# iT Concepts

iCapture DVR

# REMOTE VISUAL INSPECTION

Videoscope Systems

Customers Solution

Videoscopes from 3mm Ø

Flexible Endoscopes from 0.5 mm Ø
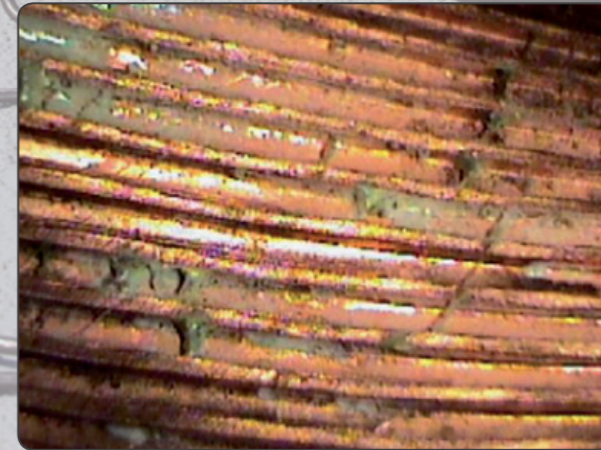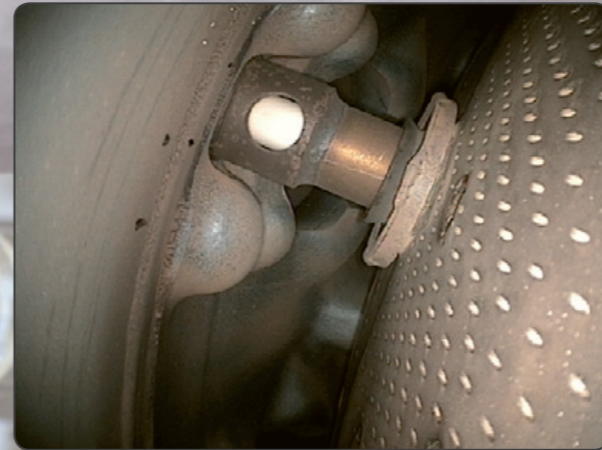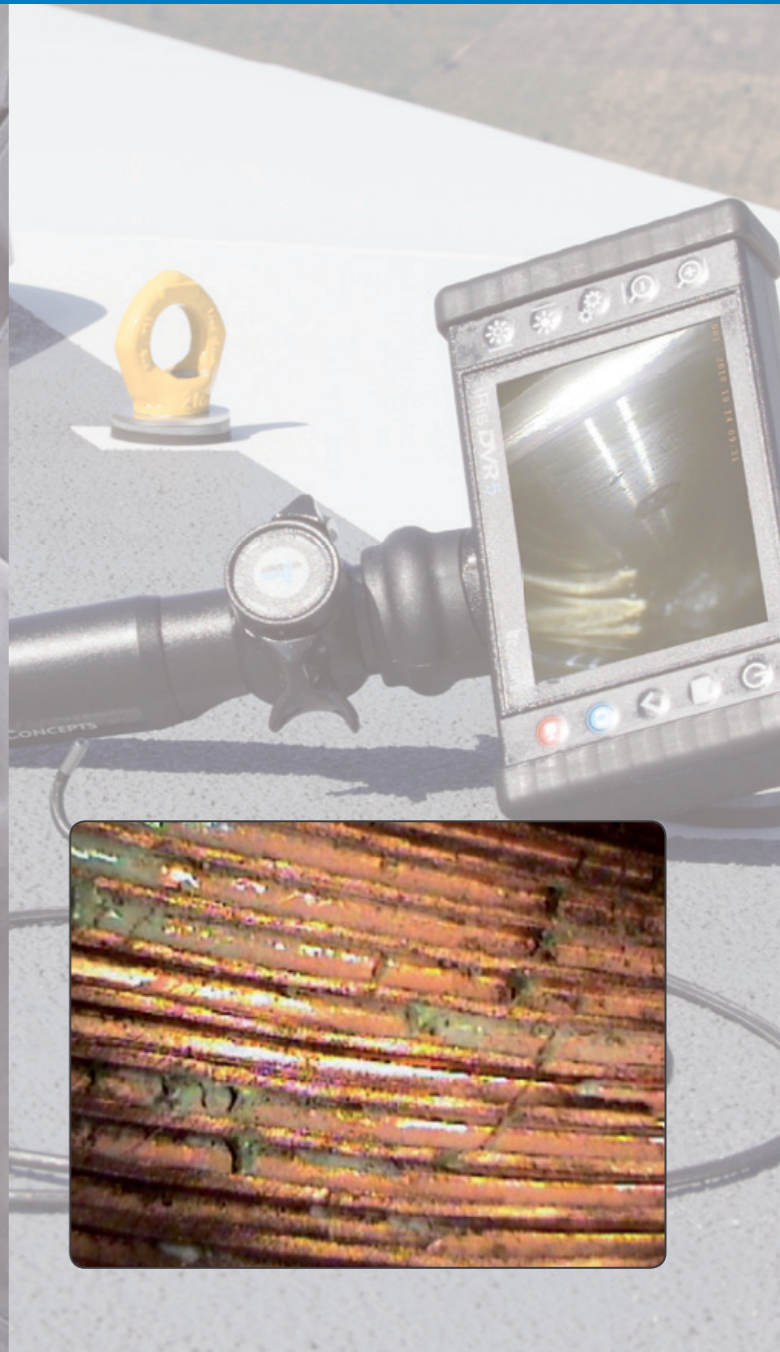
Rigid Endoscopes from 1.9 mm Ø

Application Consulting

Special Service Packages

Manufacturing and Service in Germany

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# Endoscopes
## to build your REMOTE VISUAL INSPECTION

# iRis DVR 5
## Portable Videoscope System

Bright and high-contrast display

Excellent image quality

Rotatable Monitor

Ergonomic handle

Precise articulation control

High Power LED light source

Temperature resistant up to 140°C

## Tactile feedback

Thanks to the non-motorized infinite joystick control, users can navigate the probe responsively with tactile feel and precise tip positioning.

**Focusable and interchangable objectives lens and side view tip adapters**

| Probe | DOV | FOV | DOF | CODE |
|---|---|---|---|---|
| 4.0mm | 0° | 60° | 7-50mm | |
| 4.0mm | 0° | 60° | 4-10mm | SD |
| 4.0mm | 0° | 90° | 15mm-∞ | |
| 4.0mm | 0° | 90° | 10-30mm | SD |
| 4.0mm** | 90° | 60° | 5-45mm | SVTA |
| 6.0mm | 0° | 60° | 5mm-∞ | BLACK |
| 6.0mm | 0° | 60° | 8mm-∞ | YELLOW-B |
| 6.0mm | 0° | 90° | 5mm-∞ | RED |
| 6.0mm | 0° | 120° | 3mm-∞ | GREEN |
| 6.0mm** | 90° | 60° | 5-15mm | SVTA-CF |
| 6.0mm** | 90° | 60° | 15-50mm | SVTA-FF |
| 8.0mm | 0° | 28° | 25mm-∞ | BLUE |
| 8.0mm | 0° | 60° | 5mm-∞ | BLACK |
| 8.0mm | 0° | 60° | 8mm-∞ | YELLOW-B |
| 8.0mm | 0° | 90° | 8mm-∞ | SILVER-B |
| 8.0mm | 0° | 90° | 5mm-∞ | RED |
| 8.0mm** | 90° | 60° | 5mm-∞ | SVTA |

**SMART-FOCUS**
Close focus and far focus
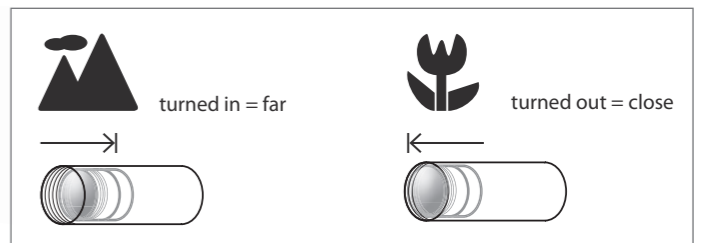
turned in = far     turned out = close

DOV = Direction of view   CF = Close focus   FOV = Field of view   FF = Far focus   DOF = Depth of focus   B = Bright objective lens   SVTA = Side view tip adapter (90°DOV) **Compatible to FOV60°

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**Operating unit**

| | |
|---|---|
| Display size: | 5.0" (12.7cm) TFT colour |
| Display resolution: | VGA (640 x 480 pixel) |
| Operating system: | Real-time operating system with on-screen menu |
| | Direct action keys / function keys / arrow keys |
| Languages: | English, German, Polish, French, Spanish, Italian, Turkish |
| Video interface: | Composite video-out (BNC) |
| Power supply, primary: | Rechargeable Li-ion battery |
| Power supply, secondary: | 12V adapter (optional accesorys) |

**Documentation**

| | |
|---|---|
| Video format: | MPEG4 (.avi) (with time and date stamp) |
| Image format: | BMP (.bmp) (with time and date stamp) |
| Storage: | SDHC Memory card up to 32GB (FAT32) |

**Image analysis**

| | |
|---|---|
| Method: | Comparative Measurement |

**Camera**

| | |
|---|---|
| Image sensor: | High resolution Super HAD CCD image sensor |
| Camera control: | White balance, AGC level, Gamma, Shutter, Gain Control, Time exposure |

**Image control**

| | |
|---|---|
| Functions: | - 16 step digital zoom |
| | - Horizontal and vertical image inversion |
| | - Brightness |
| | - Contrast |
| | - Colour |
| Text annotation: | Buil-in text overlay generator |

**Probe**

| | | | |
|---|---|---|---|
| Diameter: | 4.0 mm | 6.0 mm | 8.0 mm |
| Working lenght: | 1.5 - 4.0 m | 1.5 - 7.5 m | 1.5 - 7.5 m |
| Articulation: | 4-way / 360° | 4-way / 360° | 4-way / 360° |
| Integrated objectiv lens: | X | - | - |
| Interchangeable objectiv: | - | X | X |
| Side view tip adapter: | X (60° FOV) | X | X |
| Braid: | Multi-layer tungsten braid on PU jacket | | |

**Illumination**

| | |
|---|---|
| Type: | High-power LED with high transmission fiberoptics |
| Illumination control: | 3 steps |
| Colour temperature: | approx. 6500 k. |
| Average lamp lifetime: | approx. 5000 h |

**Device**

| | |
|---|---|
| Ergonomics: | ± 90° rotatable display, alt. ±90° rotatable handle |
| Weight: | 1.35Kg |
| Dimensions: | 180 mm X 105 mm X 45 mm |
| Housing: | Rugged PU, with integrated rubber shock caps |
| Tip operating temperature: | 140°C less than 5 Minutes -25°C to +80°C |
| System operating temperature: | -25°C to +46°C |
| Storage temperature: | -25°C to +60°C |
| Relative humidity: | 95% less than - non condensing |
| Waterproof: | Probe and distal End up to 1 bar- 10.2m H2O |
| Resistance: | Probe and distal End to oils and saline (5%) |

# iRis DVR X
## Portable Videoscope System

## + Extrem economical

**Large Display**
**LED-Beleuchtung**
**Fast and easy to use**
**Up to 6 hours operation**

**Portable**
**90° Side View Tip Adapter**
**Economical Repair Service**

### Tactile feedback

Thanks to the non-motorized infinite joystick control, users can navigate the probe responsively with tactile feel and precise tip positioning.

| **Documentation unit** | | | |
|---|---|---|---|
| Display size: | 5.0" (12.7cm) TFT colour | | |
| Display resolution: | VGA (640 x 480 pixel) | | |
| Operating system: | Realtime operating system, with on-screen menu Direct action keys / function keys / arrow keys | | |
| Language: | English, German, Polish, French, Spanish, Italian, Turkish | | |
| Video interface: | Composite video-out (BNC) | | |
| Power supply, primary: | Rechargeable Li-ion Akku | | |
| Power supply, secondary: | 12 V Adapter (optional accessory) | | |
| **Storage** | | | |
| Video format: | MPEG4 (.avi) (with time and date stamp) | | |
| Image format: | BMP (.bmp) (with time and date stamp) | | |
| Storage: | SDHC Memory card up to 32GB (FAT32) | | |

| **Image analysis** | | |
|---|---|---|
| Method: | Comparative Measurement | |
| **Camera** | | |
| Image sensor: | AIT CMOS Image sensor | |
| Camera control: | White balance, AGC level, Gamma, Shutter, Gain Control, Langzeitbellluminationung | |
| **Image control** | | |
| Functions: | - 16 steps digital zoom | |
| | - Horizontal and vertical image inversion | |
| | - Brightness | |
| | - Contrast | |
| | - Colour | |
| Text annotation: | Built-in text overlay generator | |

| **Probe** | | |
|---|---|---|
| Diameter: | 4.0mm | 6.0mm |
| Working lenght: | 1.5 - 4.0m | 1.5 - 7.5m |
| Articulation: | 4-way / 360° | 4-way / 360° |
| Integrated objectiv: | 90° FOV | 90°FOV |
| Side view tip adapter: | – | X |
| Braid: | Multi-layer tungsten braid on PU jacket | |
| **Illumination** | | |
| Type: | High power LED (4mm with high transmission fibreoptics / 6mm - LED on the tip) | |
| Illumination control: | 3 steps | |
| Colour temperature: | approx. 6500k | |
| Average lamp lifetime: | approx. 5000h | |

| **Construction** | |
|---|---|
| Ergonomics: | ± 90° rotatable display, alt. ±90° rotatable handle |
| Weight: | 1,35Kg |
| Dimensions: | 180mm x 105mm x 45mm |
| Housing: | Rugged PU, with integrated rubber shock caps |
| Tip operating temperature: | -13°F to 176°F (-25°C to +80°C) |
| System operating temperature: | -13°F to 115°F (-25°C to +46°C) |
| Storage temperature: | -13°F to 140°F (-25°C to +60°C) |
| Relative humidity: | 95% less than - non condensing |
| Waterproof: | Probe and distal End up to 1 bar- 10.2m H2O |
| Resistance: | Probe and distal End to oils and saline (5%) |

# iTool DVR  `Scalable`
## Modular Videoscope System

Modular documentation unit

Extrem flexible in use

High resolution monitor

Station or portable

Interchangeable probes and cameras

iSeries

**INTERCHANGEABLE PROBES**

iTool DVR

**INTERCHANGEABLE OBJECTIVES**

**Model**

| | |
|---|---|
| Connectable to: | iSeries Videoproben |
| | iWC Working Channel |
| | UV Proben |
| | Cube Cam (Faser- and Starres Endoskop) |
| | X-LED Videoproben |

**Device**

| | |
|---|---|
| Display size: | 7" TFT Colour |
| Display resolution: | VGA (640x480 Pixel) |
| Operating system: | Realtime operating system, with on-screen menu |
| | Direct action keys / function keys / arrow keys |
| Language: | English, German, Polish, French, Spanish, Italian, Turkish |
| Video interface: | Composite Video-out, Composite Video-in, S-Video-in |
| Audio interface: | 3.5mm Audio-in / Audio-out |

| | |
|---|---|
| Power supply, primary: | 12V via AC-Adapter |
| Power supply, secondary: | 12V via Batterie Belt |

**Image analysis**

| | |
|---|---|
| Method | Comparative Measurement |

**Storage**

| | |
|---|---|
| Video format: | MPEG4 (.avi) (with time and date stamp) |
| Image format: | BMP (.bmp) (with time and date stamp) |
| Storage: | SD-HC-Memory card up to 32GB (FAT32) |

**Camera settings**

| | |
|---|---|
| Functions: | White balance, AGC level, Gamma, Shutter, Gain Control |

**Image control**

| | |
|---|---|
| Functions: | - 16 steps digital zoom |
| | - Horizontal and vertical image inversion |
| | - Brightness |
| | - Contrast |
| | - Colour |
| Text annotation: | Built-in text overlay generator |

**Illumination**

| | |
|---|---|
| Type: | 24Watt Metal Halide |
| Illumination control: | stepless/manual |
| Colour temperature: | approx. 6000k |
| Average lamp lifetime: | approx. 500h |

**Device**

| | |
|---|---|
| Weight: | 2,25kg Device / 9,2kg incl. Probe and Case |
| Dimensions: | 290mm x 190mm x 70mm |
| Housing: | Rugged PU |
| Frame: | Alluminium |
| Tip operating temperature: | 14°F to 176°F (-10°C to +80°C) |
| System operating temperature: | - 13°F to 113°F (-25°C to +45°C) |
| Storage temperature: | - 13°F to 113°F (-25°C to +45°C) |
| Relative humidity: | 95% less than - non condensing |

Interchangeable Probes ⟶

# iTool DVR IWC WORKING CHANNEL  `Scalable`
## Modular Videoscope System

# iTool DVR UV Illumination  `Scalable`
## Modular Videoscope System



alternative iCapture DVR

Working Channel

**Interchangable Tools**

iTool DVR

**UV Lightsource + UV Endoscope**

| Snare Basket | Three Prong Grabber | Hook | Magnet | 90° Side View Tip Adapter |

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**Video interface**

Connectable to:   • iTool DVR   • iCapture DVR   • USB Frame Grabber   • Composite Video

**Wechsel-Proben**

| | | | |
|---|---|---|---|
| Diameter: | 4.0mm | 6.0mm | 8.0mm |
| Working lenght: | 1.5m - 4.0m | 1.5m - 15m | 1.5m - 15m |
| Articulation: | 4-way / 360° | 4-way / 360° | 4-way / 360° |
| Integrated objectiv: | x | - | - |
| Interchangeable Objectives: | - | x | x |
| Working channel (iWC) | - | - | x |
| UV version | - | x | x |
| Side view tip adapter: | o (**60° FOV) | x | x |
| Braid: | Multi-layer tungsten on PU jacket | | |
| Tip operating temperature: | - 13°F to 176°F (-25°C to +80°C) 140°C less than 5 Minutes | | |
| System operating temperature: | - 13°F to 115°F (-25°C to +46°C) | | |
| Storage temperature: | - 13°F to 140°F (-25°C to +60°C) | | |
| Relative humidity: | 95% less than - non condensing | | |
| Waterproof: | Probe and distal End up to 1 bar- 10.2m H2O | | |
| Resistance: | Probe and distal End to oils and saline (5%) | | |

**Interchangable Objectives and Side View Tip Adapter SVTA**

| Probe | DOV | FOV | DOF | CODE |
|---|---|---|---|---|
| 4.0mm | 0° | 60° | 7-50mm | |
| 4.0mm | 0° | 60° | 4-10mm | SD |
| 4.0mm | 0° | 90° | 15mm-∞ | |
| 4.0mm | 0° | 90° | 10-30mm | SD |
| 4.0mm** | 90° | 60° | 5-45mm | SVTA |
| 6.0mm | 0° | 60° | 5mm-∞ | BLACK |
| 6.0mm | 0° | 60° | 8mm-∞ | YELLOW-B |
| 6.0mm | 0° | 90° | 5mm-∞ | RED |
| 6.0mm | 0° | 120° | 3mm-∞ | GREEN |
| 6.0mm** | 90° | 60° | 5-15mm | SVTA-CF |
| 6.0mm** | 90° | 60° | 15-50mm | SVTA-FF |

| Probe | DOV | FOV | DOF | CODE |
|---|---|---|---|---|
| 8.0mm | 0° | 28° | 25mm-∞ | BLUE |
| 8.0mm | 0° | 60° | 5mm-∞ | BLACK |
| 8.0mm | 0° | 60° | 8mm-∞ | YELLOW-B |
| 8.0mm | 0° | 90° | 8mm-∞ | SILVER-B |
| 8.0mm | 0° | 90° | 5mm-∞ | RED |
| 8.0mm** | 90° | 60° | 5mm-∞ | SVTA |

DOV = Direction of view        CF = Close focus
FOV = Field of view            FF = Far focus
DOF = Depth of focus           B = Bright objective lens
SVTA = Side view tip adapter (90°DOV)
**Compatible to FOV60°

# iLED  `Scalable`
## Modular Videoscope System

iCapture DVR

Monitor / TV
alternative

iLED

- Documentation unit
- 24/7 Operation
- Interchangeable with all Borescopes
- High-resolution 5" LCD screen
- Image capture, video recording to SD Card
- AC or rechargeable battery DC Operation
- Interchangeable Videoscopes

- Operable by left/right handed users
- Excellent image quality
- Interchangeable lenses
- Integrated LED
- Ergonomic handle
- Precise and tactile articulation control
- Temperature resistant up to 140°C

- Variable video interface
- Compact and versatile
- Water & dust resistant
- Easy to carry, easy to setup, light in weight
- Compact case IATA standard

### Objective

| PROBE | DOV | FOV | DOF | CODE |
|---|---|---|---|---|
| 4.0mm | 0° | 60° | 7-50mm | |
| 4.0mm | 0° | 90° | 15mm-∞ | |
| 4.0mm** | 90° | 60° | 5-45mm | SVTA |

### Interchangeable Objective

| PROBE | DOV | FOV | DOF | CODE |
|---|---|---|---|---|
| 6.0mm | 0° | 60° | 5mm-∞ | BLACK |
| 6.0mm | 0° | 60° | 8mm-∞ | YELLOW-B |
| 6.0mm | 0° | 90° | 5mm-∞ | RED |
| 6.0mm | 0° | 120° | 3mm-∞ | GREEN |
| 6.0mm** | 90° | 60° | 5-15mm | SVTA-CF |
| 6.0mm** | 90° | 60° | 15-50mm | SVTA-FF |

| PROBE | DOV | FOV | DOF | CODE |
|---|---|---|---|---|
| 8.0mm | 0° | 28° | 25mm-∞ | BLUE |
| 8.0mm | 0° | 60° | 5mm-∞ | BLACK |
| 8.0mm | 0° | 60° | 8mm-∞ | YELLOW-B |
| 8.0mm | 0° | 90° | 8mm-∞ | SILVER-B |
| 8.0mm | 0° | 90° | 5mm-∞ | RED |
| 8.0mm** | 90° | 60° | 5mm-∞ | SVTA |

## Operating unit
| | |
|---|---|
| Display: | 5.0" (12.7cm) TFT colour/nonreflecting |
| Operating system: | Real-time operating system, with on-screen menu |
| User interface: | Direct action keys / function keys / arrow keys |
| Languages: | English, German, Polish, French, Spanish, Italian, Turkish |
| Video interface: | Composite video-out (BNC) |
| Power supply, primary: | Rechargeable Li-ion battery Operating time more than 2 h |
| Power supply, secondary: | 12V adapter (optional accessory) |

## Documentation
| | |
|---|---|
| Saving/recording: | Video recording Direct image capturing / Freeze modus |
| Video format: | MPEG4 (.avi) (with time and date stamp) |
| Image format: | BMP (.bmp) (with time and date stamp) Could be converted to JPG at PC |
| Storage: | SDHC memory card up to 32GB (FAT32) 8GB /SDHC in device when delivered |

## Measurement
| | |
|---|---|
| Method | Comparative Measurement |

## Camera control
| | |
|---|---|
| Inegration modes: | automatic frame integration standard / manuell / short / long |
| White balance: | Factory default or user defined |
| AGC level (gain control): | Adjustable |
| Gamma: | Adjustable |

## Image control
| | |
|---|---|
| Zoom: | 3.5X / 16 step variable |
| Invert: | Horizontal and vertical image inversion |
| Brightness: | Adjustable |
| Contrast: | Adjustable |
| Colour: | Adjustable |
| Text annotation: | Built-in text overlay generator |

## Construction
| | |
|---|---|
| Ergonomics: | rotatable display unit |
| System weight: | 1,12kg |
| Dimensions: | 205mm X 180mm X 70mm |
| Housing: | Rugged PU, with integrated rubber shock caps |

## Operating environment
| | |
|---|---|
| System operating temp.: | -13°F to 115°F (-25°C to +50°C) |
| Storage temperature: | -13°F to 140°F (-25°C to +60°C) |
| Protection Class: | IP 53 |
| Relative humidity: | 95% max. - non condensing |

## Probe
| | | | |
|---|---|---|---|
| Sensor image: | High Resolution 1/6" Image Sensor | | |
| Resolution: | total 752 x 582 px / 440.000 pxls | | |
| Diameter: | 4.0 mm | 6.0 mm | 8.0 mm |
| Working length: | 4.9 - 13.1ft | 4.9 -13.1ft | 4.9 - 13.1ft |
| | (1.5 - 4.0 m) | (1.5 - 7.5 m) | (1.5 - 7.5 m) |
| Articulation (bending neck): | 4-way / 360° | 4-way / 360° | 4-way / 360° |
| Integrated objective lens: | X | - | - |
| Interchangeable objective lens: | - | X | X |
| Side view tip adapter: | X (with 60° FOV lens) | X | X |
| Braid: | Multi-layer tungsten braid on PU jacket | | |
| Interchangeable Objective Lens: | X | | |
| Side View Tip Adapter: | X | | |
| Braid: | Multi-layered tungsten braid | | |
| Protection Class: | IP 53 | | |

## Illumination
| | |
|---|---|
| Tip: | High Power LED |
| Average lamp lifetime: | approx. 15.000 h |

## Operating environment
| | |
|---|---|
| Tip operating temperature: | -13°F to 176°F (-25°C to +80°C) (284°F/140°C less than 5 Minutes) |
| Storage temperature: | -13°F to 140°F (-25°C to +60°C) |
| Relative humidity: | 95% max. - non condensing |
| Protection Class: | IP 55 |
| Waterproof: | Probe and distal end up to 14.7 psi (1 bar- 10.2m H2O) Hydrostatic head of 5 meters |
| Resistance: | Probe and distal end to oils, saline (5%) and petroleum fluids |

# XLED  `Scalable`
## Modular Videoscope System

iCapture DVR

Monitor / TV
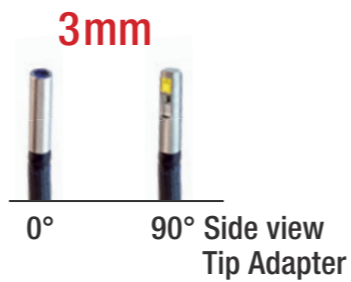
alternative

## ✚ Smal diameter - 3.0 and 4.0mm

Perfect price performance ratio

Clear images by high resolution sensor

LED lighting for low power consumptions

Direction of view 0° direct and 90° Side view

Faster and more economical repair and service

**3mm**

0°          90° Side view
                 Tip Adapter

XLED

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**Documentation unit**

| | |
|---|---|
| Display size: | 5.0" (12.7cm) TFT Colour |
| Display resolution: | VGA (640 x 480 pixel) |
| Operating system: | Realtime operating system, with on-screen menu |
| | Direct action keys / function keys / arrow keys |
| Language: | English, German, Polish, French, Spanish, Italian, Turkish |
| Video interface: | Composite video-out (BNC) |
| Power supply, primary: | Rechargeable Li-ion Akku |
| Power supply, secondary: | 12 V Adapter (optional accessory) |

**Storage**

| | |
|---|---|
| Video format: | MPEG4 (.avi) (with time and date stamp) |
| Image format: | BMP (.bmp) (with time and date stamp) |
| Storage: | SDHC Memory card up to 32GB (FAT32) |

**Image analysis**

| | |
|---|---|
| Method: | Comparative Measurement |

**Camera settings**

| | |
|---|---|
| Functions: | White balance, AGC level, Gamma, Shutter, Gain Control, Time exposure |

**Image control**

| | |
|---|---|
| Functions: | - 16 steps digital zoom |
| | - Horizontal and vertical image inversion |
| | - Brightness, contrast, colour |
| Text annotation: | Built-in text overlay generator |

**Device**

| | |
|---|---|
| Ergonomics: | rotatable display |
| Weight: | 1.12kg |
| Dimensions: | 205mm x 180mm x 70mm |
| Housing: | Rugged PU, with integrated rubber shock caps |
| System operating temperature: | -13°F to 115°F (-25°C to +46°C) |
| Storage temperature: | -13°F to 140°F (-25°C to +60°C) |
| Relative humidity: | 95% less than - non condensing |

**X-LED Video interface**

| | |
|---|---|
| Connectable to: | iTool DVR ,  iCapture DVR, USB Frame Grabber, Composite Video |

**Camera**

| | |
|---|---|
| Image sensor: | AIT CMOS Image sensor |
| Camera control: | Automatically |

**Probe**

| | |
|---|---|
| Braid: | Multi-layer tungsten on PU jacket |
| Tip operating temperature: | -13°F to 176°F (-25°C to +80°C) |
| System operating temperature: | -13°F to 150°F (-25°C to +46°C) |
| Storage temperature: | -13°F to 140°F (-25°C to +60°C) |
| Relative humidity: | 95% less than - non condensing |
| Waterproof: | Probe and distal end up to 1 bar- 10.2m H2O |
| Resistance: | Probe and distal end to oils and saline (5%) |

**Probe**

| | | |
|---|---|---|
| Diameter: | 3.0 and 4.0mm | 3.0 and 4.0mm |
| Working lenght: | 1.5m | 1.5m |
| Articulation: | 2 way | 2 way |
| Articulation L/R: | 130°/130° | 130°/130° |
| Integrated objectiv: | 90° FOV | 90° FOV |
| Weight: | 90° version | 0° version |
| | 280g | 500g |
| Dimensions: | 220 x 40 x 60mm | 290 x 50 x 50mm |

**Illumination**

| | | |
|---|---|---|
| Type: | DOV 90° side view | DOV 0° |
| | LED on the tip | LED with fiberoptic |
| Control | ON/OFF | ON/OFF |
| Colour temperature: | approx. 6500k | approx. 6500k |
| Average lamp lifetime: | approx. 500h | approx. 5000h |

# iFLEX
## Flexible Fiberscope

High resolution

Robust in use

Optical image guide made from highly flexible fibre glass

Focusable eyepiece

Direct view / side view lens

Variable working lenghts

Many different probe diameters

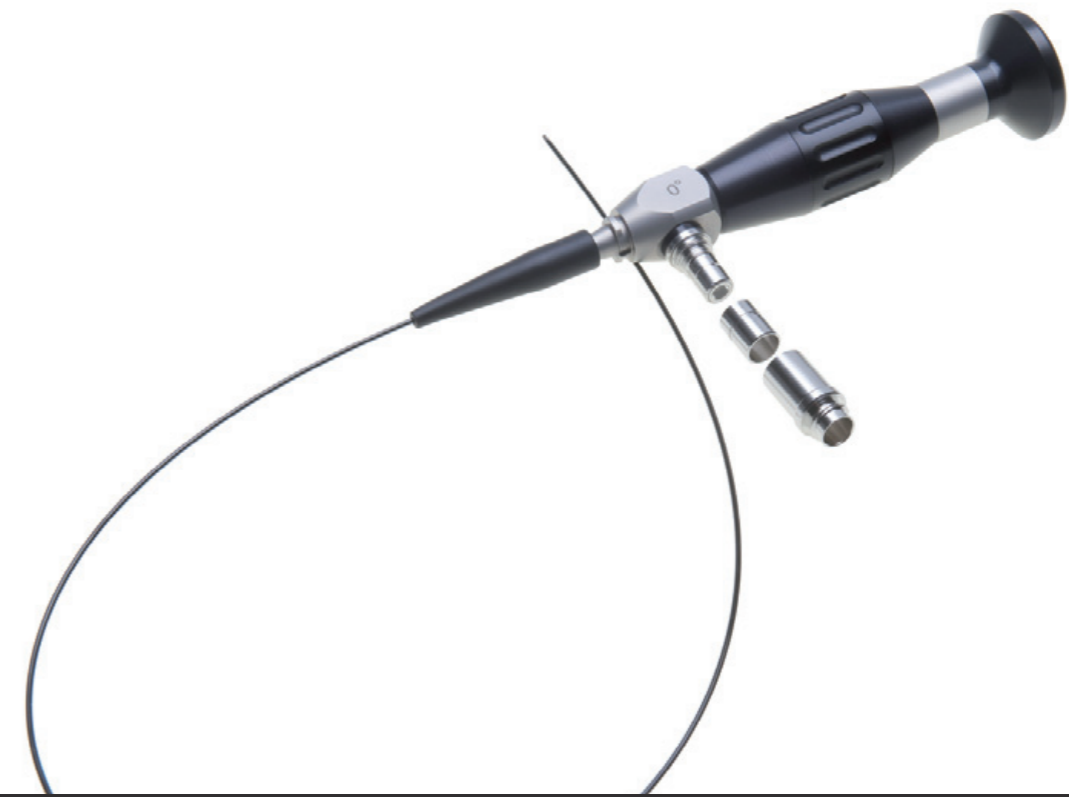Angular deflection of the probe tip

Diameter 2.4mm - 8.0mm



# microFLEX
## Flexible Fibrescope

Elegant, high resolution, flexible

Variable working lenghts

Many different probe diameters

Special designs possible on request

Optical image guide made from highly flexible fibre glass

Diameter 0.5mm - 1.8mm



**Probe Ø 2.4mm**

| Lenght | Articulation | DoV | FoV | Pixel |
|---|---|---|---|---|
| 0.4m | 2 way ±120° L/R | 0° | 45° | 6000 |
| 0.7m | 2 way ±120° L/R | 0° | 45° | 6000 |
| 1.4m | 2 way ±120° L/R | 0° | 45° | 6000 |
| 1.3m | 2 way ±120° L/R | 0° | 45° | 6000 |

**Probe Ø 3.5mm**

| Lenght | Articulation | DoV | FoV | Pixel |
|---|---|---|---|---|
| 0.7m | 2 way ±120° L/R | 0° | 50° | 8000 |
| 1.0m | 2 way ±120° L/R | 0° | 50° | 8000 |
| 1.3m | 2 way ±120° L/R | 0° | 50° | 8000 |
| 1.5m | 2 way ±120° L/R | 0° | 50° | 8000 |

**Probe Ø 4.0mm**

| Lenght | Articulation | DoV | FoV | Pixel |
|---|---|---|---|---|
| 1.0m | 2 way ±120° L/R | 0°/90° | 50° | 11500 |
| 1.3m | 2 way ±120° L/R | 0°/90° | 50° | 11500 |
| 1.5m | 2 way ±120° L/R | 0°/90° | 50° | 11500 |
| 2.0m | 2 way ±120° L/R | 0°/90° | 50° | 11500 |

**Probe Ø 6.0mm**

| Lenght | Articulation | DoV | FoV | Pixel |
|---|---|---|---|---|
| 1.0m | 2 way ±120° L/R | 0°/90° | 60° | 12000 |
| 1.5m | 2 way ±120° L/R | 0°/90° | 60° | 12000 |
| 2.0m | 2 way ±120° L/R | 0°/90° | 60° | 12000 |
| 2.7m | 2 way ±120° L/R | 0°/90° | 60° | 12000 |
| 1.0m | 4-way ±100° L/R - 160° UP - 130° DW | 0°/90° | 60° | 12000 |
| 1.5m | 4-way ±100° L/R - 160° UP - 130° DW | 0°/90° | 60° | 12000 |
| 2.0m | 4-way ±100° L/R - 160° UP - 130° DW | 0°/90° | 60° | 12000 |
| 2.7m | 4-way ±100° L/R - 160° UP - 130° DW | 0°/90° | 60° | 12000 |

**Probe Ø 8.0mm**

| Lenght | Articulation | DoV | FoV | Pixel |
|---|---|---|---|---|
| 1.0m | 4-way ±100° L/R - 160° UP - 130° DW | 0°/90° | 60° | 16000 |
| 1.5m | 4-way ±100° L/R - 160° UP - 130° DW | 0°/90° | 60° | 16000 |
| 2.0m | 4-way ±100° L/R - 160° UP - 130° DW | 0°/90° | 60° | 16000 |
| 2.7m | 4-way ±100° L/R - 160° UP - 130° DW | 0°/90° | 60° | 16000 |

Braid :     Multilayer tungsten

| Probe Ø | Working lenght | Bending Radius | DoV | FoV | Pixel | Braid |
|---|---|---|---|---|---|---|
| 0.5mm | special designs up to 2000mm | min. 20mm | 0° | 70° | 6000 | PU |
| 0.7mm | special designs up to 2000mm | min. 20mm | 0° | 70° | 6000 | PU |
| 0.9mm | special designs up to 2000mm | min. 20mm | 0° | 70° | 6000 | PU |
| 1.2mm | special designs up to 2000mm | min. 20mm | 0° | 70° | 6000 | PU |
| 1.4mm | special designs up to 2000mm | min. 20mm | 0° | 70° | 10000 | PU |
| 1.6mm | special designs up to 2000mm | min. 20mm | 0° | 70° | 10000 | PU |
| 1.8mm | special designs up to 2000mm | min. 20mm | 0° | 70° | 10000 | PU |

# RIGID ENDOSCOPES

## MULTI SWING PRISM

Robust, high precision optics
Special rotation 370°
Line of vision 7° to 133°
Angle of vision 45°

Variable working lenghts
Many different probe diameters
Special designs possible on request

## INDUSTRIAL LINE

High precision, rigid, semi flexible
Ideal for small cavities
Durable design

Variable Working lenghts
Many different probe diameters
Special designs possible on request

### Ø 6.0mm

| Lenght | DoV | FoV | rotatable |
|---|---|---|---|
| 175mm | -7° to 133° | 45° | 370° |
| 245mm | -7° to 133° | 45° | 370° |
| 315mm | -7° to 133° | 45° | 370° |
| 385mm | -7° to 133° | 45° | 370° |
| 455mm | -7° to 133° | 45° | 370° |
| 945mm | -7° to 133° | 45° | 370° |

### Ø 8.0mm

| Lenght | DoV | FoV | rotatable |
|---|---|---|---|
| 115mm | -7° to 133° | 45° | 370° |
| 185mm | -7° to 133° | 45° | 370° |
| 255mm | -7° to 133° | 45° | 370° |
| 325mm | -7° to 133° | 45° | 370° |
| 395mm | -7° to 133° | 45° | 370° |
| 465mm | -7° to 133° | 45° | 370° |
| 605mm | -7° to 133° | 45° | 370° |

### Ø 9.0mm

| Lenght | DoV | FoV | rotatable |
|---|---|---|---|
| 205mm | -7° to 133° | 45° | 370° |
| 305mm | -7° to 133° | 45° | 370° |
| 405mm | -7° to 133° | 45° | 370° |
| 505mm | -7° to 133° | 45° | 370° |
| 605mm | -7° tos 133° | 45° | 370° |
| 705mm | -7° to 133° | 45° | 370° |

### Standard

#### Ø 2.7mm

| Lenght | DoV | FoV | Type |
|---|---|---|---|
| 175mm | 0° | 80° | Starr |
| 175mm | 0° | 80° | Semi |
| 175mm | 30° | 80° | Starr |
| 175mm | 30° | 80° | Semi |
| 175mm | 70° | 80° | Starr |

#### Ø 4,0mm

| Lenght | DoV | FoV | Type |
|---|---|---|---|
| 175mm | 0° | 80° | Starr |
| 175mm | 0° | 80° | Semi |
| 175mm | 30° | 80° | Starr |
| 175mm | 30° | 80° | Semi |
| 175mm | 45° | 80° | Starr |
| 175mm | 70° | 80° | Starr |
| 302mm | 0° | 80° | Starr |
| 302mm | 0° | 80° | Semi |
| 302mm | 30° | 80° | Starr |
| 302mm | 30° | 80° | Semi |

### With mirror tube

#### Ø 1.9mm

| Lenght | DoV | FoV | Mirror tube |
|---|---|---|---|
| up to 240mm | 0° | 45° | 90°/2.7mm |

#### Ø 6.0mm

| Lenght | DoV | FoV | Spiegelrohr |
|---|---|---|---|
| 245mm | -7° to 133° | 45° | 370° |
| 315mm | -7° to 133° | 45° | 370° |
| 385mm | -7° to 133° | 45° | 370° |
| 455mm | -7° to 133° | 45° | 370° |
| 945mm | -7° to 133° | 45° | 370° |

#### Ø 8.0mm

| Lenght | DoV | FoV | Mirror tube |
|---|---|---|---|
| 115mm | -7° to 133° | 45° | 370° |
| 185mm | -7° to 133° | 45° | 370° |
| 255mm | -7° to 133° | 45° | 370° |
| 325mm | -7° to 133° | 45° | 370° |
| 395mm | -7° to 133° | 45° | 370° |
| 465mm | -7° to 133 | 45° | 370° |
| 605mm | -7° to 133 | 45° | 370° |

### With mirror tube

#### Ø 9.0mm

| Lenght | DoV | FoV | Mirror tube |
|---|---|---|---|
| 205mm | -7° to 133° | 45° | 370° |
| 305mm | -7° to 133° | 45° | 370° |
| 405mm | -7° to 133° | 45° | 370° |
| 505mm | -7° to 133° | 45° | 370° |
| 605mm | -7° to 133° | 45° | 370° |
| 705mm | -7° to 133° | 45° | 370° |

# SERVICE  15 ✓

## As soon as possible and not longer than 15 working days

In event of a service, you have only to do 2 things:

Your device is defective!

1. Please send us the device.
   At the latest after 48 hours we will provide you with a detailed cost estimate
   for the lump sum repair price.
2. Please approve this cost estimate
   We will send you back the device free of charge after 15 working days at the latest .

**You can still plan with your device despite the failure!**

# Special design possible

## Ask for your special solution

You are looking for your special solution.

The possible areas of application for the industrial endoscopy and technical endoscopy are practically infinite.
We are certain that we already have the matching solution for your requirements or will be able to develop it.

IT Concepts is developer and manufacturer of:

Cameras | Special Cameras | Video Electronic | Camera Components | Flexible Image Guides
Fiber Optics and optical Components | Precision Mechanics

**Describe your requirements to us!**
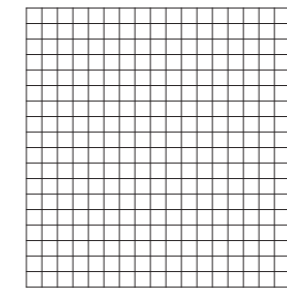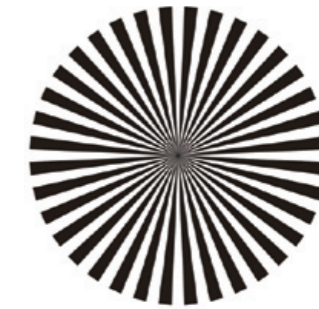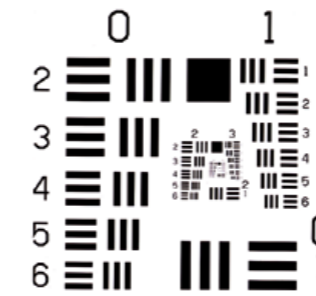
# Interchangeable Objectives
## For different applications
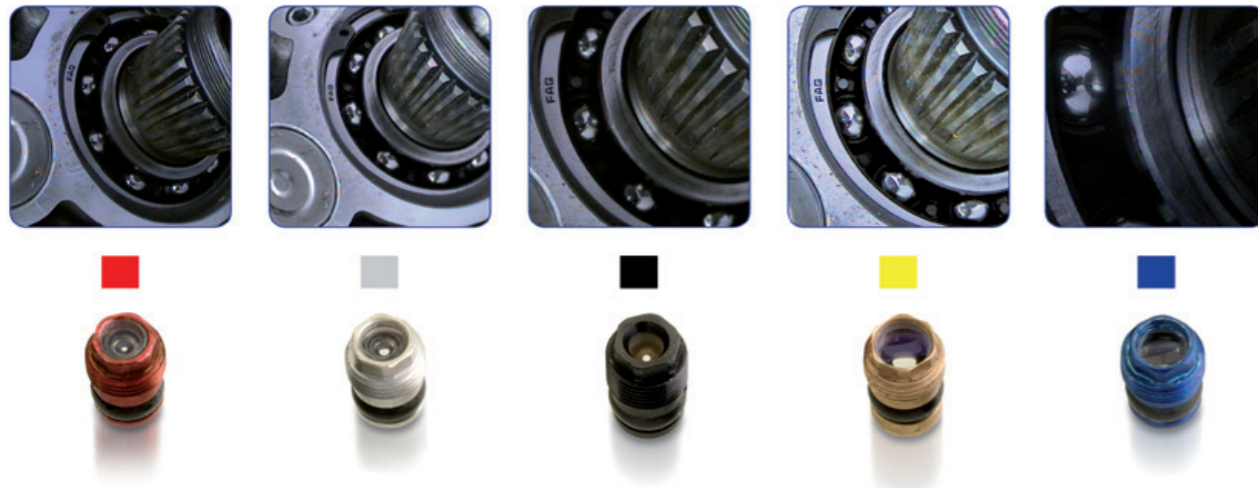
**SMART-FOCUS**  Close focus and far focus with only one objective lens.

turn in / far

turn out / close

# TEST-Chart

It´s not necessary anymore to buy another objective lens, if a different focal length is needed. In comparison with fix focus lenses, SmartFocus lenses save not only the complicated lens changing process, they also save additional/hidden costs. SmartFocus lenses with different field of view (FOV), f-stops (f-stop) and depth of field (DOF) are available.

## Equipment and Accessories

Batterie Belt | USB 2.0 Frame Grabber | Inspection Guides | Device Clamp | Lightsources Cameras | Camera Adapters | Power Supply | Lightguide Cable | Lightguide Adapters Neck Holder | Cases | Side View Tip Adapter | Objectives | Special Working Tools | Centerizer | ...

**MADE IN GERMANY**

IT Concepts designs and manufactures worldwide with over 500 highly qualified and motivated employees electronicle and optomechanical assembly groups and systems.
The product range extends from individual components for industrial and medical endoscopes over to video endoscopic systems and solutions for Remote Visual Inspection and Security.
For more than 10 years IT Concepts develops and produces all endoscopes „Made in Germany" at the European headquaters Lahnau near Wetzlar, the City-of-Optics.

The top priority for the entire team in Lahnau is to provide customers with expertise and excellent service.

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