

Hose

HOSE

A range of metallic flexible hoses are manufactured in SS AISI 304, 321, 316 & 316-L conforming to BS 6501 : Part 1 : 1991 / ISO 10380 : 2004

Stainless steel corrugated flexible hoses are offered from 6mm NB (1/4 ") to 250mm NB (10"). The annular corrugated hose body provides tight core of the assembly. We also manufacture highly flexible close-pitch and heavy duty hoses for special applications.

Product Introduction

Braid

BRAID

When pressure is applied, unbraided corrugated hose tends to elongate axially. To restrain this, an external layer of SS wire braid is provided. The braid also makes the assembly pressure resistant.

Sometimes two or even three layers of braiding are provided for higher pressure applications. The braiding is highly flexible and follows the movement of the hose.

The braid is normally manufactured in SS 304 wire. However SS 316 and SS 321 braid can also be manufactured. We also supply wire braid in different configurations as per customer specifications.

Assemblies

ASSEMBLIES

We have in-house designing facility and regularly manufactures hoses for highly critical applications. We also manufacture specials hoses like close pitch hoses / heavy duty hoses, jacketed hose-assemblies, road tanker and ship loading and unloading hoses for liquid cargo.

The end connections are TIG Welded / Brazed by our welders approved by Lloyds register / DNV.

Welding procedures and welders are qualified as per BS 4870 Part-1:1981 and BS 4871 Part-1:1982 by DNV.



Recognition



Lance Hoses

An import substitute product, developed and manufactured by us. These hoses distinguish themselves due to their good performance in adverse and hostile conditions.

These ultrasonically cleaned and degreased hoses are pressure sealed, leak proof under vacuum conditions and can be used with or without inside interlocked liner.

We have successfully supplied and getting repeat orders for Water and Oxygen Lance Hoses from Steel Plants like Tisco, Rourkela, Vishakhapatnam, JSW, Bokaro to name a few.

Highly Critical application Hoses supplied to India Space Research Organisation and department of Atomic Energy.

Technical Data for Braided Hoses & Assemblies

SIZE		SINGLE BRAID					DOUBLE BRAID				
Nominal Size		Static bend radius	Dynamic bend radius	Max. working pressure	Test pressure	Burst pressure	Static bend radius	Dynamic bend radius	Max working Pressure	Test Pressure	Burst pressure
Inch	mm	mm	mm	bar	bar	bar	mm	mm	bar	bar	bar
¼	6	25	100	154	230	616	25	100	246	369	984
⅜	10	40	150	105	157	420	40	150	168	252	672
½	12	50	200	88	132	352	50	200	140	210	560
⅝	16	50	200	73	109	292	50	200	116	174	464
¾	20	70	200	64	96	256	70	200	102	153	408
1	25	90	200	50	75	200	90	200	80	120	320
1¼	32	110	250	42	63	168	110	250	67	100	268
1½	40	130	250	32	48	128	130	250	51	76	204
2	50	175	350	31	46	124	175	350	49	73	196
2½	65	200	410	26	39	104	200	410	41	61	164
3	80	205	450	18	27	72	205	450	28	42	112
4	100	230	560	16	24	64	230	560	26	39	104
5	125	280	660	16	24	64	280	660	25	37	100
6	150	320	815	12	18	48	320	815	20	30	80
8	200	435	1015	10	16	40	435	1015	16	24	64
10	250	560	1220	6.5	10	26	560	1220	10.5	16	42

Note : 1. The above technical details are subject to change without notice.

2. We can also supply the above hoses for higher pressures.

3. The above values apply only to Bengal Braided Hoses and Assemblies at ambient temperature.

Advantages of Flexible Metal Hose

- High physical strength combined with light weight.
- Suitable for wide temperature range (-270° C to +700° C)
- Good corrosion resistance.
- Resistance to fire, moisture, abrasion and penetration.
- Absorbs vibration and noise from pumps, compressors, engines etc.
- Compensates for intermittent or constant movement.
- Compensates for thermal expansion or contraction of piping.
- Corrects problems of misalignment.
- A flexible and quick alternative for rigid piping in difficult locations.

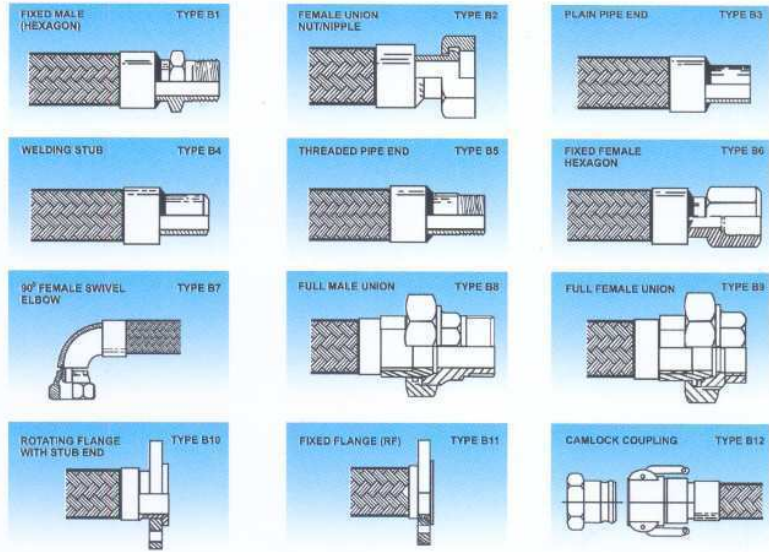


Wide Range

End Connections

All Hose assemblies are individually made. They can have end fittings selected to suit customers requirements.

End connections can be from a wide range including male and female, BSP/ NPT threads, fixed and swivel flanges to various specifications, tube ends, weld ends, quick-release couplings etc.



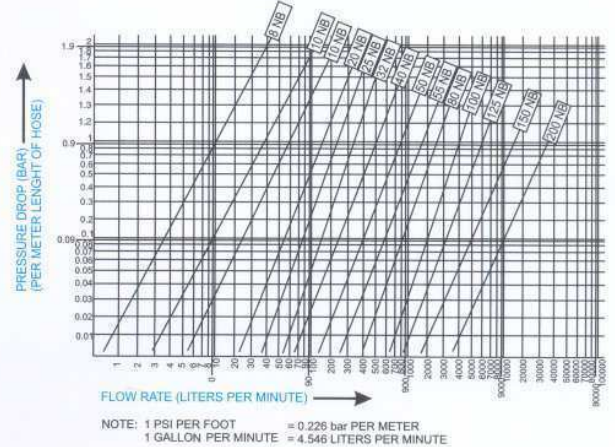
Pressure Loss

The pressure loss in corrugated hoses is 100% higher than in new steel pipes, because the bore of a corrugated hose is not smooth. This means that in the case of corrugated hoses, an increase in diameter of 15% is required to reduce the pressure loss to the value of the pressure loss in steel pipes.

The chart shows the approximate pressure drop for each size of corrugated hose related to a flow rate where water is the fluid. To utilize the chart, read off on the base line the flow rate required.

Where a vertical line from the selected point on the base line intersects the nominal bore line, the pressure drop is shown on the vertical axis, corresponding to the point of intersection.

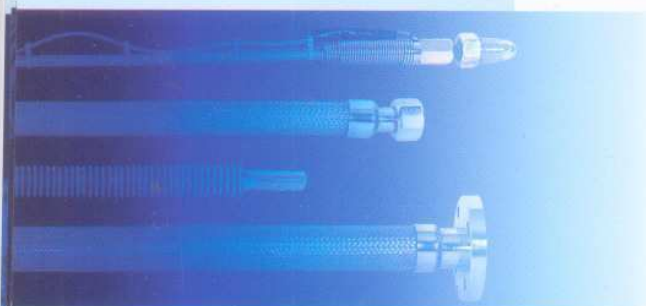
Chart Indicating the Approximate Pressure Drop Per Meter Length in Corrugated Hoses Corresponding to flow rate of Water in Liters per minute



Temperature Correction Factor

Where hoses are required to work at higher temperatures, the working pressure given in Table (below), should be multiplied by the correction factor. This will determine the pressure rating of the hoses at the higher temperature.

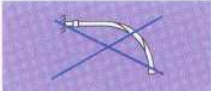







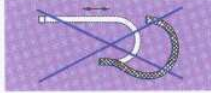
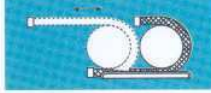








Temperature Range		Correction Factor 'F _t '		
°C	°F	Material		
		1.4541 (SS 321)	1.4404 & 1.4306 (SS316L & SS304L)	Carbon Steel
> -200 ≤ -20	> -328 ≤ -4	1	1	-
> -20 ≤ 50	> -4 ≤ 122	1	1	1
> 50 ≤ 100	> 122 ≤ 212	0.96	0.94	0.91
> 100 ≤ 150	> 212 ≤ 302	0.92	0.90	0.83
> 150 ≤ 200	> 302 ≤ 392	0.88	0.86	0.74
> 200 ≤ 250	> 392 ≤ 482	0.84	0.82	0.66
> 250 ≤ 300	> 482 ≤ 572	0.80	0.78	0.59
> 300 ≤ 350	> 572 ≤ 662	0.76	0.74	0.54
> 350 ≤ 400	> 662 ≤ 752	0.72	0.70	0.52
> 400 ≤ 450	> 752 ≤ 842	0.66	0.66	-
> 450 ≤ 500	> 842 ≤ 932	0.60	0.60	-
> 500 ≤ 550	> 932 ≤ 1022	0.54	-	-
> 550 ≤ 600	> 1022 ≤ 1112	0.44	-	-
> 600 ≤ 650	> 1112 ≤ 1202	0.36	-	-



Performance

Installation

Metallic flexible hose-assemblies should be installed correctly to obtain maximum life.

Do not twist the hose			Install it torsion-free
Dimensions the hose adequately			Take care that the flexible length is not too short
Avoid excessive bending of the hose			Use pipe bends
Do not move the hose obliquely to the installation plane			Movement should be along the axis of the hose only
Do not allow the hose to sag			Use a support
Avoid torsional twist when fittings are not in line			Install in one plane only
Don't permit axial movements			Install the hose vertical to the direction of movement
Do not use excess length			Dimensions the exact length
Avoid torsion due to angular movements			All movements should be only along the axis of the hose

Testing & Certification

- All unbraided Hoses are subjected to leak detection test using compressed air.
- All assemblies are checked for dimensional accuracy and pressure tested.
- Test certificates for pressure tests carried out will be provided.
- Tests stipulated by BS 6501 : Part 1 : 1991 / ISO 10380 : 2004 are conducted periodically.
- Raw material test certificates showing the physical and chemical properties will be furnished on request.
- Radiography, D.P. Test, will be carried out against specific customer requirements.
- The products can be supplied under any third party inspection.



Flexible