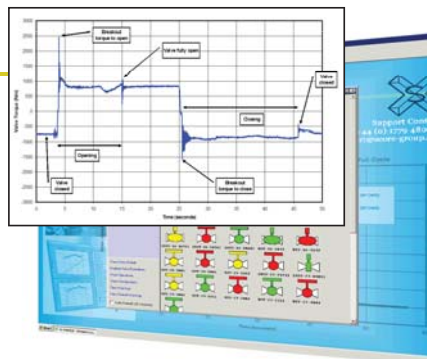


For the most critical process valves, such as Emergency Shutdown Valves (ESDVs), where other failure modes and effects are important to monitor and trend, Score have developed a fully integrated, permanently installed system known as V-MAP®.

Telemetry systems, comprising sensors, transducers and management / reporting software continuously monitor key indicators of valve and operator performance over time and report these in both statistical and graphical formats for further analysis.

Valve failures are very often the result of ageing. Indicators of ageing that can be detected and trended over time using the V-MAP® system include, but are not limited to :-



Main benefits of V-MAP® :-

- Increasing times to operate.
- Increasing valve operating force or torque.
- Increasing actuator pressure or current.
- Increasing through seat leakage.
- Need for maintenance or break down repair.
- Failure to meet acceptance criteria.
- Experience of problems of ageing with similar critical valves of similar materials and/or design on similar duties.
- V-MAP® is a passive, non-intrusive monitoring system that responds to every valve operation, planned or unplanned.
- It removes the need for operations personnel intervention, unless alerted.
- It provides reports and audit records including the trending and comparison with performance benchmarks and safety criteria.
- V-MAP® reporting and analysis provides identification of maintenance requirements and reliability data for confirmation of Safety Integrity Levels (SILs).
- Remote access is available for valve expert analysis and support.

Common approaches to Valve Management:-

- Maintain Just in Case
- Run to Failure
- Failure Response
- Replace like for like

**Expensive
High Risk
Inefficient**

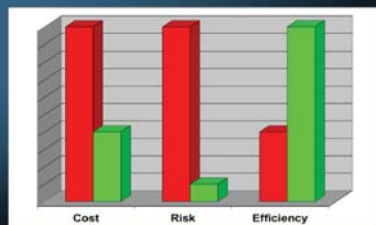
V's

Score Intelligent Valve Management:-

- Criticality Identification
- Condition Monitoring
- Trending over time
- Engineered Solutions

**Lower Cost
Low / No Risk
Max Efficiency**

**Positive changes
you can make by
implementing MIDAS®
Valve Diagnostics...**



Contact us today for further information, or to arrange a product demonstration, at :-

Score Group plc
Glenugie Engineering Works
Peterhead, Aberdeenshire, Scotland
AB42 0YX
UK



🌐 : www.midasvalvediagnostics.com

✉ : midas.enquiries@score-group.com

Tel: +44 (0) 1779 480 000
Fax: +44 (0) 1779 481 100

🐦 @MIDASDiagnostic

🌐 linkedin.com/company/score-group---valve-diagnostics

MIDAS® Valve Diagnostics

Valve Condition and Performance
Monitoring Made Easy



Improve your valve population performance by implementing

MIDAS® Valve Diagnostics

Valve Condition Monitoring is known to reduce risks, and maximise efficiency and reliability in all processes where it is deployed. It is increasingly being seen as the only safe way of managing valve populations.

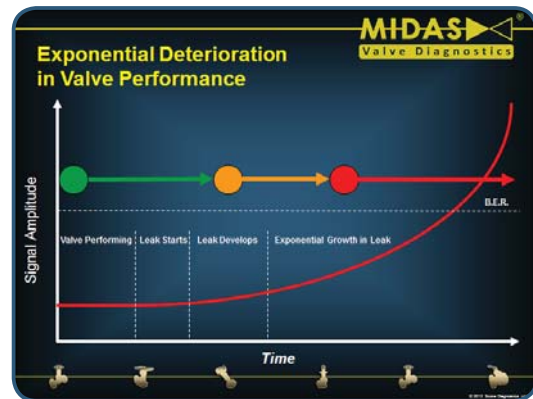
To ensure the on-going safety integrity, environmental protection and efficiency of your process is correctly maintained at all times, it is of critical importance that you know the condition of your process valves.

Put more simply, you need to know if your valves are leaking or not and if they are leaking, how bad is the leak? Additionally, on more critical valves you need to know if there is another "failure mode" developing in your valves or operators that will expose you to risks to people, process or plant (for example, in the event a valve fails to complete its design function such as closing or opening on demand).

Score's 30+ years of experience of valve supply and Intelligent Valve Management™ tells us that all plant operators are facing the same recurring problems.

As a general rule, 90% of the problems experienced by process operators result from just 10% of the installed population of valves which are not performing to the required standard. The problem for operators is that it's not always obvious which are the "culprit valves".

It is also known that all valves follow the same exponential deterioration in performance over time.



Given that we know this, it is possible to use Acoustic Emissions (AE) technology, for example, for quick and easy leak detection.

So, the good news is that risk can easily be managed through the intelligent monitoring of valves, based on their criticality, over their entire life cycle (and any subsequent life cycles following maintenance interventions). All we need is the correct and reliable monitoring equipment, systems and techniques.

MIDAS® Valve Diagnostic products use proven acoustic emissions (AE) technology to identify through valve losses / leaks and then use proprietary algorithms to calculate and quantify any leaks found. Valve leakage represents major risks to plant operations.

These risks include:

- **Safety**
Loss of containment of process fluids presents a major risk to personnel working on the plant.
- **Environmental**
Leaking valves / loss of fluid containment represents a potentially major risk to the environment.
- **Efficiency**
Lost production due to leakage and / or downtime due to poorly performing valves affects both plant efficiency and availability, which can result in both product and / or profit losses.

Score Diagnostics Limited has developed a number of valve condition and performance monitoring products and services to address their existing customers' and the wider market's needs.

These products are now in wide-spread use throughout the Oil & Gas regions worldwide. The products offered are all intrinsically safe certified for use in explosive atmospheres.

The "entry level" product for through-valve loss / leak detection and quantification is the hand-held MIDAS Meter®.



The MIDAS Meter® uses an acoustic emissions (AE) sensor to detect the high frequency sound signals emitted by leaks across valve seat to seal interfaces. It is a non-invasive inspection technique which requires the operator to place the sensor directly onto the outside surface of the valve body. Once in position, it is possible to see within a few seconds if there is any leakage across the valve seat(s).

Furthermore, by completing a quick valve survey, where readings are sent from the handset, wirelessly by Bluetooth, to the Personal Digital Assistant (PDA) it is also possible to estimate the leak rate. This then allows the valve maintenance team to focus their efforts on addressing the worst performing valves first and to develop a preventative approach to valve maintenance.

Easy to understand output reports show valve condition and performance corresponding to its "allowable leak rate" in the form of a traffic light system.

MIDAS		Installation Summary											
		Installation 1 (Score Group plc) from 01/07/2011 to 15/07/2011											
Leak Date	Valve Type	Plant	Plant Details	Pressure	Temperature	Flow Rate	Flow Direction	Flow Rate	Flow Direction	Flow Rate	Flow Direction	Flow Rate	Flow Direction
01/07/2011	Ball	Sea	0.100000	0.100000	0.100000	0.100000	0.100000	0.100000	0.100000	0.100000	0.100000	0.100000	0.100000
01/07/2011	Ball	Sea	0.100000	0.100000	0.100000	0.100000	0.100000	0.100000	0.100000	0.100000	0.100000	0.100000	0.100000
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