



Mentor Visual iQ™ VideoProbe™

Put the power
of productivity in
your hands



For industries that depend on critical visual inspections, the experts have a better choice

**The portable, connected VideoProbe from
GE with 3D Measurement**

Spec Sheet

Powerful, portable, fast, connected.

The Mentor Visual IQ advanced VideoProbe is packed with features to help you make better decisions about critical assets and improve inspection productivity.

- Easy to operate using either optically bonded multipoint touchscreen and on-screen keyboard, or ergonomic joystick and hard keys
- Color SUPER HAD™ CCD video camera with 5x digital zoom and a new ground-up image processing system
- View crisp images and increase probability of detection on a 6.5" (16.5 cm) active matrix XGA color LCD, daylight readable display
- Capture crystal clear live video and still images with Adaptive Noise Reduction (ANR) and High Dynamic Range (HDR) still image capture
- Advanced analysis using 3D Phase Measurement (6.1 mm probe), 3D Stereo Measurement and Stereo Measurement (software upgrades may apply)
- Portable, lightweight, ergonomic design (6.75 pounds (3.0 KG) out of case)
- Rugged durability – designed to IP65, MIL STD 461F and MIL STD 810G standards
- Dual-Band Wi-Fi and Bluetooth 4.0 enabled
- Menu Directed Inspection (MDI) software in 14 languages digitally guides inspectors through the inspection process, intelligently names files and creates MS Word® and PDF compatible inspection reports

- Master advanced features faster and eliminate cumbersome paper manuals with on-device user manuals and context based help links
- 16 GB (Inspect model) and 32 GB (Touch and Analyze model) internal SSD for user data storage
- Two USB 3.0 host 'A' ports, one USB 3.0 client micro 'B' port
- Powered by high-capacity interchangeable, rechargeable lithium ion batteries which are compliant with air travel regulations. With the charging circuit built into the batteries, no charging cradle is required
- Interchangeable high resolution 4.0 mm, 6.1 mm and 8.4 mm diameter probes available in multiple lengths to suit a variety of industries and applications
- Full tip optic interchangeability with secure double threads
- Specialty and custom probes also available, including 6.2 mm working channel and longsteer options
- High intensity LED light source and advanced processing for improved image brightness
- Insertion tube markings for easy setup and reference
- Choose from a variety of customizable "Magic-arm" handset mounts in several sizes
- Your choice of ultraportable rolling carry-on case or roomier work station model configured to hold multiple probes and accessories



Choose the Right Tool for Your Inspection Job

Mentor Visual iQ VideoProbe is available in three customized platform configurations to meet inspection needs across industries and applications.



Mentor Visual iQ Inspect
Best in class image quality and connectivity at a value price



Mentor Visual iQ Touch
Improve productivity with quick change probes and touch screen



Mentor Visual iQ Analyze
Our most capable VideoProbe with 3D Phase Measurement, extreme image quality and greater Probability of Detection

System	Inspect	Touch	Analyze
Capability			
Hard button/joystick interface	Y	Y	Y
IP65 / MIL-810 field durability and ruggedness	Y	Y	Y
QuickChange battery pack	Y	Y	Y
Connectivity <ul style="list-style-type: none"> • Wi-Fi/Bluetooth • Network drive mapping • InspectionWorks live-streaming ready 	Y	Y	Y
Comparison Measurement	Y	Y	Y
PC Re-measurement with Inspection Manager 2.0	Y	Y	Y
Can be upgraded to Touch or Analyze configurations	Y	Y	Included
16 GB internal memory	Y	N	N
32 GB internal memory	N	Y	Y
QuickChange probes	N	Y	Y
6.2mm working channel probe available	N	Y	Y
Choose from multiple probe lengths and diameter configurations	N	Y	Y
Compatible with Custom Probes, i.e., LongSteer, UV, etc.	N	Y	Y
Menu Directed Inspection image management and reporting	N	Y	Y
Touchscreen interface	N	Y	Y
3D Phase Measurement	Upgrade	Upgrade	Y
3D Stereo Measurement	Upgrade	Upgrade	Y
Stereo Measurement	Upgrade	Upgrade	Y
Probability of Detection Suite <ul style="list-style-type: none"> • HDR Image Quality - View & Save • Adaptive Noise Reduction • Distortion Correction with Wide FOV tips • Image Transform Presets 	Upgrade	Upgrade	Y

Improve accuracy with 3D measurement

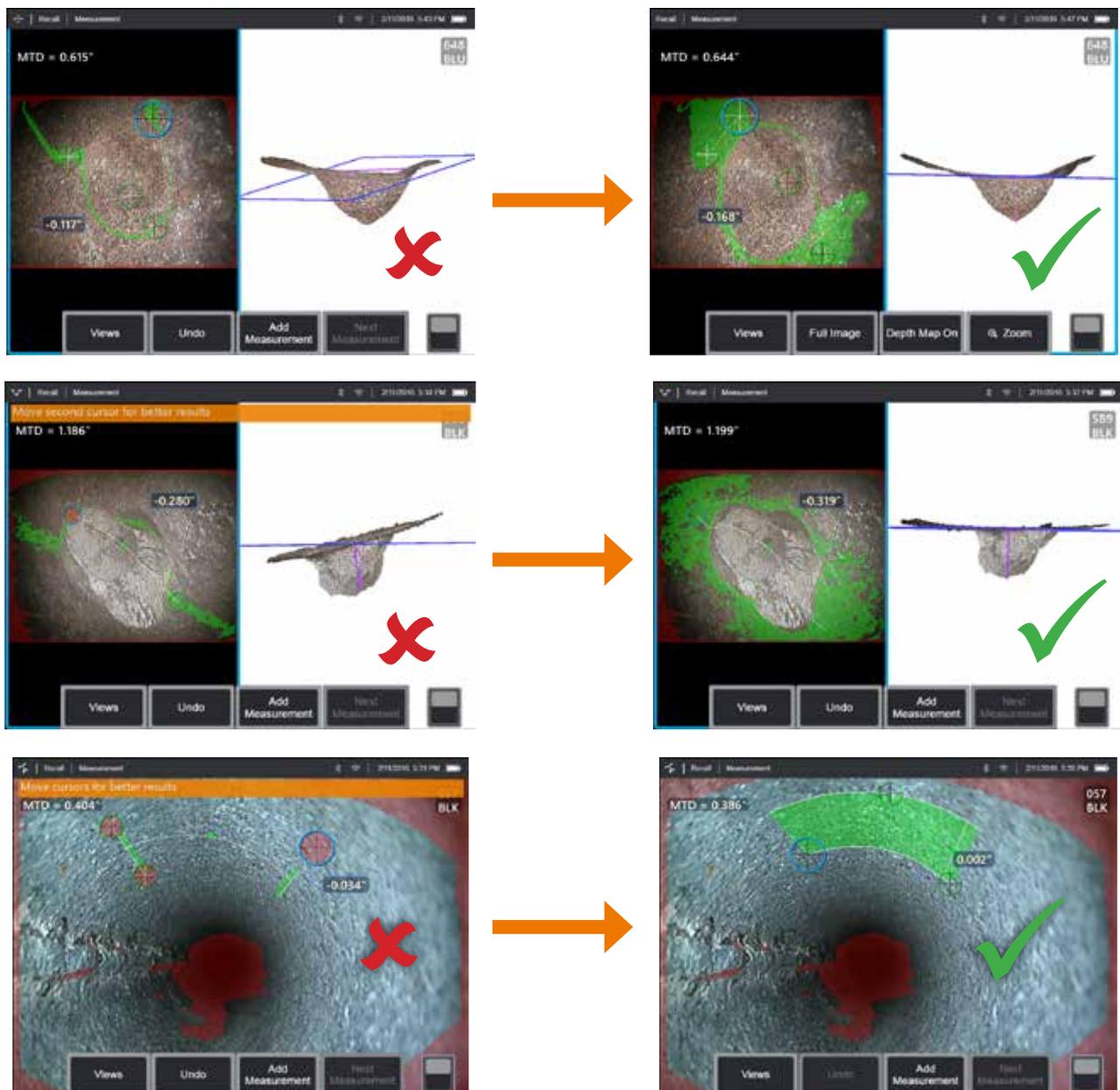
Advances in image based 3D measurement are making the video borescope an increasingly powerful tool in the inspector's toolbox. While in the past, inspectors could identify indications and capture images; today's advanced video borescopes allow you to map, measure, and analyze indications in 3D and improve probability of detection (POD) by checking your work in real time.

Mentor Visual iQ brings the processing power to operate 3D Phase Measurement and 3D Stereo Measurement with 3D point

cloud analysis. (3D measurement comes standard in the MViQ analyze package and can be added to other configurations as an optional upgrade.)

3D measurement allows inspectors to check measurement set-up in real time, reducing the likelihood of inaccurate measurements that can result in unnecessary downtime, scrap, and maintenance costs as well as safety or reliability risks.

Download GE's 3D Measurement Handbook for best practices and technical details on the use of 3D measurement for your inspection applications.



The 3D point cloud helps inspectors check measurement setups and correct mistakes.

Specialty and Custom Probes

At GE we recognize that every inspection application has its unique challenges. That's why we provide a variety of specialty and custom probes and accessories to meet your application needs.

Longsteer Probe

GE's LongSteer probes provide great image quality, light output and articulation in lengths up to 30 meters. Particularly useful for visual inspection of piping, heat exchangers and boiler tubes.



Borescope Adapter (BSA)

Some applications just call for a rigid borescopes or flexible fiberscope. This borescope adapter for Mentor Visual iQ combines optical clarity, durability and high-temperature operation of a rigid borescope with the image capture and data management capability of the Mentor Visual iQ. The borescope adapter connects to the handset of the Mentor Visual iQ system as an interchangeable probe, adding versatility to your visual inspection toolkit.



6.2 mm Working Channel Probe

Loose parts and foreign objects stuck inside piping or other confined spaces can cause serious damage and unnecessary downtime to manufacturing processes, aircraft fleets and power generation systems. Working channel probes are also widely used in security and military applications. Increase

productivity and get out of tight spots with the 6.2 mm diameter working channel probe. This Mentor Visual iQ attachable probe features an internal working channel and a full suite of working tools, making it the most complete foreign object debris (FOD) retrieval system in the industry.



Custom Probes and Applications

Don't see what you need in our product catalog? Ask your sales representative for more information about specialty and custom probe configuration options and advanced inspection services for challenging applications.

Connectivity and Remote Collaboration with InspectionWorks

GE's InspectionWorks Connect platform provides real-time remote access to inspections from anywhere, to anywhere in the world. Experts can view a live inspection happening across the globe, enabling smarter decisions, faster. Expertise delivered where it's needed, when it's needed to keep assets running and improve efficiency.

Improve productivity with live video and two-way chat and annotation features, remote experts can see what the inspector sees and instantly communicate, troubleshooting issues on the spot, without the inspector ever leaving the inspection site.

Increase asset uptime by allowing inspectors and experts to make fast decisions on critical assets in real-time.

Reduce operating costs. Used as a virtual training tool, InspectionWorks Connect helps you decrease your operating costs by accelerating on-the-job learning. With instant access to remote trainers and experts, InspectionWorks Connect allows you to extend the reach of your inspection experts around the world, slash travel costs and reduce resource constraints.



- Live video streaming of inspections
- Collaboration tools, including 2-way chat communication and telestration
- Cloud-based infrastructure
- Secured/encrypted solution
- Embedded (installed software) solution on your NDT device
- No additional equipment required
- Zero-install client – use a web browser to log in remotely
- Wireless connectivity

InspectionWorks Connect operates on all models of Mentor Visual IQ with an additional licensing fee. See how remote collaboration can improve your inspections today.

For more information and to activate your free 30-day trial, visit www.inspectionworks.com



Appendices

Technical Specifications - Handset

Operating Temperature

Tip	-25°C to 100°C (-13°F to 212°F). Reduced articulation below 0°C (32°F)
System	-20° to 46°C (-4°F to 115°F). LCD may require warm-up period below 0°C (32°F)
Storage Temperature	-25° to 60°C (-13°F to 140°F)
Relative Humidity	95% max, non-condensing
Waterproof	Insertion tube and tip to 14.7 psi (1 bar, 10.2 m of H ₂ O, 33.5 ft of H ₂ O)

Camera

Diameter Probe	4.0 mm (0.16"), 6.1 mm (0.24"), 8.4 mm (0.33")
Image Sensor	1/6" Color Super HAD™ CCD camera (6.1) 1/10" (4.0 mm)
Pixel Count	440,000 pixels
Housing	Titanium

System

System Dimensions	17.1 x 19.7 x 38.1 cm (6.75 x 7.75 x 15")
Case Dimensions (Standard)	Small standard case 35.0 x 54.5 x 23.0 cm (13.78 x 21.46 x 9.05") Large case 57.2 x 56.3 x 41.2 cm (22.52 x 22.16 x 16.22")
System Weight	In small case with contents: 10.2 kg (22.4 lbs). In large case with contents: 19.6 kg (43.2 lbs) Out of Case: 6120 system - 3.0 kg (6.7 lbs). 61100 system - 4.0 kg (8.7 lbs)
Construction	Magnesium and Polycarbonate housing with integrated elastomeric bumpers
LCD Monitor	Integrated (6.5") active matrix XGA color LCD, daylight readable display, with optically bonded, multipoint capacitive Dragontrail™ touchscreen (Touchscreen available only on Analyze and Touch models)
Joystick Control	360° All-Way® tip articulation, menu access, and navigation
Button Set	Access user functions, measurement, and digital functions
Audio	Integrated 3.5 mm headset / microphone jack or bluetooth headset
Internal Memory	16 GB (Inspect model) and 32 GB (Touch and Analyze model) internal SSD for user data storage
Data I/O Ports	Two USB 3.0 host 'A' ports, one USB 3.0 client micro 'B' port
Video Out	DisplayPort
Brightness Control	Auto and Variable
Illumination Type	White LED
Long Exposure	Auto – up to 16 seconds
White Balance	Factory default or user defined

Power

Lithium Ion Battery	10.8 V (nominal), 73 Wh, 6.8 Ah
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Power Supply

AC	100-240 VAC, 50-60 Hz, <1.5 A RMS
DC	18 V, 3.34 A

Standards Compliance and Classifications

MIL-STD-810G	United States Department of Defense Environment Tests Sections 501.5, 502.5, 507.5, 510.5, 511.5, 514.5, 516.5, 521.5
MIL-STD-461F	U.S. Department of Defense – Electromagnetic Interference RS103 – ABOVE DECK
Standards Compliance	Group 1, Class A: EN61326-1, UL, IEC, EN CSA-C22.2:61010-1, UN/DOT T1-T8
IP Rating	IP65 (assembled), IP55 (disassembled)

Software

Operating System	Embedded multi-tasking operating system
User Interface	Menu-driven and soft button operation; menu navigation using either touchscreen or joystick (Touchscreen only available on Analyze and Touch models)
File Manager	Embedded file manager supports the following operation on files and folders: copy, cut, create, rename, delete, filter and sort. USB and internal flash storage.
Audio Data	PC Compatible ACC (.M4A file) format
Image Control	Invert, Inverse+, Adaptive Noise Reduction, Distortion Correction, Illumination, Brightness, Long Exposure, Single View, Zoom (5x digital), Image Capture and Recall
Digital Zoom	Continuous (5x)
Image Formats	Bitmap (.BMP), JPEG (.JPG)
Video Format	MPEG4 AVC/H.264 (.MP4 file)
Text Annotation	Built-in full-screen text overlay generator
Graphic Annotation	User placement of arrows
Articulation Control	User-selectable steer and steer & stay articulation; tip "Home" return to neutral forward-tip orientation
Software Updates	Field upgradeable via USB ThumbDrive®
Languages	English, Spanish, French, German, Italian, Russian, Japanese, Korean, Portuguese, Chinese, Polish, Hungarian, Finnish and Swedish
Application Software	Menu Directed Inspection (MDI) software digitally guides inspectors through the inspection process, intelligently names files and creates Microsoft® Word and PDF compatible inspection reports (MDI included on Analyze and Touch models, available as upgrade to Inspect model)

Appendices

Technical Specifications - Probes and Tips

Probe Measurements

Diameter	Length
4.0 mm (0.15")	2.0, 3.0 m (6.6, 9.8 ft.)
6.1 mm (0.24")	2.0, 3.0, 4.5, 6.0, 10.0 m (6.6, 9.8, 14.8, 19.7, 32.8 ft.)
6.2 mm (.24")	3.2 m (10.5 ft)
8.4 mm (0.33")	2.0, 3.0, 4.5, 6.0, 10.0 m (6.6, 9.8, 14.8, 19.7, 32.8ft)

Longer lengths up to 30 m are available. Contact your sales representative for details.

Tip Articulation

Insertion Tube Length	Articulation
2 m – 4.5 m	Up/Down 160° min, Left/Right 160° min
6 m – 10 m	Up/Down 140° min, Left/Right 140° min

Note: Typical articulation exceeds minimum specifications.

Mentor Visual IQ 4.0 mm tips

Part No.	Color	FOV (deg)	DOF mm	(in)
Forward View				
T4080FF*	None	80	35-inf	(1.38-inf)
T40115FN	Black	115	4-inf	(.16-inf)
Side View				
T40115SN	Red	115	1-30	(.04-1.18)
T40120SF	Blue	120	6-inf	(.24-inf)

Stereo Measurement

TM405555FG	Black	55/55-FWD	5-inf	(.20-inf)
TM405555SG	Blue	55/55-SIDE	4-inf	(.16-inf)

*Indicates tip with maximum brightness

Mentor Visual IQ 6.1 mm tips

Part No.	Color	FOV (deg)	DOF mm	(in)
Forward View				
T6150FF	None	50	50-inf	(2.36-inf)
XLG3T6150FG	White	50	12-200	(.47-7.87)
XLG3T61120FG	Black	120	5-120	(.20-4.72)
XLG3T6180FN	Orange	80	3-20	(.12-.79)
XLG3T6190FF	Yellow	90	20-inf	(.79-inf)
XLG3T6150FB	Purple	50 (45 DOV)	12-80	(.47-3.15)
T6165FF*	Orange and Blue	65	65-inf	(2.56-inf)

Side View

XLG3T6150SF	Brown	50	45-inf	(1.77-inf)
XLG3T6150SG	Green	50	9-160	(.35-6.30)
XLG3T61120SG	Blue	120	4-100	(.16-3.94)
XLG3T6180SN	Red	80	1-20	(.04-.79)

3D Phase Measurement

XL4TM61105FG (forward version)	Black	105	8-250	(.31-9.84)
XL4TM61105SG (side version)	Blue	105	7-250	(.27-9.84)
XL4TM61105FN-8651	Orange	105	3-120	(.12-4.72)

Stereo Measurement

XLG3TM616060FG	Black	60/60-FWD	4-80	(.16-3.15)
XLG3TM615050SG	Blue	50/50-SIDE	2-50	(0.8-1.97)

*Indicates tip with maximum brightness

Mentor Visual IQ 6.2 mm tips

Tip View	Color	FOV (deg)	DOF
Standard Tip Optics			
PXT6240FF (Forward)	None	40	100-inf
PXT62120FF (Forward)	Yellow	120	25-inf
PXT62120FN (Forward)	Black	120	4-190-inf
PXT621205N (Side)	Blue	120	5-inf

StereoProbe® Measurement Tip

PXTM6260FG (Forward)	Black	60/60	4-80	(0.16-3.15)
PXTM6260SG (Side)	Blue	60/60	4-80	(0.16-3.15)

Mentor Visual IQ 8.4 mm tips

Part No.	Color	FOV (deg)	DOF mm	(in)
Forward View				
XLG3T84120FN	Black	120	5-200	(.20-7.87)
XLG3T8440FF*	None	40	250-inf	(9.84-inf)
XLG3T8440FG	White	40	80-500	(3.15-19.68)
XLG3T8480FG	Yellow	80	25-500	(.98-19.68)
Side View				
XLG3T8440FF*	Brown	40	250-inf	(9.84-inf)
XLG3T8480SG	Green	80	25-500	(.98-19.68)
XLG3T84120SN	Blue	120	4-200	(.16-7.87)

Stereo Measurement

XLG3TM846060FG	Black	60/60-FWD	4-50	(.16-1.97)
XLG3TM846060SG	Blue	60/60-SIDE	4-50	(.16-1.97)

*Indicates tip with maximum brightness



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DragonTrail is a trademark of Asahi Glass.
ThumbDrive is a trademark of Trek 2000 International.
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