

# IBAK

## IBAK Vehicle Outfitting



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# IBAK Vehicle Outfitting

IBAK's core business is vehicle outfitting. Whether "plug and play" solutions in the form of ready-made mounting elements or fully equipped vehicles: everything is designed for tough day-to-day operation in harsh environments. Individual detailed solutions of first-class quality from IBAK form the basis for a long service life and economical operation.

Lightweight and high quality outfitting materials provide ample space for the required inspection components; the vehicle body insulation ensures a balanced climate in the vehicle.

The work areas in both the operator's and equipment sections are designed for functionality in line with ergonomic requirements and ensure convenient and at the same time efficient working procedures.

The power supply to the TV system is emission-free thanks to the use of state of the art battery systems.

An extensive range of optional extras enables us to fulfil individual requirements.

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The IBAK Vehicle Hall in 2010

## IBAK – Long Years of Experience in Vehicle Outfitting

*As the inventors of sewer TV inspection technology, IBAK can draw on a wealth of experience in the outfitting of inspection vehicles that is unequalled in the industry. The first IBAK vehicle was a VW T1 and was equipped in 1955 – initially for underwater television.*

Throughout the IBAK company's history, functionality and durability have always been the top priority in inspection system manufacture and vehicle outfitting.

This has remained the same to this day, so all IBAK products rightly enjoy a good reputation in the industry.

Thus, there have been cases where vehicle-based IBAK systems have had a longer service life than the inspection van and have sometimes been installed in a successor vehicle.

*Adhering to high quality standards pays off in daily operation:*

- IBAK vehicles are equipped consistently from A-Z with high quality lightweight components so that for some popular vehicle types (e.g. Mercedes Sprinters with a short wheelbase) no truck driving licence is required.
- The workstations in IBAK vehicles comply with the German Ordinance for Work with Visual Display Units.
- Insulation of the floor and the interior ensure a pleasant working environment.
- The vehicles are protected from dirt, moisture and body corrosion by the rear vehicle tub with its 2-component synthetic coating.

# IBAK Inspection Vehicles Then and Now



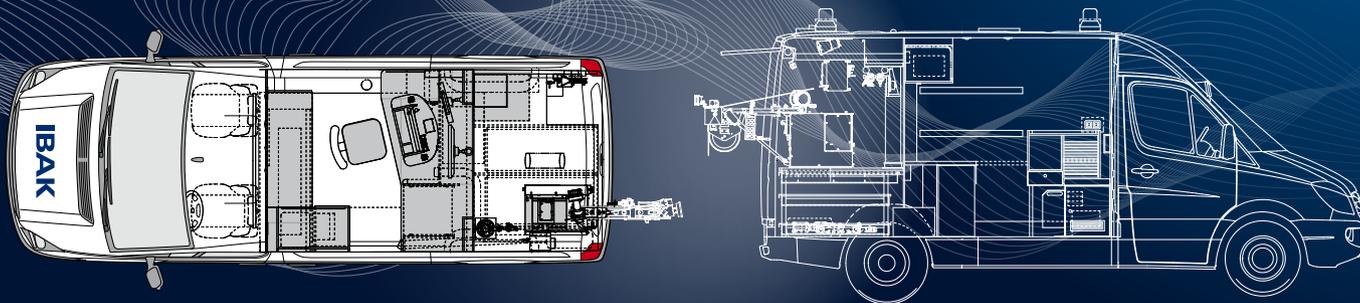
Both the vehicles and the vehicle outfitting are subject to continuous change, to keep up to date with regard to the power supply, the ergonomic requirements and the spirit of the time.

Whereas there was a stylish architect lamp in the vehicle in the 1970s, power-saving LED technology is now used for lighting.



# Outfitting Types

## TV Vehicles with Separate Operator's and Rear Sections



*The proven outfitting type with separate rear and operator's sections has remained almost unchanged for many years – except for continuous modernisation measures and modifications in line with the latest state of the art.*

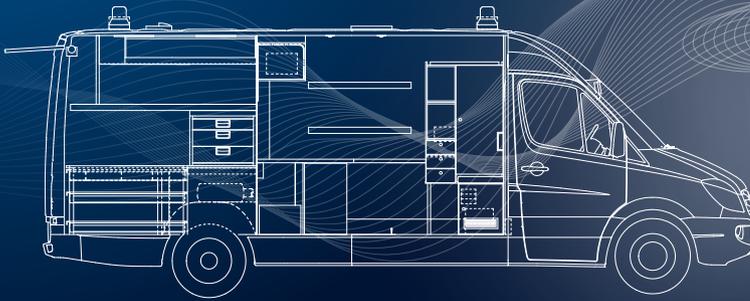
Vehicles such as Mercedes Sprinters or VW Crafters are popular vehicles for this outfitting type.

Depending on the wheelbase and individual outfitting requirements, it is possible to keep the total weight down to less than 3.5 t, so that the vehicle can be driven with a class B driving licence. Nevertheless, preference is usually given to a 5t van because this offers a greater amount of space.

Even a simple ready-made solution without any extras provides functional, ergonomic and convenient outfitting and permits efficient working procedures.

However, there are virtually no limitations to the choice of vehicle, the design of the outfitting and the equipment with inspection systems. IBAK makes nearly all possibilities possible.

The illustrations can differ from the standard model and show optional extras.

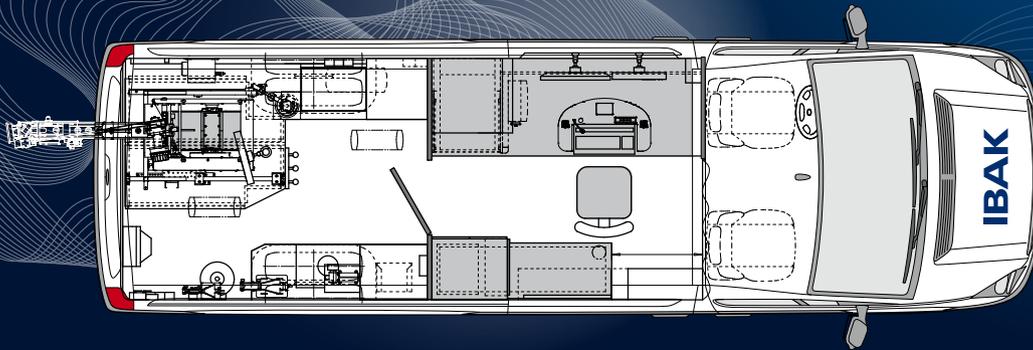


In the vehicles shown on this spread, the wet area is separated from the operator's section by a partition with a window. This outfitting type offers a lot of storage space for equipment and paperwork. Like all IBAK vehicles, it is sealed with a rear vehicle tub of two component synthetic material and aluminium chequer plate so there is no need to worry about body corrosion, even if it is frequently cleaned with water.

This is an important aspect in terms of maintaining the equipment and therefore the general value of the inspection vehicle.



# TV Vehicles with a Connection Between the Operator's and Rear Sections



*Depending on the field of application and personal requirements, the operator's and rear sections can also be connected by a middle aisle. The operator's section is then arranged longitudinally in the vehicle. This type of outfitting differs essentially from outfitting with a separate wet area and operator's section in the following points:*

- The operator's section is separated from the rear section by a door instead of a fixed partition. This means that the operator can see the site of operation from his workplace directly through the rear section and communicate with his colleague if necessary.
- The workplace in the operator's section is installed parallel to the side wall of the vehicle so it is possible to walk through the vehicle from the driving cab to the rear section.
- With middle aisle outfitting, you can get out of the vehicle not only through the driver's door, the front passenger door and the sliding side door but also via the rear section of the vehicle. This is an important safety aspect because there is considerably more safe distance to the moving traffic if you get out via the rear section than if you get out through the sliding side door.







## Manhole Inspection Vehicles for Operation from the Rear Section of the Vehicle

Especially for manhole inspection, IBAK provides various vehicle and outfitting types that enable the user to drive the vehicle straight to the manhole even in the most unfavourable conditions. With this outfitting type, the inspection system is operated directly from the rear of the vehicle. Fields, forest tracks, underground car parks, factory halls: suitable for these are panel vans, high-roof vans or transporters with 4motion drive and PANORAMO SI outfitting.

The illustrations can differ from the standard model and show optional extras.





## Outfitting Example



*IBAK PHOBOS 4  
connected to a LISY  
flushing kit*



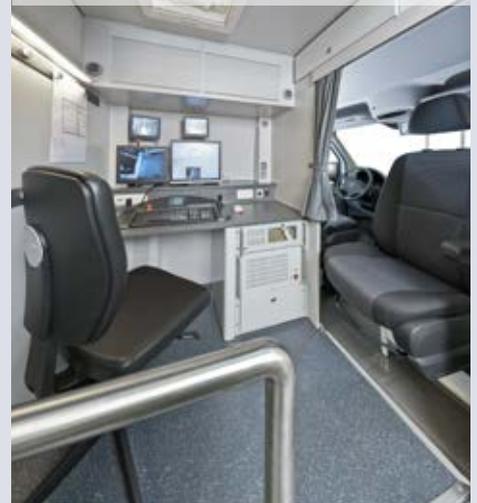
*IBAK ORION L  
connected to the cable  
winch KW LISY  
Synchron*



*Cable winch  
IBAK KW 505*

*KW LISY Synchron: up  
to 180 m of camera  
cable including 40 m of  
push rod*

*Operation with the control system BS3.5 or 7*



## Small Van – the Space Miracle

*Flushing and inspection in a single operation presents no problem with a combined IBAK TV and flushing vehicle – for example with an IBAK ORION L and one of the IBAK PHOBOS flushing nozzle types connected to a LISY 3 and driven by a high pressure flushing system.*

The flushing nozzles can be attached to the camera push rod in just a few steps and provide a powerful forward drive for the TV camera. This drive feature makes for long inspection distances in estate drainage systems.

Particularly in combination with a steerable camera such as the ORION L, POLARIS or NANO L, even the most complex pipes and long pipe lengths can be easily cleaned and inspected. In spite of the considerably more extensive range of functions of this system and the additional equipment it requires as compared to an inspection only system, it can be installed in a panel van (e.g. a Mercedes Sprinter).



*Equipment section in an IBAK flushing vehicle*

# Innovative 3-Axle Van with a Container Body



## The compact van with a large volume

*For many years, the Mercedes-Benz Vario was a popular choice for IBAK vehicle outfitting because it combined the advantages of transporters and trucks. After Mercedes discontinued the production of this vehicle series, a suitable successor type was found: a Mercedes-Benz Sprinter chassis fitted with a container body five metres long and a trailing third axle. This is equipped with hydraulics that are integrated in the brake system.*

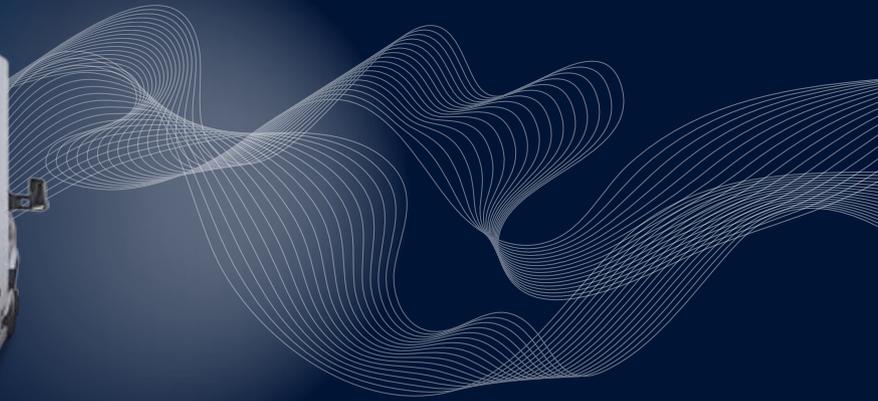
The wheelbase of 4820 millimetres enables optimised weight distribution over the entire length of the vehicle. An air suspension additionally installed in the rear axle makes it considerably easier to manoeuvre. The suspension can be operated by remote control so that the drive wheels do not hang in the air, for instance when reversing up a kerb.

The hydraulic brake system with automatic adjustment mentioned above, which has been integrated into the standard brake system of the vehicle, provides increased safety and ease of operation.

So, in its product portfolio, IBAK has a vehicle with TÜV approval that meets all the requirements of the sewer inspection industry: just like all IBAK vehicles, the versatile 3-axle van can be individually outfitted. The enormous amount of space available in the specifically conceived vehicle makes it possible to install not only an extensive IBAK inspection system but also a high pressure flushing unit with a 2000 litre water tank.

If 3D-GeoSense pipe run measurement is also integrated, a frequently desired, useful service function can be added to the scope of supply with this vehicle, and the three operations flushing, inspection and measurement can be performed efficiently and simultaneously.

The illustrations can differ from the standard model and show optional extras.



# Truck Outfitting



## Custom-Made High Pressure Flushing Technology

Depending on the customer's requirements, IBAK cooperates with various manufacturers of high-pressure flushing equipment.

As far as the vehicle outfitting and the equipment are concerned, there are practically no limitations to the customer's wishes. Whereas for instance a small panel van with a short wheelbase is equipped with a water tank of approx. 1000 litres, water tanks holding up to 10 cubic metres of water can be installed in correspondingly larger vehicles.

The 19t truck shown here has a 3.5 cubic metre water tank and a 1.5 cubic metre sludge tank. For example, it can be equipped with an IBAK LISY system and an IBAK ARGUS or ORPHEUS HD. In this case, it can perform flushing, inspection and cleaning of laterals and mainline sewers in a single operation.



The illustrations can differ from the standard model and show optional extras.



If you want it a bit bigger: water tank of up to 10 cubic metres



# TV Inspection and Rehabilitation from a Single Source



## Holistic System Approach

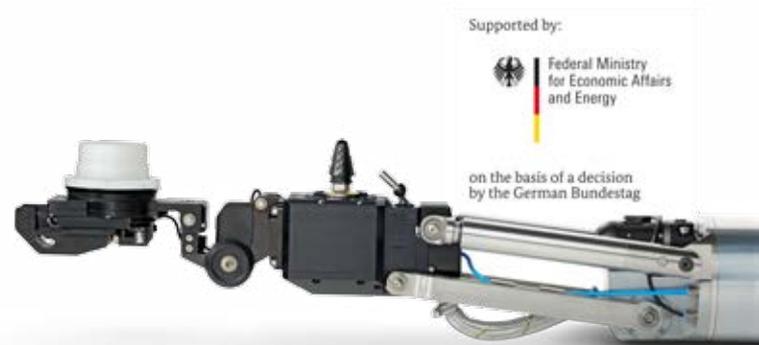
***IBAK Robotics design and manufacture electrically driven cutting, grinding and repair robots for sewer rehabilitation. The cutting performance, the ease of handling and the energy balance of IBAK Robotics cutting and grinding robots are unrivalled on the market.***

Unlike hydraulic or pneumatic systems, electrically driven robots do not require any noisy, heavy and power-consuming compressors and generators. As a result, they have considerably lower operating costs and they go easy on the environment and health, due to their almost noiseless and emission-free operation.

Both IBAK and IBAK Robotics customers benefit from the close collaboration between the two branches of the company: depending on the requirements, vehicles can be equipped with a cutting and grinding system only or TV equipment only or a combination of the two.

Thus, the two companies cooperate closely to satisfy the market requirements in terms of user-oriented, economical solutions for the sewer industry.

The illustrations can differ from the standard model and show optional extras.

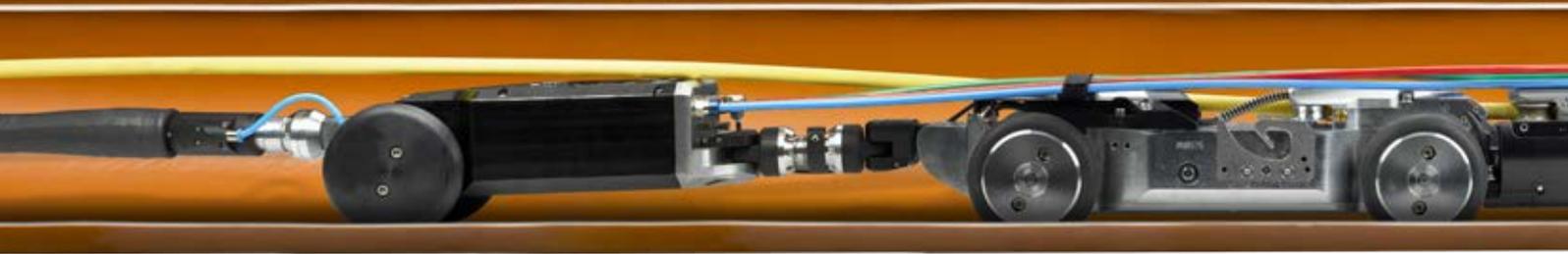


# IBAK

robotics



# Leak Test Systems of Modular Design



*TV inspection remains an indispensable basis of any rehabilitation decisions that may become necessary. However, as leaks often have causes that are not visible to the eye, leak-tightness cannot always be reliably ascertained by a sewer TV system.*

The **IBAK DPS** leak test system is designed for operation in circular pipes from DN 100 upwards. Depending on the version, positive and negative air pressure and water tests can be performed. With the IBAK DPS components, a flexible system is available which covers the whole range of leak testing applications: sewer sections, joints, pipe connections, estate drainage pipes and laterals can be tested for leaks.

IBAK leak test components can be integrated into IBAK sewer TV systems. A joint control console, a cable winch (KW 505) and an air hose reel ensure a well-arranged array of equipment. All components are easy to operate and have short setting-up times; they are designed for one-person operation and ensure efficient working. Irrespective of the test method, the user receives a test report complying with the standard used.



The illustrations can differ from the standard model and show optional extras.

*Pipe connection or branch pipe test with the LISY 3  
and the IBAK leak test system*





## Flexible Vehicle Outfitting

With the compact plug and play system, IBAK provides a convenient possibility to perform vehicle outfitting easily and at low cost. Both the winches and the control system are permanently installed and wired on a prefabricated installation element. Ready-integrated pull-out drawers offer storage space for cameras and camera tractors.

The pallet solution is suitable for versatile applications and can be installed for example in an MB Sprinter, a VW Crafter and also in Peugeot and Renault transporters. Only a limited amount of work is then required for additional outfitting.

So, among other things, this solution is especially suitable for shipment abroad, where the pallet merely has to be loaded into a vehicle, mounted and connected to the power supply. The considerably reduces the amount of work required on site and ensures the quality of the outfitting.

The illustrations can differ from the standard model and show optional extras.



# Unlimited Possibilities Down to the Smallest Detail



*Surrounding area lighting*



*Camera for safe alighting*



*Refrigerator and microwave*



*Washbasin*



*Water tap in the vehicle door lining*



*Lots of storage space*

With IBAK, all components required for outfitting a new inspection vehicle come from a single source. From the first draft via the bodywork approval through to delivery of the vehicle and training – IBAK has well versed staff and partners for all stages of the work with many years of experience in vehicle outfitting.

Whether you want more safety, more ease of operation or both: there are practically no limitations to your imagination and wishes as regards vehicle outfitting. If it is technically possible and makes sense, IBAK will do it.



*Lifting device*



# IBAK Sewer and Manhole Inspection Systems

## CAMERAS

**HYDRUS**  
from DN 50 upwards



**NANO/  
NANO L**  
from DN 80 upwards



**JUNO**  
from DN 100 upwards



**POLARIS**  
from DN 100 upwards



**ORION /ORION L**  
from DN 100 upwards



**ORPHEUS**  
from DN 150 upwards



**ORPHEUS 2**  
from DN 150 upwards



**ARGUS 5**  
from DN 200 upwards



**ORPHEUS 2 HD**  
from DN 150 upwards



**CERBERUS**  
man entry inspection  
of large-diameter  
pipes



## CAMERA TRACTORS

**T 66 / T66 HD**  
from DN 100 upwards



**T 76 / T76 HD**  
from DN 150 upwards



**T 86 / T86 HD**  
from DN 200 upwards



## CAMERA SYSTEMS

**PANORAMO 150**  
from DN 150 upwards



**PANORAMO**  
from DN 200 upwards



**PANORAMO SI**  
from DN 300 upwards  
manhole inspection



**LISY 3**  
from DN 150 upwards



## CABLE REELS

**KT 180**  
camera cable  
max. 200 m



## PUSH ROD SYSTEMS

**HSP 40/60**  
camera cable/  
push rod  
max. 60 m



**MiniLite**  
camera cable/push rod  
max. 60 m, from  
DN 50 upwards



## CABLE WINCHES

**KW 180**  
camera cable  
max. 200 m



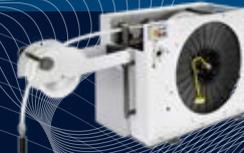
**KW 305/310**  
camera cable  
max. 300 m



**KW 505**  
camera cable  
max. 600 m



**KW LISY Synchron**  
camera cable  
max. 180 m



## CONTROL-UNITS/-SYSTEMS

**BK 3.5.1**



**BS 5**



**BS 3.5 / BS 7**



All components of IBAK sewer inspection systems are of modular design. The current IBAK camera models, camera tractors and/or push rods are mutually compatible.

Various cable winches, control systems and suitable software complete the system.

So the system can be configured to suit the requirements and the area of application – with everything from a single source.

## SOFTWARE

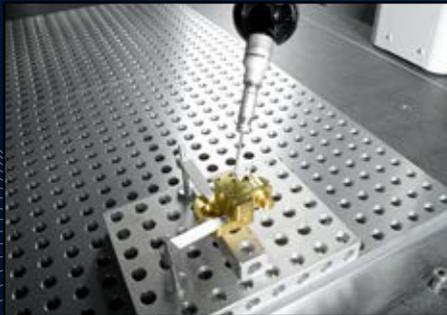


# IBAK – Made in Germany

All IBAK products have one thing in common: they are made in Germany. All system components are designed, manufactured, assembled and tested by IBAK.

Thanks to their high quality standards, IBAK products set the benchmark for investment security and cost-effectiveness – and have done so for more than 70 years.

# IBAK



Modifications and errors excepted | 170223\_IBAK-kei-pass\_211x21\_de

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