XL Flex and XL Flex+ VideoProbes

Shed light on your inspections.
The XL Flex and XL Flex+ VideoProbes provide unmatched image quality and powerful light output to boost probability of detection (POD) and speed up workflow. Rugged durability lowers your maintenance costs. Stereo measurement lets you evaluate defects in depth. And expert support from Waygate Technologies gives you peace of mind. All in a lightweight, portable, and easy-to-use device. Now featuring 16GB of memory and an upgraded 5” LCD screen on the XL Flex+.

Get accurate results, fast.
Complete efficient, precise inspections with unmatched image quality, plus a 5” LCD screen on the XL Flex+.

Believe it when you see it.
Reduce eyestrain with powerful light output and a 3X brighter display in the XL Flex+.

Cut down on costs.
Lower your maintenance spending with durability you can trust, even in the harshest inspection environments.

Evaluate defects in depth.
Stereo measurement provides accurate analysis as you work.

Stay flexible.
At just 4.3 lbs., the device is lightweight and portable, with a wheeled carry-on case for easy transport.

Learn quickly.
The intuitive interface includes Menu Directed Inspection (MDI) 2.0, an application to guide users through inspections and organize results for simpler reporting.

Experience true peace of mind.
Get readily available assistance from Waygate Technologies experts, wherever you are.

Now with a 5” LCD screen for clear-cut inspections.
The new XL Flex+ display is 85% larger and 3X brighter, with crystal clear image quality unmatched in the industry. Paired with advanced optics and powerful light output, that means sharper images right on your device. Because when you can see clearly, you improve POD, speed up your workflow, and deliver results with confidence.
Technical specifications

Operating environment

- **Tip operating temp:** -25°C to 100°C (-13°F to 212°F) Reduced articulation below 0°C (32°F)
- **System operating temp:** -20°C to 46°C (-4°F to 115°F) LCD requires warm-up period below 0°C (32°F)
- **Storage temperature:** -25°C 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 H2 O, 33.5 ft of H2 O)
- **Environmental:**
  - XL Flex: Tested to IP55
  - XL Flex+: Tested to IP65

System

- **Wheeled case:** 54.9 x 34.6 x 23.6cm (21.61 x 13.62 x 29)
- **System weight:**
  - In case:
    - XL Flex: 6.50 kg (14.30 lb)
    - XL Flex+: 8.39 kg (18.5 lb)
  - Without case:
    - XL Flex: 1.73 kg (3.8 lb)
    - XL Flex+: 1.98 kg (4.37 lb)
- **Power (Lithium ion battery):**
  - 8.4 V, 38 Wh (2 hour) 8.4 V, 75 Wh (4 hour)
- **Power supply:**
  - AC Input: 100-240 VAC, 50-60 Hz, 1.5 A Max
  - DC Output: 9.5 V, 6.0 A
- **Construction:** Polycarbonate housings with integrated Versalon™ (JP) bumpers
- **Dimensions:** 9.53 x 13.34 x 34.29 cm (3.75 x 5.25 x 13.50 in)
- **LCD monitor:**
  - XL Flex: Integrated transflective 9.40 cm (3.70 in) active matrix VGA color LCD with XpertBright, 640 x 480 resolution
  - XL Flex+: Integrated 12.7 cm (5.0) active matrix VGA color LCD, Transmissive display.
- **Joystick control:**
  - 360° All-Way tip articulation with XpertSteer, bump gesture, menu access and navigation
- **Button set:**
  - Access user functions, measurement and digital functions
- **Audio:**
  - Integrated 2.5 mm headset/microphone jack
- **Internal memory:**
  - XL Flex: 4 GB Flash memory
  - XL Flex+: 16 GB Flash memory
- **Data I/O ports:** Two USB* 2.0 ports
- **Video port:** VGA Video Out
- **Brightness control:** Auto and Variable
- **Illumination type:** White LED
- **Long exposure:** Via auto and manual mode
- **White balance:** Factory default or user defined

Standards compliance and classifications

- **MIL-STD-810G:** Tested to United States Department of Defense Environment Tests Sections 506.5, 507.5, 509.5, 510.5, 511.5, 514.6, 516.6, 521.3
- **MIL-STD-461F:**
  - XL Flex: Tested to United States Department of Defense Electromagnetic Interference RS103 - ABOVE DECK
  - XL Flex+: Available upon request
- **Standards compliance**
  - Group 1, Class A: EN61326-1
  - UL, IEC, EN CSA-C22.2:61010-1
  - UN/DOT T1-T8
- **IP rating**
  - XL Flex: Tested to IP55
  - XL Flex+: Tested to IP65

Camera

- **4.0 mm (0.157 in) diameter probes**
  - **Image sensor:** 1/10 inch Color SUPER HAD CCD camera
  - **Pixel count:** 290,000 pixels
  - **Housing:** Titanium
- **6.1 mm (0.242 in) and 8.4 mm (0.331 in) diameter probes**
  - **Image sensor:** 1/6 inch Color SUPER HAD™ CCD camera
  - **Pixel count:** 440,000 pixels
  - **Housing:** Titanium

Software

- **Operating system:** Real-time multi-tasking operating system
- **User interface:**
  - Simple drop-down menu-driven operation
  - Menu navigation using articulation joystick
- **File manager:**
  - Embedded file manager software supporting: File & Folder creation, naming, deleting Store to internal flash (C: \) or USB
  - ThumbDrive Copy between USB and C:\
- **Measurements:**
  - StereoProbes and Comparison
- **MDI software (optional):**
  - Provides user defined guided inspection
  - Creates DICONDE compatible inspection files
  - Creates MS Word® compatible inspection reports
- **Audio data:**
  - PC compatible (.AAC) file format
- **Image control:**
  - Invert, Zoom (5X digital) Image Capture and Recall
- **Digital zoom:** Continuous (5.0X)
- **Image formats:**
  - Bitmap (.BMP), JPEG (.JPG)
- **Video format:** MPEG 4
- **Text annotation:**
  - Built-in full screen text overlay generator
  - Supports international language character sets 100 text line capacity
- **Graphic annotation:**
  - User placement of arrows
- **Articulation control:**
  - “Steer & Stay” articulation lock/fine articulation Tip “Home” return to neutral forward-tip orientation User selectable fine or coarse control XpertSteer probe articulation offers quick steering responsiveness for tight probe control – bump steering enables slight adjustments to probe position
- **Software updates:** Field updateable via USB ThumbDrive
- **Languages:**
  - English, Spanish, French, German, Italian, Russian, Japanese, Korean, Portuguese, Chinese, Polish
# Insertion tube length and diameter options

<table>
<thead>
<tr>
<th>Camera diameter</th>
<th>Insertion tube working length</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.0 mm (0.157 in)</td>
<td>2.0 m (6.6 ft) 3.0 m (9.8 ft)</td>
</tr>
<tr>
<td>6.1 mm (0.242 in)</td>
<td>2.0 m (6.6 ft) 3.0 m (9.8 ft) 3.5 m (11.8 ft) 4.5 m (14.7 ft) 6.0 m (19.7 ft) 8.0 m (26.2 ft)</td>
</tr>
<tr>
<td>8.4 mm (0.331 in)</td>
<td>2.0 m (6.6 ft) 3.0 m (9.8 ft) 4.5 m (14.8 ft) 6.0 m (19.7 ft) 8.0 m (26.2 ft) 10.0 m (32.8 ft)</td>
</tr>
</tbody>
</table>

# Tip articulation

<table>
<thead>
<tr>
<th>Insertion tube length</th>
<th>Straight tube</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.0, 3.0 or 4.5 m</td>
<td>Up/down – 160° min, Left/right – 160° min</td>
</tr>
<tr>
<td>6.0 m</td>
<td>Up/down – 140° min, Left/right – 140° min</td>
</tr>
<tr>
<td>10.0 m</td>
<td>Up/down – 120° min, Left/right – 120° min</td>
</tr>
</tbody>
</table>

Note: Typical articulation exceeds minimum specifications

# Tip optics

<table>
<thead>
<tr>
<th>Tip view (DOV)</th>
<th>Tip color</th>
<th>Field of view (FOV)(1)</th>
<th>Depth of field (DOF)</th>
<th>4.0 mm optical tip part #</th>
<th>6.1 mm optical tip part #</th>
<th>8.4 mm optical tip part #</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Standard tips</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FORWARD</td>
<td>NONE</td>
<td>80˚</td>
<td>35 mm–infinity</td>
<td>(1.38 in–infinity)</td>
<td>T4080FF</td>
<td></td>
</tr>
<tr>
<td>FORWARD</td>
<td>BLACK</td>
<td>115˚</td>
<td>4 mm–infinity</td>
<td>(0.16 in–infinity)</td>
<td>T40115FN</td>
<td></td>
</tr>
<tr>
<td>FORWARD</td>
<td>NONE</td>
<td>50˚</td>
<td>50 mm–infinity</td>
<td>(1.97 in–infinity)</td>
<td>XLG3T6150FF(1)</td>
<td></td>
</tr>
<tr>
<td>FORWARD</td>
<td>WHITE</td>
<td>50˚</td>
<td>12–200 mm</td>
<td>(0.47–7.87 in)</td>
<td>XLG3T6150FG</td>
<td></td>
</tr>
<tr>
<td>FORWARD</td>
<td>ORANGE</td>
<td>80˚</td>
<td>3–20 mm</td>
<td>(0.12–0.79 in)</td>
<td>XLG3T6180FN</td>
<td></td>
</tr>
<tr>
<td>FORWARD</td>
<td>YELLOW</td>
<td>90˚</td>
<td>20 mm–infinity</td>
<td>(0.79 in–infinity)</td>
<td>XLG3T6190FF</td>
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<tr>
<td>FORWARD</td>
<td>BLACK</td>
<td>120˚</td>
<td>5–120 mm</td>
<td>(0.20–4.72 in)</td>
<td>XLG3T6120FG</td>
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<tr>
<td>FORWARD</td>
<td>PURPLE</td>
<td>50˚</td>
<td>12–80 mm</td>
<td>(0.47–3.15 in)</td>
<td>XLG3T6150FB</td>
<td></td>
</tr>
<tr>
<td>FORWARD</td>
<td>BLACK</td>
<td>120˚</td>
<td>5–200 mm</td>
<td>(0.20–7.87 in)</td>
<td>XLG3T84120FN</td>
<td></td>
</tr>
<tr>
<td>FORWARD</td>
<td>NONE</td>
<td>40˚</td>
<td>250 mm–infinity</td>
<td>(9.84 in–infinity)</td>
<td>XLG3T8440FF(2)</td>
<td></td>
</tr>
<tr>
<td>FORWARD</td>
<td>WHITE</td>
<td>40˚</td>
<td>80–500 mm</td>
<td>(3.15–19.68 in)</td>
<td>XLG3T8440FG</td>
<td></td>
</tr>
<tr>
<td>FORWARD</td>
<td>YELLOW</td>
<td>80˚</td>
<td>25–500 mm</td>
<td>(0.98–19.68 in)</td>
<td>XLG3T8480FG</td>
<td></td>
</tr>
<tr>
<td>FORWARD</td>
<td>GRAY</td>
<td>120˚</td>
<td>20–infinity</td>
<td>(0.79 in–infinity)</td>
<td>T6120FF</td>
<td></td>
</tr>
<tr>
<td>SIDE</td>
<td>BLUE</td>
<td>120˚</td>
<td>6 mm–infinity</td>
<td>(0.24 in–infinity)</td>
<td>T40120SF</td>
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</tr>
<tr>
<td>SIDE</td>
<td>RED</td>
<td>115˚</td>
<td>1–30 mm</td>
<td>(0.04–0.18 in)</td>
<td>T40115SN</td>
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</tr>
<tr>
<td>SIDE</td>
<td>BROWN</td>
<td>50˚</td>
<td>45 mm–infinity</td>
<td>(1.77 in–infinity)</td>
<td>XLG3T6150SF</td>
<td></td>
</tr>
<tr>
<td>SIDE</td>
<td>GREEN</td>
<td>50˚</td>
<td>9–160 mm</td>
<td>(0.35–6.30 in)</td>
<td>XLG3T84150SG</td>
<td></td>
</tr>
<tr>
<td>SIDE</td>
<td>BLUE</td>
<td>120˚</td>
<td>4–100 mm</td>
<td>(0.16–3.94 in)</td>
<td>XLG3T6120SG</td>
<td></td>
</tr>
<tr>
<td>SIDE</td>
<td>RED</td>
<td>80˚</td>
<td>1–200 mm</td>
<td>(0.04–0.79 in)</td>
<td>XLG3T6180SN</td>
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</tr>
<tr>
<td>SIDE</td>
<td>BROWN</td>
<td>40˚</td>
<td>250 mm–infinity</td>
<td>(9.84 in–infinity)</td>
<td>XLG3T8440SF(2)</td>
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</tr>
<tr>
<td>SIDE</td>
<td>GREEN</td>
<td>80˚</td>
<td>25–500 mm</td>
<td>(0.98–19.68 in)</td>
<td>XLG3T8480SG</td>
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</tr>
<tr>
<td>SIDE</td>
<td>BLUE</td>
<td>120˚</td>
<td>4–200 mm</td>
<td>(0.16–7.87 in)</td>
<td>XLG3T84120SN</td>
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</tr>
<tr>
<td><strong>Stereoprobe measurement tips</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FORWARD</td>
<td>BLACK</td>
<td>55˚/55˚</td>
<td>5 mm–infinity</td>
<td>(0.2 in–infinity)</td>
<td>TM405555FG</td>
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</tr>
<tr>
<td>FORWARD</td>
<td>BLACK</td>
<td>60˚/60˚</td>
<td>4–80 mm</td>
<td>(0.16–3.15 in)</td>
<td>XLG3T8416060FG</td>
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<tr>
<td>FORWARD</td>
<td>BLACK</td>
<td>60˚/60˚</td>
<td>4–50 mm</td>
<td>(0.16–1.97 in)</td>
<td>XLG3T846060FG</td>
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</tr>
<tr>
<td>SIDE</td>
<td>BLUE</td>
<td>55˚/55˚</td>
<td>4 mm–infinity</td>
<td>(0.16 in–infinity)</td>
<td>TM405555SG</td>
<td></td>
</tr>
<tr>
<td>SIDE</td>
<td>BLUE</td>
<td>50˚/50˚</td>
<td>2–50 mm</td>
<td>(0.08–1.97 in.)</td>
<td>XLG3T8415050SG</td>
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</tr>
<tr>
<td>SIDE</td>
<td>BLUE</td>
<td>60˚/60˚</td>
<td>4–50 mm</td>
<td>(0.16–1.97 in)</td>
<td>XLG3T846060SG</td>
<td></td>
</tr>
</tbody>
</table>

(1)FOV is specified diagonally.
(2)Indicates tips with maximum brightness.

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