A variable speed air compressor for Extreme Environments

**Designed for Robustness**

The QFD (Quincy Frequency Drive) is designed specifically for compressor applications and features a unique thru-the-wall mounted design. This design separates the drive heat from the enclosure and protects the drive electronics to an IP5X protection degree. All components in the drive are protected from dust and moisture, thanks to a robust, NEMA4 rated enclosure. The QGV Badger XE NEMA4 VSD will operate trouble-free in the harshest conditions.

**NEMA4 Enclosure**

Indoor or outdoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment; to provide a degree of protection against falling dirt, rain, sleet, snow, windblown dust, splashing water, and hose-directed water; and that will be undamaged by the external formation of ice on the enclosure.

**Vortex Cooler**

The Extreme Environment Version of the QGV Series Air Compressors features a NEMA4 (1P66) thermostatically controlled vortex cooler that is internally mounted and piped to the back of the electrical enclosure. This system incorporates a vortex tube to produce cold air from compressed air—with no moving parts. By thermostatically controlling the cooler, operation only occurs when internal temperatures approach critical levels. This type of system is ideal for dirty areas where contaminants might normally pass through small holes or conduits.

**Surge Suppressor**

Over 80% of transient surges are caused by internal sources such as load switching and normal equipment operations. The installation of the onboard Surge Suppressor will combat these surges and provide protection to valuable equipment and help keep an operation up and running.

**Cartridge End-of-Life Indication and Warning**

Each cartridge is equipped with a mechanical indicator which is green when the surge protective device is operational and protecting the system, and turns red when it has reach end of life. When this occurs, the cartridge must be replaced to guarantee protection. The operational state of the surge protective device is also monitored on the controller and will return a warning when replacement is needed.

**NANOPERM Rings**

NANOPERM rings are being used to reduce damaging motor bearing currents in the QGV variable speed compressor family. The use of NANOPERM rings not only significantly reduces the over voltage peaks at the motor terminals, but also suppresses the asymmetrical EMI currents which are generated by the parasitic currents of the motor itself together with the motor cable.

**Robust and Simple**

The QFD has an IP5X protection degree. A compact, robust aluminum enclosure protects it from dust and moisture, making it suitable to operate in the harshest conditions. Quincy makes sure high protection and optimized cooling go together. Where other brands are rated for 40°C (and de-rated up to 50°C), the QFD is designed to operate continuously at 50°C ambient conditions and up to 60°C by derating. Maximum uptime and productivity are guaranteed.

The QFD is qualified in lab conditions, but has also passed endurance tests in the field, at sites specifically selected for their harsh conditions.

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a Variable Speed Compressor for
EXTREME ENVIRONMENTS
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