Industrial Endoscopes



General Overview

Your Vision, Our Future

Olympus IPLEX RT Specs Provided by www.AAATesters.com

Remote Visual Inspections



















- Videoscopes
- Fiberscopes
- Rigid Borescopes
- Miniborescopes
- Light sources
- Accessories

Olympus Industrial Endoscopes Satisfy Various Demands for Remote Visual Inspections in Diverse Industries.

Olympus is a world-renowned leader in remote visual inspection technology with a comprehensive portfolio of industrial endoscopes that facilitate accurate inspections of small, enclosed spaces. These endoscopes can be used for a wide range of industries and applications.

Application examples

Aerospace

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

Power Generation

Maintenance of heat exchanger pipes, condensers, piping and turbines in nuclear/ thermal power generation plants, and gearboxes of wind power generation facilities.

Oil/Gas/Chemical Plants

Routine and urgent inspection of process piping, pressured storage reservoirs, heat exchangers, boilers, etc.

Automotive

Quality control examination of engines, hydraulic components, injection nozzles, as well as final inspection of assembles.

Defense/Security

Maintenance of military aircraft, as well as for detection of narcotics and other contraband items, and search of victims who may be trapped as the result of various disasters.

Architecture/Construction

Examination of walls, ducts, structural joints of bridges and constructions.

Manufacturing

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







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A Variety of Lineup to Suit Your Specific Requirements

Industrial Videoscopes

Compact endoscope systems with exceptional functionality, simple operation, and proven durability.

Industrial endoscopes feature a high-resolution image sensor positioned at the objective end, and matched to our precision lenses to deliver bright, colour-rich images. Advanced LED or laser diode illuminations provide optimum brightness to the inspection area. The compact and lightweight videoscopes achieve high quality inspections at any site, featuring versatile functionality and proven reliability under demanding circumstances.



Industrial Fiberscopes

Flexible endoscopes for simple observations through an eye piece. Observation on a monitor is available by connecting to a CCD camera.



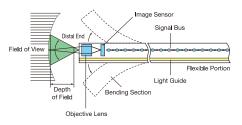
Industrial Rigid Borescopes

Where straight-line access to the inspection area is possible, providing effective and cost-efficient inspections.

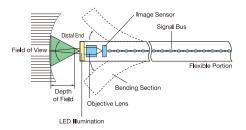


Structural Drawing

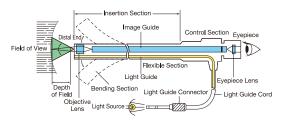
▶ IPLEX NX/ IPLEX RX/ IPLEX RT/ IPLEX YS/ IPLEX TX



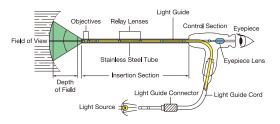
IPLEX UltraLite/ Series C



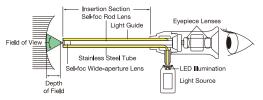
Industrial Fiberscopes



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



MK Modular Mini-Scopes



Industrial Videoscope Series

Flagship of Industrial Videoscopes

φ4.0、6.0 L=3,500 to 7,500 mm

Allows for precise inspection with clear and fine view Upgraded Stereo measurement capability.



Features

 Multi position design for various usage environments

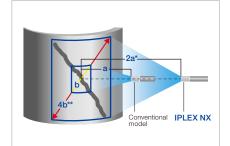




Touch screen allows for quick operation



• Super wide field stereo measurement



* Even if the measurement is performed from two times further away, IPLEX NX is as precise as a conventional model. According to OLYMPUS internal survey.

** When using a 6.0 mm scope with direct-viewing stereo optical adaptor, the diagonal length of the inspection area of IPLEX NX is almost 4times of the conventional model.

IPLEX NX Specifications

Model No.		IV9435N	IV9450N	IV9635N	IV9650N	IV9675N	
Scope diameter		ø4.0 mm		ø6.0 mm			
Insertion tube	Scope length	3.5 m	5.0 m	3.5 m	5.0 m	7.5 m	
	Exterior	High-durability tungsten braid					
0.11.11.11.1	Field of view	Selectable by optical adaptor. Adaptor for stereo measurement attachable					
Optical system	Direction of view						
Illumination	· · · ·		Hi	gh-intensity laser diode illuminatio	n		
Articulation section	Articulation angle up/ down/ right/ left	13	0°	18	0°	150°	
	Articulation operation	TrueFeel scope tip articulation with electric power-assistance					

Base Unit (IV9000N)

Base offic (Peecent)							
Dimensions(W x H x D)				$320(W) \times 310(H) \times 180(D) \text{ mm}$			
Approx. system weight (with	oprox. system weight (with battery and SDHC card)		7.2 kg	7.3 kg	7.4 kg	7.5 kg	
Temperature sensor			2-stage indicator for high temperature warning				
LCD monitor			8.4 inch daylight view, touch screen LCD, clear type				
Input/Output terminal			Input terminal: S-video Output terminal: VGA				
USB connector			Type A connector, Version 2.0 standards				
Image manipulations		5X digital zoom, 10 step brightness control					
Gain control		2 step WIDER brightness level balancing technology					
Power supply		Battery: 14.8 V nominal, approx. 100-minute operating time					
Fower suppry			AC power: 10	0 V to 240 V, 50/60 Hz (with suppli	ed AC adaptor)		
Recording media			SD/SDHC car	DHC card and USB flash drive (still image recording only)			
Still image recording	Resolution	H768 × V	576 (Pixel)	H1024 × V768 (Pixel)			
Still image recording	Recording format			Compressed JPEG format			
Resolution		H768 × V	H768 × V576 (Pixel) H1024 × V768 (Pixel)				
Movie Recording	Recording format		AVI format MPEG-4 AVC/H.264 compressed				
Stereo Measurement (Option	nal)		Dista	nce, Point-to-line, depth and Area	/ Lines		

Standard Unit for Comfortable Operation IPLEX RX/RT

φ4.0、6.0 L=2,000 to 7,500 mm

Small and light-weight design for comfortable operation at the site.





Features

Compact and portable design



Comfortable operation with shoulder strap



InHelp inspection assist software





Wireless LAN capability ready

*Operation confirmed with TOSHIBA FlashAir wireless LAN SD card.

IPLEX RX/RT Specifications Scope Unit

Model No.	IPLEX RX	IV9420RX	IV9435RX	IV9620RX	IV9635RX	IV9650RX	IV9675RX	IV96100RX
viouer No.	IPLEX RT	IV9420RT	IV9435RT	IV9620RT	IV9635RT	IV9650RT	IV9675RT	IV96100RT
	Scope diameter	ø4.0	mm		ø6.0	mm		
nsertion tube	Scope length	2.0 m	3.5 m	2.0 m	3.5 m	5.0 m	7.5 m	10.0 m
	Exterior			High durability	tungsten braid			
rticulation angle U	lp/ Down/ Right/ Left	13	0°	150°	130°	120°	100°	(*)

Handheld Control Unit

			IPLEX RX	1			IPLEX RT	
Temperature sense	or	2-s	tage indicator for high tem	perature warning		-		
Illumination			High-intensity LED illumination					
Dimensions			365(W) × 192(H) × 93(D) mm					
Weight			Approx. 1.0 kg					
Main Unit								
Dimensions (W x H	x D)			227(W) × 189	H) × 64(D) mm			
Approx. system wei	ght (with battery)	2.9 kg	3.0 kg	3.1 kg	3.2 kg	3.3 kg	3.5 kg	3.7 kg
LCD monitor		6.5 inch daylight view LCD, anti-reflective type						
Power Supply		Battery: 10.8 V nominal, approx. 120-minute operation time						
Fower Supply		AC power: 100 V to 240 V, 50/60 Hz (with supplied AC adaptor)						
Video output stand	lard	VGA						
USB connector		Type A connector, Version 2.0 standards						
Image manipulation	าร	5X digital zoom, 10 step brightness control						
Gain control		3 step adjustable gain control with exclusive WiDER brightness level						
Sharpness control		4 ste	ep adjustable sharpness c	ontrol				
Saturation control		3 step a	djustable control of color s	saturation			_	
Recording media			U	SB flash drive (1 GB stand	ard, compatible with recor	mmended USB flash devic	e)	
Still image	Resolution		H768 × V576 (Pixel)					
recording	Recording format	Compressed JPEG format						
roooraing	Size of a single image	Approx.300 KB						
	Resolution	H640 × V480 (Pixel)						
Movie Recording	Recording format			AVI	format MPEG-4 compress	sion		
	Size of files			4	pprox. 500 KB per secon	d		
Stereo measureme	nt (Optional)			Distance,	Point-to-line, depth and A	rea/ Lines		

URL: http://www.olympus-ims.com/en/rvi-products/iplex-rx/ For more information: Please see individual product brochure.

Industrial Videoscope Series

Multi-function Unit in Compact Body IPLEX UltraLite

φ4.0、6.0 L=2,000、3,500 mm



Features

- Multi-function should be Palm-sized design.
- Stereo measurement available (stereo tip adaptor required).
- Operable in harsh environment.

IPLEX UltraLite Specifications

Scope Unit

Model No.		IV8420U	IV8435U	IV8620U	IV8635U
	Scope diameter	ø4.0	mm	ø6.0	mm
Insertion tube	Scope length	2.0 m	3.5 m	2.0 m	3.5 m
	Exterior		High durability	tungsten braid	
Weight		700 g	760 g	800 g	900 g
A 12 - 1 - 12	Articulation angle		130°		120°
Articulation section	Articulation operation		Joystick of	controlled	

Main Unit

Dimensions		120(W) × 190(H) × 190(D) mm			
Temperature sensor		2-stage indicator for high temperature warning			
Illumination		Ultra-high intensity LED illumination			
LCD monitor		3.7 inch LCD monitor			
Device events		Battery: 7.2 V approx. 70 minute operating time			
Power supply		AC power: 100 V to 240 V, 50/ 60 Hz (with supplied AC adaptor)			
USB connector		Type A connector, Version 2.0 standards			
Harsh Environr	nent Resistance	Rain and dust proof (compliant with IP55), drop proof			
Image Manipul	ations	5X digital seamless zoom. 10 step digital brightness control			
Recording Med	lia	SD/ SDHC card (4 GB standard)			
	Resolution	H640 × V480 (Pixel)			
Still Image Recording	Recording format	Compressed JPEG format			
riccording	File size	Approx. 300 KB			
	Resolution	H640 × V480 (Pixel)			
Movie Recording	Recording format	AVI format Xvid MPEG-4 compression			
. loool all ig	File size	Approx. 600 KB per second			

URL: http://www.olympus-ims.com/en/rvi-products/iplex-ultralite/

Ultra-thin Videoscope

φ2.4 L=1,200 mm



Features

- The ultra-thin 2.4 mm diameter videoscope with articulation.
- Operable in harsh environment.
- Detachable scope unit.
- Bright and clear images using unique WiDER image processing.

Optional product

Protective braid

Special product for IPLEX TX

Covers the IPLEX TX insertion tube providing additional protection when used in very coarse environments.



IPLEX TX Specifications

Scope Unit

Model No.		IV8212T	
Weight		0.2 kg	
	Scope diameter	ø2.4 mm	
nsertion Tube	Scope length	1.2 m	
	Exterior	High durability resin tube with special processing	
	Direction of view	Direct view	
Optional sustains	Field of view	80°	
Optical system	Depth of view	3 to 70 mm	
	Illumination	Ultra high intensity LED light	
Articulation section	Articulation angle up/ down	135°	

Main Unit

Model No.		IV8200T			
Weight		1.7 kg with battery			
Dimensions		Body : 227(W) × 189(H) × 64(D) mm Including protrusions : 239(W) × 215(H) × 99(D) mm			
Control unit	Weight	0.3kg			
Control unit	Dimensions	49(W) × 334(H) × 59(D) mm			
LCD monitor		6.5 inch VGA daylight view monitor			
		Battery: 10.8 V nominal, Approx. 120 minute operating time			
Power supply		AC power: 100 V to 240 V, 50/60 Hz (with supplied AC adaptor)			
Video signal outp	ut	Composite RCA			
USB connector		Type A connector, Version 2.0 standards			
Image	Zoom/ brightness control	Digital seamless zoom (x0.5 to x2.0) 8step digital brightness control			
manipulation	Gain control	WiDER			
Recording media		USB flash drive			
	Resolution	H640 × V480 (Pixel)			
Still image recording	File format	Compressed JPEG format (Exif 2.1 compliant)			
recording	File size	Approx. 300 KB			
	Resolution	H640 × V480 (Pixel)			
Movie recording	File format	AVI format MPEG-4 compression			
	File size	Approx. 500 KB per second			

Pneumatic Pressure Anguration Control in 30m Working Length IPLEX YS

φ8.5 L=30,000 mm



Features

Revealing a location of target with gravity sensor

ITS OLYM

Display gravity direction (Blue color: up side)

IPLEX YS Specifications

Model No.	Scope diameter	Scope length	Scope exterior	Articulation angle			
IV88300Y	ø8.5 mm	30 m	High durability tungsten braid	60°			
Articulation operation	Pneumatic control	Pneumatic control					
Illumination	Laser diode illumina	ation					
Gravity sensor	Indicating gravity di	rections of the sco	ope tip				
Lens cleaning function	Cleaning fine drip a	nd dust on the sc	ope top blowing by air				
Main Unit							
Dimensions	472(W) × 522(H) × 380(D) mm						
Weight	Approx. 26 kg						
LCD monitor	6.5 inch VGA daylight view monitor						
Power supply	Battery: 14.8 V approx. 120 minute operating time.						
Power supply	AC power: 100 V to :	240 V, 50/ 60 Hz (w	rith supplied AC adapto	or)			
Air supply	CO2 cartridge or air	compressor					
	Video signal output	BNC × 1, S video terminal × 1					
Input/ Output terminal	Audio signal input	ø3.5 mm monau	ral mini jack				
torrinida.	USB connector	Type A connector	r, version 2.0 standards				
Recording media	CF card: 1 to 4 GB Recommended USB	flash drive					
Internal memory	1 GB						
Still image recording	Resolution	H640 × V480 (Pb	(el)				
Sui inage recording	Recording format	Compressed JP	EG format Exif 2 comp	liant TIFF (TIFF-YS)			
Movie recording	Resolution.	NTSC: 320 × 240	0/640 × 480				

Air jet blows away dust on the scope tip

Movie recording

Voice recording

Recording format

Recording format

Air pressure articulation function

AVI format Motion JPEG compression rate fixed

WAV format (maximum 60 second)



URL: http://www.olympus-ims.com/en/rvi-products/iplex-ys/

IPLEX NX, RX, RT Long Scopes

φ6.0 L=5,000 to 10,000 mm

IPLEX Long Scopes Main Specifications

	IPLEX NX	IPLEX RX	IPLEX RT	
Monitor size	8.4 inch	6.5	6.5 inch	
Interchangeable scope unit	Available	Available Not ava		
Illumination	Laser diode	Laser diode LE		
Wider function	Avai	Available		
Stereo measurement	Available		Not available	
Maximum length of scope	7.5 m			

Features

- Maximum 10m scope in portable body.
- Available remote control articulation.
- All weather resistance with rugged body.
- Stereo measurement available. (stereo tip adaptor required)





IPLEX RX/RT

Industrial Videoscope Series



Series C Specifications

Main unit

	Scope diameter	ø6.2 mm					
Insertion tube	Articulation angle up/ down/ right/ left	120°					
	length	2 m					
Control section	Dimensions	98(W) × 209(H) × 89(D) mm (without insertion tube and cable)					
Optional suptom	Field of view	90°					
Optical system	Depth of view	12 to 150 mm					
Weight	Include battery	Approx. 735 g					
LCD monitor	3.0 inch touch screen wide L	0 inch touch screen wide LCD monitor					
Zoom and brightness control	3x digital zoom, 8 step digital brightness control						
Recording media	SD/SDHC card (4-32GB)	I-32GB)					
Deuranali	Battery: 7.2 V (approx 120mi	nute operation)					
Power supply	AC power: 100 V to 240 V, 5	0/60 Hz (with supplied AC adaptor)					
	USB connector	USB MiniB					
Input/ Output terminal	Video signal output	HDMI mini (Type C)					
	Picture output	720 × 480p (16:9), 60fps					
Still image recording	H640 × V360 (Pixel) JPEG compression						
Movie recording	H640 × V360 (Pixel) MP4 format MPEG-4 AVC/H.264compression						

Features

Touch screen operation



• Flexible spring neck insertion tube



Protection hood

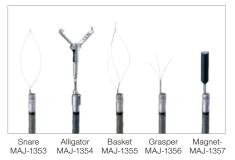


URL: http://www.olympus-ims.com/en/rvi-products/series-c/

For Turbine and Generator Inspection Internal Working Channel Scope

Features

- For turbine engine inspection.
- Retrieval tools available.
- Stereo measurement available.
- Wider image function.





IPLEX FX

Optical Tip Adaptor for IPLEX Series

IPLEX NX

			Optical tip adap	otor for 4.0) mm scopes							Stereo tip adap	tors (4.0 mm)
		AT80D/FF-IV94N	AT120D/NF-IV94	N	AT120D/FF-I	V94N	AT100S/	NF-IV94N	AT10	0S/FF-IV94N	AT7	'0D/70D-IV94N	AT50S/50S-IV94N
	Field of view	80°	120°	120°			100°		100°			70%/70°	50°/50°
Optical unit	Direction of view	Direct view	Direct view		Direct vie		Side view		Side view			Direct view	Side view
unit	Depth of field*1	35 to ∞ mm	2 to 200 mm		17 to ∞ mn		2 to 15 mm		8 to ∞ mm		Ę	5 to 200 mm	3 to 150 mm
District	Outer diameter*2	ø4.0 mm	ø4.0 mm	.0 mm ø4.0 r		n	ø4.0 mm			ø4.0 mm		ø4.0 mm	ø4.0 mm
Distal end	Rigid distal end length*3	20.1 mm	20.2 mm	20.2 mm 20		n	22.9) mm	:	22.9 mm		22.3 mm	26.7 mm
			Optical tip a	daptor for	6.0 mm sco	pes						Stereo tip ac	laptors (6.0 mm)
		AT50D/FF-IV96N	AT80D/FF-IV96N	AT120D/	/NF-IV96N	AT1200	D/FF-IV96N	AT120S/NF	F-IV96N	AT120S/FF-IV9	6N	AT90D/90D-IV96N	AT70S/70S-IV96N
	Field of view	50°	80°	1	20°		120°	120	¢	120°		90°/90°	70°/70°
Optical unit	Direction of view	Direct view	Direct view	Dire	ct view	Dire	ect view	Side v	iew	Side view		Direct view	Side view
unit	Depth of field*1	50 to ∞ mm	20 to ∞ mm	7 to 3	300 mm	19 t	o ∞ mm	4 to 150) mm	20 to ∞ mm		5 to 250 mm	4 to 250 mm
Distal	Outer diameter*2	ø6.0 mm	ø6.0 mm	ø6.	.0 mm	Ø6	6.0 mm	ø6.0 r	nm	ø6.0 mm		ø6.0 mm	ø6.0 mm
end	Rigid distal end length* ³	21.3 mm	21.3 mm	21.	4 mm	21	.4 mm	26.6 r	nm	26.6 mm		25.0 mm	31.2 mm

*1. Indicates the range over which the image can be viewed clearly. *2. The adaptor can be inserted into a 4.0 mm or 6.0 mm hole when it is mounted on the scope. *3. Indicates the length of the rigid portion at the scope's distal end when mounted.

IPLEX RX/RT

			Optical tip adaptor for 4.0 mm scopes							Stereo tip ada	ptors (4	4.0 mm/ 6.0 mm)		
		AT80D/FF-IV94	AT120D/NF-IV94	AT120D/FF-IV94	AT100S/NF-IV94	AT100S	/FF-IV94	AT50D/500)-IV94	AT50S/50S-IV9	94	AT60D/60D-IV96	AT60S/60S-IV96	
	Field of view	80°	12	0°	1(100°			50%50°			60°/60°		
Optical unit	Direction of view	Di	rect view (Forward vie	N)	Side	Side view			iew view)	Side view		Direct view (Forward view)	Side view	
	Depth of field*1	35 to ∞ mm	2 to 200 mm	17 to ∞ mm	2 to 15 mm	n 8 to∞mm 5 to		5 to ∞ r	5 to ∞ mm 4 to ∞ mm			5 to ∞ mm	4 to ∞ mm	
Distal	Outer diameter*2		ø4.0 mm					ø4.0 mm				ø6.0 mm		
end	Rigid distal end length*3		19.0 mm	21.5	7 mm		24.3 m	m	28.4 mm		24.9 mm	31.3 mm		
				Opti	cal tip adaptor for 6	.0 mm sco	pes							
		AT40D-IV96	AT80D/NF-IV9	6 AT80D/FF-I	V96 AT120D/I	AT120D/NF-IV96 AT120D		D/FF-IV96 AT80S-IV96		180S-IV96	AT120S/NF-IV96		AT120S/FF-IV96	
	Field of view	40°		80°		12	20°			80°		120°		
Optical unit	Direction of view			Direct view (Forw	ard view)						5	Side view		
unit	Depth of field*1	200 to ∞ mm	9 to ∞ mm	35 to ∞ m	m 2 to 20	0 mm	19 to	o ∞ mm	15	ō to ∞ mm	1	to 25 mm	3 to ∞ mm	
Distal	Outer diameter*2					ø6.0) mm							
end	Rigid distal end length*3	18.4 mm	18.9 mm	18.8 mm	n 18.9	mm	18.	.8 mm			:	24.2 mm		

*1. Indicates the range over which the image can be viewed clearly. *2. The adaptor can be inserted into a 6.0 mm or 4.0 mm hole when it is mounted on the scope. *3. Indicates the length of the rigid portion at the scope's distal end when mounted.

IPLEX FX/UltraLite

			Optical tip adaptor	r for 4.0 mm scopes			Stereo tip adaptor	s (4.0 mm/ 6.0 mm)		
		AT120D/NF-IV84	AT120D/FF-IV84	AT120S/NF-IV84	AT120S/FF-IV84	AT50D/50D-IV84	AT50S/50S-IV84	AT60D/60D-IV86	AT60S/60S-IV86	
	Field of view		12	20°		50°	/50°	60°/60°		
Optical	Direction of view	Direct view (Forward view)	Side	view	Direct view	Side view	Direct view	Side view	
unit	Depth of field	4 to 190 mm	25 to ∞ mm	1 to 20 mm	6 to ∞ mm	5 to ∞ mm	4 to ∞ mm	5 to ∞ mm	4 to ∞ mm	
Distal	Outer diameter*1			ø4.0 mm ø6.0mm						
end	Rigid distal end length*2	19.7 mm	19.6 mm	22.2	2 mm	25.0 mm	28.8 mm	25.9 mm	32.2 mm	
		·		Optical tip a	adaptor for 6.0 mm sco	pes				
		AT40D-IV86	AT80D/NF-IV86	AT80D/FF-IV86	AT120D/NF-IV86	AT120D/FF-IV86	AT80S-IV86	AT120S/NF-IV86	AT120S/FF-IV86	
	Field of view	40°	8	0°	12	20°	80°	12	20°	
Optical unit	Direction of view			Direct view (Forward view	v)			Side view		
unit	Depth of field	200 to ∞ mm	8 to ∞ mm	35 to ∞ mm	4 to 190 mm	25 to ∞ mm	18 to ∞ mm	1 to 25 mm	5 to ∞ mm	
Distal	Outer diameter*1	Outer diameter*1 Ø6.0 mm							-	
end	Rigid distal end length*2			19.8 mm				25.2 mm		

*1. The adaptor can be inserted into a 4.0 mm or 6.0 mm hole when it is mounted on the scope. *2. Indicates the length of the rigid portion at the scope's distal end when mounted.

IPLEX YS

			Optical ti	p adaptor		Stereo tip adaptors		
		AT120D/NF-IV88Y	AT120D/FF-IV88Y	AT120S/NF-IV88Y	AT120S/FF-IV88Y	AT60D/60D-IV88Y	AT60S/60S-IV88Y	
	Field of view		12		60%	60°		
Optical unit	Direction of view	Direction of view Direct view (Forward view)			view	Direct view	Side view	
anne	Depth of field*1	4 to 190 mm	25 to ∞ mm	1 to 25 mm	5 to ∞ mm	5 to ∞ mm	4 to ∞ mm	
Distal	Outer diameter*2			ø8.5	5 mm			
end	Rigid distal end length*3	30.7	mm	35.6	\$ mm	36.9 mm	39.6 mm	

*1. Indicates the range over which the image can be viewed clearly. *2. The adaptor can be inserted into a 8.5 mm hole when it is mounted on the scope. *3. Indicates the length of the rigid portion at the scope's distal end when mounted.

Videoscope operating environment

		IPLEX NX	IPLEX RX	IPLEX RT	IPLEX UL	IPLEX YS	IPLEX TX	Series C	Channel scopes
Terreture	In the air	-25 to	100 °C	-25 to 80 °C	-25 to	100 °C	-25 to	3° 08	-25 to 100 °C
Temperature	In the water	10 to 30 °C							Not in use
Operation humidity				15 to	90 %				
Liquid resistance All parts*									
Water resistance					Water re:	sistance			Not in use

 * Operable when exposed to machine oil, light oil or 5 % saline solution.

Industrial Fiberscopes

Traditional General Scopes

IF Series (Industrial Fiberscopes)

*ϕ*0.64~11.3 L=490 to 3,000 mm

Features

- Minimum ϕ 0.64 mm diameter scope.
- Available image recording with digital camera or CCD video camera.
- Interchangeable optical adaptors are available over 5.0 mm scopes.



IF series specifications

	IF6PD4	IF2D5	IF4D5/4S5	IF5D4X1	IF6C5X1	IF8C5	IF11C5
Outer diameter	ø0.64	ø2.4	ø4.1	ø5.0	ø6.0	ø8.4	ø11.3
Scope length(mm)	490/990	600/1,170	700/1,500	1,200	800/1,300/ 2,000/3,000	1,000/2,0	000/3,000
Articulation	-	Up/ Down	Up/ Down	Up/ Down	Up/ Down/ Right/ Left	Up/ Down/ Right/ Left	Up/ Down/ Right/ Left
Articulation angle	-		Up-Down 120°		l	Jp-Down 120°, Right-Left 100	0
Direction of view	Direc	t view	Direct view/ Side view		Adaptor c	hangeable	
Depth of field	1 to 50 mm	2 to 50 mm	5 to 60 mm 4 to 40 mm	5 to 50 mm		Depends on tip adaptor	

Optical Adaptor Specifications

Scope	Ор	tical adaptor	Field of view	Direction of view	Depth of field
IF5D4X1-14	Optional	AT50S-IF5D4X1	49°	Side view	5 to 50 mm
	Provided	AT60D/FF-IF6C5	60°		11 to ∞ mm
		AT30D-IF6C5	30°	Direct view	26 to 372 mm
		AT60D/NF-IF6C5	60°	Direct view	5 to 102 mm
		AT100D-IF6C5	100°		4 to ∞ mm
IF6C5X1	Optional	AT30S-IF6C5	30°		21 to 138 mm
		AT60S/NF-IF6C5	60°	Cida view	4 to 85 mm
		AT60S/FF-IF6C5	60°	Side view	9 to ∞ mm
		AT100S-IF6C5	100°		4 to ∞ mm
	Provided	AT60D/FF-IF8C5	60°		20 to ∞ mm
		AT30D/NF-IF8C5	30°		30 to 70 mm
		AT30D/FF-IF8C5	30°		60 to 250 mm
		AT60D/NF-IF8C5	60°	Direct view	9 to 50 mm
		AT100D/NF-IF8C5	100°		3 to 200 mm
IF8C5	Optional	AT100D/FF-IF8C5	100°		9 to ∞ mm
		AT30S-IF8C5	30°		45 to 90 mm
		AT60S/NF-IF8C5	60°		8 to 40 mm
		AT60S/FF-IF8C5	60°	Side view	20 to 240 mm
		AT100S/NF-IF8C5	100°		3 to 140 mm
		AT100S/FF-IF8C5	100°		9 to 200 mm
	Provided	AT60D/FF-IF11C5	60°		27 to 390 mm
		AT30D/NF-IF11C5	30°		38 to 70 mm
		AT30D/FF-IF11C5	30°	Dimentoriano	65 to 120 mm
		AT60D/NF-IF11C5	60°	Direct view	11 to 45 mm
		AT100D/NF-IF11C5	100°		5 to 70 mm
IF11C5	Ontinent	AT100D/FF-IF11C5	100°	1	16 to 300 mm
	Optional	AT30S-IF11C5	30°		55 to 100 mm
		AT60S/NF-IF11C5	60°	1	11 to 40 mm
		AT60S/FF-IF11C5	60°	Side view	28 to 440 mm
		AT100S/NF-IF11C5	100°	1	3 to 22 mm
		AT100S/FF-IF11C5	100°	1	12 to 250 mm

Operating Environment

			IF6PD4	IF2D5	IF4D5	IF4S5	IF5D4X1	IF6C5X1	IF8C5	IF11C5		
	Insertion	In air	10 to 40 °C		-10 to 80 °C							
Operating	tube	In water	10 to 30 °C) to 30 °C 10 to 40 °C		30 °C	_	10 to 30 °C				
temperatures	Other parts than above	In air	10 to 40 °C		–10 to 50 °C							
Liquid resista (against mac light oil and 5	hine oil,				V	V		V	v	V		
Waterproof	Insertion tu	ibe	√ √		√	√	√	√	√	√		
Drip-proof	Control sec	ction			V	√	√	V	√	V		

Industrial Rigid Borescopes

Optical Lens Unit Makes High Resolution Images Series 5 Rigid Borescopes

φ4.1∼16.1 L=210 to 1,430 mm

Features

- Clear and high resolution images by optical lens system.
- Versatile lineup.
- Still/ movie camera adaptable.

Swing-prism Borescopes

Features and Functions

R080-053-045SW115-50

R080-063-045SW115-50

R080-064-045SW115-20

R080-083-045SW115-50

R080-103-045SW115-50

Product code	Outer diameter	Effective length	Direction of view	Field of view	Depth of field
R060-023-045SW115-50		23 cm			
R060-031-045SW115-50	ø6.1 mm	31 cm]	50°	5 to ∞ mm
R060-046-045SW115-50		46 cm]	50	5 10 00 11111
R080-023-045SW115-50		23 cm]		
R080-033-045SW115-50]	33 cm]	50°	5 to ∞ mm
R080-043-045SW115-50]	43 cm	45 - 1150	50.	O [O ∞ [11[1]
R080-044-045SW115-20]	44 cm	45 to 115°	20°	30 to ∞ mm

53 cm

63 cm

64 cm

83 cm

103 cm

50°

20°

50°

5 to ∞ mm

30 to ∞ mm

5 to ∞ mm

Zoom Swing-prism Borescopes

ø8.1 mm

Features and Functions

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

Operating Environment

			Standard Rigid Borescopes Swing-prism Borescopes Zoom Swing-prism Borescopes
		In air	–20 to 150 °C
Operating	Insertion tube	In water	10 to 30 °C
tempera- tures	Other parts than above	In air	−20 to 50 ℃
	Insertion tube	In air	700 to 1,700 hPa
perating mo-		In water	to 1,700 hPa
spheric pressure	Other parts than above In air		710 to 1,060 hPa
quid resi	stance		Operable when exposed to machine oil, light oil or 5 % saline solution
Water- proof	Insertion tube		Waterproof construction Can be used underwater
	Other parts than above		Operable in blowing rain conditions Not operable under water

Standard Rigid Borescopes

Features and Functions

Features and Fu	inctions				
Product code	Outer diameter	Effective length	Direction of view	Field of view	Depth of field
R040-021-000-60		21 cm	0°		
R040-022-045-60			45°	60°	
R040-022-090-60	· · ·	22 cm 33 cm	90°		5 to ∞ mm
R040-033-000-60	Ø4.1 mm		0°		
R040-033-045-60			45°		
R040-033-090-60	-		90°		
R060-017-000-50			0°		
R060-017-045-50	-	17 cm	45°		
R060-017-090-50		17 GH	90°		
R060-032-000-50	_		0°		
R060-032-045-50	_	32 cm	45°		
R060-032-090-50	-	02 011	90°		
R060-047-000-50	ø6.1 mm		0°	50°	5 to ∞ mm
R060-047-045-50	-	47 cm	45°		
R060-047-090-50	-	47 611	90°		
R060-063-045-50	_		90 45°		
R060-063-045-50	_	63 cm	45.		
	_	70	- 90°		
R060-078-090-50		78 cm	00		
R080-024-000-50	-		0°		
R080-024-045-50	_	24 cm	45°	50°	5 to ∞ mm
R080-024-090-50			90°		
R080-024-110-50			110°		
R080-025-090-35		25 cm	- 90°	35°	10 to ∞ mm
R080-034-090-50		34 cm			5 to ∞ mm
R080-034-110-50			110°	50°	
R080-044-000-50		44 cm	0°		
R080-044-090-50			90°		
R080-054-090-50		54 cm			
R080-054-110-50			110°		
R080-064-000-50		64 cm	0°		
R080-064-090-50	ø8.1 mm	04 611			
R080-065-090-35	00.111111	65 cm	90°	35°	10 to ∞ mm
R080-084-090-50		84 cm			
R080-084-110-50		04 011	110°		
R080-094-110-50		94 cm	110		
R080-104-045-50]	104 cm	45°	- - 50°	5 to ∞ mm
R080-104-090-50			90°		
R080-104-110-50]		110°		
R080-124-000-50		101	0°		5 t0 ∞ mm
R080-124-045-50	1	124 cm	45°		
R080-125-090-35		125 cm	000		
R080-134-090-35		134 cm	- 90°		
R080-144-045-50			45°	1	
R080-144-090-50		144 cm	90°		
R100-025-090-50		25 cm	90°		
R100-038-000-50	-	38 cm	0°	50°	5 to ∞ mm
R100-039-090-50					
R100-039-090-35	-	39 cm	90°	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	- 90°	10*	11010
R100-066-000-50	ø10.1 mm	66 cm	0°	50°	5 to ∞ mm
R100-067-090-35	-		0	35°	10 to ∞ mm
R100-067-090-35	-	67 cm	90°	50°	5 to ∞ mm
R100-087-090-30	-	81 cm	90	35°	10 to ∞ mm
R100-081-090-35	-	01011	45°	30	1010 0011111
R100-095-045-50	-	95 cm	45° 90°	50°	5 to ∞ mm
	-	00.000	90° 110°	10°	115 to m
R100-099-110-50 R160-101-000-35 ILG*		99 cm	0°	10.	115 to ∞ mm
R160-101-000-35 ILG*	ø16.1 mm	101 cm	90°	35°	20 to ∞ mm
H 100-101-090-35 ILG			90~		

* Light guide is fixed.

MK Modular Mini-scopes/ Light Sources

Ultra Thin Scopes

MK modular Mini-scopes

φ1.2~2.7 L=96, 186 mm

Features

- Less than \u03c62.7 mm diameter.
- Interchangeable scope unit.
- Versatile lineup of viewing directions.
- Still/ movie camera adaptable.



MK Modular Mini-scopes

Product code	Outer diameter	Effective length	Direction of view	Field of view	Depth of field
MK012-009-000-45	ø1.2 mm	96 mm	0°	45°	1 to ∞ mm
MK012-009-015-53	01.2 11111		15°	53°	110
MK017-009-000-62		96 mm	0°		
MK017-018-000-62	ø1.7 mm	186 mm		62°	1 to ∞ mm
MK017-018-090-62		180 ጠጠ	90°		
MK027-018-000-62	ø2.7 mm	186 mm	0°	62°	1 to ∞ mm
MK027-018-090-62	02.7 mm		90°	021	

Selectable Variation by Operation Purposes Light Sources

Compact LED Light Source for MK Modular-mini Scopes

Not available in China, South korea with ILD-C version

Both AC/DC power available.

s

ILD-3 Specification

	ILD-3		
Power Supply	3VDC single use batteries ILD-C		
Dimensions	55 mm long × 30 mm 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		

Compact LED Light Source

ILD-2 Not available in China, South Korea and (CA and OR in USA)

ILD-C connected LED light source.

ILD-2 Specification

•	
	ILD-2
Power Supply	ILD-C or Accessory Desktop PSU
Dimensions	81 mm long × 38 mm diameter
Weight	108 g
Run time	2.5 hours at full brightness from the ILD-C

Brightness Control Box for ILD-2/ ILD-3

ILD-C

Not available in China, South Korea and (CA and OR in USA) Rechargeable battery driven brightness controller.



ILD-C Specification

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

Connecting Scope Adaptors for ILD-2/ ILD-3

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

Halogen Light Sources ILK-7/ILK-7A/ILK-7B Not available in South Korea

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

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				

UHP High Intensity Light Source

ILP-2

Not available in South Korea Most powerful light source ever produced by Olympus.

ILP-2 Specification

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

Not available for the Small diameter borescopes. In use with the other rigid borescopes, connectable light guides differ depending on the rigid borescope models. Please ask our sales representatives for details.

*UV light source. Please ask to our sales representatives for details.



Accessories

For Industrial Videoscopes

Rigid Sleeve

- MAJ-1737
- (For 4.0 mm dia. insertion tube) MAJ-1281
- (For 4.4 mm dia. insertion tube) MAJ-1253
- (For 6.0/6.2 mm dia. insertion tube)

Rigid sleeve makes flexible insertion tube to semi-rigid operation.



High Temperature Guide Tube (Built to order)

MAJ-1867 (For 4.0 mm dia. insertion tube)

The high temperature guide tube is able to operate in up to 250 Celsius degree environment. (Requires cool down air supply)



Flex and Stay*1

Enable the scope insertion tube to be housed in a Flex and Stay. *1 Flex and Stay can be used for the Industrial fiberscopes as well.



UV Inspection Adaptors (For IPLEX UltraLite, Built to order)

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





Image with a standard tip adaptor.

Image with an UV tip adaptor.

Multi-purpose Sleeve

Useful to provide a constant insertion depth of rigid Borescopes.



For Industrial Fiberscopes/ Industrial Rigid Borescopes

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	MC-04	0.8	1.6
IF13D3-60, IF8D3X2-23	MC-05	1.0	1.0
	AI-10C	0.8	1.56
IF4D5/4S5, IF6C5, IF6C5X1	AI-11C	1.0	1.0
IF8C5, IF11C5, IF5D4X1-14	AI-12C	1.51	0.44
	AI-3C	2.0	0.25
IF6PD4, IF2D5	AK2-5C	0.75	1.8
Rigid Borescopes	AK2-10C	1.0	1.0
Miniborescopes	AK2-20C	1.35	0.55

OM Adaptors*2

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

*2 The optional OM adaptor MF-1 plus MMF-3 is required to connect the OM adaptors listed below to the digital mirrorless cameras.



	AI-3M/AI-4M	SM-R	
Compatible scope*3	IF4D5/4S5 IF5D4X1 IF6C5X1 IF8C5 IF11C5	IF6PD4 IF2D5 IF8D4X2/X3 K12/17/27, X09/12/17/25 Miniborescopes Series 5 Rigid Borescopes	
Camera connector	MF-1 plus MMF-3 for connection to the mirrorless cameras		

Notes: Magnification of the AI-4M 1.3X larger than the AI-3M.

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

Light Guide Cable

This accessory transmits light from a separate light source.

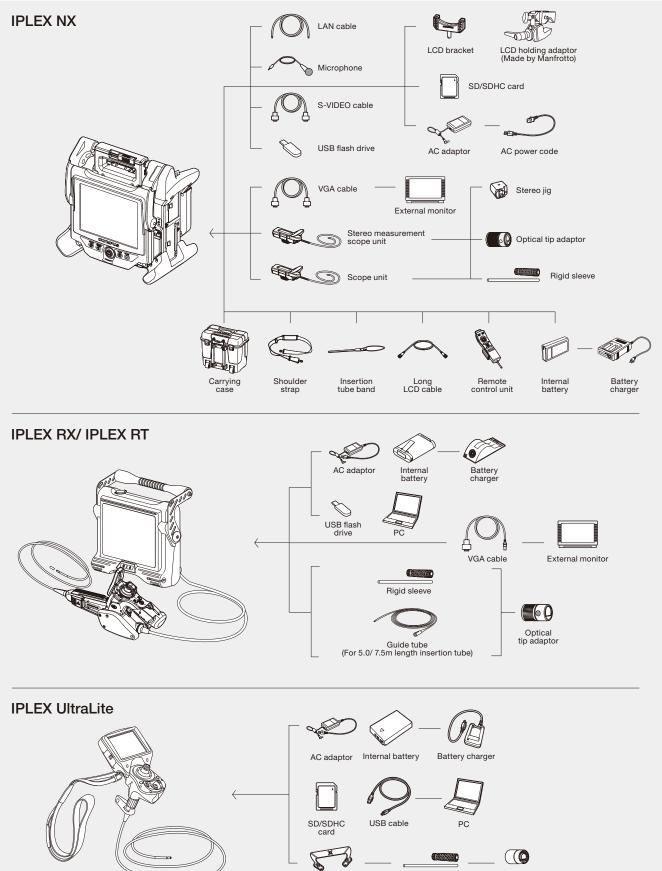


Light Guide Cable Variation

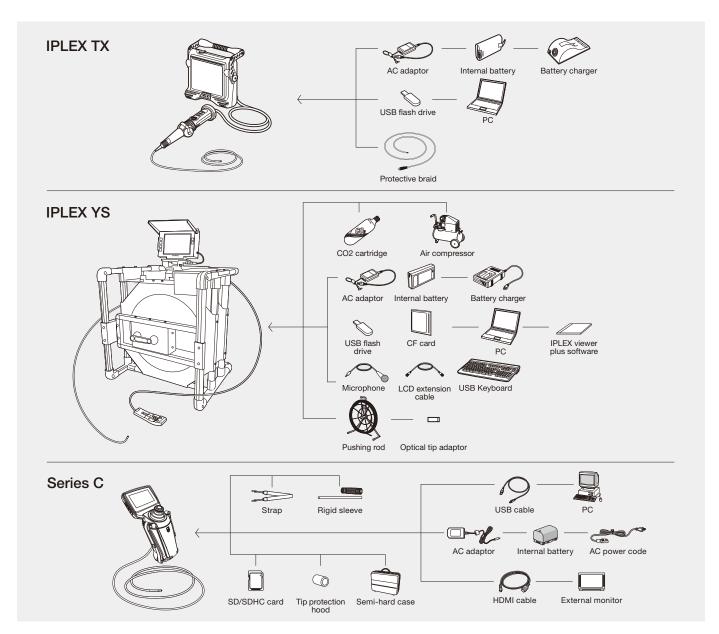
	3mm MK Liquid	3mm Liquid	5mm Liquid	5.5mm Fiber
1.0m				Х
1.8m	Х	Х	Х	
2.0m				Х
2.5m	X	Х	Х	
3.0m 5.0m				Х
5.0m	Х			Х

System Charts

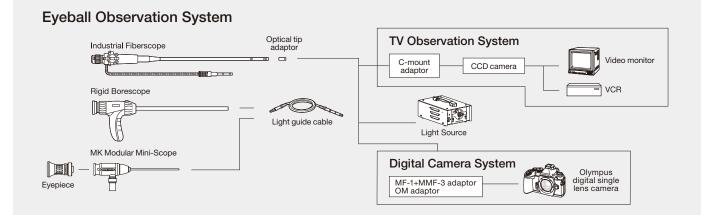
Videoscopes



Tripod adaptor Rigid sleeve Optical tip adaptor



Fiberscopes and Rigid Borescopes







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

OLYMPUS CORPORATION is ISO9001 certified
 OLYMPUS CORPORATION is ISO14001 certified

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For enquiries-contact

OLYMPUS CORPORATION Shinjuku Monolith, 3-1Nishi-Shinjuku 2-chome, Shinjuku-ku, Tokyo 163-0914, Japan Tel: 81(0)3-6901-4090 Japan Tel: 81(0)3-8901-4090 OLYMPUS SCIENTIFIC SOLUTIONS AMERICAS CORP. 48 Woerd Avenue, Waitham, MA 02453, USA, Tel.:(1)781-419-3900 OLYMPUS EUROPA SE & CO. KG Wendenstrasse 14-18, 20097 Hamburg, Germany, Tel.:(49)40-23773-0
 OLYMPUS
 AUST RALIA
 PTY
 LTD.

 31 Giby Road, Mount Waverly, Victoria, 3149, Tei.;(6);130-013-2992
 OLYMPUS
 SINGAPORE PTE LTD.

 Valley Point Office Tower, 248373, Tei.;(55)68-34-00-10
 Valley Point Office Tower, 248373, Tei.;(55)68-34-00-10
 Valley Point Office Tower, 248373, Tei.;(55)68-34-00-10

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