GE
Measurement & Control Solutions

Fiberscopes

Remote Visual Inspection

Precision Optics
Durable Construction
Cost Effective

Ergonomic Body

The trim, sleek body is comfortable for hands of all sizes and the conveniently-placed articulation and focus controls enable single-handed operation.

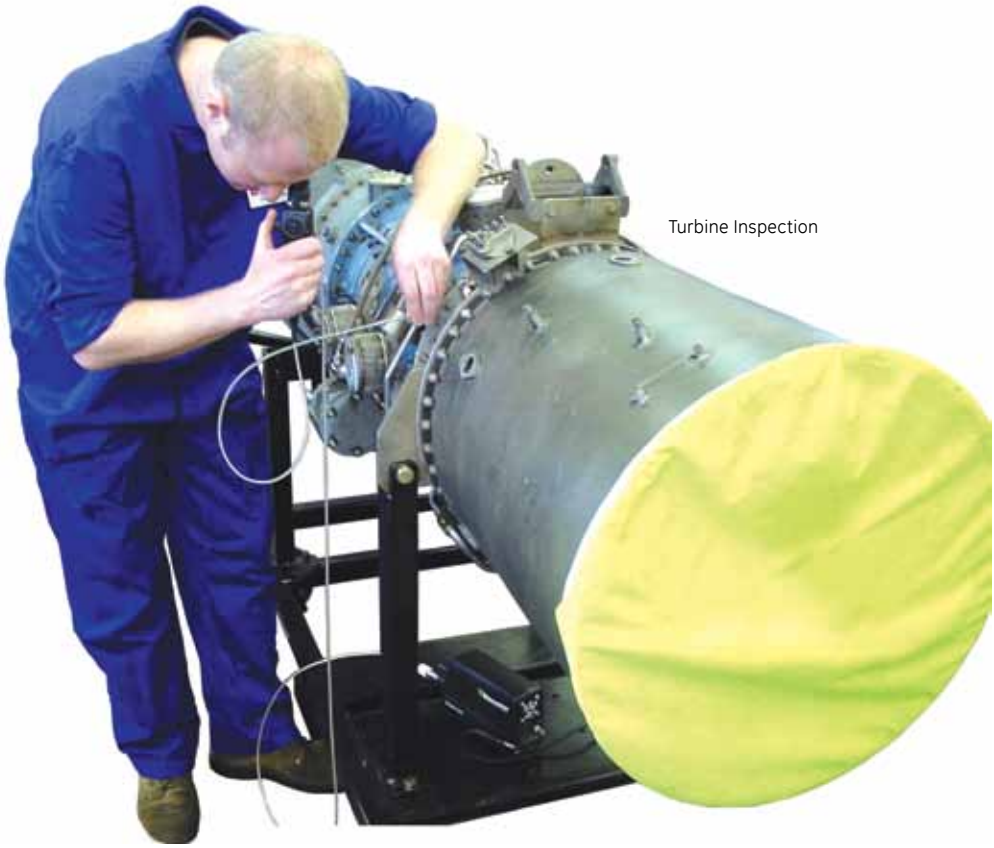
Designed To Be Used

Our flexible fiberscopes are built to withstand today's tough industrial applications. With a stainless steel monocoil core, waterproof sealant, and stainless steel or tungsten outer braid, the scopes are built for durable performance in a variety of inspection environments.

For UV Inspections

Quartz illumination fibers are available for applications where a UV light source is required with the fiberscope. Quartz has much greater efficiency when transmitting UV light and will provide more intense output to stimulate UV-sensitive dyes and penetrants.

Image of Turbo Impeller

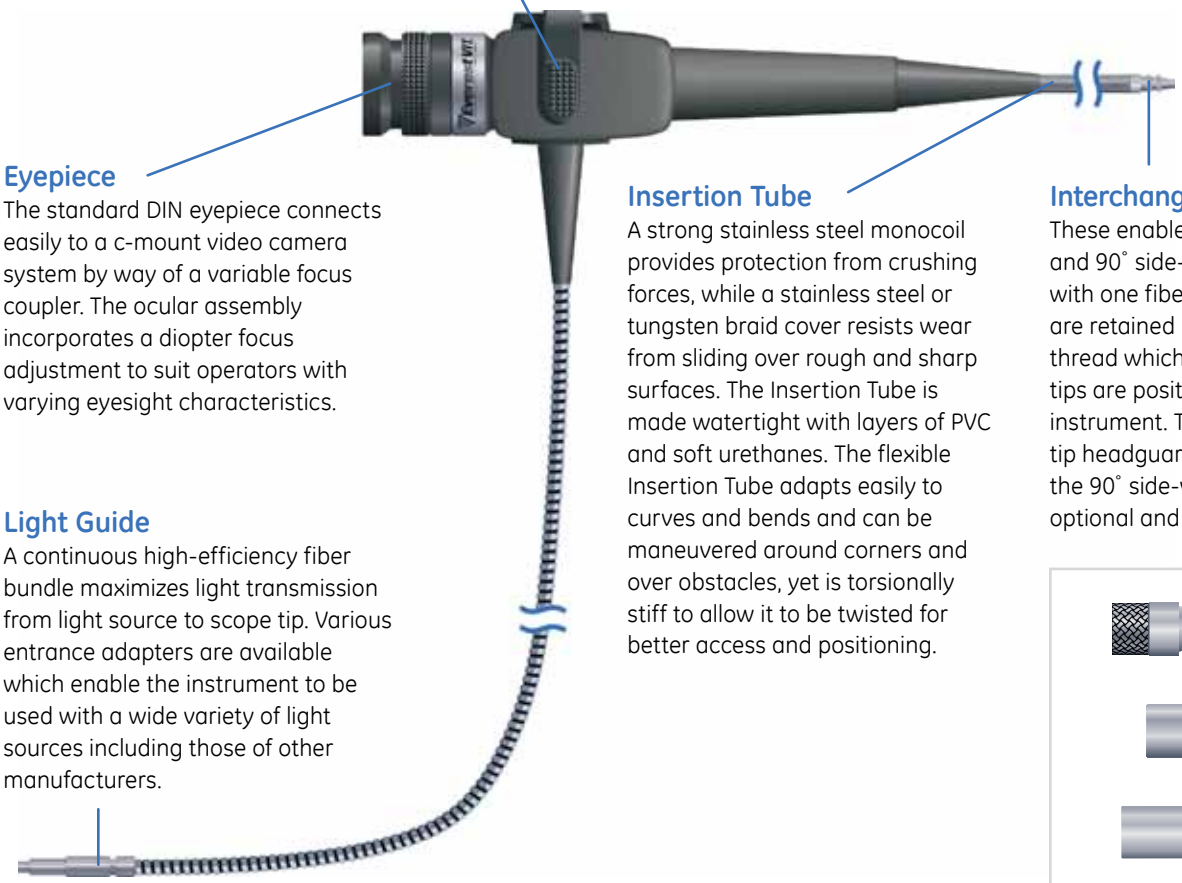


Turbine Inspection

Hardware Features

Tip Articulation

This aids maneuverability and has a scanning capability which can provide a panoramic view of the area being inspected. Tip Articulation is controlled by a conveniently-located lever which operates the two-way articulating tips. Two concentric knobs are used on four-way systems. Both types have locking mechanisms to maintain a fixed articulation angle during inspection.



Eyepiece

The standard DIN eyepiece connects easily to a c-mount video camera system by way of a variable focus coupler. The ocular assembly incorporates a diopter focus adjustment to suit operators with varying eyesight characteristics.

Light Guide

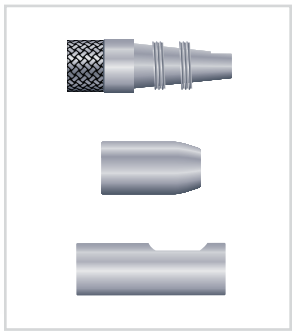
A continuous high-efficiency fiber bundle maximizes light transmission from light source to scope tip. Various entrance adapters are available which enable the instrument to be used with a wide variety of light sources including those of other manufacturers.

Insertion Tube

A strong stainless steel monocoil provides protection from crushing forces, while a stainless steel or tungsten braid cover resists wear from sliding over rough and sharp surfaces. The Insertion Tube is made watertight with layers of PVC and soft urethanes. The flexible Insertion Tube adapts easily to curves and bends and can be maneuvered around corners and over obstacles, yet is torsionally stiff to allow it to be twisted for better access and positioning.

Interchangeable Tip Optics

These enable both forward-view and 90˚ side-view inspections with one fiberscope. The Tip optics are retained by a double screw-thread which ensures that the tips are positively secured to the instrument. The forward-viewing tip headguard is standard and the 90˚ side-view Tip Optics are optional and diameter-specific.



Technical Specifications

Operating Temperature:

-18˚ to 82˚ C (0˚ to 180˚ F)

Watertight:

Insertion Tube and Bending Neck to 1 bar (14.7 psi)
Scope Body splashproof

Liquid Compatibility:

Can be immersed in water, synthetic and mineral lubricating oil, mineral and synthetic hydraulic fluid (not Skydrol®), gasoline, diesel and jet fuel. (Instrument must be cleaned of contaminating fluid after use and before storage.)

Insertion Tube Bend Radius:

Scope Diameter	Minimum Bend Radius
2.4 mm to 6 mm	32 mm (1.25 in.)
8.4 mm	36 mm (1.5 in.)
12.5 mm	51 mm (2.0 in.)

Specifications subject to change without notice.

Technical Specifications

Specifications subject to change without notice.

Fiberscope Models **with Articulation**

Part No.	Diameter mm (in.)	Working Length m (ft.)	Articulation	Direction of View	Field of View	Side View Tip	Insertion Tube/ Bending Neck Braid**
2.4 mm Diameter							
F2D07	2.5 (0.098)	0.75 (2.5)	2-Way	0˚	60˚	No	tungsten
F2D12	2.5 (0.098)	1.2 (3.9)	2-Way	0˚	60˚	No	tungsten
3.0 mm Diameter							
F3X085	3.3 (0.130)	0.85 (2.8)	2-Way	0˚	45˚	No	tungsten
F3D10	3.3 (0.130)	1.0 (3.3)	2-Way	0˚	45˚	No	tungsten
F3D12	3.3 (0.130)	1.2 (3.9)	2-Way	0˚	45˚	No	tungsten
4.0 mm Diameter							
F4X085	4.0 (0.157)	0.85 (2.8)	2-Way	0˚	45˚	No	tungsten
F4D10	4.0 (0.157)	1.0 (3.3)	2-Way	0˚	45˚	No	tungsten
F4D15	4.0 (0.157)	1.5 (4.9)	2-Way	0˚	45˚	No	tungsten
5.0 mm Diameter							
F5X085	5.0 (0.197)	0.85 (2.8)	2-Way	0˚/90˚	45˚	Yes	tungsten
6.0 mm Diameter							
F6X085	6.0 (0.236)	0.85 (2.8)	2-Way	0˚/90˚	45˚	Yes	tungsten
F6X17	6.0 (0.236)	1.5 (4.9)	4-Way	0˚/90˚	45˚	Yes	tungsten
F6X18	6.0 (0.236)	1.8 (6.1)	2-Way	0˚/90˚	45˚	Yes	tungsten
F6X27	6.0 (0.236)	2.7 (8.9)	2-Way	0˚/90˚	45˚	Yes	tungsten
8.0 mm Diameter							
F8X18	8.0 (0.331)	1.8 (6.1)	4-Way	0˚/90˚	45˚	Yes	tungsten

Fiberscope Models **without Articulation**

Part No.	Diameter mm (in.)	Working Length cm (in.)	Articulation	Direction of View	Field of View	Side View Tip	Insertion Tube Covering
0.4 mm Diameter							
FCN04D025	0.4 (0.016)	25 (9.8)	-	0˚	50˚	-	polyamide
FCN04D06	0.4 (0.016)	60 (23.6)	-	0˚	50˚	-	polyamide
0.5 mm Diameter							
FCN05D06	0.5 (0.0197)	60 (23.6)	-	0˚	50˚	-	polyamide
FCN05D120	0.5 (0.0197)	120 (47.2)		0˚	50˚		polyamide
0.9 mm Diameter							
FCN09D10	0.9 (0.0354)	100 (39.4)	-	0˚	55˚		polyamide
1.0 mm Diameter							
FCN1.0D06	1.0 (0.039)	60 (23.6)	-	0˚	55˚	-	polyamide
FCN1.0D120	1.0 (0.039)	120 (47.2)	-	0˚	55˚	-	polyamide
FCN1.0D20	1.0 (0.039)	200 (78.7)	-	0˚	55˚	-	polyamide
FN1.0S10	1.0 (0.039)	100 (39.,4)	-	90˚	50˚	-	polyamide
1.5 mm Diameter							
FCN1.5D06	1.5 (0.059)	60 (23.6)	-	0˚	70˚	-	polyamide
FCN1.5D120	1.5 (0.059)	120 (47.2)	-	0˚	70˚	-	polyamide
2.0 mm Diameter							
FN2D10	2.0 (0.0787)	100 (39.4)	-	0˚	70˚	-	stainless steel
FN2D12	2.0 (0.0787)	120 (47.2)	-	0˚	70˚	-	stainless steel
FN2S12	2.0 (0.0787)	120 (47.2)	-	90˚	70˚	-	stainless steel
FN2D15	2.0 (0.0787)	200 (78.7)	-	0˚	70˚	-	stainless steel
FN2D20	2.0 (0.0787)	200 (78.7)	-	0˚	70˚	-	stainless steel
FN2S20	2.0 (0.0787)	200 (78.7)	-	90˚	70˚	-	stainless steel

Light Sources & Accessories

GE Measurement & Control Solutions flexible fiberscopes are ideal for documentation and recording images, and with the appropriate adapter, can be used with color video cameras.

The following documentation accessories are available:

- Video Cameras for recording and documentation
- Monitors for displaying enlarged images.
- Light Sources

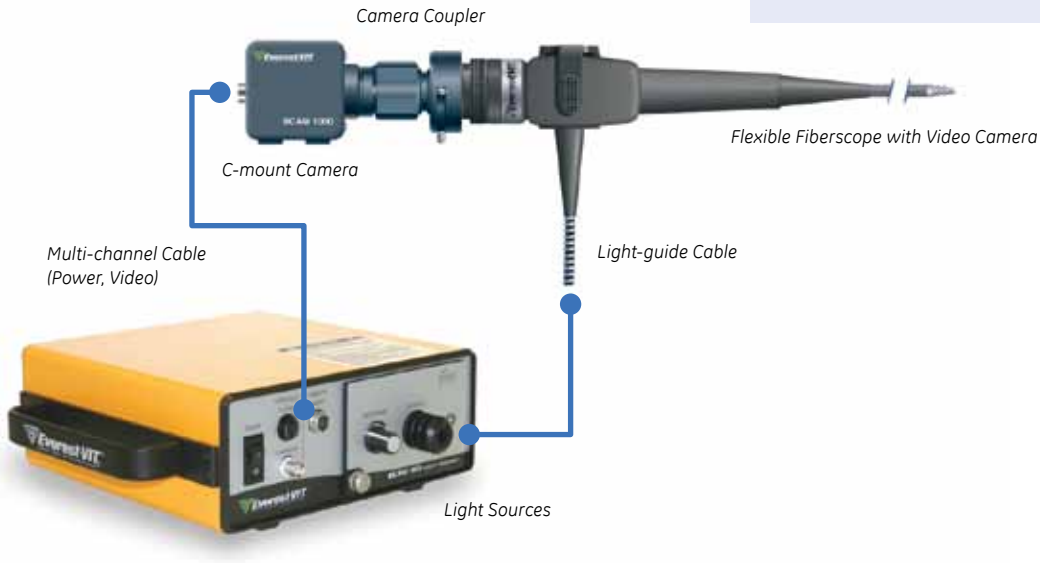
C-mount Color Video Camera

C-mount Video Coupler (with fixed or adjustable focus)

XLG3 Borescope Adapter. Couple any GE fiberscope to the XLG3 VideoProbe to allow use of image capture and data management.

Mini DV Digital Video Recorder/Monitor. Includes memory card for video clips and still image storage

High-resolution Monitor



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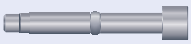
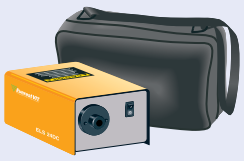


Olympus

Wolf

Adapters for connection to various Light Sources

ELSV-60
60 W metal-halide light source with integral camera power and video output channel.



ELS-24DC KIT
24 W metal-halide light source with high output and high color temperature.

ELSX-300
300 W Xenon light source with high output, and high color temperature.

ELS-120UV or FLS-200UV
Switchable UV/visible light sources

A large family of rugged, high performance inspection tools

A wide range of diameters, lengths and viewing options, combined with a high-resolution image guide, make GE Measurement & Control Solutions flexible fiberscopes ideal for a variety of remote visual inspection applications. They excel in capturing bright, clear images from deep inside turbines, compressors, pipes, tanks and other hard-to-reach places.

Full Range of Models

With over 30 standard models from which to choose, you are sure to find the right fiberscope for your inspection application. Standard articulating models have diameters as small as 2.4 mm (0.94 in.) and lengths up to 2.7 m (8.9 ft.).

Non-articulating models are available from 0.4 mm (0.20 in.) diameter and in lengths as long as 2.0 m (6.6 ft.).

High-resolution Images

The super thin fiberoptic technology used by GE Measurement & Control Solutions fiberscopes allows thousands more fibers to be packed into the same size image bundle. Our “Superfine” image guides have up to 50 percent more fibers than other fiberscopes of similar diameter. The high quality of smaller fibers provides a sharper, smoother image and reveals finer details of the inspection surface.

www.ge-mcs.com/en

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