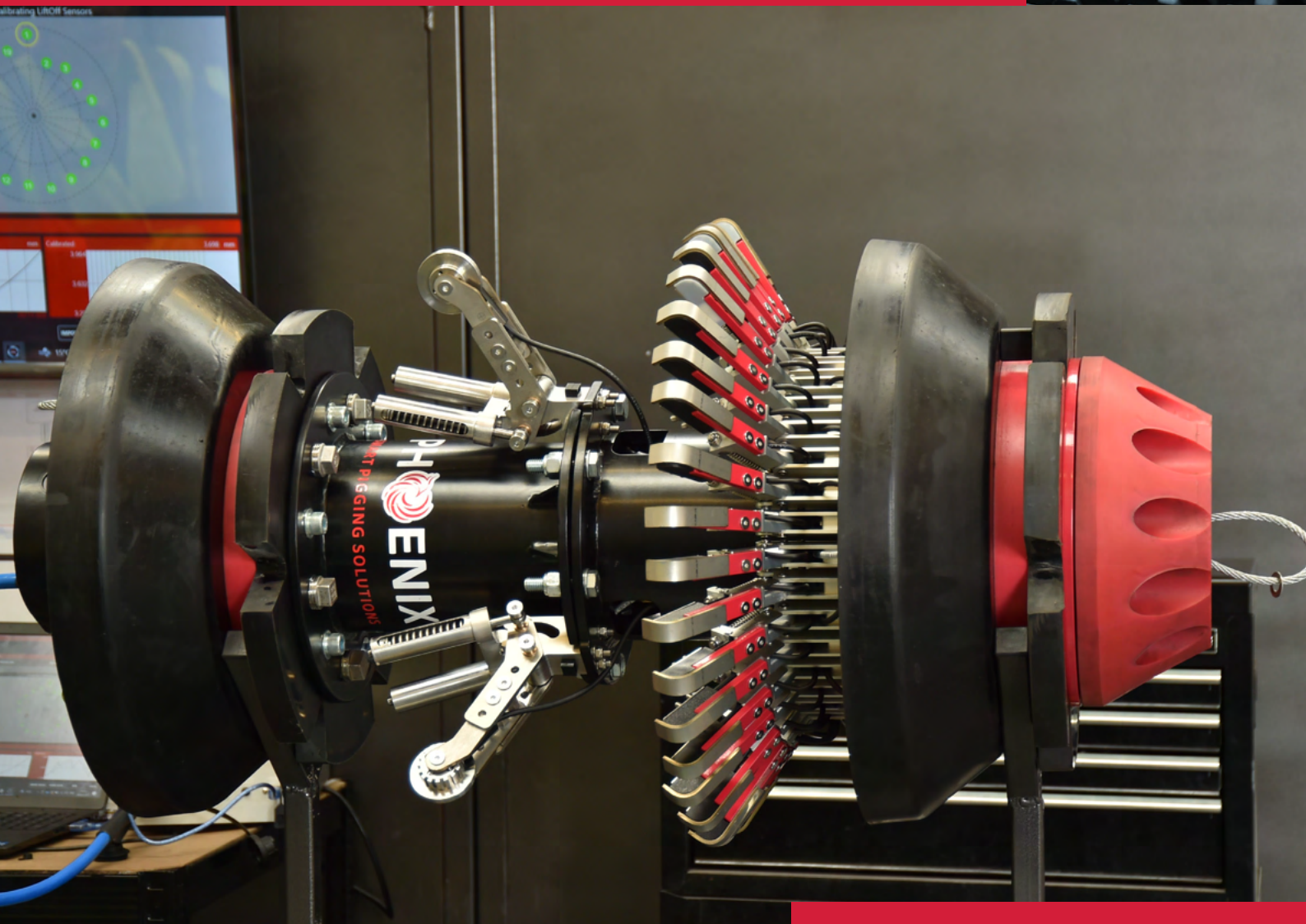


PHOENIX Debris Mapping Tool



PH  **ENIX**

SMART PIGGING SOLUTIONS



iNPIPE
PRODUCTS

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Progressive, Responsive and Knowledgeable

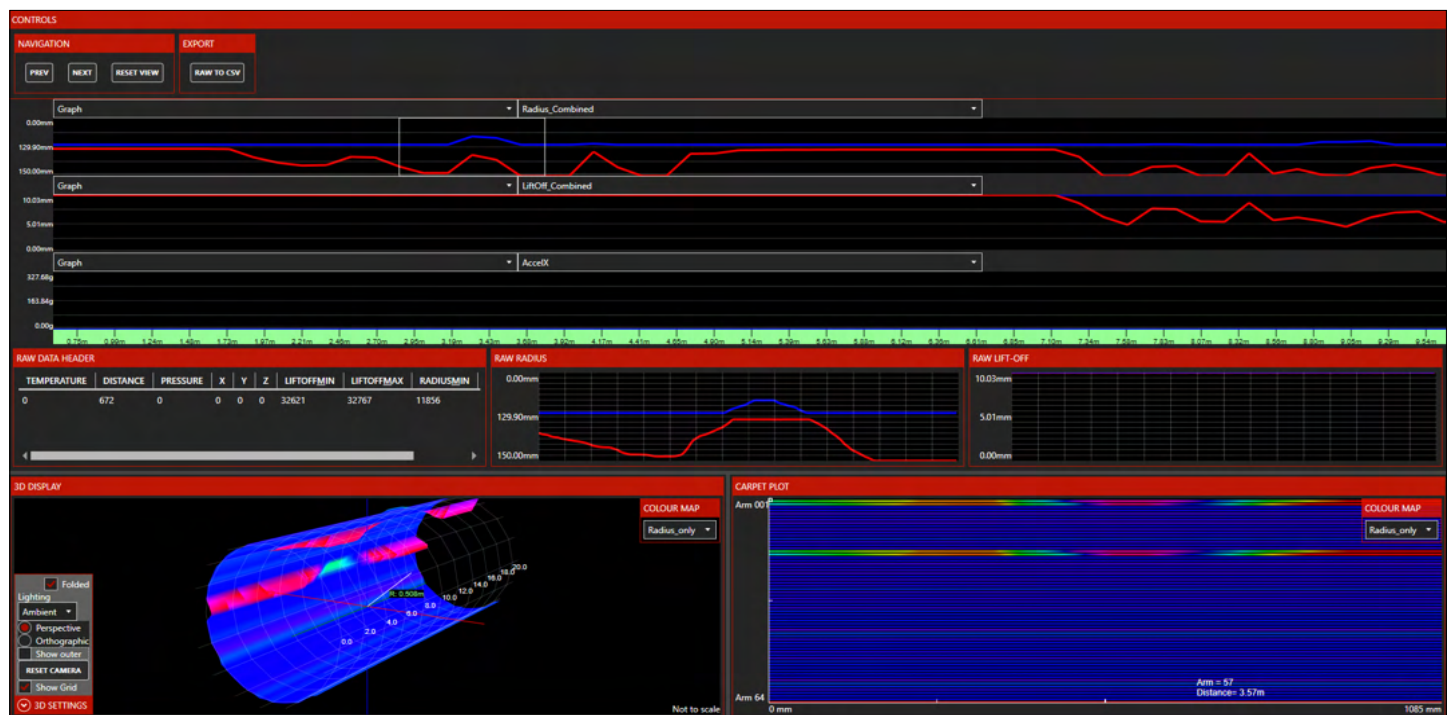
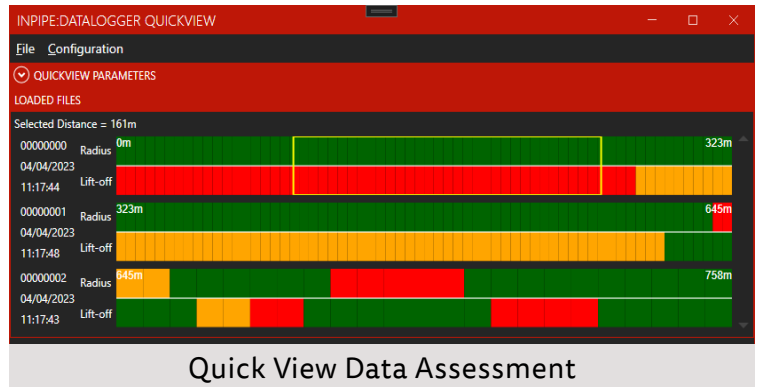
Global Leaders in Pipeline Pigging, Maintenance, Isolation and Testing Solutions

INPIPE PRODUCTS™ PHOENIX Debris Mapping Tool provides a 360° internal assessment of a pipeline using state of the art sensor technology, providing operators with detailed knowledge of the condition of their pipeline.

A clean pipeline is imperative to maximise flow and minimise pipeline maintenance. Effective and informed deposition mapping is critical to understanding where the deposition occurs and how fast it builds up. Armed with this validated information, a systematic pipeline cleaning programme can be designed and implemented. **INPIPE PRODUCTS™** Phoenix debris mapping tool operates identically to standard cleaning tools and is handled, loaded, launched and received from existing facilities in exactly the same way.

Developed from decades of experience, Phoenix applies science to any pipeline cleaning programme to validate the effectiveness of cleaning and enables the pipeline cleaning team to understand all of the elements operating within the pipeline. Robust sensor arms, in combination with odometers and a gyroscope, are designed to differentiate between debris and dents within the pipeline and accurately plot these features within the length of the pipeline. Differential pressures are also monitored and recorded.

Should the speed of Phoenix fall below a configurable threshold, the data logging automatically switches to time based measurement and vibration sensors assist in inspection of circumferential pipe joints which can be critical to the ongoing integrity of the pipe line. Following retrieval of the Phoenix debris mapping tool all data can be reviewed together with any potential areas of constriction readily observed. This can be used to validate the effectiveness of cleaning runs and subsequent cleaning plans reviewed.



SPECIFICATION

Pipeline Diameter	≥ 16"ns
Debris Measurement Accuracy	0-5mm ± 0.1mm
	5-12mm ± 0.5mm
	12+mm ± 1mm
Caliper Measurement Accuracy	± 1mm (Diameter)
Debris Sensors	Effective Range 0mm - 25mm
Differential Pressure Sensor	0-200bar ± 0.01 bar
Lithium Ion Battery	Runtime - 100 hours per Power Unit
Maximum Operating Pressure	200 bar
Temperature Range	-20°C - 85°C / 32°F - 140°F
Feature Location	Down to ±25mm
Minimum Pipeline Bend Radius	1.5D
Velocity Range	0 - 7m/s
Product	Oil / Gas / Water / Other

PHOENIX DEBRIS MAPPING TOOL BENEFITS

Debris location & pipeline route plotting

Debris thickness measurement & visual inspection

Internal joint measurement & visual inspection

Damage/dent location, measurement & visual inspection

Total volume debris calculation

Temperature measurement

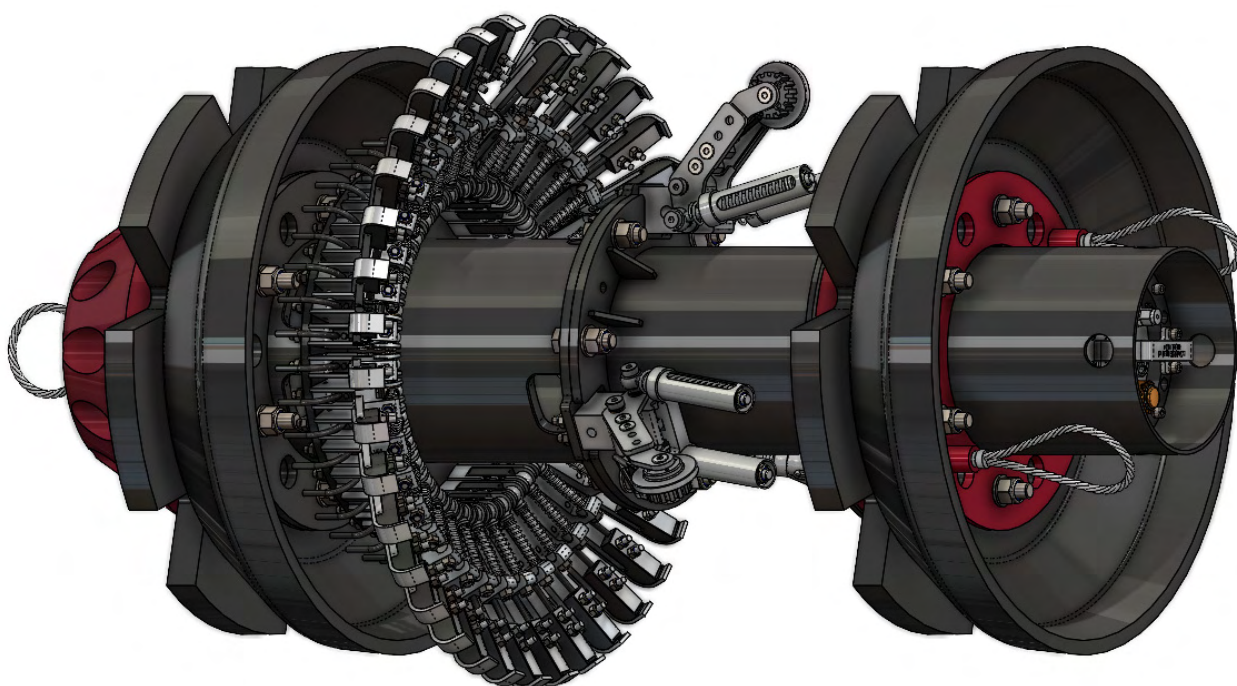
Pre-commissioning visual and internal diameter datum study

Pipeline cleaning regime validation & predictive calculation

Scalable design accommodates 16" to 120" internal diameters

Flow validation

Immediate report availability



PIGGING PRODUCTS

Alongside our extensive product range, **INPIPE PRODUCTS™** also has the capacity to offer custom engineering solutions.

SOLUTIONS DRIVEN

At **INPIPE PRODUCTS™**, we specialise in pipeline pigging, flow assurance, isolation, inspection and asset integrity.

Our comprehensive suite of products and services includes engineering consultancy and project management, supported by on-site support services.

Our extensive engineering experience and integrated manufacturing capabilities enable us to deliver custom designed turnkey solutions, meeting the most demanding client requirements.

This precision and reliability have earned us a significant reputation among major operators and contractors worldwide

ADVANCED FACILITIES & TRAINING

INPIPE PRODUCTS™ features state-of-the-art design, manufacturing and testing facilities to guarantee the highest quality standards.

We offer comprehensive proof of concept and factory acceptance testing (FAT), with third-party inspections and client-witnessed FAT procedures for pigging products and solutions. Our systems, ranging from 1/2" to 90", are validated through internationally recognised third-party authorities.

Training tutorials on pipeline pigging, isolation, testing and its applications can be conducted at our HQ and Aberdeen Service Centre or at client's sites if required. Project/product specific certificates are issued upon successful completion of the course.

DELIVERY

Our HQ and Aberdeen Service Centre ensure precise project control and timely delivery worldwide.

With significant logistics expertise, we ensure that goods are shipped quickly, cleared through customs efficiently, and delivered to client sites globally in the shortest possible time.

Our "right first time" approach has established **INPIPE PRODUCTS™** as the premier supplier of pigging products and services for over 40 years.

For further details, please contact **INPIPE PRODUCTS™**

INPIPE PRODUCTS™ offers the latest in cutting-edge technology, with in-house design, manufacturing and testing capabilities for both standard and bespoke products.

We provide an unrivalled product range, including Foam & Metal Bodied Pigs/Scrapers, Spheres, Pig Handling Equipment, Isolation Tools, Pig Signallers, Pig Diverters and Launching and Receiving Systems.

Our Aberdeen Service Centre provides engineering support and pigging maintenance services, including pig refurbishment, pigging assessment and pigging tool management.

Our **SMART Pigging** delivers innovative pipeline inspection solutions, ensuring maximum flow assurance and detailed insights into asset integrity. This includes debris mapping tools, pipeline visual inspection and pipeline blockage and leakage detection.



INPIPE
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