

The Tekneka VSR300 is a professional-grade pipe inspection robot designed for the internal inspection of utility pipelines. Built on a rugged six-wheel crawler platform and equipped with a high-definition pan-and-tilt camera, the VSR300 delivers real-time video monitoring, image capture, and inspection data logging, enabling engineering teams to accurately assess pipeline conditions without requiring personnel to enter confined spaces. The system is fully self-contained, comprising a crawler unit, HD camera, cable reel, joystick controller, main control tablet, and portable power supply. It is ideally suited for municipal infrastructure inspections, oil & gas pipeline applications, and utility operators requiring reliable, high-quality pipeline condition assessment and documentation.



Features

- Adjustable electric lift accommodates pipe diameters from DN300 to DN3000 (12" to 118")
- High-definition pan-and-tilt camera with 10× optical zoom, 12× digital zoom, and 360° continuous rotation
- Full HD imaging with a 1920 × 1080 (2 MP) CMOS sensor and 0.05 lux low-light sensitivity
- Forward illumination provided by a 12-piece condenser LED array (40W total) with continuously adjustable brightness
- IP68-rated crawler and camera, suitable for operation in water depths of up to 10m
- Six-wheel drive system powered by dual 90W DC motors, providing a maximum travel speed of 32m/min
- Climbs gradients of up to 45°, depending on pipe conditions
- Four interchangeable rubber wheel sets (4", 6", 8", and 10") for flexibility across different pipe diameters
- 300m cable reel with a 1mm-precision counter and electromagnetic clutch
- Wireless-connected cable reel reduces operational complexity and improves field efficiency
- 1028Wh lithium power station provides approximately 8 hours of continuous operation
- U-shaped camera protection frame prevents collision damage in confined pipeline sections
- Built-in pressure sensors and indicators on both the crawler and camera
- Microsoft Surface tablet main controller with integrated pipe inspection software

Applications

The Tekneka VSR300 is designed for versatile pipeline inspection applications, including:

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| • Municipal stormwater and wastewater systems | • Pre and post rehabilitation assessments |
| • Water supply and distribution pipelines | • Defect detection and structural condition analysis |
| • Industrial process and chemical pipelines | • Construction acceptance and asset management surveys |
| • Fuel gas transmission and distribution lines | • Electrical conduit and cable duct inspections |

Technical Specifications



Crawler	
Applicable Pipe Diameter	DN300 to DN3000 (with electric lift)
Electric Lift Range	Up to 235mm height differential
Drive System	Double 90W DC motors, 6-wheel drive
Maximum Travel Speed	32m/min
Maximum Gradeability	~45° (pipe-condition dependent)
Forward Lighting	12 × condenser LED, 40W total, continuously dimmable
Rear Lighting	2 × 3W highlight LED
Rear-View Camera	1920 × 1080 resolution (2MP)
Frame Material	Brass, stainless steel, aluminum alloy
Circuit Protection	Motor lock, over-current, overpressure protection
IP Rating	IP68 (operational to 10m depth)
Working Temperature	-10°C to 50°C
Wheel Sets Included	4", 6", 8", 10" rubber wheels (4 sets)
Weight	18.5 kg (with electric lift)

Pan-and-Tilt (P&T) Camera	
Sensor	1/3" CMOS, 2MP (1920 × 1080)
Viewing Angle	6.7° to 68°
Low-Light Sensitivity	0.05 Lux
Pan Rotation	360° continuous (radial, limitless)
Tilt Rotation	±90° (up/down), one-click reset
Optical/Digital Zoom	10× optical/12× digital
Focus	Auto-focus with manual override
IP Rating	IP68, with built-in pressure sensor
Working Temperature	-10°C to 50°C
Lighting	4 × 3W LED
Dimensions	171mm × 105mm × 88mm
Weight	1.9kg

Cable Reel	
IP Rating	IP63 (dust-proof, water splash-proof)
Cable Length	300m
Cable Configuration	2-core (300m), Ø1.2mm each core
Cable Breaking Strength	300kg (anti-Kevlar reinforced)
Cable Sheathing	Polyurethane — waterproof, wear-proof, acid-proof, corrosion-proof
Cable Retrieval	Automatic electromagnetic clutch with emergency stop switch
Distance Measurement Accuracy	±1mm (high-precision counter)
Mobility	Four steerable wheels
Dimensions	570mm × 395mm × 475mm
Weight	56kg (300m cable)





Power Supply

AC Output	AC 220V/50Hz or AC 110V/60Hz (pure sine wave)
DC Output	12V/10A + QC3.0 USB × 4 (5V/2A, 9 to 12V/1.5A)
Continuous Output Power	1000W (nominal)
Peak Output Power	2000W
Battery Capacity	1028Wh (25.2V/40.8Ah lithium)
Battery Cycle Life	70% capacity retained at 1000 cycles
Charge Time	2 to 3 hours
Operational Runtime	~8 hours (CCTV inspection)
Charge Temperature	0°C to 45°C
Discharge Temperature	-20°C to 60°C
Dimensions	352mm × 187mm × 260mm
Weight	10.2kg

Main Control System

Controller	Microsoft Surface tablet with touchscreen
Software	Pipe inspection (in-built)
OS Compatibility	Windows (XP and above); supports Android
Connectivity	Wi-Fi (wireless to cable reel) + wired option
Video Recording	Front and rear camera simultaneous display and recording
Data Output	Video (.ctv), screenshot (.jpg), defect marking
Joystick Control	Wired joystick: speed, direction, lift, lighting, camera

Package Includes

- Crawler : 6-wheel drive crawler with adjustable electric lift and U-frame camera protection
- P&T HD Camera : IP68-rated pan-and-tilt HD camera with 10× optical zoom
- Main Control Tablet : Microsoft Surface tablet with pre-installed pipe inspection software
- Cable Reel : 300m cable reel with precision counter
- Power Supply Unit : 1028Wh lithium power station with AC/DC outputs
- Joystick Controller : Wired joystick for complete crawler and camera control
- Wheel Sets : Four sets of interchangeable rubber wheels (4", 6", 8", and 10")
- Downhole Cable : Flexible cable for well-depth inspection operations
- Manhole Pulley : Multi-section pulley for cable protection at entry points
- Internet Cable : Network cable for wired connectivity
- Pump : Pressure maintenance pump
- Crank : Manual cable winding mechanism
- Tool Kit : Hex wrenches, spanners, and fasteners

Ordering Info

VSR300..... Pipe Inspection Video Scope Robot