Waygate Technologies
a Baker Hughes business

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 image processing system
- Powerful processing for enhanced image brightness and daylight readability

Intuitive design

- Portable, lightweight, rugged, and versatile
- QuickChange™ high-resolution probes with optical tip adaptors
- Integrated WiFi and Bluetooth
- Touchscreen with gesture support and 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

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™, 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
Capability			
High definition resolution	N	Y	Y
Hard button/joystick interface	Y	Y	Y
IP65 / MIL-STD-810 field durability and ruggedness	Y	Y	Y
2 hour lithium ion battery pack	Y	Y	Y
Connectivity • Wi-Fi/Bluetooth • Network drive mapping • InspectionWorks enabled for live-streaming and cloud data management	Y	Y	Y
Comparison measurement	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	N	Y	Y
6.2mm working channel probe available	N	Y	Y
Choose from multiple probe lengths and diameter configurations	Y	Y	Y
Compatible with Custom Probes, i.e., LongSteer, UV, etc.	N	Y	Y
Menu directed Inspection image management and reporting	Upgrade	Y	Y
Touchscreen interface	N	Y	Y
Real3D™ • 3D phase measurement with fully surfaced point cloud • 3D stereo measurement with fully surfaced point cloud • Projected plane measurement • Area depth profile measurement	Upgrade	Upgrade	Y
Measurement • Stereo measurement • Traditional stereo measurement	Upgrade	Upgrade	Upgrade
Probability of Detection Suite (POD) • High Dynamic Range (HDR) Images - View, Measure & Save • Adaptive Noise Reduction (ANR) • Distortion Correction for Wide FOV tips • Image transform presets	Upgrade	Upgrade	Y
iView Remote for streaming and remote control	N	Upgrade	Y

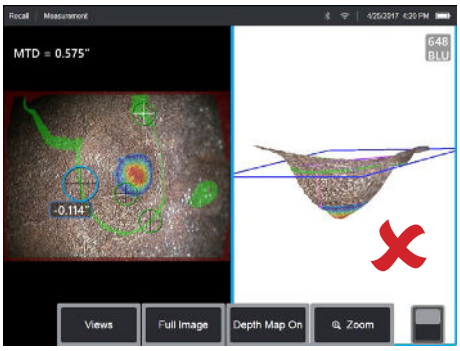
Improve accuracy with Real3D™ the only technology providing a fully surfaced Point Cloud.

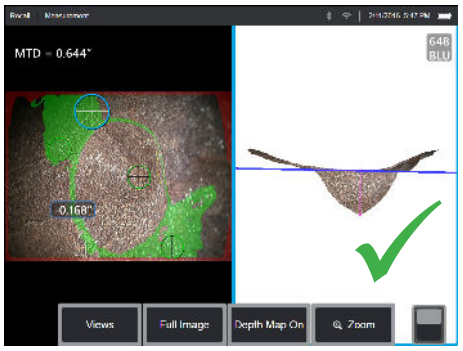
Advances in Point Cloud-based 3D measurement are making the VideoProbe an increasingly powerful tool for inspectors in the aerospace, power generation, manufacturing, and oil and gas industries.

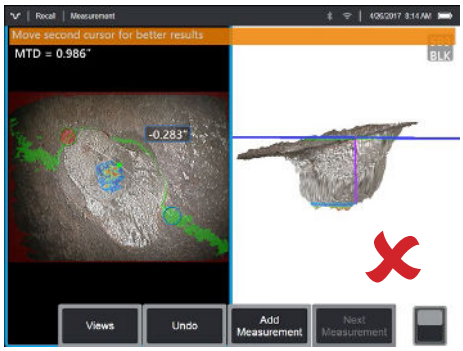
Waygate Technologies most advanced VideoProbe uses the processing power of Real3D™ to help you map, measure, and analyze indications in a visualized fully surfaced Point Cloud—enhancing POD.

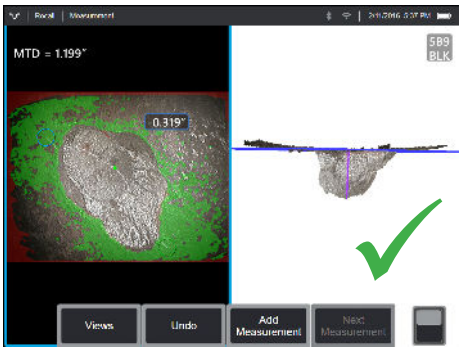
3D Point Cloud visualization allows inspectors to check measurement set-up in real time, reducing the likelihood of inaccurate measurements that can result in unnecessary downtime, scrap, and maintenance costs, as well as safety or reliability risks.

And with TrueSight™ HD visuals and 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	-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_2O, 33.5 ft of H_2O)

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 6.1mm - 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 (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; 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 SSD for user storage (Internal memory only available on Analyze and Touch models)
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

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, 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 (Touchscreen only available on Analyze and Touch models)
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, Probability of Detection (POD): Distortion Correction, Adaptive Noise Reduction(ANR), High Dynamic Range (HDR) imaging, 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
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)

StereoProbe™ Measurement[TT]

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

**Indicates tip with maximum brightness
[T]Indicates HD optimized
[TT]Stereo and 3D Stereo use same lenses.

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**[T]	Orange and blue	65	65-inf	(2.56-inf)
T61120FF	Gray	120	20-inf	.79"-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)[T]	Black	105	8-250	(.31-9.84)
XL4TM61105SG (side version)[T]	Blue	105	7-250	(.27-9.84)
XL4TM61105FN[T]	Orange	105	3-120	(.12-4.72)
XL4TM61105SF (side version)[T]	Green	105	15-inf	0.59-inf
Stereo measurement				
XLG3TM616060FG	Black	60/60-FWD	4-80	(.16-3.15)
XLG3TM615050SG	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)
Standard tip optics				
Forward view				
PXT6240FF	None	40	100-inf	3.94-inf
PXT62120FF	Yellow	120	25-inf	0.98-inf
PXT62120FN	Black	120	5-inf	0.16-7.48
Side View				
PXT621205N (Side)	Blue	120	5-inf	0.20-inf

StereoProbe® measurement tip

Forward view				
PXTM6260FG (Forward)	Black	60/60	4-80	(0.16-3.15)
Side view				
PXTM6260SG (Side)	Blue	120	4-80	(0.16-3.15)

Mentor Visual iQ 8.4 mm tips

Part No.	Color	FOV (deg)	DOF mm	(in)
Forward view				
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)
T84120FF	Orange and blue	120	20mm-inf	(0.79-inf)
XLG3T84120FN	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)
XLG3T84120SN	Blue	120	4-200	(.16-7.87)

StereoProbe™ measurement[TT]

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

**Indicates tip with maximum brightness
[T]Indicates HD optimized
[TT]Stereo and 3D Stereo use same lenses.

Copyright 2020 Baker Hughes Company. All rights reserved.

BHCS31352C (02/2020)

Baker Hughes

waygate-tech.com