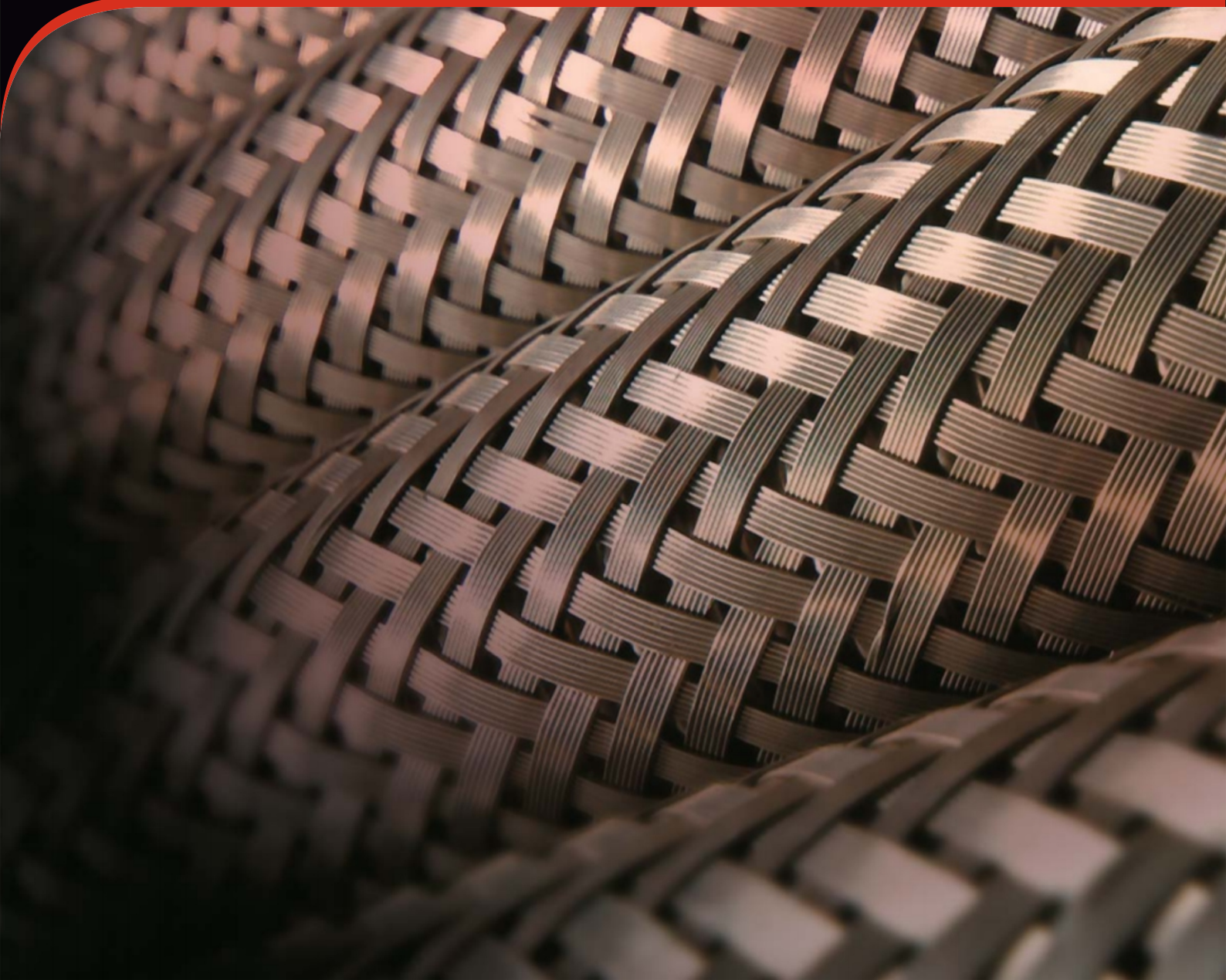
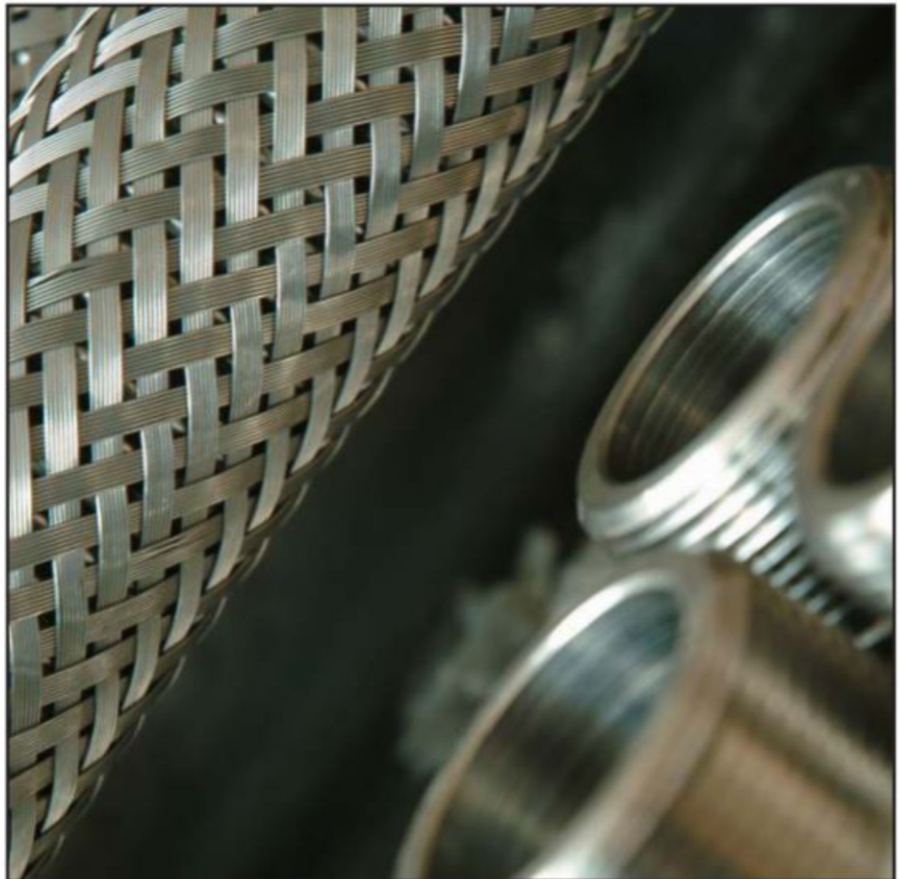


ALFA METALLIC HOSES, BRAIDING, HOSE ASSEMBLY



*Beyond 32 years in system's field and industrial plants,
supplying solutions adapted to every technological need,
today more and more sophisticated requirement.*

INTRODUCTION



The range of our metallic corrugated hoses, comes obtained from tubes wire drawing with or without longitudinal welding. These hoses are placed on special machines that from a number of mechanic or hydraulic convolutions that may be parallel or helical according to the hoses application. It is very important for the hoses supporting high pressure to be externally coated with one or more braids since the single corrugated part can resist to quite low pressure.

FEATURES & PROPERTIES

FLOW VELOCITY

Corrugated Metal Hoses have limitations in case of fluids with high flow velocities, as the high velocity causes resonant vibration, resulting in premature failures. Wherever flow velocity exceeds 50m/sec for gas and 25m/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.

SHOCK PRESSURE

When pulsating, if surge or shock pressure develops, this has marked effect on the service life of metal hose. If this situation is encountered, the peak pressure must not exceed 50% of the maximum working pressure.

LIST OF HOSES

It should be remembered that all Hoses, particularly those used under flexing and moving conditions have a finite life. When they are used in applications where dangerous chemical or hot and inflammable fluids are passed through them, they should be examined periodically.

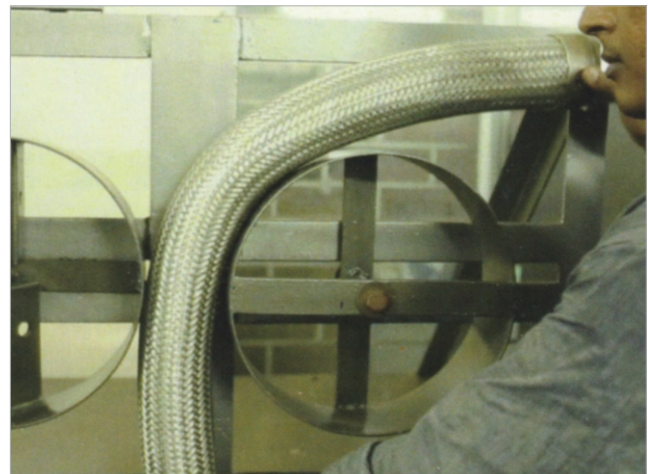
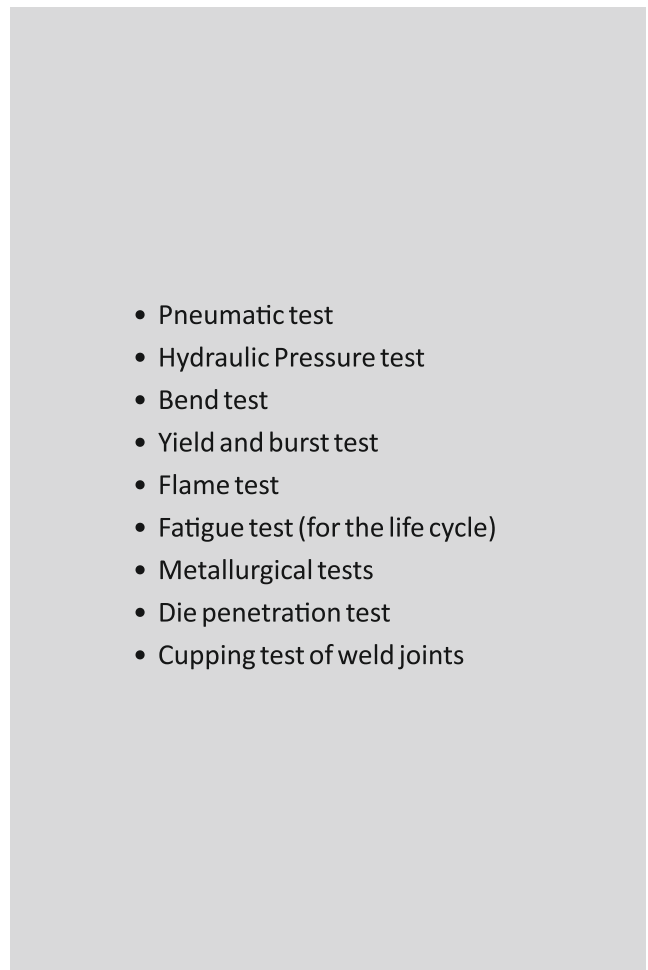
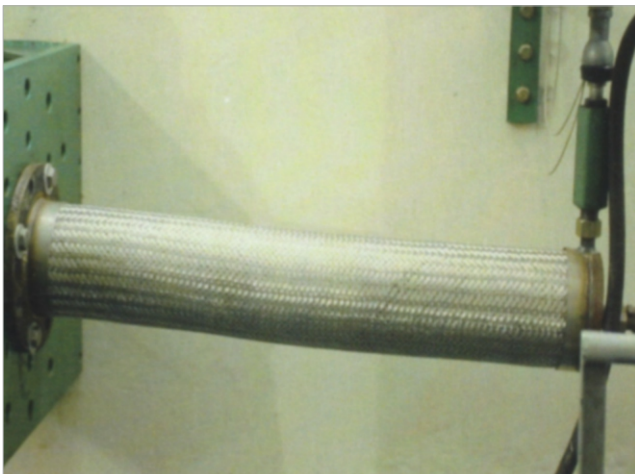
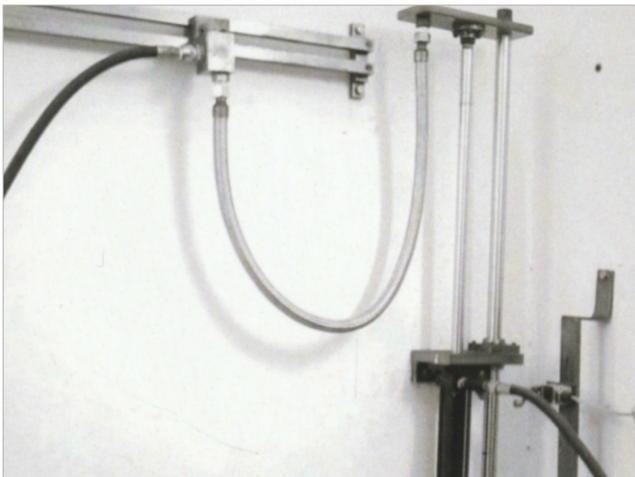
INSTALLATION

In order to get satisfactory service and longer life from stainless steel hoses, the hoses assembly should be installed in the right manner. The sharp bending of Hose Assembly, particularly at the welded ends, stressed and twisted mounting and excessive fatigues are main causes of premature failure.

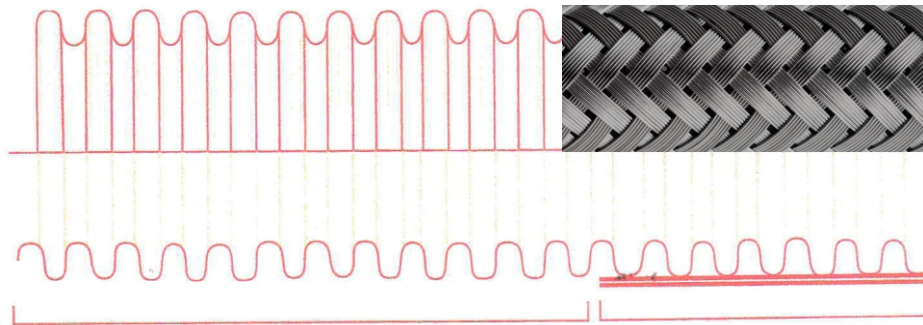


QUALITY ASSESSMENT

Alfa Hoses understands the importance of quality products and the long way it goes in establishing a company as a reliable brand. To achieve this goal we have set rigorous quality control processes and methods at various stages of production and supply.



ALFA MEDIUM PRESSURE HOSE TYPE 'B' FLEX



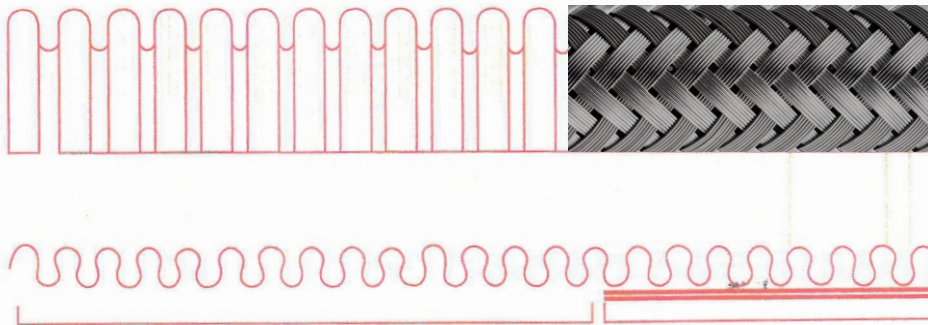
*Suitable For
Most Application*

Stainless Steel Convuluted Hose Core Stainless Steel Wire Braid

SPECIFICATION - ALFA B - FLEX METAL HOSE

Normal Size		Single Braid				Double Braid			
Inch	mm	Working Pressure Bar	Test Pressure Bar	Minimum Bend Radius		Working Pressure Bar	Test Pressure Bar	Minimum Bend Radius	
				Static (mm)	Dynamic (mm)			Static (mm)	Dynamic (mm)
1/4"	6	80	120	30	100	140	210	40	3/8"
3/8"	10	70	105	40	150	125	180	50	3/8"
1/2"	12	64	64	44	200	100	150	60	220
5/8"	10	66	90	56	200	90	135	60	220
3/4"	20	50	75	70	200	90	135	80	250
1"	25	50	75	90	200	80	120	100	260
1-1/4"	32	40	60	110	200	60	150	120	350
1-1/2"	40	32	50	130	260	50	75	160	400
2"	50	26	40	175	350	40	60	180	410
2-1/2"	65	20	30	200	410	32	50	200	450
3"	80	10	25	210	450	25	45	220	550
4"	100	14	21	230	560	20	30	260	660
5"	120	12	12	230	660	100	30	300	815
6"	150	10	15	320	815	125	25	420	1015
8"	200	10	15	410	1015	100	25	540	1220
10"	250	8	105	560	1220	125	20	620	1420
12"	300	6	64	660	1430	9	15	750	1650

ALFA MEDIUM PRESSURE HOSE TYPE 'C' FLEX



**Commonly Required
For High
Flexing Operations**

Stainless Steel Convoluted Hose Core Stainless Steel Wire Braid

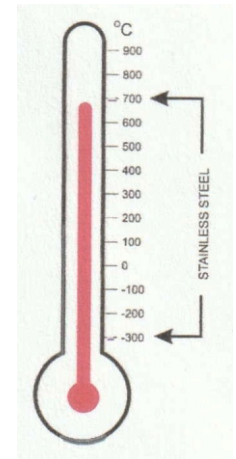
SPECIFICATION - ALFA C - FLEX METAL HOSE

Normal Size		Single Braid				Double Braid			
Inch	mm	Working Pressure Bar	Test Pressure Bar	Minimum Bend Radius		Working Pressure Bar	Test Pressure Bar	Minimum Bend Radius	
				Static (mm)	Dynamic (mm)			Static (mm)	Dynamic (mm)
1/4"	6	90	135	25	90	140	210	35	110
3/8"	10	80	120	35	150	120	180	50	160
1/2"	12	80	120	35	140	120	180	60	160
5/8"	10	70	105	45	180	100	150	60	200
3/4"	20	60	90	60	180	90	135	80	220
1"	25	60	90	80	180	60	90	100	240
1-1/4"	32	44	66	100	220	50	75	120	280
1-1/2"	40	36	54	120	240	40	60	160	380
2"	50	30	45	165	320	40	60	180	430
2-1/2"	65	24	36	180	380	32	50	220	520
3"	80	18	27	200	430	28	42	260	620
4"	100	16	24	220	520	25	38	300	700
5"	120	12	18	260	620	25	38	420	800
6"	150	12	18	300	800	25	38	540	1020
8"	200	12	18	420	1020	25	38	620	1340
10"	250	10	20	540	1180	15	22	800	1600
12"	300	8	12	620	1340	12	18	1020	1800

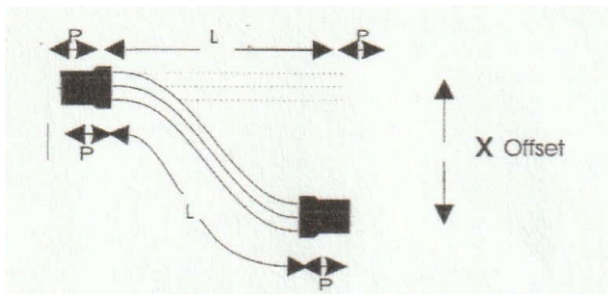
STAINLESS STEEL HOSE TEMPERATURE CORRECTION FACTORS

Where hose are required to operate at temperature above 20°C, the stated working pressure given for the selected hoses must be multiplied by a correction factor. The factors for stainless steel flexible hoses are given in the table.

Temperature		Correction Factor
°C	°F	
20	68	1.00
50	122	0.97
100	212	0.93
150	302	0.88
200	392	0.84
250	482	0.79
300	572	0.76
350	662	0.71
400	752	0.67
450	842	0.64
500	932	0.61
550	1022	0.60
600	1112	0.58



CALCULATION OF MINIMUM HOSE LENGTH FOR FLEXING INSTALLATIONS



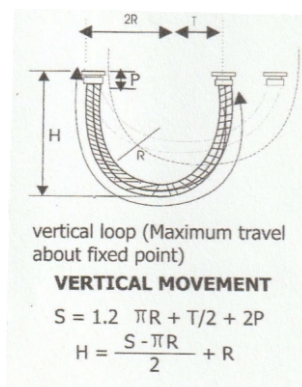
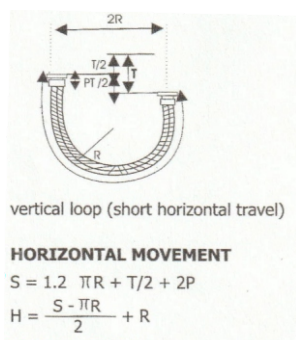
STATIC FLEXING

Minimum Overall Length = L (static) + (2 x P)
P - Dimension of end fittings.

STATIC FLEXING

Minimum Overall Length = L (flexing) + (2 x P)
P - Dimension of end fittings.

NOMINAL BORE	STATIC	LENGTH 'L' mm (FREE HOSE LENGTH) DIMENSIONS 'X' mm (OFFSET MOTION)												
		mm	0	15	25	35	50	75	100	125	150	175	200	225
—	85	140	180	215										
10,12	90	150	190	225	290									
20	95	170	220	255	310									
25	105	185	240	280	335	425								
32	110	205	260	305	365	450								
40	140	250	320	370	440	530	610							
50	170	300	380	440	520	630	730	800	870	940				
65	200	340	430	500	590	720	830	920	1000	1070	1130	1190		
80	215	380	500	580	680	820	940	1040	1140	1230	1310	1380	1450	
100	230	405	525	610	720	875	1005	1120	1225	1325	1415	1490	1560	
125	245	430	550	640	760	930	1070	1200	1310	1420	1520	1590	1670	
150	280	510	650	760	910	1100	1270	1420	1560	1690	1800	1900	1990	
200	320	560	710	830	990	1210	1400	1560	1720	1860	1990	2100	2210	
250	360	620	780	900	1070	1320	1510	1690	1820	2010	2160	2290	2340	



S = Overall Length

R = Bend Radius which must not be less than the minimum shown in table.

P = Length over End Fitting & Ferrule.

H = Height

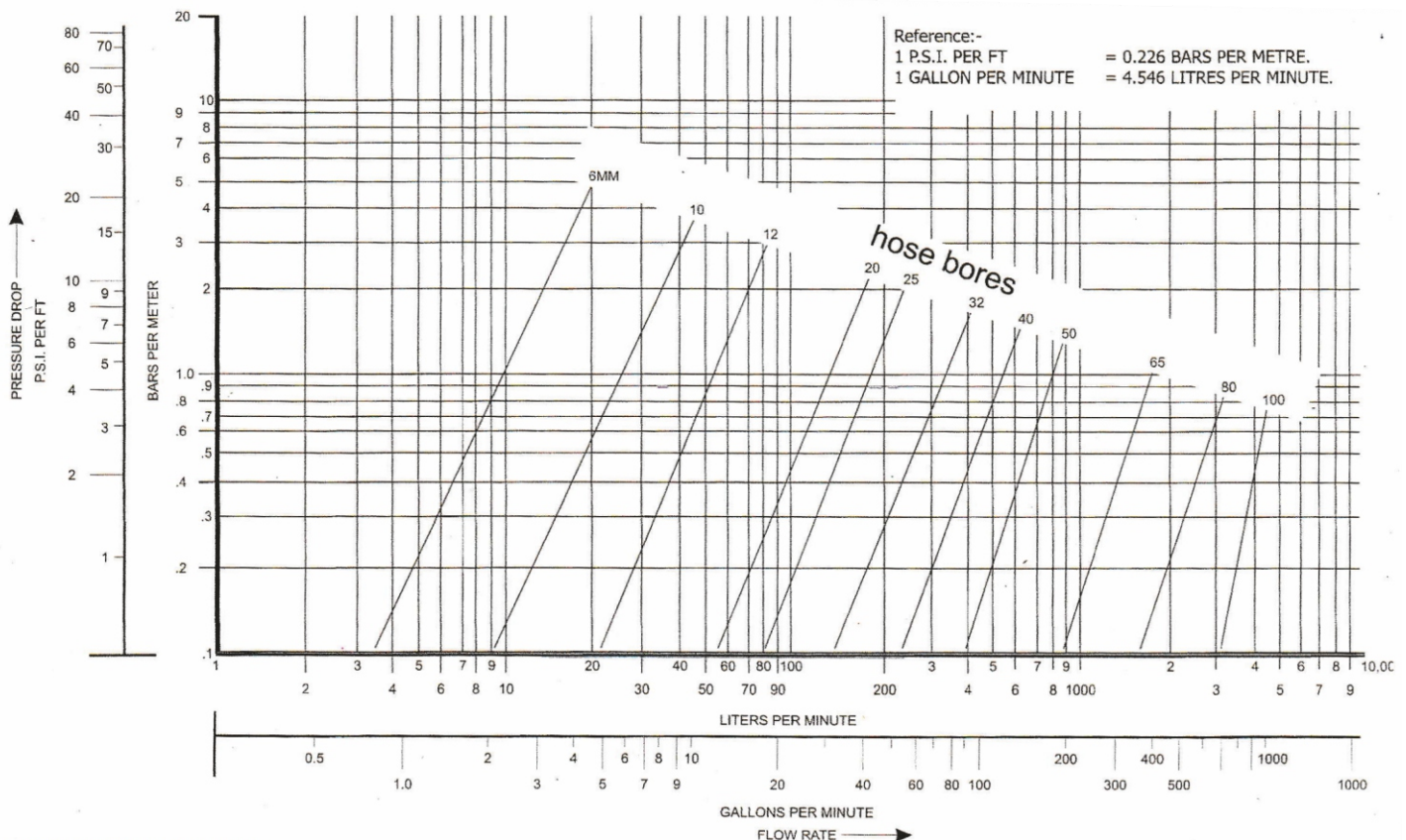
$\pi = 3.142$

IMPORTANT : In loop installations, both connections and travel should be in the same plane as the bend.

PRESSURE LOSS

At a rough estimate, it can be assumed that the pressure loss in Corrugated Hoses is 100% higher than in new welded steel pipes. In strip wound Hoses, it is 20% higher. This means that in the case of Corrugated hoses an increase in diameter of 15%, and in the case of strip wound hoses of only 4%, is sufficient to reduce the pressure loss to the value of pressure loss in the steel pipe.

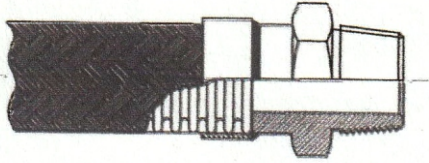
Because of the nature of the bore of a Corrugated hose, the pressure drop due to friction is greater than that of a smooth bore pipe. The chart shows the approximate pressure drop for each size of Corrugated hose related to flow rate where water is the fluid. To utilize the chart, read off on the base line the flow rate required. Where a vertical line from the selected point on the base line intersects the nominal bore line, the pressure drops shown on the vertical axis, corresponding to the point of intersection.



TYPE OF END CONNECTIONS GENERALLY USED WITH SS CORRUGATED HOSE ASSEMBLIES

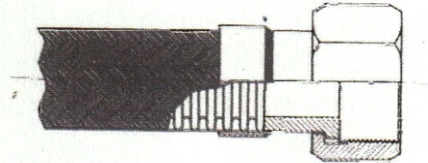
**FIXED MALE
(HEXAGON) NPT.**

TYPE AF - 1



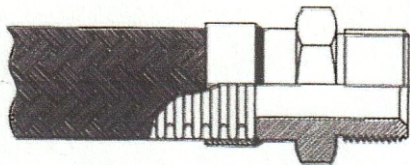
**SWIVEL FEMALE FLAT SEAT
NIPPLE HEXAGON BSP.**

TYPE AF - 2



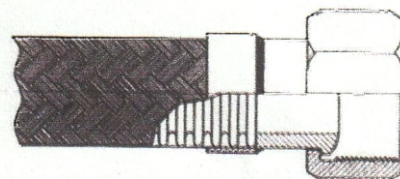
**FIXED MALE
(HEXAGON) BSP/BSPT.**

TYPE AF - 3



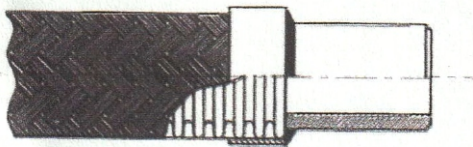
**SWIVEL FEMALE BULL NOSE
NIPPLE HEXAGON BSP.**

TYPE AF - 2



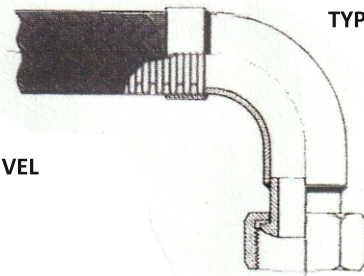
WELDING STUB

TYPE AF - 5



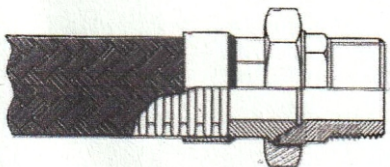
**90° FEMALE SWIVEL
ELBOW BSP.**

TYPE AF - 6



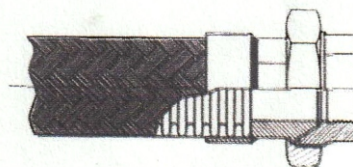
FULL UNION (MALE)

TYPE AF - 7



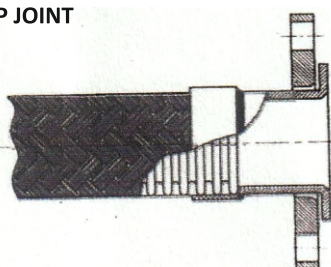
FULL UNION (FEMALE)

TYPE AF - 8



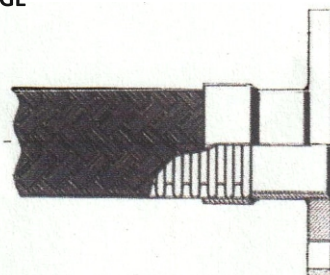
**FLOATING/SWIVEL
FLANGE LAP JOINT**

TYPE AF - 9



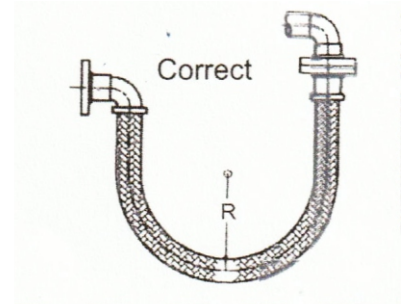
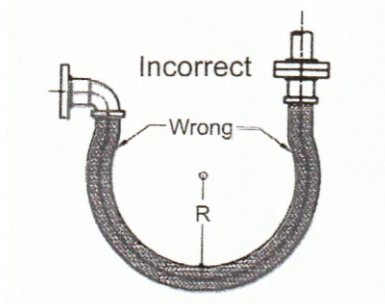
FIXED FLANGE

TYPE AF - 10

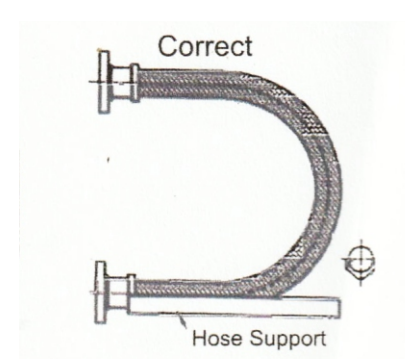
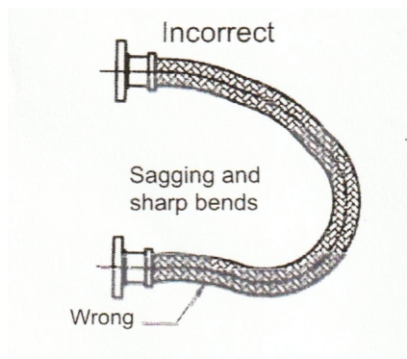
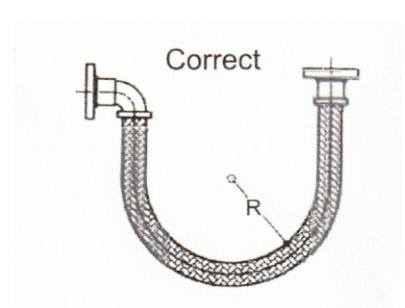
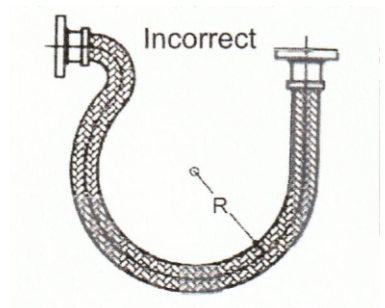


INSTRUCTIONS FOR CORRECT INSTALLATION OF SS (METAL) HOSE ASSEMBLIES TO AVOID PRE-MATURE FAILURES

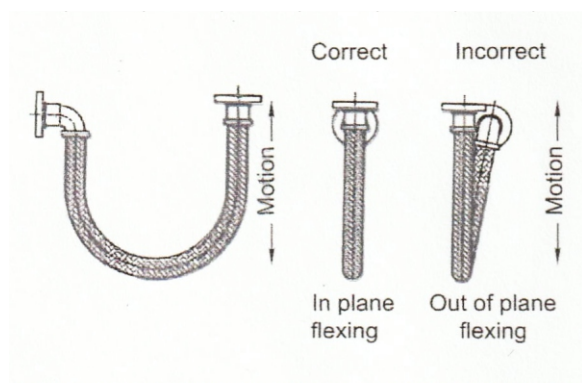
TRAVELING LOOP INSTALLATION



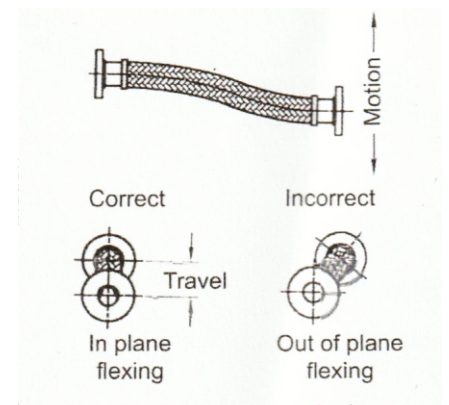
LATERAL OFFSET INSTALLATION



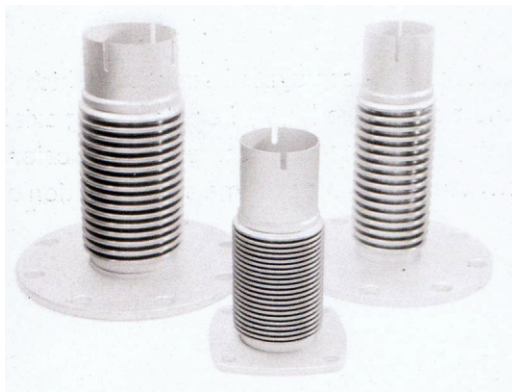
TRAVELING LOOP INSTALLATION



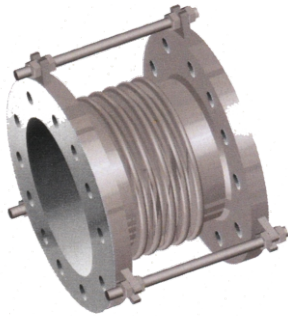
LATERAL LOOP INSTALLATION



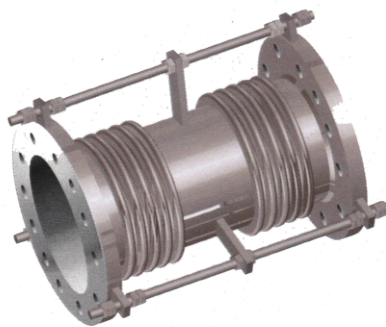
METAL BELLOWS



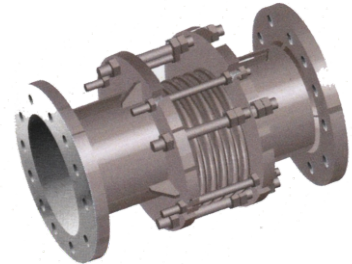
EXPANSON JOINTS



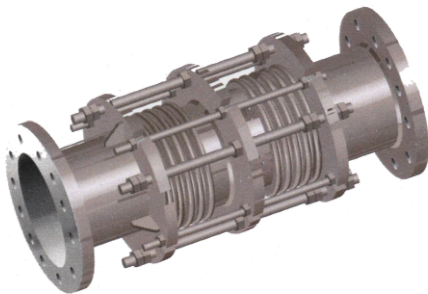
Single type



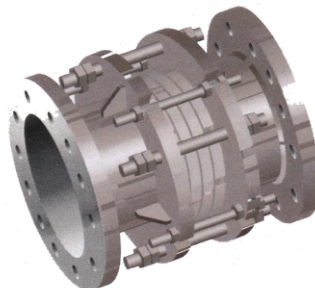
Double type



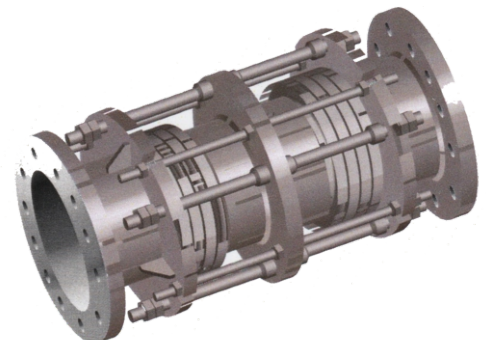
Single guide rod type



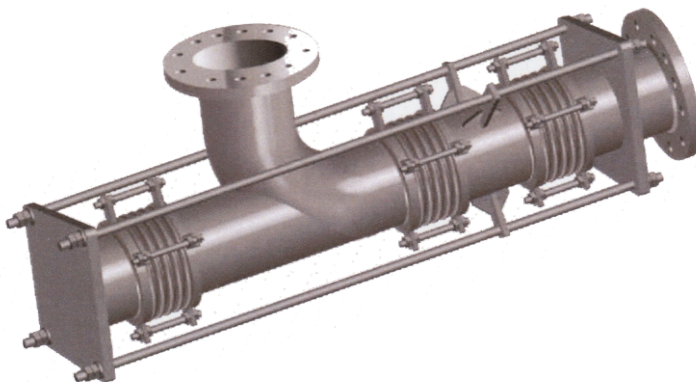
Double guide rod type



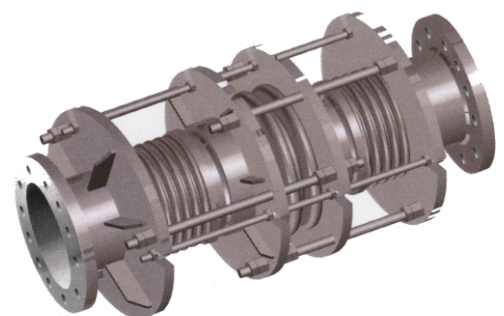
Single reinforced type



Double reinforced type



Single pipe pressure balanced type



Bent pipe pressure balance type

BRAID

The stainless steel hose is covered with an external braiding made from stainless steel wire. The wire braiding can be either single or double layer according to pressure rating required. Braiding increases the hoop strength, stabilizes movement and offers a form of protection to inner corrugated tubing.

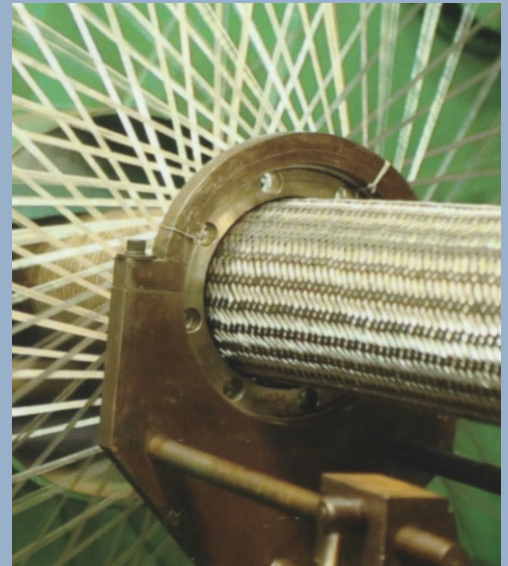
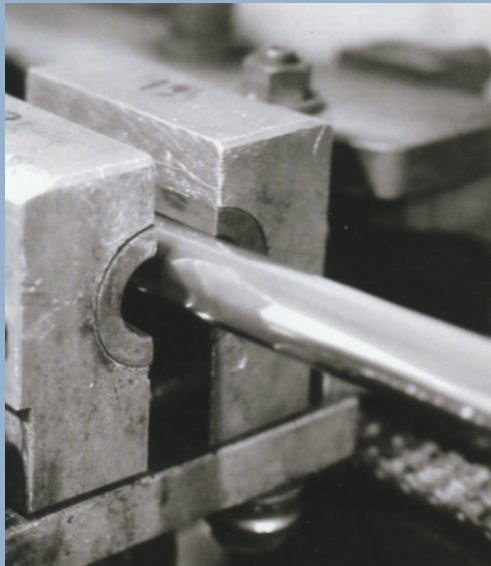
MATERIALS

Wire braids are made of medium tensile bright stainless steel wires of different gauges in AISI 304 Steel.

ALFA stainless steel corrugated hose assemblies are supplied with singlet/double braiding but can be supplied without braid also for low pressure or vacuum applications.

ADDITIONAL PROTECTIVE COVERING

Hose assemblies can be supplied with additional covering such as strip wound hose, PVC Shrinkable tubings.



ADVANTAGES OF FLEXIBLE METAL HOSE

- Suitable for wide temperature range (-270 c to 700c).
- It compensates for thermal expansion or contraction in piping system.
- High physical strength.
- Good corrosion characteristics.
- Fire resistant.
- Moisture resistant.
- Long Life.
- Resistant to abrasion, penetration and damage.
- Absorbs or dampers vibration and noise from pumps, Compressors, engines and similar equipment.
- Connects misaligned rigid piping.
- Connects parts of machinery and equipment against rigid piping in difficult locations.

QUALITY MANAGEMENT

ALFA HOSES have established Total Quality Assurance systems as per ISO 9001-2000 and TQM techniques to assure the customers a very reliable products of consistent quality.

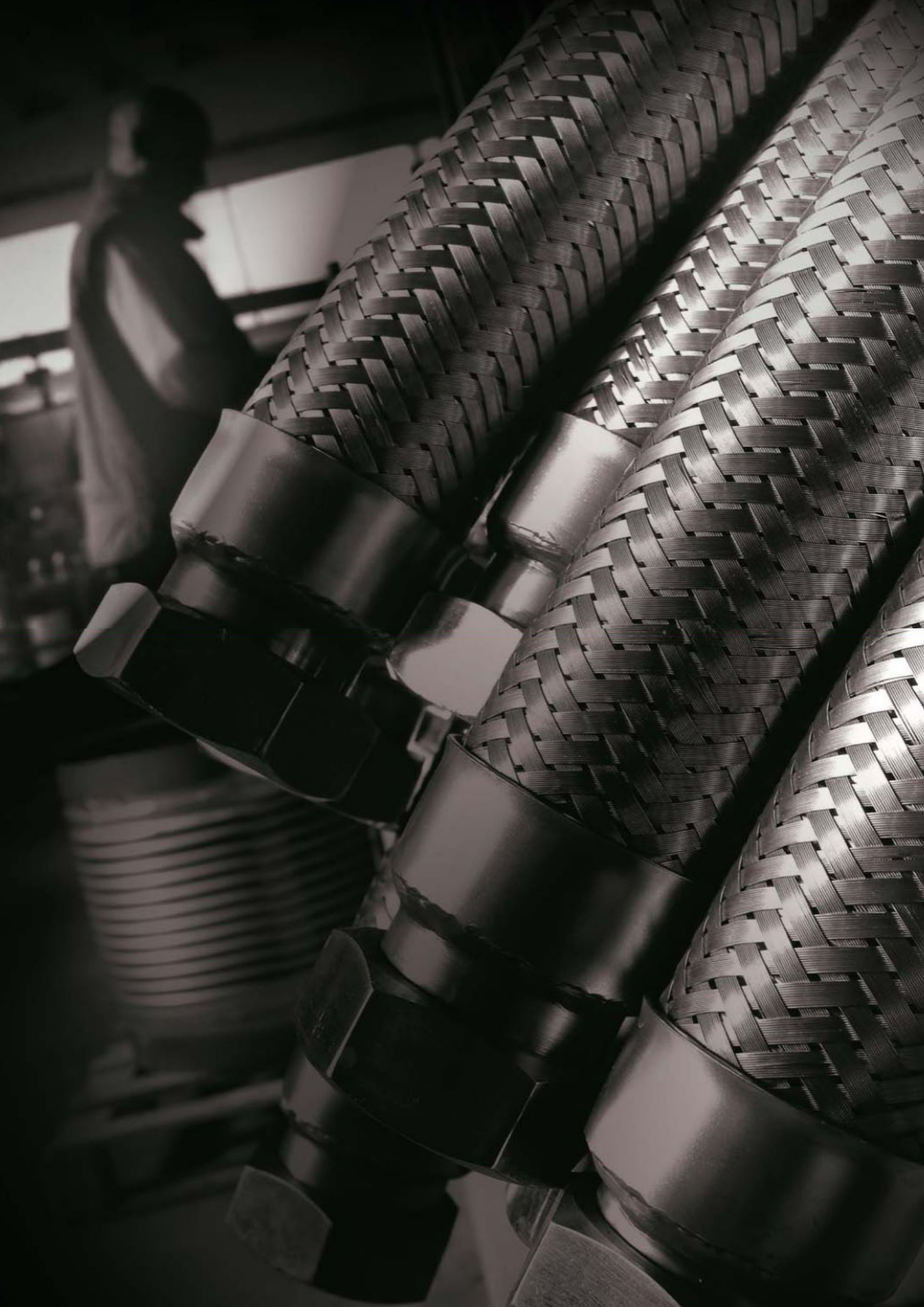
Company has complete Testing facilities for Productions Testes and Type Testes on metal hoses. All welding operations are performed by qualified welders in controlled parameters.

PRODUCTS OFFERED BY ALFA HOSES OTHER THAT CORRUGATED METAL HOSE.

- All Types Of End Connections For Metal Hose Assemblies.
- Industrial Bellows & Expansion Joints 10mm To 1000mm Id Single-ply As Well As Multi-ply.
- Pump Connectors / Vibration Absorbers
- Interlocked Metal Hose 6mm To 300 Mm Id In stainless steel And Galvanized Steel.
- Flex Connectors For Automotive Exhaust Systems
- Gas Connectorsr
- E.G.R Tubes For Automobiles.



ISO-9001-2015 Certified Company





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