

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

# 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.

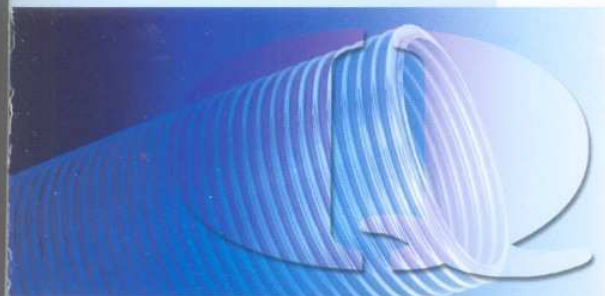
Sometimes two or even three layers of braiding are provided for higher pressure applications. The braiding is highly flexible and follows the movement of the hose.

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.

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.



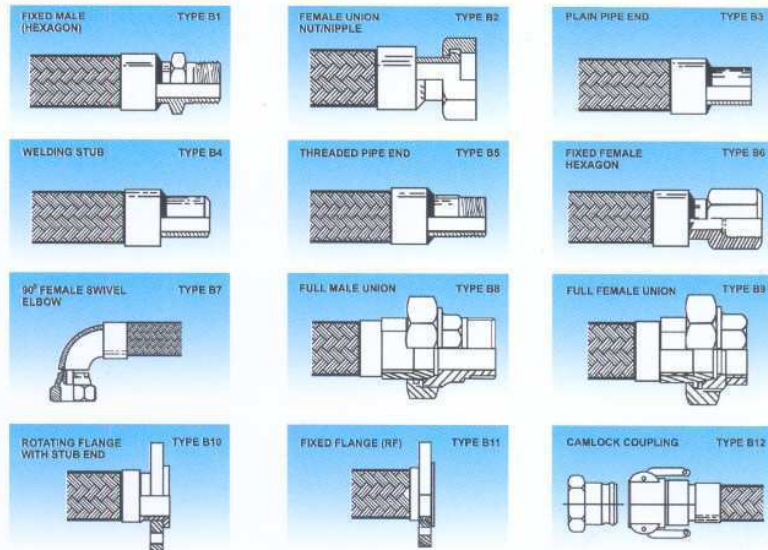
Wide Range



## 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.



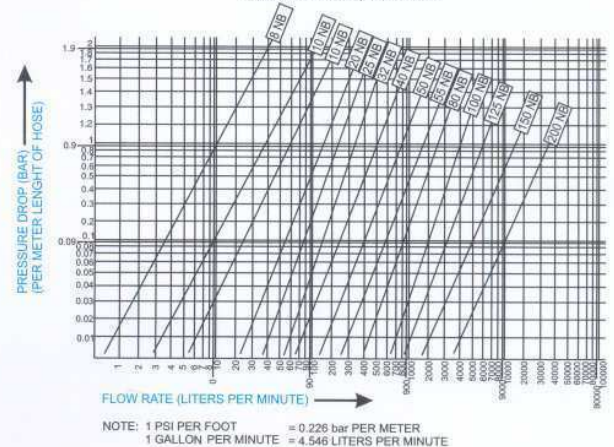
## Pressure Loss

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.

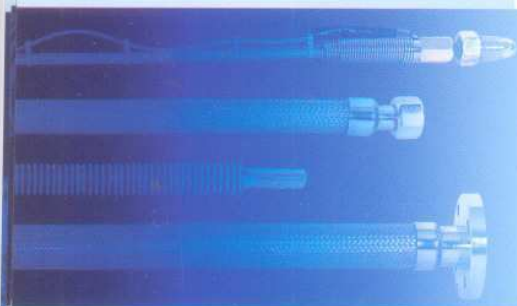
Chart Indicating the Approximate Pressure Drop Per Meter Length in Corrugated Hoses Corresponding to flow rate of Water in Liters per minute



## 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' <sub>t</sub>		
		Material		
°C	°F	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	-	-

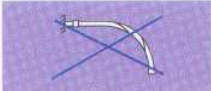







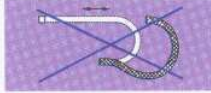
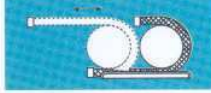










## Performance



# 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.

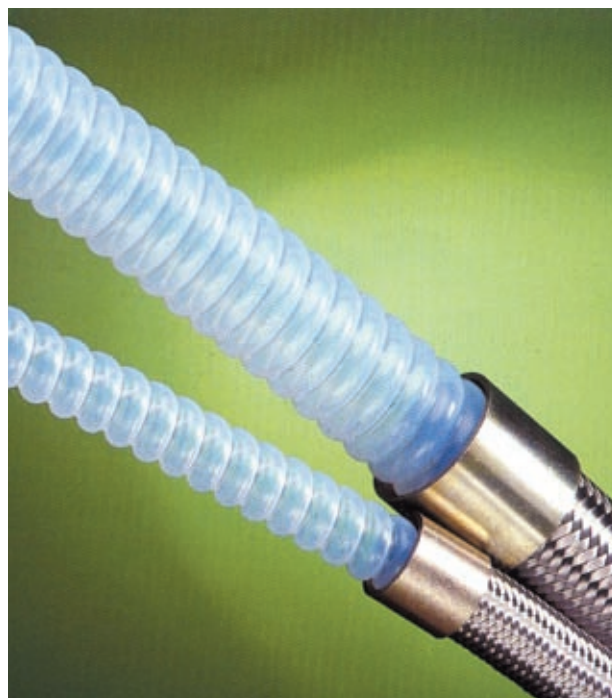


Flexible

## 1.09 | Easyflex Convoluted Hose

### EASYFLEX Convoluted hose

Easyflex was developed to simplify the assembly of convoluted TEFLON<sup>®</sup> hose using standard hydraulic fitting. The tube is manufactured in a seamless, extruded convoluted TEFLON<sup>®</sup>. This process allows the manufacture of maximum lengths of 60 meters and gives control over Product quality. When you have an application restricted by space, Pacific Hoseflex Easyflex hose is the ideal solution.



Part Number	Size/Description	Internal Diameter				Wall		Outside Diameter				Minimum		Maximum*		Minimum*	
		Minimum		Maximum		Thickness		Minimum		Maximum		Bend	Radius	Working	Pressure	Burst	Pressure
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	bar	psi	bar	psi
8004	1/4" EASY FLEX(1WB)	6.73	0.265	7.49	0.295	0.76	0.030	11.94	0.470	12.70	0.500	17.8	0.700	172	2500	517	7500
8006	3/8"	9.14	0.360	9.91	0.390	0.76	0.030	14.73	0.580	15.75	0.620	20.3	0.800	138	2000	414	6000
8008	1/2"	12.45	0.490	13.21	0.520	0.89	0.035	18.29	0.720	19.30	0.760	25.4	1.000	103	1500	310	4500
8010	5/8"	15.37	0.605	16.38	0.645	0.89	0.035	21.59	0.850	22.61	0.890	50.8	2.000	83	1200	248	3600
8012	3/4"	18.54	0.730	19.56	0.770	0.89	0.035	24.00	0.945	25.27	0.995	63.5	2.500	69	1000	207	3000
8014	7/8"	21.84	0.860	22.86	0.900	0.89	0.035	27.94	1.100	29.46	1.160	76.2	3.000	57	830	172	2500
8016	1"	24.89	0.980	26.16	1.030	1.02	0.040	32.13	1.265	33.66	1.325	88.9	3.500	46	667	138	2000
8020	1 1/4"	31.00	1.220	33.00	1.299	1.02	0.040	39.00	1.535	42.00	1.654	88.9	3.500	34	500	103	1500
8024	1 1/2"	37.50	1.476	40.50	1.594	1.02	0.040	46.99	1.850	49.20	1.937	152.4	6.000	30	435	90	1300
8032	2"	48.00	1.890	52.00	2.047	1.09	0.043	58.67	2.310	59.70	2.350	190.5	7.500	23	329	69	1000



## 1.10 | Encapsulated

### Construction:

A helically convoluted PTFE (polytetrafluorethylene) inner tube, medium wall, with an outer cover of AISI 304 high tensile stainless steel braid.

### Properties:

The hose is virtually resistant to all chemicals, except molten alkali metals or halogens at elevated temperatures. It is non-stick and easy to clean with a temperature range of -70° C to +260° C. The mechanical resistance for vibrations and flexing is excellent. The product is chemically inert, non-ageing and has a very good U.V. resistance. The low co-efficiency of friction ensures low pressure drop. It is non-flammable and FDA. approved for food, cosmetic and pharmaceutical applications.

### Typical Applications:

Encapsulated Teflon is recommended on all tafted flange assemblies when pressure or vacuum are applied.



Size	D1		D2	D3		R	WP	BP	Vacuum	Weight	REF VIRGIN	REF anti-static
	min	max	mm	min	max	mm	Bar 20 °c		mbar20 °c	gr/m		
1/4"	5.5	6.9	0.76	11.4	13.3	25	35	170	744	80	TCMB1006	TCAMB1006
3/8"	8.5	10.5	0.76	14.7	16.5	25	35	170	744	123	TCMB1010	TCAMB1010
1/2"	11.6	13.6	0.89	17.9	20.0	25	50	250	887	140	TCMB1012	TCAMB1012
5/8"	15.1	16.4	0.89	24.7	25.8	35	35	170	887	160	TCMB1016	TCAMB1016
3/4"	19.5	20.5	1.00	28.6	31.4	55	60	290	887	390	TCMB1020	TCAMB1020
1"	24.5	25.5	1.10	34.2	38.2	85	40	210	887	540	TCMB1025	TCAMB1025
1 1/4"	31.5	32.5	1.15	41.9	46.1	100	45	210	887	680	TCMB1032	TCAMB1032
1 1/2"	36.5	37.5	1.45	47.2	49.9	120	40	175	887	1110	TCMB1040	TCAMB1040
1 3/4"	44.5	45.5	1.45	55.8	61.4	135	25	135	887	1650	TCMB1045	TCAMB1045
2"	49.5	50.5	1.50	60.5	66.7	165	25	135	887	1710	TCMB1050	TCAMB1050
2 1/2"	62.5	63.5	1.60	80.9	89.1	230	14	60	887	2140	TCMB1065	TCAMB1065
3"	73.5	74.5	1.60	90.4	99.6	260	12	65	887	3310	TCMB1080	TCAMB1080
4"	94.5	99.5	1.82	121.1	127.5	400	10	40	887	4050	TCMB1100	TCAMB1100



## 1.06 | Smooth Bore PTFE Hose

### GENERAL PURPOSE Smooth bore hoses

#### Also Available

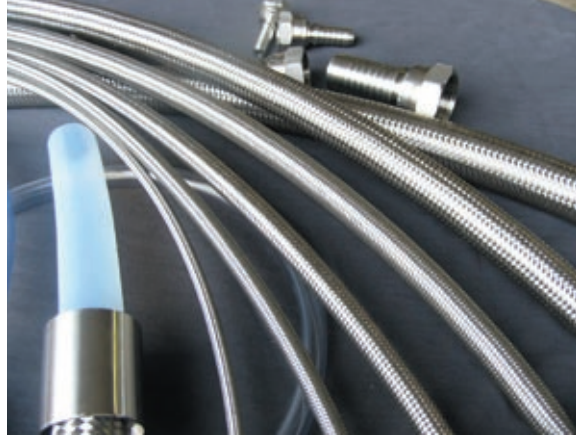
- SAE 100R14
- IMPERIAL STANDARD AND HEAVY WALL
- METRIC STANDARD AND HEAVY WALL
- DASH RANGE STANDARD WALL

#### SAE 100R14

The PTFE hose core is manufactured from Teflon®. No pigments or additives are incorporated thus giving the hose liner a translucent appearance free from any contamination. The wire braiding (1 or 2 wire available) is produced from AISI 304/S15 or BS970 1970 quality hard drawn tensile stainless steel wire. Reduced static versions of all hoses are available for applications where electrically resistive fluids are being transferred at high flow rates.

The standard wall products are not recommended for steam-cold water cycling. We recommend the Heavy Wall range for the most demanding applications including intense thermal cycling.

All figures stated are for 1 wire braid hose - 2 wire braid hose specifications are available upon request.



### SMOOTH BORE HOSE

All of the hoses in the following range are fully approved to the SAE specification and are available from Pacific Hoseflex today. We feel that this will become the global size range for PTFE hoses and recommend that your smooth bore hose demands are selected from this range. If the coupling size restricts your choice we have three further ranges of smooth bore hoses for you to select the exact size that best suits your requirement.

AFX Part Number	Size/Description	Internal Diameter				Wall		Outside Diameter				Minimum		Maximum*		Minimum*	
		Minimum		Maximum		Thickness		Minimum		Maximum		Bend	Radius	Working	Pressure	Burst	Pressure
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	psi	bar	psi	bar
14003	DASH 3 SAE 100R14	3.3	0.130	3.5	0.138	0.76	0.030	5.84	0.230	6.35	0.250	38	1.5	1500	103	12000	828
14004	DASH 4 SAE 100R14	4.64	0.183	5.2	0.205	0.76	0.030	7.32	0.288	8.2	0.324	51	2	1500	103	10000	690
14005	DASH 5 SAE 100R14	6.17	0.243	6.73	0.265	0.76	0.030	8.92	0.351	9.47	0.373	76	3	1500	103	9000	621
14006	DASH 6 SAE 100R14	7.54	0.297	8.38	0.330	0.76	0.030	10.36	0.408	11.63	0.456	102	4	1500	103	8000	552
14007	DASH 7 SAE 100R14	9.27	0.365	9.77	0.385	0.76	0.030	12.2	0.480	13.21	0.520	127	5	1500	103	7000	483
14008	DASH 8 SAE 100R14	10.08	0.397	10.85	0.427	0.76	0.030	13.03	0.513	14.19	0.559	133	5.25	1000	69	6000	414
14010	DASH 10 SAE 100R14	12.42	0.489	13.18	0.519	0.76	0.030	15.44	0.608	16.71	0.658	165	6.5	800	55	6000	414
14012	DASH 12 SAE 100R14	15.36	0.605	16.38	0.645	0.76	0.030	18.74	0.738	20.02	0.788	197	7.75	800	55	5000	345
14014	DASH 14 SAE 100R14	18.61	0.733	19.38	0.763	0.89	0.035	21.59	0.850	22.86	0.900	229	9	800	55	4000	276
14016	DASH 16 SAE 100R14	21.46	0.845	23.00	0.905	0.89	0.035	24.60	0.970	26.90	1.061	229	9	800	55	3500	241
14018	DASH 18 SAE 100R14	24.63	0.970	26.16	1.030	0.89	0.035	27.80	1.095	29.85	1.175	305	12	800	55	3500	241
14020	DASH 20 SAE 100R14	27.80	1.095	28.34	1.155	1.14	0.045	31.95	1.258	33.50	1.320	406	16	600	41	2500	172

\* Please note that Hoseflex TEFLON HOSE meets and exceeds the stated working and burst pressure values of the SAE specification.

\* Please note all pressures stated are static