



The LAT150 is a mainline to lateral inspection crawler designed to offer range, reliability and functionality. Whether you're offering pre-acceptance inspection, searching for cross bores or inflows or conducting a structural survey, Minicam's self-propelled LAT150 has you covered.



**Crawl 350m**

**Launch 45m**

**8 x 8 Steerable**



## 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.

## 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.



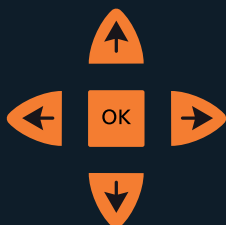
## Quick Change Wheel Lock

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.



## 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.



# ust. Reliable.

## 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.



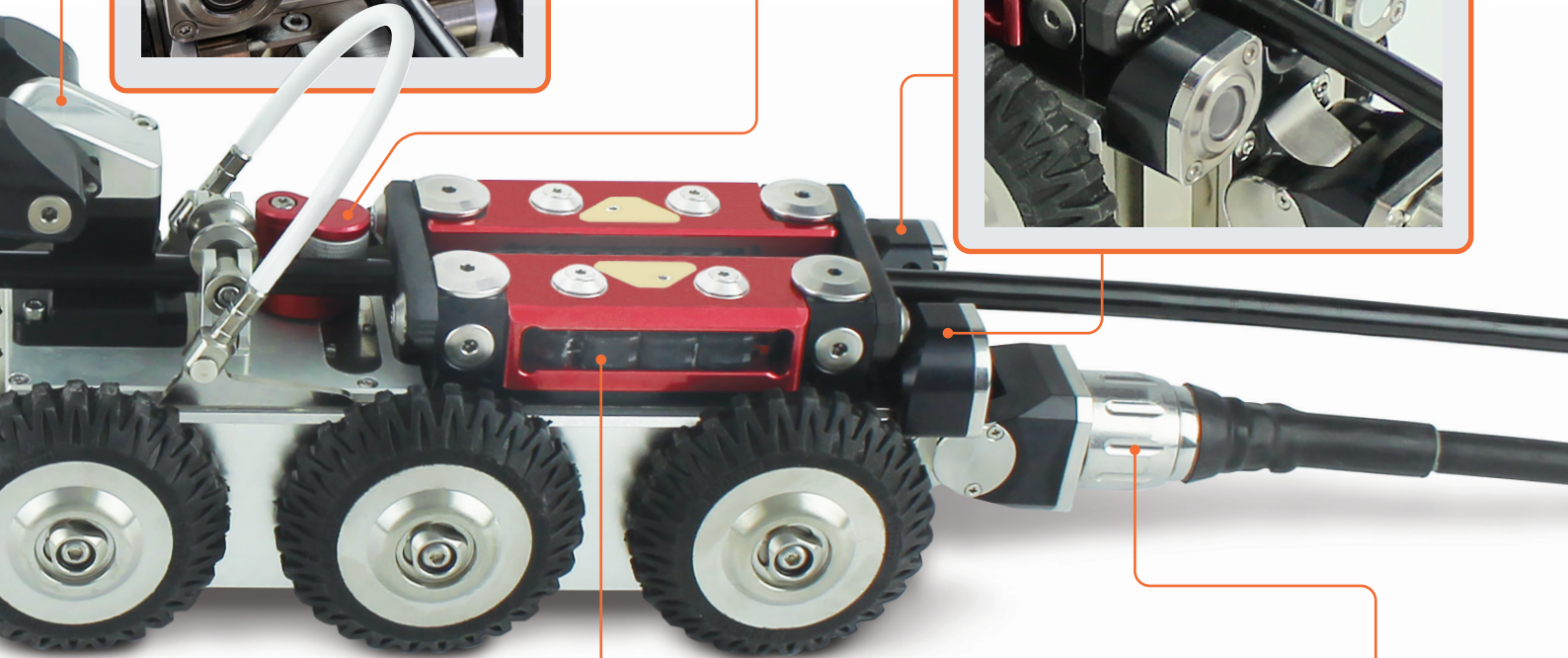
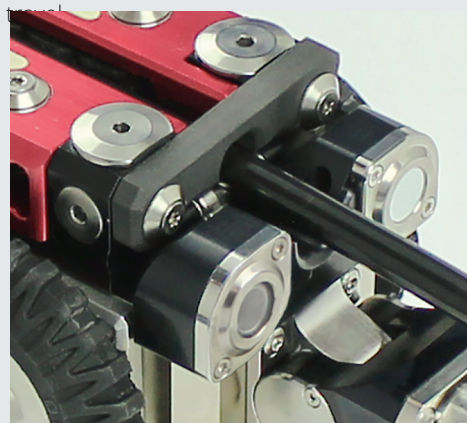
## Meterage Counter

Close to deployment for an accurate lateral distance measurement.



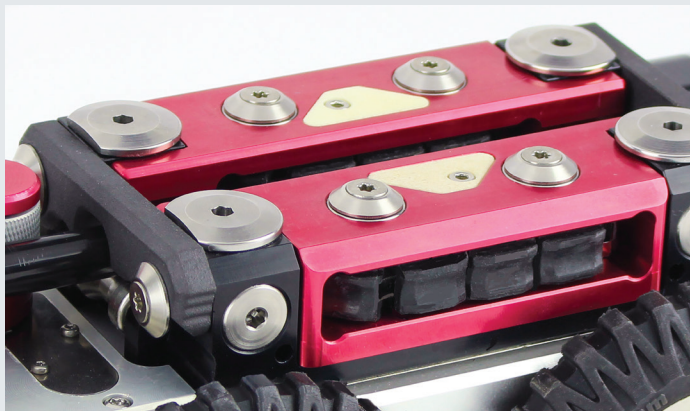
## Back-eye Camera and LED Auxiliary Light

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 launch.



## 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.

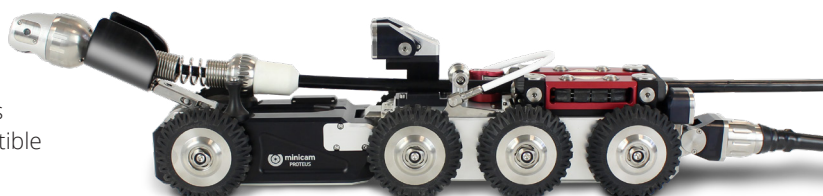


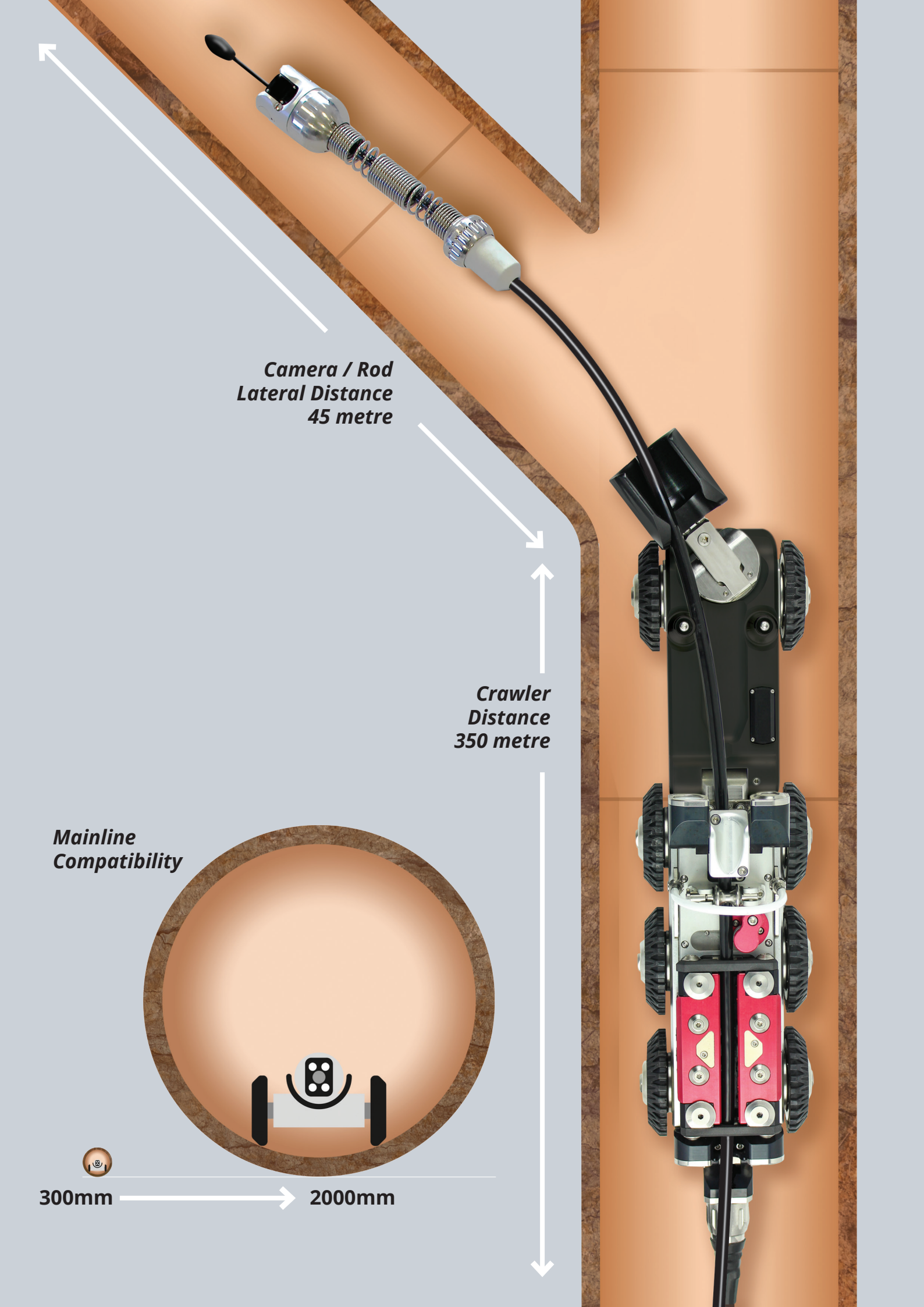
## Articulated 'Knuckle' Connector

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

## 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.



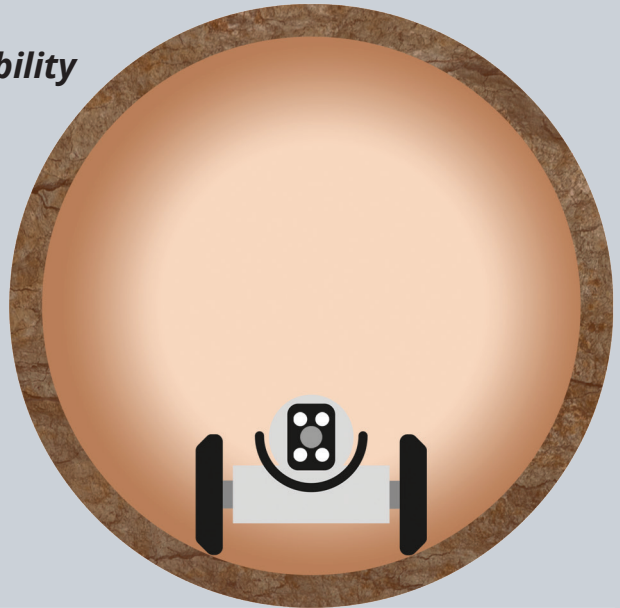


The diagram illustrates a crawler robot system. On the right, a detailed view of the robot shows a black chassis with four large, treaded wheels. A camera and rod assembly is mounted on top. A black cable runs from the robot, through a curved section of the tunnel, to a camera head at the top left. The camera head has a lens and a spring-loaded rod. White arrows indicate distances: a long arrow from the camera head to the robot is labeled 'Camera / Rod Lateral Distance 45 metre', and a shorter arrow from the robot to a circular tunnel cross-section is labeled 'Crawler Distance 350 metre'. The tunnel walls are brown and textured. The background is light blue.

**Camera / Rod  
Lateral Distance  
45 metre**

**Crawler  
Distance  
350 metre**

**Mainline  
Compatibility**



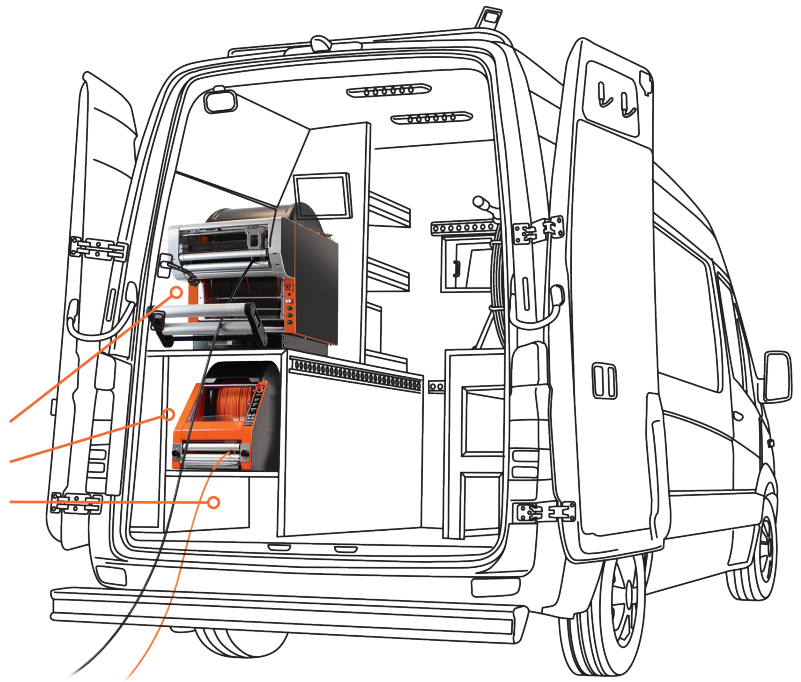
A circular cross-section of a tunnel. At the bottom center, there is a small icon of a crawler robot. A horizontal white arrow points from the robot icon to the right, with '300mm' at the start and '2000mm' at the end.

**300mm** → **2000mm**

# Reels

Dual reels with installation flexibility in van arrangements (example shown below) are used to drive the LT150 crawler. The Lateral Reel gives you 350m of mainline capability to then extend the main camera up to 45m into a lateral pipe, while the mainline reel provides cable to the crawler for runs of up to 350m 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 e-stop button.

**Lateral Reel**  
**Mainline Reel**  
**Lateral Launch**



Right: Typical Lateral Launch system layout for the CCTV vehicle inspection vehicle

## Lateral Reel - LCR350

Fitted with 350m of high strength, Kevlar reinforced inspection cable and 45m of flexible 11mm 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.



LCR350

## Mainline Reel - ACR350

Used in conjunction with the lateral reel this fully automatic reel provides a distance capability of 350m to 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.



VGP350

Optional Van Guide Pulley  
for the ACR350



ACR350

# Manageable Manoeuvrability

The LAT150 offers a multitude of options to help overcome challenging situations and give complete control of each launch. The system has flexible but easy to use options available such as, various configurations and sizes of wheels, deployment tubes and the lateral pin.

## Deployment Tubes

For larger mainlines, to enable accurate positioning of the camera prior to launch, the LAT150 can be fitted with various sized deployed tubes. The unique design of the pivot provides quick, easy and tool-less attachment of deployment tubes in any size.

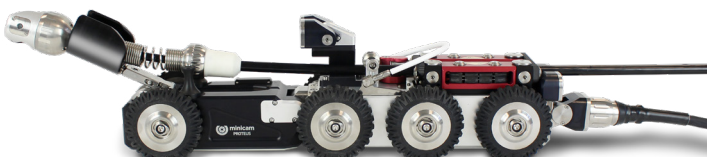


LAT150 with 140mm Soft Rubber Wheels (QRW140SR/150)

## 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.

Optional performance wheels are available in high grip and carbide which offer significant performance benefits in various for specific operating conditions, such as greasy and/or plastic pipes.



## Lateral Pin

A useful addition to the Pan-tilt and Laser Camera CAM050. simply attach the pin to assist in directional guidance within a lateral pipe. The pin helps to overcome entry to bends & junctions and guides the camera smoothly along the pipe.



Lateral Pin  
Product Code: ASS-006-322

## Observation Camera Extension Support

Raises the camera for a better view in pipes 200mm and above.





The LAT150 comes with 8x wheel drive and observation and reversing camera's included as standard, making traversing awkward in-pipe obstacles an easy task in pipes as small as 300mm.

The self-propelled lateral camera unit allows you to inspect lateral pipes as small as 60mm with over 45m of deployment range, all while offering Pan and Tilt camera functionality with laser measurement.

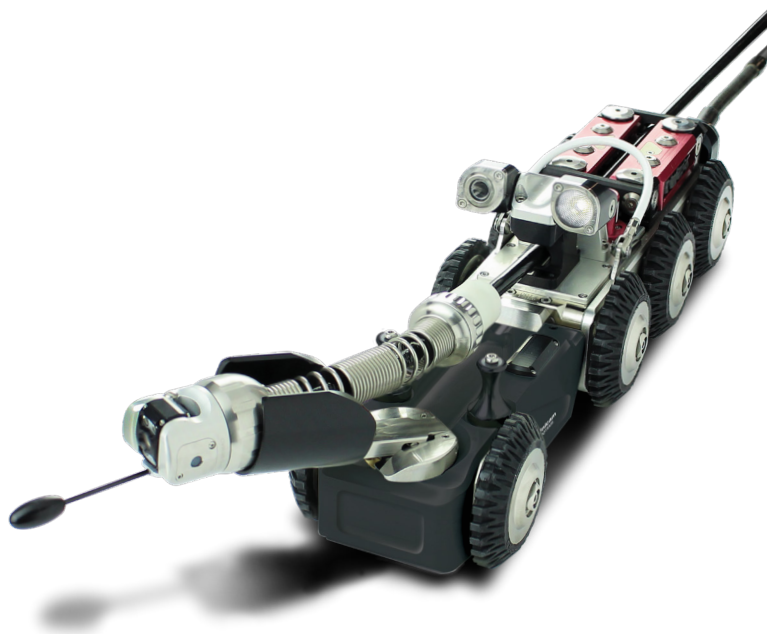
With diverse functionality and range and Minicam's industry renowned reliability the LAT150 is the go to product for any mainline to lateral survey requirement.

## SPECIFICATIONS

| Crawler - LAT150                                                              |                                             |
|-------------------------------------------------------------------------------|---------------------------------------------|
| Crawl distance                                                                | 350m                                        |
| Launch distance                                                               | 45m                                         |
| Observation Camera Lens                                                       | 740TVL                                      |
| Drive train                                                                   | 8 x 8 steerable high torque all-wheel drive |
| Wheel Compatability                                                           | 90mm, 115mm and 140mm                       |
| Pipe diameter capabilities                                                    | Min 150mm - Max 2000mm                      |
| Minimum Access Size                                                           | 300mm                                       |
| Rating                                                                        | IP68 Pressurised                            |
| Maximum Water Depth                                                           | 10 metre                                    |
| Internal Pressure                                                             | 1bar (10m)                                  |
| Construction                                                                  | Aluminium / Brass                           |
| Material (rear body)                                                          | Brass (Zinc Coated)                         |
| Material (front body)                                                         | Brass (Zinc Coated)                         |
| Material (Lateral Drive Module)                                               | Anodised Aluminium                          |
| Multi-frequency Sonde                                                         | 33kHz, 512Hz, 640Hz                         |
| Size (L x W x H)                                                              | 61cm x 14cm x 16cm                          |
| Height with Observation Camera                                                | 16cm                                        |
| Weight                                                                        | 16.5kg                                      |
| Continuous monitoring of speed, internal pressure inclination and temperature |                                             |
| Dual axis inclination sensor                                                  |                                             |
| Rear articulated 'knuckle' connector                                          |                                             |
| Quick change wheel lock                                                       |                                             |

| REELS                 | Lateral Reel - LCR350    | Mainline Reel -ACR350   |
|-----------------------|--------------------------|-------------------------|
| Operation             | 3 Phase motor            |                         |
| Payout / Rewind       | Cable layering mechanism | Cable layerin 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                | 120 kg                   | 42kg                    |
| Van Guide Pulley      | Integral                 | VGP350 (Optional)       |

| Pan-Rotate Laser Camera - CAM050 |                                          |
|----------------------------------|------------------------------------------|
| Imager                           | CMOS Colour Camera                       |
| Effective pixels                 | 976 x 496                                |
| Resolution                       | 740 TVL                                  |
| Lasers                           | Dual aligned front facing / single side  |
| Sensitivity                      | < 1.0 Lux                                |
| Aperture / Field of view         | F2.5 / 75°                               |
| Image orientation                | Auto- levelling                          |
| Lighting capabilities            | 4 x high powered LEDs                    |
| Illumination intensity           | Adjustable to 12.5k Lux at 150mm         |
| Pan-tilt                         | Continuous 360° rotation and +/-135° pan |
| Construction                     | Stainless Steel / Aluminium              |
| Pipe compatibility               | Greater than 60mm                        |
| Dimensions                       | 49mm                                     |
| Weight                           | 570g                                     |



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