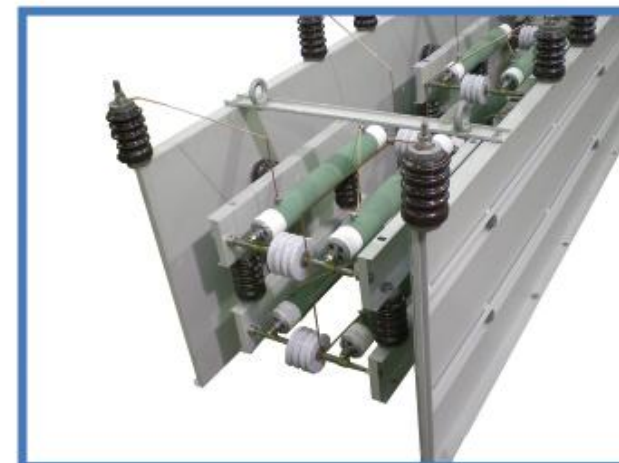




electromateriales

HARMONIC FILTER RESISTORS



RAILTECH-KLK

KLK Electro Materiales S.L.U.
Camino de la Peñona 38 B - Gijón - 33211
Principado de Asturias - ESPAÑA
Tfno.: +34 985321850
Fax: +34 985312820
E-mail: resistencias@klk.es
www.klk.es

RAILTECH
WELDING & EQUIPMENT

© GROUPE DELACHAUX

Electrical equipment, with non-linear characteristics, generate harmonics that can lead to some distortions in the network.

The large increase in using equipment such as arc furnaces and static converters, during the last years, has forced Electric-Companies to control and limit the harmonic rate of their distributing networks, with respect to the directives of many National Committees (CEI, CENELEC, IEEE, ...etc).

The **Harmonic Filtering Networks** are passive circuits that have the double mission of lower the distortions caused by harmonic, and balance the power factor under industrial frequency.

Harmonic Filters - made up by capacitors, inductors and resistors - help eliminating harmonics which inevitably tend to occur. The LC circuit filters all spurious frequencies and only lets the fundamental frequency through, while the Harmonic Filter Resistors (also referred to as Damping Resistors) dissipate harmonic currents into heat.

Typical applications for Harmonic Filters Resistors are HVDC networks and electrical induction furnaces.

Our team of experienced engineers designs the best solution for the different characteristics required and for the most diverse environmental conditions. KLK Electro Materiales, S.L.U., can custom design Harmonic Filter Resistors from a few kW rating up to tens of MW, as well as B.I.L. up to 1450kV. Our Harmonic Filter Resistors employ non-magnetic low temperature-coefficient elements, to minimise Ohmic value drift thus preventing excessive power increase.

They also have low parasitic inductance values, which is a key feature for the effective design of damping elements.



The essential parameters needed to design a Harmonic Filter Resistor are:

- Nominal Voltage
- Current or Power
- Ohmic Value (with tolerance in %)

Other relevant parameters are:

- B.I.L.
- Required Insulation Level: HV terminal to hearth, LV terminal to earth, between terminals
- Clearance and Creepage.
- Enclosure finish: our standard is galvanised steel welded framework, but different stainless steel grades (such as AISI430, AISI304 or AISI316) are available. Painting in the desired RAL colour is also an option.
- Environment: we design resistors for the harshest industrial or natural settings
- Bushing Layout: top or side mounted
- Mounting: stacked, side by side, others.

