



VideoProbe XL Family

CLEAR ADVANTAGES

The VideoProbe® XL™ family offers clear advantages over fibscopes and video image scopes. All-way articulation provides tip manoeuvrability that outperforms all small-diameter fibscopes and video image scopes. The combination of a new high-resolution CCD camera, advanced Digital Signal Processing and an integrated high-intensity arc lamp produces bright, crisp images.

PRACTICAL SETUP AND OPERATION

VideoProbe XL systems are packaged in a single compact and rugged carrying case that weighs 14.5 kg (32 lbs.). The user simply plugs in the power cord, pulls out the VideoProbe XL, and turns on one switch. Unlike most fibscopes and video image scopes, the VideoProbe XL has no additional cords, cumbersome light sources, or monitors to carry, unpack and connect.

INNOVATIVE ALL-WAY™ ARTICULATION

Joystick-controlled all-way articulation allows the user to manoeuvre and view images in previously inaccessible areas. The electronic joystick is intuitive and requires less dexterity than conventional knobs. To guide the tip of the VideoProbe XL, just point the joystick in the desired direction and watch the video screen. The VideoProbe XL features an electronic articulation lock activated by a single button conveniently located near the joystick. The joystick's electronic servos reduce life-cycle costs by protecting the cable mechanism from manual over-torque, which can cause articulation cables to stretch and break.

PRACTICAL EVALUATION TOOLS

The VideoProbe XL family offers a fast, practical way to evaluate and document inspection results. Portability, quick setup, joystick control, and automatic light control allow users to inspect components or entire systems in record time.



RUGGED INDUSTRIAL DESIGN

The VideoProbe XL has a tungsten insertion tube. Comparisons have shown tungsten insertion tubes to have five times more wear resistance and ten times more tensile yield strength than stainless steel tubes. This makes the VideoProbe XL more suitable for use in harsh application environments and contributes to a reduction in product maintenance costs.

BRIGHT, HIGH-RESOLUTION IMAGES

The VideoProbe XL's bright, clear colour monitor delivers a resolution much higher than fibrescope images. Users don't have to strain or squint into an eyepiece to see the image, so there is less eyestrain during long inspections. For user training, fault diagnosis, and meetings, larger monitors can be easily connected.

MULTIPLE VIEWING OPTIONS

Six interchangeable tip adapters provide multiple viewing options. Users can easily change field of view, depth of field, and direction of view to match application requirements. The adapters feature a positive locking arrangement and do not increase probe diameter.

ADVANCED ARC LAMP

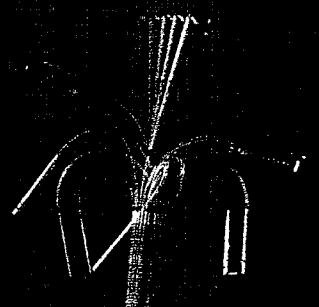
The VideoProbe XL delivers efficient, uniform, and Xenon-quality lighting with a small, integrated HI-Lux™ metal halide arc lamp. The patented, long-lasting HI-Lux 24-watt lamp produces high-intensity light with a colour temperature of 5500°K.

FAST, INTUITIVE MANOEUVRING

The VideoProbe XL is easy to hold and easy to operate. The integrated colour monitor offers immediate feedback for instantaneous joystick control, faster probe movement, and faster inspections. This system relies on intuitive hand-eye coordination so user training isn't required. And it leaves one hand free to guide the probe into the opening to be inspected.

ALL-WAY ARTICULATION

Joystick-controlled all-way articulation is unrivaled in ease of use and manoeuvrability. The range of tip movement is greater than 150°, and the user can hold and control the system with one hand while manipulating the probe with the other.



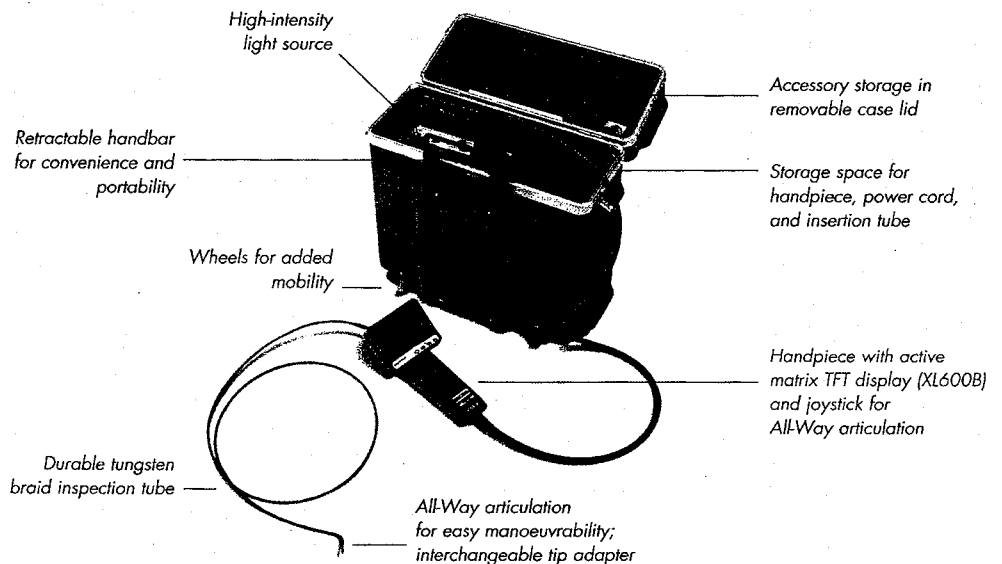
THE PERFECT PROBE FOR INSPECTION CHALLENGES

When deadlines are tight and disassembly isn't an option, the VideoProbe XL offers a fast, convenient way to inspect complex machinery. Bright, clear light is always instantly available so there's no need to configure external light sources and move them from inspection point to inspection point.

VIDEOPROBE XL

THE PERFECT PACKAGE

The case is vital to the utility of the VideoProbe XL. It contains everything needed for inspections. The unit can be set up in less than a minute. Only the probe and power cord need be removed from the package. The rest of the components remain protected inside the case. And while many clam-shell cases used for flexible probes can close on the probe and damage it, the VideoProbe XL case reduces this possibility to an absolute minimum.



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ADVANCED VIDEOPROBE® XL600B and XL800B

New features enable the advanced VideoProbe XL600B and XL800B to offer more advantages than ever over traditional fibrescopes and video image scopes.

- 50% larger display than earlier XL600 and XL800 Series
- Crisper, higher resolution images
- Auto-centring tip articulation
- Steer-and-Stay™ Articulation Lock Mode
- Optional measurement capability

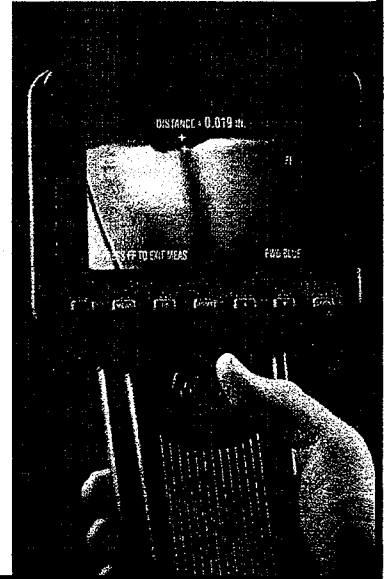
HIGHER RESOLUTION DISPLAY!

The XL800B and XL600B handpiece has a 50% larger display with twice the resolution and brightness all without adding size or weight. This new state-of-the-art chip on glass display offers the latest in active matrix TFT technology and viewing from almost any angle. This high performance monitor now displays the full capability of the CCD camera, advanced Digital Signal Processing and integrated high-intensity arc lamp, allowing the probe to produce brighter, crisper images and enabling more detailed inspection.

JOYSTICK ARTICULATION ENHANCEMENTS

"Smart" All-Way™ articulation assists the user by replacing the awkward coordination of two independent steering knobs with a simple point-and-look joystick. It also provides automatic protection against overtorque of the steering cables and reduces the frequency of repair. Now this technology is even more useful, with a convenient steer-and-stay Articulation Lock Mode and a helpful auto-centering function.

Articulation Lock Mode is user selected and adds a "smart" electronic brake to the joystick articulation. Each time the joystick is moved, the tip locks in place until the next movement. The electronics sense when the joystick is being moved and engage the brake when the joystick is released. This braking enables the user to more easily position the tip for an optimal view. The user simply moves the joystick until the desired view is obtained, without having to reach for a separate braking mechanism. Return-to-Home automatically releases any brakes and repositions the probe tip to a neutral forward position. This is helpful when multiple tip articulations have caused the user to lose orientation inside the inspected equipment. With the push of a button, the probe resets itself to the forward position and the user can start again. Return-to-Home can also help to reduce probe repairs by ensuring the probe tip is relaxed and straight prior to extraction.



ADVANCED 6mm VIDEOPROBE® XL SHADOWPROBE MEASUREMENT

When you are making critical judgements based on the size of defects found during inspections, accurate measurement is extremely valuable. The advanced 6mm VideoProbe XLM600B now delivers that accuracy with the field-proven ShadowProbe measurement feature an easy, affordable option for your measurement needs.

The accurate measurements provided by the XLM600B ShadowProbe deliver the additional information that enables you to improve safety, increase equipment availability and lower maintenance costs. In the past, "eyeball estimates" were used to judge serviceability. To err on the side of safety, companies had to make costly decisions that adversely impacted system availability. Aircraft engines were pulled early, and plant operations were needlessly shut down. The quantitative information provided by the XLM600B ShadowProbe changes that.

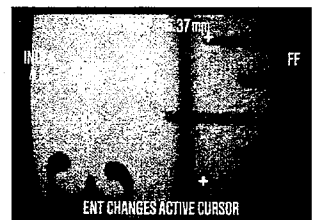
THE SHADOWPROBE PRINCIPLE

The XL ShadowProbe measurement system projects a shadow across the image. The position of the shadow in the image indicates the distance to the objects. With this information, the system calculates the size of the objects. The User simply places the measurement cursors on the object to be measured and presses a button. Distance measurements can be made from a perpendicular or skewed-viewing angle. Depth measurements indicate the true vertical change in surface height.

AFFORDABLE

The highly versatile 6mm XL ShadowProbe also makes measurement very affordable. Special tip adapters change the direction of view and focus range, so that one probe can provide measurement, for both forward and side-view inspections. The conversion is all in the tip adaptor. The probe can also be used, without compromising performance, for non-measurement inspections because it is compatible with all the standard 6mm optical tip-adaptors.

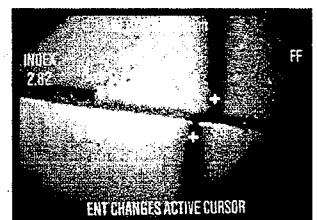
With the new Rigidiser accessory the probe can even be used as a rigid measurement scope.



Distance



Skew Distance



Depth

SPECIFICATIONS

Total System Weight:

14.5 kg (32 lbs.)

Power Requirements:

AC Nominal Input: 100-240 V;

min. 90 V, max. 250 V

DC Nominal Input: 12 V;

min. 11 V, max. 14 V (max. 10A)

Video Output:

Composite/S-Video

System Operating Temp.:

-20°C to 46°C (-4°F to 115°F)

LCD Monitor requires 5-20 minutes

warm-up below 0°C (32°F)

Insertion Tube Tip Operating Temp.:

-25°C to 80°C (-13°F to 176°F)

Reduced articulation below 0°C (32°F)

Storage Temp.:

-25°C to 60°C (-13°F to 140°F)

Relative Humidity: 95%

Light Box:

Depth: 24.1 cm (9.5 in.)

Width: 27.6 cm (10.9 in.)

Height: 7.6 cm (3.0 in.)

Lamp Output: 1850 lumens

Lamp Life: 300 hrs. median

Colour Temp.: 5500°K

Monitor: 5" TFT LCD

XL800B Series with 5" TFT LCD Screen, Steer and Stay / Return to Home Articulation

Model	Probe Diameter	Working Length	Articulation	Tip Material	Articulation	Articulation
XL815B	8.4mm	1.5 m (4.9 ft.)	All-Way 150°	Tungsten	Variable	Variable
XL820B	8.4mm	2.0 m (6.6 ft.)	All-Way 150°	Tungsten	Variable	Variable
XL830B	8.4mm	3.0 m (9.8 ft.)	All-Way 150°	Tungsten	Variable	Variable
XL845B	8.4mm	4.5 m (14.9 ft.)	All-Way 120°	Tungsten	Variable	Variable
XL860B	8.4mm	6.0 m (19.8 ft.)	All-Way 120°	Tungsten	Variable	Variable
XL875B	8.4mm	7.5 m (24.8 ft.)	All-Way 90°	Tungsten	Variable	Variable

XL600B Series with 5" TFT LCD Screen, Steer and Stay / Return to Home Articulation

Model	Probe Diameter	Working Length	Articulation	Tip Material	Articulation	Articulation
XL615B	6.1mm	1.5 m (4.9 ft.)	All-Way 150°	Tungsten	Variable	Variable
XL620B	6.1mm	2.0 m (6.6 ft.)	All-Way 150°	Tungsten	Variable	Variable
XL625B	6.1mm	2.5 m (8.2 ft.)	All-Way 150°	Tungsten	Variable	Variable
XL630B	6.1mm	3.0 m (9.8 ft.)	All-Way 150°	Tungsten	Variable	Variable
XL645B	6.1mm	4.5 m (14.9 ft.)	All-Way 120°	Tungsten	Variable	Variable
XL660B	6.1mm	6.0 m (19.8 ft.)	All-Way 120°	Tungsten	Variable	Variable
XL675B	6.1mm	7.5 m (24.8 ft.)	All-Way 90°	Tungsten	Variable	Variable

XLM600B ShadowProbe with 5" TFT LCD Screen, Steer and Stay/Return to Home Articulation

Model	Probe Diameter	Working Length	Articulation	Tip Material	Articulation	Articulation
XLM615B	6.1mm	1.5 m (4.9 ft.)	All-Way 150°	Tungsten	Variable*	Yes
XLM620B	6.1mm	2.0 m (6.6 ft.)	All-Way 150°	Tungsten	Variable*	Yes
XLM625B	6.1mm	2.5 m (8.2 ft.)	All-Way 150°	Tungsten	Variable*	Yes
XLM630B	6.1mm	3.0 m (9.8 ft.)	All-Way 150°	Tungsten	Variable*	Yes
XLM645B	6.1mm	4.5 m (14.9 ft.)	All-Way 120°	Tungsten	Variable*	Yes
XLM660B	6.1mm	6.0 m (19.8 ft.)	All-Way 120°	Tungsten	Variable*	Yes
XLM675B	6.1mm	7.5 m (24.8 ft.)	All-Way 90°	Tungsten	Variable*	Yes

*See tip adapter specifications below.

Articulation efficiency is dependent on the number of bends in the probe length. Example: 170° articulation can be achieved with an XL615 with no bends in the probe length. 90° articulation can be achieved with an XL615 with six bends in the probe length.

Interchangeable Tip Adapters Optical Only

Model No.	Colour Code	Field of View	Depth of Field	Magnification on 12 in. monitor	Magnification on 5 in. LCD
Forward View Tips					
XT650FF/850FF	Headguard	50° Fwd	40mm-inf.	10x	4x
XT650FG/850FG	White	50° Fwd	14 mm-100 mm	30x	11x
XT6100FG/8100FG	Black	100° Fwd	6 mm-100 mm	45x	17x
XT690FF/850FF	Yellow	90° Fwd	20 mm-inf.	12x	5x
Side View Tips					
XT650SG/850SG	Green	50° Fwd	12 mm-30 mm	30x	11x
XT6100SG/8100SG	Blue	100° Side	6 mm-60 mm	30x	11x
XT680SN/880SN	Red	80° Side	1 mm-15 mm	70x	27x
XT650SF/850SF	Brown	50° Side	40 mm-inf.		
Optical with Shadow Measurement					
XTM650FG	White	50° Fwd	12mm-30mm	30x	11x
XTM650SG	Green	50° Side	12mm-35mm	30x	11x
XTM650SN	Blue	50° Side	7mm-24mm	50x	19x

NOTE: Every system includes light source (XL240LSA), interchangeable probe with integral joystick, 5" LCD monitor and keypad, carrying case, sun visor and shoulder strap. In addition, measurement systems include measurement module (XLAMS). Optional accessories include battery belt with light box clip for battery operation. Systems can also be operated with other 12 volt DC power sources.

STEERING ORIENTATION

The joy-stick articulation of XL operates in a completely different way to most fibrescopes and videoprobes which have steering hand-wheels.

When steering the XL tip, all control movements made with the joy-stick are seen as changes in the image on the monitor screen. Unlike on some other flexible borescope systems it is not necessary to try and visualise what the tip is actually doing.

Regardless of how the probe has been twisted or turned on its route to the inspection area, the relationship of joy-stick movement to on-screen image never changes.

Forward movement of the joy-stick will show more of the image at the top of the screen, backward movement will show more of the image at the bottom of the screen. Left movement and right movement show more of the left and right of the image respectively.

The joy-stick to articulation movement is proportional. The joy-stick selects a given amount of electrical power to be put through the articulation control servos. A small amount of movement gives a small degree of deflection which is obtained slowly. A large amount of joy-stick movement gives a greater amount of power on the servos so you get more deflection and you will get it faster.

By understanding these relationships, using XL becomes child's-play!



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