



Videoscopes

Fiberscopes

Rigid Borescopes

Olympus Industrial Endoscope of a Variety of Fields, from Maintenance to R&D.

Olympus technology has made it possible to observe a concealed site easily and accurately, without destroying or disturbing its exterior. Olympus delivers increased potential with our comprehensive collection of industrial endoscopes. This unrivaled lineup comprises of videoscopes, fiberscopes, rigid borescopes, miniboscopes, and a variety of ancillary equipment to match your specific requirements. These scopes all offer superior observation capabilities achieved by combining expertise in optics, precision engineering, and electronics gained through years of experience as the world's leader in medical endoscopes. Take into account the ease of use and durability, and it is clear that Olympus industrial endoscopes are ideal for quality control and maintenance, automatic inspection, R&D, and so much more to help you improve productivity, safety, and reliability.

Sample uses according to industries

Aviation Industries

For airframe examinations, inspection of turbine blades and combustion chambers, and research, development and production of rocket engines.

Power Generation

For maintenance of heat exchanger pipes, condensers, piping, and turbines at nuclear, fossil fuel, and hydroelectric power generation facilities.

Oil/Gas/Chemical Plants

For routine and urgent inspection of process piping, pressurised storage reservoirs, heat exchangers, boilers, etc.

Automotive

For quality control examination of engines, hydraulic components, injection nozzles, as well as final inspection of assemblies.

Defense/Security

For maintenance of military aircraft, as well as for detection of narcotics and other contraband items, and for locating those who may be trapped as the result of various disasters.

Architecture/Construction

For examination of walls, ducts, structural joints, as well as for viewing inside architectural models.

Electrical Equipment/Electronics Industries

For monitoring operation of equipment and factory automation through automatic inspection and positioning, as well as R&D applications.

Education/Research

For monitoring animals and insects, root systems of plants, etc. Also for historical and archaeological applications such as internal inspection of statues and tombs.

s Meet the Requirements



Industrial
Videoscopes

Industrial
Fiberscopes

Industrial
Rigid Borescopes

Light Sources

Accessories

Inspection
Magnification Charts

System Charts

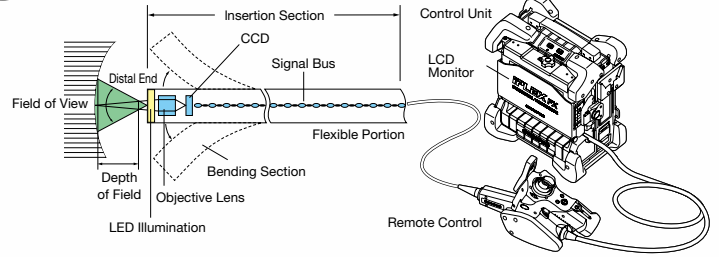
A Variety of Lineup to Suit Your Specific Requirements

Industrial Videoscopes

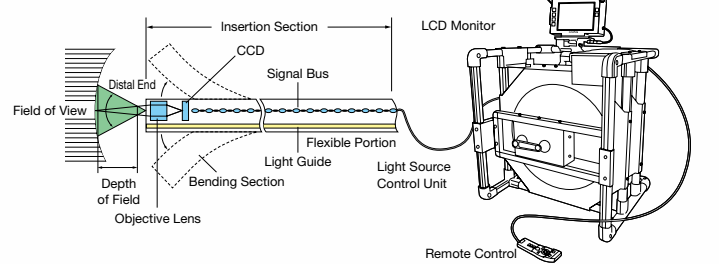


Structural Drawing

► IPLEX FX / IPLEX LX / IPLEX LT / IPLEX UltraLite / IPLEX MX II



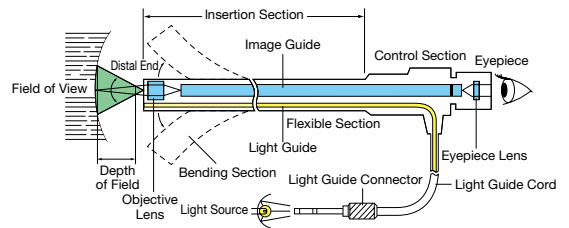
► IPLEX YS



Industrial Fiberscopes



Structural Drawing



High-quality glass fibres for image transmission. Observation through an eyepiece.

Each Olympus Industrial Fiberscope is comprised of the insertion section (the distal end, bending section, and flexible section), as well as the control and eyepiece section.* Image guide fibres, light guide fibres, and wires for tip angulation are all built in.

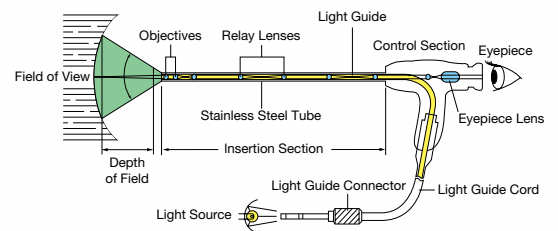
* The IF6PD4 does not incorporate bending and control sections.

Industrial Rigid Borescopes

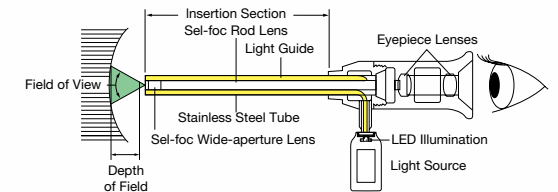


Structural Drawing

► Standard Rigid Borescopes / Swing-prism Borescopes / Zoom Swing-prism Borescopes / Engine Borescopes



► Minibolescopes



Benefits

All-in-one package offering simple operation and outstanding performance

- Bright images with high resolution LCD monitor.
- Fulfilling image recording functions.
- Super stereo measurement modes are available to facilitate high-precision measurement.*1
- Extensive scope lineup including ultra-thin, long and working channel types.

*1 Super stereo measurement modes are not available for IPLEX LX, IPLEX UltraLite and IPLEX MX II.

Ultra-compact CCD for image transmission. High-resolution images are displayed on an LCD monitor.

The videoscope captures light reflected from a subject through an objective lens and directs it to the surface on the CCD. The CCD then converts the light into electrical signals and transfers this data to the videoscope control unit. The unit then sends video output to the monitor.

Industrial Videoscope
IPLEX FXP.8-9

Industrial Videoscope
IPLEX LX / IPLEX LT P.10-11

Industrial Videoscope
IPLEX UltraLite P.12-13

Industrial Videoscope
IPLEX MX IIP.14

Industrial Videoscope
IPLEX YS P.15

IPLEX series Features and Specifications P.16-18

Benefits

- The distal end can be controlled in either two or four directions, by handheld controls.
- Easily change the field of view, direction of view and depth of field by switching the optical adaptor.
- Extensive scope lineup including ultra-thin and long types.

Industrial Fiberscopes
IF6C5X1/IF8C5/IF11C5 P.19-20

Industrial Fiberscopes
IF6PD4/IF2D5/IF4D5/IF4S5 P.19-20

Industrial Fiberscopes
IF5D4X1-14P.19-20

Benefits

- Excellent images are delivered by high quality optics inside a rigid stainless tube.
- Extensive scope lineup close to 200 models available featuring various diameters, working lengths, and viewing directions and angles.

High-resolution image transmission in a laser-welded stainless steel insertion tube with light guide fibres for bright illumination. Wide selection available to suit any requirements.

Standard Rigid Borescopes P.21-23

Swing-prism BorescopesP.21-23

Zoom Swing-prism BorescopesP.21-23

Engine BorescopesP.21-23

Small Diameter BorescopesP.21-23

MiniborescopesP.21-23

Industrial Videoscopes—Delivering Comprehensive and Highly Accurate Remote Inspection Capability with Vivid Colour, Clarity, and More.

The videoscope captures every subject brightly and clearly providing unrivaled observation performance and work efficiency for various inspections in the field.

Main Features

Compact and Lightweight System

IPEX is the all-in-one system that is easy to set up. Power is provided by an internally mounted Lithium-ion battery. The compact size IPEX makes portable operation a reality.

Bright and High-resolution Images

The bright, high-resolution images captured by the high performance CCD are larger, clearer, and easier to view with full-screen colour display.

Observation Functions Including Zoom and brightness adjustment

Zoom observation and various image adjustment functions such as brightness and sharpness adjustment are available. To provide high quality, faithfully reproduced images and accurate colour, the IPEX series carry Olympus' own WiDER™ image processing technology*2. WiDER™ delivers bright, contrast-balanced images across the entire depth of field.

*2: Not available with the IPEX LT, IPEX UltraLite and IPEX MX II.

Digital Image Recording and Voice Annotation recording

Digital image recording allows more flexible and powerful image management. IPEX videoscopes are equipped with high quality still images and video recording function*3. Voice annotation recording is also possible with the IPEX FX and IPEX YS.

*3: Video recording function is not available with the IPEX MX II.

All Weather Resistance with Rugged body

The IPEX FX, IPEX LX, IPEX LT and IPEX UltraLite can be used in rain, sand and dust, and withstand physical shocks caused by drops and falls, ensured by IP55 or MIL-STD. The superb capability will support your tough inspection environments.

Tapered Flex™ Tube with Superb Insertability

The insertion tube design provides superior crush resistance and abrasion resistance. The IPEX series are designed with the Olympus' own Tapered Flex™ graduated stiffness design for maximum scope flexibility towards the scope end. Additionally, the 4-way articulation function will support the basic requirement of accessing the inspection area and frequency navigating through narrow and intricate paths with abrasive and rough surface.

Interchangeable Optical Adaptors

You can easily change optical adaptors*4 to suit your observation requirements such as direction of view, angle of view, and depth of field.

*4: Not available for the IPEX MX II.

Super Stereo Measurement Capability

Up to 8 different stereo measurement modes*5 are available to facilitate high-precision measurement, including distance, height, and depth. The unique Spot-Ranging® feature provides live confirmation of the tip-to-target distance to aid measurement accuracy.

*5: Not available with IPEX LT, IPEX UltraLite and IPEX MX II.

Versatile Software for Image Management

New IPEX Viewer Plus software is available as a free download from the Olympus website. It is a PC-based program featuring standard image viewing, file management and post-inspection stereo measurement calculations. IPEX Viewer Plus is designed to be easily shared and used without PC administrator level installation.

Multi-language Display

All IPEX videoscopes have a multi-language display allowing users to choose from one of several different languages for the interface.

Main Applications

Ideal when image adjustment, recording and measurement function are required as well as observation with high-resolution and bright images. Available for various inspection fields.

For Inspecting:

- Inside engines of vehicles, aircraft, and gearboxes
- Inside piping, such as heat exchangers, steel pipes, and drainage pipes
- Inside long pipes, such as plant piping, condensers, and welds
- For wide cavities, such as interiors of tanks, pressure vessels, and wind turbine blades
- Inside precision machinery, such as automotive parts and copiers



Bright, high-quality image



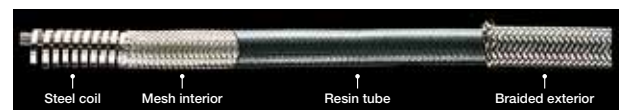
Optical adaptor



4-way motorised angulation



Optical adaptor



Tapered Flex™ Tube:

Featuring a more pliable distal end and stiffer proximal end, this Olympus-original tube design provides the superior insertion capability you need to perform inspections more easily.

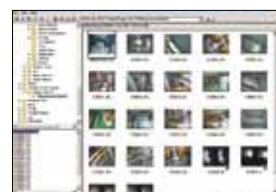
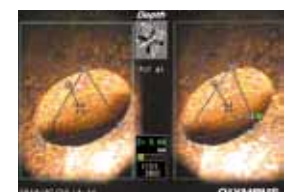


Image file management



Stereo Measurement

Product Lineup

The IPLEX Series Satisfies All Your Inspection Needs.

IPLEX FX

This high-end industrial videoscope system combines portability with performance; modularity with reliability; simplicity with advanced functionality; and ease of use with durability. From high image quality inspection to retrieval operation, the versatility of the IPLEX FX achieves various benefits beyond your experience.



IPLEX LX IPLEX LT

Weighing only 2.7kg, the industrial videoscope IPLEX LX/LT combines overwhelming portability and reliability with advanced features—achieves best balance between ease-of-use and performance.



IPLEX UltraLite

The palm-sized IPLEX UltraLite industrial videoscope, weighing just 700 g, delivers high quality images. Its compact, durable body enables inspections in tough and confined areas.



IPLEX MX II

With a simple design dedicated for direct-view inspections, the IPLEX MX II is a basic inspection tool for entry level users.



IPLEX YS

Extra-long 30 m scope is equipped with innovative laser illumination and scope articulation technologies. It delivers unprecedented image quality and manoeuvrability.



MIL-STD

MIL-STD (The United States Defense Standard) is used to help achieve standardisation objective by the U.S. Department of Defense.



RoHS

The European RoHS Directive. No lead, mercury, cadmium, hexavalent chromium, PBBs or PBDEs are used.



WIDER™

The WIDER™ image processing algorithm greatly expands the dynamic range to bring out details in shadows and highlights and allow much more accurate inspection.

I P L E X F X

Introducing a videoscope system that combines portability with performance; modularity with reliability; simplicity with advanced functionality; ease of use with durability. Only one product does this – the I P L E X F X.



Rugged and Durable

Resistance to Harsh Environments

I P L E X F X complies with internationally recognised Military Standards. This compliance assures a greater level of environmental performance than regular industry standards and provides increased reliability against dust and fluid as well as physical shocks such as fall and drop.



IP55 water resistance testing

Abrasion Resistant Insertion Tube

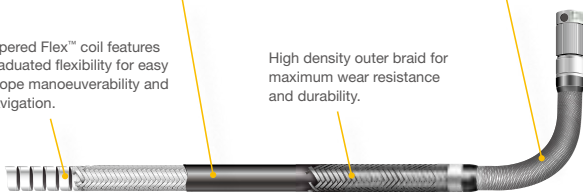
The most critical component of any remote visual inspection tool is the insertion tube. It performs the basic requirement of accessing the inspection area and frequently navigating through narrow paths with abrasive and rough surfaces. The I P L E X F X insertion tube is the latest Olympus I P L E X design, with enhanced crush protection and 3X greater fray resistance. Strength was added to the insertion tube without compromising the flexibility and ability to navigate through the most difficult inspections. As with all of our I P L E X products, the I P L E X F X is designed with the Olympus Tapered Flex™ graduated stiffness design for maximum scope flexibility towards the scope end.

Articulation wires and electronics only. With LED illumination at the scope tip, fiber optic bundles are not necessary.

To navigate through tight bends or corners, minimum bend radius and shorter rigid tip sections are essential design criteria for our scope tip, optics and tip adaptors.

Tapered Flex™ coil features graduated flexibility for easy scope manoeuvrability and navigation.

High density outer braid for maximum wear resistance and durability.



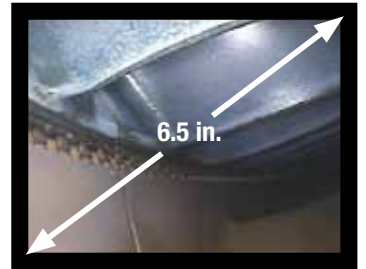
Temperature Resistance

The I P L E X F X scope units are resistant to insertion in higher temperature environments – now 100°C meaning that inspections can take place sooner as you won't need to wait as long for the area to cool. Additionally, a temperature sensor provides a two-stage visual warning in order to prevent overheating.

See Clearly and Accurately

Daylight-view High Resolution LCD Monitor

Clear observation in direct sunlight is made possible with the new 6.5 in. daylight-view LCD monitor – the minimum recommended screen size for accurate and reliable observation of fine detail. Colour reproduction and contrast are maintained, ensuring inspections are not compromised when working outdoors.



Optimised Images with Interchangeable LED Tip Adaptors

To provide high quality, faithfully reproduced images and accurate colour, the I P L E X F X features an outstanding optical system, new noise reduction and Olympus' own WiDER™ (Wide Dynamic Extended Range) image processing technology. WiDER™ delivers bright, contrast-balanced images across the entire depth of field.



Image at standard gain setting



Image with WiDER™ gain applied

New LED Illumination with SmartTip® Optical Adaptors

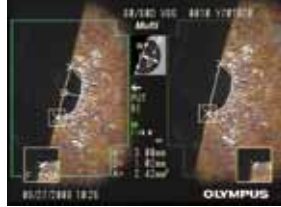
For optimum magnification and direction suitable for a variety of inspection environments, the I P L E X F X offers a comprehensive range of interchangeable optical adaptors. The new integrated LED illumination system is approximately twice as bright as conventional LED-lit systems. Fitted within the scope tip, it delivers vivid illumination regardless of scope length and eliminates the need for a fibre light guide. Hi-beam mode boosts illumination up to 2X for expanded inspection capability. In addition, our unique SmartTip® feature equipped with optical adaptors permits recording of the adaptor information, along with captured images for inspection traceability.



Multi Purpose Operation

Measurement Accuracy

The IPLEX FX uses Stereo Measurement technology for accurate, three-dimensional defect measurement at any target angle. The IPLEX FX offers a more intuitive measurement environment with eight different modes for accurate evaluation of most inspection targets. Multi Measurement mode is a quick two-point defect identification technique that simultaneously calculates point-to-line, area and distance results. Stereo Measurement tip adaptors are available in direct and side view models for all three insertion tube diameters.



● IPLEX FX Stereo Measurement Modes

Distance/ Point-to-line/ Depth/ Area/ Profile/ Lines/ Multi/ Offset

Our unique Spot-Ranging® feature is the industry's only real-time tip-to-target distance measurement tool. With the IPLEX FX, the user can easily determine whether the scope tip is close enough to calculate the most accurate measurement on the first try.

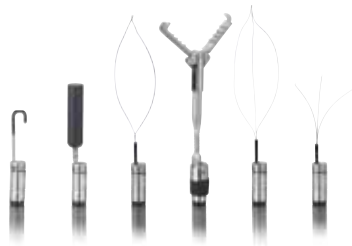
Interchangeable Scopes

The IPLEX FX offers a range of interchangeable scopes, allowing you to choose the right one to fit the job. This means a single IPLEX FX can be configured for a variety of inspections. Scopes are available in diameters of 4.0 mm, 6.0 mm and 6.2 mm, and in various lengths ranging from 2 m to 18 m. A 7.5 m scope with a smooth outer coating is also offered. This scope is ideally suited to nuclear and pharmaceutical inspections where ease of cleaning and decontamination are priorities.



Foreign Object Retrieval

Adding to the array of versatile IPLEX FX benefits is a 6.2 mm diameter scope featuring an internal working channel. Six retrieval tools allow you to remove foreign objects from inside inspection areas — ideal for helping avoid costly overhauls — and perform hook and drag inspections in engines.



Versatile Image Management

Inspection Recording Options

Archiving, sharing and reporting inspection results are made simple with the IPLEX FX. It features still image and movie recording to internal memory, removable compact flash cards or USB flash drives. Due to the rigours of the industrial inspection workplace, the IPLEX FX is designed to store images on solid-state media devices, ensuring that valuable data is not lost due to the instability of storage media with movable parts. The IPLEX FX's movie viewing functions now include pause, fast-forward and rewind.

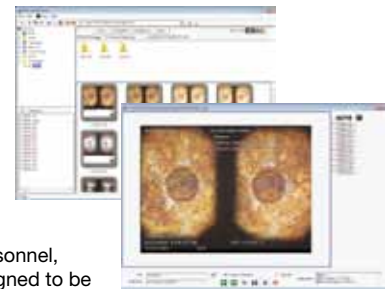
ImageNotepad® for Extended Image Annotation

Information frequently needs to be added to videoscope images to aid post-inspection diagnosis and create reports. IPLEX FX makes this process an integral part of inspections with easy-to-use ImageNotepad®. Fields for titles and text are available for entering key words and phrases to allow extended descriptions of inspected objects. This valuable information is immediately accessible as part of each image when inspection data is transferred to a computer.



IPLEX Viewer Plus and PRO Software

The IPLEX Viewer Plus software is a PC-based program featuring standard image viewing, file management and post-inspection stereo measurement calculations. Recognising that inspection software is required by both the inspector and off-site personnel, IPLEX Viewer Plus is designed to be easily shared and used without PC administrator level installation. IPLEX Viewer Plus is available as a free website download. Furthermore, the optional advanced software, IPLEX Viewer PRO allowing automatic report creation is also available.



Ease of Use

Compact, Lightweight, Battery-powered

Power is provided to the IPLEX FX by an internally mounted, Lithium-ion battery which provides over two hours run-time. The compact size of the IPLEX FX makes portable operation a reality — either body-wear the lightweight system or place it on a surface and allow the non-slip, rubber corners to hold it in place while you carry out your inspections.



TrueFeel® Scope Tip Articulation

The IPLEX FX features TrueFeel® scope tip articulation for power-assisted manual articulation and precision control. With instant movement and accurate feel, the user takes full control of the scope position resulting in easier and faster inspections.

Quick-access Hot Buttons

The ergonomic 750 g scope handset is comfortable to use even during prolonged inspections and provides quick access to all frequently used menu commands. The all-new controller maximises the use of buttons, levers and joysticks for quick access to all essential menu functions. Enhancements, recording buttons and measurement features are among the many basic-to advanced features that are at the tips of your fingers.



IPLEX LX IPLEX LT

Combining superb ease of use with outstanding functionality, the IPLEX LX and LT provide accurate and advanced inspections, allowing smooth operation regardless of the user's experience level.



WIDER



Convenient Portability

Compact and Lightweight

The IPLEX LX and LT weigh just 2.7 kg, including the two-hour running time Li-ion battery. They can be worn or carried with ease and set up almost instantly.

Small Size, Large Monitor

Despite being only 227 mm wide and 189 mm tall, the IPLEX LX and LT integrate a surprisingly large 6.5 in. monitor for exceptional visibility, whether at arm's length or across a workbench. At less than 100 mm thick including the pivoting handle/stand, the IPLEX LX and LT can be worn, stand upright, or be fastened to a tripod or mounting arm for operation in practically any environments.



Unsurpassed Ease of Use

Choice of Connection and Positioning

The handheld controller can be operated either independently or attached to the main unit during inspections, offering a versatile choice of operation. The stand-alone monitor can always be positioned for optimum viewing and is also convenient for group inspections and training.



Innovative Features at Operator Fingertips

The ergonomic lightweight handset with TrueFeel® articulation control has been engineered for comfortable operation even during prolonged inspections. The user can operate diverse functions and scope tip articulations easily, quickly, and precisely. The controller maximises the use of buttons, levers, and joystick for quick access to all essential menu functions.



Intuitive Icon-based Menus

The IPLEX LX and LT feature a simple menu, utilising intuitive, internationally recognised icons that make it easy for the operator to quickly choose the right menu option. Navigation is simplified by a dedicated joystick, which functions independently from the scope tip articulation.



Rugged Durability

All Weather Resistance

You can confidently bring the IPLEX LX and LT to almost any difficult environment. They can be used in rain, sand, and dust, and withstand physical shocks caused by drops and falls, ensured by IP55 and MIL-STD compliance. With its low-reflection display, the daylight-view monitor reproduces clear, vivid images even under the brightest sunlight.



Resistance to High Temperatures and Abrasion

The insertion tubes of the IPLEX LX withstand temperatures up to 100°C. A high-temperature sensor cautions an audible beep and displays a visual warning if the scope is in danger of becoming overheated.



The crush-proof insertion tubes of the IPLEX LX and LT are equipped with an innovative fine mesh tungsten outer braid that results in outstanding abrasion resistance. The tube's strength combined with its flexibility allows operation in the most difficult and hazardous inspection areas.

The IPLEX LX and LT are designed with the unique Tapered Flex™ achieving superb scope manoeuvrability with optimised stiffness and flexibility. In addition, the increased stiffness of the new 8.5 mm scope allows it to be easily pushed deep into an inspection area without the use of a guide tube, making it ideal for long pipe inspections.



Exceptional Functionality – Viewing Capability

Excellent Colour Reproduction and Superb Clarity

The industry-leading 6.5 in. daylight-view monitor is larger than comparable videoscopes on the market, always allowing for a comfortable viewing position and convenience for group viewing. Superb image clarity permits the accurate detection of very small defects.

Clear, Crisp Images

The IPLEX LX features our unique image processing capability, WiDER™ (Wide Dynamic Extended Range). This innovative technology brings out detail in shadowed and highlighted areas to produce bright, contrast-balanced images across the entire depth of field.



Image at standard gain setting



With WiDER™ gain applied

Ultra-bright, Interchangeable LED Tip Adaptors

For optimum magnification and direction suitable for a variety of inspection environments, the IPLEX LX and LT offer a comprehensive range of interchangeable optical adaptors. The integrated LED illumination system brightly lights targets. For inspection of large voids where plenty of light is required, the 8.5mm scope is an ideal solution. Fitted within the scope tip, it delivers vivid illumination regardless of scope length and eliminates the need for a fibre light guide.



In addition, the IPLEX LX is equipped with Hi-beam mode boosting illumination up to 2X for expanded inspection capability, and the SmartTip® automatic recognition function. Our unique SmartTip® feature installed in optical adaptors permits recording of the adaptor information, along with captured images for inspection traceability.

Exceptional Functionality – Image Management

High-quality Images and Movies

The IPLEX LX and LT feature high-quality JPEG still images and MPEG-4 movies that record into a removable USB flash drive. Saving or retrieving images requires only a single button press, and the thumbnail view makes it easy to instantly review the inspection results.



Title Input Function

For off-site inspection efficiency and report generation, the IPLEX LX and LT let you quickly and easily input titles in captured images. You can quickly identify the inspection location or result through the title to assist in archiving images.



Post-inspection Image Management

IPLEX Viewer Plus software features image data management and precise measurement of objects in recorded images. Available from our website free of charge, it's the ideal tool for remote users to re-measure or validate existing saved measurement results.

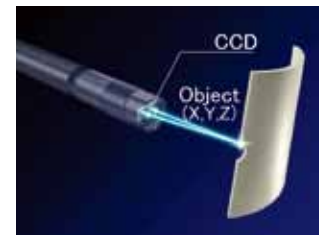
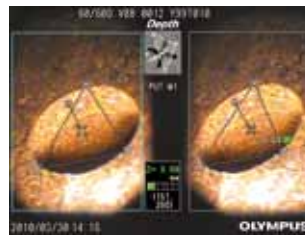


Protection for Interior Components

The main unit's removable USB flash drive and Li-ion battery are contained inside a latched, sealed compartment for protection against environmental hazards and rough treatment.

Proven Stereo Measurement

Our advanced Stereo Measurement technology offers outstanding reliability and accuracy for your inspections. By capturing image information through two parallax lenses, the IPLEX LX permits accurate measurement of almost any object from any angle.



Accurate Measurement on the First Try

The measurement accuracy of a videoscope is greatly affected by the scope's tip-to-target distance. Our unique Spot-Ranging® feature on the IPLEX LX, the industry's only real-time tip-to-target distance measurement tool, navigates the scope tip to the optimum distance from a target. The operator can then easily determine whether the tip is close enough to calculate the most accurate measurement on the first try.



IPLEX UltraLite

Dramatically improve your field inspection efficiency with a palm-sized, ultralight videoscope. With its durable body and superb image quality, the new IPLEX UltraLite delivers high quality and reliable inspections in tough and confined spaces.



Mobility

Surprisingly compact and lightweight

The IPLEX UltraLite weighs only 700 g with its lithium-ion battery. This easy-to-use videoscope is so small and light that it is the perfect companion for the inspector who works in areas with limited access or in cramped spaces or has to navigate narrow stair cases and steep ladders.



Palm-sized ergonomic design

The ergonomic IPLEX UltraLite fits snugly into the palm of your hand, and provides speedy, fatigue-free operation even during prolonged inspections.



Usability

Icon-based menus for instant recognition and intuitive operations

IPLEX UltraLite menus feature simple, intuitive icons that let you quickly identify and activate the desired functions.



Quick-access hot buttons

IPLEX UltraLite eliminates complicated menu settings. The IPLEX UltraLite functions can be easily operated with just one hand. By pressing dedicated, direct-access keys, you can quickly articulate the scope tip, record images, adjust brightness, and input text.



Quick, precise scope articulation

The IPLEX UltraLite features quick, accurate articulation. The scope tip instantly and accurately responds to the articulation control and approaches targets precisely, enabling fast, efficient inspections.



Versatile optical options for a variety of objects

For optimal direction and magnification covering various types of objects, the IPLEX UltraLite offers a comprehensive range of interchangeable optical tip adaptors. In addition, the bright LED mounted on the tip adaptors clearly illuminates targets.



Rugged design for reliable operation in harsh environments

Operators are often called on to conduct inspections in difficult environments. The IPLEX UltraLite stands up to rain, sand and dust, and is compliant with IP55. Ideal for outdoor inspections, the IPLEX UltraLite faithfully produces brilliant images, even in sunlight.



Quality

Durable chassis withstands drops and falls

The IPLEX UltraLite's durability has been thoroughly proven. It passes our 1.2 m drop test, and withstands inspection-site drops and falls. Its LCD monitor passes a steel-ball drop test from a height of 100 cm.



Sharp live-image and clear movies for reliable observation and analysis

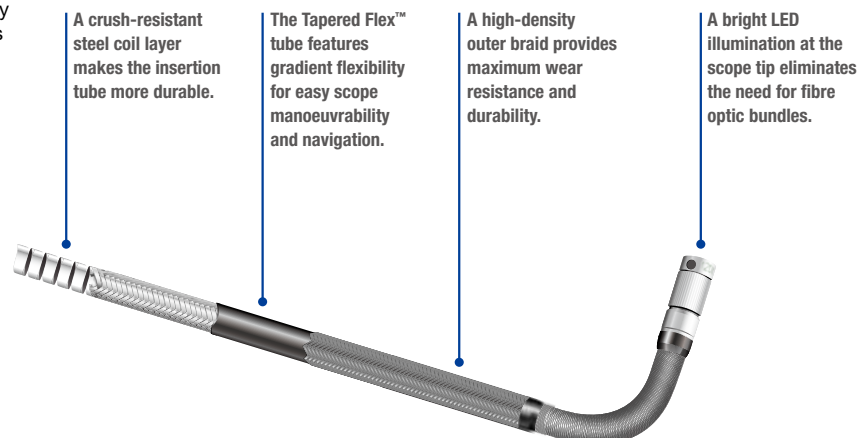
When it comes to remote visual inspections, image quality is one of the highest priorities. The IPLEX UltraLite is equipped with our unique Olympus image processor, and produces sharp and clear images. Along with its superb colour reproducing capability, the IPLEX UltraLite enables you to accurately detect even small defects. Observed images can be stored in a connected SD or SDHC card as high-quality JPEG still images and MPEG-4 movies.



Welded pipe

Insertion tube resists crushing and abrasion

The IPLEX UltraLite's insertion tube is both crush and abrasion-resistant. It is also designed with unique Olympus Tapered Flex™ technology for outstanding scope manoeuvrability. With its durability and graduated flexibility, the IPLEX UltraLite insertion tube enables you to inspect objects inside winding and rough paths.



A crush-resistant steel coil layer makes the insertion tube more durable.

The Tapered Flex™ tube features gradient flexibility for easy scope manoeuvrability and navigation.

A high-density outer braid provides maximum wear resistance and durability.

A bright LED illumination at the scope tip eliminates the need for fibre optic bundles.

IPLEX MX II

The IPLEX MX II delivers the same quality and reliability as our other IPLEX models, letting users of every skill level carry out inspections simply, conveniently, and accurately.



Reliability

Decades of Experience Plus Quality Control

At the core of the IPLEX MX II are decades of Olympus endoscope experience and strict quality control. The IPLEX MX II shrugs off tough environmental conditions, letting you inspect with confidence in tight areas where bumps can occur.

Tough Insertion Tube ... Easy Scope Insertability

The improved insertion tube of the IPLEX MX II has four layers, combining rugged durability and unsurpassed scope insertability. The tube is both exceptionally abrasion resistant 2X higher than the previous MX generation and highly crush resistant. The unique IPLEX Tapered Flex™ feature provides graduated flexibility for easy scope insertability.

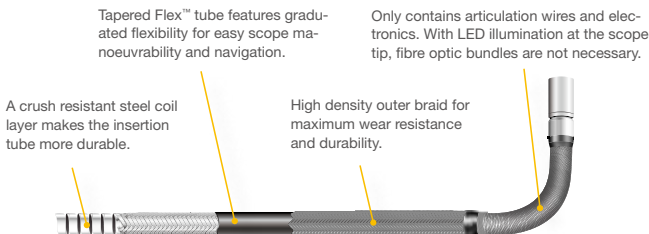


Image Quality

Large Monitor for Detecting Small Defects

The IPLEX MX II is equipped with a large 6.5 in. monitor that reveals small defects clearly and accurately. The monitor features a low-reflection display and produces vivid images both indoors and outdoors.



Exceptionally Bright LED Illumination

The LED illumination system of the IPLEX MX II is 4X brighter than the conventional model in maximum, delivering brilliant illumination to deep and dark areas that require inspection. The scope tip's LED array ensures that objects are evenly illuminated.



Ease of Use

TrueFeel® Controller for Precise Articulation and Quick Menu Access

You can intuitively manipulate the IPLEX MX II with menu buttons efficiently organised on the handheld controller. TrueFeel® scope tip articulation enables power-assisted articulation and precise control. Just a light touch of the joystick moves the scope tip in any direction.



Easy Access to Multiple Object Types

The IPLEX MX II provides insertion tubes in 4.4 mm and 6.0 mm diameters to cover various kinds of inspections. Both tubes have a short distal end and small bending radius for effortless insertion and convenient access to confined spaces.



Versatile System Design Offers Choice of Operation

The compact IPLEX MX II weighs just 2.5 kg and is more than 30% smaller than a conventional model. It's easy to transport and easy to operate. Just turn it on and you're ready to go! This versatile design offers a choice of operation. You can operate the IPLEX MX II either mounted on your body or placed wherever else it is convenient, and the handheld controller can be manipulated either independently or attached to the main unit.



Efficient Recording and Post-inspection Work

The IPLEX MX II records high-quality JPEG still images to a USB flash device with a single click. You can make reports by connecting the PC-friendly recording medium to your computer. Title can be easily saved on an image in order to assure the streamlined post-inspection work.



IPLEX YS

Being equipped with an extra-long 30 m scope and various innovative technologies, the IPLEX YS delivers unprecedented brightness and manoeuvrability, and dramatically improves your inspection quality.

Note: IPLEX YS Industrial Videoscope is built-to-order.



Outstanding Operability

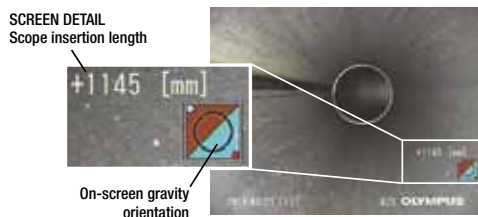
Air Articulation Offers Unparalleled Flexibility at Any Length

The versatile IPLEX YS features innovative air articulation technology, letting you freely manipulate scope articulation with the compact palm-held controller. Since the insertion tube need not be fully extended, you can unroll only the length which is needed for the inspection and leave the rest neatly and safely coiled on the internal storage drum.



Direction and Location of Target are Accurately Revealed

The IPLEX YS features an integrated gravity sensor that provides an on-screen orientation of the inspected image, clearly differentiating up from down. An optional length indicator can display the scope length inserted into an object on the screen. Utilizing these functions, you can confidently proceed with inspections knowing they will be able to clearly identify inspected positions.



Operates Efficiently Even in Hostile Environments

The IPLEX YS insertion tube is engineered for high resistance to abrasion and can be inserted into a wide range of objects, even those with rough surfaces. The lens cleaning system blows away fine dust and drip residue on the scope tip, ensuring efficient inspections that produce clear images.



All-in-one Package Permits Easy Portability

Not only can the IPLEX YS handle complete inspections, its all-in-one design lets you conduct them almost anywhere. At sites lacking an AC power supply, it can be powered by a lithium-ion battery. The scope articulation is operable with a small CO₂ cartridge; no bulky air compressor is needed.



Unsurpassed Image Quality

Pioneering Laser Illumination Technology

The IPLEX YS is the first industrial videoscope to incorporate laser illumination, 2X brighter than a conventional long-length videoscope, featuring low power consumption. It offers a comprehensive range of interchangeable optical adaptors for optimal magnification and direction. You can easily view a wide variety of inspection environments.



Clear, Crisp Images in Every Environment

The 6.5 in. daylight-view monitor delivers vivid images both indoor and outdoors. Our unique image processing capability, WiDER™ (Wide Dynamic Extended Range), brings out detail in shadowed and highlighted areas to produce bright, contrast-balanced images across the entire depth of field.

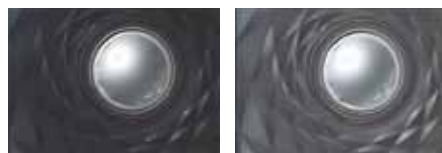


Image at standard gain setting

Image with WiDER™ gain applied

Precise Diagnosis

Accurate Post-inspection Analysis

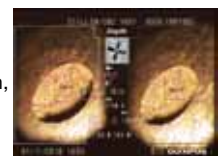
You can record JPEG still images and AVI movies into a removable Compact Flash card or USB flash drive, and use the ImageNotepad® to enter extended descriptions on recorded images. Your descriptions are immediately accessible as part of each image when inspected data is transferred to a computer.

Convenient Image Data Management

Available free from our website, IPLEX Viewer Plus is ideal for remote users to re-measure or validate saved-measurement results. In addition, IPLEX Viewer PRO is now available as an option. This advanced software features information editing and report generation, enabling you to efficiently prepare inspection reports.

Reliable Defect Detection with Stereo Measurement

Stereo Measurement technology permits accurate, three-dimensional defect measurement at any target angle. You can easily measure size, depth, and area of erosion, corrosion, and waste during inspection. Quantitatively measured calculations of a defect ensure inspection reliability.



Industrial Videoscopes

Industrial Fiberscopes

Industrial Rigid Borescopes

Light Sources





Accessories

Inspection Magnification Charts

System Charts

Specifications

■ Videoscope Features and Functions

					
Scope Variation					
Outer diameter	Insertion tube length	Product code			
ø4.0 mm	2.0 m	IV8420	IV8420L1	IV8420L2	IV8420U
	3.5 m	IV8435	IV8435L1	IV8435L2	IV8435U
ø4.4 mm	1.5 m				
	3.0 m				
ø6.0 mm	2.0 m	IV8620	IV8620L1	IV8620L2	IV8620U
	3.0 m				
	3.5 m	IV8635	IV8635L1	IV8635L2	IV8635U
	5.0 m	IV8650			
	7.5 m	IV8675	IV8675L1	IV8675L2	
	7.5 m	IV8675X2 (Smooth resin coating)			
	12.0 m	IV86120			
	18.0 m	IV86180			
ø6.2 mm	3.5 m	IV8635X1 (with internal channel)			
	3.5 m		IV8835L1	IV8835L2	
ø8.5 mm	10.0 m		IV88100L1	IV88100L2	
	20.0 m		IV88200L1	IV88200L2	
	30.0 m				
Basic Functions					
Angulation range (up-down/right-left)		IV8420 - 130°	IV8420L1 - 130°	IV8420L2 - 130°	IV8420U - 130°
		IV8435 - 130°	IV8435L1 - 130°	IV8435L2 - 130°	IV8435U - 130°
		IV8620 - 150°	IV8620L1 - 150°	IV8620L2 - 150°	IV8620U - 130°
		IV8635 - 130°	IV8635L1 - 130°	IV8635L2 - 130°	IV8635U - 120°
		IV8635X1 - 120°	IV8675L1 - 90°	IV8675L2 - 90°	
		IV8650 - 110°	IV8835L1 - 140°	IV8835L2 - 140°	
		IV8675/IV8675X2 - 90°	IV88100L1 - 115°	IV88100L2 - 115°	
		IV86120 - 70°	IV86200L1 - 70°	IV86200L2 - 70°	
	IV86180 - 50°				
Angulation control		TrueFeel® electronic power assisted			Joystick manual controlled
Insertion tube		IV84 series - Uniform stiffness, IV86 and IV88 series*2 - Tapered Flex™ tube			
Interchangeable optical adaptor*3		√	√	√	√
SmartTip® automatic tip adaptor recognition technology		√	√*4	N/A	N/A*4
Harsh environment resistance		Drop-, water- and dust-proof (complies IP55 and Military Standard J)*5			Drop-, water- and dust-proof (complies IP55)
Gravity sensor		N/A	N/A	N/A	N/A
Lens cleaning function		N/A	N/A	N/A	N/A
High temperature alert		√	√	N/A	√
Interchangeable scope unit		√	N/A	N/A	N/A
Working channel		√*6	N/A	N/A	N/A
LCD monitor		6.5" VGA, daylight-view			3.7" VGA
Light source		LED			
Power Supply	AC	100-240 V, 50/60 Hz			
	DC	14.8 V	10.8 V		7.2 V
Dimensions (including protrusions)	Base unit	250 (W) X 160 (D) X 285 (H) mm	239 (W) X 99 (D) X 215 (H) mm		120 (W) X 190 (D) X 190 (H) mm
	Control unit	311 (W) X 92 (D) X 192 (H) mm			
Weight (approx.)		6.6 kg with battery (IV8420)	2.7 kg with battery (IV8420L1)	2.7 kg with battery (IV8420L2)	0.7 kg with battery (IV8420U)
CCU functions					
Menu Language selection		English, German, French, Spanish, Italian, Russian, Korean, Simplified Chinese, Traditional Chinese			
Exposure control		√	N/A	N/A	N/A
Digital zoom		√	√	√	√
WiDER™ Gain		√	√	N/A	N/A
Image Comparison		√	N/A	N/A	N/A
Input/Output Terminal	Video Signal Output	Composite BNC and S-Video	Composite RCA		N/A
	Audio Signal Input	ø3.5 mm monaural mini jack	N/A	N/A	N/A
Recording Management functions					
Still image recording file format		JPEG/ TIFF	JPEG		
Movie recording file format		AVI M-JPEG	AVI MPEG4		
Audio recording file format		WAV	N/A	N/A	N/A
Thumbnail display		√	√	√	√
Image title entry		ImageNotepad®	Title only		
Search function		Date search	N/A	N/A	N/A
USB terminal		USB version 1.1	USB version 2.0		
Recording medium provided as standard		1 GB CF card	1 GB USB flash drive		4GB SDHC Card
Internal Memory		1 GB	N/A	N/A	N/A
Measurement functions					
Scaler measurement		√	N/A	N/A	N/A
Stereo measurement (Distance)*7		√	√	N/A	N/A
Stereo measurement (Point-to-Line)*7		√	√	N/A	N/A
Stereo measurement (Depth)*7		√	√	N/A	N/A
Stereo measurement (Lines)*7		√	N/A	N/A	N/A
Stereo measurement (Area)*7		√	N/A	N/A	N/A
Stereo measurement (Multi)*7		√	N/A	N/A	N/A
Stereo measurement (Offset)*7		√	N/A	N/A	N/A
Stereo measurement (Profile)*7		√	N/A	N/A	N/A
Spot-Ranging® (Object distance)*7		√	√	N/A	N/A

*1 The IPELX LT can be upgraded to IPELX LX. *2 IV86120, IV86180, IV88200L1 and IV88200L2 are not equipped with Tapered Flex™ tube. *3 The distal end optical adaptor is optional. *4 The function on the IPELX UltraLite and IV88 series of the IPELX LX/IPELX LT is limited to recognition.

Optical Adaptor Specifications

Model	Scope	Optical Adaptor	Outer diameter	Optical System		
				Field of view	Direction of view	Depth of field*1
IPLEX FX IPLEX LX IPLEX LT IPLEX UltraLite	IV84	AT120D/NF-IV84	ø4.0 mm	120°	Forward	4 to 190 mm
		AT120D/FF-IV84				25 to ∞ mm
		AT120S/NF-IV84			Side	1 to 20 mm
		AT120S/FF-IV84				6 to ∞ mm
	IV86	AT40D-IV86	ø6.0 mm	40°	Forward	200 to ∞ mm
		AT80D/NF-IV86		80°		8 to ∞ mm
		AT80D/FF-IV86		120°		35 to ∞ mm
		AT120D/NF-IV86				4 to 190 mm
		AT120D/FF-IV86		25 to ∞ mm		
		AT80S-IV86		80°	Side	18 to ∞ mm
		AT120S/NF-IV86		120°		1 to 25 mm
		AT120S/FF-IV86				5 to ∞ mm
IPLEX FX IPLEX LX	IV84	AT50D/50D-IV84	ø4.0 mm	50°/50°	Forward/Forward	5 to ∞ mm
		AT50S/50S-IV84			Side/Side	4 to ∞ mm
	IV86	AT60D/60D-IV86	ø6.0 mm	60°/60°	Forward/Forward	5 to ∞ mm
		AT60S/60S-IV86			Side/Side	4 to ∞ mm
IPLEX FX	IV8635X1	AT120D/NF-IV86X1	ø6.2 mm	120°	Forward	4 to 190 mm
		AT120D/FF-IV86X1				25 to ∞ mm
		AT80S-IV86X1		80°	Side	18 to ∞ mm
		AT120S-IV86X1		120°		6 to ∞ mm
		AT60D/60D-IV86X1		60°/60°	Forward/Forward	5 to ∞ mm
		AT60S/60S-IV86X1			Side/Side	4 to ∞ mm
IPLEX LX IPLEX LT	IV88	AT80D/FF-IV88	ø8.5 mm	80°	Forward	35 to ∞ mm
		AT120D/NF-IV88		120°		4 to 190 mm
		AT120D/FF-IV88			Side	25 to ∞ mm
		AT120S/NF-IV88		60°/60°		1 to 25 mm
		AT120S/FF-IV88			5 to ∞ mm	
		AT60D/60D-IV88		Forward/Forward	5 to ∞ mm	
AT60S/60S-IV88	Side/Side	4 to ∞ mm				
IPLEX MX II	IV84	—	ø4.4 mm	100°	Forward	12 to 50 mm
	IV86	—	ø6.0 mm	120°		18 to 1,000 mm
IPLEX YS	IV88300Y	AT120D/NF-IV88Y	ø8.5 mm	120°	Forward	4 to 190 mm
		AT120D/FF-IV88Y		120°	Forward	25 to ∞ mm
		AT120S/NF-IV88Y		120°	Side	1 to 25 mm
		AT120S/FF-IV88Y		120°	Side	5 to ∞ mm
		AT60D/60D-IV88Y		60°/60°	Forward/Forward	5 to ∞ mm
		AT60S/60S-IV88Y		60°/60°	Side/Side	4 to ∞ mm

*1 Indicates the viewing distance with optimal focus.

Operating Environment

		IPLEX FX	IPLEX LX	IPLEX LT	IPLEX UltraLite	IPLEX MX II	IPLEX YS	
Operating temperatures	Insertion tube	In air	-25 to 100°C	IV84 and IV86 series: -25 to 100°C IV88 series: -25 to 80°C	-25 to 80°C	-25 to 100°C	-25 to 80°C	-25 to 100°C
		Underwater	10 to 30°C					
	Other parts than above	In air	-21 to 49°C (with battery) 0 to 40°C (with AC adaptor)	-10 to 40°C (with battery) 0 to 40°C (with AC adaptor)				
Operating atmospheric pressure	Insertion tube	In air	1013 hPa					
		Underwater*1	1013 to 1772 hPa	IV84 series: 1013 to 1368 hPa IV86 series: 1013 to 1772 hPa IV88 series: 1013 to 2026 hPa	1013 to 1368 hPa	1013 to 1317 hPa	1013 to 4052 hPa	
	Other parts than above	In air	1013 hPa					
Liquid resistance		No trouble even when machine oil, light oil or 5% saline is attached.						
Waterproofing	Insertion tube	Waterproof*1: can be used underwater. Not operable underwater with stereo measurement. adaptors*2.						
	Remote control, LCD monitor, Channel port (IV8635X1)	Rain-proof: can be used in rain but cannot be used underwater.				Neither waterproof nor rain-proof.		
	Other parts than above	Rain-proof: can be used in rain as long as the battery compartment cover is close but cannot be used underwater.				Neither waterproof nor rain-proof.		

*1 Excluding IV8635X1. *2 Stereo measurement adaptors are available for the IPLEX FX and IPLEX LX only.

Industrial Fiberscopes—Slim Diameters, Superior Optics and Maximum Flexibility for Ultimate Control in Industrial Inspection.



Main Features

High Resolution

Original Olympus high-performance optics technology, such as high-density glass fibre bundles, offers the world's highest level of fibroscopic resolution and bright, sharp images.

Tapered Flex™ Tube with Superior Insertability

IF5 Series scope (except IF2D5) employ the Tapered Flex™ tube. Ideal for insertion into multiple-bend pipes, the insertion tube's flexibility changes continuously—being highly flexible at the tip and rigid at the control section. As a result, IF5 Series scopes can easily be passed through bends and elbows.

At the same time, the gradually increasing rigidity of tube as it approaches the control section assures easier transmission of pushing/twisting strength after the first bend.

Tip Angulation

The distal end can be angled in either two or four directions, by handheld controls (except IF6PD4).

Interchangeable Optical Adaptors

Facilitate a wide variety of viewing angles and directions in just one scope (most models).

Fully Waterproof Insertion Section

Photo and Video Documentation

Video recording and photography are available by connecting a CCD camera or the Olympus digital camera.

Note: Fibres may be broken when purchased due to normal product characteristics. The more the insertion tube is more, the more likely the angulation is to decrease.

Main Applications

Ideal for internal inspection of piping, machinery, structural members, etc. Highly flexible for versatility and multi-purpose applications.

- Inside water supply/drainage pipes and plant piping
- Inside engines of vehicles, aircraft, etc.
- Inside machines such as motors and boilers
- Inaccessible areas within steel towers, buildings, etc.

Product Lineup

Industrial Fiberscopes IF6C5X1/IF8C5/IF11C5

Standard Fiberscopes with Excellent Views

- The distal end can be bent in four directions by handheld operation.
- The Tapered Flex™ tube designed for easy passages through bends and elbows.
- You can change the field of view, direction of view and depth of field by switching the optical adaptor.



Industrial Fiberscopes IF6PD4/IF2D5/IF4D5/IF4S5

Ultra-thin Diameters

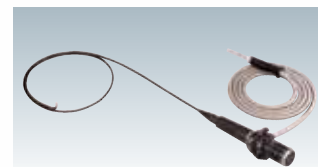
- The ultra-thin flexible fiberscopes (0.64 mm diameter in minimum) allow you to inspect inside narrow-diameter hole with 1 mm or more diameter.



Industrial Fiberscope IF5D4X1-14




Specifically for PT-6 Engine Inspection

- Easily change the direction of view by switching the optical adaptor.
- Most suitable for airframe examinations and inspection of turbine blade.
- Authorised by Pratt & Whitney as the fiberscope for PT-6 and ST-6 engines maintenance.



Specifications

■ Fiberscope Features and Functions

		IF6PD4/IF2D5/IF4D5/IF4S5				IF5D4X1-14	IF6C5X1/IF8C5/IF11C5		
									
		IF6PD4	IF2D5	IF4D5	IF4S5	IF5D4X1	IF6C5X1	IF8C5	IF11C5
Scope Variation									
Outer diameter		ø0.64	ø2.4	ø4.1	ø4.1	ø5.0	ø6.0	ø8.4	ø11.3
Effective length	490 mm	IF6PD4-6							
	600 mm		IF2D5-6						
	700 mm			IF4D5-7	IF4S5-7				
	800 mm						IF6C5X1-8		
	990 mm	IF6PD4-11							
	1,000 mm							IF8C5-10	IF11C5-10
	1,170 mm		IF2D5-12						
	1,200 mm					IF5D4X1-14			
	1,300 mm						IF6C5X1-13		
	1,500 mm			IF4D5-15	IF4S5-15			IF8C5-15	
2,000 mm						IF6C5X1-20	IF8C5-20	IF11C5-20	
3,000 mm						IF6C5X1-30	IF8C5-30	IF11C5-30	
Field of view		58°	75°	65°	60°	49°	Convertible using optical adaptor		
Direction of view		Direct viewing			Side viewing	Direct viewing (Convertible to side viewing using optical adaptor)	Direct/Side viewing (Convertible using optical adaptor)		
Depth of field (Fixed focus)		1 to 50 mm	2 to 50 mm	5 to 60 mm	4 to 40 mm	5 to 50 mm	Convertible using optical adaptor		
Bending section		Angulation range		Up-Down 120°			Up-Down 120°, Right-Left 100°		
Illumination system		Light guide system							
Light guide cable length		2,000 mm	2,200 mm	2,000 mm					

■ Optical Adaptor Specifications

Scope	Optical adaptor	Field of view	Direction of view	Depth of field	
IF5D4X1-14	Optional AT50S-IF5D4X1	49°	Side viewing	5-50 mm	
IF6C5X1	Provided AT60D/FF-IF6C5	60°	Direct viewing	11-∞ mm	
	Optional	AT30D-IF6C5	30°	Direct viewing	26-372 mm
		AT60D/NF-IF6C5	60°		5-102 mm
		AT100D-IF6C5	100°		4-∞ mm
		AT30S-IF6C5	30°	Side viewing	21-138 mm
		AT60S/NF-IF6C5	60°		4-85 mm
		AT60S/FF-IF6C5	60°		9-∞ mm
AT100S-IF6C5	100°	4-∞ mm			
IF8C5	Provided AT60D/FF-IF8C5	60°	Direct viewing	20-∞ mm	
	Optional	AT30D/NF-IF8C5	30°	Direct viewing	30-70 mm
		AT30D/FF-IF8C5	30°		60-250 mm
		AT60D/NF-IF8C5	60°		9-50 mm
		AT100D/NF-IF8C5	100°	3-200 mm	
		AT100D/FF-IF8C5	100°	9-∞ mm	
		Optional	AT30S-IF8C5	30°	Side viewing
	AT60S/NF-IF8C5		60°	8-40 mm	
	AT60S/FF-IF8C5		60°	20-240 mm	
	AT100S/NF-IF8C5		100°	3-140 mm	
	AT100S/FF-IF8C5		100°	9-200 mm	
IF11C5	Provided AT60D/FF-IF11C5	60°	Direct viewing	27-390 mm	
	Optional	AT30D/NF-IF11C5	30°	Direct viewing	38-70 mm
		AT30D/FF-IF11C5	30°		65-120 mm
		AT60D/NF-IF11C5	60°		11-45 mm
		AT100D/NF-IF11C5	100°	5-70 mm	
		AT100D/FF-IF11C5	100°	16-300 mm	
		Optional	AT30S-IF11C5	30°	Side viewing
	AT60S/NF-IF11C5		60°	11-40 mm	
	AT60S/FF-IF11C5		60°	28-440 mm	
	AT100S/NF-IF11C5		100°	3-22 mm	
	AT100S/FF-IF11C5		100°	12-250 mm	

■ Operating Environment

			IF6PD4	IF2D5	IF4D5	IF4S5	IF5D4X1	IF6C5X1	IF8C5	IF11C5
Operating temperatures	Insertion tube	In air	10 to 40°C		-10 to 80°C					
		In water	10 to 30°C	10 to 40°C	10 to 30°C	—	10 to 30°C			
	Other parts than above	In air	10 to 40°C		-10 to 50°C					
Operating atmospheric pressure	Insertion tube	In air/water	1013 hPa	1013 to 1165 hPa		1013 hPa	1013 to 1317 hPa			
	Other parts than above	In air	1013 hPa							
Liquid resistance (against machine oil, light oil and 5% saline)					✓	✓		✓	✓	✓
Waterproof	Insertion tube		✓	✓	✓	✓	✓	✓	✓	✓
Drip-proof	Control section			✓	✓	✓	✓	✓	✓	✓

Industrial Rigid Borescopes—Ultimate image clarity and enhanced brightness combining with a comprehensive lineup to provide real choice for Industrial inspections.



Main Features

Clear, High-resolution Images

Excellent detail reproductions. Sharp image is easy on the eyes, helping reduce inspector fatigue.



Focus Adjustment Mechanism

Easy-to-use focus control.

370° Rotation

Upward pointer keeps you oriented when using the rotation function (not all models).

Increased Field of View

32% larger field of view in R040 models and 96% larger field of view in R060 models.

Accurate Image Reproduction

Distortion at image edges has been dramatically reduced.

Even Illumination

New tip design ensures more even illumination even when viewing close-range subjects (not available in direct-viewing scopes and R160 models).

Outstanding Durability

Stainless steel insertion tube usable at temperatures between -20°C and 150°C as well as under pressure of up to 1.7 atmospheres (except Minibolescopes and Small Diameter Borescopes).

Ergonomic Control Section

Fits snugly in your hand.



Versatile Lineup

Close to 200 models available featuring various diameters, working lengths, and viewing directions and angles.

Ideal for inspections on a video display

The bright images on a video display are effective for inspections in production lines.



Main Applications

Ideal for inspection of sites that can be accessed head-on with relatively shallow insertion. Excellent images are delivered when a video camera is mounted.


For inspecting:

- Inside narrow-diameter holes and pipes
- Inside cast and hydraulic parts and honing-processed holes
- The side wall of a hole with 1mm or more diameter
- Inside aircraft engines, hollow walls or buildings, machinery, structures, etc.

Product Lineup

Standard Rigid Borescopes

The stainless steel insertion tube usable at temperature between -20°C and 150°C. Close to 200 models available featuring various diameters, working length, and viewing directions and angles.



Swing-prism Borescopes

The scope's direction of view can be adjusted continuously from fore-oblique to retro viewing –coupled with the field of view, this allows a total viewing arc of 120° to 140°.



Zoom Swing-prism Borescopes

The Zoom swing prism incorporates the same characteristics as the standard swing prism, but with the added feature of 2X optical zoom. This allows the user to zoom onto an object of interest, providing a magnified view.



Engine Borescopes

The Engine borescopes have been designed to meet manufacturer and user specification requirements specifically for a number of key military and commercial aero engines.

Small Diameter Borescopes

Raise your productivity with easy-to-use, highly durable, small diameter borescopes.

- Small diameter (down to 0.9 mm) and wide field of view (up to 70°).
- Clear image transmission via latest fibre technology.
- Separate fibre bundle for illumination of inspection area.




MK Modular Mini-scopes

1.2 mm, 1.7 mm, and 2.7 mm ultra-thin borescopes for extremely tight spaces. Interchangeable eyepiece and body assembly will reduce the risk of damage and need for repair.



Operating Environment

		Standard Borescope Swing-prism Borescope Zoom Swing-prism Borescope	MK Modular Mini-scope	Small Diameter Borescope
Operating temperatures	Insertion tube	In air -20 to 150°C	-10 to 80°C	
	Other parts than above	In air -20 to 50°C	10 to 30°C	
Operating atmospheric pressure	Insertion tube	In air 700 to 1700 hPa	710 to 1070 hPa	
	Other parts than above	Underwater Up to 1700 hPa	Up to 1070 hPa	
Liquid resistance		710 to 1060 hPa		
Waterproofing	Insertion tube	No trouble even when machine oil, light oil or 5% saline is attached.		
	Other parts than above	Waterproof: can be used underwater. Drip-proof		

Specifications

Standard Rigid Borescopes

Features and Functions

Product code	Outer diameter	Effective length	Direction of view	Field of view	Depth of field	
R040-021-000-60	ø4.1 mm	21 cm	0°	60°	5 to ∞ mm	
R040-022-045-60		45°				
R040-022-090-60		90°				
R040-033-000-60		0°				
R040-033-045-60	33 cm	45°	90°			
R040-033-090-60		90°				
R060-017-000-50	ø6.1 mm	17 cm	0°	50°	5 to ∞ mm	
R060-017-045-50			45°			
R060-017-090-50		90°				
R060-032-000-50		32 cm	0°			
R060-032-045-50			45°			
R060-032-090-50			90°			
R060-047-000-50			0°			
R060-047-045-50		47 cm	45°			
R060-047-090-50			90°			
R060-063-000-50		63 cm	0°			
R060-063-045-50	45°					
R060-063-090-50	90°					
R060-078-090-50	78 cm		90°			
R080-024-000-50	ø8.1 mm	24 cm	0°	50°	5 to ∞ mm	
R080-024-045-50			45°			
R080-024-090-50			90°			
R080-024-110-50		110°				
R080-025-090-35		25 cm	35°			10 to ∞ mm
R080-028-090-10			10°			80 to ∞ mm
R080-034-090-50		34 cm	50°			5 to ∞ mm
R080-034-110-50			110°			
R080-035-090-35		35 cm	35°			10 to ∞ mm
R080-044-000-50			44 cm			0°
R080-044-045-50	45°					
R080-044-090-50	90°					
R080-044-110-50	110°					
R080-045-090-35	45 cm	35°	10 to ∞ mm			
R080-048-090-10		10°	80 to ∞ mm			
R080-054-090-50	54 cm	0°	50°	5 to ∞ mm		
R080-054-110-50		110°				
R080-064-000-50		64 cm			0°	
R080-064-045-50					45°	
R080-064-090-50	90°					
R080-064-110-50	110°					
R080-065-090-35	65 cm	35°	10 to ∞ mm			
R080-074-090-50		74 cm	90°			
R080-084-000-50	84 cm	0°	50°	5 to ∞ mm		
R080-084-045-50		45°				
R080-084-090-50		90°				
R080-084-110-50		110°				
R080-094-110-50	94 cm	110°	50°	5 to ∞ mm		
R080-104-045-50		45°				
R080-104-090-50	104 cm	90°				
R080-104-110-50		110°				
R080-124-000-50	124 cm	0°	50°	5 to ∞ mm		
R080-124-045-50		45°				
R080-124-090-50		90°				
R080-124-110-50		110°				
R080-125-090-35	125 cm	35°	10 to ∞ mm			
R080-134-090-35		134 cm	90°			
R080-144-000-50	144 cm	0°	50°	5 to ∞ mm		
R080-144-045-50		45°				
R080-144-090-50		90°				
R100-025-090-35	ø10.1 mm	25 cm	35°	10 to ∞ mm		
R100-025-090-50			50°	5 to ∞ mm		
R100-029-090-10		29 cm	10°	115 to ∞ mm		
R100-038-000-50			38 cm	0°		
R100-039-045-50		39 cm	45°	50°	5 to ∞ mm	
R100-039-090-50			90°			
R100-039-090-35		39 cm	35°	10 to ∞ mm		
R100-039-110-50			110°	50°	5 to ∞ mm	
R100-043-090-10		43 cm	10°	115 to ∞ mm		
R100-053-090-50			53 cm	50°	5 to ∞ mm	
R100-053-090-35	53 cm	35°	10 to ∞ mm			
R100-057-090-10		57 cm	10°	115 to ∞ mm		
R100-066-000-50	66 cm	0°	50°	5 to ∞ mm		
R100-067-045-50		45°				
R100-067-090-35		67 cm			35°	10 to ∞ mm
R100-067-090-50		90°			50°	5 to ∞ mm
R100-081-090-35	81 cm	35°	10 to ∞ mm			
R100-095-045-50		45°	50°	5 to ∞ mm		
R100-095-090-50	95 cm	90°	35°	10 to ∞ mm		
R100-095-090-35		110°	50°	5 to ∞ mm		
R100-095-110-50	99 cm	110°	10°	115 to ∞ mm		
R120-039-090-35 ILG*		ø12.1 mm	39 cm	90°	35°	10 to ∞ mm
R120-053-090-35 ILG*	53 cm		90°	35°	10 to ∞ mm	
R160-059-000-35 ILG*	ø16.1 mm	59 cm	0°	35°	20 to ∞ mm	
R160-059-090-35 ILG*			90°			
R160-101-000-35 ILG*		101 cm	0°			
R160-101-090-35 ILG*			90°			
R160-122-090-35 ILG*		122 cm	90°			
R160-143-000-35 ILG*			143 cm			0°
R160-143-090-35 ILG*	143 cm	90°				

* Light guide is fixed.

Swing-prism Borescopes

Features and Functions

Product code	Outer diameter	Effective length	Direction of view	Field of view	Depth of field
R060-023-045SW115-50	ø6.1 mm	23 cm	45 to 115°	50°	5 to ∞ mm
R060-031-045SW115-50		31 cm			
R060-046-045SW115-50		46 cm			
R060-061-045SW115-50		61 cm			
R060-077-045SW115-50		77 cm			
R080-023-045SW115-50	ø8.1 mm	23 cm	45 to 115°	50°	5 to ∞ mm
R080-024-045SW115-20		24 cm			
R080-033-045SW115-50		33 cm			
R080-043-045SW115-50		43 cm			
R080-044-045SW115-20		44 cm			
R080-053-045SW115-50		53 cm			
R080-063-045SW115-50		63 cm			
R080-064-045SW115-20		64 cm			
R080-083-045SW115-50		83 cm			
R080-103-045SW115-50		103 cm			

Zoom Swing-prism Borescopes

Features and Functions

Product code	Outer diameter	Effective length	Direction of view	Field of view	Depth of field
R060-024-045SW115-50ZM25	ø6.1 mm	24 cm	45 to 115°	25 to 50°	5 to ∞ mm
R060-032-045SW115-50ZM25		32 cm			
R060-047-045SW115-50ZM25		47 cm			
R060-062-045SW115-50ZM25		62 cm			
R080-024-045SW115-50ZM25	ø8.1 mm	24 cm	45 to 115°	25 to 50°	5 to ∞ mm
R080-034-045SW115-50ZM25		34 cm			
R080-044-045SW115-50ZM25		44 cm			
R080-054-045SW115-50ZM25		54 cm			
R080-064-045SW115-50ZM25	64 cm				

Major Engine Range Specifications

The Olympus borescopes are officially approved for the inspections of various military, commercial aero and power generating engines, including the following models.

Engine manufacturer	Engine model
Pratt & Whitney	PW4000/PW2000/JT9D/JT8D/F100
Rolls-royce	RB211/TRENT
GE	GE90/CF34/CFM56/F110

MK Modular Mini-scopes / Features and Functions

Product code	Outer diameter	Effective length	Direction of view	Field of view	Depth of field
MK012-009-000-45	ø1.2 mm	9 cm	0°	45°	1 to ∞ mm
MK012-009-015-53	ø1.2 mm	9 cm	15°	53°	1 to ∞ mm
MK017-009-000-62	ø1.7 mm	9 cm	0°	62°	1 to ∞ mm
MK017-018-000-62	ø1.7 mm	18 cm	0°	62°	1 to ∞ mm
MK017-009-015-80	ø1.7 mm	9 cm	15°	80°	1 to ∞ mm
MK017-018-015-80	ø1.7 mm	18 cm	15°	80°	1 to ∞ mm
MK017-009-090-62	ø1.7 mm	9 cm	90°	62°	1 to ∞ mm
MK017-018-090-62	ø1.7 mm	18 cm	90°	62°	1 to ∞ mm
MK027-018-000-62	ø2.7 mm	18 cm	0°	62°	1 to ∞ mm
MK027-018-015-80	ø2.7 mm	18 cm	15°	80°	1 to ∞ mm
MK027-018-090-62	ø2.7 mm	18 cm	90°	62°	1 to ∞ mm

Small Diameter Borescopes

Product code	Outer diameter	Effective length	Direction of view	Field of view	Depth of field	
X009-006-000-70	ø0.9 mm	6 cm	0°	70°	3.0 to ∞ mm	
X009-006-000-55C				55°	0.8 to 1.6 mm	
X009-006-015-70				15°	70°	3.0 to ∞ mm
X009-015-000-55C				55°	70°	0.8 to 1.6 mm
X009-015-000-70				70°	70°	3.0 to ∞ mm
X009-015-015-70	15°	70°	2.0 to 7.0 mm			
X012-006-000-55C	ø1.2 mm	6 cm	0°	55°	0.8 to 1.6 mm	
X012-006-000-70				70°	3.0 to ∞ mm	
X012-006-015-55C				55°	0.8 to 1.6 mm	
X012-006-015-70				70°	2.0 to 7.0 mm	
X012-015-000-52C				55°	0.8 to 1.6 mm	
X012-015-000-70	15 cm	0°	15°	70°	3.0 to ∞ mm	
X012-015-015-70				70°	2.0 to 7.0 mm	
X017-015-000-52C	ø1.7 mm	15 cm	0°	52°	1.4 to 2.5 mm	
X017-015-000-70				70°	4.5 to ∞ mm	
X017-015-015-56C				56°	1.4 to 2.5 mm	
X017-015-015-70				70°	3.0 to 12.0 mm	
X017-015-090-52C				52°	1.4 to 2.5 mm	
X017-015-090-70		70°	3.0 to 12.0 mm			
X017-025-000-52C		25 cm	15°	90°	52°	1.4 to 2.5 mm
X017-025-000-70					70°	4.5 to ∞ mm
X017-025-015-56C					56°	1.4 to 2.5 mm
X017-025-015-70					70°	3.0 to 12.0 mm
X025-015-000-70	70°				3.0 to 12.0 mm	
X025-015-000-70	ø2.5 mm	15 cm	0°	70°	4.5 to ∞ mm	
X025-015-015-70				15°	70°	3.0 to 12.0 mm
X025-015-090-70				90°	70°	3.0 to 12.0 mm
X025-025-000-70				70°	4.5 to ∞ mm	
X025-025-015-70				15°	70°	3.0 to 12.0 mm
X025-025-090-70	90°	70°	3.0 to 12.0 mm			

Industrial Borescopes

Industrial Fiberscopes

Industrial Rigid Borescopes

Light Sources

Accessories

Inspection Magnification Charts

System Charts

Long-life Halogen Light Source

ILK-7C (Not Available in All Areas)

Refined for environmental resistance and long life, this model is suitable for use on production lines.

■ ILK-7C Specifications

	ILK-7C
Voltage*	100-120 V 50-60 Hz, 115 V 400 Hz
Power consumption	280 W
Dimensions	178 (W) X 76 (H) X 230 (D) mm
Weight	2.3 kg



* When voltage in your country is NOT 100-120 V, a voltage transformer is required to provide optimal voltage that accommodates the specs. of the optical source device.

● Significantly longer life

The life of the light source has been dramatically extended to an average 500 hours when 15 V 150 W lamps are used.

● Improved environmental resistance

The circuit board is insulated with a silicon rubber coating that reduces the possibility of short-circuiting and improves atmospheric-resistance at the site.



Halogen Light Source

ILK-7/ILK-7A/ILK-7B

The ILK-7 range of light sources incorporates a 150 W tungsten-halogen lamp offering features necessary to meet most industrial needs.

■ ILK-7 Specifications

	ILK-7	ILK-7A	ILK-7B
Voltage	100-120 V 50-60 Hz, 115 V 400 Hz	100-240 V 50-60 Hz, 115 V 400 Hz, 11-15V DC	100-240 V 50-60 Hz, 115 V 400 Hz
Power consumption	280 W		250 W
Dimensions	178 (W) X 76 (H) X 230 (D) mm		
Weight	2.3 kg		



Metal-halide High Intensity Light Source

ILH-2A/ILH-2B

With three times the intensity of its predecessor, this high-output light source is ideal for observation inside large spaces.

■ ILH-2A/ILH-2B Specifications

	ILH-2A	ILH-2B
Voltage	100-240 V AC	10-15 V DC
Power consumption	100W	110W
Dimensions	173 (W) X 85 (H) X 235 (D) mm	
Weight	3.0 kg	



UHP High Intensity Light Source

ILP-2

Bright and compact—the ILP-2 light source has been specifically designed for large void inspections. Incorporating the latest UHP lamp technology it is now the brightest, most powerful light source ever produced by Olympus.

■ ILP-2 Specifications

	ILP-2
Voltage	100-240 V AC, 10-15 V DC
Power consumption	100 W
Dimensions	166 (W) X 109 (H) X 261 (D) mm
Weight	2.9 kg



Portable Halogen Light Source

ILK-D1/ILK-D2

The compact, portable light sources are operated from 12 V DC supply. They can be mounted on a belt or jacket pocket using a spring clip.

■ ILK-D1 /ILK-D2 Specifications

	ILK-D1	ILK-D2
Voltage	12 V DC	
Power consumption	80 W	105 W
Dimensions	80 (W) X 60 (H) X 140 (D) mm	147 (W) X 75 (H) X 168 (D) mm
Weight	0.6 kg	



Portable Halogen Light Source

KLS-131

The KLS-131 light source can be used as a stand alone system or as part of the modular borescope system. It is available with either XLR connector or crocodile clips for car battery use.

■ KLS-131 Specifications

	KLS-131
Voltage	12 V DC
Power consumption	80 W
Dimensions	137 X 53 mm
Weight	0.6 kg



UV Light Source

(Recommended Models are Available from our Sales Representatives)

Olympus offers high power UV light sources compatible with all the light guide cables and fiberscopes for fluorescent testing.

Compact LED Light Source

LED Light Source ILD-3

The LED light source designed for the MK Modular Mini-scope gives superior brightness at reduced power consumption, and the greatly increased LED life offers lower long term cost and reduced environmental impact. With the use of adaptors it can be fitted to a range of scopes, giving our rigid borescopes or fiberscopes a unique portability.

■ Specifications

	ILD-3
Power Supply	3 VDC rechargeable batteries, ILD-C or Accessory Desktop PSU
Dimensions	55mm long x 30mm diameter
Weight	65 g without CR123 battery
Run time	1.5 hours per interchangeable battery or 8 hours at full brightness from the ILD-C.
Colour Temperature	6350 K



ILD-3 battery version

Compact LED Light Source

LED Light Source ILD-2

Directly competing with the high power halogen units in terms of brightness, but only using a fraction of the power – this light source provides a freedom of portability that only LED technology can offer. Coupled with the comprehensive range of scope adaptors available, this lightsource is the most versatile we have ever offered.

■ Specifications

	ILD-2
Power Supply	ILD-C or Accessory Desktop PSU
Dimensions	81mm long x 38mm diameter
Weight	108 g
Run time	2.5 hours at full brightness from the ILD-C.
Colour Temperature	5500 K



Connecting Scope Adaptors for ILD-2 and ILD-3

A range of adaptors to connect the compact light sources to our various rigid borescopes and fiberscopes.

■ Adapted Scopes

Light Source	ILD-2	ILD-3
Adapted Scopes via Connecting Scope Adaptors	Standard Rigid Borescopes	Standard Rigid Borescopes
	Swing-Prism Borescopes	Swing-Prism Borescopes
	Zoom Swing-Prism Borescopes	Zoom Swing-Prism Borescopes
	Small Diameter Borescopes	Small Diameter Borescopes
	Fiberscopes with Olympus Light Guides	Fiberscopes with Olympus Light Guides
	Engine Borescopes	Olympus Medical Fiberscopes
	Olympus Medical Rigid Borescopes	Olympus Medical Rigid Borescopes

Note: Adaptors connecting ILD-2 to rigid borescopes from other companies are also available.

Note: MK Modular Mini-scopes are directly connectable to ILD-3.



Battery Control Unit for Compact LED Light Source

ILD-C

The ILD-C runs the ILD-2 or ILD-3 at their peak current, ensuring their brightest and safest performance, with no drop off over time. It also offers brightness control and prolonged run time from its rechargeable internal battery, negating the need for external power and providing a completely portable light source. The provided desktop power supply will charge the ILD-C at the same time as running the attached ILD-2 or ILD-3, offering continuous use.

■ Specifications

	ILD-C
Power Supply	9 to 19 VDC
Power Consumption	38 W Max when charging
Dimensions	130mm x 90mm x 38mm
Weight	650 g



Belt Clip and ILD-2 Holster

Available as accessories converting the ILD-C and ILD-2 into a portable light source system for our rigid borescopes and fiberscopes.



For Industrial Videoscopes IPLEX series

Rigid Sleeve

MAJ-1737 (for $\varnothing 4.0$ mm dia. insertion tube)

MAJ-1281 (for $\varnothing 4.4$ mm dia. insertion tube)

MAJ-1253 (for $\varnothing 6.0/\varnothing 6.2$ mm dia. insertion tube)

Useful as an auxiliary insertion tool and also makes the scope easier to handle. Simply fit and lock the sleeve onto the tip of the insertion tube.



Retrieval Tools (for IPLEX FX / IPLEX SX II R)

Various retrieval tools are available depending on objects.



Snare MAJ-1353 Alligator MAJ-1354 Basket MAJ-1355 Grasper MAJ-1356 Magnet MAJ-1357

Battery and Charger (for IPLEX FX / IPLEX YS)

NP-L7S (Lithium-ion battery)

JL-2PLUS/OL-0 (Charger, 115 V type)

JL-2PLUS/OL-1 (Charger, 220 V type)

The battery provides over 2 hours of operating time.



Battery and Charger (for IPLEX LX / IPLEX LT / IPLEX MX II)

NC2040OL24 (Lithium-ion battery)

CH5000C (Charger, USA type)

CH5000X (Charger, European type)

The battery provides 2 hours of operating time.

Note: Over 100-minute operating time for the IV88 series.



Battery and Charger (for IPLEX UltraLite)

IB-1 (Lithium-ion battery)

IC-1 (Charger)

The battery provides approximately 90 minutes of operating time.



Controller Holder (for IPLEX FX / IPLEX LX / IPLEX LT)

MB-937

Allows the handheld controller to be affixed to a tripod, making it useful for prolonged inspections.



LCD Monitor Extension Cable (for IPLEX FX)

SU492400 Length: 2 m

The 2 m length cable allows you to operate the main unit while moving freely around a expanded area.

Note: The LCD monitor shown in this photo does not come with this cable.



UV Inspection Adaptors* (for IPLEX FX)

Enable the UV inspections by being attached onto the IPLEX FX scope tip.



Image with a general optical adaptor



Image with an UV inspection adaptor

Tripod Adaptor (for IPLEX UltraLite)

MAJ-2017

Makes it possible to mount the IPLEX UltraLite on a tripod for increased stability during prolonged inspections.



Durable Carrying Case (for IPLEX UltraLite)

MAJ-2019

This optional durable case fully protects the instrument from damage during shipment. It is small enough to fit in the overhead compartment of most aircraft, making it ideal for frequent transport.



Guide Tube for Long Scope

(for IPLEX FX / IPLEX LX / IPLEX LT)

MAJ-1824-50 (for IV8650)

MAJ-1824-75 (for IV8675 series)

MAJ-1824-120 (for IV86120)

MAJ-1824-180 (for IV86180)

Protects the scope and assists in smooth entry when inserting it into a wide pipe.



Guide Tube for Inspection of JT8D Engines*

(for IPLEX FX / IPLEX LX / IPLEX LT / IPLEX II R / IPLEX SA II R)

Provides a second movable joint for incredibly flexible control, which is ideal for inspecting the combustion chamber of JT8D engines.

Available on IV8620, IV8635, IV7635, and IV7650 series.

Note: Pratt & Whitney approved for JT8D engine inspection.



High Temperature Guide Tube*

MAJ-1867 (for 4 mm insertion tube)

The High Temperature Guide Tube is able to operate at temperatures up to 250°C which makes it ideally suited for inspections of hot aircraft engines, boilers, and furnaces. The benefit of utilizing this guide tube is that inspections can start at a higher temperature, thereby reducing the waiting time for the inspected area to cool down.



Centring Device Set (for 8.5mm insertion tube)

MAJ-1935

Allows you to centre the scope inside a pipe by attaching it to the scope distal end. The set consists of two devices in 75 mm and 140 mm finger lengths.



Flex and Stay Adaptor (for IPLEX series)

Enables the videoscope and fiberscope to be housed in a semi-flexible tube supporting the scope insertion to difficult areas.

Note: This adaptor can be used for the Industrial fiberscopes as well.



Side View Rigid Sleeve (for IPLEX MX II)

MAJ-1730 (for ø4.4 mm)

MAJ-1731 (for ø6.0 mm)

Side view rigid sleeve with prism-style LED illumination enables effective inspection of small gas turbine engines.



Length Indicator (for IPLEX YS)

Indicates how far the insertion tube is inserted into an object.



Pushing Rod (for IPLEX YS)

Provides support for inserting the scope tip into a deep area.



Remote Controller Extension Cable

MAJ-1091 (for IPLEX YS)

Extends the remote control cable by 4 m, permitting free movement during operation.



CO₂ Cartridge (for IPLEX YS)

The portable CO₂ cartridge can be fixed onto the IPLEX YS, letting you manipulate scope articulation without a bulky compressor.

Note: Please consult a sales representative for the recommended model.



Side View Mirror Adaptor (for IPLEX MX II)

You can change the direction of view by mounting the side viewing tip adaptor. The diameter of the side viewing tip adaptor is ø7.4 mm

• Exclusively for use on IV8630M.



High Magnification Adaptor* (for IPLEX MX II)

MAJ-1566

Provides approx. 20X high magnification observation on the IPLEX MX II monitor by being attached onto the insertion tube.



Normal image by IPLEX MX II



Magnified image by IPLEX MX II with MAJ-1566

*Built-to-order

Industrial
Videoscopes

Industrial
Fiberscopes

Industrial
Rigid Borescopes

Light Sources

Accessories

Inspection
Magnification Charts

System Charts

For Industrial Fiberscopes / Industrial Rigid Borescopes

OM Adaptors^{*1}

Allow you to connect industrial fiberscopes or rigid borescopes to selected Olympus digital SLR cameras or mirrorless ones.

^{*1} The optional OM adaptor MF-1 or MF-2 is required to connect the OM adaptors listed below to the digital SLR cameras or mirrorless ones.



SM-R+MF-2

	AI-3M/AI-4M	AK-1M/SM-R
Compatible scope*	IF4D5/4S5 IF5D4X1 IF6C5X1 IF8DC5 IF11C5	IF6PD4 IF2D5 IF8D4X2/X3 K12/17/27, X09/12/17/25 Miniboscopes Series 5 Rigid Borescopes
Camera connector	MF-1 for connection to the digital SLR cameras. MF-2 for connection to the mirrorless cameras.	

Notes: Magnification of the AI-4M 1.3X larger than the AI-3M.
Magnification of the AK-1M is 1.8X larger than the SM-R.

* Moire may appear if pixel interference occurs in certain inspection environments (such as fibre mesh and CCDs) or in certain output devices (such as LCDs and printers).

Light Guide Cable

This accessory transmits light from a separate light source.



C-mount Adaptors

For connection of TV cameras to Fiberscopes and Rigid Borescopes.



AI-3C

Scope	C-mount adaptor	Magnification ratio	Brightness ratio
IF3 Series IF7D3X3-26, 32 IF13D3-60, IF8D3X2-23 Image Carriers	MC-04	0.8	1.6
	MC-05	1.0	1.0
IF4D4/4S4, IF5D4X1 IF6D4, IF8D4, IF11D4 IF4D5/4S5, IF6C5, IF6C5X1 IF8C5, IF11C5	AI-10C	0.8	1.56
	AI-11C	1.0	1.0
	AI-12C	1.51	0.44
	AI-3C	2.0	0.25
IF6PD4, IF2D4, IF2D5 Rigid Borescopes Miniboscopes Modelscope	AK2-5C	0.75	1.8
	AK2-10C	1.0	1.0
	AK2-20C	1.35	0.55
	MC-R44	1.85	0.3
	MC-R58	2.4	0.17

Multi-purpose Sleeve

Useful to provide a constant insertion depth of rigid Borescopes.

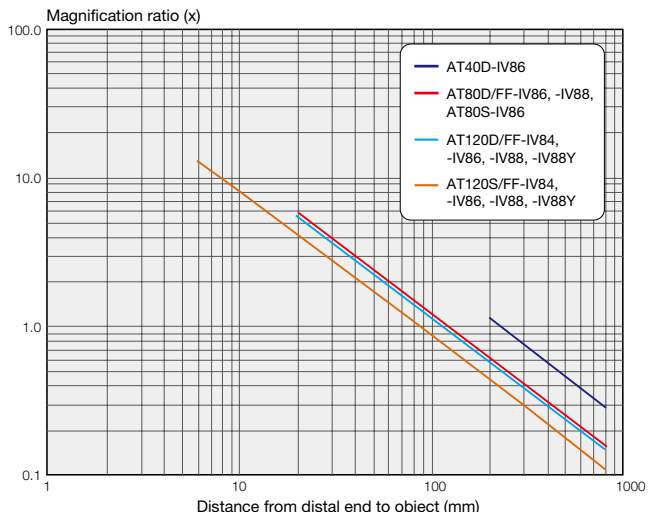


Magnification Ratio of IPLEX-series Monitors

Note: The magnification chart of the IPLEX MX II in 6.0 mm dia. is approximately same as that of AT120D/FF-IV84.

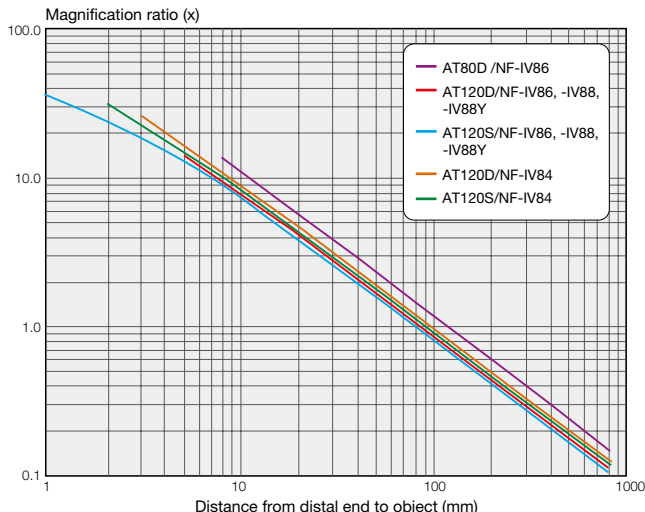
Far focus adaptor

■ IPLEX FX / IPLEX LX / IPLEX LT / IPLEX UltraLite / IPLEX YS



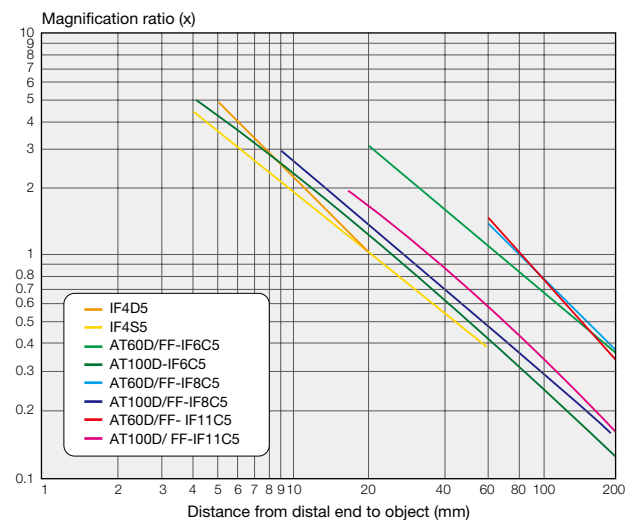
Near focus adaptor

■ IPLEX FX / IPLEX LX / IPLEX LT / IPLEX UltraLite / IPLEX YS

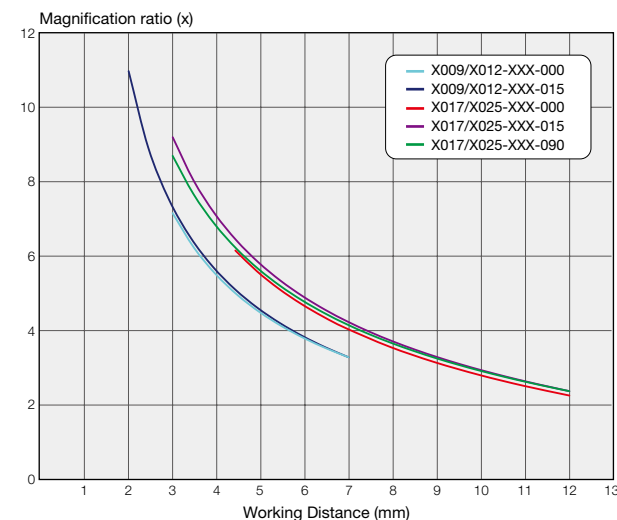


Range of Magnification Ratios During Inspection

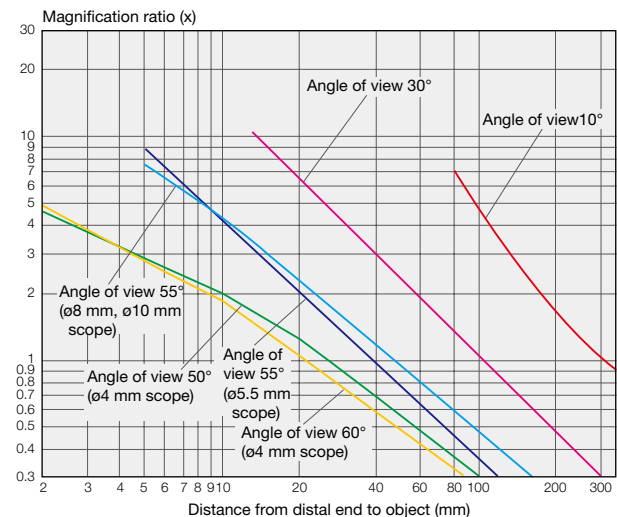
Fiberscopes



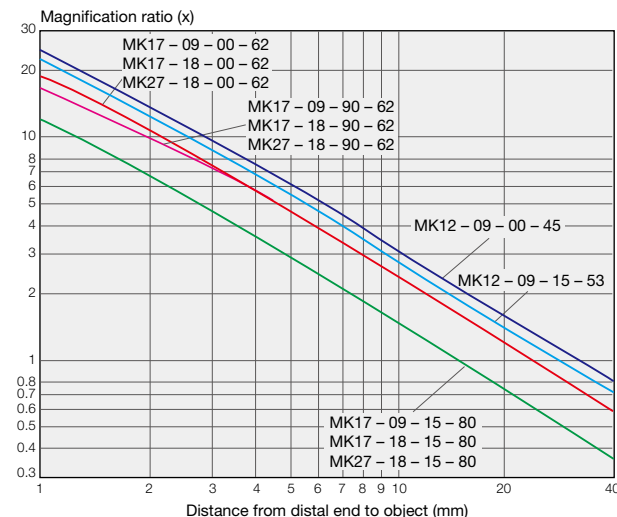
Small Diameter Borescopes



Rigid Borescopes (larger than ø4 mm)



MK Modular Mini-Scopes



Industrial
Videoscopes

Industrial
Fiberscopes

Industrial
Rigid Borescopes

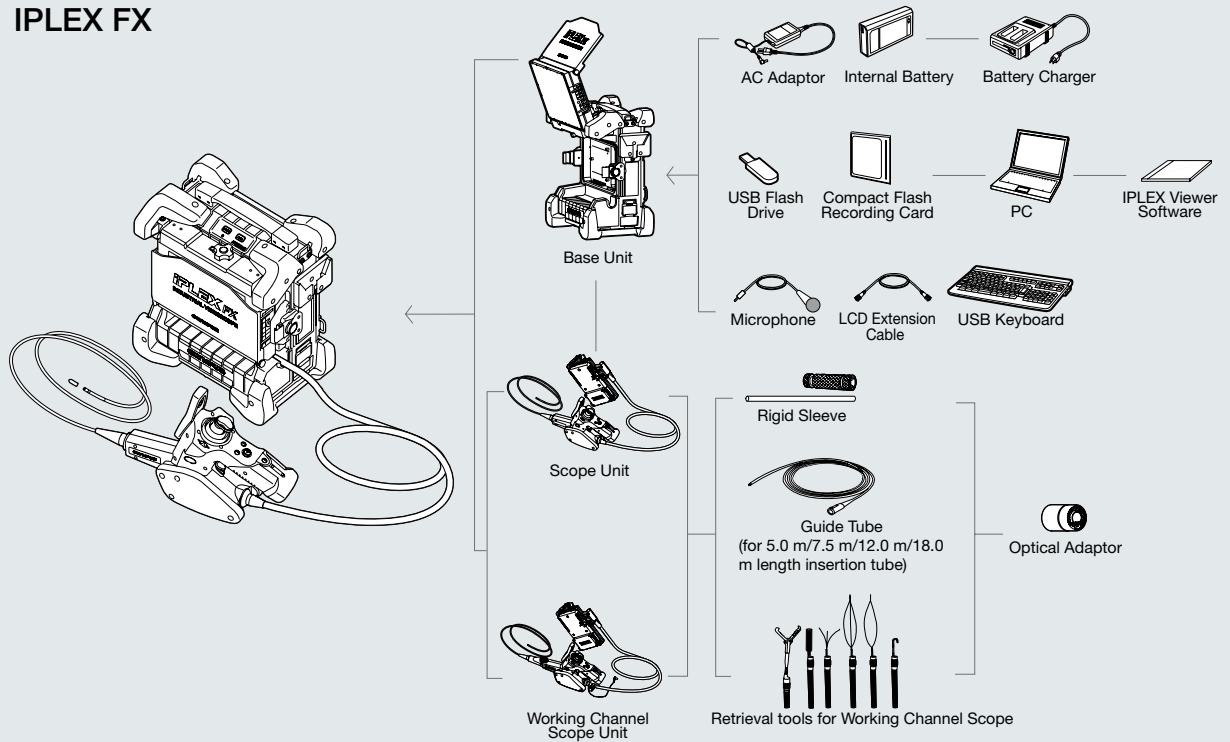
Light Sources

Accessories

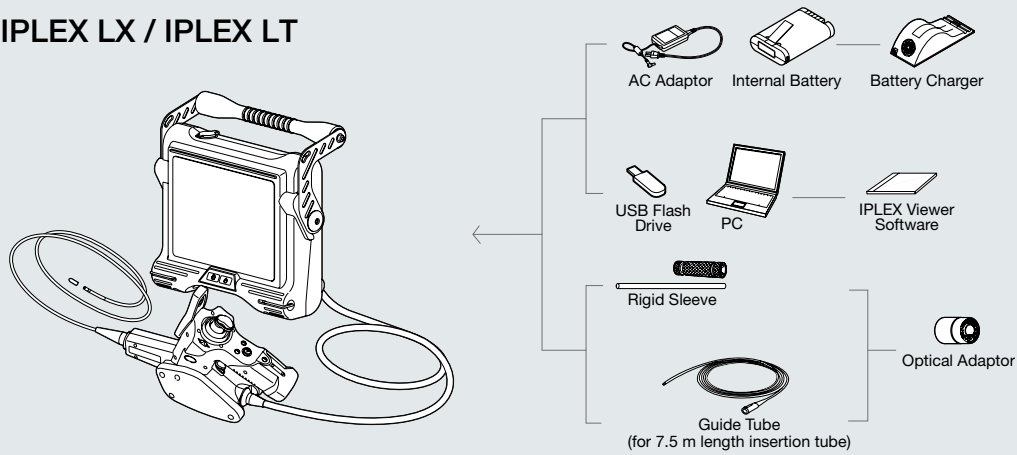
Inspection
Magnification Charts

Videoscopes

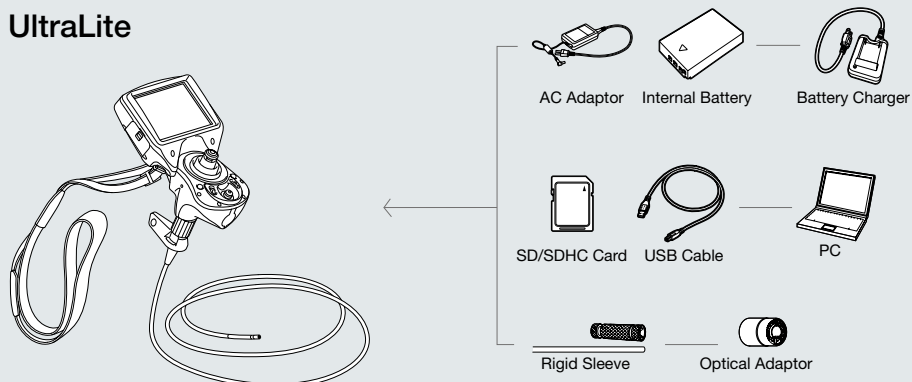
IPLEX FX



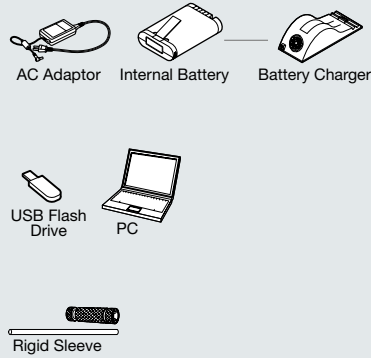
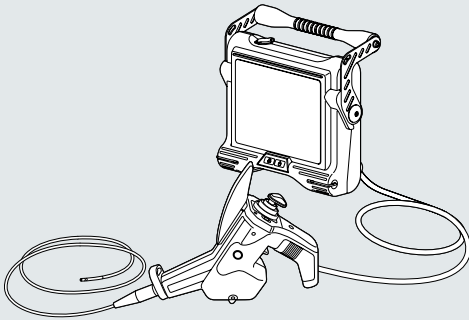
IPLEX LX / IPLEX LT



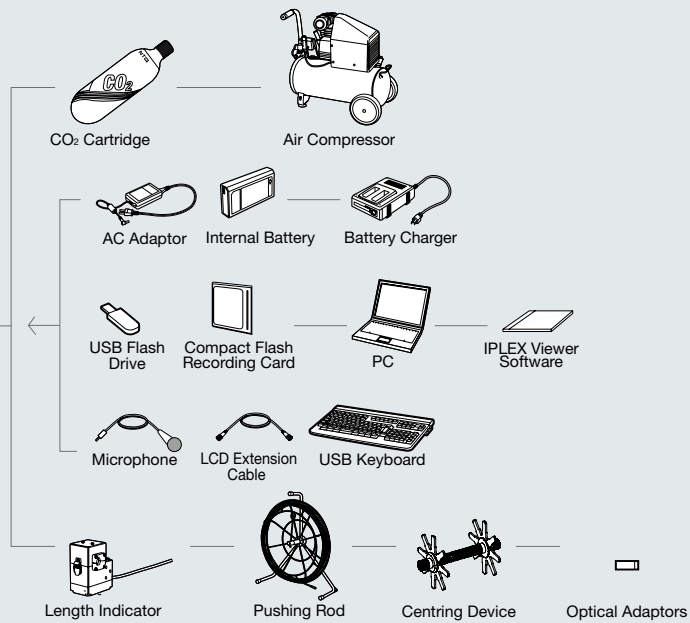
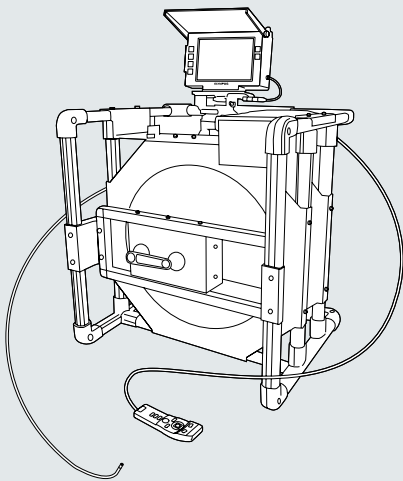
IPLEX UltraLite



IPLEX MX II

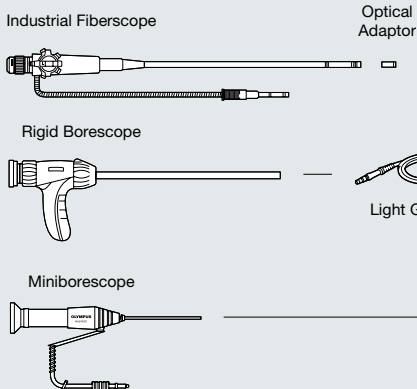


IPLEX YS

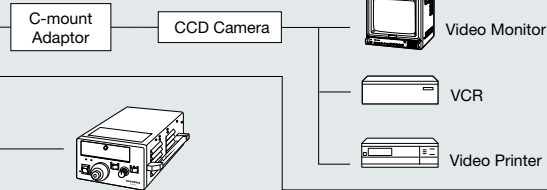


Fiberscopes and Rigid Borescopes

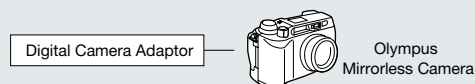
Eyeball Observation System



TV Observation System



Photograph System



Industrial
Videoscopes

Industrial
Fiberscopes

Industrial
Rigid Borescopes

Light Sources

Accessories

Inspection
Magnification Charts

System Charts



The IPLEX YS industrial videoscope is equipped with the laser illumination.

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