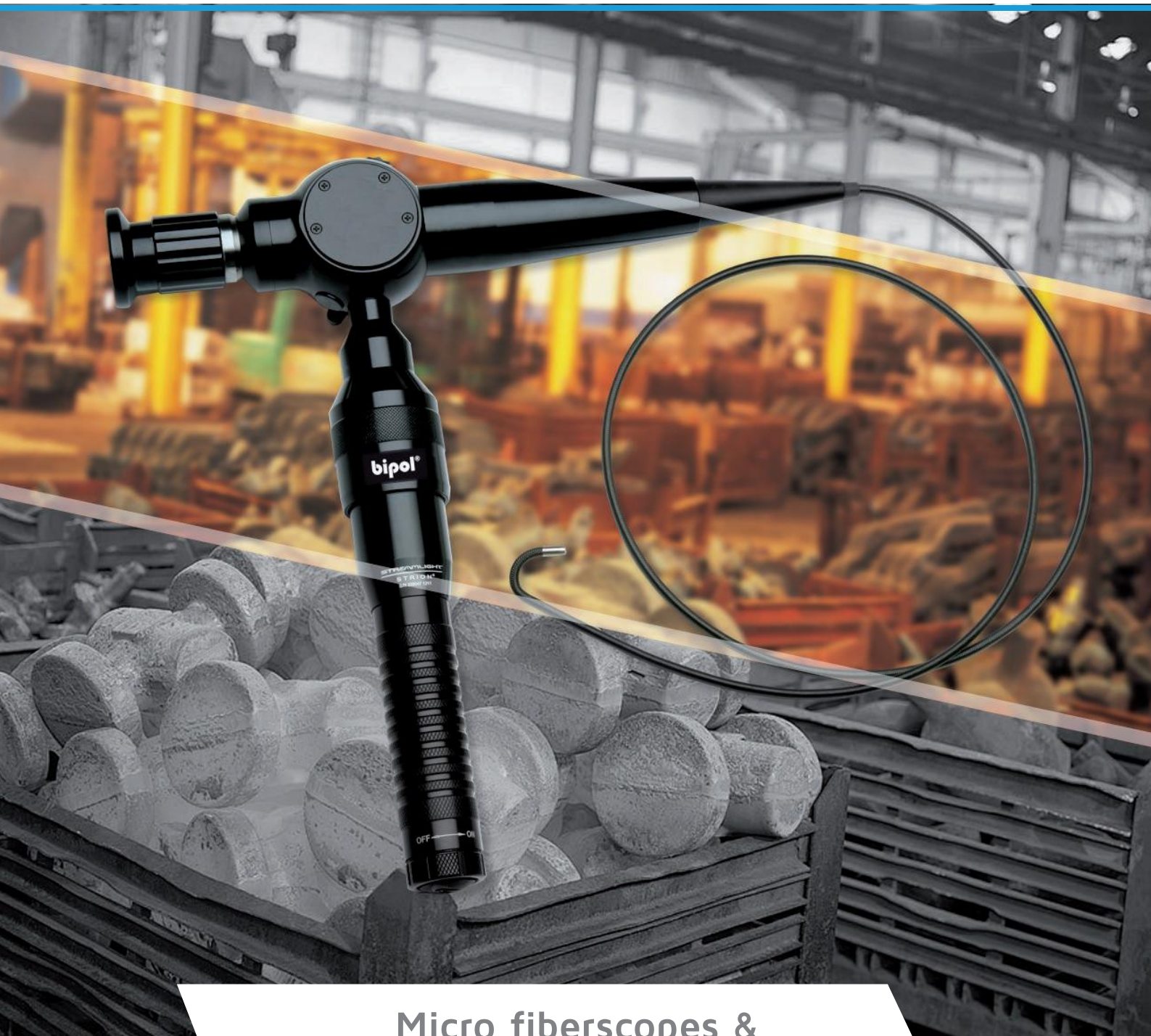


# bipol<sup>®</sup>

Instruments & Outils de **précision**



**Micro fiberscopes &  
Industrial fiberscopes**

[www.bipol.fr](http://www.bipol.fr)

## Micro Fiberscopes Microflex

### Microflex flexible

The excellent image quality of our MicroFlex Flexible Borescopes deliver, in these very small micro diameters, is nothing short of amazing! You can access even the smallest opening, and utilize a 9-inch bend radius when the entry path is not straight. The polyamide-sheathed 0.40 - 0.5 and 0.9 mm models have 3,000 & 10,000 pixel fiber imaging bundles, and the plastic-sheathed 1.5 and 2.4 mm has a 30,000 fiber bundle. The eyepiece is easily replaced with a video adapter in option to use a C-Mount camera. Quickly and easily inspect cooling holes inside turbine blades, cannulas, catheters, needles, trocars, valves in medical devices, and many other micro manufactured parts. Use it with our Endolux LED light source for optimal results.

### Microflex semi rigid



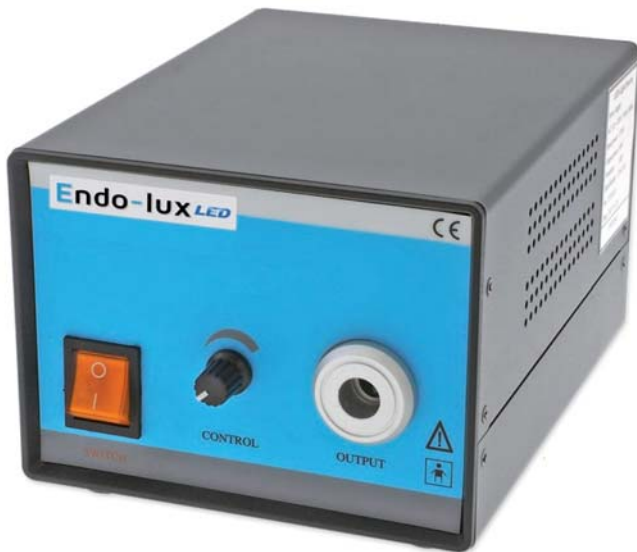


# Micro Fiberscopes Microflex

Description	MF035-15	MF-05-60	MSR-09-15	MF-09-65	MF09-100	MF15-80	MF-24-50
Diameter	0.35 mm	0.50 mm	0.90 mm	0.90 mm	0.90 mm	1.50 mm	2.40 mm
Working length	150 mm	600 mm	150 mm	650 mm	1 000 mm	800 mm	500 mm
Number of pixels	3.000	3.500	10.000	10.000	10.000	30.000	30.000
Field of view	55°	60°	55°	55°	60°	60°	85°
Direction of vision	0°	0°	0° ou 90°	0° ou 90°	0°	0°	0°
Focussing range	1-3 mm	1-3 mm	2-5 mm	3-12 mm	2-5 mm	3-10 mm	5-60 mm
Bending radius	8 mm	20 mm	65 mm	20 mm	65 mm	87 mm	40 mm
Tube construction	Polyamide	Polyamid	Polyamid	Polyamid	Polyamid	Polyamid	Kapton
Working temperatures	10°C to 40°C	-18°C to 77°C	-18°C to 77°C	-18°C to 77°C	-18°C to 77°C	-18°C to 77°C	-10°C to 80°C
<b>We can make all our micro fiberscopes according to your requirements - Contact us</b>							

## To order

Part No	Description
MF-035-15	Microflex flexible Ø 0,35 mm x 150 mm - 0° - 3.000 pixels
MF-05-60	Microflex flexible Ø 0,5 mm x 600 mm - 0° - 10.000 pixels
MSR-09-15-0	Microflex semi rigid Ø 0,9 mm x 150 mm - 0° - 10.000 pixels
MSR-09-15-90	Microflex semi rigid Ø 0,9 mm x 150 mm - 90° - 10.000 pixels
MF-09-65-0	Microflex flexible Ø 0,9 mm x 650 mm - 0° - 10.000 pixels
MF-09-65-90	Microflex flexible Ø 0,9 mm x 650 mm - 90° - 10.000 pixels
MF-09-100	Microflex flexible Ø 0,9 mm x 1.000 mm - 0° - 10.000 pixels
MF-15-80	Microflex flexible Ø 1,5 mm x 800 mm - 0° - 30.000 pixels
MF-24-50	Microflex flexible Ø 2,4 mm x 500 mm - 0° - 30.000 pixels
MF-C-Mount	C-Mount Microflex adapter



High intensity table light source

**Endo-lux LED bipol**



Each Micro fiberscope is delivered in a carrying case with an ISO detachable ocular, a BIPOL cleaning kit and instruction manual

## Proflex articulating Fiberscopes

Our Pro Flexible Borescopes incorporate an 18,000 fiber, acid-leached imaging bundle, delivering truly excellent image resolution, sharpness, detail, and contrast. Lower cost alternatives do not deliver image quality nearly this high.

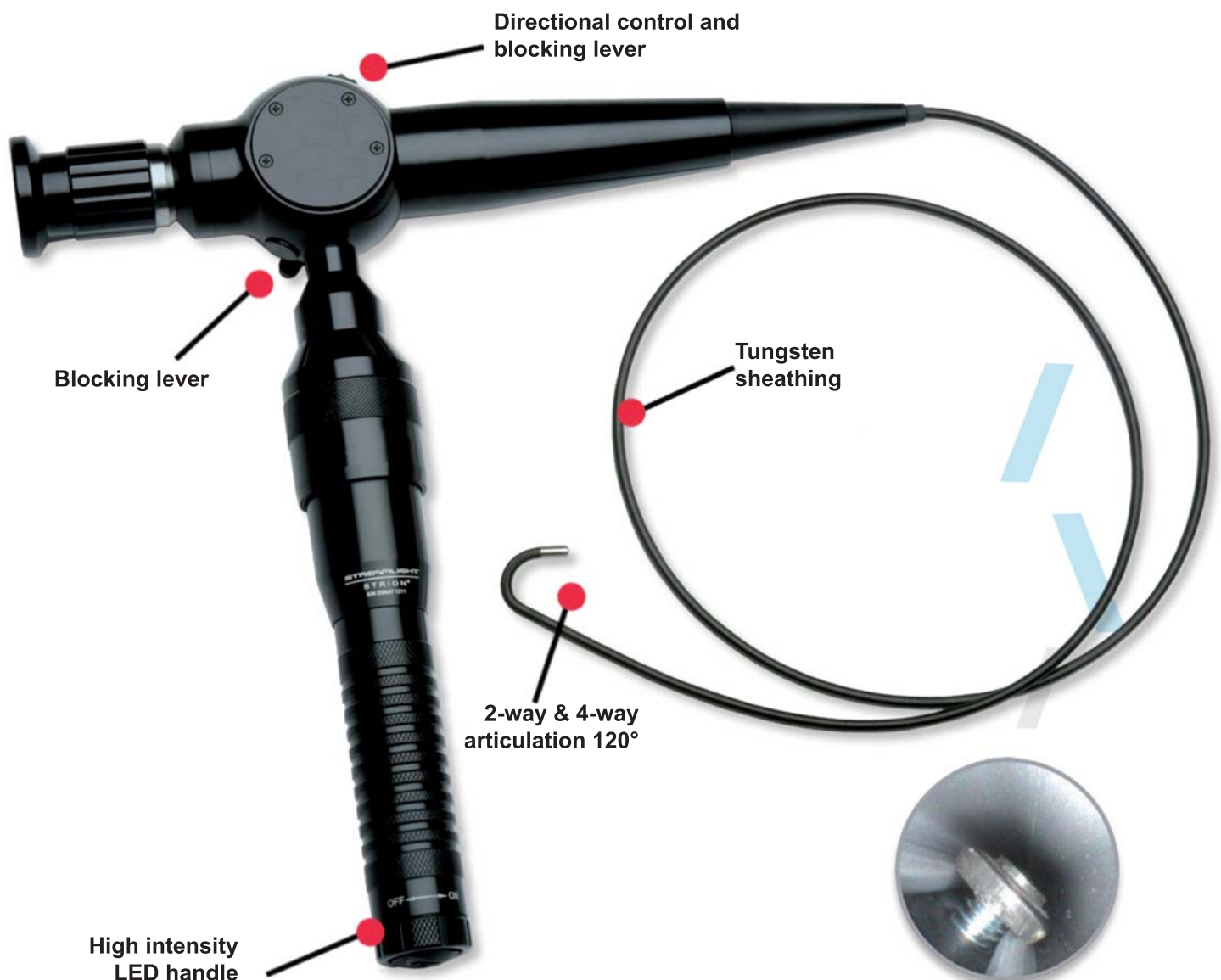
Pro Flexibles are offered in either 2-, or 4-way articulation! Control the direction-of-view (DOV) of the tip over a 300° range ( $\pm 150^\circ$ ) using a thumb lever on the aluminum borescope body. The lever can also be locked to hold a particular view.

The LED PRO Flexible sets a new standard of excellence in quality, at a very reasonable price. Due to newly advanced optical design and construction. Available in diameters of 3.3, 4.0, 5.0 & 6.0 mm.



### Product advantages

- ➔ 18.000 Pixels resolution
- ➔ Adjustable focusing
- ➔ 2x120° articulation
- ➔ Blocking lever
- ➔ 4 diameters
- ➔ System delivered in carrying case



# Proflex articulating Fiberscopes

## Technical data

Diameters	3.3 - 4.0 - 5.0 & 6.0 mm
Working length	850 mm
Articulation	3.3mm - 2 x 130° 4.0 & 5.0 - 2 x 150° 6.0 - 2 x 150° or 4 x 150°
Depth of field	12 - 50 mm
Field of view	45°
Direction of vision	0°
Sheathing	Tungsten braid
Bending radius	3.3 & 4.0 mm - 31.75 mm 5.0 mm - 38.1 mm 6.0 mm - 44.5 mm
Resolution	18.000 pixels
Working temperatures	-18°C to 77°C
Watertight	Water - 1bar

## To order

Part No	Description
Proflex-33	Pro Flex Ø 3,3 x 850mm 0°- articulation 2 x 130°
Proflex-40	Pro Flex Ø 4.0 x 850mm 0° -articulation 2 x 150°
Proflex-50	Pro Flex Ø 5.0 x 850mm 0° - articulation 2 x 150°
Proflex-60-2	Pro Flex Ø 6.0 x 850mm 0° - articulation 2 x 150°
Proflex-60-4	Pro Flex Ø 6.0 x 850mm 0° - articulation 4 x 150°
Proflex-TO5	90° prism for Pro Flex 5.0mm
Proflex-TO6	90° prism for Pro Flex 6.0mm

## Mirror 90°



Included with 5.0 mm

## Prism 90°



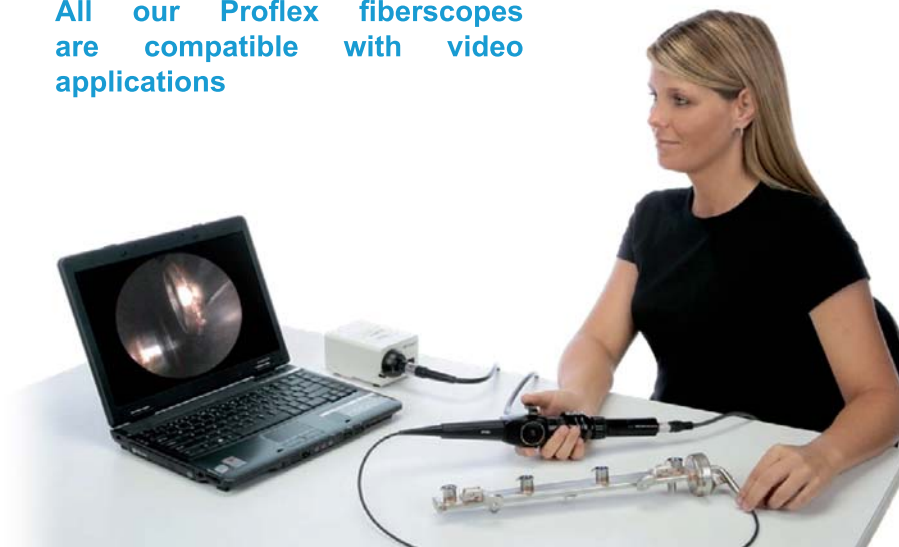
In option with 5.0 & 6.0mm



The 3.3mm allows inspection of narrow holes with tight bending curves.

The 4.0mm is ideal for aircraft or helicopter maintenance.

**All our Proflex fiberscopes are compatible with video applications**



Delivered in aluminium carrying case with LED handle and manual



# Portable light solutions

## Mini Xenon light handle

Adjustable illumination

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

### Technical data

Illumination	14 000 lux max
Dimensions	Ø 25 mm x 146 mm
Weight with batteries	145 gr
Autonomie moyenne	5 Heures

### To order

Part No	Description
604 000 200	Mini Xenon light handle with 2 AA batteries
604 000 201	Spare light bulb (x6)



## Mini LED light handle

Adjustable illumination

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

### Technical data

Illumination	10 000 à 55 000 lux (Min-max)
Dimensions	Ø 25 mm x 170 mm
Weight with batteries	120 gr
Autonomie moyenne	Entre 2 et 7h suivant mode d'utilisation

### To order

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



## LED-RA portable light source

Rechargeable with light intensity adjustment

Our LED RA portable light source uses the LED technology and delivers a high intensity white light ideal for endoscopic applications in industrial or medical sectors. It offers a continuous light intensity adjustment for optimal comfort of use in any situation.

### Technical data

Illumination	15 000-180 000 lux (Min-max)
Dimensions	Ø 31mm x 150mm
Weight with batteries	148 gr
Battery	Rechargeable 3.7V, 220mAh Li-Ion
Average runtime	Entre 2 et 7h suivant mode d'utilisation

### To order

Part No	Description
605 000 570	LED RA light handle. Delivered with wall charger



# Workbench light solutions

## Endo-Lux LED table light source

LED lamp

Our **Endo-lux** LED is a compact and powerful (50 watts) table light source with LED technology. It comes with a continuous light adjustment and a standard RIWO output. It is compatible with video and photo applications and can be connected to our rigid endoscopes, fiberscopes or Micro videoscopes **MV-SCOPE**

### Technical data

LED output	50 Watts
Illumination	300.000 lux
Color temperature	6000 k
Connexion	RIWO
Power	110V-220V / 50 Hz-60Hz
Dimensions	150×200×120 mm
Weight	2 kgs
LED Lamp runtime	50 000 hours

Part No	Description
Endo-Lux	Table light source <b>bipol Endo-lux LED</b> - 50 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/ACM



## Mini table light source ARC35 LED

Adjustable lighting



### Compact mini table light source

Never change light bulb again. The mini table light source ARC35 LED delivers a high intensity white light using the latest LED technology which offers a lamp runtime of over 50.000 hours. These new lamps allow a precise control of illumination with an excellent color rendering to answer specific needs of rigid endoscopic inspections. Its 12V power and compact format allow it to be used in a portable version (with battery pack) to use in outdoor inspections.

### Technical data

Colour temperature	5700 K - 6500 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 ours

### To order

Part No	Description
604 000 204	<b>ARC 35 LED mini light source</b>
604 000 206	Portable battery kit ARC24 (Battery / Pouce / connecting cables)

### CCD BLOC camera BIPOL

BL-12V

Compact CCD Bloc camera with high resolution specially developed for use with endoscopes or Fiberscopes. Supplied with a 1/3" SONY EX VIEW, it allows inspection of areas with changing light. Very light (80 gr) and compact, it is the ideal small camera for workshop or R&D applications. The C-CS connection of the camera accepts a video coupler sold separately.

Our BL-12V camera gives excellent results with our line of rigid endoscopes ECOFIX PRO & Micro endoscope SV.

Power supply sold separately.

#### Technical data

CCD Sensor	1/3" SONY EX-VIEW CCD
Resolution	700 TVL
Minimal illumination	0.05 lux at F1.2
White balance	Automatic
Video signal	PAL / NTSC
Power	12 DVC
Thread	C-Mount
Dimensions	43 mm x 43 mm x 60 mm
Weight	80 gr
Working temperatures	-10°C to + 50°C

#### To order

Part No	Description
BL-12V	Endocamera BIPOL BL-12V - Cmount with power 220 Va
BL-12V-AL	Power supply for camera BL-12V & FV 35 HQ
BL-12V-CRP1	Connecting cable for video units P1 & Rugged

### Video couplers

F:35 & F:75 mm

Our Video Couplers connect your borescope to video cameras for live video inspection and documentation. They deliver a full field-of-view and are available in either 35mm or 75mm focal lengths.

Description	Focussing	Mounting	Part No
Coupleur F : 35 mm	Variable	C-Mount/ISO 32 mm	618 000 102
Coupleur F : 75 mm	Variable	C-Mount/ISO 32 mm	604 000 211





### CCD BIPOL Endocamera

FV 35 HQ

Compact video camera specially developed for use in video endoscopy. The HQ version is recommended for use with screen of 7" and more.

Includes an automatic electronic shutter for inspection of areas with changing light conditions. Very light (160 gr) and with shockproof body, they are particularly suited for workshop inspections. The fixed included F:35 video coupler is compatible with any ISO 32mm endoscope or fiberscope ocular.

The camera can be used and connected directly to our videoscopes Rugged and P1 or to an external video monitor.

It is the ideal visualisation tool for on site, R&D, workshop video inspections with endoscopes.

### Dust proof and shock resistant



### Technical data

CCD sensor	1/2" SONY
Resolution	800 TVL
White balance	Automatique
Video signal	PAL / NTSC
Power	12 DVC -unique cable
Connection	Integrated Video coupler
Dimensions	Ø 50 mm x 90 mm
Weight	160 gr
Working temperatures	0°C to + 40°C

### To order

Part No	Description
618 000 183	BIPOL endocamera FV35 HQ (with video coupler F:35) - AVDC
BL-12V-AL	Power supply for BL-12V & FV35 HQ
BL-12V-CRP1	Adapting cable for Videoscopes Rugged or P1



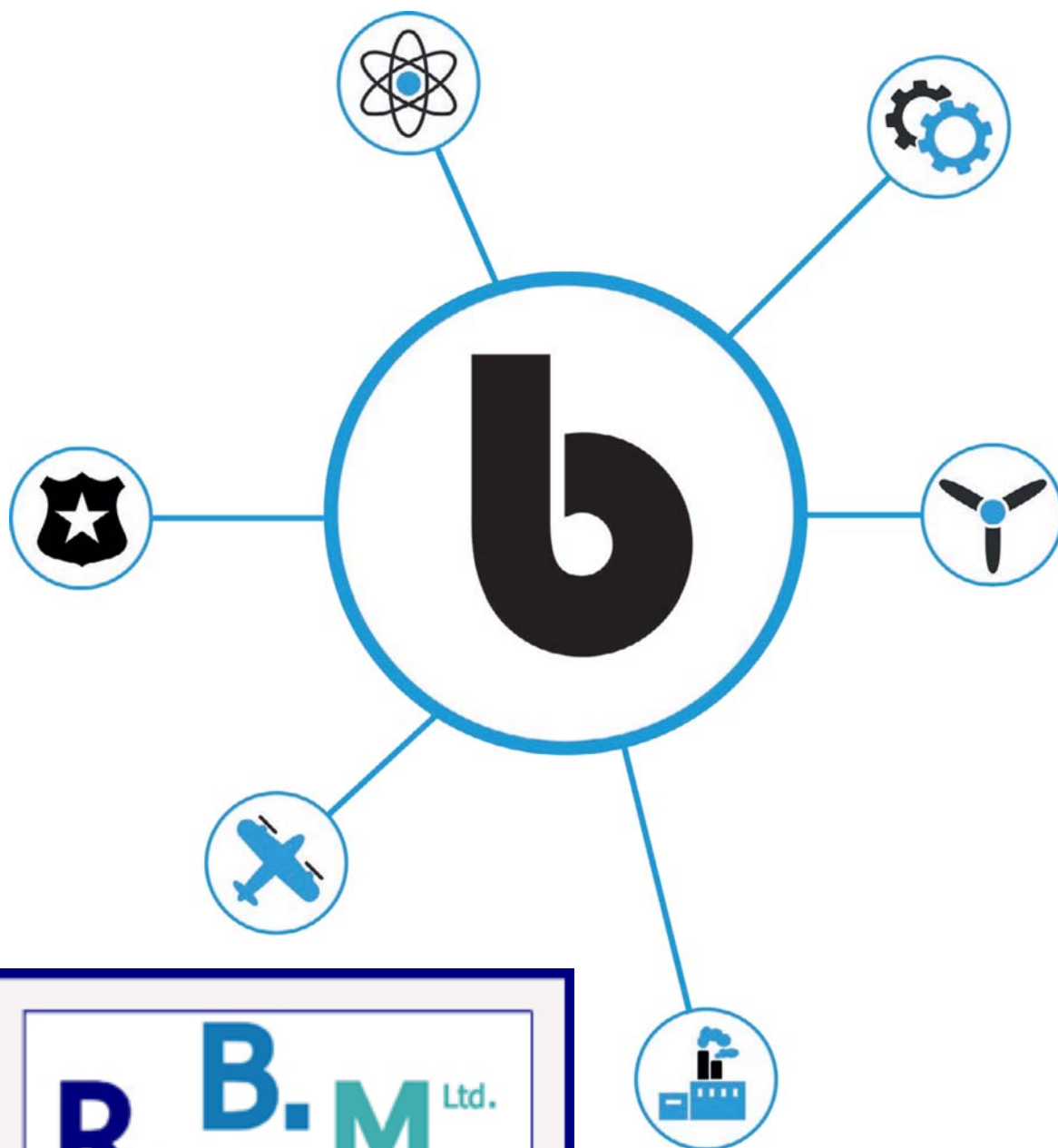
**bipol**® **P1**  
Rugged Videoscopes

7"

3.5"



**bipol** Videoscope  
**RUGGED**



**R. B. M. Ltd.**  
CONTROL & MECHANIZATION

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