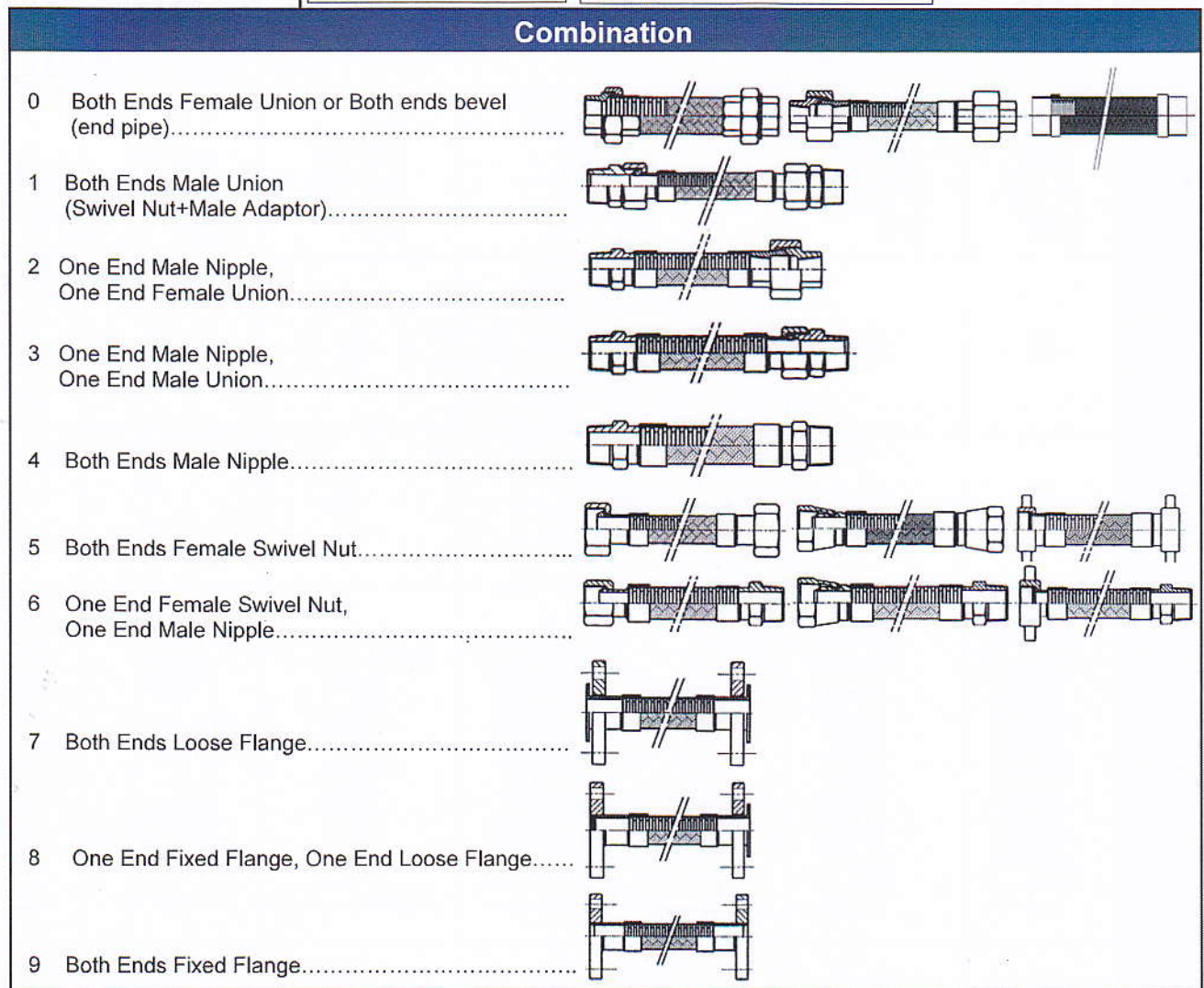
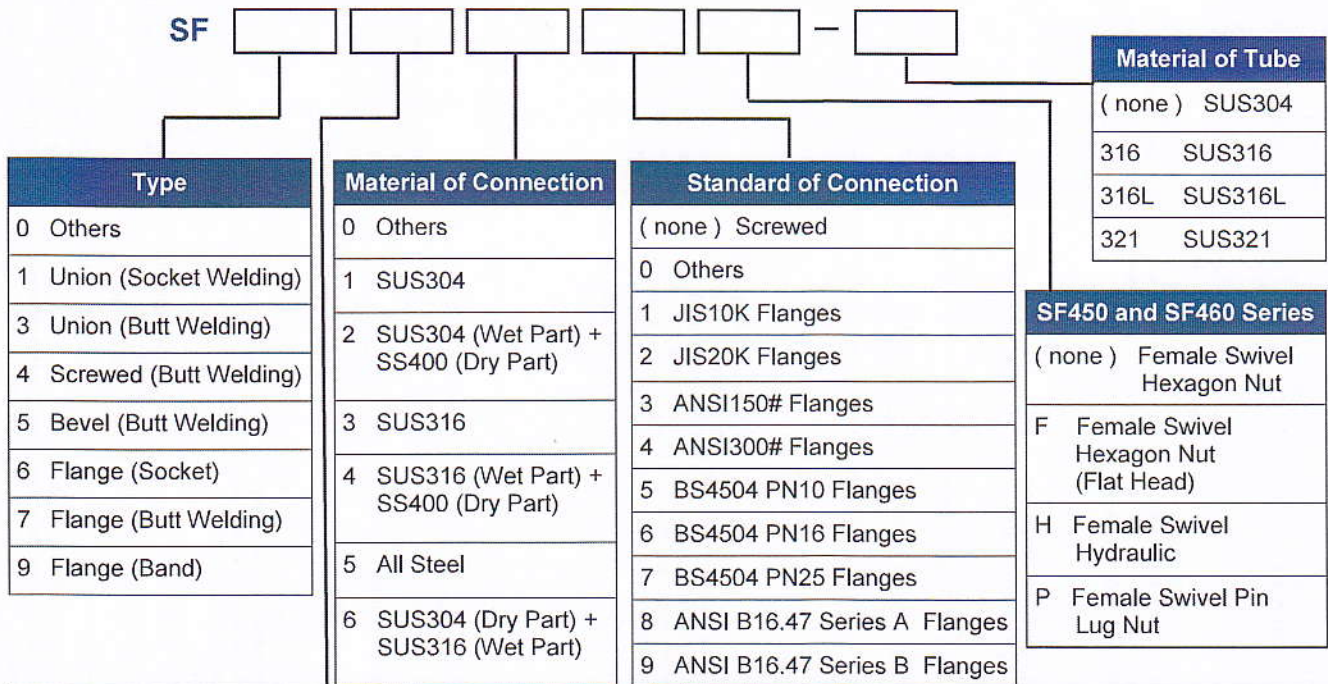
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Selection Criteria for Flexible Hose

Type	Construction	Nominal Diameter (A)	Max. Working Temperature °C	Applicable Fluid	Features	Purpose of Application	Application
SF100		15~50	220	Oil, Water, Hot Water, Steam, Gas, Air	Both ends union female thread. Material FCMB. Easy piping work and low cost. Standard length: 300mm., 400mm., 500mm.	- Making pipe alignment. - Absorption of pipe thermal deformation. - Absorption of machine vibration. - Connection with machine and pipe.	- Connection for air-conditioning. - Connection for pump. - Connection for various machines.
SF300		15~50	250	Oil, Water, Hot Water, Steam, Gas, Air, Chemicals	Both ends union female thread and suitable for high pressure. Both union material can be selected depending on fluids. (Example: Material of SS400, S25C, SUS304) Standard length: 300mm., 400mm., 500mm.	- Making pipe alignment. - Absorption of pipe thermal deformation. - Absorption of machine vibration. - Connection with machine and pipe.	- Connection for air-conditioning. - Connection for pump. - Connection for various machines.
SF6700		15-100 (SW Type) 65-300 (NW Type)	250	Oil, Water, Hot Water, Steam, Gas, Air, Chemicals	Both ends loose flange. All contacting fluid parts are stainless steel. Longer effective length enable higher lateral movement.	- Prevention for damage of pipe and equipment by ground sinking, earthquake, etc. - Making pipe alignment. - Connection with machine and pipe.	- Connection of tank (oil, water, chemicals, etc.). - Connection of plant piping. - Connection of water piping.
SF7800		25~400	250	Oil, Water, Hot Water, Steam, Gas, Air, Chemicals	One end fixed and the other loose flange high pressure type for more than 0.98MPa (10kgf/cm ²). Besides, it can be matched to high pressure inserting steel ring to the waist of tube. Standard length: 300mm., 400mm., 500mm.	- Prevention for damage of pipe and equipment by ground sinking, earthquake, etc. - Making pipe alignment. - Connection with machine and pipe.	- Connection of tank (oil, water, chemicals, etc.). - Connection of plant piping. - Connection of water piping.
SF9800		250~400	300	Oil, Water, Hot Water, Steam, Gas, Air, Chemicals	One end fixed and the other loose flange. Construction of ribbon braid tightened with braid band. Large diameter and suitable for absorption of large movement. Standard length: 800mm., 1000mm., 1200mm.	- Prevention of damage of pipe and equipment by ground sinking, earthquake, etc. - Making pipe alignment. - Connection with machine and pipe.	- Connection of tank (oil, water, chemicals, etc.). - Connection of plant piping. - Connection of water piping.
Bendable Tube		15, 20	120	Water, Hot Water	Simple construction with both ends only swivel nuts and tube. Bendable freely and easy installation and low cost. Standard length: 200~500mm.	- Making pipe alignment. - Connection with machine and pipe.	- Connection of instantaneous water heater and hot water supply pipe. - Connection of kitchen unit. - Connection of water meter. - Connection of equipment bath.

Classification of Stainless Steel Flexible Hose



Precaution : "The use of mild steel lap joint and pipe collar in water system may cause galvanic corrosion a severe corrosion on the base metal and cause leakage in very short period. The joint with all stainless steel wet parts is strongly recommended."

Specification of Stainless Steel Tube

Spiral and Spiral-X Tube



- SUS304 (1 Braid) - Minimum pressure rating 20 bars or up

Size	Type code	Type	ID mm	OD mm	Type of Braid	Dynamic Bend Radius (mm)	Max. W/P at room temp. (kgf/cm ²)
8A(1/4")	SP-008	Spiral	7.9	10.9	wire	100	145.1
10A(3/8")	SP-010	Spiral	10.8	15.2	wire	150	66.7
15A(1/2")	SP-015	Spiral	13.4	17.1	wire	200	56.4
20A(3/4")	SP-020	Spiral	19.1	25.6	wire	200	27.4
25A(1")	SP-025	Spiral	24.5	32.6	wire	200	26.1
32A (1-1/4")	SP-032	Spiral	32.9	40.6	wire	250	27.5
40A (1-1/2")	SP-040	Spiral	39.3	47.6	wire	250	28.4
50A (2")	SP-050	Spiral	50.8	61.0	wire	350	21.9
50A (2")	SP-050X	Spiral-X	50.8	61.0	wire	350	25.0

Annular Tube



- SUS304 (1 Braid) - Minimum pressure rating 10 bars or up

Size	Type code	Type	ID mm	OD mm	Type of Braid	Dynamic Bend Radius (mm)	Max. W/P at room temp. (kgf/cm ²)
20A(3/4")	AN-020	Annular	20.0	27.5	wire	200	40.7
25A(1")	AN-025	Annular	25.0	34.0	wire	200	31.8
32A (1-1/4")	AN-032	Annular	32.0	42.5	wire	250	23.4
40A (1-1/2")	AN-040	Annular	40.0	50.5	wire	250	24.9
50A (2")	AN-050	Annular	50.0	62.0	wire	350	18.9
65A (2-1/2")	AN-065	Annular	65.0	77.0	wire	410	19.5
80A (3")	AN-080	Annular	78.0	93.0	wire	450	12.0
100A (4")	AN-100	Annular	100.0	116.5	wire	560	10.0
125A (5")	AN-125	Annular	125.0	146.7	wire	660	10.1
150A (6")	AN-150	Annular	150.0	177.0	wire	815	10.1
200A (8")	AN-200	Annular	200.0	232.7	wire	1015	10.0
250A (10")	AN-250	Annular	250.0	290.0	Braided	1220	10.4
300A (12")	AN-300	Annular	300.0	340.0	Braided	1420	10.5
350A (14")	AN-350	Annular	350.0	390.0	Braided	n/a	10.5
400A (16")	AN-400	Annular	400.0	440.0	Braided	n/a	10.5

Specification of Stainless Steel Tube

Annular-S Tube

- SUS304 (1 Braid) - Minimum pressure rating 16 bars or up



Size	Type code	Type	ID mm	OD mm	Type of Braid	Dynamic Bend Radius (mm)	Max. W/P at room temp. (kgf/cm ²)
80A (3")	AN-080S	Annular-S	77.9	93.0	wire	450	16.6
100A (4")	AN-100S	Annular-S	99.9	116.5	wire	560	18.4
125A (5")	AN-125S	Annular-S	124.8	151.1	wire	660	16.0
150A (6")	AN-150S	Annular-S	150.0	177.0	Braided	815	16.5
200A (8")	AN-200S	Annular-S	200.0	234.7	Braided	1015	16.0
250A (10")	AN-250S	Annular-S	250.0	285.0	Braided	1220	16.0
300A (12")	AN-300S	Annular-S	300.0	340.0	Braided	1420	16.2
350A (14")	AN-350S	Annular-S	349.8	389.8	Braided	n/a	16.4
400A (16")	AN-400S	Annular-S	400.0	440.0	Braided	n/a	16.5

Annular-X Tube

- SUS304 (1 Braid) - Minimum pressure rating 25 bars or up



Size	Type code	Type	ID mm	OD mm	Type of Braid	Dynamic Bend Radius (mm)	Max. W/P at room temp. (kgf/cm ²)
65A (2-1/2")	AN-065X	Annular-X	65.0	77.0	wire	410	25.2
80A (3")	AN-080X	Annular-X	77.8	93.0	wire	450	27.2
100A (4")	AN-100X	Annular-X	99.8	116.5	wire	560	28.0
125A (5")	AN-125X	Annular-X	124.6	152.3	Braided	660	26.3
150A (6")	AN-150X	Annular-X	150.0	177.0	Braided	815	25.0
200A (8")	AN-200X	Annular-X	199.5	235.2	Braided	1015	25.0
250A (10")	AN-250X	Annular-X	250.0	285.4	Braided	1220	25.0
300A (12")	AN-300X	Annular-X	300.0	335.6	Braided	1420	25.0

Specification of Stainless Steel Tube

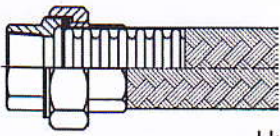
Annular Tube

- SUS316, 316L, 321 (1 Braid)

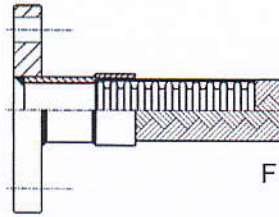


Size (mm)	Dimension (mm)		Bending Radius (mm)	Working Pressure (Kgf/cm ²)	Bursting Pressure (Kgf/cm ²)
	I.D.	O.D.			
8	8.0	12.0	100	100	400
10	11.0	15.6	150	90	360
15	12.7	17.4	200	80	320
20	19.3	26.3	203	64	256
25	25.4	33.8	229	50	200
32	32.0	42.5	267	40	160
40	41.2	51.5	292	30	120
50	51.6	62.0	318	28	112
65	65.0	77.0	508	24	96
80	75.5	91.0	610	18	72
100	102.6	117.8	750	16	64
125	126.0	152.5	900	12	48
150	149.5	177.0	1050	10	40
200	196.0	227.7	1180	8	32

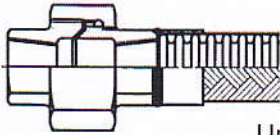
Available Type of Connection



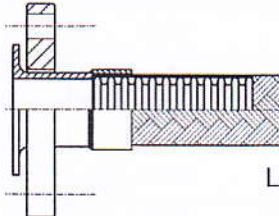
Union (Socket Welded)



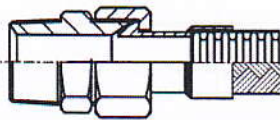
Fixed Flange



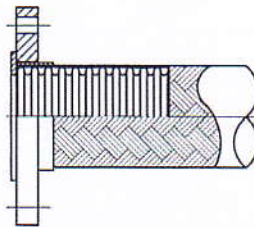
Union (Butt Welded)



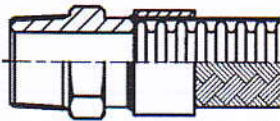
Loose Flange



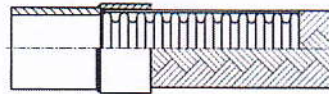
Male Union
(Swivel Nut + Male Adaptor)



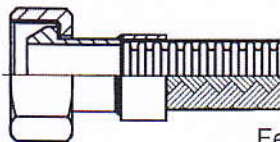
Loose Flange
(Socket Welded)



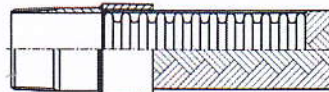
Male Nipple



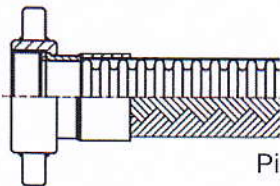
Pipe End
(Can not Hydrostatic pressure test)



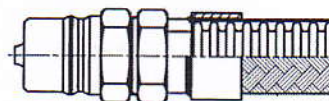
Female Swivel Nut



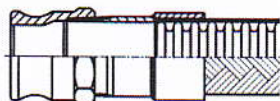
Thread End



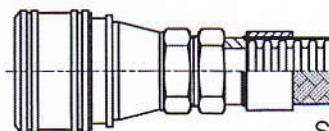
Pinlug Swivel Nut



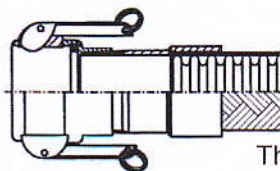
Plug-Quick Release Coupling



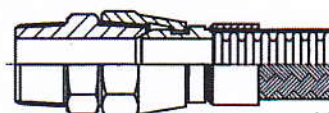
Thread End +
Camlock Part A



Socket-Quick Release Coupling

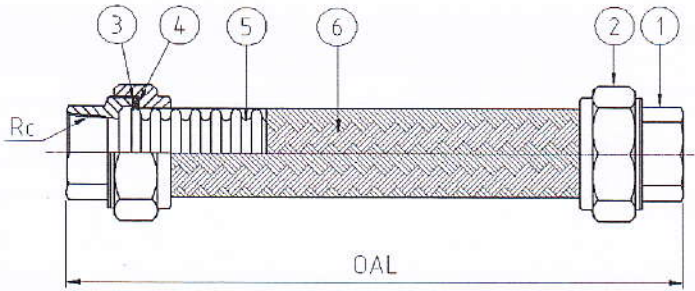


Thread End +
Camlock Part D



Hydraulic Fitting

SF100 Union Type Flexible Hose

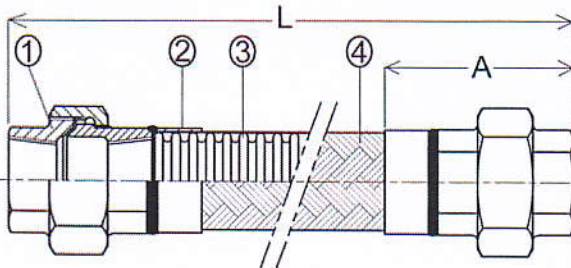


No.	Parts	Materials
1	Union End	FCD450
2	Union Nut	FCD450
3	Packing	Non Asbestos
4	Union Ring	SUS304
5	Flexible Tube	SUS304
6	Wire Braid	SUS304

Max Working Temperature : 220°C

Nominal Diameter A (B)	Thread Rc	Min. Bending Radius (mm)	Overall Length			Ineffective Length Ax2 (mm)
			300mm	400mm	500mm	
			Max Eccentric (mm)			
15 (1/2)	1/2	200	64	128	199	70
20 (3/4)	3/4	200	56	117	188	85
25 (1)	1	200	53	114	184	90
32 (1.1/4)	1.1/4	250	39	87	151	100
40 (1.1/2)	1.1/2	250	35	81	144	110
50 (2)	2	350	22	55	100	120

SF300 Union Type Flexible Hose



No.	Part	Material
1	Female Union	SS400, SUS304, S25C
2	Collar	SUS304
3	Flexible Tube	SUS304
4	Wire Braid	SUS304

Max Working Temperature : 250°C

Nominal Diameter A (B)	Min. Bending Radius (mm)	Overall Length			Ineffective Length A x 2 (mm)
		300mm	400mm	500mm	
		Eccentric (mm)			
15 (1/2)	200	42	97	167	114
20 (3/4)	200	32	82	150	138
25 (1)	200	24	70	136	158
32 (1.1/4)	250	13	45	96	184
40 (1.1/2)	250	8	37	83	206
50 (2)	350	4	22	55	220

Applicable Fluid
Working Pressure (w/p)

: Please refer to catalog page 2
: SF 100 -Please refer to spiral & annular tube and fitting.
The specification of tube as per catalog page 3 and max w/p for fitting 16 bars
SF 300 -Please refer to tube specification as per catalog page 3-4

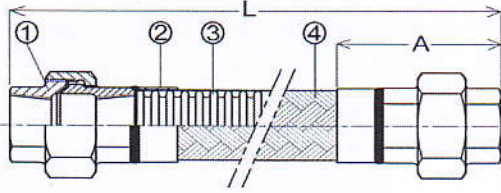
Test pressure MPA({kgf/cm²)

: 1.5 Times of working Pressure

Bursting pressure MPA({kgf/cm²):

4 Times of working Pressure

SF300-316, SF300-316L, SF300-321 Union Type Flexible Hose



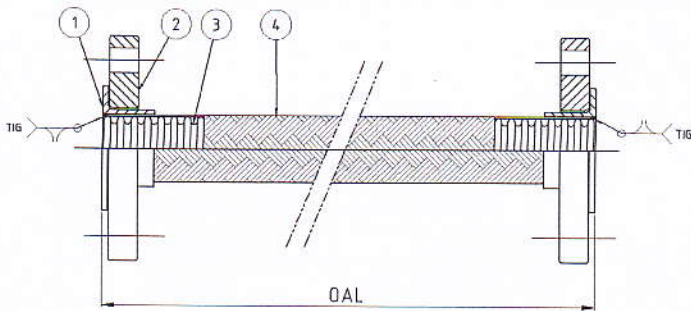
No.	Part	Material		
		SF300-316	SF300-316L	SF300-321
1	Female Union	SS400, SUS304, SUS316		
2	Collar	SUS304		
3	Flexible Tube	SUS316	SUS316L	SUS321
4	Wire Braid	SUS304		

Max Working Temperature : 250°C

Nominal Diameter A (B)	Min. Bending Radius (mm)	Overall Length			Ineffective Length A x 2 (mm)
		300mm	400mm	500mm	
		Eccentric (mm)			
15 (1/2)	200	42	97	167	114
20 (3/4)	203	31	81	149	138
25 (1)	229	21	62	121	158
32 (1.1/4)	267	12	43	90	184
40 (1.1/2)	292	7	31	72	206
50 (2)	318	5	25	60	220

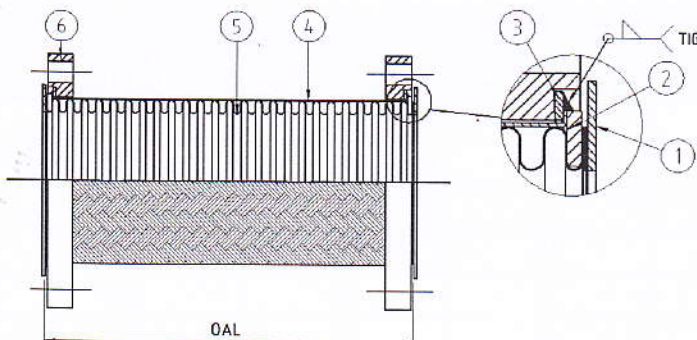
SF 6700 Stainless Steel Flexible Hose (Contacting Fluid All Stainless Steel)

For 15A-100A (SW Type)



No.	Part	Material	Qty
1	Lap Rings	SUS304	2
2	Loose flanges	SS400	2
3	Flexible Tube	SUS304	1
4	Wire braid	SUS304	1

For 65A-300A (NW Type)



No.	Part	Material	Qty
1	Gaskets	Non-Asbestos	2
2	Half Rings	SS400	4
3	Back Rings	SS400	2
4	Wire Braid	SUS304	1
5	Flexible Tube	SUS304	1
6	Loose Flanges	SS400	2

Only NW type are complete with gasket

Max Working Temperature : 250°C

Applicable Fluid
Working Pressure (w/p)

: Please refer to catalog page 2
:SF 300-316,SF300-316L,SF300-321 -Please refer to tube specification catalog page 5
SF 6700 -Please refer to spiral & annular tube and fitting.
The specification of tube as per catalog page 3 and max w/p for fitting 10 bars

Test pressure MPA({kgf/cm²})

: 1.5 Times of working Pressure

Bursting pressure MPA({kgf/cm²):

4 Times of working Pressure

SF 6700 Stainless Steel Flexible (continue)

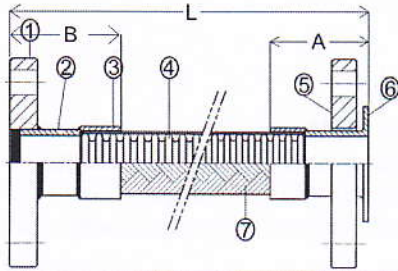
- All contacting fluid parts are stainless steel.
- Longer effective length enables higher lateral movement.
- Flange drillings comply with JIS 10K, ANSI150, PN10 or PN16.
- Please consult us for other material pressure, temperature and movement designs.
- Pressure rating of product have to common with pressure rating of flange.
- This product is suitable to use with normal rubber or non-asbestos gaskets with compression capacity is higher than 0.5 mm.

SPECIFICATION

Type	Size	Min bending radius (mm)	Lateral Movement			Ineffective Length (mm)
			300mm OAL	400mm OAL	500mm OAL	
SW	15A	200	84	152	223	36
	20A	200	84	152	223	36
	25A	200	84	152	223	36
	32A	250	66	124	194	40
	40A	250	65	123	193	41
	50A	350	47	90	145	41
	65A	410	37	73	120	50
	80A	450	33	65	108	54
	100A	560	26	53	87	54
	NW	65A	410	36	71	118
80A		450	32	64	106	58
100A		560	26	51	86	58
125A		660	22	44	73	58
150A		815	17	35	58	61
200A		1015	13	27	46	67
250A		1220	10	22	37	71
300A		1420	8	18	31	74

Applicable Fluid : Please refer to catalog page 2
Working Pressure (w/p) : SF 6700 -Please refer to spiral & annular tube and fitting.
 The specification of tube as per catalog page 3 and max w/p for fitting 10 bars
Test pressure MPA({kgf/cm²) : 1.5 Times of working Pressure
Bursting pressure MPA({kgf/cm²): 4 Times of working Pressure

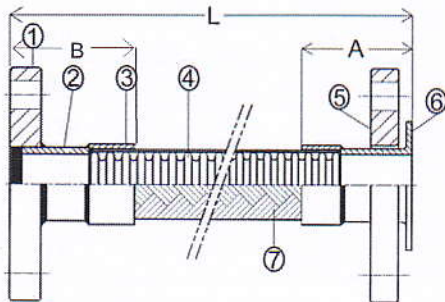
SF7800 Flange Type Flexible Hose (Wire Braid Type)



No.	Part	Material
1	Fixed Flange	SS400, SUS304
2	Short Pipe	SS400, SUS304
3	Collar	SUS304
4	Flexible Tube	SUS304
5	Loosed Flange	SS400, SUS304
6	Lap Joint	SS400, SUS304
7	Wire Braid	SUS304

Nominal Diameter	Min. Bending Radius (mm)	Overall Length			Ineffective Length A + B (mm)
		300mm	400mm	500mm	
25 (1")	200	29	78	147	145
32 (1.1/4")	250	19	56	111	159
40 (1.1/2")	250	15	49	101	175
50 (2")	350	11	35	74	175
65 (2.1/2")	410	9	30	63	175
80 (3")	450	6	23	51	195
100 (4")	560	4	18	41	195
125 (5")	660	4	15	35	195
150 (6")	815	3	12	27	200
200 (8")	1015	1	7	19	220
250 (10")	1220	-	6	16	220
300 (12")	1420	-	5	13	220
350 (14")	2700	-	2	6	230
400 (16")	3300	-	2	5	230

SF7800-316, SF7800-316L, SF7800-321 Flange Type Flexible Hose (Wire Braid Type)



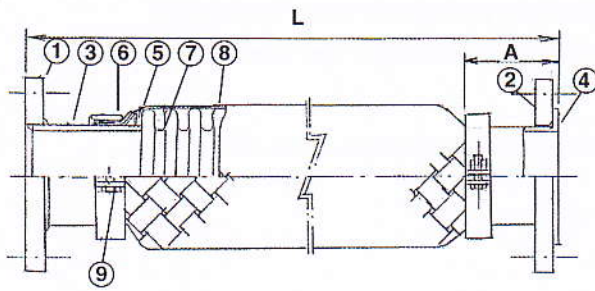
No.	Part	Material		
		SF7800-316	SF7800-316L	SF7800-321
1	Fixed Flange	SS400, SUS304, SUS316		
2	Short Pipe	SS400, SUS304, SUS316		
3	Collar	SUS304		
4	Flexible Tube	SUS316	SUS316L	SUS321
5	Loosed Flange	SS400, SUS304, SUS316		
6	Lap Joint	SS400, SUS304, SUS316		
7	Wire Braid	SUS304		

Max Working Temperature : 250°C

Nominal Diameter A (B)	Min. Bending Radius (mm)	Overall Length			Ineffective Length A + B (mm)
		300mm	400mm	500mm	
25 (1)	229	25	69	130	145
32 (1.1/4)	267	18	53	105	159
40 (1.1/2)	292	13	42	88	175
50 (2)	318	12	39	81	175
65 (2.1/2)	508	7	24	51	175
80 (3)	610	4	17	37	195
100 (4)	750	3	13	30	195
125 (5)	900	3	11	25	195
150 (6)	1050	2	9	21	200
200 (8)	1180	1	6	16	220

Applicable Fluid : Please refer to catalog page 2
Working Pressure (w/p) : SF7800 depend on the lowest w/p of all type of tube and fitting.
 The specification of tube as per catalog page 3-5
Test pressure MPA({kgf/cm²}) : 1.5 Times of working Pressure
Bursting pressure MPA({kgf/cm²}) : 4 Times of working Pressure
Noted: For better effective length, our flange and fitting may shorter than original standard

SF9800 Flange Type Flexible Hose (Ribbon Braid Type)



No.	Parts	Materials
1	Fixed Flanges	SS400, SUS304
2	Loose Flanges	SS400, SUS304
3	Pipe	SUS304
4	Lap Joint	SUS304
5	Ring	SS400
6	Braid Band	SS400
7	Bellows	SUS304
8	Braid	SUS304
9	Bolt & Nut	SS400

Max. Working Temperature : 300°C

Nominal Diameter A (B)	Min. Bending Radius (mm)	Overall Length			Ineffective Length A x 2 (mm)
		800mm	1000mm	1200mm	
		Eccentric (mm)			
250 (10)	1220	55	105	171	280
300 (12)	1420	47	90	149	280
350 (14)	2700	25	47	78	280
400 (16)	3300	20	39	64	280

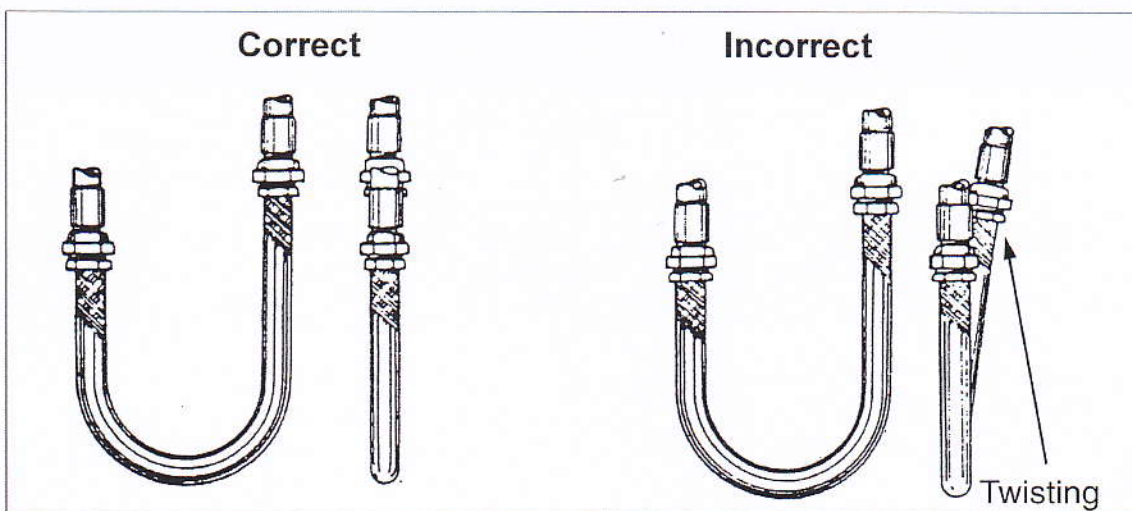
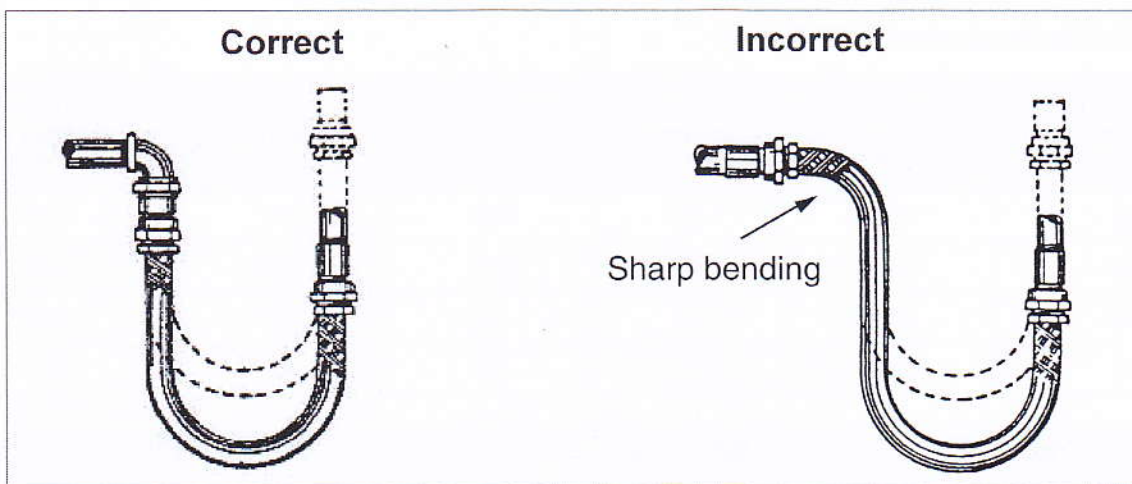
Applicable Fluid : Please refer to catalog page 2
Working Pressure (w/p) : Depend on the design, please consult us
Test pressure MPA({kgf/cm²)} : 1.5 Times of working Pressure
Bursting pressure MPA({kgf/cm²)} : 4 Times of working Pressure

Precaution in Piping Method

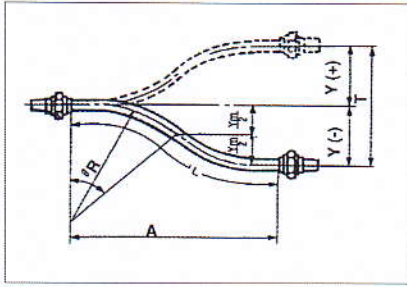
To make flexible hoses function properly and last longer, the followings are guides to correct installation.

- Metal flexible hoses should not be bent to a radius smaller than recommended in their specifications, otherwise fatigue and premature failure will occur.
- Avoid twisting of metal flexible hoses.
- Always install metal flexible hoses so that movement originates in the same plane as the centerline.

1 Proper Flexible Hose Installation



2 Calculation for Hose Length (L) with Movement



1. Offset Movement Calculation (Static Installation)

Bend Angle Calculation

$$\theta = 28.65 L/R \quad \dots\dots\dots (1)$$

In case $\theta < 45^\circ$ (Short Length hose)

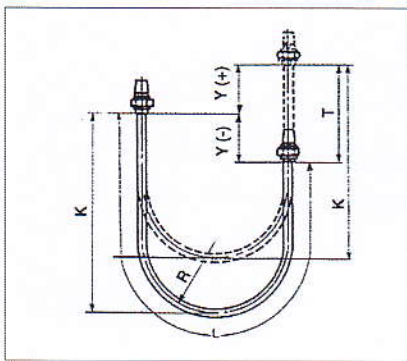
$$Y_m = 2R(1 - \cos \theta) \quad \dots\dots\dots (2)$$

$$A_m = 2R \sin \theta \quad \dots\dots\dots (3)$$

In case $\theta \geq 45^\circ$ (Long length hose)

$$Y_L = 0.707L - 0.525R \quad \dots\dots\dots (4)$$

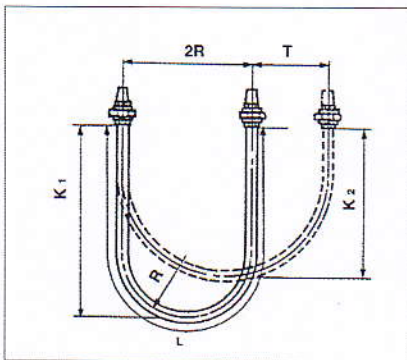
$$A_L = 0.707L + 0.303R \quad \dots\dots\dots (5)$$



2. Vertical Movement

$$L = 4R + \frac{T}{2} \quad \dots\dots\dots (6)$$

$$K = 1.43R + \frac{T}{2} \quad \dots\dots\dots (7)$$



3. Horizontal Movement

$$L = 4R + 1.57T \quad \dots\dots\dots (8)$$

$$K_1 = 1.43R + 0.785T \quad \dots\dots\dots (9)$$

$$K_2 = 1.43R + \frac{T}{2} \quad \dots\dots\dots (10)$$

Symbols :

T	: Total value of displacement (Movement)	mm
L	: Length of the hose	mm
Lm	: Min. effective length of the hose	mm
Y	: Movement from the centre	
	Ym : The value of min. effective length of the hose	mm
	YL : The value by the effective length of the hose > Lm	mm
A	: Face-to-face Dimension	
	Am : The value by Lm of the effective length of the hose	mm
	AL : The value by the effective length of the hose > Lm	mm
R	: Min bending radius (See specification of stainless steel tube)	mm
θ	: Bend Angle	degree
K	: Loop Length	mm

Sample of Offset Movement Calculation

For Static Installation

SF7800

Size: 100A X 1500 mm

Bending Radius: 560 mm

Ineffective Length: 195 mm

$$\begin{aligned}\text{So, } L &= (\text{L of overall hose length}) - (\text{Ineffective length}) \\ &= 1500 - 195 \\ &= 1305 \text{ mm}\end{aligned}$$

Check θ for selecting the formula of movement

$$\begin{aligned}\theta &= 28.65 \frac{L}{R} \\ &= (28.65)(1305)/560 = 66.8^\circ\end{aligned}$$

So, $\theta = 66.8^\circ > 45^\circ$ use long length hose formula (YL and AL formula)
[(if $\theta \leq 45^\circ$ use short length hose formula (Ym and Am formula)]

Select YL & AL Formula and use $\theta = 45^\circ$

$$\begin{aligned}\text{YL} &= 0.707L - 0.525R \\ &= (0.707 \times 1305) - (0.525 \times 560) \\ &= 628.6 \text{ mm.}\end{aligned}$$

$$\begin{aligned}\text{AL} &= 0.707L - 0.303R \\ &= (0.707 \times 1305) - (0.303 \times 560) \\ &= 1092.3 \text{ mm.}\end{aligned}$$

Effective Length Calculation from Lateral Movement and Bending Radius

Spiral and Spiral-X Tube

SUS304 (1 braid)-Minimum pressure rating 20 bars or up

Nominal Diameter A (B)	Bending Radius (mm)	Lateral Movement (mm)																													
		10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300
8 (1/8")	100	64	90	111	129	145	159	173	187	202	216	230	244	258	272	286	301	315	329	343	357	371	385	400	414	428	442	456	470	484	499
10 (3/8)	150	78	110	135	157	176	193	209	224	239	253	267	281	295	309	324	338	352	366	380	394	408	423	437	451	465	479	493	507	522	536
15 (1/2)	200	90	127	156	180	202	222	240	257	274	289	304	318	332	347	361	375	389	403	417	431	446	460	474	488	502	516	530	545	559	573
20 (3/4)	200	90	127	156	180	202	222	240	257	274	289	304	318	332	347	361	375	389	403	417	431	446	460	474	488	502	516	530	545	559	573
25 (1)	200	90	127	156	180	202	222	240	257	274	289	304	318	332	347	361	375	389	403	417	431	446	460	474	488	502	516	530	545	559	573
32 (1.1/4)	250	100	142	174	201	226	247	268	287	305	322	338	354	369	383	398	412	426	440	454	469	483	497	511	525	539	553	568	582	596	610
40 (1.1/2)	250	100	142	174	201	226	247	268	287	305	322	338	354	369	383	398	412	426	440	454	469	483	497	511	525	539	553	568	582	596	610
50 (2)	350	118	168	206	238	266	292	316	338	359	379	398	416	434	450	467	483	498	513	528	543	557	571	585	599	614	628	642	656	670	684
65 (2.1/2)	350	118	168	206	238	266	292	316	338	359	379	398	416	434	450	467	483	498	513	528	543	557	571	585	599	614	628	642	656	670	684



Effective Length Calculation from Lateral Movement and Bending Radius

Annular Tube

SUS304 (1 braid)-Minimum pressure rating 10 bars or up

Nominal Diameter A (B)	Bending Radius (mm)	Lateral Movement (mm)																													
		10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300
20 (3/4)	200	127	156	180	202	222	240	257	274	289	304	318	332	347	361	375	389	403	417	431	446	460	474	488	502	516	530	545	559	573	
25 (1)	200	127	156	180	202	222	240	257	274	289	304	318	332	347	361	375	389	403	417	431	446	460	474	488	502	516	530	545	559	573	
32 (1.1/4)	250	100	142	174	201	226	247	268	287	305	322	338	354	369	383	398	412	426	440	454	469	483	497	511	525	539	553	568	582	596	610
40 (1.1/2)	250	100	142	174	201	226	247	268	287	305	322	338	354	369	383	398	412	426	440	454	469	483	497	511	525	539	553	568	582	596	610
50 (2)	350	118	168	206	238	266	292	316	338	359	379	398	416	434	450	467	483	498	513	528	543	557	571	585	599	614	628	642	656	670	684
65 (2.1/2)	410	128	181	222	257	288	316	341	365	388	409	430	449	468	486	504	521	538	554	570	585	600	615	630	644	658	672	686	700	715	729
80 (3")	450	134	190	233	269	301	330	357	382	406	428	450	470	490	509	527	545	562	579	596	612	627	643	658	673	687	702	716	730	744	758
100 (4")	560	150	212	260	300	336	368	398	426	452	477	501	523	545	566	586	606	625	644	662	680	697	714	731	747	763	779	794	809	824	839
125 (5")	660	163	230	282	326	364	400	432	462	490	517	543	567	591	613	635	657	677	697	717	736	755	773	791	809	826	843	859	876	892	908
150 (6")	815	181	256	313	362	405	444	479	513	544	574	602	629	655	681	705	728	751	773	795	816	837	857	876	896	915	933	952	970	987	1005
200 (8")	1015	202	285	349	404	451	495	535	572	607	640	671	701	730	758	785	811	837	861	885	909	932	954	976	997	1018	1039	1059	1079	1098	1118
250 (10")	1220	221	313	383	442	495	542	586	627	665	701	735	768	800	831	860	889	916	943	969	995	1020	1044	1068	1091	1114	1137	1159	1180	1202	1223
300 (12")	1420	238	337	413	477	534	585	632	676	717	756	793	829	863	895	927	958	988	1017	1045	1072	1099	1125	1151	1176	1201	1225	1248	1272	1295	1317

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