

Camera Integrated Pig Pipeline Visual Inspection and Monitoring



iNPIPE PRODUCTS



The **iNPIPE PRODUCTS™** Camera Integrated Pig is an advanced visual inspection tool equipped with an HD camera and 850-lumen LED lights, designed for thorough inspection of pipelines and joints with diameters up to 3000mm. This specialised equipment is housed in a module that is installed into an integrated canister fitted within the body of a pig, ensuring seamless inspection and monitoring of pipeline conditions.

The Camera Integrated Pig is the ideal solution for comprehensive visual pipeline inspection and condition monitoring, offering superior imaging capabilities and ease of use.

FEATURES

- HD Camera:** Captures high-definition images and video footage within the pipeline.
- 850-Lumen LED Lights:** Three built-in LED lights provide four hours of continuous illumination, ensuring clear and detailed visuals.
- Modular Design:** The camera housing is integrated into a removable module, allowing for easy access and maintenance.
- Battery Pack:** Powers the LED lights and camera for extended inspection periods.
- Easy Data Access:** After inspection, the module can be removed from the canister, and video footage can be directly downloaded to a PC for immediate viewing.

APPLICATIONS

- Pipeline Internal Inspection
- Underwater Inspection
- Marine Research



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TECHNICAL SPECIFICATION

Camera housing in AISI 316 or Pom material. Depth rating 100 ~500 meters
Sensor 1/2.7" progressive scan CMOS. Minimum Illumination 0.005Lux/F1.6
Lens 2.8mm Fixed Focus length, field of view H 102°V 71°
Max Resolution (2592×1944 20 fps)-(1920×1080 50/60 fps). Low Latency Approx. 120 ms
Video Format H.264-H265+
Standard Streaming protocol RTSP-RTP-UDP
3 off 850 lumen LED lights
Battery life 4 hours

BENEFITS

Integrated High-Intensity LED Lighting: Ensures high-resolution video footage for detailed inspection.
Modular Design: Accommodates any pipeline length and fits pipeline sizes from 150mm to 3500mm.
Comprehensive Visual Inspection: Enables thorough examination of internal features and coating conditions.
Joint Validation: Facilitates visual inspection and verification of pipeline joints.
Real-Time Visual Verification: Provides immediate confirmation of cleaning results.
Pre-Commissioning Validation: Ideal for visual validation during pre-commissioning, complementing physical caliper measurements.
Combined Measurements and Validation: Merges actual measurements with visual validation, enabling immediate report generation after the pig run.

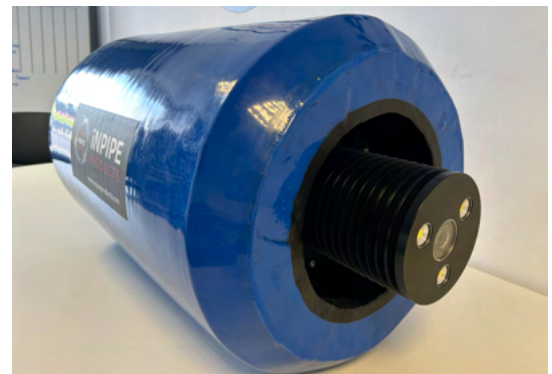
Data Logger (optional)

The camera-integrated pig can include a data logger to record and monitor various parameters and conditions within the pipeline. This setup provides valuable insights into the pipeline's operational status, ensuring efficient and safe operation by collecting and storing data.

The data logger integrates with multiple sensors, providing the following metrics:

- Detect and record vibrations, shocks or impacts experienced by the pig
- Utilises a gravity-referenced accelerometer to determine the pig's tilt angle for monitoring alignment and positioning on a 3-axis basis
- Tracks the pipeline's temperature
- Measures the drive pressure at the rear of the pig
- Gauges the pressure difference (DP) across the pig, which can indicate the presence of blockages or other flow restrictions
- Uses a time-based method to measure distance travelled
- Reports the condition of the gauge plate whether it is intact or damaged with a time stamp

During operation, the data logger collects data as the pig moves through the pipeline. After the inspection, the data logger is removed from the pig, and the collected data is retrieved for analysis.



18" Camera Integrated Pig



6" Mini Camera Integrated Pig



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