

Detuned reactors



AENER ENERGIA has concentrated their force and in developing the rejecting filters. The advantages of such a device are as followed:

- Avoids the resonance phenomenon among the capacitor and the short circuit impedance of the electrical installation.
- Attenuates the THD (A) in the sources, reducing it considerably in the majority of the cases.
- Filters a high spectrum of harmonics.
- It is based on a way of low impedance for the harmonics, for which the linear loads are not affected by it.
- Does not get its operation altered by changes of the loads.
- It is a solution that finds a commitment among the effective extenuation of the harmonics and the economic investment.

It consists essentially in transferring the resonance frequency to a frequency of value lower than that of the predominant harmonics, which is in general is in the range of the 5th, although there are many single phase loads where it is advisable to transfer below the 3rd harmonics.

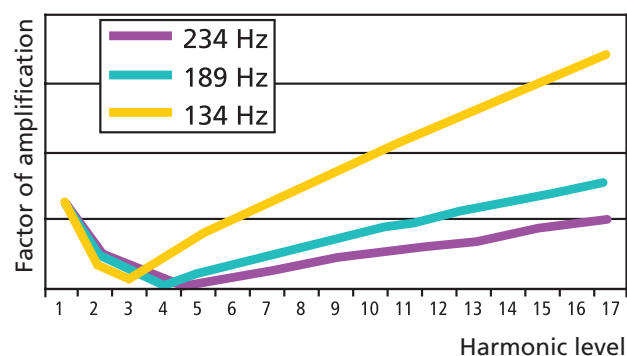
This could be achieved by adding an inductance in parallel with the capacitor. The technical characters of the reactors and the capacitors are being selected depending on the detuning factor (p%) which usually ranges between 14% and 4,57%. This value is directly related to the frequency and the voltage that the capacitors support due to the excitation originated by the connection of the inductance.

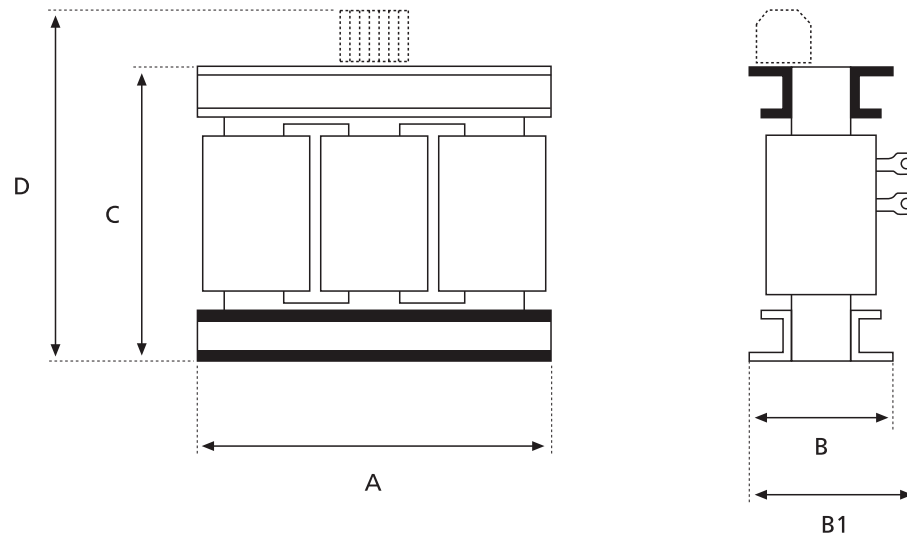
As mentioned above, this device is an advantage, since without an absorption filter, the harmonics exist in the network is being attenuated, for example: for a value of p=4,57%, an amplification factor of harmonics reduced to 0,5.

Because of its conceptual design, it allows to reduce sensibly the harmonics in the installation superior to the detuning frequency. This reduction is being obtained in the linear loads and in the sources (transformers and generators), in a form that the harmonics filter circulate between the generating loads of disturbances and the automatic capacitors bank.

Standard model technical specifications

- Rated voltage: 3 x 400V 50Hz.
- Detuning factor: 7 %.
- Resonance frequency: 189Hz.
- Inductance tolerance: ± 3 %.
- Linearity: 1,75 In.
- Test voltage: 3.000V.
- Protection level: IP00.
- Thermal isolation: class F/ 155° C.
- Ambient temperature: +45° C.
- Standards: IEC 61558-2-20.





Power Kvar	Type	Inductance / mH	Current /A		Dimensions / mm					Weight / Kg
			In50Hz	I _{rms}	A	B	B1	C	D	
10	3INP-15,3/3,83	3,830	15,3	18,51	175	105		55	185	6
12,5	3INP-19,8/3,066	3,066	19,8	23,95	180	110		155	185	8
15	3INP-23/2,56	2,566	23,0	27,8	180	115		160	190	9
25	3INP-38,3/1,53	1,533	38,3	46,3	230	115	160	200		16
50	3INP-76,5/0,77	0,767	76,5	92,6	300	140	200	245		30

► Other power ratings, voltages or frequencies please refer to our Technical and Commercial Department.
Dimensions of the detuned reactors can be modified without previous notice.