

24/01/2010

**Aeroflex Stainless steel hose**



**AEROFLEX**  
**The world leading manufacturer of**  
**Stainless steel flexible hoses and assemblies**

## **Company profile**

**Aeroflex industries limited** is an ISO 9001-2000, EMS 14001, OHSAS 18000 & CE certified, manufactures stainless steel corrugated hoses and assemblies at an ultra modern facility in Navi Mumbai – India

Under supervision of experienced and qualified team, we have use state of art technology on product and strive to 100% satisfy the customer need by continual improvement and technology transfer.

Aeroflex is the leading manufacture of stainless steel hoses and assemblies includes fire sprinkler hoses, gas hoses, water hoses, vacuum hoses, solar hoses etc....

## **Quality policy**

### **Aeroflex industries limited**

Aeroflex industries limited shall strive to become the world leader in the field of stainless steel corrugate flexible hose with & without braid and assemblies by achieving and enhancing customer satisfaction by understanding & consisting meeting customer needs

The organization shall focus on continual improvement in process effectiveness by implementation of applicable standards of ISO 9001 (QMS), ISO 14001 (EMS) OHSAS 18001 & CE Marking statutory and regulatory requirements

The organization is committed to manufacturing and supplying the product in safe working environment with the help of competent and trained manpower.

## Why the Aeroflex metal hose?

Aeroflex metal hoses are recognized throughout industries as a leading solution provider to customer, specialized the fluid handling requirement, Our Aim to work closely with the customer, to build quality product that meets or exceeds the functional requirement safety and environment standard. We have presence of product in 65 countries all over the globe

## Advantages of metal hose

The stainless steel corrugated hoses have the significant advantages from the rubber, Teflon, composite hoses.

These are suitable for wide range of temperature -240 to 650 Degree Celsius

Compensate the thermal expansion and contraction in the pipe line system

Damped /reduce the amplitude of vibration at the outlet of the piping system

Fire resistance

Moisture resistance

Corrosion resistance

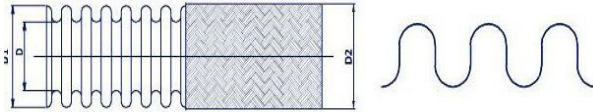
Conductive nature

High physical strength

Flexible and quick option for rigid piping and difficult location

## Product specifications

1. stainless steel annular hose (standard pitch Hydraulically form)	Series 100
2. stainless steel annular hose (standard pitch Mechanically form)	Series 200
3. stainless steel annular hose (Heavy duty hose)	Series 300
4. stainless steel wide pitch hose (solar hoses)	Series 400
5. stainless steel close pitch hoses (highly flexible form)	Series 500
6. stainless steel omega shape profile hoses	Series 600
7. bronze annular hose	Series 700
8. inconel annular hose	Series 800
9. stainless steel tubular braid and braided braid	Series 900
10. Stainless steel Hose assemblies	Series 1000
a) Industrial application	Series 9-04
b) Vacuum hose assemblies	Series 9-05
c) Water hose assemblies	Series 9-06
d) Fire sprinkler hose assemblies	Series 9-07
e) Gas hose assemblies	Series 9-08
f) Solar hose assemblies	Series 9-09
g) Oxygen gas lancing hose assemblies	Series 9-10
h) Automotive hoses	Series 10-10



## Series 100 (standard pitch hydraulically formed)

ISO 10380 QUALIFIED

Technical specifications

Specifying part numbers for the series of metal hoses and braids

Series no (only prefix)	alloy of hose	size	type of braid	alloy of braid
1	21	0250	701	04
100 series	304 stainless steel	size	braiding	04=SS- 304
	321 stainless steel		700 unbraided	21=SS-321
	316L stainless steel		701 single braid	16 = SS316
	316Ti stainless steel		702 double braid	
			703 triple braid*	
			704 braided braid	

**121025070104**

**(10" NB SS-321 Hose with SS-304 single wire braid code)**

**700006570104**

**(2 1/2" NB SS-304 Braid single layer only)**

All hoses are meets the BS-6501 & ISO 10380 standards

These hoses are available in the stainless steel 304, 321, & 316L.

Pressure capabilities as shown in the technical design data

Up to 2" NB, 100 series hose are available in the wooden reel.

For the high temperature and pressure look the temperature correction factor

For more layer of braiding please contact to factory.

### Technical design data Series 100 (Hydraulically formed hose with single wire braiding)

Nominal bore	Working pr. (kg/cm <sup>2</sup> )		Minimum bend radius mm	Minimum bend radius mm
	Single wire braid	Double wire braid		
20 mm	64	102	60	200
25 mm	47	75	70	200
32 mm	45	72	100	250
40 mm	36	57	120	250
50 mm	32	51	130	350
65 mm	27	43	200	410
80 mm	20	32	205	450
100 mm	18	28	230	560
125 mm	15	24	300	660
150 mm	11	17	380	815
200 mm	10	16	508	1015
250 mm	9	14	635	1270
300 mm	8	12	762	1524
350 mm	6	9	1000	2000

## Temperature Correction factor

When hoses are required at higher temperature then working pressure of hose of particular size we can calculate by the following table

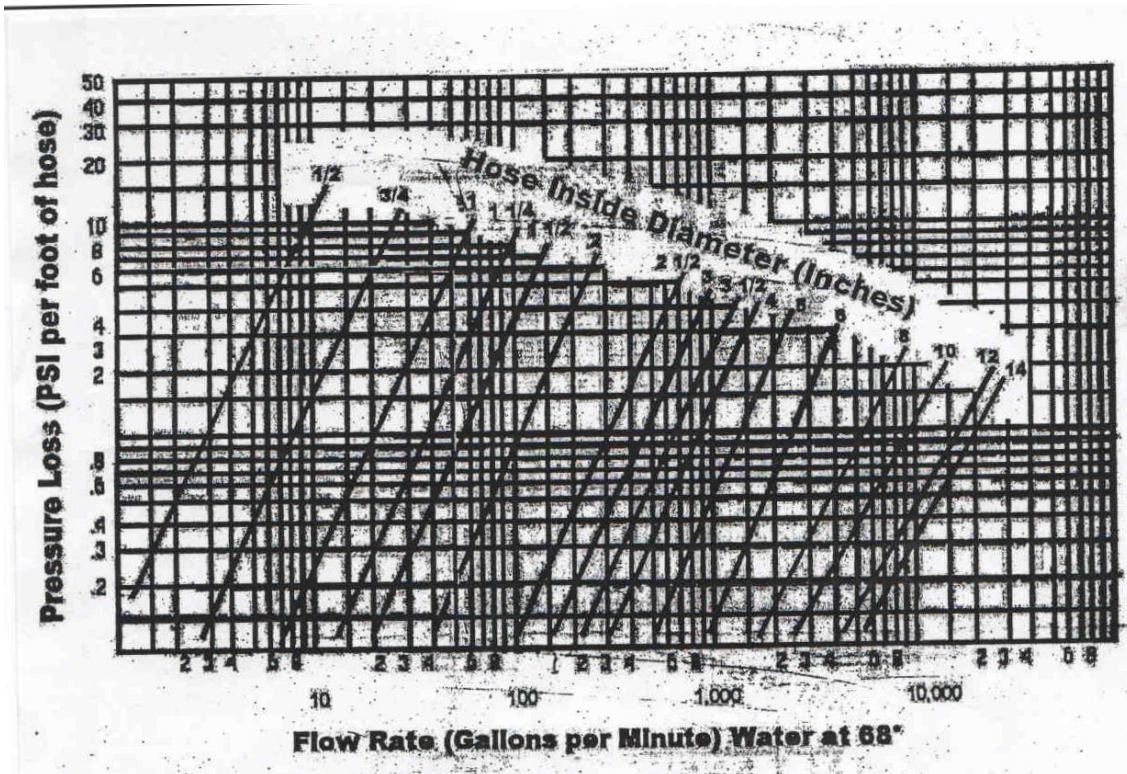
Temp. degC	-200	-150	-100	-50	0	20	50	100	150	200	225	250	350	400	450	500	550	600	650
Factor	1.0	1.0	1.0	1.0	1.0	1.0	0.92	0.83	0.75	0.69	0.65	0.61	0.58	0.56	0.54	0.53	0.52	0.34	0.19

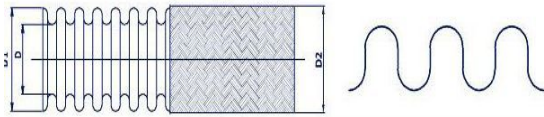
For example 100 NB Hose required working pressure 12 kg/cm<sup>2</sup> at 200 degree celcius  
Specified working pressure in the table 18 kg/cm<sup>2</sup> at ambient temperature. Correction factor 0.69 in the table, then working pressure will be 0.69x18= 12.4 kg/cm<sup>2</sup>

## Pressure loss in the metal hoses

Pressure loss in corrugated hose are approx 100% higher than in the plane smooth bore pipe, because of the nature of the bore of the corrugated hose the pressure drops due to greater friction (flow of fluid is turbulent in nature due to corrugation)

The pressure loss is 15 – 20% higher in the strip wound interlock hoses





## Series 200 (standard pitch mechanically formed)

ISO 10380 QUALIFIED

Technical specifications

Specifying part numbers for the series of metal hoses and braids

Series no (only prefix)	alloy of hose	size	type of braid	alloy of braid
2	21	025	702	
200 series	304 stainless steel	size	braiding	04=SS- 304
	321 stainless steel		700 unbraided	21=SS-321
	316L stainless steel		701 single braid	16 = SS316
	316Ti stainless steel		702 double braid	
			703 triple braid *	

**221002570204 (1" NB SS-321 Hose with SS-304 double wire braid code)**

All hoses are meets the BS-6501 & ISO 10380 standards

These hoses are available in the stainless steel 304, 321, & 316L.

Pressure capabilities as shown in the technical design data

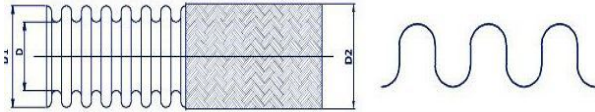
Up to 2" NB 200 series hose are available in the wooden reel also

For the high temperature and pressure use the temperature correction factor

For more layer of braiding please contact to factory.

### Technical design data Series 200

Nominal bore	Working pr.(kg/cm <sup>2</sup> )	Working pr. (kg/cm <sup>2</sup> )	Minimum bend radius mm	Minimum bend radius mm
	Single wire braid	Double wire braid	Static mode	Dynamic mode
06 mm	120	192	25	125
08 mm	100	160	32	125
10 mm	88	140	38	140
12 mm	72	115	45	150
16 mm	80	128	50	200
20 mm	67	107	60	200
25 mm	50	80	70	225
32 mm	44	70	100	250
40 mm	37	59	120	250
50 mm	35	56	130	350
65 mm	30	48	200	410 U/D
80 mm	20	32	205	450 U/D
100 mm	19	30	230	560 U/D



## Series 300 (Heavy duty hydraulically formed hoses)

ISO 10380 QUALIFIED

Technical specifications

Specifying part numbers for the series of metal hoses and braids

Series no (only prefix)	alloy of hose	size	type of braid	alloy of braid
3	21	0200	701	04

300 series	304 stainless steel	size	braiding	04=SS- 304
	321 stainless steel		700 unbraided	21=SS-321
	316L stainless steel		701 single braid	16 = SS316
	316Ti stainless steel		702 double braid	
			703 triple braid*	
			704 braided braid	

**321020070104**

**(8" NB SS-321 Hose with SS-304 single wire braid code)**

**700006570104**

**(2 1/2" NB SS-304 Braid single layer only)**

All hoses are meets the BS-6501 & ISO 10380 standards

These hoses are available in the stainless steel 304, 321, & 316L.

Pressure capabilities as shown in the technical design data

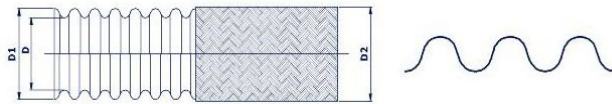
Up to 2" NB, 100 series hose are available in the wooden reel.

For the high temperature and pressure look the temperature correction factor

For more layer of braiding please contact to factory.

### Technical design data Series 300 (Heavy duty hydraulically formed hose)

Nominal bore	Working pr.(kg/cm <sup>2</sup> )	Testing pr. (kg/cm <sup>2</sup> )	Minimum bend radius mm	Minimum bend radius mm
	Single wire braid	Double wire braid	Static mode	Dynamic mode
20 mm	64	102	60	200
25 mm	47	75	70	200
32 mm	45	72	100	250
40 mm	36	57	120	250
50 mm	40	60	160	450
65 mm	50	75	200	550
80 mm	40	60	220	750
100 mm	18	28	230	560
125 mm	15	24	300	660
150 mm	11	17	380	815
200 mm	10	16	508	1015



## Series 400 (Open pitch hoses)

ISO 10380 QUALIFIED

Technical specifications for open pitch hoses

Specifying part numbers for the series of metal hoses and braids

Series no (only prefix)	alloy of hose	size	type of braid	alloy of braid
4	21	025	701	
400 series	304 stainless steel	size	braiding	04=SS- 304
	321 stainless steel		700 unbraided	21=SS-321
	316L stainless steel		701 single braid	16 = SS316

**421002570104 (1" NB SS-321 Hose with SS-304 single wire braid code)**

All hoses are meets the BS-6501 & ISO 10380 standards

**Marked hoses are mostly uses in heat exchangers and solar hose**

These hoses are available in the stainless steel 304, 321, & 316L.

Pressure capabilities as shown in the technical design data

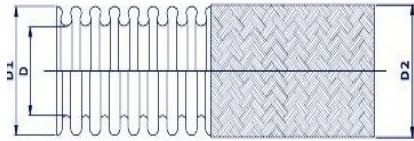
Up to 2" NB 400 series hose are available in the wooden reel also

For the high temperature and pressure look the temperature correction factor chart.

### Technical design data Series 400

Nominal bore	Working pr.(kg/cm <sup>2</sup> )	Working pr. (kg/cm <sup>2</sup> )	Minimum bend radius mm	Minimum bend radius mm
	without wire braid	Single wire braid	Static mode	Dynamic mode
12 mm	10	72	45	
16 mm	8	80	58	
20 mm	7	67	70	
25 mm	4	50	85	
32 mm	3.5	44	105	
40 mm	3	37	130	
50 mm	3	30	160	
65 mm	2.0	20	200	
80 mm	1.0	20	250	
100 mm	1.0	20	310	





## Series 500

ISO 10380 QUALIFIED

Technical specifications for closed pitch

Specifying part numbers for the series of metal hoses and braids

Series no (only prefix)	alloy of hose	size	type of braid	alloy of braid
5	21	025	701	
500 series	304 stainless steel	size	braiding	04=SS- 304
	321 stainless steel		700 unbraided	21=SS-321
	316L stainless steel		701 single braid	16 = SS316
	316Ti stainless steel		702 double braid	

### 521002570104 (1" NB SS-321 Hose with SS-304 single wire braid code)

All hoses are meets the BS-6501 & ISO 10380 standards

These hoses are available in the stainless steel 304, 321, & 316L.

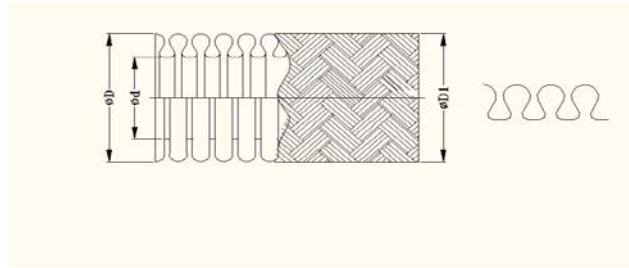
Pressure capabilities as shown in the technical design data

Up to 2" NB, 500 series hose are available in the wooden reel also

For the high temperature and pressure use the temperature correction factor

### Technical design data Series 500 (for single wire braiding)

Nominal bore	Working pr. (kg/cm <sup>2</sup> )		Minimum bend radius mm	Minimum bend radius mm
	Single wire braid	Double wire braid		
			Static mode	Dynamic mode
8 mm	100	160	28	105
10 mm	88	140	32	120
12 mm	72	115	40	130
16 mm	80	128	43	175
20 mm	67	107	52	175
25 mm	50	80	65	195
32 mm	44	70	85	215
40 mm	37	59	105	220
50 mm	30	48	115	285
65 mm	20	32	170	360
80 mm	20	32	190	395
100 mm	20	32	210	480
125 mm	15	24	270	610
150 mm	11	17	345	760
200 mm	10	16	500	975



## Series 600 (stainless steel omega shape profile hose)

ISO 10380 QUALIFIED

Technical specifications for closed pitch omega profile corrugation

Specifying part numbers for the series of metal hoses and braids

Series no (only prefix)	alloy of hose	size	type of braid	alloy of braid
6	21	025	701	
600 series	304 stainless steel	size	braiding	04=SS- 304
	321 stainless steel		700 unbraided	21=SS-321
	316L stainless steel		701 single braid	16 = SS316
	316Ti stainless steel		702 double braid	

### 621002570104 (1" NB SS-321 Hose with SS-304 single wire braid code)

All hoses are meets the BS-6501 & ISO 10380 standards

These hoses are available in the stainless steel 304, 321, & 316L.

Pressure capabilities as shown in the technical design data

Up to 2" NB, 600 series hose are available in the wooden reel also

For the high temperature and pressure use the temperature correction factor

### Technical design data Series 600 (for single wire braiding)

Nominal bore	Working pr. (kg/cm <sup>2</sup> )		Minimum bend radius mm	Minimum bend radius mm	
	Single wire braid	Double wire braid		Static mode	Dynamic mode
20 mm	67	107	52	175	
25 mm	50	80	65	195	
32 mm	44	70	85	215	
40 mm	37	59	105	220	
50 mm	30	48	115	285	
65 mm	20	32	170	360	
80 mm	20	32	190	395	
100 mm	20	32	210	480	



## Series 700 (Bronze annular hose)

ISO 10380 QUALIFIED

Technical specifications for bronze standard pitch hose

Specifying part numbers for the series of metal hoses and braids

Series no (only prefix)	alloy of hose	size	type of braid	alloy of braid
7	64	025	701	66
700 series	bronze 2	NB	700 unbraided 701 single braid	04= SS- 304 66= bronze 4

### 764002570166 (1" NB Bronze Hose with copper single wire braid code)

All hoses are meets the BS-6501 & ISO 10380 standard.

Pressure capabilities as shown in the technical design data

Up to 2" NB 50 series hose are available in the wooden reel also

Hose material is **bronze grade (CuSn2) DIN 1791**

**Braiding wire material grade (CuSn4) DIN1652**

### Technical design data Series 700 (for single wire braiding)

Nominal bore	Working pr.(kg/cm <sup>2</sup> )		Minimum bend radius mm	Minimum bend radius mm
	Without wire braid	Single wire braid		
20 mm	67	107	70	225
25 mm	50	80	85	260
32 mm	44	70	105	300
40 mm	37	59	130	350
50 mm	30	48	160	400
65 mm	20	32	200	460



## Series 800 (Inconel annular hose)

ISO 10380 QUALIFIED

Technical specifications for standard pitch hose

Specifying part numbers for the series of metal hoses and braids

Series no (only prefix)	alloy of hose	size	type of braid	alloy of braid
8	64	025	701	
800 series	Inconel 625	NB	700 unbraided 701 single braid	21= SS 321 62= inconel

### 864002570165 (1" NB Inconel Hose with stainless steel single wire braid code)

All hoses are meets the BS-6501 & ISO 10380 standard.

Pressure capabilities as shown in the technical design data

Up to 2" NB 50 series hose are available in the wooden reel also

Hose material is **Inconel grade (inconel 625)**

**Braiding wire material grade (SS 321)**

Chemical composition ( Ni 58%, Cr 20-23%, Mo 8-10,density 8.44 gr/cm<sup>3</sup>, melting temp. 1350 C), ASTM B446,

### Technical design data Series 600 (for single wire braiding)

Nominal bore	Working pr.(kg/cm <sup>2</sup> )		Minimum bend radius mm	Minimum bend radius mm
	Without wire braid	Single wire braid		
25 mm	50	80	85	260
32 mm	44	70	105	300
40 mm	37	59	130	350
50 mm	30	48	160	400
65 mm	20	32	200	460
80 mm	37	59	130	350
100 mm	30	48	160	400



## Series 900

ISO 10380 QUALIFIED

Technical specifications for tubular braid

Specifying part numbers for the series of braid and braided braid

Series no (only prefix)	alloy of hose	size	type of braid	alloy of braid
9		025	701	
900 series		NB	701 braiding 704 Braided braid	04= SS-304 21= SS-321 16= SS-316L

**700002570104 (1" NB SS-304 single wire braid code)**

### Aeroflex braid and braided products:

Braid is a flexible sheath surrounding a metal hose that prevent the hose from elongation created by internal pressure

Braid is a group of wires strand. Helically wrap over the hose weaves in the plaiting fashion.

All hoses are meets the BS-6501 & ISO 10380 standard.

Wide range of braid constructions machine including 24, 25, 36, 48, 64, 72 & 96 carriers

Pressure capabilities as shown in the technical design data

Very good optimal coverage

Material for braid construction is available in SS-304, SS-321, SS-316, Bronze and other alloys

We are also manufacture the braided braid hoses starts from 8"NB and above.

Up to 4" NB 700 Series braiding are available in the corrugated carton box and above 5" NB

Braid in the wooden carats.

All the pressure calculation base on Aeroflex annular hoses

For the typical and large mill length consult factory

Aeroflex also manufacture the braid for rubber hose application also, these diameter is not mentions in this tabulation. For more detail please contact factory.

Details of packing see the packing mode of Aeroflex braid



### Technical design data Series 700 (for single wire braiding)

sizes	wire size x No.of wires x No. Of carriers	Braid angle	Braid pitch in mm	Working pressure (Kg.cm <sup>2</sup> )	
				for single wire braid	for double wire braid
1/4"	0.22 x 07 x 24	45 degree	30.1	120	180
5/16"	0.22 x 08 x 24	45 degree	38.6	100	160
3/8"	0.22 x 09 x 24	45 degree	44.9	88	132
1/2"	0.22 x 10 x 24	45 degree	52.1	72	115
5/8"	0.30 x 07 x 36	45 degree	67.8	80	128
3/4"	0.30 x 09 x 36	45 degree	87	64	102
1"	0.30 x 10 x 36	45 degree	106	47	75
1 1/4"	0.35 x 08 x 48	45 degree	128.8	45	72
1 1/2"	0.35 x 10 x 48	45 degree	160.2	36	57
2"	0.40 x 11 x 48	45 degree	204.2	32	52
2 1/2"	0.40 x 11 x 64	46 degree	245.89	27	43
3"	0.40 x 12 x 64	46 degree	288.39	20	32
4"	0.45 x 12 x 72	47 degree	331.18	18	28
5"	0.57 x 10 x 72	48 degree	424.59	15	24
6"	0.57 x 11 x 72	48 degree	495.36	11	18
6"	0.57 x 08 x 96	48 degree	495.36	11	18
8"	0.67 x 12 x 72	50 degree	594.07	10	16
8"	0.67 x 09 x 96	50 degree	594.07	10	16
8" BB	0.40 x 25 x 96	50 degree	594.07	10	16
10"	0.70 x 12 x 96	52 degree	682.93	9	14
10" BB	0.50 x 25 x 96	52 degree	682.93	9	14
12"	0.75 x 14 x 96	53 degree	795.56	8	13
12" BB	0.57 x 25 x 96	53 degree	795.56	8	13
14" BB	0.57 x 25 x 96	53 degree	911.58	6	9

**BB – braided braid**



### Packing mode of wire braid:

size	Available mill length	Standard packing		Volume of box	
		coil in bundle	Coil in cartoon box		
1/4 "	Upto 50 mtr	25 mtr	100 mtr		
5/16"	"	25 mtr	100 mtr		
3/8"	"	25 mtr	100 mtr		
1/2 "	"	25 mtr	100 mtr		
5/8"	"	25 mtr	50 mtr		
3/4 "	"	25 mtr	50 mtr		
1"	"	25 mtr	50 mtr		
1 1/2"	"	25 mtr	25 mtr		
2"	"	25 mtr	25 mtr		
2 1/2"	33 mtr/100 ft	25 mtr	25 mtr		
3"	33 mtr/100 ft	25 mtr	25 mtr		
4"	33 mtr/100 ft	25 mtr	25 mtr		
	Mill length	Wrap in straight length	Coil in wooden box		
5"	25 mtr	10 mtr	As per order		
6"	25 "	10 mtr	"		
8"	25 "	10 mtr	"		
10"	10 "	10 mtr	"		
12"	10 "	10 mtr	"		
14"	10 "	10 mtr	"		

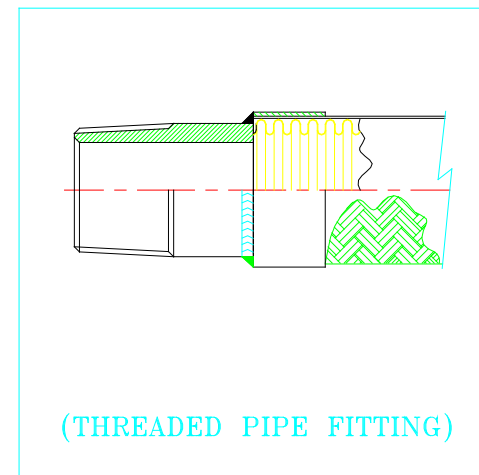
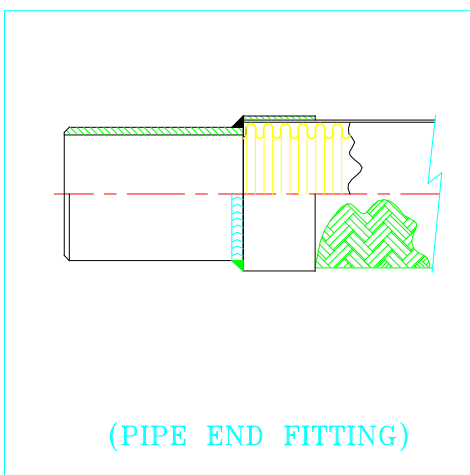
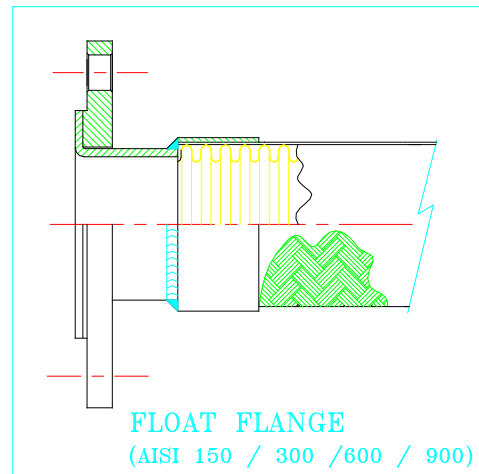
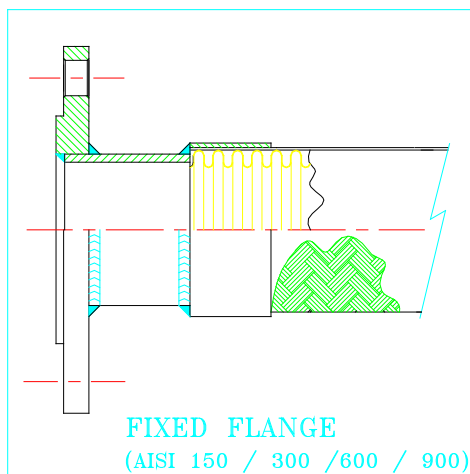
### Packing mode of only Hoses and Hose with braid:

size	Available mill length	Standard packing		Wooden reel size	
		coil in bundle	Coil in wooden reel		
1/4 "	Upto 50 mtr	50 mtr	500 mtr	<b>Dia 600x500</b>	
5/16"	"	50 mtr	500 mtr	<b>Dia 600x500</b>	
3/8"	"	50 mtr	500 mtr	<b>Dia 700x700</b>	
1/2 "	"	50 mtr	500 mtr	<b>Dia 700x700</b>	
5/8"	"	50 mtr	350 mtr	<b>Dia 700x700</b>	
3/4 "	"	50 mtr	450 mtr	<b>Dia 1050x700</b>	
1"	"	50 mtr	400 mtr	<b>Dia 1050x700</b>	
1 1/4"	"	50 mtr	200 mtr	<b>Dia 1050x700</b>	
1 1/2"	"	50 mtr	150 mtr	<b>Dia 1050x700</b>	
2"	"	50 mtr	100 mtr	<b>Dia 1050x700</b>	

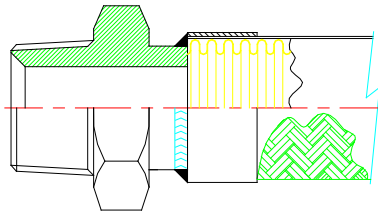
**a. INDUSTRIAL HOSE ASSEMBLIES**

- 1. Assemblies with standard end fitting**
- 2. Jacketed hose assemblies**
- 3. Assembly with internal Liner (inter lock liner)**
- 4. Assembly with External protection covering**
- 5. Exhaust hose assemblies**

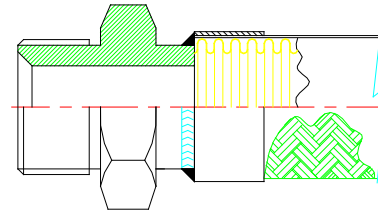
**1. ASSEMBLIES WITH STANDARD END FITTING:**



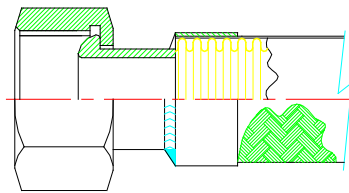




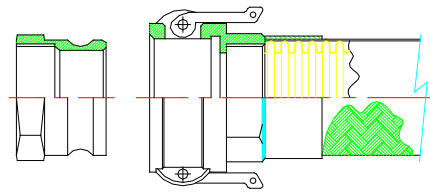
(BSPT/NPT MALE FITTING)



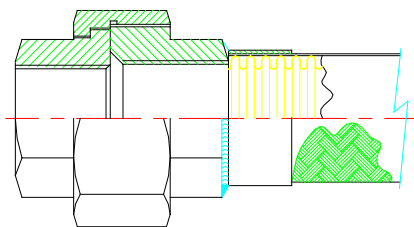
(BSP MALE FITTING)



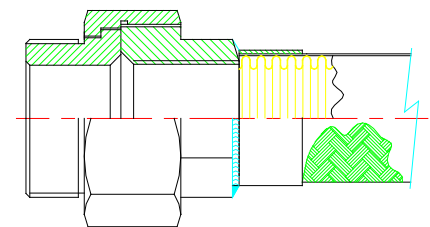
(BSP/BSPT/NPT FEMALE FITTING)



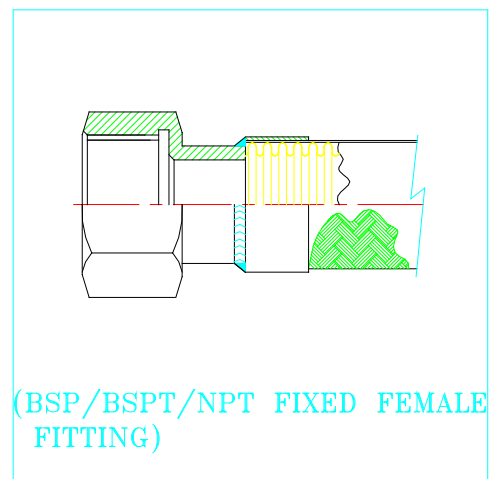
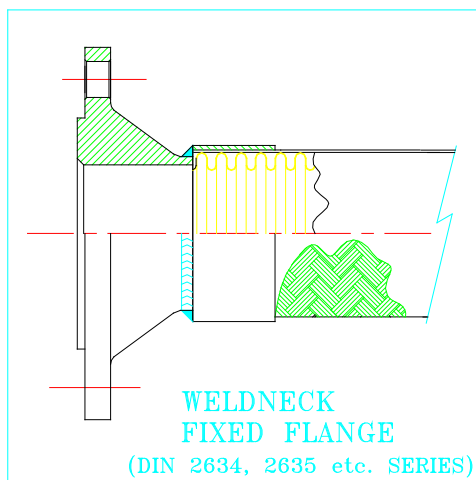
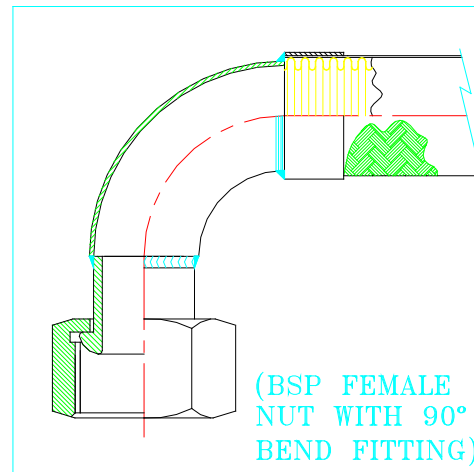
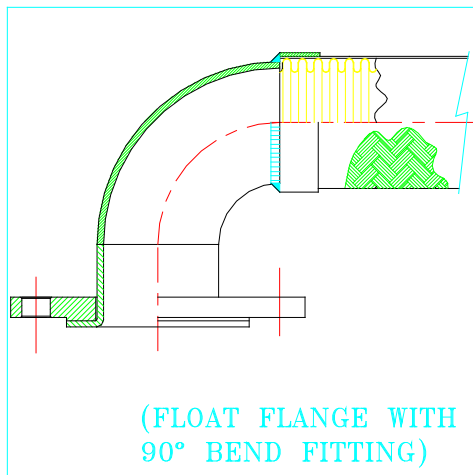
(CAM LOCK END FITTING)



(FEMALE UNION FITTING)



(MALE UNION FITTING)



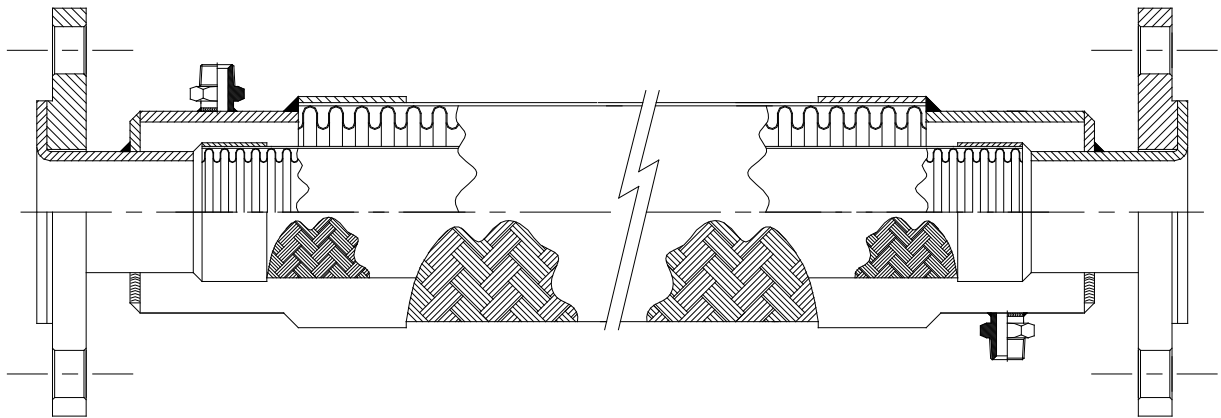
These fittings are available in carbon steel, stainless steel SS-304, SS-316 etc. male and female end fitting are also available in rolled bronze, gun metal and also as per customer requirements. Flange connections with fixed and floating flanges to meet the DIN, ANSI, ASA, IS etc.

## 2. JACKETED HOSE ASSEMBLY:

jacketed hose assemblies are manufacture from stainless steel SS-304, SS-316L & SS-321, size ranges starts from ¼” NB core flexible hose to 6” NB. Flexible jacketed hose starts from 1” NB to 10” NB.

The jacketed hose assembly consist inner flexible core assembly and outer jacketed hose assembly’s end connection may be of any type as per customer needs

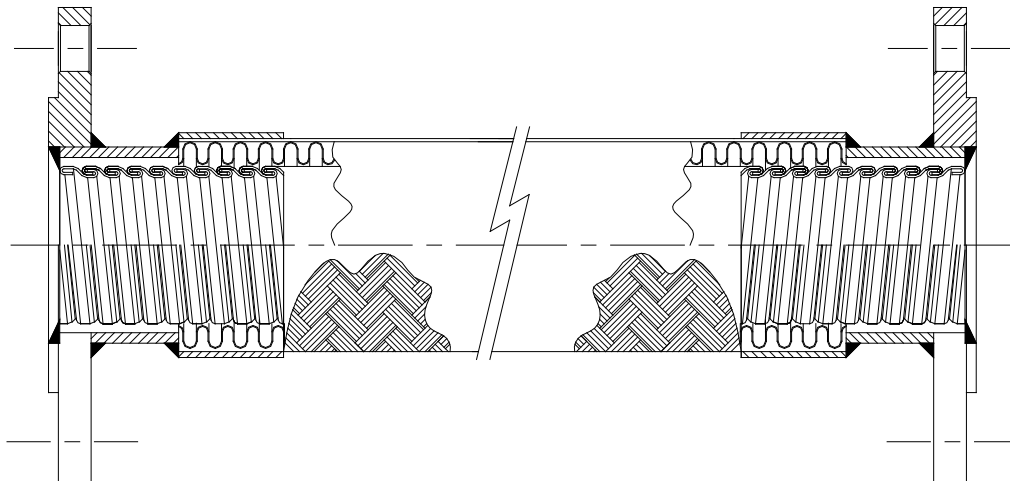
These hoses are used to transfer high density fluid, like bitumen, pre polymers, hot melts etc.



(Jacketed hose assembly with inlet and outlet BSPT male and fitted with both side swivel flange)

## 3. ASSEMBLY WITH INTERNAL LINER :

When the velocity of fluid which is transfer through the stainless steel corrugated hose is more than 25 mete/second and for liquid and 50 meter/second for gases then more turbulent flow may create the abrasion, extra pressure drop, and result damage of hose, for prevent these type of problem we use a flexible interlock liner

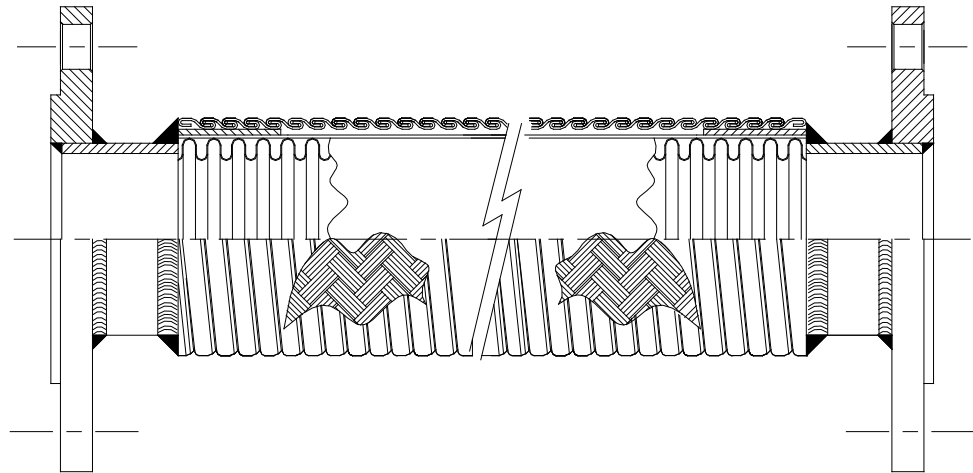


#### 4. ASSEMBLY WITH EXTERNAL GUARD:

Use of external flexible armor / guard protects the stainless steel flexible hose from abuse due to rough handling, sharp bending, abrasion, etc.

Some time asbestos, ceramic covering or any other insulation material are use in external guard and armoring.

This external guard are made by SS-304, SS-316L, Galvanized steel etc.



#### 5 EXHAUST HOSE ASSEMBLY:

Exhaust hoses are used for carrying away exhaust gases power generating units, heavy commercial vehicle's exhaust system,

Field of application

- Exhaust gas/smoke carrying
- Conveying dust of metal and wood
- Conveying minute granule, grains
- HVAC Ducting
- Chemical fume extraction
- Textile dust extraction
- Automotive industries

These hoses are strip wound metal hoses with polygonal or round cross sections engaged or interlocked profile. These are square profile, interlock and double interlocked with or without seal (asbestos thread or copper wire) depending upon the application which will transfer through it. End fittings as per requirement by customer and their application