Established 1981
Advanced Test Equipment Rentals
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Measurement & Control Solutions

XLG3™ VideoProbe®

Inspection Technologies

Productivity Tool

Designed by GE's Inspection Technologies business and built on the Everest legacy, comes a revolutionary new video borescope – XLG3 VideoProbe system. The next imaging advancement from leader's in remote visual inspection (RVI) equipment.

A power tool for improving inspection productivity.

Features

- Extra-bright, high-resolution LCD screen and high-output illumination deliver sharp, clear images
- Dual-purpose shipping and operating case
- Lightweight remote control (optional)
- Powerful computing platform for data management and worldwide connectivity

QuickChange™ Probes

With its interchangeable QuickChange probes, the XLG3™ system quickly reconfigures probe diameter and length for maximum productivity. Probes come in 3.9 mm, 5.0 mm, 6.1 mm, 6.2 mm and 8.4 mm diameters and are built for increased durability with:

- Titanium camera head that is 8 times stronger than older designs
- Bending necks seams that are laser welded to strengthen critical joints
- 6.1 mm, 6.2 mm and 8.4 mm probes are built with a double tungsten braid insertion tube for added crush resistance

System

The base unit is a portable workstation for inspection data management, plus light source and storage reel for the probe. The unit features:

- 4.0GB internal CompactFlash® card
- 3 USB 2.0 ports
- 10/100 Ethernet port for PC with optional Internet connection
- Optional battery/UPS pack in one- or two-hour capacities
- User configurable NTSC/PAL video format selection
- Optional internal Wi-Fi card

Advanced Features, Improved Inspection

A: ***All-Way® articulation and high-output illumination*** *deliver sharp, clear images for critical decision making*

B: ***High-resolution wide VGA LCD screen*** *delivers incredibly sharp, bright images*

C: ***Shipping, storage and inspection case*** *protects XLG3™ VideoProbe® system from transport damage and doubles as an operations station*

D: ***Most system accessories*** *store in case lids or in extended case (C)*

E: ***Control buttons, multi-function joystick*** *provide full system control through the handset*

3D Phase Measurement Technology

The 3D Phase Measurement is a new approach to video borescope measurement in aerospace and rotating equipment applications. The new measurement technology enables inspectors to both view and measure a defect using a single tip optic, eliminating the extra steps required to back out, change the tip and then relocate the defect. In effect, 3D Phase Measurement provides accurate measurement "on-demand" while saving time and increasing overall inspection productivity. The XLG3 VideoProbe with 3D Phase Measurement is one of the most advanced and technically powerful visual inspection tools available.

The 3D Phase Measurement combined with the XLG3 creates a 3D surface scan of the viewing area and can measure all aspects of surface indications using a 3D scan. The probe creates a new type of measurement called Profile View, a cross section view of the surface, allowing inspectors to better visualize the shape and characteristics of an indication and make a well informed decision on the serviceability of the asset.

Owners of XLG3 systems can enhance their initial equipment investment as 3D Phase Measurement probes and optical tips can be used with existing equipment. Current owners can add Phase Measurement probes and tips to their existing equipment, or choose to purchase additional XLG3 systems with Phase Measurement components.

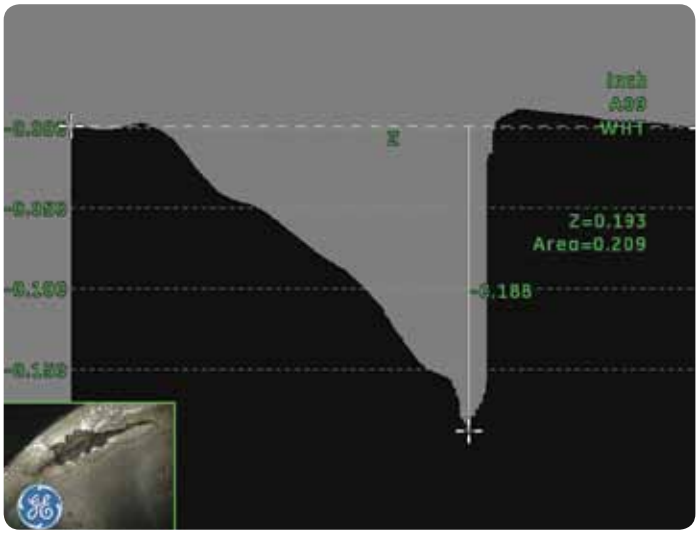
See a Demo

Ed Hubben, Senior Product Manager for the Inspection Technologies product line, demos 3D Phase Measurement technology.

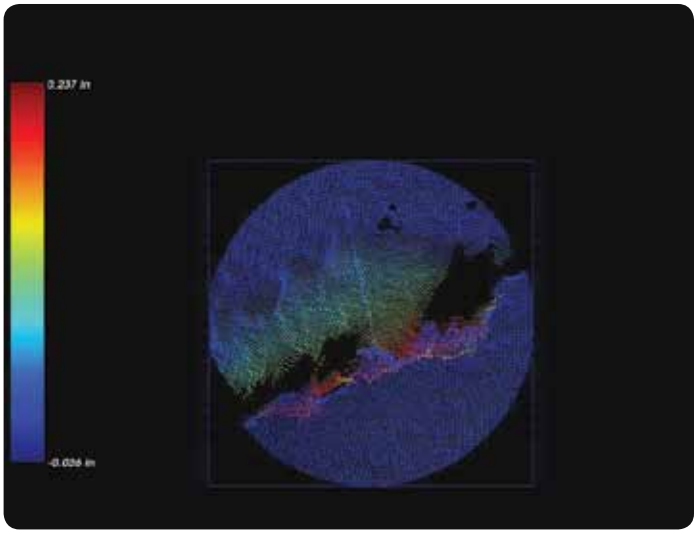
To watch, snap a photo of the icon or go to **http://www.youtube.com/watch?v=5eShovbZIys**

Get the free mobile app at
http://gettag.mobi

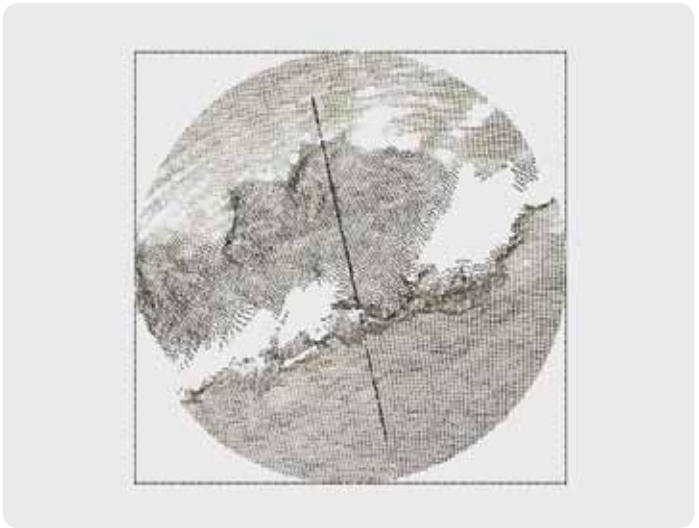
Depth Profile



Profile View

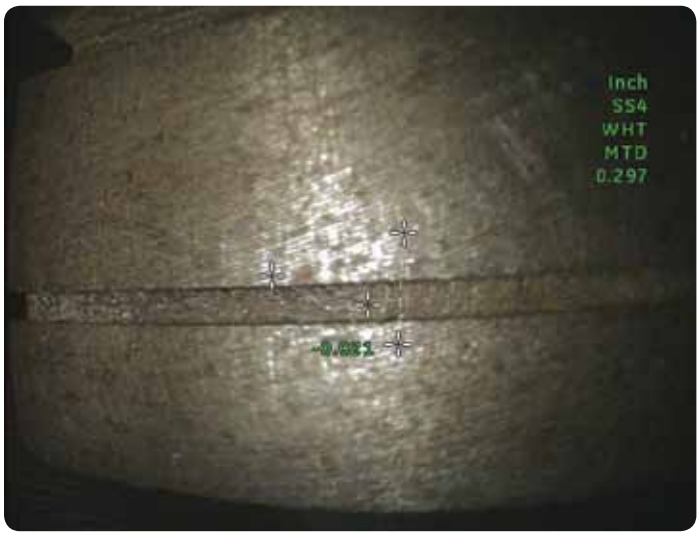


Point Cloud with Color Depth Map of Tear in Turbine Blade



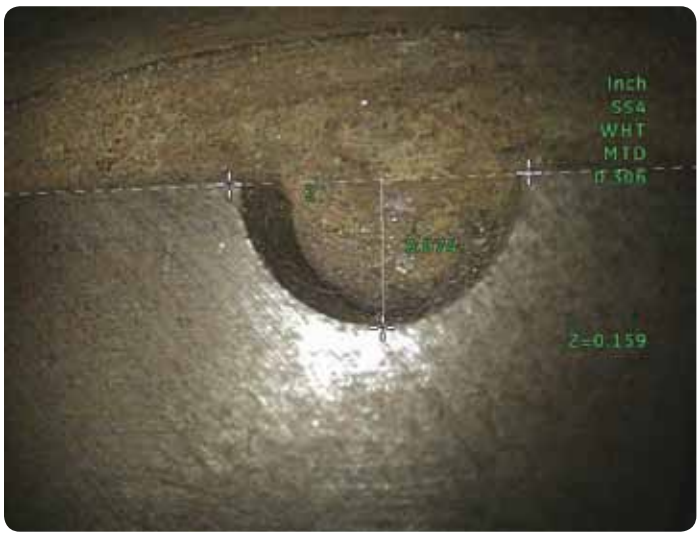
Point Cloud of Tear in Turbine Blade

Area Measurement

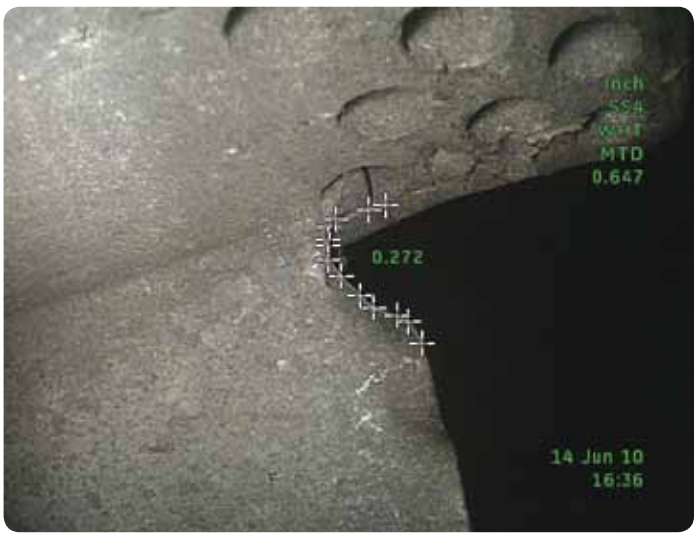


Depth Measurement

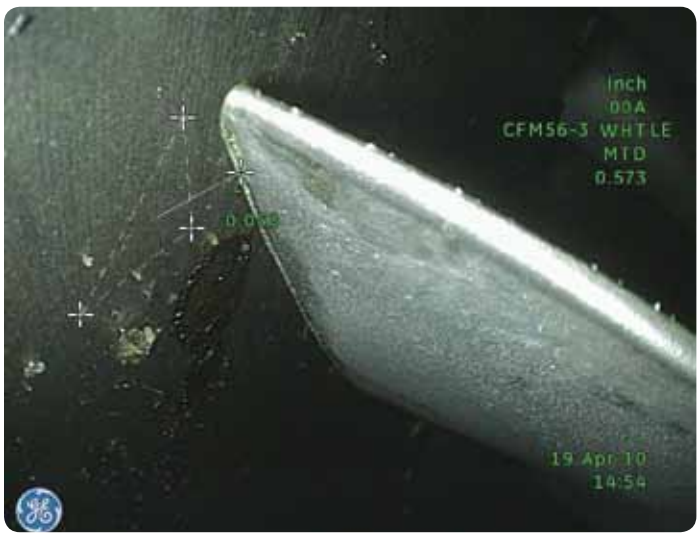
Length Measurement



Point-to-line Measurement



Multi-segment length Measurement



Turbine Blade Tip Clearance

Technical Specifications

System

Case Dimensions:
- **Standard:** 54.6 x 49.5 x 32.0 cm (21.5 x 19.5 x 12.6 in)
- **Tall:** 54.6 x 60.9 x 32.0 cm (21.5 x 24 x 12.6 in)

Weight:
- **In Case:** 21.8 kg (48 lb)
- **Without Case:** 10.9 kg (24 lb)

QuickChange™ Probes

6.1 mm (0.242 in), 5.0 mm (0.197 in) and 8.4 mm (0.331 in) Diameter Probes

Image Sensor: 1/6" Color SUPER HAD CCD®
Pixel Count: 440,000 pixels
Temperature Sensor: Integrated Temperature Warning System
Camera Housing: Titanium
Articulation: 360° All-Way®
Tip Optics: Double threaded attachment

3.9 mm (0.154 in) and 6.2 mm (0.244 in) Diameter Probes

Image Sensor: 1/10" Color, SUPER HAD CCD
Pixel Count: 290,000 pixels
Camera Housing: Titanium
Articulation: 360° All-Way
Tip Optics: Double threaded attachment

Handset

Dimensions: 39 x 18 x 13 cm (15.4 x 7.1 x 5.1 in)
Weight: 1.81 kg (3.98 lb)
Construction: Polycarbonate housing with integrated elastomer bumpers
LCD: 16.3 cm (6.4 in) diagonal, 16 x 9 aspect ratio, 800 x 480 pixels, wide VGA
LCD Brightness: 380 nits (cd/m2)
Power Tube: 2.4 m (8 ft) long
User Controls: Joystick and complete button function set
Microphone: Built-in microphone for audio annotation located at the top center of the handset

Base Unit

Dimensions: 44 x 22 x 35 cm (17.3 x 8.7 x 13.8 in)
Weight: 7.21 kg (15.90 lb)
Construction: Aluminum chassis with polyurethane bumpers
System CPU: Intel Pentium® M
Video Processors: Multiple digital signal processors
Brightness Control: Automatic and variable, adjustable auto gain and exposure
System Memory: Internal CompactFlash® card, 2.7GB (standard)
Lamp Type: 75W High Intensity Discharge (HID)
Lamp Output: 4300 Lumens
Lamp Life: 1000 hour median
Keyboard Input: USB keyboard with built-in trackball
Video Outputs: Switchable NTSC/PAL S-Video, Standard 15-pin PC video connector
Video Input: Auto detecting NTSC/PAL S-Video
USB: Three external USB 2.0 ports
Ethernet: Integrated 10/100 Ethernet port
CompactFlash: One CompactFlash card (Type II) slot
AC Input: AC Nominal input: 100 to 240 V, 50 to 60 Hz; 115 V, 400 Hz; 275 W max
AC Output: 100 W max; IEC320-2-2 Type F connector
AC Fuse: 6.3A, 250V, fast acting
DC Input: 11 to 15 VDC; nominal 12 VDC; 150 W max
DC Fuse: 20A, 600 VDC, fast acting
Audio Output Connectors: Built-in front panel speaker, 3.5 mm stereo line level out, 2V RMS max, 3.5 mm stereo headphone
Audio Input Connector: 3.5 mm microphone

Operating Environment

System Operating Temp: -4° to 115°F (-20° to 46°C)
LCD requires warm-up period below 32°F (0°C)
Tip Operating Temp: -13° to 176°F (-25° to 80°C)
Reduced articulation below 32°F (0°C)
Storage Temperature: -13° to 140°F (-25° to 60°C)
Relative Humidity: 95% max, non condensing
Waterproof: Insertion tubes are watertight to 1 bar (14.5 psig, 10.2 m [33.5 ft] of H_2O)
Hazardous Environments: Not rated for use in hazardous environments

Software

Operating System: Multitasking with desktop software options
User Interface: Drop-down menu driven operation, joystick, and keypad
File Manager: File and folder creation, naming, copying and deleting
Measurements: 3D Phase, StereoProbe®, ShadowProbe® & Comparison
MDI Software (optional): Provides user defined guided inspection
Creates DICONDE compatible inspection files
Creates MS Word™ compatible inspection reports
Audio Data: PC compatible, 15 second files (WAV or MP3 format). PCM audio with MPEG2 video recordings
Image Controls: Adjustable brightness, 1/10,000 sec to 12 sec exposure. Left/Right invert for side-view tip correction. Freeze frame, live/still Inverse+ enhancement, side-by-side split screen
Digital Zoom: 1X to 3X – Continuous and 5-level stepped
User Available Memory: 2.7GB internal, user-supplied external
Annotation: Text and arrow overlays and custom logos
Articulation Controls: 360° All-Way® steering, Steer-and-Stay™, Home
Lamp Control: On/Off, menu-controlled
Software Updates: Field upgradeable via removable media
Temperature Warning: Integrated camera and base unit temperature warning systems
DVD writing: DVD+R, DVD-R, still images, audio clips, MPEG2 video and PCM audio real-time recording

Languages

Chinese, Czech, English, French, Japanese, Spanish, Russian, German, Italian, Portuguese, Swedish, or factory supplied custom language.

Tip Articulation

Length	Straight Tube
2.0 m, 3.0 m, and 4.5 m	Up/Down – 140° min, Left/Right – 140° min
6.0 m	Up/Down – 130° min, Left/Right – 130° min
8.0 m	Up/Down – 120° min, Left/Right – 120° min
9.6 m	Up/Down – 110° min, Left/Right – 110° min

Note: *Typical articulation exceeds minimum specifications*

Measurement (Supported Features)

Feature	3D Phase	ShadowProbe®	StereoProbe®	Comparison
Length/Distance	■	■	■	■
Depth	■	■	■	
Point-to-Line	■	■	■	■
Non-perpendicular Length	■	■	■	
Area	■	■	■	■
Multi-Segment Length	■	■	■	■
Circle Gauge	■	■		■
Blade Tip Clearance	■			
Profile View	■			
3x Zoom Windows	■	■	■	■
5 Measurements/ Image	■	■	■	■

Technical Specifications

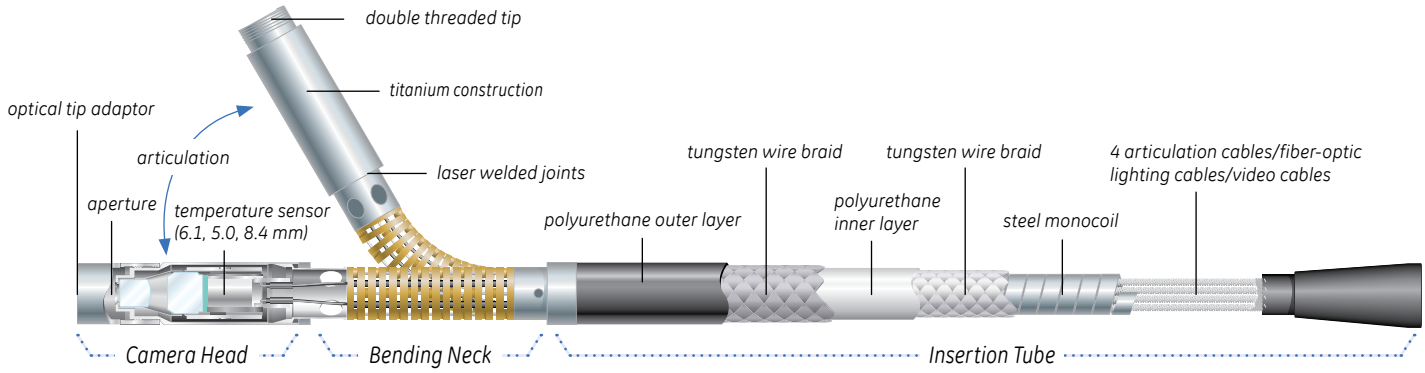
Tip Optics

Tip View (DOV)	Tip Color	Field of View (FOV)*	Depth of Field (DOF)	3.9 mm Optical Tip Part #	5.0 mm Optical Tip Part #	6.1 mm Optical Tip Part #	6.2 mm Optical Tip Part #	8.4 mm Optical Tip Part #
Standard Tips								
FORWARD	NONE	80˚	6–80 mm (0.24–3.15 in)	PXT480FG				
FORWARD	ORANGE	90˚	3-40 mm (0.12-1.57 in)	PXT490FN				
FORWARD	NONE	50˚	50 mm (1.97 in)–infinity		PXT550FF	XLG3T6150FF		
FORWARD	WHITE	50˚	12–200 mm (0.47–7.87 in)		PXT550FG	XLG3T6150FG		
FORWARD	ORANGE	80˚	3-20 mm (0.12-0.79 in)		PXT580FN	XLG3T6180FN		
FORWARD	YELLOW	90˚	20 mm (0.79 in)-infinity			XLG3T6190FF		
FORWARD	BLACK	120˚	5–120 mm (0.20–4.72 in)			XLG3T61120FG		
FORWARD	BLACK	100˚	5–120 mm (0.20–4.72 in)		PXT5100FG			
FORWARD OBLIQUE	PURPLE	50˚	12–80 mm (0.47–3.15 in)			XLG3T6150FB		
FORWARD	NONE	40˚	100 mm (3.94 in.)–infinity				PXT6240FF	
FORWARD	YELLOW	120˚	25 mm (0.98 in.)–infinity				PXT62120FF	
FORWARD	BLACK	120˚	4–190 mm (0.16–7.48 in.)				PXT62120FN	
FORWARD	BLUE	120˚	5–200 mm (0.20–7.87 in)				XLG3T84120FN	
FORWARD	NONE	40˚	250 mm (9.84 in)–infinity					XLG3T8440FF**
FORWARD	WHITE	40˚	80 - 500 mm (3.15 - 19.68 in)					XLG3T8440FG
FORWARD	YELLOW	80˚	25–500 mm (0.98–19.68 in)					XLG3T8480FG
SIDE	BROWN	80˚	4–80 mm (0.16–3.15 in)	PXT480SG				
SIDE	RED	90˚	2-16 mm (0.08-0.63 in)	PXT490SN				
SIDE	BROWN	50˚	45 mm (1.77 in.)–infinity			XLG3T6150SF		
SIDE	GREEN	50˚	9–160 mm (0.35–6.30 in)		PXT550SG	XLG3T6150SG		
SIDE	BLUE	120˚	4–100 mm (0.16–3.94 in)			XLG3T61120SG		
SIDE	BLUE	100˚	4–100 mm (0.16–3.94 in)		PXT5100SG			
SIDE	RED	80˚	1–20 mm (0.04–0.79 in)		PXT580SN	XLG3T6180SN		
SIDE	GREEN	80˚	18 mm (0.71 in) – infinity				PXT6280SF	
SIDE	BLUE	80˚	5 mm (0.20 in) – infinity				PXT62120SN	
SIDE	BROWN	40˚	250 mm (9.84 in)–infinity					XLG3T8440SF**
SIDE	GREEN	80˚	25–500 mm (0.98–19.68 in)					XLG3T8480SG
SIDE	BLUE	120˚	4–200 mm (0.16–7.87 in)					XLG3T84120SN
ShadowProbe® Measurement Tips								
FORWARD	WHITE	50˚	12–30 mm (0.47–1.18 in)			XLG3TM6150FG		
SIDE	BLUE	50˚	7–24 mm (0.28–0.94 in)			XLG3TM6150SG		
StereoProbe® Measurement Tips								
FORWARD	BLACK	50˚/50˚	5–45 mm (0.20–1.77 in)	PXTM45050FG				
FORWARD	BLACK	60˚/60˚	4–80 mm (0.16–3.15 in)		PXTM56060FG	XLG3TM616060FG	PXTM626060FG	
FORWARD	BLACK	60˚/60˚	4–50 mm (0.16–1.97 in)					XLG3TM846060FG
SIDE	BLUE	50˚/50˚	4–45 mm (0.16–1.77 in)	PXTM45050SG				
SIDE	BLUE	45˚/45˚	2–50 mm (0.08–1.97 in.)		PXTM54545SG			
SIDE	BLUE	50˚/50˚	2–50 mm (0.08–1.97 in)			XLG3TM615050SG		
SIDE	BLUE	60˚/60˚	4–80 mm (0.16–3.15 in)				PXTM626060SG	
SIDE	BLUE	60˚/60˚	4–50 mm (0.16–1.97 in)					XLG3TM846060SG
3D Phase Measurement Tips								
FORWARD	BLACK	105˚	8–250 mm (0.31–9.84 in)			XL4TM61105FG		
SIDE	BLUE	105˚	7–250 mm (0.27–9.84 in)			XL4TM61105SG		

*FOV is specified diagonally.
**Indicates tips with maximum brightness.

Technical Specifications

Insertion Tube



Note: *Illustration is not drawn to scale.*

CAMERA DIAMETER	INSERTION TUBE WORKING LENGTH					
3.9 mm (0.154 in)	2.0 m (6.6 ft)	3.0 m (9.8 ft)				
5.0 mm (0.197 in)	2.0 m (6.6 ft)	3.0 m (9.8 ft)	4.5 m (14.8 ft)			
6.1 mm (0.242 in)	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)	
6.2 mm (0.244 in)		3.2 m (10.5 ft)				
8.4 mm (0.331 in.)	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)	9.6 m (31.5 ft)

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