

DETUNED HARMONIC FILTER

TECHNICAL SPECIFICATIONS

CAPACITY

- Up to 300kVAr
- Others upon request

RATED VOLTAGE

- Up to 690V

RATED FREQUENCY

- 50Hertz or 60Hertz

AMBIENT TEMPERATURE

- 40°C
- Others upon request

INSULATION CLASSIFICATION

- Class F & H
- Others upon request

TRANSFORMER CORE MATERIAL

- High grade electrical steel

WINDING CONDUCTORS

- Copper or Aluminium wire
- Copper or Aluminium foils

OPTIONAL ACCESSORIES

- Temperature measurement device



Power disturbance and harmonic distortion in electrical systems have proven to be fatal to equipment, cables, transformers, capacitor banks etc. The situation has deteriorated further with the use of products such as variable speed drives, soft starters, rectifiers, UPS, discharge lamp etc.

These devices will generate or increase the harmonic distortion and high frequency interference in the power system caused by non-linear loads. These disturbances will cause overheating to cables, transformer and related equipment etc.

Detuned Harmonic filter reactors are connected in series to the capacitor banks and the main purpose is to prevent the harmonic current caused by non-linear loads flowing into the capacitor and cause premature failure. It is also to prevent the resonance of the system.

Detuned Harmonic Filter Reactors are manufactured according to the filtering % p and the required kVAr is the ratio of inductance to capacitance.

For a 50Hz system:

$p=7\% = 189\text{Hz}$ is used where protection to capacitor and harmonics reduction is required

$p=6\% = 204\text{Hz}$ is to be used where the system is rich in 5th harmonics and above

$p=13\% = 139\text{Hz}$ is used where voltage distortion exceeds permissible limit current

Detuned Harmonic Filter Reactors can be manufactured as single-phase or three-phase, choosing the tuning frequency according to the dominant harmonic current order in the system according to the bus bar voltage and capacitor impedance / power.

Detuned Harmonic Filter Reactors do not destroy harmonic components in the system. It only prevents the harmonic current from increasing in amplitude.