

# Mentor Visual iQ VideoProbe™

Inspect in high definition.



**More precise and efficient inspections are now possible with Waygate Technologies' Mentor Visual iQ VideoProbe. With a high-definition camera that unlocks the power of digital zoom, images have never been this clear. Mentor Visual iQ enables smaller indication recognition from further distances, increasing the Probability of Detection (POD) for indications such as corrosion, blockages, and cracking.**

#### **Unbeatable Clarity with TrueSight™**

- Crystal clear live video and still images in high definition (HD)
- Unlocks the power of digital zoom on device with new 1.2 mega pixel image sensor
- Blends high resolution image and precision optics with a powerful suite of proprietary image transformation functions

#### **Intuitive Design**

- Portable, lightweight, rugged, and versatile
- QuickChange™ probes with optical tip adaptors
- Integrated WiFi and Bluetooth
- On-screen keyboard
- Powered by high-capacity, rechargeable lithium ion batteries

#### **Real3D™ Measurement for Confident Decisions**

- Most advanced 3D capabilities for more precise measurement from increased distances
- 3D Phase and Stereo Measurement with fully surfaced Point Cloud
- Real time cursor adjustment in the fully surfaced Point Cloud

#### **Enhanced Efficiency**

- Menu Directed Inspection (MDI) software that guides inspectors through the inspection process, intelligently names files and tags files, and creates inspection reports
- On-device user manuals and context-based help links to master advanced features faster and eliminate cumbersome paper manuals
- Specialty probes: LongSteer™ 2.2mm USB probe working channel, UV light, and borescope adaptor



# Choose the right tool for your inspection job.

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



**Mentor Visual iQ Inspect**  
Excellent quality and connectivity at a value price



**Mentor Visual iQ Touch**  
Improve productivity with QuickChange probes and touchscreen



**Mentor Visual iQ Analyze**  
Our most capable VideoProbe with bundled 3D Measurement and Probability of Detection SW for extreme image quality

System	Inspect	Touch	Analyze
<b>Capability</b>			
High definition resolution	Y*	Y	Y
IP65 / MIL-STD-810 field durability and ruggedness	Y	Y	Y
Connectivity <ul style="list-style-type: none"> <li>• Wi-Fi/Bluetooth</li> <li>• Network drive mapping</li> </ul>	Y	Y	Y
PC Re-measurement with Inspection Manager	Y	Y	Y
Can be upgraded to Touch or Analyze configurations	Y	Y	Included
Internal memory	16 GB	32 GB	32 GB
QuickChange probes	Y*	Y	Y
Choose from multiple probe lengths and diameter configurations	Y	Y	Y
Compatible with Custom Probes, i.e., LongSteer, UV, 2.2mm USB, etc.	Y*	Y	Y
Menu Directed Inspection image management and reporting	Upgrade	Y	Y
Touchscreen interface	Upgrade	Y	Y
Real3D <ul style="list-style-type: none"> <li>• 3D Phase Measurement with Fully Surfaced Point Cloud</li> <li>• 3D Stereo Measurement with Fully Surfaced Point Cloud <ul style="list-style-type: none"> <li>• Projected plane measurement</li> <li>• Area depth profile measurement</li> <li>• Blade Tip Clearance auto measure</li> </ul> </li> </ul>	Upgrade	Upgrade	Y
Measurement <ul style="list-style-type: none"> <li>• Stereo Measurement</li> <li>• Comparison Measurement</li> </ul>	Upgrade Y	Upgrade Y	Y
Probability of Detection Suite (POD) <ul style="list-style-type: none"> <li>• Variable High Dynamic Range (HDR) Images</li> <li>• Adaptive Noise Reduction (ANR)</li> <li>• Distortion Correction for Wide FOV tips</li> <li>• Image Transform Presets</li> <li>• Dark Boost image settings</li> </ul>	Upgrade	Upgrade	Y
InspectionWorks Connect <ul style="list-style-type: none"> <li>• Global</li> <li>• Local and Control</li> </ul>	Upgrade Y	Upgrade Y	Upgrade Y
Turning Tool Support	Upgrade	Upgrade	Upgrade
USB Video-In	Y	Y	Y
Always On DVR	Y	Y	Y
90 Day Free Trial of all SW features	Y	Y	Y
Image Rotation	Y	Y	Y

\*Requires interchangeable Inspect mode

# Improve accuracy with Real3D, the only technology providing a fully surfaced Point Cloud.

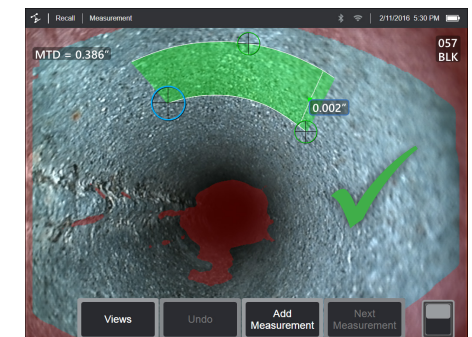
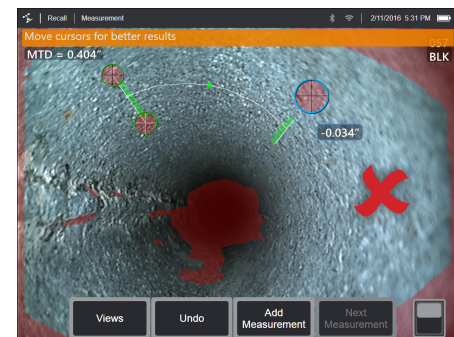
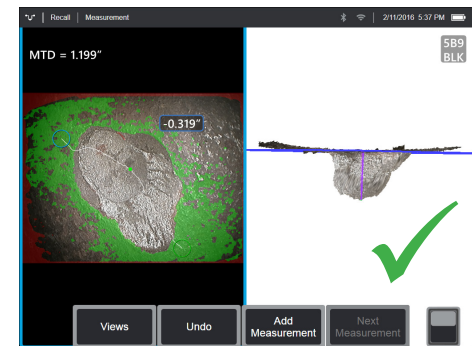
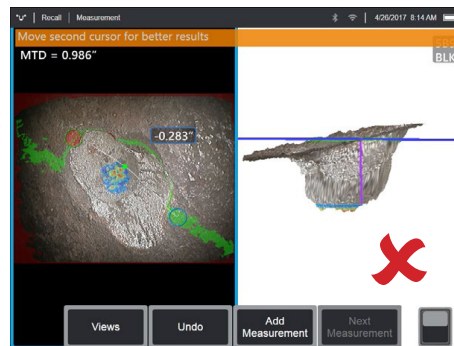
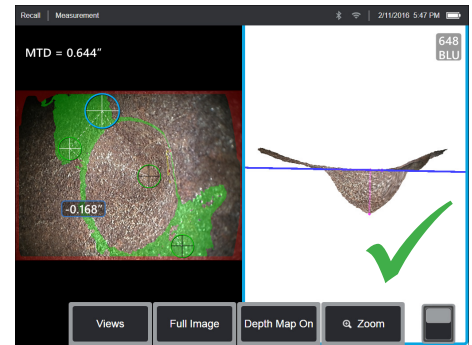
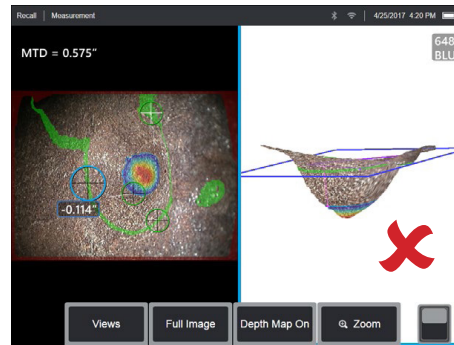
Advances in Point Cloud-based 3D measurement are making the VideoProbe an increasingly powerful tool for inspectors in the aerospace, power generation, manufacturing, and oil and gas industries.

Waygate Technologies' most advanced VideoProbe uses the processing power of Real3D to help you map, measure, and analyze indications in a visualized fully surfaced Point Cloud—enhancing POD.

3D Point Cloud visualization 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.

Adjust cursors in the fully surfaced point cloud for real time monitoring of measurement view in 3D space.

And with TrueSight HD visuals, digital zoom, and the new long-range 3D measurement tip, even more accurate measurement is now possible from increased distances.



Incorrect cursor placement identified with 3D Point Cloud

Correct cursor placement identified with 3D Point Cloud

# Technical Specifications – Handset

## Operating Temperature

Tip	-25°C to 100°C (-13°F to 212°F). Reduced articulation below 0°C (32°F)
System	-25° to 46°C (-13°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 <sub>2</sub> O, 33.5 ft of H <sub>2</sub> O)

## Camera

Diameter Probe	4.0 mm (0.16"), 6.1 mm (0.24"), 6.2mm (0.24"), 8.4 mm (0.33")
Image Sensor	1/6" Color Super HAD CCD camera (6.1, 8.4mm), 1/10" Color Super HAD CCD camera (3.9mm, 4.0mm, 6.2mm)
Pixel Count	SD 3.9, 4.0, 6.1, 6.2, 8.4 mm - 440k pixels HD 6.1, 8.4 mm - 1200k pixels
Housing	Titanium

## System

System Dimensions	17.1 x 19.7 x 38.1 cm (6.75 x 7.75 x 15")
Case Dimensions	Small carry-on case 54.9x 34.6x 23.6 cm (21.61x13.62x29") Medium size dual probe case 55.8 x 33.0 x 63.5 cm (22 x 13 x 25") Large workstation 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 medium case with contents: 10.9 kg (24 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 (Pinch and zoom gesture support, on-screen radio and slider button activation)
Joystick Control	360° All-Way® tip articulation, menu access, and navigation
Button Set	Access user functions, measurement, and digital functions
Audio	Compatible with bluetooth headset/microphone
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 Supply

Lithium Ion Battery	10.8 V (nominal), 73 Wh, 6.8 Ah, two-hour typical run time
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## Courant

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, 506.5, 507.5, 509.5, 510.5, 511.5, 514.6, 516.6, 521.3
MIL-STD-461G	U.S. Department of Defense – Electromagnetic Compatibility with RE102, and RS103 – ABOVE DECK
Standards Compliance	Group 1 Class A; EN61326-1, IEC CB Scheme, UL/EN/CSA-C22.2 61010-1, IEC 62133, UN/DOT T1-T8, EU RoHS 2, EU RED Directive, ISTA 2G
IP Rating	IP65 (assembled), IP55 (disassembled)

# Technical Specifications – Handset

## Software

Operating System	Embedded multi-tasking operating system
User Interface	Menu-driven and soft button operation; menu navigation using either touchscreen or joystick
File Manager	Embedded file manager supports the following operation on files and folders: copy, cut, paste, create, rename, delete, filter, sort, and image recall. USB and internal flash storage
Audio Data	PC Compatible ACC (.M4A file) format
Image Control	Brightness, Long Exposure, Invert, Inverse+, Single View, Illumination, Color Saturation Control, Distortion Correction, Adaptive Noise Reduction (ANR), High Dynamic Range (HDR) imaging, Dark Boost, and Image Transform Presets
Digital Zoom	Continuous (5x)
Image Formats	Bitmap (.BMP), JPEG (.JPG)
Video Format	MPEG4 AVC/H.264 (.MP4 file)
Text Annotation	Built-in on screen text overlay generator with selectable font size
Graphic Annotation	User placement of arrows
Articulation Control	User-selectable steer and Steer-and-Stay* articulation; tip "Home" return to neutral forward-tip orientation
Software Updates	Field upgradeable via upgradeable WiFi or 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 tags files and creates Microsoft® Word and PDF compatible inspection reports (MDI included on Analyze and Touch models, available as upgrade to Inspect model)

# Technical Specifications – Probes and Tips

## Probe Measurements

Diameter	Length
2.2 mm (0.086")	1.0 m (3.2 ft.)
4.0 mm (0.15")	2.0, 3.0 m (6.6, 9.8 ft.)
6.1 mm (0.24") <sup>†</sup>	2.0, 3.0, 3.5, 4.5, 6.0, 10.0 m (6.6, 9.8, 14.8, 19.7, 32.8 ft.)
6.2 mm (.24")	3.2, 3.5 m (10.5, 11.5 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, 32.8 ft)

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)
<b>Forward View</b>				
T4080FF**	None	80	35-inf	(1.38-inf)
T40115FN	Black	115	4-inf	(.16-inf)
<b>Side View</b>				
T40115SN	Red	115	1-30	(.04-1.18)
T40120SF	Blue	120	6-inf	(.24-inf)

## StereoProbe™ Measurement<sup>††</sup>

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

\*\* Indicates tip with maximum brightness

<sup>†</sup> Indicates HD optimized

<sup>††</sup> Stereo and 3D Stereo use same lenses

### Mentor Visual IQ 6.1 mm tips

Part No.	Color	FOV (deg)	DOF mm	(in)
<b>Forward View</b>				
T6I50FF	None	50	50-inf	(2.36-inf)
XLG3T6I50FG	White	50	12-200	(.47-7.87)
XLG3T6I120FG	Black	120	5-120	(.20-4.72)
XLG3T6I80FN	Orange	80	3-20	(.12-.79)
XLG3T6I90FF	Yellow	90	20-inf	(.79-inf)
XLG3T6I50FB	Purple	50 (45 DOV)	12-80	(.47-3.15)
T6I65FF**†	Orange and Blue	65	65-inf	(2.56-inf)
T6I120FF	Gray	120	20-inf	.79"-inf

#### Side View

XLG3T6I50SF	Brown	50	45-inf	(1.77-inf)
XLG3T6I50SG	Green	50	9-160	(.35-6.30)
XLG3T6I120SG	Blue	120	4-100	(.16-3.94)
XLG3T6I80SN	Red	80	1-20	(.04-.79)

#### 3D Phase Measurement

XL4TM6I105FG (forward version) <sup>†</sup>	Black	105	8-250	(.31-9.84)
XL4TM6I105SG (side version) <sup>†</sup>	Blue	105	7-250	(.27-9.84)
XL4TM6I105FN <sup>†</sup>	Orange	105	3-120	(.12-4.72)
XL4TM6I105SF (side version) <sup>†</sup>	Green	105	15-inf	0.59-inf

#### StereoProbe Measurement

XLG3TM6I6060FG <sup>††</sup>	Black	60/60-FWD	4-80	(.16-3.15)
XLG3TM6I5050SG <sup>††</sup>	Blue	50/50-SIDE	2-50	(0.8-1.97)

### Mentor Visual IQ 6.2 mm tips

Tip View	Color	FOV (deg)	DOF mm	(in)
<b>Standard Tip Optics</b>				
<b>Forward View</b>				
PXT6240FF	None	40	100-inf	3.94-inf
PXT62I20FF	Yellow	120	25	0.98-inf
PXT62I20FN	Black	120	4-190-inf	0.16-7.48

#### Side View

PXT62I20SN	Blue	120	5-inf	0.20-inf
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#### StereoProbe Measurement Tip

<b>Forward View</b>				
PXTM6260FG	Black	60/60	4-80	(0.16-3.15)

#### Side View

PXTM6260SG (côté)	Blue	60/60	4-80	(0.16-3.15)
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### Mentor Visual IQ 8.4 mm tips

Part No.	Color	FOV (deg)	DOF mm	(in)
<b>Forward View</b>				
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)
T84I20FF	Orange and Blue	120	20-inf	(0.79-inf)
XLG3T84I20FN	Black	120	5-200	(.20-7.87)

#### Side View

XLG3T8440SF**	Brown	40	250-inf	(9.84-inf)
XLG3T8480SG	Green	80	25-500	(.98-19.68)
XLG3T84I20SN	Blue	120	4-200	(.16-7.87)

#### StereoProbe Measurement<sup>††</sup>

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

\*\*Indicates tip with maximum brightness

<sup>†</sup>Indicates HD optimized

<sup>††</sup> Stereo and 3D Stereo use same lenses

