

DC1–DC5 Dual Element Corrosion Transducers

A Complete Corrosion Monitoring Toolbox for Pipeline and Tank Integrity

Preventative oil & gas pipeline and tank maintenance helps keep people safe and enables the flow of raw materials. As a leading NDT equipment manufacturer, our DC series (DC1–DC5) dual element transducers provide inspectors with a complete corrosion monitoring toolbox to support pipeline and tank inspection. These versatile, compact transducers are optimized for corrosion and thin materials and work with a wide variety of NDT instruments and ultrasonic inspection procedures.

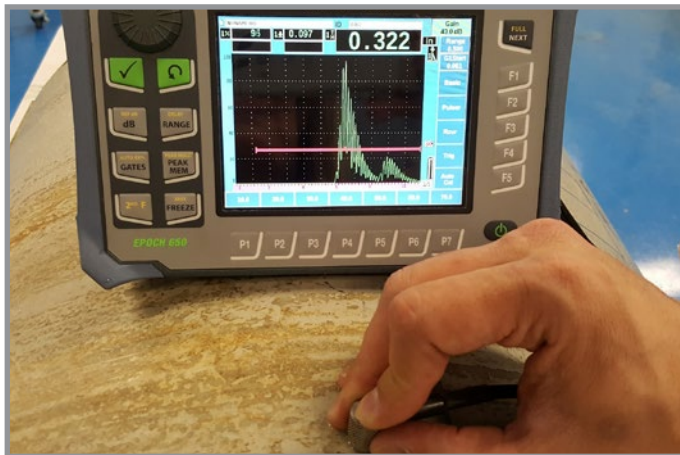
All models provide a cleaner signal than single element transducers and offer less ring down than comparable models—helpful for resolving smaller defects, inspecting close to the surface, and differentiating between two indications.

DC1 and DC2 Transducers: Tough and Versatile

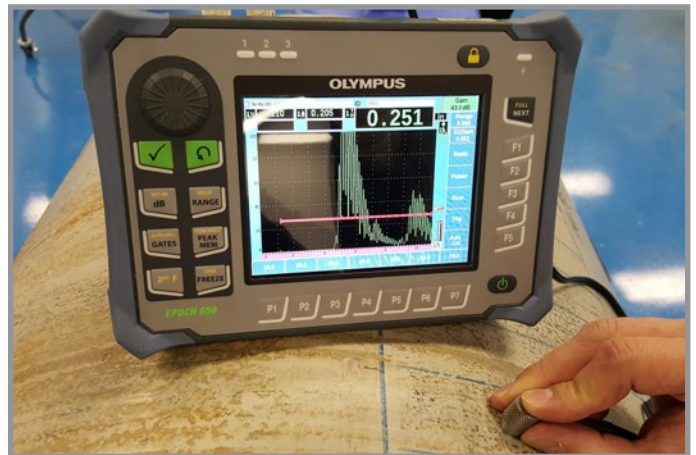
With a 7.5 MHz frequency and slight roof angle, DC1 and DC2 dual element transducers provide optimal near-surface resolution in the range of 0.030–2 in. (0.76–50.8 mm) in steel.

Key Benefits:

- Ideal for coverage of thin materials
- Excels at thickness measurement, corrosion mapping, and flaw sizing
- Available in standard (DC1) and thick-walled (DC2) housings
- Built to last even with frequent scrubbing due to thick-walled, wear-resistant housing (DC2)
- Effective on pipes as small as 1 in. (25.4 mm) OD
- Rated for elevated temperature pipe and tank inspections with a heat-resistant delay line up to 150 °C (300 °F)
- Fits into small spaces: low profile (18 mm high) and 0.455 in. (DC1)/0.56 in. tip diameter (DC2)
- Knurled case is easy to grip
- Broad compatibility with unmolded BNC or LEMO connectors
- Improved spring strain relief (BNC connector only) to minimize cable damage



Nominal wall thickness: 0.325 in. (8.255 mm)—No corrosion



Remaining wall thickness: 0.251 in. (6.375 mm)—Corrosion

DC3–DC5 Transducers: Inspect Thinner Materials and Go Beyond Corrosion Monitoring

The DC3, DC4, and DC5 dual element transducers expand your inspection capabilities. Thanks to 5 MHz frequencies and optimal element sizes/placement, inspectors can monitor corrosion of thinner material. The DC3 model with its high-angle design takes the series beyond corrosion monitoring and thickness measurement to include thin-wall pipe weld inspection and other applications, with a useful depth in steel of 0–0.6 in. (0–15.2 mm). DC4 and DC5 models offer an optimal depth range in steel of 0.040–1.5 in. (1.02–38.1 mm).

DC3 Transducer: Fast Pipe Weld Testing and Thin-Wall Material Inspections

Built with a 5 MHz frequency and high-angle longitudinal wave, the DC3 dual element transducer provides optimal near-surface resolution for very thin materials ranging from 0–0.6 in. (0–15.2 mm).

Key Benefits:

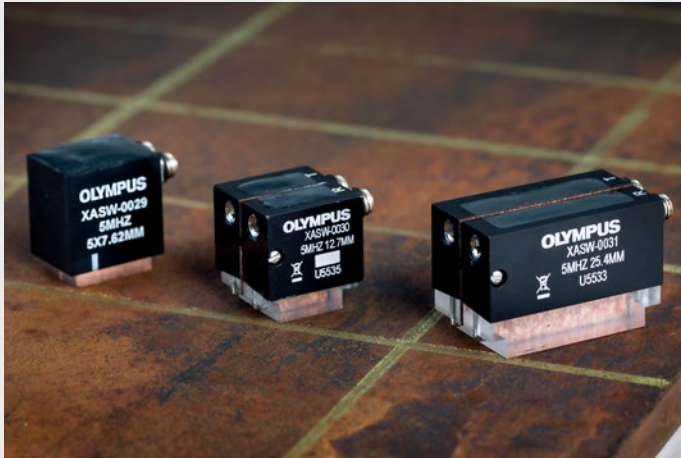
- High-angle longitudinal wave: inspect thin material beyond corrosion monitoring
- Fast, reliable UT weld inspection tool for thin-wall pipes
- Can perform a high-speed manual weld inspection similar to comparable models
- Dual piezocomposite elements for increased energy
- Acoustic noise barrier for pitch-catch technology prevents crosstalk
- Fits into small spaces to inspect hard-to-access areas (e.g., boiler tubes)
- Integrated wedges make the transducer compact
- Microdot connectors work with various NDT instruments

Applications include:

- High-speed manual inspection of thin-wall pipelines, boiler tubes, and other thin components
- Planar flaw analysis and sizing
- Distinguishing weld root geometry from indications
- Pipeline long seam and girth weld inspection
- Boiler tube welds
- Pharmaceutical piping
- Heat exchanger tubing
- Thin-walled components in the nuclear industry

DC4 and DC5 Transducers: Optimized to Detect Flaws and Measure Thickness in Thin Materials

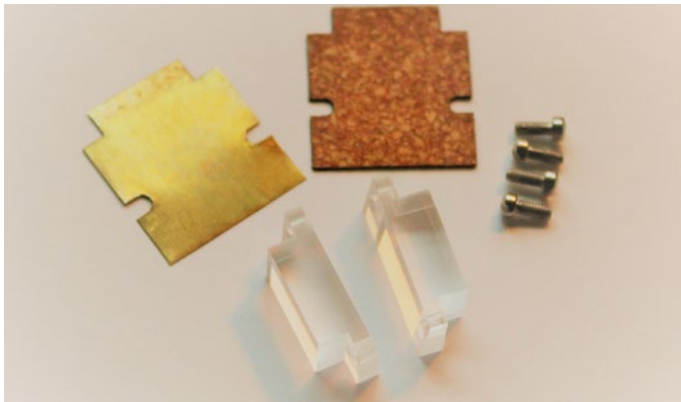
Manufactured at 5 MHz with slightly angled elements and a 0-degree longitudinal wave, the DC4 and DC5 dual element transducers offer enhanced thickness measurement and flaw detection in thin materials ranging from 0.040–1.5 in. (1.02–38.1 mm).



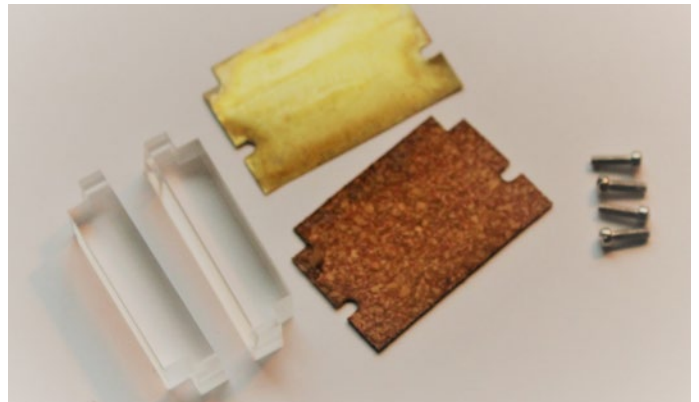
Key Benefits:

- Optimal near-surface resolution for thin materials
- Slight roof angle improves flaw detection and thickness measurement
- Replaceable wedges lengthen the transducer's useful life
- Acoustic noise barrier for pitch-catch technology prevents crosstalk
- Microdot connectors work with various NDT instruments

Replacement Wedge Kits for DC4 and DC5 Transducers



Part Number: 10-009381-00
SDC4-0L REPLACEMENT WEDGE KIT



Part Number: 10-009382-00
SDC5-0L REPLACEMENT WEDGE KIT

Mix and Match Transducers for Specific Inspection Criteria

Depending on your application, any one or a combination of these five transducers offers improved corrosion monitoring and defect sizing. As field inspections change, you can benefit from having the complete set with a total combined thickness range of 0–2 in. (0–50.8 mm), as well as an extra pipe weld inspection tool (DC3 model). Transducers are available to purchase separately or, for added convenience, as a toolbox kit with the complete DC1–DC5 transducer lineup. For available kit options, see the images and part numbers below.



DC-KIT-TOOLBOX
Q7790167
 Compatible to instruments with Female BNC and or Female LEMO 00 T/R Ports



DC-KIT-RP-TOOLBOX
Q7790168
 Compatible to instruments with Female BNC T/R Ports



DC-KIT-RPL-TOOLBOX
Q7790169
 Compatible to instruments with Female LEMO 00 T/R Ports

| Tem Part Number | Part Code | Kit Includes |
|-----------------|-------------------|--|
| Q7790167 | DC-KIT-TOOLBOX | 1 Each: 7.5DS-0.375-0LW-DC1-P-1-RPL (Right Potted LEMO), 7.5DS-0.375-0LW-DC1-P-1-RP (Right Potted BNC), 7.5DS-0.375-0LW-DC2-P-1-RP (Thick-wall Housing, Right Potted BNC), 7.5DS-0.375-0LW-DC2-P-1-RPL (Thick-Wall Housing, Right Potted LEMO), 5DS-5.08X7.62-DC3-RM, 5DS-12.7X12.7-0LW-DC4-RM-RW, 5DS-12.7X25.4-0LW-DC5-RM-RW, SDC4-0L REPLACEMENT WEDGE KIT, and SDC5-0L REPLACEMENT WEDGE KIT |
| Q7790168 | DC-KIT-RP-TOOLBOX | 1 Each: 7.5DS-0.375-0LW-DC1-P-1-RP (Right Potted BNC), 7.5DS-0.375-0LW-DC2-P-1-RP (Thick-wall Housing, Right Potted BNC), 5DS-5.08X7.62-DC3-RM, 5DS-12.7X12.7-0LW-DC4-RM-RW, 5DS-12.7X25.4-0LW-DC5-RM-RW, SDC4-0L REPLACEMENT WEDGE KIT, and SDC5-0L REPLACEMENT WEDGE KIT |
| Q7790169 | DC-KIT-RP-TOOLBOX | 1 Each: 7.5DS-0.375-0LW-DC1-P-1-RPL (Right Potted LEMO), 7.5DS-0.375-0LW-DC2-P-1-RPL (Thick-Wall Housing, Right Potted LEMO), 5DS-5.08X7.62-DC3-RM, 5DS-12.7X12.7-0LW-DC4-RM-RW, 5DS-12.7X25.4-0LW-DC5-RM-RW, SDC4-0L REPLACEMENT WEDGE KIT, and SDC5-0L REPLACEMENT WEDGE KIT |



Pairing with the EPOCH™ 650 or 6LT flaw detectors or the 38DL PLUS™ thickness gauge* enables accurate, efficient corrosion mapping for evaluation of nominal wall thickness, pitting, and flaw type/size.

DC1–DC5 Transducer Specifications and Dimensions

| Model | Transducer Part Number | Part Description | Freq/ MHz | Nominal Element Size | | Cables/Connectors | External Dimensions | | | | Tip |
|-----------|------------------------|-------------------------------|-----------|----------------------|-------------|------------------------------------|---------------------|--------------|-----------------|----------------|-------------------|
| | | | | inches | mm | | Diameter (mm) | Height (mm) | Length (Inches) | Width (Inches) | |
| DC1 | Q3300872 | 7.5DS-0.375-0LW-DC1-P-1-RPL | 7.5 | 0.375 | 9.52 | 2X Right Potted/LEMO 00 Connectors | 0.58 (14.73) | 0.73 (18.54) | - | - | 0.455 in diameter |
| DC1 | Q3300873 | 7.5DS-0.375-0LW-DC1-P-1-RP | 7.5 | 0.375 | 9.52 | 2X Right Potted/BNC Connectors | 0.58 (14.73) | 0.73 (18.54) | - | - | 0.455 in diameter |
| DC2 | Q3300945 | 7.5DS-0.375-0LW-DC2-P-1-RP | 7.5 | 0.375 | 9.52 | 2X Right Potted/BNC Connectors | 0.58 (14.73) | 0.73 (18.54) | - | - | 0.56 in diameter |
| DC2 | Q3301219 | 7.5DS-0.375-0LW-DC2-P-1-RPL | 7.5 | 0.375 | 9.52 | 2X Right Potted/LEMO 00 Connectors | 0.58 (14.73) | 0.73 (18.54) | - | - | 0.56 in diameter |
| DC3 | Q3301828 | 5DS-5.08X7.62-DC3-RM | 5 | 0.2 × 0.3 | 5.08 × 7.62 | 2X Microdot Connectors | - | 0.88 (22.2) | 0.77 (19.4) | 0.60 (15.1) | 0.46 x 0.63 (in) |
| DC4 | Q3301829 | 5DS-12.7X12.7-0LW-DC4-RM-RW | 5 | 0.5 × 0.5 | 12.7 × 12.7 | 2X Microdot Connectors | - | 0.84 (21.3) | 0.76 (19.2) | 0.78 (19.8) | 0.59 x 0.50 (in) |
| DC5 | Q3301830 | 5DS-12.7X25.4-0LW-DC5-RM-RW | 5 | 0.5 × 1 | 12.7 × 25.4 | 2X Microdot Connectors | - | 0.90 (23.0) | 1.38 (34.9) | 0.78 (19.8) | 0.73 x 1.10 (in) |
| Wedge Kit | Q7000475 | SDC4-0L REPLACEMENT WEDGE KIT | | | | | | | | | |
| Wedge Kit | Q7000476 | SDC5-0L REPLACEMENT WEDGE KIT | | | | | | | | | |

*Due to roof angles, manual V-Path Correction may be required for DC1, DC2, DC4, and DC5 transducers.

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