



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

**Stainless Steel
Annular Solar Pipe
systems**



Stainless steel annular solar pipe systems

Introduction

The extremely high temperatures, difficult sets and bends required and installation time dictate that the use of copper tube with traditional soft solder joints is not an appropriate approach to solar heating systems.

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).

The most common used of these is the annular design, which has a series of parallel corrugations giving it its flexibility. A tool to simply create the flange face by crushing a series of the corrugations is available.

The other benefit is that a range of fittings can be used if necessary to make connections between the pipes, and eliminate the requirement for welded joints.

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).

The annular pipe is made from annealed stainless steel grade 316 and 304, which reduces the amount of springiness in the pipe, making accurate and neat pipework installations easy.

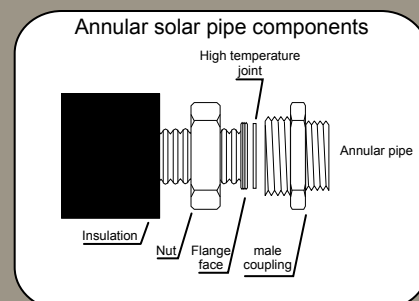
If you need additional help with pipe sizing, please visit our website at www.intaeco.co.uk where you can view or download our pipe sizing technical document.



twin annular insulated pipe with cable



flange forming tool for annular pipe



Annular Piping Systems (Pressure drop and Flow Rates)

DN16

pressure drop (bar/m)	flow rate (ltrs/m)
1.44	2.13
2.28	2.67
3.30	3.07
4.52	3.40
5.96	3.78
7.57	4.15
9.39	4.62
11.29	5.30
13.49	5.59
15.81	6.04
18.18	6.48
20.89	6.88
23.64	7.26
26.60	7.60
30.02	7.91
33.23	8.33
36.79	8.65

DN20

pressure drop (bar/m)	flow rate (ltrs/m)
1.40	2.68
2.24	3.25
3.26	3.62
4.48	4.36
5.75	4.97
7.48	5.29
9.30	5.80
11.25	6.16
13.36	6.75
15.73	7.29
18.27	7.69
20.89	8.12
23.76	8.65
26.77	9.08
29.89	9.45
33.28	10.07
36.74	10.69

DN25

pressure drop (bar/m)	flow rate (ltrs/m)
1.30	5.66
2.13	7.07
3.11	8.49
4.26	9.39
5.56	10.73
7.14	11.87
8.90	12.91
10.75	14.20
12.79	15.09
15.02	15.86
17.38	16.37
19.88	17.35
22.57	19.91
25.49	20.71
28.50	21.91
31.89	22.58
35.18	23.79

DN32

pressure drop (bar/m)	flow rate (ltrs/m)
1.06	9.37
1.80	11.85
2.53	13.92
3.59	15.95
4.74	17.98
6.05	20.98
7.60	23.01
9.23	24.67
10.95	26.95
12.87	30.10
14.99	32.17
17.24	34.59
19.61	36.68
22.14	38.77
24.84	40.73
28.43	43.14
31.78	45.24

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