



HolizTech

www.holiztech.com

**Moving from
an ART to a SCIENCE**



Condition vs Performance

Enhancing peace of mind by dramatically reducing unscheduled outages

HolizTech helps determine condition **BEFORE** it impacts performance. So why wait until the failure is well under way? By the time other systems detect a change in performance, it's already too late. 75% of maintenance on reciprocating machinery is valve related!

Designing and delivering intuitive products and services that help solve complex problems simply and reliably

Traditional Performance data plots are good for performance, but are very dependent on many factors, including the **ANALYST's EXPERIENCE**. HolizTech is moving the industry from an **ART** to a **SCIENCE**. Our valve specific monitoring approach provides detailed information about each valve and its dynamic operating condition.

Our patent-pending approach to monitoring valves through pattern recognition and machine learning sets the HolizTech approach apart from the rest. We have made significant improvements into true condition monitoring of reciprocating machinery. This technology can easily be applied to engines as well as compressors.



D-ARM

Digital-Acoustic Remote Monitoring

Traditional Performance data plots are good for performance, but are very dependent on many factors, including the **ANALYST's EXPERIENCE**. HolizTech is moving the industry from an **ART** to a **SCIENCE**. Our valve specific monitoring approach provides detailed information about each valve and its dynamic operating condition.

Our patent-pending approach to monitoring valves through pattern recognition and machine learning sets the HolizTech approach apart from the rest. We have made significant improvements into true condition monitoring of reciprocating machinery. This technology can easily be applied to engines as well as compressors.



NOTE: HolizTech has also added the traditional performance monitoring parameter enabling the system to provide the typical pressure volume and pressure time plots.



Engines and Compressors

- o Early detection of leaking valves with pinpoint accuracy
- o Incorrect spring tension
- o Crosshead and head-end vibration (traditional)
- o Broken Springs
- o Leaking rings...
- o AND MORE
- o Valve train (cam, guides, lifters, linkage...)
- o Worn, scored liner and piston
- o Port/bridge wear
- o Carbon in ports
- o Wrist pin



What We Do Differently

Making asset health information systems accessible to everyone

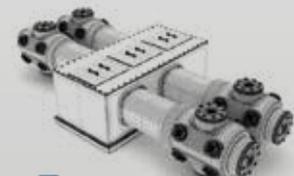
For the past 30 years, traditional reciprocating portable analysers required an experienced analysts to collect the data. This required expertise in how and where to capture the data.

In addition, the portable data collectors would only have max of 4 channels. This restricted the amount of data that could be collected simultaneously. For example, it was normal practice to collect the data from valves and pressure via a route based process. This unfortunately does not show accurate data from operation of an engine or compressor as the time stamps of data collected are delayed.

With HolizTech's new portable system, we have up to 60 channels on a portable DAQ. This allows sensors to be installed on each valve (up to 16 valves & 2 Pressure sensors per cylinder or 16 power cylinders on an engine) all valves per cylinder or collected at the same moment along with the pressure data. The sensors can then be moved to each cylinder or engine. Thus making the data collection more reliable. The portable unit can also be left on the machine for longer also. This allows us to collect and stream data rather than taking a "snapshot" or "picture" of a valve event at the wrong time!

In addition, The heart of the HolizTech system is a precise diagnostic engineering software that analyzes actual engine/compressor mechanical conditions. Going beyond currently available portable analyzers and costly legacy products, HolizTech's high frequency module incorporates real time valve diagnostics and modified algorithms which give an accurate and detailed mechanical analysis of the reciprocating compressors, pumps and engines.

The HolizTech product is the result of combining automated enhanced data collection, analysis and adaptive analytic software made available via the IIoT (cloud). In addition, the HolizTech software has been designed to integrate easily into existing enterprise based Supervisory Control and Data Technologies ("SCADA") and other system applications in the machine-2-machine sector.



HolizTech can be used to provide condition monitoring and predictive maintenance monitoring to the following devices

1. **Industrial Engines** – used as prime power.
2. **Reciprocating Compressors** – larger reciprocating compressors well over 1,000 hp (750 kW) are commonly found in large industrial and petroleum applications. Discharge pressures can range from low pressure to very high pressure (>18000 psi or 180 MPa).
3. **Hyper compressors** – chemical plants.
4. **Mud Pumps** – reciprocating piston/plunger device designed to circulate drilling fluid under high pressure (up to 7,500 psi/52,000 kPa) down the drill string and back up the annulus.
5. **Positive displacement pumps** – reciprocating pumps move the fluid using one or more oscillating pistons, plungers, or membranes (diaphragms), while valves restrict fluid motion to the desired direction.
6. Additional applications are currently in research and development...

The HolizTech system delivers information in the form of big data delivered to the end-user. It is a system comprised of cost-effective components and an application specific transducer focused on a “sweet spot” for monitoring valve dynamics. The data collector and sensor, while necessary components of the deliverable, are secondary to the software. This is the key differentiator between HolizTech and legacy products on the market today. Specifically, the software contains the analytics which interpret the signal and convert the signal into precise information. This software is the culmination and convergence of specific algorithms, analytics and other information which are unique to the process.

HolizTech

Trusted partner in delivering innovative, reliable asset health solutions to enhance business performance



HolizTech

USA:
+1 281 899 0511

South America:
+57 304 333 2565

UK:
+44 203 287 5300