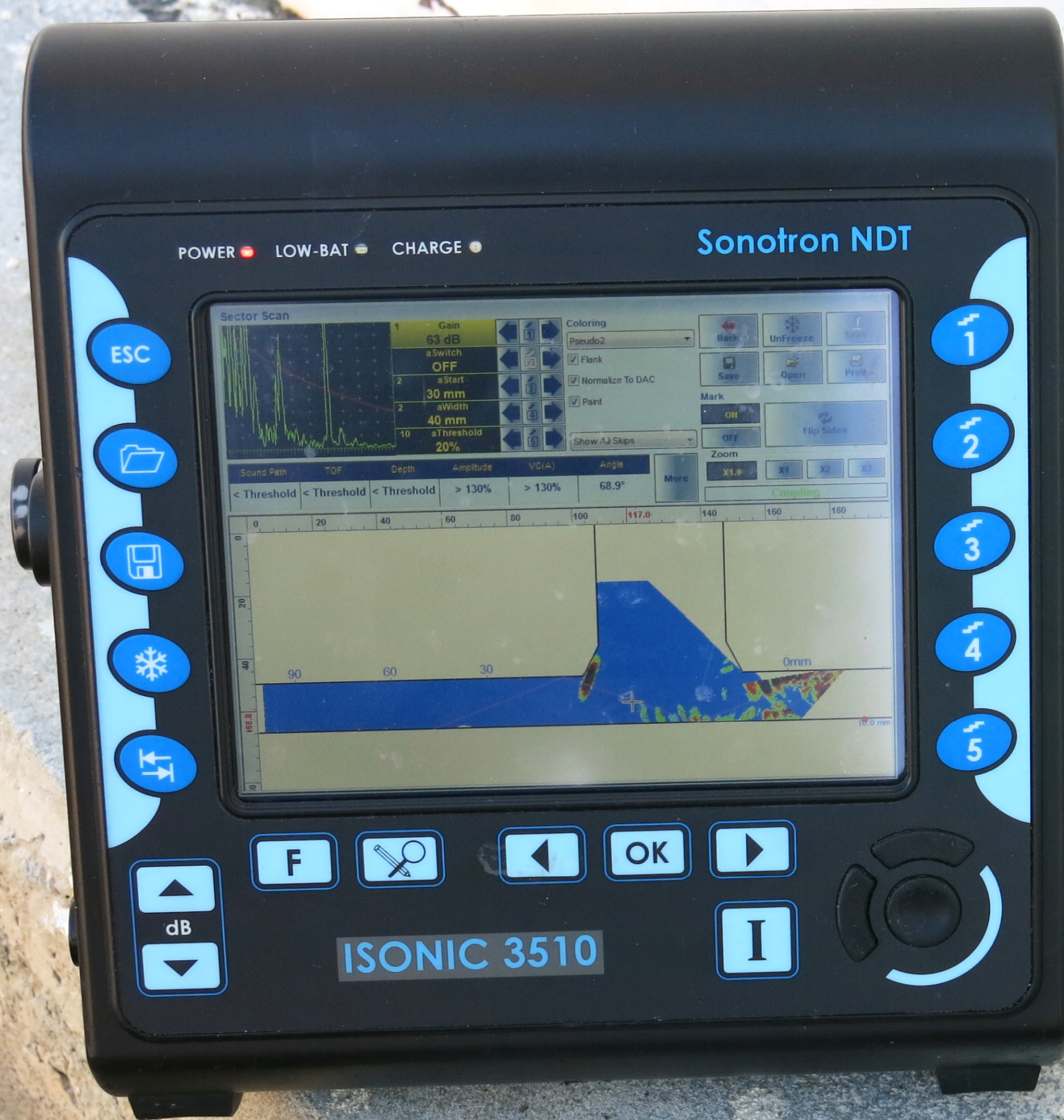


ISONIC EXPERT A-Ring

MULTIPLE SKIP TRUE-TO-GEOMETRY SHEAR WAVE inspection and coverage of the critical zone area for corrosion damages:

- detection of the corrosion damages on both surfaces of annular ring in the critical zone and in the fillet weld area
- distinguishing position of the damage either at the product side or soil side or in the weld
- recording and 3D Mapping
- measuring of material thickness loss - MTL / remaining material thickness - RMT
- measuring of weld metal loss





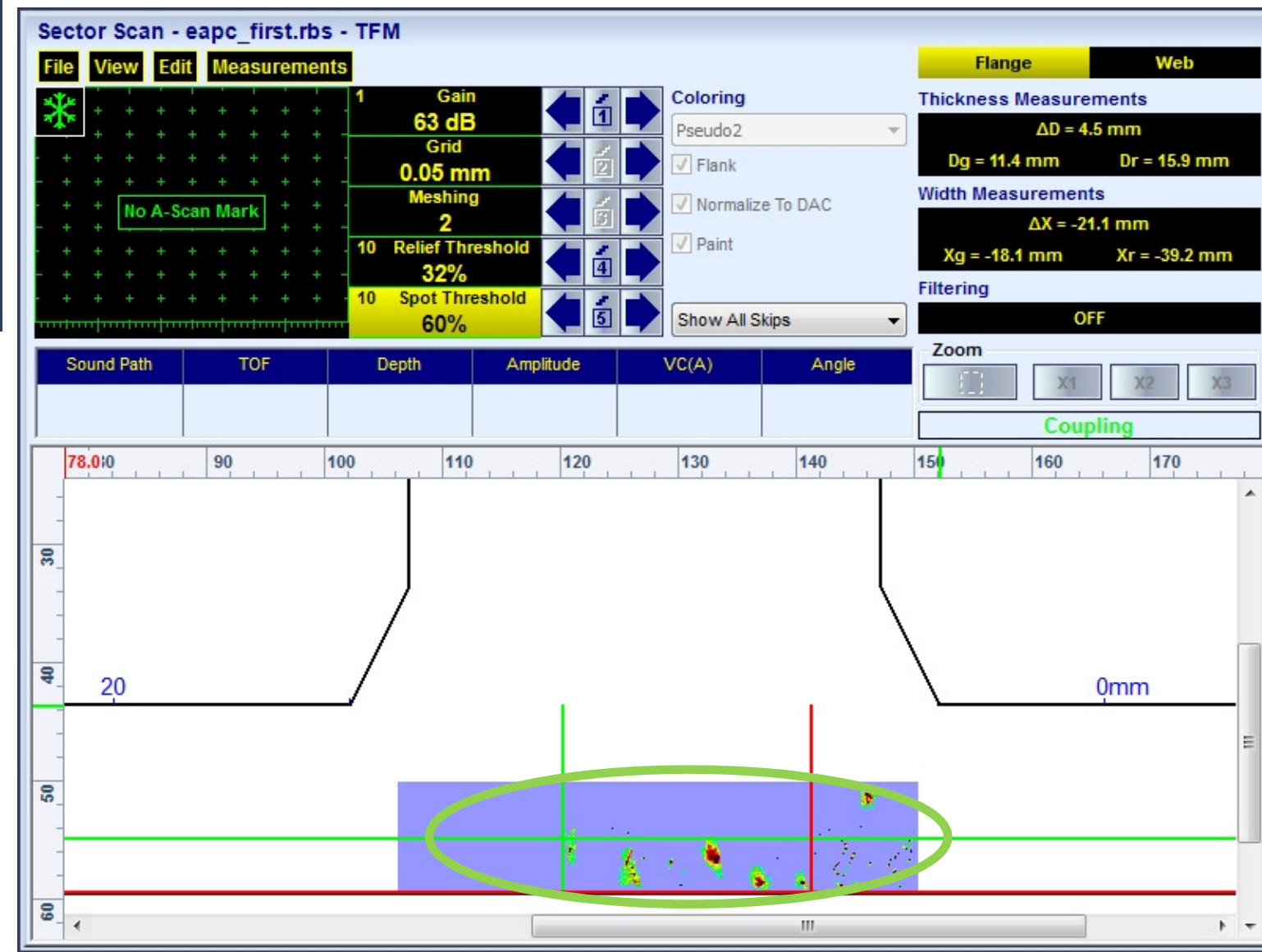
Item	Order Code (Part #)
<p>Inspection SW Application for ISONIC 3510 - Phased Array Modality: Expert A-Ring - Inspection of Annular Ring – Critical Zone: Fillet Weld Area Up to 100 mm (4 inch) Inside Above Ground Storage Tank Through Placing PA Probe Onto External Chime</p> <ul style="list-style-type: none"> ⇒ Detection, distinguishing, and sizing of the following defects: <ul style="list-style-type: none"> ▷ Corrosion at the product side of the annular ring ▷ Corrosion at the bottom side of the annular ring ▷ Cracks and other defects in the fillet weld ▷ Corrosion on the top and bottom surface of annular ring under the tank shell / fillet weld ▷ Loss of the fillet weld metal at the inner side of the tank shell ⇒ Multiple skip shear wave Sector-Scan Cross Sectional Coverage ⇒ True-To-Geometry Fillet Weld / Annular Ring Overlay Volume Corrected Imaging - Cross Sectional and Top (C-Scan)- / Side- / End- View and 3D ⇒ Sector-Scan Cross Sectional Coverage ⇒ Intuitive Image Guided PA Pulser Receiver with Beam Forming View ⇒ DAC / TCG Normalization ⇒ Built-In Fillet Weld / Annular Ring Geometry Editor and Ray Tracer - Scanning Pattern Design ⇒ Independent on TCG Angle Gain Compensation / Gain Per Focal Law Correction ⇒ Automatic Coupling Monitor ⇒ Encoded and Time based C-Scan ⇒ 100% Raw Data Capturing ⇒ FMC/TFM Protocol for the data acquisition and imaging ⇒ Automatic Defects Alarming Upon C-Scan Acquisition Completed ⇒ Automatic Creation of Editable Defects List ⇒ Comprehensive Postprocessing Including: <ul style="list-style-type: none"> → Recovery and Evaluation of Captured A-Scans from the Recorded Cross Sectional Views (Sector Scan) and C-Scans → Recovery of Cross Sectional Views from the Recorded C-Scans → Converting Recorded C-Scans or their Segments into 3D Images → Off-Line Gain Manipulation → Off-Line DAC Normalization of the Recorded Images / DAC Evaluation → Numerous Filtering / Reject Options (by Geometry / Position / By Amplitude / dB-to-DAC / etc) → Defects Sizing including the Quantitative Evaluation of the Thickness Loss → Creation of Defect List and Storing it Into a Separate File → Automatic creating of inspection reports - hard copy / PDF File 	SWA 3510018

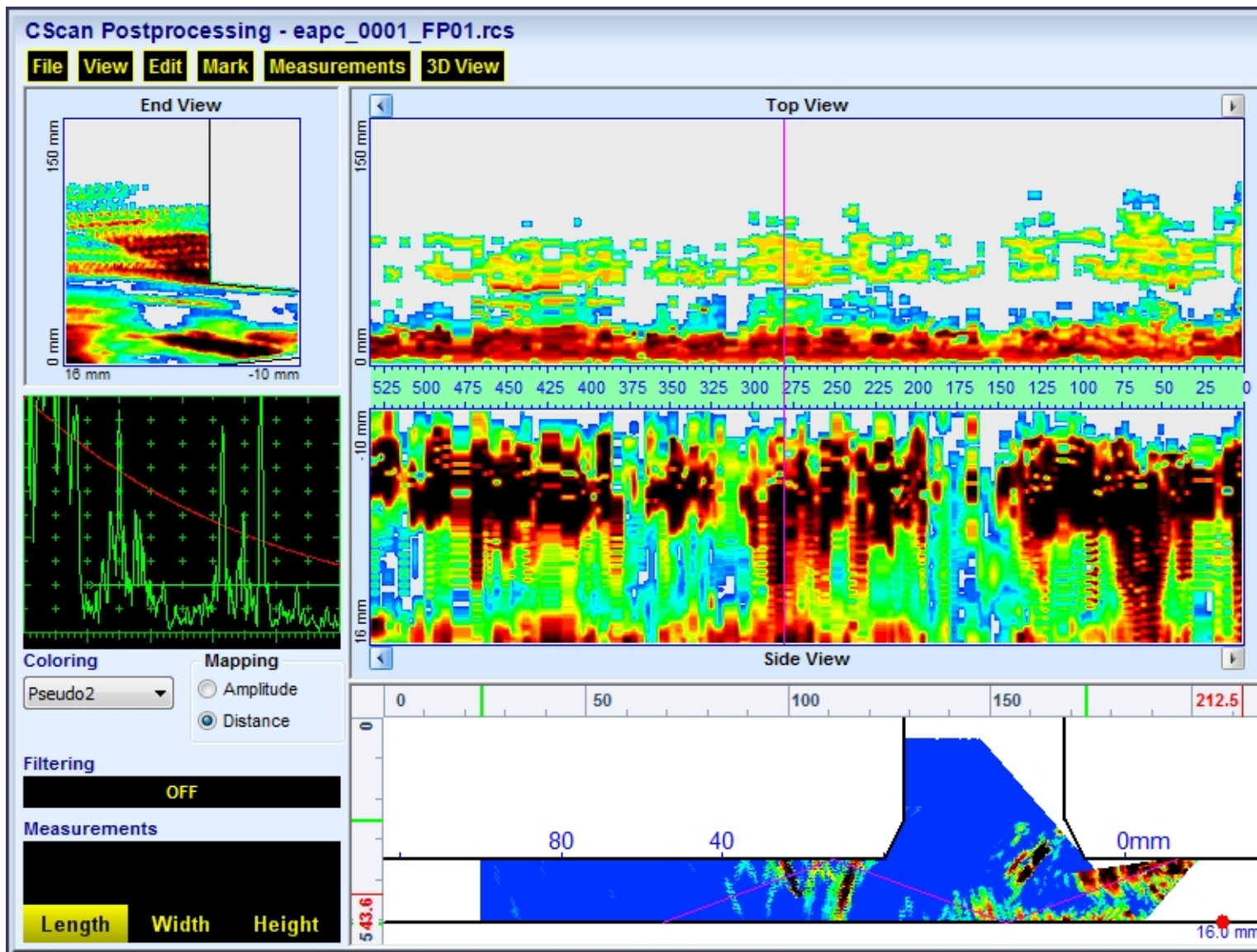




True-to-Geometry Sectorial Scan Coverage

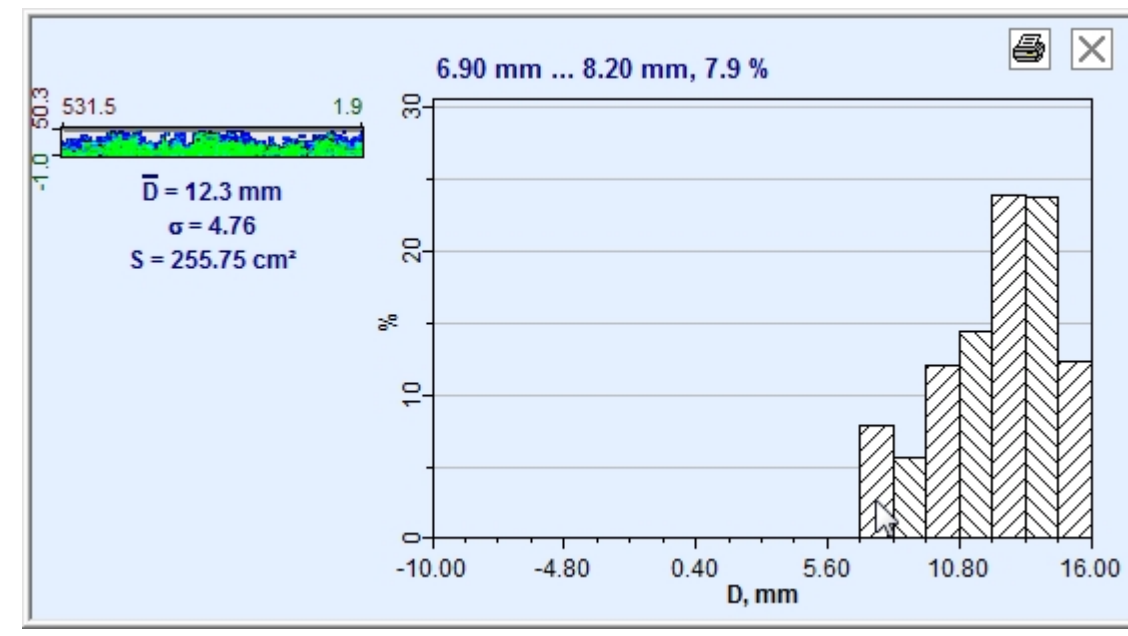
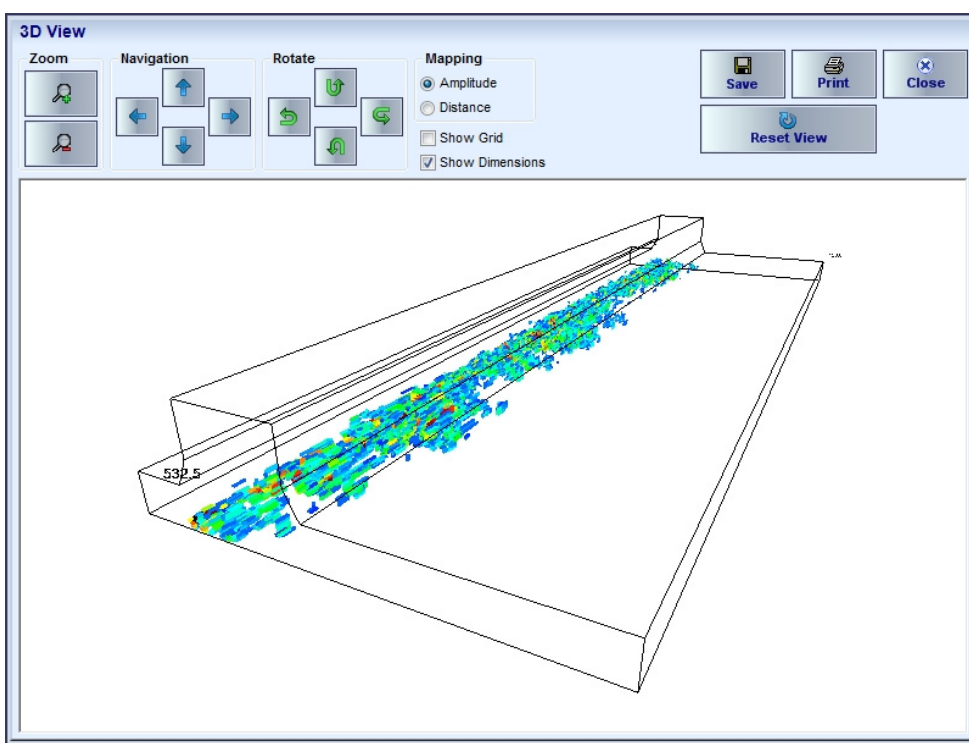
FMC/TFM Imaging and evaluation of the damage area





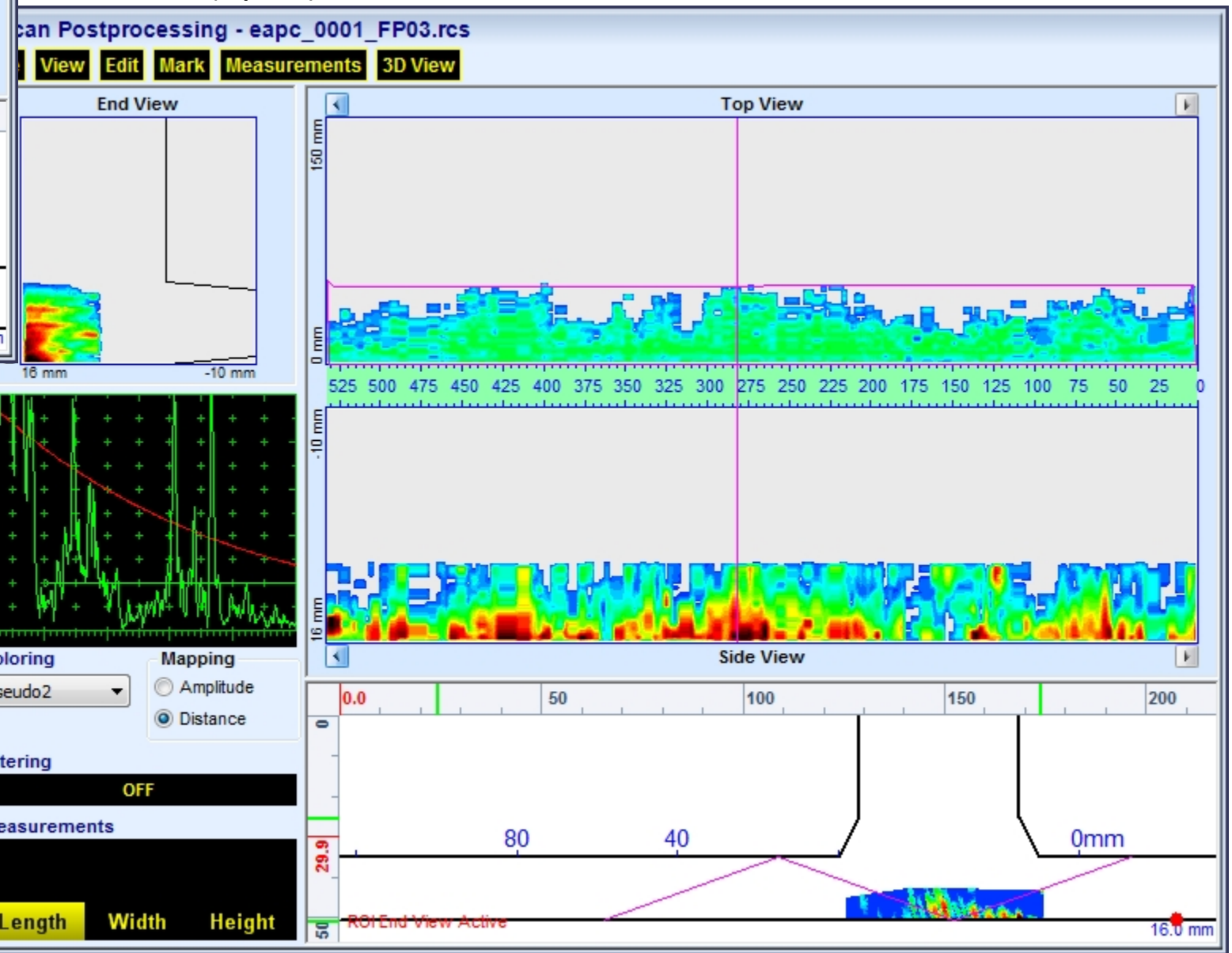
Global C-Scan (Top View), Side View, End View Data

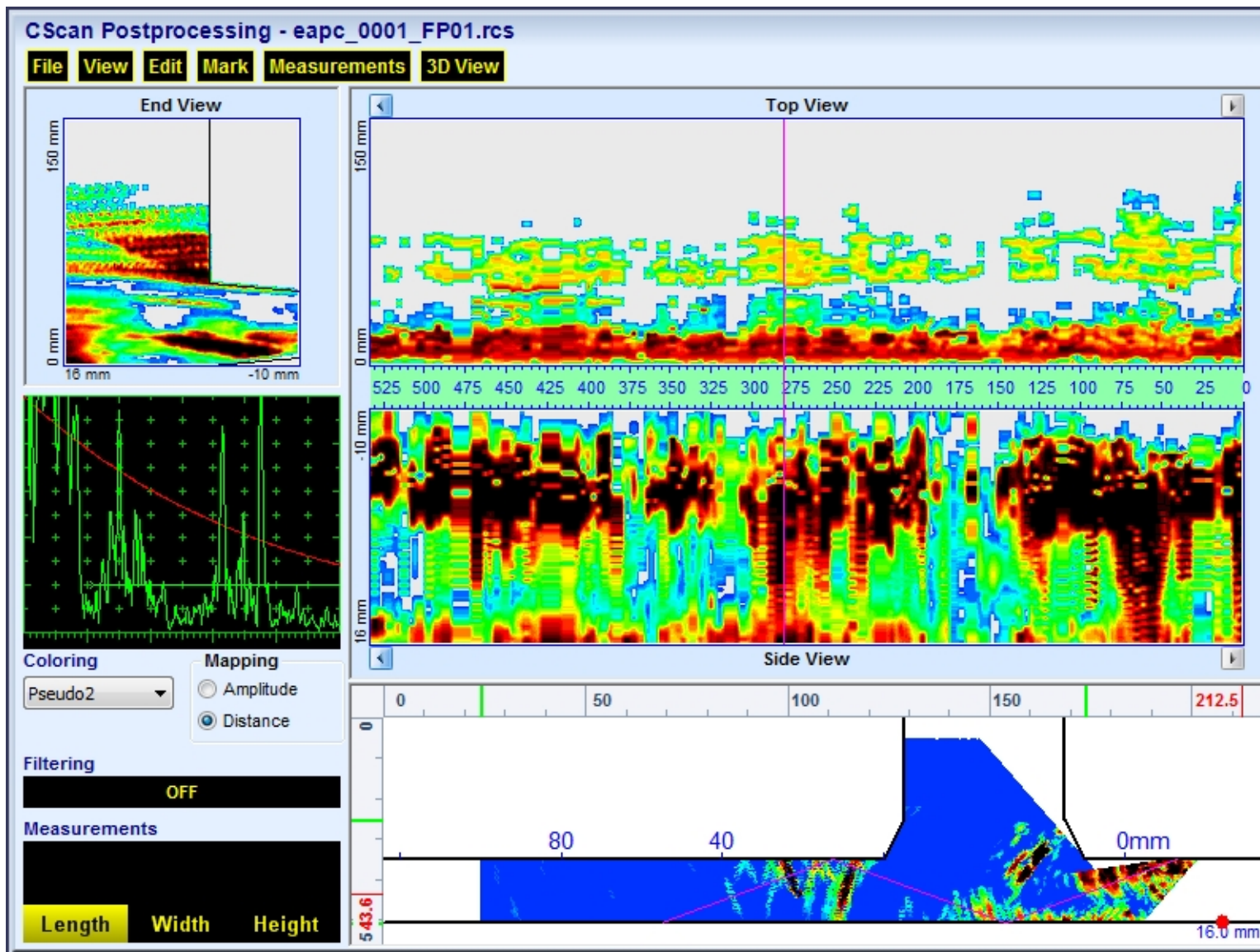
3D - scattered corrosion under the tank shell at the soil side



Statistical distribution of the RMT (Remaining Material Thickness) under the tank shell

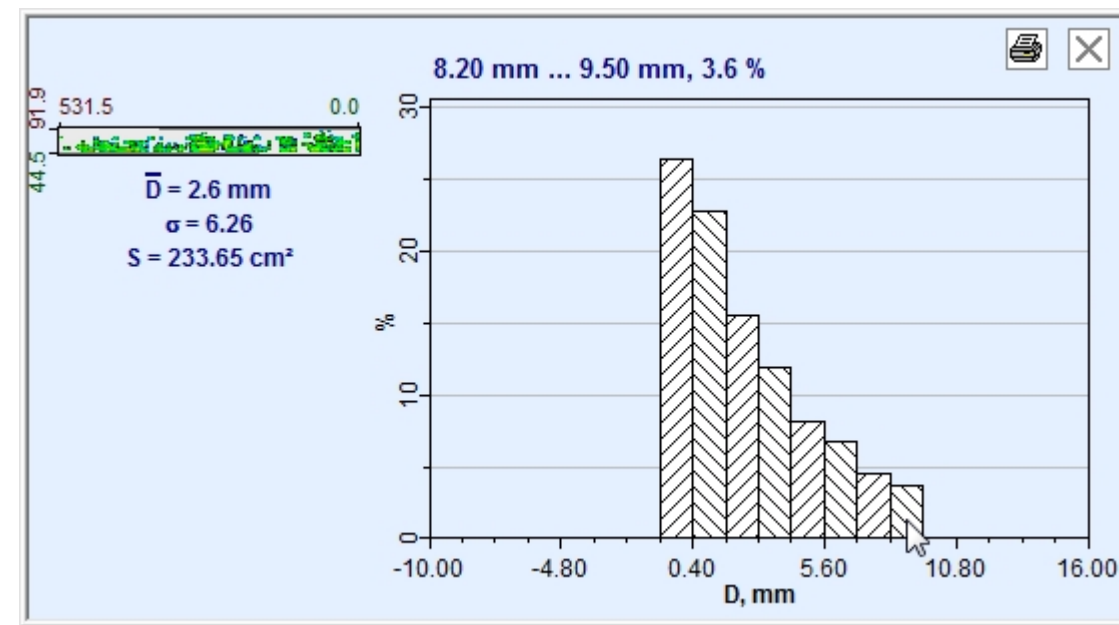
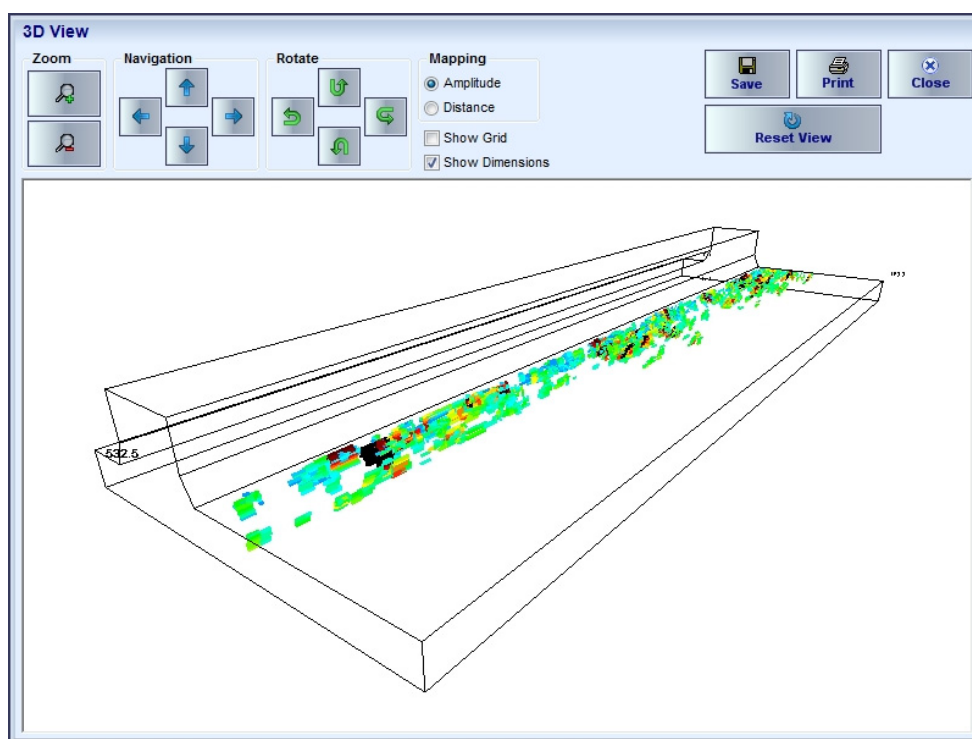
C-Scan (Top View), Side View, End View Data for the scattered corrosion under the tank shell at the soil side





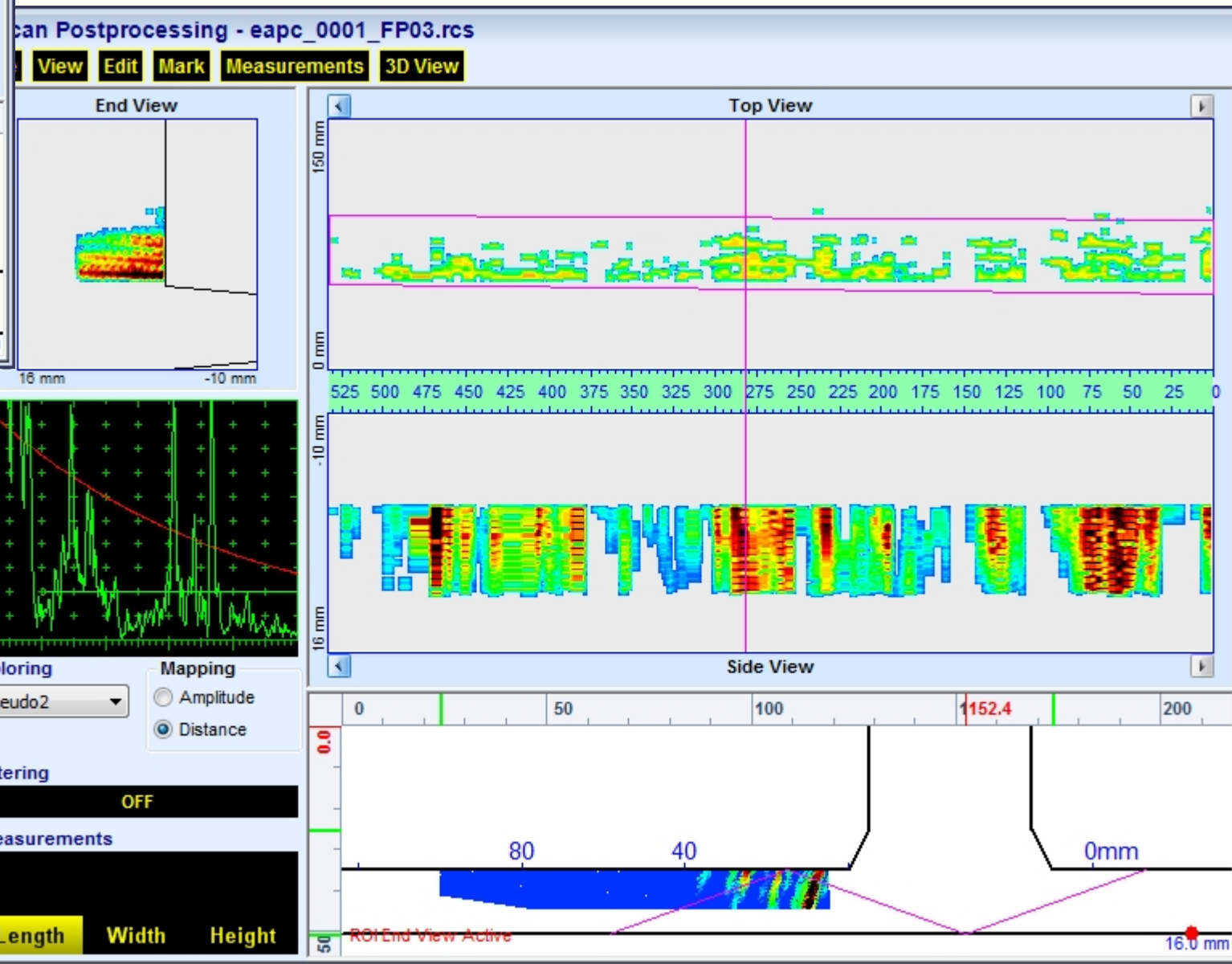
Global C-Scan (Top View), Side View, End View Data

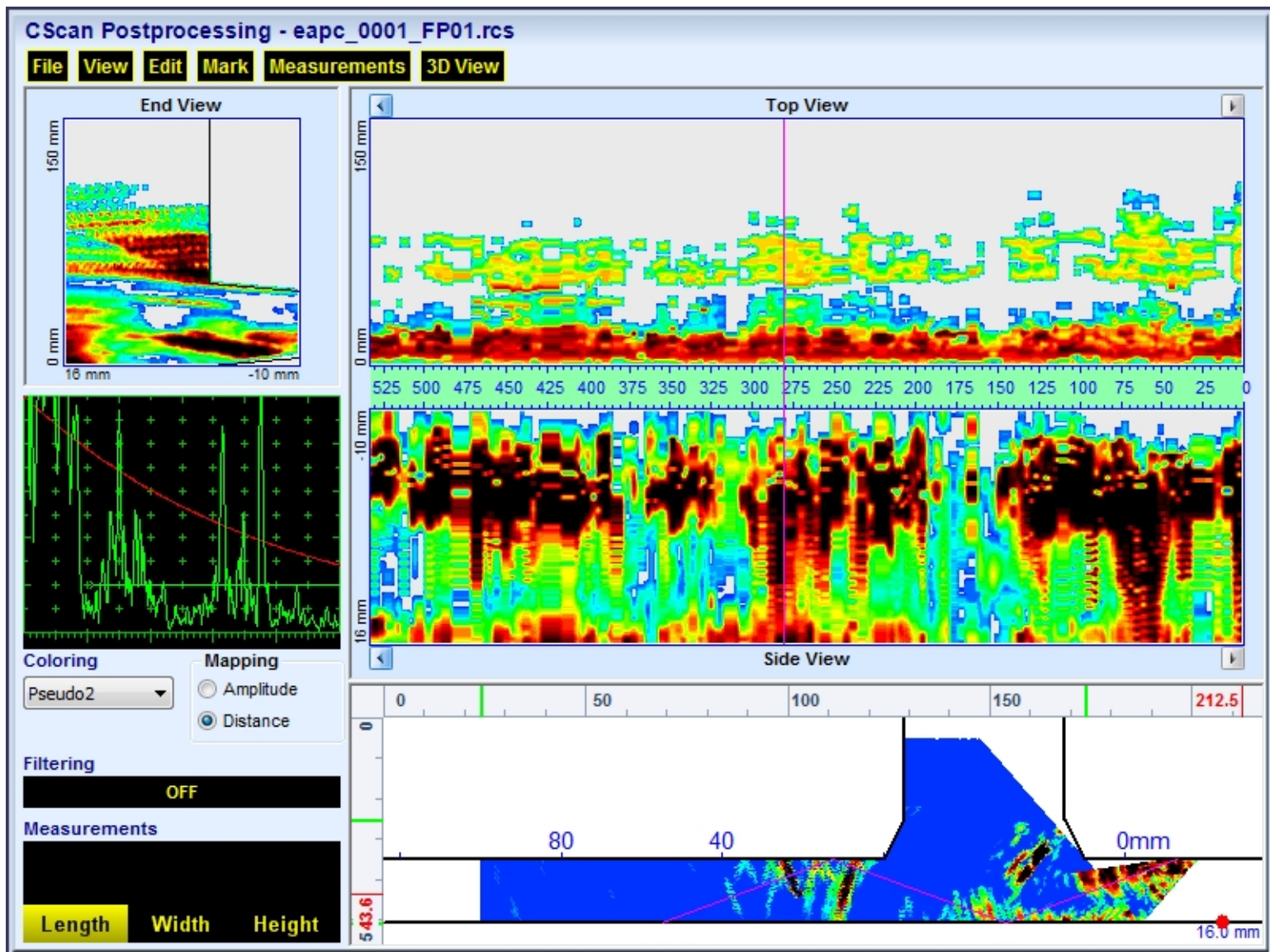
3D – scattered corrosion inside the tank at the product side



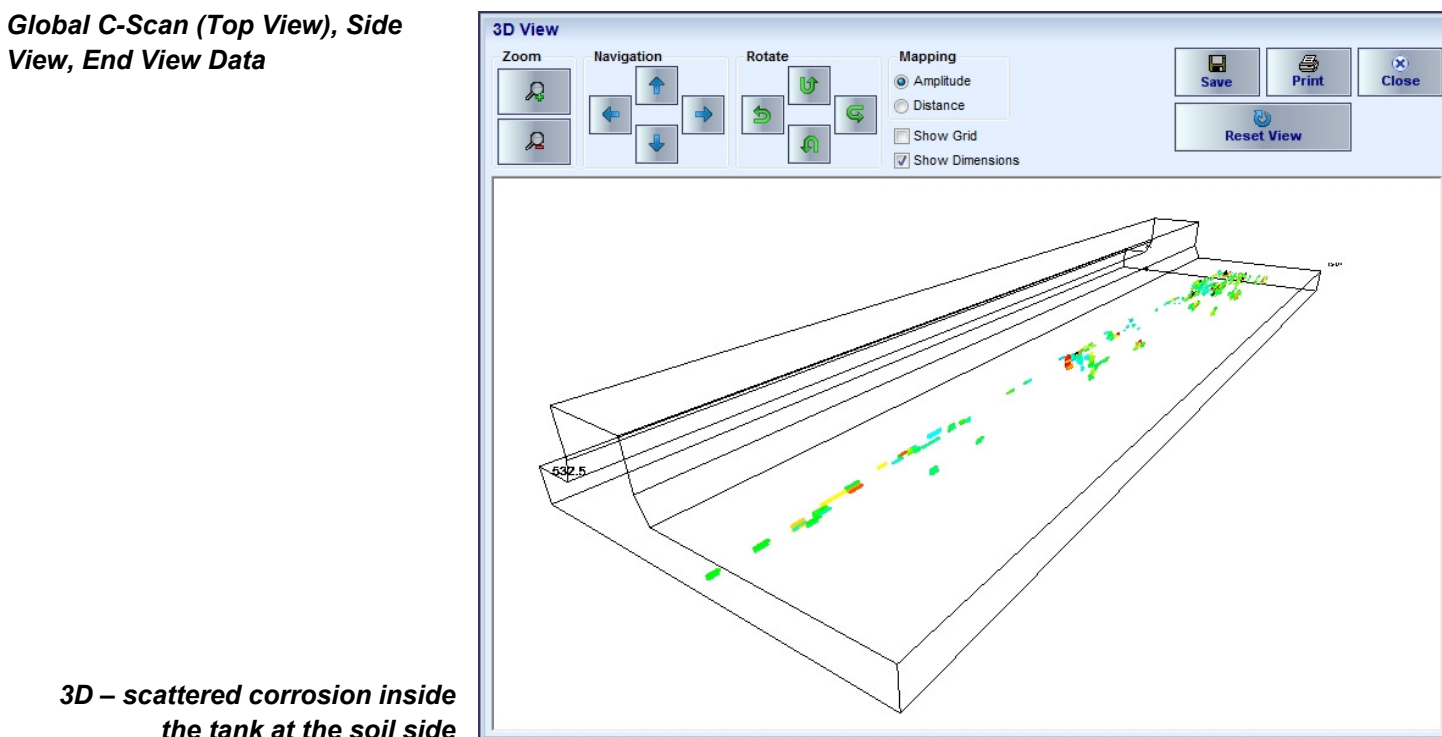
Statistical distribution of the ML (Material Loss) at the product side

C-Scan (Top View), Side View, End View Data for the scattered corrosion inside the tank at the product side

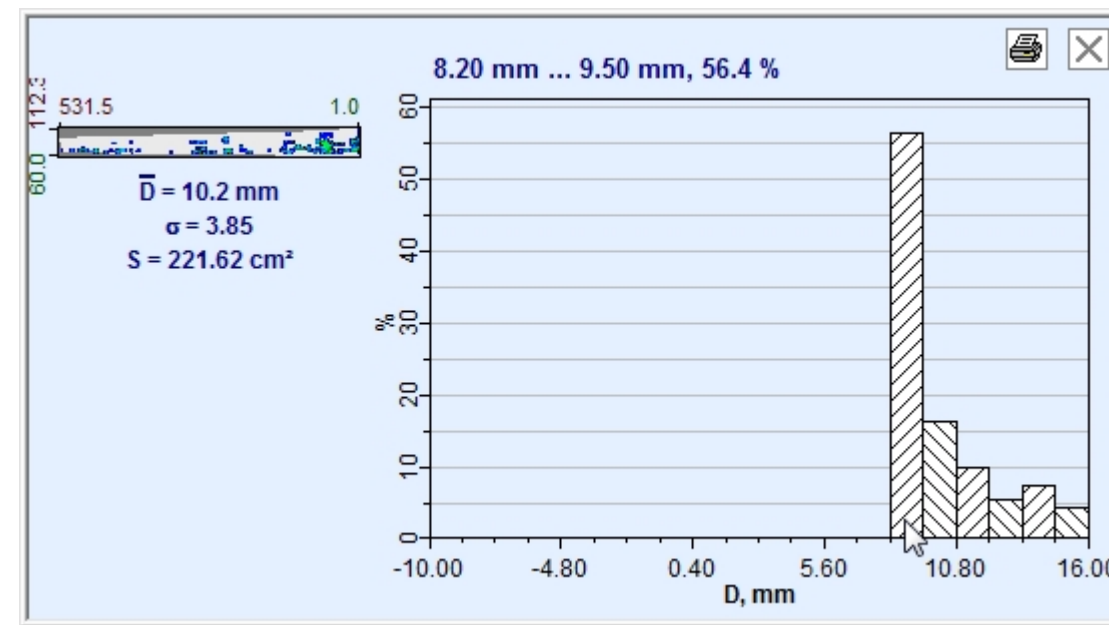




Global C-Scan (Top View), Side View, End View Data



3D – scattered corrosion inside the tank at the soil side



Statistical distribution of the RMT (Remaining Material Thickness) inside the tank at the soil side

C-Scan (Top View), Side View, End View Data for the scattered corrosion inside the tank at the soil side

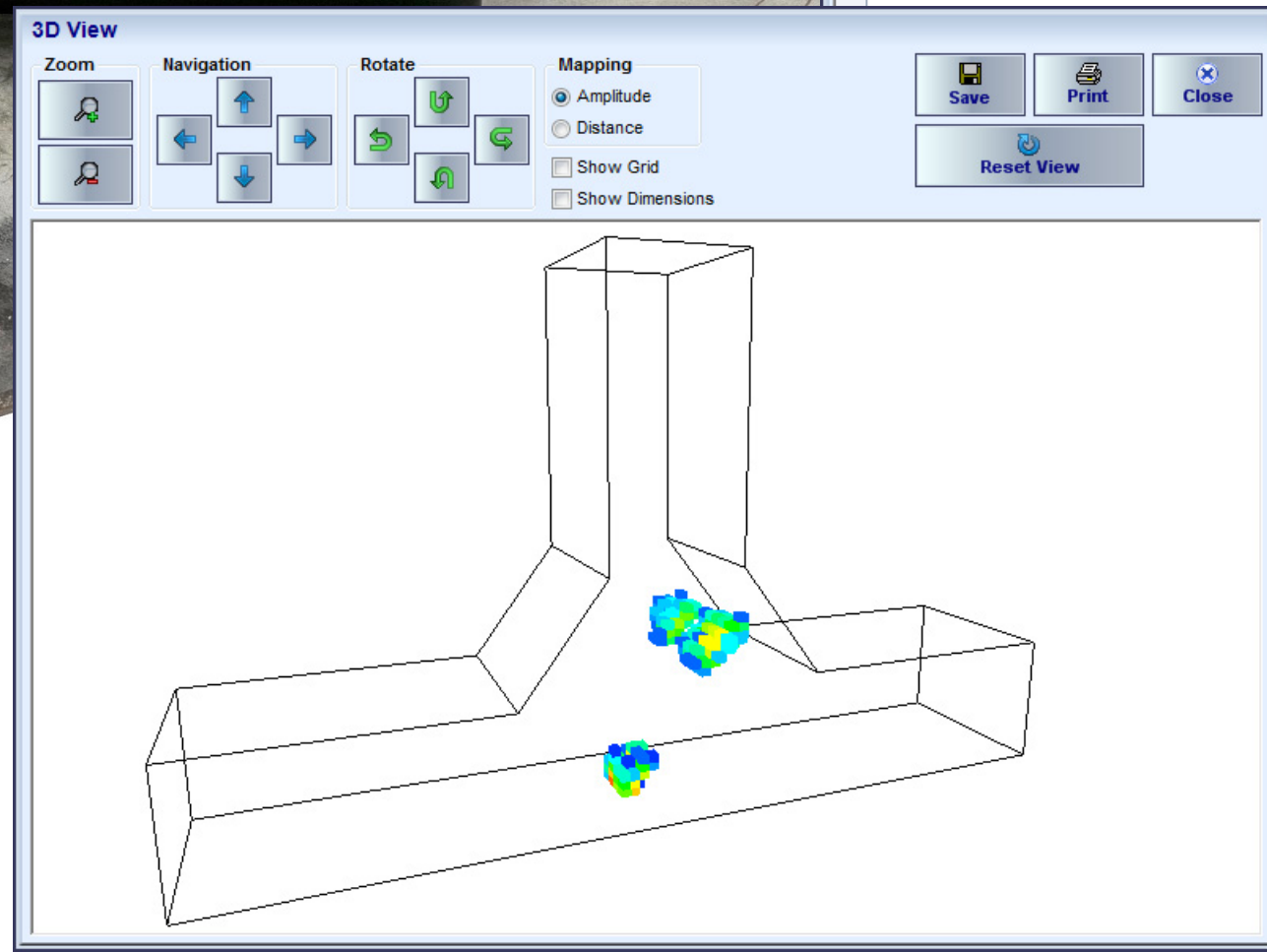
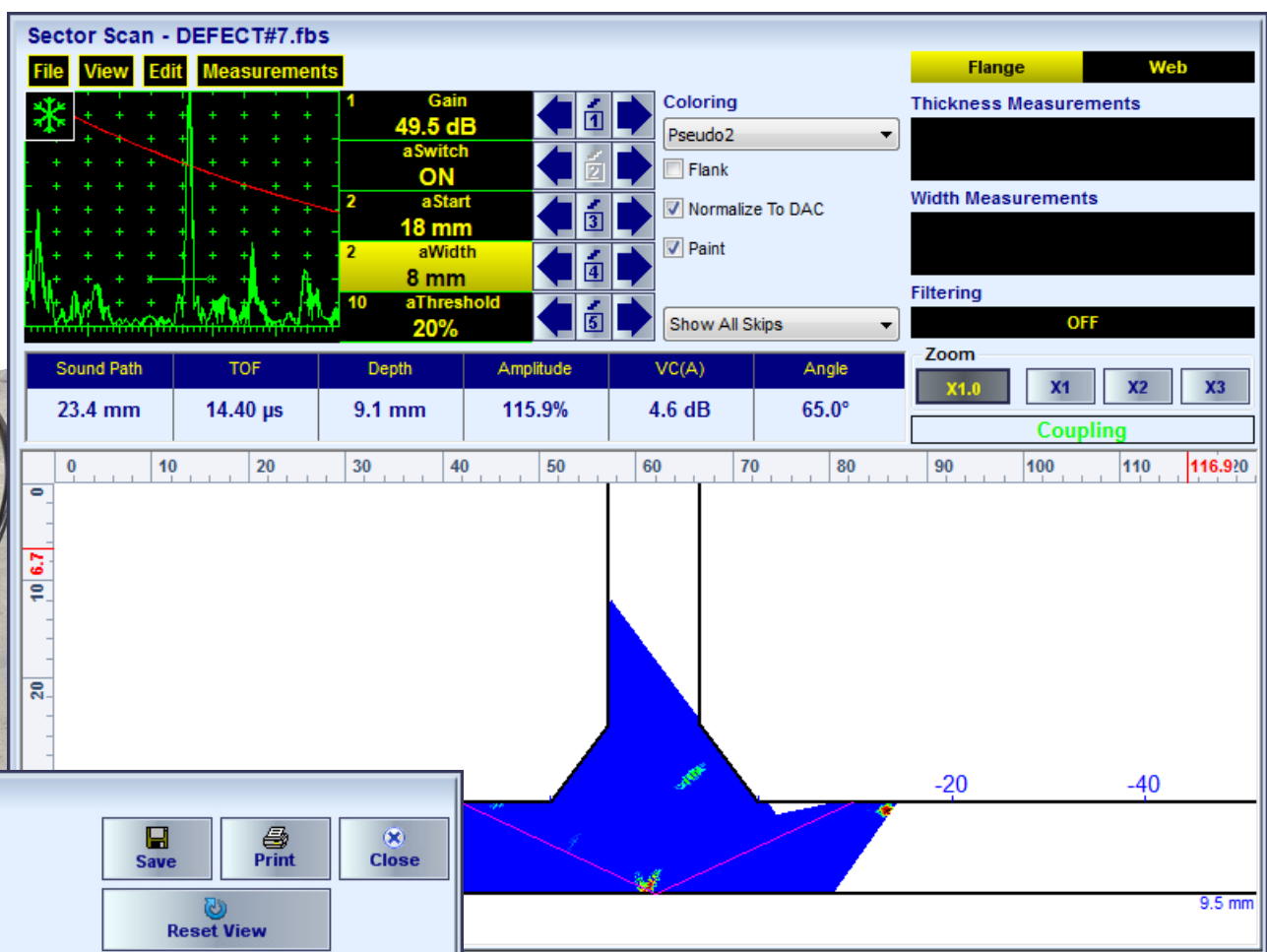




Item	Order Code (Part ##)
<p>Inspection SW Application for ISONIC 3510 - Phased Array Modality: Expert A-Ring - Inspection of Annular Ring – Critical Zone: Fillet Weld Area Up to 100 mm (4 inch) Inside Above Ground Storage Tank Through Placing PA Probe Onto External Chime</p> <ul style="list-style-type: none"> ⇒ Detection, distinguishing, and sizing of the following defects: <ul style="list-style-type: none"> ▷ Corrosion at the product side of the annular ring ▷ Corrosion at the bottom side of the annular ring ▷ Cracks and other defects in the fillet weld ▷ Corrosion on the tope and bottom surface of annular ring under the tank shell / fillet weld ▷ Loss of the fillet weld metal at the inner side of the tank shell ⇒ Multiple skip shear wave Sector-Scan Cross Sectional Coverage ⇒ True-To-Geometry Fillet Weld / Annular Ring Overlay Volume Corrected Imaging - Cross Sectional and Top (C-Scan)- / Side- / End- View and 3D ⇒ Sector-Scan Cross Sectional Coverage ⇒ Intuitive Image Guided PA Pulser Receiver with Beam Forming View ⇒ DAC / TCG Normalization ⇒ Built-In Fillet Weld / Annular Ring Geometry Editor and Ray Tracer - Scanning Pattern Design ⇒ Independent on TCG Angle Gain Compensation / Gain Per Focal Law Correction ⇒ Automatic Coupling Monitor ⇒ Encoded and Time based C-Scan ⇒ 100% Raw Data Capturing ⇒ FMC/TFM Protocol for the data acquisition and imaging ⇒ Automatic Defects Alarming Upon C-Scan Acquisition Completed ⇒ Automatic Creation of Editable Defects List ⇒ Comprehensive Postprocessing Including: <ul style="list-style-type: none"> → Recovery and Evaluation of Captured A-Scans from the Recorded Cross Sectional Views (Sector Scan) and C-Scans → Recovery of Cross Sectional Views from the Recorded C-Scans → Converting Recorded C-Scans or their Segments into 3D Images → Off-Line Gain Manipulation → Off-Line DAC Normalization of the Recorded Images / DAC Evaluation → Numerous Filtering / Reject Options (by Geometry / Position / By Amplitude / dB-to-DAC / etc) → Defects Sizing including the Quantitative Evaluation of the Thickness Loss → Creation of Defect List and Storing it Into a Separate File → Automatic creating of inspection reports - hard copy / PDF File 	SWA 3510018

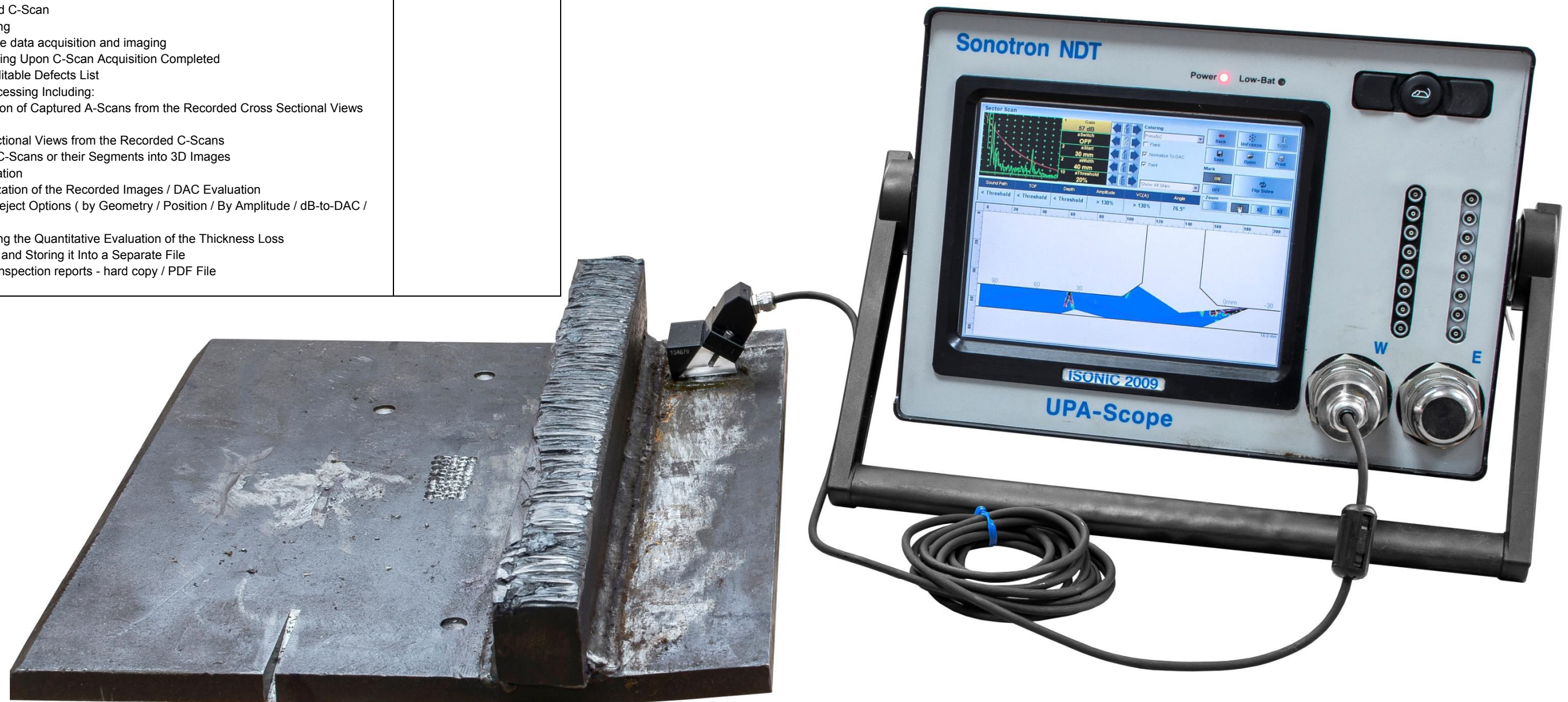
Detection and evaluation of the damages in the annular rings plates of the above ground storage tanks with PA probe placed outside





Item	Order Code (Part ##)
<p>Inspection SW Application for ISONIC 2009 UPA-Scope - Phased Array Modality: Expert A-Ring - Inspection of Annular Ring – Critical Zone: Fillet Weld Area Up to 100 mm (4 inch) Inside Above Ground Storage Tank Through Placing PA Probe Onto External Chime</p> <ul style="list-style-type: none"> ⇒ Detection, distinguishing, and sizing of the following defects: <ul style="list-style-type: none"> ▷ Corrosion at the product side of the annular ring ▷ Corrosion at the bottom side of the annular ring ▷ Cracks and other defects in the fillet weld ▷ Corrosion on the tope and bottom surface of annular ring under the tank shell / fillet weld ▷ Loss of the fillet weld metal at the inner side of the tank shell ⇒ Multiple skip shear wave Sector-Scan Cross Sectional Coverage ⇒ True-To-Geometry Fillet Weld / Annular Ring Overlay Volume Corrected Imaging - Cross Sectional and Top (C-Scan)- / Side- / End- View and 3D ⇒ Sector-Scan Cross Sectional Coverage ⇒ Intuitive Image Guided PA Pulser Receiver with Beam Forming View ⇒ DAC / TCG Normalization ⇒ Built-In Fillet Weld / Annular Ring Geometry Editor and Ray Tracer - Scanning Pattern Design ⇒ Independent on TCG Angle Gain Compensation / Gain Per Focal Law Correction ⇒ Automatic Coupling Monitor ⇒ Encoded and Time based C-Scan ⇒ 100% Raw Data Capturing ⇒ FMC/TFM Protocol for the data acquisition and imaging ⇒ Automatic Defects Alarming Upon C-Scan Acquisition Completed ⇒ Automatic Creation of Editable Defects List ⇒ Comprehensive Postprocessing Including: <ul style="list-style-type: none"> → Recovery and Evaluation of Captured A-Scans from the Recorded Cross Sectional Views (Sector Scan) and C-Scans → Recovery of Cross Sectional Views from the Recorded C-Scans → Converting Recorded C-Scans or their Segments into 3D Images → Off-Line Gain Manipulation → Off-Line DAC Normalization of the Recorded Images / DAC Evaluation → Numerous Filtering / Reject Options (by Geometry / Position / By Amplitude / dB-to-DAC / etc) → Defects Sizing including the Quantitative Evaluation of the Thickness Loss → Creation of Defect List and Storing it Into a Separate File → Automatic creating of inspection reports - hard copy / PDF File 	SWA 909818

Detection and evaluation of the damages in the annular rings plates of the above ground storage tanks with PA probe placed outside

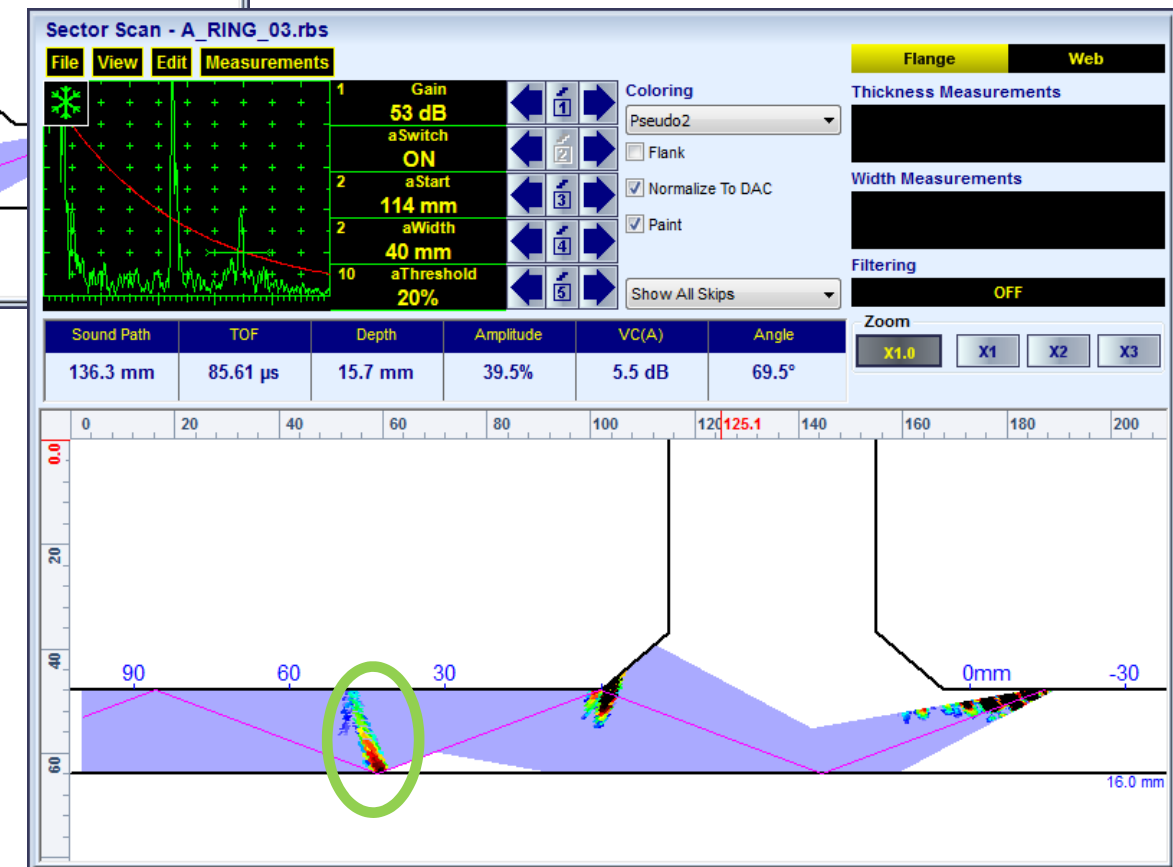
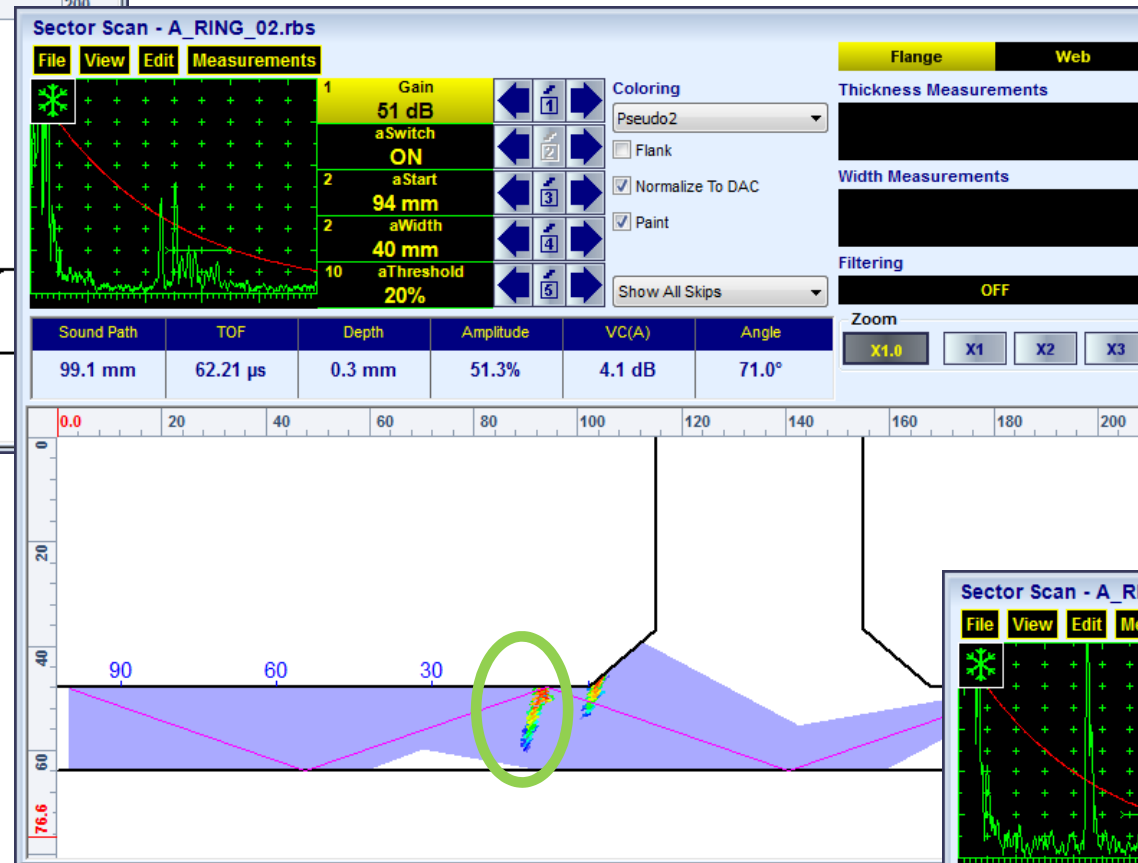
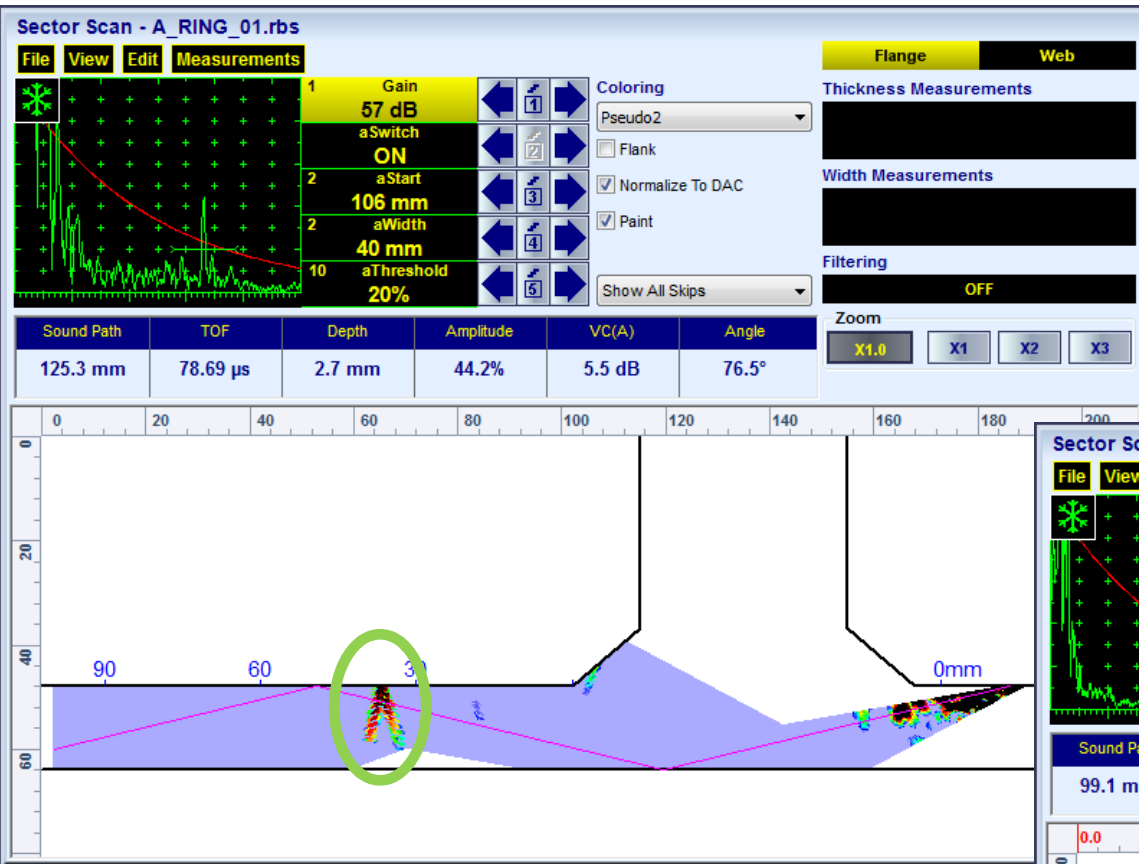


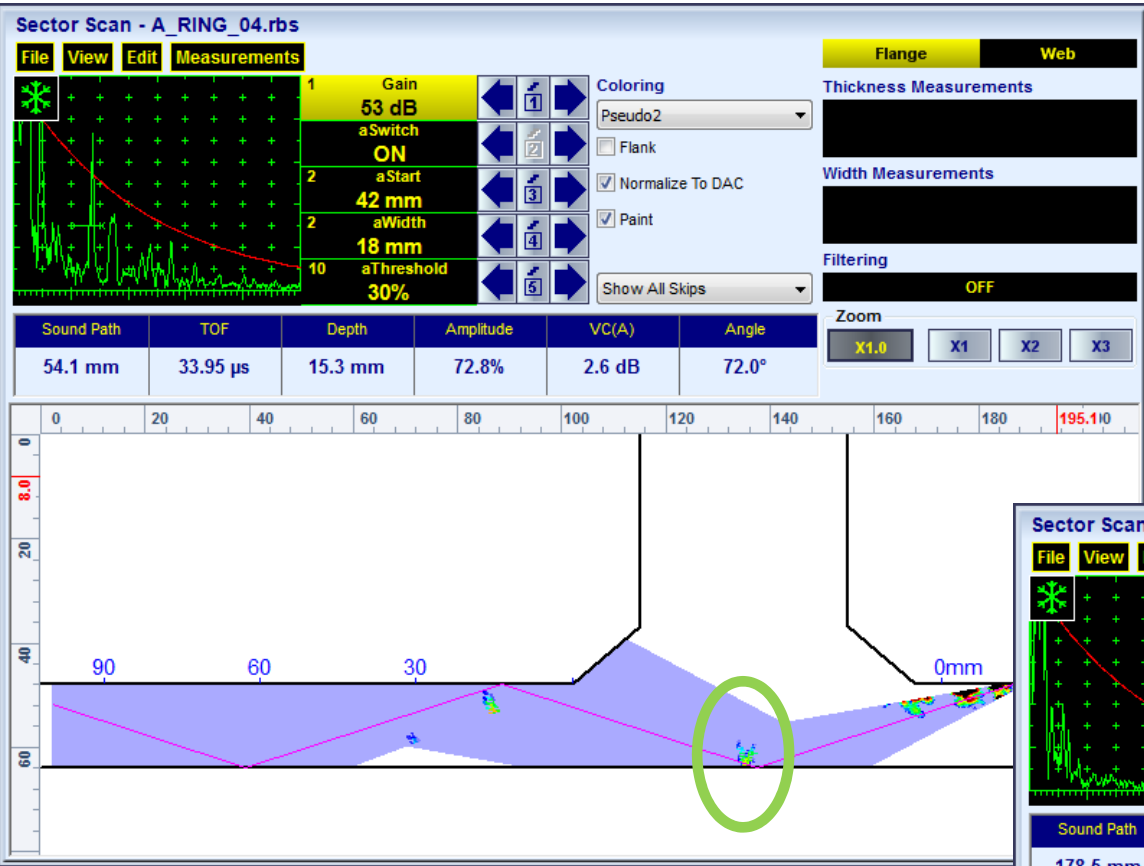
Item	Order Code (Part #)
<p>Inspection SW Application for ISONIC 2010 / ISONIC 2010 EL - Phased Array Modality: Expert A-Ring - Inspection of Annular Ring – Critical Zone: Fillet Weld Area Up to 100 mm (4 inch) Inside Above Ground Storage Tank Through Placing PA Probe Onto External Chime</p> <ul style="list-style-type: none"> ⇒ Detection, distinguishing, and sizing of the following defects: <ul style="list-style-type: none"> ▷ Corrosion at the product side of the annular ring ▷ Corrosion at the bottom side of the annular ring ▷ Cracks and other defects in the fillet weld ▷ Corrosion on the top and bottom surface of annular ring under the tank shell / fillet weld ▷ Loss of the fillet weld metal at the inner side of the tank shell ⇒ Multiple skip shear wave Sector-Scan Cross Sectional Coverage ⇒ True-To-Geometry Fillet Weld / Annular Ring Overlay Volume Corrected Imaging - Cross Sectional and Top (C-Scan)- / Side- / End- View and 3D ⇒ Sector-Scan Cross Sectional Coverage ⇒ Intuitive Image Guided PA Pulser Receiver with Beam Forming View ⇒ DAC / TCG Normalization ⇒ Built-In Fillet Weld / Annular Ring Geometry Editor and Ray Tracer - Scanning Pattern Design ⇒ Independent on TCG Angle Gain Compensation / Gain Per Focal Law Correction ⇒ Automatic Coupling Monitor ⇒ Encoded and Time based C-Scan ⇒ 100% Raw Data Capturing ⇒ FMC/TFM Protocol for the data acquisition and imaging ⇒ Automatic Defects Alarming Upon C-Scan Acquisition Completed ⇒ Automatic Creation of Editable Defects List ⇒ Comprehensive Postprocessing Including: <ul style="list-style-type: none"> → Recovery and Evaluation of Captured A-Scans from the Recorded Cross Sectional Views (Sector Scan) and C-Scans → Recovery of Cross Sectional Views from the Recorded C-Scans → Converting Recorded C-Scans or their Segments into 3D Images → Off-Line Gain Manipulation → Off-Line DAC Normalization of the Recorded Images / DAC Evaluation → Numerous Filtering / Reject Options (by Geometry / Position / By Amplitude db-toDAC / etc) → Defects Sizing including the Quantitative Evaluation of the Thickness Loss → Creation of Defect List and Storing it Into a Separate File → Automatic creating of inspection reports - hard copy / PDF File 	SWA 910818

Detection and evaluation of the damages in the annular rings plates of the above ground storage tanks with PA probe placed outside



Typical Postprocessing Screenshots





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