

ITI V5 VIDEOSCOPE SYSTEM



POINT.

CLICK.

VIEW.



ITI has one word for Remote Viewing: **EASY.**

ITI V5 VIDEOSCOPE SYSTEM

5 **EASY** Features:

- **EASY TO USE** - Just push the button
- **DURABLE** - Practically eliminates the cost of downtime and repairs
- **PORTABLE** - For inspections on site, any site, any time
- **AFFORDABLE** - Highest quality performance without the bells and whistles you don't need and you don't need to pay for!
- **SUPERIOR IMAGE QUALITY** - Clear, bright images

Call us @ 1-800-561-3606
www.Scopes.com/V5



4" DETACHABLE LCD DISPLAY (optional)



HEAD-UP DISPLAY (optional)

MADE IN U.S.A.

V5 System

Case Dimensions	18-1/2" x 14" x 7"
Weight	25 lbs
Power Requirements	AC: 110V or 220V DC: 2 - 12V NiMH Batteries

Videoscope Probe

Diameters Available	6mm & 8mm
Working Lengths Available	2M to 7.6M

CCD Camera

Image Sensor	1/6 inch CCD
Pixels	373,000 NTSC; 438,000 PAL
Shutter Speed	Up to 1/10,000 sec
White Balance	Auto Set or Manual (2800 to 6500K)

Digital Recorder

Video	Motion - JPEG (Quicktime MOV files, CIF Format) NTSC - 320 x 240, 30fps PAL - 384 x 288, 25fps (2) settings: 33 mins (4mbps/, 30fps) w/2GB CF card 66 mins (2mbps/, 15fps) w/2GB CF card
Still	JPEG NTSC - 640 x 480 PAL - 768 x 576 Std Quality (128KB) High Quality (256KB)
Media	CompactFlash™ Type I & II Cards 512MB (included) up to 2GB available

LCD Monitor

Diagonal Display	10.4 inch TFT LCD
Viewing Angle	Horiz - 140°, Up Side - 45°, Down Side - 55°
Luminance	450 CD/M2 (450 NITS)
Contrast Ratio	600:1
Monitor Resolution	VGA 640H x 480V

Light Source

Lamp	24 Watt Solarc Lamp
Color Temperature	5500°K
Lamp Light	500 Hours
Dimming System	Manual Shutter

Tip Articulation

Up/Down	130° min
Left/Right	130° min

Video Signal

Input	S-Video (Y/C) 4-pin mini-DIN
Output	S-Video (Y/C) 4-pin mini-DIN Composite Video

Misc Features

Electronic Zoom	1X, 1.5X, & 2X Digital Zoom
Image Reverse	0° & 180°
Longtime Exposure	From 1/30th sec to 2.1 sec
Brightness Control	Automatic & Manual
Keyboard Input	PS/2 6-pin mini-DIN
Overlay	10 lines x 25 characters

Operating Environment

Probe Operating Temp	-13°F to 176°F
System Operating Temp	-5°F to 115°F
Storage Temp	-15°F to 140°F
Relative Humidity	95% Maximum



ITI V5+ Videoscope System



Includes battery pack

Portable

Compact

Lightweight

Simple to use

Superior image quality

VERSATILE, COMPACT, DURABLE

The ITI V5+ Videoscope System is ready for use whenever and wherever you need it at a price you can afford.

- Superior image quality
- Complete system in a lightweight 12 lb. package
- Simple to operate
- Industrial videoscope with 4-way articulation
- Compact and portable for easy on-site inspections
- Durable design limits downtime
- Affordable, high quality performance incorporating only the functions you need

GOOD THINGS COME IN SMALL PACKAGES

Superior performance in a complete, compact system designed for easy use.

- High resolution, 6.5 inch TFT LCD display
- Integrated 24 watt Solarc light source
- Electronic control board
 - LED back-illuminated for low light use
 - Durable, sealed touch board operates in all weather conditions
- Digital zoom, image inversion, automatic/manual white balance
- Integrated digital recorder for video or still photography stored on Compact Flash card
- A/C or D/C (battery included) power source



PROTECHT® articulation system guards against accidental over-torque damage of the control cable. This prevents expensive repairs while limiting downtime. High impact sealed body, fingertip control and 2X electronic zoom.

4-way flexible articulation to maximize viewing options with single hand operation. Available working lengths of 2M to 7.6M. Tungsten braid assures maximum durability and performance in difficult environments.



Easily interchangeable viewing heads with both forward and right angle line-of-sight. Fields of view of 40°, 80°, and 120° are available.



ITI V5+ Videoscope System

Technical Specifications

V5+ System

Dimensions	14" x 11 1/8" x 6 5/8" (35cm x 28cm x 17cm)
Weight	12 lbs. 6 oz. (5.6kg)
Power Input	88-264VAC, 47-63Hz, 1.1Amps
Battery Runtime	12VDC (10.8Ahr NiMH Battery), 5.1Amps 1 hr. 50 mins.

Videoscope Probe

Diameters	6mm, 8mm
Working Lengths	2M (6.6'), 3M (9.8'), 4M (13.1'), 5M (16.4'), 6M (19.7'), 7M (23.0') and 7.6M (25.0')
Optics	Interchangeable Heads: 40°, 80°, 120° FOV Fwd and RA LOS

Tip Articulation

Up/Down	130° minimum
Left/Right	130° minimum

CCD Camera

Image Sensor	1/6" CCD
Pixels	373,000 NTSC; 438,000 PAL
Shutter Speed	Up to 1/10,000 sec.
White Balance	Auto and Manual (2800°K to 6500°K)

Digital Recorder

Video	Motion-JPEG (Quicktime MOV files, CIF format) NTSC - 320 x 240, 30fps PAL - 384 x 288, 25fps Two recording rate settings: 33mins (4mbit/s, 30fps) w/ 2Gb CF card 66mins (2mbit/s, 15fps) w/ 2Gb CF card
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Audio	Audio annotations recorded w/video
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Stills	JPEG file type NTSC - 640 x 480 PAL - 768 x 576 Two image snap settings: Standard Quality (128kb file size) High Quality (256kb file size)
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Storage Media	CompactFlash™ Type I & II Cards, 1Gb (included) up to 2Gb
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LCD Display

Size and Type	6.5" TFT Color LCD
Viewing Angle	Horiz - 140°, Vert - 120°
Luminance	500 cd/m ² (500 NITS)
Contrast Ratio	600:1
Resolution	VGA (640H x 480V)

Light Source

Lamp	24 Watt Solarc
Color Temperature	5500° K
Lamp Life	500 hrs.
Attenuation	Manual graduated shutter

Video and Accessory I/O

Video Input	S-Video (Y/C), 4-pin mini-DIN
Video Output	S-Video (Y/C), 4-pin mini-DIN Composite (CVBS), BNC Scope mounted ITI monitor
Keyboard Input	USB jack
Audio Headset Input	3.5mm phone jack

Misc. Features

Electronic Zoom	2X Digital Zoom
Image Inversion	Left to Right Mirror
Longtime Exposure	1/30th sec. to 2.1 secs.
Display	Freeze Frame 4-Image tiled mosaic Color/Black & White Positive/Negative
Image Text Overlay	10 lines x 25 characters

Operating Environment

Probe Operating Temp	-13°F to 176°F (-25°C to 80°C)
Control System Temp	-5°F to 115°F (-20°C to 46°C)
Storage Temp	-15°F to 140°F (-26°C to 60°C)
Relative Humidity	95% Maximum



INSTRUMENT TECHNOLOGY, INC.



SERIES 127000 FIBERSCOPES



ITI Fiberscopes

Featuring

ProTech[®],

UNEQUALED SCOPE PROTECTION

IT'S PATENTED,

IT'S INNOVATIVE AND

IT'S LIGHT YEARS AHEAD

OF THE COMPETITION.



ITI's **ProTech[®]** over-torque design significantly reduces costly accidental cable damage within the fiberscope that occurs when:

- The operator tries to articulate the tip when the tip is constrained.
- The operator tries to withdraw the fiberscope from an access hole before the tip has been straightened.

ProTech[®] over-torque prevention feature virtually eliminates such common breakage. The benefits are clear:

- Longer scope life
- Reduced downtime and repair costs
- Less operator fatigue
- Overall lower lifetime cost yielding lower inspection costs

Also featuring ITI's superior body design that is easy to use with one hand (left or right). With finger tip control of articulating knobs and ratchet locks.

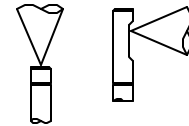
The best in overall optical performance - ensured by using extremely small diameter fibers densely packed to yield maximum resolution.

Every ITI Fiberscope design is cycle tested to insure extended field life. Fiberscopes are articulated over 200,000 cycles, with and without the tip constrained. The design is validated only when the tested scope meets its original articulation specifications.

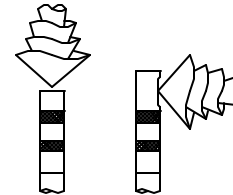
Available with urethane or tungsten outer jackets:

- **Urethane** is a tough plastic jacket with ITI's exclusive insertion scale printed on the jacket's exterior for convenient determination of insertion depth.
- **Tungsten** is an extremely flexible and durable braided jacket for the difficult and/or abrasive environments.

Viewing Heads



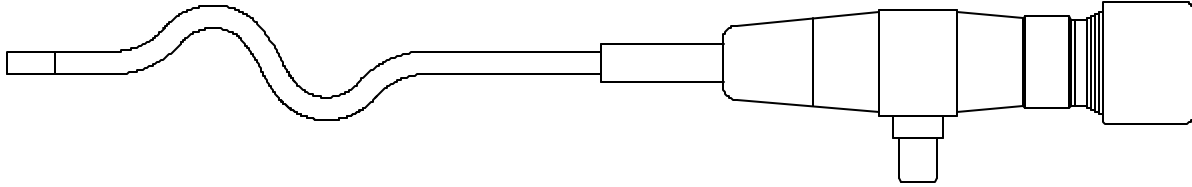
3, 4 & 5mm dia Fiberscopes
Interchangeable Viewing Heads to provide either Forward (F) or Right Angle (RA) Line-of-Sight



6, 8 & 12mm dia Fiberscopes
Eight (8) Interchangeable Viewing Heads to provide four (4) different Fields-of-View (FOV) in either Forward (F) or Right Angle (RA) Line-of-Sight

Model Number	Diameter		Standard Working Length [Meters] (optional lengths available)						Articulation		Standard Viewing Heads		Interchangeable Viewing Heads		
	mm	inch	0.4	1.0	1.5	-	-	-	2-way	4-way	FOV	LOS	Model	FOV	LOS
127003	3	.120"	0.4	1.0	1.5	-	-	-	±100°	-	50°	F	127003	50°	RA
127004	4	.165"	0.4	1.0	1.5	-	-	-	±130°	-	40°	F	127004	40°	RA
127005	5	.200"	0.5	1.0	1.5	-	-	-		U/D±130° R/L±130°	60°	F	127005	60°	RA
127006	6	.250"	0.5	1.0	1.5	2.0	2.5	3.0	-	U/D±130° R/L±130°	60°	Interchangeable F	127006	20° 40° 60° 100°	F & RA
127008	8	.325"	0.5	1.0	1.5	2.0	2.5	3.0	-	U/D±130° R/L±130°	60°	Interchangeable F	127008	20° 40° 60° 100°	F & RA
127012	12	.470"	0.5	1.0	1.5	2.0	2.5	3.0	-	U/D±130° R/L±130°	60°	Interchangeable F	127012	20° 40° 60° 100°	F & RA

When ordering, please specify model number/diameter/working length and viewing heads. **Example:** 127008/8mm/2M with 127108/60°/RA

MODEL 131040 GENERAL PURPOSE (GP) FIBERSCOPE KIT

Specifically designed for those with an occasional need for a fiberscope.

Model 131040 maintains the performance associated with ITI Series 124700 Micro Fiberscopes. This scope features excellent image quality, focusing and bright fiber optic illumination. Its a favorite among mechanics and inspectors. The 4mm (0.158") diameter is standard with an 18 inch working length and is forward looking, with an optional Model 131045 Right Angle Head.

GP Fiberscope Kit Includes:

- (1) Model 131040 GP Fiberscope
- (1) Model 125070 C Cell Battery Light Source
- (1) Rubber Eyeguard
- (1) Spare Lamp
- (1) Protective Carrying Case

***Scope Specifications:***

<u>Feature</u>	<u>Model 131040</u>
Probe Diameter	4mm (0.158 in)
Working Length	18 in
Line of Sight	Forward (0°)
Field of View	50°
Articulation	None

Optional Accessories:

<u>Model No.</u>	<u>Description</u>
131045	Right Angle Head
125010	150W Light Source
125500/6	Fiber Light Guide, 6 Ft

SERIES 124000 BORESCOPIES



Camera-Dedicated:

Change from Video Camera to Eyepiece Instantly with the ITI Quick Disconnect Feature.

- Direct coupling of either 1/4" or 1/3" video camera
- Elimination of eyepiece distortion
- Unmatched video performance

Series 124300 Rigid Micro Borescopes with gradient rod lenses.

For viewing and/or inspecting into extremely small, straight, restricted areas, ITI Rigid Micro Borescopes feature gradient rod lenses that produce exceptionally clear images. Unlike regular lenses that depend on lens curvature and glass index for image formation, gradient rod lenses form images through a variable (gradient) glass index.

Series 124500 Semi-Rigid Micro Borescopes with fused quartz image guides in stainless steel sheathing.

For applications that require greater stamina or longer working lengths than standard rod lens Rigid Micro Borescopes provide, ITI's Semi-Rigid Micro Borescopes provide the practical, workable solution by combining the protective stainless steel outer tube of a Rigid Micro Borescope with the high resolution fused image guide of a Semi-Flexible Micro Fiberscope.

Series 124700 Semi-Flexible Micro Fiberscopes with fused quartz image guides in flexible sheathing.

Precision, high image quality is an ITI mark of distinction. Because optimal resolution is based on the tightest pixel density, ITI uses the best fused image guides possible. In the process of manufacturing, glass fibers are drawn to the smallest diameter possible, packed to maximum density, then fused back together for structural strength. Maximum density is therefore achieved, resulting in highest possible image quality in a semi-flexible image guide.



Color-Corrected Magnification System:

- Designed to match critical video camera requirements
- Bright, sharp, uniform images
- Superior visual performance
- Greater edge illumination

124300			
Diameter	WL (cm)	FOV	LOS
0.5mm	6	45°	F
1.0mm	6 & 10	45°	F-FO-RA
1.7mm	6, 10 & 15	20°-45°-60°	F-FO-RA
2.2mm	6, 10 & 15	20°-45°-60°	F-FO-RA
3.2mm	7.5, 17 & 27	20°-40°-70°	F-FO-RA

124500			
Diameter	WL (cm)	FOV	LOS
1.0mm	7.5, 15 & 30	55°	F-FO
1.7mm	7.5, 15 & 30	20°-45°-60°	F-FO-RA
2.2mm	7.5, 15 & 30	20°-45°-60°	F-FO-RA
3.2mm	12.5, 25 & 50	20°-60°-80°	F-FO-RA

124700			
Diameter	WL (M)	FOV	LOS
.4 mm	.25	55°	F
.7 mm	0.25 – 1.5	70°	F
1.5 mm	0.25 – 2.0	55°	F-FO-RA
2.0 mm	0.25 – 2.0	20°-45°-60°	F-FO-RA
4.0 mm	0.25 – 2.0	20°-60°-80°	F-FO-RA

ITI Micro Borescopes
 Bring cutting edge technology to hands-on reality. Remote viewing into small diameter, restricted areas can be tackled with precision, accuracy, and ease thanks to ITI's unique selection of micros.



When ordering, please specify model number/diameter/working length/FOV/LOS.

Example: 124317/1.7mm/10cm/40°/F-RMS



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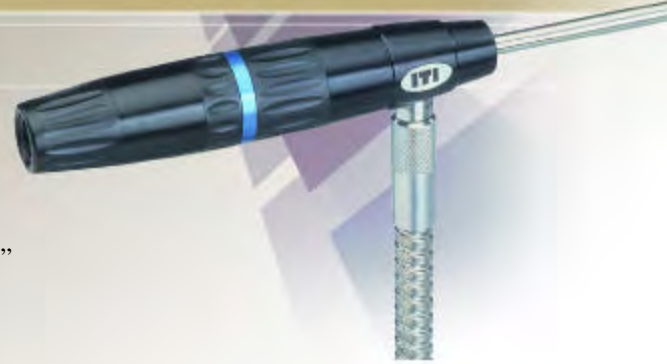
SERIES 123000 BORESCOPIES



ITI Rigid Borescopes

lead the industry with the **clearest optical images**, the **most innovative** features, and the **greatest cost-effective, top quality dependability** on the market today.

Thousands of models offering many exceptional advances.



Camera-Dedicated: Change from Video Camera to Eyepiece Instantly with the ITI Quick Disconnect Feature.

- ✂ Direct coupling of either 1/4" or 1/3" video camera
- ✂ Elimination of eyepiece distortion
- ✂ Unmatched video performance

High Performance Optical System

- ✂ Designed to match critical video camera requirements
- ✂ Bright, sharp, uniform images
- ✂ Superior visual performance
- ✂ Greater edge illumination

Choose from five (5) body styles: Standard, or...

Orbital Scan

Complete panoramic examinations can be conducted with minimum effort. The ITI Orbital Scan rotates 375° around the axis of the borescope without rotation of the fiber cable.

Axial Scan

Axial Scan acts as 3-scopes-in-1 with panoramic illumination to fully cover the total viewing area. In-line with the borescope probe, the scan allows viewing from 40° (FO) LOS to 125° (RO) quickly and efficiently.

Zoom

Unlike other instruments with zoom eyepieces that result in FALSE magnification and loss of apparent illumination, only ITI offers a true 4X zoom borescope with dependable, exact performance.

In low power it provides 40° FOV for orientation. In high power, it zooms to 10° FOV for critical inspection; thus offering a true zoom objective with a 4X change in FOV with a constant f/#. Magnification, therefore, is real. Performance, therefore, is unequalled.

Scan/Zoom

ITI's Scan/Zoom option combines the features of a variable axial scan with the features of a variable FOV (Zoom). Scan in low power for overall coverage, zoom to high power for high-resolution detail examination. This unique dual-capability offers the best of the best all in one superior borescope.

Model Number	Diameter		RMS ^o Diameter		Working Length			Body Style				
	mm	inch	mm	inch	cm (inch)			Std	OS	AS	ZM	SZ
123004	4	.159"	4.8	.187"	18 (6.9)	28 (11)	38 (15)	X	X			
123006	6	.238"	7.6	.300"	23 (9.2)	36 (14.4)	49 (19.5)	X	X			
123008	8	.315"	9.5	.375"	35 (13.8)	56 (22.2)	77 (30.3)	X	X	X		
123010	10	.396"	11.1	.437"	56 (22.2)	77 (30.3)	98 (38.6)	X	X	X		
123016	16	.625"	17.5	.687"	50 (20)	80 (32)	110 (44)	X		X	X	X
123019	19	.750"	22.2	.875"	50 (20)	80 (32)	110 (44)	X		X	X	X

Body Style	Field of View (FOV)	Line of Sight (LOS)
Standard (Std)	20°, 40°, 60° & 100°	F, FO, RA & RO
Orbital Scan (OS)	20°, 40°, 60° & 100°	FO, RA & RO
Axial Scan (AS)	35°	Variable from 40° - 125°
Zoom (ZM)	Variable from 10° - 40°	F, FO, RA & RO
Scan/Zoom (SZ)	Variable from 10° - 40°	Variable from 40° - 125°

Line of Sight - LOS
F - 0°
FO - 45°
RA - 90°
RO - 120°

Rotary Mirror Sleeves (RMS) are available on F LOS Standard Body scopes.

When ordering, please specify model number/diameter/working length/FOV/LOS.

Example: 123010/10mm/40cm/40°/F-RMS

SERIES 122000 EXTENDABLES



Extendable Borescopes are extremely versatile instruments, combining the highest optical quality and illumination technology. For use in inspection of internal surface areas, they are durably built and designed for adjustable configurations.

ITI Extendable Borescopes offer your choice of five (5) interchangeable Viewing Heads, with normal field of view, and can be used in their Basic Length from 15" to 52" or with optional Extender Sections with maximum lengths to 100 feet.

Ideal for field, laboratory and plant applications, Extendable Borescopes are best suited for use in long cylinders and tubes, such as heat exchangers, gun barrels and pipelines. With seven (7) diameters, your choice of Basic Lengths, several Extender Sections and additional custom lengths available, and various Viewing Heads to choose from, you have all that you need to meet demanding inspection requirements.

ITI Extendable Borescopes

rugged
stainless steel
construction
coupled with
exceptional image
quality
makes these
instruments
ideal for industrial
applications.

Choose from these product options:

Model Number	Dia (In)	Length (In)					Field Of View*	Viewing Heads					Max Length (Ft)
		Basic		Extender Sections									
122300	3/8	15	33	18	36	72	40°	-	FO	RA	RO	P	20
122400	1/2	15	33	18	36	72	40°	-	FO	RA	RO	P	30
122500	3/4	20	45	24	48	72	30°	F	FO	RA	RO	P	50
122600	1	20	45	24	48	72	30°	F	FO	RA	RO	P	70
122700	1 1/4	28	66	36	72	-	30°	F	FO	RA	RO	P	80
122800	1 1/2	40	-	48	96	-	30°	F	FO	RA	RO	P	90
122900	1 3/4	52	-	60	120	-	30°	F	FO	RA	RO	P	100

STANDARD KITS:



3/8" Model 122310	3/4" Model 122510
7½ foot Operating Length, includes:	10 foot Operating Length, includes:
33 inch Basic Length	45 inch Basic Length
18 & 36 inch Extender Sections	24 & 48 inch Extender Sections
4 Viewing Heads (FO, RA, RO & P)	5 Viewing Heads (F, FO, RA, RO & P)
Case, Power Supply & Cords	Case, Power Supply & Cords

When ordering, please specify model number/diameter/basic & extender section lengths/viewing heads.
Example: 122500/3/4"/20" BL & (2) 48" Ext/FO & RA Heads. *60° wide field of view is an available option.

MODEL 131030 GENERAL PURPOSE (GP) BORESCOPE KIT***Specifically designed for those with an occasional need for a borescope.***

The 50° field of view slightly forward of right angle makes this scope ideal for the inspection of many hard to see areas, such as piston engine cylinders, the in-process assembly of small parts and general machinery maintenance operations.

This borescope kit is pre-packaged and available for immediate delivery. The 11mm (7/16") probe diameter fits easily into one-half inch diameter holes, or larger. The 115 or 230 VAC variable power supply allows for illumination intensity adjustments. This scope is moisture sealed, which makes the instrument rugged for most field or shop applications.

GP Borescope Kit Includes:

- (1) Model 131030 GP Borescope
- (1) Power Supply with 10 foot cable
- (1) Rubber Eyeguard
- (1) Spare Lamp
- (1) Protective Carrying Case

***Scope Specifications:***

<u>Feature</u>	<u>Model 131030</u>
Probe Diameter	11mm (7/16 in)
Working Length	18 in
Line of Sight	Right Angle (85°)
Field of View	50°
Depth of Field	0.25 in to ∞
Magnification	1X at 3 in

Power Requirements:

<u>ITI P/N</u>	<u>Model No.</u>
C108515-1	115 VAC, 60 Hz
C108515-2	230 VAC, 50 Hz