

ibos®

SEWERAGE TECHNOLOGY



**CAMERA
SYSTEMS**

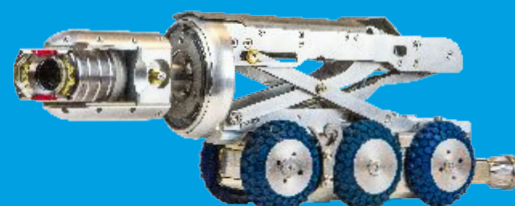
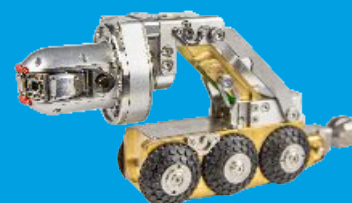


SEWERAGE TECHNOLOGY

Catalogue **CAMERA SYSTEM**

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Agency for Czech Republic and Slovak Republic:

PROKASRO

BRAWO SYSTEMS

STONEAGE
ENGINEERING THE POWER OF WATER

USBÜSEN

Roberto Bruna

Brandenburger

PICOTE
LIFE FOR PIPES

Hächler GmbH

VAPOR

COVER UP key

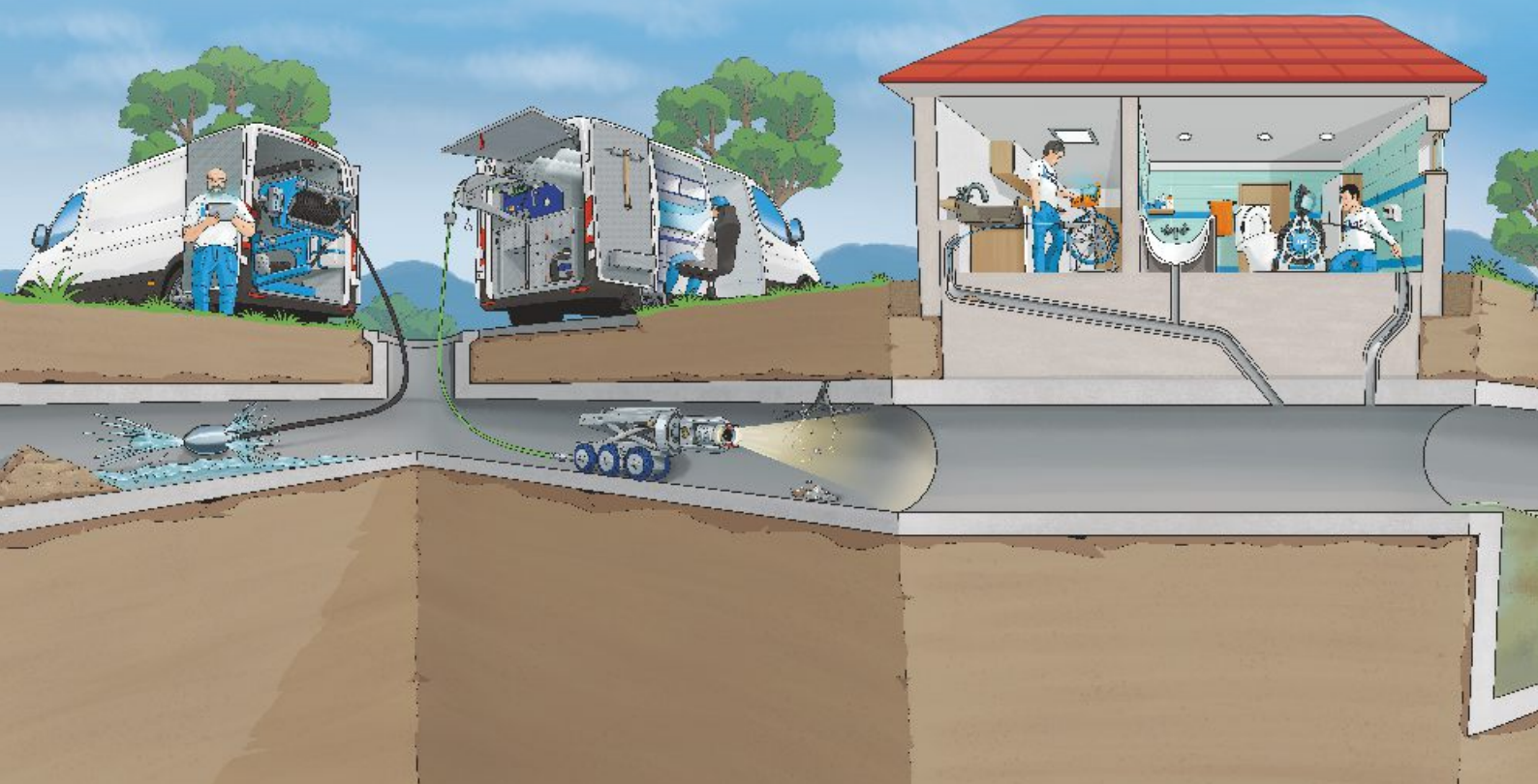
LATERAL REPAIRS

CIPP TECHNOLOGY SUPPLIES

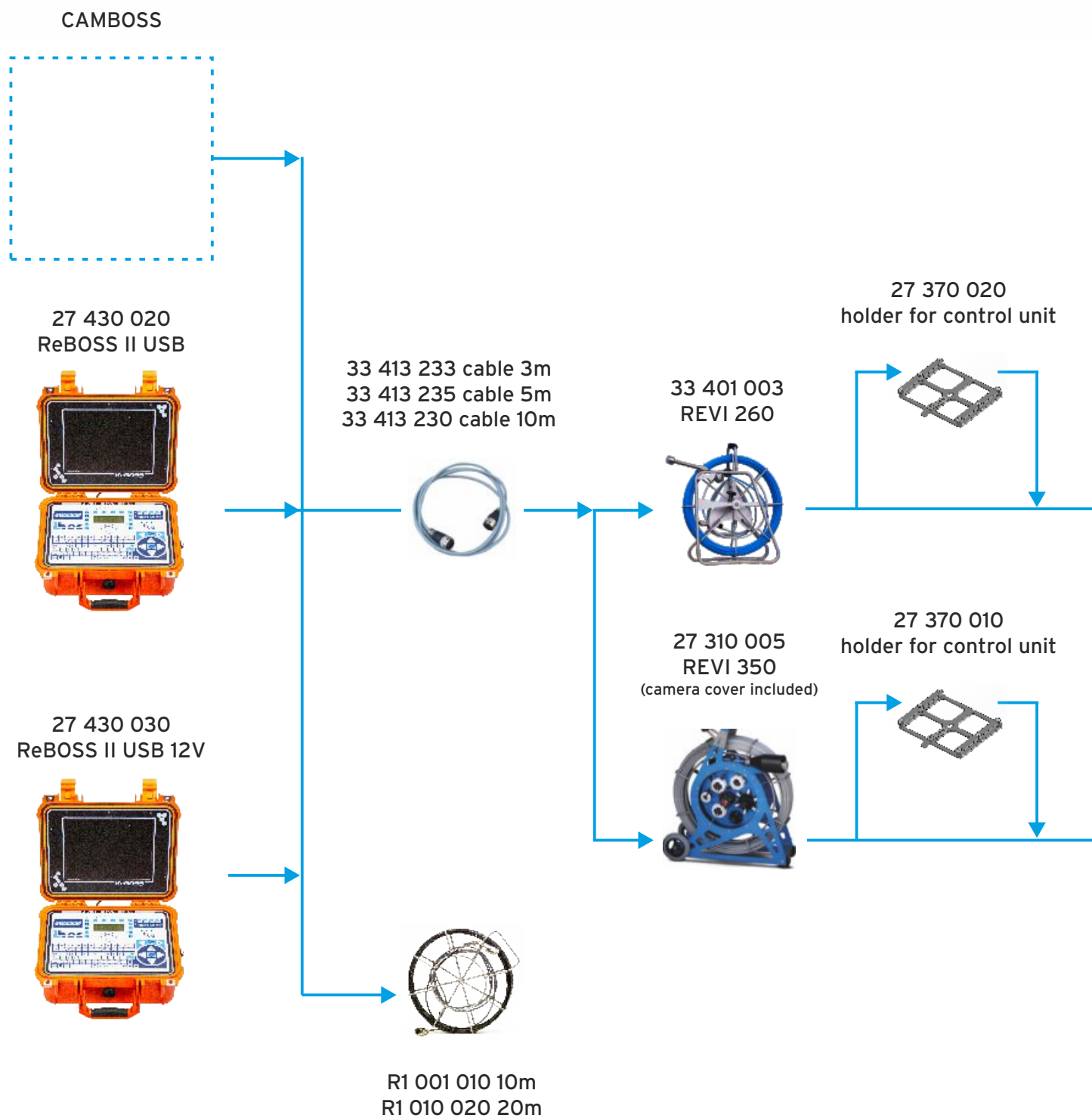
Introduction

We are a purely Czech company founded in 1999. Back then it was two friends in a garage, today almost a hundred employees meet every day in IBOS in our large production premises, which we are continuously innovating and expanding.

25 years of hard work, development and finding the right ways has made us one of the main players in the market of technologies for monitoring, maintenance and repair of sewer networks. We invent, design and build our products here in the Czech Republic. We are also importers of a wide range of products and technologies, allowing us to offer our clients a complete portfolio of products and services to address every situation. From simple tools to camera systems to pressure and suction technology in various shapes and sizes - IBOS offers all this and much more. See for yourself the quality of our offer.



Overview of REVI camera series compatibility - push-rod system

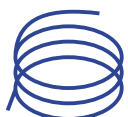




27 536 001
camera cover



88 991 137
cable 7,5mm
88 990 725
cable 9mm



27 545 035
RF probe 33 kHz
27 545 040
RF probe 512 Hz



33 201 010
flexi spring



27 570 002
antenne



27 220 055
KZ 60
27 220 040
KZ 60 laser



33 201 010
KA 46



REVI 90

REVI 90 Camera designed for small pipe inspection DN40 - 50 mm.



TECHNICAL SPECIFICATION

CONTROL UNIT - different options

CamBoss control unit

15" LCD industrial colour display, inputs DVI and CVB-S, integrated PC, display of actual video Picture with possibility of switch to PC mode, optional SW DigiCAN (display of date, time, measuring of unwinded cable length, inclination, swing, rotation, pressure, etc.) and creating of documentation to damaged spots

Camboss PC Battery

Mobile battery control unit with touchscreen 12,1". With help of DigiCan SW - display of diverse data in the picture (date, time, measuring of unwinded cable length, inclination, swing, rotation, pressure, etc.) and creating of documentation to damaged spots.

ReBoss USB / ReBoss USB 12V

Battery control unit designed for REVI 90/REVI 260/REVI 350/REVI 450 and camera heads KA46/KZ60. 10"LCD 800x600 industrial colour screen, control panel, keyboard. Power 230V AC or 12V DC (according to chosen variant).

CAMERA HOUSING

diameter 20 mm, length 28mm + 100 mm spring behind the camera head

CAMERA RESOLUTION

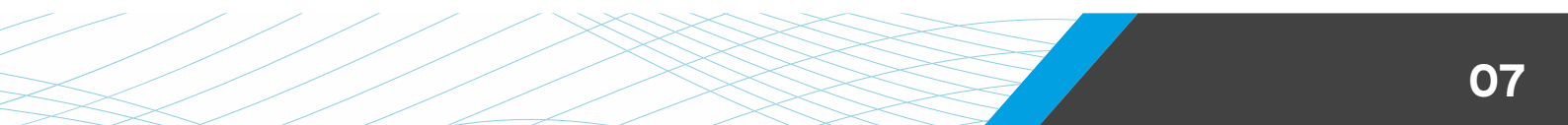
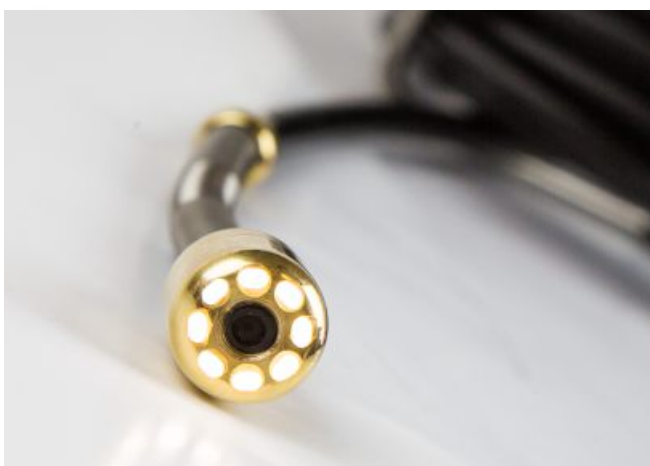
600 TVL/min. lighting 0,5 LUX, standard PAL, recording speed 50 images /second

PUSH ROD

9 mm in length 10 - 20 m according to customer's wish. 8x LED lights in camera head

ACCESSORIES

Camera in offer without centering part



ANALOG

REVI 260

Portable colour camera designed for monitoring of house drainage including connections in range DN 50 to DN 300. The camera system can be used with axial camera head KA46 and/or rotary camera head KZ60. The camera head is manually inserted into the pipe with help of special reinforced cable with diameter 7,5 mm or 9 mm. The system is controlled by control unit with or without PC.



TECHNICAL SPECIFICATION

CONTROL UNIT - different options

| | |
|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CamBoss control unit | 15" LCD industrial colour display, inputs DVI and CVB-S, integrated PC, display of actual video Picture with possibility of switch to PC mode, optional SW DigiCAN (display of date, time, measuring of unwinded cable length, inclination, swing, rotation, pressure, etc.) and creating of documentation to damaged spots |
| Camboss PC Battery | Mobile battery control unit with touchscreen 12,1". With help of DigiCan SW - display of diverse data in the picture (date, time, measuring of unwinded cable length, inclination, swing, rotation, pressure, etc.) and creating of documentation to damaged spots. |
| ReBoss USB / ReBoss USB 12V | Battery control unit designed for REVI 90/REVI 260/REVI 350/REVI 450 and camera heads KA46/KZ60. 10" LCD 800x600 industrial colour screen, control panel, keyboard. Power 230V AC or 12V DC (according to chosen variant). |

CABLE DRUM

Material - stainless steel, capacity - 100 m (push rod 7,5 mm), 80 m (push rod 9 mm), sensor of unwinded cable length, axial brake, weight - ca. 7 kg (without push-rod) and ca. 11 kg with 50 m push-rod

CAMERA HEAD KA46 OR KZ60

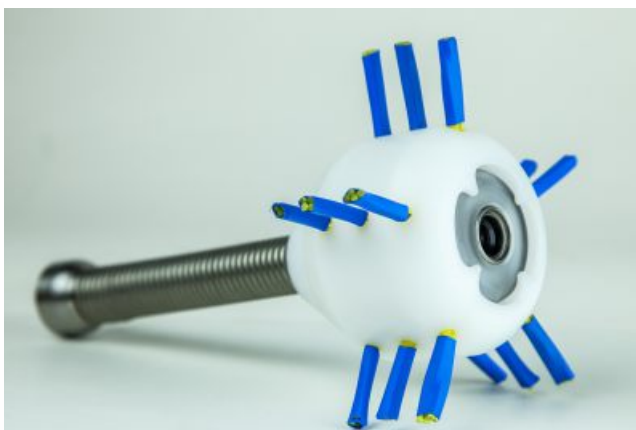
| | |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Axial camera head KA46 | Axial, self-levelling, colour CCD camera, resolution 470 TVL, light sensitivity 1 lux, lights 6x LED, diagonal visual angle ca. 68°, waterproof to 1 bar, material - stainless steel housing |
| Rotary camera head KZ60 | Colour CCD camera, resolution 307.200 pix, light sensitivity 0,3 lux by F1,2, range angle 50°, 8x LED, swing 2x125°, rotation 360° (infinity), waterproof up to 1 bar, built-in pressure sensor for monitoring of tightness |

PUSH ROD

Diameter 7,5 mm or 9 mm, standard lengths 50, 60, 80 m

ACCESSORIES

Probe 33 kHz or 512 Hz for location determining up to depth 3 m, centring, and other

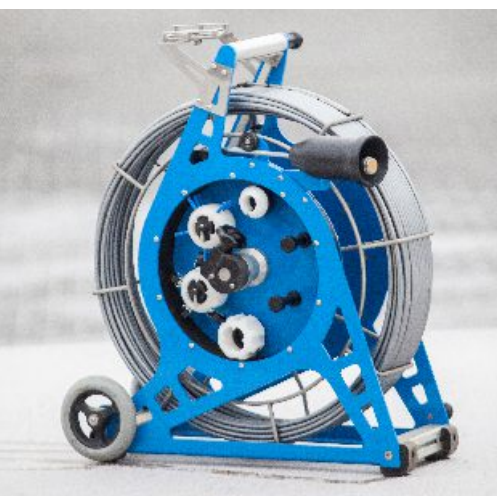


REVI 350

Push-rod camera system designed for monitoring of pipes DN 50 - 300 mm. The system can be used with axial camera head KA46 or rotary camera head KZ60 (also compatible with camera system REVI 260). The reel is equipped with wheels for easy handling. The capacity of the reel is up to 120 m - depending on the cable diameter (7,5 or 9 mm). On the top part it is possible to equip the reel with holder for fastening the control unit ReBoss, from the side there are the transport holders for centring parts.



| TECHNICAL SPECIFICATION | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CONTROL UNIT - different options | |
| Same options as by push rod camera REVI 260 | |
| CABLE DRUM | |
| Material - stainless steel, aluminium, capacity - 100 m (push rod 9 mm), sensor for measuring of unwinded cable length, axial brake, weight - ca. 17 kg (without push rod and centring) | |
| CAMERA HEAD - different options | |
| Axial camera head KA46 | Axial, self-levelling, colour CCD camera, resolution 470 TVL, light sensitivity 1 lux, lights 6x LED, diagonal visual angle ca. 68°, waterproof to 1 bar, material - stainless steel housing |
| Rotary camera head KZ60 | Colour CCD camera, resolution 307.200 pix, light sensitivity 0,3 lux by F1,2, range angle 50°, 8x LED, swing 2x125°, rotation 360° (infinity), waterproof up to 1 bar, built-in pressure sensor for monitoring of tightness |
| PUSH ROD | |
| Diameter 7,5 mm or 9 mm | |
| CAPACITY | |
| 7,5mm push-rod/120m or 9mm push-rod/100m | |
| ACCESSORIES | |
| Probe 33 kHz or 512 Hz for location determining up to depth 3m, centring, antenna for inspection of connections (camera head Kz60), and other | |



HD 260

The new generation of push-rod camera with axial or rotating camera head with FULL HD resolution for monitoring sewers up to DN 250 mm. The lightweight and compact system is controlled by an HD Box control unit with touch panel, 12" display with high brightness for working on sunny days, integrated PC and battery. The axial camera head HD46 (head diameter 46 mm) and the rotating HD60 (head diameter 60 mm) offer a resolution of 1920 x 1080 pixels (Full HD image), both equipped with an integrated 33 kHz probe and pressure sensor.



The capacity of the HD260 reel is 80 m of 7.6 mm push-rod cable (standard cable lengths are 50, 60 or 80 m). Thanks to the integrated PC, the control unit can be equipped with DigiCan PRO software for generating reports from camera inspections (option).

TECHNICAL SPECIFICATION

CONTROL UNIT

HD Box

Display resolution: 1280x800 Screen size: 12.1" (261,12mm x 163,2mm), Brightness: 1000 cd/m2, View Angles: 85, Contrast ratio: 1000:1, Touch screen: capacitive, Multi-touch (10 fingers), USB HID, Hardware: Processor: Intel Core i5
Battery: Li-Ion, 3S3P, 9600 mAh, Charger: 15V, 5A, Cooling: Active
Low weight and dimensions - 397 x 280 x 57 mm (WxHxT)

CABLE DRUM

Material - stainless steel, capacity - 80 m (push rod 7,8 mm), sensor of unwinded cable length, axial brake, weight - ca. 7 kg (without push-rod) and ca. 11 kg with 50 m push-rod

CAMERA HEAD HD46 OR HD60

Axial camera head HD46

Type: CMOS, progressive scan, Size: 1/2.8", Lens: D-6.46mm, F 2.8, Resolution: 1920x1080 (Full HD), Aspect Ratio: 16 : 9, Shutter Type: Rolling Shutter, Min. Illumination 0.0125 Lux, Angle of View: 105° (H) x 60° (V), Illumination: 12x LED, Weight approx. 0.55 kg

Rotary camera head HD60

Type: CMOS, progressive scan, Size: 1/2.8", Lens: D-6.46mm, F 2.8, Resolution: 1920x1080 (Full HD), Aspect Ratio: 16 : 9, Shutter Type: Rolling Shutter, Min. Illumination 0.0125 Lux, Illumination: 8x LED, rotation angle: without antenna from -105 to 105 degrees, with antenna: from -60 to 60 degrees, FOW: 110 degrees, manual focus, built-in 33kHz cable locator probe, Length 190 mm, Height 46 mm, Weight approx. 0.98 kg

HD46



HD 350 C

New generation of push-rod cameras with axial or rotating camera head with FULL HD resolution for monitoring of sewers up to DN 250 mm. The camera is controlled by an HD Box control unit with touch control panel, 12" high brightness display for operation on sunny days, integrated PC and battery. Both the HD46 axial camera head (46 mm head diameter) and the HD60 rotary camera head (60 mm head diameter) offer 1920 x 1080 pixel resolution (Full HD images), both feature an integrated 33 kHz probe and pressure sensor.

The reel is equipped with casters and a pull-out handle for easier handling. Power for the system is provided by the batteries of the control unit. The capacity of the HD350 reel is 80 m of 7.6 mm push-rod cable (standard cable lengths 50, 60 and 80 m). Thanks to the integrated PC, the HD Box control unit can be equipped with DigiCan PRO software for generating camera inspection reports.



TECHNICAL SPECIFICATION

CONTROL UNIT

HD Box

Display resolution: 1280x800 Screen size: 12.1" (261,2mm x 163,2mm), Brightness: 1000 cd/m², View Angles: 85, Contrast ratio: 1000:1, Touch screen: capacitive, Multi-touch (10 fingers), USB HID, Hardware: Procesor: Intel Core i5
Battery: Li-Ion, 3S3P, 9600 mAh, Charger: 15V, 5A, Cooling: Active
Low weight and dimensions - 397 x 280 x 57 mm (WxHxT)

CABLE DRUM

Material - stainless steel, capacity - 80 m (push rod 7,8 mm), sensor of unwinded cable length, axial brake, weight - ca. 7 kg (without push-rod) and ca. 11 kg with 50 m push-rod

CAMERA HEAD HD46 OR HD60

Axial camera head HD46

Type: CMOS, progressive scan, Size: 1/2.8", Lens: D-6.46mm, F 2.8, Resolution: 1920x1080 (Full HD), Aspect Ratio: 16 : 9, Shutter Type: Rolling Shutter, Min. Illumination 0.0125 Lux, Angle of View: 105°(H) x 60°(V), Illumination: 12x LED, Weight approx. 0.55 kg

Rotary camera head HD60

Type: CMOS, progressive scan, Size: 1/2.8", Lens: D-6.46mm, F 2.8, Resolution: 1920x1080 (Full HD), Aspect Ratio: 16 : 9, Shutter Type: Rolling Shutter, Min. Illumination 0.0125 Lux, Illumination: 8x LED, rotation angle: without antenna from -105 to 105 degrees, with antenna: from -60 to 60 degrees, FOW: 110 degrees, manual focus, built-in 33kHz cable locator probe, Length 190 mm, Height 46 mm, Weight approx. 0.98 kg



HD46



HD60

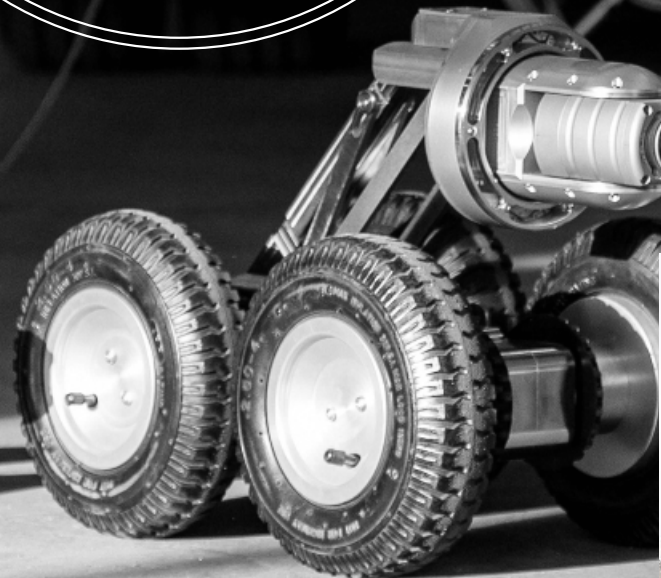
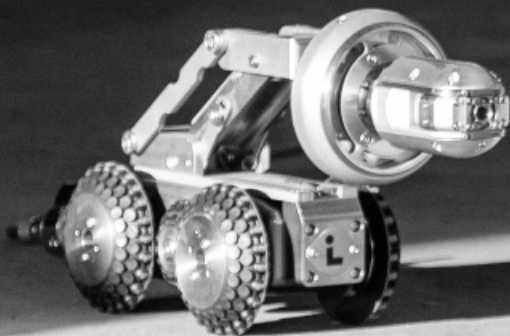
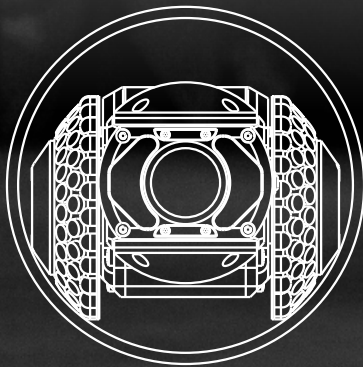
CAMBOSS SYSTEM

Each system consists of a combination of a control unit, cable drum and crawler, with all components being compatible with each other. There are 3 crawlers, 4 cable drums and 3 control unit variants to choose from. The combination of the individual components allows for optimum performance and efficiency in a variety of tasks.

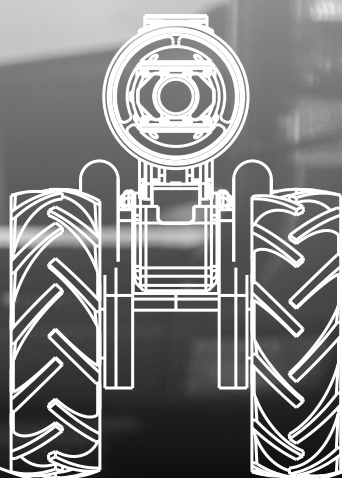
The CAMBOSS system can be used as a portable assembly or built into a van. The possibilities of its use are further expanded by, for example, attachments for satellite systems or Quick-Lock applications. After adaptation, a milling robot can also be controlled with the CamBoss control unit. The Trimaran is also an interesting alternative for larger DN with higher effluent levels. By acquiring one system and various accessories, client gets a wide range of applications.

DN 400

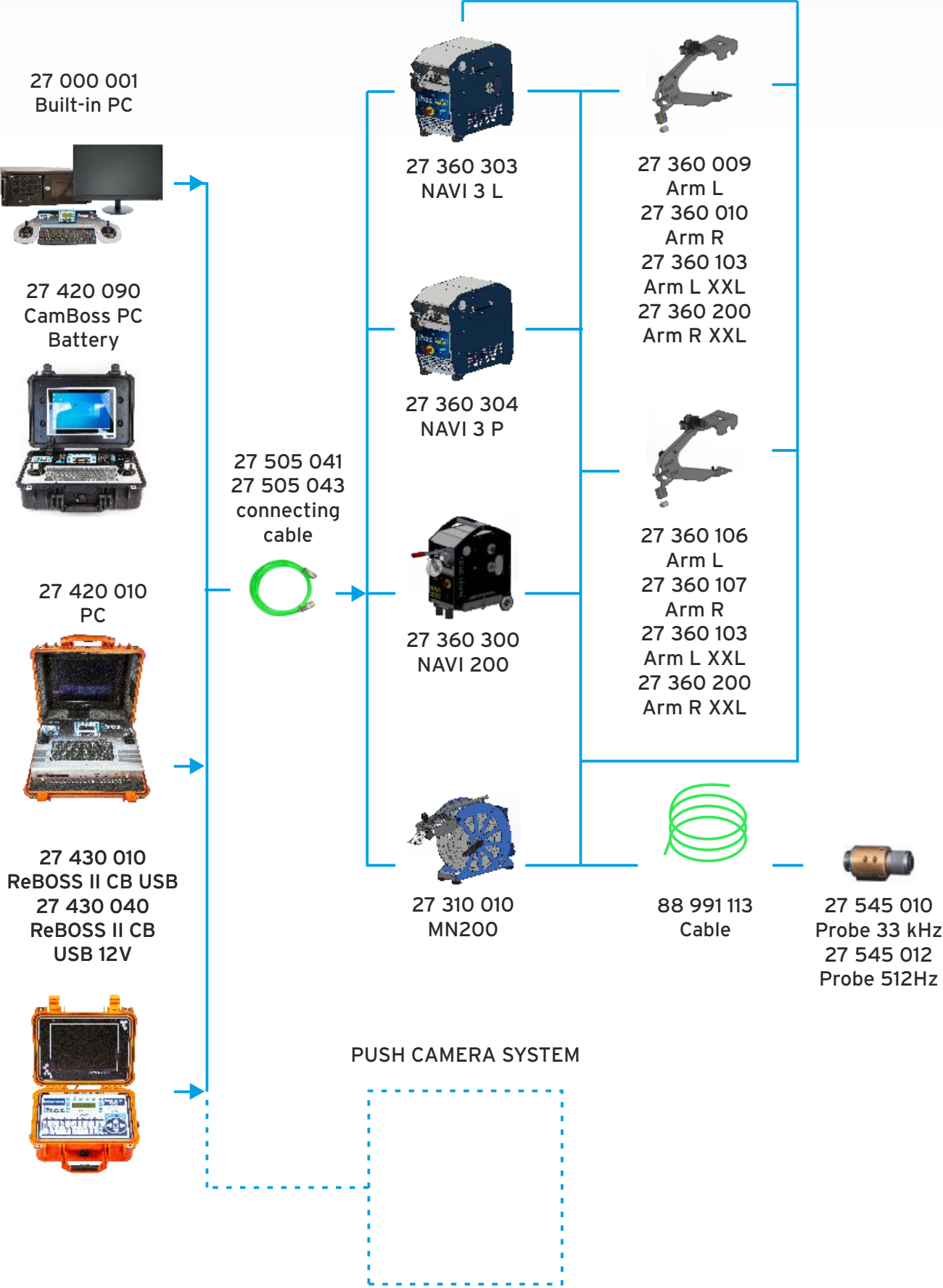
DN 150

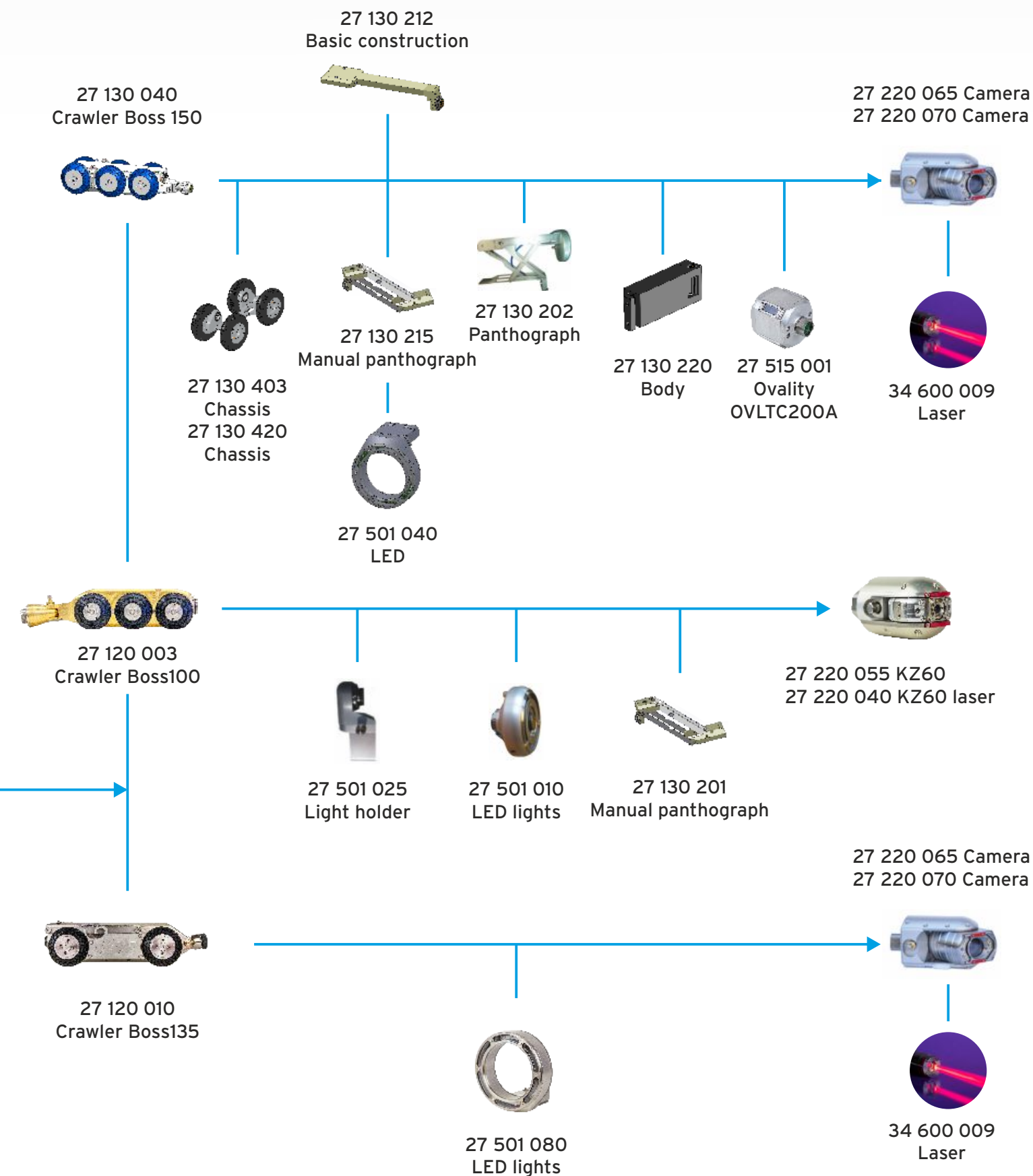


DN 1000



Overview of CAMBOSS camera series compatibility





CAMBOSS 100

The camera system CamBoss 100 is determined for pipe monitoring of diameters DN 100 - 300 mm. The camera crawler is equipped with two engines, which enable its simple turning and fluent drive in the pipe. Thanks to pan and tilt camera head KZ60 is possible to monitor the pipe in detail. Camera CamBoss 100 has the same control unit as the higher model line CamBoss 150_IV. It is possible simply substitute the cameras according to monitoring needs and pipe diameter.

| TECHNICAL SPECIFICATION |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CONTROL UNIT - different options the same types as the higher model line CamBoss 150_IV. |
| CABLE DRUM - different options The same types as the higher model line CamBoss 150_IV., max. cable length 200 m (by cable drums with higher cable capacity is max. crawler run out 200 m) |
| SOFTWARE - various modules the same types and module as the higher model line CamBoss 150_IV. |
| CAMERA HEAD KZ60 Colour CCD camera, resolution 307.200 pix, light sensitivity 0,3 lux by F1,2, range angle 50°, 8 x LED, swing 2 x 125°, rotation 360° (infinity), waterproof up to 1 bar, built-in pressure sensor for monitoring of tightness. |
| CAMERA CRAWLER BOSS 100 Drive 6x6, 2 engines 35W, 1 set of basic wheels, hook for lowering into the shaft, water-resistant up to 1 bar, material - brass |
| ACCESSORIES Wheels for diverse diameters, LED light, light holder, probe 33 kHz or 512 Hz, auxiliary arm for cable reel, Radiocontrol, cable drum NAVI 3, guiding pulley for the pipe edge, radiocontrol |



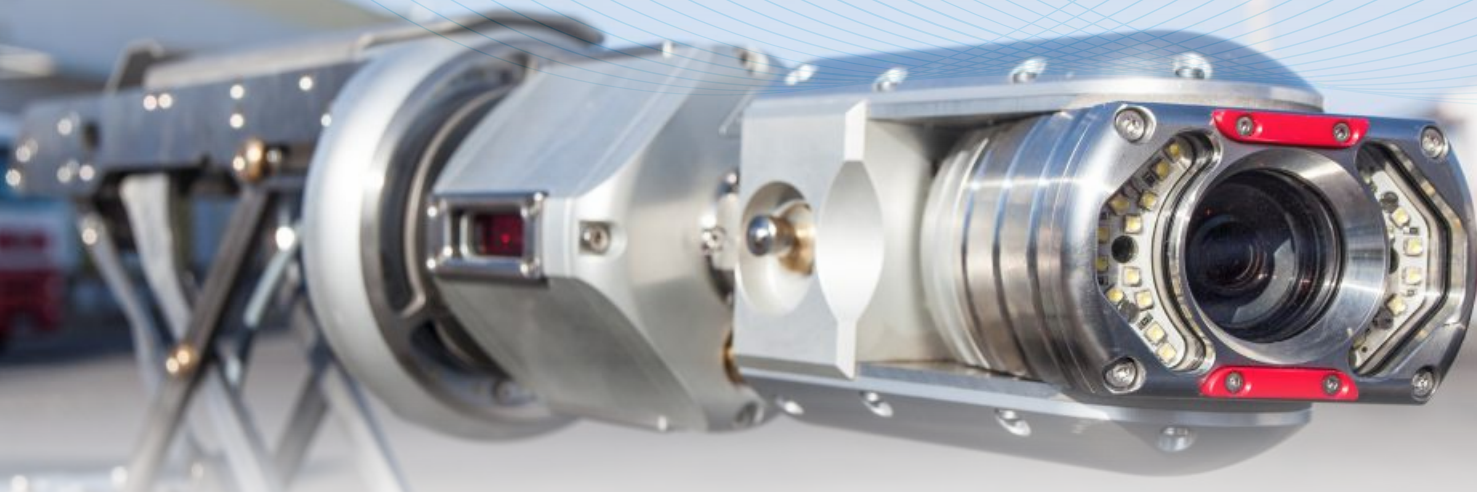
CAMBOSS 135

Crawler camera system CamBoss 135 is designed for pipe inspection DN 150-800. CamBoss 135 camera is characterized primarily by simplicity and user friendliness. It is especially suitable for simpler inspection work, where crawler turning or remote arm / pantograph height adjustment is not necessary. Camera crawler is compatible with control unit, cable drum and camera head of higher series CamBoss 150_IV. Thanks to compatibility, cost savings can be achieved.

| TECHNICAL SPECIFICATION |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CONTROL UNIT - different options |
| the same types as the higher model line CamBoss 150_IV. |
| CABLE DRUM - different options |
| The same types as the higher model line CamBoss 150_IV., max. cable length 200 m (by cable drums with higher cable capacity is max. crawler run out 200 m) |
| SOFTWARE - various modules |
| the same types and module as the higher model line CamBoss 150_IV. |
| CAMERA HEAD KZ95CB |
| High-resolution colour camera PAL 720x576TVL CVBS, light sensitivity 0,15 lux / F1,5, remote focusing, view angle 50°, 2 x 120° panning, 360° rotation (unlimited). 24x high power LED, 650 lm, 5,5W. 10x optical zoom + 12x digital zoom. |
| CAMERA CRAWLER BOSS 135 |
| Crawler with drive 4x4, with 75W engine. Material - brass. Designed for DN150 up to ca. DN800, incl. 1 wheel set (4x100 mm). Waterproof up to 1 bar. With connector for addition lights, manual arm/pantograph and hook for lowering into shaft. Designed for camera head KZ95CB. Weight ca. 13 kg. |
| ACCESSORIES |
| Additional light - LED 18 W, wheels for various diameters and surfaces, lasers for camera head KZ95 for cracks / hollows and joints measurement with help of DigiCan SW. |



CAMBOSS 150_IV



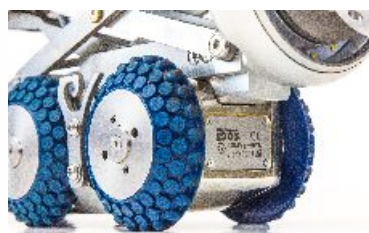
The highest version of series CamBoss - CamBoss150_IV is available as portable or firmly integrated in a vehicle. This camera system is designed for pipeline monitoring DN 150 - DN 1200 (possible up to DN 2000 when using special adapters). The camera crawler has two motors with high performance 100 W, which enables easy turning and controlling. Thanks to the rear camera with sensitivity 0,025 lux is the way out from the pipe easy. High-lift pantograph, on which the camera head is mounted, enables lifting the camera up to the pipeline axis, which together with the LED auxiliary lights allows to make the pipe monitoring quickly and in high-quality. The auxiliary chassis is determined for bigger diameters. The CamBoss reel can be supplied with the cable length from 200 to 500 m. The control unit (eventually built in) is controlled via PC, which contains software including DigiCAN software.

| TECHNICAL SPECIFICATION | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CONTROL UNIT - different options | |
| CamBoss control unit | 15" LCD industrial colour display, inputs DVI and CVB-S, integrated PC, display of actual video Picture with possibility of switch to PC mode, optional SW DigiCAN (display of date, time, measuring of unwinded cable length, inclination, swing, rotation, pressure, etc.) and creating of documentation to damaged spots |
| Camboss PC Battery | Mobile battery control unit with touchscreen 12,1". With help of DigiCan SW - display of diverse data in the picture (date, time, measuring of unwinded cable length, inclination, swing, rotation, pressure, etc.) and creating of documentation to damaged spots. |
| ReBoss CB USB / ReBoss CB USB 12V | Battery control unit designed for crawlers BOSS 100, BOSS 150, (or only Boss135), pantograph GNTR 200E, camera head KZ95CB and NAVI 200, NAVI 300, NAVI 500 cable drums. Cooperates with REVI 90, REVI 260, REVI 350, REVI 450 and camera heads KA46, KZ60, KZ95CB. 10"LCD 800x600 industrial colour screen, control panel, keyboard. Power 230V AC or 12V DC (according to chosen variant). |
| Built-in CamBoss | 22" industrial colour display, inputs DVI and CVB-S, display of actual video Picture with possibility of switch to PC mode, optional SW DigiCAN (display of date, time, measuring of unwinded cable length, inclination, swing, rotation, pressure, etc.) and creating of documentation to damaged spots |
| It is possible to extend the controlling by adapter for controlling of electro-robot | |
| SOFTWARE - VARIOUS MODULES | |
| Basic (video recording and report creating according to EN13508-2), photo protocol, ovality, laser (measuring of cracks), measuring of level height and sediment, gradient, measuring of diameter and ovality, interactive protocol, continuous ovality, ISYBAU XML, set of all programmes PRO | |
| CABLE DRUM - different options | |
| MN200 | Manually cable drum, special lightweight cable with length up to 200 m (according to wish). Cable drum equipped with guiding pulley. Construction resistant against water splash. Weight 23 kg (without cable), 37 kg (200 m cable) |

| | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAVI200 | Automatic motorized reel, guide pulley for reducing the strain on the cable, sensor for measuring the length of unwinded cable, resistant against water splash, capacity max. 200 m cable. The reel includes the remote control hand control, which enables the controlling of crawler and camera |
| NAVI 3 | Automatic motorized reel, guide pulley for reducing the strain on the cable, sensor for measuring the length of unwinded cable, resistant against water splash, capacity max. 500 m cable |
| | OPCE: NAVI 3 remote controller RadioControl |
| CAMERA HEAD KZ95 | |
| High-resolution colour camera PAL 720x576TVL CVBS, light sensitivity 0,15 lux / F1,5, remote focusing, view angle 50°, 2 x 120° panning, 360° rotation (unlimited). 24x high power LED, 650 lm, 5,5W. 10x optical zoom + 12x digital zoom. | |
| CAMERA CRAWLER BOSS 150 | |
| Drive 6 x 6, 2 engines 100 W, automatically balancing to prevent overturning, 1 set basic wheels, water-resistant up to 1 bar | |
| ACCESORIES | |
| Lasers for camera head for measuring cracks, holes and connections in pipe, ovality module for continuous measuring of pipe ovality, electric pantograph with LED lighs 17,5W/2274 lm, manually elevating arm, auxiliiriary chassis (DN 400 - 1000 mm), probe 33 kHz or 512Hz, wheels for various diameters, upper guiding for ovoid pipe profiles and other. | |

CamBoss 150 system also in ATEX version designed for explosive environments:

Ex II 3G Ex pz IIB T5



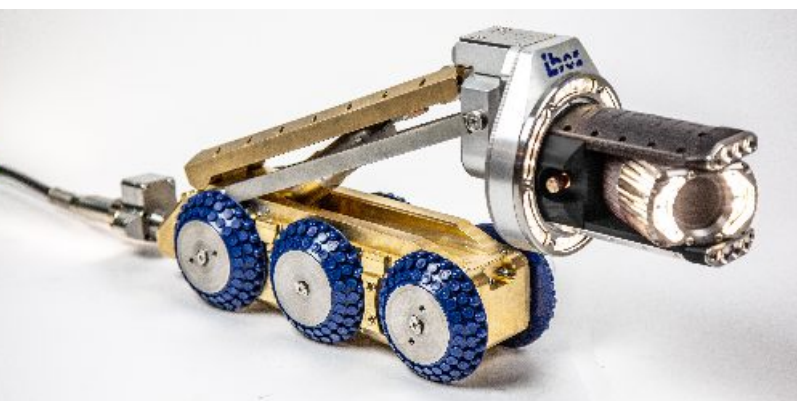
IBOS HD crawler System

The first IBOS car system with HD image quality. As with the analogue IBOS CamBoss, you can combine different types of camera heads, trolleys, winches and control units, but thanks to more advanced software and mechanical solutions, it offers higher performance. Particularly for servicing, the absence of optical fibers in image transmission is an advantage.



HD60 - 1920x1080 resolution, 16:9 aspect ratio, light sensitivity 0.01 lux/ F2.5, swivel 2 x 105° (with antenna 2 x 60°), 8 x LED lights with a cumulative power of 4.7 W, auto/manual focus, viewing angle 110°, 12x digital zoom, optional lasers

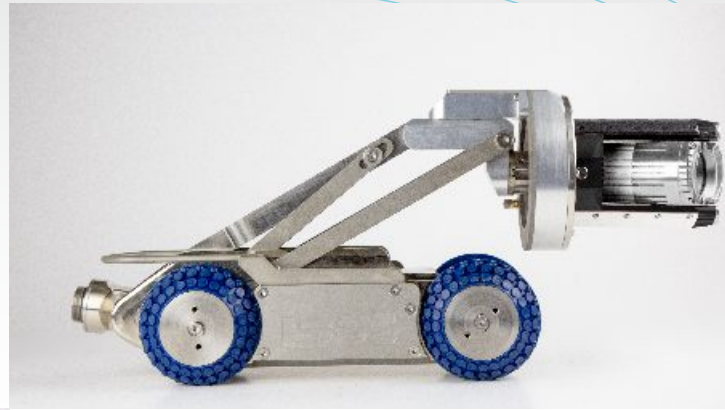
HD95 - 1920x1080 resolution, 16: 9, light sensitivity 0.15 lux/F1.5, auto/manual focus, 110° angle of view, swivel 2 x 110° and swivel 360° (infinity), 12x superluminous LEDs - 5.5 W cumulative power on swivel part of head, 6x LEDs with reflectors on fixed part, 6.6 W power . 10 x optical + 12 x digital zoom, 33 kHz probe, lasers



Boss 135HD

Chassis: 4x4 drive, 1 motor 75 W, designed for DN 150 - 800, pressure tight to 1 bar, with connector for additional light, 1 set of basic wheels , with manual arm and hook for lowering into shaft. For camera with HD60 and HD95 swivel head.

Option: additional lights, wheels for different DN



Boss 145HD

Chassis: 6x6 drive, two 100W motors, electric arm, automatic levelling when driving against rolling over, 1 set of basic wheels, HD reversing camera with illuminator, pressure-tight up to 1 bar, for camera HD95

Option: additional lights, wheels for different DN, additional chassis (DN 400 - DN 1200), top guide for ovoid pipe profiles.



HDBox PRO - Battery-powered mobile control unit for monitoring pipelines using Hd46, HD60 and HD 95 cameras with the option of recording the inspection using DigiCan software.

CPU Intel i5-6300U 2.4GHz, RAM 8GB DDR4, hard drive 250GB SSD, LCD 12.1" 1280x800, touch screen, brightness 1000cd, Windows 10 Home, WiFi, 1x USB 3.0, 1x USB 2.0.

There will be two winches with a capacity of 150 and 300 metres - Automatic motor winch, guide pulley to reduce cable strain, sensor to measure the unwound cable, splash-proof, max. capacity 150/300 m of cable.

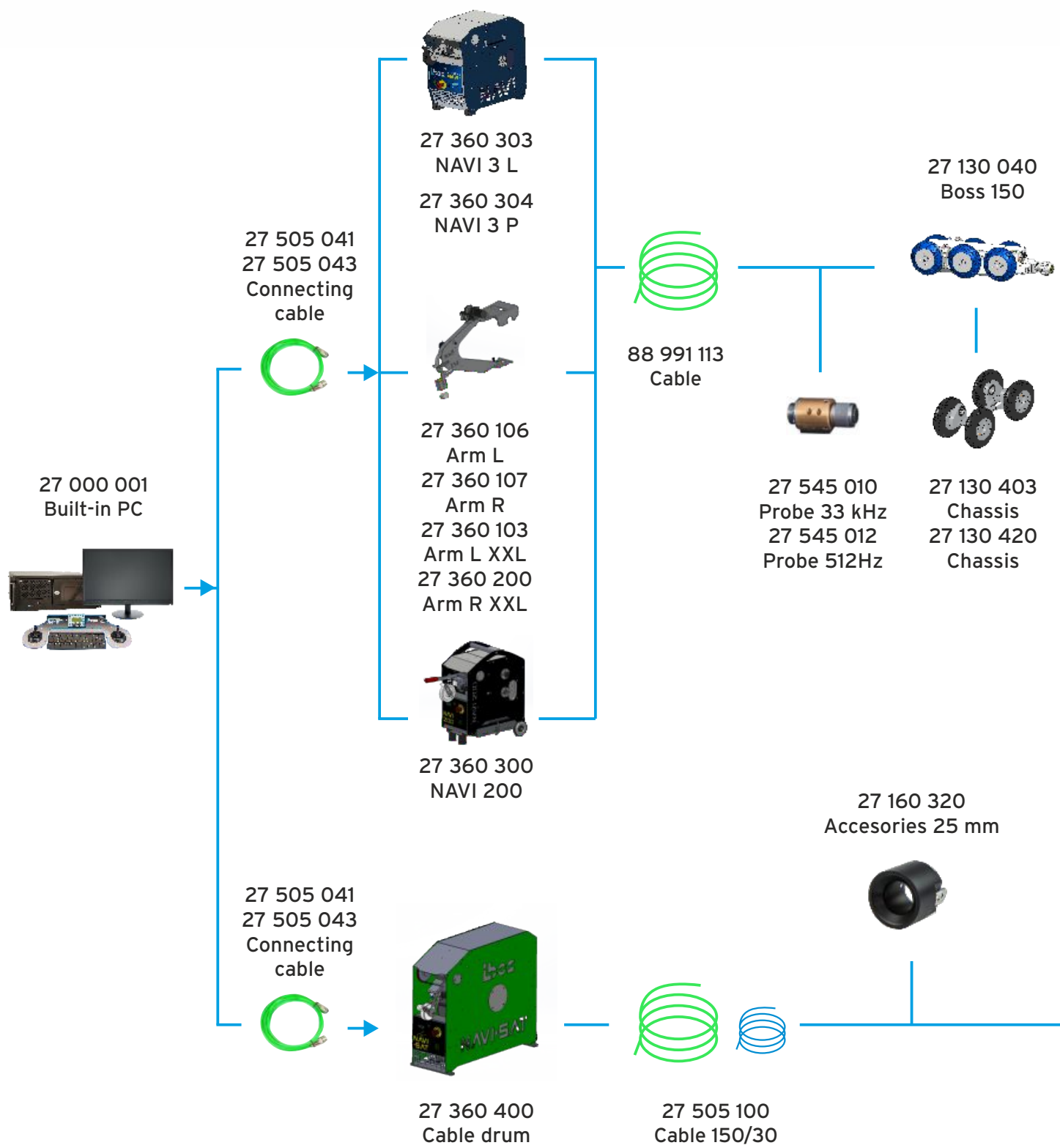


HD PRO Control Unit -

Battery powered mobile control unit for monitoring pipelines using HD46, HD60 and HD95 cameras with the ability to record inspections using DigiCan software. Intel i5-6300U 2.4GHz CPU, RAM 8GB DDR4, 250GB SSD hard drive (expandable), 21" 1920x1080 LCD, backlit keyboard, waterproof design, WiFi, 2x USB 3.0, 1x USB 2.0, 1 x USB-C, battery for min. 2 hours of work.



Overview of CAMBOSS satellite extension



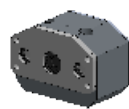
27 160 350
Extension chassis



27 160 300
Attachment DN1000



27 220 065 Camera
27 220 070 Camera



27 565 013
Basic camera



27 160 310
Attachment DN600



27 565 014
Camera holder KZ95



34 600 009
Laser

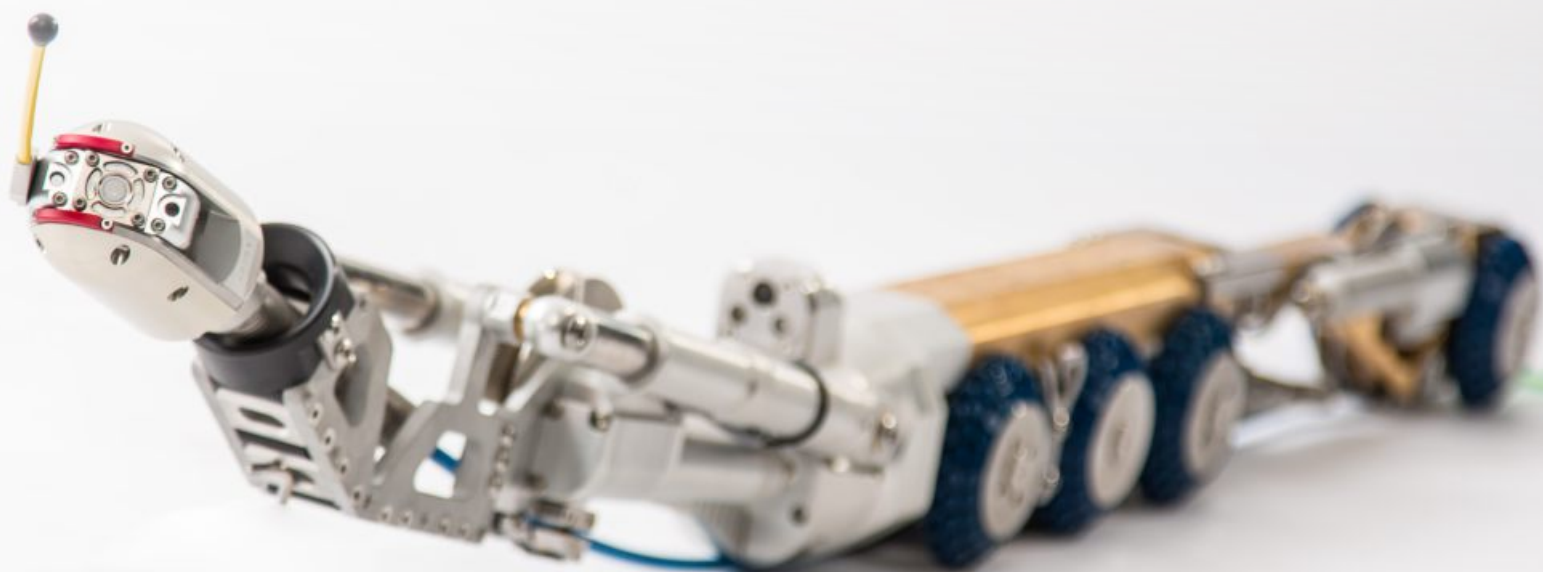
27 220 055
KZ 60
27 220 040
KZ 60 laser



27 570 002
Antenne

CamBoss with satellite extension

Satellite extension of the crawler Boss 150 (6 x 6) for pipe inspection in DN 150 - 1000. View camera is a component of the satellite extension, therefore inspection of pipe connections is enabled.



TECHNIC SPECIFICATION

CAMERA HEAD KZ60

Resolution 307.200 pix, Swing 2 x 125°, rotation 360° (infinity), 8x extra luminuous LED, water-proof up to 1 bar

CONTROLLING

Two 3-axes joystics

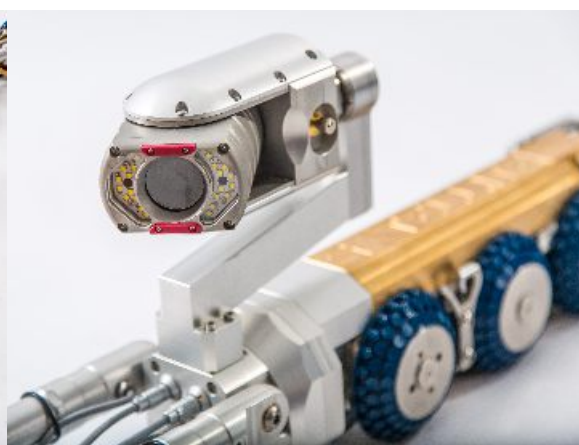
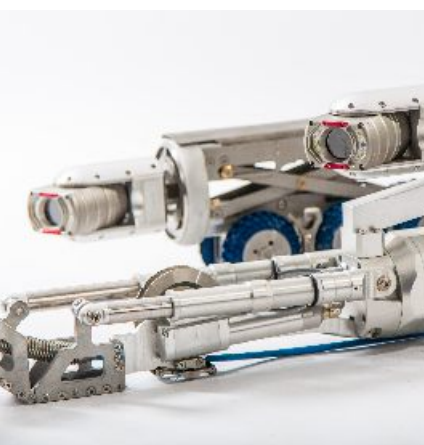
SATELLITE CABLE DRUM

Flexible cable reinforced with kevlar + push-rod cable

OPCE

JetCam - combination of satellite camera and high-pressure cleaning machine for pipe cleaning (built-in into for example MB Sprinter 5t)

This system is designed only for the built-into the vans.



WELL 800

Camera system WELL 800 is designed for bore monitoring with diameter DN 150 - 800 mm. Stainless steel camera head is lowering into the bore with help of tripod equipped with pulley. The camera head enables rotation on its axis. In the front of the camera there is camera module designed for vertical view. Side view is controlled with help of second camera module under angle 90° with front optical system. Picture between front and side view is switched by the control unit. The condition of the bore is continuously displayed on the monitor, with possibility of recording and photos creating.



TECHNICAL SPECIFICATION

CONTROL UNIT

Control unit compatible only with Well800 system. Provided with 15" LCD industrial color screen with DVI and CVBS inputs, control panel with keyboard, placed into mobile case. LCD shows actual camera image with option to switch to PC mode. With aid of DigiCAN Light software it is possible to include various information (data, time, cable length, component pressure) and create customer reports containing suspected areas images and commentary. Dimensions ca. 250 x 550 x 450mm.

CABLE DRUM

Automatic motor cable drum - price without cable. The reel is compatible only with the WELL800 system. Guiding pulley enables support inserting of camera. Unwinded cable length sensor, up to 300 meters cable capacity, splash water resistant, safety STOP switch. Dimension 360x 580 x 740 mm

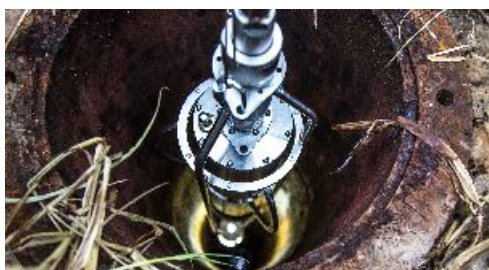
CAMERA HEAD

Camera for well inspection up to 300m depth. Works only with cable drum NaviWell. Works only with control unit NaviWell. 1x camera for straight view into well + 1x rotating camera for lateral inspection.

ACCESSORIES

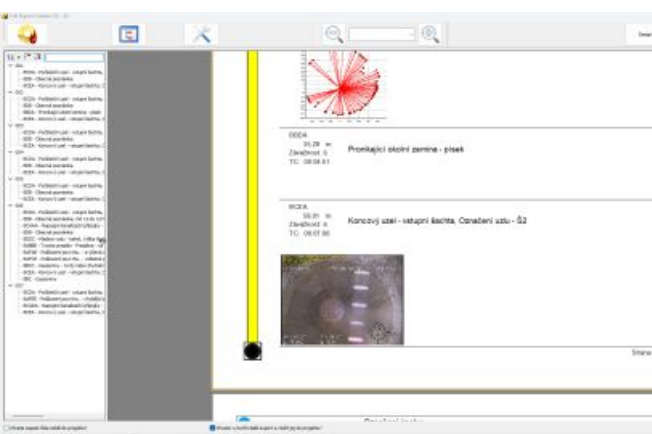
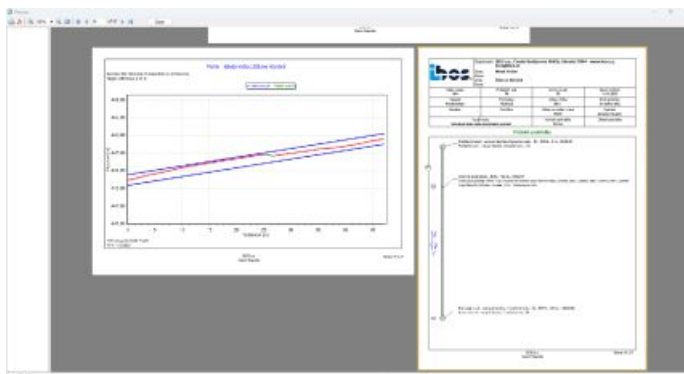
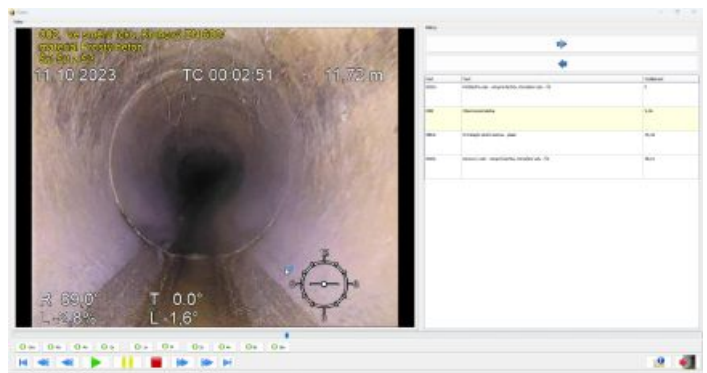
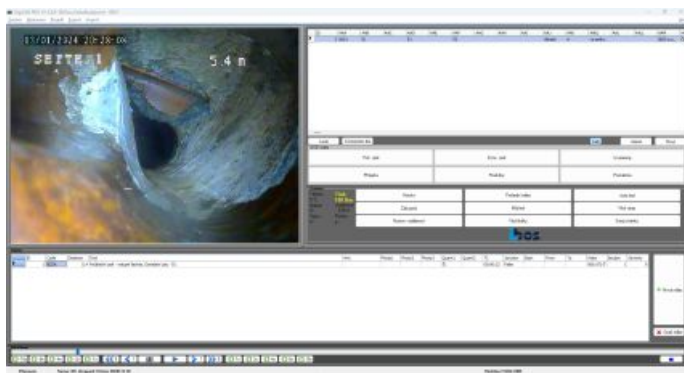
Input power 70 - 100 W depending on cable length.

Special camera cable without coax, kevlar reinforced and connectors assembled, 5,5 mm diameter. Weight 3,8kg/ 100m



Camera SW DigiCan

In 2008 we decided to create our own, simple software for our cameras. DigiCan, as we called it, quickly gained customers. The advantage is the ease of use and also a more affordable price in comparison with competing products. In the Pro version, it can generate inspection reports, take and caption videos and photos, measure gradients, pipe diameter, connection height, ovality, as well as level and sediment. This information is clearly recorded and exported either as a PDF file or on a DVD or USB drive in an interactive format for convenient viewing of videos, photos and gradient graphs. Data can be transferred to GIS systems using various formats such as XML, CSV, TXT, etc. Reports can be customized or completely redesigned according to the client's needs. DigiCan Pro uses the European standard EN13508-2+A1, the English WRC and has also been certified by NASSCO for the US market. It also allows you to reverse engineer a viewing report from pre-existing video taken with almost any camera in the comfort of your office. DigiCan is constantly evolving according to user requirements and new camera system capabilities. Online support and updates via the Internet are a matter of course.



Specialities

The CamBoss system components are used in construction of other special equipment for pipe inspection and rehabilitation. For example - cameras for dry wells, shaft cameras, float Trimaran or Quicklock device, which is designed for local repairs of damaged pipeline.

VIEWWELL



SHAFT INSPECTION CAMERA



TRIMARAN



QUICKLOCK



Camera built-in

We offer professional solution of camera system as built-in into the van according to your choice. You can choose from wide offer of combination and furniture built-in providing everything needed for work in the field.

Standard solution - the car inside is professional insulated, floor and partially walls is coated with water-resistant polyurethane painting, walls and ceiling is covered with material according to customer's wish, usually with aluminium chequer plate. The inner room is possible to divide with dividing wall on work part and office (= simple maintenance and comfort of operators). We can install independent heating, electro generator, electrics 12/24/220 V, battery systems, LED lighting, rear camera and other equipment according to your wish and requirements.

For further information, please contact our sales representative. We will gladly prepare the offer for you according to your requirement and adapt the car for the most optimal utilization.



Equipment for pipe pressure tests

Tests of the leak tightness of the pipes are made after the construction of the new pipe networks, during the check of old pipes or after pipe reconstruction. Our company offers the newest unit for pipe pressure testing - pressure case IBOS PRESS PC Battery, with integrated PC, which enables to show the progress of the pressure on the display and transferring the data into digital form. We offer own software DigiPress, which enables collection of the data, its archiving and analyse of the tests with creation of protocols, everything done according to standard EN1610. The device enables various test methods, when you can analyse, what is the damage level of pipe.



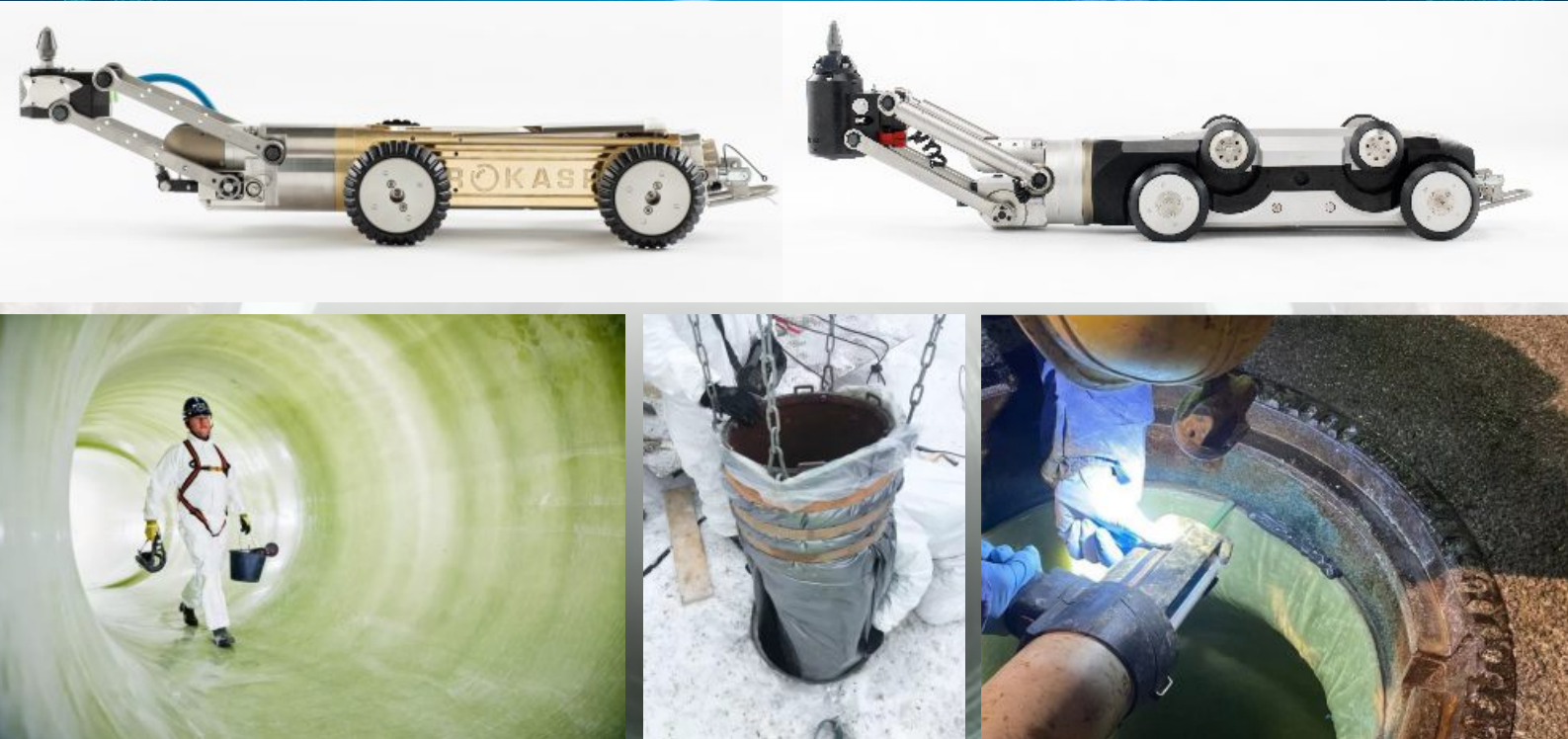
Technology for pipe repair

Cleaning, monitoring and subsequent reconstruction of sewer networks are unconditionally related with each other. Therefore new and more precise multifunctional systems are permanently developed. These allow to keep the sewer networks in the best condition.

Robotic equipment **PROKASRO** belongs to the top technology - our company can offer you these systems. You can choose from pneumatic or hydraulic cutting robot with own driving unit, which is designed for sewer repairs.

Self-propelled robot with camera has easy remote control. The signals are transferred via cable to the operator's desk, who can quickly analyse the situation and react on it with help of recording on control unit. With these robots you can repair and cut the sewer. Next important and high-performance technology is the UV-System based on using the ultraviolet radiation, which enables the hardening of liner in the damaged places. The reaction is quick for shortening the time, when the sewer is put out of the operation.

Next product designed for repairs of sewer made by **PROKASRO** is UV system based on ultraviolet radiance, which ensures the process of liner hardening. The reaction is very quick and so can the pipe be used immediately after the hardening is finished.

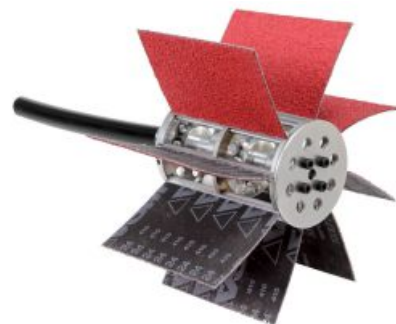


We can also offer liner from the company **Brandenburger**, which we represent on Czech and Slovak market. This method belongs to one of the most progressive for repairing of sewer. Main benefit is removing of expensive trench works and shortening of shutdown time on minimum. Seamless liner made from glass fibres and structure of the grid is according to calculated thickness produced for stated measurements of the pipe (diameter, length) and form of the liner. Thickness of the wall is determined on the basis of static calculation regard to profile, degree of damage, height of ground water and depth, where the pipe are installed. The liner is hardened on the basis of chemical reaction - it acquires shape of damaged pipe and so it is fully replaced.

BRAWO SYSTEMS provides optimal and comprehensive solutions for rehabilitation of real estate and building drainage systems. The BRAWO ® SYSTEMS company has developed a perfect portfolio of products that make it possible to carry out rehabilitation work using trenchless construction methods, without the need to demolish walls or ceilings or dig trenches. Consumables, machinery and installation equipment, as well as fully equipped rehabilitation trailers, are all part of our service offer.



PICOTE - the world's leading manufacturer of machines and equipment for cleaning and rehabilitating sewer pipes of smaller (domestic) pipe systems. Rotary machines of various capacities and sizes with a wide range of tools and accessories represent a practical helper with universal use.



The Hächler Climbolino E - milling robot was developed especially for the current conditions in sewage rehabilitation. With a powerful electric milling spindle and exceptional flexibility and multi-dimensional functions, the service connection robot brings a true revolution in sewer rehabilitation.



Nozzles

Warthog nozzles by StoneAge As the pioneer of controlled rotation in the drain cleaning market, Warthog drain nozzles provide the most effective cleaning across a range of pipe sizes. With classic, Pro and Magnum models, you can choose the best option for your budget and needs.



The USB Düsen company was founded in 1989 and is a manufacturer of nozzles for cleaning sewers and pipes, root cutters and special products. The products, some of which are protected by patents, are all made of stainless steel and are characterized by high quality workmanship, as well as high cleaning performance and traction force in daily use.

Detectors

Detectors are often used for whistling, locating and searching failures in pipelines. A probe is attached to a camera. The camera is inserted to the pipeline and in case we see a defect in the pipeline via the camera, we can locate the place in the terrain using the detector, which facilitates excavating sewer for repairs. Detector can also locate low voltage and telephone cables, which is highly practical to be used before the necessary excavation of sewer for its repair.



We supply pipe repair kits from **LATERAL REPAIRS. PATCH-POINT REPAIRS KIT** contains everything for one repair - gloves and wires, resin and material. For straight and bent pipes, available for patches of 550 mm and 1 m length, in summer or winter versions and with fast resin, from DN 50.



Demonstration events IBOS

Are you interested in any of our products?

Are you interested in any of our products? We offer you a practical demonstration. You can actually see the technology and see for yourself the advantages of the technology.

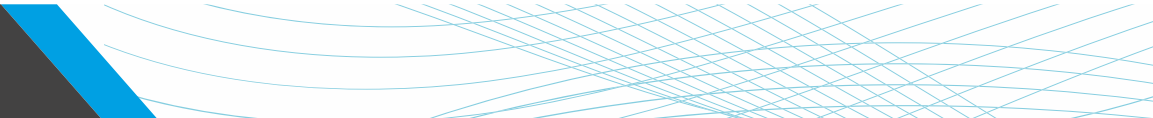
For information on the conditions of the demo events, please contact our sales representatives.

Sales representative:

- Martin Hobza
hobza@ibos.cz , +420 608 468 108

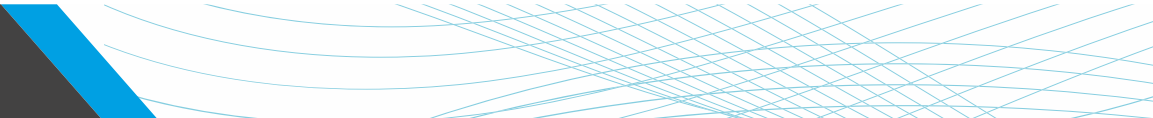


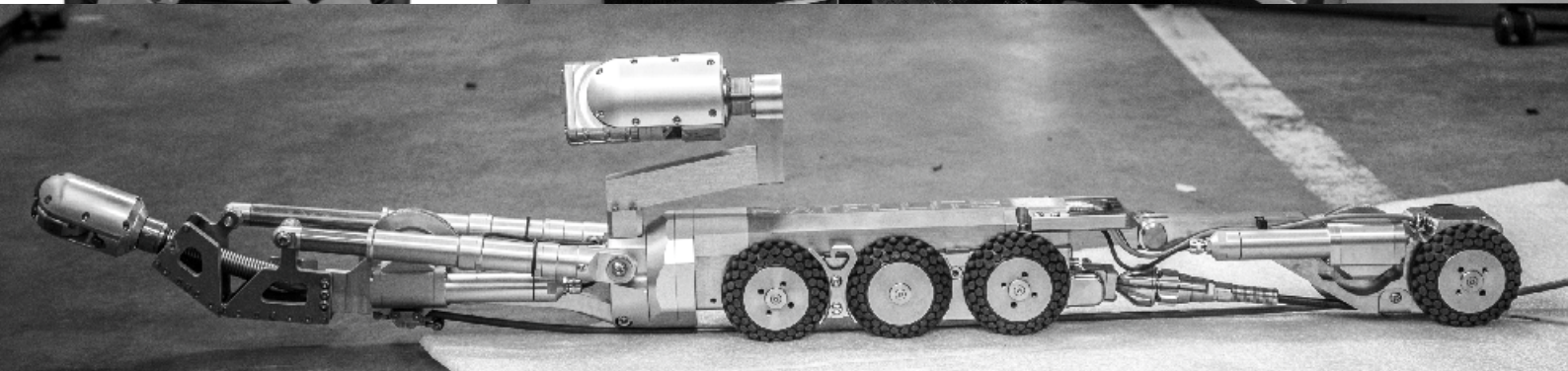
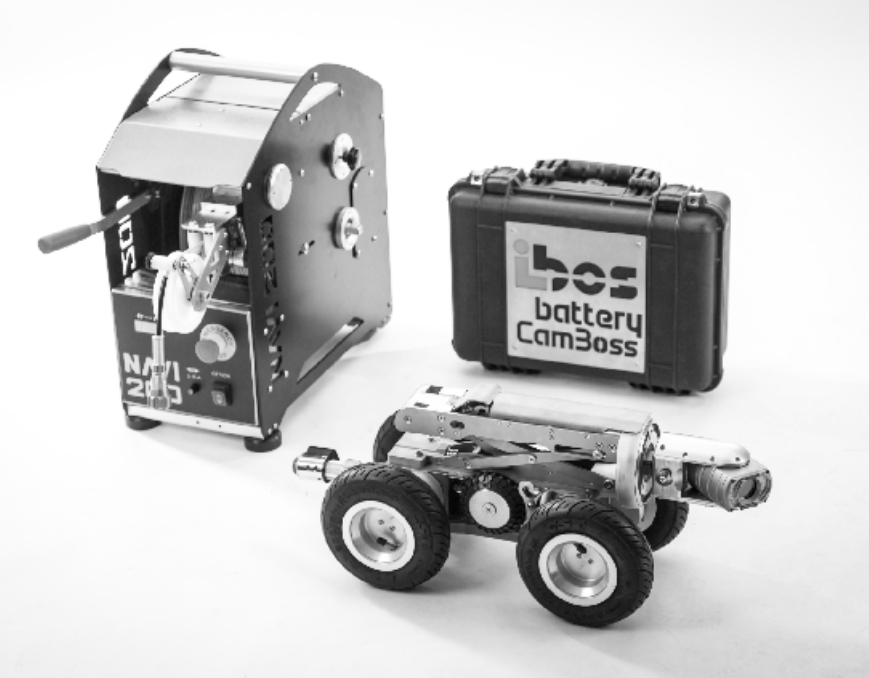
Handwriting practice area with 20 horizontal dotted lines.



Handwriting practice lines consisting of 20 horizontal dotted lines.

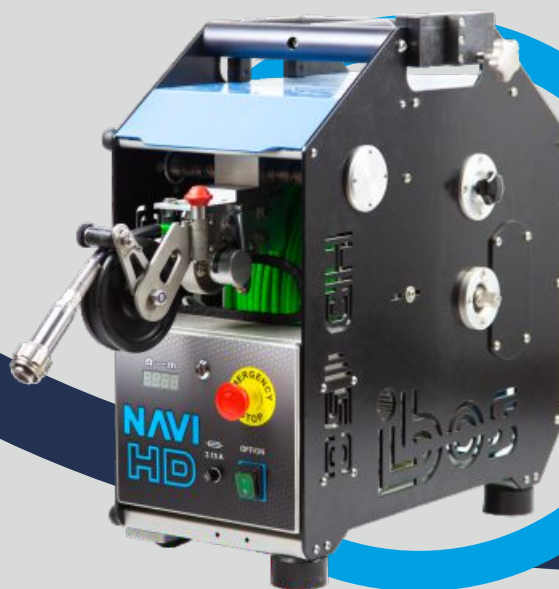
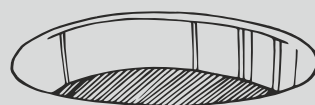
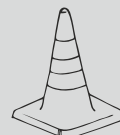
Handwriting practice lines consisting of 20 horizontal dotted lines.





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