

Stainless Steel Hoses

Stainless steel corrugated flexible hoses are offered from 6mm (1/4') to 300 mm (12'). The annular corrugated hose body provides the flexibility and pressure tight core of the assembly.

Advantages of Flexible Metal Hose

- > 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.

Stainless Steel Braid

Unbraided corrugated hoses tend to elongate when pressurised above a certain level. To restrain this, an external layer of stainless steel wire braiding is provided on the hose. Braiding prevents longitudinal expansion of corrugated hose and thus increases the internal pressure strength of the hose many fold. Braiding is highly flexible and exactly follows the movements of the hose.



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Modes of Movements

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.

Static Installations

Where the flexible hose is used to connect misaligned 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.

Working Temperature

Temperature to which hose will be subjected during operation.

Static Bend

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

Safety Factor

Difference between working pressure and rated burst pressure.

TABLE - 1 TECHNICAL DATA								
NOMINAL BORE	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

Stainless Steel Hose Table-1 Technical Data

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./cm. The specified pressure for 50 NB single wire braid hose as per table is 28 kg/cm. The correction factor at 200°C is 0.69. Hence the working pressure permissible is $28 \times 0.69 = 19.32$ kg/cm. This is higher than the required pressure i.e. 19.2 kg/cm. 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. 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	0.19

Temperature Chart Table II