

Smart flaw sizing



Inspection Technologies:

trueDGS[®] Phased Array Probes

A highly accurate and productive Phased Array
DGS flaw sizing technology.



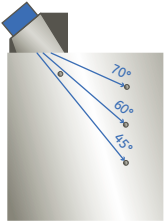
trueDGS® Phased Array Probes

The patented and highly advanced *trueDGS*® technology from GE's Inspection Technology business has now been extended to a new range of ultrasonic phased array probes. These probes accommodate more accurate flaw sizing, greater probability of detection, and higher productivity in a variety of inspection tasks - especially for weld inspection in oil and gas, power generation and general fabrication applications.

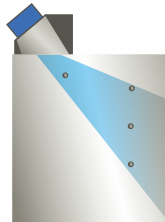
Greater productivity

The new probes are suitable for DGS evaluation at every angle between 45° and 70° in steel, providing the precision of a single element straight beam probe. The probes are specifically designed for steel with transversal waves' sound velocity of 3250 m/s.

Sizing coverage



Other non-GE Phased Array probes:
3 angles only



GE's *trueDGS*® Phased Array probes: Every angle from 45° to 70°

Using the *trueDGS*® Phased Array probes can reduce setup times ahead of testing from literally hours to a couple of minutes just by eliminating time consuming reference taking. The probes feature a redesigned and more ergonomic MWB packaging and are supported by GE's Phasor XS™ Phased Array flaw detector.



Accurate sizing

Ultrasonic inspections using the DGS method are now significantly more accurate than before. This means there is less scrap or rework than with current DGS angle beam probes - which tend to overestimate flaw size.

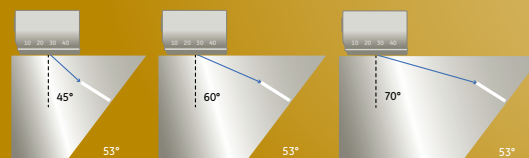
How you will benefit using *trueDGS*® technology.



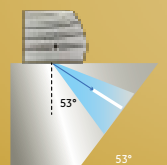
If you are using conventional probes for DGS flaw sizing, *trueDGS* PA probes will offer you:

- More accurate flaw sizing based on optimized reflection
- One probe in the field instead of three
- Much higher productivity due to time savings
- Much higher probability of flaw detection

Conventional probes
Non-perpendicular reflection

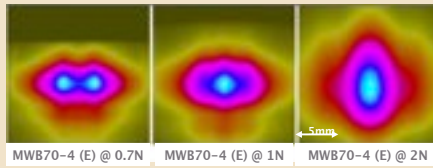


trueDGS® PA probes
Perpendicular reflection



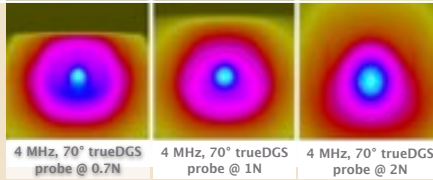
BEFORE

Rotationally asymmetric sound beams of traditional angle beam probes

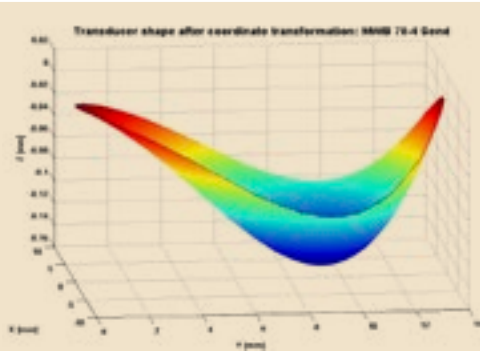


NOW

Rotationally symmetric sound beam of the *trueDGS*[®] angle beam probes



3D modeling of the unique crystal shape that enables the most precise flaw evaluation



Rotationally Symmetric Sound Beam

Recent scientific research shows that the sizing accuracy of angle beam probes can be significantly improved by the optimized beam's rotational symmetry.

Unique Crystal Shape

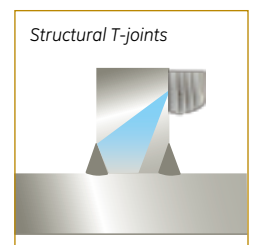
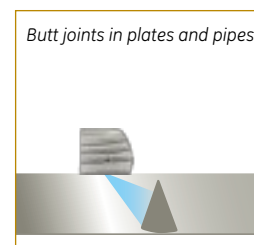
The success of the new probe type relies on its shape and its method of manufacture. Subsequent CAD modeling, the employment of advanced manufacturing techniques and expert hand craftsmanship has allowed the production of *trueDGS*[®] phased array probes which provide a significantly improved match to the respective DGS diagram.

trueDGS[®] built with excellent packaging

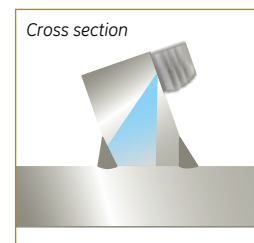
The probe crystal is packaged in a modern, robust housing with ergonomic design. The replaceable wear sole maximizes the lifetime of the probe.

trueDGS[®] applications

- General testing of all type of welds (for example, those that are described in EN ISO 17640: 2010), especially if more than one angle of incidence is required.



- Set-through nozzle joints



If you are using phased array probes for DAC flaw evaluation, trueDGS PA probes will offer you:

- Calibration time is reduced from 1 hour to 5 minutes*
- *trueDGS*[®] probes inspect at every angle from 45° to 70° in 1° step, providing precise sizing at every angle.
- Precise flaw evaluation in much less time!

* Estimate only, real calibration time can vary.

Calibration and flaw sizing time using:



minutes

Phased Array probes



minutes

trueDGS[®] Phased Array probes

Technical Specifications *trueDGS*^{®*}

500684: MWB 2 PA16TD

Near-field Length **	30 mm
Frequency	2 MHz
Steering Range	45-70°
Element Count	16
Cable	2 m
Case Style	see drawing
Connector Type	Phasor

500685: MWB 4 PA16TD

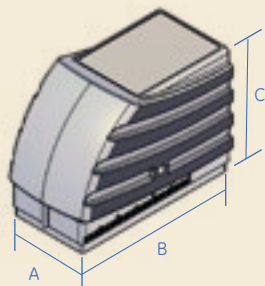
Near-field Length **	60 mm
Frequency	4 MHz
Steering Range	45-70°
Element Count	16
Cable	2 m
Case Style	see drawing
Connector Type	Phasor

* Probes were designed for transversal wave testing in steel (3250 m/s)

** 56° in steel, 3250 m/s incl. delay path

Case Style

A mm	B mm	C mm
20	40,5	30



Accessories

Description	Type	Remark
Spare sole (1 set = 10 pcs)	MWB-TD 2 (500695)	for MWB70-...TD and MWB..PA16TD

