

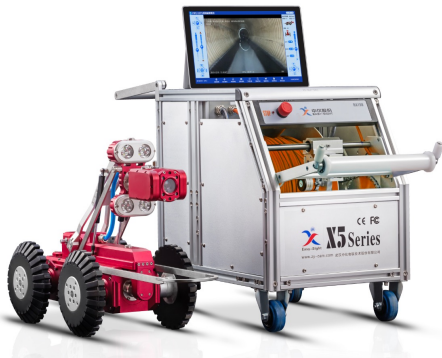


X5-HS pipeline CCTV inspection robot

- Brief Introduction
- Specification



Brief Introduction for X5-HS



X5-HS pipeline CCTV Inspection robot is Easy Sight' the fourth generation product designed on the basis of industrial personal computer (IPC) system, using a laptop instead of the traditional controller.

X5-HS mainly consists of crawler, HD camera, cable reel and main control.

The crawler can be equipped with both our HD axial camera and HD rotary camera to response the operation orders of the main controller after connecting the cable reel with the main controller, such as crawler's going forward, back, direction turning, stop and speed adjustment, the electrical lift up and down, lighting adjustment, camera rotation, zoom and focusing, etc. During the inspection, the main controller can real-time display and record images from the camera and state information of the crawler, input the remark information and show the info on the screen.

Specification

Main control

- Standard supply Microsoft surface tablet, 8G+128G, touch screen, with keyboard, built-acquisition software
- Customer can use their own laptop, no specific requirements for the configuration
- Main controller wifi or Internet cable connection with the system
- Software control: moving forward, back, direction turn, speed control, camera rotation, zoom and focusing adjusting, lighting control, electrical lift up and down
- Status display: real-time display date and time, travel distance, project info, pipe diameter, cavity pressure value, moving speed, etc
- Text input: can input characters like project info, inspector, and other info you may
The info can be displayed in multi language, like Chinese, English, French, Japanese, Korean and so on
- Clock indicates: the defect can be clock located and displayed
- Warning function: rolling angle overrun warning, effectively prevent rollover; or extremely low or high air pressure warning;



Cable Reel



- IP63, dust proof, water splash proof
- Standard cable length 150m, longer can be customized, in yellow color
- Cable parameters: 4-core cable, each core cable diameter 2mm, drawing anti-Kevlar 300 kg, imported polyurethane sheath, waterproof, wear proof, acid proof, corrosion proof
- Automatic cable take-out and retrieve with electromagnetic clutch
- With stop switch in case of emergency
- Wifi antenna on the top of cable reel, connect with wifi to control
- Four steerable wheels, can move the cable reel freely
- Cable length counting accuracy is 1mm with high precision meter counter
- Dimension: 570mm*395mm*475mm

Crawler

- IP68, used in 10 meters water depth, air tightness protection, built-in pressure sensor, pressure indicator
- Working temperature: -10°C~50°C
- Diameter used for : 300mm ~ 1000mm (when camera len in center of pipeline)
- Material: brass, stainless steel, aluminum alloy
- Removable electric lift, the height difference up to 235mm
- Driven: Double 90W DC motor, 6 wheels drive, maximum travel speed up to 32m / min
- Climbing: depend on different pipe situation, the maximum gradeability about 45 °
- Circuit protection: locked motor, over-current, overpressure protection of motor
- Lighting: Forward 12x10W bright condenser LED lights; back 2x10W highlight LED; All the light intensity continuously adjustable brightness
- Rear-view camera resolution 1280*720 (100W pixels)
- Four sets wheels provided: 4, 6, 8, 10 inch rubber wheels
- U-shaped protective frame preventing the camera crash
- Weight: 18.5Kg with electrical lift



Specification

Camera

- IP68, used in 10 meters water depth, air tightness protection, built-in pressure sensor, pressure indicator
- Working temperature: -10°C~50°C
- Electric 360° radial limitless rotation, 2 * 135 upward and downward rotation, one click for reset;
- Lighting source: 4 LED lights
- Imaging system: color 1/3", 2 million pixels (1920 * 1080) CMOS, viewing angle 6.7°
- 68°, sensitivity 0.1Lux
- Automatic focusing, adjustable manually
- 10x optical zoom, 12x digital zoom
- Laser measurement module for crack measurement
- Dimension: 155mm * 95 * 90mm
- Weight: 1.5Kg



Joystick



- Wire connection with main controller
- Function: camera rotation and reset, electric lift up and down, lighting adjust, speed control, direction adjust

Specification

Industry Battery



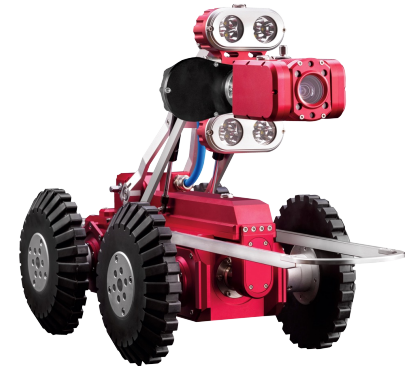
- Charging time: 5-6 hours
- Output voltage: 220V/50HZ AC pure-sine wave or AC 110V/60HZ
DC 12V10A 5V2A 20-29.4V20A
- Continuous output power: nominal power 1000W
- Peak output power: 2000W
- Battery capacity: 1077Wh(25.9V 41.6Ah)
- Battery type: lithium battery (70%@1000Cycle)
- Working environment: 0°C~45°C (Charge)
-20°C~60°C (Discharge)
- Working time for CCTV inspection robot: about 8 hours
- Dimension: L345×W172×H246mm
- Weight: 9.5Kg

Specification

Lidar Scan Module (optional)



- Suitable for pipe: above 350mm
- Scanning frequency: 8HZ
- Measurement error range: $\pm 2\text{cm}$
- Protection Class: IP68, used in 10 meters water depth, air tightness protection
- Working temperature: -5°C - 45°C
- Size: 201mm*80mm*132mm
- Weight: 1.25kg
- Function: Test pipeline profile, pipeline deposition, maximum deformation rate of pipeline, pipe network branch cross outlet, pipe diameter



Specification

Panoramic camera (optional)



- Imaging system: color 1/2.8 ", 2 million pixels (1920 * 1080) CMOS, viewing angle 180° *180*180
- Lighting: two light strips surrounding on the side, the maximum power of a single strip is 4W
- Protection Class: IP68
- Working temperature: -10°C-50°C
- Size: $\phi 80\text{mm} \times 96.5\text{mm}$
- Weight: 1.25kg