



Inspection & Condition Assessment of Sewers / Waste Water & Water Pipes

# CRP140 ROBOTIC CRAWLER CAMERA PIPE INSPECTION SYSTEM

In association with  
 minicam



Minicam, UK has been producing pipeline inspection systems for 30 years. Minicam is a part of Halma PLC group, a conglomerate with over £1.5B in revenues & one of Great Britains most admired companies.

asian contec limited, under an exclusive arrangement, provides supply, training & after sales of Minicam robotic tractor crawlers & push cameras including ATEX pipe inspection systems for the Indian market under its brand name STANONE. asian contec limited, is india's largest supplier of buried utility locating, marking and inspection systems.

The following pages feature a myriad of configuration options of the CRP140 robotic crawler for inspection of sewer, waste water and water pipes, for condition assessment of pipes, to establish sections of pipe which require pipe rehabilitation or relining, verification of quality of newly laid pipes, visual inspection of locations otherwise hazardous for humans, flooding defects with potential for significant savings of both CAPEX & OPEX for Utilities & Industry, efficient project planning and estimation.

### Crawler Camera System is available in 2 Configuration



#### Van Mounted Robotic Crawler System

Van mounted systems are typically fitted with Heavy Duty Fully Automatic or Semi-Automatic cable reel systems & Van mounted control unit with large screen display.



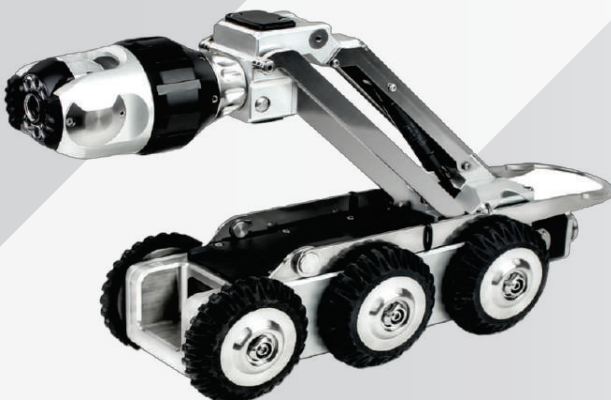
#### Portable Robotic Crawler System

Trolley securely holds the control unit, manual cable reel & camera powered by a high performance battery system.

# CRP140 ROBOTIC CRAWLER CAMERA PIPE INSPECTION SYSTEM



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 **minicam**



Navigate Sewer Pipes or Water pipes of **pipe dia 140 mm to 600 mm**. Further Extend capability to **1000 mm** when used with the Crawler Cradle.

**Motorized elevator** which centralizes inside the pipe

**Cruise control** Autonomous travel function

**DUAL Joystick control** for controlling both the crawler and camera functions.

Camera with **Integrated Lasers** for measuring **pipe size**, locating **pipe defects**.

**Pan / Tilt function** for viewing **360°** of the pipe.

**Lateral Pin** for viewing lateral connections inside the pipe

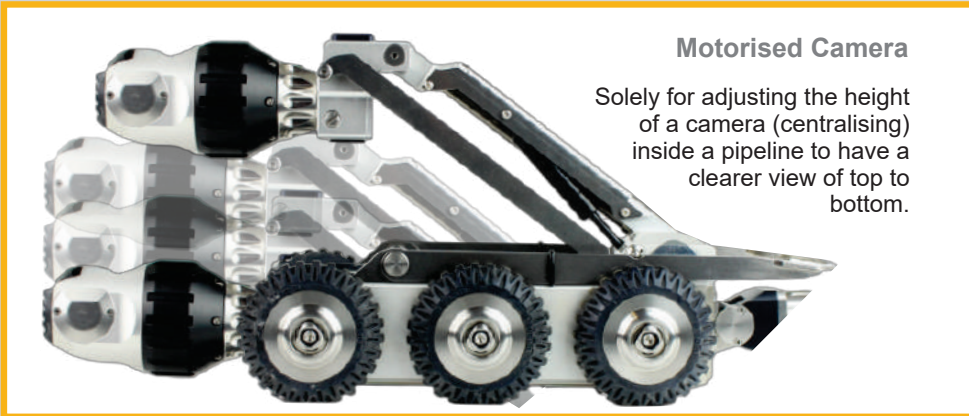
## **Portable CRP140 Robotic Crawler System build**

- + Trolley
- + CCU208 Control unit
- + CAM028L Camera
- + RMPL 250 Reel
- + CAP250SC Inspection cable
- + Battery BPP24 (5hours uptime)
- + Cradle PCC01 (Incase for 1000mm dia pipes)
- + Lateral kit

**ATEX Systems** : Proteus ATEX Robotic crawlers have been engineered for use in the most dangerous situations.

The CRP 140 in its ATEX approved versions makes working on Zone 1 and other explosion risk environments much easier and safe, while giving you a clear eye into the unknown.

# Standard Tractor Crawler Features



### Motorised Camera

Solely for adjusting the height of a camera (centralising) inside a pipeline to have a clearer view of top to bottom.

### Locate Pipe Location

**MULTI-FREQUENCY SONDE**  
33kHz / 512Hz / 640Hz

\*When used with industry standard pipe cable locator.



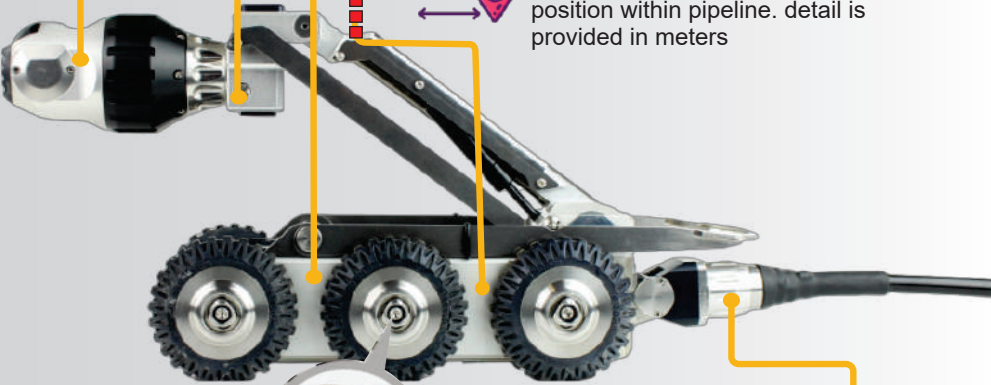
### CAM028L PAN, ROTATE, ZOOM & LASER CAMERA

Horizontal & vertical movement is smooth and shutter-free, with the full 360° rotation & +/-135° pan. Two aligned lasers for defect & object measurement and a distance sensor for pipe diameter measurement. Twin clusters of three powerful, ultra-bright LEDs for optimum illumination.

### Interchangeability Of Camera



Cameras are interchangeable in field without need of tools. Heavy duty connector prevents ingress to the connections.



### In-Built Sensors



**Temperature sensor** measures the temperature of the pipeline, which can be helpful in identifying areas of potential damage or leaks.



**Inclination sensor** that detects changes in the pitch and roll of the crawler, a graph is generated with the information gathered.



**Meterage** feature shows the distance traveled by crawler on control unit that helps operator to keep track of its position within pipeline. detail is provided in meters



### Quick Change Wheel Lock

Wheels of the Tractor Crawler System can be changed to larger or smaller wheels and wheels of different material types, to allow the robotic crawler operate in a variety of pipe diameters, conditions and pipe materials. Using the supplied, 4mm T-Bar the operation is quick and simple, with no other tools required. It is recommended to opt for various wheel sizes at the time of purchase to expand system capability.

Our Wheels offer significant performance & additional height benefits in various pipe diameters and for specific operating conditions.



### Articulated 'knuckle' Connector

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

# Proteus Crawler CRP140 & Its Expandability

## CRP140

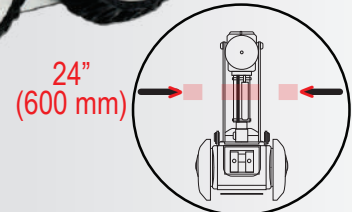
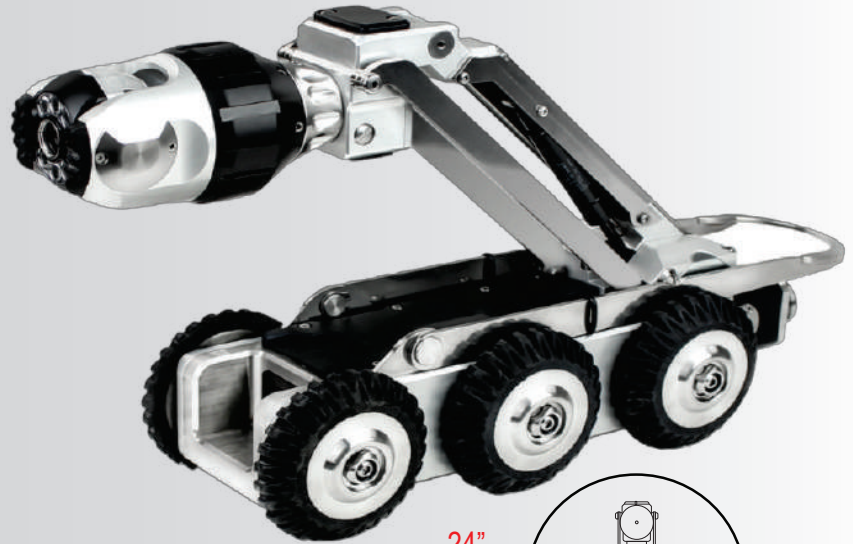
Sophisticated Mid-size Tractor Crawler, capable of going over obstacles & displaced pipe joints.

### Standard :

- 6WD & Integrated Cruise control & Proportional control in slippery conditions.
- 6x QRWX90SR 90mm Rubber Wheels
- Motorised Elevator - Range 54-205mm
- Bigger wheel options available
- Multi-frequency SONDE

### Optional :

- Additional Wheels
- Cradle



### Technical Specifications

Dimension HxWxL	115 x 132 x 400mm
Weight (w/o cable)	9.5kgs
Weight with Cradle (w/o cable)	Approx 18kgs

**Use in pipelines of 5.5" (140mm) to 24" (600mm).**

Extendable to 48"(1000mm) pipes using PCC01 Crawler Cradle.  
\*Refer page no.9

### Accessory

**PCC01 Crawler Cradle** adapts the CRP140 Crawler for use in large diameter pipes. Versatile, quick and easy to attach, CRP140 mounted on the cradle provides extra ground clearance & weight enabling improved inspection capabilities in pipes and culverts up to **1000mm** in diameter.

### Technical Specifications

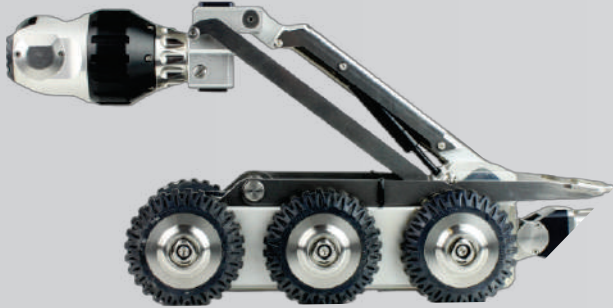
Product Code	PCC01
Dimension	406 x 254 x 218mm
Weight	7.65Kgs



# Proteus Crawler CRP140 & Its Expandability



## Expandability Based On Wheels



As example, Standard setup on CRP140 crawler is based on x **90mm wheel** (6 WheelDrive)



Optionally. **Adapt the CRP140 to be based on 140mm wheels** for increased floor height to cover larger dia pipes OR use 140mm XL wheels with extended axle to cover greater width in large dia pipes.

Wheel Type	To Fit CRP140	Recommended Pipe Dia
<b>Soft Black Rubber Wheels</b>		
90mm	QRW90SR/150	150mm
115mm	QRW115SR/150	200mm ~ 300mm
140mm	QRW140SR/150	300mm ~ 450mm, 300 ~ 600mm
140mm XL	QRW140XLSR/150	450mm ~ 600mm
<b>Carbide Wheels</b>		
90mm	QRW90CB/150	150 - 200mm
115mm	QRW115CB/90	200mm - 300mm
140mm	QRW140CBXL/90	300mm - 450mm
<b>High Grip Wheels</b>		
90mm	QRW90HG/150-	150mm - 200mm
115mm	QRW115HG/90	200mm - 300mm
140mm	QRW140HG/90	300mm - 450mm

### Soft Black Rubber

**Available in four sizes and wide axle**

Black, soft rubber wheels developed to provide improved traction in regular pipes (most conditions)

### Carbide

**Available in four sizes and wide axle**

Fragmented copper particles fused to an heavy duty stainless steel body, suggested for use in plastic pipes.

### High Grip

**Available in three sizes and wide axle**

Hard wearing carborundum manufactured with a deep bevel profile to provide improved traction in wet & greasy pipes.



Soft Black Rubber



Carbide



High Grip

# Proteus Crawler CRP140 Camera Module | Laser Profiling system



## Pan, Rotate, Zoom & laser - CAM028L

Camera with Continuous 360° rotation +/-135° pan, 12x digital zoom, 10x optical zoom.

Features an integral distance sensor & two aligned lasers to enable accurate pipe diameter, defect & object measurement.

6 High powered ultra-bright LEDs, heavy duty connector prevents ingress to the connections.

DSP (Digital Signal Processor) automatically adjust color colour correction, image sharpening & white balance in realtime.

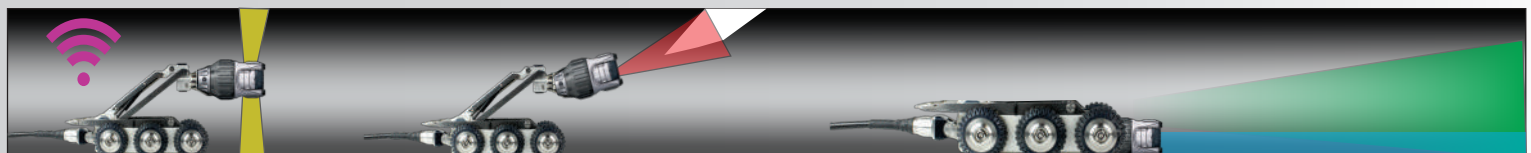


Technical Specifications	
Pan & Rotation	+/-135° / 360°
Zoom	12x / 10x
LEDs	6 LEDs
Pipe dia measurement range	90 - 600mm
Pipe dia measurement range	30mm
Camera sensor	530 HTVL
Sensitivity	<1.0 Lux
Aperture/field of view	F1.8 - F2.9 / 46° - 4.6°
Maximum illumination intensity	12.5k Lux at 150mm
Pressure depth rating	1 bar (14.50psi)
Dimensions	155 x 84.5 x 84.5mm
Weight	1148g

Dual Lasers  
For diameter  
and defect  
measurements.



- Inspect a full pipe joint closely.
- Measurement of defects with integral using integral lasers
- Multi-Frequency Sonde 33kHz, 512Hz & 640Hz, Built in.
- Water level measurement



# Increase Crawler Inspection Capability | Accessories

## Inspection Of Lateral Pipes Inside pipes

### Lateral Pin Kit

A must have accessory for the smooth inspection of incoming laterals. A useful addition to the Proteus Inspection System.

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



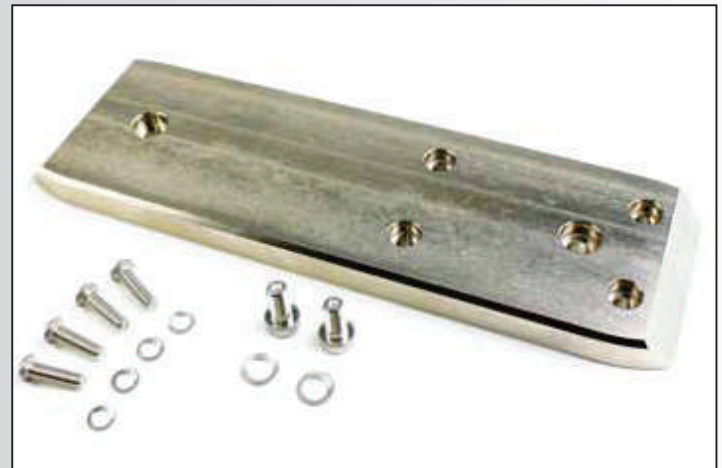
Technical Specifications	
Product Code	ASS-001-968
Small Pin Length	150mm (6")
Medium Pin Length	225mm (9")
Large Pin Length	300mm (12")
Fixings Supplied	6 Screws

### Extra Weight Plates

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

Exclusively compatible with Proteus CPL150S and CRP140 Tractors, the 2.5kg Extra Weight Plate gives the Tractor 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 specifications	
Product Code	EWP01
Compatibility	CPL150s / CRP140
Dimension	254 x 76 x 12mm
Weight	2.5kg
Supplied With	Fixing bolts & Washers







## Feature Rich Control Unit

CCU208 Control unit is the brain of the Proteus system, providing functionality & control at your fingertips, Dual integral joysticks for camera & tractor control, user friendly multi-function hot keys control an intuitive on-screen display, to enable quick and accurate navigation of the numerous features.

### Setup, Configuration & Characteristics

Set language, date & time, customize PDF reports, client information oriented reports generated on site etc. Easily and quickly configure the Proteus CCU to your specific requirements using the various menu options ;

- Adjust the frequency of the SONDE transmitter to 33kHz, 512Hz or 640Hz.
- Meterage reset key.
- Control unit is powered by only batteries or power supplied via adapter. battery back up ~ 5hours (depending on weather).

### Media Management

Record inspection MPEG video & JPEG images, Review footage with zoom up to 3x on video playback, organize videos & images into folders, then find them using thumbnail gallery.

### Generating, Accessing & Sharing Data

Generate detailed inspection reports along with a pipe graph, defects, material, location, size of pipe.

Offload Data  
Copy reports, videos & images to USB or SDHC directly from Control unit

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.

Powerful measurement tools let you size up cracks, water level, pipe diameter, wall features, bend angles, inclination graph of pipeline.



The left joystick controls crawler manoeuvrability. Movement of the camera module is smooth & effortless using the right hand joystick control.



For Vehicle Mounted System

# Fully Automatic, Semi-Automatic & Manual Cable Reel Options



## RMPL250

The RMPL250 Reel is a LITE Manual Cable Reel that is operated manually with a turning handle. Smooth pay-out and re-winding performance enhanced by the cable layering mechanism. Available in 250meters.

### Technical specifications

Product code	RMPL250
Cable length	250m
Dimensions	550 x 385 x 700mm
Weight	27kg



## RAP200/RAP300

The RAP200/RAP300 are Semi-Automatic Motorised cable reels designed for easy one person operation. Providing 250/350 meters of inspection capability Developed for the **Van-fit system**, three phase motor and cable layering mechanism, specially designed for uninterrupted, tangle free pay-out and re-winding.

**Note** : Choose CAP250SC (250Meters inspection cable) or CAP350SC (350 meters inspection cable) at the time of ordering along with cable reel.

### Technical specifications

Product code	RAP200	RAP300
Operation	3 phase motor	3 phase motor
Cable length	250m	350m
Dimension (in mm)	533 x 317 x 508	304 x 431 x 508
Weight	30.5kg	40.5kg
Power supply	24V	24V
Ingress protection	IP45	IP45
operational remote controller	RJP/RCP4	RJP/RCP4



## ACR350/ACR500

The ACR350/500 are Fully Automatic Cable Reels providing 350-500 meters of inspection capability, developed for the **Van-fit system**, equipped with 3 phase motor & cable layering mechanism, specially designed for uninterrupted, tangle free pay-out and re-winding of cable.

Roll out, roll in & stop of cable can be controlled using the (included) hand-held Bluetooth® joystick remote controller, which is also capable of controlling crawler functions.

### Technical specifications

Product code	ACR350	ACR500
Operation	3 Phase motor	3 Phase motor
Cable length	350m	500m
Dimension (in mm)	660 x 300 x 650	660 x 550 x 650
Weight	42kgs	55kgs
Power supply	90 – 264 VAC	90 – 264 VAC
Power consumption	600w	600w
Ingress protection	IP45	IP45
Remote controller (included)	RPJ joystick	RPJ joystick
Van guide pulley	VGP350 (optional)	VGP350 (Included)

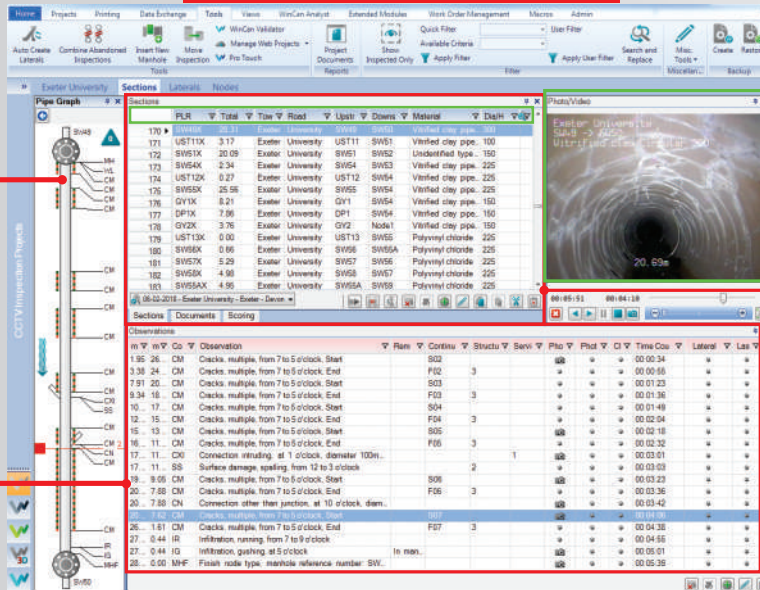


WinCan VX is a **Pipe Inspection & Asset Management** software which is core of the entire WinCan product family.

Offers pipe inspection data, organise it into a database & generate inspection reports that **(3D pipeline graph)** graphically display the pipe and its defects etc.

Provides Comprehensive inspection

## Software Interface

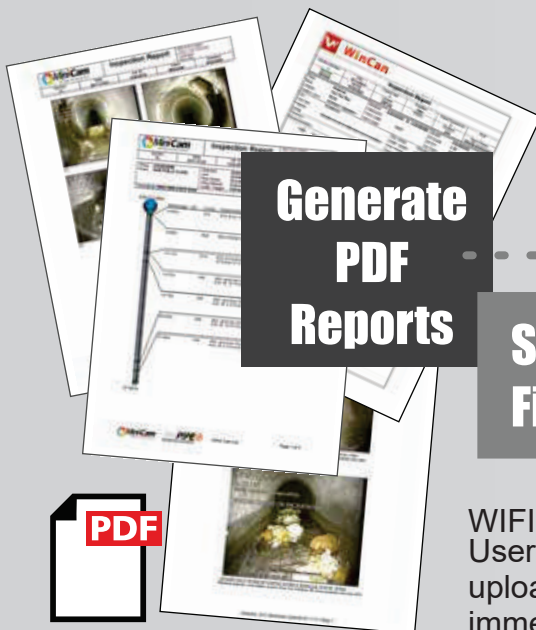


3D graph of pipeline along with pinpointed

Video playback & still photos.

(GIS)Geographic Information System can be used to display the location, condition, and other important information about pipes and other underground infrastructure.

Observations Detailed defects report with Images & Video.



Share Files



WiFi + 3G/4G 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



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**Catalogue Version : ST/CRP140/2023/F1**

**Quality  
Management  
System**

**ISO 9001: 2015**

**# 1-QSC202101102**



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