



EMI/RFI

General presentation

The protection of equipment and the environment from electromagnetic interference (EMI/RFI) is a necessity in the commercial, industrial, aeronautical and military fields. On one hand, electromagnetic emissions, which increase in the number and power, interfere with the operation of electronic equipment. On the other hand, this equipment, especially digital equipment, produces high frequency signal which disrupts for example communication transmissions.

In order to protect your equipment, and comply with regulations according to high frequency signal transmission limits : FCC, VDE, CISPR, MIL-STD 461, IEC 801, GAM EG 13... Souriau offers a complete range of filter connectors based on standard specifications.

Souriau also proposes adapter or customized versions which allow retrofitting without modification of the existing equipment. The integration of the filters into the connector offers many advantages :

Optimization of the filtering function : localization of this function on the equipment interface, shielding and grounding carried out using a metal screen which joins the filters to the connector shell.

Reduction of weight and size compared to the separate filter version.

Simple implementation : the standard connector is replaced by a filter connector. This avoids the design, construction and installation of a unit containing individual filters, located on the rear of the standard connector. It also reduces costs.

Two technologies are developed to offer complementary and optimized solutions

Choice of the technology according to the request :

Tubular for

- short delivery times
- small or medium quantities
- small layouts, π filter : cost effective
- mixed filtering with high ratio between capacitance values
- extreme environments (mechanically independent contacts)

Planar for

- large quantity programs
- medium and large layouts : cost effective
- standard dimensions
- small capacitance values and smaller capacitance tolerances

Optimum solutions

Tubulars may be offered for prototype and preseries phases, with shorter delivery time, as well as for space applications and small layouts
Planars for mass production and lower cost



EMI/RFI

Applications

All electronics equipments

Standards

Concerned equipments :
FCC, VDE, MIL-STD 461, GAMEG 13...



Description

- Filter connectors have been developed from standard specifications. They are interchangeable as to the mounting and intermateable with standard connectors of the same series.

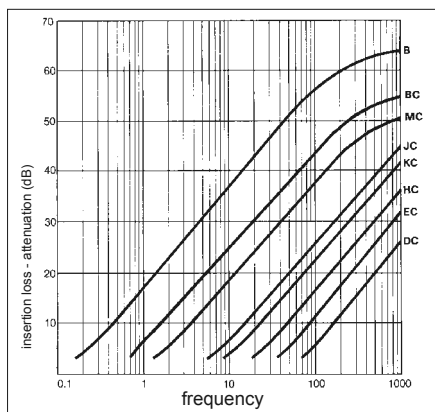
- Different types of contacts can be fitted in these connectors : filter, non filter, ground contacts. The filter contacts attenuate signals in different frequency ranges from approximately 100 kHz.

- Capacitive and inductive components used for filtering are made of metallized ceramics and ferrites respectively. They have the shape of tubes inserted individually on to each contact, or planar arrays over all the connector contacts.

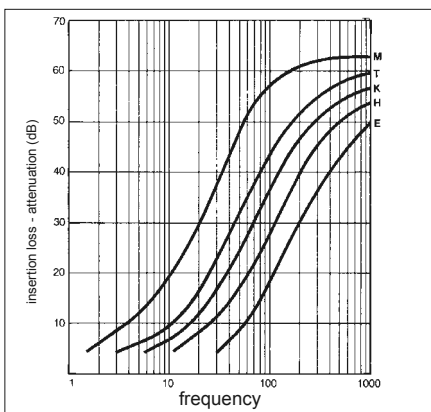
- Mechanical design and 100% testing carried out in production ensure a high level of quality to Souriau filter connectors.

Typical performance

capacitive filter



π network filter



Note : For filter selection, refer to the table of each series

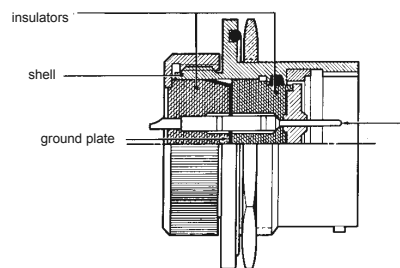
General characteristics

- Voltage rating :**
200 Vdc or 100 Vdc, according to filter type.
- Current rating :**
5 A, 7.5 A or 13 A according to contact type.
- Filters :**
capacitive, L or π filters from 100 pF up to 0.1 μ F.

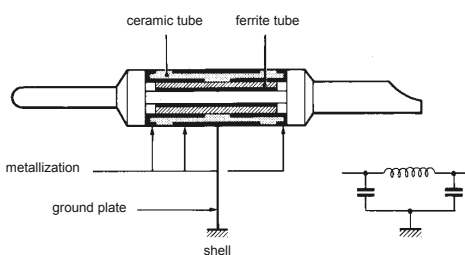
Schematic diagrams

The mechanical concept is based on the shape of the filter : tubular or planar. Therefore two assembly methods are used.

Tubular filter connectors

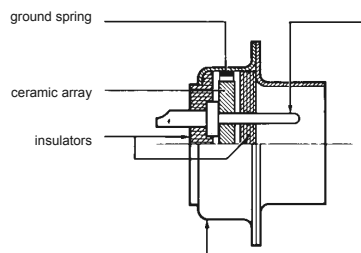


Circular connectors fitted with tubular filters



Note : ferrite is not used in the capacitive filter

Planar array filter connectors



D-Sub connectors fitted with a capacitive planar array

