

Endoscopes

Serie PCE-E

Endoscopes for technical inspections, such as engine blocks, or machines, with an optional adjustable digital camera ring

Endoscopes offer new perspectives of the inside of machines and installations. They are the ideal tool for inspection and maintenance in the industrial sector, in workshops, or for private use, such as in research or university laboratories. Insert the flexible cable into a space close to the area you wish to view and in this way you will be able to see what is happening inside. Thanks to its flexible cable, its light weight and its quality optical components, you will clearly see problem points and be able to assess the situation without the cost of having to dismantle the machine. The water resistant tube and lense allow for inspection of submerged components without any problem.

- ABS enclosure (waterproof)
- Powerful halogen lamp illuminates dark locations for clear viewing
- The PCE-E 122 and the PCE-E 240 flexible cable maintains its fixed position until readjusted
- The PCE-E 45 and PCE-E 130 cable reach deep into tubes, walls, drains, etc.
- Integrated focus ring
- A digital camera can be connected using an optional adaptor
- **Not to be used for medical purposes**



Technical specifications

Endoscope model	PCE-E 45	PCE-E 122	PCE-E 130	PCE-E 240
Length of flexible cable	450 mm	1220 mm	1220 mm	2400 mm
Diameter	4.0 mm	8.0 mm	6.0 mm	8.0 mm
Diameter with mirror of 45°	4.6 mm	8.6 mm	6.6 mm	8.6 mm
Operating temperature	-10 to +50 °C	-10 to +50 °C	-10 to +50 °C	-10 to +50 °C
Total length	595 mm	1365 mm	1365 mm	2545 mm
Field / angle of vision	40 °	40 °	40 °	40 °
Minimum view distance	2 mm	2 mm	2 mm	2 mm
Light	halogen bulb	halogen bulb	halogen bulb	halogen bulb
Power	3 batteries AA	3 batteries AA	3 batteries AA	2 batteries AA
Weight	340 g	450 g	450 g	800 g
Optional	camera adaptor	camera adaptor	camera adaptor	camera adaptor

Contents

PCE-E xxx endoscope (one of our models), carrying case and operator's manual

Model No. Description

PCE-E 45	Endoscope (450 x 4,0 mm)
PCE-E 122	Endoscope (1220 x 8,0 mm)
PCE-E 130	Endoscope (1220 x 6,0 mm)
PCE-E 240	Endoscope (2400 x 8,0 mm)

Optional accessories

PV-KA-I	Digital camera adaptor The adaptor is attached to the endoscope. You will find the rings you require in specialized shops.
ES-ER-E45	45° mirror for the PCE-E 45 endoscope
ES-45-E122	45° mirror for the PCE-E 122 endoscope
ES-45-E130	45° mirror for the PCE-E 130 endoscope
ES-45-E240	45° mirror for the PCE-E 240 endoscope



Applications



Endoscope with the digital camera adapted



Digital camera photography

PCE-VE 110

Endoscope with USB port to allow for images to be displayed on computer monitors

The endoscope has a similar structure to the PCE-E 122. Of course, the PCE-VE 110 has no screen to view the image unless it's connected to a computer. It lets you see the interior, in spaces, tubes, etc. comfortably from your computer. With the help of the software, you can save images (.jpg) and take videos (.avi). This is advantageous if you require graphical documents for presentations. The USB cable is 180 cm long.

- USB connection and software to view images on a computer (images can only be viewed in this way)
- ABS enclosure resistant to water
- High bright LED
- The endoscope cable maintains a curved shape (until it is put into another form)
- **Note: Not suitable for medical use**



Technical specifications

Length of flexible cable	930 mm
Diameter	10.5 mm
Resolution	352 x 288 pixels
	704 x 576 interpolated pixels
Operating temperature	-10 to +50 °C
Total length	1090 mm
Field / angle of vision	40 °
Minimum view distance	2 mm
Light	LED
Power	via USB
Weight	450 g

Contents

PCE-VE 110 endoscope, software, 1.8 m USB cable, carrying case and user's manual

Model No. Description

PCE-VE 110	Endoscope with software
------------	-------------------------

Optional accessories

ES-45-VE110	45° mirror
MAG-VE110	Magnet (to stick on end of the endoscope)



PCE-V220

Endoscope powered by rechargeable batteries and with a 5.6" display and 20 m retractable cable

The PCE-V220 endoscope / videoscope offers new perspectives of the interior of machines and installations, through openings, such as ventilation shafts, chimneys, drainage systems, etc. This endoscope is the perfect tool for inspection and maintenance in any professional sector or type of workshop. Optical analysis has never been easier with an endoscope / videoscope. This innovative series offers access to professional video inspection. You can inspect areas of interest with diameters of 30 to 150 mm, for up to 2 hours without using a power adaptor. The solid sensor head contains a camera, is resistant to water and has a diameter of only 26 mm and can be passed through a curve of a tube that has only 40 mm diameter. The endoscope's retractable cable has length marking to assist in precisely locating the area of damage. The TFT can be removed from the case to allow for easy viewing in places of limit space and has a 2 m cable. The videoscope have also a video output and allows for images to be saved to a computer or a DVD recorder for further analysis.

- 26 mm sensor head containing camera
- Camera is water proof
- Clearly illuminated LED
- Light sensitivity: 0.5 lux
- 5.6" TFT display (14.22 cm)
- 20m retractable cable
- 2 Rechargeable batteries (2 hours)
- Batteries included



Technical specifications

Camera	
Camera head	color
Type	1/3 " COLOR CMOS
Light sensitivity	0.5 lux
Lense	f = 2.5 mm, F = 2.0
Angle of perception	120°
Illumination	12 white LEDs
Ingress protection	IP68, water resistant up to 3 bar
Dimensions (camera head)	Ø 26 x 38 mm

Monitor	
Dimensions (Monitor)	165 x 127 x 38 mm
TFT display	5,6" (14,22 cm)
Output	FBAS (Chinch)

Other specifications	
Dimensions of retractable cable	Ø 6 mm x 20 m
Power	2 rechargeable batteries 12V / 1.2 Ah
Carrying case	510 x 430 x 170 mm
Total weight	7 kg

Contents
TFT colour monitor, 2 m extension cable, 20 m retractable cable, miniature camera head, 2 rechargeable batteries, charger, carrying case and user's manual

Model No.	Description
PCE-V220	V220 endoscope with colour camera

Optional accessories

PCE-V3827	Slide ring for the camera head, increases movement round curves
PCE-V3847	Slide ring for the camera head, increases movement round curves while protecting the lense
PCE-V3857	740g weighted guide, guarantees a better vertical descent
PCE-V3854	Centring star, this can help centre the camera in pipes and has a diameter of 200 mm
PCE-V3853	Centring star, extension version with distance ring
PCE-V53649	Battery charger will recharge to batteries in only 30 minutes

PCE-TDE 150

Flexible color video borescope with a 3.5 " display, 1.5 m retractable cable and rechargeable battery

The high-quality flexible color video borescope is supplied as a complete, fully portable system specially designed for search professionals to use in areas that are difficult to access such as inside tube, tanks and behind concealed panels. The endoscope has diameter 6 mm, length 1.5 meter, oil/waterproof, illuminated crush-resistant Endoflex vertebrae core, and tough polymer outer with stainless covered tip bending section. The endoscope has 2-way remote end tip with 120 ° left / right articulation. A full color video camera ship is connected to the tip, and the image can be viewed on the color LCD monitor supplied.

- Flexible cable length 1500 mm
- Diameter of only 6 mm
- Operates with rechargeable battery
- The flexible cable allows access to tight spaces
- 2-way remote end tip with 120 ° left / right articulation
- 3.5 " color display
- Waterproof
- Video out



Technical specifications

Length of flexible cable	1500 mm
Diameter	6 mm
Angle of view	55 °
Bending ways	2 ways (120 ° / 120 °)
Protection	waterproof
Light	LED
Operating temperature	0 to +60 °C
Display	3.5 " color LCD
White balance	auto or manual
Function	Video output
Power	Li-ion rechargeable battery
Weight	450 g

Contents
PCE-TDE 150 endoscope with LCD display, insert tube, light source, rechargeable battery, charger and user's manual

Model No.	Description
PCE-TDE	Endoscope



Endoscopes

Serie PCE-VE

Videoscopes with internal display, memory, software and 1 m or 2 m cable

The endoscope has been designed for use in laboratories and in testing the production of components. You can operate this system accurately and rapidly with your gloves on. This video endoscope combines a high resolution CMOS image with an integrated 3.5" TFT Display and a strong LED lighting. It can be connected to a Computer via the USB cable for image and video captures. The borescope is equipped with a high capacity battery. It can work and record for 4 hours continuously after being charged for 2 hours.

- Quick snap and video recording
- The flexible cable allows access to tight spaces
- Flexible cable length 1,000 mm, 2,000 mm or 10,000 mm
- Diameter of only 5.5 mm
- Clearly illuminated LED
- 512 MB memory card included
- **Note: Not suitable for medical use**



Technical specifications

Model	PCE-VE 320	PCE-VE 330	PCE-VE 340
Length of flexible cable	1,000 mm	2,000 mm	10,000 mm
Diameter		5.5 mm	
Radial curve		90 mm	
Sensor		CMOS	
Resolution		320 x 240 / 640 x 480	
Frame rate		30 / s	
Field / angle of vision		67 °	
Optimum view distance		15 to 100 mm	
Light		4 x LED	
Display		3.5 " TFT	
Interface		USB	
Memory		512 MB SD card	
Video output		NTSC and PAL	
Operating temperature		-10 to +50 °C	
Power		3,7 V battery	
Weight		450 g	

Contents

PCE-VE 320, PCE-VE 330 or PCE-VE 340 videoendoscope, SD card (512 MB), software, USB cable, carrying case and user's manual

Model No.	Description
PCE-VE 320	Videoendoscope (1,000 mm)
PCE-VE 330	Videoendoscope (2,000 mm)
PCE-VE 340	Videoendoscope (10,000 mm)

Optional accessories

ES-45-VE300	45° mirror (to stick on end of the endoscope)
PCE-VE-SC1	1 m spare cable with optic
PCE-VE-SC2	2 m spare cable with optic
PCE-VE-SC10	10 m spare cable with optic



PCE-CLE 150

Cold light endoscope with flexible optics and powered by mains adaptor

The cold light endoscope has been designed for use in laboratories and in testing the production of components. The endoscope comes with a cold light bulb and a flexible optic cable, which allows for a field of vision of up to 80°. The endoscope cable is equipped with markings, allowing the user to determine the depth of penetration making it easier to locate the observed area. The brightness of the field of vision can be adjusted with an external dial. This endoscope also comes with a handle to move the end point up, down, left and right allowing the field of vision to be amplified to 80°.

- Flexible cable length 1000 mm
- Diameter of only 8 mm
- High optics thanks to its 10,000 optic fibres
- Adjustable flexible optics thanks to its handle
- Cold light potency of 100 W
- The flexible cable allows access to tight spaces
- The external dial allows the user to adjust the brightness in the field of vision
- Connection cable between the endoscope and the light source is 1.5 m



Technical specifications

Flexible cable length	1000 mm
Diameter	8 mm
Pixels	10,000
Radial curve / flexible point	120 °
	(up, down, left and right)
Field of vision	80 °
Handle length	85 mm
Total length	1350 mm
Distance of optimum visibility	3 to 100 mm
Light production	cold light
Capacity	100 W
Operating temperature	-10 to +40 °C
Power	230 V / 50 Hz
Weight	4900 g

Contents

PCE-CLE 150 endoscope, cold light source with regulator, mains cable, 1.5m connecting cable, replacement cold light bulb, 2 replacement fuses, carrying case and user's manual

Model No.	Description
PCE-CLE 150	Cold light endoscope

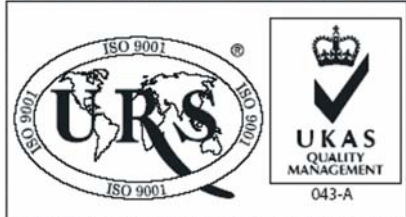


Examples for partners of calibration services

calibración de analizadores de gas S.L.



ISO 9001 CERTIFIED ORGANISATION



United registrar of Systems Certificate No. 86990

assicontrol		
Tel. 0332 220185 Fax 0332 822553		
Strumento		
Matricula	Operatore	N° Cert.
Data.	SCADENZA	



**Kalibrierdienst
Stenger**



Servincal
Laboratorio de Metrología y Calibración



ENAC
CALIBRACIÓN
N° 145/LC374



Certificado n°
E 202297

