

technical data

rated voltage

· up to 440V

filtering factor (uk)

· 7%

frequency of filter

· 189Hz

tolerance of inductance

· +/- 5%

linearity of inductance

· 1.3In with +/- 5%

test voltage

· 3.0kV

degree of protection

· IP 00

winding material

- copper or aluminium
- polyester enamelled wire
180°C (Class H)
- fibreglass wire 180°C
(Class H)

reactor core

· 0.5mm high grade silicon steel
from Japan & Korea

varnish

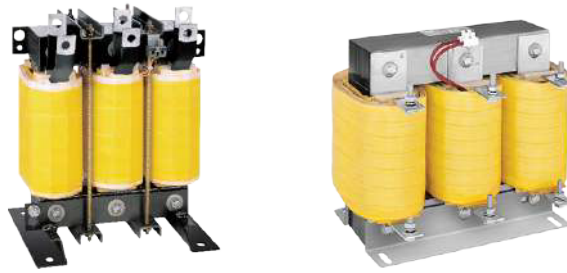
· high grade high temperature
polyester varnish

insulation class

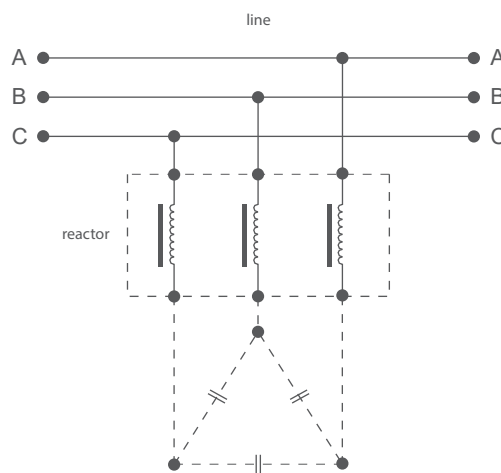
· class H

ambient temperature

· max 40°C



diagram



introduction

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. These disturbances will cause overheating to cables, transformer and related equipment, etc.

Detuned Harmonic Circuit Filter Reactor is used for:

- filtering harmonics and high frequency disturbance
- reduce high inrush current (from parallel switching of capacitors & from power to capacitor banks and thus improves the operating source life span of the capacitor)

Filtering % p is the ratio of inductance to capacitance. It is not to be confused with the impedance or reactance of an inductor.

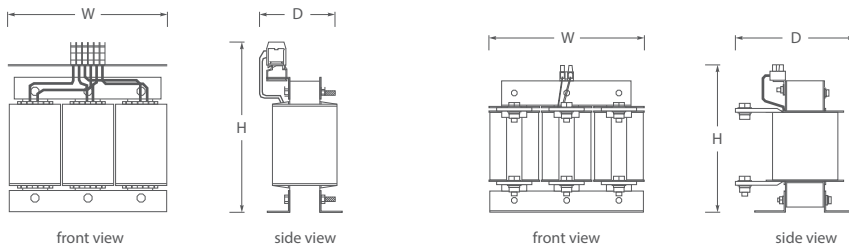
For a 50Hz system:

- p=7% = 189Hz is used where protection to capacitor and harmonics reduction is required
- p=6% = 204Hz is to be used where the system is rich in 5th harmonics and above
- p=13% = 139Hz is used where voltage distortion exceed permissible limit

Technical Data (p=7%)

- The reactor is manufactured to withstand 125% capacitor current (I_1) at its rated operating voltage.
- Harmonic current handling capacity (for p=7.0% detuned reactor):
 - $I_1 = 1.06 I_c$ (fundamental current)
 - $I_3 = 0.04 \times I_1$ (3rd harmonic)
 - $I_5 = 0.31 \times I_1$ (5th harmonic)
 - $I_7 = 0.13 \times I_1$ (7th harmonic)
 - $I_{th} = 1.25 \times I_1$
- Inductance tolerance is manufactured to be less than $\pm 5\%$.
- Reactor Linearity still within 95~105% of their nominal inductance at 150% rated current. This assured maximum filtering of distortion even in the presence of severe harmonics and best absorption of surges.
- Saturation of iron core: The reactor will not saturate (a drop of 10% of the nominal inductance at 175% of rated current).
- Insulation-Class H 180°C. (Class F 155°C available upon request).
- Operating Temperature: 120°C max. temperature rise at ambient temperature of 40°C.
Thermostat 130°C (NC) is fitted to coil windings for over temperature protection.
- Testing: insulation strength tested at 3kV @ 1 minute.
- Noise level: below 55dB - reactor not hum at no harmonics condition.

dimension



type A

type B

detuned harmonic circuit filter reactor 525V 50Hz 7%

technical specification

model	type	525V capacitor rated power (KVAR)	rated current (A)	inductance (mH)	overall dimension (mm)			weight (kg)
					w	d	h	
A5K07525	A	5	5.1	12.281	165	120	140	3.7
A10K07525	A	10	10.1	6.141	180	115	185	7.0
A15K07525	A	15	15.1	4.094	180	125	185	8.6
A20K07525	A	20	20.1	3.070	180	135	185	8.7
A25K07525	B	25	25.1	2.456	250	135	195	11.6
A30K07525	B	30	30.2	2.047	250	140	195	12.7
A40K07525	B	40	40.2	1.535	250	150	195	14.1
A50K07525	B	50	50.3	1.228	265	160	195	16.7
A60K07525	B	60	60.4	1.023	270	205	230	22.8
A75K07525	B	75	75.4	0.819	320	200	280	30.5
A80K07525	B	80	80.4	0.768	320	200	280	30.5
A100K07525	B	100	100.6	0.614	320	215	280	33
A120K07525	B	120	120.6	0.512	320	235	280	35.8
A150K07525	B	150	151.1	0.409	375	270	280	50
A160K07525	B	160	160.9	0.384	375	270	280	52.4
A200K07525	B	200	201.1	0.307	410	270	320	58
A300K07525	B	300	301.9	0.205	435	295	320	76