

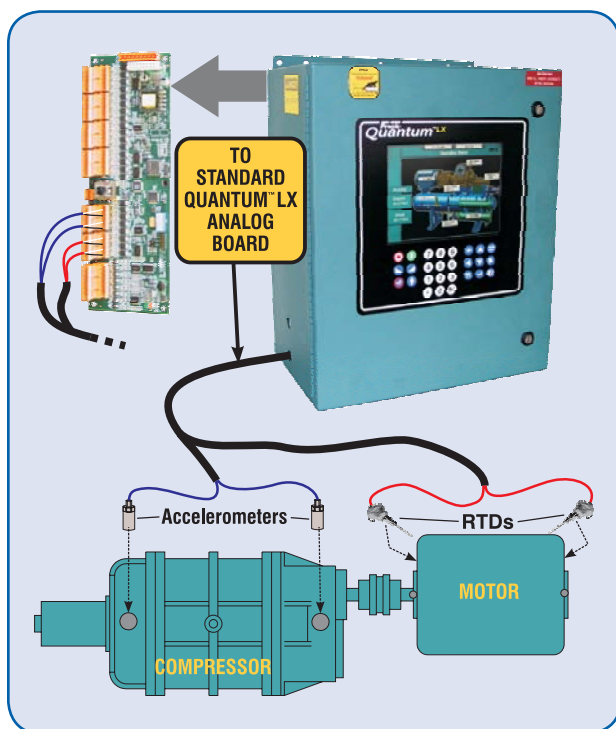
Vibration Monitoring System **Onboard!**

HIGHEST DEGREE OF ANALYSIS AND EARLY FAILURE DETECTION

Put your own full-time genius to work with the Frick® QUANTUM™ LX integrated PhD™ Vibration Monitoring System. PhD™ provides the highest degree of analysis and early failure detection for compressor and motor bearings.

Simple To Use

- Vibration expertise not required. PhD™ understands rotary screw compressor and motor bearings and will alert your technicians before a crisis occurs.



Field Retrofit

- Upgrade existing QUANTUM™ LX installations with **plug-in-place** PhD™ brain. **No special tools required!**

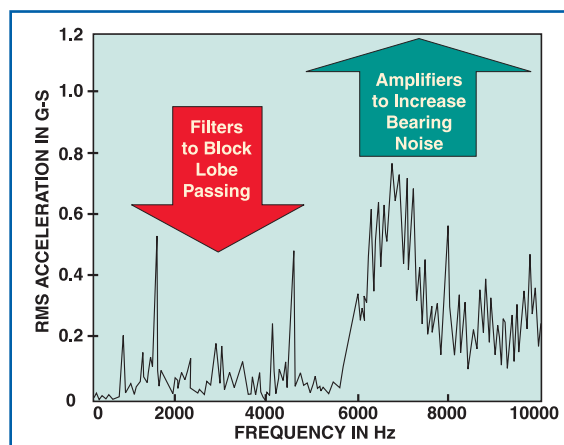
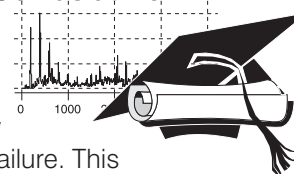
Lower costs MEAN HIGHER PROFITS

- Scheduled maintenance means less down time, greater production, and lower costs.

Early Warning System

- PhD™ uses ultrasonic technology to detect bearing failure. This means **advanced warning** for scheduled repairs, unlike velocity-based monitoring systems that may not warn until costly damage has occurred.
- Early detection avoids expensive rotor and housing replacement.

Genius at work.



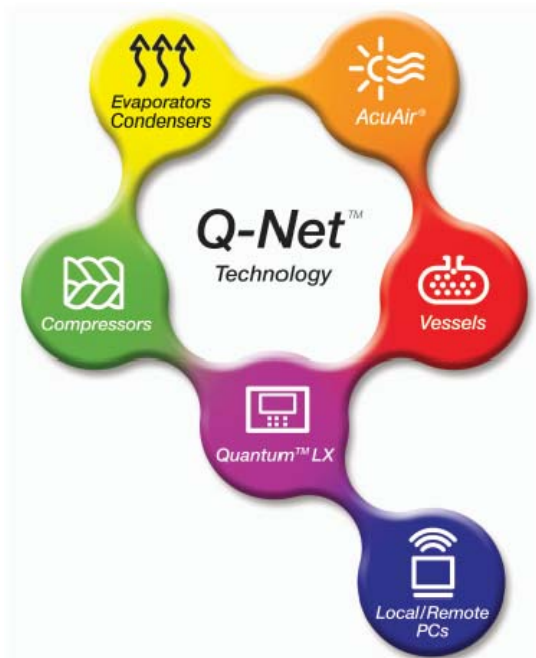
Continuous monitoring (24/7)

- Unlike periodic monitoring, **PhD™ is always on duty**. PhD™ also detects temporary liquid slugging, allowing automatic shutdown to save your compressor.
- Onboard accelerometer signals are managed by **QUANTUM™ LX** to ignore frequencies that give false alarms. They are filtered to distinguish from normal gas pumping and harmonics.
- Motor winding and bearing temperature monitoring is available as a standard **QUANTUM™ LX** selection.

Q-NET™ network technology...

Connect Your PC
with QUANTUM™!

*Take full advantage of Q-NET™
technology with all Frick® products!*



System integration is what we do...

- Q-NET™ ... supports open-protocols for SCADA systems (i.e. Allen-Bradley® DF1, Modbus RTU, Modbus ASCII, and Industrial Ethernet Protocols)
- Q-NET™ ... connects for local or remote access
- Q-NET™ ... can be applied to both new and existing systems
- Q-NET™ means precise control 24 hours a day, seven days a week
- Q-NET™ distributed architecture mean faster, easier, economical installations
- Q-NET™ delivers increased operating efficiency and lowers energy costs

Available on Frick screw compressors, condensers, evaporators, AcuAir® hygienic air handlers, and refrigerant vessels.

Take Control.™

Frick®

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