

Pipe Crawler STORMER S3000

- Rugged and Agile Crawler Type Inspection System
- Highly Scalable Design and Adjustable Speed
- Inspections of Wide Range of Pipes (150 mm/5.9" and up)
- Pan-and-Tilt Camera to Examine All of Internal Structure in One Easy Run
- Kevlar Braided Cable
- WinCam Compatible



Cables and Reel

The probes that endure the most exposure to different types of impact and pressure while in the pipe are made especially durable - tear and wear-resistant, multi-core, Kevlar braided, capable of withstanding routine inspections in different settings. The Stormer Pipe Robot works with a standard 200 m (656') cable, but is available with 250 m (820') cables. A sturdy, mobile reel is included in the set to make inspection process even more comfortable.



Cable and Drum Specifications

Cable Hosing	Multicore, Kevlar reinforced cable with 75ohm coax. A polyurethane 4350 flame retardant, halogen free jacket and kevlar braid for strain relief.
Wet Cable End	Stainless Steel with internal strain relief
Cable Diameter	9.6mm (0.37")
Cable Minimum	150mm (5.9")
Bend Radius Working Length	200m (656') - Standard, 250m (820') - Optional
Reel Construction	Mild Steel powder coated tubular construction, with aluminium bobbin and counter mechanics. A cast iron winding handle and stainless steel adjustable transport handle.
Encoder	For distance measurement display.



Camera Head

The device features a pan-and-tilt camera with continuous rotation and super sensitive 0.5 lux CMOS video chip (720x576 pixels) that captures every tiny detail of the pipeline interior. Add to that superb, long-lasting LED light illumination with 5 levels of intensity and you receive high-quality, bright, true to life images of the problem area regardless of how remote or dark it might be. The camera is completely waterproof, has a scratchproof protective glass and a Stainless steel housing with Aluminum anodized finish, withstanding up to 5.5 bar pressure (55 meters in fresh water) – all these characteristics increasing crawler's durability and longevity manifold even after multiple cycles of inspections in abrasive environments.



Camera Specifications

Construction	Stainless Steel 303 grade and Aluminium HE30 anodized with waterproof rear connector.
Image Sensor	High quality, CMOS, system on chip (SOC)
Resolution	720 x 576 active pixels > 420 TV lines PAL TV system.
Sensitivity	0.5 lux.
Illumination	5 brightness steps, short circuit protected 5th Gen LED lighting. Protected with domed lens for even light distribution. 1100 lumens intensity @600mA.
Focal Distance	5mm - ∞
Rotation	Continuous
Image Sensor Protection	Scratch Proof Sapphire front window
Waterproof	IP68, 5bar in fresh water
Dimensions	Diameter 75mm (2.95"), Length 180mm (7.09") weight 1.2Kg (2.5lb)



Control Unit

The robot comes with a compact control unit, allowing for quick and easy image recording, processing and storing. It is packed in a rugged, portable Pelican case for additional mobility. All inspection data is displayed in live mode on a LED backlit 10.4" TFT flat panel monitor, can be recorded as snap shots or movies and processed using WinCan compatible software. Additional comments can be put in as text (up to 6 pages). To transfer information to external devices use a USB stick that easily connects to the device on the main control panel.



Crawler Specification

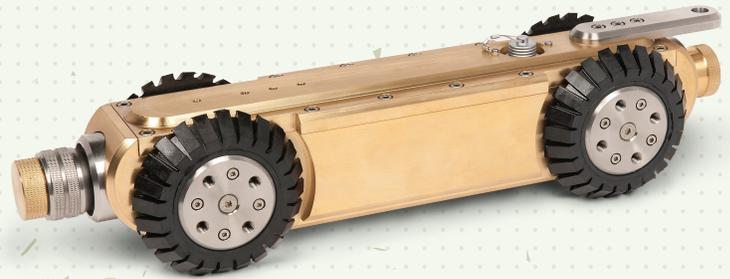
Body Construction	Brass CZ121 grade body, with Stainless Steel 303 grade fittings
Motor	150 Watt, 48 Volt DC Motor with planetary gearbox, providing 15Nm output torque
Drive	5 speed steps, 4 wheel drive, with chain transmission to rear axle
Dimensions	Length 445mm (17.51"), Width (6"Config) 108mm (4.25")
Wheels	137mm diameter wheel set for 225mm diameter and above. 206mm diameter wheel set for 300mm diameter and above. Optional Pneumatic wheel set for 800mm and 1m diameter. Wheel Spacer Set 60mm long to enable various configurations.
Inclinometer (Optional)	Module sends data to OSD for display of pipe gradient (optional component) data rate: 9600 bps data format 8 bit ASCII range +/- 10 degrees accuracy +/- 0.2 degrees
Weight	16.7Kg minimal crawler + 150mm wheels only 35Kg maximum full 1m config with camera fitted



Crawler

The crawler has a highly scalable design with different camera mounts and wheel sets to fit various pipe diameters. Use the front mount for smaller pipes and top mount for pipes of

bigger diameters. It is a powerful 15 Nm 4 wheel drive with chain transmission running on 48 V DC motor. Speed can be adjusted from 1 to 5 depending on the pipe diameter and other inspection requirements. You can add an optional inclinometer to the system to receive information on the pipe gradient. For power supply, Stormer can either use 110v or 240v mains or a 1KVA generator power inlet.



Control Unit Specifications

Construction	All electronics and control systems are housed inside a durable and portable PELI type case. Weight 13kg.
Monitor	10.4" TFT monitor at 800x600 resolution. Set in a flip up housing and an optically clear acrylic perspex window.
Text generator	A 6 page text OSD, to display general info counter info and inclinometer info. Also provides data to a PC running WinCan software.
DVR	The integral Digital Video Recorder captures and encodes the incoming video to mpeg2 codec and can save the files to a USB memory stick, which can be easily connected to the unit on the main control panel.
Electrical	Auto sensing 110v or 240v mains or 1KVA generator power inlet.
Functions	Crawler direction, Pan Rotate & Focus, LED Dimming, DVR menu navigation & control, Emergency stop & crawler reset.



Stormer Pipe Robot is an extremely rugged, versatile viewing device that adjusts to your specific requirements and provides well-rounded, informative inspection reports in one easy run down that pipe. The scope of pipeline diameters that Stormer can examine is quite impressive – 150 mm (5.9") to 1.0 m (40"). Surprisingly, such versatility also comes at a very competitive price.