

# STANDARD PRODUCTS



FLASHER 900 VIDEO LINE

Designer of endoscopic tools since 1980, EFER ENDOSCOPY has an established reputation in the NDT world. In addition to a STANDARD PRODUCTS line covering all endoscopy and videoendoscopy applications fields in industrial environments, EFER ENDOSCOPY has developed a line of DEDICATED PRODUCTS allowing endoscopic implementation, in remote access locations, of measurement, micro-blending, and non-destructive testing procedures.

## STANDARD PRODUCTS

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EASY videoscopes  
FLASHER videoscopes  
ARGUS video system  
PIKO video system  
JUMBO video system  
EXPLORATOR video system  
Video TURRETS  
OPTIC line  
ULTRA-VIOLET line

## DEDICATED PRODUCTS

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Endo FPI system  
Endo Blast system  
Endo Blend system  
Blade erosion  
Nuclear fuel  
Heat exchangers  
Flat probes  
Endo rescue



## FLASHER 900 VIDEOENDOSCOPE

**Portable expert probes with interchangeable distal tips, integrated image recording and joystick articulation control**

**FLASHER 900 videoendoscopic probes with 5 inch screen and interchangeable battery.**

- Diameter 4 mm, up to 3 m length
- Diameters 6 mm and 8 mm, up to 8 m length
- Interchangeable axial and lateral viewing tips
- Joystick controlled orbital articulation
- Distal temperature alarm
- Impregnated tungsten braiding
- LED lighting
  
- 5-inch VGA screen
- Real-time JPEG and MPEG4 audio-video recording
- SD card memory
- Thumbnail or full screen image review
- Real-time zoom, image freeze and automatic shutter
- SVGA streaming output
- Universal thread mount
- AC or battery powering
- Removable battery, chargeable in probe

Equipment complies to standards CE



ISO 13485:2003 ISO 9001:2008

## IMAGE PROCESSING FUNCTIONS

### DIRECT FUNCTIONS

- Fixed image or motion video recording
- Thumbnail or full screen image review, tip articulation, variable zoom, boost, image freeze

### MENU FUNCTIONS

- Title
- Video processor setting
- Date and time setting
- Mirror
- SD card formatting
- Light ON/OFF

### ON-SCREEN INDICATIONS

- Date and time
- Comment
- Zoom, image freeze, data record
- Distal temperature alarm

## SUPPLIED ACCESSORIES

- AC power supply ref. **AS900-01**
- Battery ref. **BW900-01**
- AC power charger ref. **CR-900-01**
- VGA cable length 2m with FLASHER 900 connector and VGA connector ref. **CAVG900-01**
- SD memory card
- Transport case ref. **VAFH-900-SH** for FLASHER 900 probes up to 3 m length. Dimensions : 83 x 27 x 11 cm
- Transport case ref. **VAFH-900-LO** for FLASHER 900 probes over 3 m length - Dimensions : 67 x 51 x 26 cm

## TECHNICAL FEATURES

### MODEL

Vocation Industrial endoscopy  
 Tip articulation Orbital articulation  
 Probe sheathing Impregnated tungsten  
 Screen VGA 5 inch  
 Sensor sizes Ø 4 mm 1/10 inch  
 Ø 6 mm 1/6 inch  
 Ø 8 mm 1/4 inch

### FLASHER 900

Autoshutter Automatic  
 Autoshutter reference point 15 positions  
 White balance Fixed and autolock  
 Image analysis surfaces Full/spot  
 Blue level adjustment 15 positions  
 Red level adjustment 15 positions  
 Lighting LED  
 Variable zoom 2 X  
 Recording formats JPEG images  
 MPEG4 sequences  
 Recording support SD card  
 Video output SVGA  
 Switch ON/OFF button  
 Powering AC and charger connector  
 Lithium-ion battery 7,8 Ah,  
 About 3 hours autonomy  
 Weight (handle) 1.670 kg  
 Weight (Ø4, Lgth 2m) 1.720 kg  
 Maximum operating temperature (in air) Working length 0° to +100°C  
 Other parts 0° to +40°C

## FLASHER 900 PROBES DIAMETER 4 MM

DIAMETER	REFERENCE	WORKING LENGTH	TIP ARTICULATION
4.0 mm	HSD-40-A2-200-S9	2 m	150°
	HSD-40-A2-300-S9	3 m	

## FLASHER 900 PROBES DIAMETER 6 MM

DIAMETER	REFERENCE	WORKING LENGTH	TIP ARTICULATION
6.0 mm	HSD-60-A2-200-ST9	2 m	150°
	HSD-60-A2-300-ST9	3 m	
	HSD-60-A2-600-ST9	6 m	120°
	HSD-60-A2-800-ST9	8 m	90°

## FLASHER 900 PROBES DIAMETER 8 MM

DIAMETER	REFERENCE	WORKING LENGTH	TIP ARTICULATION
8.4 mm	HSD-80-A2-200-ST9	2 m	150°
	HSD-80-A2-300-ST9	3 m	
	HSD-80-A2-600-ST9	6 m	120°
	HSD-80-A2-800-ST9	8 m	90°

## INTERCHANGEABLE TIPS FOR FLASHER 900 PROBES DIAMETER 4 MM

PROBE Ø	TYPE	VIEWING	FOV	REFERENCE	FOCUSING	NUMBER
4,00 mm	Standard	Axial	80°	TH40-A80 (1)	6 mm to 80 mm	AB41
			120°	TH40-A120	4 mm to 60 mm	AB42
		Lateral	80°	TH40-L80	4 mm to 80 mm	LB41
			100°	TH40-L120	3 mm to 30 mm	LB42



(1) Tip supplied with each probe diameter 4 mm

## INTERCHANGEABLE TIPS FOR FLASHER 900 PROBES DIAMETER 6 MM

PROBE Ø	TYPE	VIEWING	FOV	REFERENCE	FOCUSING	NUMBER
6.0 mm	Standard	Axial	50°	TV60B-A50-Y41	100 mm to infinite	A61
				TV60B-A50-V82	50 mm to infinite	A62
				TV60B-A50-K164	12 mm to 200 mm	A63
			80°	TV60B-A80-N82 (2)	20 mm to infinite	A64
				TV60B-A80-E164	3 mm to 20 mm	A65
			100°	TV60B-A100-F106	5 mm to 120 mm	A66
			120°	TV60B-A120-F70	4 mm to 190 mm	A67
		Lateral	50°	TV60B-L50-V82	45 mm to infinite	L61
				TV60B-L50-K164	9 mm to 200 mm	L62
			80°	TV60B-L80-D164	1 mm to 20 mm	L63
				TV60B-L80-N82	20 mm to infinite	L64
			100°	TV60B-L100-F106	4 mm to 120 mm	L65



(2) Tip supplied with each probe diameter 6 mm

## INTERCHANGEABLE TIPS FOR FLASHER 900 PROBES DIAMETER 8 MM

PROBE Ø	TYPE	VIEWING	FOV	REFERENCE	FOCUSING	NUMBER
8.4 mm	Standard	Axial	20°	TV80-A20-M54	50 cm to infinite	A81
			50°	TV80-A50-Y61	100 mm to infinite	A82
				TV80-A50-V98	50 mm to infinite	A83
			80°	TV80-A80-P93 (3)	25 mm to infinite	A84
			120°	TV80-A120-H66	5 mm to 200 mm	A85
		Lateral	50°	TV80-L50-Y61	100 mm to infinite	L81
			80°	TV80-L80-P93	25 mm to infinite	L82
			120°	TV80-L120-H66	4 mm to 200 mm	L83



(3) Tip supplied with each probe diameter 8 mm

## ACCESSORIES

### RIGID GUIDE TUBES



PROBE Ø	TUBE Ø	W. LGTH	TOTAL LGTH	REFERENCE
4 mm	5.0 mm	30 cm	40 cm	TGR-040-050-030
		40 cm	50 cm	TGR-040-050-040
6 mm	8.0 mm	40 cm	50 cm	TGR-060-080-040
		100 cm	110 cm	TGR-060-080-100
8 mm	10.0 mm	40 cm	50 cm	TGR-080-100-040
		100 cm	110 cm	TGR-080-100-100

### CENTERING DEVICES



CENTERING DEVICE	Ø 6 MM PROBE	Ø 8 MM PROBE
Ø 15 mm	CTV-60-150	CTV-80-150
Ø 38 mm	CTV-60-380	CTV-80-380
Ø 76 mm	CTV-60-760	CTV-80-760

### FLEXIBLE ARTICULATING GUIDE TUBE



PROBE Ø	TUBE Ø	W. LGTH	TOTAL LGTH	REFERENCE
6 mm	12.70 mm	129 cm	154 cm	TGE-127-D2-129

### RIGID ARTICULATING GUIDE TUBE



PROBE Ø	TUBE Ø	W. LGTH	TOTAL LGTH	REFERENCE
6 mm	13.0 mm	37 cm	60 cm	TGR-130-D1-037

## MOUNTING ACCESSORIES



- Universal hinged arm with super clamp (from diameter 13 mm to 55 mm) and universal thread mount for video probe REF. BA143PS



- Swivel head with super clamp (from diameter 13 mm to 55 mm) and quick-lock attachment for video probe REF. VIDEO-HED

Concepteur d'outils endoscopiques depuis 1980, EFER ENDOSCOPY jouit d'une réputation reconnue dans le monde du contrôle non destructif. Outre une gamme de PRODUITS STANDARD couvrant tous les champs d'application de l'endoscopie et de la vidéoendoscopie en milieu industriel, EFER ENDOSCOPY a en effet développé une gamme de PRODUITS DEDIES permettant de contrôler, par voie endoscopique, la mise en oeuvre, dans des zones difficiles d'accès, de méthodes de mesure, de micro-usinage et de contrôle non destructif.

## PRODUITS STANDARD

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- Vidéoscopes EASY
- Vidéoscopes FLASHER
- Système vidéo ARGUS
- Système vidéo PIKO
- Système vidéo JUMBO
- Système vidéo EXPLORATOR
- TOURELLES vidéo
- Gamme OPTIC
- Gamme ULTRA-VIOLET

## PRODUITS DEDIES

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- Ressuage endoscopique
- Nettoyage endoscopique
- Blending endoscopique
- Erosion d'aubes
- Combustible nucléaire
- Echangeurs de température
- Sabres vidéo
- Recherche de victimes



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GPS : LAT 43° 12'5". LONG 5° 35'33"