

HarmonicGuard® HG7 Passive Filter

As power utilities continue to be pushed to the limits of supply capability, rising energy costs and decreasing power quality will continue to be an issue for consumers.

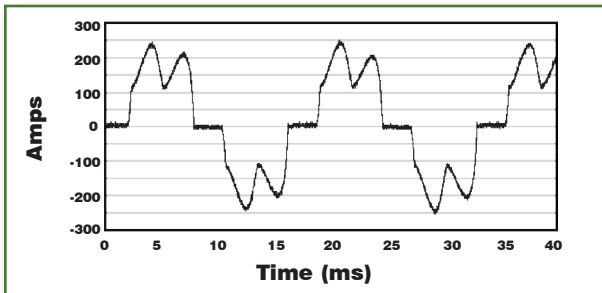
Users continually search for ways to not only reduce energy costs, but also ensure their processes will continue to operate no matter the quality of the incoming power. To accomplish this, more and more variable frequency drives and other non-linear loads are being installed.

These non-linear loads use a power conversion process that causes distortion known as harmonics.

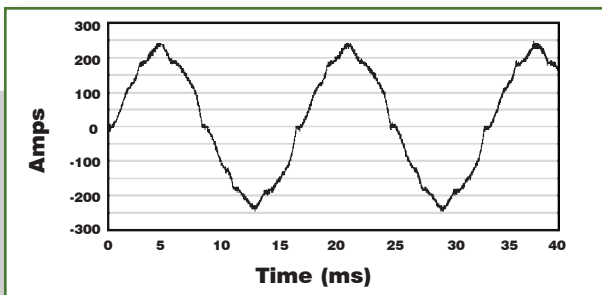
Issues caused by harmonics may include:

- Transformer and distribution equipment overheating
- Random breaker tripping
- Sensitive equipment failure
- Poor power factor

Harmonic Current Distortion Without HG7



Harmonic Current Distortion With HG7



HarmonicGuard® HG7 Passive Filters

- Limit current harmonic distortion to less than 7% over a wide load range
- Comply with IEEE 519-2014
- Contain fused branch circuit to protect capacitors
- Increase drive uptime
- Eliminate nuisance tripping
- Improve true power factor and system efficiency

HG7 Filters vs. Other Harmonic Solutions

The HG7 filter is the most cost effective solution to meet power quality regulations.

Inside the filter are capacitors designed to withstand harsh harmonic currents and increase the life of the unit. The UL508A configuration includes built-in safety features like fusing and easy access inside the enclosure. Processes will not shut down if the filter goes off-line.

Compared to 18-pulse drives, the HG7:

- Is a more efficient and reliable solution at reduced loads
- Has a better THID at reduced loads
- Saves money by reducing operation costs and energy loss
- Corrects power factor in both the VFD and filter
- Has a smaller footprint

Typical Applications

- Wastewater Treatment Plants
- Steel Industry
- Oil & Gas
- HVAC Systems
- Machining
- Airports
- Commercial Buildings
- Hospitals
- Irrigation Fields, Farms
- Extruders
- Pulp & Paper



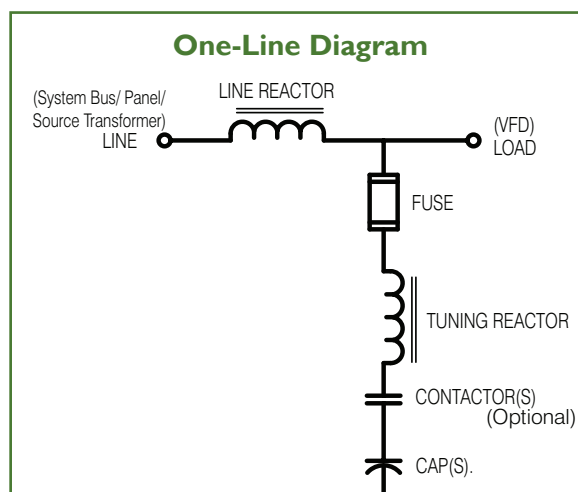
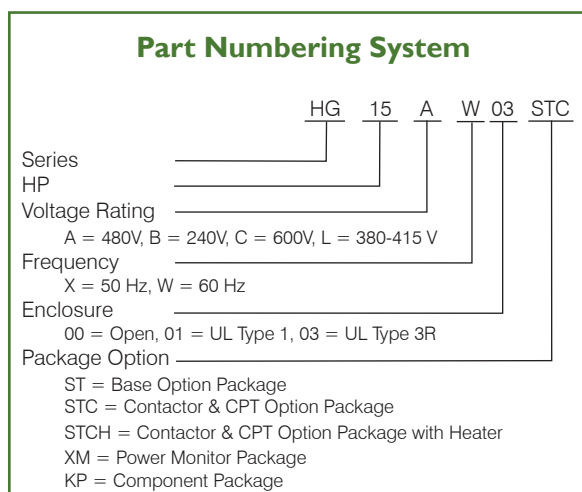
Technical Specifications

Technical Characteristics	
Ratings	480 V/60 Hz: 7.5 - 900 HP, 3-Phase
	600 V/60 Hz: 15 - 900 HP
	240 V/60 Hz: 7.5 - 100 HP
	400 V/50 Hz: 4 - 710 kW
Harmonic Reduction	< 7% at full load
Efficiency (typical)	Below 100 HP ≥ 98%
	100 - 250 HP ≥ 98.8%
	Above 250 HP > 99%
Capacitors	Components designed for harmonic-rich environments
Protection	All units have internal fusing protection for capacitors and trap reactor
Warranty	Three years from the date of original shipment
Environmental Conditions	
Operating Temperature	Open: 50° C (122° F)
	Enclosed: 40° C (104° F)
Operating Altitude	2,000 m (6,000 ft) Derating necessary above 2,000 m
Reference Technical Standards	
Agency Approvals	UL and cUL
Protection (enclosure)	Open, UL Type 1, UL Type 3R

Package Options

Configure the HG7 to meet your performance and monitoring needs:

- ST** - High Quality Harmonic Filter
- STC** - High Quality Harmonic Filter with contactor and control power transformer which allows the capacitors to be removed from circuit, eliminating the possibility of leading power factor
- XM** - Similar to STC version with the addition of a power monitor display to view filter performance



Performance Guarantee

When properly applied and sized for the application, HG7 will typically provide 5 - 6% current distortion. TCI further guarantees that the HG7 will lower ITDD (as calculated using IEEE-519 guidelines) to no more than 8% at the filter input terminals. If a properly selected, installed and loaded HG7 filter fails to meet the guaranteed performance levels, TCI will provide the necessary components or replacement filter at no additional charge. TCI does not take responsibility for additional installation or removal costs, to include, but not limited to, replacement of third party equipment. Please see TCI's website for minimum system requirements.