Flexible Videoscopes

iPLEX

IPLEX SERIES

INDUSTRIAL VIDEOSCOPE SYSTEM

IPLEX SA (STEREO MEASUREMENT)

IPLEX SA

IPLEX

A videoscope system that integrates everything you need for industrial endoscopic inspections.

- All-in-one design for easy transport and set up.
- Compact, lightweight remote control for single-hand operation.
- Four-way joystick-controlled angulation via remote control.
- Stepless electronic zoom and versatile brightness adjustment functions
- Still image recording, still image and voice annotation recording, and moving image recording.
- Six stereo measurement modes.
- Scope operation, image recording and management, and measurement can all be done using a PC. You can also create and edit reports, e-mail images and more.
- Ultra-real three-dimensional observation with 3D Eye-Trek.

BASIC PERFORMANCE

All-in-One Design

All the components and functions you need for industrial inspection are built into IPLEX's sophisticated all-in-one design. A retractable handle and integral wheels make transportation simple, while the streamlined design is optimized for easy manoeuvring through tight spaces.

Set-up is easy

All you have to do is:
1. Open the lid
2. Adjust the monitor position
3. Connect a power supply
4. Take out the remote control and turn it on
5. Pull out the insertion tube from the integral drum

When the inspection is complete, just wind up the insertion tube with the winding handle. It's quick and easy.

Rugged design

From its material and construction, to its sophisticated shock-absorbing mechanism, everything about the IPLEX case has been designed to provide maximum protection against external impact. The components themselves are also more toughly built. The TTF (Tough Tapered Flex) tube, for instance, features an extremely durable interior construction that's about three times more crush resistant than conventional tubes, without compromising flexibility.

Detachable monitor

The high-resolution LCD monitor can be detached from the monopod and connected to the remote control with an optional extension cable. This makes it possible to continue an inspection without having to move the main unit.

Narrow insertion tubes

A variety of insertion tubes are available to suit different observation purposes. The IPLEX Series includes the narrow 4.4mm (0.173") diameter insertion tube.

EASY OPERATION

Single-Hand Operation

IPLEX's compact, lightweight remote control allows you to operate all inspection related functions with one hand, including insertion tube manipulation, observation, image recording, image management and measurement.

High-precision motorised angulation

Angulation of the insertion tube tip can be controlled with the joystick on the remote control. In addition to normal movement, a fine movement mode is provided that allows exact positioning of the insertion tube tip.

Stepless electronic zoom

The stepless zoom enables smooth, continuous magnification adjustment from 1X to 3X at the touch of a button on the remote control.

Optical brightness adjustment

Various brightness adjustment functions such as gain control, automatic brightness control and extended exposure are available to suit different inspection environments. All of these functions can be operated from the remote control.

Image recording (IPLEX SA)

During observation, you can use the remote control to access the menu screen and record instantly. Still images, with voice annotation and moving images can be recorded on the large-capacity memory card.

Data management (IPLEX SA)

Data management functions such as thumbnail display, folder search and erasing, moving and copying images can be operated using the remote control.

IPLEX SPECIFICATIONS

■ IPLEX Equipment Components and Functions

			IPLEX SA STEREO MEASUREMENT	IPLEX SA	IPLEX	IPLEX SX	IPLEX MX
Scope Variation							
Outer diameter	Insertion tube length				Product code		
ø4.4mm	3.5m	11'5"	IV7435A	IV7435A	IV7435	–	–
	4.0m	13'1"	–	–	–	IV7440X1	–
ø6.0mm (IV7635X1 6.2mm)	2.0m	6'6"	–	–	–	–	IV7620X2
	3.0m	9'8"	–	–	–	–	IV7630X2
	3.5m	11'5"	IV7635A	IV7635A	IV7635	IV7635X1	–
	5.0m	16'4"	IV7650A	IV7650A	IV7650	–	IV7650X2
	7.5m	24'6"	IV7675A	IV7675A	IV7675	–	–
	8.0m	20'2"	–	–	–	–	IV7680X2
	9.6m	31'5"	IV7696A	IV7696A	IV7696	IV7696X1	–
	19.0m	62'3"	–	–	–	IV76190X1	–
	32.0m	105'	–	–	–	–	IV76320X2
Basic Functions							
Interchangeable optical adaptor			✔	✔	✔	✔	–
4-way motorised angulation			✔	✔	✔	✔	✔*
Tough Tapered Flex insertion tube			✔	✔	✔	✔	✔
Scope length index line			✔	✔	✔	✔	–
LCD monitor			✔	✔	✔	✔	✔
LCD fixing device (monopod)			✔	✔	✔	✔	✔
Remote controller			✔	✔	✔	✔	✔
50-W metal-halide light source *			✔	✔	✔	✔	LED
Integrated shock-resistant case			✔	✔	✔	✔	–
Rod handle & casters			✔	✔	✔	✔	–
Vertical and horizontal operation			✔	✔	✔	✔	✔
Insertion tube winding drum			✔	✔	✔	✔	–
AC power supply			✔	✔	✔	✔	✔
DC power supply			✔	✔	✔	✔	Internal Battery
Working channel			–	–	–	ø1.7mm IV7635X1 ONLY	–
CCU Functions							
Freeze			✔	✔	✔	✔	✔
Seamless digital zoom			✔	✔	✔	✔	✔
Panning			✔	✔	✔	✔	–
Exposure			✔	✔	✔	✔	✔
Brightness adjustment			✔	✔	✔	✔	✔
Gain			✔	✔	✔	✔	✔
Monochrome Boost			–	–	–	–	✔
Enhancement			✔	✔	✔	✔	–
Comparison			✔	✔	–	✔	–
Menu language selection			✔	✔	✔	✔	✔
Video signal output			✔	✔	✔	✔	✔
Video signal input			✔	✔	–	✔	–
Audio signal output			✔	✔	✔	✔	–
Recording Management Functions							
Still image recording/playback			✔	✔	–	✔	✔
Audio recording/playback			✔	✔	–	✔	–
Movie recording/playback			✔	✔	–	✔	–
Removable medium			✔	✔	–	✔	✔
Thumbnail display			✔	✔	–	✔	✔
Image file operation			✔	✔	–	✔	✔
Search function			✔	✔	–	✔	–
Image title entry			✔	✔	–	✔	–
USB terminal			✔	✔	–	✔	–
IPLEX MANAGER software			✔	✔	–	✔	✔
Direct recording to PC			✔	✔	–	✔	–
Recorded data transferring to PC			✔	✔	–	✔	–
Remote operation by PC			✔	✔	–	✔	–
Measurement Functions							
Scalar measurement			✔	✔	–	✔	–
Stereo measurement (Distance)			✔	–	–	✔	–
Stereo measurement (Point-to-Line)			✔	–	–	✔	–
Stereo measurement (Depth)			✔	–	–	✔	–
Stereo measurement (Area/Lines)			✔	–	–	✔	–
Stereo measurement (Profile)			✔	–	–	✔	–
Other Functions							
3D observation			Option	Option	Option	Option	–

* The IV7680X2 features manual articulation. * The IV76320X2 is without articulation.
* NOTE: Lamp contains Mercury. Dispose according to local, State or Federal laws.

■ Stereo Measurement Optical Adaptor Set Specifications

Scope	Set Name	Optical Adaptor	Optical System				Distal End	
			Field of view	Direction of view	Depth of field	F No.	Outer diameter	Rigid distal end length*
IV74	MAJ-1044D	AT60D/60D-IV74	60°	Forward	5~∞mm (0.197°~∞)	7.5	ø4.4mm (0.173°)	25.9mm (1.02°)
	MAJ-1044S	AT50S/50S-IV74	50°	Slide	4~∞mm (0.157°~∞)			31.9mm (1.26°)
IV76	MAJ-1046D	AT60D/60D-IV76	60°	Forward	5~∞mm (0.197°~∞)	7.5	ø6.0mm (0.236°)	26.3mm (1.04°)
	MAJ-1046S	AT60S/60S-IV76	60°	Slide	4~∞mm (0.157°~∞)			30.7mm (1.21°)

■ IPLEX Operating Environment
● IPLEX can be upgraded to IPLEX SA after purchase.
● IPLEX SA can be used for stereo measurement by purchasing a stereo measurement optical adaptor.
● Operating temperature: Insertion tube:
● Operating temperature: Insertion tube: In air: -25~80°C* (14~176°F)
　　　　　　　　　　　　　　　 Under water: 10~30°C (50~86°F)
　　　Other parts than above: In air: 0~40°C (32~104°F)
● Operating atmospheric pressure: Insertion tube: In air: 1013hPa (1atm)
　　　　　　　　In water: 1013~1985hPa (1~1.96atm) (IV7635,7670,7675 & 7696)
　　　　　　　　Under water: 1013~1368hPa (1~1.35atm) (IV7435)
　　　Other parts than above: In air: 1013hPa (1atm)
● Liquid resistance: Insertion tube, remote control: Machine oil, light oil and 5% saline.
● Other parts than above: Machine oil, light oil and 5% saline.
● Waterproof: Insertion tube: Can be used under water.
　Drip-proof: Remote control, LCD monitor: Can be used in rain but cannot be used under water.
　Other parts than above: Neither waterproof nor drip-proof.
* Angulation to a large angle may become difficult under low temperatures.
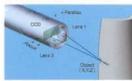
■ IPLEX Optical Adaptor Specifications

Scope	Optical Adaptor	Optical System				Distal End	
		Field of view	Direction of view	Depth of field	F No.	Outer diameter	Rigid distal end length*
IV74	AT40D-IV74	40°	Forward	200~∞mm (7.87°~∞)	2.4	ø4.4mm (0.173°)	19.7mm (0.776°)
	AT80D/NF-IV74	80°		8~∞mm (0.315°~∞)	9.5		20.2mm (0.795°)
	AT80D/FF-IV74	80°		35~∞mm (1.38°~∞)	3.1		20.1mm (0.791°)
	AT120D/NF-IV74	120°		4~190mm (0.157~7.48°)	9.2		20.2mm (0.795°)
	AT120D/FF-IV74	120°		25~∞mm (0.984°~∞)	3.3		20.1mm (0.791°)
	AT80S-IV74	80°	Side	25~∞mm (0.984°~∞)	3.7		23.1mm (0.909°)
	AT120S/NF-IV74	120°		1~20mm (0.039~0.787°)	9.6		23.1mm (0.909°)
	AT120S/FF-IV74	120°		6~∞mm (0.236°~∞)	6.0		23.1mm (0.909°)
IV76	AT40D-IV76	40°	Forward	200~∞mm (7.87°~∞)	2.4	ø6.0mm (0.236°)	19.3mm (0.760°)
	AT80D/NF-IV76	80°		8~∞mm (0.315°~∞)	9.5		19.8mm (0.780°)
	AT80D/FF-IV76	80°		35~∞mm (1.38°~∞)	3.1		19.7mm (0.776°)
	AT120D/NF-IV76	120°		4~190mm (0.157~7.48°)	9.2		19.8mm (0.780°)
	AT120D/FF-IV76	120°		25~∞mm (0.984°~∞)	3.3		19.7mm (0.776°)
	AT80S-IV76	80°	Side	18~∞mm (0.701°~∞)	4.0		25.2mm (0.992°)
	AT120S/NF-IV76	120°		1~25~∞mm (0.039~0.984°)	9.0		25.2mm (0.992°)
	AT120S/FF-IV76	120°		5~∞mm (0.197°~∞)	5.9		25.2mm (0.992°)
	AT100D/100S-IV76	100°/100°	Forward/Side	2~150mm (0.079~5.91°)	7.0		27.2mm (1.07°)
	AT220D-IV76	220°	Forward	3~100mm (0.118~3.94°)	4.3	ø8.4mm (0.331°)	21.1mm (0.831°)

* The rigid portion at the scope's distal end when the adaptor is mounted

STEREO MEASUREMENT
(IPLEX SA and SX STEREO MEASUREMENT)

Olympus's stereo measurement technology uses triangulation to measure image information captured by two parallax lenses. With six different measurement modes available, high-precision measurement capabilities are available from any angle.

Distance:
Measures the total length of a defect or zone of damage.

Point-to-Line:
Measure the distance between a hypothetical line between two designated positions and the required point.

Depth:
Measures the depth/height of corrosion, protrusion and indentation from a hypothetical plane to the required point.

Lines:
Total length of a crack with complicated contours can be measured by plotting multiple positions.

Area:
Calculates the area of a burn or zone of damage surrounded by multiple designated positions.

Profile:
Hard-to-see irregularities are simulated with computer graphics for easier analysis.

PC SOLUTION
(IPLEX SA and SX PC COMPATIBILITY)

All aspects of inspection operation can be controlled with a PC connected to IPLEX via a USB cable. Stored image data can also be transferred to a PC for more extensive processing and analysis.

Remote operation:
All IPLEX functions including angulation, image recording and data management can be operated from a connected PC.

Stereo measurement:
You can concentrate on capturing images at the inspection site. The image data can be downloaded to your PC for stereo measurement.

Database management:
IPLEX MANAGER, an image management program provided with the IPLEX SA and SX Series, allows you to quickly build an inspection database.

Create and edit reports:
IPLEX MANAGER includes a template creation function so you can easily create your own report formats.

Send inspection data by e-mail:
IPLEX MANAGER's e-mail function lets you send image data and measurement data by e-mail. This makes it much easier to share data for comprehensive checking and analysis.

3D EYE-TREK

When the 3D Eye-Trek face-mounted display is connected to the remote control, surface contours that would normally be difficult to detect can be observed in three dimensions where they can easily be interpreted.

Left　　　　　　　　　　　　　　　　Right

3D Image