

Active Harmonic Filtration

Active Harmonic Filtration is a solution to the problem of harmonic distortion. This is a growing concern as management of electrical systems becomes more of an issue through the introduction of Power Electronic Devices, Non-Linear loads such as Variable Speed Drives (VSDs), Thyristor Drives & Inverters to save on energy costs and increase control.

Designers of electrical systems are requested to consider the impact of energy efficiency measures and the effects of availability of electricity from the grid.

The side effects of these measures through the use of non-linear devices would normally be discussed during the design phase although there are occasions during modifications to existing infrastructure and loads or during expansion of existing plant where the effects can be overlooked leading to a number of undesirable effects and HARMONICS

Harmonics are basically currents or voltages other than the sinusoidal 50Hz waveform that circulate around an electrical system creating a distorted waveform.

Harmonics generate many undesirable effects:

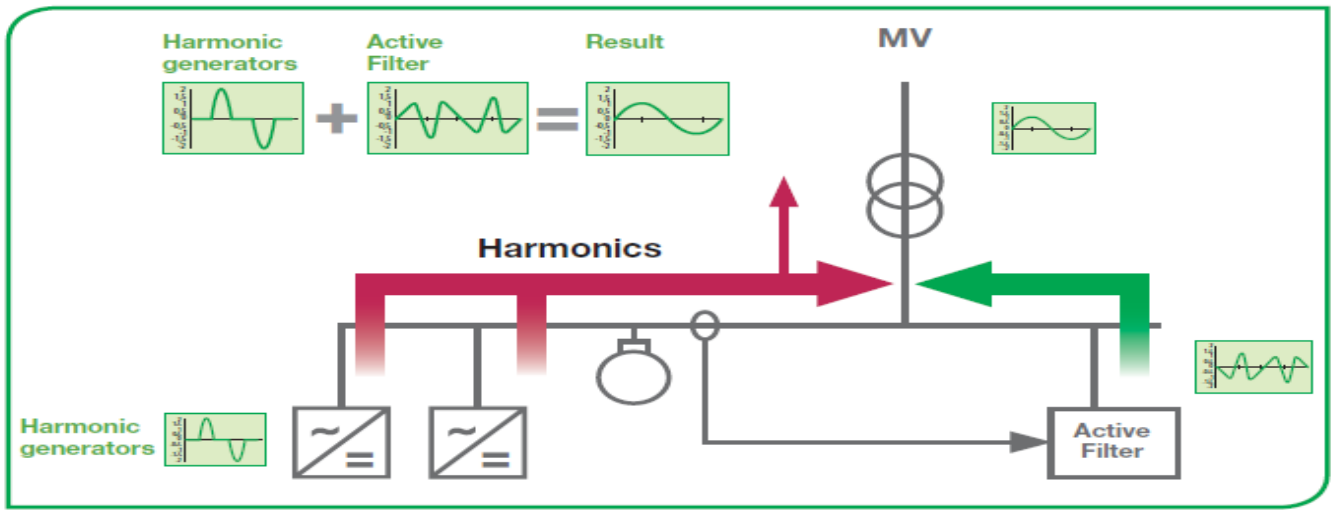
- Damage to sensitive electronic equipment
- Increase in energy costs
- Unexplained tripping of devices
- Deterioration of standard capacitor circuits & power factor correction
- Increase RMS currents in the electrical systems
- Distortion of supply voltage & current waveform
- Reduction in power quality
- Stress of electrical plant & machinery
- Increase in operating temperature of cables & switchgear
- Increase in vibration levels

Harmonics can disrupt operations and severely reduce life span of equipment & controllers

Active Harmonic Filters are designed to measure the harmonic effect within the load and react accordingly by injecting the precise amount of current to counteract the effects of harmonic distortion and in some cases displacement PF, or balance load.

The Active Harmonic Filter measures the load current and calculates the harmonic spectrum for every harmonic up to the 50th.





All sizes available from 10A – 1000A – 3 Wire & 4 Wire
Key Features, Performance, Control & Approximate Dimensions

Rating	50A	100A	150A	200A
Dimensions	H1500xW600xD600	H1500xW600xD600	H1800xW600xD600	H1800xW600xD600
Weight	110kg	130kg	280kg	300kg
Cable Entry	Top or Bottom	Top or Bottom	Bottom	Bottom
Nominal Voltage	400v +/- 10%			
Frequency	50Hz or 60Hz			
Performance	Up to 50 th Harmonic			
Mode	Multiple Modes – All Harmonic / Selective Harmonic			
Controller	HMI Real Time Digital Control			
Connections	3Wire or 4 Wire			
Monitoring	On site with options for remote monitoring			
Reporting	Last 30 Days			
Communication	Ethernet Modbus or TCP			
Ventilation	Force Cooled Air			
IP Rating	Standard IP 42 – IP 54 on request			
Ambient Temperature	40oC Without Derating			
Humidity	Up to 95%			
Power Losses	< 2.3%			
CT Requirement	3 CTs Required 5A or 1A Class 0.5 or better			
Isolation	Optional Door Interlocked Isolator of MCCB			

* Other dimensions available on request

For additional information on [Active Harmonic Filtration](#), please contact us now on 01695 559785, email us on post@pesgrouppltd.co.uk or visit <http://www.energyace.co.uk/>

Power Efficient Systems is a Manufacturer of energy savings systems and a system Integrator of harmonic mitigation products to reduce distortion



15 Greenhey Place Skelmersdale Lancashire WN8 9SA

UK MANUFACTURERS OF ENERGY SAVING SYSTEMS, SURVEYS, MAINTENANCE AND SPARES

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 Company registered in England No: 4362110 VAT NO: 785 847 856

