

LOTIS[®] QC-40[™]

Stator Inspection System



Rapid Stator Inspection

Whether air or mud driven, PCP stators experience warping and wear. Compromised design clearance can be hard to determine. Undetected, you risk drill tipping, torque loss, kick-outs or motor stalls – which means lost time and money. Lower the risk with cost-effective inspection and measurement of even the most complex stator profiles.



LOTIS® QC-40™ Stator Inspection System

Qi2's LOTIS® QC-40™ is a revolutionary inspection tool that uses laser-based surface profiling and measurement to provide highly accurate cross-sectional dimensional profiles and measurement of hard to reach tubular interiors – regardless of its geometries or material surface. Uniquely suited to stator inspection, it is designed to measure regular and irregular dimensional radii up to a length of 10 feet; making possible inspection of stator sections of up to 20 feet length.

Features and benefits of use.

- Reduce inspection costs and improve quality of actionable information
- Quickly measure and determine profile as well as deviation from manufacture specs of either elastomeric-core or all metal stators
- In less than 5 seconds, compare measurements to design profiles to determine QC, compliance or usability
- Measure any wall deformities to accuracy of ± 0.002 inches.
- Gives QA/QC managers improved quality control of critical drill motor components
- Easy to learn and easier to use.

How it works.

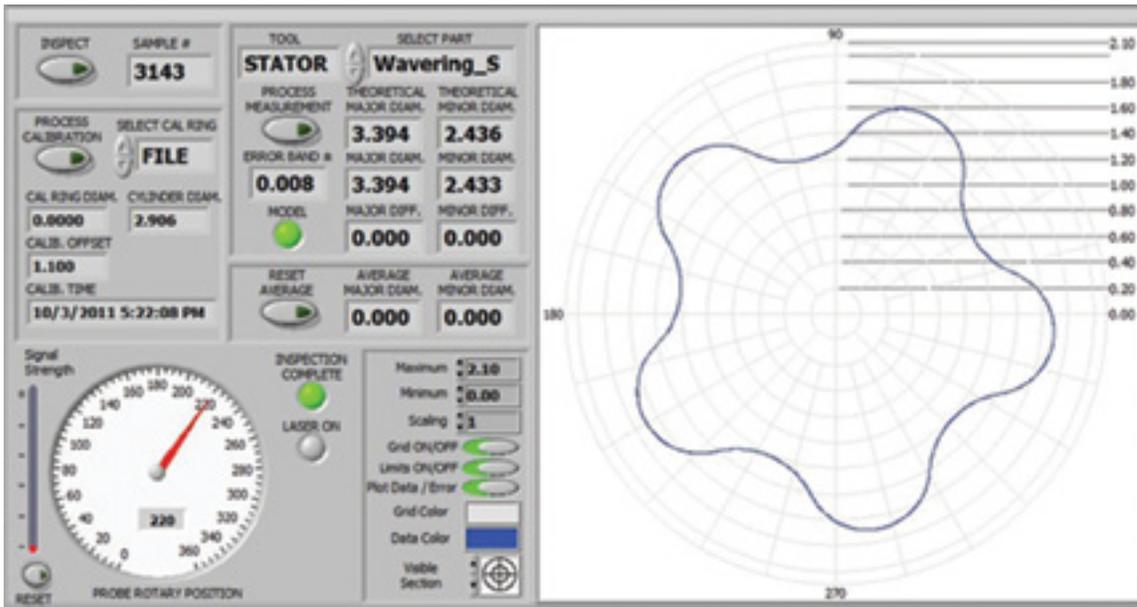
Measurements are taken by inserting the laser probe into the tube and locking its position with expanding centering shoes. The operator then simply rotates the probe and data is collected by the laser heads which is instantly processed through the system software.

The LOTIS QC-40 is the first practical method to effectively profile and measure the complex geometry of Moineau-type pump stators, along with pipes and tubing, or any long smooth or rifled cylinders - quickly and with assured accuracy.

Improved inspection reduces costs.

Whether conventional or equal wall stators, any geometry change that affects stator clearances directly impacts power section performance. The QC-40 empowers inspections where the need exists, whether it as at the machine shop or on the deck of the drilling rig.

For ease of use in the field, the system is user-friendly to any operator trained in the scanning technique without need of metrology expertise. To support manufacturing, inspection and engineering applications, collected data can be output for use by any CAD systems.



Full-function display.

In seconds, the QC-40 program displays measurements in their numeric values and provides a map of the physical geometry, with access to information on any one of the 3,600 measurements taken from the center axis of the probe.

QC-40 Specifications

Function:	Internal profiles
Designed use:	Progressive cavity stators, tubes and pipes, gun barrel bore (rifled and smooth)
Tube length:	Measure up to 10 foot depth from entry point
Bore sizes:	2.20 inch up to 8.6 inch
Measurements:	Major diameter, minor diameter, flank profile
Accuracy (measured):	±0.002" (Major dia./Minor dia.) for elastomer / rubber-lined stators
Resolution:	0.0005"
Scanning data points:	Up to 3,600 radius measurements per 360° scan
Radial measurement:	Range 1.0 inch (25mm)
Scanning time:	Measured range ~ 5 to < 10 seconds
Data Management:	Automated processing through proprietary system software



You can order now!

Want to learn more about our revolutionary automated measurement technologies? Want article inspection at new levels of ease, accuracy and repeatability? Contact a Qi2 representative today at **253-872-9500** or visit us at www.Qi2.com.

System Specifications

Scan head type:	Laser probe
Export formats:	CSV, DXF
System components:	Laser probe on insertion rod with expanding shoes, calibration tube, laptop
Power requirements:	AC 120V to Laptop / or battery powered by laptop through USB
Data transmission:	Up to 15' cable attached by USB connector
System weight:	Scanning Probe 6.5 lbs. Laptop 6.2 lbs. (with extended life battery)
Probe dimensions with centralizer:	Radius - 2 inches x Length 32 inches

Qi2 experience makes a difference

A recognized technology leader in measurement and sensors since 1985, government and industry have looked to Qi2 to solve the unsolved and deliver new technologies that change what is possible.

Qi2's non-contact measurement systems are delivering improved operating safety, extending useful equipment life, improving parts reliability and delivering improved process control within an array of industries.

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QUALITY IN ENGINEERING SCIENCE & TECHNOLOGY

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