

Eddyfi Technologies
Beyond current

Technical
Specifications

SONYKS

Take control. Be your own guide.

Sonyks™ is a major leap in guided wave equipment. Eddyfi Technologies has redefined guided wave ultrasonic testing with Sonyks setting new benchmarks for data quality, versatility, ease of use, and deployment.

THE NEXT GENERATION OF GUIDED WAVE TESTING

From those who pioneered guided wave testing (GWT) commercially, the state-of-the-art system comes with a large high-quality touchscreen, ultra-fast electronics for rapid data acquisition, and on-the-spot data analysis capabilities for accurate reporting. Sonyks has reinvented guided waves, making the technology simpler and more accessible for the industry.

The system offers an unprecedented ability to inspect more piping applications, including piping and tubing, in the most cost and time-efficient manner.

The instrument is also compatible with typical piezo-transducer rings found on the market. Reuse your own rings and make the most of your past investment in guided waves. Couple your existing collars to a new-generation instrument with best-in-class electronics and give a second life to your inspection programs.

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Figure 1: Annotated breakdown of Sonyks instrument.



Figure 2: Annotated breakdown of Sonyks Piezo and Mageto tool.

INCREASING PRODUCTIVITY AND UTILIZATION

Thanks to project-based inspection setup and increased portability, the number of locations inspected per day is increased by 50%.

SIMPLIFIED & STREAMLINED WORKFLOW FOR TOP EFFICIENCY

Thanks to a project-based inspection setup, time spent at a location can be reduced by 33%. This combined with a new multilocation reporting feature generates significant time savings.

COMPREHENSIVE DATA AT YOUR FINGERTIPS

Sonyks is the first instrument with an onboard screen for GWT interpretation. It uses a combination of broadband and Full Matrix Capture (FMC) data collection, meaning that all data ever needed is collected once to make analysis possible anywhere. Move on to the next location knowing you have all the necessary data with increased speed and peace of mind.



Figure 3: Sonyks instrument with the Piezo tool on site.

BEST INSTRUMENT AND TOOLING PROVIDE THE BEST DATA

With an unmatched signal-to-noise ratio (SNR), Sonyks inspects longer distances and locates even smaller defects. This improved SNR can dramatically simplify analysis and increase the overall efficiency of the inspection by 50%.

SOUND EVOLUTION FOR GWT EXPERTS

Reuse transducer rings you already own and make the most of your past investment in GWT. Couple your existing collars to a new-generation instrument with best-in-class electronics and give a second life to your inspection programs.

RAMP UP YOUR UTILIZATION RATE

Sonyks is an incredibly versatile system that allows operators to address more applications thanks to short-range and medium-range capabilities in addition to long-range ultrasonic testing. For example, use the new 128 kHz magnetostrictive collar to inspect flanged pipes efficiently.



Figure 4: Sonyks instrument with the Magneto collar on site.

BENEFITS

- Unmatched SNR for longer inspection runs
- Easy to interpret data making the technology more accessible
- Compatible with other manufacturers transducer rings
- Collect all data needed in one scan for accurate and auditable results
- Streamlined workflow, increasing efficiency and inspection capabilities
- Transducer rings suitable for pipes ranging 1.5in (48.3mm) to 72in (1800mm)
- Internal compressor for inflation of collars



Figure 5: Guided wave 20cm (8in) pipe inspection with Sonyks Piezo tool.

SPECIFICATIONS

INSTRUMENT

Dimensions (W × H × D)		355 × 288 × 127mm (14.0 × 11.3 × 5.0in)
Weight (with 1 × battery)		7.2kg (15.9lb)
Power Requirements		100–240 VAC, 50–60 Hz
Power Supply		Direct VAC or onboard batteries
Batteries	Type	10.8 V Li-ion, rechargeable, DOT compliant
	Typical Life	6–8 hours
Video Output		HDMI
Number of Channels Transmit		40
Transmitter Frequency Range		5–260 kHz
Standard Output Voltage		200V, peak to peak
Number of Channels Receive		40
Receiving Gain Range		Up to 100 dB
Maximum Sample Range		365 m: longitudinal in pulse-echo or 200 m: torsional in pulse-echo
Maximum Number of Averages		128
Data Collection		Full Matrix Capture and Broadband
Focussing Options		C-scan imaging, Time delay focussing
Display		• 26.4cm (10.4in) • Non reflective (AR coating) • Anti-fingerprint (oleophobic coating) • 3mm (1/8in), chemically strengthened glass cover • Optically bonded LCD and touchscreen • Passive backlight enhancement
Software Options		Sonyks GO (Instrument) Sonyks PRO (Optional Laptop Control)
Laptop Connectivity		Optional connection through Wi-Fi or Gigabit Ethernet
Storage		200 GB, SSD
Cooling		Sealed and internal fan
Onboard Pump		60 Psi maximum pressure
Onboard Collar Pressure Monitoring		Yes
GPS		Accurate positionning to 2.5m (8.2ft)
Instrument Transduction Compatibility		Magneto-strictive and Piezo transducer compatibility
Supported Rings		Sonyks Piezo and Magneto tools, Teletest and other commercial PZT rings

INSTRUMENT (SUITE)

Probe Recognition and Setup	Automatic with Sonyks tooling including ring type, size, serial number, pipe and angular orientation
Maximum Sample Range	125 ms
Automated Self-check	Onboard capacitance testing

ENVIRONMENTAL

IP Rating	Designed for IP65
Operating Temperature	0–40°C (32–104°F)
Operating Humidity	95%, non-condensing
Compliance	ASME, EN 61010-1, CE, WEEE, FCC Part 15B, ICES-003, AS/NZS CISPR 22, RoHS

TOOL AND MODULE TYPES COMPATIBLE

Piezo Tooling – Transduction Method	Piezo-electric transducers (PZT)
Piezo Tooling – Frequency Range	20–80 kHz broadband collection
Piezo Tooling – Pipe Size Range	6–36in (168.3-914mm) single collar 26-72in (660–1828mm) dual collar setup
Piezo Tooling – Sensors	Automatic collar recognition, pipe size, orientation and angular position
Piezo Tooling – Max. Surface Temp.	180°C (356°F)
Magneto Tooling – Transduction Method	Segmented Magnetostrictive Sensors (SMS)
Magneto Tooling – Frequency Range	32 kHz – Test range 22–42 kHz 64 kHz – Test range 54–74 kHz 128 kHz – Test range 118–138 kHz
Magneto Tooling – Rods Size Range	15.88, 19.05 and 25.4 mm (5/8, ¾ and 1 inch)
Magneto Tooling – Pipe Size Range	NPS - 1.5, 2, 2.5, 3, 3.5, 4, 5, 6 and 8 in (48.3, 60.3, 73, 88.9, 101.6, 114.3, 141.3, 168.3 and 219.1mm) Custom sizes also available.
Magneto Tooling – Maximum Surface Temperature	80°C (176°F) 120°C (248°F) short term
Teletest Tooling – Transduction Method	Piezo-electric transducer (PZT)
Teletest Tooling – Pipe-size	168.3–610 mm (6–24 in) single collar 660–1321 mm (26–52 in) dual collar setup 1372–1981 mm (54–78 in) treble collar setup
Teletest Tooling – Frequency Range	20–80 kHz depending on spacing and wave mode
Teletest Tooling – Maximum Surface Temparature	High Temperature (HT) 240°C (464°F)
Teletest Module – Wavemode Compatibility	Multimode 3 ring torsional – 30mm (1.2in) 3 ring torsional – 45mm (1.8in)

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2025-11