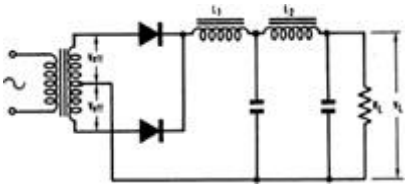
Single-phase Reactors on iron for AC filters

Series RMF/2000

Technical features

The Reactors for AC filters inserted downstream of a rectifier perform the function, in combination with a capacitor downstream of the same, of allowing the current to circulate for the entire period.
Contrary to what happens with the exclusive presence of a capacitor that draws a current for short periods, but very intense, the inductance causes the current to flow continuously without stressing the rectifying element and the power transformer.
The inductance has a reactance to alternating current which opposes its circulation the higher the frequency of the current; the waveform of a single-phase rectifier, for example, is made up of a direct component, represented by the average value of the alternating voltage, with a superimposed component having a frequency double that of the mains.
The optimum value of the inductance is calculated as a function of the parameters of the rectifier circuit and the final residual ripple values to be obtained at the output.
On the right is a schematic diagram of a two diode rectifier and a double cell LC filter.
Therefore in the formulation of an order either the value in Henry or submultiples and the direct current is supplied or the values of the rectifying system must be supplied.



The output voltage, the continuous current of the load, the ripple (residual ripple) to be obtained in combination with a capacitor to be connected downstream of the inductance and whether the system is single-phase or three-phase are required.
The DC filter inductances are also inserted between the controls for DC motors and the motor, both to adapt the total impedance seen by the drive and to attenuate the harmonics thus reducing the sparking of the brushes on the rotor and the heating of the same due to alternating components.
If it is to be used between the drive and the motor, the maximum direct current, any peak values of the same and the inductance value calibrated for the system must be provided for correct sizing.