

X1-P1

Periscope for visual inspections



The **X1-P1** HD pipeline periscope, composed of hardware and **PipeX1H** software, is primarily used for quickly detecting or diagnosing the interior of containers, industrial pipelines, or framework casings. It can record and save the internal image of detected objects in real-time during inspection.

This **new technology** has addressed issues in the sewer industry, such as wireless transmission in deep wells, antenna interference, etc. The detection depth can reach up to 15 meters, and data can be collected rapidly and in high definition within an area of approximately 50 meters.

The X1-P1 pipeline periscope consists of equipment and data collection software. It can record and save internal images and videos during detection, quickly capture and save images of defects, or input characters via the keyboard, overlay them, and save them in the video during recording. A built-in high-performance battery is used for power, making it suitable for outdoor mobile work environments.

Operating Features:

- Easy to install and transport. The device connects wirelessly, and the probe battery can be easily changed.
- Equipped with a high-definition digital camera that provides high image quality. Additionally, the camera has a certain infrared night vision effect, making it applicable in low-light environments.
- Illuminated by main and auxiliary light sources. The main light source is a 10W LED with a focusing cup, and the auxiliary light source includes six 3W LEDs with an astigmatic effect. The brightness of both the main and auxiliary light sources can be adjusted separately.
- Equipped with a laser measurement for greater precision.
- The software can run on Android or Windows systems, including phones and tablets.
- The software interface allows overlay display and saving of the image in the video. During video recording, basic information about pipeline detection can be saved synchronously.
- The controller is equipped with a dedicated protective case, of the touch screen type.



Technical Features

Main Controller

Storage Capacity	4 GB RAM + 128 GB Solid State Drive
Screen	8,4" Touch Screen, screen resolution 2560 * 1600
Connection	Wifi connection of the main controller with the system
Screen capture	Quickly captures and saves images of defects
Playback	Navigation and playback of video or image files
Text input	Via virtual keyboard to enter information, overlay display, compatible with multiple languages
Working time	Continuous working time \geq 8 hours
Interface	Type C
Protection	IP67 protection rating
Weight	Less than 320 g

Camera

Suitable	For pipe diameters from DN100 mm to DN200 mm
Operating temperature	From -20°C to 50°C
Illumination	Can move along with the camera probe (up 6°, down 30°). With main and auxiliary illuminations. The main illumination is a 10W LED with a focused cup. There are 6 3W LEDs each as auxiliary illumination with floodlight design. Main and auxiliary illumination are independent, effective irradiation distance is 1 to 50 meters.
Image sensor	1/2.8-inch color progressive scan CMOS
Image resolution	PAL
Camera angle	58.4° horizontal (wide-angle) 2.3° (long distance)
Zoom	30x optical, manual or automatic focus
Light sensitivity (minimum illumination)	0.01LX
Adaptation	One click to defrost, one click to center the lens
Laser measurement module	<ul style="list-style-type: none"> Distance measurement accuracy: ± 0.001mm, Distance measurement range: 0.2m to 80m
Data display	Real-time measurement, results displayed on the video screen
Waterproof	IP68, long-term immersion in water at a depth of 10 meters
Weight	Approximately 2.45 kg

Standard Control Pole

- Made of carbon fiber material (compression resistance is 10 times that of normal rolled steel)
- Telescopic nested design, strong and fixed joints, total stretching length is 4.8 meters
- Two standard extension poles provided. A single extension pole measures 0.8 meters (closed) and 1.5 meters (extended). Designed for quick connections and can reach a maximum of 15 meters.

Support Pole

- Made of carbon fiber, length of 0.8 meters
- Height can be adjusted, with rubber cushion ball at the bottom
- Easily detachable and can be placed directly in the packing case

Packing Case

Strength	High-strength hard case
Portability	Equipped with handle and wheels for easy transport
Dimensions	1362 mm * 380 mm * 210 mm

Accessories:

The HD periscope for pipes X1-P1 is composed of:

- No.1 Acquisition probe (Camera)
- No.1 Main controller
- No.1 Laser measurement module
- No.1 Support bar
- No.1 Hard transport case with wheels
- No.1 Analysis software