SCANNING

QSR®

Quantitative Short Range Scanning

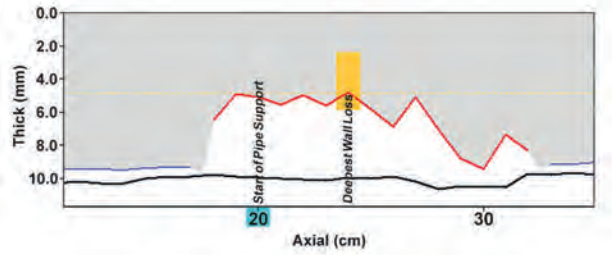
Unlock **quantitative insight** at locations beyond the reach of other inspection methods. The QSR® system provides the information needed to support confident integrity decisions without intrusive interventions.

Quantitative Guided Wave Scanning

Quantification changes the role of guided wave inspection from identifying areas of concern to informing engineering decisions.

The patented **QSR®** method is designed specifically for this step, providing the **remaining wall thickness** at localised features previously assessed only qualitatively.

The result is measurements that underpin proportionate responses, based on true condition rather than assumption.



Detail of remaining wall thickness **profile** at a pipe support scanned using QSR1®

Numbers that Inform Decisions

- Provide numerical measurements for **integrity** and **fitness-for-service evaluations**
- Base repair and maintenance decisions on **quantitative** results

Built for Inaccessible Locations

- Measure remaining wall thickness at simple, clamped, or embedded **pipe supports** and at **wall penetrations**
- Inspect without lifting the pipe, removing clamps, dismantling supports, or exposing wall penetrations

Minimal Preparation, Minimal Disruption

- Scan over **surface roughness** and through **thin coatings** *(≤ 1 mm)*, no grinding to bare metal required
- No adhesives or bonded materials necessary — no risk of damage from removing or leaving components

From Detecting to Measuring

- **Extend inspection campaigns** by scanning locations that other inspection methods cannot measure
- **Quantify indications** detected through Guided Wave Screening

GUIDED ULTRASONICS LTD.

25+ YEARS Since 1999

THE ONLY INDIRECT QUANTITATIVE SOLUTION

Defined Condition, Not Interpretation

- Other indirect methods stop at indication; QSR® delivers a thickness value
- Immediate results, without reliance on off-site or third-party analysis

Flexible Coverage, Decision-Ready Data

- Gain access to varied geometries through circumferential and axial scanning
- Make decisions based on quality-checked data, suitable for audit-ready reporting

Smarter Intervention

- Target maintenance and repair only where measurement justifies action

The QSR® ePOD is the common electronics unit for all configurations. Circumferential propagation applies where access is available around the pipe, such as simple supports or scab patches; axial propagation is used where access is available along the pipe axis, including embedded or clamped supports and wall or deck penetrations. The QSR® ALF enables thickness measurement near the scanner position on larger diameter pipes using circumferential propagation through a single adjustable frame, with the same sensor carts as the QSR1®.

CIRCUMFERENTIAL PROPAGATION

QSR1®

Scanning for CUPS with QSR1®

Inspection Capabilities	
Pipe Diameter (1)	6" to 24" (DN 150 to 600)
Pipe Wall Thickness	6 to 13 mm [0.24" to 0.51"]
Pipe Orientation	Horizontal (±15°)
Physical Characteristics	
Sensor Cart Dimensions: W x D x H	35 x 11 x 5 cm [14" x 4.5" x 2"]
Sensor Cart Weight *(approx.)*	3.45 kg [7.6 lbs]
Unit Weight *(approx.)* (2)	12 kg [26.5 lbs]
Unit Clearance	Varies according to diameter
Frames	
Frames Sizes (1)	6", 8", 10", 12", 14", 16", 18", 20", 24"

QSR® ALF *(Adjustable Large-diameter Frame)*

Scanning for CUPS on a 36" pipe with QSR® ALF

Inspection Capabilities	
Pipe Diameter	12" (DN 300) to flat
Pipe Wall Thickness	6 to 13 mm [0.24" to 0.51"]
Pipe Orientation	Any
Circumferential Inspection Range	5 to 50 cm [2" to 20"] from the sensor
Physical Characteristics	
Frame Dimensions: W x D	39 x 32 cm [15.4" x 12.6"]
Frame Height *(when flat)*	7 cm [2.8"]
Frame Weight *(approx.)*	2 kg [4.4 lbs]
Unit Weight *(approx.)* (3)	9 kg [19.8 lbs]
Unit Clearance	Varies according to diameter

AXIAL PROPAGATION

QSR® Axial

Scanning an embedded support with QSR® Axial

Inspection Capabilities	
Pipe Diameter - **Manual Scan**	4" to 36" (DN 100-900)
Pipe Diameter - **Motorized Scan** (1)	6" to 16" (DN 150-400)
Pipe Wall Thickness	6 to 13 mm [0.24" to 0.51"]
Pipe Orientation	Any
Axial Inspection Range	5 to 50 cm [2" to 20"] from the sensor
Physical Characteristics	
Sensor Dimensions: W x L x H	39 x 20 x 2.8 cm [15.4" x 7.9" x 1.1"]
Sensor Weight *(approx.)*	3.20 kg [7 lbs]
Unit Weight *(approx.)* (4)	10 kg [22 lbs]
Unit Clearance (5)	8.5 cm [3.4"]
Frames	
Frames Sizes *(Motorized)* (1)	6", 8", 10", 12", 14", 16"

(1) *Pipe sizes are nominal API 5L. Frames are diameter specific.*
(2) *Unit Weight includes ePOD, Frame, and both Sensor Carts (Transmitter, Receiver).*
(3) *Unit Weight includes ALF Frame and both Sensor Carts (Transmitter, Receiver)*
(4) *Unit Weight includes Axial Sensor, Frame, and Traction Unit.*
(5) *Radial height of Traction Unit is the minimum clearance required where the Axial scanner is installed during motorized scanning.*

GUIDED ULTRASONICS LTD.

Wavemaker House
Brentford TW8 8HQ
United Kingdom

sales@guided-ultrasonics.com
guided-ultrasonics

www.guided-ultrasonics.com