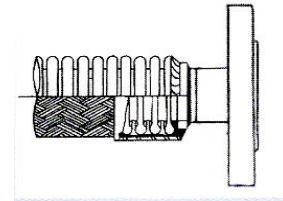
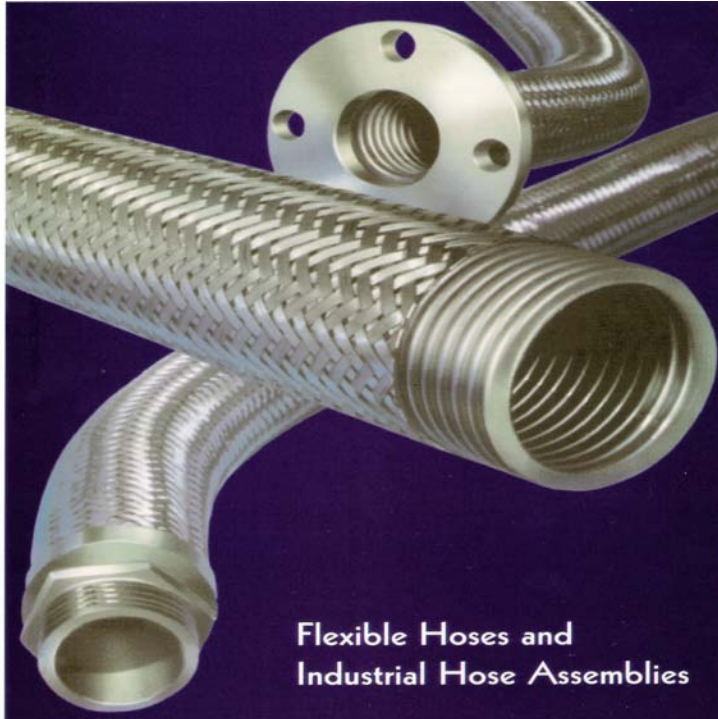


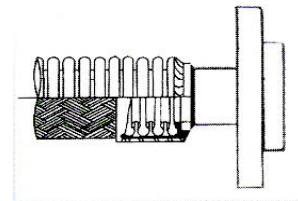
Assemblies

AEROFLEX hose assemblies are engineered to perfection in flexibility, strength and reliability. Aeroflex industries can provide a corrugated stainless steel hose assembly that will meet your most demanding technical specification. We can supply the hose complete with any

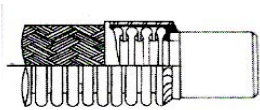
all types of end connections in various types of materials. The end connections are tig welded to hose. HOSE ASSEMBLIES CAN BE SUPPLIED UNDER ANY THIRD PARTY INSPECTION.



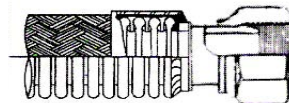
Fixed Flange



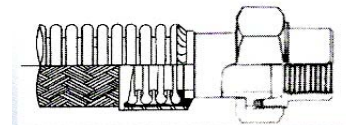
Swivel Flange



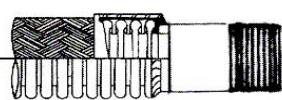
Welding End



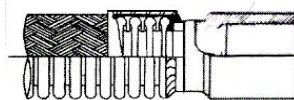
Female Swivel



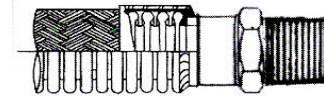
Union



Pipe



Socket



Nipple



Pressure Range

The recommended working pressure of type B hose are given in table 1, we manufacturer hose for higher working pressure also. Kindly contact us with your specified requirement giving full detail of the working conditions for pulsating, surge or shocking pressure the peak pressure must not exceed 50% of the max working pressure.

Flow Velocity

Corrugated metal flexible hoses have limitations in case of fluids with high flow velocities. As the high velocity causes resonant vibrations, resulting in premature failures.. Whenever flow velocity exceeds 50 m/sec for gas and 25 m/sec for liquids, an interlock hose liner should be used in the hose assemblies. The above flow velocity values get reduced to 50% for 90° bends and 25% for 45° bends.

Metal Hose Terminology

Annular – A hose profile that is designed so each convolution is a separate circle or ring.

Braid – Woven wire cover placed over hose which prevents elongation of the hose and permits higher working pressure.

Close Pitch – More corrugations per foot, which renders the longest fatigue life and minimum bend radius.

Constant Flexing Bend Radius – The minimum radius to which a hose can be repeatedly bent and render satisfactory flexure life.

Constant Motion – Motion that occurs on a regular cyclic basis at a constant travel.

Fittings – Parts attached to the ends of metal hose so that it can be connected to other components. Such as flanges, unions, nipples etc.

Flow Velocity – When the flow velocity exceeds 75 ft./second liquid, 150 ft./second gas in braided hose, a flexible metal liner should be used.

Intermittent Motion – Motion that occurs on a regular or irregular cyclic basis.

Maximum Test Pressure – Maximum pressure hose assemble should be subject to for testing purpose. Based on 150% of the Maximum Working Pressure.

Media – Conveyant in a hose assembly such as gases, liquids, etc.

Operating Conditions – Temperature, Pressure, Media, Motion and Application involved.

Random Motion – Uncontrolled motion that occurs usually from manual handling of hose.

Rated Burst Pressure – Pressure at which hose can be expected to fail. Braid will normally fail before core burst.

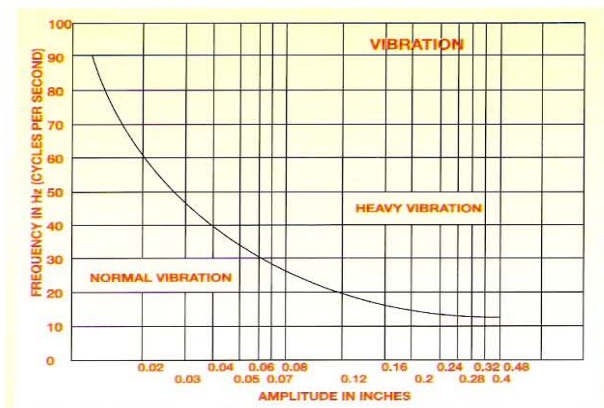
Safety Factor – Difference between working pressure and rated burst pressure.

Shock or Pulsating Pressure – Shock, pulsating or surge pressure can cause premature failure of hose.

Static Bend – Minimum center bend radius to which flexible metal hose may be bent for installation.

Vibration – High frequency, low amplitude motion.

Working Temperature – Temperature to which hose will be subjected during operation.



Advantages of Flexible Metal Hoses

- Suitable for wide temperature range (-270°C to 700°C)
- Compensates for thermal expansion contraction in the piping system
- High physical strength
- Fire resistant
- Moisture resistant
- Longer life
- Good corrosion characteristics
- Resistant to abrasion, penetration and damage
- Connects misaligned rigid piping absorbs or dampens vibration and similar equipments.
- A flexible and quick option for rigid piping in difficult locations.

Modes of Movements Static Installations

Where the flexible hose is used to connect mis-aligned pipes and remain in static position.

Occasional Flexing

Where the hose is required to flex occasionally, such as manually operated equipment.

Constant Flexing

When the hose is required to flex continuously, usually in moving machinery.

Vibration

High frequency, low amplitude movement e.g. On a compressor.

TABLE - 1 TECHNICAL DATA

NOMINAL BORE N.B.	MINIMUM BEND RADIUS		WITHOUT BRAID		SINGLE BRAID		DOUBLE BRAID	
	STATIC	FLEXING	MAX. working pressure kg/cm ²	TEST pressure kg/cm ²	MAX. working Pressure kg/cm ²	TEST pressure kg/cm ²	MAX. working kg/cm ²	TEST pressure kg/cm ²
mm	mm	mm						
6	25	100	4	6	100	150	160	240
10	40	150	4	6	90	135	144	216
12	50	200	3	4.5	80	120	128	192
16	50	200	3	4.5	70	105	112	168
20	70	200	2	3	64	96	102	153
25	90	200	2	3	50	75	80	120
32	110	250	1.5	2.3	40	60	64	96
40	130	250	1.5	2.3	30	45	48	72
50	175	350	1.0	1.5	28	42	44	66
65	200	410	1.0	1.5	24	36	38	57
80	205	450	1.0	1.5	18	27	28	42
100	230	560	0.8	1.2	16	24	26	39
125	280	660	0.6	0.9	12	18	20	30
150	320	815	0.6	0.9	10	15	16	24
200	435	1015	0.5	0.75	8	12	12	18

* The above values are applicable for Aeroflex Braided Hoses & Assemblies *The above pressure ratings are for fluid and ambient temperature of 20° C. For higher temperatures apply correction factors as per Table II. *The above data for 250mm and 300mm N.B. can be supplied on request. *The burst pressure is 4 times the maximum working pressure *The above technical data is subject to change on account of design improvement.

Temperature Correction Factor

When hoses are required to work at higher temperatures, the working pressure given in Table 1 should be multiplied by the correction factor. This will determine the pressure rating of the hoses for higher temperatures.

Example

A 50 NB hose is required for a temperature of 200°C and working pressure of 19 kg./cm². The specified pressure for 50 NB single wire braid hose as per table is 28 kg/cm². The correction factor at 200°C is 0.69. Hence the working pressure permissible is 28 x 0.69 = 19.32 kg/cm². This is higher than the required pressure i.e. 19 kg/cm². Hence single braided hose is recommended.

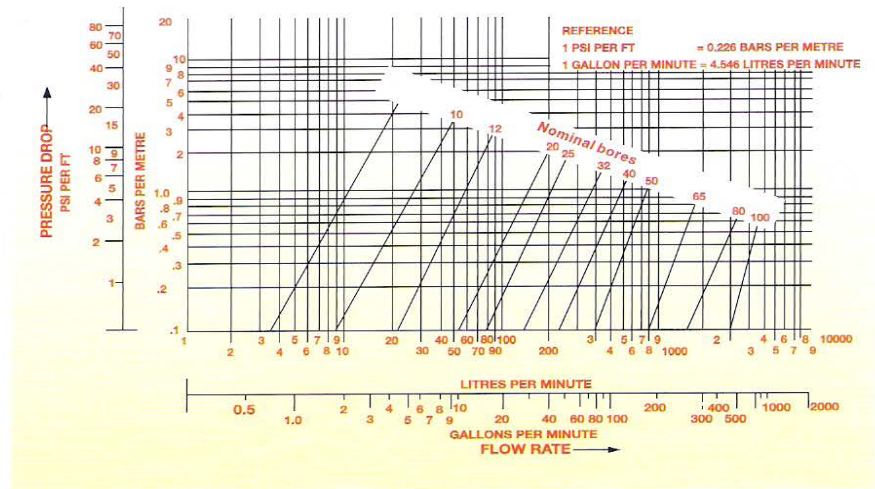
TABLE II

Temp (°C)	-200	-150	-100	-50	0	20	50	100	150	200	250	300	350	400	450	500	550	600	650	700
Corr. Facoty	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	0.10

Pressure Loss

The pressure loss in corrugated hoses is 100% higher than in new welded steel pipes. This means that in the case of corrugated hose as increase in diameter of 15% is required to reduce the pressure loss to value of the pressure loss in steel pipes.

Because of the nature of the bore of a corrugated hose, the pressure drops due to greater friction than that of a smooth size of corrugated hose related to a flow rate where water is a fluid. To utilise 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.



Installation

Stainless steel flexible hose assemblies should be installed in the right manner to obtain satisfactory service and longer life. The sharp bending near the end connection, stressed and twisted mounting and excessive fatigue are the main causes of premature failure of the assemblies. Correct and incorrect modes are shown in the installation chart.

