



SIGMA HD-LR

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The SIGMA HD-LR is a portable, battery-driven pipe crawler suitable for long-range pipe inspection challenges. The system can inspect more than a mile of pipe in a single run.

The crawler includes two onboard HD video cameras, including frontal pan, tilt and zoom, and an independent view from the rear of the vehicle; up to 2,000m (6,560') of the abrasion-resistant tether on a powered reel; and built-in LED lighting to ensure sufficient illumination even into extra large pipes.



Camera Head

- ▶ Full HD Sensor
- ▶ Image Stabilization
- ▶ 10x Optical and x12 digital zoom
- ▶ Endless Pipe and Tilt Angles
- ▶ Measuring Laser Diodes
- ▶ Ultra Bright LED's 4000LM
- ▶ Angle and Pressure Sensors



Tractor

- ▶ 4x4 Steerable Powertrain
- ▶ IP68 Waterproof
- ▶ Interchangeable LiFePO4 battery
- ▶ Built-in rear HD camera
- ▶ Inclinometer and gyrometer
- ▶ Optional tracks or range of wheels



Tether reel and Control Unit

- ▶ Tether reel winding and unwinding synchronization
- ▶ Strong cable with polyurethane coating and aramid fibers
- ▶ 17.3" Monitor
- ▶ Built-in computer with Telescan software
- ▶ Intuitive control panel with two navigation joysticks



Camera Specifications

Construction:	Corrosion proof with waterproof rear connector.
Image Sensor:	Tamron Full HDTV CMOS (Japan) with Optical Vibration Compensation
Resolution:	1080p (Full HD)
Sensitivity:	0.5 lux.
Illumination:	Built-in Ultra-Bright LEDs 4000LM (Optional auxiliary light available)
Focal Distance:	10mm - ∞
Field of View	62 degree
Rotation:	Endless Panning/Tilting
Zoom:	120x (10x Optical, 12x Digital)
Manual / Auto	Yes
Focus:	
Laser Measurement:	Yes

Camera Position Sensor Yes

Camera Internal Pressure Sensor: Yes

Sensor:

Image Sensor Protection: Scratch Proof Sapphire Crystal Lens

Waterproof: IP68, 0.1bar (1m in freshwater)

Rear view camera: Full HD, Built-in



Crawler Specification

Body Construction:	Stainless Steel
Motor:	Two, 160 Watt each FAULHABER motors
Battery:	LiFePO4, 48V 26 A/Hr; Interchangeable
Drive:	Four-wheel drive. Steerable. Speed: 1km/hr
Cruise control:	Yes
Roll sensor:	Yes
Dimensions:	Length 420mm (14.17") (without camera), Width 180mm (4.72"), Height 280mm
Wheels	<ul style="list-style-type: none">• 93mm wheel set• 125mm wheel set for 400mm (16") diameter pipes and above• 200mm abrasive wheel set for plastic and ceramic pipes for 500mm (20") and above• Interchangeable tracks (by special request)
Built-in Sensors:	<ul style="list-style-type: none">• Inclinometer (to measure angles of slope)• Gyrometer (to measure angles of pipe turns)

- Internal Pressure monitor

Waterproof: IP 68

512Hz Sonde: Optional



Control Unit Specifications

Construction:	All electronics and control systems are housed inside a durable and portable PELICAN type case. Weight: 11kg
Monitor:	<ul style="list-style-type: none">• Main: 17.3" touch screen, Hi-Brightness (1000 cd/m2)• Control: 7" touch screen, Hi-Brightness (1000 cd/m2)
Navigation and Control:	Two joysticks, Touch screen menu.
Built-in Memory:	256Gb
Built-in Software:	TELESCAN
Footage (Meter) Counter:	Yes

Cable and Drum Specifications

Tether:	Combined, Kevlar reinforced cable in polyurethane housing.
Wet Cable End:	Stainless Steel with strain relief
Cable Diameter:	5.0mm (0.19")
Tether Strength:	2,000N
Working Length:	Up to 2,000m (6,560')
Reel Construction:	Motorized, pays out and retracts cable and regulates itself. Smart cable-laying mechanism
Built-in meter-counter:	For distance measurement display

Operating Temperature: - 10°C to +40°C (32F to 104F)