



**Score Group plc**

Intelligent Valve and Gas Turbine Solutions™

www.score-group.com



## Introduction

**The V-Scan™ Diagnostic Analyser, developed by Score Group plc, is a system that allows for complete independent testing of any air operated control valve irrespective of the manufacturer**

The V-Scan™ Diagnostic Analyser generates industry specific tests, written by Score's Diagnostic Engineers, providing an optimum method to collect data on critical trip and control valves. This enables clients to have confidence in the safety system as well as providing optimal maintenance requirements to ensure valve availability. Score's V-Scan™ system can also be used in conjunction with the V-Map® system providing enhanced performance and reliability of valves.

V-Scan™ is rapidly becoming the preferred ongoing data analysis tool for Score's many clients in the (LNG) Oil and Gas and Mining industries. It is a vital tool for fault finding within critical control valves and shutdown planning.





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## Advantages

Whilst more than 60 percent of installed control valves have performance problems, many can be resolved without the need for removal from the production line. V-Scan™ provides a non-intrusive diagnostic tool that can be used as part of a condition based monitoring programme. This can assist in developing a detailed scope for pending shutdowns and will provide clients with an efficient and cost effective way of determining what repairs are actually required.

The V-Scan™ system was developed to operate independently of all manufacturers in order to provide unbiased and efficient results. It is a system that generates reliable and easy to interpret results, in the form of concise reports, whether it is being used in-house or on site. It is also flexible enough to allow for non generic tests as required for industry critical applications.

## The Development and Research

The development of the V-Scan™ system was carried out by Score Group's highly experienced instrumentation team and was based on extensive laboratory tests using valves, actuators and instrumentation from many different manufacturers. The team took account of the key demands specified by field technicians. These demands included requiring the system to be both lightweight and also robust with a long battery life. In addition, it was vital that the transducers used in the system had to be accurate and less susceptible to vibration compared to other data analysis units.

Not only were all of these requirements met with the development of Score's V-Scan™ but as part of ongoing research and development, the system is constantly being assessed to maintain an easy-to-use setup application and fast, reliable delivery of results.

## The System

V-Scan™ is a system that is easy to use with reliable results. The design is based on utilising a series of calibrated sensors as well as pressure and displacement transducers which send signals to a portable laptop computer via an I/O box. Within the laptop, data acquisition (DAQ) software interprets the results and generates an engineering report. The final report provides a record of the valve specification for the applicable valve, the measured test parameters and engineering comments. The recommendations are included following an engineering review of the results. As Score is completely independent of any manufacturer, the results and recommendations are completely unbiased.

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## System Specifics

- An I/O box is used to transfer the information from sensors to the DAQ unit with a computer for analysis and data logging.
- The V-Scan™ laptop is spill resistant and has anti-shock protection.
- The whole system is designed to operate with extended battery life.
- The system includes calibrated sensors which are assembled and tested in-house, including laser sensor technology.

## The Benefits of Using Score Group plc

- World leader in Independent Control Valve engineering.
- Extensive experience in Shutdown planning using V-Scan™.
- More than 28 years experience in valve and actuator technology, design, repair and problem solving.
- V-Scan™ used by major Oil and Gas companies for diagnostic analysis of critical control valves.
- Specialist engineers available worldwide with the backing of an employee base of over 1400.
- Independent, privately owned company.
- Able to provide complete Diagnostic Strategies written specifically for each client.

## The Benefits of Using V-Scan™

- Test results (Pass/Fail) are written for specific Valve application rather than generic manufacturer's specifications.
- System fully developed and supported in-house.
- System is located in all major Score facilities worldwide.
- Independent analysis of any manufacturer's air operated control valves with the flexibility to enable the testing of any actuator with a single-acting or double-acting, linear or rotary valve, irrespective of manufacturer.
- Fast, accurate results and an easy to use set up system.

