





Very large range of rigid industrial endoscopes. Superior optical quality. Integrates a light concentrator for better illumination.

They all accept 90° removable and rotative mirror tubes and stainless steel protection sleeves for shock protection. Our line of Ecofix Pro is available on stock. The exclusive lens system allows to offer very competitive repair costs. It gives excellent results in video endoscopy.

**They can be made to operate up to 300°C on demand and are compatible with UV endoscopy applications.**



The Endogrins® optical relay of the Ecofix PRO range allows to offer an excellent and bright image quality. Repairs can be done quickly at a fixed cost.



OBSERVED SUBJECT OCULAR



Aviation



Fundry



Automotive



Fine mechanics



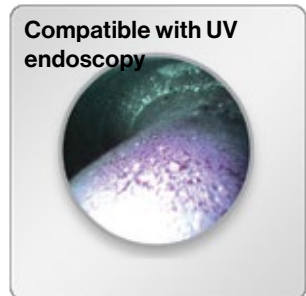
High performance lens system

Independent focusing ring

90° rotative mirror tube

Light concentrator

High intensity LED-R portable handle 110.000 Lux (option)





ENDOSCOPES ECOFIX PRO				
Part No	Diameter mm	WL mm	DoV	Field
<b>Ø 1.85mm</b>				
604 000 100	1.85	80	0°	40°
604 000 268	1.85	127	0°	40°
604 000 291	1.85	180	0°	40°
<b>Ø 2.40 - 2.80mm</b>				
604 000 500	2.40	100	0°	40°
604 000 501	2.40	185	0°	40°
604 000 510	2.80	265	0°	40°
604 000 515	2.80	350	0°	40°
604 000 520	2.80	435	0°	40°
<b>Ø 4.20mm</b>				
604 000 490	4.20	50	0°	40°
604 000 502	4.20	180	0°	40°
604 000 503	4.20	305	0°	40°
604 000 504	4.20	435	0°	40°
604 000 505	4.20	560	0°	40°
<b>Ø 6.35 - 7.20mm</b>				
604 000 506	6.35	180	0°	40°
604 000 507	6.35	305	0°	40°
604 000 540	6.35	435	0°	40°
604 000 541	6.35	559	0°	40°
604 000 542	7.20	730	0°	40°
604 000 543	7.20	940	0°	40°



Mirror tubes & Protection sheaths

MIRROR TUBE & PROTECTION SHEATHS			
Part No	Diameter mm	WL mm	DoV
<b>Mirror tube for Ecofix Ø 1.85mm</b>			
604 000 101	2.2	80	90°
604 000 268	2.2	127	90°
604 000 291	2.2	180	90°
<b>Mirror tube for Ecofix Ø 2.4-2.8mm</b>			
604 000 112	2.8	100	90°
604 000 113	2.8	185	90°
604 000 525	3.4	265	90°
604 000 530	3.4	350	90°
604 000 535	3.4	435	90°
<b>Mirror tube for Ecofix Ø 4.2mm</b>			
604 000 491	4.8	50	90°
604 000 123	4.8	180	90°
604 000 124	4.8	305	90°
604 000 125	4.8	435	90°
604 000 272	4.8	560	90°
<b>Mirror tube for Ecofix Ø 6.35-7.20mm</b>			
604 000 545	8.0	180	90°
604 000 546	8.0	305	90°
604 000 547	8.0	435	90°
604 000 548	8.0	559	90°
604 000 549	8.0	730	90°
604 000 550	8.0	940	90°
<b>Protection Sheaths</b>			
604 000 000	-	-	-

Part No	Description
604 000 214	Ecofix PRO carrying case (for length up to 435 mm)
604 000 215	Ecofix PRO carrying case (for length up to 560 mm)
604 000 217	Ecofix PRO carrying case (for length up to 940 mm)
B-C-KIT	BIPOL cleaning kit: 1 spray - 1 packs of cotton swabs - 1 chamois cloth.
604 000 208	Right angle adapter 90° rotatable L=100mm



### LED-R handle

Portable high intensity source with white LED lamp. LED life is approximately 50,000 hours under normal use. Supplied with its charger with battery level indicator and rechargeable. Li-ion battery (approximately 500 charge cycles).

Technical data	
LED output	10 Watts (80,000 lux)
Intensity adjustment	Adjustable to 5 levels
Dimensions	Ø 24 mm x 140 mm
Weight with battery	130 gr
Battery	Li-Ion 2400 mHa 3.7V - type 18650
Average runtime	3-4 hours
Durée de vie LED	50 000 heures

#### To order

Part No	Description
LED-R	Bipol LED-R battery handle with rechargeable battery
LED-R-BAT	Spare battery LED-R
LED-R-BAT-CH	LED-R Spare battery charger



### Mini LED light handle

Portable light source with ACMI connection and LED light. 2 AA batteries (supplied). Adjustable illumination.

Technical data	
Illumination	10,000 to 55,000 lux (Min-max)
Dimensions	Ø 25 mm x 170 mm
Weight with batteries	120 gr
Average runtime	2-7 hours depending on the use

#### To order

Part No	Description
605 000 565	Mini LED light handle with 2 AA batteries



### LED-RA portable light source

Ultra-high-performance portable source with white LED lamp and continuously adjustable lighting. Bulb life is 50,000 hours. Rechargeable battery and wall/table support included. Compatible with portable video applications.

Technical data	
Illumination	15,000 to 180,000 lux (Min-max)
Dimensions	Ø 31mm x 150mm
Weight with batteries	148 gr
Battery	Rechargeable 3.7V, 220mAh Li-Ion
Average runtime	2-7 hours depending on the use

#### To order

Part No	Description
605 000 570	Rechargeable RA LED handle & adjustable lighting. Comes with charging wall bracket.
605 000 571	Original streamlight battery for LED-RA



## Endo-Lux-T table light source

Our Endo-lux T is a compact and powerful (80 watts) table light source with LED technology.

It comes with a continuous light adjustment (20 levels) and a standard RIWO output. It is compatible with video and photo applications and can be connected to our rigid endoscopes, fiberscopes.

Technical data	
LED output	80 Watts
Illumination	800,000 lux
Light intensity	20 levels adjustable
Color temperature	5,000 - 7,000 k
Cable connection	RIWO
Power	110V-220V / 50 Hz-60Hz
Dimensions	355x315x120mm
Weight	5,2 kgs (11,46 lbs)
LED Lamp runtime	50,000 hours

### To order

Part No	Description
Endo-Lux-T	Bipol table light source Endo-lux T - 80 Watts - RIWO - bi tension 110/220 VA
Endo-Lux-C	Light cable SUPERFLEX Ø 4 x 1900mm Steel sheathing with outer PVC sheathing connection RIWO-STORZ/ACMI.



Endo-Lux-C

## Mini table light source ARC35 LED

### Compact Mini Light Source

Intensity variation by cat's eye. Supplied with transformer 110-220 VA -50/60 Hz. Incorporated sound ventilation. Lighting by LED lamp (life 50,000 hours). 12V power supply that allows mobile use on site with the kit battery bag.

Technical data	
Color temperature	5,700 K - 6,500 K Nominal
Illumination	250,000 lux max
Dimensions	127 x 90 x 68 mm
Power	12 V/DC
Weight	0.45 kg (1.0 lbs)
Working temperatures	5°C to 40°C
LED runtime	50,000 hours

### To order

Part No	Description
604 000 204	ARC 35 LED mini light source
604 000 206	Portable battery kit ARC24 (Battery / Pouch / connecting cables)
604 000 218	Portable Lighting Kit (Arc 35/Battery/Light Cable in Case)



### Endocamera CCD color FV35 HQ

Compact high-resolution video camera specially developed for endoscopy video applications.

Equipped with a 1/2" sensor and an automatic electronic shutter, it allows the inspection of places with changing brightness. Very light (about 160 gr) with its shockproof housing, it will be ideal in workshop application, Research & Development or even in external maintenance intervention.

The video coupler (option) is compatible with all our rigid and flexible endoscopes.

Our FV35-HQ endocamera is compatible with our Rugged (3.5") and P1 (7") videoscopes.

The TVSCOPE adapter allows it to be connected to an external monitor.

Dust proof and shock resistant



(Coupler in option)

#### Technical data

CCD sensor	1/2" SONY
Resolution	800 TVL
White balance	Automatic
Video signal	PAL / NTSC
Power	12 DVC - unique cable
Connection	Integrated Video coupler
Dimensions	Ø50 mm x 90 mm
Weight	160 gr (without cable)
Working temperatures	0°C to + 40°C

Part No	Description
618 000 184	Bipol FV35 HQ endocamera C-MOUNT
618 000 181	Bipol FV35 HQ endocamera C-MOUNT ( with video coupler F:35) - P1 Rugged connection.
<b>Compatible accessories</b>	
P1	P1 videoscope - 7" screen.
B-Rugged	Rugged videoscope - 3.5" screen.
TV-SCOPE	External Monitor Connection Kit (livré avec alimentation 12V secteur)



Industrial Monitor

19"

P1 videoscope



7"

Rugged videoscope



3.5"

Our FV35 HQ camera can be used with either our portable videoscopes P1 & Rugged or with a workbench monitor.

### C-Mount Video coupler

Our video coupler allow you to connect an endoscope to a C-Mount CCD camera to view live images on a monitor. It offers an extra wide field of view and is available in 35mm focal length.

Designation	Focal length	Mount	Part No
<b>Coupler F: 35mm</b>	Adjustable	C-Mount / ISO 32mm	618 000 102



### USB-HDM camera

Very high resolution compact video camera (2304x1536 px) specially developed for video endoscopy uses.

The camera can be used with any laptop that has a USB port. The supplied visualization software is very easy to use and has many adjustable parameters.

Equipped with a 1/3" sensor and an automatic electronic shutter, it allows the inspection of places with changing light.

The camera has a dedicated HDMI output to be connected to an industrial monitor (cable supplied). In this configuration, the camera is powered on mains.



#### Technical data

CCD sensor	1/3.2" 3MP couleur CMOS
Resolution	2304 x 1536 px
White balance	Automatic
Signal Vidéo/Sortie	USB 3.0 / HDMI
Frame rate	HDMI: 1080i 60fps USB: 720p 30fps
HDMI recording	8GB Micro SD card
Power	USB charger - 5V (for HDMI connection) USB use: self-powered
Connection	C-Mount
Dimensions	Ø 40 mm x 100 mm
Weight	75 gr
Working temperature	+4°C to + 50°C

Supplied with USB cable / HDMI cable / 8GB Micro SD card and dedicated image processing software (photo & video recording, digital zoom, measurement grid, image annotation)



#### To order

Part No	Description
618 000 175	3MP USB-HDMI Bipol camera with F:35 Vario coupler
618 000 176	Bipol USB-HDMI 3MP camera only