

## Raising expectations for easier underground inspections

We specialise in the manufacture and distribution of Pipeline Inspection Systems including Proteus™ Crawlers, SOLOPRO+™ Push Cameras.

# PROTEUS

# Contents

About Us	3
System Configuration	4
Pipe Sizes	6
Proteus Family	8
Crawlers	12
Crawler Standard Features	14
Proteus Lite	16
Desktop Keyboard	20
Cameras	22
Auxiliary Lights	27
Automatic Reels	28
Motorised Reels	30
Manual Reels	32
Manual Reel	32
Lateral Reel	34
ATEX Systems	36
Crawler Wheels	38
Accessories	40
Product Specifications	56
Support	58

# About Us

Dedicated to pipeline inspection innovation



For over 30 years we have used our industry experience and customer feedback to continually innovate. We develop leading solutions for challenging environments, producing smart, user-friendly, durable, high-quality systems that keep our customers working.

We place a very strong emphasis on reliability and robustness, designing systems that are durable under both in-pipe conditions and during handling, and that are efficiently serviced so that working time is maximised. We design and produce almost all components in-house, which ensure the highest levels of quality and the ability to meet our customers needs for fast delivery and response times, and are an ISO9001 certified company.



Automatic Reel  
350/500m



CRP90 Tractor



Soft Rubber  
Wheel



Auxiliary Light  
Pods



Tractor Cradle



Floatation Raft



Motorized Reel  
250/350m



CRP140 Tractor



Wide Axle Wheel



Auxiliary Light/  
Backeye



Tilting Table



Lateral Pin Kit



Pressure Kit



Reel Bracket



CCU208 Control Unit



Manual Reel  
250/350m



CPL150S Tractor



Carbide Wheel



Pan, Rotate Camera



CCP60R/D Compatible  
Coiler



Battery Pack



Van Guide Pulley



VKU500 Desktop Keyboard  
VCU500 Desktop Controller



Lite Manual Reel  
250m



CRP300 Tractor



High Grip Wheel



Axial Camera



Roller Skids



Cable Guide Pulley



Extra Weight Plate



Joystick Remote  
Controller



Lateral Reel



LAT150 Tractor



Balloon Wheel



Pan, Rotate and  
Laser Camera



Portable Storage  
Trolley



Manhole Top Roller



Tractor Camera  
Extender



Inline Camera  
Adaptor



Pan, Rotate, Zoom  
and Laser Camera



Brick Egg Stabilizer



4 Button Remote  
Controller



Extension Reel



Pan, Rotate and  
Laser Camera

# MINIATURE TO MASSIVE

## Proteus handles them all

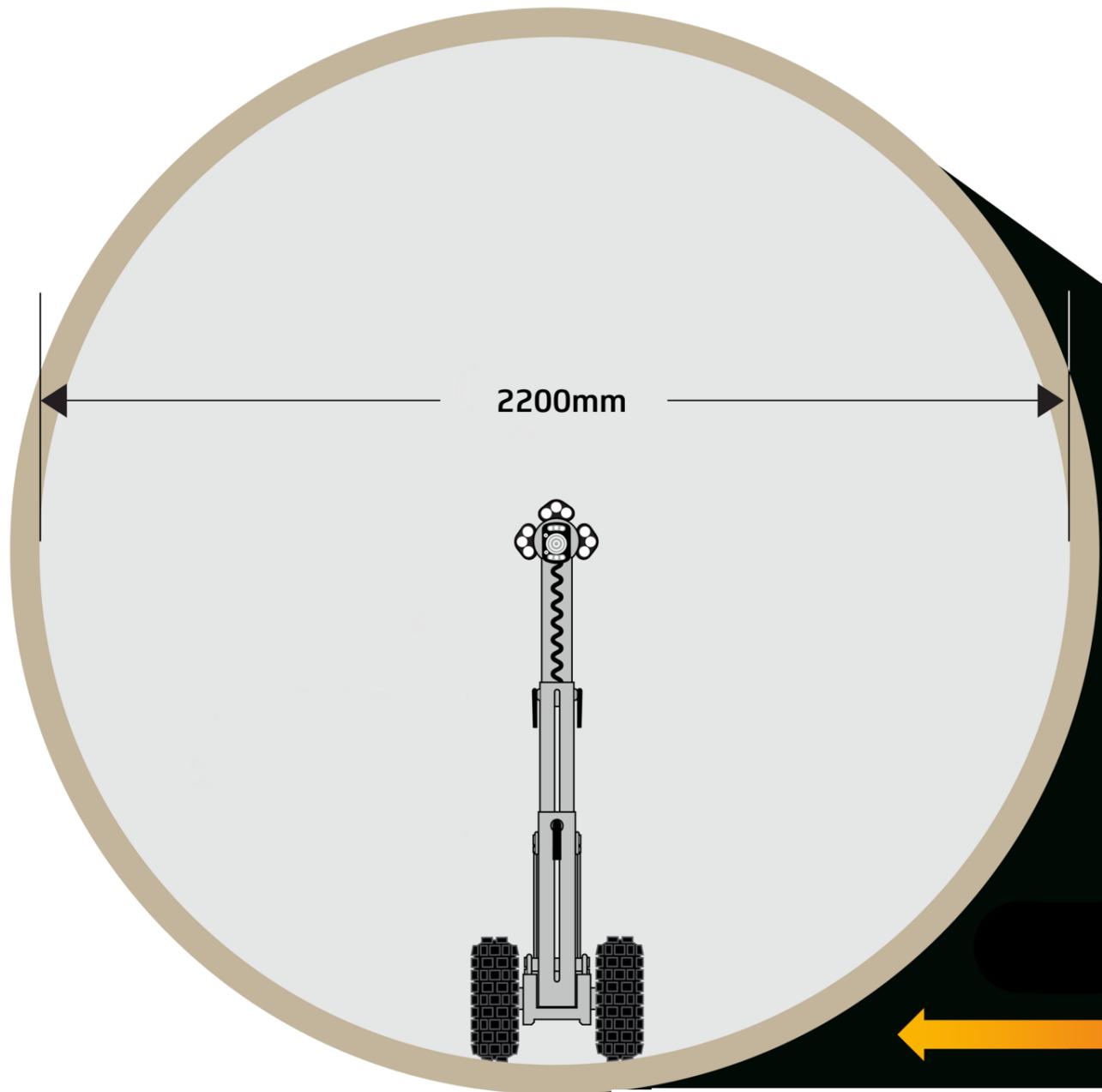
With four crawlers, six cameras, two compatible coilers and over twenty accessories, the Proteus system can be configured to perfectly meet your requirements. As your business grows simply add more components from the Proteus range to your kit, enabling you to significantly increase your inspection capabilities for larger diameter pipes and tricky, challenging environments. No matter what the pipe diameter, Proteus crawlers are rugged, agile and rapidly responsive to your commands.

The example shown here demonstrates the scope of the Proteus system. The compact size of our smallest CRP90 crawler allows it to easily survey relined 100mm pipes, while the CRP300 crawler, the largest in the range, with the optional CEP300 Camera Elevation Platform, centres the camera in an impressive 2200mm pipe diameter. For mid-size inspections, there are countless configurations possible with our CRP140 and CPL150 Crawlers - which one will you drive?

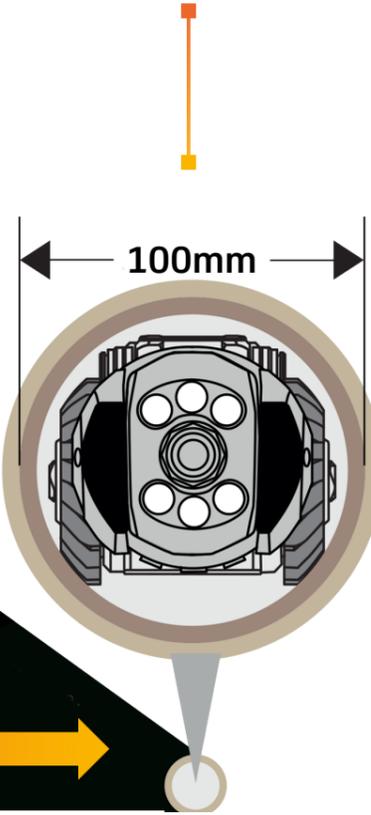
START  
PLANNING YOUR  
PROTEUS SYSTEM

Check out the  
configuration  
table on see  
page 4

CRP300 Crawler with CAM028 Pan, Rotate & zoom, ALN300 Auxiliary Lights, ALB300 Auxiliary Light/Backeye, CEP300 Camera Elevation Platform and QRW250 Balloon Wheels in a 2200mm diameter pipe.

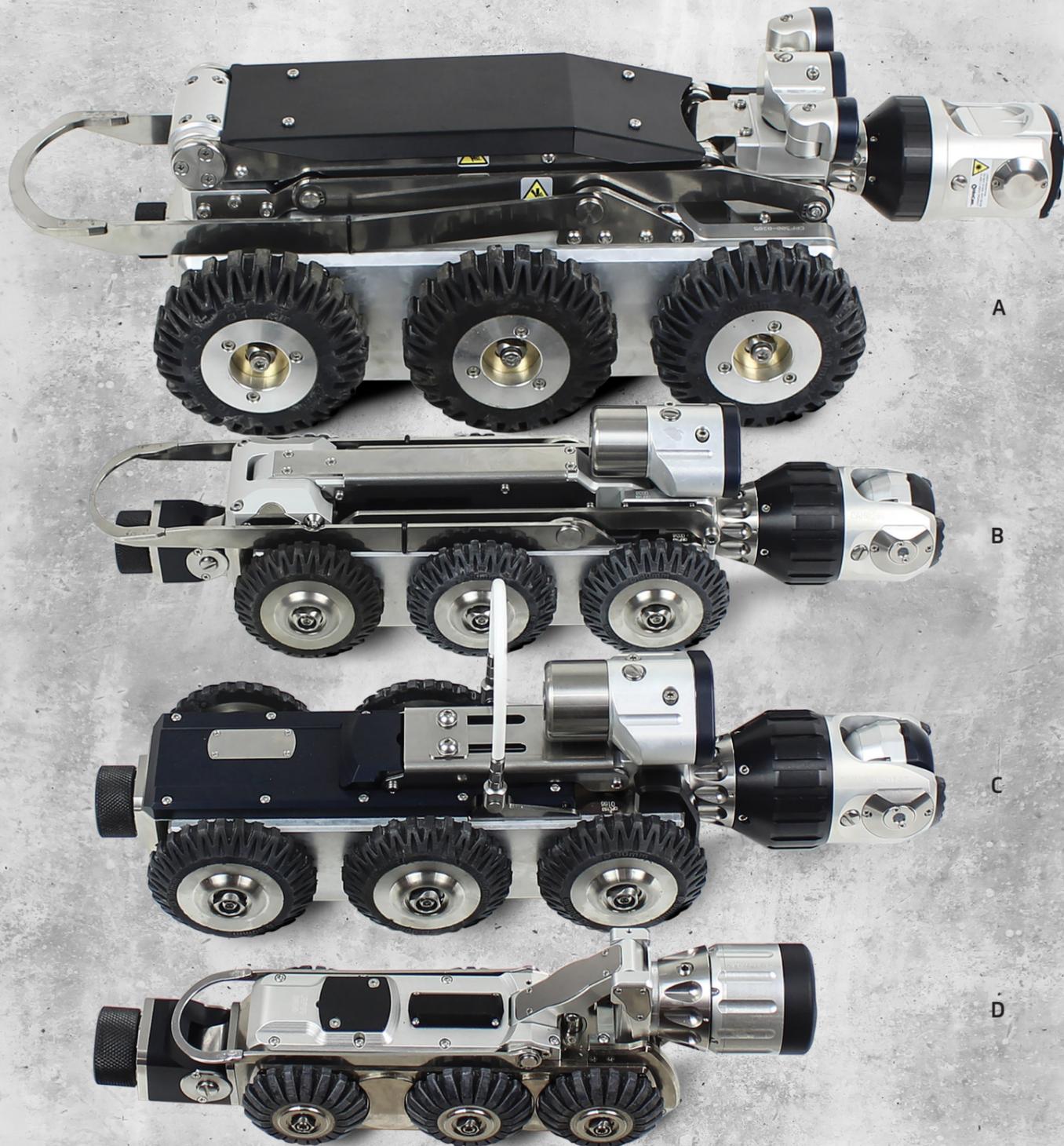


CRP90 Crawler with CAM026 Pan & Rotate Camera. Elevator Down, inside a 100mm diameter relined pipe.



**PIPE DIAMETER  
FROM 100mm  
TO 2200mm**

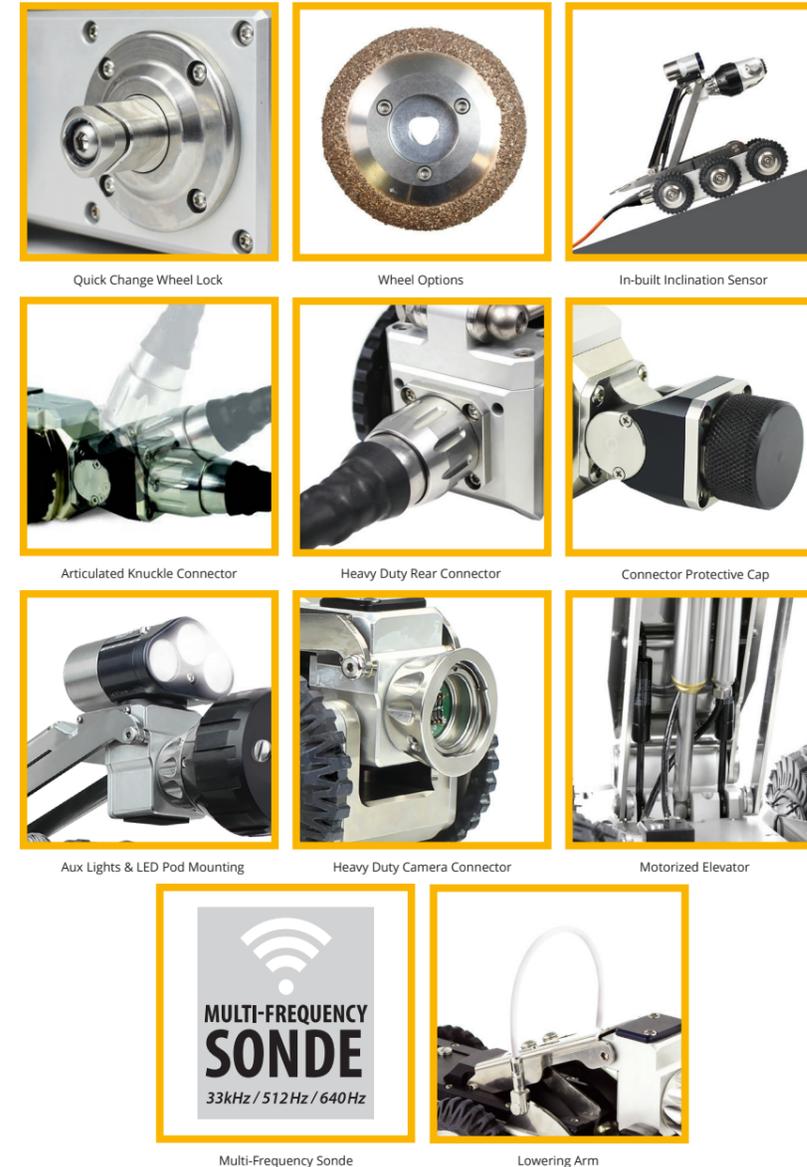
# PROTEUS FAMILY



A - CRP300 Crawler, CAM028L Pan, Rotate, Zoom & Laser, ALN300 Auxiliary Lights  
 B - CRP140 Crawler, CAM028 Pan & Rotate, ALB300 Auxiliary Light/Backeye  
 C - CPL150S Crawler, CAM026 Pan & Rotate, ALB300 Auxiliary Light/Backeye  
 D - CRP90 Crawler, CAM027 Axial

# IN-BUILT INNOVATION

## Key Features of Proteus Crawlers



Quick Change Wheel Lock

Wheel Options

In-built Inclinometer

Articulated Knuckle Connector

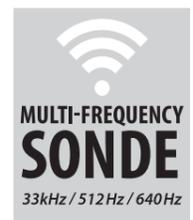
Heavy Duty Rear Connector

Connector Protective Cap

Aux Lights & LED Pod Mounting

Heavy Duty Camera Connector

Motorized Elevator



Multi-Frequency Sonde



Lowering Arm

# PROTEUS HD SYSTEM HD WITHOUT COMPROMISE

Minicam's Proteus HD System offers high-quality 1080p Full HD video recordings in pipes from 140 mm and up and can deploy over 500 m from the access point with our fully automatic synchronized cable reel, without introducing noise or latency into the video feed all while using our tried & tested, easily repairable, copper cable.



## ACR350/500-HD



Our Proteus HD fully-automatic cable reels ensure you're cable is always perfectly in synchronization with your tractor, whether deploying down the pipe or on the way back, never get nervous about running over your cable again. Our ACR cable reel now supports our Full HD 1080p video footage, without introducing noise or latency even over 500 m of cable all while still using our much loved reinforced, lightweight 6-core copper cable, which means HD no longer means expensive repair bills.

TECHNICAL SPECIFICATION		
Product Code	ACR350	ACR500
Cable Length	360 m	500 m
Dimensions	660 x 390 x 652 mm	660 x 550 x 652 mm
Power Supply	90 n- 264 VAC	90 - 264 VAC
Power Consumption	600 W	600 W
Environmental Protection	IP45	IP45
Weight	45 kg	55 kg
Remote Controller (Included)	RJP Joystick	RJP Joystick
Van Guide Pulley	VGP350 (Optional)	VGP500 (Included)

## CAM090-HD

Minicam's CAM090-HD pairs with our refreshed CRP140-HD to deliver exceptional video quality for the inspection of pipelines 140 mm and up and with our built-in LEDs the CAM090-HD provides plenty of lighting even in larger mainline wastewater pipes. The CAM090-HD also enables the recording of 1080p video while providing excellent clarity and color balance, it also features 10x optical zoom enabling the ability to see up laterals and connections without losing resolution. The CAM090-HD also features continuous 360° rotation and 135° of bi-directional tilt ensuring you can see wherever you need to and with the CAM090-HD you have automatic focus, ensuring you are always in focus, no matter what size pipe you are in or how far up a connection you are looking.

TECHNICAL SPECIFICATION	
Pipe Diameter	90 mm - 600 mm
Aligned Laser Spacing	30 mm
Camera Resolution	1080p (Full HD 1920 x 1080)
Sensitivity	< 1.0 lux
Aperture/Field of View	F/1.8 - 2.9 / 46° ~ 4.6°
Dimensions	Ø 83 mm / length 155 mm
Illumination Intensity	Adjustable to 12.5k lux at 150 mm
Pressure Depth Rating	1 bar (14.50 psi)



## CRP140-HD



Our feature-rich mainline tractor has been upgraded to carry our new CAM090-HD 1080p camera. For use in pipes from 140 mm (even in a relined pipe) up to 600 mm and with the optional PCC01 Crawler Cradle it will even center the camera in pipes up to 1000 mm diameter. With powerful 6-wheel drive and a wide range of wheel size and tire material options, Proteus continues to be able to comfortably navigate a wide range of conditions and sizes in any pipe material and with our strong multi-frequency sonde transmitter, you can even locate the CRP140-HD further underground and in a wider

TECHNICAL SPECIFICATION	
Pipe Diameter	40 mm - 600 mm (With Crawler Cradle: upto 1000 mm)
Dimensions	386 mm x 133 mm x 108 mm
Weight	11.5 kg

# PROTEUS LATERAL

## Pan-Tilt Laser Camera

Expertly engineered in stainless steel and aluminium, this robust camera offers maximum pan and rotate flexibility for use in small diameter pipe applications, from 60mm up. The camera features an integral distance sensor and dual aligned visible lasers, to enable accurate pipe diameter, defect, and object measurement, directly from the control unit. The precision camera lens and four ultra-bright LED's guarantee clear, defined, quality inspection images.



## Flexible Pivot

Horizontal pan and vertical tilt positioning of the deployment arm provides the operator with optimum flexibility.



## Hinged Mid-section

The hinged mid-section allows for flexible mainline entry for access sizes as small as 300mm. No hinge locking required due to constant wheel support.

## Rod Rollers

Assists smooth friction-free guiding of the push rod.

## Observation Camera and LED Auxiliary Light

Forward facing precision camera capable of 740TVL resolutions with powerful ultra-bright LEDs provides a bright, clear picture to assist launching into the unknown with confidence.



## Meterage Counter

Close to deployment for an accurate lateral distance measurement.



## Back-eye Camera and LED Auxiliary Light

Taken from our tried and tested Proteus Back-eye camera and positioned above flow, this colour camera and LED light enables confident cable management during reverse travel.



## Lateral Pin

The optional pin adjusts the direction and guides the camera smoothly along the pipe.

## Pan-tilt Deployment Arm

The standard deployment arm provides horizontal pan and vertical tilt via the flexible front pivot, which enables accurate positioning of the camera/push rod prior to launch. For larger mainlines, the unique design of the pivot provides quick and easy attachment of deployment tubes in varying sizes.



## Quick Change Wheel Lock

Easy single tool wheel lock enables you to use a variety of wheel sizes and type to offer significant performance benefits in various pipe diameters and for specific operating conditions.



## Lateral Drive Belt

The drive mechanism maximizes your productivity by powerfully feeding the push rod up to 45 metre. The drive belt is designed to repel debris whilst in operation, using a flexible, the tread is designed to remove dirt and prevents belt clogging, meaning long service intervals. The drive belt housing is user-serviceable enabling a quick single tool cartridge change while on-site.



## Articulated 'Knuckle' Connector

Enables easy deployment of the crawler and prevents water ingress to the connections.

## Crawler Nudge Mode

Use the orange coloured arrows on the keyboard to nudge incremental distance for truly accurate positioning of the crawler.



## Single Click Mode Change

Changing control mode between mainline and lateral is made easy by a single click of the joystick top button.



## Wheel Configurations

Minicam's patented quick release wheel lock enables the user to quickly change wheel configurations of the LAT150 to launch in main lines from 150 to 2000mm diameter. Wheel sizes compatible with LAT150 are 90mm, 115mm and 140mm.



# PROTEUS CRAWLERS

## CRP90

Massive capabilities  
Skillfully miniaturised

CRP90's compact size allows it to easily survey relined 100mm pipes. The motorised elevator enables the camera to be centred in pipes of up to 225mm diameter.

ALL STANDARD FEATURES INCLUDED (See page 16)

**PLUS**

- 6 x QRWX60SR 60mm Rubber Wheels
- Motorised Elevator - Range 40-77mm
- Articulated 'Knuckle' Connector

**OPTIONAL**

- Carbide Wheels
- High Grip Wheel



TECHNICAL SPECIFICATION	
Product Code	CRP90
Pipe Sizes	90mm - 225mm
Weight	4.50kg

## CPL150S

Entry level, mid-size crawler with manual elevator

The perfect companion to the RMPL250 Reel. CPL150 has the same professional grade quality, reliability and accuracy as our mainline Proteus crawlers.

ALL STANDARD FEATURES INCLUDED (See page 16)

**PLUS**

- 6 x QRWX90SR 90mm Rubber Wheels
- Manual Elevator - Range 60-112mm
- Heavy Duty Rear Connector

**OPTIONAL**

- Multi-Frequency Sonde
- Inclination Sensor
- Carbide Wheels
- High Grip Wheel



TECHNICAL SPECIFICATION	
Product Code	CPL150S
Pipe Sizes	From 150mm - 400mm to 800mm with PCC01 Crawler Cradle
Weight	9kg



## CRP140

Sophisticated mid-size crawler modelled on the CPL150S

For pipes from 140mm (even in a relined pipe) up to 600mm, with the optional PCC01 Crawler Cradle it can even be used in pipes up to 1000mm diameter.

ALL STANDARD FEATURES INCLUDED (See page 16)

**PLUS**

- 6 x QRWX90SR 90mm Rubber Wheels
- Motorised Elevator - Range 54-205mm
- Articulated 'Knuckle' Connector

**OPTIONAL**

- Carbide Wheels
- High Grip Wheel



TECHNICAL SPECIFICATION	
Product Code	CRP140
Pipe Sizes	From 140mm - 600mm to 1000mm with PCC01 Crawler Cradle
Weight	9.5kg



## CRP300

Engineered to perform reliably in challenging conditions

Designed for larger pipe diameters with high flow rates, this heavy duty crawler makes easy work of inspections in more difficult environments.

ALL STANDARD FEATURES INCLUDED (See page 16)

**PLUS**

- 6 x QRWX140SR 140mm Rubber Wheels
- Motorised Elevator - Range 135-398mm
- Heavy Duty Rear Connector

**OPTIONAL**

- Wide Axle Balloon Wheels

TECHNICAL SPECIFICATION	
Product Code	CRP300
Pipe Sizes	From 300mm - 1000mm to 2200mm with Elevation Platform
Weight	32kg



## Standard Features

### Compatible with:

- CAM026 Pan & Rotate
- CAM026L Pan, Rotate & Laser
- CAM027 Axial
- CAM028L Pan, Rotate, Zoom & Laser
- ALB300 Auxiliary Light with Backeye  $\Delta$
- ALN300 Auxiliary Light (Non-Backeye)  $\Delta$
- APB300 LED Pod with Backeye  $\Delta$
- APN300 LED Pod (Non-Backeye)  $\Delta$
- Continuous monitoring of speed, internal pressure, inclination and temperature
- Dual Axis Inclination Sensor
- Single Auxiliary Light/Backeye Mounting
- Multi-Frequency Sonde 33kHz / 512Hz / 640Hz
- Steerable High Torque
- All-Wheel Drive
- Robust Housing
- 1 BAR (14.50psi) Pressure Tight
- Quick Change Wheel Lock
- In-Built Lowering Arm
- Heavy Duty Camera Connector
- Protective Front Connector Cap
- Protective Rear Connector Cap
- Lowering Rope
- Protective Carry Case\*
- Tools

$\Delta$  Except CRP90, \*Except CRP300



# Proteus Lite System

## RMPL250 Reel

- 250m Kevlar Reinforced Cable
- Manual Cable Layering Arm
- 2-Step Quick-Release Meterage Rollers
- Friction Brake
- Removable Winding Handle
- Spring Loaded Connector
- Powder Coated Frame with Rubber Feet
- Unique Cow Horn locator for easy-fit Control Unit

## CPL150 Crawler

- Quick-Adjust Manual Elevator
- Lowering Handle
- Heavy Duty Rear Connector
- 6 Soft Rubber Wheels
- Quick-change Wheel Lock

## CAM026 Pan & Rotate Camera

See page 32

## Control Unit

See page 18



CPL150S Crawler,  
CAM026 Pan &  
Rotate Camera



RMPL250  
Lite Reel

# Proven Reliability Modular Capability

Minicam's Proteus Lite brings together, the well proven performance and reliability of the Proteus family, in a value for money, entry level system.

Designed and developed in-house, Proteus Lite is the ideal starter kit for a one-man operation, integration into a small inspection van, or a low-cost option for larger companies to use for off-road, remote locations. Proteus Lite provides all the resources required to undertake efficient, easy to perform inspections, and with ProPIPE+, WinCan Embedded and WinCan Web software as standard, you can deliver accurate, detailed reports, instantly on-site.

Future proof and totally modular, when your business budget allows, simply upgrade your Proteus Lite with a larger or smaller crawler, extra cameras and auxiliary lights, or one of the many other Proteus compatible accessories available.



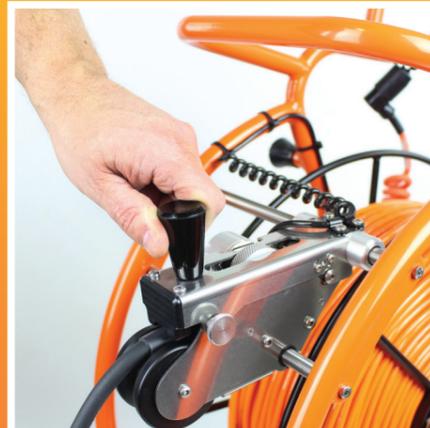
CCU208  
Proteus Control  
Unit



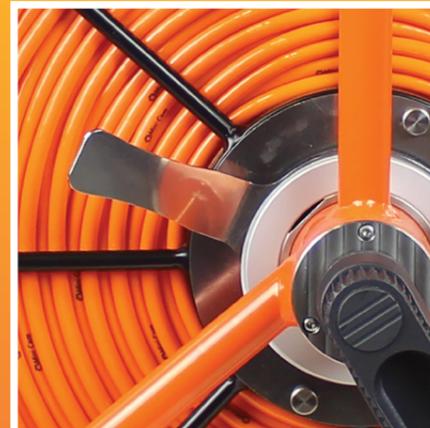
Quick-Adjust Manual Elevator



Lowering Handle



Manual Cable Layering Arm



Friction Brake / Hand Brake



2-Step Quick Release Meterage  
Rollers



Fold-away / Removable Handle

# CONTROL UNIT

## Bigger and Better!

The same rod and systems that you love but with a new and improved Control Unit. View, record, and annotate inspection footage with ease on our Next Generation MCU! Designed with the user in mind the ergonomic unit and control panels aid you in the field. This new system is more powerful and simpler to use than ever with more features and functions with no setbacks. Sleek and modern, the unit is built to last and stand against the challenges of in-the-field surveys.



**Technical Data**

<b>Screen</b>	12" sunlight readable touchscreen (1000 nits)
<b>Keyboard</b>	Full size QWERTY IP68 backlit silicone keyboard
<b>Rating</b>	IP65
<b>Dimensions</b>	501 x 173 x 395 mm

<b>Processor</b>	INTEL® Quad Core 1.5 GHz Processor
<b>Storage</b>	256GB (Expandable to 2TB Total)
<b>Software</b>	Embedded WinCan ProTouch
<b>Video Output</b>	HDMI via USB-C



The case of the new Proteus MCU is rugged, industrialised and conforms to IP65. The ergonomic design allows for a comfortable feel to the unit for the user. The base of the unit has a web design to enforce integrity upon impact to reduce the chances of damage when exposed to falls of a certain degree.

Easy, fold-away clips for quick access to the main body of the unit are located on either side of the case, allowing the lid to fall and be ready to use with no fuss. The handle is sturdy and secure and ready to be carried to your next inspection. On the right side of the unit, two USB-C connections can be found, concealed under a silicon tab to protect them against the weather, dirt and grime.



Under the lid, you can find the inset 12" screen with the control unit and system on/off buttons with LED indicators to the left of the screen.

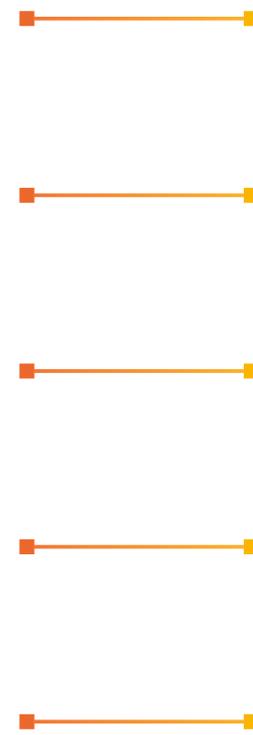
With 6 - 8 hours of battery life and 120GB of usable storage, you can keep going for longer. The unit is also compatible with PlayStation and Xbox controllers if needed along with wireless video streaming to your phone or tablet so you can view the feed from a distance.

# FUNCTIONALITY AT YOUR FINGERTIPS

## Much More Than Meets The Eye.

Our bright screens just got brighter with our 12" sunlight-readable screen is accompanied by the soft-touch waterproof anti-microbial keyboard with eight hot keys found along the top of the keyboard to help you keep your surveys quick and efficient. The layout of the keyboard and pods is ergonomically built to help support your hands and wrists during long surveys.

The mouse can be found at the bottom of the keyboard to help navigate the easy to use software, but if the mouse isn't to your liking, the MCU has a touchscreen interface ready for use whenever it's needed.



The modern interface is designed to simplify surveys. With improved file and project management, battery status indicator, multi-language support and so much more so that you, the user, have a better and easier experience when out in the field. The powerful reporting software built in as standard with WIFI 6 and Bluetooth is also enabled on the unit.

Conforming to IP65 the unit is fully protected against dust and is weatherproof so you have a reliable unit when in the field under tough conditions.

Backwards compatibility allows the unit to be compatible with all existing SOLO PRO+ reels, hardware and Proteus crawlers with an update to the Proteus Lite system so that the MCU will fit comfortably on the frame.

# NEXT GEN CCU

## MCU312

The Proteus Control Unit has two intergrated control pods that each hold a joystick and nine dedicated control keys to enable quick and efficient surveys when in the field.

### Cruise Up

Sets the next cruise speed for the crawler. There are 7 possible forward cruise speeds.



### Cruise Down

Sets the next cruise speed for the crawler. There are 7 possible backward cruise speeds.



### Stop

Stops the crawler and sets the cruise speed to 0.



### User Defined key

P1

Is a configurable button that can be set to whatever the user wants from a selectable list.

### Reel Adjustment

When this is selected the plus and minus buttons will adjust the cable tension.



### Payout

When this is selected, the plus button will payout cable.



### Arm Adjustment

When this is selected, the plus and minus buttons move the arm up and down.



### Adjustment -

Depending on what is selected this is used to decrement the current selected option between Reel Adjustment, Cable Payout and Arm Position



### Adjustment +

Depending on what is selected this is used to increment the current selected option between Reel Adjustment, Cable Payout and Arm Position



### Home

Sends the camera to the home position



### Backeye Switch

Switches between the backeye and the front camera, also changed the LED selection on the GUI



### Reset Meterage

Resets the meterage to 0.



### Focus

If this is selected, the plus and minus buttons adjust the focus on the camera.



### Zoom

If this is selected, the plus and minus buttons adjust the zoom on the camera.



### User Defined key

P2

Is a configurable button that can be set to whatever the user wants from a selectable list.

### LED Brightness

If this is selected, the plus and minus buttons adjust the LED Brightness for the selected camera.



# PROTEUS CCU

## CCU208

### Survey Features

Access embedded reporting software to create detailed on-site reports.



### Review Footage

Organize videos and images into folders, then find them using the thumbnail gallery. Review media using standard controls.



### Illumination

Increase or decrease the intensity of the ultra-bright camera LEDs.



### Sonde Settings

Set the frequency of the Sonde transmitter to 33kHz, 512Hz or 640Hz.



### Hot Keys

User-friendly, multi-function hot keys control an intuitive on-screen display of the numerous features.



### Write Screen Text

Type and store up to 16 pages of on screen text. Customize text color, position and background color.



### Capture Footage

Record MPEG video and JPEG images, and zoom up to 3x on video playback.



### Control Meterage

Accurately set the meterage zero offset using the meterage key.



### Offload Data

Copy reports, videos and images to USB or SDHC media for easy transfer to PC and seamless integration with WinCan reporting and querying capabilities.

### Generate Reports

Use embedded reporting software to create detailed inspection reports with a pipe graph to pinpoint defects.



### Setup & Configuration

Easily and quickly configure the Proteus CCU to your specific requirements using the various menu options. Set language, date and time, establish file formats and naming conventions, adjust camera parameters.



### Share Files

WiFi enabled to allow remote access to stored images and data. Users can instantly share PDF reports, images and footage via email or upload WinCan Reports via the Cloud to WinCan Web for secure, immediate team-wide access online.



### Alternative Languages

Proteus is currently available with keyboards in English, French, German and Russian.

### Internal Batteries

The Proteus CCU includes internal batteries so that it can be used autonomously to view inspection reports and video.



### Screens Intensity

The brightness, color and backlit intensity of the internal display can be adjusted to suit the environment in which the system is being used.



### Joystick Controls

The left joystick controls crawler manoeuvrability. Movement of the Pan & Rotate camera is smooth and effortless using the right hand joystick control. Perform a 360° rotation and pan the camera +/- 135°.



# Van Control Unit

The Van Control Unit and Desktop Keyboard system has been designed and developed specially for van-fits.

The free-standing/built-in keyboard (opposite), and under-shelf control unit (below) replaces the traditional CCU to offer more flexibility for van-fit layouts and user specific requirements.

A development of Minicam's best-selling CCU208 control unit, the Proteus VCU500 is a screenless control unit housed in a 1U high (44mm) rack mount enclosure for integration into a 19in rack enclosure, in a typical van installation. Designed to support all the existing Proteus features, VCU500 can be used with any combination of Minicam Proteus and Proteus Lite cable reels, cameras and crawlers.

The front panel of the VCU500 includes two USB ports for connection of memory devices. A push-button allows a memory device to be ejected safely, and an array of four multicolour LEDs shows the status of these ports and of the system.

It is intended that the VCU500 is incorporated into a rack enclosure with an industrial PC mounted in the van studio, which is running WinCan or any other reporting software.

An array of displays may then be mounted in the studio, with one being driven from the HDMI output of the VCU500 and other being driven by the PC. A further VGA or composite video monitor can be mounted in the vehicle workspace to display the operation of the crawler.



TECHNICAL SPECIFICATION	
Product Code	VCU500

# Desktop Keyboard

Developed and manufactured to Minicam's rigorously high standards, the ergonomically designed VKU features our trademark user-friendly, multi-function hot keys, and twin, extra large, three-axis joysticks which control all the features and functions of the conventional CCU208.

The sturdy unit sports retractable rear legs, to tilt the face of the keyboard to the user, for ease of use and improved viewing.

By simply changing the connection socket from rear to base, the unit can easily be integrated into the desktop, enabling safe, concealed cable management. The VCU/VKU modules provide a flexible system and improved work-flow, for the discerning operation manager's inspection vehicle.

Camera Home and Zoom Function  
 Intuitive Hot Keys  
 Integral Fold-Away Tilt Legs



Ergonomic User Friendly Design

Durable Easy-Clean Finish

TECHNICAL SPECIFICATION	
Product Code	VKU500

## Seamless Connectivity With All Proteus Features



The rear panel houses connectors for the HDMI and VGA monitors, the BNC Composite Video outputs, a USB port to allow connection to a PC for external control functions, and a connection for the matching Minicam Desktop Keyboard.



Integral Height Adjustment Legs



Large Three-Axis Joystick Control



Alternative Base Socket Connection

# PRECISION CAMERAS FOR OPTICAL EXCELLENCE

Highest quality components are used in our camera designs, and our skilled technicians assemble and rigorously test the cameras at our UK production facility. Built for longevity, the cameras are rugged, with robust and precise connectors, and are engineered to perform with excellent optical qualities.



## Pan, Rotate, Zoom & Laser CAM028L

CAM028L Pan & Rotate camera with zoom has the same features as the CAM026L, but with the addition of an optical and digital zoom function to allow distant objects to be viewed in much greater detail. As with the CAM026L it has two aligned lasers for defect and object measurement and a distance sensor for pipe diameter measurement. It also has twin clusters of three powerful, ultra-bright LEDs for optimum illumination. Horizontal and vertical movement is smooth and shutter-free, with the full 360° rotate and +/-135° pan.



### TECHNICAL SPECIFICATION

Product Code	CAM028L
Pipe Diameter	90 - 600mm
Aligned Laser Spacing	30mm
Camera Resolution	530 HTVL
Sensitivity	< 1.0 lux
Aperture/Field of View	F1.8 - F2.9 / 46° - 4.6°
Dimensions	143 x 80 x 80 mm
Illumination Intensity	12.5k lux at 150mm
Pressure Depth Rating	1 bar (14.50psi)

## Pan, Rotate & Laser CAM026L

Modelled on Minicam's popular CAM026 the CAM026L features an integral distance sensor and two aligned visible lasers to enable accurate pipe diameter, defect and object measurement, directly from the Proteus control unit.

With a continuous 360° rotation and +/-135° Pan, CAM026L is a compact, robust camera with twin clusters of three high powered ultra-bright LED lights to provide optimum illumination for better image clarity. The hard wearing, scratch resistant sapphire glass provides protection of the camera lens.

### TECHNICAL SPECIFICATION

Product Code	CAM026L
Pipe Diameter	90 x 600mm
Aligned Laser Spacing	25mm
Camera Resolution	470 HTVL
Sensitivity	<1.0 Lux
Aperture/Field of View	F2.5/75°
Dimensions	132 x 73 x 73 mm
Illumination Intensity	12.5k Lux at 150mm
Pressure Depth Rating	1 bar (14.50psi)



## Pan & Rotate CAM026

A Minicam best seller, the forerunner to CAM026L it has a continuous 360° rotation and +/-135° Pan, plus twin clusters of three high powered ultra-bright LED lights and a hard wearing, scratch resistant sapphire glass to protect the camera lens.

TECHNICAL SPECIFICATION	
Product Code	CAM026
Camera Resolution	470 HTVL
Sensitivity	< 1.0 lux
Aperture/Field of View	F2.5/75°
Dimensions	120 x 73 x 73mm
Illumination Intensity	12.5k lux at 150mm
Pressure Depth Rating	1 bar (14.50psi)



## Axial CAM027

A robust camera head with triple clusters of 3 high powered ultra-bright LED lights for optimum illumination and a scratch resistant sapphire glass to protect the lens.

TECHNICAL SPECIFICATION	
Product Code	CAM027
Camera Resolution	470 HTVL
Sensitivity	< 1.0 lux
Aperture/Field of View	F2.5 / 75°
Dimensions	73 x 52 x 52 mm
Illumination Intensity	12.5k lux at 150mm
Pressure Depth Rating	1 bar (14.50psi)



## Axial CAM025

Tried and trusted, CAM025 Self-Levelling Axial camera performs reliably in daily use. The stainless steel housing with flexible spring and heavy duty connector features four high powered, ultra-bright LED lights and a hard wearing, scratch resistant sapphire glass to protect the camera lens.

TECHNICAL SPECIFICATION	
Product Code	CAM025
Camera Resolution	470 HTVL
Sensitivity	<1.0 Lux
Aperture/Field of View	F2.5/75°
Dimensions	271 x 41 x 41mm
Illumination Intensity	12.5k Lux at 150mm
Pressure Depth Rating	1 bar (14.50psi)



## Pan, Rotate & Laser CAM050

Continuous 360° rotation and +/-135° pan. Integral distance sensor and twin lasers to enable accurate pipe diameter, defect and object measurement. CAM050 is shipped with Minicam's SOLOPro+50 pipeline video inspection system.

TECHNICAL SPECIFICATION	
Product Code	CAM050
Pipe Diameter	Greater than 60mm
Aligned Laser Spacing	Dual aligned front facing
Camera Resolution	740 HTVL
Sensitivity	<1.0 Lux
Aperture/Field of View	F2.5/75°
Dimensions	50 mm Diameter
Illumination Intensity	12.5k Lux at 150mm
Pressure Depth Rating	1 bar (14.50psi)



## Camera Adaptor PCA01

Invaluable for hand-held walk-throughs and vertical inspections in manholes, chimneys, tanks and vessels.

A useful accessory for your inspection kit. PCA01 allows the user to connect a camera to the CCU without the need for a crawler. Precision engineered from high specification materials, this compact tool is invaluable for vertical inspections, hand-held walk-throughs, and for use in a service department.



### TECHNICAL SPECIFICATION

Product Code	PCA01
Compatibility	Proteus System
Features	Dual Aux Light Housings
Dimensions	130 x 70 x 80 mm
Weight	790g

## Adaptor Guides BAK01

Invaluable for vertical inspections. The robust arms keep the camera centred in the pipe and help to prevent damage to the camera and adaptor. BAK01 kit includes 2 sizes: 150mm and 225mm.



## LED Pods APB300 / APN300

Adjustable LED light pods for larger pipe diameters.

Twin LED light pods are in-built to the auxiliary light. Manually adjustable, the directional light function provides a full horizontal 180° rotation and a 90° upward rotation, enabling forward, upward, rear or sideways facing positions. The light pod accessory fits all Proteus crawlers, and is quick and easy to fit. The APB300 backeye version features a colour rear view camera to aid crawler reversing.



## Auxiliary Lights ALB300 / ALN300

Ultra-bright LEDs for optimum illumination

A must-have accessory for crawler users. The durable anodised aluminium housing features three high-powered ultra-bright LED lights and a scratch resistant sapphire glass to protect the lens.



# AUTOMATIC CABLE REEL

All our reels feature a cable layering mechanism for uninterrupted, tangle-free pay-out and re-winding.



ACR500 Automatic Cable Reel, RJP Joystick Remote Control

## Automatic Reel ACR350 / ACR500

Experience powered winding in both directions!

Developed for the CCTV Inspection Van market, and modelled on our best-selling Proteus 300 metre motorised cable reel, the ACR500 large capacity reel gives users an impressive 200 metres of extra inspection capability. The ACR is also available in a mid-sized 350m cable length.

Fitted with high strength, Kevlar reinforced inspection cable, ultra-smooth operation is provided by the powerful, three phase motor and cable layering mechanism, specially designed for uninterrupted, tangle free pay-out and re-winding. A clear safety screen prevents contact with the cable whilst coiling, and for additional safety there's a rigid cover and an instant motor stop button.

Fully synchronised with the camera control unit, operation is controlled using the hand-held Bluetooth® Joystick Remote Controller (included), which is also capable of controlling camera and crawler functions. Or use the ACR control panel buttons in conjunction with the dedicated keys and intuitive on-screen display on the Proteus CCU.

The ACR500 is supplied complete with the VGP500 (Van Guide Pulley), The guide pulley can be adjusted to pre-set angles, and is fully extendable to reach the optimum working position, reducing friction and providing additional guidance for the cable when paying out and rewinding. An integral, sturdy, stainless steel mounting base secures the reel to the platform in the inspection van.

### TECHNICAL SPECIFICATION

Product Code	ACR350	ACR500
Cable Length	360meters	500 meters
Dimensions	660 x 390 x 652 mm	660 x 550 x 652 mm
Power Supply	90 n- 264 VAC	90 - 264 VAC
Power Consumption	600Q	600W
Environmental Protection	IP45	IP45
Weight	45kg	55kg
Remote Controller (Included)	RJP Joystick	RJP Joystick
Van Guide Pulley	VGP350 (Optional)	VGP500 (Included)



Extendable Van Guide Pulley



Motorised Stop Button

# MOTORISED CABLE REEL

All our reels feature a cable layering mechanism for uninterrupted, tangle-free pay-out and re-winding



RAP200 Motorised Reel

## Motorised Reel RAP200 / RAP300

Experience powered winding in both directions!

Built to the same exacting standards as our manual cable reels, these labour saving motorised reels are sturdy, rugged and built to perform reliably efficient pipeline inspections.

Minicam motorised cable reels are designed for easy one-person operation in remote locations. The reels are fitted with high tensile strength Kevlar reinforced inspection cable. The ultra-smooth operation is provided by the powerful three phase motor and cable layering mechanism for uninterrupted, tangle free pay-out and re-winding. A rigid, clear safety screen prevents contact with the cable whilst coiling.

The reel is operated using the dedicated keys and intuitive on-screen display on the Proteus CCU.

In the event of an emergency, the reel also features an emergency stop button. The specialised crawler connector provides a waterproof seal and there's a removable drip tray for easy cleaning and maintenance.

Two optional hand-held Bluetooth® controllers are available to remotely control paying-out and rewinding cable, and crawler movement. Choose from the 4 button or Joystick version.

Motorised reels are available in 2 sizes – Large 350m and Small 250m. The 250m reel has secure fixing points for fitting to our PTP02 Portable Storage Trolley. Both reels are ideal for being installed in our SurveyPro CCTV Van Fit.

### TECHNICAL SPECIFICATION

Product Code	RAP200	RAP300
Cable Length	250meters	350meters
Dimensions	530 x 320 x 520 mm	530 x 440 x 520 mm
Weight	30.5kg	40.5kg
Power Supply	24v	24v
Environmental Protection	IP45	IP45
Operational Remote Controller	RJP/RCP4	RJP/RCP4



# MANUAL CABLE REEL

## Manual Reel RMP100 / 200 / 300

**Experience powered winding in both directions!**

Sturdy, rugged and built to withstand harsh environments. Minicam manual cable reels are compact, portable and easy to use. The robust powder coated frame houses high tensile strength Kevlar reinforced inspection cable.

Smooth pay-out and re-winding is performance enhanced by the cable layering mechanism and durable heavy duty turning handle. The specialised crawler connector provides a waterproof seal and there's a removable drip tray for easy cleaning and maintenance.

The reels are available in 3 sizes: small 100m, mid-size 250m and large 350m reels. The small and mid-size reels can be fitted to our Portable PTP01 Storage Trolley, and the large reel is ideal for being installed as part of our SurveyPro CCTV Van.



RMP200 Manual Reel



RMP100



RMP200



RMP300

### TECHNICAL SPECIFICATION

Product Code	RMP100	RMP200	RMP300
Cable Length	100meters	250meters	350meters
Dimensions	530 x 220 x 520 mm	530 x 280 x 520 mm	530 x 400 x 520mm
Weight	16kg	27kg	35kg
Environmental Protection	Splash Proof	Splash Proof	Splash Proof

# LATERAL CABLE REEL



## Lateral Reel LCR350

Experience powered winding in both directions!

Fitted with 350 metres of high strength, Kevlar reinforced inspection cable and 45 metres of flexible ½" diameter push rod. The extendable arm of the guide roller has 4 distance locks enabling the cable/rod to be deployed from the optimum position. Dual reels with installation flexibility in van arrangements are used to drive the LAT150 tractor. The Lateral Reel gives you 350 metres of mainline capability to then extend the main camera up to 45 metres into a lateral pipe, while the mainline reel provides cable to the tractor for runs of up to 350 metres within the mainline pipe. Ultra-smooth operation is provided by a powerful motor and cable layering mechanism, specially designed for uninterrupted, tangle free pay-out and re-winding. Clear safety screens prevent contact with the cable whilst coiling, and for additional safety there is a rigid lid and an emergency stop button.



Van-fit configuration with LCR350 (top) and ACR350.

Used in conjunction with the lateral reel the fully automatic reel provides a distance capability of 350 metres power the crawler along the pipeline. It uses our tried and tested Kevlar reinforced inspection cable, and has all the functionality and safety features of the lateral reel. For additional smooth friction-free guiding, an optional van guide pulley is available.

REELS	Lateral Reel - LCR350	Mainline Reel -ACR350
Operation	3 Phase motor	
Payout / Rewind	Cable layering mechanism	Cable layering mechanism
Emergency stop button	In-built	In-built
Push rod length	45m	-
Cable length	350m	350m
Cable type	Kevlar reinforced	Kevlar reinforced
Power Supply	100-240 VAC	100-240 VAC
Power Consumption	600W	600W
Dimensions L x W x H	895 x 480 x 725mm	660 x 440 x 640mm
Weight	120kg	42kg
Van Guide Pulley	Integral	VGP350 (Optional)

LCR350 Lateral Reel



# ATEX Systems

## Uncompromising Performance and Safety

Proteus™ ATEX crawlers have been engineered, built and tested for safe use in some of the most dangerous situations, without compromising on any of the features and benefits of our other Proteus crawlers.

All our crawlers are available in ATEX approved versions which make working in ZONE 1 and other explosion risk environments much easier and safer than alternative methods, giving you a clear, sharp eye into the unknown, without introducing risk through use of electronic devices.

ATEX crawlers have all the features, functionality and agility of the standard versions, and offer the same professional-grade quality, reliability and accuracy our customers expect from the Proteus brand.

The Proteus ATEX crawlers feature as standard: built-in height adjustment, multi-frequency SONDE, lowering device, and variable wheel size options using our unique quick-release locking system.



ATEX ALB300 & ATEX APB300



**EASY DEPLOYMENT AND RETRIEVAL**  
Using the in-built lowering device

**BACK-EYE CAMERA**  
Capture images from behind the camera

**KEEP ON TRACK**  
Heavy duty 250mm pneumatic balloon wheels

**PAN & ROTATE**  
360° continuous rotation and +/- 135° pan

**DUAL AUX LIGHTS**  
Optimum illumination for image clarity

## ATEX Cameras



ATEX Pan, Rotate and Laser Camera



ATEX Pan, Rotate and Laser Camera



ATEX Auxiliary Light and Backeye

## ATEX Features



ATEX Connector



ATEX Crawler Cradle



ATEX Override Key Switch

# CRAWLER WHEELS

Our specially designed wheels offer significant performance benefits in various pipe diameters and for specific operating conditions.

## Soft Black Rubber

Available in four sizes and wide axle

Black, soft rubber wheels developed to provide improved traction in regular pipes.



## Carbide

Available in four sizes and wide axle

Fragmented copper particles fused to an heavy duty stainless steel body.



## High Grip

Available in three sizes and wide axle

Hard wearing carborundum manufactured with a deeo bevel profile to provide improved traction in wet and greasy pipes



## Phuematic Balloon

Available in four sizes and wide axle

Heavy duty, 250mm wide tyres designed to improve performance on our large Proteus CRP300 crawler. Optional for Crawler Cradle PCC01



## Wheel Sizes & Compatibility

WHEEL TYPE	TO FIT CRP90	TO FIT CRP140 & CPL150L	TO FIT CRP300	RECOMMENDED PIPE DIAMETER
<b>Soft Black Rubber Whe</b>				
60 mm	QRW60SR/90	-	-	100 mm
90 mm	QRW90SR/90	QRW90SR/150	-	150 mm
90 mm XL	QRW90XLSR/90	-	-	150 mm
115 mm	-	QRW115SR/150	-	200 - 300 mm
140 mm	-	QRW140SR/150	QRW140SR/300	300 - 450 (150) 300 - 600 (300)
140 mm XL	-	QRW140XLSR/150	-	450 - 600 mm

<b>Carbide Wheels</b>				
60 mm	QRW60CB/90	-	-	100 mm
90 mm	QRW90CB/90	QRW90CB/150	-	150 - 200 (90) 150 (150)
90 mm XL	QRW90CBXL/90	-	-	200 - 300 mm (90)
115 mm	-	QRW115CB/150	-	200 - 300 mm
140 mm	-	QRW140CB/150	-	300 - 450 mm

<b>High Grip Wheels</b>				
90 mm	QRW90HG/90	QRW90HG/150	-	150 - 200 mm
90 mm XL	QRW90HGXL/90	-	-	200 - 300 mm
115 mm	-	QRW115HG/150	-	200 - 300 mm
140 mm	-	QRW140HG/150	-	300 - 450 mm

<b>Pneumatic Balloon Wheels</b>				
250 mm	-	-	QRW250	600 - 1000 mm
250 mm XL	-	-	QRW250XL	600 - 1000 mm



## Quick Release Lock

All Proteus crawlers feature Minicam's unique, patented wheel lock device. This makes it easy to change the crawler wheel type to suit the size and condition of the pipe. Using the supplied 4mm Hex T-Bar driver, the operation is quick and simple with no other tools required.



## Wide Axle Wheels

Extend the capability of your crawler. Quick and easy to attach, wide axle wheels provide instant extra width for inspections in wider pipe diameters

Wide Axle wheels are also available in soft black rubber, high grip and carbide

# ACCESSORIES



PTP04 Portable Storage Trolley,  
RMPL250 Proteus Lite Cable Reel,  
CPL150S Proteus Lite Crawler,  
CCU208 Control Unit,  
BPP24 Proteus Power Battery Pack

## Lateral Pin Kit

Smooth inspection of incoming laterals

For use with the CAM026 Pan & Rotate camera when attached to the CCP60/100 Compatible Coiler. Simply attach the pin to allow the inspection of incoming lateral pipes. The pin adjusts the direction, and guides the camera smoothly along the pipe. The kit comes with three sizes of pin: small 150mm, medium 225mm and large 300mm. Fixings and instruction included.

### TECHNICAL SPECIFICATION

Product Code	ASS-001-968
Small Pin Length	150mm
Medium Pin Length	225mm
Large Pin Length	300mm
Fixings Supplied	6 Screws



## Roller Skids

Optimise your view

Roller skids expand the Compatible Coiler for use in 150mm to 450mm pipelines. The three pivoting arms with specially shaped nylon wheels adjust to fit the required pipe diameter, keeping the camera head centred in the pipeline at all times, allowing it to negotiate multiple corners and bends. Manufactured from stainless steel and ABS plastic, the device is sturdy, rugged and corrosion resistant to withstand the punishment of daily field work. No tools or manual adjustments are required.



### TECHNICAL SPECIFICATION

Compatibility	Product Code
180mm skid for CAM025	ASS-002-009
180mm Skid for CAM026	ASS-001-955
130mm Skid for CAM026	ASS-002-160
130mm Skid for CAM025	ASS-002-008

## Compatible Coiler

Companion accessory to the Proteus System

Push rod coiler CCP60R with removable CAM025 Self Levelling Axial camera head, designed to plug directly into the Proteus CCU. Also available as CCP60D (Duo) allowing a CAM026 Pan & Rotate camera to be attached. Robust construction with mobility wheels and a durable powder coated finish. Centering skids optimize your view in pipes 75mm and larger. The CCP coiler comes complete with a set of three skids and a removal tool.



TECHNICAL SPECIFICATION	
Product Code	CCP60 / CCP100
Temperature Range	-20°C to +50°C
Dimensions	890 x 360 x 690 mm
Weight	21.3kg
Environmental Protection	IP54

## CCU Tilting Table

Customise the CCU position to suit the needs of the user

Quick and easy to attach, the Tilting Table allows adjustment of the control unit position, to give the user optimal screen viewing and keyboard positions. The table can be tilted 35° forwards and 75° backwards, with a full unobstructed 360° horizontal rotation. No tools are required, simply attach using the adjustable clamps.



TECHNICAL SPECIFICATION	
Product Code	TTC01
Dimensions	350 x 300 x 270mm
Weight	3kg

## Centring Skids

Optimise your view

Centring Skids optimise your view in pipes 75mm and larger. Manufactured from ABS plastic, which can be washed and wiped clean, the skids are sturdy and rugged to withstand the punishment of daily field work.

Quick and easy to fit. Minicam's Proteus Compatible Coiler (CCP100/CCP60) is shipped with a complete set of 3 centring skids and a skid removal tool.



TECHNICAL SPECIFICATION
Supplied with CCP60 / CCP100
4 inch Skid
6 inch Skid
Protection Skid
Skid Removal Tool

## Floatation Raft

Pipe inspection in flowing water just got easier

Eliminate the need for man-entry. The raft features three powerful angled auxiliary LED ultra-bright light modules, to illuminate pipes in excess of 2000mm. Small enough to be lowered down most common sizes of manhole cover, the compact design allows inspection capabilities in pipes from 600mm. An in-built lowering loop makes for quick and easy deployment and retrieval, and the floatation plate ensures the device is perfectly balanced to eliminate rolling.



TECHNICAL SPECIFICATION	
Product Code	FRP01
Dimensions	680 x 420 x 200 mm
Weight	5.8kg
IP Rating	IP68

## Proteus Power Battery Pack

Portable power... where will it take you?

No need to rely on vehicle or mains power. Minicam's unique Proteus Power Battery Pack enables pipeline inspections in the most remote locations with in excess of 5 hours inspection time\*. The rugged pack is quick and easy to connect and features output short circuit protection and LED charge status indication. The battery is charged using the standard Proteus power supply unit.



PLEASE NOTE: Charging unit shown above for illustration only, not included with Proteus Power Pack. Charging Unit purchase separately.



OPTIONAL EASY ACCESS CARRY CASE

TECHNICAL SPECIFICATION	
Product Code	BPP24
Dimensions	280 x 100 x 120 mm
Weight	4kg
Optional	Carry Case

Dangerous goods shipping conformity required - please contact us for details

## Cable Guide Pulley

For smooth guiding of inspection cable during survey

Reduces wear by preventing kinks and chaffing, and assists in the smooth guiding of inspection cable during your survey. Comes complete with 12metres of rope and features a quick release mechanism to aid feeding the cable through the rollers.

TECHNICAL SPECIFICATION	
Product Code	CGP01
Dimensions	485 x 75 x 105 mm
Rope Length	12 meters
Weight	2.8kg



## Manhole Top Roller

For smooth guiding of inspection cable during survey

Reduces wear by preventing kinks and chafing, and assists in the smooth guiding of inspection cable during your survey. Fully adjustable to fit most manhole sizes.ensures the device is perfectly balanced to eliminate rolling.



TECHNICAL SPECIFICATION	
Product Code	TRP01
Dimensions	650 x 290 x 140 mm
Weight	4.45kg

## Crawler Cradle

### Improved inspection capabilities

The Crawler Cradle adapts Minicam's CPL150, and CRP140 crawlers for use in large diameter pipes. Versatile, quick and easy to attach, the cradle provides extra ground clearance enabling improved inspection capabilities in pipes and culverts up to 1000mm in diameter.

This robust, steerable, 4-wheel drive cradle is driven by the crawler, and features a unique gear selector, enabling the user to change between high speed and high torque operation. Exclusively compatible with Proteus CRP150, CPL150, and CRP140 crawlers, PCC01 comes supplied with four 220mm balloon wheels.



For heavily silted pipes we recommend the optional 250mm Balloon Wheel (QRW250/150), which are also required to centralise the crawler in 1000mm diameter pipes.

### UNIQUE GEAR SELECTOR



TECHNICAL SPECIFICATION	
Product Code	BPP24
Dimensions	280 x 100 x 120 mm
Weight	4kg
Optional	Carry Case

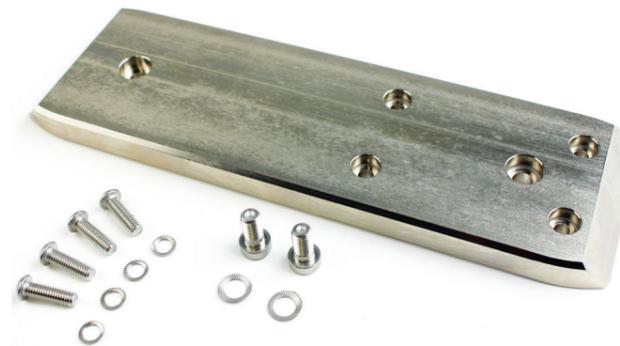
## Crawler Camera Extender

### Extends the camera position 100mm forwards

The Crawler Camera Extender moves the camera position 100mm forwards, extending the camera beyond the crawler. When the camera is positioned 90° downwards, this provides a view of the invert of pipeline, and not the crawler.

### TECHNICAL SPECIFICATION

Product Code	CCE01
Dimensions	115 x 50 x 50 mm
Weight	302g



## Extra Weight Plate

### Extra down-force and traction for the crawler

Exclusively compatible with Proteus CPL150 and CRP140 crawlers, the 2.5kg Extra Weight Plate gives the crawler extra down-force to allow for more traction in tricky pipe conditions. Quick to attach, the assembly is supplied with fixing bolts and washers.

### TECHNICAL SPECIFICATION

Product Code	EWP01
Compatibility	CPL150S / CRP140
Dimensions	264 x 80 x 14 mm
Weight	2.5kg
Supplied with	Fixing Bolts & Washers

# Portable Storage Trolley

## Complete mobility for your Proteus System

Eliminate health hazardous lifting, and time consuming carrying to your remote work site. Engineered to allow for the mobile operation of your Proteus inspection system in difficult to reach areas, such as inside buildings, or other situations a distance away from your vehicle.

The trolley securely holds everything you need to efficiently undertake your pipeline inspection; control unit, reel, battery pack and accessory case. Simply wheel the unit to your location, connect a camera and crawler, and you're up and running in minutes.

The added convenience of Minicam's unique Proteus Power Pack, means there's no need to rely on generator or mains power. The power pack enables pipeline inspection in the most remote locations with up to 5 hours\* inspection time.



TECHNICAL SPECIFICATION				
Product Code	PTP01	PTP02	PTP03	PTP04
Compatibility	RMP100/200	RAP200	RMP300/RAP300	Proteus Lite
Dimensions (mm)	650 x 1150 x 750	650 x 1150 x 750	650 x 1150 x 870	TBC
Weight	9.75kg	9.75kg	10.5kg	TBC

PLEASE NOTE: Equipment shown on trolley NOT included with PTP01/02/03/04  
\*Battery life dependant on operating conditions.

# Remote Controllers

Instant control with Bluetooth® wireless connectivity

The 4 Button Remote Control and Joystick Remote Control are used to control a Crawler and Motorised Cable Reel using Bluetooth wireless technology. The Motorised Cable Reel can be controlled directly without the presence of the Control Unit. A handy size and lightweight, the controllers are simple to use and fully rechargeable. Supplied with full instructions.

TECHNICAL SPECIFICATION		
Product Code	RCP4	RJP
Compatibility	RAP300/200	RAP30/200
Dimensions	88 x 146 x 27	88 x 146 x 27
Weight	175g	175g



# Seesnake® Interface

Exclusively compatible with Minicam Control Units

Sturdy and robust construction, the Minicam SeeSnake Interface unit quickly and easily connects the Rigid® SeeSnake Standard and SeeSnake Mini cameras to Minicam's intuitive and advanced Proteus Control Units.



TECHNICAL SPECIFICATION	
Product Code	SSP01
Compatibility	Proteus Control Unit
Dimensions	50 x 268 x 40 mm
Weight	115g

## Brick Egg Stabiliser

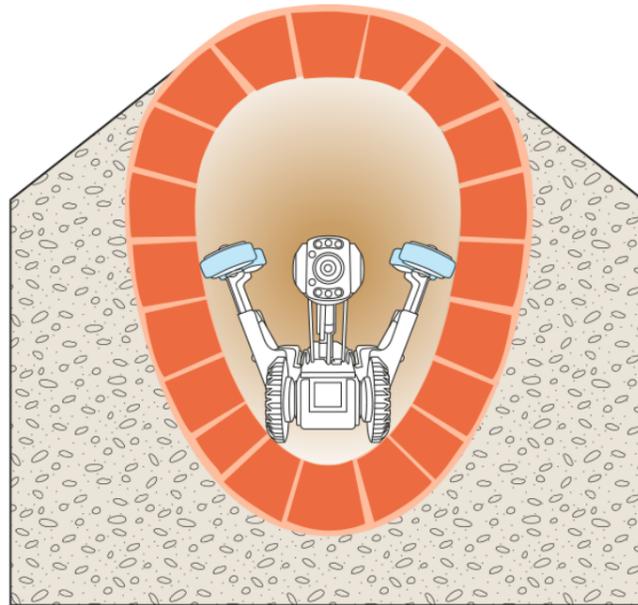
Eliminates rolling over of the crawler

A simple quick fit to our Proteus Crawler, the Brick Egg Stabilizer stops the crawler from rolling over during inspections in pipes with an egg-shaped profile. Exclusively compatible with Minicam's Proteus CRP300, CPL150 and CRP140 crawlers.

**Compatibility:**

BEP300 fits Proteus CRP300

BEP150/140 fits Proteus CRP150, CPL150 and CRP140



TECHNICAL SPECIFICATION	
Product Code	BEP300
Compatibility	CRP300
Dimensions	450 x 190 x 220 mm
Weight	2.95g

TECHNICAL SPECIFICATION	
Product Code	BEP150/140
Compatibility	CPL150S/CRP140
Dimensions	375 x 180 x 210 mm
Weight	2.05kg

## Cable Reel Guide

Smooth Friction-Free Cable Guiding

Reduces Friction And Provides Additional Guidance For The Cable When Paying Out And Rewinding. Also Brushes And Cleans The Cable When Rewinding. Exclusively Compatible With Minicam Motorised And Manual 300 Metre And 200 Metre Cable Reels.



TECHNICAL SPECIFICATION		
Product Code	CGP300	CGP200
Compatibility	RAP300/ RMP300	RAP200/ RMP200
Dimensions	540 x 490 x 175 mm	540 x 370 x 175 mm
Weight	3.5kg	2.9kg



## Van Guide Pulley

Smooth friction-free cable guiding

Reduces friction and provides additional guidance for the cable when paying out and rewinding. Exclusively for use with Minicam Motorised and Manual, 300 metre and 200 metre Cable Reels.

TECHNICAL SPECIFICATION	
Product Code	VGP01
Compatibility	RMP200/300 & RAP200/300

## Pro Laser

Pinpoint accurate laser profiling of pipes and sewers

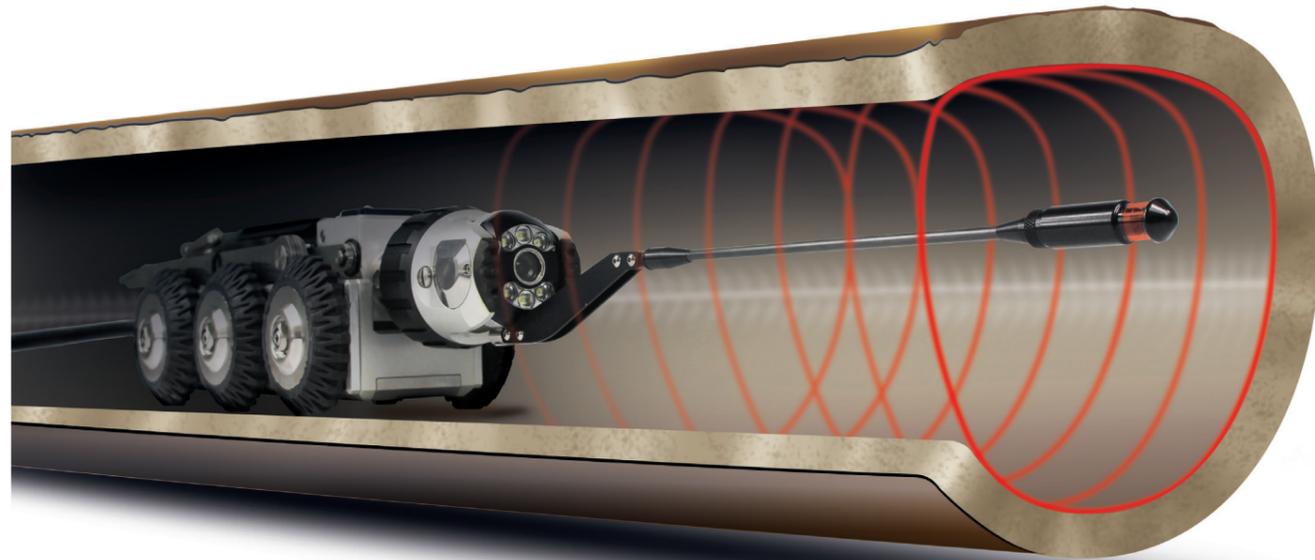
Pro Laser is the perfect partner for any CCTV inspection system and provides accurate analysis of the true pipe condition prior to and after rehabilitation.

### Data Analysis and Delivery

The Minicam Laser profiler has been designed to provide accurate and repeatable pipe geometry for many pipeline conditions. Simply attach the device to your CAM026 and WinCan will do the rest! All results are automatically calculated and can be delivered via WinCan. The WinCan software generates the report automatically, including diameter, ovality, capacity and also provides 3-dimensional XYZ-data.

### WHY DO YOU NEED A PIPE PROFILER?

If you are a municipality, consulting engineer or contractor, the Profiler is a necessary tool for the analysis of the true pipe condition prior to and after rehabilitation. When used as a video survey tool it can provide accuracy up to 1mm when measuring pipe size, deformation, erosion encrustation, debris, grease, flows, lateral protrusion, surface damage and holes.



## Reel Bracket

Use the reel as a CCU holder, for portability in remote areas

This lightweight tubular bracket is quick and easy to attach, using the bolts and washers supplied. The bracket holds the control unit firmly in place in a comfortable working position for the user. Available in 2 sizes.

### TECHNICAL SPECIFICATION

Product Code	RBP01	TBP02
Compatibility	Fits 200m Reel	Fits 300m Reel
Dimensions	350 x 215 x 118 mm	430 x 215 x 118 mm
Weight	675g	735g



## Pressure Kit

All you need to purge a Proteus crawler and camera head

Pressurisation is safe, quick and easy. Two kits are available: Standard CO2 and a Nitrogen version for ATEX equipment. Supplied in a handy padded carry case. Replacement cylinders can be purchased separately.

### TECHNICAL SPECIFICATION

Product Code	Description
PKP01	Standard CO <sup>2</sup> Pressure kit
PKP02EX	ATEX Nitrogen Pressure Kit

## Extension Reel

Gets your equipment where it needs to be. Connects equipment to the cable reel. High quality cable and connectors housed on a sturdy reel with integral floor stand and carry handle. Available with 50 metre and 30 metre cable lengths.

### TECHNICAL SPECIFICATION

Product Code	ERP30	ERP50
Dimensions	315 x 360 x 210mm	315 x 360 x 210mm
Weight	3.8 kg	5.6 kg
Cable Length	30 metres	50 metres



## Link Cable

Connects your system components quickly and easily. Connects to Proteus Control Unit or SOLOPro Control Unit to the cable reel. High quality cable and durable connectors supplied with rubber protection caps.

### TECHNICAL SPECIFICATION

Product Code	LCP05
Cable Length	5 Metres

**CONTROL UNIT**

	CCU208	VCU500	CKU500
	Control Unit	Van Control Unit	Desktop Keyboard
Operating System	Linux	Linux	-
Screen	1024 x 768 Daylight Viewable	External	-
Interface	RS232, USB 2.0	USB 2.0	-
Internal Storage	Internal Solid State	Internal Solid State	-
External Storage	2 x USB 2.0 / SDHC	2 x USB 2.0	-
File Format	MPEG-4 / JPEG Stills	MPEG-4 / JPEG Stills	-
Dimensions	430 x 150 x 280 mm	483 x 271 x 43.6 mm	432 x 257 x 137 mm
Weight	5.5kg	2.5kg	4.45kg
ATEX Zone 1 Certified	OPTIONAL	OPTIONAL	OPTIONAL

**CRAWLERS**

	CRP90	CRP140	CPL150S	CRP300
	CRAWLER	CRAWLER	CRAWLER	CRAWLER
Pipe Diameter	90 - 225 mm	140 - 600 mm	150 - 375 mm	300 - 1000 mm
Weight	4.5kg	9.25kg	9.25kg	32kg
Pressure Depth Rating	1 bar (14.50psi)	1 bar (14.50psi)	1 bar (14.50psi)	1 bar (14.50psi)
Built-in Elevator	Motorised	Motorised	Manual	Motorised
Quick Change Wheel Lock	YES	YES	YES	YES
Optional Large Wheels	2 Size Options	4 Size Options	4 Size Options	3 Size Options
Sonde Transmitter	YES	YES	OPTIONAL	YES
Inclination Sensor	YES	YES	OPTIONAL	YES
Heavy Duty Connector	YES	YES	YES	YES
Flexible Rear Connector	YES	YES	OPTIONAL	OPTIONAL
Dimensions	296 x 87 x 72 mm	386 x 133 x 108 mm	307 x 133 x 110 mm	470 x 233 x 195 mm
ATEX Zone 1 Certified	OPTIONAL	OPTIONAL	NOT AVAILABLE	OPTIONAL

**CAMERAS**

	CAM025	CAM026	CAM027
	SELF LEVELING AXIAL	PAN & ROTATE	AXIAL
Effective Pixels	512 X 582	512 x 582	512 x 582
Resolution	470 HTVL	470 HTVL	470 HTVL
Sensitivity	< 1.0 Lux	< 1.0 Lux	< 1.0 Lux
Aperture / Field of View	F2.5 / 75°	F2.5 / 75°	F2.5 / 75°
Illumination Intensity	Adjustable to 12.5k Luz at 150mm	Adjustable to 12.5k Luz at 150mm	Adjustable to 12.5k Luz at 150mm
Pressure Dpeth Rating	1 bar (14.50psi)	1 bar (14.50psi)	1 bar (14.50psi)
Dimensions	220 x 41 x 41 mm	120 x 74 x 74 mm	62 x 52 x 52 mm
Weight	620g	860g	250g
ATEX Zone 1 Certified	OPTIONAL	OPTIONAL	NOT AVAILABLE

**CAMERAS**

	CAM026L	CAM028L	CAM050
	PAN, ROTATE & LASER	PAN, ROTATE, ZOOM & LASER	PAN, ROTATE & LASER
Pipe Diameter	90 - 600 mm	90 - 600 mm	Greater than 60mm
Aligned Laser Spacing	25 mm	30 mm	Dual aligned front facing/single side
Camera Resolution	470 HTVL	520 HTVL	740 HTVL
Sensitivity	< 1.0 Lux	< 1.0 Lux	< 1.0 Lux
Apature / Field of View	F2.5 / 75 °	F1.8 - F2.5 / 46° - 4.6°	F2.5 / 75 °
Illumination Intensity	12.5k Lux at 150 mm	12.5k Lux at 150 mm	12.5k Lux at 150 mm
Pressure Depth Rating	1 bar (14.50psi)	1 bar (14.50psi)	1 bar (14.50psi)
Dimensions	120 x 74 x 74 mm	143 x 80 x 80 mm	50mm Diameter
Weight	860g	1148g	570g

**AUX LIGHT**

	ALB300	ALN300
	AUX LIGHT WITH BACKEYE	AIX LIGHT NON-BACKEYE
Pressure Depth Rating	1 bar (14.50psi)	1 bar (14.50psi)
Dimensions	84 x 68 x 50 mm	51 x 68 x 50 mm
Weight	306g	225g
ATEX Zone 1 Certified	OPTIONAL	OPTIONAL

**LED PODS**

	APB300	APN300
	LED POD WITH BACKEYE	LED POD NON-BACKEYE
Pipe Diameter	300 mm upwards	300 mm upwards
Illumination System	9 High POver LEDs	9 High POver LEDs
Backeye Camera	YES	NO
Pressure Depth Rating	1 bar (14.50psi)	1 bar (14.50psi)
Dimensions	85 x 150 x 55 mm	52 x 150 x 55 mm
Weight	480g	400g
ATEX Zone 1 Certified	OPTIONAL	OPTIONAL

**REEL**

	ACR350	ACR500
	350M AUTOMATIC REEL	500M AUTOMATIC REEL
Cable Length / Diameter	350 meters / 6.5 mm	500 meters / 6.5 mm
Power Supply	90-264 VAC	90 - 264 VAC
Power Consumption	600W	600W
Envirnmental Protection	IP45	IP45
Dimensions	660 x 390 x 652 mm	660 x 550 x 652 mm
Weight	45kg	55kg
Remote Controller	RJP Joystick	RJP Joystick
Van Guide Pulley	VGP350 (Optional)	VGP500 (Included)
ATEX Zone 1 Certified	OPTIONAL	OPTIONAL

**REEL**

	RAP200	RAP300
	250M MOTORISED REEL	350M MOTORISED REEL
Cable Length / Diameter	250 meters / 6.5 mm	350 meters / 6.5 mm
Power Supply	24v	24v
Dimensions	530 x 320 x 520 mm	530 x 440 x 520 mm
Weight	30.5kg	40.5kg
Environmental Protection	IP45	IP45
Remote Controller	RJP/RCP4	RJP/RCP4
ATEX Zone 1 Certified	OPTIONAL	OPTIONAL

**REEL**

	RMP100	RMP200	RMP300	RMPL250
	100M MANUAL REEL	250M MANUAL REEL	350M MANUAL REEL	250M LITE REEL
Cable Length / Diameter	100 meters / 6.5 mm	250 meters / 6.5 mm	350 meters / 6.5 mm	250 meters / 6.5 mm
Dimensions	530 x 220 x 520 mm	530 x 280 x 520 mm	530 x 400 x 520 mm	550 x 385 x 700 mm
Weight	16kg	25kg	35kg	29.3kg
Environmental Protection	Splash Proof	Splash Proof	Splash Proof	Splash Proof
ATEX Zone 1 Certified	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL

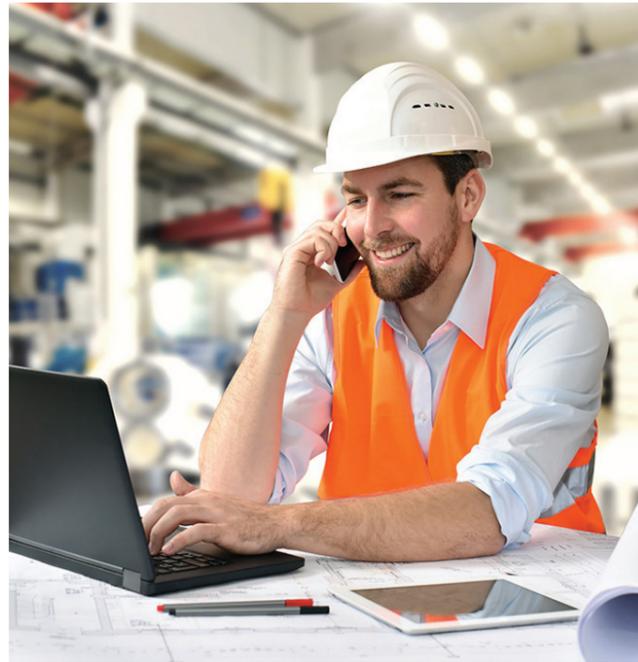
## AFTER SALES SUPPORT

### We are Right behind you all of the way

At Minicam we pride ourselves on our commitment to always going the extra mile with our customer care.

After sales support and Service and Repair is available from 8am until 4:30pm Monday Thursday and 8am to 3:15pm on Friday.

Operator and Service Training is available to customers and their employees, at our UK headquarters, your company headquarters or your preferred location. Contact us for full details and costs.



## Contact Us

Whether you're curious about product features, purchasing, servicing or live demonstrations - we are ready to answer all your queries.

Phone: +44 (0) 1942 270524  
Email: [info@minicam.co.uk](mailto:info@minicam.co.uk)  
Website: [minicam.co.uk](http://minicam.co.uk)

Business hours  
Monday: 8am – 4:30pm  
Tuesday: 8am – 4:30pm  
Wednesday: 8am – 4:30pm  
Thursday: 8am – 4:30pm  
Friday: 8am – 3.15pm

### Head Office and Northern Service Centre

**Postal address**  
Minicam Ltd  
Unit 33-35, Ravenscraig Road  
Little Hulton  
Salford  
M38 9PU

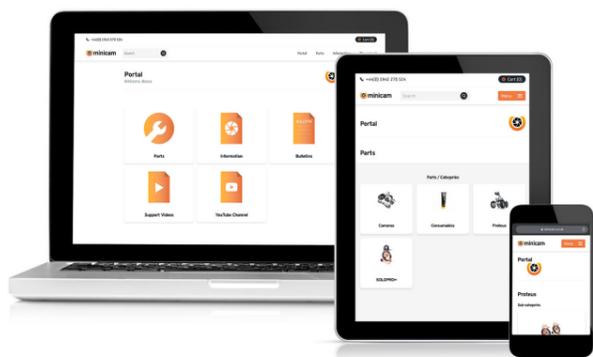


## PARTS PORTAL

Quick and easy online ordering and worldwide delivery.

Appointed Minicam Partners are given access to the online part shop which has the full range of genuine Minicam spares and accessories, all available to order online with same day dispatch if ordered before 3pm\*. The portal stocks parts for all Minicam systems and equipment.

\*Terms and conditions apply - contact us for details



### Southern Service Centre

**Postal address**  
Minicam Ltd  
Unit 41, Acorn Industrial Park  
Crayford  
Kent  
DA1 4AL

We will **be happy to answer**  
any questions you may have...

**Phone**

+ 44 (0) 1942 270524

**Email**

[info@minicam.co.uk](mailto:info@minicam.co.uk)

**Website**

[minicam.co.uk](http://minicam.co.uk)



A **Halma** company

