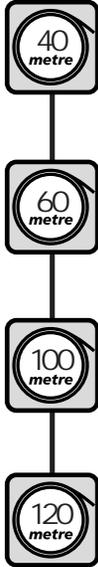


SOLOPRO+ ATEX Push Camera Video Inspection System



Certified For Use In ATEX ZONE 1



Inspect Pipes & Ducting in **ATEX Zone 1 & Zone 2** Region safely with SOLOPro+'s safety features such as

- **Safety Override Lock**
- **Pressurized Camera**
- **Camera Housing**

If the system detects ATEX system uncompliant, the power supply to the inspection equipment will be cut off automatically ensuring that the system will operate only as ATEX compliant

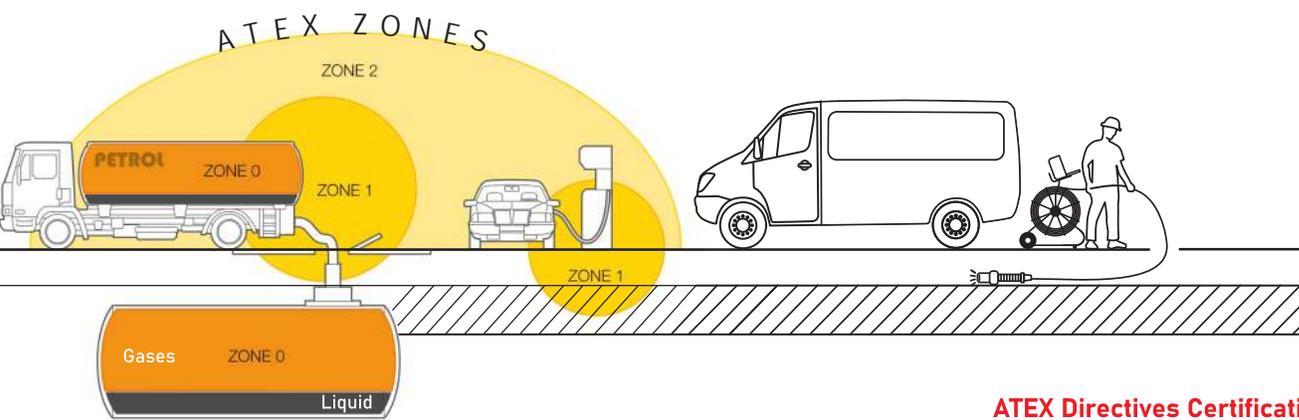
Electric motors, Sensors, Lighting, and other electrical equipment are specially designed in an explosion proof enclosed housing to meet the safety requirements of the ATEX directive.

minicam Minicam, UK has been producing pipeline inspection systems for 30 years. Minicam is a part of Halma PLC group, one of britains mosts admired companies.

- | | | | | |
|----------------------|----------------------------------|--------------------------------|-----------------------|-------------------------|
| METERAGE MEASUREVENT | GENERATE CLIENT ORIENTED REPORTS | GENERATE PIPELINE GRAPH REPORT | SONDE | JOYSTICK CAMERA CONTROL |
| CAPTURE IMAGES | RECORD VIDEOS | 32GB IN-BUILT 128GB OPTIONAL | ACCESS FILES REMOTELY | SD & PENDRIVE SUPPORTED |



- WiFi
- SUNLIGHT VIEWABLE
- Li-ion Battery
- WinCan Embedded reporting inside
- ProPIPE REPORTING SOFTWARE
-



ATEX Directives Certifications included in this PDF.

SOLOPRO+ ATEX Push Camera Video Inspection System



ATEX Approved Precision Camera Options

The SOLOPRO+ is available with 2 camera set : CAM025 AXIAL, CAM026 PAN/ROTATE or a Duo option which includes supply of both cameras.



All cameras on the SOLOPRO+ system are interchangeable.



CAM025

The CAM025 is a Self-Leveling AXIAL camera which provides images which are always upright.



Flexible Heavy Duty Connector



4 Ultra-Bright LED Lights + Scratch-Resistance Sapphire Glass



Camera Connector Lock

The AXIAL "**Self-Leveling**" feature allow sensors to detect when the camera is **tilted** or **rotated** and then adjust the **camera lens to compensate for the movement**.

Video will always stay upright!



75° Fov

SOLOPRO+ ATEX Push Camera Video Inspection System



ATEX Approved Precision Camera Option : CAM026



The CAM026 PAN & Rotate is for clients **requiring advanced analysis of the pipelines** & branches inside of pipelines using Lateral KIT.

CAM026 Pan & Rotate



PAN +/-135°



360° Rotation



Impact Resistant
Rubber Protectors



Aperture : F2.5, FOV, 75°, 512 x 582 Effective pixel,

Dual Clusters Of 3 High Powered Ultra-bright LED lights with Scratch-Resistance Sapphire Glass

Motorized Focus Feature

CAM026 will **automatically adjust the focus of the lens** based on changes in the distance between the camera and the subject being filmed.

Integrated **DSP** (Digital Signal Processor) is a specialized fast micro-processor that is designed to adjust color correction, image sharpening & white balance in realtime.

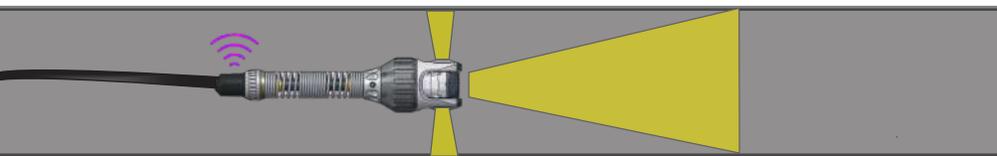
DSP & Focused Applied



Without DSP & Focus



- Possible Inspection area of CAM026, inspect a full pipe joint closely.
- Multi-Frequency Sonde **33kHz, 512Hz & 640Hz**, Built in



SOLOPRO+ ATEX Push Camera Video Inspection System

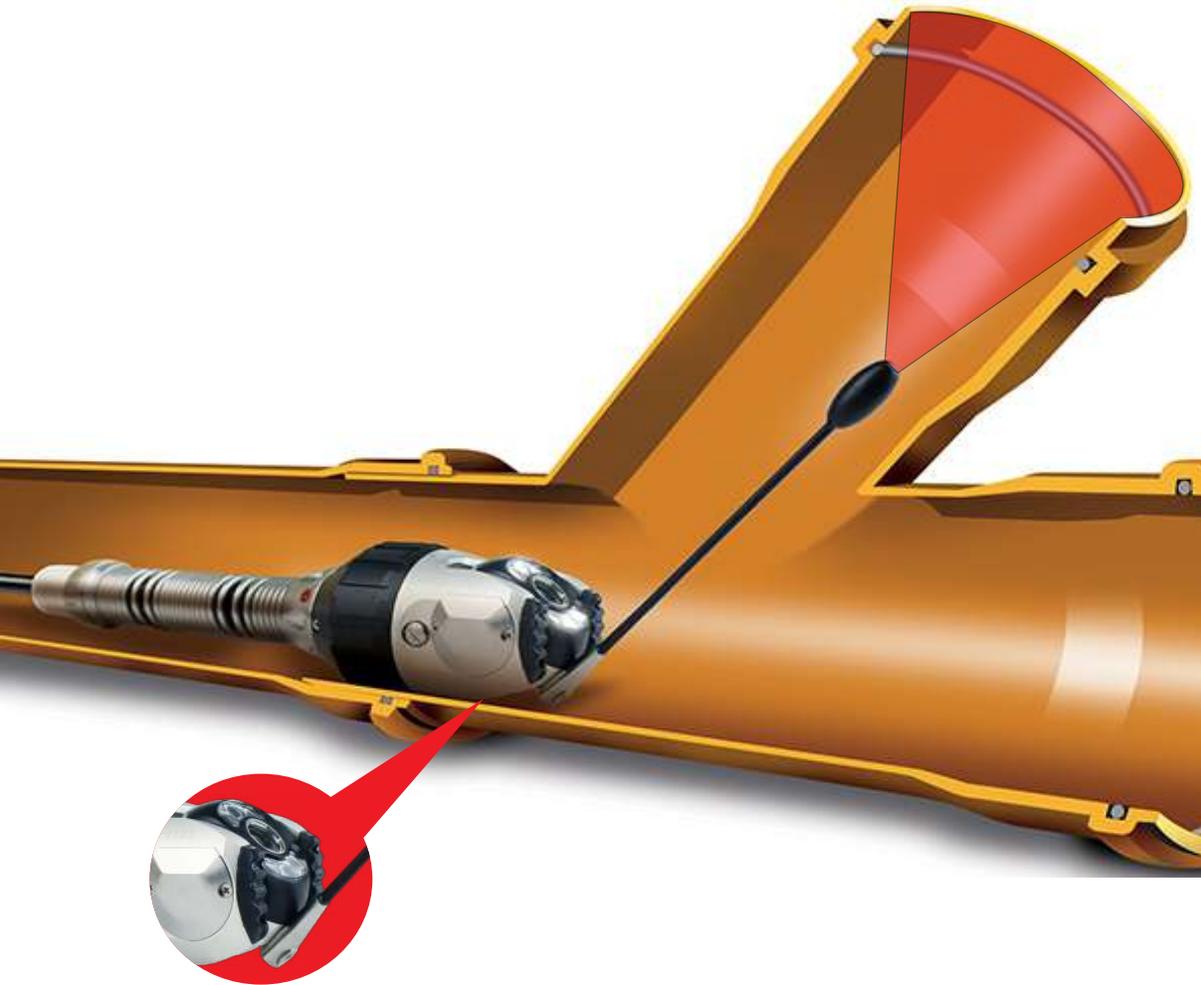


Inspection Of Lateral Pipes Or Branches Inside Main Pipeline

LATERAL PIN KIT : Accessory Option

A must have accessory for the smooth inspection of incoming laterals. A useful addition to the **SOLOPRO+** Video Inspection System.

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



Used exclusively with the Pan & Rotate camera (CAM026)
simply attach the pin to allow the inspection of incoming lateral pipes.



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



SOLOPRO+ ATEX Push Camera Video Inspection System



CCU210 Control Unit Functionality At Your Fingertips

HOTKEYS

Intuitive, user-friendly, multi-function keys. The colour coding mirrors the key to the on-screen menu



CAPTURE FOOTAGE

Record MPEG video and capture JPEG images, and zoom up to 3X on video playback



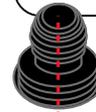
ILLUMINATION

Increase or decrease the intensity of the ultra-bright camera LED



JOYSTICK CONTROL

Movement of camera is smooth & effortless using the joystick control. Perform a 360° endless rotation and pan the camera +/- 135°



REVIEW FOOTAGE

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



CONTROL METERAGE

Accurately set the meterage zero offset using the meterage key



SURVEY FEATURES

Access embedded reporting software to create detailed on-site reports



SCREEN INTENSITY

The brightness, colour and backlight intensity of the internal display can be adjusted



SONDE SETTINGS

Set the frequency of the sonde transmitter. Selectable frequencies of 33kHz, 512Hz and 640Hz



SETUP DEVICE

Configure to your specific requirements using the various menu options. Set language, date & time establish file formats, naming conventions; adjust camera parameters; choose interface themes, enable power saving options and update firmware

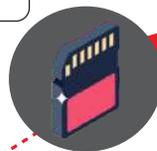


SHARE FILES

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

OFFLOAD DATA

Copy video, images & data to USB or SDHC media for easy transfer to PC



SOLOPRO+ ATEX Push Camera Video Inspection System



Centralizer Skids For ATEX Zone

Centering skids are included as a standard with SOLOPRO+, allows to centralise camera view in pipes of 75mm and larger.

Exclusively used with AXIAL CAM025, the skids are quick and simple to attach using the supplied tool.



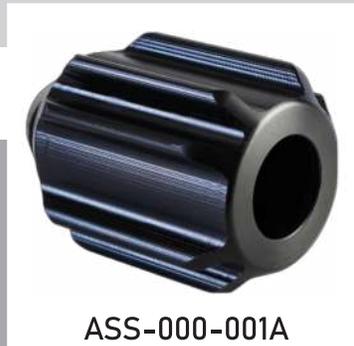
Available in 3 sizes 3", 4" & 6".



ASS-000-667



ASS-000-003A



ASS-000-001A

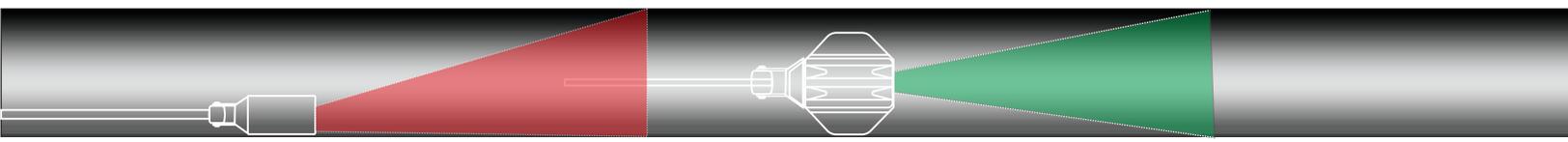


ASS-000-002A

Centering Skids allows **additional height elevation** for centralising camera inside pipelines & to protect camera lens from punishment of daily field work.

 Inspection area without Centraliser

 Inspection area with Centraliser

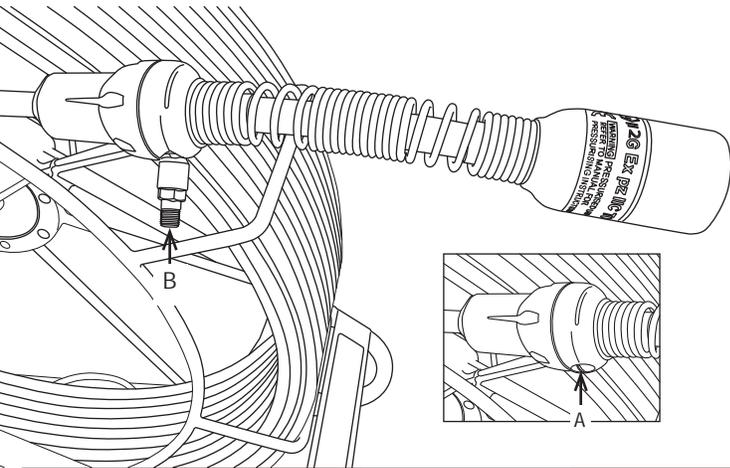


SOLOPRO+ ATEX Push Camera Video Inspection System

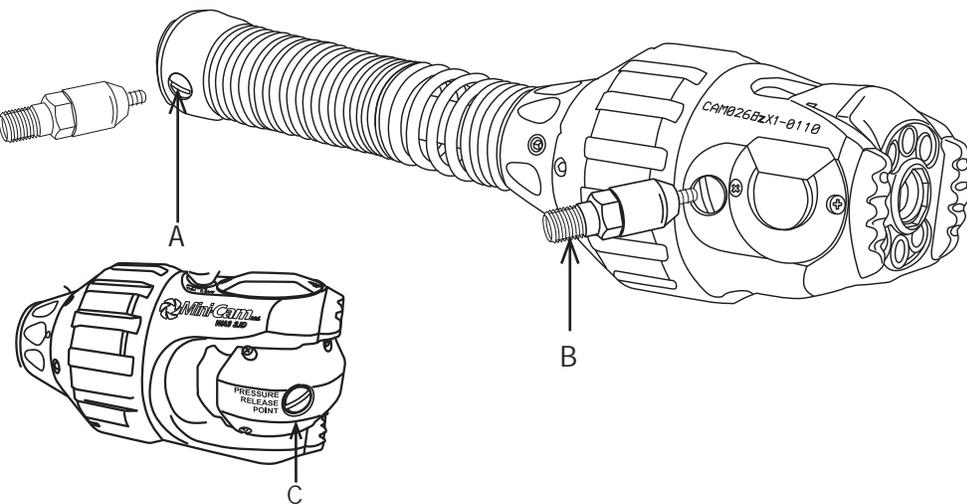


ATEX Nitrogen Pressure Kit

Prior to performing an inspection, operator must pressurise all components with Nitrogen so that you ensure the tightness of all components.



A : Pressure Valve Protection CAP of CAMERA SPRING ASSEMBLY
B : Camera Housing Pressure Valve (IN & OUT)



A : Pressure Valve Protection CAP of CAMERA SPRING ASSEMBLY
B : Camera Housing Pressure Valve (IN)
C : Camera Housing Pressure Release Point



Pressure Bar

All equipment should be pressurised into the green area.



- Pressure too low / uncompliant
- Pressure low caution
- Pressure low advisory
- Pressure OK
- Pressure too high, though still compliant

Nitrogen version for ATEX equipment.

Item code : **PKP02EX**

ATEX Nitrogen Pressure kit supply includes 2 canisters, valve & pressurisation gun, for use with ATEX SOLOPRO+ Systems.

SOLOPRO+ ATEX Push Camera Video Inspection System



Reporting Softwares

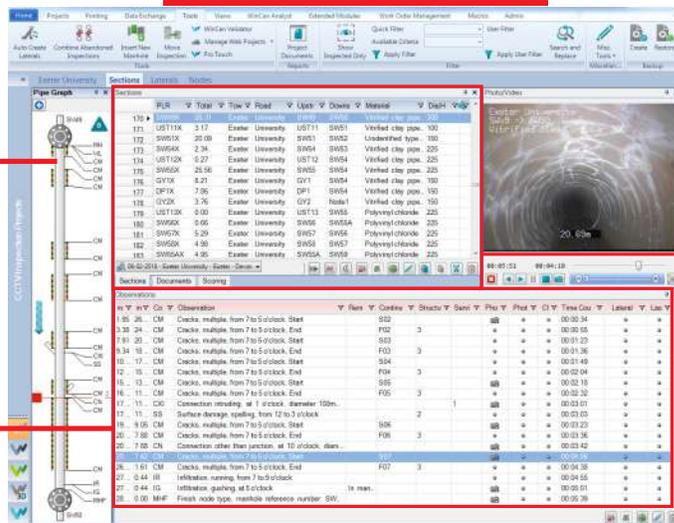


PROPIPE+, WinCan WEB & WinCan VX (expert) Web software is pre-installed as standard on the SOLOPro+ control unit, giving the ability to create 3D pipeline graph report, with images & detailed analysis of defects found in the pipeline.



WinCan VX is an AI Based Smart Sewer Inspection software program designed for managing sewer and pipeline inspections, offers a wide range of features to make the process of inspecting, analyzing and managing pipeline data easier and more efficient.

WinCan Software



3D graph of pipeline along with pinpointed defects

Detailed defects report with Images & Video

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



SOLOPRO+ ATEX Push Camera Video Inspection System



EU - Type Examination Certificate



- (1) **EU - Type Examination Certificate**
- (2) Equipment and protective systems intended for use in potentially explosive atmospheres – Directive 2014/34/EU
- (3) EU - Type Examination Certificate Number
- EPS 20 ATEX 1 018 X** **Revision 0**
- (4) Equipment: SOLOPro+ Inspection System
- (5) Manufacturer: Mini-Cam Limited
- (6) Address: Unit 4, Yew Tree Way, Stonecross Park
WA3 3JD Golborne
Warrington - England
- (7) This equipment and any acceptable variation thereto are specified in the annex to this certificate and the documentation therein referred to.
- (8) Bureau Veritas Consumer Products Services Germany GmbH, notified body No. 2004 in accordance with Article 21 given in the Directive 2014/34/EU of the European Parliament and of the Council of 26 February 2014, certifies that this equipment has been found to comply with the essential health and safety requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II of the Directive. The examination and test results are recorded in the confidential documentation under the reference number 19TH0542.
- (9) Compliance with the essential health and safety requirements has been assured by compliance with:
- EN 60079-0:2018** **EN 60079-2:2014**
- (10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the annex to this certificate.
- (11) This EU - Type Examination Certificate relates only to the design and construction of the specified equipment in accordance with Directive 2014/34/EU. Further requirements of this Directive apply to the manufacture of this equipment and its placing on the market. Those requirements are not covered by this certificate.
- (12) The marking of the equipment shall include the following:

II 2G Ex pxb IIB T4 Gb

Certification department of explosion protection

Hamburg, 2020-02-14



Page 1 of 2

Certificates without signature and seal are void. This certificate is allowed to be distributed only if not modified. Extracts or modifications must be authorized by Bureau Veritas Consumer Products Services Germany GmbH, EPS 20 ATEX 1 018 X, Revision 0.

BUREAU VERITAS

Dahlteckerring 40, 22419 Hamburg, Germany

cps-hamburg@de.bureauveritas.com



Annex

- (13) **Annex**
- (14) **EU - Type Examination Certificate EPS 20 ATEX 1 018 X** **Revision 0**
- (15) Description of equipment:
- The Inspection System SOLOPro+ is a modular Push Camera System designed for the inspection of pipeline systems comprising potentially explosive atmospheres. The Inspection System consists of a Camera of type CAM025-ExZ1, which is advanced by a rigid cable. The connection to the camera is by a special connector which is - like the camera itself - protected by static pressurization.
- The system is controlled from outside of the potentially hazardous area by the Control Unit CCU210-ExZ1.
- The system can optionally be equipped with a camera of type CAM026-ExZ1, which is subject of a different certification (EPS 20 ATEX 1 017 X). When equipped with the CAM026-ExZ1 the system comprises two separated pressurized volumes, which are electrically combined via a connector with type of protection "eb" (also part of EPS 20 ATEX 1 017 X).
- Any other configuration is not part of this certification.
- Electrical data:
- See user manual.
- (16) Reference number: 19TH0541
- (17) Special conditions for safe use:
- Ambient temperature range: $-10^{\circ}\text{C} \leq T_a \leq +40^{\circ}\text{C}$
- Nitrogen has to be used as the inert gas.
- Filling of the pressurized volumes has to be done in accordance with the respective instructions given in the user manual.
- Prior to initial operation and after loss of the minimum permissible overpressure, the system has to be purged in accordance with the respective instructions given in the user manual.
- Pressurization shall only be done in a non-hazardous area.
- (18) Essential health and safety requirements:
- Met by compliance with standards.



Certification department of explosion protection

Hamburg, 2020-02-14

Page 2 of 2

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BUREAU VERITAS

Dahlteckerring 40, 22419 Hamburg, Germany

cps-hamburg@de.bureauveritas.com

SOLOPRO+ ATEX Push Camera Video Inspection System



Specifications

SOLOPro+ Coiler		
Features	ROD roller, friction brake, meterage measurement, SONDE (built-in multi-frequency 512Hz, 640Hz & 33KHz)	
Length range options	40m, 60m, 100m, 120m	
Control Unit CCU210		
Display	8" TFT LCD (800 x 600 pixels) sunlight viewable	
Keyboard	Qwerty membrane keyboard & Joystick for camera control	
Softwares	PROPIPE+, Wincan VX, Wincan web	
File sharing	Via Email, Wifi, or Pendrive & SD card	
Reports	On-site Client oriented PDF reports or pinpointed errors report with pipe graph	
Internal memory	32GB, expandable to 128GB	
External media	SDHC and USB 2.0	
Video recording & Image capture	MPEG4 / JPEG (take images live or capture from recording)	
Power & Battery	Mains power (100-240 Vac) & 6 hours battery back up (Lithium ION)	
Ingress protection	IP54 protection against dust & water splashes	
Dimension & weight	435 x 250 x 140mm / 3KG	
Cameras	CAM025 Self-Levelling AXIAL	CAM026 Pan & Rotate
Effective pixels	512 x 582	
Aperture / FOV	F2.5 / 75°	
Image orientation	Auto-levelling	Pan & rotate
Illumination system	4 LEDs	6 LEDs
Illumination sensitivity	1.0 lux	
Illumination Intensity	Adjustable to 12.5k lux at 150mm	
Pressure depth rating	1 bar (14.50PSI)	
Pipe compatibility	50mm / 2" or higher	150mm / 6" or higher
Camera centralisers	3" / 4" / 6"	6" / 8"
Camera module size & weight	271 x 41 x 41mm / 620g	120 x 73 x 73 / 861g
Housing	Stainless steel	Aluminum & Stainless steel
Optional Accessories		



16GB / 32GB



Roller Skids



SPP EVL
Video Input Cable



Tilting Table

SOLOPRO+ ATEX Push Camera Video Inspection System



The Centralizer Roller Skids Optional Accessory

Centering roller skid is for ensuring that the camera is properly centered & aligned within the pipe to negotiate multiple corners, bends & increase the depth of range significantly.

The roller skids expand the SOLOPro+ system for use in 6" to 9" pipelines

Manufactured from stainless steel and ABS plastic, the centralizers are sturdy, rugged and corrosion resistant.



 The following Centralisers skids accessory options are **'NOT' certified for use in ATEX Zones.** They should be construed for use in areas which do not require ATEX Certified systems.



For CAM026



ASS-001-955 / 180mm Roller Skid

ASS-002-160 / 130mm Roller Skid

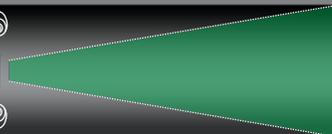
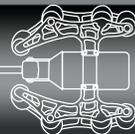


For CAM025



ASS-002-009 / 180mm Roller skid

ASS-002-008 / 130mm Roller Skid



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- SPRINKLER CABLE SYSTEM
- OPTICAL TOOL KIT
- FIBER VIDEO INSPECTION SYSTEM

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- STAKELESS GROUND TESTER
- POWER ANALYZER
- POWER CLAMP METER
- INSULATION TESTERS
- LIGHT, SOUND & WIND TESTER
- TACHOMETER
- INFRARED THERMOMETER
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