

RF Filter Installation Guidelines

For optimum EMI performance, proper mounting of any filter is essential. It is important to ensure as low as possible earth bond impedance to the unpainted base or mounting flange of the filter. This is necessary to obtain the best insertion loss from the filter, and also to carry away high pulse currents in transient suppressed filters.

It is normally recommended that the filters are mounted on a steel surface which has been electroplated with tin or zinc. This should be unpainted and must be flat or smooth. Whilst other materials and finishes may be acceptable, the user should give consideration to the shielding and earth bonding properties and possible galvanic corrosion effects of any materials used. In most cases, “conductive paint” finishes are unacceptable as they do not permit a sufficiently good earth bond to be made.

Penetration tubes are used to pass cables through the base of the filter and the mounting surface. These must provide a complete RF seal. EEP supply dedicated fixings kits.

Filter sizes and cable entries are designed to be a minimum for the filter current rating. The user is advised to verify that the standard filter terminal compartment and cable entry sizes are suitable for this application, especially where oversize cables may be used to minimise cable volt drop.

Proper fitting of terminal compartment lids and gaskets is important, as shown on detail above. Gaskets must be fitted in the specified positions, ensuring all lid screws are fitted and tightened to the specified torque.

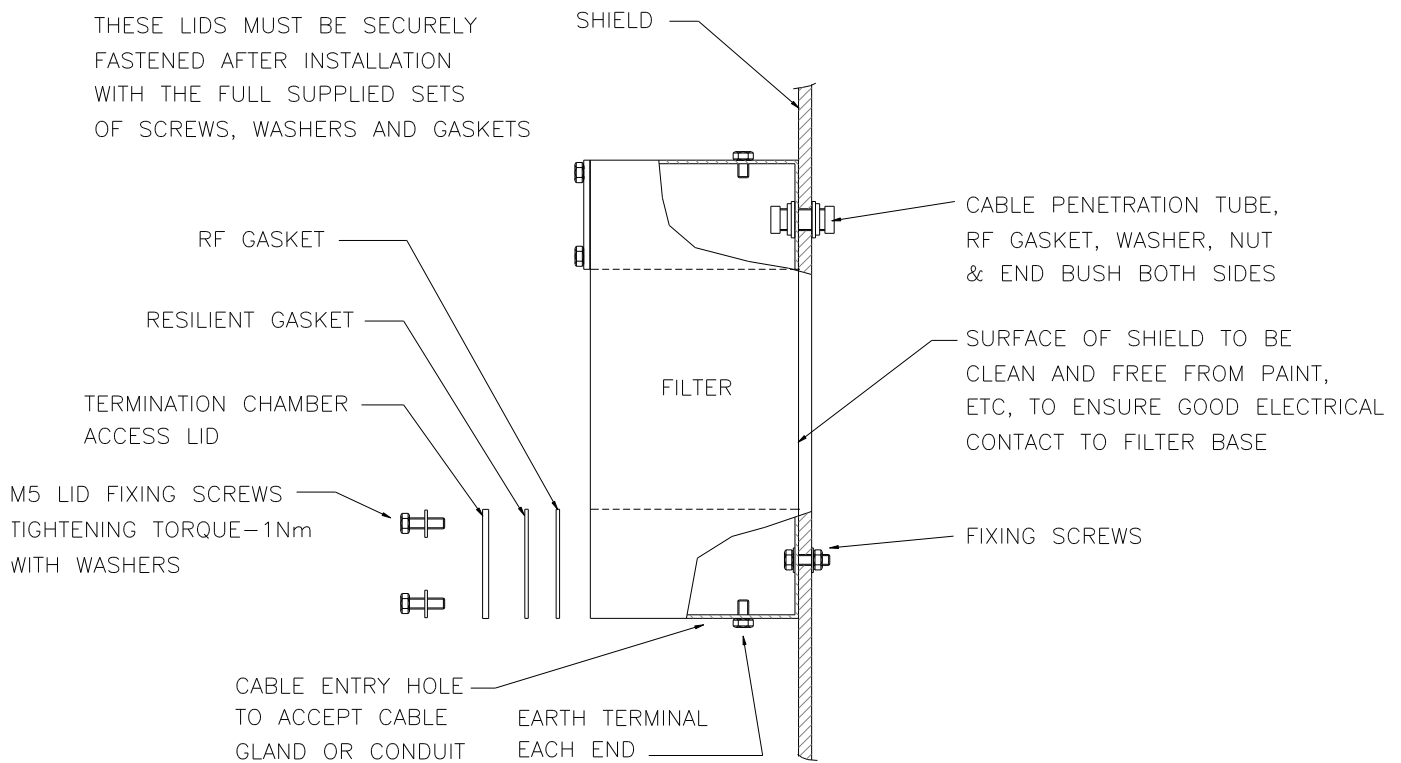
Where several filters are installed together, it is recommended that they are installed vertically with at least 25mm spacing to assist with convection cooling.

All conductors should pass through single cable entries in accordance with the IEE regulations to avoid eddy current heating effects.

Recommended Torque Tightening Gauge:

- M5 - 2 Nm
- M6 - 2.5 Nm
- M8 - 5 Nm
- M10 - 8 Nm
- M12 - 11 Nm
- M16 - 20 Nm

ACCESS TO TERMINATIONS AND FIXING HOLES IS VIA ACCESS LIDS AT EITHER END. FOR SAFETY AND OPTIMUM EMC PERFORMANCE THESE LIDS MUST BE SECURELY FASTENED AFTER INSTALLATION WITH THE FULL SUPPLIED SETS OF SCREWS, WASHERS AND GASKETS



Introduction

European EMC Products Ltd was formed in July 1996 to supply high quality products and services to the Electro-Magnetic Compatibility (EMC) market. The emphasis being on EMP and RF Shielded Chambers and associated products and services such as RF Shielded Windows, Shielded Doors and Shielding Effectiveness and EMP Testing.

Quality

European EMC Products are registered to BS EN ISO 9001:2015, Certificate No. FS 38901. License scope: The design, assembly, servicing and testing of RF Shielded structures and equipment including EMI shielding and thermal management materials; Gas tight doors; and specialised mobile electromagnetic pulse protected (EMPP) containers.