



*heating and plumbing products
that won't cost the **earth***

Helical solar pipe systems



Helical solar pipe systems

Introduction

Making the connection between the solar collector on the roof and the system below creates a different set of problems for the installer. Yes, it can be achieved by simply using copper tube, but traditional soft solder joints cannot be used because of the high temperature and the difficult sets and bends required and installation time are additional factors.

The generally accepted method is to use a flexible, high temperature stainless steel pipe system. This can be used to enter the internal roof space to provide an easier connection to the copper flow and returns, or carry the fluid medium direct to the pump station (by far the easiest and most efficient method).

Helical pipe - the installer's alternative choice

While the most common type of stainless steel flexible pipe is of an 'Annular' design, i.e., the corrugated form of pipe, Helical has its own advantages.

It allows easier and quicker connections, provides improved flow rates and does not trap air within its length, because of the continuous spiral design which allows in some cases, smaller diameter pipe to be used.

Helical pipe's other great feature is that installers need no special pressing tool to make flanges for connections. The spiral nature of the pipe is used to take a graphite compression ring, which follows the spiral pattern like a 'threaded' coupling. After cutting the pipe, connections can be made in seconds.

A one piece pipe run between the collector and the pump station removes the risk of leaks, either at the time of installation or later, when pipework has settled or undergone system expansion and contraction.

The pipe can be supplied in coils, or in pre-insulated twin pipe packs to set lengths. Being pre-insulated also offers other benefits, which can only be appreciated by those who have spent frustrating hours pushing metres of pipe through long lengths of the specially designed lagging normally specified for Solar installations, i.e. UV resistant, bird/rodent proof and weatherproof.

Helical pipe is made from annealed stainless steel grade 316 & 304, reducing the amount of springiness in the pipe and making neat and accurate pipework installations easy.



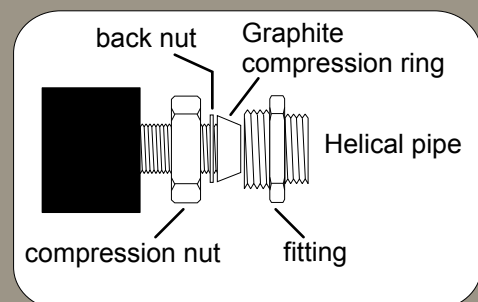
helical pipe & assorted fittings



helical pipe showing a typical coupling method



Twinway pre-insulated pipe



Helical Piping Systems (pressure drop and flow rates)

DN15

pressure drop (bar/m)	flow rate (ltrs/m)
1.30	2.20
2.17	2.60
3.09	3.12
4.26	3.47
5.65	3.89
7.22	4.30
8.83	4.68
10.74	5.02
12.79	5.44
15.00	5.82
17.35	6.29
19.92	6.83
22.53	7.18
25.48	7.49
28.53	7.81
31.75	8.44
34.79	8.87

DN20

pressure drop (bar/m)	flow rate (ltrs/m)
2.04	5.49
2.78	6.68
3.80	7.77
4.96	9.05
6.35	10.19
7.97	11.26
9.64	12.54
11.59	13.67
13.72	14.63
15.90	16.04
18.54	16.59
21.00	18.09
23.73	19.09
26.79	20.44
29.85	21.40
32.44	23.02
36.15	24.50

DN25

pressure drop (bar/m)	flow rate (ltrs/m)
1.16	9.59
1.95	11.97
2.87	13.96
3.99	16.24
5.19	18.35
6.63	20.55
8.34	22.73
10.10	25.33
11.96	27.10
14.09	29.25
16.41	31.87
18.82	34.62
21.41	36.66
24.31	38.55
27.21	40.99
30.36	42.83
33.83	45.05

DN32

pressure drop (bar/m)	flow rate (ltrs/m)
0.94	15.15
1.50	19.46
2.29	23.96
3.18	28.38
4.26	34.26
5.48	39.03
6.83	43.30
8.33	47.57
10.11	52.02
11.89	56.74
13.81	61.19
15.91	65.15
18.16	69.32
21.06	74.81
23.21	78.73
25.88	82.61
29.02	87.04

Intaeco Limited
Airfield Industrial Estate
Hixon, Staffordshire ST18 0PF



t: 01889 207200 f: 01889 270577
e: sales@intaeco.co.uk w: www.intaeco.co.uk