



QSR[®]

TECHNICAL SPECIFICATIONS

The QSR[®] is GUL's Quantitative Short Range scanning system. Its patented analysis technique enables measurement of average and remaining pipe wall thickness without contact with the area under inspection — a critical capability at pipe supports, wall penetrations, and other hard-to-access features.

QSR1[®] - CIRCUMFERENTIAL



TECHNICAL SPECIFICATION SUMMARY

(Subject to change)

Application Areas	
Designed for	Inspecting contact supports without lifting the pipe
Inspection Capabilities	
Pipe Diameter	6" to 24" ⁽¹⁾ (DN 150 to 600)
Pipe Wall Thickness	6 mm to 13 mm [0.236" to 0.512"]
Pipe Orientation	Horizontal (±15°)
Surface Preparation	Surface must be wiped clean of loose debris Coatings thicker than 1 mm must be removed under the sensor
Sensor Physical Characteristics	
ePOD Dimensions: W x D x H, Weight (approx.) ⁽²⁾	25 x 25 x 9 cm [10 x 10 x 3.5 inches], < 4 kg [9 lbs]
Sensor Cart Dimensions W x D x H, Weight (approx.)	35 x 11 x 5 cm [14 x 4.5 x 2 inches], 3.45 kg [7.6 lbs]
Unit Weight (approx.)	12 kg [26.5 lbs]
Clearance	Varies according to diameter ⁽³⁾
Software	
Controlling Software	WaveProQSR [™]
Analysis Method	Uses frequency based, patented, QSR quantitative analysis method
Assisted Interpretation	Via online Scanning Studio
Communication Interfaces	
USB	USB 2.0 ⁽⁴⁾
LAN	10/100 Base-T Ethernet
Power Ratings	
Battery type (Removable)	6.6 Ah, 14.8 V Li-Ion
External power supply to charge instrument	18-20 VDC (60W min)

QSR1[®] KIT COMPONENTS

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|--|---|
| <ul style="list-style-type: none"> - QSR[®] electronics pod (ePOD) - QSR1[®] Circumferential Transmitter Sensor Cart - QSR1[®] Circumferential Receiver Sensor Cart - ePOD to Sensor Cables | <ul style="list-style-type: none"> - Available Frames Set: 6", 8", 10", 12", 14", 16", 18", 20", 24" ⁽⁵⁾ - USB Cable & Ethernet Cable - ePOD Charger - Rugged Packing/Transport Case |
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(1) Nominal API 5L.

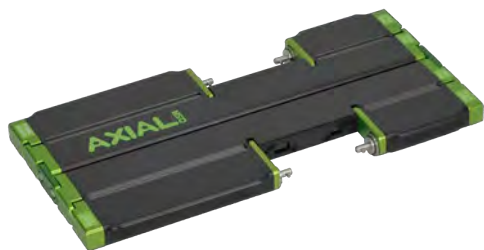
(2) Dimensions and Weight of the Electronic POD without frames, handles, or sensors.

(3) Clearance only required on approximately half of the pipe circumference.

(4) Instrument appears as a disk drive on the PC.

(5) Frames are diameter specific.

QSR® AXIAL SENSOR



TRACTION UNIT

TECHNICAL SPECIFICATION SUMMARY

(Subject to change)

Application Areas

Designed for	Inspecting supports without lifting the pipe Inspecting wall penetrations
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Inspection Capabilities

Pipe Diameter ⁽⁶⁾ ⁽⁷⁾	Manual Scan: 4" to 36" (DN 100-900)	Motorized Scan: 6" to 16" (DN 150-400)
Pipe Wall Thickness ⁽²⁾	6 mm to 15 mm [0.236" to 0.590"] ⁽²⁾	
Axial Inspection Range	5 cm to 50 cm [2" to 20"] from the sensor	
Pipe Orientation	Any	
Surface Preparation	Surface must be wiped clean of loose debris Coatings thicker than 1 mm must be removed under the sensor Sharp protruding features greater than 1 mm should be removed	

Physical Characteristics

Axial Length	39 cm [15.4"]
Radial Height (Sensor) ⁽⁸⁾	Less than 28 mm [1.1"]
Radial Height (Traction Unit) ⁽⁹⁾	Less than 85 mm [3.4"]
Unit Weight	Less than 10 kg [22 lbs]

Compatibility

Electronics Compatibility	Used with a standard QSR® Electronics Pod connected via a special adaptor Cable ⁽¹⁰⁾
Software Compatibility	WaveProQSR™ ⁽⁵⁾
Assisted Interpretation	To be supported in Scanning Studio
Analysis Method	Uses the frequency based, patented, QSR quantitative analysis method

AXIAL KIT COMPONENTS

<ul style="list-style-type: none">- Axial Sensor Unit- Axial Traction Unit- Traction Unit to QSR® ePOD Adapter Cable- Traction Unit to Sensor Harness	<ul style="list-style-type: none">- Motorized Frames Set: 6", 8", 10", 12", 14", 16" ⁽¹¹⁾- Frame Release Mechanism- Rugged Packing/Transport Case
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⁽⁶⁾ Pipes sizes are Nominal API 5L.

⁽⁷⁾ Support for further pipe sizes and pipe wall thicknesses is planned.

⁽⁸⁾ The Radial Height of the Sensor is the clearance required in the region that is being measured.

⁽⁹⁾ The Radial Height of the Traction Unit is the clearance required in at least one section of pipe.

⁽¹⁰⁾ The firmware on the QSR® electronics pod and the version of WaveProQSR™ must be March 2022 or newer.

⁽¹¹⁾ Frames for motorized scanning, which are diameter specific.

