

# HGA

## 5% ACTIVE HARMONIC FILTER



The HarmonicGuard<sup>®</sup> Active (HGA) filter is an elite system-applied harmonic filter that minimizes harmonics to less than 5% total demand distortion (TDD) at the point of common coupling. The HGA monitors the load current and reacts to changes immediately. By injecting a counter-current, the active filter cancels out harmonics and synchronizes the current and voltage waveforms while improving power factor to near unity. One HGA filter can handle multiple non-linear, harmonic-generating loads.

The HGA meets the demanding requirements of IEEE- 519-2022. Offering top of the line performance and mitigation, the HGA provides a lower cost and a smaller footprint than a comparable 18-pulse VFD or active front end drive.

*TCI's Harmonic Sizing Tool is a free harmonic analysis software that enables users to size filtering solutions to meet harmonic and power factor requirements.*

*Find out more: [transcoil.com/harmonic-sizing-tool-welcome/](https://transcoil.com/harmonic-sizing-tool-welcome/)*

### Features of the HarmonicGuard Active Filter

- Meets the most stringent IEEE 519-2022 requirements
- TDD reduction to less than 5% at full load
- Power factor correction
- Immediate response time to step load changes
- Ability to parallel units without any calibration
- Self-commissioning installation
- Full line of Active filters ranging from 30-700 Amps
- 208 V - 600 V system compatibility
- Easy to use color, touch screen HMI display
- UL Listed; cULus Listed
- Communication options include: Modbus RTU over RS485, Modbus TCP/IP, EtherNet/IP, and BACNet/IP

### Typical Applications for Active Filters

- Electronically commutated motors
- Fan arrays
- Wastewater treatment plants
- Automation production facilities
- Chiller systems
- Multi-well pads

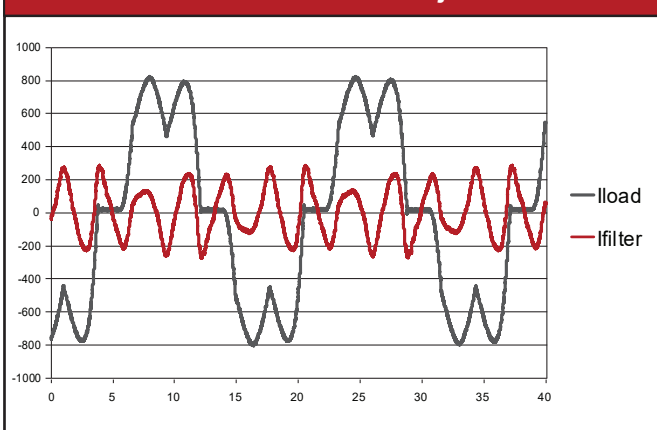


## Technical Specifications

Compensation Capacity (Parallel for Higher Capacity)	208 V, 240 V & 480 V: 30A - 700A; 3-phase, 60 Hz
	600 V: 23A - 520A; 3-phase; 60 Hz
Harmonic Cancellation Spectrum	To the 50th harmonic - auto-selecting
Response Time	Less than 8 ms to step load changes
Power Factor Correction	Up to 0.98 lagging
RMS Current Attenuation	Less than 10:1
Parallel Configuration	Up to six active filters can be connected in parallel*
Display	High quality touchscreen HMI with LED backlight
Communications	Modbus RTU over RS485, Modbus TCP/IP, EtherNet/IP <sup>®</sup> , BACnet;
Over Current Protection	Molded case 65 kAIC and 100 kAIC circuit breakers or 200 kAIC fuse block
<b>Environmental Conditions</b>	
Ambient Temperature	Open Chassis, UL Type 1, and UL Type 12: 0°C (32°F) to 40°C (104°F) Derating above 40°C (104°F)
	UL Type 3R: -20°C (-4°F) to 40°C (104°F) Derating above 40°C
	30A and 50A: 0°C (32°F) to 50°C (122°F) Derating above 50°C
Relative Humidity	95%, non-condensing
Operating Altitude	Up to 1000m (3,300 ft) without derating Up to 3000m (9,900 ft) with derating
Storage Temperature	Open Chassis, UL Type 1 & UL Type 12: -20°C (-4°F) to 60°C (140°F)
	UL Type 3R: -40°C (-40°F) to 60°C (140°F)
Enclosure Options	Open Chassis, UL Type 1, UL Type 12, UL Type 3R
<b>Reference Technical Standards</b>	
Agency Approvals	cULus Listed
HMI Languages	English, French, Spanish
Surge Protection	ANSI C62.42

\*Consult factory for larger systems.

### Load Current Waveform & HGA Injection Current



### Resulting Line Current Waveform with HGA

