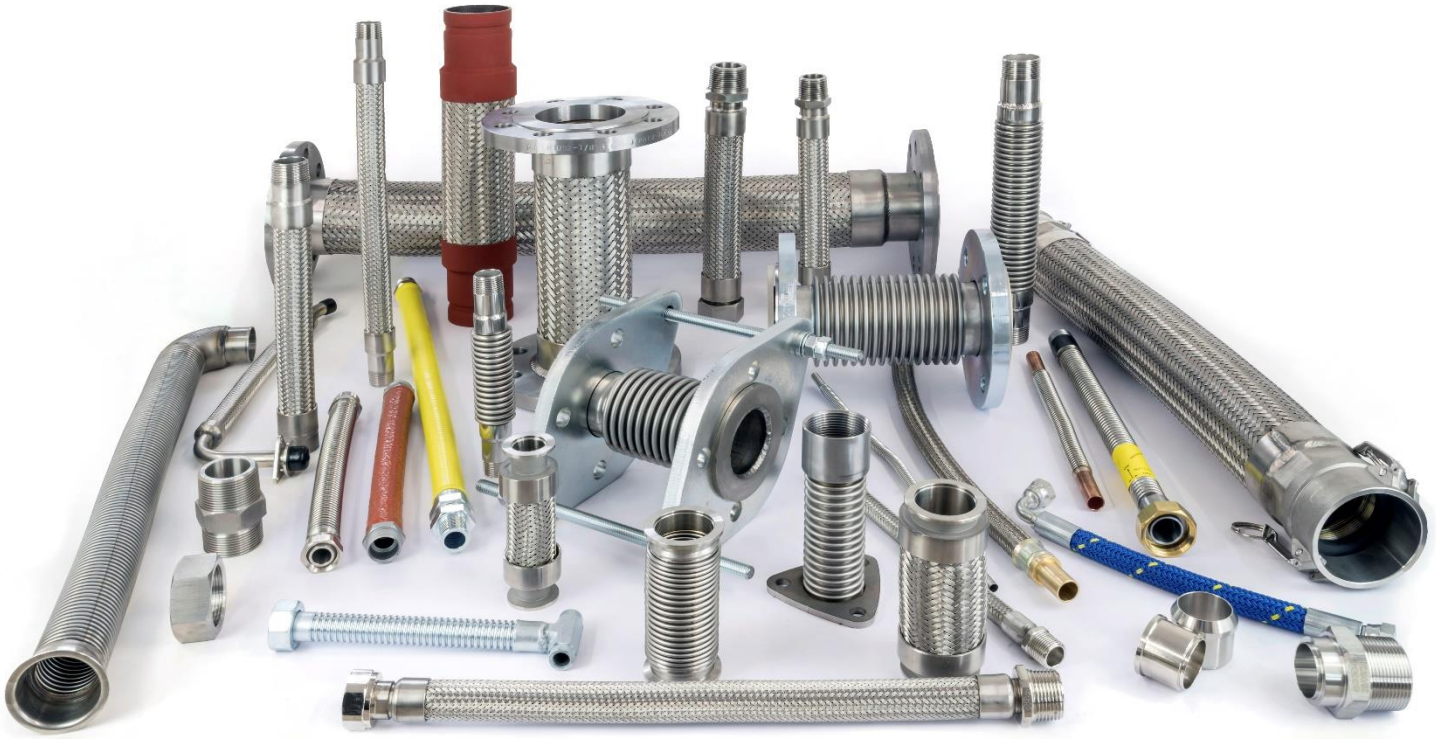
STAINLESS STEEL BESPOKE BRAIDED FLEXIBLE HOSE ASSEMBLIES DATA SHEET



DESIGN AND MATERIALS OF CONSTRUCTION

Hose: Stainless Steel 316L **Braid**: Stainless Steel AISI 304/304L **Temp**: -269°C - +600°C **Sizes**: ¼" NB – 16" NB

DESCRIPTION

HydraFlex Bespoke Stainless-Steel hoses are manufactured in accordance with ISO 10380 : 2012. HydraFlex Hose assemblies are available as unbraided, covered with single stainless steel external wire braid or with double braid for increased working pressure. Hydraflex also offer our range of A200 & A700 Heavy-Duty Stainless-Steel Hose Series which is designed for more arduous installations and higher working pressure applications. Typical stock range of end fittings available, in various materials such as Carbon Steel & Stainless Steel (Other materials available).

- BSPT / NPT Hex Fixed Male Connections
- BSPT / NPT Weld Nipple Connections
- BSP Cone Seat Swivel Unions (60 Degree)
- BSP Full Male Union (Cone Seat Swivel Unions (60 Degree) with Male / Male adaptors) - (Various thread options available from stock).
- BSP Full Female Union (Cone Seat Swivel Unions (60 Degree) with Male / Female adaptors) - (Various thread options available from stock).
- BSPT / NPT Fixed Female Connections
- Flanged Connections (Fixed) - Typically PN16 / ASA 150lb (Others available from stock)
- Flanged Connections (Swivel) - Typically PN16 / ASA 150lb (Others available from stock)
- Tube End Connections (Offered as Stock OD sizes with gauge or Schedule wall thicknesses)
- Victaulic Grooved connections

All end fittings listed above can be supplied on 45 Degree (135) or 90 Degree Configuration - Contact our Sales Office for more information.

APPLICATIONS

- Building Services
- HVAC-R Piping Lines
- Pump Connections, Vibration Producing Systems
- Industrial Process & Applications
- Steam connections
- Chemical Process
- Gas Connections
- Ultra-High Vacuum applications
- Exhaust systems

QUALITY & ASSOCIATED STANDARDS

All Hydraflex Metal Hoses are produced by fully penetrated TIG welding method to Hydraflex's approved Weld procedures. Each and every Unit manufactured is 100% pressure tested to a minimum hydrostatic pressure test of 1.5 times of the design pressure. PED 2014/68/EU approval and material certificates to EN 10204 is available for all sizes.

- Absorption of Heat Expansion
- Absorption of Angular Movements
- Compensation of Parallel Pipeline Set Off
- Absorption of Oscillations
- Installation involving High and Low temperatures
- Vibration Elimination

TYPE 100 - STANDARD PITCH

Nominal Diameter	Internal Diameter I/D (mm)	Braids	Outside Diameter O/D (mm)	Minimum Bend radius Static	Minimum Bend radius Dynamic (mm)	Maximum Safe Working Pressure (Kg/cm2)	Maximum Test Pressure (Kg/cm2)	Minimum Burst Pressure (Kg/cm2)
1/4"	6.2	0	9.6	25	85	12	18	48
		1	10.8			120	180	480
		2	12.0			192	288	768
3/8"	10.3	0	14.3	38	140	9	14	36
		1	15.5			90	135	360
		2	16.7			144	216	576
1/2"	12.2	0	16.7	45	140	9	14	36
		1	17.9			80	120	320
		2	19.1			128	192	512
5/8"	16.2	0	21.6	58	160	8	12	32
		1	23.0			70	105	280
		2	24.4			112	168	448
3/4"	20.2	0	26.8	70	170	4	6	16
		1	28.3			64	96	256
		2	29.8			102	153	410
1"	25.4	0	32.2	85	190	3	5	12
		1	33.7			50	75	200
		2	35.2			80	120	320
1 1/4"	34.3	0	41.1	105	260	2	3	8
		1	42.7			40	60	160
		2	44.3			64	96	256
1 1/2"	40.1	0	49.5	130	300	1	2	4
		1	51.2			35	53	140
		2	52.7			56	84	224
2"	50.3	0	60.3	160	320	1	2	4
		1	62.5			30	45	120
		2	64.3			48	72	192

TYPE 200 - STANDARD PITCH

Nominal Diameter	Internal Diameter I/D (mm)	Braids	Outside Diameter O/D (mm)	Minimum Bend radius Static	Minimum Bend radius Dynamic (mm)	Maximum Safe Working Pressure (Kg/cm2)	Maximum Test Pressure (Kg/cm2)	Minimum Burst Pressure (Kg/cm2)
3/4"	20.5	0	27.0	70	170	3	4.5	12
		1	28.5			64	96	256
		2	30.0			102	154	410
1"	25.6	0	34.0	85	190	3	4.5	12
		1	35.5			50	75	200
		2	37.0			80	120	320
1 1/4"	32.6	0	41.0	105	260	2	3	8
		1	42.5			40	60	160
		2	44.0			64	96	256
1 1/2"	40.6	0	51.2	130	300	2	3	8
		1	52.5			35	52.5	140
		2	54.0			56	84	224
2"	50.7	0	65.0	160	320	1	2.5	4
		1	67.0			30	45	120
		2	69.0			48	72	192
2 1/2"	65.6	0	81.0	180	410	1	1.5	4
		1	83.0			24	36	96
		2	85.0			38	58	154
3"	80.3	0	95.0	200	450	0.6	0.9	2.4
		1	97.0			18	27	72
		2	99.0			29	45	115
4"	100.8	0	117.0	290	560	0.5	0.75	2
		1	119.0			16	24	64
		2	121.5			26	38	102
5"	125.4	0	150.0	325	710	0.5	0.8	2
		1	152.5			14	21	56
		2	155.0			22	34	90
6"	150.8	0	175.0	380	815	0.3	0.45	1.2
		1	177.5			10	15	40
		2	180.0			16	24	64
8"	197.0	0	225.0	500	1015	0.3	0.45	1.2
		1	228.0			8	12	32
		2	231.0			13	19	51
10"	250.4	0	278.0	620	1270	0.2	0.3	0.8
		1	281.0			7.5	11	30
		2	285.0			12	18	48
12"	300.2	0	336.0	725	1525	0.2	0.3	0.8
		1	339.5			6	9	24
		2	343.0			9.5	14	38

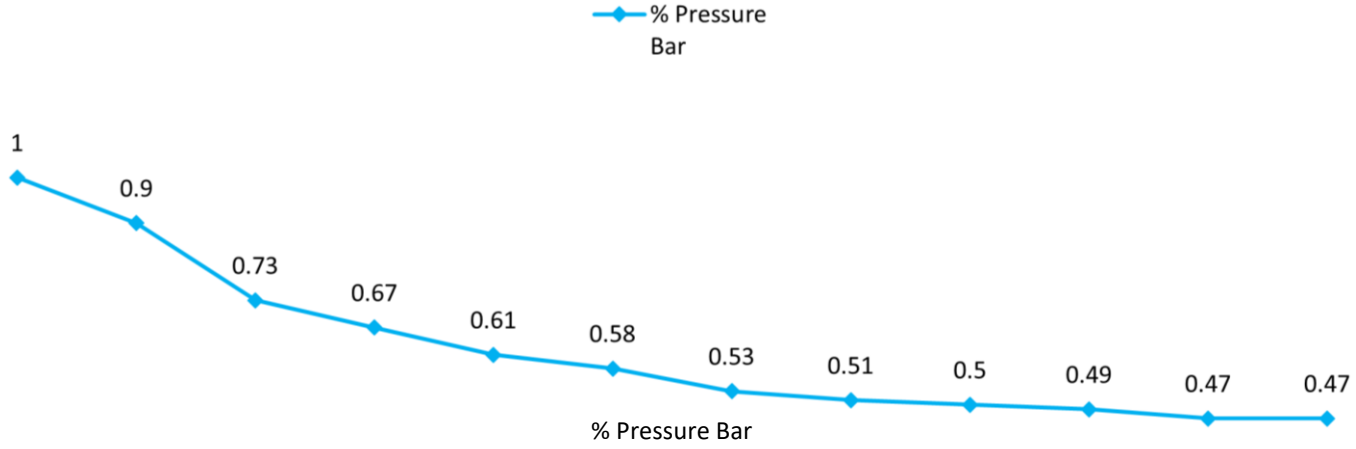
TYPE 700 – HEAVY DUTY HOSE

Nominal Diameter	Internal Diameter I/D (mm)	Braids	Outside Diameter O/D (mm)	Minimum Bend radius Static	Minimum Bend radius Dynamic (mm)	Maximum Safe Working Pressure (Kg/cm2)	Maximum Test Pressure (Kg/cm2)	Minimum Burst Pressure (Kg/cm2)
3/4"	20.2	0	28.0	58	203	4	6	16
		1	29.5			65	97.5	260
1"	25.4	0	38.0	70	230	3	4.5	12
		1	39.5			50	75	200
1 1/4"	32.5	0	46.5	90	267	2	3	8
		1	48.5			45	67.5	180
1 1/2"	40.5	0	55.5	102	305	2	3	8
		1	58.0			38	57	152
2"	50.5	0	66.0	127	381	1	1.5	4
		1	68.0			38	57	152
2 1/2"	65.5	0	82.0	203	508	1	1.5	4
		1	84.0			28	42	112
3"	80.1	0	96.0	240	560	0.6	0.9	2.4
		1	98.5			23	34.5	92
4"	100.8	0	123.0	290	686	0.5	0.8	2
		1	126.0			20	30	80
5"	125.2	0	150.0	353	788	0.5	0.8	2
		1	153.0			14	21	56
6"	150.7	0	175.0	400	915	0.3	0.5	1.2
		1	178.0			14	21	56

TEMPERATURE / PRESSURE CORRECTION

	0°C	50°C	100°C	150°C	200°C	250°C	300°C	350°C	400°C	450°C	500°C	550°C
% Pressure Bar	100%	90%	73%	67%	61%	58%	53%	51%	50%	49%	47%	47%

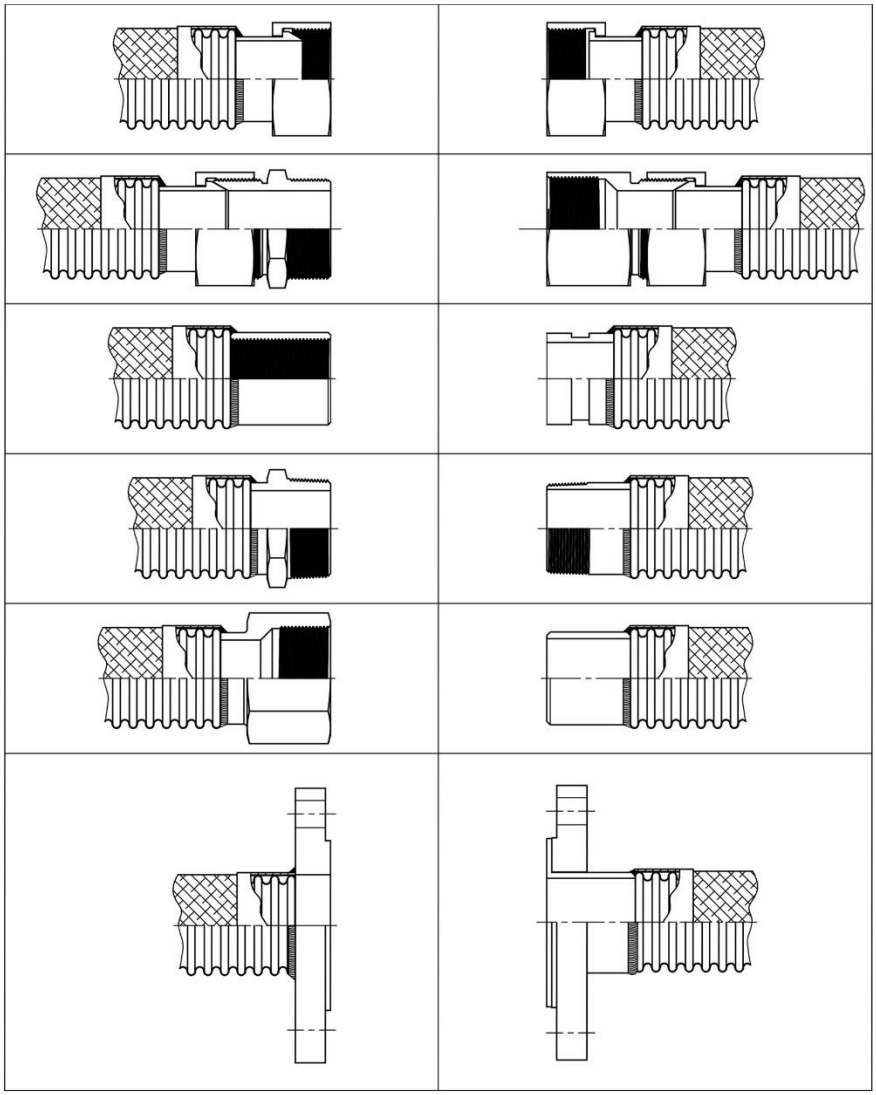
REDUCTION COEFFICIENT OF PRESSURE AS A FUNCTION OF TEMPERATURE



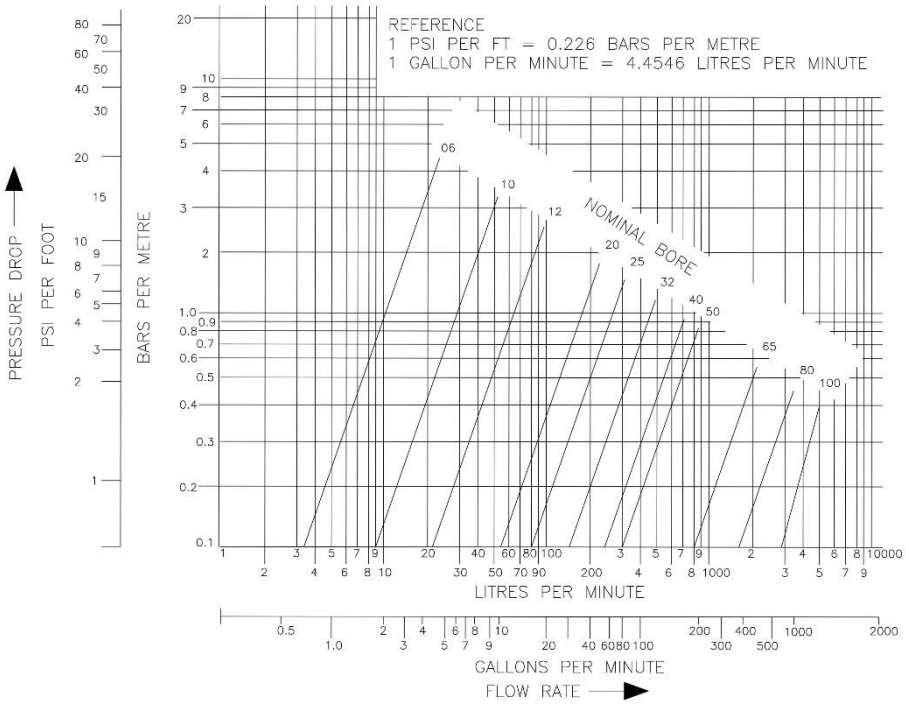
0°C	50°C	100°C	150°C	200°C	250°C	300°C	350°C	400°C	450°C	500°C	550°C

Temperature

END FITTINGS – HALF SECTION



PRESSURE DROP



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

To utilise the chart…

1. Identify the flow rate required on the base line (Horizontal Axis).

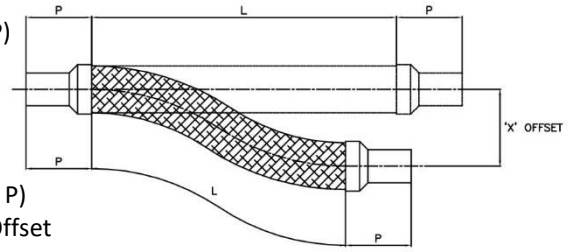
2. Where the vertical line, that references to the nominal bore of the hose, intersects a horizontal line - Establish the pressure drop on the Vertical Axis.

(Any data provided is for reference only. Please contact our Sales Team for additional information if required)

FLEXING INSTALLATIONS CHART

STATIC FLEXING

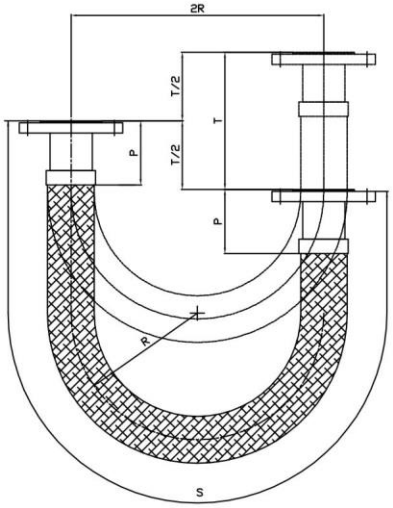
Minimum Overall Length = L (Static) + (2 x P)
P= Dimension of the end fittings



INTERMITTENT FLEXING

Minimum Overall Length = L (Flexing) + (2 x P)
L= Dimension from chart below to for "X" Offset
P= Dimension of the end fittings

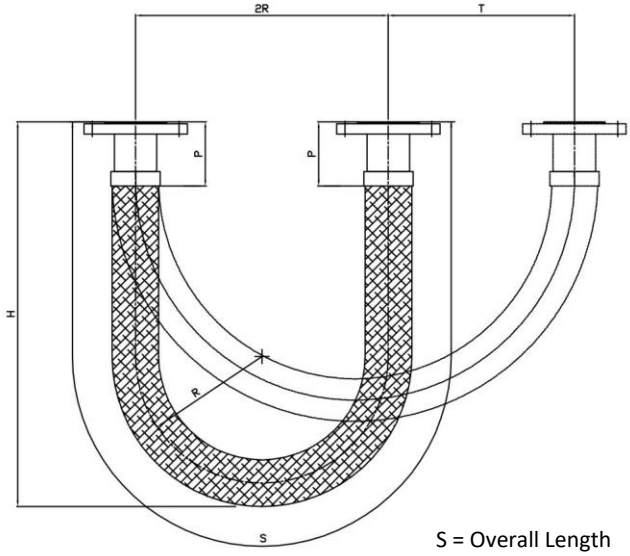
LENGTH "L" mm (FREE HOSE LENGTH)												
Nominal Bore (mm)	Static (mm)	Dimension "X" mm Offset										
		15	25	35	50	75	100	125	150	175	200	225	250
6	85	140	180	215									
10,12	90	150	190	225	290								
20	95	170	220	255	310								
25	105	185	240	280	335	425							
32	110	205	260	305	365	450							
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	380	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



VERTICAL LOOP
(Maximum Travel about a fixed point)

Vertical Movement
S = 1.2R + T/2 + 2P

IMPORTANT: In Loop Installations, both end terminations and travel should be in the same plane as the bend.



VERTICAL LOOP
(Short Horizontal Travel)

Horizontal Movement
S = 1.2 (R + T/2) + 2P

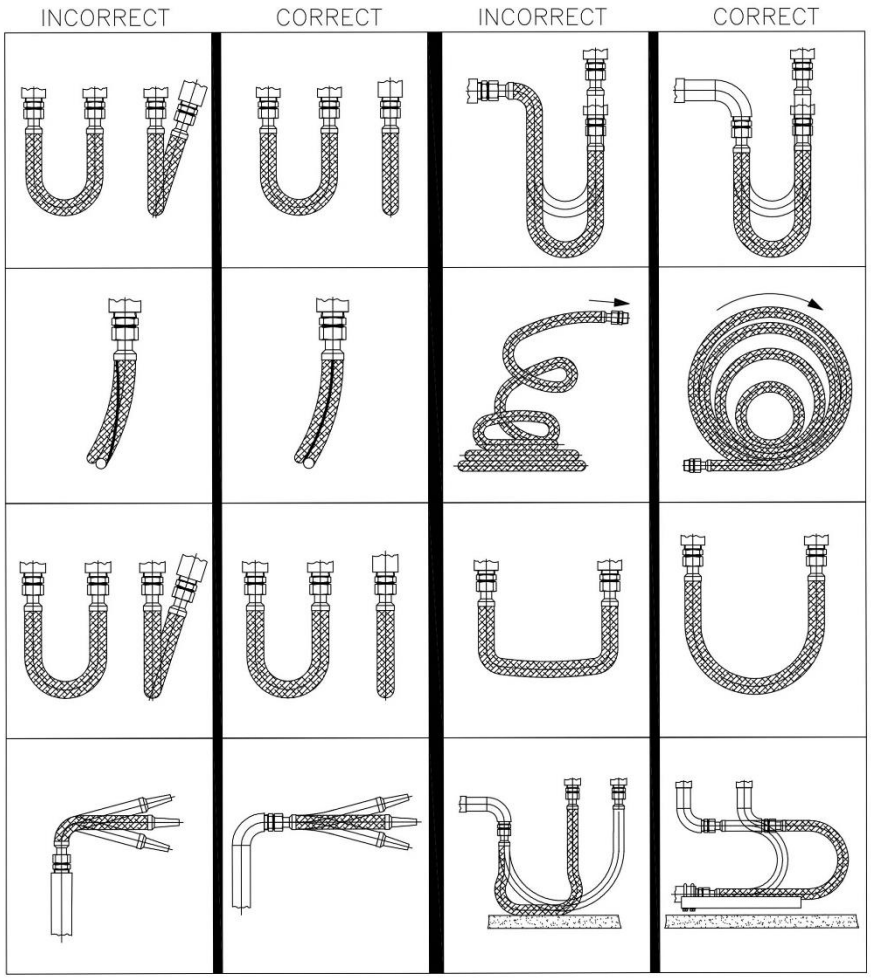
S = Overall Length

R = Bend radius (MUST NOT be less than the minimum bend radius of the hose type)

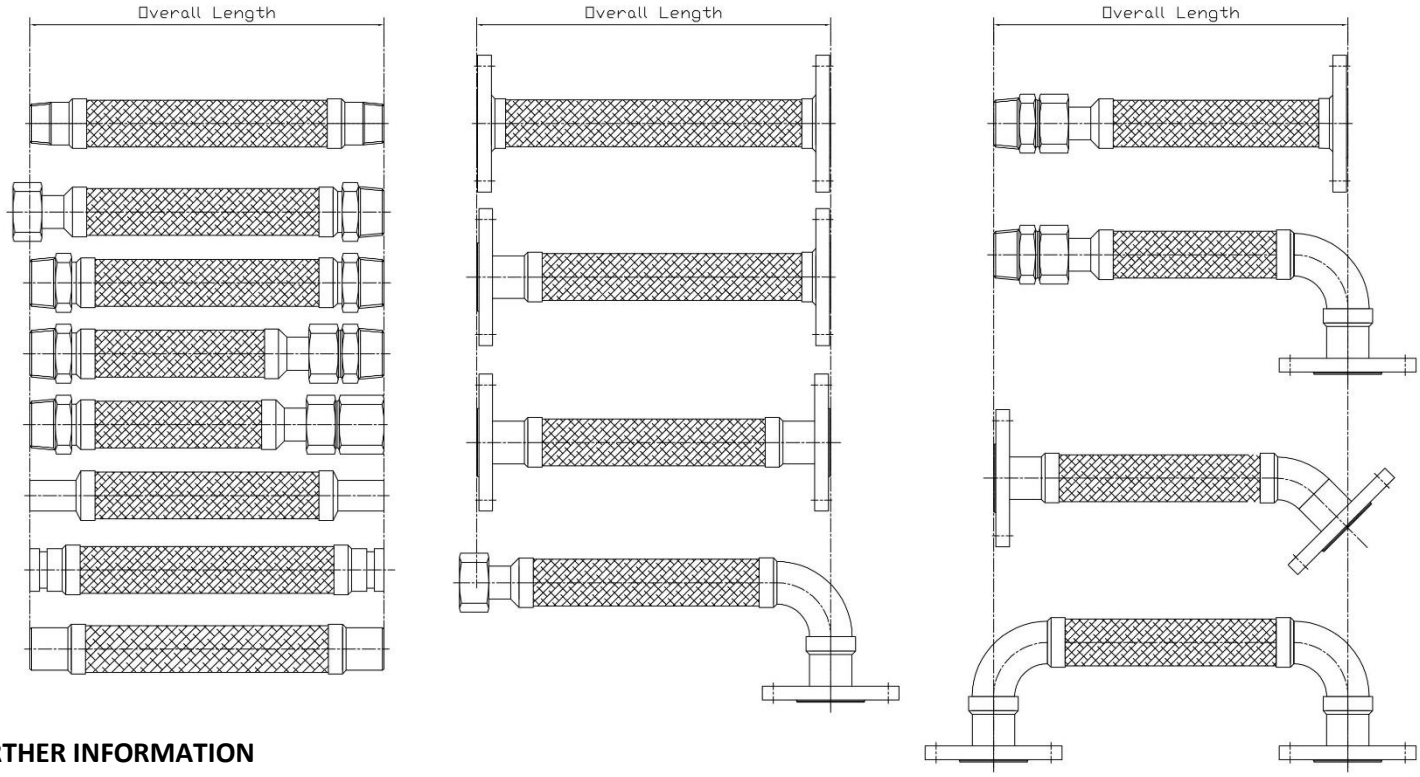
P = Length over end fitting and weld collar

H = Height

INSTALLATION GUIDE- DO'S & DON'T'S



LENGTH MEASURE POINTS



FURTHER INFORMATION

For any more information that you may require then please contact one of our team.

Northampton: 01604 621964 **Bolton**: 01204 529536 **Rugby**: 01604 621964 **Email**: sales@hydraflex.co.uk