

WAVEMAKER® G4mini

TECHNICAL SPECIFICATION

The Wavemaker® G4mini is GUL's compact guided wave screening instrument, trusted since 2014 for its reliability and performance. It delivers powerful data acquisition in a lightweight design, making it ideal for routine pipe screening in a wide range of environments.

Model	Wavemaker® G4mini - Full
Application Areas	
Designed for	All pipe and tube applications
Physical Characteristics	
Dimensions W x D x H (approx.) ⁽¹⁾	22 x 30 x 13 cm [8.5 x 12 x 5 inches]
Weight (approx.)	4.4 kg [9.7 lbs]
Screen	7" colour LCD touchscreen (800x480 pixels)
Transmitter ⁽¹⁾	
Transmitter frequency range	7 to 400 kHz
Maximum output drive voltage	400 Vpp
Maximum rep-rate	20 Hz
Receiver ⁽¹⁾	
Convertor sampling frequency	100 to 2500 kHz
Receiving gain range	10 to 90 dB
Analog band pass filter range (Variable)	7 to 600 kHz
Maximum sample range	400 m
Maximum number of averages	256
Channels	
Number of transducer channels	16
Diagnostics	
Dedicated Diagnostic Interface	Built-in diagnostic connection to verify instrument and cable performance
Communication Interfaces	
USB	USB 2.0 (Both device and Host)
LAN	10/100 Base-T Ethernet (using supplied cable)
Software	
Controlling Software	Wavemaker® WavePro4™
Supported Operating Systems	Windows 7 to Windows 11
Processing Options	
Unrolled Pipe (EFC) ⁽²⁾	Total Full Matrix Focusing with C-Scan type display. (Requires EFC option)
Absolute Calibration ⁽³⁾	Automatic DAC Calibration. (Requires CAL option)
Power Ratings	
Battery type (Removable)	6.6 Ah, 14.8 V Li-ion
Typical battery life	At least 150 standard tests
External power supply to charge instrument	18-20 VDC (60W min)
Other Features	
Transducer Ring Identification	Detects transducer ring type, size and serial number
Transducer Ring Capacitance	Measures transducer capacitance (0.1nF precision)
Transducer Ring Pressure	Able to read pressure sensors in HD / HT rings
Inspector Identification	Reads and updates inspector 'iButton' ID keys
GPS	20 channel SiRF Star IV GPS module

(1) Dimensions without removable handles.

(2) GUL patented: Method and apparatus for inspecting pipes (US8356518B2, GB2437547B, WO2007125308A2).

(3) GUL patented method: Processing signals acquired during guided wave testing (US9927405B2, EP2598866B1, WO2012013942A1).

RING COMPATIBILITY AND CONFIGURATIONS

Ring	
Standard Solid (R2F) and Inflatable (R2B) Rings	Yes
Compact™ Rings (R3D)	Yes
Claw Small Diameter Rings (R2G)	Yes
HD Solid (R2F-HD) and HD Modules (R2MHD) in inflatable	Yes
HT Solid (R2F-H) and Inflatable (HT-R2B) Rings	Yes
gPIMS® Sensors (R2P)	Yes
Lowest frequency setting in Variable Modules	Yes
Longitudinal Mode (with 4 rows)	Yes
Special Configurations	
Joining Two Rings	Requires convertors
Joining Three or Four Rings	Not currently supported
Pitch-Catch collections	Requires convertors

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Instrument	
WM-G4M-FULL	A fully loaded Wavemaker® G4 ^{mini} ; supplied with a pair of 2.5m transducer cables, a battery, USB umbilical, charger, soft bag, and case.
Packages	
<i>These are all included in the G4M-FULL.</i>	
WE-G4MPKG-BURIED	400Vpp output, lower frequency collection, Pitch-catch configurations (4 rows).
WE-G4MPKG-PLANT	400Vpp output, higher frequency collection, support for HD, HT, R2G (claws) rings.
WE-G4MPKG-GPIMS	Supports all required collections for gPIMS® sensor (including interface for ATEX rings & untrained operators).
WE-G4MPKG-BIGPIPE	Supports joining rings together for large pipes.
WE-G4MPKG-SPEED	Increase the maximum possible rep-rate and sample length.
WE-G4MPKG-L02	Supports required functionality for using the longitudinal mode.
WE-G4MPKG-UPGRADES	Access to new versions of WavePro4™ as they are released.
Software Licenses	
<i>These are included in the G4M-FULL.</i>	
WM-EFC	Allows for the unrolled pipe (C-Scan) display for data collected from an instrument.
WM-CAL	Allows for the absolute calibration of reflection amplitudes from an instrument.

