## FAQ - Which applications are best addressed by the HGP?

The HGP is used where drives are a significant portion of the load. Prime candidates for filtering are installations of variable frequency drives or adjustable speed devices in facilities where those drives represent a significant portion of the load, or when specifications call for limited harmonics (like IEEE 519, 1992).

## FAQ - Is the performance of the HGP notably better than earlier passive filters?

The performance is truly better with the HGP than with earlier passive filter designs. TCI can match performance with any filter design over a broad load range of operation. Very few filter designs can match that performance along with long filter service life and ease of installation and drive compatibility.

## FAQ - Can I get design assistance if I purchase the HGP Component Package "CP" filter?

The "CP" Option is designed for the very experienced panel builder and systems integrator. TMS can provide technical guidance but reserves the right of filter design to the experienced shop. Contact TMS for the required qualifications.

## FAQ - Can I order an HGP with custom features not listed in the brochure?

TCI builds custom equipment for many customers and OEMs. It is in the best interest of everyone that a standard product be selected if possible. Often times, a small, seemingly simple modification can require added Engineering design time, drawings, and a list of special parts to be added. This results in added cost and lead time to acquire the equipment. TCI is sensitive to the needs of the application and suggests the solution product that is the most readily available and cost effective for the customer. If the standard product is not suited for the application or the customer requires special modifications, the TCI Technical Support staff can make suggestions and present ideas for the best solution available. TCI is interested in hearing the needs and requirements of our customers. Contact TCI at (414) 357-4480 or (800) TCI-8282 for more information on power quality and harmonic mitigation equipment.

## FAQ - Can I use the HGP on a generator power source or is this strictly for use on utility power?

You can use the HGP on generator power; however it is more critical to size the device properly. If the non-linear load represents a great portion of the total generator load and the drive is very lightly loaded, the filter capacitance may cause the generator to experience voltage regulation issues. Contact TCI Technical Support for a system evaluation. You may also contact the generator provider for their guidelines on the use of harmonic mitigation and capacitive equipment on their systems.

## FAQ - Can I use the HGP on drive bypass applications?

Yes, an independent third party test was conducted to evaluate the use of the HGP on bypass systems. The concern is to ensure the series inductor does not provide too excessive of a line voltage drop to prevent proper operation of the bypass control contactors. A 75 HP NEMA design A motor and drive package with a bypass option was tested. Extensive testing showed that the voltage drop across the 480/120 volt control power transformer being caused by the series reactor was approximately 10% at full load which was well within the contactor coils dropout rating. The bypass circuit worked very well and the results concluded the HGP can be used with a standard drive/bypass configuration without any special system modifications.

## FAQ - Can I use the HGP on multiple motors?

The HGP was designed to focus on drive-applied applications but can be sized for multiple motor systems as well. Caution must be taken to size the unit properly as well as to take all of the power system variables into consideration. Contact TCI Technical Support to fully discuss your multiple motor applications.

## FAQ - Does the drive require special adjustments in order to use the HGP filter?

TCI has studied the standard drive product offerings used in industry today. Standard, 6 pulse, PWM drives and standard NEMA design motors are compatible packages. The drives typically need no special adjustment when using the HGP harmonic filter. If your drive application is utilizing unique drive components, contact your drive manufacturer's technical support staff for clarification on limitations to harmonic mitigation equipment.

## FAQ - Does the HGP have separate ratings for AC and DC applications?

The HGP filter was designed to primarily address the continually expanding AC drive market. This filter technology can be easily employed on DC drives but should be sized for DC drive topology. Standard "K" series HarmonicGuard DC Drive filters are available upon request. Contact TCI Technical Support for more information on DC drive filter options.

## FAQ - Does the standard HGP require a special set up or calibration procedure for system startup?

The standard HGP product is truly a plug-n-play product. It merely requires line power connections from the incoming power line and then connected to the drive. Unlike the "K" Series HarmonicGuard filter, the HGP product does not require control circuit or drive control connections.

## FAQ - I have a 2.5% impedance reactor built into my drive. Will an HGP create a voltage problem?

As long as the incoming power is strong and does not already reflect depressions or downward swings in line voltage, adding a standard HGP filter to a drive system that already has a built-in 2.5% line reactor will not be a problem. It is very important to have the series line reactor in the filter circuit. If the 2.5% added voltage drop at full load is a concern, TCI recommends the drive customer to remove the drives internal 2.5% line reactor. The series inductor designed into the HGP filter provides an inductance value that is important to the level of harmonic mitigation performed by the filter.

## FAQ - My line voltage is 575 volts. Can I use the 600 volt HGP filter?

For the sake of the harmonic filter, the 600 volt product was designed with an understanding that 575 volt power systems typically have a target supply voltage of 600 with a nominal applied voltage of around 575 volts. With that in mind, the 600 volt designation can be used on both 575 and 600 volts.

## FAQ - The filters are all rated in HP. What are the current limits of the HGP filters?

TCI has a complete listing of filter current limits. Contact TCI Technical Support for information and technical details.

## FAQ - If I have a non-standard specialty motor, can I use the standard HGP filter?

The HGP filter is sized based on HP when using standard NEMA design B, 2 and 4 pole motors. The filter can be safely used on special motors if the nameplate information is discussed and the filter is sized properly. Contact TCI Technical Support for special motor applications.

## FAQ - If I use an HGP filter, do I still need a separate line reactor?

The HGP harmonic filter comes complete with a series line reactor designed for use in the HGP filter. A separate line reactor is not required.

## FAQ - Is the HGP filter available in a bus-applied version?

The HGP is designed to be used in drive-applied applications. The H5 Active Harmonic Filter is a bus-applied filter.

## FAQ - Will the HGP filter work on any drive?

The HGP filter is designed to work with any standard, 6 pulse, and PWM drive on a standard NEMA design motor. Contact TCI Technical Support if the intention is to use the HGP on a drive system incorporating braking resistors or regenerative drive circuitry to ensure compatibility.

## FAQ - With the HGP applied, will the power factor drop off as the load drops off?

No, the performance doesn't fall off with the load. HGP performance is superior at 100% and 50% load.

## FAQ - Why are high endurance capacitors in the HGP filters so important?

High endurance capacitors are critical in the service life of any harmonic related device. The harmonic current that flows through any harmonic filter is extremely harsh and hard on electrical components. Early in the development life of the first harmonic filters, TCI found that a high endurance or harmonic rated capacitor was critical to ensure long service life. Standard power factor correction caps or motor starting caps are a poor way to protect the service of your filter and your drive system. While the high endurance capacitor is considerably more expensive, TCI has found this to be an important component that can be a great cost savings to the customer down the road.