

D-Series detuned filter capacitor banks

PRODUCT FEATURES

Power transmission and distribution systems are designed to operate with sinusoidal voltage and current having a constant frequency. When non-linear loads – such as thyristor drives and converters – are connected to the system, harmonics are generated, causing voltage and current distortion.

Capacitor capacitance and network inductances may form a parallel resonant circuit, where harmonic currents may be as much as 20 times the normal level. Should the natural frequency of the resonant circuit match an existing harmonic frequency, the current distortion caused by resonance leads to further voltage distortion. Power factor correction by means of conventional capacitors is not possible in systems affected by harmonics.

In systems where harmonics are present, power factor correction should be done with detuned filters. These consist of capacitors and reactors connected in series, capable of compensating reactive power at fundamental frequency without amplifying the harmonics.

APPLICATIONS

- Power factor correction in distorted networks
- Centralised compensation
- Used in networks affected by harmonics
- Detuned filter is usually connected into the main board or sub board

TYPICAL GRID SOLUTIONS CUSTOMERS

- Commercial premises of all kinds
- Industries of all kinds
- Contractors

CUSTOMER ADVANTAGES

- Low losses
- Modular, clear construction
- Extendability



TECHNICAL DATA

Rated voltage	up to 690 V
Rated frequency	50 Hz or 60 Hz
Rated power	45 to 450 kVAr
Number of steps per cubicle	3 to 7
Tuning frequency	189 Hz or 245 Hz (other frequencies on request)
Insulation level	3 kV
Continuous overvoltage	1.1 x U _N
Harmonic dimensioning	according to IEC 61000-2-2
Mounting arrangement	indoor
Degree of protection	IP20C or IP34
Temperature class	0° C to + 40° C
Average 24h:	+ 35° C
Average 1 year:	+ 25° C
Dimensions (wxdxh)	600 x 600 x 1,800 mm
(option height 2000 mm)	800 x 600 x 1,800 mm
(option height 2000 mm)	1,000 x 600 x 1,800 mm
(option height 2000 mm)	1,200 x 600 x 1,800 mm
Weight	180 to 610 kg
Color	RAL7032 (light grey)
Electrical safety	IEC 60831 - 1&2, EN 60439 - 1