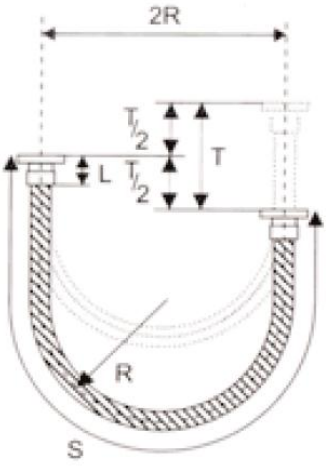
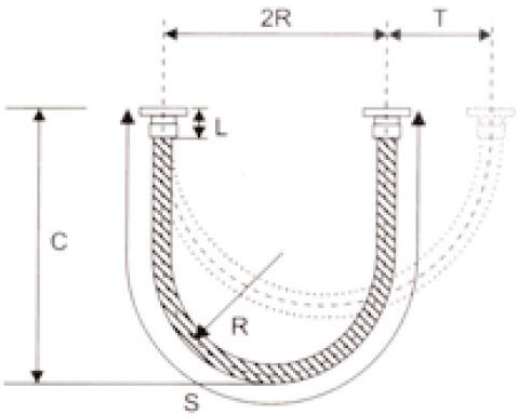
Metalflex

MOVEMENT AND TEMPERATURE CORRECTION

NOMINAL HOSE LENGTH FOR MOVEMENT APPLICATIONS



Vertical loop (maximum travel about fixed point)



Vertical loop (short horizontal travel)

VERTICAL MOVEMENT

$$S = 1.2\pi R + T/2 + 2L$$

HORIZONTAL MOVEMENT

$$S = 1.2\pi(R + T/2) + 2L$$

$$C = \frac{S - \pi R}{2} + R$$

S = Overall Length.
R = Bend Radius which must not be less than the minimum shown on pages 2 & 3.
L = Length over End Fitting & Ferrule. See pages 4, 5, 6, 8 & 9.
C = Height.
π = 3.142

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

TEMPERATURE CORRECTION FACTORS

Where hoses are required to operate at temperatures above 20˚C a correction factor must be multiplied by the stated working pressure given for the selected hose. The factors of Stainless Steel flexible hoses are given in the table alongside and the following example shows how calculations are made for hoses required to operate at elevated temperatures.

EXAMPLE

A 40mm bore Stainless Steel hose is required to convey fluid at a working pressure of 15 Bar and a temperature of 300˚C.
From Page 2 the Maximum Working Pressure at 20˚C for Single Braid Ref.ASB/241 is 34 Bar.
From the chart alongside, Maximum Working Pressure at 300˚C=34x0.50=17.0 Bar.
The hose selected is therefore suitable for the application.

CARBON STEEL FITTINGS

Carbon steel end fittings **SHOULD NOT be used below** -20˚C or above 400˚C.

Powerforce Series:

Temperature ˚C	Cor. Factor
-200	1.0
-150	1.0
-100	1.0
-50	1.0
0	1.0
20	1.0
50	0.89
100	0.72
150	0.64
200	0.58
250	0.54
300	0.50
350	0.48
400	0.46
450	0.44
500	0.43
550	0.43
600	0.34
650	0.19
700	0.10