

STAINLESS STEEL BUILDING SERVICE 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 316 Stainless Steel Building services hose assemblies with a 304 Stainless steel wire overbraid. Available from 200 mm overall Length. A large variety of end connections available. Bespoke assemblies available on request - please call one of our experienced sales team on 01604 621964. Class "O" Insulation, Capped and Vapour sealed - Available on Request.

Manufactured in the UK

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.

- Hydraflex 316L Stainless steel Hose with Single layer 304 wire overbraid
- Available as Bulk Hose / Braid on Drums / Coil
- Specific cut lengths available on request

HOSE DATA
BSPT Hex Male x BSPT Hex Male - Carbon Steel Nickel Plated

Part Number	Nominal Thru Bore	End 1	End 2	Length
HQMFC13MCMC30	1/2"	1/2" BSPT Hex male	1/2" BSPT Hex male	300 mm
HQMFC13MCMC45	1/2"	1/2" BSPT Hex male	1/2" BSPT Hex male	450 mm
HQMFC19MCMC30	5/8"	3/4" BSPT hex male	3/4" BSPT hex male	300 mm
HQMFC19MCMC45	5/8"	3/4" BSPT hex male	3/4" BSPT hex male	450 mm

BSPT Hex Male x BSPT Hex Male - Stainless Steel

Part Number	Nominal Thru Bore	End 1	End 2	Length
HQMFC13MCMC30 - SS	1/2"	1/2" BSPT Hex male	1/2" BSPT Hex male	300 mm
HQMFC13MCMC45 - SS	1/2"	1/2" BSPT Hex male	1/2" BSPT Hex male	450 mm
HQMFC19MCMC30 - SS	5/8"	3/4" BSPT hex male	3/4" BSPT hex male	300 mm
HQMFC19MCMC45 - SS	5/8"	3/4" BSPT hex male	3/4" BSPT hex male	450 mm

BSP Flat Swivel Female x Compression - Carbon Steel Nickel Plated

Part Number	Nominal Thru Bore	End 1	End 2	Length
HQMFC13FPMB30	1/2"	1/2" flat faced female	15 mm compression	300 mm
HQMFC13FPMB45	1/2"	1/2" flat faced female	15 mm compression	450 mm
HQMFC19FPMB30	5/8"	3/4" flat faced female	22 mm compression	300 mm
HQMFC19FPMB45	5/8"	3/4" flat faced female	22 mm compression	450 mm

BSP Flat Swivel Female x Compression - Stainless Steel

Part Number	Nominal Thru Bore	End 1	End 2	Length
HQMFC13FPMB30 - SS	1/2"	1/2" flat faced female	15 mm compression	300 mm
HQMFC13FPMB45 - SS	1/2"	1/2" flat faced female	15 mm compression	450 mm
HQMFC19FPMB30 - SS	5/8"	3/4" flat faced female	22 mm compression	300 mm
HQMFC19FPMB45 - SS	5/8"	3/4" flat faced female	22 mm compression	450 mm

Compression x Compression - Carbon Steel Nickel Plated

Part Number	Nominal Thru Bore	End 1	End 2	Length
HQMFC13MBMB30	1/2"	15 mm Compression	15 mm Compression	300 mm
HQMFC13MBMB45	1/2"	15 mm Compression	15 mm Compression	450 mm
HQMFC19MBMB30	5/8"	22 mm Compression	22 mm Compression	300 mm
HQMFC19MBMB45	5/8"	22 mm Compression	22 mm Compression	450 mm

Compression x Compression -Stainless Steel

Part Number	Nominal Thru Bore	End 1	End 2	Length
HQMFC13MBMB30 - SS	1/2"	15 mm Compression	15 mm Compression	300 mm
HQMFC13MBMB45 - SS	1/2"	15 mm Compression	15 mm Compression	450 mm
HQMFC19MBMB30 - SS	5/8"	22 mm Compression	22 mm Compression	300 mm
HQMFC19MBMB45 - SS	5/8"	22 mm Compression	22 mm Compression	450 mm

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/cm ²)	Maximum Test Pressure (Kg/cm ²)	Minimum Burst Pressure (Kg/cm ²)
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

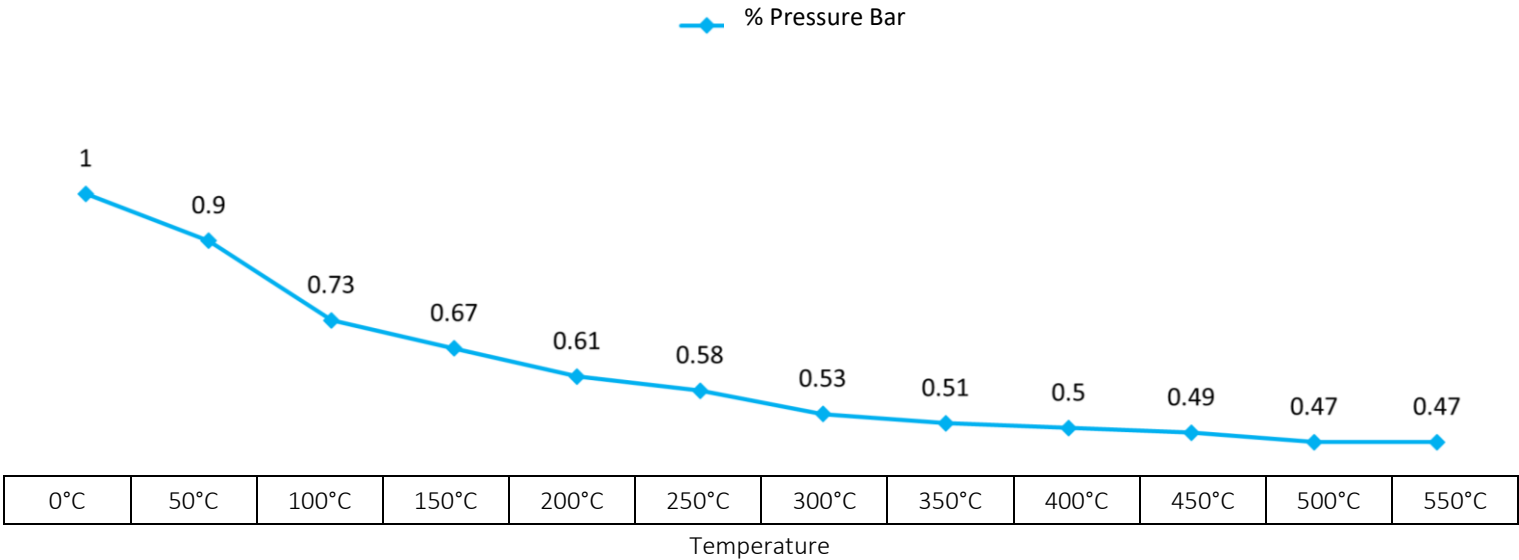
TYPE 700 – HEAVY DUTY HOSE

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

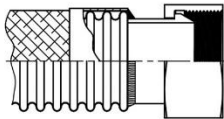
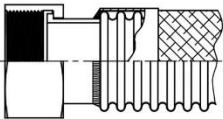
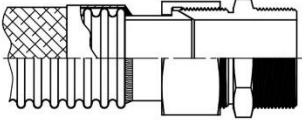
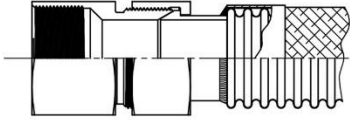
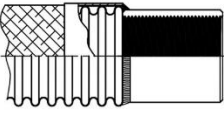
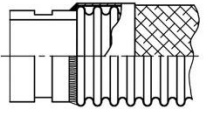
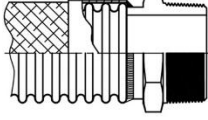
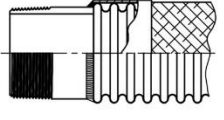
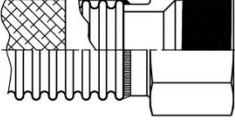
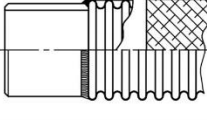
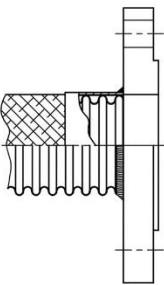
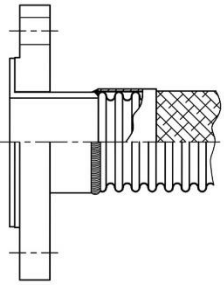
TEMPERATURE / PRESSURE CORRECTION

	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%

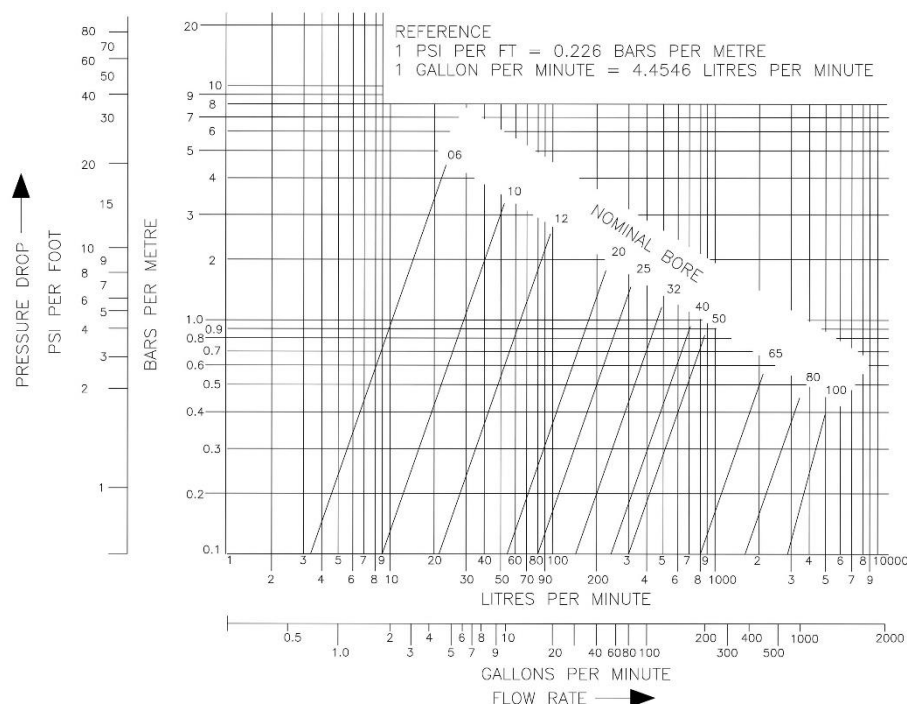
REDUCTION COEFFICIENT OF PRESSURE AS A FUNCTION OF TEMPERATURE



END FITTINGS – HALF SECTION

SWIVEL CONE FEMALE HF1			SWIVEL FLAT FACED FEMALE HF2
FULL MALE UNION HF3			FULL FEMALE UNION HF4
FEMALE SOCKET HF5			GROOVED END HF16
FIXED HEX MALE HF7			FIXED MALE WELD NIPPLE HF8
FIXED HEX FEMALE HF9			TUBE END HF10
FIXED FLANGE HF11			SWIVEL FLANGE HF12

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 = $L \text{ (Static)} + (2 \times P)$

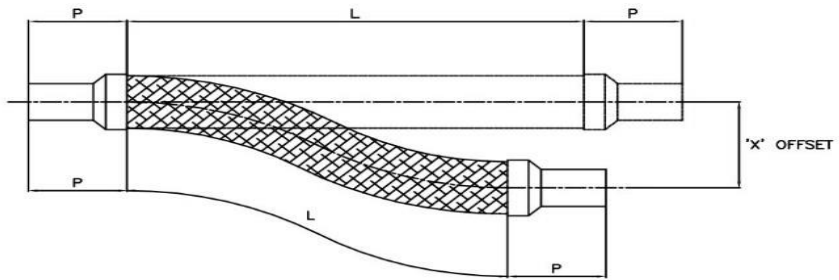
P = Dimension of the end fittings

INTERMITTENT FLEXING

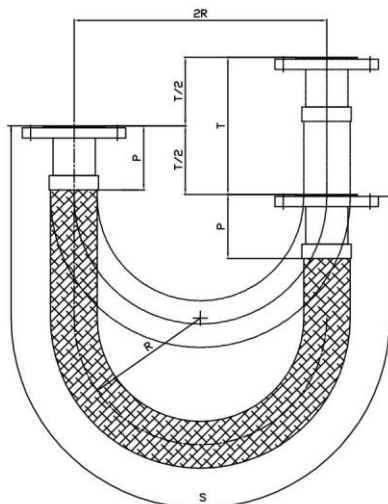
Minimum Overall Length = $L \text{ (Flexing)} + (2 \times P)$

L = Dimension from chart below 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	880	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



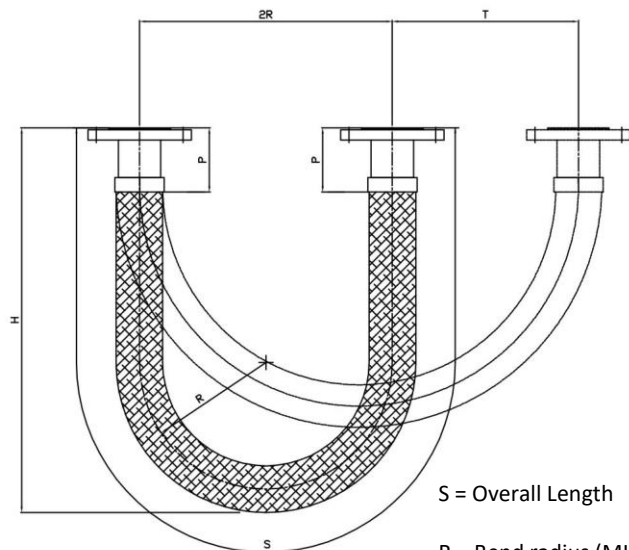
VERTICAL LOOP

(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

$$S = 1.2(R + T/2) + 2P$$

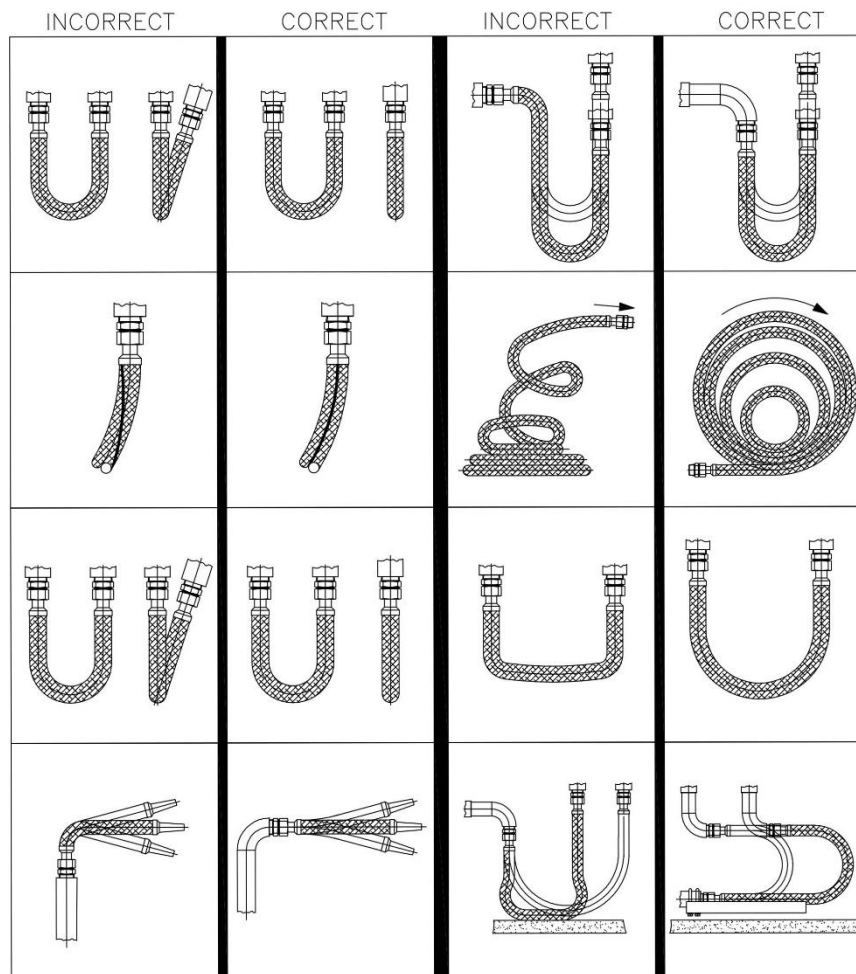
S = Overall Length

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

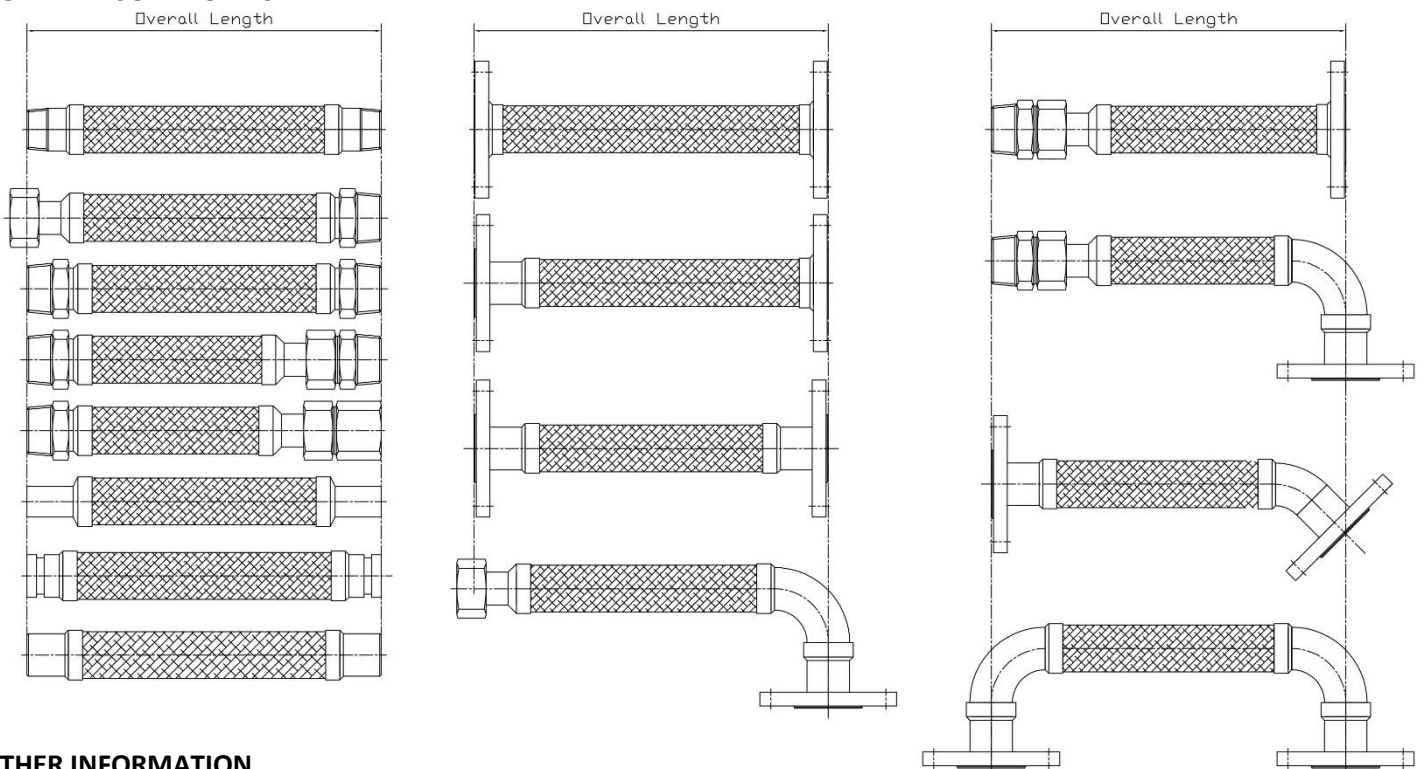
P = Length over end fitting and weld collar

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