FOTRIC

CONNECTING THE DIGITAL FUTURE

# Where Flexibility Meets Precision

## FOTRIC H *Flex Series*

Acoustic Imaging Camera

# It Bends, so you don't have to

**Applications:**

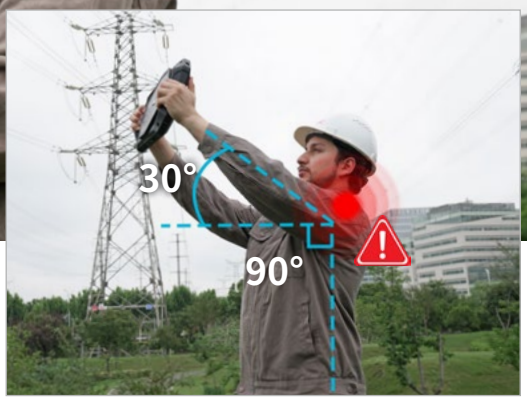
High-position inspections (such as transmission line towers, utility poles, HVAC overhead ducts, motor tops, and ceiling pipelines) require holding the device above shoulder height. This puts continuous pressure on the shoulder joint, making the posture hard to maintain.

**Risk*:**

- Research from the University of Waterloo shows that when the arm is raised above 90° , the risk of shoulder injury increases rapidly.
- If the time spent with arms raised above 90° exceeds 10%, the injury risk doubles. If it exceeds 40%, the risk increases severalfold.

**Flex Solution:**

FOTRIC Flex allows the acoustic imaging array to tilt downward, enabling operators to capture high-position targets without lifting the device overhead. This reduces arm fatigue and lowers the risk of shoulder injury.


Traditional acoustic imager operation

*Research sourced from the CRE-MSD Working Postures Report by the University of Waterloo.

# It Bends, so you don't have to

**Applications:**

Inspecting low-position equipment such as power distribution cabinets, motors, the undersides of enclosures, or ground-level pipelines often requires bending, squatting, or kneeling. These constrained postures not only limit mobility but also place continuous strain on the lumbar spine. Over time, the risk of lower back injury increases significantly.

**Risk*:**

- The international standard ISO 11226 states that even if bending postures account for just 10% of work time, the risk of lumbar injury increases by 2.4 times.
- When bending time reaches 30%, the risk can rise to as much as 4.8 times.

**Flex Solution:**

The FOTRIC Flex allows the acoustic imaging array to rotate downward, enabling ground-level observation while standing upright. This eliminates the need to bend or crouch, reducing pressure on the lower back and enhancing working comfort.


Traditional acoustic imager operation

* Data based on ISO 11226:2000(en), Ergonomics – Evaluation of Static Working Postures.

# Arc Flash-Proof

**Applications:**

When inspecting low-lying energized components—such as the bottoms of substation cabinets, or the lower terminals of switches—operators often need to bend down and get close, exposing themselves to high-risk arc flash zones.

**Risk*:**

- According to NFPA (National Fire Protection Association) standards, if arc energy exceeds 1.2 cal/cm$^2$, upgraded PPE is mandatory to avoid burn injuries.
- When the working distance is reduced to within 60 cm, arc energy increases exponentially—standard protective clothing is no longer sufficient.

**Flex Solution:**

The FOTRIC Flex enables remote inspection of ground-level energized components, eliminating the need to approach live zones. This significantly reduces arc flash exposure levels and lessens the burden of wearing heavy PPE.

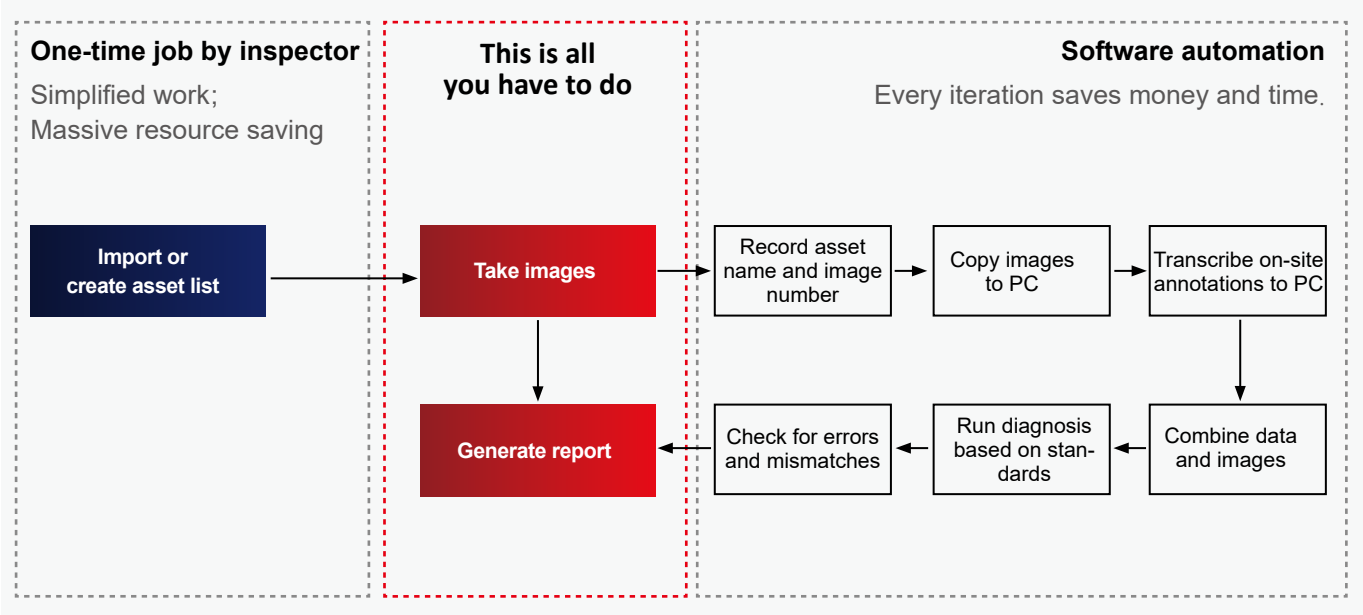

Traditional acoustic imager operation

*Data coming from NFPA 70E and IEEE 1584

# NaviPdM Venus,
# AI inspection Assistant

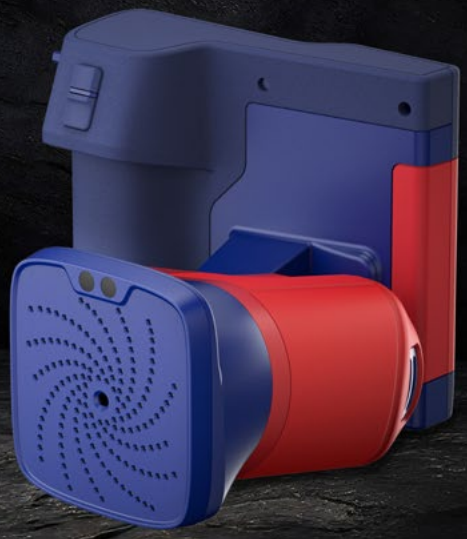
## Boost Efficiency with AI-powered Automation

Approximately 90% of inspectors' time during inspections is squandered on repetitive logistical tasks. 'NaviPdM®' will handle those, allowing you to focus on what truly requires your expertise.

## FlexAngle™ Rotation System

- Revolutionary adaptability across all scenarios and millimeter-level precision control.
- 0–180° stepless full-range rotation with 40-gear precise positioning support.



## See More. Capture Better

- Acoustic Image Field of View (FOV): 66° × 52°
- Industrial Digital Camera: 13 Megapixels
- Dual LED Lighting Design for Superior Illumination
- Spiral topology-optimized array with 162 MEMS digital microphones.

## Durable and Robust

- IP54 Protection
- Detachable battery, each support operation for over 6 hours. 2 batteries support a day-long inspection.

## Smart Diagnosis


- AI-assisted PD diagnosis


- Smart Leak Evaluation

# Unique Features

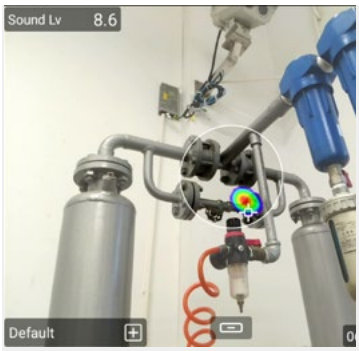
Off


On

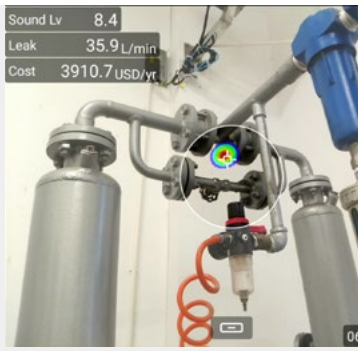
## Acoustic Image Delay (T-FFTD®)

Utilizes a multi-modal transient acoustic matrix to enhance microsecond-level acoustic event retention.

Boost signal retention and enhance inspection efficiency for intermittent sound sources.




Off




On

## Leak Evaluation Mode

Instantly reflect the cost of the leak and enable easy report generation for leak inspections


Off


On

## Gray-scale Background

Under an industrial-grade gray-scale background, sound signals displays are more prominent.

## Gas Leak Applications



## Partial Discharge Applications



## Others

Loose Bolt

Mechanical Damage

Vacuum Leak

Tire Leak

# Specifications

| Parameters | H6Flex |
|---|---|
| **Unique Features** | |
| NaviPdM Venus | AI Inspection Assistant |
| Articulate Microphone Array | 180° Rotatable |
| Acoustic Image Delay (T-FFTD®) | Captures instantaneous sound signals, can stay longer in real-time acoustic image |
| Acoustic Image Focus | Masks surrounding areas, focuses only on the acoustic image of the focused area |
| On-device Report Generation | Support Word or PDF format. |
| Partial Discharge Diagnosis | Automatically diagnose discharge types such as surface discharge, floating discharge, and corona discharge, as well as their severity |
| Gray Scale Background | Display digital camera images in grayscale. |
| **Basic Parameters** | |
| Microphone Channel | 162 MEMS Digital Microphones |
| Acoustic Image Field of View (FOV) | 66° *52° |
| Sound Sampling Rate | 200kHz |
| Acoustic Refresh Rate | 25Hz |
| Operating Distance | 0.3~100m |
| Detection Mode | Leakage mode: display leakage level on device.<br>Partial discharge mode: display PRPD chart, suitable for different AC frequencies (50/60Hz). |
| Image Modes | Single-source mode, multi-source mode, hologram mode |
| Digital Camera | 13 Megapixels, Industrial-Grade Digital Camera |
| Storage Card | SD card, hot-swappable, maximum support 1TB |
| Battery Operating Time | Continuous operation time ⩾ 4 hours<br>(Actual usage time depends on environmental and usage conditions) |
| **Supported Languages** | |
| Supported Languages | English, Traditional Chinese, Spanish, Korean, German, Portuguese, Italian, French, Thai, Japanese |
| **Standard Accessories** | |
| Standard Configuration | Acoustic imaging camera main unit, rechargeable lithium battery * 2, charging dock, power adapter, USB Type-C to USB cable, Micro HDMI to HDMI cable, 128G SD card, SD card reader, accessory bag (wrist strap, 2 wrist strap holders, 2 M4*8 screws, lanyard, hex wrench, SIM eject tool), document bag (packing list, quick start guide), portable soft bag, hard carrying case, outer packaging box |

## Versatile Power Source

Shared battery with FOTRIC Premium thermal and acoutherm cameras.


FOTRIC Px series FOTRIC PxMiX series

FOTRIC

CONNECTING THE DIGITAL FUTURE



2025/06

www.FOTRIC.com