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 robotic crawlers 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, 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 Options

Van Mounted Robotic Crawler System
Van mounted system 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.

The following pages provide a variety of configuration options for robotic crawlers including cameras & cable reels.

CAM028L PAN, ROTATE, ZOOM & LASER CAMERA

Horizontal & vertical movement is smooth and shudder-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.
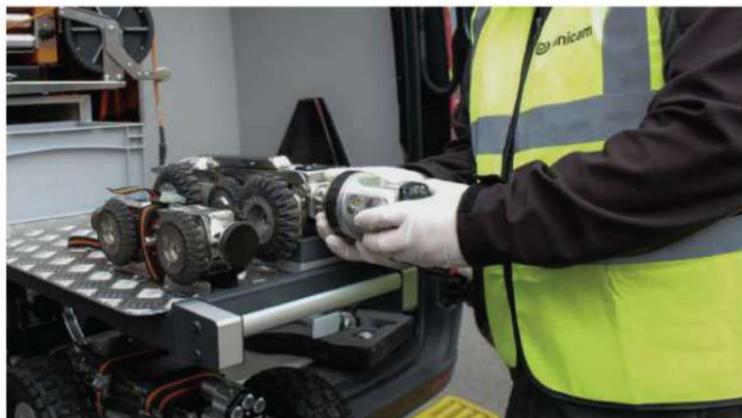
Motorised Camera Elevated

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

Locate & Measure Depth Of Pipe.

MULTI-FREQUENCY SONDE

33kHz / 512Hz / 640Hz

*When used with industry standard pipe cable locator.
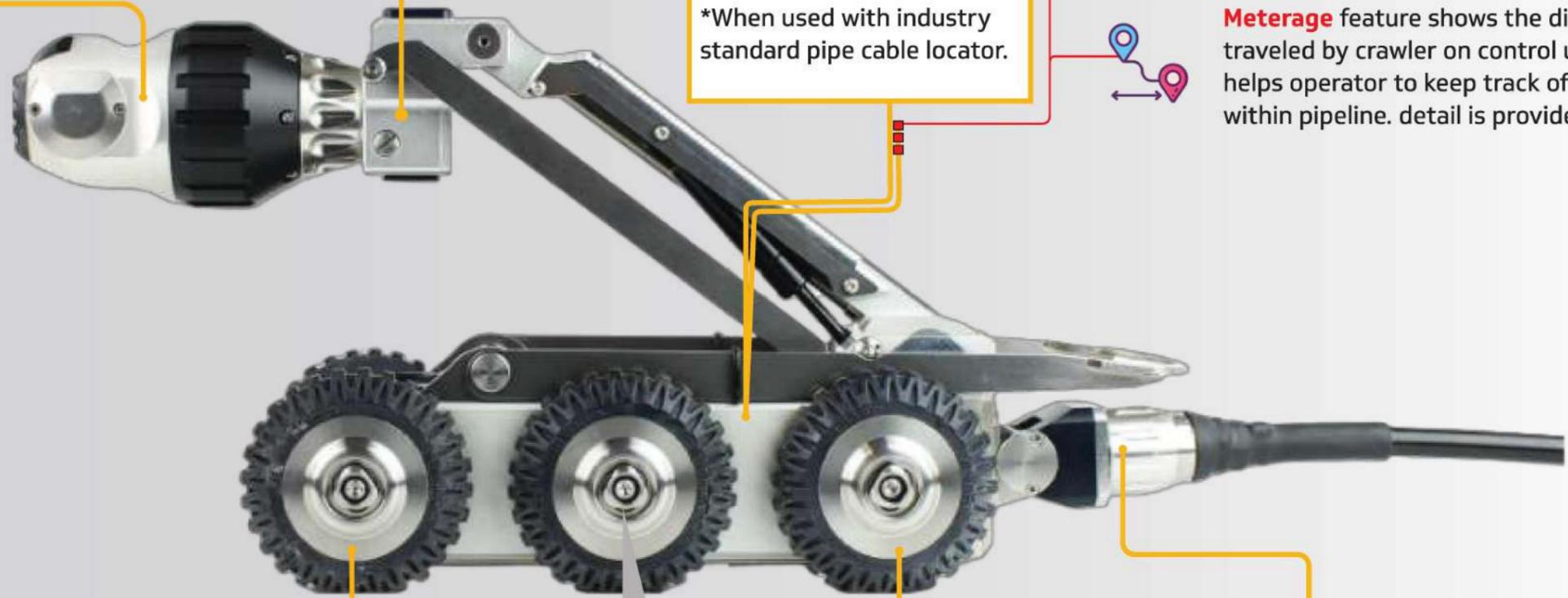
Temperature sensor measures the temperature of the pipeline, which can be helpful in identifying areas of potential damage or leaks.

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

Articulated 'Knuckle' Connector

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

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.

Medium & Large Robotic Crawler Options

Lite & Small Robotic Crawler Options

STAN ONE®

Proteus 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 :
- Carbide & high grip tread wheels

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

24" (600mm)

Use in pipelines of 5.5" (140mm) to 24" (600mm).
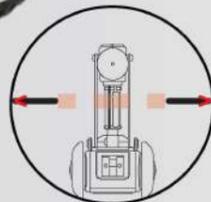
Extendable to 48"(1000mm) pipes using PCC01 Crawler Cradle. *Refer page no.9

Proteus CRP300

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

Standard :
- Motorised camera elevator range 135~400mm.
- 6x QRWX140SR 140mm Rubber Wheels
- Options include Wide axle Balloon Wheels
- Integrated Cruise control & proportional control in slippery conditions
- Bigger wheel options available
- Multi-frequency SONDE

Optional :
- Wide axle balloon wheels

48" (1000mm)

Technical specifications	
Dimension HxWxL	205 x 235 x 575mm
Weight (w/o cable)	32Kgs
Weight with CEP300 camera elevation attachment (w/o cable)	37.7Kgs

Use in pipelines of 11" (300mm) to 39" (1000mm).
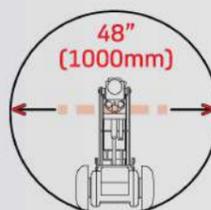
Extendable to 86"(2200mm) pipes using CEP300 Crawler Cradle. *Refer page no.12

Proteus Lite CPL150s

Proteus Lite is a Budget friendly small sized Tractor with Integrated Cruise control & propotional control in slippery conditions.

Standard :
- 6x QRWX90SR 90mm Rubber Wheels
- Manual Elevator range 60-112mm
- Bigger wheel options available

Optional :
- Multi-Frequency Sonde
- Inclination Sensor
- Carbide Wheels & High Grip Wheel

Technical specifications	
Dimension HxWxL	130 x 150 x 340mm
Weight (w/o cable)	9kgs
Weight with PCC01 cradle (w/o cable)	Approx 18Kgs

15" (400mm)

Use in pipelines of 5.9" (150mm) to 15" (400mm).
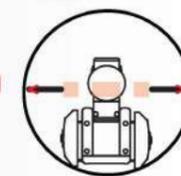
Extendable upto 31"(800mm) with PCC01 Crawler Cradle. *Refer page no.9

Proteus CRP90

Compact sized crawler tractor ideal for inspection of small diameter service pipes even if relined.

Standard :
- 6x QRWX60SR 60mm Rubber Wheels
- Motorised Elevator range 40-77mm
- Bigger wheel options available
- Multi-frequency SONDE

Optional :
- Carbide & high grip tread wheels

8.8" (225mm)

Technical specifications	
Dimension HxWxL	75 x 80 x 295mm
Weight (w/o cable)	4.5kgs
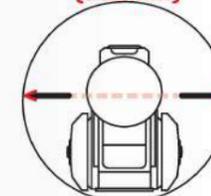
Use in pipelines of 3.5" (90mm) to 8.8" (225mm).

Sophisticated & Specialised Mid-size Tractor Crawler, for the purpose of investigating waste water & water pipes & lateral pipes.

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 2.36" 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 12.5". 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 color 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.

Crawler Nudge Mode

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

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 150 feet. 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.

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 6" to 80" diameter. Wheel sizes compatible with LAT150 are 3.5", 4.5" and 5.5".

LAT150 with 5.5" Soft Rubber Wheels (QRW140SR/150)

Camera / Rod Lateral Distance 45 metre

Crawler Distance 350 metre

Mainline Compatibility

300mm   2000mm
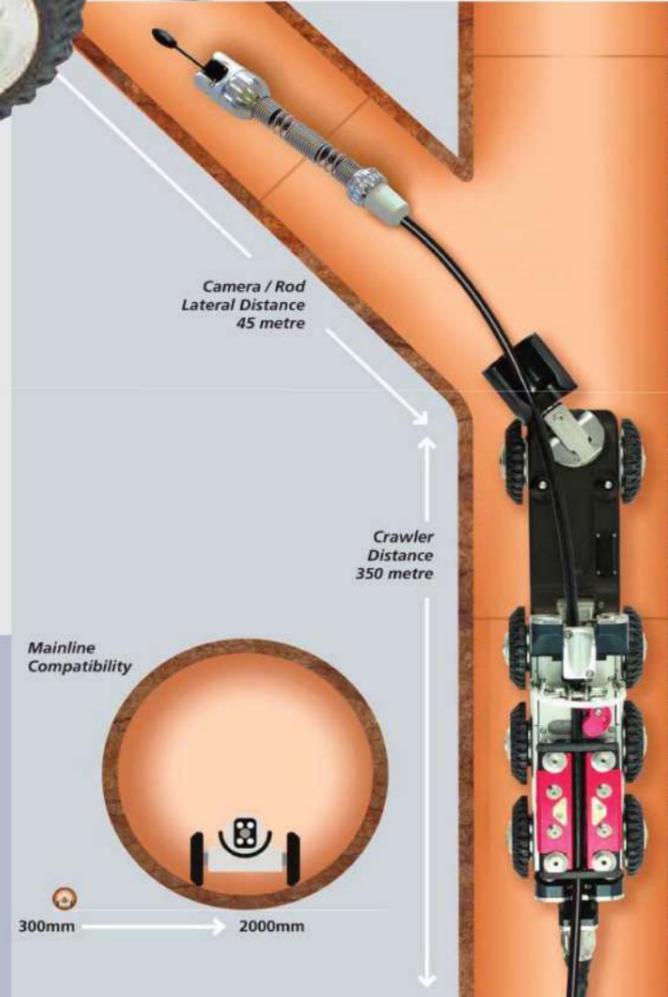
minicam PROTEUS

As example, standard setup on CRP140 crawler is based on x6 **90mm wheel** (6WheelDrive).

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

140mm XL
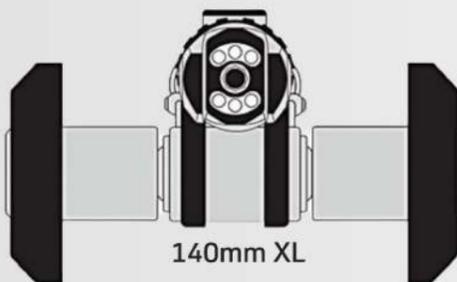
Accessory

PCC01 Crawler Cradle adapts **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.

Technical specifications

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

Wheel type	To fit CRP90	To fit CRP140 & CPL150L	To fit CRP300	Recommended pipe diameter
Soft Black Rubber Wheels				
60mm	QRW60SR/90	-	-	100mm
90mm	QRW90SR/90	QRW90SR/150	-	150mm
90mm XL	QRW90XLSR/90	-	-	150mm
115mm	-	QRW115SR/150	-	200mm ~ 300mm
140mm	-	QRW140SR/150	QRW140SR/300	300mm ~ 450mm,300 ~ 600mm
140mm XL	-	QRW140XLSR/150	-	450mm ~ 600mm
Carbide Wheels				
60mm		-	-	100mm
90mm		QRW90CB/150	-	150 - 200mm
90mm XL		-	-	200mm - 300mm
115mm	-	QRW115CB/90	-	200mm - 300mm
140mm	-	QRW140CBXL/90	-	300mm - 450mm
High Grip Wheels				
90mm		QRW90HG/150	-	150mm - 200mm
90mm XL		-	-	200mm - 300mm
115mm	-	QRW115HG/90	-	200mm - 300mm
140mm	-	QRW140HG/90	-	300mm - 450mm
Pneumatic Balloon Wheels				
250mm	-	-	QRW250	600mm - 1000mm
250mm XL	-	-	QRW250XL	600mm - 1000mm

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.

Pnuematic Balloon

Available in 2 sizes and wide axle

Heavy duty, 10" wide tyres designed to improve performance on our large Proteus CRP300 Tractor. Optional for Tractor Cradle PCC01.

Tractor Camera Extender
Extends the camera position 4" (100mm) forward

The Tractor Camera Extender moves the camera position 4" (100mm) forwards, extending the camera beyond the Tractor.

When the camera is positioned 90° downwards, this provides a view of the invert of pipeline, and not the Tractor.

100mm

Technical specifications	
Product code	CCE01
Dimension	114 x 48 x 48mm
Weight	302g
Camera extends	100mm forward

LED Pods
APB300 / APN300 adjustable LED light pods for larger pipe diameters

Twin LED light pods has a directional light function that provides a full horizontal 180° rotation and a 90° upward rotation control, enabling forward, upward, rear or sideways facing positions.
The light pod accessory fits all Proteus Tractors, and is quick and easy to fit.

Back view

Front view

LED Pods are available in 2 variants : With back camera & without back camera.

LED Pods	APB300	APN300
Pipe diameter	12"	12"
Illumination system	9 High power LEDs	9 High power LEDs
Backeye camera	Yes	No
Pressure depth rating	1 BAR (14.50psi)	1 BAR (14.50psi)
Dimensions	83 x 152 x 5mm	50 x 152 x 53mm
Weight	480g	400g
ATEX Zone 1 certified	Optional	Optional

Camera Elevation Platform
Increase the inspection capability of your CRP300

The telescopic elevator is quick to attach to the CRP300 tractor and can be manually moved up or down to increase crawler inspection capabilities up to 86" (2200mm)

Interface provides easy connection for various combinations of camera, auxiliary lights and pods.

note : accessory exclusively for CRP300

Technical specifications	
Product code	CEP300
Connections	Camera connection, lifter connection, 2x additional lamp connections, 1x additional lamp connector with backeye camera.
Dimension	139 x 127 x 475mm
Weight	5.7Kgs

Extra Weight Plate
Extra down-force & traction for the crawler

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

Precision Cameras

For Optical Excellence

Pan, Rotate, Zoom & Laser
CAM028L

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 ingression to the connections.

DSP (Digital Signal Processor) automatically adjust color color 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
Aligned laser spacing	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

AXIAL	PAN & ROTATE	PAN, ROTATE & LASER	PAN,ROTATE,ZOOM & LASER
CAM027	CAM026	CAM026L CAM050	CAM028L

Pan, Rotate & Laser
CAM026L

Continuous 360° rotation +/-135° pan.

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 ingression to the connections.

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

Technical specifications	
Pan & rotation	+/-135° / 360°
Zoom	Yes
LEDs	6
Pipe dia measurement range	90 - 600mm
Aligned laser spacing	25mm
Camera sensor	470 HTVL
Sensitivity	<1.0 Lux
Aperture/field of view	F2.5 / 75°
Maximum illumination intensity	12.5k Lux at 150mm
Pressure depth rating	1 bar (14.50psi)
Dimensions	132 x 73 x 73mm
Weight	865g
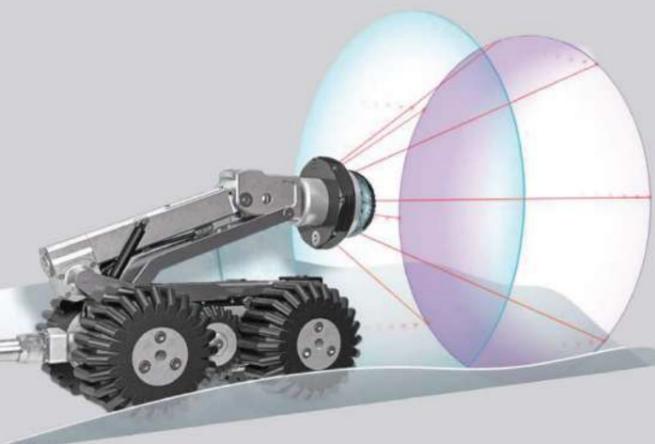
Precision Cameras

Pan, Rotate & Laser
CAM050

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

Technical specifications	
Pan & rotation	+/-135° / 360°
Zoom	Yes
Pipe dia measurement range	greater than 60mm
LEDs	4
Image orientation	Self-levelling
Camera sensor	740 HTVL
Sensitivity	<1.0 Lux
Aperture/field of view	F2.5 / 75°
Maximum illumination intensity	12.5k Lux at 150mm
Pressure depth rating	1 bar (14.50psi)
Dimensions	72 x 46 x 50mm
Weight	570g

Self-Levelling AXIAL
CAM027

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

Technical specifications	
Pan & rotation	N/A
Laser	N/A
LEDs	9
Image orientation	Self-levelling
Camera sensor	470 HTVL
Sensitivity	<1.0 Lux
Aperture/field of view	F2.5 / 75°
Maximum illumination intensity	12.5k Lux at 150mm
Pressure depth rating	1 bar (14.50psi)
Dimensions	73 x 52 x 52mm
Weight	251g

Pan & Rotate
CAM026

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 specifications	
Pan & rotation	+/-135° / 360°
Zoom	Yes
LEDs	6
Pipe dia measurement range	90 - 600mm
Camera sensor	470 HTVL
Sensitivity	<1.0 Lux
Aperture/field of view	F2.5 / 75°
Maximum illumination intensity	12.5k Lux at 150mm
Pressure depth rating	1 bar (14.50psi)
Dimensions	120 x 73 x 73mm
Weight	861g

PRO Laser
Laser Profiler Accessory

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, holes.

Standard Features :
- For pipes 100 to 500mm.
- Compatible with Proteus CAM026, CAM026L & CAM028L.
- Ideal for measuring real pipe diameters continuously along with the length of a pipe.
- Provides verification of structural integrity of the network, ovality and deep corrosion.
- Fast cross-sectional area calculations for determining flow reduction.
- Loss of pipe wall can easily be identified.
- Measuring the thickness of relining & spray lining.
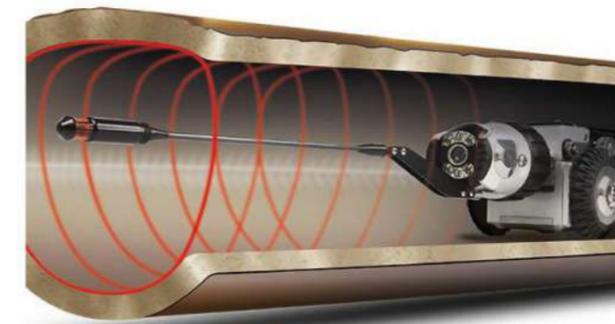
Compatible with Wincan EX pipe inspection & asset management software.

RMP200/RMP300

The RMP200/300 are Manual Cable Reels that are operated manually with a turning handle. Smooth pay-out and re-winding performance enhanced by the cable layering mechanism. Available in 250 & 350meter.

The RMP200 or RMP300 can be fitted on Portable Robotic Crawler trolley.
Note : Choose CAP250SC (250Meters inspection cable) or CAP350SC (350 meters inspection cable) at the time of ordering RMP 200/300 Or RMPL250 cable reel.

Technical specifications

Product code	RMP200	RMP300
Cable length	250m	350m
Dimensions	533 x 280 x 508mm	533 x 406 x 508mm
Weight	27kg	35kg
Ingress protection	Splash proof	Splash proof

RMPL250

The RMPL250 Reel is a 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, can be operated by one person. Providing 250/350 meters of inspection capability developed for the Van-fit system, equipped with three phase motor & 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 three 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 camera and 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 consumtion	600w	600w
Ingress protection	IP45	IP45
Remote controller (included)	RPJ joystick	RPJ joystick
Van guide pulley	VGP350 (optional)	VGP350 (Included)

LCR350

The LCR350 is a Lateral Cable Reel providing 350 meter of inspection capability, flexible 11 mm diameter push rod. Pays out matching the speed of the Proteus Lateral Crawler. Equipped with 3 phase motor.

The extendable arm of the guide roller has a 4-position locking system for the ease of deployment.
Fit for crawler Lateral150, installed in a Van-fit System.

Product code	LCR350
Operation	3 Phase motor
Payout / rewind	Cable layering
Emergency stop	mechanism
Stop button	In-built
Push rod length	45m
Cable length	300m
Cable type	Kevlar reinforced
Power supply	100-240VAC
Power consumption	600W
Dimension (in mm)	889 x 482 x 711
Weight	120kg
Van guide pulley	Integral

Portable & Van-fitted Control Units

Portable CCU208 Control unit is the brain of the Proteus system, providing functionality & control at your fingertips, Dual integral joysticks for dedicated 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.

Feature Rich Control Unit

CCU208

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

Setup, Configuration & Characteristics

Set language, date & time, customize PDF reports, client information oriented reports generated on site. Quick & easy to configure the Proteus control unit 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 upto 3x on video playback, organize videos & images into folders, then find them by using thumbnail gallery.

Generating, Accessing & Sharing Data

Generate detailed inspection reports along with 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 & 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, bend angles, inclination graph of pipeline.

Van Control Unit VCU500

The Proteus VCU500 is a screenless control unit housed in a typical van installation, works with external monitor.

Designed to support all the existing Control Unit CCU208 Proteus features, VCU500 can be used with any combination of Minicam Proteus and Proteus Lite cable reels, cameras and tractor crawlers.

VKU500 Back view.

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 & a connection for the matching Minicam Desktop Keyboard.

PC Reporting Software

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

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

Provides Comprehensive inspection reports **on-site**

Software Interface
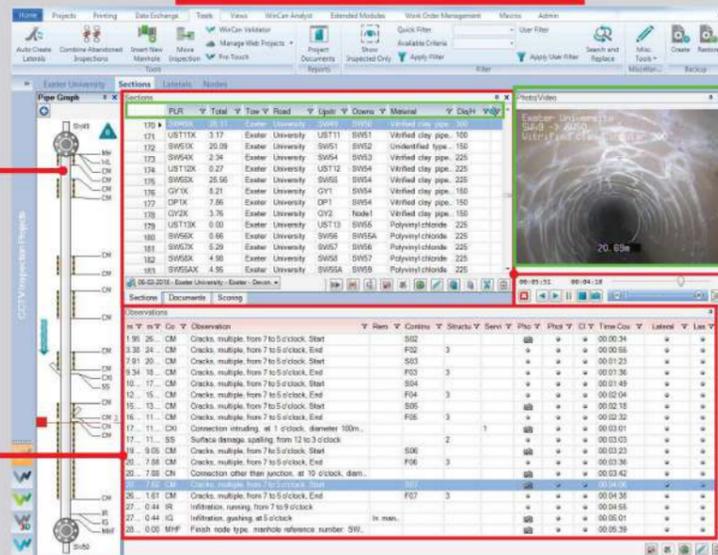
3D graph of pipeline along with pinpointed defects.

Observations Detailed defects report with Images & Video.

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.

Generate PDF Reports

Share Files

3G 4G

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 team-wide access online.
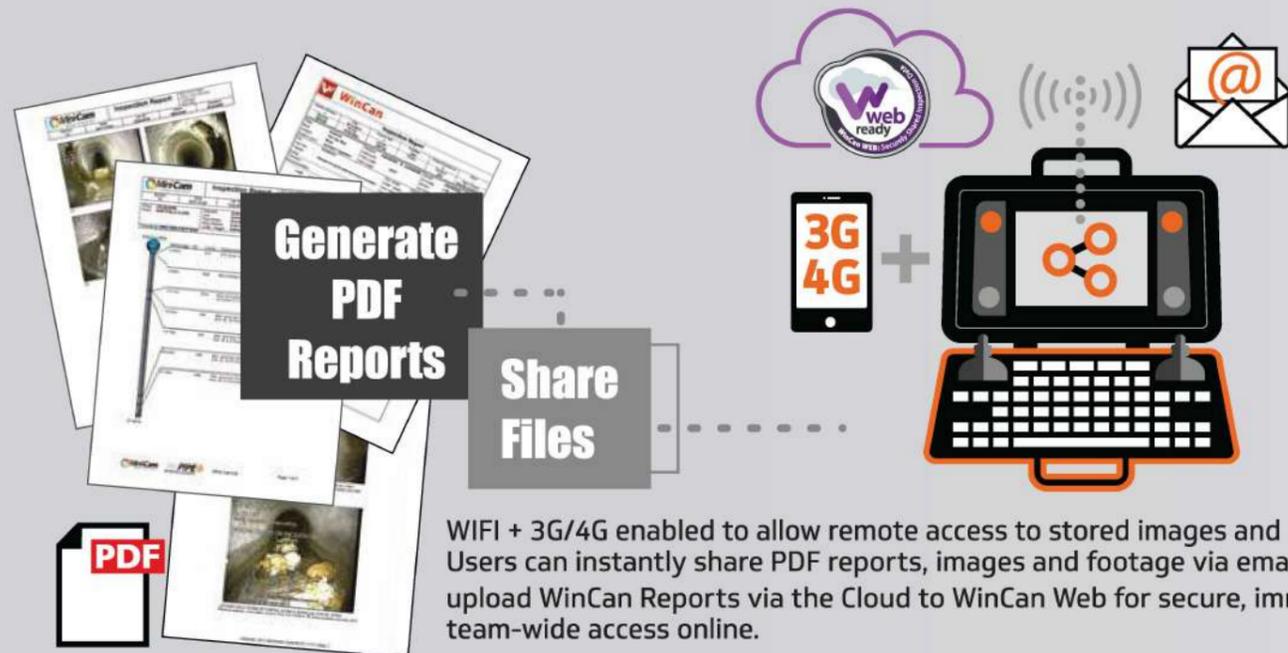
PTP04 Portable Storage Trolley,
RMPL250 Proteus Lite Cable Reel,
CPL150S Proteus Lite Tractor,
CCU208 Control Unit,
BPP24 Proteus Power Battery Pack

CRP140

Crawler CRP140 build :
+ Trolley
+ CCU208 Control unit
+ CAM028L
+ RMP200(250m)
+ CAP250SC Inspection cable
+ Battery BPP24 (5hours uptime)
+ Cradle PCC01 (Incase for 1000mm dia pipes)
+ Lateral kit
+ ProLaser (Las-Pro CAM028)

+ Bigger wheel options :
• Soft rubber wheels : 90mm, 115mm,140mm & 140mm XL
• Carbide Wheels : 90mm, 115mm & 140mm
• High Grip Wheel : 90mm, 115mm & 140mm

CRP300

Crawler CRP300 build :
+ Trolley
+ CCU208 Control unit
+ CAM028L
+ RMP200(250m) or RMPL250(250m)
+ CAP250SC Inspection cable
+ Battery BPP24 (5hours uptime)
+ CEP300 camera elevation attachment (for entering in upto 2200mm dia pipes)
+ LEDs Aux pod
+ ProLaser (Laser profiler)
+ Wide axle wheels
+ Extra weight plates

+ Bigger wheel options :
• QRW250 or XL
• Pneumatic Balloon Wheels 250mm & 250mm XL.

CRP90

Crawler CRP90 build :

+ CCU208 Control unit
+ CAM026 or CAM026L
+ RMP200 (250m) or RMPL250(250m)
+ CAP250SC Inspection cable
+ Battery BPP24 (5hours uptime)
+ Cradle PCC01 (for use in 800 mm dia pipes)
+ Lateral kit

+Bigger wheel options :
• Soft rubber : 60mm, 90mm & 90mm XL
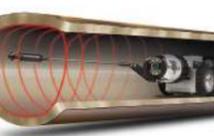
Recommended for larger and more complex inspection projects.

They are typically mounted on a dedicated vehicle.

Van mounted system includes Tractor crawler, Motorised semi-automatic or Fully automatic cable reels, van-fit control unit with Dedicated cabin space, Pressure water & air pressure gun for cleaning the equipment after inspection.

Crawler LAT150 Van-fitted build :

+ Customised Van or Mini-truck
+ Push camera System (SoloPRO+)
+ LATERAL150
+ Control unit VCU500
+ CAM050L or CAM028L
+ LCR 350 meter
+ CAP250SC Inspection cable
+ Lateral kit
+ ProLaser (Laser profiler)
+ WinCAN expert software

• Additional wheel sizes

Crawler Van-fitted build :

+ Customised Van or Mini-truck
+ Push camera System (SoloPRO+)
+ Crawlers : CRP90, CRP140, CRP300
+ Control unit VCU500 (Rack mounted), VKU500 (Desktop keyboard unit for van)
+ CAM028L & CAM050L
+ Cable reel ACR 500 meters
+ Lateral pin kit
+ ProLaser (Laser profiler)
+ WinCAN expert pipe Inspection & Asset management software
+ Brick egg stabilizer accessory, (prevents crawler from rolling.)
+ CEP300 & PCC01 (Crawler Extenders)
+ CCE01 (Camera extender)
+ Van guide pulley VGP200/350/500
+ Cable pulley guide CGP01
+ Cable reel guide CGP200/300
+ Extra weight plates
+ Additional wheel sizes

ATEX Systems

Uncompromising Performance and Safety

Proteus™ ATEX Tractors 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 Tractors.

Our CRP140 Tractor is 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 Tractors 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 Tractors 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 RETRIVAL
Using the in-built lowering device

BACK-EYE CAMERA
Capture images from behind the camera

KEEP ON TRACK
Heavy duty 10" pneumatic balloon wheels

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

DUAL AUX LIGHTS
Optimum illumination for image clarity

ATEX Cameras

ATEX Pan, Rotate, Zoom and Laser Camera

ATEX Pan, Rotate and Laser Camera

ATEX Auxiliary Light and Backeye

ATEX Features

ATEX Connector

ATEX Tractor Cradle

ATEX Override Key Switch

ATEX Nitrogen Pressurization Kit
All you need to purge a Proteus Tractor and camera head

Prior to performing an inspection in any ATEX Zone 1 or 2, pressurization of the ATEX certified robotic crawler components is necessary.
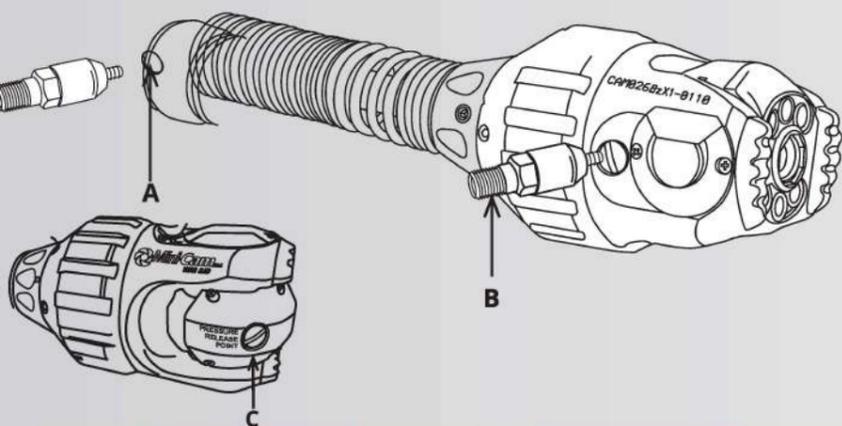
A : Pressure Valve Protection CAP of CAMERA SPRING ASSEMBLY
B : Camera Housing Pressure Valve (IN)
C : Camera Housing Pressure Release Point

ATEX Nitrogen Pressure kit supply includes 2 canisters, valve & pressurisation gun, for use with Proteus System.

Pressure Bar Meter shown on Control unit

Camera: CAM026-ExZ1
520mb
540mb
ATEX OK Zone:1
220mb
240mb
ATEX OK Zone:1
Close
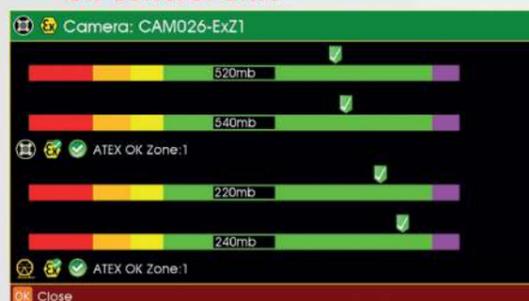
🟥 Pressure too low / uncompliant

🟧 Pressure low caution

🟨 Pressure low advisory

🟩 Pressure OK

🟪 Pressure too high, though still compliant.

All equipment should be pressurised into the green area.

Technical specifications

Product Code	Description
PKP01	Standard CO_2 Pressure kit
PKP02EX	ATEX Nitrogen Pressure Kit

Proteus Power Battery Pack
All you need to power portable crawler system

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*. Short circuit protection and LED charge status indication.

*Battery life dependant on operation condition.

The battery is charged using the standard Proteus power supply unit.

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

Optional Easy Access Carry Case

Technical specifications

Product code	BPP24
Dimensions	280 x 101 x 120mm
Weight	4kg
Optional	Carry case

Brick Egg Stabilizer

Eliminates rolling over of the Tractor

A simple quick fit to our Proteus Tractor, the Brick Egg Stabilizer stops the Tractor from rolling over during inspections in pipes with an egg-shaped profile.

Exclusively compatible with Minicam's Proteus CRP300, CPL150S and CRP140 Tractors.

Compatibility:
BEP300 fits Proteus CRP300
BEP150/140 fits Proteus CPL150S and CRP140
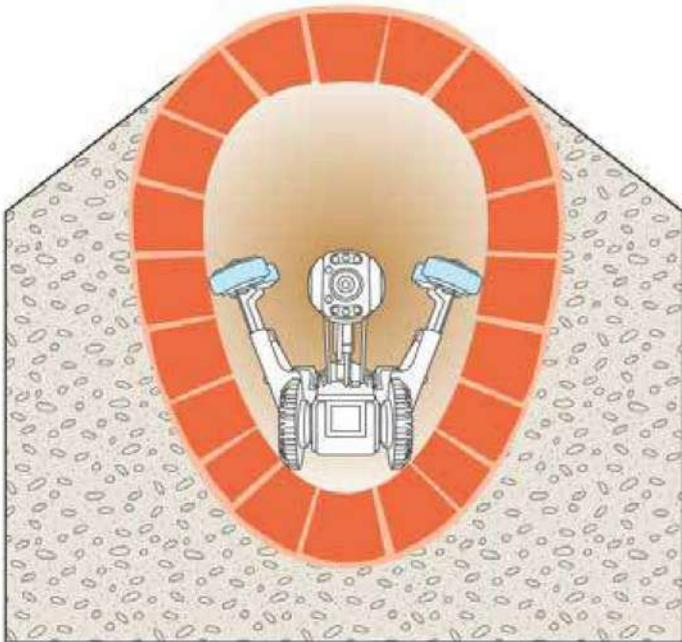
Technical specifications	
Product code	BEP300
Compatability	CRP300
Dimensions	431 x 177 x 218mm
Weight	3kg

Technical specifications	
Product code	BEP150/140
Compatability	CPL150s/CRP140
Dimensions	381 x 177 x 203mm
Weight	2kg

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Catalogue Version : ST/Proteus/2023/F1

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System

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ASSESSMENT

ISO 9001: 2015

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