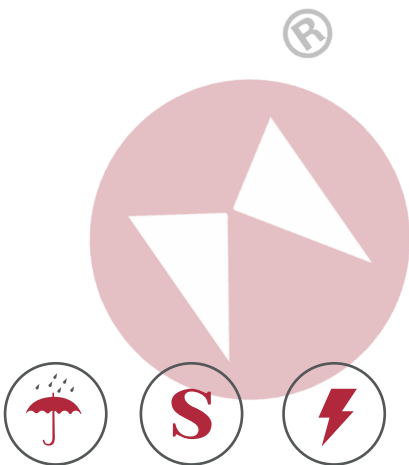


# MITECH MVX SERIES INDUSTRIAL ENDOSCOPE

- Professional manufacturer, best quality with competitive price
- Recommended by the world UT NDT inspection association for training and examination
- Core technology with independent intellectual property rights, certificate of CE, GOST and etc..



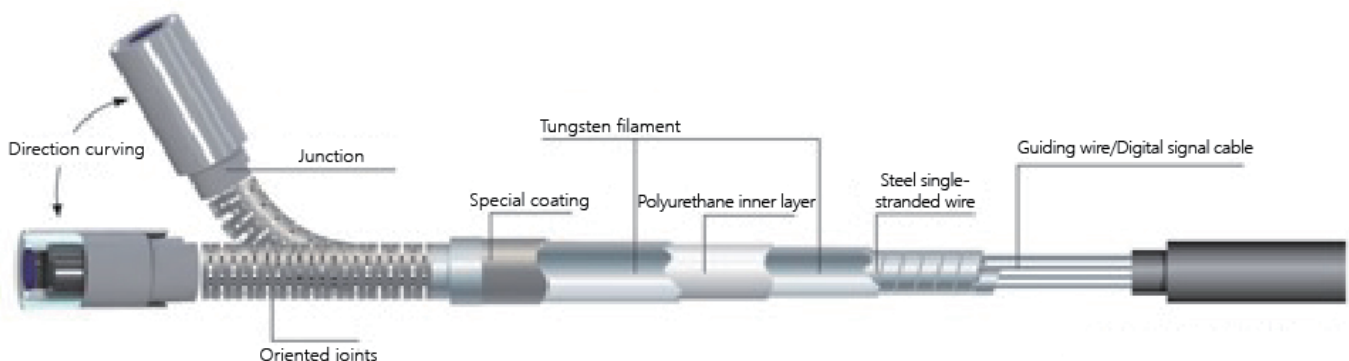
## Overview

MITECH MVX series of industrial endoscope, based on the CMOS image sensor principle, can realize image shooting in the pipe or narrow area which can not be directly observed. And the results can be displayed with high-definition ,so as to achieve non-destructive testing. MITECH MVX series endoscope is a high-precision video electronics industry endoscope, the use of color LCD display and highly integrated CMOS image sensor to ensure that the video endoscopic image of the clear, realistic; its low power consumption, quick signal transmission speed , and easy to carry,operate, different diameter testing lines can be replaced to achieve multi-purpose use and cost saving. It can detect pipe or narrow spaces without tearing apart or damaging machine while not working.Cracks, welds, foreign body, wear and internal processing of parts and other circumstances can be detected with high quality images. It is widely used in aerospace, petrochemical, mechanical casting, national defense military, power production, automobile transportation and other fields, and is the important detection and monitoring equipment of industrial equipment testing and maintenance and other aspects.

## Technical Parameters

Probe diameter:	φ2.4,φ2.8, φ3.9, φ6.2,φ8.4 (unit: mm)
Probe material:	Titanium Alloys
Bending direction:	Manually 360°, all aspects
Bending angle:	> 90°,(360°)
Imaging sensor:	CMOS
FOV:	> 120°
DOF:	5mm~30mm, 8mm~80mm, 5~50mm/15mm~∞
Brightness:	Front end LED5000Lux, 18000Lux, 50000Lux,70000Lux, rear end auxiliary lighting
Brightness control:	from OFF to HIGH 5 gears manually adjustable
Probe length:	15 mm (3.9 / 6.2 / 8.4mm probes can be customized 10mm)
Camera pixels:	160,000; 1000,000; 2000,000
Video Output:	NTSC/PAL
Storage:	32 G (Micro SD Card)
Picture format:	JPG, 1024×768pixel(4:3),1200×720pixel (16:9)
Video format:	MOV 4:3 800X480; 16:9 1200X720
Image control:	Real time Pics 3 times magnification, storage pics 3 times magnification
Digit variable multiple:	1-5 times
Images rotating:	0-180°
Line length:	1.5m, 2m, 3.5m, 6m
Line material:	Tungsten wire
Probe direction:	360°
Screen size :	5 inches
Screen resolution:	1280 × 720
FPS:	30
USB port:	Mini-USB B type
Battery:	Li-On rechargeable, 3.7V/6000mAh
Working time :	>4h
Charging time:	5h
AC Adapter :	AC 100-240V~50/60HZ
Shell material:	ABS
Weight:	1.073Kg (main unit)
Protection level:	IP65, IP67 (Optional)

## Working Principle



Based on the CMOS image sensor principle, MITECH MVX industrial endoscope can collect picture information in narrow spaces. The digital signal can be transferred to the host through video signal cable plugged in pipe, thus to achieve picture display and storage. The oriented joints connect the probe with insert tube and the guide wire inside the joints can turn around freely in all directions controlled by mechanical device. As a result, the CMOS sensor can shoot excellent photos as required in time.

## Features

- It can quickly change and replace different lines of diameter 2.4mm/2.8mm/3.9mm/6.2mm/8.4mm, and it can be used in one machine to save costs.
- High brightness LCD, can work in direct sunlight conditions. The enlarged video signal is clearly showed on a 5-inch screen. High reliability, good stability, with excellent real-time field detection;
- Micro CMOS sensor designed with high sensitivity and integration but low power consumption, available for low brightness detection;
- High resolution camera module, to provide a smooth, clear, stable dynamic (static) detection screen;
- Photo and video storage, 32GB SD Card, can save and record tons of image data;
- Cold light source adopted in probe, 5 gears adjustable;
- Precise oriented joints controlled by rocker, angle of bending  $\geq 90^\circ$ ;
- Independent battery design makes it more convenient to use;
- Probe shell is titanium, multi-layer tungsten wire braided, more anti-corrosion wear, durable, detection distance up to 6m;
- The instrument operating system has a variety of image settings such as white balance, AGC, exposure, image mode, screen brightness, screen contrast, screen ratio adjustable; Can surely get excellent photos and precise detection;
- The probe diameter of 6.2mm/8.4mm can increase temperature and can add Wifi transmission to Tablet and mobile phone;
- Hook function for probe. It can fish special things with tongs under working conditions.

## Applications

- Turbine overhaul: Turbine cleaning, paddle and nozzle / nozzle block check, find off parts, corrosion inside and outside the pipe;
- Aerospace: Aircraft parts, large diesel engines, various engines and pipelines for routine maintenance and inspection;
- Petrochemical Industry: Used for detection of oil refineries in the storage tank, heat exchangers, ball tankers, chemical industry pipeline facilities, special inspection and pressure vessel production units of containers, cylinders, pipelines;
- Military: Used to check the mechanical gear parts wear, loose, oil spills, barrel internal situation;
- Motor traffic: Car engine cleaning and maintenance;
- Machine casting: Automotive parts casting, hydraulic casting, pump body casting, mechanical parts casting, pipe fittings casting; Used to check the situation of sand casting, burr and staggered hole quality control;
- Power industry: Power generation, equipment defect detection and condition monitoring.

## Working condition

- Probe working temperature:  $-10^\circ\text{C} \sim 50^\circ\text{C}$
- Host working temperature:  $-10^\circ\text{C} \sim 50^\circ\text{C}$
- Storage temperature:  $-10^\circ\text{C} \sim 50^\circ\text{C}$
- Waterproof level :IP65( IP67 custom)
- Oil proof level : IP 67

## Serial products comparison

Technical Parameter

Name	Probe diameter (mm)	Depth of focus (mm)	Camera pixels	Bending directions	Length of line (m)	Applications	Note
MVX2400	2.4	5-30	160,000	180° Jostick controlled, two directions	1.5	Suitable for internal inspection of narrow castings, machined parts, small pipelines, etc.	
MVX2800	2.8	5-30	160,000		1.5		
MVX4200	3.9	8-80	1000,000		2		
MVX4300					3.5		
MVX6200	6.2	5-50/15-∞	1000,000	360° Jostick controlled	2	Applicable to large space inspection, large castings, automotive markets-short-distance pipeline inspection, transformers, power supply bureaus, special boiler inspection, food and pharmaceutical, wind power maintenance, aerospace, machinery manufacturing, etc	
MVX6300					3.5		
MVX6600					6		
MVX8200					2		
MVX8300	8.4	5-50/15-∞	1000,000		3.5		
MVX8600					6		
MVX4200CP	3.9	8-80 (5-25 Alternative)	1000,000		2	Suitable for internal inspection of narrow castings, machined parts, small pipelines, etc.	CP is a side-view lens, ordinary lens is a direct-view lens
MVX6200CP	6.2	8-80 (5-25 Alternative)	1000,000		2	Applicable to large space inspection, large castings, automotive market, short-distance pipeline inspection, transformers, power supply bureaus, special boiler inspection, food and pharmaceutical, wind power maintenance, aerospace, machinery manufacturing, etc	ZCP is a straight side view integrated machine
MVX6300CP					3.5		
MVX6200ZCP		8-80/15-∞			2		
MVX6200HDP	6.2	15-∞	2000,000		2		
MVX6300HDP					3.5		
MVX3900GXP	3.9	8-80			2	The transmission distance can be farther than that of the front LED light source.	GXP is a fiber optic mirror, (the rear light source is used, and the light source is transmitted through the fiber to the front of the lens). The conventional lens is a front patch LED light source.
MVX6200GXP	6.2	15-∞	1000,000		2		
MVX6300GXP					3.5		

Note: All of the products have two ways of depth focus settings. User should choose the suitable one, for example, choose 8-80mm when aperture is below 10mm.

## Instrument configuration

	Num	Name	Quantity	Note
	1	Main unit	1	
	2	Detection line	1	Connect to host
	3	Probe	1	
	4	32G SD Card	1	Insert in the host
Standard	5	Camera lens case	1	
config	6	USB Cable	1	
	7	Video output cable	1	
	8	Li battery	1	In the host
	9	AC adapter	1	
	10	ABS case	1	
	11	Attached files	1	
	12	Base for main unit	1	
	13	Belts	1	



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