

## Product Guide

[www.phoenixisl.com](http://www.phoenixisl.com)

Phoenix ISL design and manufacture ultrasonic transducers, manual and automated scanning equipment for non-destructive testing (NDT).

Our dynamic range provides NDT professionals with solutions to inspection requirements for:

- Weld Testing
- Crack Detection
- C-Scan Inspection
- Corrosion Mapping
- Composite Inspection

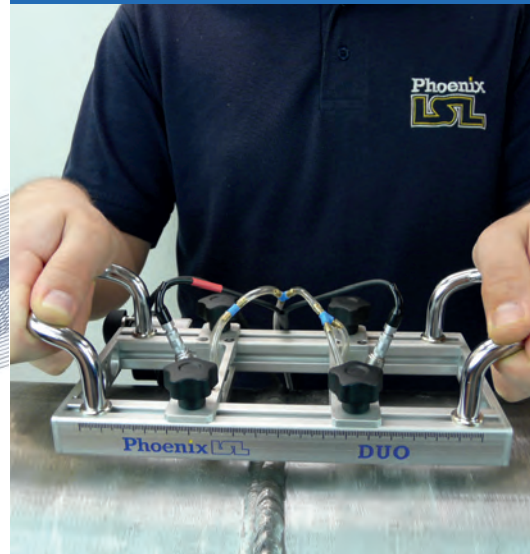
Specialists in custom and application specific systems and transducers; Phoenix ISL designs and develops fully customised solutions for the most challenging NDT inspections.

## Quality

Phoenix ISL holds the internationally recognised ISO 9001:2015 Quality Management Systems Standard, which focuses on performance by managing processes to ensure consistency in supply and our commitment to continuous improvement.



### Duo

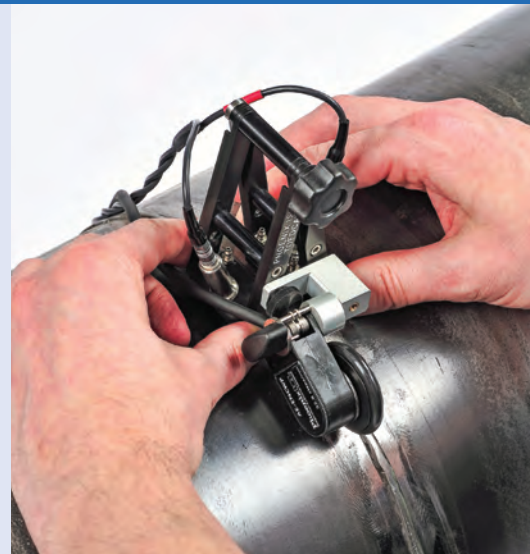


A robust, ergonomic scanning frame with operator-friendly features offering fast setup and reliable, repeatable TOFD inspections.

- Solid construction for on-site conditions
- Inspects 2" pipes up to flat
- Fast tool-free adjustments
- Magnetic wheels provide adhesion and tracking
- Brake for hand repositioning
- Low-cost option without wheels

[www.phoenixisl.com/duo](http://www.phoenixisl.com/duo)

### TOFD Caliper



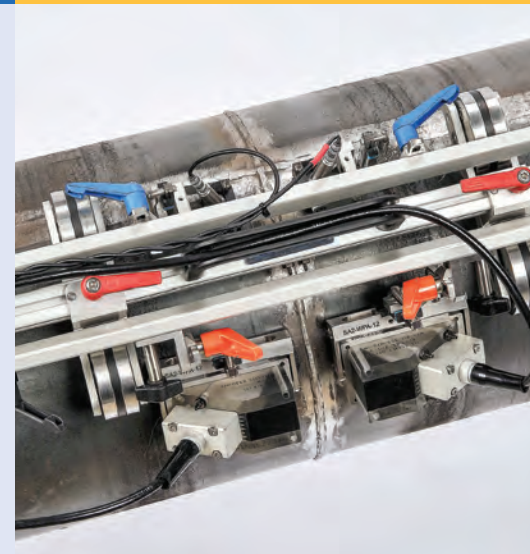
A pocket-sized, manual A-frame with a waterproof wheel encoder, ideal for basic TOFD inspections.

- Holds one pair of TOFD probes
- Single axis B or D scans
- Inspects 2" pipes up to flat
- Simple to use
- Waterproof encoder
- No tools required
- Provides low-cost TOFD inspection capability

[www.phoenixisl.com/tofd-caliper](http://www.phoenixisl.com/tofd-caliper)

## Weld Inspection - Multiple TOFD/Phased Array

### MultiMag



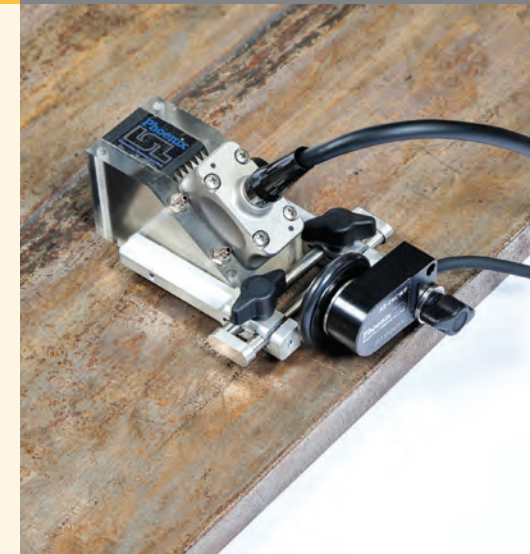
A highly versatile manual scanner with an angular adjustable frame for multiple inspection configurations.

- Holds up to four probes
- Phased array, TOFD or pulse-echo techniques separately or combined
- Inspects circumferential pipe welds from 3" up to flat on magnetic material
- Highly customisable

[www.phoenixisl.com/multimag](http://www.phoenixisl.com/multimag)

## Weld Inspection - Phased Array

### C-Clamp Encoder



A versatile, simple to attach, waterproof encoding accessory with a spring loaded wheel.

- Holds one probe
- Low-cost and easy to use
- For a wide range of single axis linear and sectorial phased array inspections on any material type
- Encoder can be rotated 90° for different inspection needs
- Attach to any probe or wedge up to 55mm wide

[www.phoenixisl.com/c-clamp-encoder](http://www.phoenixisl.com/c-clamp-encoder)

### Swift

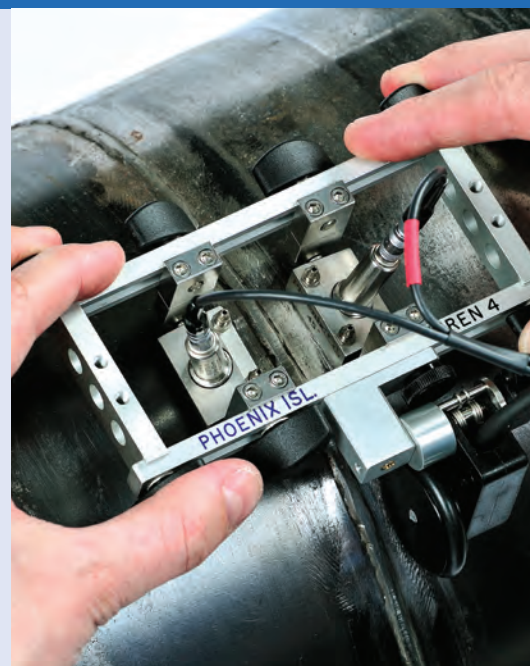


A lightweight magnetic wheeled scanner for controlled and accurate TOFD inspection.

- Holds one pair of TOFD probes with spring loaded suspension
- Single axis inspection
- Option of pivoting wheel units to enable both B and D scans
- Inspects 3" pipes up to flat on magnetic material
- Incorporates a brake to lock the scanner at a fixed location

[www.phoenixisl.com/swift](http://www.phoenixisl.com/swift)

### WREN

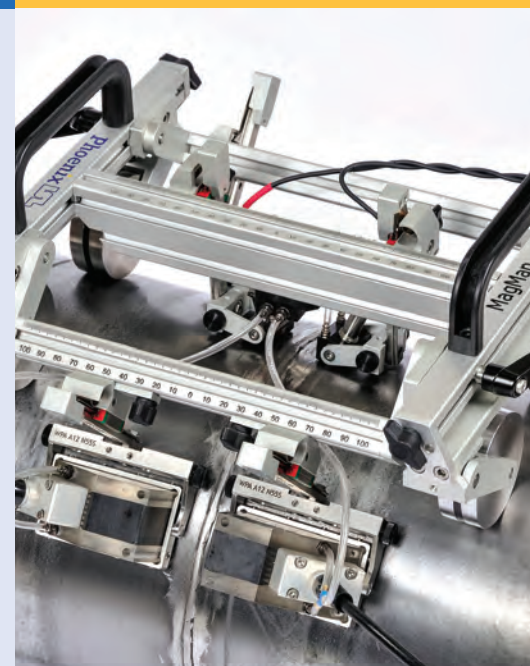


A compact user-friendly tool, ideal for areas with restricted access. Spring-loaded probe mounts enable inspection of mismatched or irregular welds.

- Holds one pair of TOFD probes with spring loaded suspension
- Single axis B or D scans
- Waterproof encoder
- Inspects 2" pipes up to flat
- 4" or 8" frame sizes available for increased PCS

[www.phoenixisl.com/wren](http://www.phoenixisl.com/wren)

### MagMan



A widely popular robust manual scanner for multiple probe inspections of both circumferential and longitudinal pipe welds.

- Holds up to twelve probes
- Phased array, TOFD and pulse-echo techniques separately or combined
- Inspects pipe welds from 2" (circumferential) and 9" (longitudinal) up to flat on magnetic material
- Waterproof wheel encoder

[www.phoenixisl.com/magman](http://www.phoenixisl.com/magman)

### Bracelet



A low-profile scanner for weld inspection on small bore pipes available in both single and dual-sided configurations.

- Holds one or two probes
- Clamps around pipe to attach to any material type
- Single-sided configuration for phased array inspection
- Dual-sided configuration for phased array or TOFD inspections
- Inspects pipes from 0.5" to 6"

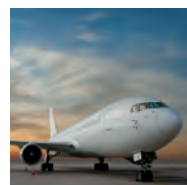
[www.phoenixisl.com/bracelet](http://www.phoenixisl.com/bracelet)

## Industries

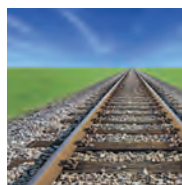
Phoenix ISL products are used by some of the world's leading companies, to ensure safety standards and improve quality and efficiency and serve a wide range of industry sectors including:



Offshore Oil, Gas & Petrochemical



Aerospace and Composites



Rail and Transport



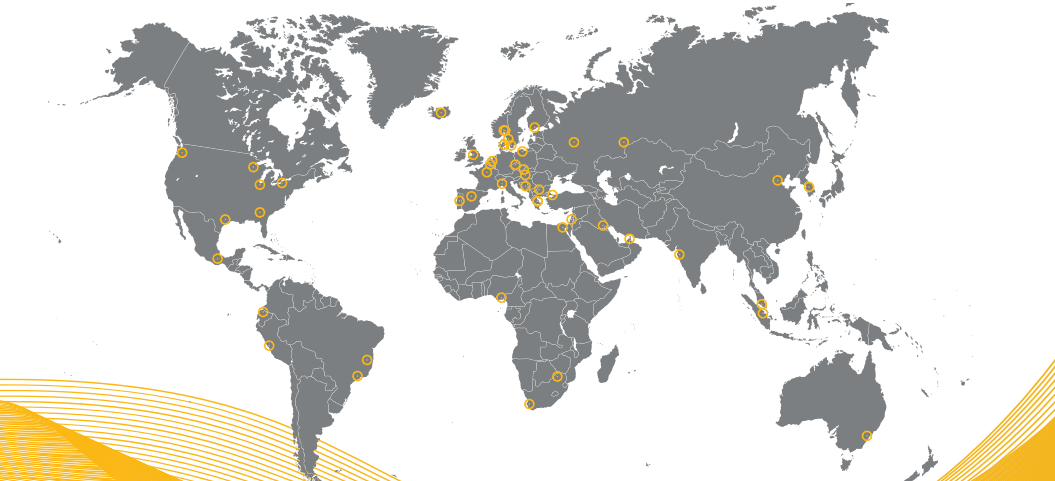
Nuclear Power



Power Generation

## International Distributor Network

Phoenix ISL works in partnership with a global network of authorised distributors. A Distributor can provide expert knowledge and demonstrations of Phoenix products, conveniently in your local region.



### SAW Bug

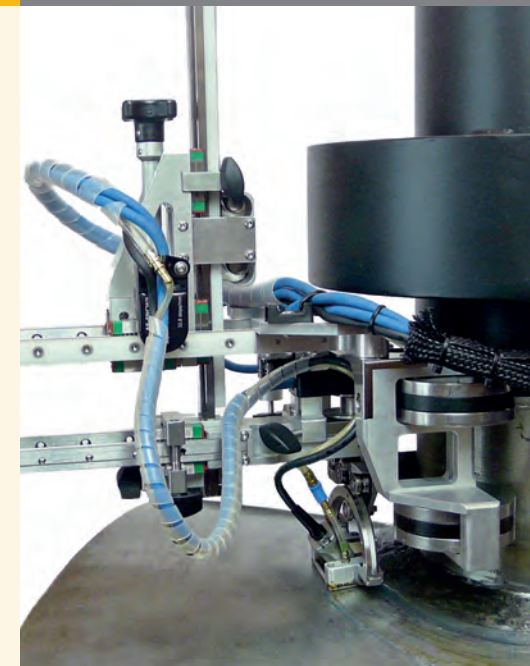


A powerful 4WD motorised, magnetic wheeled buggy for single direction inspection of circumferential pipe and vessel welds at constant speed.

- Holds up to six probes
- Phased array and TOFD techniques separately or combined
- Inspects circumferential pipe welds from 4" up to flat on magnetic material
- Low cost automated inspections

[www.phoenixisl.com/sawbug](http://www.phoenixisl.com/sawbug)

### NozzleScan



A versatile radial nozzle scanner with probe skew for the inspection of nozzle welds in both set-through and set-on configurations.

- Transducer skew axis can be adjusted, encoded and locked
- Two and three axis instrument configurations available
- Options for mounting to ferritic and austenitic parent materials
- Adaptable to a wide range of 90 degree nozzle sizes, from 3" upwards

[www.phoenixisl.com/nozzlescan](http://www.phoenixisl.com/nozzlescan)



Transducers



Phoenix ISL offer a comprehensive range of high-performance ultrasonic transducers for general flaw detection and thickness measurement including:

- Shear Wave
- Compression Wave
- Creep Wave
- Flexible Array
- High Temperature
- TOFD
- Phased Array

Phoenix transducers offer superior performance in a wide range of frequencies, crystal sizes, case constructions and connector types.

A range of accessories are also available, including: Wedges, Cables, Adapters, Calibration Blocks, Step Wedges and IR Emitters.

To download a catalogue visit:

[www.phoenixisl.com/transducers-wedges](http://www.phoenixisl.com/transducers-wedges)

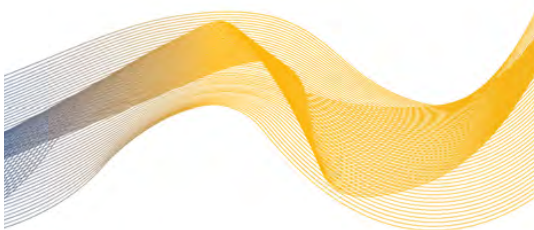
Phoenix Inspection Systems Limited

Dalton House, 40 Hardwick Grange, Warrington, WA1 4RF, UK

t: +44 (0) 1925 826 000

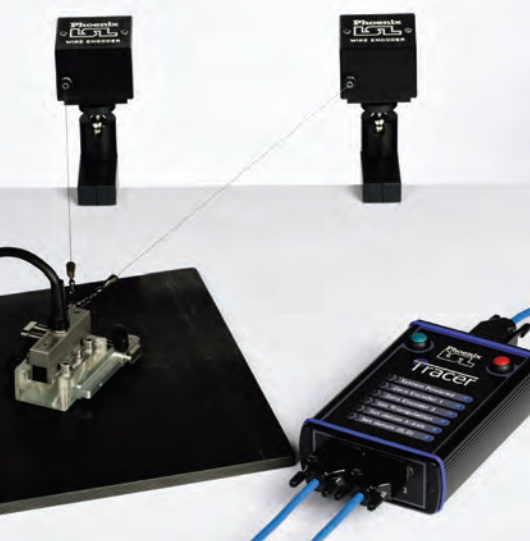
e: [sales@phoenixisl.com](mailto:sales@phoenixisl.com)

Innovators in NDT Technology



NOVA INSTRUMENTS

Tracer



Versatile, portable freehand X-Y mapping system without the constraints of a scanning frame.

- Easy to assemble in any position
- Works with any two axis instrument
- Outputs accurate positional data for up to 2m x 2m scan area
- Use with linear array probes for fast, accurate inspections
- Wire encoders include magnetic, vacuum and clamping mounts

[www.phoenixisl.com/tracer](http://www.phoenixisl.com/tracer)

WrapIt



A flexible ultrasonic phased array tool that can be wrapped around a curved geometry.

- Inspects along curved composite and laminate components
- Adapts to scan concave or convex surfaces and parts with changing curvature
- Features a flexible phased array transducer with a rubber housing and single axis encoder

[www.phoenixisl.com/wrapit](http://www.phoenixisl.com/wrapit)

Accessories

PreAmplifier



For TOFD inspections, when using long probe leads and additional gain is required to enhance weak signals.

- 40dB Gain
- Ultra-low noise
- Wide signal bandwidth
- Low power - single 9V PP3 battery or external 5-12 VDC
- Available as TOFD 1, 2 or 4 channel

[www.phoenixisl.com/preamplifier-ultra-low-noise-tofd-pulse-echo](http://www.phoenixisl.com/preamplifier-ultra-low-noise-tofd-pulse-echo)

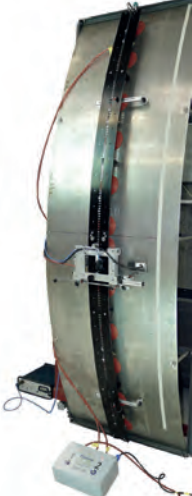
Custom-Design Solutions



EPR Control Rod Drive Mechanism

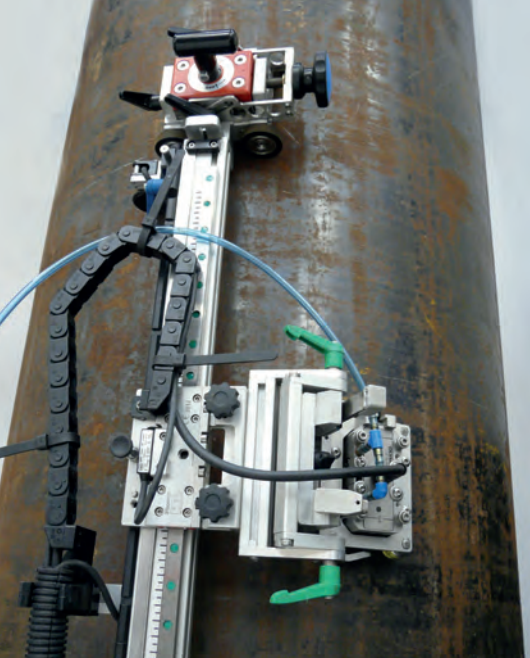
If a standard product from our comprehensive range does not precisely fit your inspection needs, our technical services team have the expertise to design and develop fully customised solutions to meet the most challenging NDT inspections.

Our team work with you to fully evaluate your inspection criteria and can propose alternative methods or solutions to fulfil your requirements. Often, a small modification to a standard product can deliver a very economical solution or Phoenix can design a totally new concept should the situation demand.



Flexible Track Scanner

MapMan



Dual axis encoded manual X-Y scanner for inspecting larger pipework and vessels.

- Inspects ferritic pipes from 4" up to flat, with belt option available for other materials
- Scan width of up to 550mm with fixed increment positions for rapid change between scan lines
- Rubber wheels with switchable magnets provide smooth motion
- Brake can be locked to maintain position when released

[www.phoenixisl.com/mapman](http://www.phoenixisl.com/mapman)

Sp-Arc



A unique phased array scanner for corrosion mapping on small bore pipes.

- Curved phased array probe submerged in a water box
- Moves longitudinally along unlimited lengths of straight ferritic pipes from 1" to 4"
- Up to 120° coverage (1" - 2")
- Immersion quality data provides excellent near surface resolution

[www.phoenixisl.com/sp-arc](http://www.phoenixisl.com/sp-arc)

CDS – Couplant Delivery System



Versatile, battery-powered, variable flow rate pumping system to deliver couplant for on-site ultrasonic inspections.

- Alleviates the need for manual water sprayers
- Battery operated for up to six hours continuous use
- Can be used whilst charging
- Self-priming up to 1.5m
- For use with one or multiple transducers
- Maintains water pressure
- Can pump viscous liquids

[www.phoenixisl.com/cds-couplant-delivery-system](http://www.phoenixisl.com/cds-couplant-delivery-system)

If you have already undertaken this evaluation process and know your precise needs, Phoenix can manufacture customised transducers and scanners tailored to your exact specification.

The featured solutions illustrate our diverse capabilities in creating custom-design and modified systems to meet our customers unique requirements.

Commissioning a custom-design solution for a specific inspection often provides an organisation with a fast return on investment through reduced inspection times.



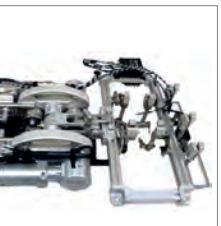
Custom Transducers



Dissimilar Metal Welds

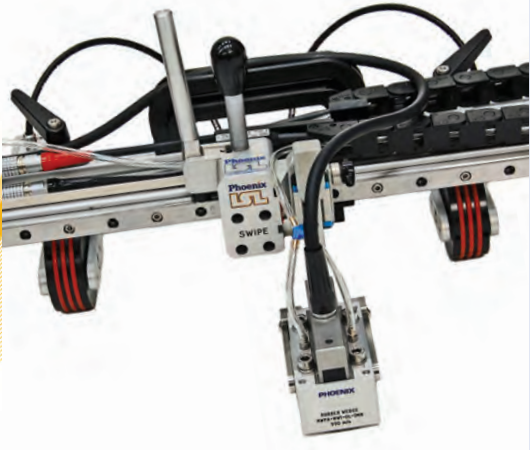


Single Side Access



Steerable Magnetic Crawler

Swipe



Dual axis encoded manual X-Y scanner for inspecting flat or curved components.

- Automatic brakes on both axes maintain position when scanner is released
- Scan widths of 400mm and 600mm available with interchangeable arms
- Available with magnetic and non-magnetic wheel sets
- Holders available for a wide range of probes

[www.phoenixisl.com/swipe](http://www.phoenixisl.com/swipe)

R-Evolution



Ultrasonic phased array roller probe in a water filled tyre with an ergonomic single axis buggy.

- Interchangeable roller probes available from 1MHz to 10MHz
- Compact design weighs only 1kg to minimise operator fatigue
- Two guidance lasers for accurate alignment of scans
- Self-aligns to curved surfaces
- Array normalisation is easy with external angle fine-tuning key

[www.phoenixisl.com/r-evolution](http://www.phoenixisl.com/r-evolution)

Drive



A 1-4 axis 'all-in-one' scanner controller, using linear amplifiers, to produce 150W of motor power across all axes.

- For interference-free UT, TOFD, PA and EC signals
- Fully contained computer and control system
- Remote control via ethernet, joypad/joystick, so can be left on sensitive inspection sites without an engineer
- Fully customisable, built-in automated scan plans
- Compatible with any scanner with up to 4-axes of movement

[www.phoenixisl.com/drive](http://www.phoenixisl.com/drive)

Quick Features Product Guide

The information below is a summarised guide to the features and capabilities of Phoenix standard products, configured for optimal inspections. Phoenix ISL scanners can also be configured for other techniques or inspection surfaces with the addition of optional accessories or modifications.

|                 | Application     |                   |           | Technique |              |            | Inspection Material Properties |              |           |
|-----------------|-----------------|-------------------|-----------|-----------|--------------|------------|--------------------------------|--------------|-----------|
|                 | Weld Inspection | Corrosion Mapping | Aerospace | TOFD      | Phased Array | Pulse Echo | Magnetic                       | Non-Magnetic | Composite |
| Sp-Arc          |                 | •                 |           |           | •            |            | •                              |              |           |
| MapMan          |                 |                   |           |           | •            |            | •                              |              |           |
| R-Evolution     |                 | •                 | •         |           | •            |            | •                              | •            | •         |
| Swipe           |                 | •                 | •         |           | •            |            | •                              | •            | •         |
| Tracer          |                 | •                 | •         |           | •            | •          | •                              | •            | •         |
| C-Clamp Encoder | •               | •                 | •         |           | •            | •          | •                              | •            | •         |
| WrapIt          |                 | •                 | •         |           | •            |            | •                              | •            | •         |
| Duo             | •               |                   |           | •         |              | •          | •                              | •            |           |
| TOFD Calliper   | •               |                   |           | •         |              | •          | •                              | •            |           |
| WREN            | •               |                   |           | •         |              | •          | •                              | •            |           |
| Swift           | •               |                   |           | •         |              | •          | •                              | •            |           |
| Bracelet        | •               |                   |           |           | •            |            | •                              | •            |           |
| MultiMag        | •               |                   |           | •         | •            | •          | •                              | •            |           |
| MagMan          | •               |                   |           | •         | •            | •          | •                              | •            |           |
| SAW Bug         | •               | •                 |           | •         | •            | •          | •                              | •            |           |
| NozzleScan      | •               |                   |           |           | •            |            | •                              | •            |           |