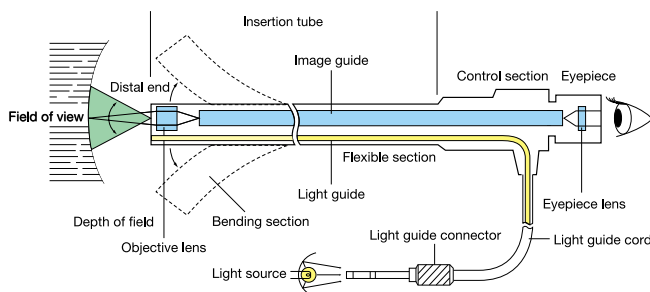


Slim diameters, superior optics and maximum flexibility for ultimate control in industrial inspection



STRUCTURAL DRAWING



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

Each Olympus Industrial Fiberscope is comprised of the insertion tube (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 0.6mm diameter IF6PD4 does not incorporate bending and control sections.

MAIN APPLICATIONS

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

For inspecting:

- 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.
- Operating conditions of machines etc.

MAIN FEATURES

High resolution

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

TF Tube with superior insertability

IF5 Series scopes (except IF2D5) employ the proven TF (Tapered Flex) Insertion Tube. Ideal for insertion into multiple-bend pipes, the flexibility changes continuously - being highly flexible at the tip and more 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 the tube as it approaches the control section assures easier transmission of pushing/twisting strength after the first bend. All scopes featuring the TF tube are marked with the logo shown below.



Tip angulation

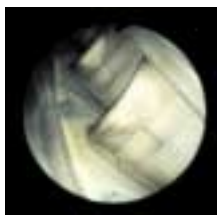
The distal end can be moved in either two or four directions, by hand-held controls (all models except 0.6mm diameter).

Interchangeable optical adaptors

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

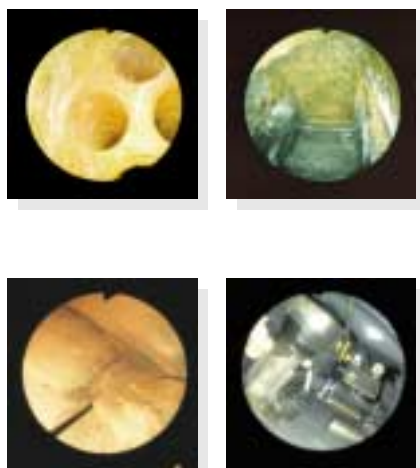
Fully waterproof insertion section

Photo and video documentation



INDUSTRIAL FIBERSCOPES IF6C5X1/IF8C5/IF11C5

Standard fiberscopes with excellent resolution.



IF6C5X1 Scope Specifications

		IF6C5X1-8	IF6C5X1-13	IF6C5X1-20	IF6C5X1-30
Optical system	Field of view	30°/60°/100° (convertible using optical adaptor)			
	Direction of view	Direct/side viewing (convertible using optical adaptor)			
	Depth of field	See optical adaptor specifications (fixed focus)			
	Illumination system	Light guide system			
Distal end	Outer diameter	ø6.0mm			
	Distal end length	13.7mm			
Bending section	Angulation range	Up 120°, Down 120°, Right 100°, Left 100°			
Insertion tube	Outer diameter	ø6.0mm (TF tube)			
Working length		800mm	1300mm	2000mm	3000mm
Total length		1065mm	1565mm	2265mm	3265mm
Light guide cable length		2000mm			

IF6C5X1 Optical Adaptor Specifications

		Field of view	Direction of view	Depth of field
Provided	AT60D/FF-IF6C5	60°	Direct viewing	11~∞mm
	AT30D-IF6C5	30°	Direct viewing	26~372mm
	AT60D/NF-IF6C5	60°		5~102mm
Optional	AT100D-IF6C5	100°	Side viewing	4~∞mm
	AT30S-IF6C5	30°		21~138mm
	AT60S/NF-IF6C5	60°		4~85mm
	AT60S/FF-IF6C5	60°		9~∞mm
	AT100S-IF6C5	100°		4~∞mm

IF8C5 Scope Specifications

		IF8C5-10	IF8C5-15	IF8C5-20	IF8C5-30
Optical system	Field of view	30°/60°/100° (convertible using optical adaptor)			
	Direction of view	Direct/side viewing (convertible using optical adaptor)			
	Depth of field	See optical adaptor specifications (fixed focus)			
	Illumination system	Light guide system			
Distal end	Outer diameter	ø8.4mm			
	Distal end length	21.9mm			
Bending section	Angulation range	Up 120°, Down 120°, Right 100°, Left 100°			
Insertion tube	Outer diameter	ø8.4mm (TF tube)			
Working length		1000mm	1500mm	2000mm	3000mm
Total length		1250mm	1750mm	2250mm	3250mm
Light guide cable length		2000mm			

IF8C5 Optical Adaptor Specifications

		Field of view	Direction of view	Depth of field
Provided	AT60D/FF-IF8C5	60°	Direct viewing	20~∞mm
	AT30D/NF-IF8C5	30°	Direct viewing	30~70mm
	AT30D/FF-IF8C5	30°		60~250mm
	AT60D/NF-IF8C5	60°		9~50mm
	AT100D/NF-IF8C5	100°		3~200mm
Optional	AT100D/FF-IF8C5	100°	Side viewing	9~∞mm
	AT30S-IF8C5	30°		45~90mm
	AT60S/NF-IF8C5	60°		8~40mm
	AT60S/FF-IF8C5	60°		20~240mm
	AT100S/NF-IF8C5	100°		3~140mm
	AT100S/FF-IF8C5	100°		9~200mm

IF11C5 Scope Specifications

		IF11C5-10	IF11C5-20	IF11C5-30
Optical system	Field of view	30°/60°/100° (convertible using optical adaptor)		
	Direction of view	Direct/side viewing (convertible using optical adaptor)		
	Depth of field	See optical adaptor specifications (fixed focus)		
	Illumination system	Light guide system		
Distal end	Outer diameter	ø11.3mm		
	Distal end length	25.5mm		
Bending section	Angulation range	Up 120°, Down 120°, Right 100°, Left 100°		
Insertion tube	Outer diameter	ø11.3mm (TF tube)		
Working length		1000mm	2000mm	3000mm
Total length		1250mm	2250mm	3250mm
Light guide cable length		2000mm		

IF11C5 Optical Adaptor Specifications

		Field of view	Direction of view	Depth of field
Provided	AT60D/FF-IF11C5	60°	Direct viewing	27~390mm
	AT30D/NF-IF11C5	30°	Direct viewing	38~70mm
	AT30D/FF-IF11C5	30°		65~120mm
	AT60D/NF-IF11C5	60°		11~45mm
	AT100D/NF-IF11C5	100°		5~40mm
	Optional	AT100D/FF-IF11C5	100°	Side viewing
AT30S-IF11C5		30°	55~100mm	
AT60S/NF-IF11C5		60°	11~40mm	
AT60S/FF-IF11C5		60°	28~440mm	
AT100S/NF-IF11C5		100°	3~22mm	
AT100S/FF-IF11C5	100°	12~250mm		

IF6C5X1/IF8C5/IF11C5 Operating Environment

- **Operating temperature:** Insertion tube: In air: -10~80°C (14~176°F)
In water: 10~30°C (50~86°F)
All portions except insertion tube: In air: 10~50°C (14~122°F)
- **Operating pressure:** Insertion tube: In air/water: 1013~1317hPa (1~1.3atm)
All portions except insertion tube: In air: 1013hPa (1atm)
- Drip-proof control section for durable performance in adverse conditions.
- Fully waterproof insertion section for underwater use (corrosion-protected against machine oil, kerosene and 5% saline).

Note: As with any fiberscope, due to normal product characteristics all models may show a small number of broken fibres. The angulation angle decreases as the scope is coiled.

INDUSTRIAL FIBERSCOPES IF6PD4/IF2D5/IF4D5/IF4S5

Ultra-thin diameters.



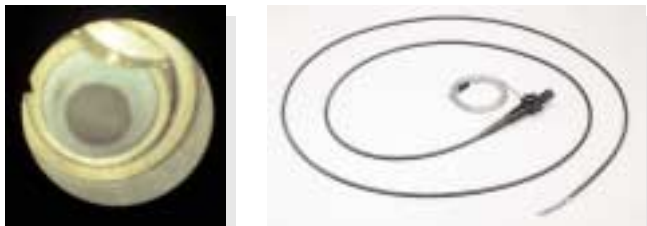
Scope Specifications

		IF6PD4-6	IF6PD4-11	IF2D5-6	IF2D5-12	IF4D5-7	IF4PD5-15	IF4S5-7	IF4S5-15
Optical system	Field of view	58°		75°		65°		60°	
	Direction of view	Direct viewing				Side viewing			
	Depth of field	1 ~ 50mm (fixed focus)		2 ~ 50mm (fixed focus)		6 ~ 60mm (fixed focus)		4 ~ 40mm (fixed focus)	
	Illumination system	Light guide system							
Distal end	Outer diameter	ø0.64mm		ø2.4mm		ø4.1mm			
	Distal end length	-		6mm		8.5mm		11.3mm	
Bending section	Angulation range	-		Up 120°, Down 120°					
	Insertion tube	ø0.64mm (non-TF tube)		ø2.4mm (non-TF tube)		ø4.1mm (TF tube)			
Working length		490mm	990mm	600mm	1170mm	700mm	1500mm	700mm	1500mm
	Total length	670mm	1170mm	850mm	1420mm	910mm	1710mm	910mm	1710mm
Light guide cable length		2000mm		2200mm		2000mm			
	Operating temperature	In air: 10~40°C (50~104°F) In water: 10~30°C (50~86°F)		In air: 10~40°C (50~104°F) In water: 10~40°C (50~104°F)		In air: -10~80°C (14~176°F) In water: 10~30°C (50~86°F)			
Operating pressure	Insertion tube	In air: 1013hPa (1atm)		In air/water: 1013hPa (1atm)		In air/water: 1013hPa ~ 1165hPa (1~1.5atm)			
	All portions except insertion tube	In air: 10~40°C (50~104°F)		In air: -10~50°C (14~122°F)					

- Waterproof insertion tube. Drip-proof control section (except IF6PD4).

INDUSTRIAL FIBERSCOPE (ultra-long) IF13D3-60

Extremely long fiberscope penetrates as deep as 6m.



IF13D3-6000 Scope Specifications

		IF13D3-60
Optical system	Field of view	32° (convertible using optical adaptor)
	Direction of view	Direct viewing (convertible using optical adaptor)
	Depth of field	1mm~∞ (adjustabl focus)
	Illumination system	Light guide system
Distal end	Outer diameter	ø11.3mm
Bending section	Angulation range	Up 120°, Down 120°, Right 120°, Left 120° 90° (when looped once)
	Insertion tube	Outer diameter
Working length		6050mm
Total length		6340mm
Light guide cable length		1500mm

IF13D3-6000 Optical Adaptor Specifications

	Optical system		
	Field of view	Direction of view	Depth of field
IF11D3-A20D	16°	Direct viewing	13~∞mm
IF11D3-A40D	32°		6~∞mm
IF11D3-A60D	48°		3~∞mm
IF11D3-A80D	63°		2~∞mm
IF11D3-A100D	76°		1~∞mm
IF11D3-A20S	16°	Side viewing	13~∞mm
IF11D3-A60S	48°		3~∞mm
IF11D3-A80S	63°		2~∞mm
IF11D3-A100S	76°		1~∞mm

- Operating temperature: 10~80°C (50~176°F)
- Operating pressure: 1013~1621hPa (1~1.6atm)
- Fully waterproof insertion section for underwater use (corrosion-protected against machine oil, kerosene and 5% saline).

INDUSTRIAL FIBERSCOPE IF5D4X1-14

Specifically for PT-6 engine inspection.

IF5D4X1-14 Scope Specifications

		IF5D4X1-14
Optical system	Field of view	49°
	Direction of view	Direct viewing (convertible using optical adaptor)
	Depth of field	5~50mm
	Illumination system	Light guide system
Distal end	Outer diameter	ø5.0mm
Bending section	Angulation range	Up 120°, Down 120°
	Insertion tube	Outer diameter
Working length		1200mm
Total length		1440mm
Light guide cable length		2000mm

IF5D4X1-14 Optical Adaptor Specifications (supplied as standard)

Optical adaptor	Field of view	Direction of view	Depth of field
AT50S-IF5D4x1	49°	Side viewing	5~50mm

- Operating temperature: Insertion tube: In air: -10~80°C (14~176°F)
All portions except insertion tube: In air: 10~50°C (14~122°F)
- Operating pressure: Insertion tube: In air: 1013hPa (1atm)

INDUSTRIAL FIBERSCOPE IF7D3X3-32

For F100 and JT9D inspection.



IF7D3X3-32 Scope Specifications

		IF7D3X3-32
Optical system	Field of view	66°
	Direction of view	Direct viewing
	Depth of field	8~∞mm (fixed focus)
	Illumination system	Light guide system
Distal end	Outer diameter	ø7.3mm
Bending section	Angulation range	Up 130°, Down 130°, Right 130°, Left 130°
	Insertion tube	Outer diameter
Working length		3200mm
Total length		3455mm
Channel	Inner diameter	ø1.6mm
	Durability	Insertion tube only (except channel)

- Operating temperature: Insertion tube: In air: -6~66°C (21~150°F)
All portions except insertion tube: In air: -6~50°C (21~122°F)
- Operating pressure: In air: 1013hPa (1atm)

INDUSTRIAL FIBERSCOPE IF8D3X2-23/MD-999

For JT8D jet engine inspection.



IF8D3X2-23 Scope Specifications

		IF8D3X2-23	
Optical system	Field of view	80°	
	Direction of view	Forward viewing	
	Depth of field	8~∞mm	
	Illumination system	Light guide system	
Insertion tube	Distal end	Outer diameter	ø8.4mm
	Bending section	Rigid distal end length	15.6mm
		Angulation range	Up 185°, Down 105°, Right 105°, Left 105°
Insertion tube	Outer diameter	ø8.4mm	
Working length		2280mm	
Total length		2500mm	
Light guide cable length		2000mm	

- Operating temperature: Insertion tube: In air: 10~80°C (50~176°F)
All portions except insertion tube: In air: 10~80°C (50~176°F)
- Operating pressure: In air: 1013hPa (1atm)