



### IBAK – Made in Germany

Founded in 1945 as a small consulting engineering firm, IBAK is today the biggest manufacturer and supplier of pipe inspection systems and is at the same time the oldest company in the trade. With our more than 70 years of experience and the extremely high demands we place on our products – and also on ourselves – we provide optimal benefit to our customers. As a pioneer IBAK invented the first sewer inspection system in 1957.

More than 340 people work day for day at our 5 locations in Germany and in our subsidiary in Australia. IBAK has more than 40 distributors and service partners worldwide. Today IBAK is still 100% family owned and managed by Dr. Werner Hunger.

# **Fields of Application**

IBAK provides systems for no-dig inspection and rehabilitation of manholes, pipe sections and laterals.

IBAK sewer and manhole inspection systems are modular by design. They can be configured according to the requirements and the field of application. We offer portable systems as well as customised outfitted vans from XXS to XXL.

The cameras are compatible with the tractor range or push-rod systems. The cable winches and control units offer the possibility to inspect sewer lengths up to 600m. Our inspection can be carried out at a high speed (up to 35 cm/s) and with high resolution cameras (Full HD).

All IBAK cameras have a high-performance LED lighting and pressure monitoring for early leak detection.

IBAK also offers additional features like upright picture control, integrated detection transmitters and integrated lasers for diameter and deformation measurements etc.

IBAK provides its own sewer TV inspection software for the acquisition of sewer inspection data.

Customers and other interested parties are always welcome for hardand software trainings.

#### MiniLite

The IBAK MiniLite is a compact push camera system for inspecting household and property drainage systems. It combines extreme durability with easy handling and can be used safely after only a short training period. IBAK push cameras can be attached to a push rod with a maximum lenth of 80 m. The 10" MiniLite display provides excellent picture quality for all camera variants. The cameras are operated easily from the MiniLite control console.

# Portable Mainline System

This combination is a proven configuration of inspection system components that allow maximum flexibility. The system is portable and can be transported in different vehicles as well as carried to places which are hard to reach. The PC which is built into the control box allows usage of a full inspection software despite having a small, portable system. With the combination of 200m cable length, versatile design of the T66 tractor and high luminous intensity with the Orion 2.9, this system covers a wide range of applications.

#### Scanning Technology

The IBAK PANORAMO system is a unique scanner technology for high efficient sewer pipe inspections.

Pipe inspection can be carried out at a substantially higher speed. Unlike conventional sewer TV systems it uses two high-resolution digital photo cameras with 185° fisheye lenses, which each take images at distances of 5 cm. These are then automatically put together to create a true 3D interior view of the complete sewer pipe. This allows evaluation of the pipe condition in the office at any time.

#### **Full HD Camera**

With the Pegasus HD system IBAK is the technological leader in the field of recording and saving in Full HD format. The PEGASUS HD camera contains an image sensor in full HD format (1920 x 1080 = 2.08 million pixel). For the first time it is possible to get an even more brilliant picture in higher resolution from the mains and analyze damages even better. The latest IBAK software IKAS evolution facilitates the procedure.

#### Laser Profiler

The IBAK ILP (Laser Profiler) reliably locates and measures sewer pipe deformations. The deformation measurement is carried out by a laser diode mounted on a pipe camera. The laser profiler mode of operation is based on a laser ring, which is projected onto the pipe wall and subsequently recorded by the connected camera. The software calculates the data received and creates a 3D model of the pipe geometry. It is also possible to generate two-dimensional illustrations and graphics.



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#### **Electrical Cutting**

IBAK Robotics cutters and grinders run on electricity. As a result, they are light-weight, low-noise and powerful. Unlike hydraulic or pneu matic systems, electrically driven robots do not require any noisy, heavy, energy-consuming compressors or generators.

# Lateral Detector

The Lateral Detector enables the position of hidden laterals to be reliably detected after liner installation. The Lateral Detector can be connected to the cutting and grinding robot without any problems.



#### Leak Testing

The leak-tightness of a sewer can not always be determined with cer tainty via a TV system. Therefore IBAK designed a leak testing system for air pressure tests and water tests.

With the IBAK components the entire spectrum of pressure tests is available: Sections, pipe joints, connecting pieces as well as house drains and building sewers can be tested for leaks.



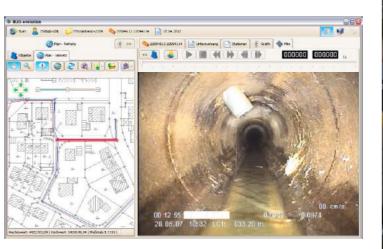




# Report Software

The IBAK IKAS Software is a powerful software for the acquisition of sewer TV inspection data. For the fulfilment of inspection specifications IKAS offers comprehensive input validations. With the IKAS Reportviewer, inspection data (digital reports, statistics, MPEG and Panoramo films) can be transferred to a preferred media format (DVD, USB-HDD...) and viewed.

The software is available in a wide range of languages. Due to the mod ular and optionally expandable configuration, IKAS can be quickly and easily aligned with a diverse range of requirements.

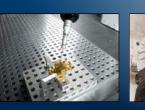




# IBAK – Made in Germany

All IBAK products have one thing in common: They are "Made in Germany." All system components are developed, produced, assembled and tested by IBAK.

Thanks to their high quality standard, IBAK products have set the standard for investment security and profitability – for 70 years now.













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