Product Installation

Due to the nature of the components used in the assembly of ceramic filters, great care must be taken to avoid damage either by mechanical or thermal stress during the installation or termination of the device. Bending or cropping of terminal wires should not be carried out unless adequate support of the wire can be provided to eliminate the possibility of mechanical stress or shock during the cutting operation.

To achieve optimum insertion loss performance, the design of the equipment must be such that it allows for the component to be mounted to a bulkhead of minimal impedance. Co-axial earthing over a full 360° must be achieved and input and output connections should be screened from each other.

LEAD WIRE ATTACHMENT

1 To eliminate the risk of thermal shock, the filter assembly should be preheated to 120°C (248°F) for 5 minutes.

2 Joints should be effected using a soldering iron with a bit temperature not exceeding 300°C (572°F). To minimise the heat transfer to the filter elements, the solder joint should be completed within a period not exceeding 10 seconds.

3 The assembly should be allowed to cool at a rate not exceeding 100°C (212°F) per minute.

4 In subsequent degreasing operations, care must be taken to avoid any thermal shock.

Component Mounting

SOLDER STYLE

1 The filter and mounting plate must be preheated together to eliminate thermal shock on the ceramic elements. This assembly should be allowed to increase in temperature gradually by soaking in an ambient of 120°C (248°F) for a period of up to 5 minutes where possible. Heat must not be applied directly to the filter body and the temperature on the filter surface should not be allowed to increase faster than by 100°C (212°F) per minute.

2 After the preheat cycle, the temperature should be raised to achieve solder flow, not exceeding 250°C. This should be maintained for a minimum period, consistent with a good joint (10 seconds maximum). Forced cooling, e.g. by cleaning must be avoided.

THREADED STYLE

1 All thread area and mating surfaces must be clean and dry prior to assembly.

2 If a washer is used, this must be fitted between the nut and ground plane. The selection of the washer style - either internal toothed or wavy, must take into consideration the material of the bulkhead. It is recommended that toothed washers should not be used in conjunction with protective finishes such as alochrome.

3 If mounting in a threaded hole, the form of the hole should be as style A, which is designed to ensure efficient RF sealing of the assembly by maximizing the mating surface area. For mounting in a plain hole by the use of the supplied mounting hardware, the clearance hole should be as style B or C.

4 The maximum panel thickness as detailed for the particular device must not be exceeded. The mounting torque as defined below for the particular style of hole and thread diameter must be observed. No strain should be exerted on the cylindrical part of the filter body or on any of the terminal/seal areas.

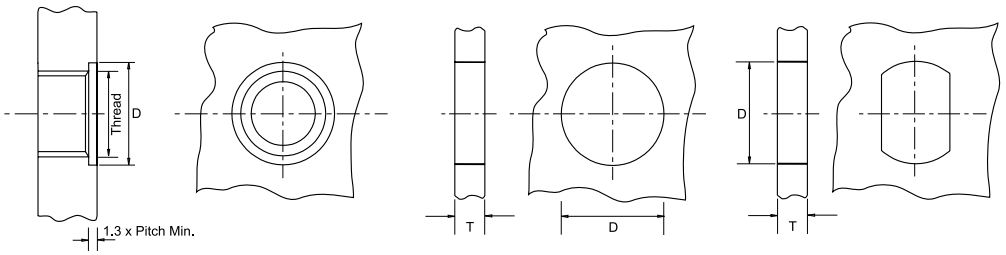
5 Locking compounds, if used, should be applied after the device has been installed to the correct mounting torque to avoid the danger of mating surface contamination and the subsequent increase in the resistance of the filter to the bulkhead joint (resulting in serious insertion loss degradation).

6 When mounting into a threaded hole, the maximum permissible mounting torque applied must be limited to half the value defined for mounting into a non-threaded hold (see table overleaf).

PERMISSABLE MOUNTING TORQUES (unless otherwise stated on data sheet)

THREAD	CLEARANCE MOUNTING HOLE D + 0.2 - 0.0 MM	MAX. TORQUE CLEARANCE HOLE (NM)	MAX. TORQUE THREADED HOLE (NM)
4-4 UNC 2A	2.95	0.4	0.2
6-32 UNC 2A	3.6	0.4	0.2
6-40 UNF 2A	3.6	0.4	0.2
8-32 UNC 2A	4.3	0.4	0.2
12-28 UNF 2A	5.6	0.6	0.3
12-32 UNEF 2A	5.6	0.6	0.3
1/4"-28 UNF 2A	6.6	1.0	0.5
5/16"-24 UNF 2A	8.2	1.2	0.6
5/16"-32 UNEF 2A	8.2	1.4	0.7
3/8"-32 UNEF 2A	9.8	1.8	0.9
M3	3.1	0.4	0.2
M3.5 x 0.6	3.6	0.4	0.2
M4 x 0.5	4.1	0.6	0.3
M5 x 0.5	5.1	0.8	0.4
M5 x 0.8	5.1	0.8	0.4
M6 x 0.75	6.1	1.0	0.5
M8 x 1.0	8.2	1.4	0.7
M10	10.1	1.8	0.9
2BA	5.1	0.6	0.3

BULKHEAD MOUNTING DETAILS



Style A Style B Style C

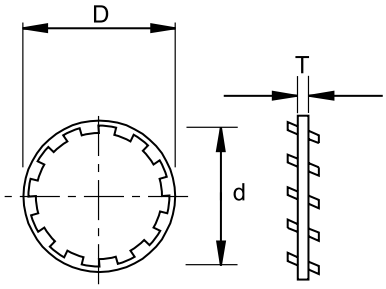
MOUNTING PANEL THICKNESS (DCT, DLT, DUT, DPT, DTT, DXT and DYT)

CASE DIMENSION	RECOMMENDED MOUNTING STYLE	MAXIMUM PANEL THICKNESS (T) FOR MOUNTING BY NUT (mm)	
		STANDARD THREAD	LONG THREAD
00	B or C	1.5	3.0
05	A or B	2.0	-
06	A or B	2.0	-
07	A or B	2.0	-
08	A or B	3.0	-
09	A or B	3.0	-
12	B or C	1.5	3.0
13	B or C	1.5	3.0
14	B or C	1.5	3.0
15	B or C	1.5	3.0
17	B or C	1.5	3.0
18	A or B	2.5	-
19	A or B	2.5	-
22	A or B	3.0	-
25	B or C	1.5	3.0
26	B or C	1.5	3.0
27	B or C	1.5	3.0
28	B or C	1.5	3.0
29	B or C	1.5	3.0
31	B or C	1.5	3.0
33	B or C	1.5	3.0
34	B or C	1.5	3.0
35	B or C	1.5	3.0
40	B or C	3.0	-
41	B or C	3.0	-
42	B or C	3.0	-
43	B or C	3.0	-
44	B or C	3.0	-
45	B or C	3.0	-
50	B or C	1.5	3.0
51	B or C	1.5	3.0
55	A or B	1.5	-

INTERNAL TOOTHED LOCK WASHER

Material: Phosphor Bronze

Finish: Tin, silver or gold plated to BS1872 to match filter finish

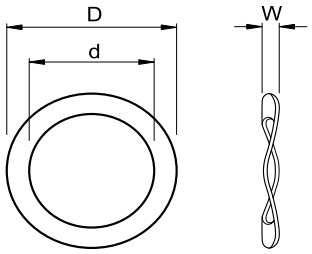


THREAD	d MIN.	D MAX.	T
4UN	2.87	6.48	0.36
6UN	3.68	7.75	0.36
8UN	4.42	8.79	0.46
12UN	5.59	10.31	0.53
¼"/M6	6.5	10.42	0.51
5/16"/M8	9.62	12.85	0.56

WAVY WASHER

Material: Berylium copper to BS2870 CB101

Finish: Tin, silver or gold plated to BS1872 to match filter finish

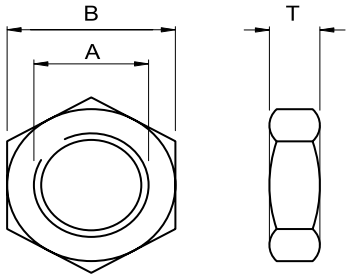


THREAD	+0.1 -0.0	D MAX.	W	Material Thickness
4UN	2.9	5.75	0.5	0.2
6UN/M3.5	3.56	7.24	0.5	0.2
8UN/M4	4.22	8.51	0.7	0.2
2BA/M5	5.3	9.2	0.7	0.3
12UN	5.54	6.98	0.7	0.2
¼"/M6	6.4	10.0	1.0	0.4
5/16"/M8	8.4	11.5	1.0	0.4
3/8"	9.6	12.83	1.5	0.4
M10	10.1	13.2	1.5	0.4

NUT

Material: Brass to BS2874 cz121pB3

Finish: Tin, silver or gold plated to BS1872 to match filter finish



A (THREAD)	B ± 0.13 (A.F.)	T ± 0.13 Thickness
4-40 UNC	4.75	1.6
6-40 UNF	4.75	1.6
8.32 UNC	6.35	1.9
12-32 UNEF	7.92	1.9
12-32 UNEF	6.35	1.9
12-28 UNF	7.92	1.9
12-28 UNF	6.35	1.9
¼"-28 UNF	7.92	2.3
5/16"-32 UNEF	9.53	2.3
5/16"-24 UNF	9.53	2.3
3/8"-32 UNEF	12.7	2.3
M3.5 x 0.6	4.75	1.6
M4.0 x 0.5	6.35	1.9
M5.0 x 0.5	6.35	1.9
M5.0 x 0.8	6.35	1.9
M6.0 x 0.75	7.00	1.9
M8.0 x 1.0	10.00	2.3
M10 x 1.25	12.70	2.3
2BA	6.35	1.9