

THE 2026 INDUSTRIAL VIDEOSCOPE SELECTION GUIDE

5 Critical Factors for High-Resolution NDT & RVI Inspections

Precision inspection without unnecessary complexity or cost.



TECHNICAL BUYER'S GUIDE

A technical buyer's guide for engineers, QA/QC leaders, NDT inspectors, and maintenance teams evaluating image quality, articulation, probe compatibility, support, and total cost of ownership.

Why the Technology Matters

Resolution and articulation can determine whether a defect is clearly documented or missed.

IMAGE DETAIL

720p vs. 1080p

Fine cracks occupy more pixels: a 1080p image produces better-defined edges and more useful detail during zoomed review. With lower-resolution systems, hairline cracks can blend into surface texture, compression artifacts, or uneven lighting, raising uncertainty and the risk of repeat inspections.

720p
1280 × 720
0.92M pixels

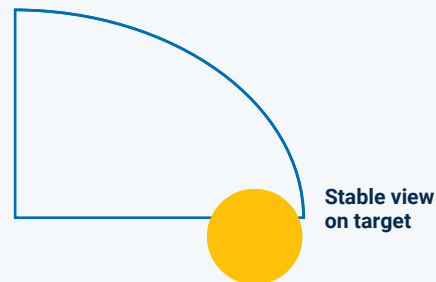
1080p
1920 × 1080
2.07M pixels

Buyer's note: confirm the full imaging chain; probe camera, processing, display, and recorded files.

CONTROL

Servo-Motor Articulation

Mechanical cable systems can be affected by friction, cable stretch, and backlash. Servo-motor articulation uses powered, proportional control to make smaller, more repeatable movements and hold the probe tip more steadily on the inspection target.



Less overshoot. Better repositioning. More consistent control.

The Technical Buyer's Takeaway

The best videoscope is not simply the one that reaches the inspection area. It must let the inspector reach the target, stabilize the view, capture sufficient detail, and document the finding efficiently.

- Camera sensor and optics
- Illumination intensity and control
- Image compression and recording
- Frame rate and display quality
- Probe stability and articulation



Probe Compatibility Matrix

A practical starting point for matching probe diameter to inspection access and mission.

●● Best fit ● Common fit ○ Conditional — Generally not recommended

Probe Diameter	Turbines & Compressors	Heat Exchangers & Boiler Tubes	Small Valves & Valve Trains	Precision Castings & Machined Passages	Engines & Gearboxes	Pipes & Vessels
1.0mm	●	—	●●	●●	—	—
1.8mm	●●	○	●●	●●	○	—
2.8mm	●●	●	●●	●●	●	○
3.9mm	●●	●●	●	●	●●	●
6.0mm	●●	●●	○	○	●●	●●
6.2mm	●●	●●	○	○	●●	●●
8.4mm	●	○	—	○	●●	●●



Change the probe, not the entire videoscope.

The Recon: Gen.2 base unit is compatible with all these probe diameters, allowing teams to support more applications with fewer base units and reduce future equipment costs.

Ultra-Thin Access

1.0mm - 1.8mm probes prioritize restricted openings, precision passages, and small cavities.

General Purpose Balance

2.8mm - 3.9mm probes balance access, viewing options, articulation, and inspection detail.

Larger / Specialized

6.0mm - 8.4mm probes support larger cavities, industrial components and piping inspections.

Ten Questions to Ask Before You Buy

Use this as a vendor-neutral checklist when evaluating industrial RVI and NDT videoscope systems.

IMAGE PERFORMANCE

- ☐ Is the resolution true 1080p?
- ☐ Does the selected probe configuration provide the required resolution, frame rate, depth of field, and field of view?
- ☐ Does the system include controllable illumination and image-enhancement tools?

CONTROL & NAVIGATION

- ☐ Does the articulation system provide smooth positioning through complex geometry?
- ☐ Can the operator hold and revisit a target reliably while capturing inspection evidence?

PROBE COMPATIBILITY

- ☐ Are probes interchangeable to reduce future TCO?
- ☐ Are forward-view, side-view, and dual-view configurations available?
- ☐ Can the platform accommodate ultra-thin access, UV inspection, or working-channel retrieval?

SUPPORT & TCO

- ☐ Is there U.S.-based support and warranty coordination with a defined repair/swap process?
- ☐ Can the equipment be tested on-site with your team's actual parts before purchase?

Interpreting your score

8–10: strong long-term fit
5–7: review limitations
0–4: low initial cost may hide future cost

Look beyond purchase price

Add handsets, probe damage, repeat inspections, difficult navigation, training, repair delays, and downtime into total cost of ownership.

Built Around the Requirements YOU Should Be Evaluating

High-resolution imaging, servo-motor articulation, Android-based file management, and an enhanced interchangeable probe platform.

RECON GEN.2



60 FPS at 1080p

Imaging capability for detailed visual inspection and smooth review.

Interchangeable Probes

Forward, side, dual-view, UV, and working-channel configurations.

Android OPS

File organizer supports capture, sorting, and export of inspection media.

64GB SD Card

On-unit media storage with HDMI and USB connectivity.

Servo-Motor Articulation

4-way, 360° Power-Glide joystick control for smoother navigation.

10× Digital Zoom

Closer visual review of indications and inspection details.

Core Specifications of the Recon: Gen.2

Display	6-inch OLED responsive touchscreen
Durability	Military-grade durability
Lighting	10 levels of LED illumination
Audio	Built-in microphone and speaker
Power	Interchangeable lithium-ion batteries
Physical design	Ergonomic pistol grip, rubber grip, magnetic base
Insertion tubes	Tungsten-braided insertion tubes
Probe system	Enhanced interchangeable probe system

THE SPI DIFFERENCE



SPI Swap Program

Keep your inspections running smoothly with our quick turn-around Swap Program. Send in your broken probe and receive a renewed one without replacing your unit.



Try Before You Buy!

Call in or visit our site to schedule a no-cost demo. Receive a customized unit and kit to test on site. See firsthand why the best use SPI.

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